MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Search / Personalize Display]

Welcome!

This is an archive of the HP forum, which is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc.

Message Index

All Messages

(Compressed "Threads Only" Listing)

- **New Blogs Are Up**, Eddie W. Shore **0 responses**
- **recent HP 35 "Red Dot" on Ebay**, D. Taylor **6 responses**
- **WP 34S x-hat bug**, Nigel J Dowrick **1 response**
- **HP calculator prototype?**, Michael Eckstein **2 responses**
- **more HMS, aTIME, 34s display, 41c bugs?**, Christopher Johnson **2 responses**
- **opening HP 30B**, Harald **6 responses**
- **Dm-15c case?**, Giancarlo **8 responses**
- **33s, 35s or 15cLE--which to buy?**, Matt Agajanian **17 responses**
- **HP-35 Field Case?**, Michael Gasperi **1 response**
- **[OT] Free42 on the BlackBerry PlayBook**, Les Wright **1 response**
- **HP-67 not working**, Vassilis Prevelakis **0 responses**
- **Spares for vintage calculators HP-25, HP-27?**, Samo **4 responses**
- **RPN Programming exercise (HP-42S)**, Gerson W. Barbosa **71 responses**
- **Meet at Embedded World Nuremberg?**, Meindert Kuipers **2 responses**
- **HP 95LX to PC connection**, John West (UK) **3 responses**
- **Clamshell Battery Contact Repair**, aj04062 **11 responses**
- **15C LE Availability Update**, Bob Cortopassi **4 responses**
- **When is exact mode not so exact?**, hugh steers **7 responses**
- **41CL and the Time Module**, Gerry Schultz **2 responses**
- **Flashing a 30B from Linux or Mac?**, Tom Grydeland **11 responses**
- **DM-15CC always/frequently turns on in case**, Neil Hamilton (Ottawa) **5 responses**
- **HP-41 Navigation PAC question**, Diego Diaz **7 responses**
- **Complete 12C collection**, Keith Midson **3 responses**
- **HP 50g User's Manual**, Luke Hoffmann **8 responses**
- **HP-12C program**, Gerson W. Barbosa **5 responses**
- **HP42S freeze after "Fast mode"**, Tom Grydeland **3 responses**
- **[DM-15cc] Flashing - worked!**, Alexander Oestert **5 responses**
- **Display_hp41c**, Armin Rösch **6 responses**
- **Richard Nelson's pictures of the 4 HP 15c versions**, gene wright **17 responses**
- **wp34s capacitors**, David Griffith **6 responses**
- **42S Hope it' not dying**, Chuck **4 responses**
- **35s - find roots of 3rd and higher order equations**, Chris C **11 responses**
- **64 = 65 ???**, Erturk Kocalar **6 responses**
- **HP-94!**, Geir Isene **5 responses**

- **calc cases**, JDonley **1 response**
- **WP34 S: Fonts (a bit OT)** , Marcus von Cube, Germany **18 responses**
- **Maintenance and Durability: From NIB to abused calculators**, Fabricio **14 responses**
- **$1000 for a vintage HP 97 printing calculator** , aurelio **5 responses**
- **HP28S screen noise generator**, Keith Midson **7 responses**
- **DM-15CC? THIS is a calculator for real men!**, Joerg Woerner **21 responses**
- **(Not so) successful crystal installation on my wp 34s**, Gerson W. Barbosa **2 responses**
- **A show review of the SmartCalc 300s...**, Jose Gonzalez Divasson **3 responses**
- **Help building WP34s calc.bin**, Ed Wright **11 responses**
- **wp 34s vs 41c hms+**, Christopher Johnson **9 responses**
- **HP-42S displaying Runic alphabet**, Bill (Smithville, NJ) **13 responses**
- **EXIT key reassigned on 42s**, Charles Mones **12 responses**
- **HP-IL SCSI Interface**, Richard Wagoner **15 responses**
- **An HP-97 sacrificed to the altar of the knowledge.**, Ignazio Cara (Italy) **3 responses**
- **Swiss 15C "Clone" has arrived**, Richard J. Nelson **7 responses**
- **HP42s - deal?**, Cristian Arezzini **26 responses**
- **Is the HP35s reliable?**, Chris Smith **26 responses**
- **Interesting Book with lots of HP info**, Dave F **2 responses**
- **Can't seem to flash 30b**, Matt Fegenbush **14 responses**
- **It's tax time in the USA again...**, Michael Meyer **1 response**
- **The story of HP's Logic Analyzers**, Steve Leibson **3 responses**
- **After Cuts, HP Labs Vows Return to Glory Days**, Kerem Kapkin (Silicon Valley, CA) **1 response**
- **go41cx V1.4.0**, Olivier De Smet **2 responses**
- **Flash Cable for WP-34s**, Fritz Wostbrock **4 responses**
- **DM-15CC Extended Memory**, Mark Hardman **4 responses**
- **Followup to HP 12C keyboard problems**, Eric Rechlin **4 responses**
- **HP-41 > USB printer simulation (82143A)**, Diego Diaz **25 responses**
- **HP-10BII+ Price calculation bug?**, Thomas Radtke **0 responses**
- **Reminders/notes to help recall variable meanings in equations**, Chris C **11 responses**
- **HP-41 Expandability Then and Now… TI?**, Kerem Kapkin (Silicon Valley, CA) **4 responses**
- **Replies verified by the moderator?**, MichaelG **2 responses**
- **WP 34S - Pics of blue slant overlay on real calculator**, Bob Cortopassi **10 responses**
- **HP-41 Focal Compiler/Decompiler**, MichaelG **0 responses**
- **35s prompt for multi-character variables in program like "low footprint" root finder**, Chris C **8 responses**
- **Professional applications for the HP 50g**, Software49g **12 responses**
- **Using SAM-BA on Linux and flashing WP34s**, David Griffith **8 responses**
- **[Function] Google Plotter**, robertoataulfo **2 responses**
- **HP30b design choices**, David Griffith **1 response**
- **Calculators on Standard Tests**, Norman Dziedzic **18 responses**
- **HHC 2012 location**, Andrés C. Rodríguez (Argentina) **30 responses**
- **WP 34S: New release on SF**, Marcus von Cube, Germany **5 responses**
- **Scientific version of 30b by HP?**, kc **26 responses**
- **HP-85 Keyboard Repair**, aj04062 **0 responses**
- **The smallest ever LED RPN calculator**, Michael de Estrada **11 responses**
- **HP-17B Language selection disappeared.**, Kees van der Sanden **10 responses**
- **HP 48 Meta Kernel card for sale?**, bluesun08 **5 responses**
- **HP-41 NUT Assembler question**, MichaelG **6 responses**
- **DM-15CC**, Benoit Maag **34 responses**
- **HP 15C LE programming, does CPU run fast?**, designnut **1 response**
- **HP-41C bad display - where to start from ?**, Alberto Fenini **8 responses**
- **Classic cleaning tips?**, Kees Bouw **5 responses**
- **Making the wp-34s label glossy**, Jose Poyan **5 responses**
- **HP-41 Wand: scanning from monitor?**, MichaelG **10 responses**
- **DM-15CC - got it !**, Andy Lamming (UK) **4 responses**

- **HP 39gII plot speed**, Alex Mark (Greece) **5 responses**
- **HP 15C LE now on UK HP web site - SRP £120**, Antonio Petri (UK) **1 response**
- **32-bit MCODE tool chain for the HP41 incl. D41 now**, MichaelG **4 responses**
- **Seeking DIY5 update and webpage**, David Griffith **1 response**
- **Most Error Free HP Calculator Models**, Sid Cave **3 responses**
- **is it possible to "merge" an HP-42s into an HP-97 ?**, Giovanni Jimenez **19 responses**
- **the end of the world as we know it....**, troy **1 response**
- **My 15C LE has finally arrived...**, Antonio Petri (UK) **34 responses**
- **it's here !!! (and this is not a Red Dot ...)**, Alberto Fenini **6 responses**
- **[WP-34s] 30b for 18,99€ in Germany**, Alexander Oestert **9 responses**
- **12C has keyboard problems, too**, Eric Rechlin **6 responses**
- **HP's Tired Basic Calculator Line**, Jeff **4 responses**
- **Sleath UK has started dispatching 15C LE orders**, Antonio Petri (UK) **1 response**
- **HP-80 Function Question**, Kerem Kapkin (Silicon Valley, CA) **10 responses**
- **OT - Vintage Computer Festival May 5,6, Wall NJ**, David Hayden **0 responses**
- **New Blog Entry (repeated functions) is now up**, Eddie W. Shore **0 responses**
- **Choices, choices**, Geir Isene **0 responses**
- **Spice repair - dilemma & opinions, please**, McAllan **1 response**
- **HP 12C Production nmrs**, Dominique Deprez **1 response**
- **devolution of the wp34s label---or fun with colors**, troy **19 responses**
- **Limited run of blue key slant WP34S overlays**, Bob Cortopassi **34 responses**
- **The Condition Number of a Matrix**, Namir **2 responses**
- **HP 15C LE: keyboard problems**, dietmar13 **4 responses**
- **hp 30b -> wp 34s**, Christopher Johnson **6 responses**
- **HP28S battery door trouble**, David Griffith **23 responses**
- **it's here !!!**, Alberto Fenini **17 responses**
- **DM-15CC launched**, Andy Lamming (UK) **43 responses**
- **WP34S nested error**, Alessandro Castellani (Italy) **4 responses**
- **HP-71B: fastest memory copy?** , Hans Brueggemann **5 responses**
- **HP Calculators in 2025, As Predicted In 1978**, hpnut **8 responses**
- **My wp 34s V3**, troy **29 responses**
- **Information that may be of interest to HP-75 users posted**, Paul Berger (Canada) **1 response**
- **Non-HEPAX configurations for NoVRAM/NoV-32**, Diego Diaz **1 response**
- **32-bit version of User Code Utiltiy for HP-41** , MichaelG **4 responses**
- **Help with HP 41CX - 95% working**, Russell Dobson **6 responses**
- **Prices on 15C.**, Paulo MO **18 responses**
- **You're kidding me ?**, Christopher Johnson **8 responses**
- **WP 34S bitwise logical operations bug?**, Nigel J Dowrick **4 responses**
- **go41cx overlay Math module**, Alexander Oestert **12 responses**
- **HP-15C Bug with MATRIX 5** , Thomas Klemm **17 responses**
- **HP Solve issue #26 is posted...**, Richard J. Nelson **4 responses**
- **WP34s Parts List**, Barry Reeves **21 responses**
- **HP15C LE Price Lowered by HP**, Namir **23 responses**
- **accuracy of integration and solve routines HP 15C LE**, Jan **3 responses**
- **Sourceforge**, Paul Dale **8 responses**
- **HP joins the price gougers**, Michael de Estrada **38 responses**
- **Need help identifying a few components.**, Bruce Larrabee **2 responses**
- **Emu71 for Win v1.01 available**, Christoph Giesselink **3 responses**
- **HP15C LE Pause Operation not as expected**, Russell Dobson **13 responses**
- **HP 18C Frankencalc**, Keith Midson **9 responses**
- **HP Printer paper... any worries?**, Greg Swartz **6 responses**
- **HP-30b unknown options**, Christopher Johnson **3 responses**
- **Update: HP 50g with HELP for *all* commands integrated into the O.S.**, Software49g **0 responses**
- **WP34s Stopwatch**, Hans-Peter Bieger **3 responses**

- **I Wish HP Higher End Calcs Were Solar-Powered!**, Jeff **3 responses**
- **Installation of Sparcom NavPac on 48GX**, Timo **8 responses**
- **WP34S: "Domain error" when running a program**, Cristian Arezzini **19 responses**
- **HP 30-B size Question**, Jeff **1 response**
- **New release of go41cx**, Olivier De Smet **6 responses**
- **(deleted post)**, deleted **0 responses**
- **modern HP-41 "supermodule" choices on the market**, Garth Wilson **9 responses**
- **WP34S Overlay**, Patrice **2 responses**
- **HP Viridia Wave Viewer Card (palmtop 200LX)**, aj04062 **0 responses**
- **What is that white stuff in the battery compartment?**, Kees Bouw **4 responses**
- **Capacity of the CR2032 Batteries as used in the 15c LE**, Jeff O. **16 responses**
- **15c / 15c LE Hard Case?**, bluesun08 **14 responses**
- **Another bug in the HP15C LE manual**, Antonio Maschio (Italy) **2 responses**
- **Getting HEXEDIT to work on the HEPAX itself**, Ángel Martin **1 response**
- **WP34s complex matrix functions**, Ed Wright **2 responses**
- **TI Speak and Spell History article - good reading -- enjoy**, gene wright **0 responses**
- **new convert?**, db (martinez, ca.) **11 responses**
- **Sandbox ROM vs Childish Prank**, Howard Owen **5 responses**
- **HP-41 printer interface question. (To the M-code gurus out there)**, Diego Diaz **2 responses**
- **NoVRAM-M and NoV-32-M**, cgh **6 responses**
- **HP raises MSRP on 15C LE**, Michael de Estrada **9 responses**
- **Android HP67 - v1.1 posted**, MikeO **14 responses**
- **Is a new model of the HP-50G available???**, Bill Zimmerly **3 responses**
- **Resurrecting a shattered HP 19B**, Neil Hamilton (Ottawa) **5 responses**
- **HP 15C LE firmware and memory questions**, Lode **10 responses**
- **WP 34S overlays**, Gerson W. Barbosa **1 response**
- **(deleted post)**, deleted **0 responses**
- **My HP 15C LE has just arrived! Wow!**, Antonio Maschio (Italy) **16 responses**
- **Vintage HP15C Key Clicks but Doesn't Register**, Bruce Zastera **15 responses**
- **(deleted post)**, deleted **3 responses**
- **Wrong answer when evaluating log(10^-12)**, Daniel Greenidge **4 responses**
- **RedDot or no?**, Matthias Wehrli **10 responses**
- **Some Vintage HP15Cs Faster than Others?**, Bruce Zastera **16 responses**
- **HP 17BII bug video on youtube**, hpnut **6 responses**
- **HP67 Emulator for Android**, MikeO **23 responses**
- **Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)**, Diego Diaz **9 responses**
- **go67c loss of data**, Vincent Weber **5 responses**
- **HP-35 powers with negative numbers**, Dan Lewis **26 responses**
- **OT: looking for pic of an ARISTO M27's backside**, Mike (Stgt) **7 responses**
- **Emulators on iPod touch**, Mike (Stgt) **22 responses**
- **(deleted post)**, deleted **3 responses**
- **HP 15c LE Case**, Brandon Poindexter **12 responses**
- **HP-21 displays all zeroes**, Barry Smith **5 responses**
- **Port of ilper for PILBox under Linux & *BSD**, cgh **10 responses**
- **(deleted post)**, deleted **1 response**
- **Interest in 32-bit version of User Code Utiltiy for HP-41** , MichaelG **16 responses**
- **HP15C-LE European deliveries**, Derek Walker (UK) **8 responses**
- **WP 34S - indirect addressing issue**, Gerson W. Barbosa **8 responses**
- **Re: Voyager 1xC emulation in the same unit?**, uhmgawa **4 responses**
- **Meet @ Embedded World Nuremberg?**, Meindert Kuipers **5 responses**
- **CL_UTILS 2H now available - Library#4 is next.**, Ángel Martin **2 responses**
- **WP34s V3 - Build Number recommended?**, Thomas Chrapkiewicz **27 responses**
- **(deleted post)**, deleted **4 responses**
- **HP 34C and 67 for Android**, Vincent Weber **16 responses**

- **The HP 15C LE has little appeal to youngsters**, Michael de Estrada **25 responses**
- **HPTalx and HP48S**, Cristian Arezzini **2 responses**
- **HP15C-LE firmware**, Antonio Maschio (Italy) **3 responses**
- **(deleted post)**, deleted **13 responses**
- **HP 41CX unusual display**, Bill Kleinsorge (Austin, TX) **5 responses**
- **Integration**, Marcus von Cube, Germany **27 responses**
- **Couple of new HP-17bii solver programs in Articles**, Don Shepherd **27 responses**
- **[WP34s] Assembler problem**, fhub **2 responses**
- **HP-41CL & NoV-64 (or its siblings)**, Geir Isene **22 responses**
- **Preservation of Vintage Boxes**, aj04062 **4 responses**
- **IBM 1620 computer**, Don Shepherd **17 responses**
- **[WP 34s] Changing the overlay**, Jeroen Van Nieuwenhove **0 responses**
- **HP-41 MCode Assembler/Linker 32-bit version**, MichaelG **19 responses**
- **WP 34s Re-Flashing**, Jim Johnson **0 responses**
- **WP 34s Overlay**, Jim Johnson **5 responses**
- **HP-65/67 back label**, Kees Bouw **9 responses**
- **Looking for HP calculators... I´m frustrated**, Fabricio **25 responses**
- **HP-35S - Time Since Memory Reset**, Ilia **0 responses**
- **A Very Early HP Calculator Connection**, Les Bell **2 responses**
- **Looking for more HP documents to scan**, Dave Hicks **0 responses**
- **Tiny Challenge: significant digits**, Werner **70 responses**
- **Speed of the HP-41CL**, MichaelG **2 responses**
- **OT: Not your everyday TI-59**, Joerg Woerner **12 responses**
- **wp34S timing crystal**, Peter Mansvelder **30 responses**
- **HP 39GII**, NateB **31 responses**
- **strange classic power supply (pics)**, Alberto Fenini **4 responses**
- **15C LE keyboard fixed, plus: about the feet**, Dale Reed **2 responses**
- **82182A Time Module question**, Monte Dalrymple **14 responses**
- **Credit Card Sized DM-16CC**, Mark Hardman **3 responses**
- **Romberg Integration**, Paul Dale **6 responses**
- **(deleted post)**, deleted **0 responses**
- **48GX touchup paint**, David Griffith **4 responses**
- **HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter** , Fouad M. Kaadou **9 responses**
- **eBay Impertinence (well, only close to)**, Juergen Keller **9 responses**
- **Slow LCD display - fixable?**, Cristian Arezzini **0 responses**
- **GETROM doubt**, robertoataulfo **7 responses**
- **HP48GX : faulty Port 2 ? any way to repair it ?**, Antoine M. Couëtte **4 responses**
- **HP-15c+ Firmware**, Matthias Wehrli **5 responses**
- **LiPo rechargable for 41 pack rebuilding?**, Craig Ruff **2 responses**
- **OT: TI Dataclip (TI1700) project**, Alberto Fenini **1 response**
- **CCD OS/X SAVEROM and GETROM doubt.**, robertoataulfo **2 responses**
- **HP48S, different hardware construction**, Cristian Arezzini **5 responses**
- **N batteries for HP 41's**, WaltMaken **17 responses**
- **Odd looking 41cx**, Chris Woodhouse **1 response**
- **[WP-34s] V3 overlay and flashing process - Questions**, Alexander Oestert **6 responses**
- **Eric Rechlin - Overlay**, robertoataulfo **3 responses**
- **HP-15C LE : Workaround for the high current spike**, Lyuka **14 responses**
- **OT: TI-88 not Y2K compliant (!)**, Joerg Woerner **9 responses**
- **HP-15C LE: why emulate?**, Eric Zoob **19 responses**
- **How a little HP-50g program mutated into an iPhone app**, Peter Murphy (Livermore) **6 responses**
- **Homebrewed HP48 cards**, David Griffith **1 response**
- **CL-UTILS revision 2G released**, Ángel Martin **4 responses**
- **Emulators for old HP**, Olivier De Smet **24 responses**

- **[WP34s] About SKIP and BACK**, fhub **8 responses**
- **RPN programming exercise - Fibonacci numbers**, Gerson W. Barbosa **43 responses**
- **HP41 emaluation**, Eric Foers **1 response**
- **[OT] Pens for SHARP CE-150 printer/cassette interface**, Miguel Toro **4 responses**
- **Custom Made Leather Cases for Voyager Calculators**, Juergen Keller **8 responses**
- **New TI-PPP discovered!**, robertoataulfo **14 responses**
- **WP 34S Overlay Available For V3**, Mark Hardman **19 responses**
- **Available now: HP 50g with HELP for *all* commands integrated into the O.S.**, Software49g **28 responses**
- **Calculator natural language user interface** , Donald Williams **12 responses**
- **Very relevant to the HP-15C LE power usage**, Seth Morabito **1 response**
- **[OT] Texas TI-88**, robertoataulfo **7 responses**
- **17BII+ vs 19BII Business Consulatant II**, Jeff Kearns **18 responses**
- **15c vs. 15cLE keyboard**, Ethan Conner **1 response**
- **For those in UK: 15C LE available for pre-order at Sleath's**, Bart (UK) **10 responses**
- **Digital watch wars**, Howard Owen **0 responses**
- **OT: HP goes green**, Juergen Keller **8 responses**
- **WP34s build compiler**, David Griffith **19 responses**
- **I had a dream - HP's next calculator**, Michael de Estrada **6 responses**
- **15C In The News**, Paul Brogger **1 response**
- **Most usable keystroke calculator?**, Sid Cave **32 responses**
- **Happy 40th Birthday, HP35**, Jake Schwartz **8 responses**
- **OT: FYI...Red dot HP 35 with rom bug on TAS**, gene wright **7 responses**
- **HP 9826A key switches**, David Ramsey **3 responses**
- **DIY4X, DIY5 update**, Eric Smith **5 responses**
- **Never make a dime of profit...**, Kees Bouw **19 responses**
- **ILPer v1.41 published**, Christoph Giesselink **1 response**
- **New Devil for 2012**, Ángel Martin **0 responses**
- **HP12c Anniversary Seft Test**, Nick Mihiylov **2 responses**
- **A propos battery life**, John Mosand **0 responses**
- **SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)**, Antoine M. Couëtte **6 responses**
- **HP41C "Power Module"**, Frido Bohn **10 responses**
- **Battery life of HP 15c LE?**, Brandon Poindexter **29 responses**
- **HP41 Card Reader repairs**, Steve Hunt **3 responses**
- **Science Project with HP41CX and Arduino?**, Fouad M. Kaadou **9 responses**
- **HP Time Module+Overlay! 82182A for HP41c**, robertoataulfo **1 response**
- **Hp 50g finance program**, peacecalc **0 responses**
- **HP 15C Clone**, Gerardo Rincon **10 responses**
- **[WP34s] XROM routines**, fhub **32 responses**
- **Happy New Year 0111.1101.1100**, Marcus von Cube, Germany **10 responses**
- **HP35S solve problem**, Alessandro Castellani (Italy) **5 responses**
- **Repurposing the HP20b in an engineering class**, Peter Murphy (Livermore) **4 responses**
- **OT but interesting; a new calendar proposal**, Don Shepherd **12 responses**
- **HP-75 CATALOG 2.8**, robertoataulfo **0 responses**
- **Dave Ramsey et al with early HP 41C conversions to CL**, geoff quickfall **4 responses**
- **Read the letter that brought down HP CEO Mark Hurd**, Peter Murphy (Livermore) **4 responses**
- **WP34S V3: Question about wp34s_asm.exe**, Miguel Toro **36 responses**
- **tapping heat stakes**, David Griffith **5 responses**
- **Circuit for HP3421A Data aquisition**, Barrie Carruthers **4 responses**
- **WP34S V3 : STATUS questions**, Miguel Toro **4 responses**
- **[41CL] CLUTILS.MOD**, robertoataulfo **7 responses**
- **HP-15C LE received in Hong Kong**, From Hong Kong **12 responses**
- **Martians can come!**, robertoataulfo **1 response**
- **HP 200LX Solver program in HP Calc**, Ken Chevy **9 responses**

- **41CL installation on machine with zebra strip**, David Ramsey **14 responses**
- **[41CL + ILPer] Help**, robertoataulfo **8 responses**
- **Some 41CL Questions**, Gerry Schultz **14 responses**
- **[WP34s] Not working anymore**, fhub **32 responses**
- **Reply from HP on 15C LE Availability**, frank Knight **5 responses**
- **15C LE finally arrived**, Hal Bitton in Boise **25 responses**
- **Thank you WP34s team**, JimP **15 responses**
- **HP-75 CATALOG 2.7**, robertoataulfo **0 responses**
- **WP 34S - INC X and RCL L (LASTx)**, Gerson W. Barbosa **10 responses**
- **WP 34S Overlay?**, robertoataulfo **0 responses**
- **HP 12C Prestige**, Keith Midson **6 responses**
- **WP 34S: Double precision registers - What are your feelings?**, Marcus von Cube, Germany **16 responses**
- **i41CX+ Load Modules to Odd Pages**, Howard Owen **0 responses**
- **[WP34s] The ultimate polynomial rootsolver is here ;-)**, fhub **5 responses**
- **OT: Reducing omega**, NateB **0 responses**
- **HP50g Advertisement**, NateB **24 responses**
- **CES Attendees will meet....**, Richard J. Nelson **0 responses**
- **[WP34S 41CL] Important Update !**, robertoataulfo **9 responses**
- **HP-41CL & TIME module (extending time keeping)**, Diego Diaz **2 responses**
- **41CL Flash Update Question**, Howard Owen **10 responses**
- **15C LE just arrived**, Keith Beyer **33 responses**
- **[WP34s/QtGui] What is qextserialport?**, Nobby K. **4 responses**
- **Polynomial roots again ...**, fhub **13 responses**
- **Calculator from a smoking environment: What is to be done?**, Peter Murphy (Livermore) **18 responses**
- **Coburlin Is No More!**, Dan Grelinger **10 responses**
- **Calculator Market**, Benoit Maag **1 response**
- **YFNS vs YFNZ**, Howard Owen **3 responses**
- **Return of the 15C with Bad Zebra?**, aj04062 **3 responses**
- **15C back in stock at hp.com**, sjthomas **8 responses**
- **Thimet index for 15C LE**, Jeff Johnson **2 responses**
- **HP-75 CATALOG 2.6**, robertoataulfo **0 responses**
- **SpeedUI 11.11 available**, Raymond Del Tondo **0 responses**
- **HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)**, Diego Diaz **8 responses**
- **14b is not calculating PMT correctly**, Eric Peltier **11 responses**
- **15CLE disassembly / reassembly recommendations?**, Thomas Chrapkiewicz **3 responses**
- **41CL - Shut Off that Auto-Turn Off**, Frido Bohn **17 responses**
- **41CL - HEPAX DISASM non-functional?**, Frido Bohn **1 response**
- **Buy.com has 15c-le again**, David Griffith **24 responses**
- **Serial port communciations on the CL?**, Geoff Quickfall **2 responses**
- **Unabashed CL user promotion or why the 41CL?**, Geoff Quickfall **8 responses**
- **CL-UTILS Manual now available**, Ángel Martin **21 responses**
- **Video: talk on HP Calculators by Randall Neff**, Ed Spittles **2 responses**
- **Message to Katie Wasserman: thanks!**, Ignazio Cara (Italy) **2 responses**
- **[WP34s] About the Perl tools**, fhub **8 responses**
- **Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS**, robertoataulfo **4 responses**
- **OT: planimeters for sale**, Palmer O. Hanson, Jr. **1 response**
- **Wikipedia on the 15C LE**, Peter Murphy (Livermore) **0 responses**
- **HP 15C Tutorial Posted (Memory Exchange, MISO)**, Eddie W. Shore **0 responses**
- **Impressive TI NSpire CX CAS Multiple Integration**, Namir **43 responses**
- **[ilper] Expert in "C" Please**, robertoataulfo **2 responses**
- **HP won't fix PSE bug on 15CLE?**, MK-52 **14 responses**
- **Paging Gene**, David Griffith **0 responses**
- **Hack a 15C-le into a 16C?**, David Griffith **20 responses**
- **OT: Number Pad Watch Nerdier Than Calculator Watch?**, Egan Ford **8 responses**

- **New Year's resolutions ?**, Michael de Estrada **7 responses**
- **Calculator Clear Case**, Joerg Woerner **7 responses**
- **HP 9826A HPL ROM board part number**, David Ramsey **2 responses**
- **Time module !!!1**, robertoataulfo **2 responses**
- **Really pocketable 15C clone**, Massimo Gnerucci (Italy) **21 responses**
- **HP41CV faulty**, Steve Hunt **6 responses**
- **HP-75 CATALOG 2.5**, robertoataulfo **0 responses**
- **[WP34s] New flash handling?**, fhub **11 responses**
- **Emmanuel Compes**, Matthias Wehrli **3 responses**
- **Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7**, Antoine M. Couëtte **6 responses**
- **What's special about it?**, robertoataulfo **7 responses**
- **The best way to order a 15C LE in German**, Timo **3 responses**
- **9100Bs obtained**, David Ramsey **17 responses**
- **HP41CL Backup of Flash Contents**, Frido Bohn **1 response**
- **HP-75 CATALOG 2.4**, robertoataulfo **0 responses**
- **Problems activating HP15C LE emulator**, Nick_S **11 responses**
- **Do you know these 2 functions ?**, PGILLET **17 responses**
- **OT: This is Inevitable!**, Namir **0 responses**
- **Preview of the 'Full Command and Function Reference' inside your HP 50g / HELP for *all* commands.**, Software49g **1 response**
- **OT: Casio FX-720P**, robertoataulfo **1 response**
- **Dr Z Beat the Racetrack module document pages**, Mark **1 response**
- **OT - Length of day question**, Cristian Arezzini **20 responses**
- **HP SMB 15C LE ship date**, Scott Newell **9 responses**
- **HP15C-LE available at Buy.com**, Dave Mabry **28 responses**
- **Any DIY5 pics out there?**, Ángel Martin **64 responses**
- **Defective HP-41CV for 41CL?**, Ernst Fueloep **3 responses**
- **HP-75 CATALOG 2.3**, robertoataulfo **0 responses**
- **OT: Cosine curio**, Bob Patton **3 responses**
- **HP41 emulator for PC**, Bill Lafferty **2 responses**
- **HP 15C Programming Tutorial Posted**, Eddie W. Shore **2 responses**
- **HP49g+ keyboard replacing**, AdrianT **1 response**
- **a bunch of brand new 71b's on Ebay**, Don Shepherd **7 responses**
- **OT: Math, magic and shuffling cards**, Randy **0 responses**
- **41CL Usage Notes: Clock Mode and Turbo Interaction**, Craig Ruff **1 response**
- **HP70 - cosmetic side**, Alberto Fenini **0 responses**
- **OT: WebOS**, Katie Wasserman **1 response**
- **anyone recognize these pics from old HP manuals?**, Palmer O. Hanson, Jr. **3 responses**
- **On-line collection updated**, Keith Midson **12 responses**
- **15c LEs Replaced**, Gerry Schultz **8 responses**
- **Another Red Dot for sale**, Michael de Estrada **5 responses**
- **HP-15C Zebra**, aj04062 **8 responses**
- **OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way**, Egan Ford **11 responses**
- **41CX-MCODE: Digit Sum function**, Ángel Martin **17 responses**
- **HP-75 CATALOG 2.2**, robertoataulfo **0 responses**
- **Patricia Dunn (1953-2011)**, BruceH **0 responses**
- **OT: Vintage Typewriters**, Egan Ford **18 responses**
- **HP-15C LE available in Switzerland**, Juergen Keller **10 responses**
- **Totally useless trivia... 41**, Ángel Martin **2 responses**
- **9100A with no display now working!**, Richard Wilder **5 responses**
- **WP 34S version 2.3 (corrected)**, Eddie W. Shore **33 responses**
- **HP-41 Card reader 82104A**, aj04062 **5 responses**
- **OT: Not only calculators that need care.**, robertoataulfo **2 responses**

- **Anyone have ideas for batteries for these type of calculators? Edmund Scientific?**, gene wright **9 responses**
- **Google's now It's a Graphing Calculator!**, robertoataulfo **4 responses**
- **Hp-41 time module options**, Raymond Wiker **20 responses**
- **You shared my grief...**, cbuhmann **4 responses**
- **What advantage does Wp34s have ove the HP50g?**, Bernard Rochlin **10 responses**
- **[wp34s] Incomplete Gamma on the wp34s**, Les Wright **18 responses**
- **HP-15C - useless today?**, Reth **106 responses**
- **Howard Owen request**, robertoataulfo **1 response**
- **[wp34s] Romberg Integration on the wp34s**, Les Wright **2 responses**
- **I think it is my HP71B (TAS)**, Miguel Toro **11 responses**
- **HP-70 erratic behaviour - first results**, Alberto Fenini **0 responses**
- **HP 41CL; requirements and thoughts about donor shells**, geoff quickfall **11 responses**
- **HP 25 programming issue**, Fouad M. Kaadou **4 responses**
- **HP-IL ftp files**, robertoataulfo **4 responses**
- **Meindert's MLDL2000**, robertoataulfo **7 responses**
- **[HP-75] Cat$ doubt**, robertoataulfo **9 responses**
- **What is this?**, robertoataulfo **3 responses**
- **HP-75 Catalog 2.1**, robertoataulfo **0 responses**
- **[wp34s] A Short Wish List**, Les Wright **4 responses**
- **more HP97 card reader followup.**, Dave F **4 responses**
- **Latest HP 12C+ F/W Version**, Neil Hamilton (Ottawa) **2 responses**
- **Quote symbol in Alpha mode on 41C?**, Mojo88 **3 responses**
- **AC Power Adapter for HP 67**, Phil Hochstetler (Portland, OR, USA) **3 responses**
- **OT: The Math That Saved Apollo 13 Just Sold for $388,375**, Egan Ford **4 responses**
- **[wp34s] Using FAST and SLOW**, Les Wright **5 responses**
- **(OT) Heathkit and Nixie Tubes**, Gerry Schultz **27 responses**
- **anyone recognize these pics from old HP manuals?**, Don Shepherd **14 responses**
- **WP 34S: Beware of new builds**, Marcus von Cube, Germany **6 responses**
- **[WP34s] Romberg Integration**, Les Wright **9 responses**
- **Printed copies of HP-15C Advanced Functions Handbook**, Eric Rechlin **0 responses**
- **HP-15C LE listing back on Buy.com**, Dan Grelinger **2 responses**
- **XEQ vs GSB - what am I missing?**, Thomas Radtke **9 responses**
- **MoHPC - 15C | 15C LE update?**, DigiGal **3 responses**
- **OT: AA Lithium Battery Tests**, Bill (Smithville, NJ) **5 responses**
- **HP 20 series European versions**, Fouad M. Kaadou **0 responses**
- **Which Model HP-41C For the 41CL Transplant?**, Mark Hardman **11 responses**
- **[HP 15C LE] Prophecy on bug fix?**, Alexander Oestert **94 responses**
- **HP-15C Turing Complete?**, Marcel Samek **24 responses**
- **Opening a 100LX**, David Ramsey **4 responses**
- **Just got my HP41CL board!** , M. Joury **4 responses**
- **[WP34S] Cheap Overlay Solution Courtesy of Kinkos**, Les Wright **5 responses**
- **HP-75 Catalog**, robertoataulfo **2 responses**
- **HP-01 "bargain"**, Joerg Woerner **7 responses**
- **HP 71B : How to input RPNLEX in EMU71 for Windows?**, Miguel Toro **3 responses**
- **RPL Tutorial Uploaded** , Eddie W. Shore **9 responses**
- **Execution Speed of Early HP Programmables**, Nigel Fraser Ker **9 responses**
- **9120 printer paper**, Dave Brown Christchurch NZ **5 responses**
- **[WP34S] SLV returns "Failed" when it finds a root just fine.**, Les Wright **6 responses**
- **HP-18C User's Manual in German**, Karl-Ludwig Butte **0 responses**
- **serial numbers of international HP-17b's**, Don Shepherd **11 responses**
- **HP-71B Rom Stuck in Port**, Jeff Davis **2 responses**
- **OT: Manual for Casio FX-3900P needed**, Matti Övermark **5 responses**
- **Interesting AT&T hp-15C**, Gerardo Rincon **13 responses**
- **HP-15C LE in Washington?**, marais **18 responses**

- **[wp34S] PSTO Won't Write to 6 thru 9**, Les Wright **5 responses**
- **OT - casio fx-750p manual**, Giancarlo **5 responses**
- **[WP34] Poor Person's Overlay**, Les Wright **6 responses**
- **Hp 97 Card Reader issues**, Fouad M. Kaadou **2 responses**
- **Lambert W functions on WP 34s**, Hans Milton **11 responses**
- **WP 34S: Keyboard Layout Change**, Marcus von Cube, Germany **20 responses**
- **HP-15C LE Bad Button >>> easy fix**, Reth **1 response**
- **HP-41 Translator Pac for the HP-71 (HP 82490A)**, robertoataulfo **3 responses**
- **A new record price for an HP 15c LE**, Michael de Estrada **3 responses**
- **HP97 card reader followup**, Davd F **14 responses**
- **OT Wang Calculator 360 SE**, aj04062 **0 responses**
- **9100B restoration progress**, David Ramsey **6 responses**
- **Some Sharp brochures in PDF - enjoy**, gene wright **31 responses**
- **[OT] Google's Lem doodle**, Valentin Albillo **11 responses**
- **41CX for $2K !! - he must be dreaming !!**, John Robinson **13 responses**
- **[WP34S] Numeric Integrator Has Max Iterations Set?**, Les Wright **6 responses**
- **HP 67 and 97 odd behavior- HELP**, Fouad M. Kaadou **4 responses**
- **Cursed Card Reader**, Fouad M. Kaadou **3 responses**
- **WP34s Development under Linux?**, Nobby K. **28 responses**
- **Rehabilitating mushy keys**, David Griffith **4 responses**
- **[WP 34S] MySamBa**, robertoataulfo **4 responses**
- **WP34S Flashing Success**, Les Wright **11 responses**
- **15C emulator display bug**, Thomas Radtke **9 responses**
- **Numerical Integration**, Namir **8 responses**
- **HP 97 card reader**, Davd F **13 responses**
- **48gii on USB???**, William Graves **6 responses**
- **Deep Drawn Aluminum Sources**, Hugh Evans **11 responses**
- **WP34S Under WINE**, SteveH **12 responses**
- **HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn**, gene wright **19 responses**
- **Strange HP41CX Problem - HELP!**, Fouad M. Kaadou **2 responses**
- **An interesting challenge**, Don Shepherd **10 responses**
- **HP-41C PCB Repair Question.**, Kerem Kapkin (Silicon Valley, CA) **10 responses**
- **Idler gear used in HP-97 printer**, Gary Robert Bosworth **4 responses**
- **Immediate algebraic expressions in RPL+**, Oliver Unter Ecker **8 responses**
- **NEW!!! HP Calc FAN Page On Facebook!!!**, Kristine **5 responses**
- **WP34s Ready to Flash My 30b, but no cable.**, Barry Reeves **10 responses**
- **Multivariable Interpolation**, Namir **0 responses**
- **15c LE - Another Flashing Display Issue**, Jeff O. **3 responses**
- **WP34S: Valentin Albillo's Polynomial Root Finder**, Miguel Toro **28 responses**
- **How to register new HP 15C LE?**, hpnut **8 responses**
- **calculator nspired students**, Don Shepherd **22 responses**
- **[WP-34] New Overlay Version 3.0 Eric Please !**, robertoataulfo **9 responses**
- **Hp 42s soft keys**, Paulo MO **10 responses**
- **41-MCODE Vector Calculator (3D)**, Ángel Martin **0 responses**
- **Just got my Museum DVD Set...**, Raymond Wiker **4 responses**
- **use rpl for deriving rpl functions**, peacecalc **14 responses**
- **Interpolations for Two and Three Independent Variables**, Namir **6 responses**
- **Best new 12C flavor?**, Peter Murphy (Livermore) **9 responses**
- **Talking to HP**, David Griffith **29 responses**
- **HP70 project - cosmetc and electronic issues**, Alberto Fenini **11 responses**
- **Public apology to Valentin Albillo**, fhub **16 responses**
- **Static and HPs**, Fouad M. Kaadou **2 responses**
- **HP 34s: Three financial routines**, Miguel Toro **3 responses**
- **HP-15LE: Anybody else see double key registrations?**, BobVA **5 responses**

- **Bench Power Supply** , aj04062 **1 response**
- **HP 41: a documentation odyssey** , Miguel Toro **7 responses**
- **Re: [finally here!] Problems with International shipping of HP15c LE**, Nick_S **0 responses**
- **The HP12c Anniversary edition has finally arrived to Europe**, Jose Gonzalez Divasson **1 response**
- **Best documentation for different features?**, David Hayden **1 response**
- **HP-15C LE replacement shipped**, Dale Reed **43 responses**
- **New TI-PPP discovered!**, Joerg Woerner **6 responses**
- **HP-15C (& LE!) 11-11-11 Mini-Challenge**, Valentin Albillo **28 responses**
- **My HP 33S came in yesterday**, Eddie W. Shore **4 responses**
- **Algorithm for fitting a logistic curve?**, Tim Wessman **5 responses**
- **9100B progress**, David Ramsey **11 responses**
- **200LX Ram cards compatible with 48GX?**, mr-scorpio **6 responses**
- **Flashing 34s via USB--Prolific ruled out entirely?**, Les Wright **10 responses**
- **Question about Numerical Integration**, Namir **8 responses**
- **HP 67, 97, 97+ emulator**, Olivier De Smet **8 responses**
- **30b Probability Bug? Or Feature?**, Les Wright **6 responses**
- **WP 34S: Memory Allocation - New Document / Testing**, Marcus von Cube, Germany **0 responses**
- **Somewhat OT: Casio calculator reccomendation**, M. Joury **5 responses**
- **HP-15c LE Out of Stock**, Jeff Johnson **13 responses**
- **Question about MROOT function**, Namir **15 responses**
- **9100 Keyboard Rebuild (with pics!)**, David Ramsey **4 responses**
- **Any expert for polynomial roots here?**, fhub **20 responses**
- **I'll be without my 41CL :-(**, robertoataulfo **12 responses**
- **Share my grief....**, cbuhmann **12 responses**
- **[WP34s] Bugs in V3.0**, fhub **67 responses**
- **(O.T.) Calculators with CAS not allowed during examinations :-)**, Gerson W. Barbosa **8 responses**
- **9100 printer paper**, David Ramsey **2 responses**
- **Please, let this forum be free of religion and politics**, Alexander Oestert **32 responses**
- **Emerson E12 (rebranded Corvus 500) pics**, Cristian Arezzini **4 responses**
- **HP41 battery pack**, Cristian Arezzini **1 response**
- **HP classic calculator battery cover tabs**, Fouad M. Kaadou **0 responses**
- **a tad pricy thermal paper source**, Duane Hess **7 responses**
- **Thanks Tim for blue HP50g's keyboard colors**, Carey **4 responses**
- **Wang 360 RPN calculator**, aj04062 **8 responses**
- **Question about Hungarian Sellers on TAS**, Namir **22 responses**
- **(deleted post)**, deleted **27 responses**
- **WP 34S Programming Cable (UK)**, SteveH **12 responses**
- **HP 9100A/B Transistors**, Richard Wilder **1 response**
- **WP 34S: CAT on version 3.0**, Miguel Toro **1 response**
- **OT: NO IC's :-)**, robertoataulfo **35 responses**
- **My two latest HP calculators**, Michael de Estrada **26 responses**
- **As far as I am aware, nobody has done this before**, Dusan Zivkovic **8 responses**
- **[WP 34S] New Overlay Version 3.0 ?**, robertoataulfo **3 responses**
- **9100B progress**, David Ramsey **6 responses**
- **Design for a simple, entry-level RPN calculator**, Eddie W. Shore **84 responses**
- **15C in Wikipedia: Update, anyone?**, Peter Murphy (Livermore) **36 responses**
- **HP48 open/repair guides back online**, Han **2 responses**
- **Aristo M85 -- What charger?**, gene wright **9 responses**
- **[WP34S] Version**, robertoataulfo **2 responses**
- **Integration**, Paul Dale **13 responses**
- **HP-71B Forth Module**, Nick Taylor **9 responses**
- **No more Cobubba?**, Massimo Gnerucci (Italy) **34 responses**
- **Interesting find: HP 9875A dual cassette drive**, David Ramsey **16 responses**
- **Happy Birthday HP9810A**, Achim (Germany) **6 responses**

- **WP 34s: UP and Down key in program mode**, Miguel Toro **13 responses**
- **Emu42 for IoS / Android**, Vincent Weber **9 responses**
- **wp34s - Maybe dumb question**, John Abbott (S. Africa) **5 responses**
- **Auction Disaster**, Nick Taylor **18 responses**
- **41-CX with 'Creeping LCD Disease'**, Tim C **12 responses**
- **HP-01 Band and Crystal Questions**, Ron G. **1 response**
- **ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1**, Christoph Giesselink **5 responses**
- **Another Red Dot on TAS. Is it or is it not ?**, Michael de Estrada **8 responses**
- **32Sii mushy keys**, David Griffith **12 responses**
- **TFF update; Ángel's on a roll**, Geir Isene **8 responses**
- **HP-65 card motor screws**, Kees Bouw **10 responses**
- **Need a US proxy for a battery for an HP Portable Plus**, Geir Isene **5 responses**
- **WP34s -- not turning on after flash**, David Persinger (US) **10 responses**
- **phoenix 35sx happenings?**, David Griffith **7 responses**
- **Images of my 9100B**, David Ramsey **31 responses**
- **[WP 34] keyboard overlay ?**, robertoataulfo **2 responses**
- **Modular exponentiation with a noninteger base**, Oliver Unter Ecker **12 responses**
- **{WP34S] Minor stats bug**, Nigel J Dowrick **25 responses**
- **HP80 doesn't work without the battery charger**, aurelio **21 responses**
- **Mini challenge. CEIL / FLOOR in RPN**, M. Joury **47 responses**
- **Cleaning keys on a Woodstock (HP-27)**, Geir Isene **2 responses**
- **Changing battery in 42S**, Keith Beyer **17 responses**
- **HP-25C Repairing**, aj04062 **11 responses**
- **Thank god for Leo Apotheker ...**, bluesun08 **0 responses**
- **HP 15C LE will there be more?**, Keith Beyer **29 responses**
- **HP 10bII+ vs. 10bII first impressions**, Kevin Colville (S. Africa) **6 responses**
- **[WP34s] Questions about extended precision**, fhub **7 responses**
- **Stopwatch function implemented on WP34s**, pascal_meheut **18 responses**
- **Simple RPN**, JDonley **13 responses**
- **Local variables in RPN programmable?**, David Hayden **19 responses**
- **HP anounces keeping PSG....**, Ethan Conner **12 responses**
- **[WP34S] Crystal**, robertoataulfo **11 responses**
- **HP41 Barcode generation**, Raymond Wiker **18 responses**
- **Future I/O capabilities in WP-34S v3.x**, Andrés C. Rodríguez (Argentina) **7 responses**
- **HP-15C LE -- endless loop in SOLVER**, Gerson W. Barbosa **9 responses**
- **12c won't turn on --- options?**, gene wright **8 responses**
- **SAM-BA protocols and operating principles**, Andrés C. Rodríguez (Argentina) **4 responses**
- **MySamba and Linux: (easy) success!**, Cristian Arezzini **3 responses**
- **non-HP RPN knockoffs - the good, bad and ugly**, Michael de Estrada **14 responses**
- **[wp 34s] wp 34s picture and scan**, Jeroen Van Nieuwenhove **2 responses**
- **HP-41: TFF update**, Geir Isene **1 response**
- **Need An Intro to WP34S**, Les Wright **18 responses**
- **Looking to borrow an HP 9100a/b for a technology gallery in NYC**, Keenen Thompson **0 responses**
- **MySamba/Samba does NOT work with Vista - Problems again**, Eddie W. Shore **10 responses**
- **HP-97S**, aj04062 **3 responses**
- **WP 34S: Release Planning**, Marcus von Cube, Germany **3 responses**
- **Emulator updates & HP82240B printer simulation**, Christoph Giesselink **14 responses**
- **R.I.P. John McCarthy**, Howard Owen **3 responses**
- **wp34s - Possible bug??**, John Abbott (S. Africa) **3 responses**
- **HP 39gII spécification** , Gilles Carpentier **8 responses**
- **Canon Pocketronic - Power Supply**, Joerg Woerner **3 responses**
- **FOCAL old factory ...**, Olivier De Smet **22 responses**
- **Re: Does anyone have 15C LE dissection pics?**, uhmgawa **4 responses**
- **Create empy list on 38g/39g/40g**, Kiyoshi Akima **4 responses**

- **MySamBA execution level**, Masaki Adachi **6 responses**
- **The FOCAL Factory: Lend, Lease Savings**, Geir Isene **4 responses**
- **Acrilic Support for the HP-2225 printer**, dinamarco **0 responses**
- **TI's "fake weight"**, Cristian Arezzini **18 responses**
- **Steve Jobs meets the 9100a**, Howard Owen **0 responses**
- **15C-LE Blinking**, dbatiz **17 responses**
- **[WP34s] Question about ERR**, fhub **6 responses**
- **WP34S flashed on Linux, with SAM-BA 2.10**, Hubert Weikert **15 responses**
- **How to go full RPN on the cheap**, Michael de Estrada **5 responses**
- **WP 34S: Power saving revisited**, Marcus von Cube, Germany **7 responses**
- **NY Times article - a school without "technology"**, Don Shepherd **26 responses**
- **WP-34S: HP20B vs HP30B keyboard**, Rob Willett **3 responses**
- **Tools for exploring the 41cv?**, Peter Murphy (Livermore) **5 responses**
- **Free42 ?**, fhub **24 responses**
- **HP's chief strategy officer to retire next month, won't have a successor**, designnut **2 responses**
- **WP 34s: Trying to understand SLV**, Miguel Toro **31 responses**
- **WP 34s: comments and a suggestion**, Nigel J Dowrick **8 responses**
- **[WP34S] Latest update ?**, robertoataulfo **1 response**
- **FORTH on the Sharp PC-1500**, Ph.Théry **8 responses**
- **WP 34S: trouble with CLSTK**, Miguel Toro **4 responses**
- **The FOCAL Factory proudly presents 2 new modules**, Geir Isene **16 responses**
- **Need a new toy. 48g or 50g?**, JamesT **11 responses**
- **It's ALIVE!!!**, David Hayden **0 responses**
- **Unusual non-HP RPN (red led display) to restore...**, Cristian Arezzini **11 responses**
- **HP 71B Zenwand Manual**, Ph.Théry **1 response**
- **New version of 41Z - adds ZSTO Math**, Ángel Martin **0 responses**
- **HP 50g: Full Command and Function Reference incorporated into the O.S.**, Software49g **2 responses**
- **User RPL Question**, Paul Berger (Canada) **4 responses**
- **HP-65 strange card writing error**, John Garza **3 responses**
- **Any 9100 owners out there?**, David Ramsey **15 responses**
- **"A thing of beauty is a joy forever" - John Keats**, Gerson W. Barbosa **4 responses**
- **graphing/solving with 50g**, Robin Shelton **2 responses**
- **What would you prefer: RPN or RPL?**, Hugh Evans **90 responses**
- **An "Open" letter to "DIY" and "Repurposed" calculator projects**, Ethan Conner **40 responses**
- **[WP34s] Firmware<>Layout wish**, Alexander Oestert **36 responses**
- **[WP34s] Bug?**, fhub **19 responses**
- **WP 34S and 'dead' HP20B**, Rob Willett **17 responses**
- **Nigel Peters**, Nigel Peters **9 responses**
- **[WP 43S] Another newborn**, Jeroen Van Nieuwenhove **10 responses**
- **A Simulator for a Stack Machine**, Thomas Klemm **0 responses**
- **Fully testing HP 41**, Le Babou **7 responses**
- **38E/C, 12C, 12CP date arithmetic bug**, Katie Wasserman **26 responses**
- **Corrosion ... best way to remove?**, gene wright **6 responses**
- **HP50g - High power consumption**, Frido Bohn **2 responses**
- **A coincidence about the kilometer / mile discussion**, Andrés C. Rodríguez (Argentina) **0 responses**
- **wp34s low battery threshold Increased to 2.7V** , Jeff O. **8 responses**
- **Matrix Library**, John Abbott (S. Africa) **6 responses**
- **48G mod. after 15 years.**, Lyuka **12 responses**
- **48g - is there a CAT command?**, Liord **6 responses**
- **3rd Installment of the RPL tutorial is up**, Eddie W. Shore **2 responses**
- **OpenRPN Prototyping In Progress**, Hugh Evans **19 responses**
- **Complex Cubic Equation - 41Z Version**, Ángel Martin **3 responses**
- **HP 15C LE back in stock at HP H&HO**, Michael de Estrada **12 responses**
- **HP41c+ : i still prefer it** , Michel Beaulieu **40 responses**

- **FWIW - km to miles conversion factor on a four-banger calculator**, Gerson W. Barbosa **37 responses**
- **41CL and PPC ROM**, Gerry Schultz **4 responses**
- **A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)**, Gerson W. Barbosa **7 responses**
- **OT: ATTN: Matt Fegenbush**, Hugh Evans **0 responses**
- **Am I a bad person ?**, Michael de Estrada **39 responses**
- **Problems with International Shipping of HP15c LE**, Nick_S **9 responses**
- **Thank you HP!**, Graham D. Wilson **3 responses**
- **15C LE Diagnostics.**, robertoataulfo **1 response**
- **OT weird cursor behavior**, Martin Pinckney **10 responses**
- **Different keyboards on ARM 12c**, Jose Gonzalez Divasson **6 responses**
- **The ISENE.ROM**, Geir Isene **22 responses**
- **HP17BII+ Hardware - Atmel processor?**, Thomas Chrapkiewicz **4 responses**
- **R.I.P. Denis Ritchie**, Dominic Richens **27 responses**
- **Can anyone identify these keys?**, Bruce Larrabee **9 responses**
- **15c LE thoughts**, kc **20 responses**
- **Re: 15c logos for sale..**, uhmgawa **0 responses**
- **[WP 34S] A-D double duty suggestion**, Dominic Richens **19 responses**
- **Another reference to hyperbolic functions in a movie**, gene wright **2 responses**
- **[WP-34s] alpha entry?**, Alexander Oestert **20 responses**
- **Finding extremums of function with complex derivate**, Lukas K. **7 responses**
- **New HP15c LE manual - good!**, Jose Gonzalez Divasson **3 responses**
- **34S without Windows**, Egan Ford **5 responses**
- **34S Matrix Questions**, Egan Ford **9 responses**
- **(deleted post)**, deleted **24 responses**
- **What is the SVN version of 34S that does NOT need a keyboard change?**, Egan Ford **8 responses**
- **Finally, 34S flashed**, Egan Ford **0 responses**
- **HP keyboards, past and present**, Cristian Arezzini **4 responses**
- **WP34s: number display and rounding**, Dieter **4 responses**
- **Thanks Eric!**, Eddie W. Shore **5 responses**
- **WP34S JG1582 / JG1752**, M. Joury **11 responses**
- **HP-15C LE Error 5 in simple loop**, Eric Zoob **4 responses**
- **O.T. Reading computer internals**, designnut **1 response**
- **Why hp-20b more expensive than 30b?**, Masaki Adachi **9 responses**
- **hp12C capability**, Todd Israels **8 responses**
- **Another couple of practical speed tests for the 15c**, Jose Gonzalez Divasson **16 responses**
- **Re: [WP 34S] New keyboard layout (poll)**, Walter B **108 responses**
- **HP Business Website - HP 15c**, Brandon Poindexter **15 responses**
- **hp 15c EL**, Jan **7 responses**
- **WP34s and complexity**, Thomas Chrapkiewicz **9 responses**
- **[WP-34S] Flashing/chaining and assembler problems**, Cristian Arezzini **6 responses**
- **WP-34s Users' Guide - looking for writers/editors**, Dominic Richens **2 responses**
- **Anyone Updated (re-flashed) a 12C 30th AE?**, linear **13 responses**
- **Navpac manual anyone? (HP-41. Not HP's Navigation Pac)**, Geir Isene **0 responses**
- **The French TI 84.Pocket.fr**, Namir **4 responses**
- **The solution to the quartic equation on the HP50g, revisited**, Crawl **0 responses**
- **TI 58 / 59 Master Library Survival Guide booklet**, gene wright **13 responses**
- **15C Warranty in Canada - Resolved**, Jim Creybohm **2 responses**
- **Photo of my HP 15c | 15c LE**, DigiGal **2 responses**
- **WP 34S: Some testing required**, Marcus von Cube, Germany **27 responses**
- **[WP34s] Matrix M.xx vs. M-xx**, fhub **5 responses**
- **hp-15c LE firmware update HOWTO?**, Eric Zoob **4 responses**
- **HP Calculator Communications - USB -> RS232/Serial on Win7/64?**, Thomas Chrapkiewicz **10 responses**
- **[WP34s] 0=-2*10^(-15)???**, Alexander Oestert **30 responses**

- **Second Installment of RPL Tutorials (beginners)**, Eddie W. Shore **2 responses**
- **Best friends! (DataMath)**, robertoataulfo **1 response**
- **Swap meets at HHCs?**, Peter Murphy (Livermore) **1 response**
- **27S display - a show stopper?**, Thomas Radtke **13 responses**
- **WP34S : How many flash regions available**, Miguel Toro **6 responses**
- **The most abused phrase "Check Back Soon"**, Michael de Estrada **8 responses**
- **[WP34s] a) Input position and b) units and c) reminder plate**, Alexander Oestert **11 responses**
- **WP 34S: Changes on the integration wrapper**, Miguel Toro **0 responses**
- **Some 30b routines, revisited**, Harry Jacobson **4 responses**
- **HP15c new and old - pictures**, Jose Gonzalez Divasson **12 responses**
- **Warning if you have a calculator shipped outside the US. No warranty.**, Jim Creybohm **8 responses**
- **Repair HP41CV. Help needed.**, Kees van der Sanden **4 responses**
- **Eric's overlays**, Han **1 response**
- **when is a red dot a dot, and when not? and if not, then what?**, robert rozee **18 responses**
- **HP-19C with a strange S/N**, Ernst Fueloep **1 response**
- **HP-35 red dot - real or fake?**, Keith Midson **6 responses**
- **WP 34S matrix operations**, Paul Dale **5 responses**
- **HP 15 LE: Errata list for Owner's Handbook**, Felix Gross **0 responses**
- **Re: [WP 34S] New keyboard suggestion (NT ;-)**, Walter B **43 responses**
- **HP-50G CAS Sums problem**, x34 **4 responses**
- **15c logos for sale..**, uhmgawa **11 responses**
- **WP34S: An integration wrapper**, Miguel Toro **10 responses**
- **42s repair..**, uhmgawa **1 response**
- **Old Datamath quirk: anyone remember?**, Glenn Shields **6 responses**
- **calculator longevity**, bill platt **30 responses**
- **WP34s: SLVQ implementation**, Dieter **2 responses**
- **HP15C- LE bad button**, Djj **22 responses**
- **WP 34S: a litlle matrix helper to enter and review matrices**, Miguel Toro **11 responses**
- **Hp 97 needs to be repaired (Ciao Ignazio)**, aurelio **6 responses**
- **HHC 2011 on YouTube**, Peter Murphy (Livermore) **12 responses**
- **Manual for vintage Russian MK-61 RPN programmable calculator?**, Cristian Arezzini **14 responses**
- **Nerdvana & mass production of FOCAL rom images**, Geir Isene **11 responses**
- **HP-46 faulty keys - to Katie**, Juergen Keller **4 responses**
- **HP-15c LE arrived in Madrid, Spain**, Joaquin Herrero **3 responses**
- **15C LE - arrived!**, Thomas Radtke **2 responses**
- **41-MCODE Question**, Ángel Martin **3 responses**
- **A real 15C ...**, Keith Midson **13 responses**
- **OT: Does anyone have access to rapid prototyping?**, Hugh Evans **21 responses**
- **HHC 2011 / O.S. Extension Pack**, Software49g **1 response**
- **Curciut or Circuit ? :-)**, robertoataulfo **1 response**
- **Battery Contact Needed**, Fouad M. Kaadou **1 response**
- **Slide rule**, BruceH **27 responses**
- **I keep getting a Fatal error with SAM-BA v.2.10**, Eddie W. Shore **30 responses**
- **Choosing an HP-48 - Thanks**, E.Lub_EU **8 responses**
- **HP15C LE arrived today in Austria, Europe**, Peter HOFMANN **3 responses**
- **[WP 34S] New keyboard layout anybody? - Edited**, Marcus von Cube, Germany **168 responses**
- **First four parts of the Beginner RPL Tutorial up**, Eddie W. Shore **4 responses**
- **Recent 15LE orders on hold?**, Scott Newell **7 responses**
- **Restoring silver trim: solution found >>**, tim m. **2 responses**
- **SAM-BA 2.10 for Linux not working.**, Egan Ford **5 responses**
- **OT: Hrast Programmer's Cool Music**, Namir **3 responses**
- **HP-41 barcodes... via the web browser**, Raymond Wiker **6 responses**
- **"How to" for WP-34s Poisson distribution**, Dominic Richens **19 responses**
- **HP 15C LE....It's a calculator.....not a finger massager**, Ethan Conner **32 responses**

- **HP 15C LE Error 9, does it exist?**, Michael de Estrada **9 responses**
- **Matrix operations -- WP 34S**, Paul Dale **5 responses**
- **R.I.P. Steve Jobs 1955-2011**, aj04062 **20 responses**
- **Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company**, gene wright **21 responses**
- **Matrix functions on the WP 34s Build 1685: in a word "incredible"**, gene wright **78 responses**
- **HP 15C : Good grief it's good to see these again !**, John Henry **0 responses**
- **What to do with mushy voyager snap domes?**, Nicholas Winterer **7 responses**
- **56 HP-41CX's Sold At Government Auction**, John M (Ottawa) **6 responses**
- **Scalpers. HP 15C old is now cheap and rare..**, bill platt **1 response**
- **Crystal to my 30b**, robertoataulfo **6 responses**
- **wp34s decals?**, Evan Gates **4 responses**
- **update 12C ?**, robertoataulfo **11 responses**
- **Modified Flash Tool for WP 34S**, Marcus von Cube, Germany **5 responses**
- **Could wp34s influence HP to offer 30b in different firmwares?**, Harry Jacobson **4 responses**
- **Sandmath-II and 41Z - questions to Angel**, Vincent Weber **19 responses**
- **HP15C LE Keyboard Issues (...and 3.5 Years Ago)**, Kerem Kapkin (Silicon Valley, CA) **9 responses**
- **missing segments on 20b running 34s**, db (martinez, ca.) **4 responses**
- **Test WP34S (Hardware)?**, robertoataulfo **1 response**
- **Mapping HP-15C LE faulty keys**, Reth **5 responses**
- **hp15c LE firmware problem, keys rough**, Brackett **14 responses**
- **HP 12cP25thAE Self-Test Result?**, Kerem Kapkin (Silicon Valley, CA) **5 responses**
- **More talk of cults at HP**, Palmer O. Hanson, Jr. **2 responses**
- **15c LE production**, Peter Kim **21 responses**
- **Attention collectors!**, robertoataulfo **3 responses**
- **Replacement for HP15c LE with problematic key?**, Jesse Dodd **19 responses**
- **WP34s: new build with Matrix functions?**, fhub **2 responses**
- **HP50G innards (for Eric)**, Han **1 response**
- **100!**, Walter B **32 responses**
- **HP 15c LE - pre-release firmware available?**, Alexander Oestert **0 responses**
- ***sigh***, Howard Owen **17 responses**
- **HP IP for sale**, hpnut **6 responses**
- **SpeedUI 11.10 available**, Raymond Del Tondo **2 responses**
- **WP-34S build problems on Linux**, Eric Smith **5 responses**
- **WP-34S Revision 1653 Feedback**, svisvanatha **6 responses**
- **WP34-S Flashing Cable Repair?**, svisvanatha **5 responses**
- **HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!**, Joerg Woerner **4 responses**
- **15c LE box -- just for the record**, John S. Miller **9 responses**
- **HP-41CL**, M. Joury **2 responses**
- **HP 30b firmware**, Miguel Toro **5 responses**
- **Another HP-15C LE bug?**, Benoit Maag **58 responses**
- **HP15C LE arrives in Singapore**, Prabhu Bhooplapur **1 response**
- **Facebook page created for Hewlett Packard Calculators**, gene wright **15 responses**
- **HP-71B Card Reader 82400A**, aj04062 **9 responses**
- **HP-15C LE : fastest selling ever ?**, Donald Ingram **7 responses**
- **12C ARM Firmware?**, Lincoln R. **0 responses**
- **30b power on key codes (Q for Katie Wasserman)**, Harry Jacobson **2 responses**
- **Anyone want an XServe?**, David Ramsey **0 responses**
- **Use HP serial interface to save/restore programs?**, Harry Jacobson **5 responses**
- **HP 15C LE Manual corrections**, Marcus von Cube, Germany **3 responses**
- **HP 15c LE Display timing issues?**, Michael Kussmaul **5 responses**
- **34S SUM PROD change request ccccc >= fff**, Egan Ford **6 responses**
- **What is your holy grail?**, Keith Midson **40 responses**
- **HP-15C LE Serial # vs. LE #**, Steve28 **6 responses**

- **HP12c 30th AE keyboard**, Paulo MO **4 responses**
- **So any pics / news from HHC 2011**, Han **15 responses**
- **HP 15C and 15C LE not the same dimensions?**, Derek **16 responses**
- **wanted: high-resolution photo of 50g internals**, Eric Smith **9 responses**
- **Determinants of the AM1 matrix**, gene wright **64 responses**
- **Which program do you use the most**, David Persinger (US) **19 responses**
- **15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]**, Tim Wessman **16 responses**
- **WP 34S Up & Running**, John Abbott (S. Africa) **0 responses**
- **RPL Basics Tutorial is now up on my blog**, Eddie W. Shore **3 responses**
- **HP 15c LE - Extended PSE Functionality?**, Alexander Oestert **18 responses**
- **Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?**, Bruce Larrabee **11 responses**
- **HP48 - WHY where were they made so difficult to open up?**, mr-scorpio **12 responses**
- **Photo of Voyager and HP 35s**, Brandon Poindexter **7 responses**
- **hp-12c from HP.com arrives with dead batteries**, Masaki Adachi **4 responses**
- **HP 11C low battery indicator**, Onur Ilkorur **8 responses**
- **Flashing HP 20b for WP 34S**, Steve Brenton **10 responses**
- **Advance handbook 15C**, Michel Beaulieu **7 responses**
- **HPGCC questions**, Steve Fennell **3 responses**
- **Unable to register the 15c LE**, Neil Carlson **3 responses**
- **34S suggestions**, David Hayden **70 responses**
- **HP-15c data storage**, Michel Beaulieu **6 responses**
- **HP 15C LE in Berlin (Germany)**, Frido Bohn **45 responses**
- **Choosing an HP-48**, E.Lub_EU **23 responses**
- **HP 15C LE - a personal review**, Alexander Oestert **8 responses**
- **Which quadratic formula is use?**, Michel Beaulieu **7 responses**
- **WP34s bugfix**, fhub **4 responses**
- **OpenRPN and the 41CL**, snaggs **11 responses**
- **Solving a cubic equation using trigonometry, but with a2 term?**, snaggs **1 response**
- **WP34S overlay**, Masaki Adachi **10 responses**
- **Spiral Binding**, db (martinez, ca.) **13 responses**
- **Prime Factorization for the HP15c?**, JamesT **2 responses**
- **HP Solve #25 available**, David Hayden **6 responses**
- **HP15C LE Keyboard Survey Results**, M. Joury **23 responses**
- **Case for 20b/30b/34S?**, David Hayden **1 response**
- **Why does solver "iterate" when using S() function?**, JamesT **2 responses**
- **[edited] from the HHC email list, what is the proper answer to 8 ENTER 3 divide 2 divide on 10 digit calc**, gene wright **10 responses**
- **WP-34s library program usage**, David Persinger (US) **2 responses**
- **15c LE - PSE works and doesn't! Please explain!**, Alexander Oestert **6 responses**
- **Problem with too-pristine calcs...**, Cristian Arezzini **10 responses**
- **WP-34S Battery Questions**, svisvanatha **9 responses**
- **Who Needs TAS When We Have Samson Cables?**, Les Wright **13 responses**
- **Find the hidden path game for HP-32sii**, Don Shepherd **0 responses**
- **"Smooth Scaled Deciduous Trees of the Southern Nordic Countries"**, Geoff Quickfall **33 responses**
- **Free42S - Android 3.2 Scaled to full screen**, Bill (Smithville, NJ) **0 responses**
- **Is HP tech support clueless ?**, Michael de Estrada **30 responses**
- **HHC 2011 was an absolute blast!**, Eddie W. Shore **7 responses**
- **HP41 Battery Holder, made by additive manufacturing**, Ian Phillips **1 response**
- **RPN FLOOR and CEIL**, Werner **4 responses**
- **41CL Version of HP15C+ muscle-flexing exercise**, Ángel Martin **17 responses**
- **HP 12C 30th AE arrives in Malaysia**, hpnut **1 response**
- **WP 34S Amtel SAM-BA download broken**, Howard Owen **6 responses**
- **15C-LE and 1981 12C in one day**, Keith Midson **1 response**

- **HHC2011 News**, Namir **44 responses**
- **I wonder what "Limited Edition" means**, j beede **20 responses**
- **Another order of 15c LE for me!**, jonathan G harris **2 responses**
- **HP 15C LE back in stock at HP Home Store**, Michael de Estrada **25 responses**
- **Original 15C Keyboard Test Works With 15C LE!!!**, DigiGal **5 responses**
- **[WP34S] HP cable vs USB adapters compatibility question**, E.Lub_EU **4 responses**
- **HP 15C LE Price Reduction at HP S&M Business**, Kerem Kapkin (Silicon Valley, CA) **5 responses**
- **# digits displayed by HP 15c LE**, Masao Kinoshita **6 responses**
- **HP's "Calculator Club"**, megarat **4 responses**
- **Profit and TAS**, Joerg Woerner **5 responses**
- **Re: 34s: TVM problem?**, Dominic Richens **3 responses**
- **Praise for the 34S**, Egan Ford **23 responses**
- **Can't this forum's outdated format be updated?**, mr-scorpio **10 responses**
- **Nothing says I Love You like a 15C LE!**, Todd Garabedian **2 responses**
- **are the keys of the HP15C LE molded?**, Gonzalo Fernandez (Spain) **10 responses**
- **[WP34S] [Manual] Date - Day functions**, E.Lub_EU **2 responses**
- **H to HMS Bug in HP 15C LE?**, Eddie W. Shore **2 responses**
- **Update from HHC2011?**, Jim Johnson **0 responses**
- **15C LE arrivals in Europe?**, Thomas Radtke **33 responses**
- **HHC 2011 Programming Puzzle SPOILERS**, Paul Dale **77 responses**
- **New Calculator Newsletter Up on hp.com**, Norman Dziedzic **7 responses**
- **How Is the 15C LE Emulator Activatied?**, Ed Look **3 responses**
- **HP15C LE Keyboard Survey Take 3 (last round)**, M. Joury **33 responses**
- **48GX Erable etc ever to be updated /revised etc?**, mr-scorpio **9 responses**
- **HP 12C 30th Anniversary Bugs?**, Kevin Kitts **1 response**
- **Lunar Lander for HP-15C?**, Gerardo Rincon **3 responses**
- **15C LE: Emulator runs on Mac, too! :-)**, Juergen Keller **3 responses**
- **My small tribute to the HP-15C LE**, Juergen Keller **7 responses**
- **Repairing HP 41C screw posts**, Fouad M. Kaadou **7 responses**
- **RPN Tutorial**, Eddie W. Shore **10 responses**
- **More 15C LEs appearing on TAS**, Lincoln R. **25 responses**
- **HHC2012 programming challenge??**, Pal G. **28 responses**
- **Anyone 'tweeting' from HHC2011?**, Pal G. **20 responses**
- **Hp48 mechanical engineering card**, Giancarlo **1 response**
- **Cleaning HP97 body**, Olivier De Smet **1 response**
- **Cleaning HP-97 Print Head**, Fouad M. Kaadou **4 responses**
- **Original HP15C article from HP Journal, May 1983**, JamesT **9 responses**
- **HHC--- be patient tomorrow please**, Gene wright **11 responses**
- **HP12C Article in the Financial Times**, Charles **4 responses**
- **Doom and Gloom**, Howard Owen **3 responses**
- **HP-15c LE Bad Keys**, Gerry Schultz **6 responses**
- **HP200LX's Calc under Win7**, Mike (Stgt) **22 responses**
- **Error in wikipedia article on HP-35s (Solver)**, x34 **6 responses**
- **HP-41 Card Reader Error**, aj04062 **2 responses**
- **Opening the HP49g+**, AdrianT **2 responses**
- **Whitman Is Named Hewlett-Packard Chief**, Peter Murphy (Livermore) **21 responses**
- **(sigh) I don't understand (TAS revisited)**, Jim Johnson **10 responses**
- **Equivalent generic part # for HP cold-cathode displays...**, Nick de Smith **0 responses**
- **Best wishes for a great HHC 2011!**, Seth Morabito **0 responses**
- **Meg Whitman announces stunning strategy shift at HP**, Howard Owen **16 responses**
- **Hp 97 faint printer**, Fouad M. Kaadou **6 responses**
- **HCC2011 and some 15LE observations**, geoff quickfall **4 responses**
- **Re: Free42 - A Complex glitch?**, fhub **3 responses**
- **Another 15C LE speed test**, Katie Wasserman **14 responses**

- **Credit card and 15C**, Mark Storkamp **23 responses**
- **Who has the highest 15c LE number?**, MBlount **20 responses**
- **Android: 15C Scientific Calculator**, Howard Owen **4 responses**
- **Offer of rides between SD airport and conference hotel**, Brian Walsh **3 responses**
- **More drama at HP**, Michael de Estrada **20 responses**
- **First honest true auction on TAS for an HP 15C LE**, Michael de Estrada **19 responses**
- **15C LE Synthetics**, Kerem Kapkin (Silicon Valley, CA) **11 responses**
- **WP34S : RMDR remark in the manual**, Miguel Toro **2 responses**
- **Current Consumption and Program Performance HP15CLE**, Thomas Chrapkiewicz **4 responses**
- **New -to me- Calculators, including WP-34s**, Dan M (Vermont, USA) **4 responses**
- **HP 15C ; keys not registering**, Miguel Toro **10 responses**
- **Crossing my fingers**, David Ramsey **15 responses**
- **WP34S complex RCL**, John Abbott (S. Africa) **7 responses**
- **Pictures of the HP15C LE and HP 12C 30th Year Anniversary Edition**, Eddie W. Shore **1 response**
- **HP-19c battery pack replacement (again...)**, Xavier A. (Brazil) **8 responses**
- **HP 50g - Good tutorials**, François Vanzeveren **2 responses**
- **HP 15C LE Engraving**, Russ Dill **12 responses**
- **Old habits**, Ed Look **4 responses**
- **Does anyone have 15C LE dissection pics?**, Hugh Evans **32 responses**
- **[WP34S] [Manual] Units conversion question**, E.Lub_EU **9 responses**
- **HP 15C LE Keyboard Survey Redux**, M. Joury **57 responses**
- **12c LE - same calculator as original?**, Frank Rottgardt **4 responses**
- **Rationale for 15C L.R. result order?**, Mike Fikes **9 responses**
- **HP 15C LE available as of 9/20 at ...**, Kerem Kapkin (Silicon Valley, CA) **7 responses**
- **Instructions for building WP-34s loads.**, Dominic Richens **27 responses**
- **HP Forum HHC Programming contest idea / possible rules**, gene wright **30 responses**
- **Experience (Learning) Curve Program for HP-41C/CV/CX**, Chris Catotti **1 response**
- **HP 11C suddenly won't turn on**, Antonio Petri (UK) **2 responses**
- **[BUG] HP 50g SOLVE/SOLVR menu does not display unknown var**, François Vanzeveren **3 responses**
- **OpenRPN: How about a desktop HP-42S?**, Dan W **2 responses**
- **15C LE - weird self-test behavior**, Katie Wasserman **0 responses**
- **A program for Normal Distribution on the 42s**, snaggs **5 responses**
- **Unusual HP 15C on TAS**, Michael de Estrada **14 responses**
- **Re: Who has the lowest 15C LE Limited Edition Number?**, Rene Wachter **30 responses**
- **Some pictures of anniversary 12c**, Jose Gonzalez Divasson **14 responses**
- **Day Late, Dollar short.**, William L. Drylie **13 responses**
- **HP 15C LE selling at $349**, hpnut **25 responses**
- **15c: "GSB I" bug?**, Dave Britten **58 responses**
- **HP97 charger**, Olivier De Smet **5 responses**
- **I waited 25 years for this?**, Casey Drew **16 responses**
- **HP 67 Black Box**, Fouad M. Kaadou **9 responses**
- **First post & a question re:20b/30b**, E.Lub_EU **10 responses**
- **14 flash cables mail today and a moratorium please? :-)**, gene wright **11 responses**
- **HP 15C LE on HP Web Site is OoS**, Namir **4 responses**
- **Two new blog posts of interest to members of this forum**, Steve Leibson **8 responses**
- **Inmates at the hpmuseum?**, hpnut **14 responses**
- **Integration in a program on 42s?**, snaggs **2 responses**
- **Does it really have to have keys?**, Oliver Unter Ecker **16 responses**
- **HP 71B LE?**, Keith Midson **8 responses**
- **Needing more advice with my HP-48S**, Palmer O. Hanson, Jr. **3 responses**
- **15C Keyboard Issues [EMAIL ME - INFO BELOW]**, Tim Wessman **9 responses**
- **HP-15C LE Order Page Has Gone Live**, Steve S **5 responses**
- **Hp-28S Does not Turn On**, aj04062 **10 responses**
- **That NIB 15C (LE) went for $356**, Peter Murphy (Livermore) **12 responses**

- **OpenRPN Reboot Interest?**, Hugh Evans **40 responses**
- **Ride or Room Sharing to San Diego for HHC2011**, Jim Horn **0 responses**
- **PSE bug also in Integrate and Solve**, Namir **0 responses**
- **WP 34S : issue disassembling with latest version**, Miguel Toro **10 responses**
- **HP15C LE Keyboard Survey**, M. Joury **50 responses**
- **HEPAX Focal program "Jump"**, Jeff Davis **1 response**
- **HP-15C LE Available in UK?**, jacksonconsult **3 responses**
- **Can we make'em like Bill and David? An open RPN?**, snaggs **23 responses**
- **Some HP 97 Questions**, Fouad M. Kaadou **10 responses**
- **42s questions and 42s vs 35s**, snaggs **13 responses**
- **HP 15C LE COS key**, troy **6 responses**
- **HP Home shopping site has 15c in stock now**, sav **21 responses**
- **33S times off in 4 seconds**, designnut **4 responses**
- **More 15C Manual Errata**, Lincoln R. **3 responses**
- **Made in China, 50G, 35S, 33S**, designnut **11 responses**
- **Most sophisticated 15c games?**, Dave Britten **16 responses**
- **Re: Free42 - A Complex glitch?**, Thomas Okken **23 responses**
- **It has nothing to do with China**, From Hong Kong **54 responses**
- **Confused simple accountant: TMV HP17 v HP12**, Paul **4 responses**
- **HP 50g trilogy. The new HP 50g Blue (and II)**, Pablo P (Spain) **18 responses**
- **HP 15C LE: For anyone who intend to keep theirs unopened in box**, Miguel Toro **7 responses**
- **OT: Who knows me better...**, kc **1 response**
- **Any relation between 15C LE numbers and serial numbers?**, Howard Owen **14 responses**
- **Classic HP LED failure diagnosis** , aj04062 **2 responses**
- **Any good way to take pictures of calculators?**, Eddie W. Shore **11 responses**
- **15c LE sqr and sqrt problems**, CAD_Jockey **61 responses**
- **USB to Serial Cable for WP-34S**, Dan W **0 responses**
- **It had to happen sooner or later revisited**, Martin Pinckney **12 responses**
- **What other retailers will get 15c LE?**, MBlount **11 responses**
- **Process For Getting a Flashing Cable for WP 34S**, Dan M (Vermont, USA) **31 responses**
- **HP-15C LE Bug Reports**, Katie Wasserman **28 responses**
- **HP15C Presentation box**, M. Joury **0 responses**
- **Simple TVM Routines for HP-15C**, Chris Mccormack **1 response**
- **After the 15c LE, better chance of a basic RPN calc from HP now?**, nick lidakis **80 responses**
- **No complaints about the HP-12C AE?**, From Hong Kong **21 responses**
- **15c finally available from HP for $129.00 US**, Quan **4 responses**
- **HP-15C LE - Two bad keys**, Dan Grelinger **11 responses**
- **Such a beautiful sight**, Eric Rechlin **16 responses**
- **15c(LE): Will the display flash for reasons besides overflow, SF9?**, Dave Britten **19 responses**
- **Updated my Calculator Collection Website**, Gerardo Rincon **6 responses**
- **Sampson Cable HP-15C Arrived Today**, Dan W **3 responses**
- **Battery-less 128K ram card for HP 48GX**, mr-scorpio **3 responses**
- **Reminders: If you're coming to HHC 2011...**, gene wright **26 responses**
- **Cost Central shipping HP15C LE?**, M. Joury **8 responses**
- **15C LE: Will 10K units get sold quickly?**, Howard Owen **24 responses**
- **Re: HP 15C LE at buy.com price skyrockets!**, Jim Johnson **2 responses**
- **15c: Need good programs for Mod, nCr, nPr**, Dave Britten **55 responses**
- **15c LE in europe?**, Bart K. **14 responses**
- **15c LE Now listed at $199.99 on Buy.com**, NateB **13 responses**
- **HP-65 clear body!!**, robertoataulfo **4 responses**
- **WP 34S: New Release on SF**, Marcus von Cube, Germany **16 responses**
- **15C LE Wobbly F/G Keys**, DaveJ **21 responses**
- **Message concerning shipment from Samson Cables**, kc **6 responses**
- **15C package**, Quan **13 responses**

- **HP12C 30th Anniversary**, Keith Midson **2 responses**
- **Shipment**, Eddie W. Shore **0 responses**
- **15C re-release may be a good time to remind..**, Pal G. **7 responses**
- **15C LE -- fun with the PSE**, Katie Wasserman **6 responses**
- **Some 15c files from HHC 2010**, gene wright **5 responses**
- **Annunciators on the 15c LE**, troy **2 responses**
- **Re: HP 15C-LE Pause (PSE) Command Bug**, Graham D. Wilson **0 responses**
- **It had to happen sooner or later**, Michael de Estrada **42 responses**
- **Hp-67 Power life**, Fouad M. Kaadou **15 responses**
- **hp 15C LE**, William L. Drylie **7 responses**
- **35S vs 30b Stack**, Alex Mark (Greece) **45 responses**
- **Requesting HP30b firmware**, Harry Jacobson **0 responses**
- **15C LE current draw issue**, Katie Wasserman **36 responses**
- **HP 15C LE Manual Erratum**, Howard Owen **10 responses**
- **A New Prototype at the HHC?**, Dan W **13 responses**
- **HP 15C LE - review wanted**, Jeroen Van Nieuwenhove **12 responses**
- **15C-LE has "Buy" button at HP**, Howard Owen **2 responses**
- **15C LE & 12C AE, somewhat disappointing**, Katie Wasserman **20 responses**
- **My HP 15C is here! IT DOES EXIST!!!!!** , jonathan G harris **0 responses**
- **Screenshots of the HP-15C LE emulator?**, Torsten **17 responses**
- **ADV HEPAX goes for $1,000 at TAS !!!**, Ángel Martin **17 responses**
- **Found in a rubbish bin.**, Stuart Sprott **7 responses**
- **Auctions Vintage HP-15C**, Jim Johnson **5 responses**
- **SOS- Did Not Succeed in Flashing 30b!**, Ed Look **15 responses**
- **To buy or not to buy..that is the conundrum**, bill platt **16 responses**
- **HP-15C LE emulator skin change issue**, M. Joury **1 response**
- **HHC2011 Registration List Now at 80**, Jake Schwartz **1 response**
- **Thank you HP!!!**, Namir **12 responses**
- **How to keep up regarding WP-34S?**, Michael O. Tjebben **13 responses**
- **Thanks to HP folks in this group**, Don Davis **0 responses**
- **HP-9825**, Paolo Cipollone **2 responses**
- **Tim, Help! 15C LE emulator activation not working**, M. Joury **16 responses**
- **HP-15C LE box specs for SC please!**, Juergen Rodenkirchen **5 responses**
- **15C LE expanded a bit on SOLVE & INTEGRATE?**, Namir **6 responses**
- **HP 15E Bach Company**, Eddie W. Shore **3 responses**
- **Firmware updates for the 49g, 12C+ etc**, Tommy **4 responses**
- **HP-15C LE Emulator Problem**, Namir **26 responses**
- **Sort of OT: Dice odds**, Dave Britten **9 responses**
- **WP 34S : Numeric integration * EDITED***, Miguel Toro **9 responses**
- **HP12C 30th AE available from HP Home & Home Office**, M. Joury **0 responses**
- **hp 67, battery**, Sok-khieng Chum Hun **11 responses**
- **Long term storage question on 15C LE**, nick lidakis **4 responses**
- **OT:Yes! We have our Corbulin!**, robertoataulfo **3 responses**
- **Plotting Direction fields on the HP48**, snaggs **1 response**
- **Dr Bills Quadratic solver for 35S**, snaggs **6 responses**
- **Who has the lowest 15C LE Limited Edition Number?**, Jandro Kirkish **28 responses**
- **9/11**, Jean-Michel **4 responses**
- **SC ships 15C LE on 9/13**, Thomas Radtke **32 responses**
- **15c manuals**, Paul Dale **8 responses**
- **New Interface for HP-28S ?**, robertoataulfo **10 responses**
- **Cleaning HP41C keys**, Rob Willett **4 responses**
- **HP 15C-LE Pause (PSE) Command Bug**, Mike Morrow **67 responses**
- **HP-15C LE calculator forensics?**, Joel Setton (France) **19 responses**
- **HP 28S saw 36V versus 4.5V, damage and repair?**, Joshua Keena **4 responses**

- **Hp15c LE on TAS**, Ethan Conner **18 responses**
- **Hp-15C, Bach has them too**, Katie Wasserman **1 response**
- **Secret prototype of the next generation HP calcs**, Michael de Estrada **8 responses**
- **The *REAL* Self Tests For the 15C LE**, Mike Morrow **15 responses**
- **Does the 15C LE have a 6-pin JTAG connector?**, Pal G. **23 responses**
- **HP15c LE -- Where Are Canadians Ordering?**, Les Wright **6 responses**
- **HP 15C LE Memory Corruption After Self Test Performance**, Mike Morrow **16 responses**
- **I do not understand :-)**, robertoataulfo **11 responses**
- **How many HP 15c do you plan to order?**, Gerardo Rincon **25 responses**
- **HP12C 30th Anniversary Edition on TAS**, M. Joury **3 responses**
- **WP 34S : Reopening last catalog called - Revisited**, Miguel Toro **3 responses**
- **OT: Limited Ed.**, Egan Ford **16 responses**
- **Thread for 15c LE delivery reports**, gene wright **104 responses**
- **Free42 - A Complex glitch?**, Ángel Martin **23 responses**
- **Amazon is selling HP-15C LE now**, From Hong Kong **7 responses**
- **HP 15c LE - U.S. versus European version**, Michael Kussmaul **16 responses**
- **HP's Dennis Harms to "visit" HHC2011**, Jake Schwartz **3 responses**
- **Response from buy.com**, M. Joury **29 responses**
- **HHC2011 Conference Presenters: Please Prepare Your Papers**, Jake Schwartz **18 responses**
- **15C (LE) Retailers in Germany**, Lukas K. **3 responses**
- **15c available at buy.com**, Jurrie Lulofs **0 responses**
- **USPS**, hpnut **9 responses**
- **HP 15C Available at buy.com?**, M. Joury **77 responses**
- **Received HP 12C 30th Anniv.** , Gerardo Rincon **19 responses**
- **Guessing game - non-HP RPN calculator "Made in Germany"**, Joerg Woerner **17 responses**
- **TOS Confusion for newbies**, Dave Hicks **13 responses**
- **Buy.com has 30th Anniv 12c for $69**, MBlount **7 responses**
- **My First HP Calc to Fail**, Jandro Kirkish **4 responses**
- **need the reprogramming cable for the 30b...**, stacy_k **15 responses**
- **WP 34S : Reopening last catalog called**, Miguel Toro **1 response**
- **HP 12C**, Bruce Wells **1 response**
- **Updated SandMath-II and 41Z modules**, Ángel Martin **6 responses**
- **Programming RPN on the 48?** , snaggs **58 responses**
- **Test post**, Martin Pinckney **4 responses**
- **My least favorite words: "Coming soon"**, Allen **12 responses**
- **Trying to get hold of Eric at HPcalc.org**, Geir Isene **0 responses**
- **Help with 41CV - memory problem ?**, timw **7 responses**
- **has 16C memory increased?**, designnut **4 responses**
- **TI Minimath would be 40 this year :-(**, Joerg Woerner **0 responses**
- **Connecting the HP-41 to the HP-71... Why? How?**, Geir Isene **8 responses**
- **Tribute to the 12C**, Keith Midson **0 responses**
- **What do you like most about the HP-15C?**, Gerardo Rincon **20 responses**
- **HP 12c Prestige**, Brandon Poindexter **6 responses**
- **Finding prime factors on a "non-programmable" calculator**, Don Shepherd **6 responses**
- **Removing 9810 printer snap rings (circlips)**, David Ramsey **5 responses**
- **The big bang**, bluesun08 **4 responses**
- **41CX with bad row of keys....**, Jimi **7 responses**
- **Searching for a modern solution**, Mark Storkamp **12 responses**
- **HP-41C SKWIDBC Barcode Generation ROM**, aj04062 **27 responses**
- **HP 12c 30th Anniversary listed on HP's website for $104.99**, Joerg Woerner **4 responses**
- **HP 71b soft case decomposing...**, Giancarlo **3 responses**
- **Has this ever happened to you ? :)**, Michael de Estrada **13 responses**
- **New Version of the HP-39GII**, Mark Hardman **30 responses**
- **Just a thought (WP34S and 15C LE)**, Andrés C. Rodríguez (Argentina) **4 responses**

- **Fixing the bezel on a 10C**, Keith Midson **8 responses**
- **The calculator is dead - viva la HP 15C Limited Edition**, Joerg Woerner **38 responses**
- **HP 12C30th anniversary Available 9/1??**, Gerardo Rincon **1 response**
- **HP-15C Software - Part II**, Gerry Schultz **2 responses**
- **Has something happened to the forum?**, BruceH **3 responses**
- **How many of you bought HP's 15C app for iOS?**, Howard Owen **13 responses**
- **Large pic of 15c LE and 30th anniversary - you can download these too**, Gene Wright **17 responses**
- **Updated HP Web Page for the HP-15C LE**, Namir **52 responses**
- **HP-15c LE Batteries**, Michel Beaulieu **2 responses**
- **PPC DVD HP-Calc Archive Disk "Slightly" Updated**, Jake Schwartz **26 responses**
- **WP34S : is this result "zero" enough ?**, Miguel Toro **4 responses**
- **Is there anything the 15c can't do compared to the 35s?**, snaggs **156 responses**
- **HP 12c Video and HP 15c questions**, Brandon Poindexter **13 responses**
- **Samson price drop**, Ethan Conner **1 response**
- **15c LE quantities?**, Rav Walia **1 response**
- **CMT-300 Owner's Manual**, Juergen Keller **1 response**
- **Correct 15C information**, Tim Wessman **35 responses**
- **Updated: Some press articles about the new 30th anniversary 12c**, gene wright **13 responses**
- **12c Users Invited to Join HP and Dennis Harms for Dinner tonight in San Francisco**, Laura (San Diego) **3 responses**
- **HP Press Release about the 30th Anniversary 12c and 15c LE**, gene wright **27 responses**
- **Calling on the Spirit of Comedian Sam Kinison**, Namir **0 responses**
- **By the way, talking about bugs...**, Miguel Toro **2 responses**
- **Say what? HP restarts tablet production**, Brian Walsh **5 responses**
- **HP 15c Limited Edition Calculator on shopping.hp.com now**, gene wright **33 responses**
- **HP a 40 billion dollar start up**, Ethan Conner **2 responses**
- **WP 34S : Operation with complex numbers**, Miguel Toro **19 responses**
- **HP-35: once working, now only one dim segment on display**, elmwood **10 responses**
- **Darn! 15C preorder relisted at Samson. $129**, Borja **57 responses**
- **3V Power Supply**, Lode **3 responses**
- **Degrees conversion for trigonometric function**, Beth Snipes **2 responses**
- **Confirmed sellers of the 15C LE?**, Peter Murphy (Livermore) **14 responses**
- **HP41 battery holder, are there any CAD drawings?**, Ian Phillips **9 responses**
- **Strange HP-10 Printer behavior**, aj04062 **7 responses**
- **WP 34S: Emulator has learned new tricks**, Marcus von Cube, Germany **0 responses**
- **Hey, the forum got mentioned on cnn's money website!**, gene wright **3 responses**
- **Cruel Doubt :-(**, robertoataulfo **8 responses**
- **Solar powered 41cx !!**, John Robinson **1 response**
- **HP's One-Year Plan (WSJ)**, Eric Smith **8 responses**
- **HHC is less the 4 weeks away**, David Ramsey **4 responses**
- **Gummy wheels for 41 series card readers**, William L. Drylie **5 responses**
- **What can you do with the HP IR printers on a 42s?**, snaggs **2 responses**
- **hp30b SAMBA questions**, Lode **4 responses**
- **Immersing in alcohol**, David Ramsey **21 responses**
- **LA TIMES HP ARTICLE**, HOWARD Lazerson **3 responses**
- **Triangle solver for WP34s**, fhub **38 responses**
- **HP-41 resource allocation registry?**, Håkan Thörngren **2 responses**
- **Isn't it time to update the museum?**, Graham D. Wilson **33 responses**
- **OT: Interesting Documentation - Sanyo Calculator**, Katie Wasserman **6 responses**
- **HP48G purchase from "that list site"**, Ethan Conner **2 responses**
- **HP Touchpad crazy prices 50,000 EUR!!!!**, Keith Midson **0 responses**
- **Card Reader pressure roller diameter?**, Ian Phillips **6 responses**
- **[WP34s] suggestions**, Lode **12 responses**
- **HP-41 Beer Brewing Computer**, Juergen Keller **7 responses**

- **HP-41 Unknown Interface**, Juergen Keller **7 responses**
- **Bought a 42s, need a case**, snaggs **7 responses**
- **Times have changed**, Nick R **3 responses**
- **HP41/71b Formatted Media**, Gerry Schultz **7 responses**
- **In class today**, Tommy **4 responses**
- **WP 34S : [->] command question**, Miguel Toro **6 responses**
- **Victor V12 (HP-12c KIRF) on sale today $8.77**, Bruce Bergman **4 responses**
- **WP 34S: New Release in the Works**, Marcus von Cube, Germany **22 responses**
- **question for lyuka and the Ostrowski method - bumped!**, hugh steers **7 responses**
- **WP 34S Cable**, robertoataulfo **2 responses**
- **Apple to Focus on Printers***, Howard Owen **6 responses**
- **[WP34s] DIY overlay laminated**, Alexander Oestert **2 responses**
- **Thanks for a simple, easy to use forum**, Bill (Smithville, NJ) **20 responses**
- **The HP35S**, Nick R **113 responses**
- **OT: What Your Old Graphing Calculator Says About Technology**, NateB **3 responses**
- **HP Caesium atomic watch**, BruceH **4 responses**
- **What's the best way to re-assemble a Voyager?**, jbssm **5 responses**
- **[WP34s] Emulator: Where does it get its rom?**, Lode **10 responses**
- **[WP34s] Flashing with USB adapter successful**, Alexander Oestert **26 responses**
- **The week of repairing calculators**, David Ramsey **6 responses**
- **15C Reissue is actually a carefully disguised printer?**, Lincoln R. **38 responses**
- **1 calculator : LED or LCD**, snaggs **5 responses**
- **WP34s with custom finish :)**, Lode **9 responses**
- **41 halfnut character question**, Eric Smith **5 responses**
- **TDS-GX/ Surveying**, aj04062 **1 response**
- **9810a display question**, David Ramsey **1 response**
- **Need technical specs for HP 17b calculator display**, Ken H **4 responses**
- **RM mode and its effects on RRM determinant of AM1 matrix**, Gene wright **1 response**
- **Alpha prompts in the WP34S**, Namir **2 responses**
- **Now this *really* makes me feel better about HP's moves**, Howard Owen **10 responses**
- **Display of Complex Numbers on wp34s**, Jeff O. **15 responses**
- **Results of new root-seeking methods**, Namir **3 responses**
- **HP 48GX Memory Card ON/OFF switch**, Morten Nygaard Åsnes **2 responses**
- **HP Touchpad Fire Sale**, Namir **25 responses**
- **What's this HP leather case for?**, Peter Murphy (Livermore) **10 responses**
- **Questions to the HP calculator group/community about HP 40gs/50g successor**, bluesun08 **44 responses**
- **HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter**, Bart (UK) **4 responses**
- **Sharp PC-1211 strange**, robertoataulfo **23 responses**
- **Why dont people like the 28s as much as the 42s?**, snaggs **47 responses**
- **HP's next move?**, Earl Kubaskie **0 responses**
- **hp97**, Anthony Allen **5 responses**
- **hp 39gs/40gs applet setup on hp-50g**, Erturk Kocalar **5 responses**
- **Comments on HP status**, Tim Wessman **14 responses**
- **HP-41 strange Memory Module found.** , Diego Diaz **0 responses**
- **µWatch2 Back Again**, DaveJ **12 responses**
- **HP 30b bricked when repurposing**, scalpa49 **13 responses**
- **Perhaps if HP gives up on calculators...**, Mark Henderson **1 response**
- **Lyuka and the Ostrowski method's for Root Seeking**, Namir **1 response**
- **OT: I would like to understand**, robertoataulfo **5 responses**
- **WP34s "resources"**, Bruce Bergman **1 response**
- **Does wp34S Have A "MANT" Function?**, Jake Schwartz **47 responses**
- **Concerns about HP's new direction**, Namir **25 responses**
- **Pioneer keyboard quality discrepancies?**, Lincoln R. **0 responses**

- **Re: Interesting overview of the HP-15C limited edition** , uhmgawa **7 responses**
- **HP Getting out of the PC market?**, Richard Garner **32 responses**
- **So what will a 15C LE be like?**, snaggs **27 responses**
- **The first victim**, Walter B **4 responses**
- **Cool article on HP website**, gene wright **2 responses**
- **A nice trade**, Chuck **3 responses**
- **OT: Hrast Programmer's Cool Music**, Namir **2 responses**
- **9830 tape drive question**, David Ramsey **6 responses**
- **HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...**, gene wright **27 responses**
- **Strange HP-35 auction on TAS**, Michael de Estrada **7 responses**
- **HP41 Card Reader 1E**, Richard L. Taylor **1 response**
- **question for lyuka and the Ostrowski method**, hugh steers **14 responses**
- **A Math Challenge (kind of)**, Namir **17 responses**
- **Should 34S go off-list?**, Bill (Smithville, NJ) **53 responses**
- **wp 34s Overlay**, Morten Nygaard Åsnes **4 responses**
- **(wp34S) Am I Using alphaRCL Correctly?**, Jake Schwartz **7 responses**
- **Google onlinecalculator conversions etc.**, designnut **2 responses**
- **34s: Matrix success!**, gene wright **51 responses**
- **And they say that a sale value of a hp 41cx is high.**, robertoataulfo **7 responses**
- **Re: WP34s: a small request**, Paul Dale **0 responses**
- **OT, but interesting**, Don Shepherd **5 responses**
- **9815 Keyboard Disassembly**, aj04062 **3 responses**
- **WP34s: Which donor?**, Dan W **8 responses**
- **HP 41 key assignment file and x memory**, Geoff Quickfall **13 responses**
- **A design rule for WP34s library software?**, Dieter **10 responses**
- **WP34s: linear equation system**, fhub **21 responses**
- **My IR-printer 82240A doesn´t print right**, Matti Övermark **2 responses**
- **WP34S Symbolic preprocessor online**, Neil Hamilton (Ottawa) **8 responses**
- **WP34S Refurbishing project**, Tim **6 responses**
- **Source for 3M 8242-8 Cold Shrink**, David Ramsey **3 responses**
- **An Attempt to Challenge the Bisection method for root findin**, Namir **6 responses**
- **Problems with repurposing the HP20b/30b**, Namir **17 responses**
- **Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?**, uhmgawa **1 response**
- **OT:A HP-01 for a person like me with no money :-)**, robertoataulfo **1 response**
- **rounding, from another posting, a question...**, geoff quickfall **6 responses**
- **The OTHER guys calculators**, Earl Kubaskie **3 responses**
- **34s work-around for 41c quirk**, gene wright **6 responses**
- **WP34s: a small request**, fhub **45 responses**
- **A few WP34s questions**, Cristian Arezzini **8 responses**
- **HP 12C Platinum CHS bug?**, M. Joury **23 responses**
- **Desperate For HP 17BII Help**, Michael Roback **4 responses**
- **Talking about the WP 34s at the internal HP calculator forum**, gene wright **34 responses**
- **WP34s: flash problems**, fhub **3 responses**
- **HP 41C display problem**, Alexander Oestert **4 responses**
- **Your opinion about this custom USB charger for vintage Calculators**, Namir **3 responses**
- **CostCentral (Erie) update on HP-15C LE**, Mark Henderson **13 responses**
- **Interesting overview of the HP-15C limited edition** , From Hong Kong **4 responses**
- **HP 35S keyboard problem**, Nick R **26 responses**
- **[alpha][space] in WP34S**, fhub **23 responses**
- **Why complain about the 35s? I love it!**, snaggs **99 responses**
- **Frozen HP-71B**, aj04062 **4 responses**
- **WP34S: Alpha Labels and Alpha Catalogs**, Didier Lachieze **9 responses**
- **10 or 12 digits?**, Kiyoshi Akima **2 responses**

- **Guess who wrote this?**, robertoataulfo **5 responses**
- **Issues with the SLV command in WP34s**, fhub **1 response**
- **Been a while since I looked...**, jimi **18 responses**
- **HP 35 Keyboard Malfunction**, aj04062 **1 response**
- **Little help about 17bII+**, Horacio R **2 responses**
- **My collection on local TV**, Johnny Bjoern Rasmussen **12 responses**
- **Extended TVM-solver for the WP34s**, fhub **28 responses**
- **HP-15C Close to perfect**, Tommy **11 responses**
- **SAMBA flashing**, Lode **13 responses**
- **Not even a mention of the 41C**, Iqbal **6 responses**
- **the HP-65 required more from the user**, Don Shepherd **10 responses**
- **Nonpareil stuck**, Arnaud Amiel **3 responses**
- **Hits awful close to home!**, Dave Shaffer (Arizona) **3 responses**
- **HP 15C LE: "Discontinued"**, Peter Murphy (Livermore) **130 responses**
- **WP34S: cpx DROP & CLx ?**, fhub **17 responses**
- **WP 34S: Another poll about single letter labels**, Marcus von Cube, Germany **31 responses**
- **HP-28S/Clamshell Keyboard Test**, aj04062 **2 responses**
- **YouTube demonstration of the 41CL** , Geoff Quickfall **8 responses**
- **Amazing! An HP-32SII is faster than an HP-35s**, Michael de Estrada **24 responses**
- **A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)**, Geoff Quickfall **6 responses**
- **Ángel Martin, my Open Source Hero**, Geir Isene **7 responses**
- **HP7470A plotter with the HP-IL interface**, Richard L. Taylor **2 responses**
- **HP 41CL update from a user**, Geoff Quickfall **0 responses**
- **Message to Diego Diaz about HP 41 flex PCB**, Alexander Oestert **0 responses**
- **WP34 S 2.1 released on SourceForge**, Marcus von Cube, Germany **1 response**
- **OT: Help with Testing Random Number Generators**, Namir **5 responses**
- **Reviews about loose keys: Is it really that bad?**, Lode **19 responses**
- **VINTAGE SHARP CS-4800** , robertoataulfo **0 responses**
- **Merged Steps?**, Tim Wessman **31 responses**
- **WP34S: more direct LBLs and XEQs**, fhub **14 responses**
- **15C LE - official statement?**, Thomas Radtke **70 responses**
- **Is this what an HP 35 may have looked like????**, Geoff Quickfall **0 responses**
- **SpeedUI 11.07 supports RainEQ**, Raymond Del Tondo **2 responses**
- **HP19C printer head...yeah! I know!**, Geoff Quickfall **5 responses**
- **OT:Retiring an old friend :-)**, robertoataulfo **16 responses**
- **HP-41 cryptography**, Geir Isene **7 responses**
- **HP-71B package**, fhub **12 responses**
- **41 MCODE Question - Page #4 Library**, Ángel Martin **5 responses**
- **Woodstock LED question**, Mark Henderson **9 responses**
- **which HP desktop is this for us$50 buy-now?**, robert rozee **7 responses**
- **Chinese Calculator Prices**, DaveJ **16 responses**
- **Undocumented 50g shortcuts ?**, Glenn Shields **3 responses**
- **Clear case 65 - fess up!**, Keith Midson **3 responses**
- **Not HP but I want one**, Paul Dale **7 responses**
- **34s: TVM problem?**, gene wright **63 responses**
- **Project Euler Problem 39: Statistical Mode on the HP 48GX?**, Peter Murphy (Livermore) **3 responses**
- **So I bought a Casio 115ES and an HP Smartcalc 300s**, Brian K **6 responses**
- **OT: You know a smaller calculator?**, robertoataulfo **24 responses**
- **WP34S: ALL n mode**, Didier Lachieze **5 responses**
- **HP15C Redux in Canada?**, Les Wright **5 responses**
- **WP34S Program Labels**, M. Joury **11 responses**
- **HP 19C continuing saga...pictures!!!**, Geoff Quickfall **3 responses**
- **HP calculator model unknown**, Guzzi850 **7 responses**

- **OT: The Tau Manifesto**, Howard Owen **8 responses**
- **HP 41 magnetic cards**, Giancarlo **9 responses**
- **Did CostCentral remove the HP15C page?**, Cristian Arezzini **28 responses**
- **Useless HP-41 observation of the day**, Eric Smith **6 responses**
- **WP34S: how to delete a program?**, Didier Lachieze **37 responses**
- **Switched from 48G to 50G and need shortcut to RAND function**, Travis (Kansas) **3 responses**
- **Outstanding collection of HP-01**, Pascal **5 responses**
- **Question about HP calculator traces.**, Geoff Quickfall **6 responses**
- **WP34S bug**, fhub **7 responses**
- **How many HP-15C will we buy?**, Reth **33 responses**
- **WP 34S Power Requirements**, Marcus von Cube, Germany **9 responses**
- **WP 34S Assembler bug fix and doc update**, Neil Hamilton (Ottawa) **0 responses**
- **34S broken build :-(- Please update!**, Marcus von Cube, Germany **0 responses**
- **Working HP-70 sells for $123.50 on TAS**, Michael de Estrada **4 responses**
- **HP-28S Keyboard**, aj04062 **4 responses**
- **55 already registered for HHC 2011 in San Diego! Sign up today**, gene wright **7 responses**
- **HP-25**, robertoataulfo **4 responses**
- **Already forgot how to use a normal calculator...**, Brian K **13 responses**
- **Corrected command to build WP 34S assembler tables**, Neil Hamilton (Ottawa) **0 responses**
- **HP-15C clone?**, Joel Setton (France) **3 responses**
- **Wp34s unit conversions**, Cristian Arezzini **4 responses**
- **New HP15C Priced at $129**, DaveJ **69 responses**
- **Card reader bug**, Eric Smith **7 responses**
- **HP-41CV "HFF" ROM set**, Eric Smith **4 responses**
- **Xpander**, Geoff Quickfall **3 responses**
- **Interesting article in August 2011 Scientific American**, Don Shepherd **10 responses**
- **OOT: connector for ribbon cable**, PeterP **5 responses**
- **CORDIC in Degrees vs. Radians**, Mike Fikes **5 responses**
- **HHP-16K EPROMS on HHP PE**, Prabhu Bhooplapur **0 responses**
- **WP 34S: missing vector cross product**, fhub **15 responses**
- **HP 41CL UTILS rom listing of functions**, gene wright **2 responses**
- **Happy Pi Day! (again)**, Gerson W. Barbosa **8 responses**
- **Did HP or any 3rd party make a 64K card for the 48 series?**, mr-scorpio **2 responses**
- **12c 30th Anniversary Spec Sheet**, NateB **8 responses**
- **HP wants to hear your 12c stories...**, Gene Wright **15 responses**
- **The Babbage Engine ?**, Patrice **2 responses**
- **WP34 again**, Paul Dale **86 responses**
- **WP 34S - Getting connected...**, Marcus von Cube, Germany **0 responses**
- **How to ? hp41 + advantage**, Patrice **0 responses**
- **Latest HP Solve issue posted**, gene wright **13 responses**
- **Introducing Emu71 for Windows**, Christoph Giesselink **27 responses**
- **34s: Anyone have an instruction timing table?**, gene wright **15 responses**
- **Xpander article**, Egan Ford **12 responses**
- **34s builds 1249 and 1250 crash on real hardware**, gene wright **16 responses**
- **HP 50g - Make menus more like HP48g**, Brian K **1 response**
- **Which cold shrink kit for 9810 printer platen?**, David Ramsey **1 response**
- **48GX - Silly question?**, mr-scorpio **9 responses**
- **HP 41C - connection missing?**, Alexander Oestert **8 responses**
- **Serendipity**, Bob Patton **20 responses**
- **WP 34S - major changes!**, Marcus von Cube, Germany **18 responses**
- **new HP15c released in Japan**, NateB **110 responses**
- **A question on old calculator prices**, Cristian Arezzini **14 responses**
- **41 HP-IL: How to reset?**, Ángel Martin **8 responses**
- **34S - Problem With CLx**, Jake Schwartz **6 responses**

- **Goodbye!**, George Bailey (Bedford Falls) **16 responses**
- **Good HP calculator for middle school child?**, Brian K **9 responses**
- **HP45A cleaning out battery mess**, Fred Lester **2 responses**
- **A little brother for the WP 34s? Any need for that?**, George Bailey (Bedford Falls) **26 responses**
- **HP 41 battery Shield - what is it ?**, John Robinson **2 responses**
- **Online WP 34s assembler now available**, Bruce Bergman **7 responses**
- **OT: Sharp PC-1246S**, robertoataulfo **8 responses**
- **wp34s program**, Gerson W. Barbosa **23 responses**
- **Fair Interview Question?**, Norman Dziedzic **20 responses**
- **34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?**, gene wright **39 responses**
- **WP 34s lockup with [y-hat]**, Neil Hamilton (Ottawa) **4 responses**
- **The WP 34s - Where to get it and how to do it?!?**, George Bailey (Bedford Falls) **32 responses**
- **Board Stacking Connector HP-9815**, aj04062 **2 responses**
- **WP34S - possible to correct RTC in SW?**, BobVA **11 responses**
- **WP 34S overlay feedback**, Eric Rechlin **45 responses**
- **wp34S TICKS Command: How Much Time?**, Jake Schwartz **5 responses**
- **HP-48G IR connectivity**, Thomas Radtke **4 responses**
- **WP34S files - dumb question**, fhub **18 responses**
- **Unresponsive HP-42s** , aj04062 **2 responses**
- **Thomas Okken and free42 ?**, sylvandb **5 responses**
- **HP50g emulator package**, fhub **2 responses**
- **34C display problem**, Daniel CLEMENT **8 responses**
- **(Almost) amusing WP34s bug(?)**, Neil Hamilton (Ottawa) **4 responses**
- **WP34s - Verifying Flashing**, Thomas Chrapkiewicz **6 responses**
- **A suggestion for easy improvement of the HP17bII+**, Jose Gonzalez Divasson **1 response**
- **Adding a crystal to the wp34s - how?**, Cristian Arezzini **5 responses**
- **Stand-alone version of WP34s assembler available**, Neil Hamilton (Ottawa) **9 responses**
- **Can't quite indentify this calculator**, Neil Hamilton (Ottawa) **1 response**
- **50G has stopped plotting?**, Glenn Becker **2 responses**
- **9810 works, briefly**, David Ramsey **37 responses**
- **(deleted post)**, deleted **0 responses**
- **Calculator Business, back then**, Frank Boehm (Germany) **5 responses**
- **HP 50G - ROM upgrade under Linux**, Glenn Becker **6 responses**
- **Project Euler Problem 11 on the HP 48GX?**, Peter Murphy (Livermore) **13 responses**
- **HP 15C Clone**, Bunuel66 **51 responses**
- **10bii+ Trig Bug**, Katie Wasserman **5 responses**
- **HP-42s Bad Screen?**, aj04062 **2 responses**
- **HP-48G IR Test Failure**, aj04062 **7 responses**
- **June's over - No new calcs :) - Interesting TI product**, John Stark **5 responses**
- **Question about random number generators**, Namir **20 responses**
- **HP-41CL**, robertoataulfo **13 responses**
- **Difference in design for 25 and 25c**, exschr **2 responses**
- **My attendence to HHC 2011**, Marcus von Cube, Germany **0 responses**
- **A few simple HP 35s programs**, Lode **3 responses**
- **SpeedUI 11.06 released!**, Raymond Del Tondo **6 responses**
- **Is there an easy way to determine how many factors a number has?**, Don Shepherd **7 responses**
- **Changing the ROM of a HP-35s?**, Lode **10 responses**
- **Emu48 problem with BEEP patches**, fhub **4 responses**
- **Draft WP34s Assembler/Disassembler document online**, Neil Hamilton (Ottawa) **1 response**
- **HP-48GX SpeedUI problem**, Tom Sauntry **2 responses**
- **Curious Sticker on the Back of an HP-35**, Katie Wasserman **19 responses**
- **wp34S Flag Table via STATUS**, Jake Schwartz **4 responses**
- **9810 on TAS**, David Ramsey **25 responses**

- **Update of ILPer, the HP-IL peripheral simulator**, Christoph Giesselink **33 responses**
- **Obscure 41 Custom Modules: SNEAP**, Ángel Martin **1 response**
- **15C Logo - Finally done!**, Dallas Osborne **4 responses**
- **HP 15C**, jonny brice **9 responses**
- **Woodstock plastic yellowing**, db (martinez, ca.) **1 response**
- **WP 34S - SAM-BA boot gone?**, Marcus von Cube, Germany **0 responses**
- **Going to the ASEE conference this week**, Eric Rechlin **3 responses**
- **Ode to the calculators I have used...and the 41C**, Geoff Quickfall **19 responses**
- **WP34s feature question**, fhub **43 responses**
- **HP-67 AC Charger**, Ángel Martin **6 responses**
- **WP 34s and USB**, Marcus von Cube, Germany **9 responses**
- **48GX + Meta Kernel + Erable + ALG48 all at once?**, mr-scorpio **8 responses**
- **HP7470A Plotter calibration with an HP-IL interface**, Richard L. Taylor **3 responses**
- **Is there a ref doc/place for 34S how-to?**, Mark Henderson **24 responses**
- **What's the deal with expensive battery packs ?**, Michael de Estrada **17 responses**
- **Unreleased models**, Johnny Bjoern Rasmussen **1 response**
- **The Prime Factors Kata**, Thomas Klemm **2 responses**
- **Shocker! Nice HP-70 sells for only $260**, Michael de Estrada **7 responses**
- **Possible bug in WP34s with big integers**, Neil Hamilton (Ottawa) **5 responses**
- **Input wanted**, Paul Dale **30 responses**
- **What is the trick to...**, Geoff Quickfall **2 responses**
- **HP41CL physical ports -or- how many physical ports do you require with the HP41CL?**, Geoff Quickfall **18 responses**
- **EMU41**, Richard L. Taylor **2 responses**
- **Advantage Pac Curve Fitting**, mbrethen **9 responses**
- **Adding a Crystal to a WP34s**, Gerry Schultz **6 responses**
- **Idea for WP34s emulator**, fhub **1 response**
- **"fake" 12C**, robert rozee **3 responses**
- **SpeedUI Bug with Unit Conversion?**, Timo **1 response**
- **Evolution of the 30B**, Keith Midson **11 responses**
- **HP-41CL Calculator Benchmark**, Juergen Keller **17 responses**
- **Mismatches in opcode tables from WP34s "calc a a"**, Neil Hamilton (Ottawa) **1 response**
- **Happiness - Calculator P0rn**, Paul Dale **1 response**
- **I don't understand why anyone would need this**, Michael de Estrada **3 responses**
- **WP 34s manual pointer incorrect**, Jim Yohe **24 responses**
- **Eric's overlay - my experience and suggestions**, Cristian Arezzini **5 responses**
- **SR-60a manuals available**, David Ramsey **16 responses**
- **A new WP 34s is born**, Jose Gonzalez Divasson **10 responses**
- **JavaScript calculator**, Lode **2 responses**
- **Why I like the blank overlay option for the 41C, CV, CX & CL and my 41CL final configuration**, Geoff Quickfall **1 response**
- **Trying to understand Spice ROM/RAM Layout**, Michael de Estrada **4 responses**
- **WP34S assembler/disassembler in the wild**, Neil Hamilton (Ottawa) **15 responses**
- **82161A Tape Drive - O-Ring Question**, Ángel Martin **4 responses**
- **"WP 34S", "WP 34s", "WP-34S", or "WP-34s"?**, Eric Rechlin **8 responses**
- **HP41c Printer 82143A connector details**, Prabhu Bhooplapur **2 responses**
- **WP-34S "PRIME?"**, Jim Horn **12 responses**
- **black HP17bII**, Jose Gonzalez Divasson **5 responses**
- **Emu48+ for HP-39gs/40gs?**, fhub **0 responses**
- **HP 28S - Better than You Thought**, Howard Owen **4 responses**
- **Just some Classics eye candy**, Geoff Quickfall **4 responses**
- **41Z Overlay For 41CL**, Mark Hardman **14 responses**
- **Unabashed HP 41CL promotion (with pictures)!**, Geoff Quickfall **21 responses**
- **Problem with Interest entry**, Don Griffith **3 responses**

- **To Monte : 41CL next batch**, Marc Ferrer (France) **3 responses**
- **Any 15c news?**, Dave Britten **46 responses**
- **HHC2011 and wp34s**, Marcus von Cube, Germany **24 responses**
- **How's this for an early HP 41c?**, Gene Wright **4 responses**
- **HP-55 odd behavior revisted**, Martin Pinckney **0 responses**
- **WP 34S experience (cable, flashing, overlay, etc)**, JayV **2 responses**
- **HP 41CL, thoughts...pics...part 1 (new pinout cap picture)**, Geoff Quickfall **21 responses**
- **N Size Cell Charger**, Gerry Schultz **3 responses**
- **Numeric integration on 34s**, Gene Wright **24 responses**
- **Would you take a chance on this auction?**, Michael de Estrada **10 responses**
- **TI people have more fun**, Don Shepherd **7 responses**
- **HP9815A SOFTWARE**, Mary Santoro **2 responses**
- **Wp 34s awaiting overlay.**, Etienne Victoria **14 responses**
- **Wp34s STAT and PRG doubts**, Cristian Arezzini **5 responses**
- **A simple wp34s mini-challenge**, Gerson W. Barbosa **29 responses**
- **HP-41 Advanced Matrix Pac Question**, mbrethen **13 responses**
- **34s conversions**, gene wright **20 responses**
- **Programming tools for HP49g, HP50g**, Jose Gonzalez Divasson **9 responses**
- **Interesting European market HP-32E**, Michael de Estrada **15 responses**
- **Newest Wp34s ROM and backwards compatibility**, Cristian Arezzini **38 responses**
- **34**, db (martinez, ca.) **3 responses**
- **WP34s STATs Prediction Question**, Norman Dziedzic **3 responses**
- **CCD OS/X Revisited**, Ángel Martin **0 responses**
- **A new 6-problem challenge (free42 or 42s)**, Allen **22 responses**
- **Wp34s beta 2: possible serious bug in integer mode**, Cristian Arezzini **3 responses**
- **Suggestions for WP-34s overlay installation**, BobVA **10 responses**
- **HP 19C horror show!**, Geoff Quickfall **17 responses**
- **wp34s 2.0 Beta Release**, Marcus von Cube, Germany **39 responses**
- **Disassembly of HP41C ROMs** , Prabhu Bhooplapur **3 responses**
- **HP 31E buttons not responding**, Adam Vaughn **5 responses**
- **wp34S Spelling Out Function Names?**, Jake Schwartz **23 responses**
- **wp34S IEEE Floating-Point Conversions**, Jake Schwartz **12 responses**
- **Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA**, gene wright **34 responses**
- **having fun with the HP-17b**, Don Shepherd **12 responses**
- **re-release of the voyager with matrix, solve, integrate & complex numbers**, exschr **17 responses**
- **Please help! HP-55 odd behavior**, Martin Pinckney **11 responses**
- **HP 9127A with 85/87**, David Ramsey **4 responses**
- **WP34S: Power consumption**, exschr **6 responses**
- **Wp34s Flash backup/restore**, Cristian Arezzini **2 responses**
- **wp34S - 16C Compatibility #7 - MASKL, MASKR**, Jake Schwartz **1 response**
- **WP-34S**, Andrés C. Rodríguez (Argentina) **4 responses**
- **WP 34S 2.0 is going to come**, Walter B **12 responses**
- **HP-41CL & Battery**, Geir Isene **23 responses**
- **Another poll**, Walter B **20 responses**
- **WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)**, Neil Hamilton (Ottawa) **14 responses**
- **WP 34S Version 1.18**, Gerry Schultz **11 responses**
- **What is the celestial cycle for Red Dots on TAS?**, Michael de Estrada **10 responses**
- **Speaking of CAS: CAS48 or Erable?**, mr-scorpio **1 response**
- **HP 28S - Partial CAS?**, mr-scorpio **11 responses**
- **question about calculator auctions**, Gonzalo Fernandez **1 response**
- **Envisioning how I might use my HP 41CL**, gene wright **12 responses**
- **OT: looking for Dave Shaffer (AZ)**, Meindert Kuipers **2 responses**
- **Another approach - shucking the clamshell, further. Book?**, Wanderley Navarro **8 responses**

- **41-MCODE: Updated AECROM w/ 13-digit Math**, Ángel Martin **8 responses**
- **Somewhat OT: WOIM**, Geir Isene **2 responses**
- **WP34S key 'SHOW' ?**, fhub **9 responses**
- **Need Info on HP-82905B Printer**, Ángel Martin **2 responses**
- **Accepting some orders for WP 34s overlays**, Eric Rechlin **47 responses**
- **HP 35 charger/case questions**, Adam Vaughn **6 responses**
- **Original Box Pictures**, aj04062 **7 responses**
- **Updated list of ROM images in the 41CL - help needed with links to quick reference guides for any!**, Gene Wright **1 response**
- **Calculator Buyer's Guide**, Joerg Woerner **3 responses**
- **HP-15C stuck in USER mode** , Tom Ligon **3 responses**
- **HP 12C, 12C Platinum & 15C iOS App**, Walter Lam **2 responses**
- **HP 16C - loose keys**, Antonio Petri (UK) **2 responses**
- **HP 28S: shucking the clamshell, further. Book?**, Geoff Quickfall **8 responses**
- **HPGCC Documentation**, Clint Weathers **1 response**
- **My HP 12C+ impression**, Walter Lam **6 responses**
- **HP-41 Repair Parts**, aj04062 **2 responses**
- **Idea for the WP34S PC-emulator**, fhub **10 responses**
- **wp34s EXIT key during number entry**, Cristian Arezzini **6 responses**
- **wp34s: Version 979 Crashed 20b and 30b**, Jake Schwartz **2 responses**
- **HP 10B continuous memory**, hpnut **8 responses**
- **Card reader gear lubrication - do or don't ?**, John Robinson **2 responses**
- **What is going on?**, Keith Midson **6 responses**
- **Clamshell, shucking the clamshell, any thoughts!**, Geoff Quickfall **13 responses**
- **Emu41**, Richard L. Taylor **5 responses**
- **Classic keyboard re-lacquer ?**, John Robinson **17 responses**
- **HP15c as a financial tool - ended!**, Jose Gonzalez Divasson **1 response**
- **NutStudio tools goes RPN (HP-41)**, Håkan Thörngren **5 responses**
- **a cute little challenge**, Don Shepherd **20 responses**
- **HP41E question**, Dwight Sturrock **0 responses**
- **OT: New Hand-Written Math Solver**, Steve S **0 responses**
- **HP-41 module: NOV CHAP update**, Geir Isene **3 responses**
- **ATTENTION 41CL Early Adopters**, Monte Dalrymple **6 responses**
- **HP-41CV & CX Halfnuts?**, aj04062 **1 response**
- **HP-41 + card reader = "Malfunction" ?**, BobVA **12 responses**
- **Documentation for ROMs in the 41CL ... link included...help needed**, gene wright **4 responses**
- **HP41 MLDL2000 add-on wins Distinctive Excellence award**, Meindert Kuipers **4 responses**
- **34S Keyboard help**, Andrés C. Rodríguez (Argentina) **7 responses**
- **34S keyboard layout**, Andrés C. Rodríguez (Argentina) **4 responses**
- **Some minimal information about roms in the upcoming 41CL library...**, gene wright **6 responses**
- **41CV Fullnut shows "Memory Lost" consantly**, John Robinson **7 responses**
- **Wp34s: word size lost?**, Cristian Arezzini **5 responses**
- **WP34S 956 crashing in wine**, Neil Hamilton (Ottawa) **4 responses**
- **Engineering done right: Gene Kranz**, Don Shepherd **2 responses**
- **Polynomial Derivative and Integral for the HP 35S**, Eddie W. Shore **0 responses**
- **WP34S running here at 34S**, Andrés C. Rodríguez (Argentina) **20 responses**
- **Wp34s - my flashing experience**, Cristian Arezzini **5 responses**
- **HP 20B Now Accepted By GARP For FRM Exam**, bink **13 responses**
- **34s Vinyl Overlay Second Attempt**, Eric Rechlin **78 responses**
- **Multiple Period Percentage Change Program for the 30b**, Mark Harman **0 responses**
- **HP 10bii+ Sighting**, Eddie W. Shore **0 responses**
- **HP 9114 disk drive battery charging**, David Ramsey **8 responses**
- **Numerical Integration: HP, TI, etc.**, Chuck **30 responses**
- **Unidynamics**, Howard Owen **0 responses**

- **CAB 41**, J . Bauscher **1 response**
- **wp 34s: DSE vs. DSZ (poll)**, Walter B **40 responses**
- **HP9800e emulator**, Tim **6 responses**
- **Nspire CX available?**, David Ramsey **8 responses**
- **Testing functionality of older HP calculators**, Pat Slattery **2 responses**
- **matrix element operation**, Sok-khieng Chum Hun **8 responses**
- **HP15c for financial duties - I and II**, Jose Gonzalez Divasson **10 responses**
- **Before you ask - new feature in wp34s**, Marcus von Cube, Germany **21 responses**
- **HP17bii+ solver vs. HP17bii/HP19bii/HP27S**, M. Joury **5 responses**
- **i41CX Reduce**, Jack Nolan **8 responses**
- **Sparcom SPICE48 card for HP 48G**, skip cons **0 responses**
- **34s/16C Compat. #6**, Jake Schwartz **1 response**
- **Artist of HP Manuals**, Csaba Tizedes (Hungary) **17 responses**
- **EMU 48 for Linux**, J Grim **2 responses**
- **EXIT in wp34s**, Jeff O. **16 responses**
- **hp19c value?**, ais **6 responses**
- **HP RPN stack permutations graph**, Xavier A. (Brazil) **14 responses**
- **Wp34s base mode question**, Cristian Arezzini **7 responses**
- **HP-41 Permanent broken Post Fix**, aj04062 **8 responses**
- **WP34s 1.17 Build 874 possible SETTIM bug?**, BobVA **9 responses**
- **Questions about "flashing" a 30B**, Andrés C. Rodríguez (Argentina) **15 responses**
- **Rebuilding a HP41 battery pack**, M. Joury **10 responses**
- **12C**, Diehl-Peshkur **2 responses**
- **Geoff Quickfall**, Diehl-Peshkur **11 responses**
- **Has anyone seen the 10bii+ in the office stores yet?**, Eddie W. Shore **6 responses**
- **HP67 for the Android**, MikeO **17 responses**
- **HP 10bII+ self test**, hpnut **32 responses**
- **HP-41 Advanced Matrix Pac**, Ángel Martin **8 responses**
- **HP-41CVs will not turn on**, aj04062 **2 responses**
- **ebay 380123273833 wtf ?**, John Robinson **6 responses**
- **HP-67 Error message**, aj04062 **3 responses**
- **Cell leakage in my 48S**, Palmer O. Hanson, Jr. **2 responses**
- **HP-67 - polarity of wires to keyboard/display board?**, BobVA **6 responses**
- **hp 41 synthetic programming**, Sok-khieng Chum Hun **7 responses**
- **34s Vinyl Overlay First Attempt**, Eric Rechlin **11 responses**
- **HP 10bii+ "soft" reset**, Jim Yohe **3 responses**
- **HP9810A**, aj04062 **2 responses**
- **Bezel exchange hp 12C**, Diehl-Peshkur **2 responses**
- **m48 for iPhone is brilliant**, Dave **3 responses**
- **OT: Collecting**, Egan Ford **2 responses**
- **BASIC BEEP**, Howard Owen **5 responses**
- **34s / 16C Compat. #5 - DBL/**, Jake Schwartz **8 responses**
- **HP45 Battery Pack Disassembly**, Eric_G **4 responses**
- **WP34S Build 874 Possible HEX entry bug?**, M. Joury **9 responses**
- **9825A use 9121 disk drive?**, David Ramsey **0 responses**
- **Simulation vs Emulation**, Carl Utter **12 responses**
- **OT: New Commodore PC coming out**, Namir **6 responses**
- **15C re-release questions.**, Pal G. **18 responses**
- **wp34s Version 1.18 Rev 875 Backup and Restore**, Jeff O. **17 responses**
- **Adding a crystal to a 20b or 30b**, Marcus von Cube, Germany **7 responses**
- **16C Compat. #4 - LASTx**, Jake Schwartz **2 responses**
- **hp48gx pc cable**, tim peterson **2 responses**
- **HP 32S style ridgid case**, Anoop Sahal **0 responses**
- **Too Long With No New Calculators!**, Jeff **12 responses**

- **wp34S V.865 - Can't Fill up Full Word in Comp Modes**, Jake Schwartz **8 responses**
- **wp34S "last catalog" function**, Jake Schwartz **2 responses**
- **New 15C - Greed and Hoarding**, John Stark **42 responses**
- **HP20b inert - how to get it working again?**, Jim Horn **23 responses**
- **wp34s / 16C Compatibility Items #2 and #3**, Jake Schwartz **13 responses**
- **OT - Vintage Computer Festival East**, David Hayden **1 response**
- **OT ->Tim Wessman: TI-Nspire current draw**, Joerg Woerner **1 response**
- **HP-9114A Drive**, aj04062 **9 responses**
- **34s Keyboard Overlays**, Eric Rechlin **27 responses**
- **HP-15C mini-challenge (Project Euler - problem #1)**, Gerson W. Barbosa **14 responses**
- **Hp15c (limited edition) june? and a new product?**, miguel saiz **1 response**
- **wp34S 838 x=0? or x=1? Locks Up in Run Mode**, Jake Schwartz **3 responses**
- **wp34s 1.17 Build 838 SLV**, Norman Dziedzic **20 responses**
- **Woz at HP**, ClausB **0 responses**
- **[OT] Raspberry Pi**, MikeT. **1 response**
- **Flashing WP-34S Image to an HP-30b**, Gerry Schultz **2 responses**
- **Better Late Than Never--VAL() in HP-71B BASIC**, Namir **25 responses**
- **NaN issue in Hercules**, Mike (Stgt) **0 responses**
- **cheap power for the HP41C (while at desk with cardreader)**, exschr **3 responses**
- **wp34s Release 1.17 is now online**, Marcus von Cube, Germany **3 responses**
- **Vintage Computer Festival East 7.0, May 14-15**, Evan Koblentz **1 response**
- **Default switch settings for HP-87 HP-1B**, David Ramsey **3 responses**
- **wp34s Integer Word Size versus 16C**, Jake Schwartz **7 responses**
- **Custom HP 45**, Jim Gossett **4 responses**
- **wp34s - New features in the SVN repository - now released!**, Marcus von Cube, Germany **13 responses**
- **Apple advertises HP12C emulator on iPod**, Mike (Stgt) **1 response**
- **Free42 Android Tablet**, Bill (Smithville, NJ) **7 responses**
- **HP-67 battery question**, Csaba Tizedes (Hungary) **3 responses**
- **The Bug**, Michael de Estrada **4 responses**
- **Voyager Series**, aj04062 **3 responses**
- **HP41CX - Strange turning-on behaviour**, Frido Bohn **8 responses**
- **12C mention in WSJ**, Scott Newell **9 responses**
- **HP-15C Original UK Purchase Price**, SteveH **5 responses**
- **Did anyone here buy this? Seems a bit high.**, Michael de Estrada **2 responses**
- **Collection Data**, SteveH **5 responses**
- **Atherton HP-85**, David Ramsey **9 responses**
- **Instructions from HP for disassembling calculators**, Eric Smith **9 responses**
- **Collection is online 2**, Keith Midson **1 response**
- **HP 30b programs Interest Rate conversions Negative Periods per Year and Fractional Periods per year**, gene wright **1 response**
- **wp34s Adding decimals to fractions**, Norman Dziedzic **11 responses**
- **HP-41 Programming**, SteveH **8 responses**
- **HP-49G Connectivity Kit**, Paolo Cipollone **3 responses**
- **CMT-300 Programmable Measurement System**, Jeff Davis **0 responses**
- **HP 82037A reserve power pack**, Gonzalo Fernandez (Spain) **2 responses**
- **Odd Bringslid HP 48SX**, aj04062 **1 response**
- **HP-IL RS-232 (a-may-be too-)"techie" questions.**, Diego Diaz **6 responses**
- **Free42 for Windows Phone 7**, Thomas Okken **15 responses**
- **Just out.**, Katie Wasserman **22 responses**
- **Getting sucked in**, David Ramsey **0 responses**
- **[OT] Casio PRISM Current Draw?**, Tim Wessman **8 responses**
- **RPN hp20s and lcd hp34c proposals**, Jose Poyan **11 responses**
- **Alternate wp34s Keyboard Arrangement?**, Jeff O. **16 responses**
- **Proposal - wp34s GETKEY semantics and other input functions**, Marcus von Cube, Germany **21 responses**

- **HP-01 Calculator Watch Parts Info**, aj04062 **1 response**
- **OT: TI 36X Pro and Wishes for a solar RPN calculator**, Eddie W. Shore **15 responses**
- **9121 or 82901?**, David Ramsey **17 responses**
- **HP-71B Dice Games**, Howard Owen **6 responses**
- **different LCDs used in HP41C?**, exschr **2 responses**
- **A first estimate for Student's t quantile (not only) on the WP34s**, Dieter **30 responses**
- **wp34S TIME Function**, Jake Schwartz **35 responses**
- **WP34s quadrature**, hugh steers **4 responses**
- **WP34S**, geoff quickfall **31 responses**
- **WP34 base page view**, Cristian Arezzini **6 responses**
- **something interesting in early computer history**, Don Shepherd **26 responses**
- **Help! HP-19C printer gone mad - fixed :-)**, Philippe Lasnier **1 response**
- **HP 30b RND function**, Sujith Abraham **6 responses**
- **The Sigma Function on the WP34**, Eddie W. Shore **7 responses**
- **Submissions**, Paul Dale **0 responses**
- **Important SpeedUI update to 11.05**, Raymond Del Tondo **0 responses**
- **wp34s SLV questions**, Norman Dziedzic **16 responses**
- **HP 10BII+ Battery removal warning**, Jim Yohe **19 responses**
- **Overwriting 41C module internals**, spb **12 responses**
- **Does anyone have a copy of this keyset font PDF from Luiz?**, gene wright **6 responses**
- **HP 41CX Decimal Point restore**, Joseph Banki **5 responses**
- **Help with flashing HP30 ROM / WP-34s** , BobVA **6 responses**
- **HP 10bii+ Review**, Eddie W. Shore **6 responses**
- **Simple Math Dilemma Revisited**, Palmer O. Hanson, Jr. **7 responses**
- **A fast and compact algorithm for the normal quantile**, Dieter **13 responses**
- **What brand / name / type were the Original 12c batteries?**, gene wright **7 responses**
- **free42 runs on Curtis KLU LT8025??**, Mike Reed **2 responses**
- **If you always envied the young look of your collleague's Casios and Texas...**, Jose Gonzalez Divasson **0 responses**
- **wp34s stability update**, Marcus von Cube, Germany **10 responses**
- **HP75 Plug-Module Simulator Manual pdf**, Jake Schwartz **2 responses**
- **Another WP-34S overlay option with costs**, svisvanatha **19 responses**
- **Interesting news about the HP 15C**, Paul Guertin **35 responses**
- **Symbolic Integration, Continued**, Austin W. **6 responses**
- **Any suggestions for cleaning a calculator?**, Eddie W. Shore **1 response**
- **Added the HP 10BII+ to the collection website**, Gerardo Rincon **3 responses**
- **OT - Pi used in a symphony now in court**, DavidShenk **1 response**
- **HP 15C Displaying Incorrect Values!**, Ian McParland **13 responses**
- **HP-71B FRAM Extension: an update**, Hans Brueggemann **5 responses**
- **Repairing a cracked Spice case**, Jeff Kearns **3 responses**
- **wp34s Overlay Interest**, Norman Dziedzic **24 responses**
- **20b/30b flashing question**, sjthomas **2 responses**
- **casio fx-cg10 topless!**, hugh steers **4 responses**
- **Voyager key repair?**, Nicholas Winterer **1 response**
- **HP 20b/30b programming cable eats on batteries!**, Marcus von Cube, Germany **5 responses**
- **dealing with 20b/30b/wp34s power drain**, hugh steers **13 responses**
- **HP41 Blinky or Red Eye**, Mike (Stgt) **6 responses**
- **HP75D AT&T Version**, Alberto Fenini **6 responses**
- **Anyone have a copy of this?**, gene wright **3 responses**
- **Angular modes (another poll)**, Walter B **23 responses**
- **Free42/Android skin handling change**, Thomas Okken **12 responses**
- **HP71B ROM PAC "UDL-71*" by Viewtronics**, John Pierce **6 responses**
- **The legend lives on: Two new 41 Modules announced**, Ángel Martin **11 responses**
- **HP65 vs HP67 card reader**, Alberto Fenini **2 responses**

- **Can you identify this soft case?**, Michael de Estrada **1 response**
- **HP 10bII+ first impressions**, Jose Gonzalez Divasson **18 responses**
- **Refurbished HP-85**, David Ramsey **23 responses**
- ***NEW* WP 34S bug list**, Walter B **50 responses**
- **First WP 34S R&D Meeting Central Europe**, Walter B **5 responses**
- **HP 41C Forecast 1 Module**, Jeff Kearns **2 responses**
- **HP-41C Overlay Generator**, spb **26 responses**
- **HP 10BII+ available for sell**, Gerardo Rincon **18 responses**
- **Y/N MCODE Routine**, Jeff Davis **5 responses**
- **11c Badge Touch Up**, Matt_12c **6 responses**
- **wp34S ALPHA**, Jake Schwartz **3 responses**
- **wp34s Gallery**, Marcus von Cube, Germany **15 responses**
- **Slightly OT: simple math dilemma**, Chuck **14 responses**
- **Link to 34s overlay...**, Gene Wright **11 responses**
- **12C with sticky keys**, David Osborne **2 responses**
- **OT: Sorting algorithms as dances**, Thomas Klemm **2 responses**
- **30B/34s - adding more RAM**, robert rozee **11 responses**
- **50g won't plot summation function, but emulator will.**, Hal Bitton in Boise **2 responses**
- **HP41CX power consumption**, Egan Ford **6 responses**
- **34s bug reports**, gene wright **98 responses**
- **34s screen shots running on a 20b**, gene wright **17 responses**
- **HP 75C**, Joerg Woerner **0 responses**
- **Funstuff roms and the 41CL ... questions?**, gene wright **6 responses**
- **Foot Pads for 12c**, Matt_12c **1 response**
- **CELESTIAL NAVIGATION**, robert coles **1 response**
- **WP 34S Top Left Key Poll** , Walter B **41 responses**
- **Can this actually work?**, Michael de Estrada **3 responses**
- **Free42 for Android**, Thomas Okken **25 responses**
- **OT : Seiko Worldtime**, Alberto Fenini **0 responses**
- **HP41C overlays**, Art Leyenberger **10 responses**
- **OT: What is so special with the Casio fx-602P**, Joerg Woerner **15 responses**
- **Ebay**, Matthias Wehrli **6 responses**
- **HP 75 memory repair assistance request**, Greg Angelow **9 responses**
- **New Updated Version of The "PPC DVD" of HP Handheld Calculator Materials Available**, Jake Schwartz **2 responses**
- **A comparison of three Hp 17bII generations**, Jose Gonzalez Divasson **9 responses**
- **82240B / HP48 Interaction poorly documented**, Thomas Chrapkiewicz **0 responses**
- **'New' HP10bii+**, Michael O **54 responses**
- **Is there a self-test program for the HP 25 or 29c ?**, Michael de Estrada **1 response**
- **wisdom from old Carl Sagan book**, Don Shepherd **3 responses**
- **HP brochure from 1975**, Marcus von Cube, Germany **1 response**
- **Light Scratches on 12c Bezel - Steel Wool?**, Matt_12c **4 responses**
- **HP-71B slower with HP-IL**, scalpa49 **5 responses**
- **To the Atmel ARM gurus: Problems with OpenOCD**, Marcus von Cube, Germany **5 responses**
- **OT: The Dream**, Bob Patton **23 responses**
- **HP-41: New release: The NoV CHAP rom**, Geir Isene **2 responses**
- **Buy, Sell or Neutral?**, Michael de Estrada **5 responses**
- **HP-48/49/50 software sites?**, x34 **3 responses**
- **TDS-256k RAM Card**, aj04062 **8 responses**
- **17bII+ available for $72.99**, Jeff O. **6 responses**
- **HP32s Relative GTO**, Mike T. **4 responses**
- **Free Calculator Day**, Chuck **4 responses**
- **Battery pack rebuild**, Dane Ericksen **4 responses**
- **HP-01 Back Cover Tool**, aj04062 **8 responses**

- **RPL+**, Oliver Unter Ecker **11 responses**
- **New update for Clonix, NoV's and configuration utility.**, Diego Diaz **6 responses**
- **HP 25 Battery Cover Stuck?**, M. Pollock (Canada) **7 responses**
- **WP-34s Functionality Poll**, Paul Dale **102 responses**
- **Reciting digits of pi**, Palmer O. Hanson, Jr. **14 responses**
- **Invisible message passing**, Jim Yohe **4 responses**
- **Cleaning up the collection**, Michael de Estrada **0 responses**
- **A more useful standard display format**, Dieter **19 responses**
- **HP42S**, Dwight Sturrock **4 responses**
- **HP-75 EPROM programmer**, Jeff Davis **10 responses**
- **Worthy successor of the HP 41C secretly revealed!**, Joerg Woerner **16 responses**
- **OT but neverthess interesting: A 12 year old takles Einstein's theories**, Marcus von Cube, Germany **4 responses**
- **AA NiCad battery cells are now 1100 mAh rated**, Michael de Estrada **11 responses**
- **Calculator Historical literature unearthed... . ....**, Thomas Chrapkiewicz **2 responses**
- **Calculator key mechanics - Which design is more durable?**, Timo **3 responses**
- **Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?**, gene wright **16 responses**
- **Interesting Avionics HP-67 on TAS**, Michael de Estrada **4 responses**
- **Weird 28S keyboard on Anniversary model**, Keith Midson **4 responses**
- **Another collecting success**, Palmer O. Hanson, Jr. **0 responses**
- **Date calculations on the 35s**, PeterP **5 responses**
- **HP-42S Repair and Color Match**, aj04062 **0 responses**
- **An Encounter at WAL-MART**, Namir **7 responses**
- **HP IL Video interface 82163A**, dinamarco **0 responses**
- **not bashing an ebay seller**, db (martinez, ca.) **5 responses**
- **Summing Function**, Jim Yohe **6 responses**
- **HP 15C Batteries (Update)**, BrianDH **7 responses**
- **New HP-45 Emulator for iPad**, Namir **4 responses**
- **10 Key Calculators vs RPN**, Matt_12c **6 responses**
- **Navtronic Navigator Calculator**, Jeff Davis **1 response**
- **HP 25c Apps Review: GO 25 SCI, rpn 25**, Eddie W. Shore **14 responses**
- **Moldy Oldies**, Michael Meyer **9 responses**
- **HP-27S "Technical Manager" vs. "Scientific"**, Jim Yohe **9 responses**
- **How to identify the 'new' HP-12C**, Jeff Kearns **17 responses**
- **major number theory discovery, if you can translate**, Don Shepherd **31 responses**
- **Dennis, Even HP pimped their calculators**, Joerg Woerner **2 responses**
- **wp34s - New Release**, Marcus von Cube, Germany **76 responses**
- **Calculator blog**, Jose Gonzalez Divasson **6 responses**
- **TI introduces new calculator! Takes world by storm! HP quits business and asks forgiveness!**, gene wright **4 responses**
- **HP-12C mini-challenge - Heegner numbers**, Gerson W. Barbosa **19 responses**
- **Solving a cubic equation using trigonometry**, Thomas Klemm **10 responses**
- **Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional**, Sujith Abraham **23 responses**
- **Collection is online**, Keith Midson **17 responses**
- **HP 71B, lurking, thanks and other stuff**, geoff quickfall **2 responses**
- **HP-97S with a bad BCD interface: help me!**, Ignazio Cara (Italy) **3 responses**
- **There's a new RPL kid on the block**, Oliver Unter Ecker **7 responses**
- **GO-25 An HP-25C Emulator for the iPod and iPad**, Namir **12 responses**
- **Rebalancing my RPN portfolio**, Michael de Estrada **16 responses**
- **Can anyone Identify this HP-41 Overlay?**, aj04062 **16 responses**
- **New hp-01 in the making?**, PeterP **2 responses**
- **Yet another pocket RPL idea...**, bhtooefr **15 responses**
- **OT: Help with Logic Dart AC adapter**, Donald Williams **9 responses**
- **Chip-Level Question**, Jeff **9 responses**

- **WP-34s Demostration**, Paul Dale **130 responses**
- **[OT] TAS continues to screw sellers**, Michael de Estrada **28 responses**
- **[OT] Casio fx 98 on TAS**, Manolo Sobrino **14 responses**
- **Comparing HP and Dell**, Palmer O. Hanson, Jr. **5 responses**
- **HP 95LX - New Batteries But Still Shows "Main Battery Low"**, Anthony (USA) **6 responses**
- **offtopic: is HPCALC.ORG dead?**, x34 **2 responses**
- **This is it!**, Joerg Woerner **49 responses**
- **LCD fading, not only in the calcs**, Alberto Fenini **2 responses**
- **Pi Day's ramblings**, Valentin Albillo **30 responses**
- **Pi Day Rematch: Apple II vs. HP-41C**, Egan Ford **2 responses**
- **Happy Pi Day -- date formats**, Katie Wasserman **14 responses**
- **Putting n stack levels into a string**, Bart (UK) **0 responses**
- **Important SpeedUI update to 11.04**, Raymond Del Tondo **1 response**
- **HP-41 MCODE breakpoint/trap instruction?**, Håkan Thörngren **4 responses**
- **Symbolic Complex Linear System Solver (HP-28S, HP-48G/GX and HP-50g)**, Gerson W. Barbosa **0 responses**
- **[RPL] ROLL Challenge (tricky)**, Oliver Unter Ecker **31 responses**
- **HP clear cased prototypes**, Keith Midson **4 responses**
- **Another Day Dreamer on TAS**, Namir **13 responses**
- **ARM-based 12c compared to the old one**, Jose Gonzalez Divasson **14 responses**
- **restoring an HP11C**, Alberto Fenini **12 responses**
- **29C needs help!**, Dieter **7 responses**
- **Help! HP-19C printer gone mad**, Philippe Lasnier **12 responses**
- **"Dispute" oder HP-48GX SN**, Timo **16 responses**
- **Equation library w/ units**, Eric Smith **21 responses**
- **/0, n00b!**, Egan Ford **0 responses**
- **48sx Numerical Integration Question**, svisvanatha **4 responses**
- **How many versions of the HP-35 are there?**, Michael de Estrada **3 responses**
- **9815A/S option ROM**, Joel Setton (France) **0 responses**
- **A beautiful HP-70**, Michael de Estrada **7 responses**
- **Mardi Gras Basic Trigs (HP-12C)**, Gerson W. Barbosa **10 responses**
- **Mike Sebastian's Calculator Forensics**, Joerg Woerner **15 responses**
- **HP 42s -- "TOP.FCN"**, Anthony (USA) **11 responses**
- **12c+ vs 12cp**, Erturk Kocalar **7 responses**
- **Looking for TTF font for HP41 Printer Output**, Egan Ford **1 response**
- **New -21 and -25 apps for iPhone**, Eric Smith **14 responses**
- **[OT] TAS selling fee shock**, Michael de Estrada **6 responses**
- **DeoxIT & Zebras**, aj04062 **2 responses**
- **HP12C with a "funny" ENTER key**, Cristian Arezzini **15 responses**
- **HP41 MLDL2000 V2 demo**, Meindert Kuipers **7 responses**
- **HP 50G eating batteries**, Iqbal **3 responses**
- **Introducing myself... and a question on a weird 48G**, Cristian Arezzini **12 responses**
- **Interesting book**, Don Shepherd **1 response**
- **Pioneer series: scratched display**, Jim Yohe **4 responses**
- **Finally an HP-02?**, Eric Smith **7 responses**
- **Which Calculators Should I Keep?**, Dave Shaffer (Arizona) **55 responses**
- **HP 15C Water Damage?**, BDee **4 responses**
- **Very impressive aucton on TAS**, Namir **18 responses**
- **Hp 50g multi-page INFORM**, Erturk Kocalar **4 responses**
- **New Crash Recovery Function for NoV-64.**, Diego Diaz **6 responses**
- **HP-41CV Display**, aj04062 **1 response**
- **HP Line is Getting Kind of Stale**, Jeff **33 responses**
- **41c repair**, Paul Dale **12 responses**
- **[OT]TI-Nspire CX**, Manolo Sobrino **62 responses**

- **Repairing an HP33E with springs**, Alberto Fenini **0 responses**
- **it's nice, it works, but what it is ?**, Alberto Fenini **3 responses**
- **Box for HP 82143A printer**, dinamarco **2 responses**
- **IR communication between HP-39gs and HP-39G**, Marcus von Cube, Germany **0 responses**
- **Free42 extended "SHOW" fun**, Glen Sanft **14 responses**
- **Hp-42s display problem**, aj04062 **9 responses**
- **LIF Utilities for linux**, Christoph Giesselink **7 responses**
- **Voyager Platform for the 21st Century**, Norman Dziedzic **24 responses**
- **Looking for Luiz Vieira!**, gene wright **0 responses**
- **In Homage to Peter Henrici**, Namir **3 responses**
- **Sandmath Mod Question**, mbrethen **12 responses**
- **Another non-HP RPN calculator in my collection**, Michael de Estrada **34 responses**
- **adding time segmetns (HMS+)?? with 41CX?**, Sam Samaha **15 responses**
- **Windows 7 and HP 48GX**, Nico Tak **12 responses**
- **TI-NSPIRE calculator plays DOOM**, gene wright **12 responses**
- **Photos of some of my calculators**, bbeamer **5 responses**
- **Why?**, Michael de Estrada **10 responses**
- **Repairing a 82022B charger (with P.S. to Geoff Quickfall)**, Karl-Ludwig Butte **3 responses**
- **restoring an HP71 (old post)**, Alberto Fenini **2 responses**
- **HP-15C, an interesting question**, robert rozee **21 responses**
- **Searching within forum archives**, Jim Yohe **9 responses**
- **HP-35S hung in "Memory Clear" loop?**, Scott Newell **2 responses**
- **HP Classic Models Battery Pack Rebuild**, ben ong **5 responses**
- **SpeedUI 11.02 released**, Raymond Del Tondo **2 responses**
- **HP IL video interface**, dinamarco **26 responses**
- **I/O subsystem not working on HP-41CV?**, Philippe Lasnier **5 responses**
- **1st Gen HP-35**, aj04062 **3 responses**
- **HP-30B Fun (HP-45 Simulator...)**, svisvanatha **5 responses**
- **41CL**, Monte Dalrymple **9 responses**
- **HP policy on source files**, Raymund Heuvel **50 responses**
- **Facebook Gallery of some of my collection**, Les Wright **3 responses**
- **WP34s**, Paul Dale **49 responses**
- **32SII-FAIL 8**, Jim Yohe **15 responses**
- **Are calculators held in the hand?**, designnut **20 responses**
- **HP-48GX RAM Cards - Better with or without built-in battery?**, Timo **7 responses**
- **another old stuff museum site**, db (martinez, ca.) **2 responses**
- **Backing up several HP48G/G+/GX via HP50**, Thomas Chrapkiewicz **4 responses**
- **HP-33S**, Michael Mulé **42 responses**
- **What is the CCD Plus module?**, gene wright **2 responses**
- **Woodstock HP-22 calculators for repair**, Xavier A. (Brazil) **1 response**
- **Capture the flag - HP-12C programming contest**, x34 **10 responses**
- **HP-12C erase program steps**, x34 **7 responses**
- **HP-25**, aj04062 **1 response**
- **HP-22**, brummybird **9 responses**
- **POLL: Who killed the beast?**, Joerg Woerner **32 responses**
- **cute little challenge**, Don Shepherd **2 responses**
- **j operators**, Dwight Sturrock **9 responses**
- **HP82164A HP-IL/RS-232C interface**, dinamarco **6 responses**
- **GolfScript versus RPL**, Allen **0 responses**
- **Still a few good deals...**, Michael Meyer **4 responses**
- **HP-41 internal construction**, Monte Dalrymple **2 responses**
- **HP-12C ARM Repurposing Project - Status?**, Malcolm **0 responses**
- **Hands on the 20b SDK**, Marcus von Cube, Germany **16 responses**
- **OT: new emulator**, Olivier De Smet **22 responses**

- **Why not repurpose HP-50G?**, x34 **9 responses**
- **HP 48GX Squeaky**, Anthony (USA) **3 responses**
- **Reading this makes me weep.**, Michael de Estrada **32 responses**
- **Just found another HP durability story**, Paul Gaster **0 responses**
- **HP 17B ==> 17BII**, Martin Pinckney **7 responses**
- **Looking for Geoff Quickfall**, Jeff Davis **1 response**
- **ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic**, Allen **7 responses**
- **HP-15C Sticky Keys**, aj04062 **8 responses**
- **SpeedUI 11.01 released**, Raymond Del Tondo **0 responses**
- **HP-41C/CV/CX Eigenvalues/Vectors help**, mbrethen **2 responses**
- **HP97 troubleshooting**, Prabhu Bhooplapur **2 responses**
- **HP 12C Platinum Screen**, Anthony (USA) **3 responses**
- **Is the HP-50g bug free now?**, Jim Yohe **9 responses**
- **Self tests in the HP12C Platinum+**, jose ernesto **3 responses**
- **Trying to contact Luiz C. Vieira**, Iqbal **6 responses**
- **HPIL-Devel BUFFER Question**, Ángel Martin **7 responses**
- **HP 41CX**, Forrest Butler **9 responses**
- **82240B IR Printer Runs Sluggishly, then Doesn't**, Les Wright **0 responses**
- **Heating, Ventilating and Air Conditioning Users Solutions**, Jeff Davis **4 responses**
- **35s Quadratic Regression**, J Noël **11 responses**
- **48sx repair help**, svisvanatha **7 responses**
- **Storage and recall arithmetic with the HP35s**, Palmer O. Hanson, Jr. **10 responses**
- **Who passed away?**, Paul Gaster **5 responses**
- **DVDs**, Fred Lusk **4 responses**
- **A little help from my friends ...**, Meindert Kuipers **2 responses**
- **Do the Ebay sellers check the merchandise?**, Gonzalo Fernandez **35 responses**
- **N-queens benchmark and the HP-17BII**, Thomas Klemm **62 responses**
- **HP 50g stack depth**, Jim Yohe **13 responses**
- **HP-35S ROM ?**, x34 **6 responses**
- **42S reincarnation is possible?**, Csaba Tizedes (Hungary) **23 responses**
- **HP-35S solver questions - extremum**, x34 **8 responses**
- **min(a,b) and max(a,b) equation for HP-33S/HP-35S**, x34 **2 responses**
- **HP 21 calculator**, Chris Stam **0 responses**
- **My New Geeksite (including Bowmar)**, ClausB **14 responses**
- **Decimal point before an operation**, Jim Yohe **5 responses**
- **Why was the HP-15C dicontinued and not the HP-12C**, Gerardo Rincon **77 responses**
- **Decimal Key is Loose**, Anthony (USA) **1 response**
- **HP30B/20B Repurposing Project - Status?**, svisvanatha **60 responses**
- **How about a pen that calculates...**, Egan Ford **5 responses**
- **How about a pocket / hand held RPL calc?** , Michael de Estrada **54 responses**
- **HP42s sticking key**, William Maidment **4 responses**
- **Is there any need for just another HP calculator (JAHPC)?**, Frido Bohn **12 responses**
- **HP65 in Nonpareil**, Harald **4 responses**
- **Preprogrammed EPROMs for HHE PE unit for the HP41CX**, Prabhu Bhooplapur **3 responses**
- **About HP calc serial numbers**, Ernst Fueloep **3 responses**
- **HP 48GX Interface Cable Dilemma**, Anthony (USA) **5 responses**
- **30b Dead 5 Key**, Norman Dziedzic **10 responses**
- **Re: HP 17BII Dropped!**, Csaba Tizedes (Hungary) **1 response**
- **Re: HP 17BII Dropped!**, Mike D **1 response**
- **Re: HP 17BII Dropped!**, Mike D **0 responses**
- **No new scientific calculators from HP?**, Ivan Latorre **46 responses**
- **New HP12C that uses 2 batteries, and is blazing fast.**, jwhowa **30 responses**
- **Re: Printing quality on HP-97**, Christophe Dubreuil **5 responses**
- **Re: Green LED HP 45?**, Les Bell **0 responses**

- **Green LED HP 45 revisited**, Martin Pinckney **11 responses**
- **transistor equivalence**, Alberto Fenini **6 responses**
- **Happy National Pie Day**, Mark Hardman **2 responses**
- **Font for HP-25 "Continuous Memory" logo**, Steve Lidie **3 responses**
- **HP-25 displays "Error" when trying to input numbers**, Harald **2 responses**
- **OT - Adding Roll & pitch to sat dish pointing**, Giuseppe Marullo **0 responses**
- **41 MCODE: PANAME ROM Bugs**, Ángel Martin **8 responses**
- **Re: Green LED HP 45?**, Michael de Estrada **1 response**
- **HP's best scientific calculator?**, Jim Yohe **66 responses**
- **Re: Power management and deep sleep**, uhmgawa **0 responses**
- **HP Solve Newsletter Jan 2011: Article about LOGs**, Frido Bohn **7 responses**
- **Re: a challenge related to the 15 puzzle**, Don Shepherd **0 responses**
- **Re: Printing quality on HP-97**, Christophe Dubreuil **0 responses**
- **Re: Printing quality on HP-97**, Christophe Dubreuil **0 responses**
- **Five-minute challenge**, David Hayden **43 responses**
- **HP Solve article on thousands separators**, Martin Pinckney **11 responses**
- **Re: The lost formula**, Csaba Tizedes (Hungary) **5 responses**
- **New HP Solve issue now posted at HP site**, gene wright **9 responses**
- **iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!**, Egan Ford **32 responses**
- **Re: a challenge related to the 15 puzzle**, Don Shepherd **0 responses**
- **Re: a challenge related to the 15 puzzle**, Don Shepherd **1 response**
- **41 MCODE: Alice in Bufferland**, Ángel Martin **6 responses**
- **Re: Green LED HP 45?**, Ron G. **0 responses**
- **Microsoft Mathematics is now free.**, Egan Ford **7 responses**
- **Kip Hopkins?**, db (martinez, ca.) **2 responses**
- **Re: Power management and deep sleep**, Monte Dalrymple **0 responses**
- **Re: a challenge related to the 15 puzzle**, Allen **1 response**
- **Dead HP-31E, where do I start?**, Paul Gaster **12 responses**
- **Re: a challenge related to the 15 puzzle**, Allen **0 responses**
- **Classic Chargers**, Alberto Fenini **8 responses**
- **Re: HP-67 advice needed**, Alberto Fenini **3 responses**
- **Re: The lost formula**, John B. Smitherman **11 responses**
- **Re: F1011A AC/DCAdapter**, Thomas Chrapkiewicz **0 responses**

[Top of Index]

Go to the HP Forum (new messages)

Go to the HP Forum archives selection page

Go back to the main exhibit hall

The Museum of HP Calculators

The Museum of HP Calculators displays and describes Hewlett-Packard calculators introduced from 1968 to 1986 plus a few interesting later models. There are also sections on calculating machines and slide rules as well as sections for buying and selling HP calculators, an HP timeline, collecting information and a software library.

The Main Exhibit Hall

Before HP Calculators (1614-1968)

- The HP Garage - The Birthplace of Silicon Valley
- Calculating Machines, Slide Rules, etc.

The First HP Calculators (1968)

- HP 9100A&B Programmable RPN Calculators with *no digital ICs*

High End Desktop Series (1971)

- HP 9810A Second Generation RPN Calculator
- HP 9820A Full Algebraic Desktop
- HP 9830A Desktop Calculator with BASIC
- HP 9805A Algebraic Statistics Desktop
- HP 9815A/S Third Generation RPN Desktop
- HP 9825A First HPL Calculator

The Classics (1972)

- HP-35 The First Slide Rule Pocket Calculator
- HP-80 The First Business Calculator
- HP-45 Slide Rule++
- HP-65 The First Programmable Handheld
- HP-70 Inexpensive Business Calculator
- HP-55 Scientific/Programmable with Quartz Timer

Classic Printing Desktop Calculators (1973)

Navigation

- What's New? (12/11/13)
- Search the Museum
- Manuals on CD/DVD
- Escape frames
- Contact the Curator

Discussion & Guest Areas

- HP Forum
  (Includes everything from the earliest HPs to the HP Prime, plus the new articles forum, new software forums and classifieds.)

- Old HP Forum
- Old HP Forum Archives
- Old Articles Forum

Collecting & Using

- Classified Ads

- HP-46 Printing Version of the HP-45
- HP-81 Printing Version of the HP-80
- HP-46, 56, 66 and HP-9805 Design Studies.

Second Generation Handheld Calculators (1975)

- HP-10 Handheld Printing Adding Machine
- HP-21 Second Generation HP-35
- HP-22 Business Calculator
- HP-25 Scientific Programmable
- HP-25C HP-25 with Continuous Memory
- HP-27 "Do Everything" Model (Sci/Stat/Math/Bus)
- HP-29C & HP-19C High End Programmables

Second Generation Desktop Calculators (1976)

- HP-91 Printing Scientific Calculator
- HP-92 Printing Business/Financial Calculator
- HP-95C Unreleased Printing Programmable Calculator

Second Generation Mag Card Programmables (1976)

- HP-67 & HP-97 Pocket & Desktop Calculators
- HP-97S I/O Calculator

In A Class By Itself (1977)

- HP-01 The Hewlett-Packard Calculator Watch

Third Generation of HP Calculators (1978)

- HP-31E Basic Scientific Calculator
- HP-32E Scientific/Statistical
- HP-33E/C Scientific Programmable Calculator
- HP-34C Scientific Prog. with Integration & Solve
- HP-37E Financial Calculator
- HP-38E/C Programmable Financial

Small Computers and Computer-like Calculators (1979)

- HP-41C Alphanumeric Programmables (includes CV & CX)
- HP-80 Series Small Computers
- HP-75C/D Smaller Computer
- HP-71B Even Smaller Computer/Calculator
- HP-94D/E/F Handheld Industrial Computer

The 10C series: Compact yet Sophisticated Calculators (1981)

- HP-10C Basic Scientific Programmable Calculator

- Collector's Corner
- Prices & Rarity
- Series & Code Names
- Variations & Specials
- Bugs
- Battery Packs & Chargers
- Repairs & Batteries
- Serial Numbers
- Self Tests
- Where To Find
- Supplies
- Manuals on CD
- Learning RPN
- Programming
- Calculator Simulations
- Compare Features
- Adding a crystal to the HP-45
- FAQ

Software Libraries

- New software Libraries (Software submitted after Dec 2013 is here.)

- Old Software Library
- Old HP-41C Software Library
- HP-95C Software Library
- Software on CD

History & Technology

- A brief time line
- Calculator Technologies
- CPUs & Internal Programming
- Benchmarks
- Compare Features
- HP Journal Library
- Hewlett Packard Advertisements
- HP Manuals on CD
- RPN Versions
- Photo Gallery

For Sale and Wanted

- Items Wanted
- Classified Ads

HP-11C More Advanced Scientific Programmable
- HP-12C Top Selling Business Calculator
- HP-15C Scientific with Matrix & Complex Math
- HP-16C The Computer Scientist Calculator

The RPL Family (1986)

- RPL A Platform for Powerful Calculators
- HP-18C Business Model with Solver
- HP-28C/S Scientifics with Symbolic Math and Solver
- HP-48S/SX Large Screen Scientifics with Symbolic Math

Some Interesting Later Models (1986)

- HP-27S Algebraic Do Everything Calculator
- HP-17B Algebraic Business Model
- HP-22S Algebraic Scientific Calculator
- HP-32S RPN Scientific with Complex Math (Including Anniversary Edition.)
- HP-42S RPN Scientific (HP-41C compatible)
- HP-14B (50th Anniversary Edition)
- The Xpander Unreleased Math Learning Aid
- HP-67CX Unreleased RPN / HPL / Linux Scientific
- Other Hewlett Packard Calculators and computers.

Other Resources

- Links to other Sites
- Books and Magazines
- Associations
- The Museum on CD

The Museum of HP Calculators and the museum curator are not affiliated with the Hewlett-Packard Company.

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Contact David Hicks

HP Forum Archive 20

Message Index Display Configuration

Use the form below to search for messages which include certain keywords or which were posted at a particular time or by a particular individual, and/or to select the manner in which you wish the messages in the index to be displayed.

Display messages [Grouped into threads, indented]

When a message is selected in the index, if "Individually" is selected, a page containing only that message, a thread overview, and navigation features is displayed. When "Grouped into threads" is selected, all messages in the thread are displayed on a single web page. "Grouped into threads, indented" uses indentation to show the thread structure. "Grouped into threads, flush left" omits the indention and is mainly intended for small devices such as PDAs.

List only those messages:

- (•) Posted within the last [Several Eons]

(Options above this line are "sticky" if your browser accepts cookies. Options below are for the next view of the index only.)

- ( ) Posted between [Jan] [2013] and [Dec] [2013]

List:

- (•) All messages within the specified date range
- ( ) Only messages containing [Any] of the following keywords:

[ ]

- ( ) Only messages posted by:

[ ]

[View Message Index]

[Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Blogs Are Up

*Message #1 Posted by **Eddie W. Shore** on 26 Feb 2012, 3:16 p.m.*

Complex Function Graphing

Bézier Curves (TI nSpire/HP 50g)

Eddie's Math Blog

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

recent HP 35 "Red Dot" on Ebay

*Message #1 Posted by **D. Taylor** on 26 Feb 2012, 8:00 a.m.*

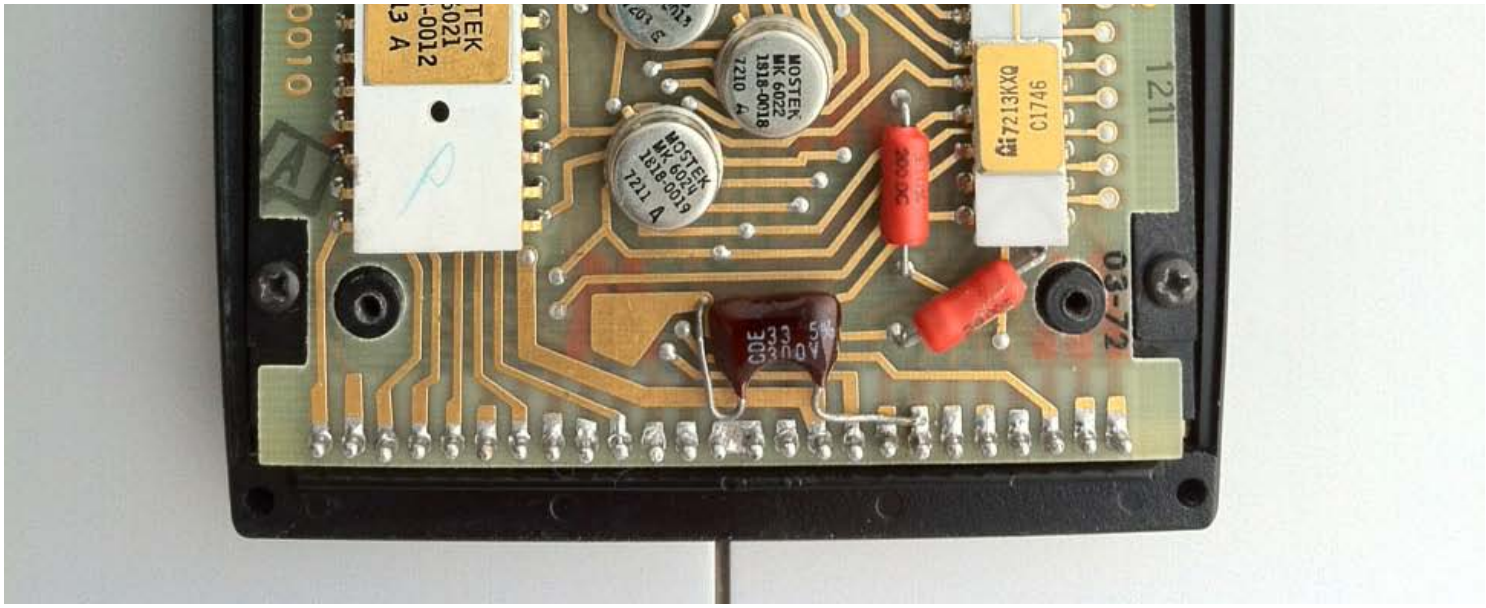
I purchased Ebay item 260941694606.

Cleaned it up and it works and has the bug:

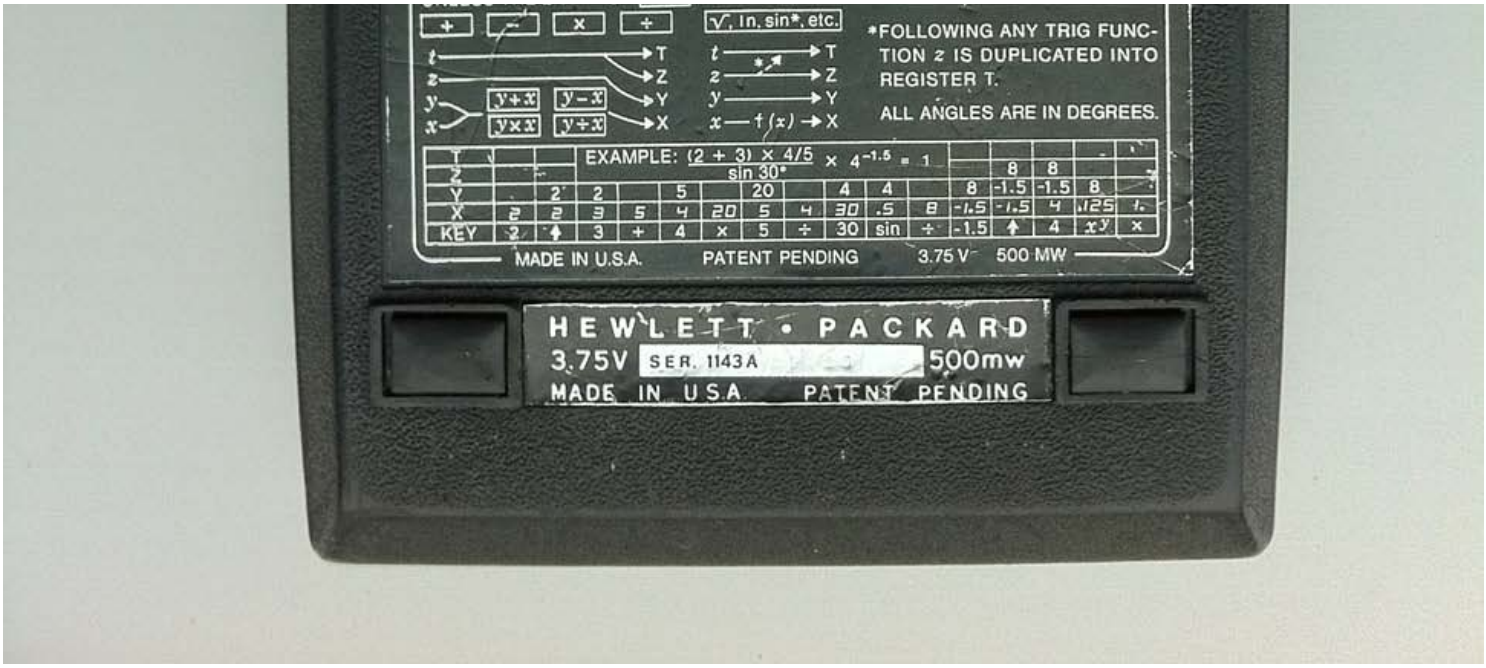
2.02 bug - quicktime

Below are some pictures.

Seems to me it is 1143a-00026 but the top case was probably replaced at some point.


MOSTEK
MK 6022
1818-0018
7210 A
MOSTEK
MK 6024
1818-0019
7211 A
7213KXQ
C1746
1211
03-72

HEWLETT-PACKARD HP-35 INSTRUCTIONS
LOW BATTERY LIGHTS ALL DECIMAL POINTS.
IMPROPER OPERATIONS FLASH DISPLAY. PRESS CL x .
CL x CLEARS THE DISPLAY.
CHS CHANGES SIGN OF DISPLAY. MAY BE USED AS THE FIRST ENTRY WHEN ENTERING NEGATIVE NUMBERS.
CLR CLEARS ALL REGISTERS.
E EX CAUSES NEXT ENTRIES TO BECOME THE EXPONENT OF x . FOR NEGATIVE EXPONENTS CHS MUST PRECEDE DIGITS.
t – T
z – Z
y – Y
x DISPLAY – X
s STORAGE – S
THE OPERATIONAL STACK CONSISTS OF FOUR REGISTERS (X, Y, Z AND T). A FIFTH REGISTER (S) IS USED FOR CONSTANT STORAGE.
x, y, z, t AND s ARE THE CONTENTS OF X, Y, Z, T AND S.
THE DISPLAY ALWAYS SHOWS x .
ENTER↑
x⇄y
R↓
STO
RCL
THE STACK IS AUTOMATICALLY RAISED BY AN ENTRY INTO X OR BY RCL UNLESS THE ENTRY OR RCL IMMEDIATELY FOLLOWS CL x , STO OR ENTER↑ .



Re: recent HP 35 "Red Dot" on Ebay

*Message #2 Posted by **Lode** on 26 Feb 2012, 8:47 a.m.,*
in response to message #1 by D. Taylor

Interesting picture of the back side.

"Following any trig function Z is duplicated into register T". Now that's a useless and unhandy feature! Maybe this was some kind of memory limitation?

(edit=typo)

Edited: 26 Feb 2012, 2:17 p.m. after one or more responses were posted

Re: recent HP 35 "Red Dot" on Ebay

*Message #3 Posted by **Steve Simpkin** on 26 Feb 2012, 11:55 a.m.,*
in response to message #2 by Lode

> Quote:
>
> "Maybe this was some kind of memory limitation?"

Absolutely correct. HP added one more scratchpad register in the CPU on the next generation (the 20 series) to eliminate this limitation.
http://www.hpmuseum.org/techclas.htm
http://www.hpmuseum.org/tech20.htm

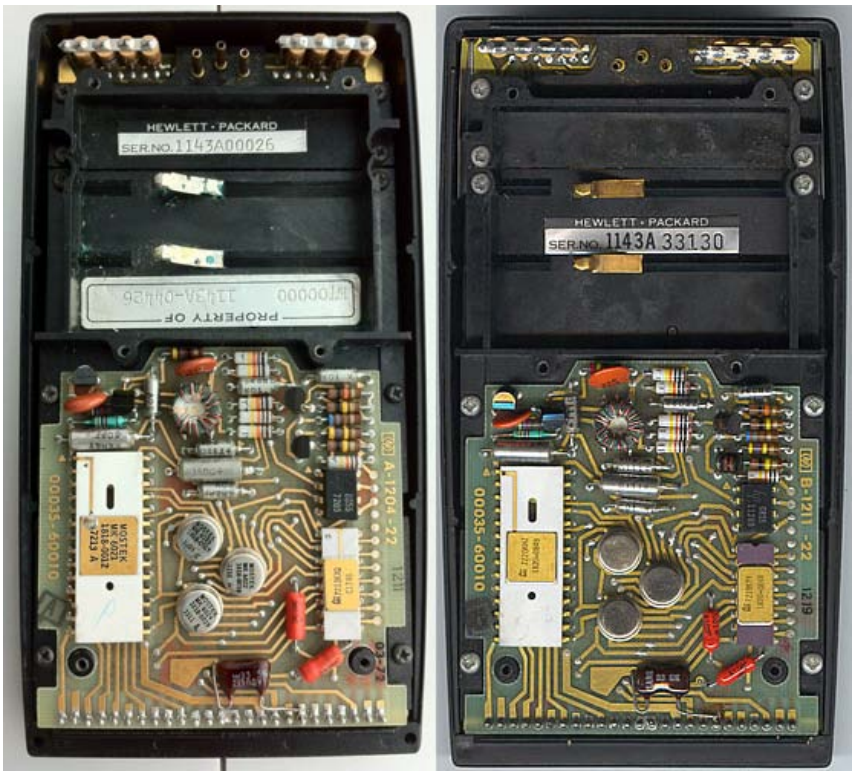
Re: recent HP 35 "Red Dot" on Ebay

*Message #4 Posted by **D. Taylor** on 26 Feb 2012, 1:52 p.m.,*
in response to message #1 by D. Taylor

Comparing the circuit board in this 1143A with Kees van der Sanden's 1143A33130 seems to support that this unit is indeed a Red Dot, and a very early one at that.

http://www.keesvandersanden.nl/calculators/hp35_inside.php

Note the revision number and date on the board in 1143A00026 vs. the revision number in 1143A33130.



Re: recent HP 35 "Red Dot" on Ebay

*Message #5 Posted by **aj04062** on 26 Feb 2012, 2:56 p.m.,*
in response to message #4 by D. Taylor

What is the date? 1211 and 1219?

I have an early, non red-dot SN 1143A 34416 with the same board layout and other PCA markings except instead of 1211 I have 05-72

This has the bug, but I also have what seems like a keyboard problem.

1/X acts like +, X<>Y seems to drop the last digit and makes the number negative (weird), R(down arrow) acts like CHS, STO acts like EEX, RCL acts like CLX.

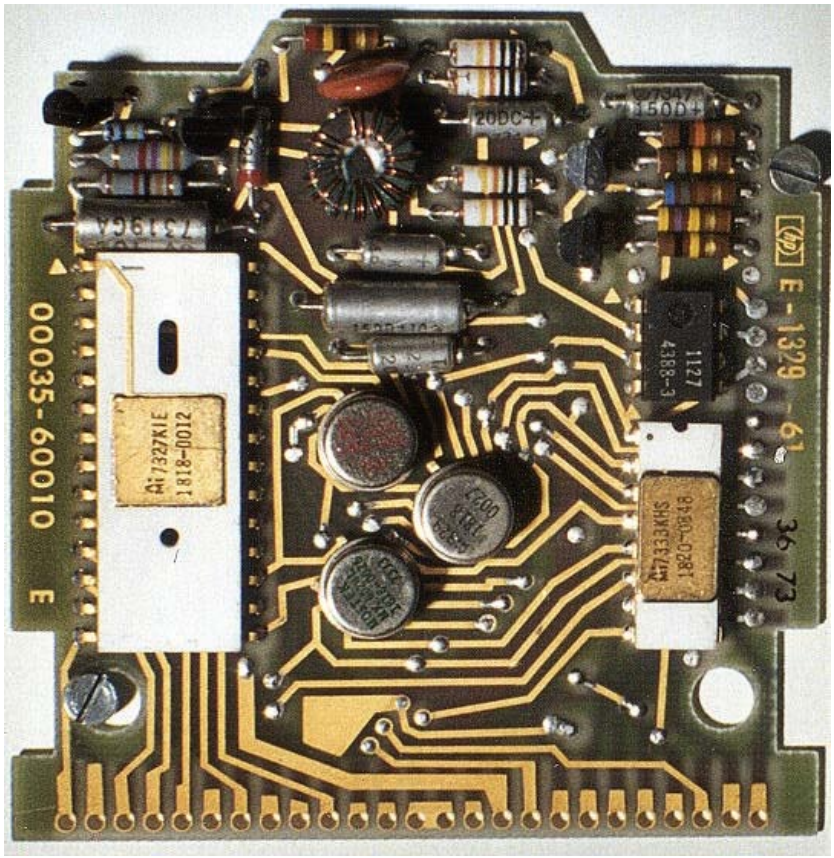
Bad ROM or keyboard traces? I've been over it a couple of times and haven't seen anything..

Re: recent HP 35 "Red Dot" on Ebay

*Message #6 Posted by **D. Taylor** on 26 Feb 2012, 3:10 p.m.,*
in response to message #5 by aj04062

I think the 03-72 and 05-72 are either month and year or week and year, probably month.

Note, however, the numbers on the board below, which seem like week numbers, not month. I think that the chips are also dated with year week numbers.



Re: recent HP 35 "Red Dot" on Ebay

*Message #7 Posted by **D. Taylor** on 26 Feb 2012, 3:16 p.m.,*
in response to message #5 by aj04062

As I recall some of the keyboard traces go under the separation in the battery compartment where corrosion may have occurred if it ever happened - though your battery compartment looks pretty clean. Weird also that mine and the other 1143A have that red capacitor or whatever it is and yours has the black diode or whatever that is...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S x-hat bug

*Message #1 Posted by **Nigel J Dowrick** on 26 Feb 2012, 6:03 a.m.*

I'm running build 2562.

I enter a set of (x,y) points satisfying y = 2x + 1 (for example).

I then enter 7, execute y-hat (yellow-shift 6) and obtain 15 (correct).

If I then enter 15, execute y-hat (from the STAT menu) I obtain 0.142857... i.e., the reciprocal of the correct answer.

This problem seems to occur with any set of data, not just the set above. I have not checked any regression other than linear.

I am astonished at the sheer volume of work that you guys have been putting into this project, especially recently. Thank you all - and take care of yourselves!

Nigel (UK)

Re: WP 34S x-hat bug

*Message #2 Posted by **Paul Dale** on 26 Feb 2012, 6:13 a.m.,*
in response to message #1 by Nigel J Dowrick

Yeah, a bug that crept in somewhere during the statistical rearrangements. Reciprocal is the fix.

Next build will have the fix included.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

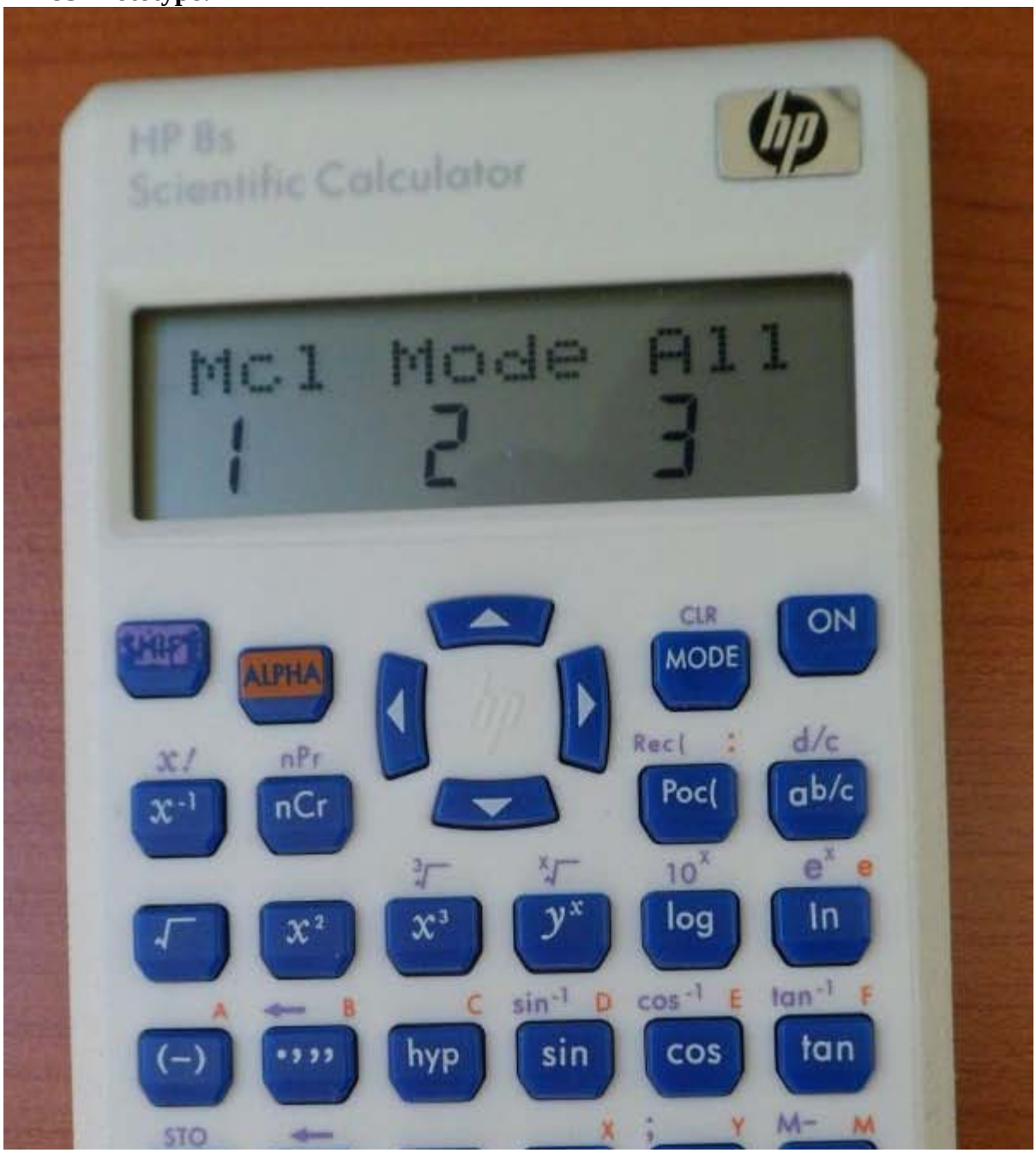
[Return to Index | Top of Index]

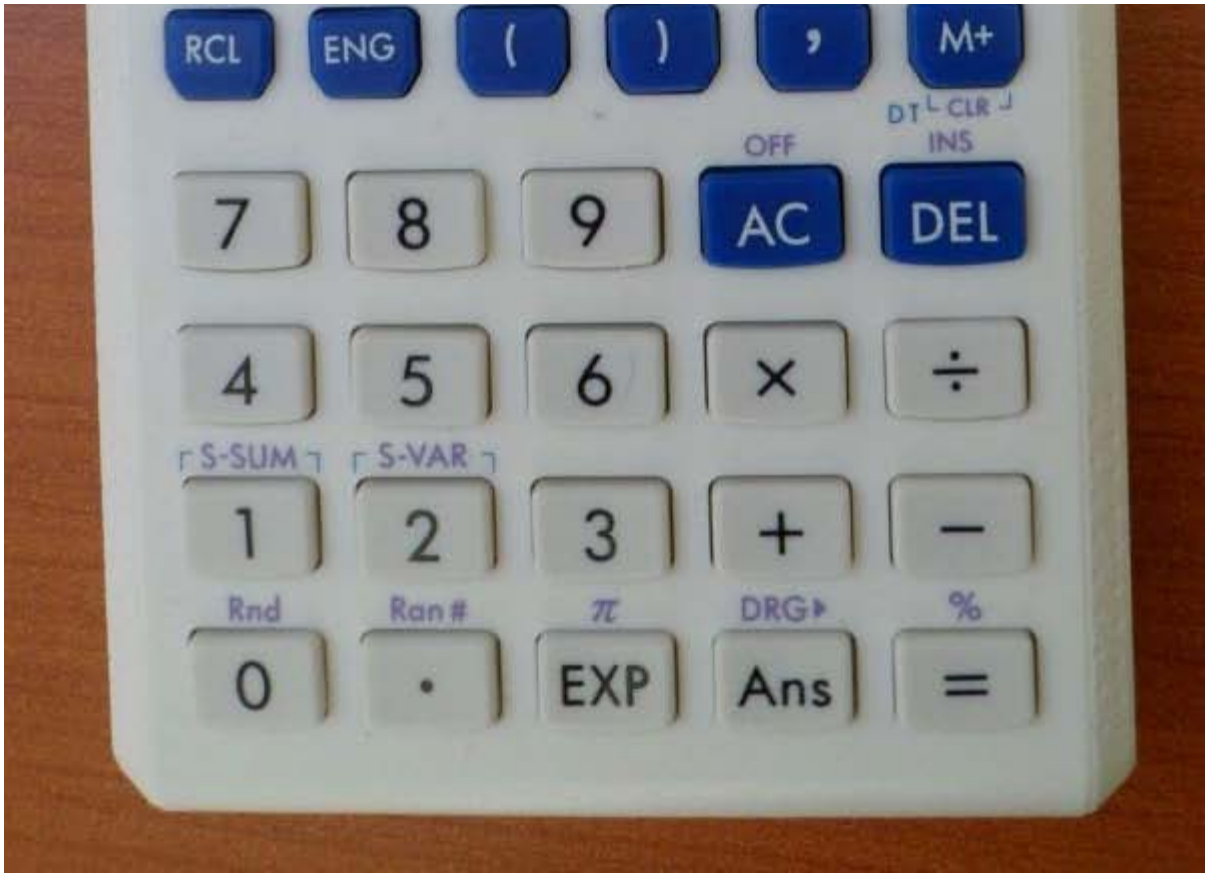
HP calculator prototype?

*Message #1 Posted by **Michael Eckstein** on 26 Feb 2012, 2:35 a.m.*

I obtained this HP 8S caculator which design differs from the production version. Has anybody seen this design before? I suppose this should be a prototype of the HP 8S Non RPN calculator. The production version HP 8S was released mainly in the Asia or Australia market.

HP 8S Prototype:





HP 8S production version

Edited: 26 Feb 2012, 6:11 a.m. after one or more responses were posted

Re: HP calculator prototype?

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Feb 2012, 5:19 a.m.,*
in response to message #1 by Michael Eckstein

The 8s educalc picture doesn't show here. :-(

Re: HP calculator prototype?

*Message #3 Posted by **Michael Eckstein** on 26 Feb 2012, 5:55 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks, corrected

[Return to Index | Top of Index]

Go back to the main exhibit hall

more HMS, aTIME, 34s display, 41c bugs?

*Message #1 Posted by **Christopher Johnson** on 25 Feb 2012, 9:34 p.m.*

```
Here is some more HMS,Alpha oddities. What do you think?

Hopefully I am presenting this in a clear way.

34s 3.0 2551

FIX 6
9.285964
ENTER^
aTIME
Bad time or dAtE
FIX 4
9.2860

9.285900
aTIME
9:28:59 AM

FIX 2
9.29
aTIME
9:28:59 AM

FIX 0
9.
aTIME
9:28:59 AM

41C - 2051A

FIX 6
9.285964
ENTER^
ATIME
9:28:59.64 AM

FIX 4
9.2860
ATIME
9:28:59 AM

FIX 2
9.29
ATIME
9:28 AM

FIX 0
ATIME
9 AM
```

I think the 34s is rounding to 4 places and throwing the error. Where as the 41c is taking just the absolute value. I prefer the 41c approach. Also the 34s does not follow the fix setting when appending to alpha like the 41c. Again I prefer the 41c approach. Just some observations I had.

Now this is more errors in HMS math functions. I know nsim uses 41c roms. I'm not sure if coconut uses roms but I'm fairly sure it does. free42 is a simulation.

Which calculator do you think is giving the right answer, out of the 3 here? I will go with the way free42 handles these numbers.

wp34s 3.0 2551

22.0500	22.4100
ENTER^	ENTER^
22.0000	22.0000
HMS-	HMS-
0.046000000	0.406000000

hp41c 2051A

0.045999999	0.405999999

nsim-0.61 - unknown rom version

0.045999999	0.405999999

free42 - 1.4.70 - linux

0.0500	0.4100

coconut on the palm 1.0

0.045999999	0.405999999

free42 - 1.4.70 - palm

0.0500	0.4100

These numbers cause the strange behavior. The numbers in between work just fine and get the same answer as free42.

22.02, 22.05, 22.08, 22.11, 22.14, 22.17, 22,20, 22.23 etc.

Could this be considered a 41c bug? What do you get on other hp's?

I searched for 41 bugs and found this:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv005.cgi?read=7416

Here is some more strange behavior

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=61466

Now that is a conversion bug. I'm just doing straight HMS-. The other reason I

```
post this link is message #6 I see the same pattern as above. A thought just
came to me. Maybe the software is converting to HR performing the math and then
converting back to HMS?


I tried 3 online HMS calculators and they all gave me the same answer as free42.


I am interested in what others may think of this.


CJ
```

Re: more HMS, aTIME, 34s display, 41c bugs?

*Message #2 Posted by **Paul Dale** on 25 Feb 2012, 10:05 p.m.,*
in response to message #1 by Christopher Johnson

> Quote:
>
> I think the 34s is rounding to 4 places and throwing the error.

Yes, the 34S is rounding to four places before doing anything with the time. Yes, this is different to the 41c + time module. Likewise, alphaTIME on the 34S doesn't care about display mode. Now, the 34S could be made more like the 41c if this is desirable. Is it?

I'm unsure about using the display mode -- what happens in FIX 3 e.g. The way things are now, you append the time and can easily strip off whatever trailing characters you want -- we've a pretty good selection of alpha commands to assist here. Whereas, the 41c has a rather limited selection of alpha commands by default.

> Quote:
>
> ```
> wp34s 3.0 2551
>
>
> 22.0500                 22.4100
> ENTER^                  ENTER^
> 22.0000                 22.0000
> HMS-                    HMS-
> 0.046000000             0.406000000
> ```

Fixed, built and in subversion now. Revision 2576. A problem rounding the result to register precision from internal precision -- effectively a double rounding where the first went down to 59.99999 which avoids the over sixty correction and the second pushed this up to 60.

> Quote:
>
> Could this be considered a 41c bug?

I would consider it one.

> Quote:
>
> Maybe the software is converting to HR performing the math and then converting back to HMS?

This is what the 34S does -- the code is smaller this way.

- Pauli

Re: more HMS, aTIME, 34s display, 41c bugs?

*Message #3 Posted by **Luiz C. Vieira (Brazil)** on 25 Feb 2012, 10:06 p.m.,*
in response to message #1 by Christopher Johnson

Hi.

> Quote:
>
> Maybe the software is converting to HR performing the math and then converting back to HMS?

It's more likely to be. The step-by-step true HMS+ (or HMS-) might be time- and memory-consuming, while addition and multiplication are already implemented. The HMS->HR might round the original numbers and HR->HMS would probably round the results as well. I do not have the emulators to test, though.

Cheers.

Edited: 25 Feb 2012, 10:08 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

opening HP 30B

*Message #1 Posted by **Harald** on 25 Feb 2012, 6:01 p.m.*

Today I received my HP-30B and also the keyboard overlays. (Thanks Eric!) The cable seems to take a little longer to get here though. So I thought I'd have a look inside the calculater and maybe just connect the RS232 myself (yes, I am a bit impatient). I assume all I need is levelshifting to 3.3V on the RXD and TXD line. But so far I haven't even managed to open the calculator. I have unscrewed the 5 bolts but still can't figure out what to do next. Could someone enlighten me please?

Cheers, Harald

Re: opening HP 30B

*Message #2 Posted by **Marcus von Cube, Germany** on 25 Feb 2012, 7:23 p.m.,*
in response to message #1 by Harald

Pry it apart from the side by slightly bending the grey (softer) plastic.

Get yourself an FTDI RS232-TTL 3V3 cable. You can wire it directly to the pads. You will need a way to connect the erase pin to Vdd in order to activate the SAM-BA boot loader (by clearing the flash completely). Reset is available through a hole on the back.

Re: opening HP 30B

*Message #3 Posted by **Harald** on 26 Feb 2012, 5:50 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Marcus, that worked. Got it open now. While I have it open, is it worth adding a crystal? Does that help with any functionality other than communication (I probably won't need that, so I am not too bothered)? I like your idea of adding a 3.5mm connector to the calculator, but unfortunately can't work out a solution that is a bit easier on the eye ;)

Cheers, Harald

Edited: 26 Feb 2012, 8:11 a.m. after one or more responses were posted

Re: opening HP 30B

*Message #4 Posted by **pascal_meheut** on 26 Feb 2012, 5:58 a.m.,*
in response to message #3 by Harald

Adding a crystal helps a lot with communication and with the STOPWATCH function. If you don't use them, don't bother. Soldering the capacitors is not obvious.

Re: opening HP 30B

*Message #5 Posted by **Harald** on 26 Feb 2012, 6:16 a.m.,*

in response to message #4 by pascal_meheut

A stopwatch sounds like a nice feature to have. So I think I will do the modification. Soldering the caps is no problem. After all they are the large 0603s and not 0402s ;) The crystal seems to be more of a problem - I haven't got one and need to order one -> more waiting :(

Cheers, Harald

What does the Erase Button on the HP cable do?

*Message #6 Posted by **Harald** on 26 Feb 2012, 8:01 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I think I figured out how to connect everything appart from the "Erase" button. I belive the pinout on the flash connector to be:

J31: Vcc (3V)

J32: reset

J33: TxD

J34: RxD

J35: GND

J36: erase???

Is that correct so far? Does the "erase" button pull up J36 to Vcc like "reset" pulls up J32?

I bet the cable arrives by the time I worked all this out...

Cheers, Harald

Re: What does the Erase Button on the HP cable do?

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Feb 2012, 9:07 a.m.,*
in response to message #6 by Harald

Erase needs to be pulled high to do an erase. The calculator needs to run for this to work. Just press the ON key to wake it up with ERASE pulled high. (I had accidentally written Vdd which is wrong.)

The SDK mentioned here contains schematics.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dm-15c case?

*Message #1 Posted by **Giancarlo** on 25 Feb 2012, 4:03 p.m.*

Hello, I am waiting for my dm-15c pocket calculator because i'd like to bring it in my pocket for quick calculations. Do you know if the calculator comes with a pouch/case?

Did you find an 'altoidish' case for it to prevent the calc from being switched on in my pocket?

Thanks

Giancarlo

Re: Dm-15c case?

*Message #2 Posted by **Paul Dale** on 25 Feb 2012, 4:12 p.m.,*
in response to message #1 by Giancarlo

I'll get my daughter to custom make a nice leather slip case for mine when it arrives.

- Pauli

Re: Dm-15c case?

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 25 Feb 2012, 4:20 p.m.,*
in response to message #1 by Giancarlo

Yes, case is included.

Massimo

Re: Dm-15c case?

*Message #4 Posted by **Giancarlo** on 25 Feb 2012, 4:22 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Hello Massimo, Soft or hard case?

Thanks

Giancarlo

Re: Dm-15c case?

*Message #5 Posted by **Michael de Estrada** on 25 Feb 2012, 4:34 p.m.,*
in response to message #4 by Giancarlo

Re: Dm-15c case?

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 25 Feb 2012, 4:44 p.m.,*
in response to message #4 by Giancarlo

Soft, kinda like synthetic sponge.

Re: Dm-15c case?

*Message #7 Posted by **Giancarlo** on 26 Feb 2012, 7:40 a.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

Just got an email from Michael and my dm-15c has been delayed 2 weeks but: - the keyboard will be easier to press and - a better housing

Thanks

Giancarlo

Re: Dm-15c case?

*Message #8 Posted by **Michael de Estrada** on 26 Feb 2012, 8:39 a.m.,*
in response to message #7 by Giancarlo

I received the same email. So it seems that we are fortunate to have missed out on the first shipment of betas.

Re: Dm-15c case?

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 26 Feb 2012, 8:47 a.m.,*
in response to message #7 by Giancarlo

Already knew this from informal e-mails exchanged with Michael...
;-)

Massimo

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

33s, 35s or 15cLE--which to buy?

*Message #1 Posted by **Matt Agajanian** on 25 Feb 2012, 11:17 a.m.*

Hello all. I'd like to add at least one of these to my collection for not only my library but also as a function set and programming enhancement to complement my already existing predecessors.

Here's what I've got in comparison:

An original lineage 15C an HP-42S and an HP-32S-II

So, with these as a base, which model or models should be my next investment?

Thanks in advance for your help

Re: 33s, 35s or 15cLE--which to buy?

*Message #2 Posted by **Michael de Estrada** on 25 Feb 2012, 11:29 a.m.,*
in response to message #1 by Matt Agajanian

I have all the models you mentioned.

The 33s is basically an enhancement of the 32SII with the main advantage of a two-line display. If you like the 32SII, then you will like the 33s, which is also the least expensive programmable RPN calculator currently made by HP.

The 35s is a step backwards, and not worth owning IMO. I don't use mine.

The 15c LE is an overpriced disappointment, with faster speed offset by short battery life and annoying bugs. Mine also suffer from random keyboard repeating errors.

My 2¢

Re: 33s, 35s or 15cLE--which to buy?

*Message #3 Posted by **Nick R** on 26 Feb 2012, 1:06 a.m.,*
in response to message #2 by Michael de Estrada

Due to the poor quality and performance of the last two models I'd say that the purchase of an HP scientific calculator is no longer an investment.

Re: 33s, 35s or 15cLE--which to buy?

*Message #4 Posted by **Chris McCormack** on 25 Feb 2012, 2:06 p.m.,*
in response to message #1 by Matt Agajanian

Between these three calculators, the HP33s provides a full-featured scientific RPN calculator with a very nice price point. A little ebay prowling can net one for around $20.

I have a 15C that I still use, but I'm not sure I would go with one of the 'new' 15Cs. On the other hand, if I could get the 'same' calculator (who needs speed, give me the batteries that last FOREVER) for under $50 I would consider it a winner.

We bought a 35s for my daughter to use on her FE exam. I've used it a few times, and it seems OK - but I think the discussions here have highlighted some serious flaws in the unit. Unfortunately, although it sounds like the shortcomings are fixable, it doesn't seem like HP will be updating that model.

What I find tempting now is the HP20b reprogramming project. It sounds like a fantastic unit with the sole drawback of stickers and labels on the keyboard.

Re: 33s, 35s or 15cLE--which to buy?

*Message #5 Posted by **Dominic Richens** on 25 Feb 2012, 2:53 p.m.,*
in response to message #4 by Chris McCormack

> Quote:
>
> What I find tempting now is the HP20b reprogramming project. It sounds like a fantastic unit with the sole drawback of stickers and labels on the keyboard.

So far Eric's overlays are durable and cheap enough to have a couple of spares on hand.

Re: 33s, 35s or 15cLE--which to buy?

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Feb 2012, 2:36 p.m.,*
in response to message #1 by Matt Agajanian

Given what you already have, it' just a matter to choose the disappointment flavor you prefer. 33S, 35S, 15L... each has its own way to disappoint.

I think that the 33S is the less-buggy from this trio, but the display just evolved from "absolutely unreadable" to "barely readable", and the colors of the keyboard legends will heavily stress your eyes (leaving the angled legends alone).

The 35S has a lot of bugs, its display is also very uncomfortable to use. The keyboard legends are better than in the previous case.

The 15L comes from the internal HP development team, which makes a very positive difference from the other two; and recreates the classic vintage model. Ergonomics are good (not as good as the original, but close), and if eventually HP releases new firmware, the bugs may go away (the 15L may be updated, while the other two models cannot). Apart from the bugs, the numeric-only display may look as a limitation nowadays.

A 30B, converted to a WP-34S will be the best suggestion, IMHO.

Re: 33s, 35s or 15cLE--which to buy?

*Message #7 Posted by **Paul Dale** on 25 Feb 2012, 4:11 p.m.,*
in response to message #1 by Matt Agajanian

Definitely go for a WP 34S :-)

- Pauli

Re: 33s, 35s or 15cLE--which to buy?

*Message #8 Posted by **Benoit Maag** on 25 Feb 2012, 7:15 p.m.,*
in response to message #1 by Matt Agajanian

Matt,

I do not have a 33S, so I cannot commnt on it, though I do not like the looks of it much.

The WP-34S is a great integration, but I would not recommend it for sustained day to day use because you will need stickers on the keys and they will peel off quickly (especially if you use the very tight HP-30B case).

The 15C LE is a nice classic, but the PSE bug is annoying and the numeric only display is a limitation if you program because the program steps are shown in code (the line-column coordinates of the keys). It is also quite pricey.

Among the 3 models you are thinking about, I would recommend the 35S despite the bugs (which I did not notice really) and some oddities like the shifted STO key and the hard to read display annunciators. But the format is nice, a bit like the HP-65/67 classics, thinner and lighter (and LCD). Programming is easy (old style, not RPL) and the alphanumeric display makes it easy to read your programs. Memory is large (32k I think). Some common conversions are directly on the keyboard, which is handy if you use those a lot. At ~ 50$, it is a very good deal.

Decisions, decisions... or buy them all!

Re: 33s, 35s or 15cLE--which to buy?

*Message #9 Posted by **Matt Agajanian** on 25 Feb 2012, 7:27 p.m.,*
in response to message #8 by Benoit Maag

Pardon my misunderstanding but, what is a WP-34S?

Re: 33s, 35s or 15cLE--which to buy?

*Message #10 Posted by **Paul Dale** on 25 Feb 2012, 8:11 p.m.,*
in response to message #9 by Matt Agajanian

The WP 34S is a repurposing of HP's 20b and 30b business calculators for scientific purposes. It operates like the 32sii but with all the integer functions of the 16c (and even a few extra) and most of the functions of the 42s plus a whole swag of extra functions and capabilities.

Check out the development site. There is a comprehensive manual in the distribution which should give you an idea of the device's capabilities.

As for the actual repurposing, overlays and programming cables are available as are preprogrammed devices.

- Pauli

Re: 33s, 35s or 15cLE--which to buy?

*Message #11 Posted by **Matt Agajanian** on 25 Feb 2012, 9:59 p.m.,*
in response to message #9 by Matt Agajanian

Well, thanks for all your advice. Amazingly, on eBay (of course), I found a 33s. This seller offered returns (just in case I'd need it) and he had several BRAN' SPANKIN' NEW ones in stock so, I bought

two. YIPPEE!!

The topper was that earlier today, I was computing some integrals on my 32S II. They were taking unusually long calculation times on SCI 4 and FIX 4 settings. Yes, I know I could've stepped down to SCI 2 or FIX 2 but, it shouldn't be 15+ minutes on 4, should it? I figure this 33s should be much faster than my 32S II and that's why I picked the 33 over the 35. Is the 33 faster? If so, any benchmark figures?

As for the looks of it, considering it's an upgrade from my 32S II, the newfangled curved keys, although not my first pick for a facelift, are small adjustments to pay for getting a jump up from my old standby.

Edited: 25 Feb 2012, 10:07 p.m.

Re: 33s, 35s or 15cLE--which to buy?

*Message #12 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 10:28 p.m.,*
in response to message #11 by Matt Agajanian

If an integral takes 15 minutes on the HP-32SII you can expect at least 6 minutes and 30 seconds on the HP 33s (and perhaps no more than 90 seconds on the HP-15 LE). It was a good idea to buy two. I am on my third one (one broken key on each of the previous two -- they still register, but look unpleasantly loose).

Re: 33s, 35s or 15cLE--which to buy?

*Message #13 Posted by **Cristian Arezzini** on 26 Feb 2012, 4:08 a.m.,*
in response to message #8 by Benoit Maag

> Quote:
>
> The WP-34S is a great integration, but I would not recommend it for sustained day to day use because you will need stickers on the keys and they will peel off quickly (especially if you use the very tight HP-30B case).

Hm... I don't know about your experience, but I've been using a WP34s as my daily calc now for many months. If by "peel off" you mean that the sticker will lift from the key, I can say that I *never* had any problem of that kind.

If you mean that the ink will peel from the vinyl substrate, that happened with the old, non-coated overlays; the more recent ones have a thin lacquer coating that improves overall durability, improves contrast, and prevents peeling - I had no peeling at all with the coated one.

This is my personal experience, YMMV! :)

Cristian

Re: 33s, 35s or 15cLE--which to buy?

*Message #14 Posted by **Paul Dale** on 26 Feb 2012, 4:13 a.m.,*
in response to message #13 by Cristian Arezzini

My experience with the overlays is the same. No problems and no sign of ware or peeling so far.

- Pauli

Re: 33s, 35s or 15cLE--which to buy?

*Message #15 Posted by **Nigel J Dowrick** on 26 Feb 2012, 6:08 a.m.,*
in response to message #13 by Cristian Arezzini

I totally agree. Although the process of applying the key stickers and overlay is not particularly fast, it isn't nearly as difficult as I expected (and I'm clumsy). I've done it twice, without problems. The WP 34S has become my main calculator and I've had no problems with anything peeling away.

I really do recommend this machine to any of you who are still thinking about whether to bother. There has quite simply been nothing else like it - ever. I can imagine exploring it for years!

Nigel (UK)

Re: 33s, 35s or 15cLE--which to buy?

*Message #16 Posted by **kc** on 26 Feb 2012, 12:12 a.m.,*
in response to message #1 by Matt Agajanian

I have both the 33S and 35S. My recommendation is the 33S, provided that you can stand the highly controversial chevron keyboard. Apart from the bugs in 35S, I think that the 33S has a better key press feel than the 35S. After using for several months, I've accustomed to the 33S' keyboard layout and for me, that strange chevron keyboard isn't so strange after all. The 35S is constantly reported to have unregistered key press problem, and I also have experienced that, though I'm not sure whether it is software or hardware based.

Mind you, the earlier version of 33S has the problem of small dot/decimal "." which is difficult to read, but seemed to have rectified in later productions.
The 15cLE is an out-dated technology IMO. I hate programming the 15cLE as it is nearly impossible to debug.

Re: 33s, 35s or 15cLE--which to buy?

*Message #17 Posted by **Jan** on 26 Feb 2012, 6:12 a.m.,*
in response to message #16 by kc

I hate programming the 15cLE as it is nearly impossible to debug.

Unless you know the key-coordinates by heart, which an experienced 15C user does.

Re: 33s, 35s or 15cLE--which to buy?

*Message #18 Posted by **Jan** on 26 Feb 2012, 6:10 a.m.,*
in response to message #1 by Matt Agajanian

The 33S looks terrible and the 35S has serious shortcommings wrt to speed and ergonomics. The 15C LE however is a good choice for someone who already owns a 15C. It's small, it's ergonomical, it's fast, the key-touch is not the same as the original but it is far better than the 35S. Yes, it has a few bugs but I can live with them in daily use. Frankly I don't understand people nagging about this machine, especially in view of the numerous requests in the past to reissue it. Keyboard-issues were a potential problem but that seems to have been fixed (and if not you have a warranty). I would go for the 15C LE. It also looks superb.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35 Field Case?

*Message #1 Posted by **Michael Gasperi** on 25 Feb 2012, 10:30 a.m.*

I discovered my hard leather HP-35 Field Case the other day. I used it while I went to college because I thought it was too difficult to get the calculator out of the calf leather case it came with. Unfortunatly my loved HP-35 seems to have died, so I don't have much use for this case anymore. Looking around the web, I couldn't find much about the Field Case. I figured you guys would know more about how common this accessory was and what it is worth. Thanks for any help you can give me.

Re: HP-35 Field Case?

*Message #2 Posted by **aj04062** on 25 Feb 2012, 2:57 p.m.,*
in response to message #1 by Michael Gasperi

They come up for sale every once and a while on eBay.

I'd guess it is worth $30-50

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Free42 on the BlackBerry PlayBook

*Message #1 Posted by **Les Wright** on 25 Feb 2012, 2:05 a.m.*

This is a a question that affects few if any people here, so I will keep it brief.

I am wondering if anyone here has managed to successfully repackage Thomas Okken's Free42 Android app APK file as the requisite BAR file for use under the recently released BlackBerry Tablet OS 2.

The compatibility tester on RIM's developer pages indicates that the original APK has some barriers to successful repackaging, but I don't know if they are so unsurmountable that someone hasn't managed to tweak Thomas's source code to make the repackaging successful. It certainly is a programming job outside of my knowledge base.

An obscure question, but if anyone has had any success here I would love to share in it.

Les

Re: [OT] Free42 on the BlackBerry PlayBook

*Message #2 Posted by **Thomas Okken** on 25 Feb 2012, 10:56 a.m.,*
in response to message #1 by Les Wright

I tried feeding the apk from my web site to RIM's compatibility tester, and got these results:

```
+--------+--------------------+----------------------------------------+
| Impact | Type               | Reason                                 |
+--------+--------------------+----------------------------------------+
| 2      | uses-small-icon    | Icon size must be 86x86                |
| 5      | uses-access-native | com.thomasokken.free42.Free42Activity |
+--------+--------------------+----------------------------------------+
```

The first issue is trivial; I can always add another icon.
The second is a killer. The Free42 core is written in C++ and must be compiled as native code. (Compiling C++ to Java byte codes is, for all practical intents and purposes, impossible, and rewriting 38,000+ lines of C++ in Java is something I'm unwilling to do.)

I did sign up to be notified when native code support becomes available, so if and when that happens, I'll take another look.

- Thomas

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-67 not working

*Message #1 Posted by **Vassilis Prevelakis** on 24 Feb 2012, 7:51 p.m.*

Hi,

My hp67 is stuck, displaying a fixed pattern and not responding to key presses.

Power cycling sometimes changes the pattern, but otherwise its stuck.

Using a digital oscilloscope I confirmed that main voltages (Vbat, Vss, Vgg are all OK: proper voltages without ripple).

Both clocks are fine as well.

SYNC looks OK (but has some ripple) as well as RCD.

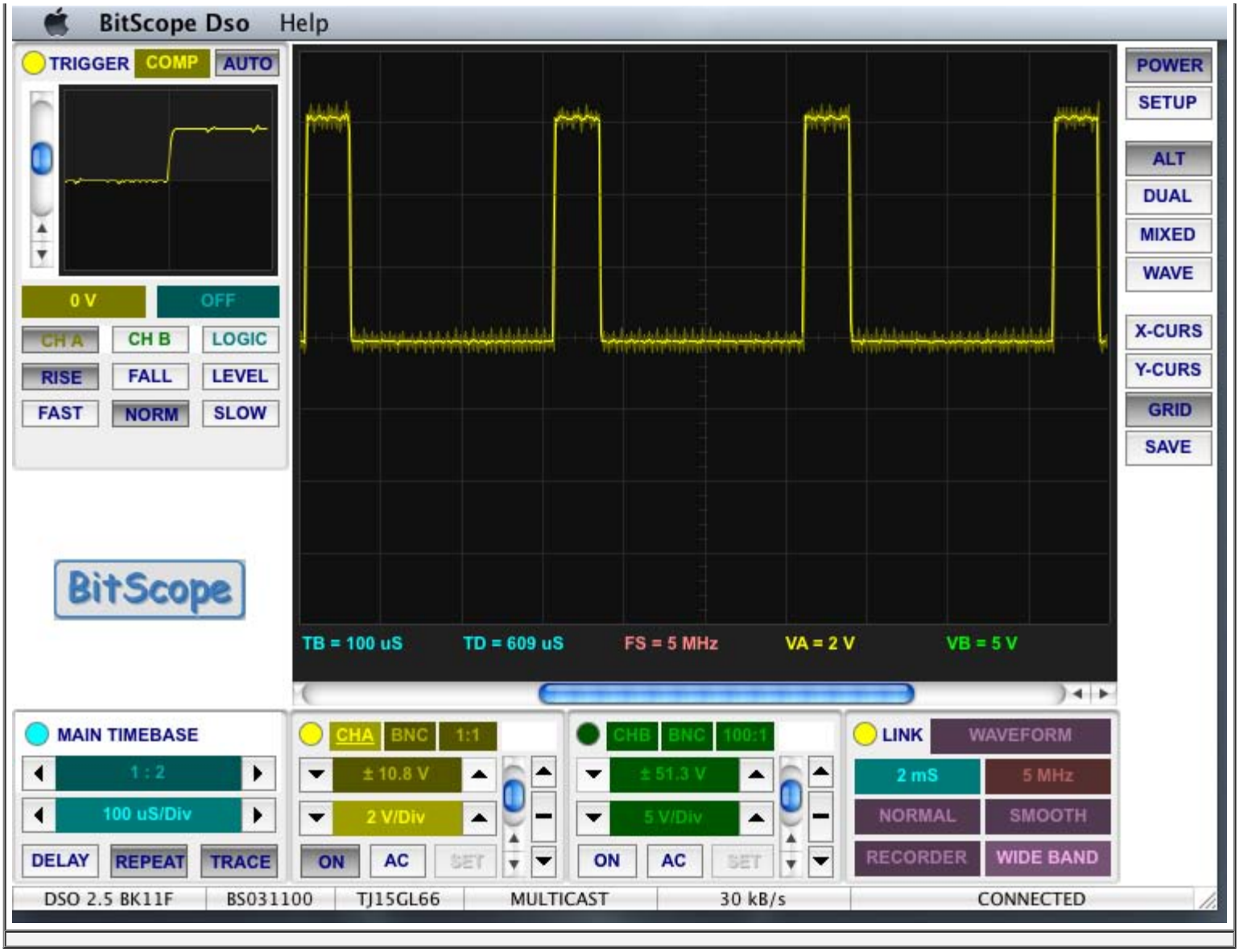
However, STR is stuck high.

Should I assume that ROM0 (which generates STR) is broken and needs to be replaced, or should I be looking elsewhere?

Thanks

**vp

Here is the SYNC signal:



[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Spares for vintage calculators HP-25, HP-27?

*Message #1 Posted by **Samo** on 24 Feb 2012, 7:14 a.m.*

Hello there

I would like to complete my two vintage calulators HP-25 and HP-27 and I would need some spare parts, if available: 1. AC adapter/charger preferably with EU plug 2. Battery pack (even just the case/housng without NiCd's) 3. Mounting screws 2pcs 4. Rubber pads (to cover the screws) 5. Spare "STO/N.D." key button for HP-27 6. Original printed manuals

Could anybody give me any help or hint about how/where to get this items?

Thank you very much. Samo

Re: Spares for vintage calculators HP-25, HP-27?

*Message #2 Posted by **Luiz C. Vieira (Brazil)** on 24 Feb 2012, 7:23 a.m.,*
in response to message #1 by Samo

HI, Samo.

Chances are you are going to succeed finding what you want and contacting the right people by posting your message here, at the classified ads. The 'for sale' and 'wanted' messages in this site are usually post there. Here, at this forum, people usually share their experiences and discuss repair and usage.

Success!

Luiz (Brazil)

Edited: 24 Feb 2012, 7:24 a.m.

Re: Spares for vintage calculators HP-25, HP-27?

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Feb 2012, 2:10 p.m.,*
in response to message #1 by Samo

A respectful suggestion: NEVER use them with an AC adapter. Don't even connect them to an AC adapter. Run them from rechargeable AA batteries instead; and recharge the batteries outside the calculator.

Sometime ago, I used to run my HP-25 from alkaline AAs, as the greater voltage caused no harm on my units; but nowadays I'm more cautious and would play it on the safe side using NiMH AA rechargeables. Again, don't recharge the batteries in the calculator (BTW, the internal charger was designed for NiCds from the 1970's, current batteries are not the same).

Using the AC adapter puts your calculator at the verge of unrecoverable risk. If the battery contacts fail, even for a split second, the greater voltage from the AC adapter will kill the chips inside, and there are no spares available. Batteries act as sort of regulator, absorbing the voltage excess, but that is the only protection.

Re: Spares for vintage calculators HP-25, HP-27?

*Message #4 Posted by **Michel Beaulieu** on 25 Feb 2012, 8:17 a.m.,*
in response to message #1 by Samo

Just read this archive about charging a HP-25 safely with a simple mod :

Captain Zener

Re: Spares for vintage calculators HP-25, HP-27?

*Message #5 Posted by **JoeGeller** on 25 Feb 2012, 7:02 p.m.,*
in response to message #4 by Michel Beaulieu

The hp25 zener mod is excellent. I was wondering why no one had done something like that yet.

Since the original hp charging scheme was for NiCads, has anyone made a mod. to properly charge a pair of NiMH batteries in the unit, so the battery pack does not have to be disassembled for re-charging? (Does anyone make an aftermarket HP25 battery? Or, is it always a matter of putting new batteries in the original plastic shell?)

Is it practical to reuse the original charging cord with a modern charger e.g. something like a DuraCell minicharger? (I have not looked at the minicharger, no idea what the circuit is, or if it charges the two batteries individually or in series?) Or, is it practical to build a small modern (NiMH?) charger circuit into the original charger case?

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

RPN Programming exercise (HP-42S)

*Message #1 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 7:45 p.m.*

Given two four-digit integer numbers on the stack, write an HP-42S program that returns their product in no more than 20 seconds on a real HP-42S.

Restriction: use no *, no BASE*, no /, no BASE/, no %, no MOD, no LN, no E^X, no LOG, no 10^X.

Currently I have two programs that meet the requirements:

```
00 { 77-Byte Prgm }
01>LBL "MLTA"
...
29 ROTXY
...
35 END
```

and, since ROTXY has been allowed,

```
00 { 50-Byte Prgm }
01>LBL "MLTB"
...
29 .END.
```

The latter has the advantage of being faster and shorter. Also, it accepts a wider range of non-fixed format operands.

Examples:

```
1234 ENTER 5678 XEQ MLTA   -->  7,006,652

9999 ENTER XEQ MLTA        --> 99,980,001

12 ENTER 3456789 XEQ MLTB  --> 41,481,468

1234 ENTER 5678 XEQ MLTB   -->  7,006,652
```

Gerson.

(7:57pm) Edited to add more restrictions:

No STO*, no STO/, no Y^X.

Edited again (the LAST time) for yet one more restriction

and no multiplication of any kind (except binary shifts).

Edited: 23 Feb 2012, 8:12 p.m. after one or more responses were posted

Re: RPN Programming exercise (HP-42S)

*Message #2 Posted by **Namir** on 23 Feb 2012, 7:50 p.m.,*
in response to message #1 by Gerson W. Barbosa

```
LBL MLTA
STO* Y
X<>Y
END
```

Edited: 23 Feb 2012, 7:51 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #3 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 7:54 p.m.,*
in response to message #2 by Namir

Ok, from now on no STO*, no STO/, no Y^X. I knew I had forgotten something :-)

Gerson.

Edited: 23 Feb 2012, 7:58 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #4 Posted by **Paul Dale** on 23 Feb 2012, 7:59 p.m.,*
in response to message #3 by Gerson W. Barbosa

Still missed some:

```
LBL MLT
RCL* Y
END
```

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #5 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 8:09 p.m.,*
in response to message #4 by Paul Dale

Yes, thanks! I think "no multiplication of any kind (except binary shifts)" might work. Just included.

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #6 Posted by **Paul Dale** on 23 Feb 2012, 7:59 p.m.,*
in response to message #1 by Gerson W. Barbosa

Got one. Execution time is maybe half a second. All the example give the correct answer.

```
00 { 10-Byte Prgm }
01 LBL "MLT"
02 ...
03 ...
04 ...
05 END
```

I'll leave the ...'s empty for the moment to not spoil everyone else's fun :-)

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #7 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 8:05 p.m.,*
in response to message #6 by Paul Dale

Ah, and no multiplication of any kind (except binary ones), like DOT, for instance :-)

Re: RPN Programming exercise (HP-42S)

*Message #8 Posted by **Paul Dale** on 23 Feb 2012, 8:14 p.m.,*
in response to message #7 by Gerson W. Barbosa

Not explicitly. Does Sigma+ count :-)

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #9 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 8:20 p.m.,*
in response to message #8 by Paul Dale

When I was asked to do this exercise, the programming language was COBOL and the only restrictions were "no MULTIPLY and no DIVIDE (no * and no /)". Times have changed :-)

Gerson.

Edited: 23 Feb 2012, 8:24 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #10 Posted by **Paul Dale** on 23 Feb 2012, 8:32 p.m.,*
in response to message #9 by Gerson W. Barbosa

Something like this (which I've not even bothered trying):

```
01 0
02 +
03 LBL 00
04 ST+ L
05 DSE Y
06 GTO 00
```

Glacially slow but short and a certain fail on the exercise.

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #11 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 8:41 p.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Glacially slow but short and a certain fail on the exercise.

This would have failed in the original COBOL exercise back in '84. Student's programs

would run for about half a second or so on the university DEC-10 System before being aborted. I remember we were given three sets of multiplicands, one of them (9999, 9999). Without a reasonably good algorithm, it would have been impossible.

Gerson.

Edited: 23 Feb 2012, 8:43 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #12 Posted by **Chuck** on 23 Feb 2012, 8:26 p.m.,*
in response to message #1 by Gerson W. Barbosa

This may prompt Gerson for another restriction, but here goes:

```
01 LBL "MLTA"
02 sigma+
03 RCL 15
04 CLsigma
05 RTN
```

Should add another clear sigma as step 02 to be sure the stat registers are empty.

;)

Edited: 23 Feb 2012, 8:27 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #13 Posted by **Paul Dale** on 23 Feb 2012, 8:29 p.m.,*
in response to message #12 by Chuck

This is my solution if you move the CLsigma to the front of the program.

i.e.

```
    01 LBL "MLT"
    02 CLsigma
    03 sigma+
    04 RCL 15
```

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #14 Posted by **Chuck** on 23 Feb 2012, 8:31 p.m.,*
in response to message #13 by Paul Dale

Ahhh, yes. That would be wiser!!!

Re: RPN Programming exercise (HP-42S)

*Message #15 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 8:31 p.m.,*
in response to message #12 by Chuck

I think "no multiplication of any kind (except binary shifts)" might handle this, though Pauli may not agree.

Well, to the next round :-)

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #16 Posted by **Luiz C. Vieira (Brazil)** on 23 Feb 2012, 9:13 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hi, Gerson;

maybe you should ask for logic operations and stack manipulation only. I remember the first time I red about CORDIC algorithm and the beauty of its solutions. I for one know that I need to go ahead and try some logic operations to solve math problems once in a while.

Just for the fun of it.

Cheers.

Luiz (Brazil)

(I red the proposition right now and I'm actually going to sleep. It has been a busy day and it is 00:11h right know. Wondering about how not to let the bugs byte... Show them this problem and ask them to solve, perhaps? Chances are they'll not have bugs in their solution. I'm too sleepy, not reasoning accordingly, sorry.)

Edited: 23 Feb 2012, 9:16 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #17 Posted by **Gerson W. Barbosa** on 23 Feb 2012, 9:33 p.m.,*
in response to message #16 by Luiz C. Vieira (Brazil)

Olá Luiz,

This is very simple program, it doesn't compare to the beauty of the CORDIC algorithm. I don't know whether my original solution then was the expected one or not. Only thing I know the program was compiled and run, giving the right answers. Well, the restrictions didn't say anything about memory usage. So, I did use a lot of memory. That's what I had, not time.

Cheers,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #18 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 8:01 a.m.,*
in response to message #16 by Luiz C. Vieira (Brazil)

Hello again, Luiz!

Yesterday, (or early today), after I replied to you, before going to sleep I watched this movie. Close to the end one of the characters (Mr. Jones) said:

"I left the store open, I sold my car, all because of 42. Who's giving a damn about anything else when you're wearing a 42?"

The number had appeared already a few time in the movie. I found it a coincidence as we were talking about the HP-42S here.

Cheers,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #19 Posted by **Luiz C. Vieira (Brazil)** on 24 Feb 2012, 8:21 a.m.,*
in response to message #18 by Gerson W. Barbosa

Hi, Gerson.

Well, not to worry about guns, Magnum's and stuff! After all, isn't '42' THE answer in search for a question, mostly related to the universe and everything? A good hitchhiker knows it better... ;)

Cheers! And thanks for the tip. I'll find a way to watch it.

Luiz (Brazil)

Edited: 24 Feb 2012, 11:12 a.m.

Re: RPN Programming exercise (HP-42S)

*Message #20 Posted by **Paul Dale** on 23 Feb 2012, 11:21 p.m.,*
in response to message #1 by Gerson W. Barbosa

Seems like we'd be allowed to use Prosthaphaeresis to solve this one using trig identities to change the multiply into an addition.

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #21 Posted by **Paul Dale** on 24 Feb 2012, 2:37 a.m.,*
in response to message #20 by Paul Dale

Since I'm steadfastly refusing to write the bit shift, test, add and double algorithm for multiplication, I sat down and wrote a 34S program that uses Prosthaphaeresis. Nice, short and should be fairly fast.

I think all these commands are available on the 42S -- the only one I've any doubt about is the final ROUNDI (round to integer) which can be done using FIX 00 and a round.

```
01: LBL A
02: 1/x
03: ACOS
04: x[<->] Y
05: 1/x
06: ACOS
07: ENTER[^]
08: RCL+ Z
09: R[v]
10: -
11: COS
12: R[^]
13: COS
14: +
15: 1/x
16: RCL+ X
17: ROUNDI
18: END
```

There are no multiplies or divides here. If exception is taken to the 1/x commands, they can be replaced by

any command that reduces an integer argument into a [-1, 1] range.

This code fails if either argument is zero but that would be easy to check for by putting a not equal to zero condition test before each of the 1/x commands.

- Pauli

Edited: 24 Feb 2012, 2:39 a.m.

Re: RPN Programming exercise (HP-42S)

*Message #22 Posted by **Paul Dale** on 24 Feb 2012, 2:47 a.m.,*
in response to message #21 by Paul Dale

Actually, thinking about this a little more...

This code works fine for smallish integers positive or negative but fails as they get larger. The reason is a loss of accuracy due to the cosine operations. Thus, it would seem better to use a variant based on SIN of the original numbers not COS.

Essentially, as N becomes large, COS(1/N) tends to 1 quadratically, whereas SIN(1/N) tends to 0 linearly. Also, we can represent a lot more small numbers around zero than around one. Thus SIN(1/N) is far better for large N.

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #23 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 7:39 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> Since I'm steadfastly refusing to write the bit shift, test, add and double algorithm for multiplication, I sat down and wrote a 34S program that uses Prosthaphaeresis.

It really doesn't pay to use this method just to multiply those two four-digit numbers together. I've cared about restricting logarithms, but I've forgotten about prosthaphaeresis. No problem, posing too many restrictions may prevent creative solutions to appear, so it's a good thing it has been left out. **0 BASE+** is an equivalent to **ROUNDI** that doesn't change the number format.

The traditional multiplication algorithm may require up to 1149 sums, if I am not wrong. That's better than up to 9999 but would take more than 100 seconds on the HP-42S.

```
          1  2  3  4
          5  6  7  8
          ----------
          9  8  7  2
       8  6  3  8
    7  4  0  4
6  1  7  0
--------------------
7  0  0  6  6  5  2
```

A variation can be imagined that will require up to 299 sums, which would take about 30 seconds on the HP-42S. I've used a method that will always perform 200 sums, no matter the operands, at the cost of using more memory. Unfortunately string manipulation is very limited on the HP-42, so the problem would requires less steps and no multiplication at all (no ROTXY) if the multiplicands had not a fix

format. For instance, if one of the multiplicands can be splitted in two parts, then a 21-step (and perhaps even shorter) program is possible:

```
00 { 47-Byte Prgm }
01>LBL "MLTC"
...
21 END
```

Example:

```
12 ENTER 34 ENTER 5678 XEQ MLTC  -->  7,006,652
```

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #24 Posted by **Marcus von Cube, Germany** on 24 Feb 2012, 10:35 a.m.,*
in response to message #23 by Gerson W. Barbosa

I would try to translate the number in X into a string and get the digits off the string. Then it's just a matter of multiplication by a value between 0 and 10. This can easily be implemented via an indirect subroutine call where each subroutine does some tricky adds (assume the stack is filled with the number):

```
LBL 09
+             * 2
ENTER
+             * 4
ENTER
+             * 8
+             * 9
RTN
```

To save steps, some routines (04, 08) may be factored out. The complete algorithm would involve a sequence of multiplication of the previous result by 10, multiplication of the multiplicand by the next digit of the multiplier, and an addition to the result. Repeat until the multiplier contains no more digits.

Re: RPN Programming exercise (HP-42S)

*Message #25 Posted by **C.Ret** on 24 Feb 2012, 11:31 a.m.,*
in response to message #24 by Marcus von Cube, Germany

Dear Marcus, I think you are on the right track!

I am currently looking for a solution close to your process. But since only binary operations are allowed, I would have suggested translating the two integers into binary.

The idea is to accumulate the larger of the two integers into an accumulator that will contain the product at the end of the algorithm. The smaller will be considered as (down)-counter.

At each step, I will only consider three cases:

```
Step1 - The (down-)counter is zero; end of multiplication.
Step2 – If the last bit of the (down-) counter is one, the larger integer is
add one time in the accumulator.
Step3 - The larger integer is shift one bit to the left whereas (down-)
counter is shift one bit to the right and process resumes at step 1.
```

I am not sure this will be easily implemented into a HP-42S? And whether a large operation will fit or not to the time limit. Note, that to speed up the process, the last byte of the (down)-counter may be considered instead of only a bit. In this case, depend of value of the ‘byte’ the

larger integer has to be added into the accumulator more than one time. To achieve this, left-shift of it may be useful to spare operation since it is equivalent to a multiplication by 2. Considering binary representation of integers may help here to find the needed trick!

For example, algorithm using a byte of 4-bits (a nibble) :

```
Step1 - The (down-)counter is zero; end of multiplication.
Step2 – Considering the last byte (a nibble) of the (down-) counter :
 - - Test 1 –if bit3 (2^3) is on then add three-times-left-shifted-larger
integer into the accumulator,
 - - Test 2 –if bit2 (2^2) is on then add two-times-left-shifted larger
integer into the accumulator,
 - - Test 3 –if bit1 (2^1) is on then add one-time-left-shifted larger integer
into the accumulator,
 - - Test 4 –if bit0 (2^0) is on then add larger integer into the accumulator,
Step3 - The larger integer is shift one byte to the left
 whereas the (down-) counter is shift one byte (a 4-bits/nibble) to the right
(with no carry)
and process resumes at step 1.
```

Still seeking how to implement all this efficiently…

Edited: 24 Feb 2012, 2:18 p.m. after one or more responses were posted

Re: RPN Programming exercise (HP-42S)

*Message #26 Posted by **Katie Wasserman** on 24 Feb 2012, 1:27 p.m.,*
in response to message #25 by C.Ret

I had to actually program and use this in the real world for my work many years ago.

IBM VM/370 had a scripting language called EXEC (here's the manual). It allowed for addition and subtraction but no other arithmetic operations. However it had functions for substring, concatenate and length and basic looping and conditionals. All variables were essentially strings but the addition and subtraction operators would treat the strings as numbers. I needed an integer multiplication function that worked the same way and had to come up with how to do that in EXEC and it had to run on some pretty large integers.

Edited: 24 Feb 2012, 1:28 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #27 Posted by **C.Ret** on 24 Feb 2012, 5:06 p.m.,*
in response to message #26 by Katie Wasserman

If EXEC is able of addition and handle numerics mostly as strings, an algorithm based on successive additions that sequentially consider unit, tens, tausend, etc. may have to be considerate.

As an illustration:

```
     5678 x 1234 :
=    5678 x    4 :  "5678" + "5678" + "5678" + "5678"
+   56780 x   3  :  + "56780" + "56780" + "56780"
+  567800 x  2   :  + "567800" + "567800"
+ 5678000 x 1    :  + "5678000"
_____________    :  _____________________
                    "7006652"
```

Re: RPN Programming exercise (HP-42S)

*Message #28 Posted by **Artur-Brazil** on 24 Feb 2012, 1:29 p.m.,*
in response to message #25 by C.Ret

Dear Sirs,

May I try something in my HP15C ???? It is very fast and no + - * /, or log and ln or exp...

```
f LBL D
STO 0
X >< Y (X SWAP Y)
0
X >< Y
f INTEGRATE 0
g RTN
f LBL 0
RCL 0
g RTN
```

Well, we don't have bit manipulation on 15C ... Best regards! Artur

Edited: 24 Feb 2012, 1:32 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #29 Posted by **Luiz C. Vieira (Brazil)** on 24 Feb 2012, 1:39 p.m.,*
in response to message #28 by Artur-Brazil

Hi, Artur; tudo certo? (is everything OK?)

> Quote:
>
> (...)and no + - * /, or log and ln or exp...

Hey! These are all embedded into INTEGRATE! I vote for 'cheating!' qB^D (hehehe...)

Cheers.

Luiz (Brazil)

Edited: 24 Feb 2012, 1:48 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #30 Posted by **Artur-Brazil** on 24 Feb 2012, 2:00 p.m.,*
in response to message #29 by Luiz C. Vieira (Brazil)

He! He! He! ....

No complaints: I "just" used what I have on hands ....

Great problem!

Artur

Re: RPN Programming exercise (HP-42S)

*Message #31 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 2:50 p.m.,*
in response to message #30 by Artur-Brazil

Olá Artur,

> Quote:
>
> Great problem!

But not properly written... Anyway, the good thing is this has allowed for imaginative solutions using commands and functions with implicit multiplications, like yours, Chuck's and Pauli's. (I am not criticizing Namir's instant solution - it perfectly complied to the rules at the time of posting :-)

So it appears the solution falls under three categories:

1) Mostly sums and occasional bits rotation, as is my first solution;

2) Mostly bits rotation, as my second solution and Werner's highly optmized program;

3) Mainly implicit multiplications (Sigma+, COS, Integrate--).

Perhaps we should include a fourth category, using free format operands, like (1 2 3 4 and 5678) or (12 34 and 5678) or even (12 34) for calculator which don't have string handling. This might make things easier for sums-only solutions.

I am glad you have like it,

Cheers,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #32 Posted by **Paul Dale** on 24 Feb 2012, 5:58 p.m.,*
in response to message #31 by Gerson W. Barbosa

I am fairly sure that the COS function on the 42S is implemented using CORDIC. No multiplications hidden in there, everything is shift and add. I'll agree that sigma+ definitely uses multiply and integrate almost certainly does.

The modulo 2 PI reduction for COS doesn't apply to my program either, all arguments to COS are small enough to not need this. The only operation I've any doubt about is the reciprocal which might or might not be implemented using division and there is quite possibly an alternate way to range reduce the integers.

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #33 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 6:17 p.m.,*
in response to message #32 by Paul Dale

> Quote:
>
> No multiplications hidden in there, everything is shift and add. I'll agree that sigma+ definitely uses multiply and integrate almost certainly does.

You're quite right! I am aware of this, but somehow that escaped me. Sorry!

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #34 Posted by **Valentin Albillo** on 24 Feb 2012, 5:32 p.m.,*
in response to message #28 by Artur-Brazil

> Quote:
>
> Dear Sirs,
>
> May I try something in my HP15C ???? It is very fast and no + - * /, or log and ln or exp...

I came up with the same "solution" for the HP-71B where the simple statement:

```
INTEGRAL(0,X,0,Y)
```

will return the product of X and Y at once. For instance:

```
> INTEGRAL(0,41,0,271)

      11111
```

By the way, your 10-step HP-15C program can be made one step shorter this way:

```
01 LBL A
02 STO 0
03 CLX
04 X<>Y
05 INTEG 0
06 RTN
07 LBL 0
08 RCL 0
09 RTN
```

Best regards from V.

Re: RPN Programming exercise (HP-42S)

*Message #35 Posted by **Artur-Brazil** on 24 Feb 2012, 7:50 p.m.,*
in response to message #34 by Valentin Albillo

I have to admit: here is the place of gods ... the OlymHPus!!! I, a simple mortal, can't beat you!

Thanks for appreciating my "cheating" solution -I was just ashemed to put one involving logs:

a * b = c
log(a*b) = log(c)
logC = log B + log B
so:
c = 10^(logA + logB)

f LBL A
g LOG
X >< Y
g LOG
+
G 10^X
G RTN

For positive numbers, but there will be a small error for big numbers. Artur

Edited: 24 Feb 2012, 7:51 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #36 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 8:11 p.m.,*
in response to message #35 by Artur-Brazil

Artur,

There are two HP-42S functions that remained out of the restriction list: LN1+X and E^X-1. I though someone would explore this failure, but apparently they've been neglected :-)

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #37 Posted by **Paul Dale** on 24 Feb 2012, 9:09 p.m.,*
in response to message #36 by Gerson W. Barbosa

And they are multiply free :-)

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #38 Posted by **Marcus von Cube, Germany** on 24 Feb 2012, 4:40 p.m.,*
in response to message #24 by Marcus von Cube, Germany

I've implemented my suggestion:

```
{ 102-Byte Prgm }
01*LBL "MUL"
02 CLA
03 ARCL ST Y          Y in Alpha
04 STO 01             X in 01
05 0
06 STO 00             Start with zero
07*LBL 99
08 48
```

```
09 ATOX
10 X=0?
11   GTO 98          End of the string, done!
12 X<Y?
13   GTO 99          Take care of ',' delimiters
14 X<>Y
15 -
16 STO 02            Index of subroutine, digit value
17 RCL 00            Sum
18 ENTER
19 ENTER
20 ENTER
21 XEQ 09
22 STO+ 00           10 * sum
23 RCL 01            X
24 ENTER
25 ENTER
26 ENTER
27 XEQ IND 02        Multiply by digit
28 STO+ 00           Add to sum
29 GTO 99            Next digit
.
30*LBL 98
31 RCL 00            Show result and quit
32 RTN
.
33*LBL 00            * 0
34 0                 fall through
.
35*LBL 01            * 1
36 RTN
.
37*LBL 03            * 3
38 +                 fall through
.
39*LBL 02            * 2
40 +
41 RTN
.
42*LBL 08            * 8 = * 2 * 4
43 +
44 ENTER
45 ENTER             fall through
.
46*LBL 04            * 4 = * 2 * 2
47 +
48 ENTER
49 GTO 02            Final * 2
.
50*LBL 05            * 5 = * 4 + * 1
51 XEQ 04
52 GTO 02            Final add
.
53*LBL 06            * 6 = * 3 * 2
54 XEQ 03
55 ENTER
56 GTO 02            Final * 2
.
57*LBL 07            * 7 = * 8 - * 1
58 XEQ 08
59 R^                ST Y is no longer correct after XEQ 08
60 -
61 RTN
.
62*LBL 09            * 9 = * 8 + * 1
63 XEQ 08
64 R^
65 GTO 02            Final add
.
66 .END.
```

There is room for improvement, e. g. the first multiplication by 10 can be avoided with a flag. But the routine is pretty fast anyway (2 to 3 seconds for a 4 digit multiplier).

From my knowledge of COBOL this could come pretty close to what a solution would have been because numbers are (or can be) stored as strings in COBOL.

Re: RPN Programming exercise (HP-42S)

*Message #39 Posted by **C.Ret** on 24 Feb 2012, 6:12 p.m.,*
in response to message #38 by Marcus von Cube, Germany

Your specific way to treat factor from 0 (obvious) to 9 give me a fool idea of using matrix and indirect addressing to compute the product.

Here a version into RPL, since RPN indexing of 2-D matrix makes code difficult to read.

```
                                                @ integers X and Y enter
as 4 digits string (ex. "1234" "5678")


«


[[  1  2  3  4  5  6  7  8  9  ]                @ 9x9 matrix containing
magic numbers
[   2  4  6  8 10 12 14 16 18  ]
[   3  6  9 12 15 18 21 24 27  ]
[   4  8 12 16 20 24 28 32 36  ]
[   5 10 15 20 25 30 35 40 45  ]
[   6 12 18 24 30 36 42 48 54  ]
[   7 14 21 28 35 42 49 56 63  ]
[   8 16 24 32 40 48 56 64 72  ]
[   9 18 27 36 45 54 63 72 81  ]]


[[ 1000000 100000 10000 1000 ]                  @ 4x4 matrix containing
product factors of ten
 [  100000  10000  1000  100 ]
 [   10000   1000   100   10 ]
 [    1000    100    10    1 ]]


   -> X Y PRD FCT                               @ "xxxx" "yyyy" 9x9 4x4
store in respective local variable


   « 0                                          @ Initiate accumulator
to zero
     1 4 FOR i
        X i i SUB STR->                         @ get i-th digit of X
(enter as "xxxx")  -> a
         -> a
           « IF a THEN                          @ if i-th digit of X is
non zero
                1 4 FOR j
                   Y j j SUB STR->              @ get j-th digit of Y
(enter as "yyyy")  -> b
                    -> b
                    « IF b THEN                 @ if j-th digit of Y is
non zero
                         'PRD' { a b } GET ->STR  @ get product of a by b
and convert into string
                         'FCT' { i j } GET ->STR  @ get factor for i x j
and convert into string
                         2 7 SUB +              @ keep only trailling
zero string and concat it at end of product string
                         STR-> +                @ accumulate into
accumulator (numeric)
                      END
                    »
                NEXT                            @ process with next
digit of Y
             END
           »
     NEXT                                       @ continue with next
digit of X
   »
»                                               @ at end accumulator
contains product X.Y
```

Note that

```
'PRD' { a b } GET ->STR
'FCT' { i j } GET ->STR 2 7 SUB + STR-> +
```

may have been convert into

```
'PRD' { a b } GET
'FCT' { i j } GET * +
```

But, multiplications are illegal today !!

Edited: 24 Feb 2012, 6:34 p.m. after one or more responses were posted

Re: RPN Programming exercise (HP-42S)

*Message #40 Posted by **Marcus von Cube, Germany** on 24 Feb 2012, 6:21 p.m.,*
in response to message #39 by C.Ret

Your solution is limited to 4 digit numbers (and fails on the 12*3456789 example). What makes it less efficient is that you do a digit by digit multiplication while my implementation multiplies longer numbers by values from 0 to 10. It's even possible to multiply an integer with an arbitrary number because the multiplicand is treated as is, only the multiplier is split into digits.

Re: RPN Programming exercise (HP-42S)

*Message #41 Posted by **C.Ret** on 25 Feb 2012, 11:57 a.m.,*
in response to message #40 by Marcus von Cube, Germany

You are right.

The above version is limited to strictly 4 caracters integer string for the sake of clarity. Even low integer have to be enter as 4-car string : i.e. 12 x 345 have to be type as "0012"x"0345".

And your alose are right, the algorithm is far less efficient since it have to cross every digits of the two integer. This makes exactly 16 cycles.

```
« SWAP ->STR SWAP ->STR                                  @ integers X and Y
both convert ti string


[[  1  2  3  4  5  6  7  8  9  ]                         @ 9x9 matrix
containing magic numbers
[   2  4  6  8 10 12 14 16 18  ]
[   3  6  9 12 15 18 21 24 27  ]
[   4  8 12 16 20 24 28 32 36  ]
[   5 10 15 20 25 30 35 40 45  ]
[   6 12 18 24 30 36 42 48 54  ]
[   7 14 21 28 35 42 49 56 63  ]
[   8 16 24 32 40 48 56 64 72  ]
[   9 18 27 36 45 54 63 72 81  ]]


   -> X Y PRD                                            @ "xxxxxxx"
"yyyyyy" 9x9 store in respective local variable


   « 0                                                    @ Initiate
accumulator to zero
     1 X LENGTH FOR i
        X i i SUB STR->                                  @ get i-th digit
of X (enter as "xxxx")  -> a
        -> a
           « IF a THEN                                   @ if i-th digit
of X is non zero
                1 Y LENGHT FOR j
                   Y j j SUB STR->                       @ get j-th digit
```

```
of Y (enter as "yyyy")  -> b
                    -> b
                    « IF b THEN                        @ if j-th digit
of Y is non zero
                       'PRD' { a b } GET ->STR         @ get product of
a by b and convert into string
                       "000000000000"
                       1
                       X Y + LENGTH i j + -            @ extract string
of zero depending of rank
                       SUB +                           @ concat it at
end of product string


                       STR-> +                         @ accumulate into
accumulator (numeric)
                    END
                  »
                NEXT                                   @ process with
next digit of Y
              END
            »
     NEXT                                              @ continue with
next digit of X
   »
»
```

This last version make possible integer of any length. But, as you point it out, is a lot of thinks except efficient and sparse.

Since yesterday, I found another way to make the multiplication without multiplication :

The two integers have to be input as singleton vector (with only one element).

For exemple 3456x8976 may have been type on HP28S as :

```
« [ 3456 ] [ 8976 ] DOT »
```

Re: RPN Programming exercise (HP-42S)

*Message #42 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 12:09 p.m.,*
in response to message #41 by C.Ret

> Quote:
>
> Since yesterday, I found another way to make the multiplication without multiplication :
>
> The two integers have to be input as singleton vector (with only one element).
>
> For exemple 3456x8976 may have been type on HP28S as :
>
> ```
> « [ 3456 ] [ 8976 ] DOT »
> ```

Quoting myself above, 23 Feb 2012, 8:05 p.m.:

"Ah, and no multiplication of any kind (except binary ones), like DOT, for instance :-)"

Interesting solutions you all have been providing. I hope you're having fun :-)

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #43 Posted by **C.Ret** on 25 Feb 2012, 12:31 p.m.,*
in response to message #42 by Gerson W. Barbosa

Yes ! A lot of fun.

Making multiplication codes without multiplication, is much more fun than riding a bicycle without it.

The end of my last message was lost during the cut&paste process.

"This code un-doubtfully fit in third Gerson's category of hidden multiplication process"

Re: RPN Programming exercise (HP-42S)

*Message #44 Posted by **Paul Dale** on 25 Feb 2012, 4:08 p.m.,*
in response to message #42 by Gerson W. Barbosa

Definitely a fun little exercise.

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #45 Posted by **Marcus von Cube, Germany** on 25 Feb 2012, 7:08 p.m.,*
in response to message #44 by Paul Dale

I agree. It was fun and made me take out my 42S again.

Re: RPN Programming exercise (HP-42S)

*Message #46 Posted by **Paul Dale** on 25 Feb 2012, 7:50 p.m.,*
in response to message #45 by Marcus von Cube, Germany

My 42S needed replacement batteries :-(

- Pauli

Re: RPN Programming exercise (HP-42S)

*Message #47 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 9:12 p.m.,*
in response to message #45 by Marcus von Cube, Germany

Years ago I read about the Russian peasant multiplication algorithm (that's the one I have used in my second program). I found it quite suitable for the Z80 microprocessor, which lacks multiplication as you know. It was quite fun writing a program based on the method then. This exercise made me look for it in my backup files. Why would anyone want to multiply binary numbers this long anyway? :-)

```
; LMULT: Multiplies two n-byte
;        numbers together (n up to 128)
```

```
;    HL: 1st operand (LSB)
;    DE: 2nd operand (LSB)
;    IX: 2n-byte result (LSB)
;     B: n
;
;
        ORG D000H
LMULT:  XOR A           ;A <- 0
        LD C,B          ;save B onto C
        SLA B           ;B <- B*2
        PUSH IX         ;save IX on the stack
LMULT0: LD (IX+0),A     ;initialize result
        INC IX          ;
        DJNZ LMULT0     ;
        POP IX          ;retrieve IX from the stack
        ...
        ...
        ...
;Test data
        ORG C100H       ;1st op address (LSB)
        DW 0201H        ;04030201H
        DW 0403H
        ORG C110H       ;2nd op address (LSB)
        DW 0605H        ;08070605H
        DW 0807H
;
;Test routine
;
        ORG D100H
        LD HL,C100H     ;1st operand
        LD DE,C110H     ;2nd operand
        LD IX,C130H     ;result
        LD B,4          ;4-byte operands
        CALL LMULT      ;multiply
        RET
;
;Upon running the 8-byte result
;will be 0020343D3C221005H (LSB in C130H)
```

Edited: 25 Feb 2012, 9:18 p.m.

Re: RPN Programming exercise (HP-42S)

*Message #48 Posted by **Marcus von Cube, Germany** on 25 Feb 2012, 11:01 a.m.,*
in response to message #38 by Marcus von Cube, Germany

Here is a minor optimization:

```
{ 102-Byte Prgm }
01*LBL "MUL"
02 X>Y?
03   X<>Y            Force smaller value to be multiplier
04 FS 00             This is to avoid the first multiplication by 10
05 CLA
06 ARCL ST Y         Y in Alpha
07 STO 01            X in 01
08 0
09 STO 00            Start with zero
10*LBL 99
11 48                ASCII code for '0'
12 ATOX
13 X=0?
14   GTO 98          End of the string, done!
15 X<Y?
16   GTO 99          Take care of ',' delimiters
17 X<>Y
18 -
19 STO 02            Index of subroutine, digit value
20 FS?C 00
21   GTO 97          Avoid multiplication in first step
22 RCL 00            Sum
23 ENTER
24 ENTER
25 ENTER
26 XEQ 09
27 STO+ 00           10 * sum
28*LBL 97
29 RCL 01            X
30 ENTER
31 ENTER
32 ENTER
33 XEQ IND 02        Multiply by digit
34 STO+ 00           Add to sum
35 GTO 99            Next digit
```

```
.
36*LBL 98
37 RCL 00            Show result and quit
38 RTN
.
39*LBL 00            * 0
40 0                 fall through
.
41*LBL 01            * 1
42 RTN
.
43*LBL 03            * 3
44 +                 fall through
.
45*LBL 02            * 2
46 +
47 RTN
.
48*LBL 08            * 8 = * 2 * 4
49 +
50 ENTER
51 ENTER             fall through
.
52*LBL 04            * 4 = * 2 * 2
53 +
54 ENTER
55 GTO 02            Final * 2
.
56*LBL 05            * 5 = * 4 + * 1
57 XEQ 04
58 GTO 02            Final add
.
59*LBL 06            * 6 = * 3 * 2
60 XEQ 03
61 ENTER
62 GTO 02            Final * 2
.
63*LBL 07            * 7 = * 8 - * 1
64 XEQ 08
65 R^                ST Y is no longer correct after XEQ 08
66 -
67 RTN
.
68*LBL 09            * 9 = * 8 + * 1
69 XEQ 08
70 R^
71 GTO 02            Final add
.
72 .END.
```

If the smaller number (the multiplier) isn't integer, it's treated as if it did not contain a decimal point. So 1.1 ENTER 2 XEQ"MUL" will yield 22.

Execution time is always in the vicinity of 2 seconds.

Re: RPN Programming exercise (HP-42S)

*Message #49 Posted by **Werner** on 24 Feb 2012, 1:48 p.m.,*
in response to message #1 by Gerson W. Barbosa

32 bytes

```
*LBL "M"
 STO+ ST X
 15
 ENTER
 CLX
*LBL 02
 STO+ ST X
 RDN
 BIT?
 X=0?
 GTO 00
 RUP
 RCL+ ST T
```

```
 RDN
*LBL 00
 RUP
 DSE ST Y
 GTO 02
 END
```

Adjust the constant 15 for larger numbers.

Cheers, Werner

Re: RPN Programming exercise (HP-42S)

*Message #50 Posted by **Gerson W. Barbosa** on 24 Feb 2012, 3:05 p.m.,*
in response to message #49 by Werner

It seems highly optimized to me! Congratulations!

Mine uses about 50% more bytes to implement a similar algorithm.

Cheers,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #51 Posted by **Olivier De Smet** on 24 Feb 2012, 5:25 p.m.,*
in response to message #49 by Werner

Less optimized, but ok for even a 41 (less than 20 sec)

```
01 lbl 'MLTA
02 x<=y?
03 x<>y
04 sto 00
05 clx
06 sto 01
07 x<>y
08*lbl 00
09 rcl 00
10 x<>y
11 1
12 x=y?
13 gto 09
14 st+ x
15*lbl 01
16 enter^
17 +
18 r^
19 st+ t
20 rdn
21 x<=y?
22 gto 01
23 clx
24 lastx
25*lbl 09
26 -
27 x<>y
28 st+ 01
29 x<>y
30 x#0?
31 gto 00
32 rcl 01
33 end
```

And works for any number (but not for 0 * x)

Olivier

It build two series : for a * b (with a < b, to be faster)

```
i     s
1     b              special case with gto 09 to finish properly
2     b
4     2*b
8     4*b
16
```

```
when i > a, sum s and substract i/2 (it's the last x) from a and
loop again at lbl 00 until zero
```

```
Simple classic algorithm in binary :)
```

Edited: 24 Feb 2012, 5:50 p.m. after one or more responses were posted

Re: RPN Programming exercise (HP-42S)

*Message #52 Posted by **Marcus von Cube, Germany** on 24 Feb 2012, 5:34 p.m.,*
in response to message #51 by Olivier De Smet

Oliver, can you explain the algorithm a little, please?

Re: RPN Programming exercise (HP-42S)

*Message #53 Posted by **Olivier De Smet** on 25 Feb 2012, 2:43 a.m.,*
in response to message #52 by Marcus von Cube, Germany

Same algorithm for 42s :

```
01 lbl 'MLTA
02 x>y?
03 x<>y
04 sto 00
05 clx
06 sto 01
07 x<>y
08 1
09*lbl 00
10 rcl 00
11 x=0?
12 gto 02
13 rcl st y
14 and
15 x=0?
16 gto 01
17 sto- 00
18 clx
19 rcl st z
20 sto+ 01
21*lbl 01
22 rdn
23 sto+ st x
24 x<>y
25 sto+ st x
26 x<>y
27 gto 00
28*lbl 02
29 rcl 01
30 .end.
```

but avoid multi loops

Re: RPN Programming exercise (HP-42S)

*Message #54 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 2:36 p.m.,*
in response to message #51 by Olivier De Smet

> Quote:
>
> Less optimized, but ok for even a 41

Nice!

> Quote:
>
> And works for any number (but not for 0 * x)

Just insert **x=0? ret** between steps 07 and 08.

Regards,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #55 Posted by **Paul Dale** on 24 Feb 2012, 6:34 p.m.,*
in response to message #1 by Gerson W. Barbosa

Anyone willing to give one of the hardware multiplication algorithms a go?

- Pauli

EGG solution ;-)

*Message #56 Posted by **Alexander Oestert** on 25 Feb 2012, 5:53 a.m.,*
in response to message #1 by Gerson W. Barbosa

Clearly, the execise...

> Quote:
>
> Given two four-digit integer numbers on the stack

...does not say which two numbers should be on the stack. So I propose the following program that produces the result from the example given by Gerson, well within all restrictions:

```
01 LBL "EGG"
02 7006652
03 END
```

1234 ENTER 5678 XEQ EGG -> 7006652

Tadaaaa! ;-)

...and it's fast!

Re: EGG solution ;-)

*Message #57 Posted by **Paul Dale** on 25 Feb 2012, 6:09 a.m.,*

in response to message #56 by Alexander Oestert

One out of four.

- Pauli

Re: EGG solution ;-)

*Message #58 Posted by **Alexander Oestert** on 25 Feb 2012, 6:50 a.m.,*
in response to message #57 by Paul Dale

> Quote:
>
> One out of four.
>
> - Pauli

One out of two with four digit integer numbers, as per the initial exercise text. I could accomodate for the 9999 example with a simple test which is also amongst the non forbidden functions. So still Tadaaa! ;-)

Re: EGG solution ;-)

*Message #59 Posted by **Paul Dale** on 25 Feb 2012, 7:01 a.m.,*
in response to message #58 by Alexander Oestert

Okay, one out of three since one of the tests is a duplicate....

- Pauli

Re: EGG solution ;-)

*Message #60 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 10:42 a.m.,*
in response to message #56 by Alexander Oestert

> Quote:
>
> Clearly, the execise...
>
> > Quote:
> >
> > Given two four-digit integer numbers on the stack
>
> ...does not say which two numbers should be on the stack.

You're not wrong. I should have written "given *any* two --". After I finished high school I attended Law School for two boring weeks. I should have stayed a little longer, at least until I became smarter :-)

Gerson.

Re: EGG solution ;-)

*Message #61 Posted by **Alexander Oestert** on 25 Feb 2012, 11:26 a.m.,*

in response to message #60 by Gerson W. Barbosa

Well, I finished law school - today I know what it was good for! Hehehe! ;-)

Re: EGG solution ;-)

*Message #62 Posted by **Gerson W. Barbosa** on 25 Feb 2012, 11:52 a.m.,*
in response to message #61 by Alexander Oestert

Aha! :-)

Re: RPN Programming exercise (HP-42S)

*Message #63 Posted by **Thomas Klemm** on 26 Feb 2012, 3:01 a.m.,*
in response to message #1 by Gerson W. Barbosa

As you haven't excluded *SQRT* and *x^2* I used them in a poor man's aproach to implement logarithm (A) and exponentiation (B):

```
00 { 55-Byte Prgm }
01 LBL "MULT"
02 XEQ A
03 X<>Y
04 XEQ A
05 +
06 XEQ B
07 IP
08 1
09 +
10 RTN
11 LBL A
12 RCL 00
13 X<>Y
14 LBL 00
15 SQRT
16 DSE ST Y
17 GTO 00
18 X<>Y
19 RDN
20 1
21 -
22 RTN
23 LBL B
24 1
25 +
26 RCL 00
27 X<>Y
28 LBL 01
29 x^2
30 DSE ST Y
31 GTO 01
32 X<>Y
33 RDN
34 END
```

Initialize register 00 with 40 to meet the specifications of your 3 examples. However I guess it will only work with *Free42* due to the lack of precision of the original HP-42S.

> Quote:
>
> and no multiplication of any kind (except binary shifts).

The implementation of *x^2* probably uses multiplication so I might get disqualified. Still a nice challenge and lots of cool solutions.

Thanks

Thomas

Re: RPN Programming exercise (HP-42S)

*Message #64 Posted by **Gerson W. Barbosa** on 26 Feb 2012, 10:36 a.m.,*
in response to message #63 by Thomas Klemm

Hello Thomas,

> Quote:
>
> The implementation of x^2 probably uses multiplication so I might get disqualified

That's another one I forgot :-) I forgot LN1+X and E^X-1 also. These surely use CORDIC.

> Quote:
>
> Still a nice challenge and lots of cool solutions.

I am glad you have liked it. Yes, I like them all, even the ones that try to circumvent the rules :-) (I don't mean yours)

The idea of the original exercise is how one would implement multiplication in a machine that lacks it. Since I used a bit shift instruction in my first solution, this allows for the more efficient binary shift and add multiplication, as in my unoptimized second solution. Back to the original problem, it would be easier to implement it on the HP-42S is one of the four-digits operands could be entered in chunks of 1 or 2 digits, for instance 1, 2, 3 and 4, or 12 and 34. In my first solution, I've use many steps just to split one 4-digit number into two 2-digit numbers. That's not so easy to do given the restrictions. **Perhaps a better variation would be allowing all digits of one of the operands to be entered individually or in chunks of two digits, like 12 ENTER 34 ENTER 5678, for instance.** Then, a 21-step additions-only solution is possible:

```
00 { 47-Byte Prgm }
01>LBL "MLTC"
...
21 END
Example:
12 ENTER 34 ENTER 5678 XEQ MLTC  -->  7,006,652
```

Contrary to what I said earier in this thread, we can do it performing no more than 100 sums, depending of our approach. Both approaches below would take up many steps, I think. In my 21-step solution 200 additions are always made, no matter the operands. The program is short but 100 numbered registers are used, that's the drawback. I will post my solutions tomorrow night, in case someone still wants to try one of these or other methods.

```
                1  2  3  4
                5  6  7  8
                ----------
                9  8  7  2             (1234 * 9)       up to 8 sums  |                  (1234 * 8)
up to 8 sums
             8  6  3  8           (1234 * 7 * 10)      up to 18 sums  |             (1234 * 7 * 10)
up to 18 sums
          7  4  0  4             (1234 * 6 * 100)     up to 108 sums  |       (1234 * 6 * 10 * 10)
up to 28 sums
       6  1  7  0               (1234 * 5 * 1000)    up to 1008 sums  |  (1234 * 5 * 10 * 10 * 10)
up to 38 sums
       --------------------                           ---------------  |
-------------
       7  0  0  6  6  5  2                           up to 1145 sums  |
up to 95 sums


                                (1234 + 1234 + 1234 + 1234 + 1234 + 1234 + 1234 + 1234) =     9 872
 (1234 + 1234 + 1234 + 1234 + 1234 + 1234 + 1234) = 8638; (8638 + 8638 + ... + 8638) =    86 380
        (1234 + 1234 + 1234 + 1234 + 1234 + 1234) = 7404; (7404 + 7404 + ... + 7404) =   740 400
```

```
               (1234 + 1234 + 1234 + 1234 + 1234) = 6170; (6170 + 6170 + ... + 6170) = 6 170 000
                                                                                        ---------
                                                                                        7 006 652


(1234 + 1234 + 1234 + 1234 + 1234 + 1234 + 1234 + 1234) =     9 872
                                                                    (1234 + 1234 + 1234 + 1234 +
1234 + 1234 + 1234) = 8638; (8638 + 8638 + ... + 8638) =    86 380
                                                  (1234 + 1234 + 1234 + 1234 + 1234) = 7404; (7404 + 7404
+ ... + 7404) = 74040; (74040 + 74040 + ... + 74040) =   740 400
 (1234 + 1234 + 1234 + 1234 + 1234) = 6170; (6170 + 6170 + ... + 6170) = 61700; (61700 + 61700 + ...
+ 61700) = 617000; (617000 + 617000 + ... + 617000) = 6 170 000

---------

7 006 652
```

Cheers,

Gerson.

Edited: 26 Feb 2012, 11:41 a.m.

Re: RPN Programming exercise (HP-42S)

*Message #65 Posted by **Marcus von Cube, Germany** on 26 Feb 2012, 12:25 p.m.,*
in response to message #64 by Gerson W. Barbosa

My approach saves additions by grouping them:

To multiply by 4, instead of 4 additions, only 2 are necessary. Another addition and you get the multiplication by 8. You'll need no more then 4 additions for any multiplier between 0 and 9.

Re: RPN Programming exercise (HP-42S)

*Message #66 Posted by **Thomas Klemm** on 26 Feb 2012, 1:00 p.m.,*
in response to message #65 by Marcus von Cube, Germany

> Quote:
>
> To multiply by 4, instead of 4 additions, only 2 are necessary.

Only 3 additions are needed to calculate $4a = a + a + a + a$.

Cheers
Thomas

Re: RPN Programming exercise (HP-42S)

*Message #67 Posted by **Gerson W. Barbosa** on 26 Feb 2012, 1:20 p.m.,*
in response to message #66 by Thomas Klemm

Thomas,

He's calculating $4a = (a + a) + (a + a)$, reusing the result of the first addition.

Cheers,

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #68 Posted by **Thomas Klemm** on 26 Feb 2012, 1:33 p.m.,*
in response to message #67 by Gerson W. Barbosa

That's understood. I just wanted to point out that you need only 3 and not 4 additions to calculate *a* + *a* + *a* + *a*. Never mind: it's not that important.

Thomas

Re: RPN Programming exercise (HP-42S)

*Message #69 Posted by **Gerson W. Barbosa** on 26 Feb 2012, 3:20 p.m.,*
in response to message #68 by Thomas Klemm

Sorry! I hadn't seen your point.

Gerson.

Re: RPN Programming exercise (HP-42S)

*Message #70 Posted by **Gerson W. Barbosa** on 26 Feb 2012, 1:06 p.m.,*
in response to message #65 by Marcus von Cube, Germany

I see. A multiply by ten, required for both approaches above, could be done this way:

```
01 LBL "TEN*"
02 STO+ ST X
03 ENTER
04 STO+ ST X
05 STO+ ST X
06 +
07 END
```

That is, 4 additions instead of 9. So the maximum number of additions required by the second approach would be 65, even if multiplications up to 9 were made by simple addition loops (for lesser code size, perhaps).

Re: RPN Programming exercise (HP-42S)

*Message #71 Posted by **Marcus von Cube, Germany** on 26 Feb 2012, 1:50 p.m.,*
in response to message #70 by Gerson W. Barbosa

I didn't think of using STO + ST X instead of ENTER +. It will save filling the stack with X but otherwise the program will not change much.

Re: RPN Programming exercise (HP-42S)

*Message #72 Posted by **Valentin Albillo** on 26 Feb 2012, 11:48 a.m.,*
in response to message #63 by Thomas Klemm

> Quote:
>
> As you haven't excluded *SQRT* and *x^2* I used them in a poor man's aproach to implement logarithm (A) and exponentiation (B):
>
> *[...] (34-step, 55-byte program) [...]*

If you're going to use x^2 then there's no need for such a convolute approach, this much simpler code will

do:

```
01  LBL A
02  STO ST Z
03  X<>Y
04  STO- ST Z
05  +
06  X^2
07  X<>Y
08  X^2
09  -
10  4
11  /
12  RTN
```

which doesn't use square roots either and further the final division by 4 can be replaced by a mere shift if desired.

Example:

```
41,  ENTER,  271,  XEQ A  ->  11111.0000
```

Best regards from V.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Meet at Embedded World Nuremberg?

*Message #1 Posted by **Meindert Kuipers** on 23 Feb 2012, 2:49 p.m.*

Those who are interested in an informal get together around the Embedded World Exhibition next week in Nuremberg, please contact me directly through the Forum's e-mail. I have kept the evening of Thursday March 1 free for this for the time being.

Meindert

Re: Meet at Embedded World Nuremberg?

*Message #2 Posted by **Marcus von Cube, Germany** on 23 Feb 2012, 6:42 p.m.,*
in response to message #1 by Meindert Kuipers

I've already booked the hotel. :-)

Re: Meet at Embedded World Nuremberg?

*Message #3 Posted by **Harald** on 25 Feb 2012, 6:14 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Doesn't look like I am going to the embeded world this year. Good idea though. Anybody going to PCIM or SPS/Drives?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 95LX to PC connection

*Message #1 Posted by **John West (UK)** on 23 Feb 2012, 2:16 a.m.*

Hello,

I'm seeking Windows 7 compatable software to transfer files to/from a HP 95LX handheld PC.

The hardware connection works ok, using the original serial cable via a FTDI USB to a virtual COM3 port.

The Kermit 95 file transfer software I've tried so far is currently limited to command line instructions, as used by the HP 48 calculator.

I cannot get the HP 95LX's Kermit to talk to Kermit 95, should I call for Miss Piggy? :)

Thanks in anticipation, John

Re: HP 95LX to PC connection

*Message #2 Posted by **BruceH** on 23 Feb 2012, 4:01 p.m.,*
in response to message #1 by John West (UK)

According to this link Kermit95 should work.

I would set the baud rate on the 95LX to 9600, put it into server mode and try connecting from Windows to get a directory listing.

If that fails, please post some more details. For example, how do you know that the hardware is okay?

Re: HP 95LX to PC connection

*Message #3 Posted by **John West (UK)** on 23 Feb 2012, 10:02 p.m.,*
in response to message #2 by BruceH

Hello, thank you for the reply.

Yes, according to Columbia Uni. the software has been downloaded and installed successfully many times, presumably by satisfied customers. Unfortunately, as of summer 2011, they have ceased to support Kermit 95; though they still have it available for download. I am currently in contact with a commercial mirror site at onthehub.com, trying to resolve their try-before-buy download which causes Norton 360 to warn of Trojan Horses! I've even tried re-installation in Safe Mode, but the results are very unstable.

My dilemma is even if Kermit95 works fine on Windows7, can it be made to work easily with HP 95LX Kermit?

The hardware setup was tested with 'Bray++ Terminal v1.9b' software which captures data sent to/from the HP 95LX. As you say, the connection works fine at 9600 baud and single text file transfer is possible, though fiddly.

Regarding 'server mode' and 'directory listing', I have no instructions on how to establish a software connection; and MS-DOS is a very distant memory!

Thanks again for your help.

Regards, John

Re: HP 95LX to PC connection

*Message #4 Posted by **John West (UK)** on 24 Feb 2012, 8:53 a.m.,*
in response to message #3 by John West (UK)

Hello, just a quick status update and say thank you again.

Having tried various combinations of re-boot and disable anti-virus between running Control Panel/Programs and Features/Run programs made for previous versions of Windows, finally have a working solution.

A 20 year upgrade for the HP 95LX!

Cheers!, John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Clamshell Battery Contact Repair

*Message #1 Posted by **aj04062** on 22 Feb 2012, 8:10 p.m.*

I have worked this part out in my sheetmetal shop:

I propose making it from .024 Stainless Steel. I think I can offer it @ about $20 as this would cover the setup and hand bending costs (the radius has to be done by hand)

This cost could come down if I knew my batch would sell out or I should setup and make more. I have 3 interested folks, Kerem, Nigel and David. Are there anymore?

Edited: 23 Feb 2012, 8:27 p.m. after one or more responses were posted

Re: Clamshell Battery Contact Repair

*Message #2 Posted by **David Griffith** on 22 Feb 2012, 9:15 p.m.,*
in response to message #1 by aj04062

I might be interested in maybe five of them. One for me and four to resell on ebay.

Re: Clamshell Battery Contact Repair

*Message #3 Posted by **BobVA** on 22 Feb 2012, 10:27 p.m.,*
in response to message #1 by aj04062

Picture isn't showing up for me....

Re: Clamshell Battery Contact Repair

*Message #4 Posted by **Marcus von Cube, Germany** on 23 Feb 2012, 2:02 a.m.,*
in response to message #3 by BobVA

Neither for me. I get an error from Google Mail when I try to open it directly.

Re: Clamshell Battery Contact Repair

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Feb 2012, 2:32 a.m.,*
in response to message #1 by aj04062

Here is the picture I have from Adam [Link]

Re: Clamshell Battery Contact Repair

*Message #6 Posted by **Paul Dale** on 23 Feb 2012, 2:36 a.m.,*
in response to message #1 by aj04062

I'd be interested in one too I think.

I love my 28S but the battery door surround broke a very long time ago.

- Pauli

Re: Clamshell Battery Contact Repair

*Message #7 Posted by **Bart (UK)** on 23 Feb 2012, 3:20 a.m.,*
in response to message #1 by aj04062

I'm interested as well, particularly if the price came down I'd be interested in 2.

Re: Clamshell Battery Contact Repair

*Message #8 Posted by **Ingo Paschke** on 23 Feb 2012, 5:50 a.m.,*
in response to message #1 by aj04062

I'd be interested in two.

Re: Clamshell Battery Contact Repair

*Message #9 Posted by **aj04062** on 23 Feb 2012, 10:55 a.m.,*
in response to message #8 by Ingo Paschke

Thanks Kerem.

Okay, I'll get these going. I'll update on the price. I hope to do for less than $20.

Re: Clamshell Battery Contact Repair

*Message #10 Posted by **BruceH** on 23 Feb 2012, 4:37 p.m.,*
in response to message #9 by aj04062

How does it work? Does the whole thing fit into the battery compartment or does it go around the outside of the calculator?

Re: Clamshell Battery Contact Repair

*Message #11 Posted by **BobVA** on 23 Feb 2012, 7:15 p.m.,*
in response to message #1 by aj04062

Thanks for the picture update. Any possibility it could have a black finish?

Cheers, Bob

Re: Clamshell Battery Contact Repair

*Message #12 Posted by **aj04062** on 23 Feb 2012, 8:23 p.m.,*
in response to message #11 by BobVA

I'll check out with my plating guy if he can apply a black oxide finish to these. That would look pretty nice.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE Availability Update

*Message #1 Posted by **Bob Cortopassi** on 22 Feb 2012, 6:18 p.m.*

Just received this from HP SMB:

> Quote:
>
> Thank you for your inquiry regarding the HP 15c Scientific Calculator US. We apologize for the delay and are working to fulfill your order as soon as possible. Orders will ship no later than Early April.
>
> If you do not wish to wait; you may cancel your order and receive a prompt refund by calling our toll-free customer service number, 1-800-888-0292 (select Option 3). If we do not hear from you before we ship your merchandise, we will assume that you have agreed to this shipment delay.
>
> We apologize for any inconvenience this may have caused. Thank you again for choosing Hewlett-Packard for your technology needs, and we look forward to serving you again in the future.
>
> Sincerely,
>
> Hewlett-Packard Customer Service/Order Management Team

This was with regard to an order I placed on 1/30 after the price on the Home & Home Office site had been raised, but the SMB site still had the $99 price. Fortunately, I already have one - but wanted to get a second unit before the price hike.

Edited: 22 Feb 2012, 6:21 p.m.

Re: 15C LE Availability Update

*Message #2 Posted by **hpnut** on 23 Feb 2012, 6:31 a.m.,*
in response to message #1 by Bob Cortopassi

so the Limited Edition shall now be known as Unlimited Edition :-)

Re: 15C LE Availability Update

*Message #3 Posted by **Luiz C. Vieira (Brazil)** on 23 Feb 2012, 9:30 a.m.,*
in response to message #2 by hpnut

EVEN BETTER!

Re: 15C LE Availability Update

*Message #4 Posted by **Namir** on 23 Feb 2012, 12:06 p.m.,*
in response to message #2 by hpnut

I am almost certain that the HP-15C LE will be produced in a limited quantity.

Re: 15C LE Availability Update

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Feb 2012, 2:23 p.m.,*
in response to message #2 by hpnut

As I said before, and as long as the power supply / battery life and PAUSE issues are addressed, I think it should be called 15L: it doesn't deserves the "C" and it surely deserves the "Limited" qualification.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

When is exact mode not so exact?

*Message #1 Posted by **hugh steers** on 22 Feb 2012, 3:44 p.m.*

so, sqrt(99) = 9.94987437106619954734479 8...

however, on the Hp50g in approx mode,

99 SQRT = 9.94987437107

so far, so good. But in "exact" mode...

99 SQRT ->NUM = 9.94987437108

how embarrassing :-)

[discovery credit to BruceH]

Edited: 22 Feb 2012, 3:46 p.m.

Re: When is exact mode not so exact?

*Message #2 Posted by **Marcus von Cube, Germany** on 22 Feb 2012, 3:53 p.m.,*
in response to message #1 by hugh steers

The result is 3 * sqrt(11), computed to 12 digits. Exact mode seems to simplify the expression before evaluating it.

Re: When is exact mode not so exact?

*Message #3 Posted by **Ronald Williams** on 22 Feb 2012, 6:21 p.m.,*
in response to message #2 by Marcus von Cube, Germany

FYI - If one is looking for a numeric result in exact mode then make sure flag -03 is set or using the mode key and menus check numeric and uncheck approx from the cas menu. Both results will agree.

Re: When is exact mode not so exact?

*Message #4 Posted by **Bart (UK)** on 23 Feb 2012, 6:14 a.m.,*
in response to message #3 by Ronald Williams

Is this always going to produce the more accurate result?

Re: When is exact mode not so exact?

*Message #5 Posted by **Ronald Williams** on 23 Feb 2012, 2:14 p.m.,*
in response to message #4 by Bart (UK)

The exact result is 3 * sqrt(11). However, numeric (floating point) results are usually approximations. For this case sqrt(99) = sqrt(9*11) = sqrt(9)*sqrt(11) = 3*sqrt(11). 11's sqrt does not have a an simple exact floating point representation. This brings up the topic of accuracy or in this case I would say consistency of results. If accuracy is desired then I suggest reading this article

http://h20331.www2.hp.com/hpsub/downloads/HP_Calculator_eNL_01_January_2012.pdf

pages 21-25 and pages 50-51. Here is another

http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/16ea6ddfb49e34eb/a53d3ab60541838d?lnk=gst&q=accuracy#a53d3ab60541838d

Does the 12th digit really matter or is it more important to know the capability and limitations of the tool you are using to solve the problem at hand?

Hopefully, the links are not broken, I usually don't post.

Re: When is exact mode not so exact?

*Message #6 Posted by **Bart (UK)** on 24 Feb 2012, 5:30 a.m.,*
in response to message #5 by Ronald Williams

> Quote:
>
> Does the 12th digit really matter or is it more important to know the capability and limitations of the tool you are using to solve the problem at hand?

This is where I was heading

> Quote:
>
> 11's sqrt does not have a an simple exact floating point representation.

Neither does 99's sqrt. There is a natural loss of information in rounding. The difference here is that when converted to a numerical answer immediately, there is one rounding. However when simplified symbolically first, the loss of information from the rounding gets multiplied by 3.

Looking at another example (very simplistic, but it shows the point):
RPN: 1 ENTER pi SQUARED / SQRT (& -> NUM as required).
Hugh's first setting (symbolic approx.): 0.318309886183
Hugh's second setting (symbolic exact): 0.318309886184
Your setting (numeric exact): 0.318309886183
Something with more significant digits (Wolfram Alpha, windows calculator, Hugh's ExactCalc) etc.: 0.318309886183790671...
So in this case the symbolic simplification gives a better answer.

The example of the original post is very good in that it shows how the loss of accuracy accumulates. Anyone doing a series of calculations (e.g. a formula or program) and thinks they are getting an answer "correct to the last digit of the calculator's display capability" is fooling themselves. It is therefore always important to assess the influence of the elements of a formula on rounding & accuracy. Computers have made too easy to just put in numbers and take a result. Too often I see people using a result to many digits when they have not even considered the order of magnitude (and I can see the old slide-rulists jumping in here "we had to work that out, so you always had a sense of what order of magnitude to expect" :-)) .

Another interesting read is Prof. Kahan's A Logarithm Too Clever by Half, and many other articles he wrote (available on his webpage http://www.cs.berkeley.edu/~wkahan/).

So, my point in this is: Hugh's implication that the 50g is "not so accurate in accurate mode" is **A BIG RED HERRING**, which I am sure he knows as he is well versed in computer mathematics (Hugh, did you post this just to see where it would go? :-)).

Re: When is exact mode not so exact?

*Message #7 Posted by **Ronald Williams** on 24 Feb 2012, 10:42 a.m.,*
in response to message #6 by Bart (UK)

Not that I want to beat this issue to death but does the fact you used pi in your simple example stack the deck so to speak.

[/quote] "Looking at another example (very simplistic, but it shows the point): RPN: 1 ENTER pi SQUARED / SQRT (& -> NUM as required). Hugh's first setting (symbolic approx.): 0.318309886183 Hugh's second setting (symbolic exact): 0.318309886184 Your setting (numeric exact): 0.318309886183 Something with more significant digits (Wolfram Alpha, windows calculator, Hugh's ExactCalc) etc.: 0.318309886183790671.... So in this case the symbolic simplification gives a better answer." [/quote]

Would the same result be obtained if you selected a simple integer or 'e' or one of the internal constants from the Constants Library?

PS - Wasn't life much simpler when we only had 3 significant digits to worry about? My slide rule(s) all work today as they did when purchased. The only noticeable change is that it's harder for me to read them now :-)

Re: When is exact mode not so exact?

*Message #8 Posted by **Bart (UK)** on 24 Feb 2012, 5:37 a.m.,*
in response to message #5 by Ronald Williams

> Quote:
>
> I usually don't post.

You should do so more often, it helps to get the grey matter working (well, mine anyway :-)).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL and the Time Module

*Message #1 Posted by **Gerry Schultz** on 22 Feb 2012, 3:40 p.m.*

I just bought a 2nd 41C Time Module from eBay (I can write that now, right?) since my first one is tied up with my 41CL. I know the Time Module uses unique hardware which makes it difficult to emulate in the 41CL.

Here's a random thought. Could Monte, if he wanted to, rework the 41CL MB such that I could take apart a Time Module and plug the circuit board directly into the CL MB? I know that's a lot of work for Monte to re-engineer the circuit board, but is this practical?

Gerry

Edited: 22 Feb 2012, 3:40 p.m.

Re: 41CL and the Time Module

*Message #2 Posted by **Monte Dalrymple** on 22 Feb 2012, 5:30 p.m.,*
in response to message #1 by Gerry Schultz

You can already do this. The Time Module PCB doesn't "mount" on the 41CL board, but it will fit in the channel between the side of the case and the battery compartment. You can then solder wires from the Time Module board to the 41C bus, either on the main PCB or to the appropriate spots on the 41CL board. I seem to recall a forum message that had a photo of exactly this modification a little while ago.

I am currently working on a small PCB that can use this technique to add the timer functionality to a CL. There is room in this space for a PCB about 14mm x 40mm, which _should_ be enough room for the required circuitry. While it could _theoretically_ fit on a reworked CL board, I don't want to even attempt that. It would require changing the FPGA, CPLD and memories to BGA packages to make enough room. The design rules for the board would go from routine to state-of-the-art ($$$), with probably 6 layers ($) and blind and buried vias ($$).

I have probably invested close to a man-year on this project and don't expect to sell more than about 150 total 41CL boards. I'm only working an the Time Module clone because I have time available right now.

Monte

Re: 41CL and the Time Module

*Message #3 Posted by **Diego Diaz** on 22 Feb 2012, 6:57 p.m.,*
in response to message #2 by Monte Dalrymple

Hi,

It's not just about installing the TIMER inside the CL but applying a small mod by including one capacitor and one diode to extend a bit the time allowed to replace the batteries without loosing the contents of the TIMER registers.

It does however show how the TIMER module is placed into the CL case.

Here you'll find the referred post.

Hope this helps.

Diego.

PS. Just in case you don't have a use for the removed TIMER module shell and connector, I'll gladly accept them for a new life housing one of my project's modules... ;-) Contact me please.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Flashing a 30B from Linux or Mac?

*Message #1 Posted by **Tom Grydeland** on 22 Feb 2012, 8:45 a.m.*

Has anyone done this?

I tried Atmel's sam-ba for Linux, with a prolific PL2303 USB serial port. Having connected the calculator and prepared it for flashing, I started sam-ba. Sam-ba recognized the serial port, I selected the at91sam7l128-ek board from the drop-down list and pressed the "Connect" button. Sam-ba prints the following lines:

```
-I- Waiting ...
-I- TCL platform : Linux
-I- SAM-BA CDC 2.11  on  : linux
-I- Connection : /dev/ttyUSB0 (target(comType) = 0)
-I- Board : at91sam7l128-ek
-I- Traces Level : 4
-I- target(handle) : file7
```

(the last of these is printed after pressing "Connect".) Nothing else happens.

Has anyone else tried this? Made it work?

Re: Flashing a 30B from Linux or Mac?

*Message #2 Posted by **Glenn Becker** on 22 Feb 2012, 2:10 p.m.,*
in response to message #1 by Tom Grydeland

For what it is worth I would also be quite interested in hearing whether anyone has had success with this ...

Thanks,

Glenn

Re: Flashing a 30B from Linux or Mac?

*Message #3 Posted by **David Griffith** on 22 Feb 2012, 4:01 p.m.,*
in response to message #1 by Tom Grydeland

I understand that the CDC thing has something to do with the fact it won't work.

Re: Flashing a 30B from Linux or Mac?

*Message #4 Posted by **Tom Grydeland** on 23 Feb 2012, 2:55 a.m.,*
in response to message #3 by David Griffith

If that was a tip for me, I hope you can make it a bit more explicit.

Re: Flashing a 30B from Linux or Mac?

*Message #5 Posted by **Tom Grydeland** on 23 Feb 2012, 8:25 a.m.,*
in response to message #3 by David Griffith

I got hold of an Eee running W7. Using that, with MySamba and the same USB<->serial cable, the flashing worked on the first try.

Now how much work would it be to develop a tool like MySamba which works under Linux?

Re: Flashing a 30B from Linux or Mac?

*Message #6 Posted by **pascal_meheut** on 23 Feb 2012, 8:46 a.m.,*
in response to message #5 by Tom Grydeland

Once again, this is planned and should be available in a few months.

Re: Flashing a 30B from Linux or Mac?

*Message #7 Posted by **Jose Gonzalez Divasson** on 22 Feb 2012, 4:10 p.m.,*
in response to message #1 by Tom Grydeland

For what is worth, I am flashing all the wp34s with a Mac running Samba in XP in a Parallels session. At the same time, I connect to the store from Safari - seamlessly.

I have been using Windows since I left my father's HP85 in 1983 - and once made the jump to Mac, I am not looking back...

No experience with Linux, though.

Re: Flashing a 30B from Linux or Mac?

*Message #8 Posted by **Marcus von Cube, Germany** on 22 Feb 2012, 4:59 p.m.,*
in response to message #7 by Jose Gonzalez Divasson

José, why SAM-BA and not MySamba? The latter is much faster, it takes about 20 seconds for the complete flash.

Re: Flashing a 30B from Linux or Mac?

*Message #9 Posted by **Jose Gonzalez Divasson** on 23 Feb 2012, 5:11 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Marcus,

Sorry, I meant "mySamba". It is not only much, much faster but as well less prone to stop in mid-download (in case there is any other I/O going on, it is very likely that the download stops with the normal Sam-Ba)

Re: Flashing a 30B from Linux or Mac?

*Message #10 Posted by **Egan Ford** on 23 Feb 2012, 11:24 a.m.,*
in response to message #1 by Tom Grydeland

"wine MySamBa.exe" works from Mac and Linux just fine. I never got the Atmel code to work.

More info:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=202996

My reflash notes:

```
To flash existing 34S:


1.  Connect cable.
2.  Turn ON 34S.
3.  Press and hold ON, then D S S (D 6 6), then release ON. Calc will turn off.
4.  Press and release ON.
5.  Flash with "wine MySamba.exe".
6.  Press and release reset button on the cable.
7.  Disconnect cable.
8.  Press ON.  Check VERS and BATT.
```

Re: Flashing a 30B from Linux or Mac?

*Message #11 Posted by **Eric Smith** on 23 Feb 2012, 2:18 p.m.,*
in response to message #1 by Tom Grydeland

The Prolific USB-serial chips seem to be problematic. The FTDI ones seem to work much better.

Re: Flashing a 30B from Linux or Mac?

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 23 Feb 2012, 4:11 p.m.,*
in response to message #11 by Eric Smith

> Quote:
>
> The Prolific USB-serial chips seem to be problematic. The FTDI ones seem to work much better.

I see this statement repeated but I use a Prolific adapter and all works fine. I shall add that my serial/USB adapter is from 4/5 years ago.

Greetings,
Massimo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC always/frequently turns on in case

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 22 Feb 2012, 8:25 a.m.*

8 out of 10 times when I pull this little beast out of the case it is either saying "PR ERROR" or a scrolling name display.

I am very sure that the power button is not being depressed (and that would not answer the memory initialization message in any case).

Has anyone else experienced this? Could it be some kind of ESD upset?

It is annoying to have it always lose its program and state.

Other than that and a couple of *stubborn* keys, I like the machine.

Re: DM-15CC always/frequently turns on in case

*Message #2 Posted by **aj04062** on 22 Feb 2012, 8:55 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

I saw this a couple of times with mine. I'd like to know what the root cause is as well.

Re: DM-15CC always/frequently turns on in case

*Message #3 Posted by **Alexander Oestert** on 22 Feb 2012, 12:09 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

I saw the scrolling name display only during the (successfull) flashing process, never during normal use.

Re: DM-15CC always/frequently turns on in case

*Message #4 Posted by **Ethan Conner** on 22 Feb 2012, 2:46 p.m.,*
in response to message #3 by Alexander Oestert

Has anyone started a dm-15cc bug list?

Re: DM-15CC always/frequently turns on in case

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 22 Feb 2012, 3:06 p.m.,*
in response to message #4 by Ethan Conner

Why? Are there any bugs?

Re: DM-15CC always/frequently turns on in case

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 22 Feb 2012, 3:06 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Neither of my two *little beasts* shows such attitude.

Massimo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Navigation PAC question

*Message #1 Posted by **Diego Diaz** on 22 Feb 2012, 5:22 a.m.*

Hi all,

To the sailors out there, I've been asked if there is any need to update the HP-41 Navigation PAC programs with new Nautical Almanac data of Declination and Sideral Hour Angle.

I've been told that these data slightly change along the years.

Since a have little-to-no idea about what these terms may mean, I'd really appreciate any knowledgeable advice.

Thanks for your attention and best wishes.

Diego.

Re: HP-41 Navigation PAC question

*Message #2 Posted by **Dave Shaffer (Arizona)** on 22 Feb 2012, 12:11 p.m.,*
in response to message #1 by Diego Diaz

Not really a sailor, but an astronomer!

Due to the precession of the Earth, the apparent position of stars in the sky with respect to the Earth-based lat/lon system changes slowly and systematically as the years go by. The annual change is around 1 arcminute per year - comparable to the accuracy that a really good sextant user might hope to achieve.

So, if you are worried about running aground at the nautical mile level, you do need current star positions.

I have no idea - does the Nav Pac apply precession? If it does, it should more-or-less stay up to date for quite a while.

There is also proper motion of stars (they move around in space), but this is at the arcsecond per year level (generally, much less) so you shouldn't have to worry about this for a century or more!

Re: HP-41 Navigation PAC question

*Message #3 Posted by **Alexander Oestert** on 22 Feb 2012, 1:21 p.m.,*
in response to message #1 by Diego Diaz

I'm not a sailor but I have used a nautical almanach and a sextant on a layman's basis. As far as I know the Nav Pac has an eternal almanach programmed in its ROM. For instance, the manual says on page 39 "What is the declination of Polaris on 1 Jan 1980? What will it be on 1 Jan 2080?"

See TOS for details on the Nav Pac manual.

Edited: 23 Feb 2012, 3:41 a.m. after one or more responses were posted

Re: HP-41 Navigation PAC question

*Message #4 Posted by **Diego Diaz** on 22 Feb 2012, 5:10 p.m.,*
in response to message #3 by Alexander Oestert

Hi, Dave, Alexander,

Thanks for your comments, I've sent them to my friend and hope they clarify his doubts.

Best wishes from Hispaniola island.

Diego.

Re: HP-41 Navigation PAC question

*Message #5 Posted by **Timo** on 24 Feb 2012, 5:40 a.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

I can only second what Dave and Alexander posted. However, I once compared the star positions computed by the eternal almanach of the NAV-Pack to those in a current release of the "Nautical Year-Book", the german version of the alamanach for celestial navigation. I noticed that they deferred by a couple of arc-minutes.

Regarding navigation accuracy that may not be too significant, at least not on open sea. Since star positions vary only slowly, a position fix computed using multiple star sightings should not be off by too much. It may be different once you get close to shore though.

However, I'm just an "armchair" celestial navigator doing some backdoor sun-sightings for fun. Never managed to do star sightings with my do-it-yourself sextant since the city backlight is just too brigth and it does not have a telescope. So maybe it is a good idea to verify this by someone who is more experienced with using celestial navigation out on the open sea...

Best regards, Timo

Re: HP-41 Navigation PAC question

*Message #6 Posted by **Alexander Oestert** on 24 Feb 2012, 6:04 a.m.,*
in response to message #5 by Timo

Hi Timo,

you're using a DIY cardboard sextant like I did? I purchased that thing from AstroMedia some years ago and it was fun!

Re: HP-41 Navigation PAC question

*Message #7 Posted by **Timo** on 24 Feb 2012, 11:48 a.m.,*
in response to message #6 by Alexander Oestert

Hi Alexander,

yep, that's the one I've meant. ;)

Was really fun to build and it is good enough to produce a usable position using the Noon-Sighting method. Unfortunately, it is quite unlikely that I will ever come to test my skills out on the ocean...

But then again - maybe my stomach will be quite thankful for that!

Cheers, Timo

Re: HP-41 Navigation PAC question

*Message #8 Posted by **Dave Shaffer (Arizona)** on 24 Feb 2012, 12:09 p.m.,*
in response to message #5 by Timo

> Quote:
>
> However, I once compared the star positions computed by the eternal almanach of the NAV-Pack to those in a current release of the "Nautical Year-Book", the german version of the alamanach for celestial navigation. I noticed that they deferred by a couple of arc-minutes.

That seems rather big. Assuming the initial star positions (probably for either 1950 or 2000) are correct (can you compare those? Bright star positions are all known to MUCH, MUCH better than an arcsecond), almost any precession algorithm should be good to well under an arcminute with a few simple equations. (To do better than about 20 arcseconds for an instantaneous star position, you also have to account for the (non-circular) orbit of the Earth and how that affects the aberration of starlight.)

Does anybody have a description of the precession formulas?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Complete 12C collection

*Message #1 Posted by **Keith Midson** on 21 Feb 2012, 6:34 p.m.*

Today I received a long awaited, long searched for, 12C Prestige from Brazil (thanks Artur!). This pretty much completes my 12C collection (a subset of my overall HP collection).
You can see it here: 12C collection
I'm not sure how I ended up with so many 'financial' calculators with my engineering background ... it has been fun gathering these many variations/ versions though. Now ... I just need that clear cased 12C!
Cheers, Keith

Edited: 21 Feb 2012, 6:42 p.m.

Re: Complete 12C collection

*Message #2 Posted by **Artur-Brazil** on 21 Feb 2012, 7:50 p.m.,*
in response to message #1 by Keith Midson

Hello, Keith

I'm very pleased you received it in good conditions! Great collection and it deserved to be complete!

My congratulations and enjoy the new baby!!! Artur, from Brazil

Re: Complete 12C collection

*Message #3 Posted by **John Robinson** on 22 Feb 2012, 1:25 a.m.,*
in response to message #1 by Keith Midson

Nice collection, and well presented set if pictures too !!.

Cheers, John

Re: Complete 12C collection

*Message #4 Posted by **Keith Midson** on 22 Feb 2012, 11:31 p.m.,*
in response to message #3 by John Robinson

Thanks Artur and John,
I think my Sharp pocket computer collection is also complete: SHARP
Also my Lloyd's collection is just waiting for my Accumatic 100 (the first calculator to have an LCD display): LLOYD'S
The very popular HP collection: HP Collection
Rare HP stuff: RARE HP
And now the GREATEST HITS set.
I know i've posted these links a few times lately, but i'm taking a break for a while, so there won't be any updates for a long time. Enjoy! Keith

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g User's Manual

*Message #1 Posted by **Luke Hoffmann** on 21 Feb 2012, 6:07 p.m.*

Could someone direct me to a post or link explaining where I could purchase a new user's manual for my HP 50G? My current one was water damaged, and the PDF option won't work for me.

I contacted HP and was told there was nothing they could do. They also said that this was their only recommendation (the Museum).

Thank you very much,

Luke

Re: HP 50g User's Manual

*Message #2 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 6:11 p.m.,*
in response to message #1 by Luke Hoffmann

Hi.

Have you tried e-bay? Chances are you'll find a hardcopy for a fair price.

Cheers.

Luiz (Brazil)

Re: HP 50g User's Manual

*Message #3 Posted by **Luke Hoffmann** on 21 Feb 2012, 6:15 p.m.,*
in response to message #2 by Luiz C. Vieira (Brazil)

I have not. I was hoping to purchase one new. I will go check it out.

Still hoping for a new copy We'll see lol.

Thank you :)

Re: HP 50g User's Manual

*Message #4 Posted by **NateB** on 21 Feb 2012, 7:04 p.m.,*
in response to message #3 by Luke Hoffmann

User's Manual on eBay. Samson Cables carries it for $19.99 + shipping.

You can get a printed copy of the User's Guide from hpcalc.org.

Re: HP 50g User's Manual

*Message #5 Posted by **Paul Berger (Canada)** on 21 Feb 2012, 6:14 p.m.,*
in response to message #1 by Luke Hoffmann

Try Eric Rechlin's site hpcalc.org he has reprints of the User's Guide and the Advanced Uses Reference available. I believe the User's Guide to be a more complete manual than the one the comes with the 50G If you want to get an idea what is in them they are likely the same as the PDFs by the same name.

Edited: 21 Feb 2012, 6:18 p.m.

Re: HP 50g User's Manual

*Message #6 Posted by **Ethan Conner** on 21 Feb 2012, 6:53 p.m.,*
in response to message #5 by Paul Berger (Canada)

Try Samson Cables.

Re: HP 50g User's Manual

*Message #7 Posted by **Mike Morrow** on 21 Feb 2012, 9:48 p.m.,*
in response to message #5 by Paul Berger (Canada)

Indeed! Getting the spiral-bound 887-page User Guide and the 691-page AUR from Eric Rechlin's site is the best possible choice. I have them both and I can't imagine how something so well made can be sold so inexpensively. Obviously the User Guide is *not* the skimpy useless filler that comes with the HP 50g.

Also sold there are other interesting things. The low-cost USB power adapters are wonders for saving HP 50g batteries, for example.

HP 50g batteries

*Message #8 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 10:27 p.m.,*
in response to message #7 by Mike Morrow

Hi.

I've been using rechargeables in my HP50G for such a long time I can't tell. In fact, I've been using rechargeables for all calculators I have that use AAA-size batteries, and also the ones which use the N-size batteries (HP41, mostly).

Indeed, I was taken by surprise when connecting the HP50G to a computer for data transfer purposes. I only realized the calculator was without batteries when I tried to turn it on after disconnecting. Was not aware of the fact the calculator could be powered through the USB port.

Cheers.

Luiz (Brazil)

Re: HP 50g batteries

*Message #9 Posted by **Michael J.** on 22 Feb 2012, 8:22 a.m.,*
in response to message #8 by Luiz C. Vieira (Brazil)

... a further lack of the insufficient HP 50g -Documentation ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-12C program

*Message #1 Posted by **Gerson W. Barbosa** on 21 Feb 2012, 5:43 p.m.*

```
001-    1               016-    +
002-    0               017-    1/x
003-    x<>y            018-    STO 1
004-    y^x             019-    RCL 0
005-    STO 0           020-    3
006-    ENTER           021-    CHS
007-    *               022-    y^x
008-  g LSTx            023-    STO+ 1
009-    2               024-    1
010-    *               025-    STO- 0
011-    1               026-    RCL 0
012-    +               027-  g x=0
013-    x<>y            028-  g GTO 30
014-    2               029-  g GTO 19
015-    *               030-    RCL 1
                        031-  g GTO 00
```

Given the proper argument this small HP-12C program will give a meaningful result in about 2 minutes on the classic HP-12C (under a couple of seconds on the HP-12C+).

Re: HP-12C program

*Message #2 Posted by **Paul Dale** on 21 Feb 2012, 6:07 p.m.,*
in response to message #1 by Gerson W. Barbosa

Very nice!

Not having a 12C to hand, I converted this for the 34S:

```
01:  LBL A
02:  10[^x]
03:  STO 00
04:  x[^2]
05:  RCL L
06:  RCL+ X
07:  INC X
08:  x[<->] Y
09:  RCL+ X
10:  +
11:  1/x
12:  STO 01
13:  LBL 00
14:  RCL 00
15:  3
16:  +/-
17:  y[^x]
18:  STO+ 01
19:  DSZ 00
20:  GTO 00
21:  RCL 01
22:  RTN
```

However, there is an alternative WP 34S program that produces the same limit using *four* steps *including* the LBL at the start and the RTN at the end -- so *two* steps of working code.

- Pauli

Re: HP-12C program

*Message #3 Posted by **Paul Dale** on 21 Feb 2012, 6:10 p.m.,*
in response to message #2 by Paul Dale

Drat, missed some optimisation in the above code. Change line 18 to + and delete lines 21 and 12.

- Pauli

Re: HP-12C program

*Message #4 Posted by **Gerson W. Barbosa** on 21 Feb 2012, 6:22 p.m.,*
in response to message #3 by Paul Dale

I thought of including "optimization of the code is left as an exercise to the reader", but then I realized figuring out what the program did was good exercise enough. That was my first attempt after I noticed it this afternoon. Without the trick, about 50k terms would have to be computed in order to get the same result.

Gerson.

Re: HP-12C program

*Message #5 Posted by **Gerson W. Barbosa** on 21 Feb 2012, 6:12 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> However, there is an alternative WP 34S program that produces the same limit using four steps including the LBL at the start and the RTN at the end -- so two steps of working code.

Actually, I've tested my results upon the WP 34S function :-)

Gerson.

Re: HP-12C program

*Message #6 Posted by **Gerson W. Barbosa** on 22 Feb 2012, 4:12 a.m.,*
in response to message #1 by Gerson W. Barbosa

While we're at it, here's another one for another constant:

```
001-    1               019-    CHS
002-    0               020-    STO+ 0
003-    x<>y            021-    STO* 2
004-    y^x             022-    RCL 0
005-    STO 0           023-    2
006-    ENTER           024-    *
007-    *               025-    +
008-    8               026-    ENTER
009-    *               027-    *
010-    6               028-    1/x
011-    +               029-    RCL 2
012-    1/x             030-    *
013-    STO 1           031-    STO+ 1
014-    1               032-    RCL 0
015-    STO+ 0          033-    g x=0
016-    STO+ 1          034-    g GTO 36
017-    STO 2           035-    g GTO 18
018-    1               036-    RCL 1
                        037-    g GTO 00
```

Checking the archives, I found an old mini-challenge of Valentin's which is worth mentioning. Crawl's program in Message #52 appears to explore the same idea. I certainly read the thread at the time, but I'd completely forgotten about his particular program. It's worth reading Valentin's original solutions and other therein:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=95861

I've come up with a slightly faster series. I've started to implement it on the HP-15C LE, but the initialization alone takes up 37 steps. If I manage to optimize it a bit, I'll present it later.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP42S freeze after "Fast mode"

*Message #1 Posted by **Tom Grydeland** on 21 Feb 2012, 8:24 a.m.*

I have an HP42S bought just after it was introduced, ROM version A1.

I attempted to enter the "Fast" mode which resulted in the HP42S freezing up (not responding to any keypress of any kind) and leaving the unit without batteries for a day or so was necessary to recover completely. I am curious to see if any wizards out there can help me figure out what happened.

When running through the memory in the debugger, I used the "up" and "down" buttons (to skip by 0x1000) in addition to the four buttons mentioned in the recipe.

When out of the debugger, I fumbled around a bit before finding the "IND" for "RCL IND X" (my HP is a bit rusty)

After step 9 ("STO IND Y"), the calculator blanked completely and did not respond to any keypresses

Leaving the batteries out for a couple of minutes did not change anything. Leaving them out for an hour or so returned the calculator to usability, but with some curious lingering effects.

The printer symbol was lit when turning on. It did not extinguish from regular use.

Attempting any function from the PRINT menu displays "Printing Is Disabled" and clears the printer symbol from the screen.

Whenever entering PRGM mode, the printer symbols lights up again, and again will only extinguish when attempting a print operation.

When running a program, the IR symbol (((.))) also lights up.

Leaving the unit without batteries for several hours appears to have restored the unit to normal and no obvious harm has been done to it. Still, I am curious what I did to make it react so, and what else I could have done to recover.

Thanks,

--T

Re: HP42S freeze after "Fast mode"

*Message #2 Posted by **Eric Smith** on 21 Feb 2012, 11:08 a.m.,*
in response to message #1 by Tom Grydeland

Bear in mind that there's a reason why HP didn't set the standard speed to the maximum, which is that they couldn't guarantee that they would work. "Fast mode" works by setting a register to an unsupported value.

Re: HP42S freeze after "Fast mode"

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Feb 2012, 6:50 a.m.,*
in response to message #1 by Tom Grydeland

IIRC, the ((.)) symbol is not an IR (infrared) indicator. The printer is the only official IR application, and it has its own annunciator. The ((.)) annunciator always flashes as a "running program" indicator.

Re: HP42S freeze after "Fast mode"

*Message #4 Posted by **Tom Grydeland** on 23 Feb 2012, 5:41 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

Right you are. It has been years since I played with this device, and I don't even know where the IR printer is anymore...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[DM-15cc] Flashing - worked!

*Message #1 Posted by **Alexander Oestert** on 20 Feb 2012, 4:29 p.m.*

Just to report my success and to encourage other proud new owners I wanted to inform you that flashing the cute little DM-15cc with MEM80 and MEM1b firmware worked just fine on an Asus eeePC running under XP/3.

Re: [DM-15cc] Flashing - worked!

*Message #2 Posted by **hpnut** on 20 Feb 2012, 4:37 p.m.,*
in response to message #1 by Alexander Oestert

Hi Alexander,

That's great! I am waiting for my DM-15CC to arrive. So please tell us what changes the flashing will do to the calculator?

cheers,

hpnut in Malaysia

Re: [DM-15cc] Flashing - worked!

*Message #3 Posted by **Alexander Oestert** on 20 Feb 2012, 4:43 p.m.,*
in response to message #2 by hpnut

Flashing with the alternative firmwares that Michael Steinmann provides on his site does increase memory - as described on his site!

DM-15cc fixed!

*Message #4 Posted by **gene wright** on 21 Feb 2012, 3:29 p.m.,*
in response to message #3 by Alexander Oestert

I had earlier posted that the lower left corner of my DM-15cc was not flush together and gave movement and an audible noise when the ON button was pressed.

Took it apart and the cause was that one of the 4 corner "posts" that the screws go into was not mounted on the main PC board corner. The other 3 were, but the fourth one was not.

Some soldering and a few minutes later, voila. No problem.

FYI. All is good.

Re: DM-15cc fixed!

*Message #5 Posted by **Reth** on 21 Feb 2012, 7:35 p.m.,*
in response to message #4 by gene wright

> Quote:
>
> ... FYI. All is good.

How about the keyboard? Mine is next to useless. I didn't expect it to be sooo bad...

Cheers,

Re: DM-15cc fixed!

*Message #6 Posted by **Alexander Oestert** on 22 Feb 2012, 2:48 a.m.,*
in response to message #5 by Reth

Overall, my keyboard is ok, I only have problems making the EEX/pi and + keys register. That sometimes takes a few more presses...

By no means the DM-15cc could replace any original HP machine, but due to its credit card size it is an easy to carry allways-in-my-pocket-calculator that has amazing powers. Still, I already thought about selling it again because I have quite large hands...but who on the auction site would know what it was?!? ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Display_hp41c

*Message #1 Posted by **Armin Rösch** on 20 Feb 2012, 3:38 p.m.*

Hi all, my first generation hp41 does now suffer in the display. Some of the segments are missing! Is it possible to repair? (I am very familiar in microelectronics but do not have any mechanical drawing of the display section of hp41) Thanks for support.

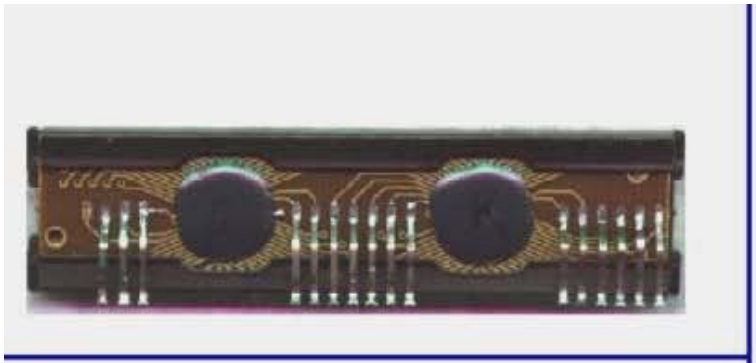
Armin Rösch HB9MFL

Re: Display_hp41c

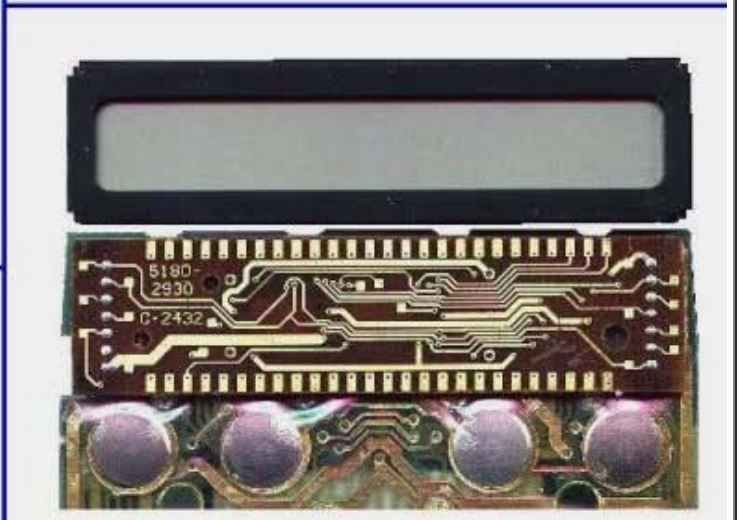
*Message #2 Posted by **Luiz C. Vieira (Brazil)** on 20 Feb 2012, 4:41 p.m.,*
in response to message #1 by Armin Rösch

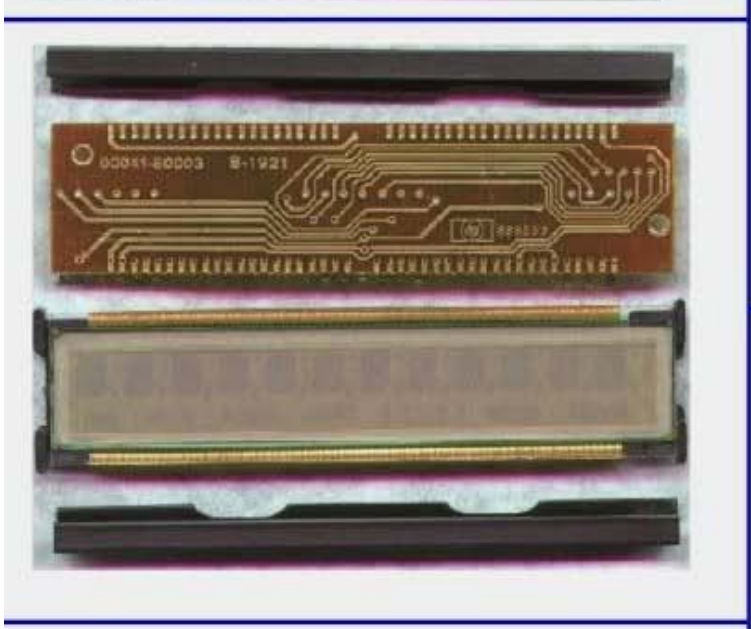
Hi, Armin.

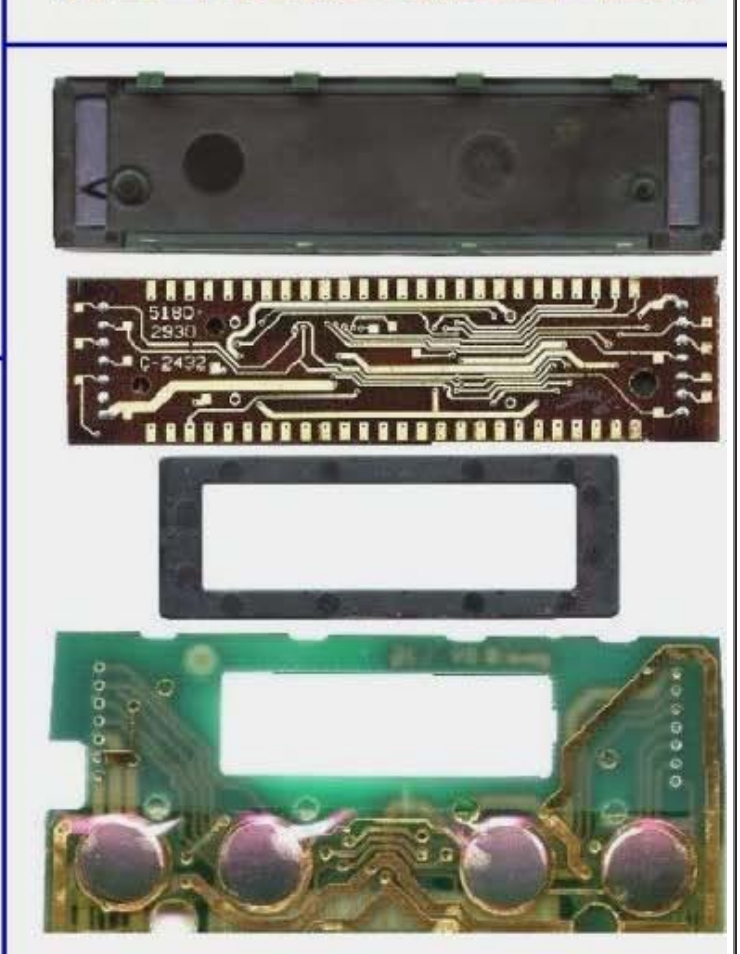
I guess some cleaning might help. Check if the picture below gives some guidance. It shows a vintage, first-series HP41 LCD's components.

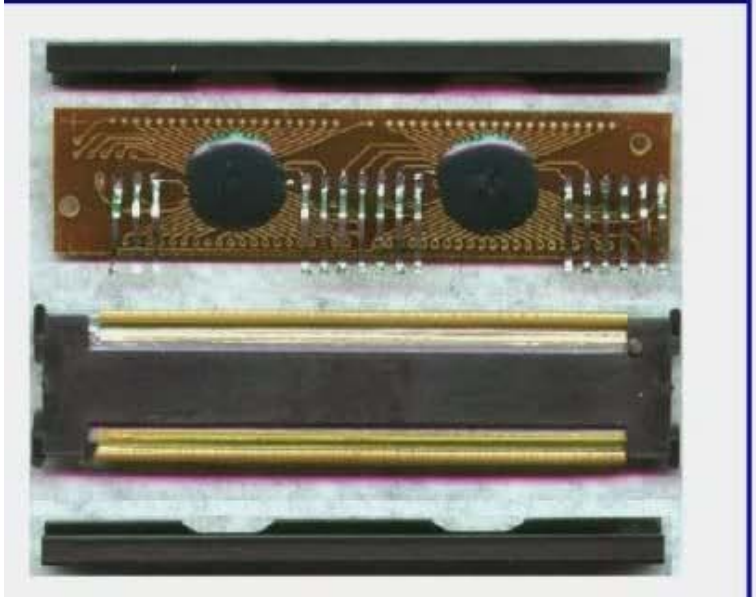


Metal Strips (unfold to remove LCD)
5061 7255


5180-
2930
C-2432


00041-60003 8-1921


5180-
2930
C-2432



There are some other pictures in this 'bucket' showing how to remove the earlier, vintage LCD module.

Success!

Luiz (Brazil)

Edited: 20 Feb 2012, 4:58 p.m.

Re: Display_hp41c

*Message #3 Posted by **Ángel Martin** on 21 Feb 2012, 2:17 a.m.,*
in response to message #2 by Luiz C. Vieira (Brazil)

Greetings Luiz, glad to see you back! - Hope all is well.

Thanks for the display pics, I´m also in a similar case and they´ll come very handy if I ever decide to take the plunge and do the replacement (my soldering skills are all but acceptable).

Best, ÁM

Re: Display_hp41c

*Message #4 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 3:32 a.m.,*
in response to message #3 by Ángel Martin

Hola, Ángel; ¿que tal?

Thanks for your Welcome, I appreciate. I actually answered a call from a friend, Gerson, who told me I was mentioned in a recent post related to text fonts. I decided to have a look and, after creating a new account, I posted an answer. As you know, one thing leads to another and I could not help reading a few posts. after reading one post I could contribute I just found myself searching for the pictures at photobucket (user: hewpack_lcv) and posting a reply. My very friends are here, cannot help finding a way to make myself useful.

My activities as a teacher did not leave me any spare time. I'm now 50 Y.O. and I cannot loose track of current technology if I want to survive in the teaching field. If you do not follow it, you are left behind. If you follow it, you are just sustaining pace. If you want to go further then you should act as an R&D worker. I'm just doing my best keeping track of what is going on so my students feel they have a teacher that knows what they want to know and is ready to teach them. A 'Job done!' at the end of each day means the other one will just have different subjects... and challenges.

Sorry, guys, this is way off topic, but I should not simply get in as if nothing happened.

The MLDL2000 pictures are there, too. I guess they are worth checking, though.

Cheers.

Luiz (Brazil)

Edited: 21 Feb 2012, 3:40 a.m.

Re: Display_hp41c

*Message #5 Posted by **Garth Wilson** on 21 Feb 2012, 4:23 p.m.,*
in response to message #4 by Luiz C. Vieira (Brazil)

> Quote:
>
> The MLDL2000 pictures are there, too.

Wow-- It's a lot more labor-intensive than I thought.

Re: Display_hp41c

*Message #6 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 6:09 p.m.,*
in response to message #5 by Garth Wilson

HI, Garth.

Actually I decided to build my units in such a way maintenance would be easier. Well, I tell you that they did not need maintenance so far... Meindert did a great, great job in the MLDL2000 design, and if one follow his instructions, building them is not hard at all.

I built two units almost the same way, and I tell you that it was fun doing it. I added many things not needed in the basic assembly. You can safely build one of these in a few hours given you have the necessary skills, follow the instructions and have all necessary material and tools. I took about two days to build each unit, not counting unscheduled interruptions.

And it was fun, indeed.

Cheers.

Luiz (Brazil)

Edited: 21 Feb 2012, 6:10 p.m.

Re: Display_hp41c

*Message #7 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 3:43 a.m.,*
in response to message #2 by Luiz C. Vieira (Brazil)

Although may seem obvious for those who know the 'creatures', I would just add that the pictures in the left are for the earlier coconut models, and the ones in the right are for the new fullnut units.

Cheers.

Luiz (Brazil)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Richard Nelson's pictures of the 4 HP 15c versions

*Message #1 Posted by **gene wright** on 20 Feb 2012, 2:17 p.m.*

Re: Richard Nelson's pictures of the 4 HP 15c versions

Message #2 Posted by ***Paulo MO*** *on 20 Feb 2012, 3:37 p.m.,*
in response to message #1 by gene wright

A firmware updated 15c+ as a regular, permanent, stock item? That would be nice. But maybe we should call it 15c*, because you know what they say: "when you wish upon a star..." (and I never heard the version "when you wish upon a plus...")

:-)

Paulo

Edited: 20 Feb 2012, 3:50 p.m.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #3 Posted by **Richard J. Nelson** on 20 Feb 2012, 5:09 p.m.,*
in response to message #2 by Paulo MO

All four machines shown use the same ROMs. Is it 15C or 15c? I once asked Sam Kim the general question regarding HP Calculator model numbers. The answer, he said, was that which is on the calculator, i.e. it is an HP-15C. The marketing types will want the "new" generation machine to be lower case C" but they are dealing with a legacy machine so they are "torn" between the old and the new. In the end I use whatever is printed on the calculator.

There is one exception, however. It is the model number used most often. Does anyone remember this model (hint: it is a "recent" small machine)?

X < > Y,

Richard

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #4 Posted by **Jan** on 20 Feb 2012, 7:38 p.m.,*
in response to message #3 by Richard J. Nelson

The marketing types will want the "new" generation machine to be lower case C" but they are dealing with a legacy machine so they are "torn" between the old and the new.

Marketing guys usually have no clue. If it had been up to them there would have been no HP-35 at all (and probably no HP-45, HP-55....). The capital C stands for 100 in roman numerals, which is about the relative increase in speed of the new 15C's compared to the old ones. For me it should therefore be a capital C (still) much like the V and X represented the the memory-increase (in roman numerals) of the 41CV and 41CX models compared to the 41C.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #5 Posted by **Alexander Oestert** on 20 Feb 2012, 4:26 p.m.,*
in response to message #1 by gene wright

What's a 15c+ again? Some prototype?

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #6 Posted by **Eric Smith** on 20 Feb 2012, 7:19 p.m.,*
in response to message #5 by Alexander Oestert

Yes. A very limited number were made, and some were given out at a conference. The hardware is basically the same as the new 12C.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #7 Posted by **robert rozee** on 21 Feb 2012, 11:08 p.m.,*
in response to message #6 by Eric Smith

a question that has probably been asked before... does there exist a 15c+ with firmware such that:

- it does not exhibit the PSE bug
- the battery low indicator works
- it has no other major 'flaws'?

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #8 Posted by **Katie Wasserman** on 21 Feb 2012, 11:46 p.m.,*
in response to message #7 by robert rozee

I don't have a 15C+ but this question has come up here before, and I've been paying close attention. While there are older versions of the ARM-based 15C firmware none of them have the battery indicator working correctly nor are they otherwise bug-free.

The 12C+ also does not have the battery indication working.

OTOH, Jeff did some extensive battery testing on the 15C LE and found that battery life was much better than one would expect given the 20ma load, when he used very high quality cells. Still the low battery indicator did not work at all (?) when the cells were finally exhausted.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #9 Posted by **Geoff Quickfall** on 22 Feb 2012, 2:20 a.m.,*
in response to message #7 by robert rozee

Unfortunately my 15c+ as with other beta testers was updated with each new version. As a result there may not be many with the original firmware.

I do remember there were only about 125 lines of program memory and many bugs in the original.

Also line number access was problematical to say the least.

Cheers, Geoff

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #10 Posted by **Alexander Oestert** on 22 Feb 2012, 3:40 a.m.,*
in response to message #7 by robert rozee

Could the experts elaborate on the question if it would be possible to port the DM-15CC's firmware to the HP 15C LE hardware as it seems to be bug free? Or the code that go15c for Android is based on which also has no apparent bugs.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #11 Posted by **Paul Dale** on 22 Feb 2012, 3:43 a.m.,*
in response to message #10 by Alexander Oestert

I'd start with an older version of Nonpareil and port that to the 15C LE.

- Pauli

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #12 Posted by **uhmgawa** on 22 Feb 2012, 11:32 a.m.,*
in response to message #10 by Alexander Oestert

Quote:

> Could the experts elaborate on the question if it would be possible to port the DM-15CC's firmware to the HP 15C LE hardware as it seems to be bug free? Or the code that go15c for Android is based on which also has no apparent bugs.

Several folks have asked for a KEMU port to the sam7 voyager. KEMU sidesteps all of the known problems with the current sam7 15c le firmware and additionally supports full NUT/voyager emulation including system/keypad self test, synthetic programming via y^x rotate-22, command line interface, multiple voyager family models, even the NUT ptr==13 CPU errata. It is fairly configurable and currently is optimized for size: bundled with a 15c firmware image it is well under 32K on an AVR core SoC and I'd expect substantially less for an ARM footprint. Even with all voyager images of (11c/12c/15c/16c), graphic support, and assorted bells & whistles as demonstrated in the Graphic Voyager Prototype, image size is under 64KB. Requiring support for only the sam7 voyager's segment display, image size reduces further and usage would be essentially the same the KINOMI/KEMU voyager. The point here being over half of the sam7's 128KB flash would be available for further optimization, functional customization, or user persistent storage.

The hold up thus far has been over logistics rather than technical issues, concerning how a prospective user deals with obtaining voyager firmware. The images I've been using have been captured from voyagers I own rather than elsewhere. Ideally I'll be able to reach some understanding with HP to allow bundling these images with a KEMU release but we're not there yet. The alternative of finding images elsewhere is certainly possible and that may be a fall-back if bundling isn't an option. But it is unwelcome end user clunkiness best avoided.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #13 Posted by **Ingo Paschke** on 23 Feb 2012, 5:47 a.m.,*
in response to message #12 by uhmgawa

Quote:

> The hold up thus far has been over logistics rather than technical issues, concerning how a prospective user deals with obtaining voyager firmware. The images I've been using have been captured from voyagers I own rather than elsewhere. Ideally I'll be able to reach some understanding with HP to allow bundling these images with a KEMU release but we're not there yet. The alternative of finding images elsewhere is certainly possible and that may be a fall-back if bundling isn't an option. But it is unwelcome end user clunkiness best avoided.

An alternative firmware would be really great, this could make the 15LE the ultimate version of the 15C.

Regarding clunkiness: It's already clunky enough to obtain the cable and flash the firmware with (my)samba, so the step of obtaining the 15C firmware and combining it with the emulator should be no real obstacle. If checksums and headers are all at the start of the file, couldn't it even be as simple as concatenating the two files?

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #14 Posted by **uhmgawa** on 23 Feb 2012, 7:35 p.m.,*
in response to message #13 by Ingo Paschke

Quote:

> An alternative firmware would be really great, this could make the 15LE the ultimate version of the 15C.

The ultimate version of a 15c starts with a board swap of a 24xx <= S/N < 28xx 15c chassis with a suitable ARM core, reusing the enclosure along with the superior key caps and segment LCD found in the legacy voyager. The logical conclusion would be somewhere in the ballpark

of a matrix display and external i/o + power.

> Quote:
>
> Regarding clunkiness: ... If checksums and headers are all at the start of the file, couldn't it even be as simple as concatenating the two files?

It certainly could be made as simple for the case of a single 15c voyager model firmware. However for the general case of multiple images metadata is needed to describe each image to KEMU. Unless some sort of additional tool was created to obviate a rebuild, having a gcc toolchain available would be required. The anticipated "clunkiness" was of dealing with this vs. having prebuilt binary images available in a prospective KEMU release.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #15 Posted by **Ingo Paschke** on 24 Feb 2012, 4:18 a.m.,*
in response to message #14 by uhmgawa

> Quote:
>
> It certainly could be made as simple for the case of a single 15c voyager model firmware.

While the ability to switch the firmware is really neat and impressive, it wouldn't be of much use (at least to me), because I wouldn't know how to use a 12c or even a 16c with the 15c's keycaps.

Edited: 24 Feb 2012, 4:19 a.m.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #16 Posted by **Katie Wasserman** on 23 Feb 2012, 11:37 a.m.,*
in response to message #12 by uhmgawa

> Quote:
>
> The images I've been using have been captured from voyagers I own rather than elsewhere. Ideally I'll be able to reach some understanding with HP to allow bundling these images with a KEMU release but we're not there yet.

In another recent thread the nonexistent copyright of this firmware was mentioned as it has been several times before. Given that, what is there to discuss with HP, just having some agreement that they won't bother you with frivolous lawsuits?

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #17 Posted by **uhmgawa** on 23 Feb 2012, 7:39 p.m.,*
in response to message #16 by Katie Wasserman

> Quote:
>
> In another recent thread the nonexistent copyright of this firmware was mentioned as it has been several times before.

Nothing in that thread nor associated research constitutes concrete legal advice -- at least not to my comfort level.

Quote:

Given that, what is there to discuss with HP, just having some agreement that they won't bother you with frivolous lawsuits?

Let it suffice to say my reading of the tea leaves suggests HP isn't at all pleased with an external attempt to commercialize their firmware and tread on their brand image. Doing nothing may also be construed as abandonment of any copyright/infringement claim, although I'll leave that for greater legal minds to debate. In any case I thought it reasonable to first see where such an upfront discussion may lead before considering alternatives.

On perhaps a personal note, what I'd developed wouldn't have existed if HP didn't release engineering specifications for their NUT silicon. I'd prefer not to be a potential source of regret for that decision.

Re: Richard Nelson's pictures of the 4 HP 15c versions

*Message #18 Posted by **robert rozee** on 25 Feb 2012, 7:34 a.m.,*
in response to message #17 by uhmgawa

how about someone produce the firmware image, complete, and release it anonymously into the wild to fly "like an eagle on the winds"? there might be no glory to be had, but there would be a great many very happy 15C LE owners out there!! call it 'doing a public good'...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s capacitors

*Message #1 Posted by **David Griffith** on 20 Feb 2012, 5:19 a.m.*

How many people here would be interested in obtaining capacitors and crystals for their wp34s calculators? I can get 50 for $2, and 200 for $5. This works out to 5 or 8 cents for a pair. I have maybe fifteen of the sort of required crystals (through-hole) left over from the P112 project. This is cheap enough that I'll do it for free as long as the crystals last. Anyone interested?

Re: wp34s capacitors

*Message #2 Posted by **Paul Dale** on 20 Feb 2012, 5:22 a.m.,*
in response to message #1 by David Griffith

I've got a couple of re-purposed 30b's missing this addition, so I'd probably be interested. I'm also planning on eventually getting half a dozen more to give to family and friends eventually. Only after the firmware stabilises some more though.

- Pauli

Re: wp34s capacitors

*Message #3 Posted by **megarat** on 21 Feb 2012, 2:00 a.m.,*
in response to message #1 by David Griffith

I'm interested.

Re: wp34s capacitors

*Message #4 Posted by **Steve Perkins** on 21 Feb 2012, 4:20 p.m.,*
in response to message #1 by David Griffith

Yes, I'm interested!

Re: wp34s capacitors

*Message #5 Posted by **Gerry Schultz** on 21 Feb 2012, 4:53 p.m.,*
in response to message #4 by Steve Perkins

I'm interested too. Gerry

Re: wp34s capacitors

*Message #6 Posted by **Eric Rechlin** on 21 Feb 2012, 7:12 p.m.,*
in response to message #1 by David Griffith

I'll be re-introducing my "HP 20b Hacker's Kit" very soon, which I discontinued last fall, once I make my next Mouser order (which will be soon because I will be making more HP 50g serial cables soon).

This time around I will just include the two capacitors and the clock crystal. Lower price than last time, too. I'll rename it, too.

Eric

Re: wp34s capacitors

*Message #7 Posted by **David Griffith** on 21 Feb 2012, 8:02 p.m.,*
in response to message #1 by David Griffith

Okay, I bought some caps off ebay. I should have them by next week.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

42S Hope it' not dying

*Message #1 Posted by **Chuck** on 19 Feb 2012, 11:24 p.m.*

It's too late to track down batteries at the moment, but my trusty 42S for the last 15 years or so, had a horizontal line halfway across the screen and was unresponsive. Took the batteries out and put back in. Now it only lightly beeps when I press ON (descending frequency each time). Does this sound like failing batteries? Hopefully after 15 years it's just batteries and not a complete meltdown.

CHUCK

Re: 42S Hope it' not dying

*Message #2 Posted by **David Griffith** on 20 Feb 2012, 4:35 a.m.,*
in response to message #1 by Chuck

I've known other things to make a descending beep when the voltage was getting low. Try the obvious solution first.

Re: 42S Hope it' not dying

*Message #3 Posted by **Chuck** on 20 Feb 2012, 11:55 a.m.,*
in response to message #2 by David Griffith

It was the batteries and I'm back in business. I guess every 10-15 years one needs a fresh set of batteries. After that long you kind of forget and think the worst when something out of the ordinary happens.

C

Re: 42S Hope it' not dying

*Message #4 Posted by **David Griffith** on 20 Feb 2012, 4:24 p.m.,*
in response to message #3 by Chuck

I'm glad to hear things are well there.

Re: 42S Hope it' not dying

*Message #5 Posted by **Luiz C. Vieira (Brazil)** on 20 Feb 2012, 4:55 p.m.,*
in response to message #1 by Chuck

Hi.

A few days ago I heard what sounded like a faint digital clock alarm coming from a small pile of Pioneers (two HP42S, two HP17BII and one HP27S). I took one by one till I found an HP42S thinking it was a watch. I took the batteries off and found one of them with -0.24Vcc (reversed polarity, yep!). After replacing them for new, fresh ones, a [Memory Clear] announced it was back to its very own nature.

Good to know yours is OK, too.

Cheers.

Edited: 20 Feb 2012, 4:56 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

35s - find roots of 3rd and higher order equations

*Message #1 Posted by **Chris C** on 19 Feb 2012, 8:42 p.m.*

Are there any programs (or built-in methods I'm overlooking) for the 35s to find the roots of equations higher than second order?

Thank you.

Re: 35s - find roots of 3rd and higher order equations

*Message #2 Posted by **Valentin Albillo** on 20 Feb 2012, 4:10 a.m.,*
in response to message #1 by Chris C

> Quote:
>
> Are there any programs (or built-in methods I'm overlooking) for the 35s to find the roots of equations higher than second order?
>
> Thank you.

Sure. Have a look at this article of mine, it features a short program for the HP35s (plus assorted examples) which will allow you to find any roots, real or complex, of most any equation, polynomial or not:

HP35s - Going back to the roots

Best regards from V.

Re: 35s - find roots of 3rd and higher order equations

*Message #3 Posted by **Bart (UK)** on 20 Feb 2012, 7:01 p.m.,*
in response to message #2 by Valentin Albillo

Nice one, thanks Valentin :-)

Re: 35s - find roots of 3rd and higher order equations

*Message #4 Posted by **Peter Murphy (Livermore)** on 20 Feb 2012, 7:45 p.m.,*
in response to message #2 by Valentin Albillo

Valentín,

Is there a reference for the algorithm on which you based this superb program? I'd like to start there, rather than reverse-engineer your program. Thanks!

Re: 35s - find roots of 3rd and higher order equations

*Message #5 Posted by **Paul Dale** on 20 Feb 2012, 9:00 p.m.,*
in response to message #4 by Peter Murphy (Livermore)

How about a 34s port for inclusion as an internal complex solve command? :-)

- Pauli

Re: 35s - find roots of 3rd and higher order equations

*Message #6 Posted by **Paul Dale** on 21 Feb 2012, 6:16 a.m.,*
in response to message #5 by Paul Dale

It is in the library now :-)

Not sure if I ported it over completely properly or not but it handles the first example from the PDF article okay.

- Pauli

Re: 35s - find roots of 3rd and higher order equations

*Message #7 Posted by **Thomas Klemm** on 21 Feb 2012, 8:06 p.m.,*
in response to message #4 by Peter Murphy (Livermore)

In order to analyze Valentin's program I've translated it to Python while trying to keep it as close to the original as possible. You will find the whole program at the end. The examples are added as well.

Let me go through it step by step.

First we need the definition of some constants:

```
Z = 1 + 0j
S = 1E-4
T = S**2   # i.e. 1E-8
Y = 0.5
```

Now we use the function:

```
U = F(X) / Y
```

This leaves us with: *U = 2F(X)*

For the next step some approximations are used:

- *F''(X) ~ (F(X+S) - 2F(X) + F(X-S))/S^2*
- *F'(X) ~ (F(X+S) - F(X-S))/(2S)*

```
V, W = (W + V - U) / T, Y * (V - W) / S
```

So we end up with:

- *V ~ F''(X)*
- *W ~ F'(X)*

Next step is to divide *F''(X)* by *F'(X)*:

```
V /= W
```

Now we have: *V ~ F''(X)/F'(X)*

Since I don't have a stack I use a variable *D* which is not used in Valentin's program:

```
D = ( (Z - V * U / W) ** Y - Z ) / V
```

This gives the following expression:

$$\frac{\sqrt{1-\frac{2f(x)f''(x)}{f'(x)^2}}-1}{\frac{f''(x)}{f'(x)}}$$

Compare this with the 2nd formula in Halley-Verfahren but don't ask me why it's missing in the English version:

$$\frac{-\frac{2f(x)}{f'(x)}}{1+\sqrt{1-2\frac{f(x)f''(x)}{f'(x)^2}}}$$

To see that both formulas are equivalent use the following abbreviations:

$$u=\frac{f(x)}{f(x)'}$$

$$v=\frac{f(x)''}{f(x)'}$$

The trick is to use the binomial theorem $(a + b)(a - b) = a^2 - b^2$:

$$\frac{-2u}{1+\sqrt{1-2uv}}\cdot\frac{\sqrt{1-2uv}-1}{\sqrt{1-2uv}-1}=\frac{-2u(\sqrt{1-2uv}-1)}{(1-2uv)-1}=\frac{\sqrt{1-2uv}-1}{v}$$

Kind regards
Thomas

```
from math import pi, copysign
from cmath import sin, cos
from cmath import phase as arg


# 1. Find a root of : (a) x^x = pi , (b) x^x = i


def F(X):
    return X**X - pi


X = 2


def F(X):
    return X**X - 1j


X = 1j


# 2. Find all roots of: ( 2 + 3i ) x^3 - (1 + 2i ) x^2 - ( 3 + 4i ) x - ( 6 + 8i ) =
0
```

```
def F(X):
    return (2+3j)*X**3 - (1+2j)*X**2 - (3+4j)*X - (6+8j)


X = 1
X = -1
X = 1+1j


# 3. Attempt to find a complex root of: x^3 - 6x - 2 = 0


def F(X):
    return X**3 - 6*X - 2


X = 2+3j


# 4. Solve Leonardo di Pisa's equation: x^3 + 2 x^2 + 10 x - 20 = 0


def F(X):
    return X**3 + 2*X**2 + 10*X - 20


X = 1
X = -6


# 5. Find several complex roots of : Sin ( 2 x - 4 i ) + 3 x^2 - ( 1 + 5 i ) = 0


def F(X):
    return sin(2*X - 4j) + 3*X**2 - (1+5j)


X = 0
X = -1
X = pi


# here starts the program


Z = 1 + 0j
X *= Z
S = 1E-4
T = S**2
Y = 0.5
D = 1


while (T < abs(D)):
    U = F(X) / Y
    X += S
    V = F(X)
    X -= S
    X -= S
    W = F(X)
    V, W = (W + V - U) / T, Y * (V - W) / S
    X += S
    V /= W
    D = ( (Z - V * U / W) ** Y - Z ) / V
    X += D
    D /= X


W = arg(X)
if abs(sin(W)) < T:
    X = copysign(abs(X), cos(W))


print "X = %r" % X
```

Re: 35s - find roots of 3rd and higher order equations

*Message #8 Posted by **bill platt** on 21 Feb 2012, 8:53 p.m.,*
in response to message #7 by Thomas Klemm

This is so cool, it deserves its own permanent article.

Re: 35s - find roots of 3rd and higher order equations

*Message #9 Posted by **Peter Murphy (Livermore)** on 21 Feb 2012, 9:31 p.m.,*
in response to message #7 by Thomas Klemm

Thomas,

It'll take me some time to work through your analysis of Valentin's program, but I must thank you now; I'm very grateful for the effort you've gone to, and I hope I can do it justice by understanding it well enough to write an RPL program (for 48G or 50g) that will do all that the 35S program does.

Many thanks!

Re: 35s - find roots of 3rd and higher order equations

*Message #10 Posted by **Thomas Klemm** on 21 Feb 2012, 10:14 p.m.,*
in response to message #9 by Peter Murphy (Livermore)

Meanwhile I found another reference: Halley's Irrational Formula (cf. formula #4)

Let me know if something is not clear in my analysis and please post your RPL program.

Cheers
Thomas

Re: 35s - find roots of 3rd and higher order equations

*Message #11 Posted by **C.Ret** on 22 Feb 2012, 6:31 p.m.,*
in response to message #10 by Thomas Klemm

The numerical analysis Halley's method is a root-finding algorithm used for functions of one variable with a continuous second derivative.

$$x_{n+1} = x_n - \frac{2f(x_n)f'(x_n)}{2[f'(x_n)]^2 - f(x_n)f''(x_n)}$$

Where f is the function were are investigating for roots.

Posing Hal(x)= 2.F(x)*F'(x) / (2 * [F'(x)]^2 – F(x).F("(x))) The series $x_{n+1} = x_n – Hal(x_n)$ converge to one of the f function roots depending of the initial vaue x_0.

In RPL, the code to follow such an iterative method will be as simple as the following: Imagine the initial value for the root-finding is in first stack level.

```
«  (1,0) *                          @  Converting x0 into complex z0
   0                                 @
   DO
      -                              @  x(n+1) <-- x(n) – Hal(x(n))
      DUP 1 DISP                     @  Display actual estimate
      DUP Hal                        @  Hal(x)
   UNTIL DUP ABS eps < END           @  if Ha(x) small enough, stop
   IF – DUP ARG SIN ABS eps <        @  if arg(x) small enough
```

```
        THEN RE END                    @  convert it to real
   CLMF
»
‘R.HALLEY’ STO
```

In RPL, invoking R.Halley may return the closest root from the inputted initial. It is quite like the LBL A program on HP-35C.

Nut this will be true only if the user function Hal is the appropriate one.

From the above formula, one may calculate the Hal function from any given secondly derivative continuous function and input it in the RPL calculator.

In RPL, a general formulae of the Hal user’function may be :

```
«  ->  x
   '2*F(x)*dF(x)/(2*SQ(dF(x))-F(x)*d2F(x))'
»
‘Hal’ STO
```

Where F(x), dF(x) and d2F(x) stand respectively for function, first derivate and second derivate of the function under investigation.

One major advantage of RPL is that they all are able to formally derivate any given function. So the user have not to calculate, write down the first and second derivates, nor the ‘Hal’ function, its RPL system can easily made it :

One way is to use one initialization program of the form :

```
«  DUP ->STRU                 @  copy ‘x’ as unquote string “x”
   -> x Sx
      «
        "'F("  Sx + STR->     @  put ‘F(x)’ on stack
        OVER = DEF            @  define user function ‘F(x)=...’


        x d/dx COLCT          @  derivate expression
        "'dF("  Sx + STR->    @  put ‘dF(x)’ on stack
        OVER = DEF            @ define user function  F’ =dF()


        x d/dx COLCT          @  derivate expression
        "'d2F(" Sx + STR->    @  put ‘d2F(x)’ on stack
        SWAP = DEF            @  define user function F” = d2F()


        { F dF d2F Hal R.Halley INIT } MENU
                              @ create dedicated custom menu
        35 CF                 @ on HP-28S numeric evaluation of constant
»
‘INIT’ STO
```

The user have to enter formal definition of the function/expression to investigate in level 2: and the name of the variable to scan in level 1:. Then pressing INIT will built up first and second derivate and create a soft menu with dedicated key. Next steps are to seek for root by trying different initial guess. As for the HP-35C, true real root are put in stak as real number and complex roots as complex number.

Examples:

To solve x^x=PI :

```
>> x x ^ PI – x INIT (takes a few secondes on an HP-28S)
3:                                    3:
2:                          'x^x-ð'   2:
1:                              'x'   1:
```

```
 [INIT ]                                          [  F  ][ dF  ][ d2F ][ Hal
][R.HALL][INIT ]


>> 2 [R.HALL]
(2,0)                                             3:
1:                                                2:
2                                                 1:
1.85410596792
[  F  ][ dF  ][ d2F ][ Hal ][R.HALL][INIT ]   [  F  ][ dF  ][ d2F ][ Hal
][R.HALL][INIT ]
```

The soft key can easily be use to check results or to show formulae :

```
>> x [ dF  ] returns 'x^x+LN(x)*x^x'
```

And

```
>> 'dF' RCL return « -> x  'x^x+LN(x)*x^x' »
>> 'd2F' RCL return « -> x  '(x^x+LN(x)*x^x)*LN(x)+x^x+LN(x)*x^x+x^(x-1)' »
```

To solve x^3-3.x^2+4.x-2 = 0 :

```
>> 'x*x*x-3*x*x+4*x-2' COLCT x [INIT] 0 [R.HALL] (2,3) [R.HALL] (2,3)[CHS]
[R.HALL] 5 FIX
3:                                                3:
1.00000
2:                '-2-3*x^2+x^3+4*x'              2:
(1.00000,1.00000)
1:                                'x'             1:
(1.00000,-1.00000)
[  F  ][ dF  ][ d2F ][ Hal ][R.HALL][INIT ]   [  F  ][ dF  ][ d2F ][ Hal
][R.HALL][INIT ]
```

To solve x To solve X^3 – (1+10i).X^2 - (33-6i).X + (5-40i) = 0 :

```
>> 'X^3-(1,10)*X*X-(33,-6)*X+(5,-40)' COLCT X [INIT] 1 [R.HALL] (1,1)
[R.HALL] (0,1)[CHS] [R.HALL]
3:                                                3:
(-1,2)
2:      '(5,-40)+(-1,-10)*X^2+X^3+(-33,6)*X'      2:
(2,3)
1:                                          'X'   1:
(0,5)
[  F  ][ dF  ][ d2F ][ Hal ][R.HALL][INIT ]   [  F  ][ dF  ][ d2F ][ Hal
][R.HALL][INIT ]
```

Edited: 22 Feb 2012, 6:48 p.m.

Re: 35s - find roots of 3rd and higher order equations

*Message #12 Posted by **Thomas Klemm** on 25 Feb 2012, 2:55 p.m.,*
in response to message #11 by C.Ret

As I'm not familiar with the HP-28 I made a few modifications to you programs which allows me to use them with an HP-48:

```
%%HP: T(3)A(D)F(.);
DIR
  eps .00000001
  Hal
    \<< \-> x '2*F(x)*dF(x)/(2*SQ(dF(x))-F(x)*d2F(x))'
    \>>
  R.Halley
    \<< (1,0) * 0
      DO
        -
        DUP 1 DISP
        DUP Hal
      UNTIL DUP ABS eps <
      END
      IF - DUP ARG SIN ABS eps <
```

```
      THEN RE
      END
    \>>
  INIT
    \<< \-> x
      \<<
        "'F(" x + STR\->
        OVER = DEFINE


        x \.d COLCT
        "'dF(" x + STR\->
        OVER = DEFINE


        x \.d COLCT
        "'d2F(" x + STR\->
        SWAP = DEFINE


        { F dF d2F Hal R.Halley INIT } MENU
        -2 SF
      \>>
    \>>
END
```

However I encountered a problem when I tried to solve Valentin's 4th problem:

> Quote:
>
> # 4. Solve Leonardo di Pisa's equation: *x^3 + 2 x^2 + 10 x - 20 = 0*
>
> ```
>  1, XEQ A -> X =  1.36880810782
> -6, XEQ A -> X = -1.68440405391 i -3.4313313502
> ```

When I use the same intital values I always get the same result for *1* as well as for *-6*:

```
>> 'x^3+2*x^2+10*x-20' x [INIT ]
3:
2:                      'x^3+2*x^2+10*x-20'
1:                                      'x'
[  F  ][ DF  ][ D2F ][ HAL ][R.HAL][INIT ]


>> 1 [R.HAL] -6 [R.HAL]
4:
3:
2:                              1.36880810782
1:                              1.36880810782
[  F  ][ DF  ][ D2F ][ HAL ][R.HAL][INIT ]
```

It is obvious that from real initial values you will never get complex roots. That's the benefit of using Halley's Irrational Formula because a square root is used. But thanks to your clever design all I had to do was to replace the program *Hal*.

In your version of *Hal* both functions *F(x)* and *dF(x)* are called twice with the same value. That's why I save the result of the function calls in local variables *u* and *v* (well not exactly that, but their quotients):

```
  Hal
    \<< \-> x
      \<<
        x dF
        x F
        OVER /
        x d2F
        ROT /
        \-> u v
        '2*u/(1+\v/(1-2*u*v))'
      \>>
    \>>
```

With this program I get the same results as with the HP-35S:

```
>> 1 [R.HAL] -6 [R.HAL]
3:
2:                              1.36880810782
1:                        (-1.68440405391,
                          -3.4313313502)
[  F  ][ DF  ][ D2F ][ HAL ][R.HAL][INIT ]
```

Thanks for posting your program: I've learned a lot from the ideas of your *INIT* routine. Very nice!

Kind regards
Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

64 = 65 ???

*Message #1 Posted by **Erturk Kocalar** on 19 Feb 2012, 3:08 p.m.*

My dad forward this to me. It proves 64 = 65. Not really. It took me 10 seconds to figure out what's wrong.

http://img7.exs.cx/img7/6534/1388.gif

I did click on the link; I'm using mac os; my computer is still fine. (If you are using windows, please click at your own risk.)

enjoy.

Edited: 19 Feb 2012, 3:09 p.m.

Re: 64 = 65 ???

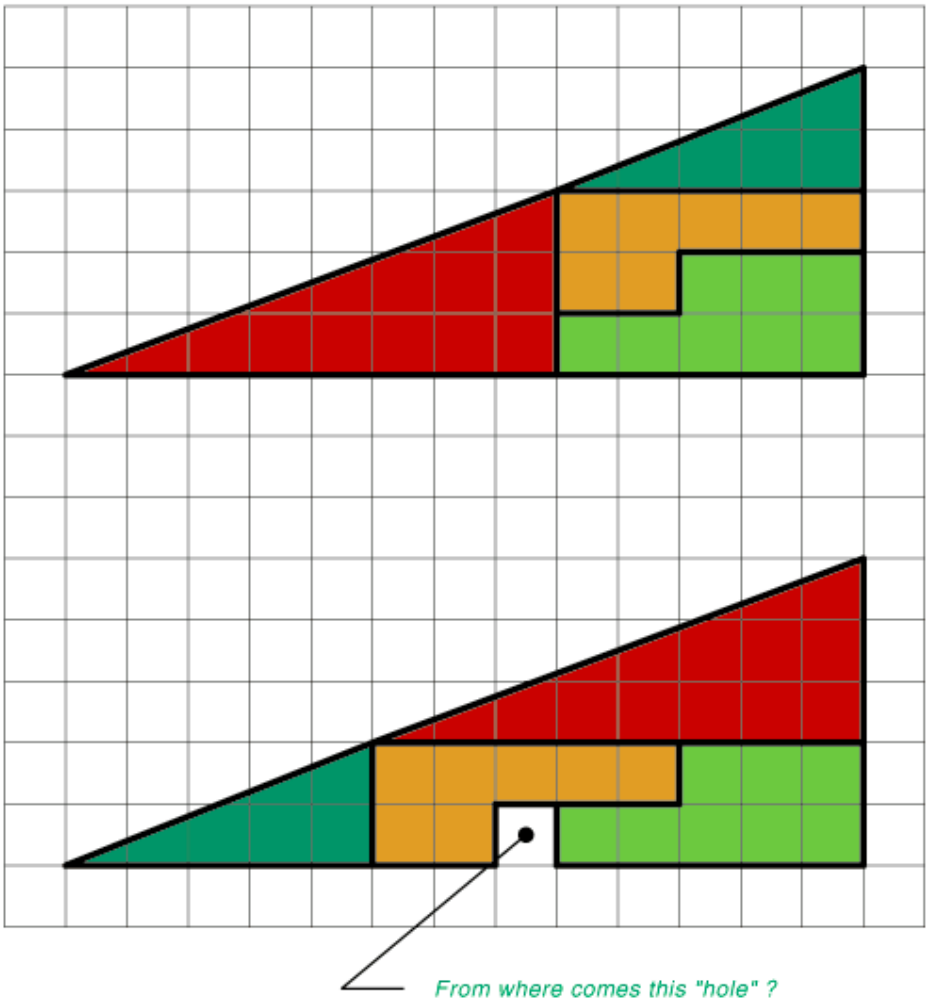
*Message #2 Posted by **C.Ret** on 19 Feb 2012, 3:15 p.m.,*
in response to message #1 by Erturk Kocalar

Ah! Ah!

That's a well know property, moving any colored shape makes algebra wrong !

Another illustration :

HOW CAN THIS BE TRUE ?



Edited: 19 Feb 2012, 3:17 p.m.

Re: 64 = 65 ???

*Message #3 Posted by **Erturk Kocalar** on 19 Feb 2012, 3:31 p.m.,*
in response to message #2 by C.Ret

Very cool. I haven't seen these before.

Re: 64 = 65 ??? (solution)

*Message #4 Posted by **Dieter** on 19 Feb 2012, 3:39 p.m.,*
in response to message #2 by C.Ret

All this - especially the well known property of moving colored shapes making algebra wrong ;-) - works because our eyes simply do not work sufficiently accurate to distinguish two very similar, yet different slopes in the red/green and blue/orange shapes (first example) resp. the red and green triangles in the second example.

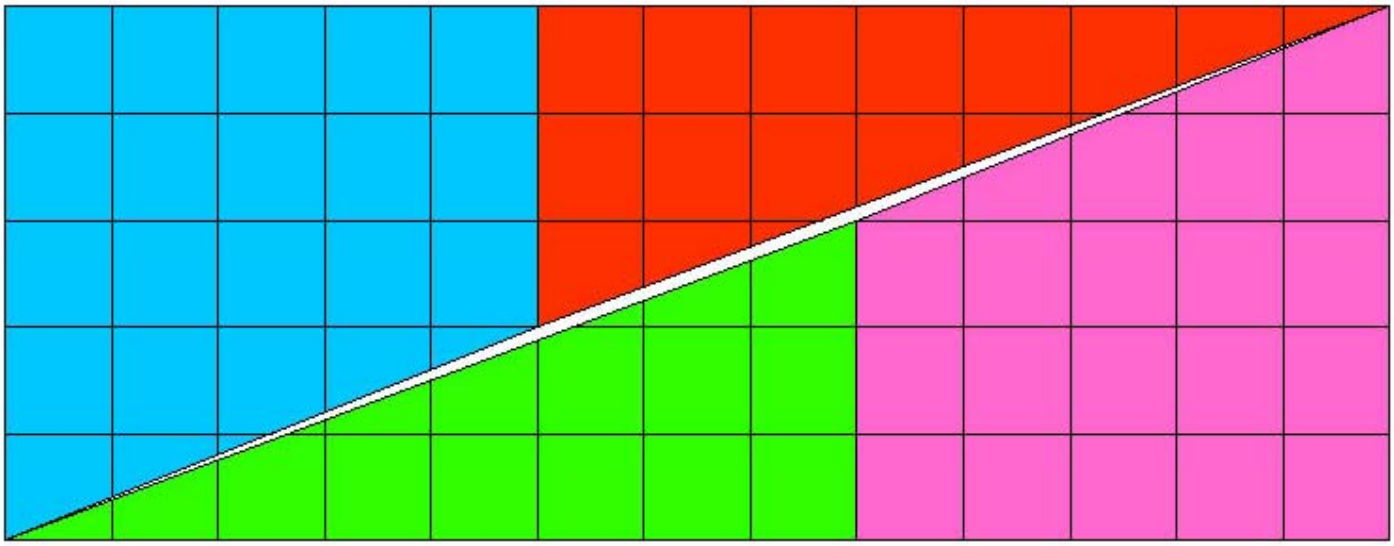
If you look more closely you'll notice that the slopes of the mentioned shapes are slightly different, so they cannot be arranged the way the final layout suggests. One the one hand it's 3:8 boxes, on the other hand it's 2:5. In other words: 0,375 vs. 0,4. Which is so close that the difference it is not obvious for the human eye.

Dieter

Re: 64 = 65 ???

*Message #5 Posted by **Gerson W. Barbosa** on 19 Feb 2012, 7:48 p.m.,*
in response to message #2 by C.Ret

This picture might disprove the equality:



Another interesting illusion:

http://alexbellos.com/?p=742

Re: 64 = 65 ???

*Message #6 Posted by **Paul Dale** on 19 Feb 2012, 7:54 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> Another interesting illusion:
>
> http://alexbellos.com/?p=742

Lovely. I'd not seen this one before.

- Pauli

Re: 64 = 65 ???

*Message #7 Posted by **Ed Look** on 20 Feb 2012, 3:44 p.m.,*
in response to message #6 by Paul Dale

Way cool!!

All of these are fascinating!

[Return to Index | Top of Index]

Go back to the main exhibit hall

64 = 65 ???

HP Forum Archive 20

[Return to Index | Top of Index]

HP-94!

*Message #1 Posted by **Geir Isene** on 19 Feb 2012, 2:37 p.m.*

I just received a real nice HP-94E in the mail. And I thought it would be neat to make it do something cool.

Anyone having done something real on the HP-94?

Re: HP-94!

*Message #2 Posted by **robertoataulfo** on 19 Feb 2012, 5:11 p.m.,*
in response to message #1 by Geir Isene

+ rare :-)

Edited: 19 Feb 2012, 5:13 p.m.

Re: HP-94!

*Message #3 Posted by **Katie Wasserman** on 19 Feb 2012, 5:35 p.m.,*
in response to message #1 by Geir Isene

I wrote a really lame HP-35 simulator in the HP-94 Basic development package. It's a pretty lousy version of BASIC and not a lot of fun to program in since the development environment does not simulate the actual hardware at all. So you need to keep compiling downloading and testing, yuck.

If you're interest you should get a copy of the development system (I think it's on www.hpmuseum.net).

My stuff is here. Read the Commands.lst file it explains how to compile and download without having to read the reams of HP documentation. It also lists all the HP-94 commands, development system commands, etc.

-Katie

Re: HP-94!

*Message #4 Posted by **Bruce Larrabee** on 19 Feb 2012, 11:15 p.m.,*
in response to message #3 by Katie Wasserman

I just rebuilt a couple of HP94. Had to burn EPROMs for them to get them to work.

Do you have any other HP94 stuff?

I was thinking of trying the development system but it looks like installing on a PC is a major pain?

Re: HP-94!

*Message #5 Posted by **Katie Wasserman** on 20 Feb 2012, 12:39 p.m.,*
in response to message #4 by Bruce Larrabee

No installation needed, it's old DOS stuff. The HP Computer Museum has this in a weird format I agree, PM me for a copy. Incredibility the 94 development environment still works on Windows 7 (at least the 32 bit version). But I used my HP200LX as the development platform, just because it's my only real DOS machine left and I know all the communications stuff (to the 94) runs without a hitch there.

I don't have anything else for the 94 series but I do have all three of them: D, E and F (my only HP collector bragging point).

Re: HP-94!

*Message #6 Posted by **Geir Isene** on 20 Feb 2012, 4:35 p.m.,*
in response to message #5 by Katie Wasserman

Send me a copy; g@isene.com

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

calc cases

*Message #1 Posted by **JDonley** on 19 Feb 2012, 2:06 p.m.*

Here's a couple of calc cases I made. The calcs are protected by Astech clamshells, so this is really over-kill.

Re: calc cases

*Message #2 Posted by **Chris C** on 19 Feb 2012, 8:36 p.m.,*
in response to message #1 by JDonley

I recently bought a 35s that came with the sleeve case. I'd much rather have gotten the book cover type case so the calc and the case would be one unit. Since they're not, when I use the calculator (I'm a student) I have a loose case on my small desk/surface area to shuffle around, or I have to put it into my bag then get it back out when I'm done with the calculator. I'd just prefer to have a fold-behind case or a snap-on-back hard case. /endMoan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34 S: Fonts (a bit OT)

*Message #1 Posted by **Marcus von Cube, Germany** on 19 Feb 2012, 11:59 a.m.*

I've created TrueType fonts from the bitmap fonts used in the WP 34S. This is mainly for Walter's documentation efforts but may be of more general use.

Here is what I do:

1. Let a program generate Windows style bitmap font files directly from the original bitmap definitions.

2. Use FontForge to import the *.fnt file(s).

3. Use AutoTrace to convert the bitmaps to strokes. It's a feature in FontForge but needs the external tracer. (Some images don't get traced correctly but this can be fixed manually.)

4. Export the result as a TrueType file.

So far, so good. But here the trouble starts. Somehow FontForge doesn't get the encodings right. On my Mac the font simply does not show the characters in their intended positions but scattered over the whole Unicode range. Windows works better but I still need a way to properly address the special characters (in the range 01 to 1F).

My first attempt was to create Windows bitmap font (*.fon). The font installs but doesn't show up in Word.

Anybody out there with experience in this area? I'm even thinking of creating the TrueType font directly from my program in step 1. Is the format easy enough to go this route?

I've committed my work to SVN (trunk/windows/winfont) for testing.

Re: WP34 S: Fonts (a bit OT)

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 19 Feb 2012, 2:34 p.m.,*
in response to message #1 by Marcus von Cube, Germany

If Luiz Viera (Brazil) is available, he is the one to ask!

Re: WP34 S: Fonts (a bit OT)

*Message #3 Posted by **Luiz C. Vieira (Brazil)** on 19 Feb 2012, 8:35 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi, all;

sorry not being here with you these 'years' (I was actually 'called' by Gerson, who told me I was mentioned here...).

I was contacted some many months ago about these fonts, but free time seems to be water amongst my fingers. In fact, I do not even know if I remember how to use 'Font Creator', the application I got used to in order to

organize final true-type font files. Characters were created and exported to a TTF file with CorelDRAW!, then I used FontCreator to arrange characters in places inside the TTF file CorelDRAW! was not able to set them.

I still have the drawing I was sent with the characters needed when compared to the TTF I created for the HP48/49/50 series menu font, but I just did not find the time to work with them. Will not promise I'll do that, but if you believe I could be of any help, I surely promise to try hard finding time to go ahead with this WP34S font file. Still have my calcs, my books and (hopefully) all collected knowledge base, but I'd need some time to go ahead with the font. Will let you know as it goes.

Best regards.

Luiz (Brazil)

Re: WP34 S: Fonts (a bit OT)

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 20 Feb 2012, 2:54 a.m.,*
in response to message #3 by Luiz C. Vieira (Brazil)

Happy to read you again, Luiz!
Stay well,
Massimo

Re: WP34 S: Fonts (a bit OT)

*Message #5 Posted by **Paul Dale** on 20 Feb 2012, 3:26 a.m.,*
in response to message #3 by Luiz C. Vieira (Brazil)

Luiz,

Good to hear from you again.

Marcus has made some truetype fonts already, which look pretyt good. He just wants a bit of assistance figuring out the final little bits.

- Pauli

Re: WP34 S: Fonts (a bit OT)

*Message #6 Posted by **Walter B** on 20 Feb 2012, 4:48 a.m.,*
in response to message #3 by Luiz C. Vieira (Brazil)

Olá Luiz,

Welcome back! Please see my mail to you.

Cumprimentos,
Walter

Re: WP34 S: Fonts (a bit OT)

*Message #7 Posted by **Marcus von Cube, Germany** on 20 Feb 2012, 5:12 a.m.,*
in response to message #3 by Luiz C. Vieira (Brazil)

Luis, thanks for offering help. I'm mostly worried about the Mac not being able to present a reasonable mapping of my font to the keyboard. If you need assistance with finding the fonts in SVN, ask here!

Re: WP34 S: Fonts (a bit OT)

*Message #8 Posted by **Luiz C. Vieira (Brazil)** on 20 Feb 2012, 9:59 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Hi, Marcus.

I had a reply from Walter and he told me you were working on the fonts. The Windows-based program I used in order to actually fit symbols in some 'forbidden' places was FontCreator, but it's been a while, though. I'll have to read the manual again, but I remember it was not hard to overlap CorelDRAW! and Windows restrictions. It seems to me the places that could not be used were saved for control characters, but FontCreator allowed user definitions to take place.

I'll post later, need to go now.

Re: WP34 S: Fonts (a bit OT)

*Message #9 Posted by **Marcus von Cube, Germany** on 21 Feb 2012, 3:23 p.m.,*
in response to message #8 by Luiz C. Vieira (Brazil)

I went a totally different route with some success. I'm using FontForge on my Mac. My first attempts of importing a bitmap font weren't too successful, at least not with respect to my Mac. The little program which used to create the old fashioned FNT files does now generate the FontForge input file (of type *.fsd) directly. FontForge happily reads my files and creates OpenType fonts from it. The new fonts are here.

Re: WP34 S: Fonts (a bit OT)

*Message #10 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 6:18 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi, Marcus.

Thank you for your link, found the files.

I just did not find a way to visualize, neither use the .OTF files with my computer running Windows XP applications. Do they need to be converted? The fonts I created were all .TTF, an Adobe format (True-Type Font format). Is there a way to convert .OTF to .TTF?

Cheers.

Luiz (Brazil)

Re: WP34 S: Fonts (a bit OT)

*Message #11 Posted by **Marcus von Cube, Germany** on 22 Feb 2012, 4:11 a.m.,*
in response to message #10 by Luiz C. Vieira (Brazil)

OTF loads fine in my Windows XP and on my Mac. I had trouble with the TTF fonts on MacOS but the OTF files are fine.

Internally, the OTF is a CFF (Postscript) font. I'm not aware that I have installed any special drivers to make the OTF fonts work on my machine. Maybe the download didn't work? To check this, what are the file sizes?

(Edited for typo)

Edited: 22 Feb 2012, 4:15 a.m.

Re: WP34 S: Fonts (a bit OT)

*Message #12 Posted by **Marcus von Cube, Germany** on 22 Feb 2012, 11:55 a.m.,*
in response to message #11 by Marcus von Cube, Germany

I've put up the fonts on our release pages. They are slightly improved over what I had yesterday. :-)

Re: WP34 S: Fonts (a bit OT)

*Message #13 Posted by **Luiz C. Vieira (Brazil)** on 22 Feb 2012, 1:41 p.m.,*
in response to message #11 by Marcus von Cube, Germany

HI, Marcus.

After [Properties] over both OTF files I have this:

WP34SRasterFontRegular.otf File size: 8,63 KB (8.838 bytes) Size in disk: 12,0 KB (12.288 bytes)

WP34SRasterFontSmall.otf File size: 8,60 KB (8.812 bytes) Size in disk: 12,0 KB (12.288 bytes)

Are these figures OK?

Cheers.

Luiz (Brazil)

Edited: 22 Feb 2012, 1:42 p.m.

Re: WP34 S: Fonts (a bit OT)

*Message #14 Posted by **Marcus von Cube, Germany** on 22 Feb 2012, 3:31 p.m.,*
in response to message #13 by Luiz C. Vieira (Brazil)

That's a broken download. I've put the fonts in a ZIP file (see post above).

WP34 S: Fonts OK!

*Message #15 Posted by **Luiz C. Vieira (Brazil)** on 22 Feb 2012, 7:20 p.m.,*
in response to message #14 by Marcus von Cube, Germany

OK, Marcus.

These ones downloaded and opened fine, thanks!

Cheers!

Luiz (Brazil)

Re: WP34 S: Fonts (a bit OT)

*Message #16 Posted by **Marcus von Cube, Germany** on 23 Feb 2012, 12:12 p.m.,*
in response to message #9 by Marcus von Cube, Germany

I've now added a nice 7 segment font to the collection. It's generated in the same way the dot matrix fonts are, so changes in the sources are reflected in the font when it is regenerated. Dot and comma have zero width and are appended directly to the last typed digit. To emulate the exponent display just use the superscript function of your word processor.

As with the bitmap fonts which follow Unicode encoding instead of the internal mapping, I've rearranged some characters (codes 00 to 08, 18, 19 are on A0 to A8 and B8, B9, respectively), and added symbols for the separate segments. The latter can be reached (in Windows) with Alt+024x where x goes from 1 to 9. The funny thing here is that you can compose a character from the segments because these all have zero width.

Have fun!

Here you are: https://sourceforge.net/projects/wp34s/files/

Re: WP34 S: Fonts (a bit OT)

*Message #17 Posted by **fhub** on 24 Feb 2012, 8:51 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Hi Marcus,

I have a question about all this fonts stuff:
Has this any influence or consequences for the WP34s emulator?

I've just seen your new SVN labeled "Reworked Unicode encoding of fonts" with new EXEs for wp34s and wp34sgui, but so far I haven't found any differences in the emulator since you're working on these new fonts (and I haven't even installed any of them here on my Windows).

So what's all this stuff really good for (despite of maybe using these fonts for Walters manual)???

Franz

Re: WP34 S: Fonts (a bit OT)

*Message #18 Posted by **Marcus von Cube, Germany** on 24 Feb 2012, 10:12 a.m.,*
in response to message #17 by fhub

Try the Menu option "Copy Textline" and paste the clipboard in Word (or any other program capable of displaying Unicode characters). If you have one of the non ascii characters (like an arrow or umlaut) in the display or in alpha then the result will differ when you are using an older emulator (without the Unicode mapping): The characters will not show properly in Word . With the new emulator, all special characters are mapped to their Unicode equivalent and the clipboard is flagged as containing Unicode text. The new fonts follow the same encoding so that you can create an exact representation of the display contents on your PC.

Re: WP34 S: Fonts (a bit OT)

*Message #19 Posted by **Luiz C. Vieira (Brazil)** on 24 Feb 2012, 11:07 a.m.,*

in response to message #18 by Marcus von Cube, Germany

HI.

Considering that the new fonts are freely available, anyone willing to write about the WP34S will be able to do it and keep the corresponding visual appealing of the WP34S original LCD fonts. I had that in mind when I created the first fonts back in 2004: documents written for HP calculator users (or other brand, actually) with the display and keyboard references close to the original. Matter for fact, I think this is one of the custom fonts goals. I used my fonts to create the LCD pictures when writing the HP12C learning modules, available at the HP website.

Cheers.

Luiz (Brazil)

Edited: 24 Feb 2012, 11:10 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Maintenance and Durability: From NIB to abused calculators

*Message #1 Posted by **Fabricio** on 19 Feb 2012, 10:26 a.m.*

I´m following this thread from HERE

> Quote:
>
> ... Even an unused one cannot be guaranteed to survive for long because all electronic components have their respective lifetimes even without much use.

So the issue is, how to protect and keep a calculator for the next 20 to 30 years from 2012 on? My question is mainly headed to the vintage pioneer (27s, 32sii, 42s), clamshell (28s) and Charlemagne series (48s, 48GX).

I have my *stock* that is not in use packed without batteries, and am planning to unpacked them every 4-months or so to use them for a day or two just to keep their internals on action from time to time. Aside from the basics (not dropping the unit, putting the case for preventing it from unnecesary dust), what else would you recomend for both units in daily use and units in storage?

Thanks in advance!

Re: Maintenance and Durability: From NIB to abused calculators

*Message #2 Posted by **David Ramsey** on 19 Feb 2012, 11:08 a.m.,*
in response to message #1 by Fabricio

Other than storing them in a non-oxygen atmosphere, I think you're doing about all you can. Storing them without batteries is the biggie, of course. As far as I know the only electronic components that will fail under these circumstances are electrolytic capacitors, and I *think* that occasional power-on time helps retard this.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #3 Posted by **From Hong Kong** on 19 Feb 2012, 11:44 a.m.,*
in response to message #2 by David Ramsey

> Quote:
>
> Other than storing them in a non-oxygen atmosphere, I think you're doing about all you can. Storing them without batteries is the biggie, of course. As far as I know the only electronic components that will fail under these circumstances are electrolytic capacitors, and I *think* that occasional power-on time helps retard this.

My Sharp PC-E500S was bought new around 1999. I removed the 4 AAA batteries but kept the button cell for memory backup in the battery compartment. A 32KB RAM card with a backup battery was installed in the machine. I remember that it was turned on one to two years ago. One day I put new batteries into the machine but I couldn't turn it on. I replaced all button cells in the machine and in the RAM card with new ones but it could't still be turned on. After several days, I could suddenly turn it on! I'm not sure whether

there were problems in certain electrolytic capacitors.

Edited: 19 Feb 2012, 11:45 a.m.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #4 Posted by **Cristian Arezzini** on 19 Feb 2012, 11:49 a.m.,*
in response to message #2 by David Ramsey

> Quote:
>
> As far as I know the only electronic components that will fail under these circumstances are electrolytic capacitors,

I have two counter-examples for this. I have two calculators: a Ti-68 and an Elorg-51. Both stored for years in a box without batteries, and with silica-gel to keep humidity low. The Ti-68 developed a fault at the flex cable connecting the display to the motherboard. Even though it doesn't move or actually flex in the Ti68, still it got degraded somehow, leading to display problems (in my case, no decimal point was displayed).

On the Elorg 51, I don't know how it happened, but the LCD became "slow" - i.e. the contrast is good, it doesn't look "dim", but it takes maybe 2-3 seconds to "change aspect". If I press a few numbers fast, you can actually see them slowly appearing, right to left. It's not a CPU-slow-speed thing because calculations happen fast enough.

Cristian

Re: Maintenance and Durability: From NIB to abused calculators

*Message #5 Posted by **Thomas Chrapkiewicz** on 19 Feb 2012, 11:28 a.m.,*
in response to message #1 by Fabricio

This is not necessarily a recommendation for prevention, but awareness.

The 48 series (and others?) relay on a spongy/conductive- 'zebra strip' for the display connections. This sponge loses its resilience with time, resulting in loss of connection(s).

Also, in the 48, the connections between the keyboard flexboard and the main pc board are simply 'connected' by pressure from behind with a piece of sponge. This type of 'connection' is fundamentally headed for failure from loss of resilience and the inevitable oxidation on the contacts. This has already been witnessed for years.

I've disassembled 48s, 48g and 38g families. If anyone could use pictures, or would like more details, drop me an email.

TomC

Re: Maintenance and Durability: From NIB to abused calculators

*Message #6 Posted by **Bart (UK)** on 19 Feb 2012, 1:12 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

This sponge that presses the keyboard connector to the PCB seems to becoming a more prevelent failure. An easy fix really, but unfotunately the Pioneers and 48-series are the most difficult to take apart.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #7 Posted by **aj04062** on 19 Feb 2012, 12:45 p.m.,*
in response to message #1 by Fabricio

I wonder if there is some MIL Spec grade storage bags that might help. I package items I sell in these types of bags. They inhibit corrosion and moisture. Problem is, I don't think either of these are the culprits to lost elasticity in pressure contacts.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #8 Posted by **John B. Smitherman** on 19 Feb 2012, 1:01 p.m.,*
in response to message #1 by Fabricio

A dry and oxygen free environment is probably the best you can do. Maybe using nitrogen and desiccant would help. Or, think like an ancient Egyptians and use the power of the pyramid. ;-)

Good luck with your preservation!

John

Re: Maintenance and Durability: From NIB to abused calculators

*Message #9 Posted by **Bart (UK)** on 19 Feb 2012, 1:06 p.m.,*
in response to message #1 by Fabricio

Avoid temperature extremes. I lost the screen on a PC-1251 when it was left in an unheated room during a very cold night last winter (we were away visiting family for a few days).

Electrolytic caps (and some tantalums) are another weak point. This is because the dielectric layer is formed from the electrolyte in the cap and breaks down if the cap is left discharged for long periods of time (years). Powering on every 4 months should be fine. However, if you do come accross one that has been left unpowered for a very long time, do not just power it up as the current through the cap can permanently damage it. Connect a 1k ohm resistor in series with the normal supply voltage for 24 hours for the capacitor to re-form. In old calculators I replace the electrolytic caps as standard (particularly prevalent in those with VFD and Panaplex displays).

Be careful with the use of cleaning agents, because although they may be keyboard friendly, if it gets to rubber strips these can deteriorate quicker and fluids can also damage the connection of heat seal connectors (more commonly used to connect LCDs in modern calculators).

As for failures of other electronic components, these are pretty random - just depends on your luck (except for design flaws, e.g. the woodstock charging circuit).

Re: Maintenance and Durability: From NIB to abused calculators

*Message #10 Posted by **Garth Wilson** on 20 Feb 2012, 3:27 a.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> Avoid temperature extremes. I lost the screen on a PC-1251 when it was left in an unheated room during a very cold night last winter (we were away visiting family for a few days).

Hmmm... I wonder if it could have been from something else. I had an LCD down to -55 deg C 10+ years ago in a test for a product in development, and it did not hurt it. It wouldn't work down there, but it was fine when brought back up to -20 or higher again. This was admittedly a wide-temperature-range one which was supposed to be able to go down to -40, but I expect the commercial grade should be able to go past freezing with no problem.

Edited: 20 Feb 2012, 3:28 a.m.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #11 Posted by **Bart (UK)** on 20 Feb 2012, 5:21 a.m.,*
in response to message #10 by Garth Wilson

I agree that one would expect it to withstand temperatures to -10 deg C, many commercial parts are rated down to this (I estimate that the room may have briefly been as low as -5). I have a dozen other LCD calculators in the same room, they are all OK. I opened the 1251 up to see if the screen was under any stress, but it all seemed fine. It may have been a weak part, but I have seen quite a few 1251's with leaky screens, so perhaps the LCD quality for that particular model is not too good. As I don't know if any of my other calculators happen to have a 'boderline' part, I now try to keep them within +10 to +25 degrees C range.

Edit:
Just to describe what happened, I was writing a program on it before we went away, (leaving it the cold upsstairs room) and on return I fetched and I noticed the dark spot in the upper left corner. I let it warm up for a day in the lounge. The spot then mostly dissapeared, but a slight discouleration remained. I then opened it up to see if the screen was under any stress, but it all seemed fine. However, over the following months that corner went dark again and it spread - and took on the typical "LCD bleeding" look.

Edited: 20 Feb 2012, 5:36 a.m.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #12 Posted by **Bruce Larrabee** on 19 Feb 2012, 11:27 p.m.,*
in response to message #1 by Fabricio

What was said about the 48s applies to all the clam shell models I think. That can be repaired. If you are good at welding plastic.

I would think that if you are going to store them a very long time pulling the caps out might be a good idea.

And then the nitrogen.

permanent storage is hardly possible

*Message #13 Posted by **Frank Boehm (Germany)** on 20 Feb 2012, 5:07 a.m.,*
in response to message #1 by Fabricio

- failure of electrolytic capacitors, these can be replaced
- disintegration of anything made out of plastics, including foam (used for key feedback, instead of springs) and casing parts (screw posts cracking away)
- corrosion of contacts, including key contacts, zebra strip contacts, display contacts
- corrosion of the LCD

For optimum storage, I'd recomment a dark, zero moisture, 10oC cold storage. One thing to remember: soft cases should not come into contact with the calculator, best is to keep them seperately (they often contain softeners, which will damage plastic parts).

Re: permanent storage is hardly possible

*Message #14 Posted by **From Hong Kong** on 20 Feb 2012, 10:57 a.m.,*
in response to message #13 by Frank Boehm (Germany)

> Quote:
>
> For optimum storage, I'd recomment a dark, zero moisture, 10oC cold storage. One thing to remember: soft cases should not come into contact with the calculator, best is to keep them seperately (they often contain softeners, which will damage plastic parts).

I've a Sharp PC-1250A put inside its soft case. One day I discovered that some 'oil' coming out from the inner sides of the soft case. The front and rear sides of the computer were in contact with the inner sides. The front side including the display is ok so far. However, the rear side is coated with some slightly sticky thing. I've no idea about this coating. Maybe something with softners.

The same problem causes a coating on the display of my Casio FX-603P. I've to rub the display by my thumb regularly to remove the coating.

Re: Maintenance and Durability: From NIB to abused calculators

*Message #15 Posted by **Fabricio** on 21 Feb 2012, 11:36 a.m.,*
in response to message #1 by Fabricio

Thanks to all for your suggestions!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

$1000 for a vintage HP 97 printing calculator

*Message #1 Posted by **aurelio** on 19 Feb 2012, 3:32 a.m.*

Hi all, agree that the price is "fantastic"? on e-bay

Re: $1000 for a vintage HP 97 printing calculator

*Message #2 Posted by **Maximilian Hohmann** on 19 Feb 2012, 5:02 a.m.,*
in response to message #1 by aurelio

Good morning!

> Quote:
>
> Hi all, agree that the price is "fantastic"?

Yes, but it is a fantastic calculator!

Way too much of course, but for me it still makes more sense to buy an HP-97 for 1000$ than an HP-41, -42, -48 or -28 for more than 200$ as you can see on eBay every day.

Ciao, max

Edited: 19 Feb 2012, 5:04 a.m.

Re: $1000 for a vintage HP 97 printing calculator

*Message #3 Posted by **aurelio** on 19 Feb 2012, 9:00 a.m.,*
in response to message #2 by Maximilian Hohmann

Hi Max, agree for the fantastic calculator, but you understand that 1000$ is quite an exaggerated price for that calculator, no new no mint, also, "there was a number written in black marker on the back...but it is mostly worn off", maybe fully working.... (as from his words the seller is not an expert), I don't know, it looks too much.

good luck to the seller and good luck to the buyer!

Edited: 19 Feb 2012, 7:09 p.m. after one or more responses were posted

Re: $1000 for a vintage HP 97 printing calculator

*Message #4 Posted by **Jim Johnson** on 19 Feb 2012, 11:03 a.m.,*
in response to message #3 by aurelio

I suspect this seller is unaware of the "going auction price" for HP97's ($180 - $400) and this auction has no case or manual. This will go unsold if the price isn't lowered. My suspicion is that the card reader needs to be rebuilt as well. The marker on the case certainly lowers the value. No photo of

battery terminals so this is another unknown.

Re: $1000 for a vintage HP 97 printing calculator

*Message #5 Posted by **Michael de Estrada** on 19 Feb 2012, 11:48 a.m.,*
in response to message #4 by Jim Johnson

This sort of thing happens all the time with clueless sellers. It's not just HP vintage calculators either. This is pretty ridiculous as well, but you'd need to know something about it know the true market price.

Re: $1000 for a vintage HP 97 printing calculator

*Message #6 Posted by **DavidShenk** on 19 Feb 2012, 11:55 a.m.,*
in response to message #1 by aurelio

Apparently, at such a bargain price, one cannot afford to include the shipping.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP28S screen noise generator

*Message #1 Posted by **Keith Midson** on 18 Feb 2012, 6:53 p.m.*

Hi all, following on from THIS thread, here is the HP28S program that produces a hypnotising screen display:
<< IMG 'TEST' STO 1 738 START
TEST 548 548 SUB TEST 1 547 SUB +
TEST XOR 'TEST' STO TEST ->LCD NEXT >>

You need to store a screen dump into the file 'IMG' first. Have fun! Will look like THIS , but the moving image is much more impressive than you can do justice with in a still picture. Cheers, Keith

Re: HP28S screen noise generator

*Message #2 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 6:58 p.m.,*
in response to message #1 by Keith Midson

Great for "I'd gladly lend it to you, but it's gone wacky!"

Re: HP28S screen noise generator

*Message #3 Posted by **Namir** on 18 Feb 2012, 7:51 p.m.,*
in response to message #1 by Keith Midson

Keith,

Stop abusing these poor machines!!!!

:-)

Namir

Re: HP28S screen noise generator

*Message #4 Posted by **Keith Midson** on 18 Feb 2012, 8:09 p.m.,*
in response to message #3 by Namir

they love it! ;-)

Re: HP28S screen noise generator

*Message #5 Posted by **Cristian Arezzini** on 19 Feb 2012, 2:16 a.m.,*
in response to message #1 by Keith Midson

Thank you Keith! :)

Cristian

Re: HP28S screen noise generator

*Message #6 Posted by **C.Ret** on 19 Feb 2012, 4:09 a.m.,*
in response to message #1 by Keith Midson

Many Thanks for remember me *bitmap screen plays* on my old HP-28S.

If my memory don't abuse me, this code may not run on HP-28C due to the use of the XOR on strings. XOR function may not handel *binary* or *screen* strings on HP28C; only integers and regular binaries.

In your code, I still not understand why you loop 738 times ? Is there samething I miss interpret, is ther any effect I miss ?

```
«
  IMG 'TEST' STO
  1 738 START
          TEST 548 548 SUB
          TEST   1 547 SUB +
          TEST XOR
         'TEST' STO
          TEST ->LCD
  NEXT
»
```

(what a bunch as TEST ?)

Please consider my translation of your code without any use of any global variable. My version directly use actual screen apparence and loops until one key is pressed.

```
«
  DO
     LCD->
     DUP  548 548 SUB
     OVER   1 547 SUB + XOR
     ->LCD
  UNTIL
     KEY
  END
  CLMF
»
```

Great effet HP28S feature, isn't it ?

May same one bring down a version for HP48/49/50 ?

Edited: 19 Feb 2012, 4:10 a.m.

Re: HP28S screen noise generator

*Message #7 Posted by **Keith Midson** on 19 Feb 2012, 4:42 a.m.,*
in response to message #6 by C.Ret

That is a much better version of the program - thank you! I have long lost my original code from 1990, which was much neater - I wrote this in a hurry to see if I could replicate the effect all these years later. I think I used the word 'test' as it was me 'testing' to see if I could get it to work (after not using RPL for more than a decade). As for the importance of 738 ... I have no idea!!
I would love to see a comparable program on the 48 - when I upgraded to the 48 I was very disappointed that the screen graphics were handled so differently (and never actually took the time to learn).

Re: HP28S screen noise generator

*Message #8 Posted by **Gilles Carpentier** on 19 Feb 2012, 5:35 p.m.,*
in response to message #6 by C.Ret

"May same one bring down a version for HP48/49/50 ?"

Hello C.Ret... I don't understand the prog HP28 here... On the 48/50 bitmaps are special object and not strings...

Some ideas on 50G :

```
«
  DO
    LCD-> DUP {#0 #4} {#130 #79} SUB {#0 #0} SWAP GXOR ->LCD
  UNTIL
     KEY
  END
»


or


«
  DO
    LCD-> NEG ->LCD
  UNTIL
     KEY
  END
»
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC? THIS is a calculator for real men!

*Message #1 Posted by **Joerg Woerner** on 18 Feb 2012, 6:30 p.m.*

Hi Guys,

You are talking recently a lot about credit card-sized calculators.

Are you kidding? This is America, the land of the Ford F-150 Pickup Trucks. Are you driving the Smart car or the new Scion iQ?

This is now a calculator for REAL men:

Have fun, happy calculator hunting and have a great weekend,

Joerg

Re: DM-15CC? THIS is a calculator for real men!

*Message #2 Posted by **Paul Dale** on 18 Feb 2012, 6:36 p.m.,*
in response to message #1 by Joerg Woerner

That mystery button in the bottom right means this is a calculator for wimps :-)

- Pauli

Re: DM-15CC? THIS is a calculator for real men!

*Message #3 Posted by **Joerg Woerner** on 18 Feb 2012, 6:52 p.m.,*
in response to message #2 by Paul Dale

And the one above the [ON/OFF] key that it shouts back ;-))

Joerg

Re: DM-15CC? THIS is a calculator for real men!

*Message #4 Posted by **hpnut** on 18 Feb 2012, 7:21 p.m.,*
in response to message #2 by Paul Dale

yup, real RPN calcs have no = :-)

Re: DM-15CC? THIS is a calculator for real men!

*Message #5 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 7:29 p.m.,*
in response to message #4 by hpnut

Yes, real RPN calcs are nonpareil :-)

From http://www.merriam-webster.com/dictionary/nonpareil :

NONPAREIL: having no equal

Re: DM-15CC? THIS is a calculator for real men!

*Message #6 Posted by **C.Ret** on 19 Feb 2012, 3:54 p.m.,*
in response to message #4 by hpnut

> Quote:
>
> yup, real RPN calcs have no = :-)

Nor have they any open or close parenthesis keys !

Also UP and DOWN keys may have been label Roll Up and Roll Dwn respectively !

Re: DM-15CC? THIS is a calculator for real men!

*Message #7 Posted by **Namir** on 18 Feb 2012, 7:49 p.m.,*
in response to message #1 by Joerg Woerner

How about a clear scan of your credit card??? Should help us get many units of the machine in the picture.

:-)

Namir

Re: DM-15CC? THIS is a calculator for real men!

*Message #8 Posted by **John B. Smitherman** on 18 Feb 2012, 8:19 p.m.,*
in response to message #7 by Namir

Joerg is bragging about having a gold card. ;-)

John

Re: Yes, it's all about my gold card

*Message #9 Posted by **Joerg Woerner** on 19 Feb 2012, 3:30 p.m.,*
in response to message #8 by John B. Smitherman

My "real" gold card:

Have a great Sunday.

Joerg

Re: Yes, it's all about my gold card

*Message #10 Posted by **Paul Dale** on 19 Feb 2012, 4:30 p.m.,*

in response to message #9 by Joerg Woerner

What does the musical notes button do?

- Pauli

Re: Yes, it's all about my gold card

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 19 Feb 2012, 4:33 p.m.,*
in response to message #10 by Paul Dale

Ding-ding!

:)))

Re: Yes, it's all about my gold card

*Message #12 Posted by **Joerg Woerner** on 19 Feb 2012, 5:19 p.m.,*
in response to message #10 by Paul Dale

Simulates "tactile" feedback from the key.

Joerg

Re: Yes, it's all about my gold card

*Message #13 Posted by **Katie Wasserman** on 19 Feb 2012, 5:43 p.m.,*
in response to message #9 by Joerg Woerner

Joerg,

I've been meaning to ask you for the longest time.....

What's so special to you about 2*SQRT(2) that you show this on so many of the calculators in your pictures? Not that there's anything wrong with this irrational number, but it would not be at the top of my list of exciting numbers I have known :)

-Katie

Re: Yes, it's all about my gold card

*Message #14 Posted by **Joerg Woerner** on 19 Feb 2012, 6:30 p.m.,*
in response to message #13 by Katie Wasserman

Katie,

Good question...

I was inspired and mentored by Viktor T. Toth when I started the layout of the Datamath Calculator Museum and he used for all his calculator pictures pi = 3.14159265... in the display.

Long before (this was in 1999) I used already SQR (8) * 100000 - 282842 = ??? to reveal the number of digits used in internal algorithm of scientific calculators.

Now you know my little secret ;-))

Good that you didn't asked why my eBay handle was "jogibogi" till a few years ago. That's something I would whisper in your ear;-))

Cheers, Joerg

Re: Please translate to RPN!!!

*Message #15 Posted by **Joerg Woerner** on 19 Feb 2012, 6:31 p.m.,*
in response to message #14 by Joerg Woerner

Oops - can you translate the 282842 thing to RPN, please????

Regards, Joerg

Re: Please translate to RPN!!!

*Message #16 Posted by **Gerson W. Barbosa** on 19 Feb 2012, 8:35 p.m.,*
in response to message #15 by Joerg Woerner

Not related to your request, just an attempt to show SQRT(8) might be an interesting number :-)

```
8  SQRT  EEX  8  *  17  1/x  y^x              (RPN)

(  SQRT  8  *  EE  8  )  ^  17  x^-1  ENTER    (AOS)
```

Regards,

Gerson.

Re: Please translate to RPN!!!

*Message #17 Posted by **Katie Wasserman** on 19 Feb 2012, 9:29 p.m.,*
in response to message #16 by Gerson W. Barbosa

Only 6 significant digits, not a good enough reason for me to like this number :)

Re: Please translate to RPN!!!

*Message #18 Posted by **Gerson W. Barbosa** on 19 Feb 2012, 9:52 p.m.,*
in response to message #17 by Katie Wasserman

Ok, sqrt(2) is better, and given infinite time it would help compute pi to the last digit :-)

http://www.golfscript.com/golfscript/examples.html

I don't know GolfScript but I guess the 29-byte script for 1000 digits of pi uses the Vieta's formula, like your 12-step program for the HP-12C:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=101118 (Message #22)

Edited: 19 Feb 2012, 9:58 p.m.

OT: Re: Please translate to RPN!!!

*Message #19 Posted by **Katie Wasserman** on 20 Feb 2012, 12:29 p.m.,*
in response to message #18 by Gerson W. Barbosa

Gerson,

Golfscript has been mentioned here a few times, thanks for the reminder to looking into this some....

It looks to me like a mix of RPL and APL with a little LISP thrown in, only just for integers. I like all these characteristics in a programming language but not the "write only" usability of it. I wonder if there are more than 10 people in the world who've used this more than once.

Do people here have experience with GolfScript? I see that Oliver mentioned building this into his ND1, but I'm not sure if that ever happened.

-Katie

Re: Please translate to RPN!!!

*Message #20 Posted by **Gerson W. Barbosa** on 19 Feb 2012, 11:35 p.m.,*
in response to message #17 by Katie Wasserman

> Quote:
>
> Only 6 significant digits,

A more interesting result, perhaps:

pi^34 = 8.00010471505*10^16

The underlined digits match exactly the first five significant digits of pi/3. This leads to the polynomial

x^34 - (1/3)*10^12*x - 8*10^16 = 0

whose positive real root is

3.14159265364

Nice coincidence, isn't it?

Edited to correct a mistake in the second coefficient

On the HP 50g

```
[ 1 0 0 0 0 0 0 0 0
    0 0 0 0 0 0 0 0 0
    0 0 0 0 0 0 0 0 0
    0 0 0 0 0 0 0 0 0
    '-1/3*1E12' -8E16]

PROOT
```

returns a positive real root 3.14159265364. The wp 34s polynomial solver should return 3.141592653644187, but I haven't tested on it yet.

Edited: 20 Feb 2012, 2:07 p.m.

Re: Yes, it's all about my gold card

*Message #21 Posted by **Paul Dale** on 19 Feb 2012, 11:23 p.m.,*
in response to message #14 by Joerg Woerner

> Quote:
>
> Long before (this was in 1999) I used already SQR (8) * 100000 - 282842 = ??
> ? to reveal the number of digits used in internal algorithm of scientific calculators.

This fails for the 34S. The sixteenth digit is a zero.

- Pauli

Re: DM-15CC? THIS is a calculator for real men!

*Message #22 Posted by **Jim Yohe** on 18 Feb 2012, 10:23 p.m.,*
in response to message #1 by Joerg Woerner

Doesn't meet my "carry in my shirt pocket" requirement. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

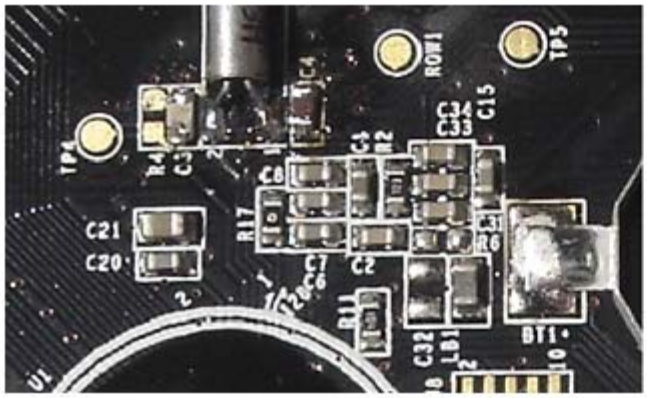
HP Forum Archive 20

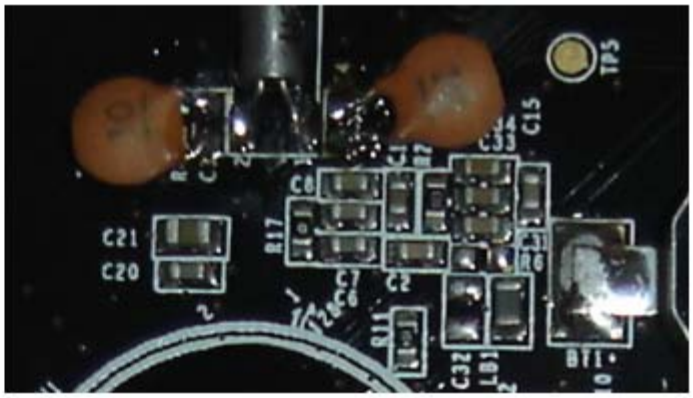
[Return to Index | Top of Index]

(Not so) successful crystal installation on my wp 34s

*Message #1 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 5:58 p.m.*

As per the author of this video's advice I took the parts from a non-working PC motherboard. When I finished adding the crystal the ON/C/C procedure worked as expected. I thought everything was ok, but I noticed programs would not run anymore. Also, the pixels in last row of the first line of the display almost always were shifted. I hadn't measured the value of the SMD capacitors because the digital multimeter in the picture would not measure in the pf range. I measured them later using another multimeter and they turned out to be 34 pf each. I replaced them with 10 pf ceramic caps but the problem remained (I shouldn't have used those large caps but I did it as a test). Anyway, I've managed to set the time according to the Windows clock. After two hours both clocks remained perfectly in sync. It has occurred to me the batteries are far from fresh (I've been using them for seven months now). After resetting the calculator I ran a program for five seconds. The batteries voltage dropped from 2.9 to 2.6 volts. Perhaps it's time to finally replace the batteries (and update the firmaware). I suspect the batteries drain more current when a crystal is installed. I'll replace them next Monday.





Gerson.

P.S.: The sledgehammer was not necessary :-)

Edited: 18 Feb 2012, 6:00 p.m.

Re: (Not so) successful crystal installation on my wp 34s

*Message #2 Posted by **Paul Dale** on 18 Feb 2012, 6:01 p.m.,*
in response to message #1 by Gerson W. Barbosa

That is a "case opening tool" not a hammer.

- Pauli

Re: (Not so) successful crystal installation on my wp 34s

*Message #3 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 6:08 p.m.,*
in response to message #2 by Paul Dale

I confess I thought of using it as such as I wasn't figuring how to open it up :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A show review of the SmartCalc 300s...

*Message #1 Posted by **Jose Gonzalez Divasson** on 18 Feb 2012, 5:52 p.m.*

A show review of the SmartCalc 300s...

SmartCalc 300s review

Re: A show review of the SmartCalc 300s...

*Message #2 Posted by **Karl-Ludwig Butte** on 19 Feb 2012, 5:52 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hello Jose,

thanks for the review - I enjoyed reading it.

Best regards

Karl

Re: A show review of the SmartCalc 300s...

*Message #3 Posted by **Maximilian Hohmann** on 19 Feb 2012, 6:28 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hello!

Interesting review with 90% agreement to my own experiece. Our son at school jumped from "no calculator" to TiNspire without anything in between, so I had to buy this Smartcalc 300 for myself (1 Euro on eBay, NIB :-)) for the sake of having a complete collection. I played with it a little and found it quite pleasing to use, but as you said, totally different from any other scientific HP calculator.

Some day I needed to do a quick calculation and took it from the heap of uncatalogued calculators under my desk (you should hear my wife's opinion on that...) but only got the result displayed as a fraction. There was no intuitive way to change this (I never read manuals) so I threw it back on the heap and used the trusted old Star Trekulator instead.

As with all other "modern" HP calculators (I think I have all the SmartCalcs, OfficeCalcs, WhateverCalcs that they currently sell) it is really only a piece of plastic with an emotional factor of zero.

Regards, max

Re: A show review of the SmartCalc 300s...

*Message #4 Posted by **Chris Smith** on 22 Feb 2012, 5:10 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Thanks for this.

If you grab a Casio FX991ES PLUS, you will find it's pretty much exactly the same from a software point of view (I assume it's the same manufacturer) but it has load more features such as complex numbers, vectors, matrices, a half decent solver.

I have a SmartCalc 300s and it's a piece of junk compared to the Casio. They keys don't work properly, it's buggy and it feels like a toy.

The Casio is several orders of magnitude better even though it's pretty much the same.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help building WP34s calc.bin

*Message #1 Posted by **Ed Wright** on 18 Feb 2012, 10:58 a.m.*

I'm trying to build calc.bin for WP34s for the first time. I have followed the instructions shown at http://sourceforge.net/apps/mediawiki/wp34s/index.php?title=How_to_build_the_firmware

I can successfully build the emulator, but not calc.bin. I enter win-build-arm.cmd, and I get the following warning: /pathname/ld.exe: warning: cannot find entry symbol entry; not setting start address followed by chcp 850 active code page: 850 The only file created in the realbuild directory is mapfile.txt. I'm a hardware guy, not a programmer and I can't figure out what I have wrong. Can anyone point me in the right direction? Thanks!

Re: Help building WP34s calc.bin

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Feb 2012, 3:33 p.m.,*
in response to message #1 by Ed Wright

Ed, the cmd file you are using isn't the same I'm using. In the root directory you will find flash.cmd instead.

This might still not explain your trouble. Is Yagarto.de installed? If you run the flash.cmd script a log file will be generated which I may be able to analyze.

Re: Help building WP34s calc.bin

*Message #3 Posted by **Dominic Richens** on 18 Feb 2012, 3:58 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Ed, the cmd file you are using isn't the same I'm using. In the root directory you will find flash.cmd instead.

Thanks Marcus - I'll update the wiki accordingly.

Re: Help building WP34s calc.bin

*Message #4 Posted by **Ed Wright** on 18 Feb 2012, 7:07 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Yegarto.de is installed. My environment is Windows7. Following is the content of flash-build.log.

arm-none-eabi-gcc (GCC) 4.6.2 Copyright (C) 2011 Free Software Foundation, Inc. This is free software; see the source for copying conditions. There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

cc -Wall -Werror -O1 -g -DHOSTBUILD -DREALBUILD -o windows32_realbuild/genfont.exe genfont.c process_begin: CreateProcess(NULL, cc -Wall -Werror -O1 -g -DHOSTBUILD -DREALBUILD -o

windows32_realbuild/genfont.exe genfont.c, ...) failed. make (e=2): The system cannot find the file specified.

make: *** [windows32_realbuild/genfont.exe] Error 2

Re: Help building WP34s calc.bin

*Message #5 Posted by **pascal_meheut** on 19 Feb 2012, 2:13 a.m.,*
in response to message #4 by Ed Wright

You also ned a normal, windows compiler. Did you install mingw & perl? Or cygwin?

Do you have a "cc" compiler in your path?

Re: Help building WP34s calc.bin

*Message #6 Posted by **Ed Wright** on 19 Feb 2012, 7:19 a.m.,*
in response to message #5 by pascal_meheut

Yes to mingw and activePerl. I also have Visual Studio. Since the emulator builds and works I assumed these were working.

Re: Help building WP34s calc.bin

*Message #7 Posted by **pascal_meheut** on 19 Feb 2012, 8:38 a.m.,*
in response to message #6 by Ed Wright

minwg is not used to build the emulator, at least not the current one.

What happens if you simply type "cc" in your command line?

Re: Help building WP34s calc.bin

*Message #8 Posted by **Ed Wright** on 19 Feb 2012, 1:21 p.m.,*
in response to message #7 by pascal_meheut

not recognized.

Re: Help building WP34s calc.bin

*Message #9 Posted by **Ed Wright** on 19 Feb 2012, 2:13 p.m.,*
in response to message #7 by pascal_meheut

I'm downloading Gnu tools now. I was following the wiki. I'll let you know how it goes. Thanks for all the help!

Re: Help building WP34s calc.bin

*Message #10 Posted by **Dominic Richens** on 19 Feb 2012, 2:50 p.m.,*
in response to message #9 by Ed Wright

Hi Ed,

If you get a sourceforge account, you can correct the wiki instructions yourself.

If not, please let me know what's wrong and I'll update them.

cheers!

dominic

Re: Help building WP34s calc.bin

*Message #11 Posted by **Dominic Richens** on 18 Feb 2012, 3:45 p.m.,*
in response to message #1 by Ed Wright

> Quote:
>
> I'm trying to build calc.bin for WP34s for the first time. I have followed the instructions shown at http://sourceforge.net/apps/mediawiki/wp34s/index.php?title=How_to_build_the_firmware
>
> I can successfully build the emulator, but not calc.bin. I enter win-build-arm.cmd, and I get the following warning: /pathname/ld.exe: warning: cannot find entry symbol entry; not setting start address followed by chcp 850 active code page: 850 The only file created in the realbuild directory is mapfile.txt. I'm a hardware guy, not a programmer and I can't figure out what I have wrong. Can anyone point me in the right direction? Thanks!

that doesn't work for me either, however this does:

```
cd wp34s
makewin.cmd
cd trunk
make REALBUILD=1
```

Re: Help building WP34s calc.bin

*Message #12 Posted by **Marcus von Cube, Germany** on 19 Feb 2012, 4:26 a.m.,*
in response to message #11 by Dominic Richens

The makewin script contains the call to make so going back to trunk and running make again is not needed.

As Pascal has pointed out, Ed is obviously missing the Windows GCC.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp 34s vs 41c hms+

*Message #1 Posted by **Christopher Johnson** on 17 Feb 2012, 11:27 p.m.*

A what do you get test. This is what I get.

```
wp 34s ver 3.0 2458


20.0000  enter^
1.0200
h.ms+


Answer:
21.0160


hp41c


20.0000
1.0200
hms+


Answer:
21.0200
```

This doesn't seem right. Am I wrong?

CJ

Re: wp 34s vs 41c hms+

*Message #2 Posted by **Paul Dale** on 17 Feb 2012, 11:32 p.m.,*
in response to message #1 by Christopher Johnson

Looks like a bug to me.

- Pauli

Re: wp 34s vs 41c hms+

*Message #3 Posted by **Paul Dale** on 17 Feb 2012, 11:53 p.m.,*
in response to message #1 by Christopher Johnson

And the fix is committed :-) Not built yet, that will come later today I expect.

- Pauli

Re: wp 34s vs 41c hms+

*Message #4 Posted by **Marcus von Cube, Germany** on 18 Feb 2012, 10:28 a.m.,*
in response to message #3 by Paul Dale

I've built and uploaded a new release.

Re: wp 34s vs 41c hms+

*Message #5 Posted by **Reth** on 18 Feb 2012, 11:13 p.m.,*
in response to message #4 by Marcus von Cube, Germany

now that is some customer service! is it because the customers are not real ones as such? what a difference when something is done for love...

BTW the above is a problem in a way with the HP48 too (under slightly different circumstances) and was never addressed.

Re: wp 34s vs 41c hms+

*Message #6 Posted by **Christopher Johnson** on 19 Feb 2012, 9:17 a.m.,*
in response to message #5 by Reth

> Quote:
>
> now that is some customer service!

No kidding. I didn't expect less than 12 hour turn around. Thanks Paul and Marcus. This is some amazing work you're doing. I'm having a good time programing this thing and exploring all the new commands.

CJ

Re: wp 34s vs 41c hms+

*Message #7 Posted by **Paul Dale** on 20 Feb 2012, 2:29 a.m.,*
in response to message #6 by Christopher Johnson

It would have been a sub one hour turn around except that I couldn't access the build server at the time.

I'm glad to hear you're enjoying the calculator. In many ways, it is a keystroke programmers' dream.

- Pauli

Re: wp 34s vs 41c hms+

*Message #8 Posted by **Christopher Johnson** on 22 Feb 2012, 11:35 a.m.,*
in response to message #7 by Paul Dale

I have discovered something else that I think should work but I get an error.

```
24.0159
24H
aTIME
```

I get bad time or date. On the 41c this can go up to 99 hours. Maybe relax the 24 hour check. Especially in 24 hour mode. Just my $0.02 worth.

v3.0 2513

CJ

Edited: 22 Feb 2012, 11:37 a.m.

Re: wp 34s vs 41c hms+

*Message #9 Posted by **Paul Dale** on 22 Feb 2012, 4:36 p.m.,*
in response to message #8 by Christopher Johnson

Fixed in next build :-)

- Pauli

Re: wp 34s vs 41c hms+

*Message #10 Posted by **Christopher Johnson** on 23 Feb 2012, 10:04 a.m.,*
in response to message #9 by Paul Dale

Excellent, Thanks Pauli

CJ

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-42S displaying Runic alphabet

*Message #1 Posted by **Bill (Smithville, NJ)** on 17 Feb 2012, 6:43 p.m.*

I'm always on the lookout for different programs for the HP-42s and came across a program to display the Runic alphabet.

Runic Alphabet on 42S

This has to be one of the more unusual applications for the HP-42s. Does anyone know of any other unusal programs?

Bill

Re: HP-42S displaying Runic alphabet

*Message #2 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 6:54 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Looks like the server is down. Google cache has it, except for the images.

http://webcache.googleusercontent.com/search?q=cache:Sw09gzxGNRcJ:www.jonsson.eu/programs/hp42s/+Runic+Alphabet+on+42S&cd=1&hl=en&ct=clnk

Re: HP-42S displaying Runic alphabet

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2012, 7:35 a.m.,*
in response to message #2 by Gerson W. Barbosa

No problem from here...

;)

Re: HP-42S displaying Runic alphabet

*Message #4 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 8:29 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

I've tried another computer, IE, FF and Chrome. Still inaccessible from here.

Re: HP-42S displaying Runic alphabet

*Message #5 Posted by **Bill (Smithville, NJ)** on 18 Feb 2012, 9:58 a.m.,*
in response to message #4 by Gerson W. Barbosa

Gerson,

Try entering the following link address:

http://www.jonsson.eu/programs/hp42s/

That works fine with both IE and Firefox on my system. Also works fine on my Android Phone browser.

Or try Google:

runic 42S

should bring up the link.

Not sure why not working for you.

Bill

Edited: 18 Feb 2012, 10:01 a.m.

Re: HP-42S displaying Runic alphabet

*Message #6 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 2:59 p.m.,*
in response to message #5 by Bill (Smithville, NJ)

I keep receiving the message "Oops! Google Chrome could not connect to www.jonsson.eu". At least now I know it's down just for me: http://downforeveryoneorjustme.com/ says "It's just you. http://www.jonsson.eu is up." :-) I followed some advices found here but it still doesn't work. I'll see this later.

Regards,

Gerson.

Re: HP-42S displaying Runic alphabet

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2012, 3:22 p.m.,*
in response to message #6 by Gerson W. Barbosa

Can you ping it? Or 83.168.226.126

Re: HP-42S displaying Runic alphabet

*Message #8 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 4:04 p.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

None works:

```
Microsoft Windows [versão 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. Todos os direitos reservados.


C:\Users\Gerson>ping 83.168.226.126


Disparando 83.168.226.126 com 32 bytes de dados:
Esgotado o tempo limite do pedido.
Esgotado o tempo limite do pedido.
Esgotado o tempo limite do pedido.
Esgotado o tempo limite do pedido.


Estatísticas do Ping para 83.168.226.126:
    Pacotes: Enviados = 4, Recebidos = 0, Perdidos = 4 (100% de
```

```
perda),
```

Re: HP-42S displaying Runic alphabet

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2012, 4:37 p.m.,*
in response to message #8 by Gerson W. Barbosa

You could try a tracert to see where your way is blocked...

Re: HP-42S displaying Runic alphabet

*Message #10 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 5:00 p.m.,*
in response to message #9 by Massimo Gnerucci (Italy)

Thanks! I'd never used this command before. By what I can see it goes as far as Sweden then it is blocked there somehow...

```
C:\Users\Gerson>tracert www.jonsson.eu


Rastreando a rota para www.jonsson.eu [83.168.226.126]
com no máximo 30 saltos:


  1     1 ms     1 ms     1 ms  192.168.1.1
  2    19 ms    19 ms    18 ms  BrT-L10-
ctaje701.dsl.brasiltelecom.net.br [201.41.168.254]
  3    19 ms    20 ms     *     BrT-G8-4-0-715-
ctame303.brasiltelecom.net.br [201.10.219.89]
  4    19 ms    21 ms    19 ms  BrT-G10-0-0-ctame-
core01.brasiltelecom.net.br [201.10.251.185]


  5    20 ms    19 ms    19 ms  BrT-G7-1-0-ctaje-
border.brasiltelecom.net.br [201.10.250.226]
  6   205 ms   204 ms   204 ms  mai-b1-link.telia.net
[213.248.92.105]
  7   210 ms   207 ms   209 ms  atl-bb1-link.telia.net
[80.91.245.43]
  8   216 ms   221 ms   215 ms  ash-bb1-link.telia.net
[80.91.252.217]
  9   208 ms   208 ms   210 ms  nyk-bb2-link.telia.net
[80.91.248.201]
 10   294 ms   290 ms   320 ms  prs-bb2-link.telia.net
[213.155.135.6]
 11   304 ms   304 ms   304 ms  ffm-bb2-link.telia.net
[80.91.246.180]
 12   335 ms   312 ms   310 ms  hbg-bb2-link.telia.net
[213.155.135.21]
 13   302 ms   302 ms   302 ms  kbn-bb2-link.telia.net
[213.155.134.206]
 14   325 ms   301 ms   301 ms  kbn-b4-link.telia.net
[80.91.253.245]
 15   301 ms   301 ms   301 ms  kbn-glos-i1-link.telia.net
[80.91.254.193]
 16   270 ms   270 ms   271 ms  telenor-ic-129622-kbn-glos-
i1.c.telia.net [213.248.73.178]
 17   280 ms   284 ms   282 ms  ti3003c310-ae1-0.ti.telenor.net
[146.172.105.21]
 18   292 ms   294 ms   293 ms  ti3002c310-ae2-0.ti.telenor.net
[146.172.100.69]
 19   282 ms   283 ms   282 ms  ti3002d400-xe0-0-0.ti.telenor.net
[146.172.100.82]
 20   282 ms   280 ms   281 ms  ti3083a210-xe8-1.ti.telenor.net
[146.172.107.206]
 21   283 ms   289 ms   287 ms  static-213-115-123-
44.sme.bredbandsbolaget.se [213.115.123.44]


 22   281 ms   282 ms   281 ms  dr-1.me6-sth.se.crystone.net
[83.168.243.140]
 23     *        *        *     Esgotado o tempo limite do pedido.
 24     *        *        *     Esgotado o tempo limite do pedido.
```

```
 25     *        *        *     Esgotado o tempo limite do pedido.
 26     *        *        *     Esgotado o tempo limite do pedido.
 27     *        *        *     Esgotado o tempo limite do pedido.
 28     *        *        *     Esgotado o tempo limite do pedido.
 29     *        *        *     Esgotado o tempo limite do pedido.
 30     *        *        *     Esgotado o tempo limite do pedido.

Rastreamento concluído.
```

Re: HP-42S displaying Runic alphabet

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2012, 7:05 p.m.,*
in response to message #10 by Gerson W. Barbosa

My trace ends with:

```
(...)
 21    68 ms    67 ms    67 ms  dr-1.me6-sth.se.crystone.net
[83.168.243.140]
 22    73 ms    72 ms    72 ms  lnxweb-1.pem.crystone.net
[83.168.226.31]
 23    69 ms    67 ms    67 ms  pemlinweb01.crystone.net
[83.168.226.126]
```

Massimo

(NT) - Gerson - You have Mail

*Message #12 Posted by **Bill (Smithville, NJ)** on 18 Feb 2012, 7:12 p.m.,*
in response to message #6 by Gerson W. Barbosa

No Text.

Re: HP-42S displaying Runic alphabet

*Message #13 Posted by **bill platt** on 23 Feb 2012, 12:28 a.m.,*
in response to message #2 by Gerson W. Barbosa

I LOVE this!

Re: HP-42S displaying Runic alphabet _ RAW FILE

*Message #14 Posted by **Bill (Smithville, NJ)** on 19 Feb 2012, 2:36 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

In case anyone wants to play with the program, I've created a RAW file which can be loaded into either FREE42 or EMU42.

Just email me through the forum and I'll send it out.

Bill

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

EXIT key reassigned on 42s

*Message #1 Posted by **Charles Mones** on 17 Feb 2012, 3:34 p.m.*

Here is an interesting problem: I recently was given a 42s that did not function. I installed 357 batteries (none were in the calculator) and with the help of this site was able to get it to turn on, but not in the normal way. I had to activate the self test or reset modes from the keyboard. I turned my 42s off by executing the "off" function. Shorting the battery terminals together for an entire day has not fixed the problem. The other day, by pure luck, I discovered that simultaneously pressing the EXIT and "summation+" keys turned the calculator on. Similarly shift then simultaneously EXIT and SUMMATION+ turns the 42s off. It seems to me that the EXIT key has been reassigned. I am aware that this can be done, but I would have thought that doing a memory clear would have undone the reassignment. Anyone have suggestions on how to fix this?

Many thanks, CMones

Re: EXIT key reassigned on 42s

*Message #2 Posted by **Eric Smith** on 17 Feb 2012, 3:43 p.m.,*
in response to message #1 by Charles Mones

That seems to me to more likely be a hardware fault.

Re: EXIT key reassigned on 42s

*Message #3 Posted by **Diego Diaz** on 17 Feb 2012, 7:25 p.m.,*
in response to message #2 by Eric Smith

Agreed.

Seems quite like a resistive "short-circuit" in the keyboard. Pioneers are prone to suffer from this desease after heavy (repetitive) use of a key.

Alas, lack of real steel dome keyboard... polycarbonate instead? :-(

Sorry for the bad news (wish I was wrong).

Cheers.

Diego.

Re: EXIT key reassigned on 42s

*Message #4 Posted by **Bart (UK)** on 17 Feb 2012, 3:47 p.m.,*
in response to message #1 by Charles Mones

Could be a bad connection of the keyboard connector onto the PCB. It is just under the LCD. If you press just under the screen, it will probably work too.

To see the internals of a 42s see: Lyuka's 42s page

Re: EXIT key reassigned on 42s

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Feb 2012, 4:18 p.m.,*
in response to message #1 by Charles Mones

In the HP-42 (very different from the HP-41 in this aspect) keys are not reassignable. ASSIGN works only with the six top-row keys, and by means of the CUSTOM menu (three virtual rows of six keys each). So ASSIGN cannot cause this behavior. There are reset and diagnostics sequences involving the EXIT key and some keys from the top row.

The keys can be also polled in the context of a running program by means of GETKEY function, but your description does not suggest any connection with this function.

Re: EXIT key reassigned on 42s

*Message #6 Posted by **Thomas Okken** on 18 Feb 2012, 11:35 a.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

You're forgetting the "programmable menu", where you can reassign the top row of the keyboard, *and* the up, down, and EXIT keys.
Having said that, Charles' description does sound like a hardware problem. A key assignment wouldn't survive a cold start, and it sounds like the calculator had been without batteries for a prolonged period of time.

Re: EXIT key reassigned on 42s

*Message #7 Posted by **Charles Mones** on 17 Feb 2012, 10:41 p.m.,*
in response to message #1 by Charles Mones

It appears that I have a hardware problem. All of the keys on this 42s are tight and springy with no wobbles, and it appears to be in very good overall condition. Therefore I will send it in to FixThatCalc so they can try to repair it. Thank you all for your expert and prompt advice!

Charles

Re: EXIT key reassigned on 42s

*Message #8 Posted by **robert rozee** on 18 Feb 2012, 12:41 a.m.,*
in response to message #7 by Charles Mones

if the calculator is otherwise fully functional, and passes the keyboard test, then why have it fixed? all you need to do is remember the slightly 'odd' on/off keyboard sequences.

Re: EXIT key reassigned on 42s

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Feb 2012, 8:03 a.m.,*
in response to message #7 by Charles Mones

Does EXIT work after the calculator is turned on? I mean, for instance, if it works to exit from a menu.

If it works (and what follows is just a guess), then the issue may have to do with a hardware interrupt signal, specifically used for the power-on function. The problem may be related to the keyboard to mainboard connection.

If it doesn't work, then it looks more like a keyboard, keyswitch or keyboard connection to mainboard issue.

To turn the calculator off, you can use the OFF function (XEQ "OFF"). Keep in mind that the ON function merely disables the timer which turns the calculator off after some 10 minutes of inactivity.

Re: EXIT key reassigned on 42s

*Message #10 Posted by **Lyuka** on 18 Feb 2012, 9:48 a.m.,*
in response to message #1 by Charles Mones

Hi Charles

I've ever experienced that kind of problem on a heavily used 42s.
The 'PWRON' pin of the processor seems to have relatively heavy pull-down resistance
or requires relatively high current to activate the processor.

The nominal resistance of the 'ON' key is about 430 [Ohm] (at new) to 470 [Ohm] (after moderately used) by my measurement.
That resistance can go as high as 1K [Ohm] on heavily used - worn carbon contact - keypad
which is not low enough to rise the voltage to cross the threshold to turn-on the processor.
At the end of life of the contact, pressing several keys might barely work to assert the active high signal at 'PWRON'
by some internal voltage glitch caused by common impedance or so.

I did membrane switch transplantation to fix that problem. But it's a kind of difficult thing to do.

Regards,
Lyuka

Edited: 18 Feb 2012, 10:17 a.m.

Re: EXIT key reassigned on 42s

*Message #11 Posted by **Charles Mones** on 18 Feb 2012, 4:53 p.m.,*
in response to message #1 by Charles Mones

I've had a chance to play with my 42s as many have requested. Here is what I found: 1.With the calculator on, I can only use the exit key together with the SQRT and LOG keys to do a reset or self test but nothing else. These were also the methods I used to activate the calculator when it was off. (i.e. before I found the trick of pushing EXIT then SUM+. The EXIT key does not return from a menu, but EXIT-SUM+ does. I've not been able to change the brightness of the display, though. 2.No other two-key sequence turns the calculator on. 3.As Bart (UK) suggested, I was able to turn the calculator on and off by pushing just below the LCD screen in conjuction with using EXIT. This method worked as well and reliably as the EXIT-SUM+ method. 4.As Lyuka suggested, I was able to turn the calculator on (but not off) by hitting a group of keys together with EXIT. For example 7,8,9,DIV. This method seems to work better with the numbered keys than with the function keys. It also does not work very reliably. My decision to send the calculator in will depend on whether I feel my 42s will work reliably as is. If Lyuka's diagnosis is correct, the 42s may have a limited life span, plus the problem may be difficult to fix. If Bart is correct, then the fix might be simpler. I enjoy tinkering with electronics, but drilling on the back of a thin plastic case is beyond my comfort level.

Thanks again,

Charles

Re: EXIT key reassigned on 42s

*Message #12 Posted by **Charles Mones** on 18 Feb 2012, 8:27 p.m.,*
in response to message #11 by Charles Mones

Looking at pictures of the carbon button contacts attached by Lyuka reminds me of the contacts used in remotes (TV, CD, etc). I have been able to revive dead keys by using a product called Cramolin made by CAIG labs. This material goes by the names of Cramolin R-5, DeoxIT and ProGold G5. You want the stuff that is the cleaner not the protectant, though the ProGold is both. One can get it as a concentrated liquid or spray. Here is how I rejuvinate the controls: 1. First clean both services with 91%+ isoprolyl. 2. Then moisten a q-tip with Cramolin. 3. Sparingly apply the substance to both sides of the contact. Do not oversaturate to the point of making a mess. 4. Leave it sit for about an hour. Then with a clean q-tip slightly mointened with alcohol wipe off the contacts. The q-tip may get black. 5. Then apply a second light coat of Cramolyn to the contacts. Again be sure not to oversaturate. Wipe off the excess if you use too much with alcohol and start again. 6. Then reassemble. Some of the revived remots have lasted for a year or two. Some have lasted much longer before needing another treatment.

Hope this will be of use. Charles

Re: EXIT key reassigned on 42s

*Message #13 Posted by **uhmgawa** on 19 Feb 2012, 9:39 a.m.,*
in response to message #11 by Charles Mones

> Quote:
>
> 3.As Bart (UK) suggested, I was able to turn the calculator on and off by pushing just below the LCD screen in conjuction with using EXIT. This method worked as well and reliably as the EXIT-SUM+ method.

Sounds like you've found your problem. The carbon ink traces on the key matrix flex interconnect mate to bottom pcb fingers under pressure via a foamed plastic/rubber/? strip. Either that strip has relaxed or the frame twist lock isn't creating pressure in the first place. If you pop the unit open (admittedly involved on the service-hostile 42s) you might have a look at the lower middle frame twist tab and take up on it a bit to see if doing so restores contact. Otherwise undoing all tabs, removing the pcb and either shimming the existing foam strip (or better yet replacing it) should solve the problem.

The sqrt key may possibly be only a mechanical factor as pressing in that area will cause the frame retaining the compression strip to move slightly toward the pcb and potentially restore electrical contact to pins. If this is indeed the case I'd expect pressing the 1/x key to accomplish the same. But intermittents IME can at times have puzzling behaviour.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-IL SCSI Interface

*Message #1 Posted by **Richard Wagoner** on 17 Feb 2012, 2:19 p.m.*

I recently came across two of these (Part number = 5061-3156) and can find no information about them. They did not come with their 'Wall Warts" so I'm reluctant to experiment with them.

The Museum and TOS are also void of any data.

Any information pointers would be appreciated.

Thanks,

Rick

Re: HP-IL SCSI Interface

*Message #2 Posted by **Eric Smith** on 17 Feb 2012, 2:29 p.m.,*
in response to message #1 by Richard Wagoner

Are they HP-IL, or HP-HIL?

Photos?

Re: HP-IL SCSI Interface

*Message #3 Posted by **Richard Wagoner** on 17 Feb 2012, 2:41 p.m.,*
in response to message #2 by Eric Smith

The labeling says HP-IL/SCSI Interface.

There are three connections: One for power. one set of HP-IL plugs and one 50 pin SCSI connector.

Photos soon.

Rick

Re: HP-IL SCSI Interface

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Feb 2012, 3:15 p.m.,*
in response to message #3 by Richard Wagoner

I'm wondering which kind of devices can be connected to a 71B or 41C. The SCSI devices (mass storage, scanners) need special drivers and are far from being supported by the built in software of these two calculators. Or does the interface provide the access logic to use an SCSI disk as an HP-IL mass storage device?

Re: HP-IL SCSI Interface

*Message #5 Posted by **Howard Owen** on 17 Feb 2012, 3:24 p.m.,*
in response to message #4 by Marcus von Cube, Germany

The latter is the only explanation that makes sense to me.

Now all you need is a SCSI-1 disk and cable :)

OK, we have TCP/IP, and now SCSI. Can an HP-IL NAS be far behind?

Re: HP-IL SCSI Interface

*Message #6 Posted by **Eric Smith** on 17 Feb 2012, 3:34 p.m.,*
in response to message #4 by Marcus von Cube, Germany

I'm only guessing, but I think most likely it would be for the 110, not the 41/71/75. It probably translates SS/80 commands to SCSI.

The 41/71/75 don't use the SS/80 command set, they only use the "Filbert" command set from the 82161A tape drive. (It is rumored that the 82479A Data Acquisition Pac for the 71B can talk to SS/80 disks, but probably only in a limited, application-specific manner.)

The 9114 supports both the Filbert and SS/80 command sets, so it can be used on the 41/71/75 and on the 110.

Re: HP-IL SCSI Interface

*Message #7 Posted by **Richard Wagoner** on 17 Feb 2012, 4:46 p.m.,*
in response to message #6 by Eric Smith

Check out the three pictures I loaded to my Picasa account. [EDIT] try this link. Rick

https://picasaweb.google.com/103635590211074260885/February172012?authkey=Gv1sRgCLHK2_T_5dmpQg

Edited: 17 Feb 2012, 5:16 p.m. after one or more responses were posted

Re: HP-IL SCSI Interface

*Message #8 Posted by **Eric Smith** on 17 Feb 2012, 5:04 p.m.,*
in response to message #7 by Richard Wagoner

Picasa reports "Sorry, that page was not found."

Re: HP-IL SCSI Interface

*Message #9 Posted by **Richard Wagoner** on 17 Feb 2012, 5:15 p.m.,*
in response to message #8 by Eric Smith

I edited the link - please try again.

Rick

Re: HP-IL SCSI Interface

*Message #10 Posted by **Paul Berger (Canada)** on 17 Feb 2012, 9:49 p.m.,*

in response to message #7 by Richard Wagoner

Interesting they look like prototypes. The connector to the right of the HPIL connectors is likely the power connector and the type might suggest it is looking for DC voltage, but you would need to look inside to see how it is wired. You will probably find that connector goes to a 3 terminal 5 volt regulator inside.

Re: HP-IL SCSI Interface

*Message #11 Posted by **J-F Garnier** on 18 Feb 2012, 3:31 a.m.,*
in response to message #7 by Richard Wagoner

If you can power it on, it would be interesting to know the answer to the HP-IL Identification requests (AID, ID on HP-41C; DEVAID(), DEVID$() on the HP-71B).

Re: HP-IL SCSI Interface

*Message #12 Posted by **Richard Wagoner** on 18 Feb 2012, 12:25 p.m.,*
in response to message #11 by J-F Garnier

I'm going to pull the cover off and take more photos, but this adventure will have to wait until next week.

Re: HP-IL SCSI Interface

*Message #13 Posted by **Vassilis Prevelakis** on 18 Feb 2012, 3:52 p.m.,*
in response to message #1 by Richard Wagoner

OK this is from a long long time ago, but I think these were field diagnostic exercisers for SCSI disks. I am not sure what HP-IL controller they were supposed to connect to, but the gist is that they were used to run diagnostics on SCSI disk drives.

I'll check my notes when I get home and see if I can dig some more info.

**vp

Re: HP-IL SCSI Interface

*Message #14 Posted by **Vassilis Prevelakis** on 18 Feb 2012, 4:01 p.m.,*
in response to message #13 by Vassilis Prevelakis

Didn't need to check my notes after all, Google is my friend :-)

http://bitsavers.org/pdf/hp/disc/5960-0163_Using_Mass_Storage_Diagnostics_with_the_HP-IL_Interface_Jun90.pdf

**vp

Re: HP-IL SCSI Interface

*Message #15 Posted by **Paul Berger (Canada)** on 18 Feb 2012, 5:41 p.m.,*
in response to message #14 by Vassilis Prevelakis

The software described in this manual is pretty similar to software that I used for failure analysis on SCSI disks. The software I used could be used to dump internal logs from the drive, update firmware and also worked as an exerciser. It was one of my tools along with a bus analyzer for trouble shooting

shooting SCSI device issues.

Re: HP-IL SCSI Interface

*Message #16 Posted by **Richard Wagoner** on 19 Feb 2012, 7:39 p.m.,*
in response to message #14 by Vassilis Prevelakis

Well now at least I know what kind of P/S it needs!

Thanks for finding this document

Rick

[Return to Index | Top of Index]

Go back to the main exhibit hall

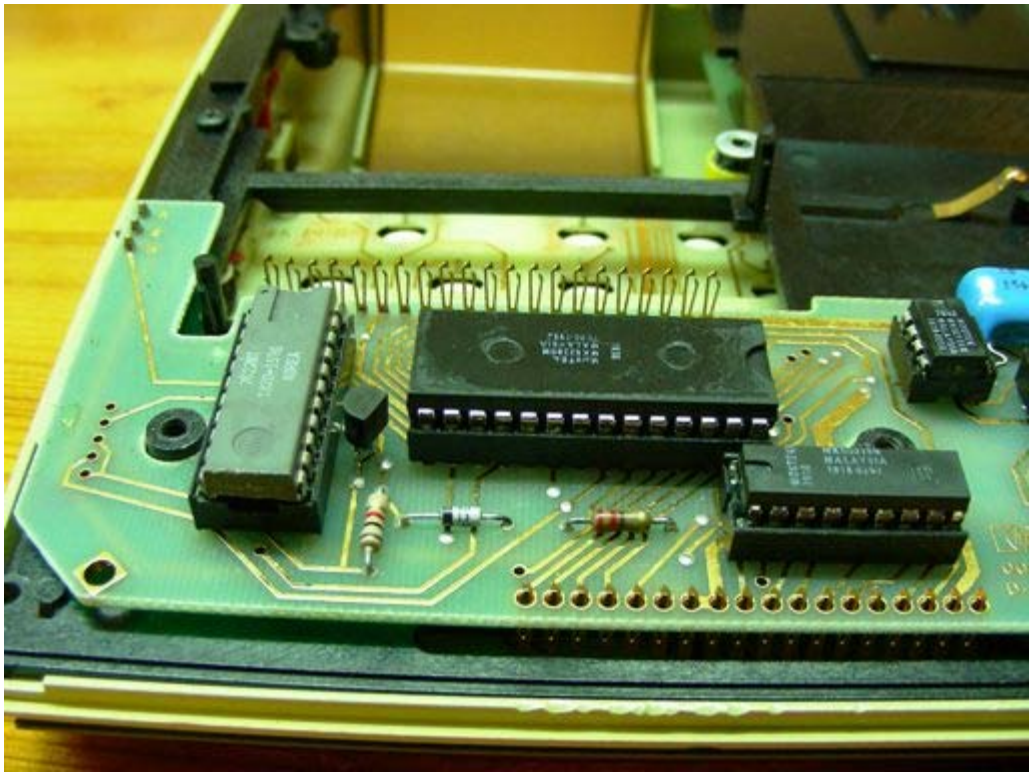
HP Forum Archive 20

[Return to Index | Top of Index]

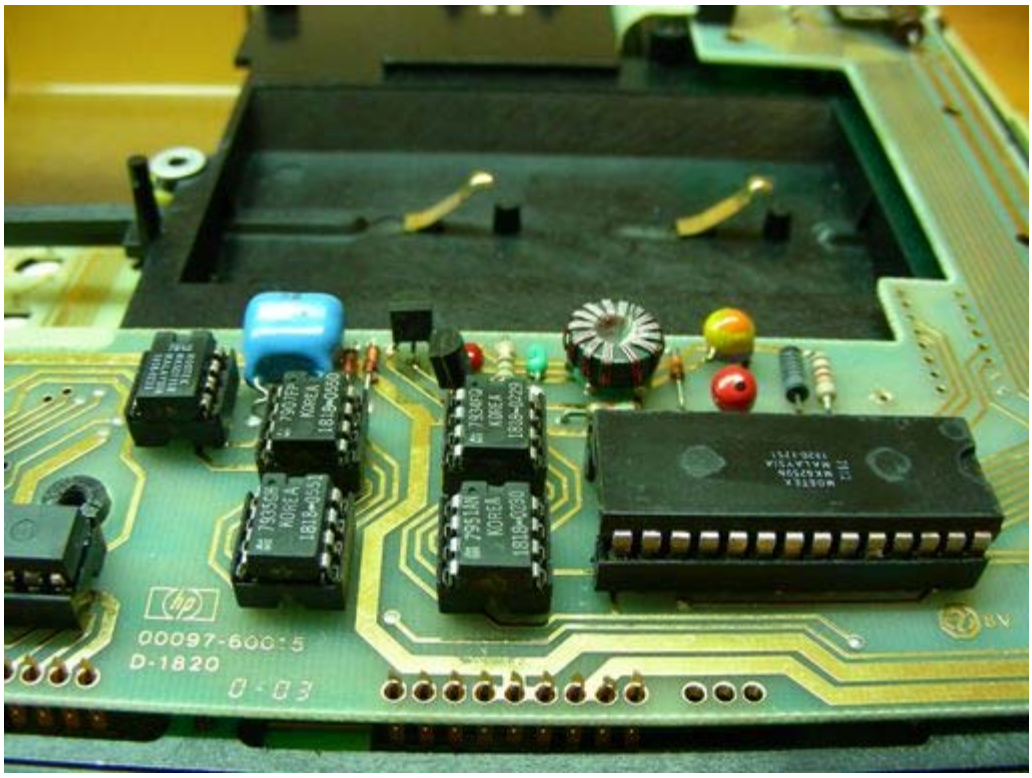
An HP-97 sacrificed to the altar of the knowledge.

*Message #1 Posted by **Ignazio Cara (Italy)** on 17 Feb 2012, 2:08 p.m.*

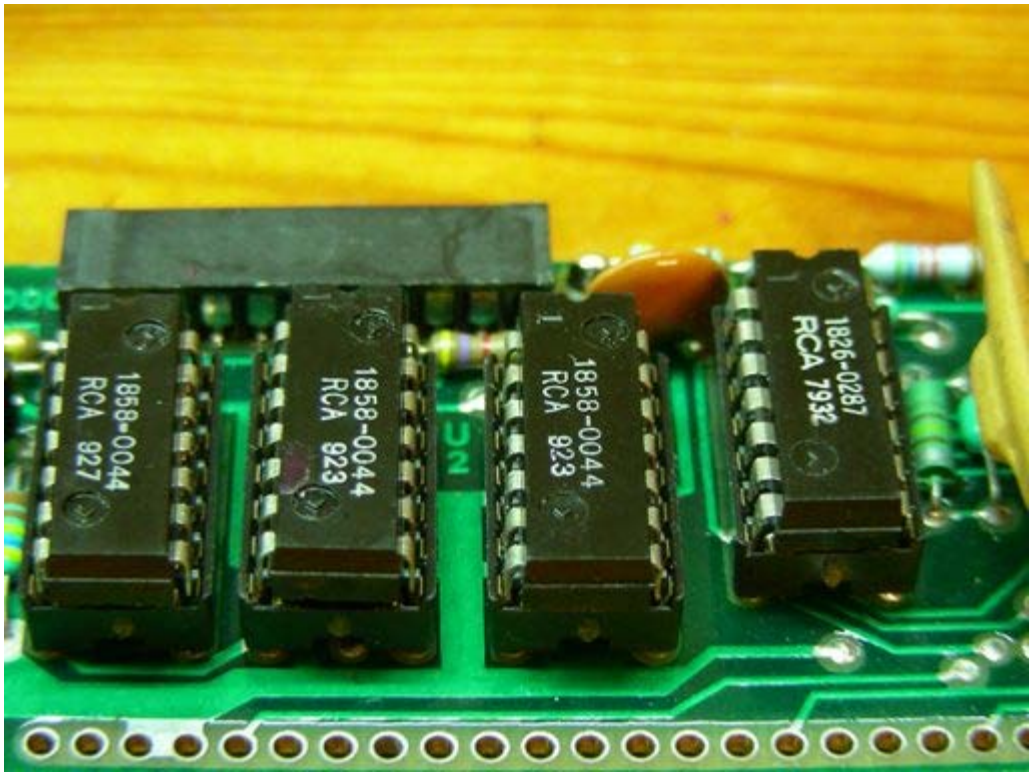
I hope this won't be a sacrilege for most of you, but it's my opinion that this could be a reliable method for bad-component finder, for HP-97 (all IC), HP-67 (ACT, some ROM and CRC controller), Woodstock component (ACT) and HP-41 (82104A Card reader). Do you agree with me? All the comments will be welcome.


Logic PCA (left)

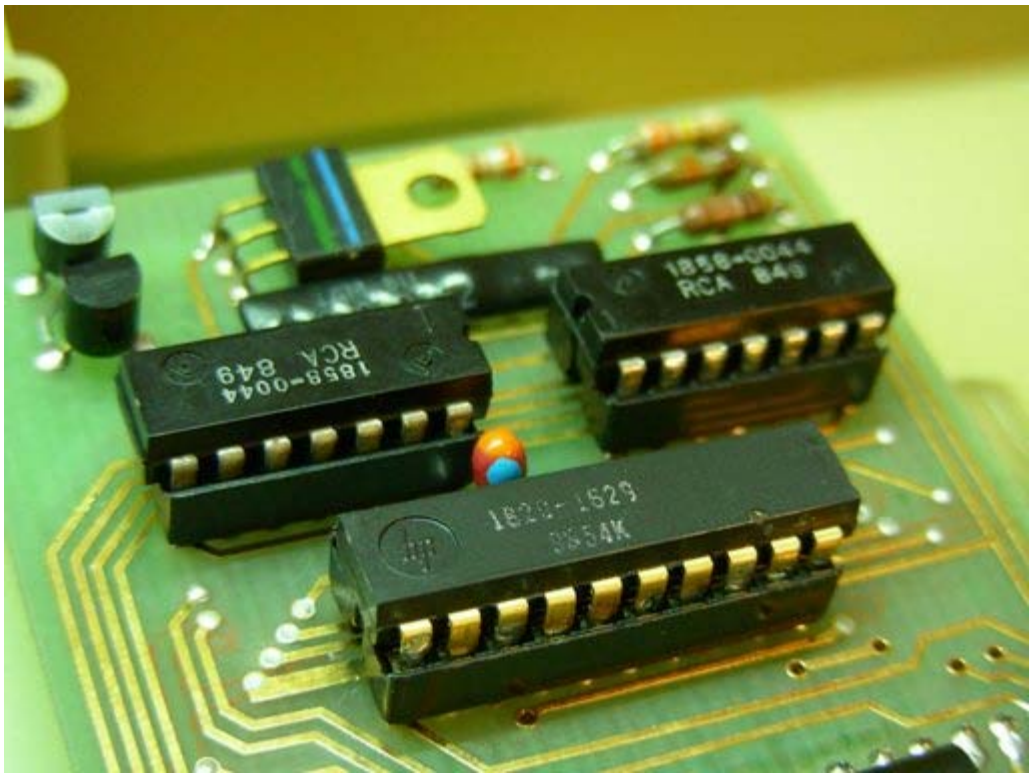
An HP-97 sacrificed to the altar of the knowledge.



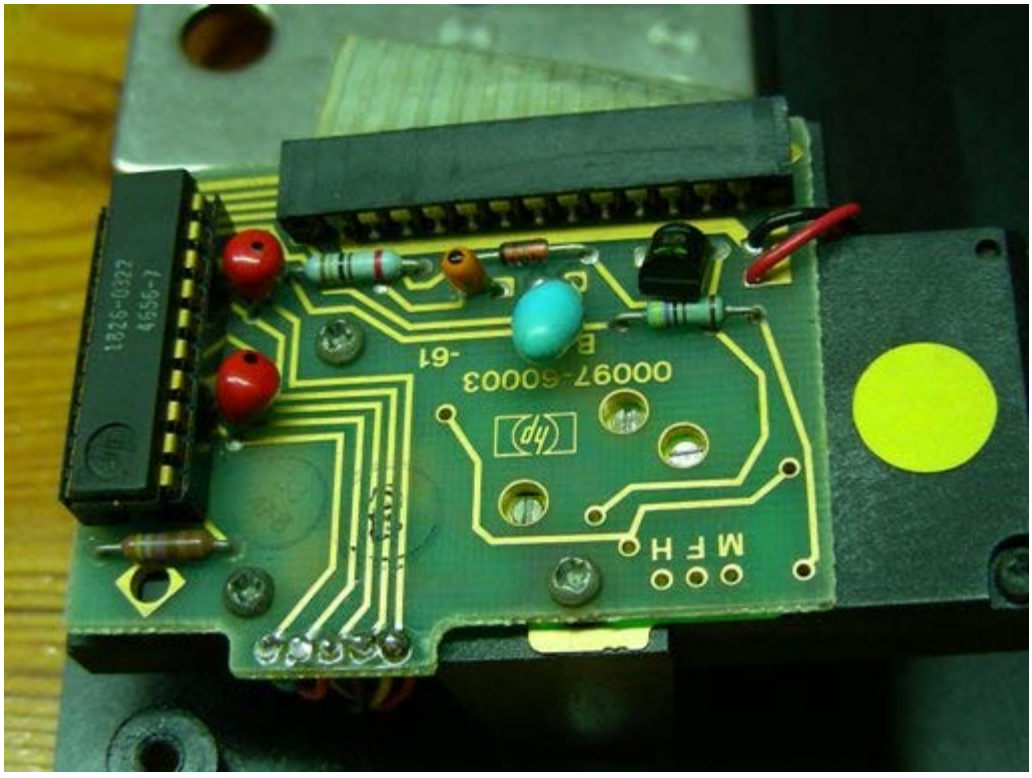
Logic PCA (right)



Printer PCA



Keyboard PCA



Card reader PCA

Edited: 19 Feb 2012, 7:01 a.m.

Re: An HP-97 sacrificed to the altar of the knowledge.

*Message #2 Posted by **Paolo Reda** on 21 Feb 2012, 3:58 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

Very nice done. Great step to understanding how to repair our loved 97. Paolo

Re: An HP-97 sacrificed to the altar of the knowledge.

*Message #3 Posted by **Luiz C. Vieira (Brazil)** on 21 Feb 2012, 4:32 a.m.,*
in response to message #1 by Ignazio Cara (Italy)

I have done that with an HP41CV board with faulty RAM IC's. I used to test ROM, RAM chips and other components with it. I decided to keep the main IC in place, but I am willing to place a socket there, too.

Nicely done, indeed.

Cheers.

Luiz (Brazil)

Re: An HP-97 sacrificed to the altar of the knowledge.

*Message #4 Posted by **aurelio** on 21 Feb 2012, 6:21 a.m.,*
in response to message #3 by Luiz C. Vieira (Brazil)

Ignazio, that was not a sacrifice, it was an heroical "geste"!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Swiss 15C "Clone" has arrived

*Message #1 Posted by **Richard J. Nelson** on 17 Feb 2012, 12:41 p.m.*

The initial batch of the Swiss HP-15C “clone” is being received. This machine has been discussed on this forum several times. The photo shows the series of HP-15C’s to date with the Swiss clone being the fourth in a series. Oops. This site doesn't allow photos without a URL. sorry.

Here is my initial reaction.

1. Measured Specifications Size: Credit card: 2.249 x 3.381 x 0.302 inches.(HWD) - stack of ten credit cards. Weight: 50.6 gr. (1.79 oz.).

2. Construction Robust using a rigid frame. Back held by four Phillips screws. Simple three piece assembly – Front, Back, Internal frame. See video on Michael’s website: http://www.rpn-calc.ch/

3. Battery Single CR2032 coin cell. requires a #0 Philips screw driver to replace. Installing a new batter will produce PR ERROR in the display.

4. Keys Small, true metal dome similar to the original HP-15C. Keyboard colors identical to original HP-15C. The strong tactile feedback is not “in sync” with the key contact and it is possible to press a key and feel it “click” and not make contact. This appears to be in the design because it seems to apply to all keys. I have normal sized fingers with a lowered sense of “feel” so I simply press a bit harder. To address this issue I cut the erasure end off a pencil to use to press the keys. This “tool” fits nicely into the edge end of the soft case that comes with the calculator. The keyboard notations are clear and about as large as possible which is great for the visually impaired, i.e. over 40 years of age.

5. Display The display may be compare with the HP versions and Michael elected to use upper case for the error messages, etc. This makes it even easier to read. The test display shown in the photo was produced when turning the calculator on while holding the multiply key down. RUNNING will flash four times first.

6. I/O Connector An I/O connector is in the front edge. it is not a USB “B” connector but should not be difficult to find – according to Michael.

7. Speed Not as fast as the 15C LE but quite close.

Conclusion. This is a very nice always-with-you high end scientific calculator that will provide 95% of all scientific calculations you will need to make. Its small size allows it to fit nicely (with my Sony DSC-TX1 camera) in my shirt pocket.

X < > Y,

Richard

Re: Swiss 15C "Clone" has arrived

*Message #2 Posted by **Namir** on 17 Feb 2012, 12:58 p.m.,*
in response to message #1 by Richard J. Nelson

Hi Richard,

I am glad you received the 15C clone. Your review is encouraging, so I look forward to receiving mine early March!

Namir

Re: Swiss 15C "Clone" has arrived

*Message #3 Posted by **Eric Rechlin** on 17 Feb 2012, 5:40 p.m.,*
in response to message #1 by Richard J. Nelson

Mine came today too. It's amazing how small it is compared to a real 15C.

Some of the keys are incredibly difficult to press (I have to get a firm grip on the calculator and squeeze very hard for it to register), so I will probably be taking it apart this weekend to see if I can adjust anything to make it work better.

Overall I am impressed by it. The screen is very nice. The re-creation of the rear label is a nice touch. The faceplate looks very professional, with the raised keys in the (Mylar?) overlay.

Eric

Re: Swiss 15C "Clone" has arrived

*Message #4 Posted by **Eric Rechlin** on 17 Feb 2012, 5:45 p.m.,*
in response to message #1 by Richard J. Nelson

Richard, the USB connector is a Mini B USB connector. It's deprecated so it probably should not have been used, but there are countless supplies of cables for it. It's the same type used on the 50g, so if you have a 50g you can just reuse the cable from it.

It was probably selected because it's easier to solder onto a board than the Micro USB ports favored today.

Eric

Re: Swiss 15C "Clone" has arrived

*Message #5 Posted by **aj04062** on 17 Feb 2012, 6:53 p.m.,*
in response to message #1 by Richard J. Nelson

Mine arrived today as well. Neat little bugger. A lot less obvious you are nerdy as it can be concealed very easily.

My only initial concern is the whether or not the edges of the PCB board will wear over time and get damaged. I wonder if we could come up with a low profile black anodized frame. On to the CAD!

Mine is here, but ...

*Message #6 Posted by **gene wright** on 17 Feb 2012, 7:49 p.m.,*
in response to message #5 by aj04062

The lower left corner is not completely flushed/closed.

The top of the 3 layers comes up away from the lower two layers, causing it to "bounce" up and down

when I click a key in that area. It also caused a memory loss at least once.

The screw is all the way screwed in, so that does not appear to be what is wrong.

VERY fun little machine, but I will have to figure something out about it not being totally closed.

Re: Mine is here, but ...

*Message #7 Posted by **db (martinez, ca.)** on 17 Feb 2012, 8:30 p.m.,*
in response to message #6 by gene wright

Gene; There are people here who would use that kind of problem as a welcome excuse to take it apart and play with it. After reading your post; i think you're one of them.

Re: Swiss 15C "Clone" has arrived

*Message #8 Posted by **Paul Dale** on 17 Feb 2012, 9:07 p.m.,*
in response to message #1 by Richard J. Nelson

So who is going to have a try re-purposing this device?

The CPU is a bit light on memory but is plenty fast enough. I don't know for sure yet, but I have been lead to believe that there is an unpopulated eight pin SOIC pad in there that can accept an AT45DB041B serial flash device.

Small size, nice form factor, fast CPU, good display, ...

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP42s - deal?

*Message #1 Posted by **Cristian Arezzini** on 17 Feb 2012, 10:54 a.m.*

I have always wanted to have a 42s, because everybody says great things about it... but it's usually more expensive than I can afford. But then, I found one on eBay that was "mislabeled" as a 45s. Maybe for that reason, or because it was in Italy, or because it came with no box or manual... for whatever reason there was no bit war on it, and I got it for 160 euro. It's in (I'd say) mint conditions, no scratches anywhere, no bumps, no discoloration, great keys, the pouch is ok... the only sign of use is that the rubber feet have a "used" look, but they're still in great shape. So, a few questions...

- Is there some specific defect I should look for? It's a 1987 Singapore unit.

- The display contrast isn't that great. It's better than my 48SX but worse than my 48GX. Is this normal?

- Did I pay a good price for it? :)

Thank you, Cristian

Re: HP42s - deal?

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Feb 2012, 11:05 a.m.,*
in response to message #1 by Cristian Arezzini

In my opinion: No, Yes, Yes!

Re: HP42s - deal?

*Message #3 Posted by **Fabricio** on 17 Feb 2012, 11:30 a.m.,*
in response to message #1 by Cristian Arezzini

In my experience and with the currency in Mx, it was not the best price, specially as it came with no manual nor box.

Just last December, I guess because of most people were spending in christmas gifts, two HP 42s appeared on ebay, the first one in 129usd, the second one in 140usd. I bought both with no fighting at all. 129usd + shipping is in mx pesos aroung 1850mxp; and your 160 euros alone are 2770mxp.

Compared to the prices now on ebay for the HP 42s, it would seem that it is a good price, but right now prices on ebay are inflated. I think one of the reasons is the recent sell of a supposedly NIB unit that sold in nearly 700usd. BTW, sadly I contributed to that, because from the very begining I increased the bid on that unit to 425usd. I did´n want seriously that calculator (I mean, I want it, but not for those prices), but just wanted to see how the the ultimate crazyness in the market was. And well, the final price says all.

I bought a "mint, like new" HP-28s some few months ago in a fiercely bid. It was in something like 200usd in the last minute, so I entered 350 just to make sure I was the winner. Well, I won it with 325. Yes, 325 for an HP-28S. And to add insult to injury, it was no way near as "mint, like new" as described. Later I bought another one from another seller in 210. She didn´t want to sell overseas, so ask for a premium and that´s why I

paid that. In this case, the unit was even better than described; actually it looks like the box was somehow just opened to see it and never used. Recently, in january, 2 units new from an army surplus appeared on ebay, and sold for around 90usd each. Remember, we are talking about the HP-28S, which I love but a lot of HP users seem to hate, so its prices shouldn´t be that high. If you go to ebay now, there´s one unit offered in more thtn 250... is it worth or just inflated?

So, my experience on deseperately hunting down calculators in the last months says: be patient. When prices skyrocket, just slow down and wait for the right time. It always will come.

Re: HP42s - deal?

*Message #4 Posted by **Cristian Arezzini** on 17 Feb 2012, 11:50 a.m.,*
in response to message #3 by Fabricio

> Quote:
>
> In my experience and with the currency in Mx, it was not the best price, specially as it came with no manual nor box.
>
> Just last December, I guess because of most people were spending in christmas gifts, two HP 42s appeared on ebay, the first one in 129usd, the second one in 140usd.

Well, I don't mind if it's not the best price, as long as it's a good price! And... buying in the US is problematic. Shipments to Italy are often very expensive, and really slow, and there is a hefty customs tax. And many packages just get lost. I go to the US about once a year, and when I can I have things shipped there so I can collect them there take them back with me, but I don't know when I'll be going there next, so... I just took this chance of buying locally!

In your experience, does it happen often that valuable calculators are mis-labeled on eBay? I found this by chance, and mine was the only offer... If only the base price was lower! :)

And I never "bid-fight". I decide a price, set an automatic bidder, then I don't even look at it until after the ending time. Prevents me from bidding more than I really want to. Many sellers don't like this, but as a user it's a great way to not have buyer's remorse!

Cristian

Re: HP42s - deal?

*Message #5 Posted by **Mike Morrow** on 17 Feb 2012, 2:41 p.m.,*
in response to message #4 by Cristian Arezzini

> Quote:
>
> Well, I don't mind if it's not the best price, as long as it's a good price!

I think it was a reasonable price, better than what the HP 42S typically brings on eBay.

I've got two HP 42S units made in 1993 with firmware version C, and one HP 42S made in 1989 with firmware version A. There were only versions A, B, and C, with version B being the rarest apparently.

No one has ever made a RPN calculator that comes even remotely close in capability.

```
Checking HP 42S or HP 17BII Firmware Version
```

```
 --PRESS--                        --RESULT--
  ON plus    Starts step-wise self test.
  (fourth
   top key
   from left)


   <--       Starts built-in hexadecimal memory scanner/editor.
(backspace)  LCD displays data similar to:
             "023F1:750D1F6E2051C11B"  (HP 42S   Firmware version A)
             "023F5:710D1F6E2051C11B"  (HP 42S   Firmware version C)
             "021E8:71FC70E81FC73055"  (HP 17BII Firmware version B)


     .       Executes ROM beginning at address shown on left side.
 (period)    Results are shown momentarily each time "." is pressed:
             "A                    7"  (HP 42S   Firmware version A)
             "C                    7"  (HP 42S   Firmware version C)
             "B                    1"  (HP 17BII Firmware version B)


  ON plus    Exits memory scanner/editor.
  (third     Gives "Machine Reset" message but causes no memory loss.
   top key
   from left)
```

See Craig Finseth's interesting HP 42S info, including some firmware version details and interesting FW memory locations that can be accessed with the memory scanner/editor, at his HP 42S page.

It is normal for all HP 42S units, which were sold by HP from 1988 to 1995, to have LCDs that are not the best for contrast. But all are completely serviceable. The later LCD type is recessed about three times deeper from the front than the first LCD type. However, the display contrast does not differ between these types to any discernible amount.

With respect to the side discussion on the HP 28S, I still have the one I bought new in 1988. I am surprised anyone would pay more than $25 for a new-condition one, and that only if it is without the typical cracked battery door opening. A used-condition HP 28S with cracked battery opening should be a give-away item. Clamshells are bad products, IMO.

Edited: 17 Feb 2012, 3:15 p.m.

OT: 28S prices

*Message #6 Posted by **Keith Midson** on 17 Feb 2012, 8:31 p.m.,*
in response to message #5 by Mike Morrow

I can't resist commenting on the 28S. I have a few of them, most in mint condition and they are my personal favorite HP. I have bought and sold many of them over the years - prices do vary considerably. I have sold 'like new in box' units for $105 to $350 in the last few years (it wasn't mine that was referred to earlier). I've also sold seriously damaged 28S's (not working, no battery door, water damaged) for about $5 (parts?).
I think it all comes down to personal preference. I love the 28S because of it's design, easy access to menus and alpha keys, and nice display. I still have my original from 1990, as well as a few 'extras' (well I am a collector after all!) and rare versions (clear cases, etc).
Yes the 28S has what could be considered a design flaw in the battery door, but considering that the few that I keep and use on a regular basis are in perfect condition after 20+ years, it comes down to how careful you are with battery changing. It is a shame that the rear battery door of the last version of the 19Bii didn't get transferred to the 28S.
My 2c. Keith

Edited: 17 Feb 2012, 10:58 p.m.

Re: OT: 28S prices

*Message #7 Posted by **Keith Midson** on 17 Feb 2012, 11:07 p.m.,*
in response to message #6 by Keith Midson

I should also add that I have bought 28S's for a wide price range as well. The best deal I got was $17 for a mint (appeared completely unused) Singapore version from an online marketplace (not ebay). The most i've paid is $305 for a complete boxed version (also mint). I recently bought 2 together for $40 (both in working condition). Cheers, Keith

Re: OT: 28S prices

*Message #8 Posted by **Fabricio** on 18 Feb 2012, 2:02 a.m.,*
in response to message #6 by Keith Midson

> Quote:
>
> ...and they are my personal favorite HP.

I knew I was not alone!

Re: OT: 28S prices

*Message #9 Posted by **Keith Midson** on 18 Feb 2012, 2:24 a.m.,*
in response to message #8 by Fabricio

Haha - now you just need a 'Fabricio' version like my 'Keith' version!

Re: OT: 28S prices

*Message #10 Posted by **Marcus von Cube, Germany** on 18 Feb 2012, 4:37 a.m.,*
in response to message #9 by Keith Midson

It won't fit. 'CUBE' will. :-)

I'm not going to open any of my clamshells. To much work for my two left thumbs.

Re: OT: 28S prices

*Message #11 Posted by **Cristian Arezzini** on 18 Feb 2012, 6:09 a.m.,*
in response to message #9 by Keith Midson

> Quote:
>
> Haha - now you just need a 'Fabricio' version like my 'Keith' version!

Keith, I would have said it was a broken calculator... How did you program that?

Cristian

Re: OT: 28S prices

*Message #12 Posted by **Keith Midson** on 18 Feb 2012, 6:17 a.m.,*
in response to message #11 by Cristian Arezzini

Hi Cristian, I will provide a program listing later (the 28S with this program is at my office), but essentially you take a screen dump (LCD->) of anything (in this case it was just the screen with the STRING menu). Store the screen image in a file, then the program cuts the last character from the string file (the 28S stores a screen image as a 548 character string), then add the last character to the beginning of the balance of the string and XOR it with the original image. You then display this image and do it all over again - repeat 548 times and be amazed with the patterns that appear on the display!! I also tried this with a screen dump of a fractal back in my University days, but I can't get the fractal generator to work again (I converted an old Pascal file back then - lost my touch now!!).
I will provide a separate thread with the program tomorrow.
Keith

Re: OT: 28S prices

*Message #13 Posted by **From Hong Kong** on 18 Feb 2012, 1:41 p.m.,*
in response to message #6 by Keith Midson

> Quote:
>
> I love the 28S because of it's design, easy access to menus and alpha keys, and nice display.
> Yes the 28S has what could be considered a design flaw in the battery door, but considering that the few that I keep and use on a regular basis are in perfect condition after 20+ years, it comes down to how careful you are with battery changing. It is a shame that the rear battery door of the last version of the 19Bii didn't get transferred to the 28S.

I totally agree with you. I bought HP-28S in 1988 because it has a beautiful design, a revolutionary structured programming language and abundant memory. As I didn't get enough money to buy the succeeding HP-48SX in 1990, I had to sell it with some solution handbooks to one of my college classmates. Twelve years later, I bought an NOS HP-28S from TAS.

I used HP-28S for two years but hadn't found any difficulty in replacing batteries. I'm surprised by cases of broken battery compartment.

Edited: 18 Feb 2012, 2:35 p.m. after one or more responses were posted

Re: OT: 28S prices

*Message #14 Posted by **Keith Midson** on 18 Feb 2012, 2:23 p.m.,*
in response to message #13 by From Hong Kong

I think a lot of the damage to the battery door comes from dropping the calculator, not changing the batteries. I also sold my first 28S in to a friend to buy a 48G - it was in perfect condition when I sold it - he gave it back to me a few years ago (along with my original manuals and receipt for AUD$425!! - lot of money for a student back then!), but the battery door area was very damaged.
He told me that the damage was from a few unfortunate 'drops'. Because the battery compartment area (the case around the door, not just the door) is the weakest part of the calculator, then that is the place that suffers the most damage.
Keith

Re: OT: 28S prices

*Message #15 Posted by **Keith Midson** on 18 Feb 2012, 6:54 p.m.,*
in response to message #14 by Keith Midson

I have just posted the program in a separate thread. Keith.

Re: OT: 28S prices

*Message #16 Posted by **From Hong Kong** on 19 Feb 2012, 1:45 a.m.,*
in response to message #14 by Keith Midson

> Quote:
>
> I think a lot of the damage to the battery door comes from dropping the calculator, not changing the batteries. I also sold my first 28S in to a friend to buy a 48G - it was in perfect condition when I sold it - he gave it back to me a few years ago (along with my original manuals and receipt for AUD$425!! - lot of money for a student back then!), but the battery door area was very damaged.
> He told me that the damage was from a few unfortunate 'drops'. Because the battery compartment area (the case around the door, not just the door) is the weakest part of the calculator, then that is the place that suffers the most damage.
> Keith

I regard drops as disasters to a calculator. Neither did I lend a calculator to my friends nor use it so carelessly. I treated my HP-15C so badly that it had dropped several times. Fortunately, it still works! :)

Re: HP42s - deal?

*Message #17 Posted by **Massimo Gnerucci (Italy)** on 17 Feb 2012, 4:26 p.m.,*
in response to message #4 by Cristian Arezzini

Hello Cristian,
That "mis-labeled" 42s didn't went unnoticed: I have it in my records since last october :).
First time it ended on 19/10/2011, its starting price was 210 EUR. Since then it appeared another eight times, lowering the asking price to 199.99, 179.99 and finally 159.99 when, on the second try, you bought it.

I was not interested since I considered it too pricey: I bought my four units for the equivalent of 25, 40, 70 and 85 EUR (the last one an unused replacement unit made in 2000). Several years have passed, that's true, but I still consider 160 EUR a bit too much for a used 42s... But, hey! That's just me. ;)

Enjoy your new toy! That's the only thing that counts.

Massimo

Re: HP42s - deal?

*Message #18 Posted by **Cristian Arezzini** on 17 Feb 2012, 5:37 p.m.,*
in response to message #17 by Massimo Gnerucci (Italy)

Hi Massimo, Wow, eight times, I never noticed it... because I don't regularly search for the 42S and

this time I only saw it by chance. I wonder what the base price would have been if I had let this auction pass too! :)

Anyway... now that I see what you paid... let's say I feel guilty again! Did you find those prices on eBay?

Cristian

Re: HP42s - deal?

*Message #19 Posted by **Massimo Gnerucci (Italy)** on 17 Feb 2012, 6:32 p.m.,*
in response to message #18 by Cristian Arezzini

No, please, don't feel guilty! Just enjoy it: if you felt you had to buy it, then the price was right.

After all I found those calcs around 10 - 12 years ago.

I bought the first and cheapest from a coworker (the only one without manual), one from iBazar (before it was bought by eBay), another on eBay and the last on a local board in Belgium.

Greetings,
Massimo

Re: HP42s - deal?

*Message #20 Posted by **Gerson W. Barbosa** on 17 Feb 2012, 1:45 p.m.,*
in response to message #1 by Cristian Arezzini

Benvenuto al club!

> Quote:
>
> - Did I pay a good price for it? :)

Was that a rhetorical question? :-)

Five years ago I shipped one in near mint condition to Italy. It cost the buyer US$ 140.00, only slightly above what I had paid for it here, but I was glad to get rid of it because I didn't like the early display style. The buyer got "molto contento", to use the words in his feedback to me:-)

Mine cost exactly 217 euro (the one in the left) and the equivalent to about 180 euro (the other one).

Ciao,

Gerson.

Re: HP42s - deal?

*Message #21 Posted by **Cristian Arezzini** on 17 Feb 2012, 3:06 p.m.,*
in response to message #20 by Gerson W. Barbosa

Thank you for the info! :)

> Quote:

> Was that a rhetorical question? :-)

Actually it was not. I know that many times the eBay prices are "bloated" and out of proportion. And I had no info about prices elsewhere. And I thought that, since it was mislabeled and I was the only bidder, it could be a good price! :) Anyway I like the calculator, it's really near mint, even the display glass looks like new... Now I would like to find the manual! :) I have the museum DVDs but I like to read manuals on paper - and printing would be too big a job...

Best regards, Cristian

Re: HP42s - deal?

*Message #22 Posted by **Keith Midson** on 18 Feb 2012, 2:50 a.m.,*
in response to message #21 by Cristian Arezzini

Does anyone know which version fetches a higher price? The flat screen or stepped screen version: HERE . Cheers, Keith

Re: HP42s - deal?

*Message #23 Posted by **Vince (Italy)** on 18 Feb 2012, 2:47 a.m.,*
in response to message #1 by Cristian Arezzini

I was watching over the weeks that calc too, hoping for a further decrease in price. But I think it has been a bargain anyway, considering the current pricing of the 42s.

I recently bought one from a forum member (on eBay, anyway), for about 135 Euros, plus shipping, plus custom duty.

It came with manual, but it was refurbished by the seller, and (probably due to the disassembling and reassembling process) the keys are mushy and sticking or snapping, the good cosmetic condition notwithstanding.

So, congratulation for your recent acquisition! :)

Vince

Re: HP42s - deal?

*Message #24 Posted by **Thomas Radtke** on 18 Feb 2012, 3:54 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> - Is there some specific defect I should look for? It's a 1987 Singapore unit.

Keyboards may fail and require to open it, which appears to be typical for all Pinoneer calculators. This is what has been reported many times.

OTOH, I now have a 20S, two 32SII, a 10B (I gifted it, but it's still within reach and in daily use), and a 27S. None of them failed so far.

Re: HP42s - deal?

*Message #25 Posted by **Thomas Okken** on 18 Feb 2012, 11:54 a.m.,*
in response to message #1 by Cristian Arezzini

You can adjust the contrast by pressing + or - while holding down the EXIT/ON key. You may be able to get it to be a bit more to your liking that way, but don't expect too much. The HP-42S display is widely considered to be a somewhat poor feature in an otherwise excellent calculator.

Re: HP42s - deal?

*Message #26 Posted by **From Hong Kong** on 19 Feb 2012, 4:21 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> - Is there some specific defect I should look for? It's a 1987 Singapore unit.

A problem that is by far the most serious yet obscure is the remaining lifetime of the calculator. I would like to share my experience with you. I had a HP-48SX bought new in 1990. Its serial number is 3051AXXXXX. I used it quite heavily from 1990 to 1992. After 1992, I used it occasionally. I found that part of the LCD display was dead only several years ago and that the calculator eventually RIP this year. Except some dirt, the calculator still looked mint for about 20 years without any wear or other cosmetic problems. If I had sold it to you several years ago, you would have lost your money!!!

Every one has to risk himself when deciding to buy a calculator used for more than 10 years. Unfortunately, a car has an odometer to log its mileage but a calculator has no corresponding meter to log its usage. Only the owner knows the truth. Even an unused one cannot be guaranteed to survive for long because all electronic components have their respective lifetimes even without much use.

Edited: 19 Feb 2012, 4:23 a.m.

Re: HP42s - deal?

*Message #27 Posted by **Cristian Arezzini** on 19 Feb 2012, 10:05 a.m.,*
in response to message #26 by From Hong Kong

> Quote:
>
> Every one has to risk himself when deciding to buy a calculator used for more than 10 years.

Yes... I know. Unfortunately there's no way around that. If some components inside are only just "marginally alive", I can't know. But at least I know there are no already-worn parts. This is something I hate about new technology. Take an old transistor radio from 40 years ago... you can fix almost any defect. Take anything with custom components... you're out of luck. Even my old Commodore 64 was easily fixed, but only if you had access to spare custom chips.

The same goes with cars... I could keep my old 1983 Alfa Romeo alive for many years, right until it was destroyed in an accident last year. Modern cars have more complex, custom sensors/electronics parts which are not fixable and impossible to substitute with anything else when the stores run out of spares. Oh well, such is life...

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is the HP35s reliable?

*Message #1 Posted by **Chris Smith** on 17 Feb 2012, 9:52 a.m.*

I've been a TI user for about 20 years now, progressing through TI-81, TI-85, TI-92 etc. My TI-92 is now dying miserably and is just too large and heavy to cart around any more.

I sat down and wrote what I actually do and the HP35s appears to be a good fit feature-wise and I've always wanted to use RPN as it's more efficient.

Unfortunately there are less than favourable reviews from people complaining about battery use, dodgy keys and general reliability.

Are these rumors founded?

Re: Is the HP35s reliable?

*Message #2 Posted by **Glenn Becker** on 17 Feb 2012, 10:18 a.m.,*
in response to message #1 by Chris Smith

Hi Chris,

You can find a bug list here:

HP-35s bug list.

I'm not a power user by any means but there are some doozies on that list.

I've been told by a couple of the people here that the 33S, unconventional appearance aside (if you can manage to put that aside) is actually a more reliable machine if you are looking for straight RPN.

Re: Is the HP35s reliable?

*Message #3 Posted by **Chris Smith** on 17 Feb 2012, 10:39 a.m.,*
in response to message #2 by Glenn Becker

Nothing too horrible, especially compared to my TI92 which has some really annoying eye-poking bugs. Trig issues are slightly worrying but I'm not sure they will manifest themselves in my daily use.

Doing some research it suggests that all HP35s' are not equal. I wonder if there are a couple of versions floating around.

33s is missing a couple of things I'd like unfortunately :(

I could go for a 48SX/GX or possible a 15c but I can't get one for a reasonable price in the UK.

Edited: 17 Feb 2012, 11:06 a.m. after one or more responses were posted

Re: Is the HP35s reliable?

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Feb 2012, 11:06 a.m.,*
in response to message #3 by Chris Smith

Have you considered the 50g instead? It's not expensive and has lots of power. Most probably more than you'll ever need.

Another option might be the WP 34S, a DIY project discussed here in some detail.

Re: Is the HP35s reliable?

*Message #5 Posted by **Chris Smith** on 17 Feb 2012, 11:19 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I considered the 50g but it's a bit overkill for me and 2x the cost of the 35s.

My main application areas are pretty simple EE stuff (worst case complex numbers, some trig and solving sim. equations). I'm interested in developing a few simple programs to make the routine stuff slightly less laborious.

WP34S sounds good but I just want something that works these days (I'm getting old and lazy).

Edited: 17 Feb 2012, 11:20 a.m.

Re: Is the HP35s reliable?

*Message #6 Posted by **Gerson W. Barbosa** on 17 Feb 2012, 11:48 a.m.,*
in response to message #5 by Chris Smith

> Quote:
>
> My main application areas are pretty simple EE stuff (worst case complex numbers, some trig and solving sim. equations).

I doubt the HP-35s handles the following. The HP-50g does.

1) $V_1 - V_2 = 10*I_x$
2) $V_1/j20 + (V_1 - V_3)/20 + V_2/10 + (V_2 - V_3)/-j10 = 0$
3) $V_3/j10 + (V_3-V_2)/-j10 + 2\angle -45 + (V_3 - V_1)/20 = 0$
4) $I_x = -V_3/j10$

where j = sqrt(-1) and $2\angle -45$ is 2 angle -45 degrees.

Re: Is the HP35s reliable?

*Message #7 Posted by **Chris Smith** on 17 Feb 2012, 11:57 a.m.,*
in response to message #6 by Gerson W. Barbosa

This is true. However, my TI92 does/did this. I use it once a year perhaps. Most circuit analysis problems can be pretty much solved without very little math if you know how.

Re: Is the HP35s reliable?

*Message #8 Posted by **Brandon Poindexter** on 17 Feb 2012, 12:41 p.m.,*
in response to message #7 by Chris Smith

I've used the HP 35s for about 3 or 4 years now. It's never failed me. Although what i

use it for are quite less complex in terms of the mathematics involved, but in terms of physical build quality and keyboard I have had no problems what so ever. I had a TI-89 titanium before the HP 35s, and while powerful it was just too much for what I needed.

Battery use? I had mine on the batteries that came with it 4 years ago and just last month changed the batteries. Only because the battery symbol had been on for about a month.

Dodgy keys? Maybe. My plus key creaks for some reason when i press it lightly, but nevertheless all buttons feel the same after all these years.

General reliability has been great for me. While I do keep it in its (hard) case, I'm sure the HP 35s can take a good beating sliding around a backpack.

Re: Is the HP35s reliable?

*Message #9 Posted by **Eric Smith** on 17 Feb 2012, 5:07 p.m.,*
in response to message #6 by Gerson W. Barbosa

If you use complex numbers, you'll be *much* happier with the 50g than with the 35s or 33s.

Re: Is the HP35s reliable?

*Message #10 Posted by **Bart (UK)** on 18 Feb 2012, 7:31 p.m.,*
in response to message #6 by Gerson W. Barbosa

Well, not as easy as the 50g, but it can be done.

The biggest necessity is matrix capability, but fortunately someone on the internet has done something already:
A Matrix Multi-Tool for the HP 35s

So we have to re-arrange the equations a bit and write down the co-efficients for input into the matrix:
Data for matrix A:
1**i**0; -1**i**0; 0**i**0; -10**i**0
0.05**i**-0.05; 0.1**i**0.1; -0.5**i**-0.1; 0**i**0
-0.05**i**0; 0.1**i**0.1; 0.05**i**0; 0**i**0
0**i**0; 0**i**0; 0**i**-0.1; 1**i**0

Data for column vector b:
0**i**0; 0**i**0; -2Ø-45; 0**i**0

Note:
Even 0 entries must be entered as 0**i**0 when working with complex numbers.
For -2/-45, the symbol Ø represents the theta symbol on the 35s. You can enter it like that as the 35s will automatically convert it to -1.41421356237**i**1.41421356237 (unles you have set it to polar mode, in case which all the other inputs are converted).

After about 15 seconds, the solution vector reads:
-1.88561808316**i**-24.5130350811
-1.88561808316**i**-5.65685424948
-18.8561808316**i**0
0**i**-1.88561808316i

Regards,
Bart

Re: Is the HP35s reliable?

*Message #11 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 7:37 p.m.,*
in response to message #10 by Bart (UK)

Hey, that's great! If they address at least some of the bugs (in order to show their good will) I'll buy one again!

Best regards,

Gerson.

Re: Is the HP35s reliable?

*Message #12 Posted by **Bart (UK)** on 18 Feb 2012, 8:16 p.m.,*
in response to message #11 by Gerson W. Barbosa

Yes, I am disapointed that after almost 5 years they still haven't fixed the bugs. For instance entering long programs like this matrix one or Pauli's 700+ line game is difficult when the checksum cannot be releid upon as I have had to spend time to check and re-check to ensure correctness.

Re: Is the HP35s reliable?

*Message #13 Posted by **Gerson W. Barbosa** on 18 Feb 2012, 8:46 p.m.,*
in response to message #12 by Bart (UK)

That's exactly what I felt when I read the remark in your complex functions program, linked below:

"Program length and checksum are not provided as they make no sense on this calculator"

Edited: 18 Feb 2012, 8:47 p.m.

Re: Is the HP35s reliable?

*Message #14 Posted by **Paul Dale** on 17 Feb 2012, 2:43 p.m.,*
in response to message #5 by Chris Smith

> Quote:
>
> WP34S sounds good but I just want something that works these days (I'm getting old and lazy).

Version 2.2 of the 34S certainly does this now.

Version 3 is much improved but not quite stable now, although it is very close.

Download the emulator and give it a whirl. It is possible to buy a repurposed device where all you need to do is to apply the overly.

- Pauli

Re: Is the HP35s reliable?

*Message #15 Posted by **Chris Smith** on 17 Feb 2012, 4:55 p.m.,*
in response to message #14 by Paul Dale

I'll try it in the emulator and see!

Re: Is the HP35s reliable?

*Message #16 Posted by **Michael de Estrada** on 17 Feb 2012, 3:55 p.m.,*
in response to message #5 by Chris Smith

Complex number handling is very cumbersome on the 35s, and it lacks some really useful features like direct polar to rectangular coordinate conversions, which I'm sure you know can be very useful in EE. I much prefer my 33s in these regards, and it's cheaper than the 35s.

Re: Is the HP35s reliable?

*Message #17 Posted by **Chris Smith** on 17 Feb 2012, 4:53 p.m.,*
in response to message #16 by Michael de Estrada

I noticed but from what i can see, it's possible to use a program to convert from polar -> rect and vice versa.

Re: Is the HP35s reliable?

*Message #18 Posted by **Michael de Estrada** on 17 Feb 2012, 5:13 p.m.,*
in response to message #17 by Chris Smith

But why go to the bother when you can do it directly from the keyboard ? And there's so many annoyances on the 35s, such as not having separate primary keys for STO and RCL or the negative sign on the number / mantissa not being centered, or the left / right shift arrows that should be up / down etc. Anyway, I hardly ever use it compared to my 33s and 32SII.

Re: Is the HP35s reliable?

*Message #19 Posted by **Bart (UK)** on 18 Feb 2012, 8:09 p.m.,*
in response to message #17 by Chris Smith

> Quote:
>
> ... it's possible to use a program to convert from polar -> rect and vice versa.

I have that program loaded, but I find it easy enough to just change the display. LeftShift, DISPLAY choose no. 10 for Polar or 9 for Rectangular. (shortcuts: "LeftShift DISPLAY .0" for Polar, "LeftShift DISPLAY 9" for Rectangular).

When in Rectangular mode, you can still easily enter polar values and they are automatically converted to Rectangular. And vice-versa when in Polar mode.

I find the actual entry of complex numbers the easiest on the 35s compared to all other

HP's I have worked with. You do just type 123 **i** 45 ENTER.

On the 42s it is: 123 ENTER 45 SHIFT COMPLEX.
On the 32S/SII and 33s a complex number takes up two stack levels and each operation has to be preceded by the COMPLEX key.
On the 50g entering in vector form is easy, but to get "123+**i**45 one has to do: 123 ENTER 45 LeftShift **i** * +

However, very few functions on the 35s support complex operations (unlike the 42s or 50g, where they form an integrated part of the functionality), but I have written some routines for that, listed in this other forum post: HP 35s complex operations

Regards,
Bart

Re: Is the HP35s reliable?

*Message #20 Posted by **Chris Smith** on 19 Feb 2012, 6:51 a.m.,*
in response to message #19 by Bart (UK)

Interesting stuff!

I've bought a Casio FX991ESPLUS (sorry chaps!) and an HP35s. Will see how I get on with both!

Re: Is the HP35s reliable?

*Message #21 Posted by **Chris Smith** on 22 Feb 2012, 5:12 p.m.,*
in response to message #20 by Chris Smith

FX991ES PLUS arrived earlier today. Not a bad machine for 15GBP! Probably end up using this in the end.

Surprised to find that it's pretty much the same as my SmartCalc 300s but fixes all the horrible complaints I had about that.

Awaiting HP35S delivery still...

Re: Is the HP35s reliable?

*Message #22 Posted by **Lars Bergström** on 20 Feb 2012, 4:29 p.m.,*
in response to message #1 by Chris Smith

In my opinion, the 35s is decent calculator, much better than what some "purist HP-fans" tends to express. There are some quirks, but nothing that has bothered me, during the 4(?) years of daily use.

The trig error (close to 90 deg), is of little importance, unless you plan to send a rocket to the moon, where the error in digit position 8 might be of importance.

The keyboard has a good quality and the display is OK (but not perfect, as it is difficult to distinguish "8" from the angular symbol theta).

/ Lars B (29C, 41CV, 19BII, 35S, all in daily use)

Edited: 20 Feb 2012, 4:29 p.m.

Re: Is the HP35s reliable?

*Message #23 Posted by **bill platt** on 22 Feb 2012, 7:16 p.m.,*
in response to message #22 by Lars Bergström

Have you used the 33s as well?

Re: Is the HP35s reliable?

*Message #24 Posted by **Gerson W. Barbosa** on 22 Feb 2012, 8:25 p.m.,*
in response to message #23 by bill platt

Incidentally, the trig bug was first noticed on the hp-33s. I like this calc, but I got somewhat disappointed after that. I wasn't on my way to Mars, but I was checking the results of my own trig program for the HP-12C Platinum upon the hp-33s when the discrepancies arose. At first I thought my results were wrong, until I decided to doublecheck the results on my good old HP-32SII.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103065#103065

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103989

Re: Is the HP35s reliable?

*Message #25 Posted by **Lars Bergström** on 23 Feb 2012, 5:07 p.m.,*
in response to message #23 by bill platt

Yepp! I used it for 2 years, but was highly annoyed of the graphic design of the symbols on the keys and the frontplate. The locations of the keys seemed somewhat "cluttered" and the ENTER key was way to small. I put the 33 in a drawer and bought a 35s instead. I haven't used the 33 since then.

I previously had both a 32s and a 42s at my old workplace, so i'm familiar with those as well.

BTW, the 33s is -ugly-, and that might also bias my judgement....

Re: Is the HP35s reliable?

*Message #26 Posted by **Ed Look** on 23 Feb 2012, 11:30 p.m.,*
in response to message #25 by Lars Bergström

I originally felt as you did about the appearance of the 33s. But in using it on a continual basis, I found it to be much more pleasant to use than the 35s. The appearance no longer bothers me and the keypresses on the 33s feel better. I have even begun to like the HP's selection of unshifted keys for the 33s. It seems easier to calculate on and program than the 35s. In fact, it is the one I reach for most of the time, unless I need something only the 50g can do.

Re: Is the HP35s reliable?

*Message #27 Posted by **Jeff Johnson** on 24 Feb 2012, 11:38 a.m.,*
in response to message #25 by Lars Bergström

I'm with Lars. The 33s just looks too much like a prop from a Flash Gordon episode, although I know there's a good machine underneath those looks. As much as I like to think of myself as purely rational, I admit that I am in love with the retro look of the 35s, and I have yet to be affected by any of its "bugs". It's my "daily driver" calculator. I also like the action of the 35s keys better than my 28s and 50g. I think the feel of the 35s keys are as good as those on the 45, 25, and 41C,

although I know some folks have had problems with key presses registering on their 35s. I'll keep mine, thanks.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting Book with lots of HP info

*Message #1 Posted by **Dave F** on 16 Feb 2012, 1:39 p.m.*

I just received a book I bought on Ebay that has some really good sections on HP calculators, including an essay on the evolution of HP calculators, a detailed chapter on the 9100 architecture by Tom Osborne, and a chapter on the 9845A hardware and software architecture. It's called **Computer Structures: Principles and Examples**. It's co-written/edited by Gordon Bell, who has the whole book available for download on his site:

http://research.microsoft.com/en-us/um/people/gbell/CGB%20Files/Computer%20Structures%20Principles%20and%20Examples%201982%20ng%20c.pdf

The download is huge, but definitely worth a look if you love HP calculators and early desktops.

Dave

Re: Interesting Book with lots of HP info

*Message #2 Posted by **Steve Leibson** on 17 Feb 2012, 12:52 a.m.,*
in response to message #1 by Dave F

+1 This out-of-print book has excellent technical descriptions of long out-of-print machines.

--Steve

Re: Interesting Book with lots of HP info

*Message #3 Posted by **Nick_S** on 17 Feb 2012, 3:09 a.m.,*
in response to message #2 by Steve Leibson

Thanks for the link. In addition to the HP calculator information, I also found the chapter on the Xerox Alto to be informative about their early experiment in personal computers.

Nick

Edited: 17 Feb 2012, 3:10 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can't seem to flash 30b

*Message #1 Posted by **Matt Fegenbush** on 16 Feb 2012, 10:42 a.m.*

I tried to follow the instructions to erase and flash my 30b, but I fear I may have bricked it. I am running Win XP with a direct serial connection (COM1) and am getting "unable to connect" messages with the MySamba Flash Tool from the sourceforge page.

If someone can enlighten me as to the next step to correct this, I'd sure be appreciative.

Re: Can't seem to flash 30b

*Message #2 Posted by **Bart (UK)** on 16 Feb 2012, 10:47 a.m.,*
in response to message #1 by Matt Fegenbush

I'm sure it's not bricked, but the flash has been erased. You will not get anything on the LCD at this stage, as the bootloader does not output to it.

It could be that the batteries are drained (the 30b drains the batteries quickly in this "zombie" state) or that there is a bad connection. Try with new batteries and ensure the pogo connector is properly seated.

Regards,
Bart

Re: Can't seem to flash 30b

*Message #3 Posted by **David Griffith** on 16 Feb 2012, 11:05 a.m.,*
in response to message #1 by Matt Fegenbush

Try all the other com ports that show up. When I did this, I wound up needing to use COM8.

Re: Can't seem to flash 30b

*Message #4 Posted by **Matt Fegenbush** on 16 Feb 2012, 11:07 a.m.,*
in response to message #3 by David Griffith

COM1 and COM3 are the only ports that are listed. Both have same result.

New batteries did not change the result.

Re: Can't seem to flash 30b

*Message #5 Posted by **Bart (UK)** on 16 Feb 2012, 11:25 a.m.,*
in response to message #4 by Matt Fegenbush

Were you sure to press the calculator ON button after erasing & before connecting with Samba?

Re: Can't seem to flash 30b

*Message #6 Posted by **bill platt** on 16 Feb 2012, 11:26 a.m.,*
in response to message #1 by Matt Fegenbush

So basketballs aren't the only things that can be "bricked?"

Re: Can't seem to flash 30b

*Message #7 Posted by **Eric Rechlin** on 16 Feb 2012, 11:28 a.m.,*
in response to message #6 by bill platt

I don't know, but I will say that the 30b cannot be bricked, so I can't help your argument.

Eric

Re: Can't seem to flash 30b

*Message #8 Posted by **pascal_meheut** on 16 Feb 2012, 11:41 a.m.,*
in response to message #7 by Eric Rechlin

Here is what I do when it happens:

I follow the whole procedure again, erase, reset, etc I launch the SAM-BA program, the Atmel one.

It usually connects. Then I quit and launch MySamba and use it to flash.

Re: Can't seem to flash 30b

*Message #9 Posted by **Bart (UK)** on 16 Feb 2012, 11:44 a.m.,*
in response to message #8 by pascal_meheut

Admittedly, I use the Atmel Samba to flash and have never used MySamba.

Re: Can't seem to flash 30b

*Message #10 Posted by **Marcus von Cube, Germany** on 16 Feb 2012, 11:55 a.m.,*
in response to message #9 by Bart (UK)

Both work but MySamba is much quicker and less picky with the serial adapter.

To Matt: Pressing ON after inserting batteries or pressing RESET is essential!

Re: Can't seem to flash 30b

*Message #11 Posted by **Alexander Oestert** on 16 Feb 2012, 12:35 p.m.,*
in response to message #1 by Matt Fegenbush

If I remember correctly I had this situation once. It only worked when I removed the batteries from the 30b, reinserted them and started the whole procedure from the beginning: connecting the cable, pressing buttons on the cable and the 30b, starting programs exactly as described, even as the display of the 30b didn't display anything. I only use Atmel's SAM-BA, not MySamba.

Edited: 16 Feb 2012, 12:36 p.m.

Re: Can't seem to flash 30b

*Message #12 Posted by **Matt Fegenbush** on 16 Feb 2012, 1:50 p.m.,*
in response to message #11 by Alexander Oestert

I have been able to sporadically achieve a new error (using SAM-BA v2.11):

TIME OUT The applet did not return Please check the connection and reconnect the target device.

Re: Can't seem to flash 30b

*Message #13 Posted by **JimP** on 16 Feb 2012, 2:52 p.m.,*
in response to message #12 by Matt Fegenbush

I had a similar problem when trying to use a serial port in a docked computer (where the serial port was on the dock rather than attached to the computer itself.) Changing to a computer with a native serial port solved this. Don't know if this is of any use but there you go.

Re: Can't seem to flash 30b

*Message #14 Posted by **Matt Fegenbush** on 16 Feb 2012, 3:45 p.m.,*
in response to message #13 by JimP

I am working with a docked laptop. I will try on a desktop with a serial port as soon as I can find one.

Re: Can't seem to flash 30b

*Message #15 Posted by **Matt Fegenbush** on 16 Feb 2012, 4:09 p.m.,*
in response to message #14 by Matt Fegenbush

Ok, that seemed to be the problem. All is well now. Thank you all for your help.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

It's tax time in the USA again...

*Message #1 Posted by **Michael Meyer** on 15 Feb 2012, 10:03 p.m.*

“In every job that must be done, there is an element of fun. You find the fun and... SNAP! The job's a game!” (Mary Poppins, 1964) At least when I use my HP-19C it makes doing my taxes just a bit more bearable...

Re: It's tax time in the USA again...

*Message #2 Posted by **Steve Fennell** on 15 Feb 2012, 11:43 p.m.,*
in response to message #1 by Michael Meyer

Thankfully I have TurboTax.

And just remember, it's not a tax, it's an "individual mandate".

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The story of HP's Logic Analyzers

*Message #1 Posted by **Steve Leibson** on 15 Feb 2012, 6:53 p.m.*

I've just posted a blog with some of the story of how HP got into the logic analyzer business. Not told is the story of how an HP 1615A prototype logic analyzer was essential in stamping out the last hardware bug in the HP 9845A desktop computer. There was a problem with the "high-speed" DMA I/O to the floppy disk drive (400K transfers/sec!) and the glitch-capture feature of the HP 1615A found the problem in minutes, once we got the box up from Colorado Springs Division.

After Silicon, SoC, and System Realization comes Dynasty Realization

Re: The story of HP's Logic Analyzers

*Message #2 Posted by **Artur-Brazil** on 16 Feb 2012, 4:56 a.m.,*
in response to message #1 by Steve Leibson

Hi,Steve! Great history and great equipments! I had one HP1630D and now the HP 1650B. The first, as oscilloscope, had, if I remember well, a difficulty with ranges or probes. Something is not variable, what makes more difficult to work with it, at least to me, that bought it more for its HP-IL connection. The other has an unbelieveable mistake: the operational systems is on flopy disks. My one sits, now, on bench, waiting for a new floppy drive, which is not the usual 3.5 floppy, as its power cable is not separeted from the data flat cable. As you seem to be acquainted with them, do you have any idea how to replace this floppy disk unit?

Re: The story of HP's Logic Analyzers

*Message #3 Posted by **Steve Leibson** on 16 Feb 2012, 8:42 p.m.,*
in response to message #2 by Artur-Brazil

Sorry Artur,

I do not know how to get a replacement drive for your analyzer. The guy you need to contact is Larry Atherton who has a store on that auction site called LA Tech Renewal. He might be able to help although his specialties are HP 85 computers and voltmeters.

--Steve

Re: The story of HP's Logic Analyzers

*Message #4 Posted by **Bruce Larrabee** on 19 Feb 2012, 11:44 p.m.,*
in response to message #2 by Artur-Brazil

I think I have one of those drives. Looks brand new.

(Is sitting here on top of my computer)

Sony MP-F73W-50

bruce_l@westbrookent.com

if it's the right one and if you are interested...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

After Cuts, HP Labs Vows Return to Glory Days

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 15 Feb 2012, 5:17 p.m.*

....As for the next pocket calculator? It will come, but Whitman concedes that it will take time. “Listen, R&D in the technology business is a longer-term gain,” she said during the call. “I think the investments we make in 2012, you’ll start to see in 2014 and 2015. I wish I could tell you differently, but it’s not true…. We cut out a lot of muscle in R&D at this company, and we have to invest back in it.”...

Since taking over, Whitman has very “engaged” with the labs and has made Banerjee a direct report. Previously, he had reported to the company’s Chief Strategy Officer. “She felt that HP Labs, the central research arm, is so important in terms of innovation for a technology company that she felt no this needs to be a direct report to me,” Banerjee says. “So we feel honored and thrilled, but it’s not just on paper. I mean, she is now tracking us on a very regular basis.”

That means that she’s tracking Project Moonshot too. Moonshot means low-powered servers right now, but HP has a few other technologies: its memristor memory chips — essentially a low-power alternative to flash — and photonic optical interconnects that could link up servers or even processors themselves. Banerjee thinks that new nanostore chips, which marry low-power processors with memristors, could be the ticket.

“Moonshot is step one of this big dream that we have. Our end point is we are going to have these tens of millions of low-power processors connected right next to these nonvolatile memory, based on memristors. And how are we going to connect these things up? Through optical interconnects?”

“Once we do this, it’s going to be a complete killer,” he adds. “Better than the calculator.”

More to read:Link to article

Edited: 15 Feb 2012, 5:19 p.m.

Re: After Cuts, HP Labs Vows Return to Glory Days

*Message #2 Posted by **Howard Owen** on 15 Feb 2012, 9:47 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Very. Cool. Stuff!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

go41cx V1.4.0

*Message #1 Posted by **Olivier De Smet** on 15 Feb 2012, 4:16 p.m.*

Last release with the return of the text overlays :) But only with one label per key :((use them with 'black' graphic overlay or 'opt001' skin)

- sound added (even synthetic tones) - ADV working now - inline help

Olivier

Re: go41cx V1.4.0

*Message #2 Posted by **Vincent Weber** on 15 Feb 2012, 4:55 p.m.,*
in response to message #1 by Olivier De Smet

Thanks and congrats Olivier, this is awesome work !

Now go41CX is 99% on par with i41CX+ - your are not stuck with Apple if you want a pocketable emulation of the 41CX ! i41CX+ has a CAS in addition, but this CAS was never part of the real 41 and is really stretching it too far...

Now, the nice thing would be to bring your other calcs to the same level of polishing: high-res skins and moving keys, landscape orientation + better sized help screen for the voyagers,.... :)

Cheers,

Vincent

Re: go41cx V1.4.0

*Message #3 Posted by **Alexander Oestert** on 16 Feb 2012, 2:00 a.m.,*
in response to message #1 by Olivier De Smet

Wonderful! Great! I'm loving it!:-)

You're shelling out new versions faster than I can find any flaws with the old ones... ;-)

I think I have only one wish on my list open: having a dedicated folder for all the associated files other than 'download' - everything gets so cluttered there as it mixes with all my other downloaded items.

Here is my version of an empty png overlay to use with user txt overlays as provided in the newest version 1.4 of go41cx. I have emptied just the first two rows, all the rest is the original.

EDIT: Edited the overlay png

Edited: 16 Feb 2012, 10:14 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Flash Cable for WP-34s

*Message #1 Posted by **Fritz Wostbrock** on 15 Feb 2012, 4:07 p.m.*

I refer to the question of Barry Reeves on 17 Nov. 2011.I also would like to buy the flash-cable for the HP-30B. Gene Wright, I have read that you may can help with the cable ?! How can I contact you ?

Re: Flash Cable for WP-34s

*Message #2 Posted by **Walter B** on 15 Feb 2012, 4:20 p.m.,*
in response to message #1 by Fritz Wostbrock

> Quote:
>
> How can I contact you ?

I suggest trying forum mail first :-)

Re: Flash Cable for WP-34s

*Message #3 Posted by **Fritz Wostbrock** on 16 Feb 2012, 8:30 a.m.,*
in response to message #2 by Walter B

Walter, you can reach me under "fritz@wostbrock.us". Thank's

Re: Flash Cable for WP-34s

*Message #4 Posted by **Alexander Oestert** on 16 Feb 2012, 8:27 a.m.,*
in response to message #1 by Fritz Wostbrock

Try

Gene Wright's forum mail

Re: Flash Cable for WP-34s

*Message #5 Posted by **Bart (UK)** on 16 Feb 2012, 9:09 a.m.,*
in response to message #4 by Alexander Oestert

Just change the subject line so he easily sees it's a request for a cable :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC Extended Memory

*Message #1 Posted by **Mark Hardman** on 15 Feb 2012, 2:58 p.m.*

The "Firmware" tab of the DM-15CC Website provides downloads for the following HP 15C versions:

DM-15CC firmware 'vanilla'
DM-15CC firmware 'mem80' with extended memory
DM-15CC firmware 'mem1b' with even more memory *

With the caveat on the last being:

" * with the mem1b version you must not make more than 999 pgm steps... the unpredictable may happen."

I would assume that the 'mem80' version has 128 (0x80) pool registers. But it is not clear about how much extended memory the 'mem1b' patch version provides.

In an old thread, Eric and HrastProgrammer made it clear that 128 was the upper limit of the number of pool registers available without the need for extensive patching to the ROM. But, given the caveat for the 'mem1b' version, we can assume that it supports at least 143 pool registers.

Has anyone successfully applied any of the alternate ROMs? I would be curious to know how far Michael was able to extend the DM-15CC's memory.

Mark Hardman

Edited: 15 Feb 2012, 3:02 p.m.

Re: DM-15CC Extended Memory

*Message #2 Posted by **Eric Smith** on 15 Feb 2012, 5:57 p.m.,*
in response to message #1 by Mark Hardman

I suspect that mem1b would have 229 pool registers (0x100 - 0x1b), but I haven't tried it.

Re: DM-15CC Extended Memory

*Message #3 Posted by **David Jedelsky** on 16 Feb 2012, 7:51 a.m.,*
in response to message #1 by Mark Hardman

The original HP15C has covered memory range c0-ff which means the area of 64 registers (note that the two or so registers in lower part of memory are counted to register pool, but just concentrate on this part of memory).

The mem80 extends this to 80-ff range i.e. 128 registers.

Similar situation with mem1c extends the range to 1c-ff i.e. 228 registers. I don't remember it exactly ... but I think the area is somewhat shrunk when the integration or solve is activated ... so the base for temporary

registers in such case starts at 20h not 1c. It means there will be 4 less registers then could be expected.

Re: DM-15CC Extended Memory

*Message #4 Posted by **Lyuka** on 17 Feb 2012, 12:13 a.m.,*
in response to message #1 by Mark Hardman

Does it mean that there is a possibility to upgrade the total amount of registers of HP 15C Limited Edition?

Lyuka

Re: DM-15CC Extended Memory

*Message #5 Posted by **Paul Dale** on 17 Feb 2012, 12:18 a.m.,*
in response to message #4 by Lyuka

A possibility, perhaps. It will depend on a few unknowns. How HP has allocated the 2kb of non-volatile RAM the 15C LE's CPU has. Is there "free" space the beside the current registers e.g.?

An alternative path to achieving something similar might be to port an older version of nonpareil to the hardware. At least, it would be worthwhile considering this option as well.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Followup to HP 12C keyboard problems

*Message #1 Posted by **Eric Rechlin** on 15 Feb 2012, 2:28 p.m.*

Just a follow-up to my post from last week about my 12C that had a defective [PV] key:

On Monday I called HP tech support to see if I could get a replacement.

The man with whom I spoke was very friendly and said they'd send me a replacement.

Well, today I just got a package from UPS from SPL Logistics Export Department of Miami, FL, containing a replacement calculator. But something looked different.

What was it? HP sent me a 12c Prestige to replace my 12C. It was just a bare calculator, wrapped in bubble wrap, with no case or anything. The serial number starts with CNA643.

I'm not complaining -- in fact, it was pretty cool to get a 12c Prestige. But what I find strange is how a model that was only sold in Brazil about 5 years ago ended up in the US HP warranty replacement inventory. The Prestige, for those who aren't familiar, is a rebadged second-generation 12c Platinum, but with a gold faceplate instead of a silver colored faceplate.

Eric

Re: Followup to HP 12C keyboard problems

*Message #2 Posted by **Bob Cortopassi** on 15 Feb 2012, 2:33 p.m.,*
in response to message #1 by Eric Rechlin

If the 12C with the problem was a 12C+ with the faster ARM processor, I'd consider this a downgrade rather than an upgrade.

Thanks for your comments on the Prestige, though, I'd never heard of it!

Re: Followup to HP 12C keyboard problems

*Message #3 Posted by **Eric Rechlin** on 15 Feb 2012, 2:42 p.m.,*
in response to message #2 by Bob Cortopassi

Yes, that's correct, it was a 12C+ so it was a downgrade, but considering I can easily buy as many 12C+ calculators as I want yet can't buy the 12c Prestige, this is arguably worth more.

They didn't make me send back the old 12C, though, so I still have that (if I ignore the fact that PV doesn't work so well).

Eric

Re: Followup to HP 12C keyboard problems

*Message #4 Posted by **Katie Wasserman** on 15 Feb 2012, 2:35 p.m.,*
in response to message #1 by Eric Rechlin

Pretty Cool!

On the other hand, pretty terrible HP service. This is especially terrible since you're one of their resellers, is that correct?

Re: Followup to HP 12C keyboard problems

*Message #5 Posted by **Eric Rechlin** on 15 Feb 2012, 2:46 p.m.,*
in response to message #4 by Katie Wasserman

I don't know how many at HP are aware of that.

These days I buy most of my calculators for resale on Amazon.com because it's frequently cheaper to buy calculators from Amazon than from the official HP distributors. When I do rely on my distributors (like for the 15C) I tend to get screwed over anyway.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 > USB printer simulation (82143A)

*Message #1 Posted by **Diego Diaz** on 15 Feb 2012, 1:35 p.m.*

Hi all,

I've been working on a new project for the HP-41 in order to provide HP-41 <> USB connection.

As a first step I found the unidirectional coms between the HP-41 and the printer to be a good starting point before going further to bidirectional coms.

So far I've developed the module code to handle the 82143A printer ROM and Peripheral interface chip (Helios) in its basic format and transfer the bytes to be printed through the USB (serial interface) to a PC where a slightly modified terminal program shows the printing in a text window.

The USB cable is attached to a standard module shell containing a modified Clonix-like device. Is uses the same Prolific chip for the USB <> serial conversion as it's used in the USB programmer for the Clonix and NoV's module family, so ther'll be no need for further driver installation.

The module is also re-configurable using the same Clonix USB progammer to allow upgrading and/or repurposing for future bidirectional comms use.

Now it comes the difficult part (at least for me): Which platform to use when developing the PC side of the interface?

My programming skills are very limited when it comes to object oriented languages.

So far I've just built the small GUI for the ClonixConfig utility in Visual Basic under .NET; and some testing for this USB > HP41 adapter using Python 2.7(and Boa Constructor).

Further more, serial interfacing is not one of the most popular application nowadays so I've found fery few examples out there to learn from.

I assume that there must be some very good programmers in here, and would like to get advice on the preferred platform and (if possible) some examples of serial interface data handling. :-)

Ejoy your toys!

All the best from Caribbean Sea.

Diego.

Re: HP-41 > USB printer simulation (82143A)

*Message #2 Posted by **Geir Isene** on 15 Feb 2012, 2:28 p.m.,*
in response to message #1 by Diego Diaz

Any platform that lets the client software run equally well on bot Windows and Linux/*BSD (and Mac)...

... and I would add: Yes please, I'm a buyer as long as I can make it run under Linux.

Edited: 15 Feb 2012, 2:29 p.m.

Re: HP-41 > USB printer simulation (82143A)

*Message #3 Posted by **Bob Cortopassi** on 15 Feb 2012, 2:31 p.m.,*
in response to message #1 by Diego Diaz

Here's a simple example for C# (.Net): Simple Serial

Microsoft Example for VB.Net

Sample Class for serial comms in VB.Net

Java example

Re: HP-41 > USB printer simulation (82143A)

*Message #4 Posted by **Marcus von Cube, Germany** on 15 Feb 2012, 2:51 p.m.,*
in response to message #3 by Bob Cortopassi

The problem with Java is that there are two libraries available: RXTX and JavaComm, and none is available on all platforms (RXTX an Mac and Windows, JavaComm on Linux and Solaris). They are very closely related but not identical. You might want to include an interface library to bridge the gap and provide versions for the common platforms. If you want to go the Java route I may be able to dig deeper into the subject.

After some digging on the Net, it looks like RXTX is the way to start.

Re: HP-41 > USB printer simulation (82143A)

*Message #5 Posted by **Eric Smith** on 15 Feb 2012, 4:47 p.m.,*
in response to message #4 by Marcus von Cube, Germany

RXTX works fine on Linux.

Re: HP-41 > USB printer simulation (82143A)

*Message #6 Posted by **Marcus von Cube, Germany** on 16 Feb 2012, 2:13 a.m.,*
in response to message #5 by Eric Smith

IIRC, JavaComm was first and the community was unhappy with the availability on the various platforms. This was the starting point for RXTX. As RXTX is a GNU project, the necessary native drivers for other platforms can be provided by the community. So RXTX is definitely the way to go for serial communications in Java.

Re: HP-41 > USB printer simulation (82143A)

*Message #7 Posted by **Christoph Giesselink** on 16 Feb 2012, 1:06 p.m.,*
in response to message #3 by Bob Cortopassi

I'm not convinced about the VB solution. JFG's original ILPer is written in VB. The Pilbox is connected over the integrated Serial-USB converter and the virtual COM port driver.

1) Connect ILPer (VB version) over the virtual COM port with the Pilbox

2) Unplug the Piolbox USB cable during connection open
3) Close Pilbox

-> ILPer crashed and ask if you want to send an error report to MS

This is a problem of MS VB serial implementation, and not a problem of the virtual COM port driver. I was not able to solve this problem, so this was one of more reasons to port JFG's VB program to C++.

Christoph

Edited: 16 Feb 2012, 5:18 p.m.

Re: HP-41 > USB printer simulation (82143A)

*Message #8 Posted by **Raymond Del Tondo** on 15 Feb 2012, 3:34 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

great thing again:-)

I may be a buyer if the PC-side code doesn't rely on any of the bulky and resource-wasting frameworks.
So please no .NET , and by no means Java!
Maybe Christoph Giesselink would be able to give some hints on using Visual Studio (w/o NET) ?

Regards

Ray

Re: HP-41 > USB printer simulation (82143A)

*Message #9 Posted by **Marcus von Cube, Germany** on 15 Feb 2012, 4:01 p.m.,*
in response to message #8 by Raymond Del Tondo

Raymond, without a framework you cannot build GUI software for multiple platforms. .NET is (almost) Windows only but it's readily available on Windows platforms so shouldn't be a problem if you are a Window user anyway.

Java is preinstalled on many platforms as well. Java programs are very easy to distribute because the programs themselves tend to be compact because the bulk of the code is already installed on the target platform. And you do not need to compile for different platforms, a huge advantage for developers. Java has another advantage: The error handling is superb compared to C. Have you ever compared a Java stack trace with a crash from an average Windows program?

Re: HP-41 > USB printer simulation (82143A)

*Message #10 Posted by **Antonio Petri (UK)** on 16 Feb 2012, 4:40 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Java is not pre-installed on Windows, Microsoft doesn't include java in Windows since a long time. Hardware vendors might pre install it though. Anyway, My dell laptop didnt have it. On Mac it is currently pre-installed , but it will change in the future because Apple will not provide the Jdk anymore.

Re: HP-41 > USB printer simulation (82143A)

*Message #11 Posted by **Geir Isene** on 15 Feb 2012, 4:30 p.m.,*
in response to message #8 by Raymond Del Tondo

QT may be a possibility.

Re: HP-41 > USB printer simulation (82143A)

*Message #12 Posted by **Marcus von Cube, Germany** on 15 Feb 2012, 4:45 p.m.,*
in response to message #11 by Geir Isene

Qt isn't seamless, either, you'll need the libraries on the target platform.

Re: HP-41 > USB printer simulation (82143A)

*Message #13 Posted by **Håkan Thörngren** on 15 Feb 2012, 8:29 p.m.,*
in response to message #1 by Diego Diaz

Not the same, but what would it take to make an HPIL <> USB, but using the HP-IL protocol instead? That way the host computer could implement the HP-IL loop and by means of USB allowing the physical HP-41 to access it?

Re: HP-41 > USB printer simulation (82143A)

*Message #14 Posted by **Diego Diaz** on 15 Feb 2012, 10:22 p.m.,*
in response to message #13 by Håkan Thörngren

Hi Håkan, all

The HP-IL approach is already available thanks to J-F Garnier and his PIL-box; which exceeds by far the idea of the simple interface I'm building.

On the other hand, I'd like to keep both the memory and physical footprint as small as possible. Therefore plugging an 82160A HP-IL adapter + PIL-Box is above my target, and it would also fill page #7.

The final idea is to have a standard module with a USB cable, which can behave as a PRINTER, or transfer .ROM image page files to/from a PC and the RAM inside an HEPAX or NoV module... and, may be, allow text program files to be transferred to the HP-41 in a Wand-like fashion... (but this is for now just an idea).

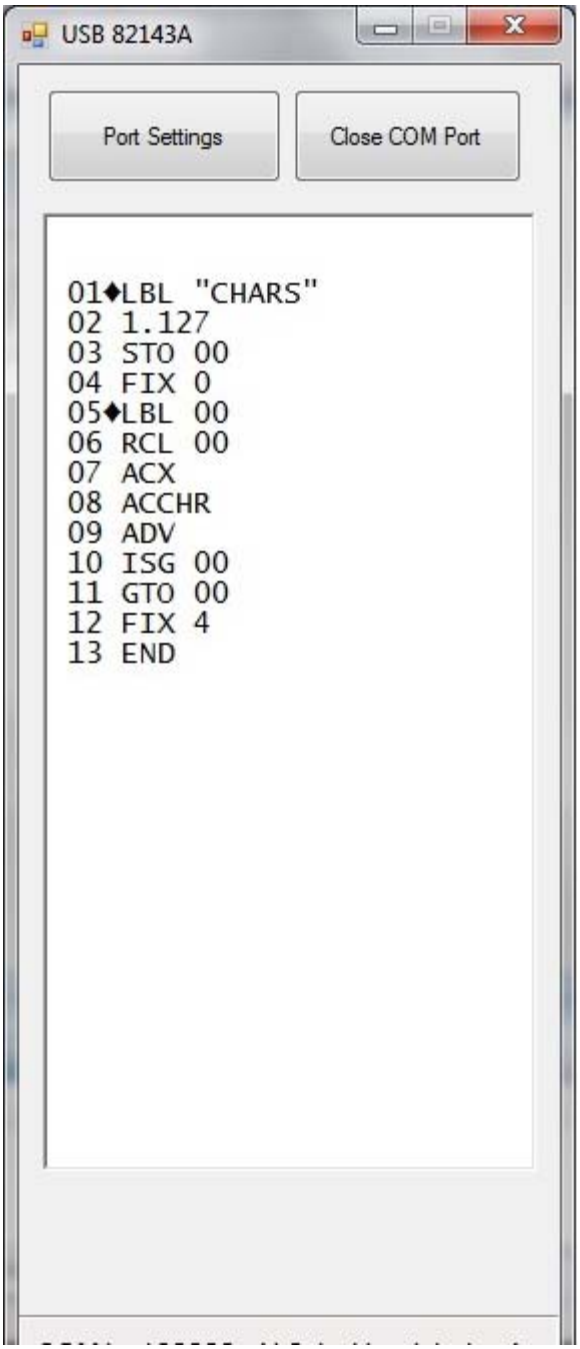
The only things that have been tested so FAR are:

- Program printing in MAN mode and

- Page transfer *to* PC .ROM file.

Here it's how it looks like:

And a program list sample from the 82143A manual (page 23):



I've modified a Visual Basic serial demo program to produce the listing above.

Still a lot of work ahead, but I'm having lotta fun! ;-)

Thanks a lot for the hints and advice, seems I have many things to read before making a decision.

Best wishes from Dominican Republic.

Diego.

Re: HP-41 > USB printer simulation (82143A)

*Message #15 Posted by **John Robinson** on 15 Feb 2012, 11:47 p.m.,*
in response to message #14 by Diego Diaz

Looks great Diego ! - will you be selling these ?

Thanks John

Re: HP-41 > USB printer simulation (82143A)

*Message #16 Posted by **Richard Wagoner** on 16 Feb 2012, 11:54 a.m.,*
in response to message #15 by John Robinson

Put me down for at least one!!

Rick

Re: HP-41 > USB printer simulation (82143A)

*Message #17 Posted by **Diego Diaz** on 15 Feb 2012, 11:56 p.m.,*
in response to message #15 by John Robinson

Hi Jhon,

I thanks for your kind words.

As you can see for the posts above, the project is still in a very early stage. So there will still be a while before I can think in a small production run.

If things run smooth enough may be it can be ready in six to eight weeks.

Cheers.

Diego.

Re: HP-41 > USB printer simulation (82143A)

*Message #18 Posted by **Artur-Brazil** on 16 Feb 2012, 5:09 a.m.,*
in response to message #14 by Diego Diaz

Hi, Diego, the man of great ideas!

You seem to know well VB6. If you're going to learn Java or other language to make this interface programm, you may take much more effort and may lost your goal. Do it on VB6. Linux has a Windows emmulator, doesn't it? Windows runs well programs done in VB6... so, focus on your code ...

Just another idea - good or not!

Artur

Re: HP-41 > USB printer simulation (82143A)

*Message #19 Posted by **Antonio Petri (UK)** on 16 Feb 2012, 6:11 a.m.,*
in response to message #14 by Diego Diaz

I would first go with a command line interface written in C that can be easily compiled on all platform.

Re: HP-41 > USB printer simulation (82143A)

*Message #20 Posted by **Geir Isene** on 16 Feb 2012, 11:36 a.m.,*
in response to message #14 by Diego Diaz

Please go with Python here as that runds well on both Windows, Linux, *BSD and Mac.

Re: HP-41 > USB printer simulation (82143A)

*Message #21 Posted by **Marcus von Cube, Germany** on 16 Feb 2012, 11:50 a.m.,*
in response to message #20 by Geir Isene

It needs to be installed on most platforms, though. Whatever the language and associated framework is, you will not find a solution that works out of the box on all relevant systems.

Re: HP-41 > USB printer simulation (82143A)

*Message #22 Posted by **Geir Isene** on 16 Feb 2012, 12:45 p.m.,*
in response to message #21 by Marcus von Cube, Germany

No, and I would prefer a solution that in fact works on all systems rather than one that works only for one system out of the box.

Re: HP-41 > USB printer simulation (82143A)

*Message #23 Posted by **Geir Isene** on 17 Feb 2012, 1:42 a.m.,*
in response to message #22 by Geir Isene

And it would only be a matter of making it all into a package (program + libraries) and deliver it as a full executable on the various platforms. Then one would of course prefer the framework with the smallest footprint.

Re: HP-41 > USB printer simulation (82143A)

*Message #24 Posted by **Marcus von Cube, Germany** on 17 Feb 2012, 2:45 a.m.,*
in response to message #23 by Geir Isene

Pascal has done this with the new Qt based WP 34S emulators. Qt seems to be viable choice.

Re: HP-41 > USB printer simulation (82143A)

*Message #25 Posted by **Christoph Giesselink** on 16 Feb 2012, 1:20 p.m.,*
in response to message #14 by Diego Diaz

> Quote:
>
> I've modified a Visual Basic serial demo program to produce the listing above.

What about my HP82240B printer simulation at http://hp.giesselink.com/hp82240b.htm?

It has a serial mode with the baud rates 1200, 2400, 4800 and 9600 baud. In serial (COM port) mode you can select the printer type "HP-82240B" which starts with the Roman8 character set or "Serial Printer" type for the HP48 series which start with the ECMA94 character set at startup.

Has the 82143A printer a special character set?

Christoph

Re: HP-41 > USB printer simulation (82143A)

*Message #26 Posted by **Diego Diaz** on 17 Feb 2012, 6:38 p.m.,*
in response to message #25 by Christoph Giesselink

Wow!

Must admit that I feel a bit overwhelmed by the quality, diversity and *amount* of your responses: Thank you all! :-)

As I said before I know I have a lot of work ahead but it start to seem pretty clear that I cannot face the task of satisfying all the possible platforms and/or environments.

Moreover, it will take me months (may be years) to get the required expertise in some of the proposed developing tools, to build a "reasonably acceptable" and functional interface.

As it seems that some of you (most all of you) has already got said expertise in one or several of these development/programming languages. And since the 82143A intereface implemented in my HP-41>USB device is *sooo* simple. I think I'd better publish the very few lines required to handle the data reception (remember it's unidirectional) and its presentation. So anyone interested can write a suitable GUI on his/her favourite environment (and hopefully share it with the rest of us).

I'll still have to debug a few things but probably the final release will go "out of the box" with a (hated by most) VB GUI. Well, although not expert in this either, I have some previous experience from the ClonixConfig, and since most of the potential users already have Clonix/NoV's... :-/

BTW the USB interface cable is built with the same chip (Prologic) as the one in the USB programmer for the Clonix/NoV family, so previous users of any of these modules won't require new drivers installation.

Just to point it out, this small gadget is not pretended for replacing the 82143A, basically it's just a tool for saving some paper, *much time*: it tooks 43 seconds to list the complete "PRPLOT" program (340 lines) and the need for the physical (and somehow bulky) printer. Also useful with HEPAX DISASM dumps! In fact it was this point which makes me think in this approach... the text box has been sized to accept the complete disassembled listing of a whole 4K page. ;-)

Of course it does not handle the "graphical" features of the 82143A, and I'm still working in the possibility of implementing the TRACE mode (only MANUAL mode for now), mostly due to CAT listings, (any interest?)

The character set of the 82143A is sort of a nightmare, I've done my best in replacing the most weird characters with the better looking from the UTF-8 set. A look-up table is in charge of replacing the 7 bit code with its "equivalent" unicode.

Again my wholehearted thaks for the "massive" and positive response, and my apologies for not satifiying many of your expectations.

All the best from Dominican Republic.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-10BII+ Price calculation bug?

*Message #1 Posted by **Thomas Radtke** on 15 Feb 2012, 6:53 a.m.*

This works:

10 CST 100 MU

Pressing PRC gives 20

This don't:

100 MU 10 CST

Pressing PRC gives 10

Why is this? Bug or missing feature? I'd have expected the usual HP Solve algorithm.

Thanks,

Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reminders/notes to help recall variable meanings in equations

*Message #1 Posted by **Chris C** on 14 Feb 2012, 8:37 p.m.*

Several equations I want to store in my 35s contain, when written in books, variables using the same letter with different subscripts. (See the 3rd post here for an example of what I mean: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=211648#211648) Of course the 35s doesn't support subscripts so a letter can only be used once when storing an equation. This means other (non-meaningful) letters must be used in the stored version of the equation. I can see this being a problem after not using one for a while (I'll forget what values go where in the equation.)

I do know that setting flag 10 in a program allows prompting for variables using strings of descriptive characters. This works very well when using the equation as it is programmed, and would seem to avoid the problem described above. However, when a variable within an equation is needed to be solved for, SOLVE won't work for equations in programs unless the program uses the INPUT command to receive variables - and the INPUT command prompts for variable entry using single letters only.

So, despite the usefulness of flag 10, programs that don't use INPUT can't be used when I'll need to solve for different variables within equations. When this ability is necessary I'll have to use the equation list, and the original problem in the first paragraph comes back.

Is there a solution to this dilemma (other than writing a program for every way an equation can be solved) ?

Or if not, is there an intuitive way to save notes somewhere to help remind me which letters represent which variables for equations in the equation list?

Edit: I'm using this calculator because it's the best option on NCEES's approved calc list, so switching to another calculator isn't an option.

Edited: 14 Feb 2012, 9:44 p.m. after one or more responses were posted

Re: Reminders/notes to help recall variable meanings in equations

*Message #2 Posted by **Allen** on 14 Feb 2012, 8:56 p.m.,*
in response to message #1 by Chris C

> Quote:
>
> ... is there an intuitive way to save notes somewhere to help remind me which letters represent which variables for equations in the equation list?

Perhaps I misunderstand your question? You are putting the (probably easy?) equations into your calculator so you don't have to remember them, and then making notes so you don't have to remember the variables in the equations you don't remember?

At some point you'll need to remember something, right?

May I make two recommendations: 1) Rather than spend time typing formulas into calculators, spend the same amount of time studying the physical units behind the variables and how to derive them from first principles, then you won't need to a mnemonic to decipher equations you can't remember. (e.g. learning -vs- memorizing -vs- using technology as a crutch)

2) You might consider an upgrade to a HP 48/49/50G and write a SOLVER routine. You can capture notes along with the benefits of making a nice GUI. It takes longer to write, but in the process you'll remember it better and have a cool navigation function. The TVM SOLVER is a good example. Or Page 4 of this HP guide

Re: Reminders/notes to help recall variable meanings in equations

*Message #3 Posted by **Chris C** on 14 Feb 2012, 9:41 p.m.,*
in response to message #2 by Allen

I can assure you I understand the material and the equations. I think you may not understand the reason for my question. Thanks anyway.

Re: Reminders/notes to help recall variable meanings in equations

*Message #4 Posted by **Thomas Klemm** on 14 Feb 2012, 10:22 p.m.,*
in response to message #1 by Chris C

> Quote:
>
> Or if not, is there an intuitive way to save notes somewhere to help remind me which letters represent which variables for equations in the equation list?

You may enter the original equation just above the equation to solve the problem:

```
NC=(H1-H2A)/(H1-H2S)
N=(A-B)/(A-C)
```

Kind regards
Thomas

Re: Reminders/notes to help recall variable meanings in equations

*Message #5 Posted by **bill platt** on 14 Feb 2012, 10:31 p.m.,*
in response to message #4 by Thomas Klemm

That's exactly what I was going to say. It is a "dummy equation". Heck, I even put a phone number in mine once, when I didn't have a piece of paper and a pencil (how crazy!).

Re: Reminders/notes to help recall variable meanings in equations

*Message #6 Posted by **Chris C** on 15 Feb 2012, 5:13 p.m.,*
in response to message #4 by Thomas Klemm

This seems good. It's probably just about as good of a solution as there is. Thank you very much.

Re: Reminders/notes to help recall variable meanings in equations

*Message #7 Posted by **NateB** on 15 Feb 2012, 11:08 a.m.,*
in response to message #1 by Chris C

During the execution of a program, you can display a reminder prior to INPUT.

This listing displays the program name CROSS PRODUCT and then prompts for the input of VECTOR 1.

```
A001 LBL A
A002 SF 10
A003 CROSS PRODUCT
A004 PSE
A005 VECTOR 1
A006 PSE
A007 CF 10
A008 INPUT I
A009 INPUT J
A010 INPUT K
.
.
.
```

You can also use a dummy equation in the Equation List as a reminder.

Example:

If you are taking the FE, I'd reccomend sticking to the more common equations used for the discipline specific portion of the exam. (e.g. If you are taking the Civil specific, I'd go with Manning's eqn, Hazen-Williams, Darcy-Weisbach, nominal moment capacity for concrete beams, depth of compressive stress block for concrete, etc.)

Also, knowing how to use the STAT, nCr, and nPr functions will save you a lot of time during the morning session.

Re: Reminders/notes to help recall variable meanings in equations

*Message #8 Posted by **Chris C** on 15 Feb 2012, 5:22 p.m.,*
in response to message #7 by NateB

Using dummy equations as labels above equations is a good idea. I'll definitely do that. Thanks! And I am planning on taking the FE, so thanks for the heads-up on using the Stat, nCr, and nPr. I'll have to look into them.

I believe, though, that using reminder text before INPUT statements in programs doesn't help when using SOLVE on equations in programs (which is why I was looking for ideas on reminders for equation variables in the equation list). Won't the SOLVE function prompt for the INPUT statement variables without showing the reminder lines first? Or am I wrong?

Edited: 15 Feb 2012, 5:33 p.m.

Re: Reminders/notes to help recall variable meanings in equations

*Message #9 Posted by **Bart (UK)** on 16 Feb 2012, 9:21 a.m.,*
in response to message #8 by Chris C

Quote:

> Won't the SOLVE function prompt for the INPUT statement variables without showing the reminder lines first? Or am I wrong?

In a program, SOLVE does not prompt for inputs unless Flag 11 is set. However, Flag 11 is default clear, and also cleared after every SOLVE operation. See chapter 15 of the manual.

Thus while Flag 11 is clear, you have to write the prompts for inputs into your program (see the example for the Gas Law equation on p15-3).

Regards,
Bart

Re: Reminders/notes to help recall variable meanings in equations

*Message #10 Posted by **Bart (UK)** on 16 Feb 2012, 9:12 a.m.,*
in response to message #1 by Chris C

Here you go!

This program uses SOLVE without requiring the use of an extra label, the only caveat is that you must start the program at line 004, i.e. with "XEQ A004".

Notes:

- This one skips input for the variable required to solve, but stores whatever is in the X-register at the time into the variable's register. It's OK in a simple equation as this, but for other situations you may wish to enter initial guesses (see manual p7-8).
- Indirect registers -1 to -26 refer to storage registers A to Z. Thus SOLVE(-1) = SOLVE A etc., the result being stored back into that register.
- The program does not end in a return, but a stop and a goto. This allows easy re-run of the program by pressing R/S.
- For "x<>y?", the "<>" is the "not equal" sign (equal with a strike through it) on the calculator.

Program listing:

```
LABEL  STEP                    COMMENT
A001   LBL A                   These first three lines
A002   A=(B-C)/(B-D)           define the function for SOLVE
A003   RTN
A004   SF 10                   the program actually starts here
A005   TEST EQUATION           information text briefly displayed with pause
A006   PSE
A007   NC=(H1-H2A)/(H1-H2S)
A008   PSE
A009   CHOOSE 1 TO 4
A010   PSE
A011   TO SOLVE FOR
A012   PSE
A013   1NC 2H1 3H2A 4H2S       waits for input (use right arrow to scroll for more text)
A014   +/-
A015   STO I
A016   -1
A017   x<>y?                   this tests if it is the variable to solve for
A018   ENTER NC                and will skip if it is
A019   STO A
A020   RCL I
A021   -2
A022   x<>y?
A023   ENTER H1
A024   STO B
A025   RCL I
A026   -3
```

```
A027   x<>y?
A028   ENTER H2A
A029   STO C
A030   RCL I
A031   -4
A032   x<>y?
A033   ENTER H2S
A034   STO D
A035   CF 10
A036   FN= A                  calls the function in label A (which returns after A003)
A037   SOLVE(I)               see second bullet point above
A038   CLSTK                  just to get rid of intermediate entries before recalling
result
A039   RCL(I)
A040   STOP                   program stops, but can continue with R/S
A041   GTO A004               restarts program
```

Regards,
Bart

Edited: 16 Feb 2012, 9:25 a.m.

Re: Reminders/notes to help recall variable meanings in equations

*Message #11 Posted by **Chris C** on 16 Feb 2012, 5:44 p.m.,*
in response to message #10 by Bart (UK)

Extremely cool. Thanks again, very much, Bart! I won't be able to enter it for a few days, but it is at the top of my to-do list, and asap.

Re: Reminders/notes to help recall variable meanings in equations

*Message #12 Posted by **Bart (UK)** on 16 Feb 2012, 6:53 p.m.,*
in response to message #10 by Bart (UK)

Follow on:

After some experimenting, i managed to get more than 1 equation for "FN=" in a label space. It seems that this command will ignore anything that is not a valid equation. This allows for the use of conditional statements to select the required equation.

Example program:

```
A001   LBL A
A002   FS? 0
A003   GTO A005
A004   GTO A007
A005   A=B/(B+C)
A006   RTN
A007   A=B*(B+C)
A008   RTN
A009   CF 0
A010   SF 10
A011   USE EQN 1 OR 2
A012   1
A013   x=y?
A014   SF 0
A015   A=
A016   STO A
A017   C=
A018   STO C
A019   CF 10
A020   FN= A
A021   SOLVE B
A022   RCL B
A023   CF 0
```

```
A024    STOP
A025    GTO A009
```

This program would be started by "XEQ A009"

In this case I used one of the 5 user flags, but i guess other types of conditionals would work too.

Edit: Removed a stray "h" that crept in on line A009.

Edited: 17 Feb 2012, 6:39 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Expandability Then and Now… TI?

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Feb 2012, 12:43 p.m.*

HP-41 has always amazed me with its capabilities and expandability, even today it is the most used calculator I have and yet still so much to learn which MCODE being the next. Especially it was a great tool while I was doing my graduate work in a cryogenics lab at NIST in early 90's running various lab instruments on HP-IL and GP-IB, collecting data and analyzing. It was always ahead of its time and nothing since was developed with such expandability, I guess until now…

I was reading about "TI nspire" and "TI nspire Lab" which gives you five ports – three analog and two digital – the TI-Nspire Lab Cradle allows students to use up to five sensors at one time, including high-sample-rate sensors. In addition Verneir provides many different both digital and analog sensors and software to collect and analyze data. Amazing machine! So much more potential…

nspire lab

Vernier software and sensors for nspire

I think once HP's instruments and measurement division (which is Agilent now) had great influence and source of inspiration on their calculators' product line with quality, reliability, expandability, software, etc. There was a lot of synergy between the two, with the Calculator division to gain the most. The separation of these divisions to my opinion was a significant setback on quality, innovation and capability of their calculator line. Unfortunately started with a pessimistic point of view, I am hoping that HP Calculator Division will make the executive decision to choose to gain back the market once more with innovation, quality and customer service over slow death.

Edited: 14 Feb 2012, 12:46 p.m.

Re: HP-41 Expandability Then and Now… TI?

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Feb 2012, 1:13 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

TI has a long tradition with student lab equipment (all build by Vernier), starting with the CBL. The main point here: It's education grade equipment, not professional. I had a lot of fun playing around with my CBLs, CBRs, and sensors, but I wouldn't run a hospital or nuclear power plant with the technology.

Re: HP-41 Expandability Then and Now… TI?

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Feb 2012, 1:55 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Agreed that TI has a long tradition with student lab equipment, but having said that they are also very strong in industrial test and measurement equipment and growing in that segment. Just purchased National Semiconductor which gives them access to analog devices, and has their own fab to develop the IC's they need. nspire is the first device I noticed that is field portable combines DA and calculator to support such wide group of sensors although as you mentioned the sensors are education grade and not professional. TI also develops proffesional grade industrial sensors. If there is market out there (which I think there is) it is

only matter of time to come up with an industrial grade handheld device which combines both a powerful graphic calculator, DA and data analysis capability.

Re: HP-41 Expandability Then and Now… TI?

*Message #4 Posted by **Tom Mathes** on 14 Feb 2012, 2:46 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> Agreed that TI has a long tradition with student lab equipment, but having said that they are also very strong in industrial test and measurement equipment and growing in that segment. Just purchased National Semiconductor which gives them access to analog devices, and has their own fab to develop the IC's they need. nspire is the first device I noticed that is field portable combines DA and calculator to support such wide group of sensors although as you mentioned the sensors are education grade and not professional. TI also develops proffesional grade industrial sensors. If there is market out there (which I think there is) it is only matter of time to come up with an industrial grade handheld device which combines both a powerful graphic calculator, DA and data analysis capability.

TI was huge (actually #1) in analog long before the NS purchase. I worked for TI for over 10 years and believe me, they knew how to do all kinds of analog in-house in their own fabs well before that purchase. They bought NS for the field sales channels and applications groups, not for their design nor mfr. expertise.

Re: HP-41 Expandability Then and Now… TI?

*Message #5 Posted by **M. Joury** on 14 Feb 2012, 2:05 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Don't count HP out quite so fast.

Take a look here...

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Replies verified by the moderator?

*Message #1 Posted by **MichaelG** on 14 Feb 2012, 12:05 p.m.*

Since yesterday I cannot reply to any message. So sorry guys I tried to reply but every attempt results in the message that my posting is sent to the moderator for verification.

As I now noticed I can start new topics I appologize for not answering: its not possible. The forum software really drives me crazy is several aspects (no email when a thread gets changed, threads disappear after one month, I cannot reply anymore, ...).

Sorry for being a bit angry. I like my 30 years old HP-41, but I also like a working environment.

Michael

Re: Replies verified by the moderator?

*Message #2 Posted by **Ángel Martin** on 15 Feb 2012, 3:10 a.m.,*
in response to message #1 by MichaelG

Michael, one known "restriction" is that mentioning the web site where V41 is posted is "not allowed" in the message text. That's why people call it TOS, the Other site - This could be one of the causes.

Cheers, ÁM

Edited: 15 Feb 2012, 3:11 a.m.

Re: Replies verified by the moderator?

*Message #3 Posted by **MichaelG** on 15 Feb 2012, 5:17 a.m.,*
in response to message #2 by Ángel Martin

Thx. I'm new here and didn't know about the special relationship. Indeed I mentioned TOS with its full address. Now I learned what TOS is.

A reply a few minutes ago worked fine which supports your guess: I mentioned the full address. Learning by doing and I cool do down now :-)

Michael

Edited: 15 Feb 2012, 5:17 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Replies verified by the moderator?

HP Forum Archive 20

[Return to Index | Top of Index]

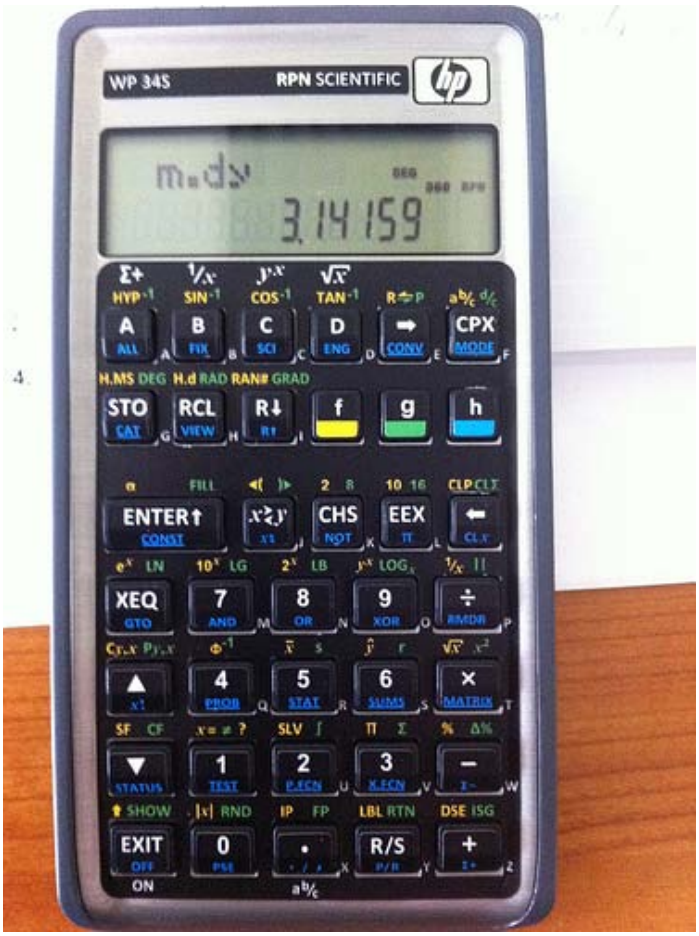
WP 34S - Pics of blue slant overlay on real calculator

*Message #1 Posted by **Bob Cortopassi** on 14 Feb 2012, 11:53 a.m.*

Please forgive my less-than-stellar application work. I've noticed that this overlay had a lit more varnish than my last. Smoother and more shiny. I prefer my last overlays with the slightly rougher and more matte finish.

Never the less, I'm very happy with the end result. Thanks to Eric for his hard work in producing these, and thanks to all who contributed to the design!

Best, Bob



Edited: 14 Feb 2012, 11:54 a.m.

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #2 Posted by **Dominic Richens** on 14 Feb 2012, 4:58 p.m.,*
in response to message #1 by Bob Cortopassi

Niiice - can't wait to get mine! I'm going to put one on an HP-20b, so I'll post a picture of that.

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #3 Posted by **Morten Nygaard Åsnes** on 16 Feb 2012, 7:00 a.m.,*
in response to message #1 by Bob Cortopassi

Very nice! I think this looks a lot less cluttered than the standard overlay. The only thing is the blue labels look very dark. Presumably it looks better in real life?

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #4 Posted by **Gerson W. Barbosa** on 16 Feb 2012, 8:30 a.m.,*
in response to message #3 by Morten Nygaard Åsnes

Less cluttered, that's what it looks to me as well. However, I'd rather swap green and blue and place the alfa labels at lower left, as in the original design.

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #5 Posted by **Dominic Richens** on 16 Feb 2012, 9:31 a.m.,*
in response to message #4 by Gerson W. Barbosa

Rob had one just like that I think - Eric can probably tweak it and has offered to do one-off. I don't think you are the only person who essentially wants just the labels above the keys and everything else the same.

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #6 Posted by **Dale Reed** on 16 Feb 2012, 12:02 p.m.,*
in response to message #4 by Gerson W. Barbosa

I don't want to stir the pot w.r.t. more or less cluttered, or more or less intuitive. Having grown up with the HP-25, and more recently used 32E (rescued from the trash!), 15C (and LE) and 35S (and having not used the HP-67), I will stick my neck out and say that the f / g labels above and the blue (h) key slant labels are more "familiar". I believe that was the whole point of this new run of overlays.

Net result: I like my new overly better and it makes the WP34S earier to use for ME.

Eric, you must have gotten your shipments to the post office early Friday, because I had mine in the Monday noon mail at work up here in Cleveland. Add my thanks for a VERY well done overlay.

Dale

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #7 Posted by **Gerson W. Barbosa** on 16 Feb 2012, 5:36 p.m.,*
in response to message #6 by Dale Reed

If there were only two shift keys, then I'd certainly prefer blue on the slanted edge like in the Voyagers, for instance. It just happens that I don't like gold & green on black. Gold & blue looks better to me. That's a matter of taste, of course.

Gerson.

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #8 Posted by **fhub** on 16 Feb 2012, 5:41 p.m.,*
in response to message #7 by Gerson W. Barbosa

> Quote:
>
> Gold & blue looks better to me.

And not only to you! ;-)

And that's why almost all HP calcs have this color scheme (as one can see in your picture).

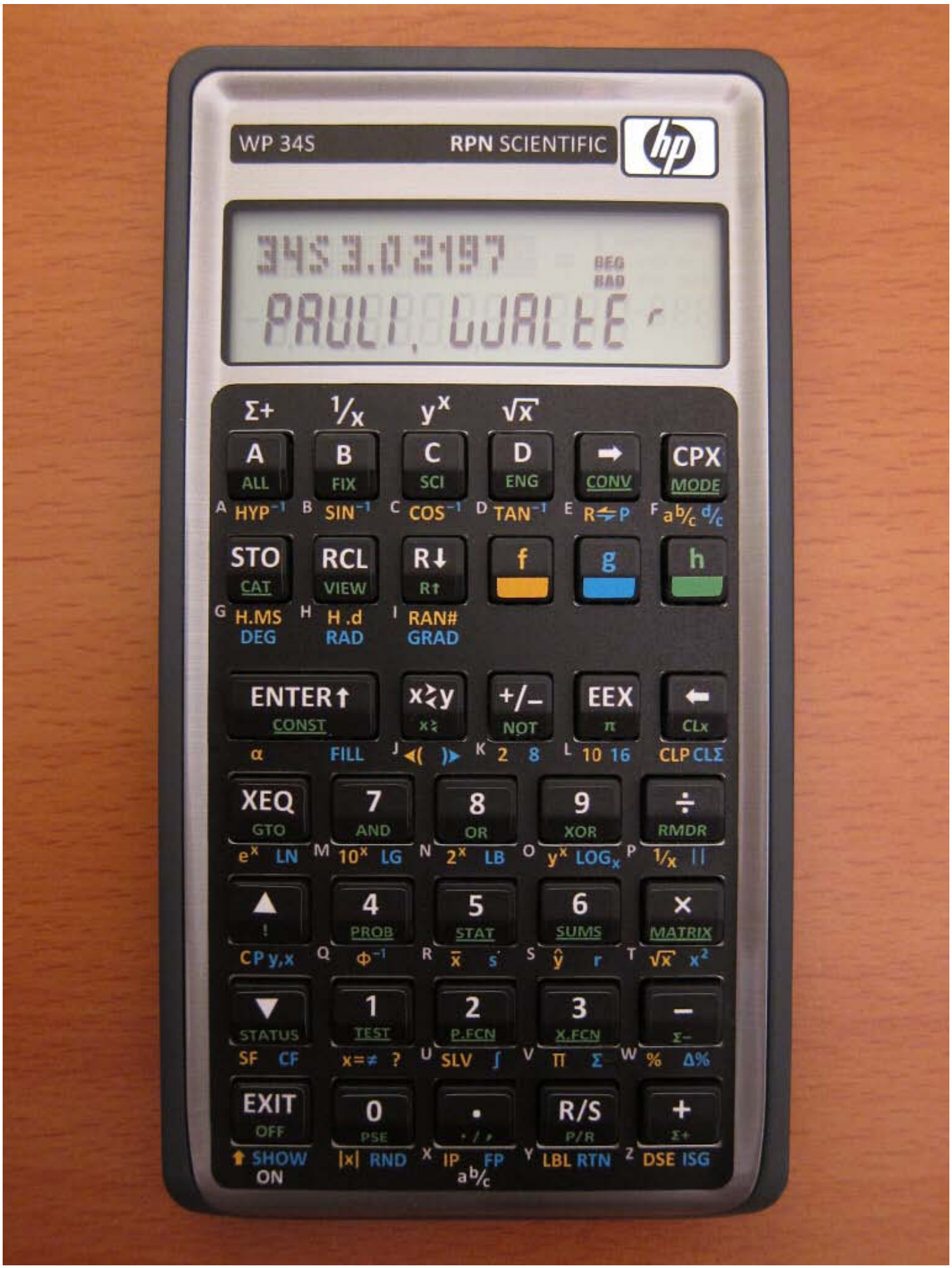
Franz

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #9 Posted by **Walter B** on 16 Feb 2012, 10:21 a.m.,*
in response to message #3 by Morten Nygaard Åsnes

> Quote:
>
> ... a lot less cluttered than the standard overlay ...

Please compare with Eric's picture:


WP 34S
RPN SCIENTIFIC
34S 3.02197
BEG
RAD
PAUL, WALLE
Σ+ 1/x y^x √x
A ALL
B FIX
C SCI
D ENG
CONV
CPX MODE
A HYP⁻¹ B SIN⁻¹ C COS⁻¹ D TAN⁻¹ E R⇄P F a b/c d/c
STO CAT
RCL VIEW
R↓ R↑
f
g
h
G H.MS DEG H H .d RAD I RAN# GRAD
ENTER↑ CONST
x⇄y x⇄
+/- NOT
EEX π
CLx
α FILL J ◀( )▶ K 2 8 L 10 16 CLP CLΣ
XEQ GTO
7 AND
8 OR
9 XOR
÷ RMDR
e^x LN M 10^x LG N 2^x LB O y^x LOG_x P 1/x ||
▲
4 PROB
5 STAT
6 SUMS
× MATRIX
CP y,x Q Φ⁻¹ R x̄ s S ŷ r T √x x²
▼ STATUS
1 TEST
2 P.FCN
3 X.FCN
− Σ−
SF CF x=≠ ? U SLV ∫ V Π Σ W % Δ%
EXIT OFF
0 PSE
. / ,
R/S P/R
+ Σ+
SHOW ON |x| RND X IP FP a b/c Y LBL RTN Z DSE ISG

Hard for Bob's to be "a lot less cluttered" with even some more characters on it ;-)

Re: WP 34S - Pics of blue slant overlay on real calculator

*Message #10 Posted by **Bob Cortopassi** on 16 Feb 2012, 12:00 p.m.,*
in response to message #3 by Morten Nygaard Åsnes

Morten,

Overall I would say it looks better in real life, but the blue is definitely more subdued than the yellow/green. That was one of my main motivators behind having the blue front labels. Those (for me) are lesser-used functions than the yellow/green.

I think this is, overall, a much more intuitive layout. Normal calculating functions are the most obvious and at the top of the keys like every other calculator we use.

Alpha labels are muted and to the lower right, as on almost every other HP calculator.

The menus and mode settings are generally less used, and are a subdued blue on the key fronts.

My opinion is obviously biased. :-)

Regards, Bob

Behold - the WP34S "red dot"

*Message #11 Posted by **Dominic Richens** on 21 Feb 2012, 12:39 p.m.,*
in response to message #1 by Bob Cortopassi

Thanks to Eric's sense of humour, I am the proud owner of an exceptionally rare WP34S "red dot"!

If the HP-35 prices are anything to go by I should be able to sell this baby for a tidy profit in 34 years!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Focal Compiler/Decompiler

*Message #1 Posted by **MichaelG** on 14 Feb 2012, 11:30 a.m.*

The next version of the HP-41 Focal Compiler is ready. No new features, onlybug fixes. New in the package is the Focal Decompiler. It creates an ASCII file out of a given raw file. Just try it. The disclaimer as usual :-) the exceutables need a .Net 4 runtime environment like it is available in Win 7.

download.michael-goericke.de/hp41/FocalComp.zip

Michael

Edited: 14 Feb 2012, 11:56 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

35s prompt for multi-character variables in program like "low footprint" root finder

*Message #1 Posted by **Chris C** on 14 Feb 2012, 10:49 a.m.*

I'm new to the 35s , and loving it, and wanting to learn to use more features. I was looking at programs and found the low footprint root finder (here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=146636). It looked great but I couldn't get it to work, so I ended up going with another root finder. The low foot footprint one stuck in my head because of how the writer prompted for variables using multiple characters, which would help make sure the correct value was entered in the correct place in an equation. (He prompted for X1 and X2 and Y1 and Y2.)

I tried to figure out the low footprint code, but I never could, so that's why I'm starting this thread. I'd like to be able have this functionality for a class where there are dozens of equations, and I need to make sure I enter the correct variable values in the correct places.

So, question (a): The author says he uses unnamed indirect variable addresses. Is doing this necessary to be able to use multiple characters to prompt for variables? (I don't store variable values in the A-Z spaces, so I don't need to preserve anything in those spaces.)

Question (b): How do I do this as simply as possible for programming and usage?

Thank you all, Chris C

Edited: 14 Feb 2012, 11:24 a.m. after one or more responses were posted

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #2 Posted by **Bart (UK)** on 14 Feb 2012, 11:16 a.m.,*
in response to message #1 by Chris C

> Quote:
>
> do I need to use unnamed indirect addressing?

No.

> Quote:
>
> It is my understanding that that is only necessary if I want to preserve the contents of the named A-Z variables

that is correct. If you are not concerned with preserving the contents of the named A-Z variables (or actually want to use them), you can use e.g. "STO A" instead of "STO (I)".

The other post is using the "message" function of the 35s to prompt for variables, load them on the stack and

then stores them. The INPUT does it all in one step, but with the limits of single letter variables.

See page 13-16 in the manual, section "Using Equations to Display Messages".
Also see this thread: HP-35s messages
Regards, Bart

Edited: 14 Feb 2012, 11:19 a.m.

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #3 Posted by **Chris C** on 14 Feb 2012, 12:08 p.m.,*
in response to message #2 by Bart (UK)

Thanks Bart.

I've read and read in the manual and tried things but haven't been able to put it together into what I need. I do understand how to use flag 10 and show the multi-character prompts on screen. I just don't understand how the calculator treats the entries entered after the prompts. If you, or someone, wouldn't mind, could you post code for a small sample program so I could learn from it and apply it to my other needs?

NC=(H1-H2A)/(H1-H2S)

Thank you!

Edited: 14 Feb 2012, 12:13 p.m.

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #4 Posted by **Bart (UK)** on 14 Feb 2012, 1:05 p.m.,*
in response to message #3 by Chris C

As I mentioned, the "low footprint" program first loads variable values onto the stack, then stores them.

So firstly to use the stack you must be in RPN mode.
Secondly, as the stack is only 4 levels, you can only do 4 variable values in one go.

```
LABEL STEP              COMMENT
A001  LBL A
A002  SF 10
A003  H1, H2A, H2S      the three inputs, enter them in sequence pressing ENTER after
the first two and R/S after the last one
A004  CF 10
A005  STO C             stores H2S into C, the last entered value is at the bottom of
the stack (X-register)
A006  Rv                This is the Roll Down arrow, roll the stack down so H2A is in
X-register
A007  STO B             stores H2A into B
A008  Rv                This is the Roll Down arrow, roll the stack down so H1 is in
X-register
A009  STO A             stores H1 into A
A010  (A-B)/(A-C)       the actual formula, note the answer is put on the stack (X-
register)
A011  SF 10
A012  NC=               displayes "NC="
A013  PSE               but only briefly
A014  CF 10
A015  RTN
```

You will see the answer in the X-register (bottom line), and the values of the entered variables above. If you want a "clean" display showing zero's and the answer, then do a "clear stack" before executing the formula:

```
LABEL STEP             COMMENT
A001  LBL A
A002  SF 10
A003  H1, H2A, H2S     the three inputs, enter them in sequence pressing ENTER after
the first two and R/S after the last one
A004  CF 10
A005  STO C            stores H2S into C, the last entered value is at the bottom of
the stack (X-register)
A006  Rv               This is the Roll Down arrow, roll the stack down so H2A is in
X-register
A007  STO B            stores H2A into B
A008  Rv               This is the Roll Down arrow, roll the stack down so H1 is in
X-register
A009  STO A            stores H1 into A
A010  CLSTK
A011  (A-B)/(A-C)      the actual formula, note the answer is put on the stack (X-
register)
A012  SF 10
A013  NC=              displayes "NC="
A014  PSE              but only briefly
A015  CF 10
A016  RTN
```

Regards

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #5 Posted by **Chris C** on 14 Feb 2012, 6:51 p.m.,*
in response to message #4 by Bart (UK)

Thanks very much. This looks like just what I was hoping for.

One question on something you said though. When you said:

"...the stack is only 4 levels, you can only do 4 variable values in one go."

are you meaning this is applies if using unnamed indirect variable addressing or does it apply to your example too? Can't your example below use up to 26 variables (A-Z)? Or am I misunderstanding? What if the variable values were entered one at a time? Like:

A003 ENTER H1
A004 STO C
A005 ENTER H2A
A006 STO B
A007 ENTER H2S
A008 STO A
A009 CF 10
A010 (A-B)/(A-C)

Edited: 14 Feb 2012, 6:59 p.m.

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #6 Posted by **Bart (UK)** on 14 Feb 2012, 7:44 p.m.,*
in response to message #5 by Chris C

I was referring to the number of variable values that could be handled in one line, as in my A003. You can still do 26^1, but just 4 at a time.

Doing it one variable at a time as in your example, you do not have to be concerned with stack depth limits.

1) more if you use indirect addressing.

Edited: 14 Feb 2012, 7:52 p.m.

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #7 Posted by **Chris C** on 14 Feb 2012, 8:45 p.m.,*
in response to message #6 by Bart (UK)

I understand. Thanks very much!

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #8 Posted by **Alexander Oestert** on 14 Feb 2012, 1:18 p.m.,*
in response to message #3 by Chris C

LBL A

SF 10 (Set message mode)

KEY IN VALUE (the message)

CF 10 (End of message mode)

STO A (store in A whatever was keyed in during message was shown and after R/S was pressed in Run mode)

VIEW A

RTN

Re: 35s prompt for multi-character variables in program like "low footprint" root finder

*Message #9 Posted by **Chris C** on 14 Feb 2012, 6:52 p.m.,*
in response to message #8 by Alexander Oestert

Thank you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Professional applications for the HP 50g

*Message #1 Posted by **Software49g** on 13 Feb 2012, 9:04 p.m.*

Hello,

some might remember my presentation I gave at HHC 2011 or have seen it on YouTube
HHC 2011: HP 49g+ / 50g O.S. Extension Pack

In this presentation I said: "Minimum development effort needed to create customized and professional solutions targeting at different industries through specialized equation libraries (e.g. Mechanical Engineering, Electrical Engineering, Civil Engineering, Chemistry Engineering, Petroleum Engineering, Physics, Statistics, etc.)."

A first attempt toward this is a professional data set for the TreeBrowser (first presented at HHC 2007) with over 500 Electrical Engineering Equations (including variable descriptions, units and pictures) covering the undergraduate curriculum for electrical engineers in most universities.

A preview of it is available at my website
http://www.software49g.gmxhome.de/EnglishSeite01.htm#ElectricalEngineering

As an aside remark:
Some "old" fellows might remember the plug-in cards by Sparcom for the HP 48GX or EE pro by Sparcom / da Vinci which were - amongst others - a reason for the success of the 48 family (and which are still sold today).

Ironically EE pro is available for years with any sold TI-89 / TI-92 Plus / Voyage 200 and guess which company took HP's position in the calculator market (which they gave up without any needs (as we all know), by the way) ?

And there is nothing in regards to software from HP for their graphical calculators as there is from TI at their website:
http://education.ti.com/calculators/downloads

Some might also remember that there was an attempt to bring EEpro to the 49g+ in 2006, but eventually it never happened.

Now, the Electrical Engineering data set for TreeBrowser will not be as functional / powerful as EE pro was for the 48GX. But missing things could be added ...
Also note that my code is totally unrelated to any existing HP 48 / HP 49 software - a data set is just a bunch of lists. Creating a data set is not sorcery, just labor-intensive.

Feedback and suggestions are welcome.

Regards,
Andreas
http://www.software49g.gmxhome.de

P.S. This is not meant as an advertisement. It is meant of what is *possible* now with the existing platform and that improvements could be done *fast* and *easy* which I have shown already with my 'MultiLanguagePacks', the 'O.S. Extension Pack', the 'HELP for *all* commands incorporated into the O.S.' and now with this Electrical

Engineering data set for my TreeBrowser (TB is included in the MLP / OSE).

Now, given the fact that the HP company has known this for years, but did not had any interest in updating / improving their top-of-the-line machine remains a mystery to me. What's not surprising is, that they keep loosing market-shares (according to NPD, HP's share in the graphing calculators market is less than 5%)

The new platform of the HP39gII is interesting, but the 39/40 series were always "closed" machines (much more closed than open) and this is still light years away from the functionality the HP 50g offers. And if it breaks compatibility then things won't become easier. Last but not least: What will it cost at which estimated ROI compared to updating the existing platform ?

And continuing in rushing out immature and buggy products (although common nowadays) looks rather like milking the cash-cow-customer instead of bringing quality products to loyal customers.

P.P.S. Since this forum is - at least - still read by HP people, there is no excuse for not doing anything ...

Re: Professional applications for the HP 50g

*Message #2 Posted by **hpnut** on 13 Feb 2012, 11:59 p.m.,*
in response to message #1 by Software49g

Thanks for sharing

Re: Professional applications for the HP 50g

*Message #3 Posted by **Eric Smith** on 14 Feb 2012, 2:04 a.m.,*
in response to message #1 by Software49g

That looks great!

Re: Professional applications for the HP 50g

*Message #4 Posted by **David Griffith** on 14 Feb 2012, 3:42 a.m.,*
in response to message #1 by Software49g

Not to be gloomy, but I think part of the problem is that calculators are no longer HP's bread and butter. I'm not sure what TI's bread and butter is nowadays, but making a name for themselves in calculators seems to be a priority.

Re: Professional applications for the HP 50g

*Message #5 Posted by **Software49g** on 14 Feb 2012, 4:56 a.m.,*
in response to message #4 by David Griffith

Hello,

This is, of course, right. It is neither the bread and butter of TI.
And, of course, it is known, that TI is a much smaller company.

TI: Rank 167 on Fortune Global 500, Revenue US$ 13.966 billion, 35.100 employess
HP: Rank 9 on Fortune Global 500, Revenue:US$ 127.24 billion, 349,600 Employees
(But keep in mind that this might not necessarily mean anything: Enron was Fortune Global 500, too.)

In consequence it than would mean to shut it down instead of keeping a zombie alive.
Is there a "Plan B" if the new entry graphical calculator is not fulfilling its expectations ?

Or is their future in rebranding calculators, which they still have in their portfolio and sell as a HP calculator ?
What a shame for a company, which says from itself that they invented it.
“HP rebrand” instead of “HP invent”.

FYI:
“TI's calculator business has generally accounted for about 5% of TI's annual revenue and profit. The unit had a profit of $208 million on revenue of $526 million in 2007 -- the last year in which the semiconductor giant broke out results for its education business. (Since 2008, the results have been folded into a larger segment.)”

So there is money in this market segment and what did HP do in the last five years to get their piece of cake ?
Wasn’t there time enough to do at least a little update to the 50g with some really minor effort ?
And if only some minor effort would have been given to it *after* HHC 2011, there would be an improved and modernized HP 50g by *now* available and hitting the shelves, signaling into the market that they are still there and having the most capable graphical calculator (with RPN as a USP instead of hiding the most natural way of entering numbers / calculations) ...

Regards,
Andreas

http://www.software49g.gmxhome.de

Re: Professional applications for the HP 50g

*Message #6 Posted by **Michael J.** on 14 Feb 2012, 10:39 a.m.,*
in response to message #5 by Software49g

To bring the HP50g back to the market and make a TI-comparable product the following things are necessary:
- higher display resolution
- dynamic geometry
- spreadsheet
- easy to read manual
- hpcalc-stuff (especially statistic-applets)
- 3D graphic improvements for visualizing vectors, straight lines, planes or spheres which need in the analytic geometry
- the implementation of analytic geometry calculations
- plot of functions with parameter
- scrolling of plots
- easy file management
- easy data transfer between PC and calculator
- last but not least a HP supported network or platform for graphic calculators like the Ti-sides.

Re: Professional applications for the HP 50g

*Message #7 Posted by **Software49g** on 14 Feb 2012, 11:29 a.m.,*
in response to message #6 by Michael J.

Hello,

> - higher display resolution

Can be done *fast* and *easy* with the existing platform. (Less than 6 month.)

> - dynamic geometry
> - spreadsheet
Was available in beta ROM 2.10-7 (11/2006 !), then got dumped.

> - 3D graphic improvements for visualizing vectors, straight lines, planes or spheres which need in the analytic geometry
> - the implementation of analytic geometry calculations
Not sure what you mean with this.

> - hpcalc-stuff (especially statistic-applets)
Not sure what you mean, but otherwise could be programmed easily.

> - plot of functions with parameter
Is available as far as I understand.
> - scrolling of plots
Is available.
> - easy file management
Is available, depends how you look at it. Is using a SD-card too complicated ?
> - easy data transfer between PC and calculator
Is available.

> - easy to read manual
This is really expensive and needs knowledge and expertise.
> - last but not least a HP supported network or platform for graphic calculators like the Ti-sides.
This is going to take years and will need continuous investment for a longer period with uncertain success if the investment will ever come back. Nothing for a management that changes in a yearly rhythm, like the management of the calculator division. Nothing for short term share holder orientated value. (BTW: The situation reminds a lot about how GM has been treating Opel for years and look where and how Opel ended up.)

Q.E.D.: The problem is not the used technology.

Besides a lot of other problems (challenge is the word to use nowadays ;-), the problem is getting back into a market that has been given up a long time ago and now wondering that others have taken that space. And that it will require long-term investment of time and money just to get a foot back...

Regards,
Andreas
http://www.software49g.gmxhome.de

Edited: 14 Feb 2012, 6:18 p.m.

Re: Professional applications for the HP 50g

*Message #8 Posted by **David Griffith** on 14 Feb 2012, 11:28 p.m.,*
in response to message #7 by Software49g

I'm not sure if the HP50g can do it already, but I'd like to have the ability to define and render a solid using a 2D function swept about an axis.

Re: Professional applications for the HP 50g

*Message #9 Posted by **Michael J.** on 15 Feb 2012, 2:55 p.m.,*
in response to message #7 by Software49g

Hi Andy,

1.
Dynamic geometry and spreadsheet in ROM 2.10-7 are only rudimentary programmes and not sophisticated. The competitors already have programmes whose features are comparable to Geogebra .
Besides: Where are the manuals of dynamic geometry and spreadsheet for ROM 2.10-7 ?

2.
As an example of 3D-Geometry there is a screenshot of Cabri3D, which is used by TI Nspire CX; that is the "state-of-the-art" 3D-Geometry on calculators.

3.
Examples for analytic geometry calculations:
- the length of a vector or a line segment
- the midpoint of a line segment
- solving vector equations
- intersecting angle or distances between vectors, straight lines or planes

4.
Dynamic plotting of a parameter function f(x) = a*x^2 for various parametres, e.g. for "a" between -5 and 5.

Generally:
In my view HP will stop the 48/49/50 series because they don't have enough staff to maintain or to update the (immature) HP 50g and at the same time to initiate the new HP 39gII platform. To my mind the entire manpower will solely be employed for the HP 39gII. It is impossible to operate two fundamentally different platforms (HP 50g and HP 39gII) with only two HP engineers.

I see two alternatives for you:

1.
Initiate a similar project for the HP 50g to the WP 34S project. Form separate teams for each "problem area" of the HP 50g an join the results of each team together to a new ROM.

2.
Turn to the new HP 39gII platform. The HP 39gII has got a higher-resolution display and can plot graphs very quickly. This platform is the future. And it is the only platform the small HP Calculator Group is able to maintain in the sector of graphic calculators. You can opt for the future and contribute lots of ideas for the HP 39gII:
- RPN

- CAS
- Spreadsheet
- various Aplets
- ...
- and last but not least: fight for the wider ENTER-key.

In your opinion the HP 50g is the greatest and best calculator because you know it inside out. But for a mainstream user, however, it is (sometimes) not worth discussing and too complicated and will remain that (see the many forum statements in the internet).
Yet no HP staff member will invest the time and effort to turn the HP50 g into a "cash cow". For that the competitors are meanwhile too far ahead. Only a higher display resolution and some equation libraries are not enough!

The HP 39gII series is the future. The HP Calculator Group will spend its entire energy on it and that is good so. The HP 48/49/50 series, however, is outdated, is death STOP, FULL STOP, FINISH!

Re: Professional applications for the HP 50g

*Message #10 Posted by **Software49g** on 15 Feb 2012, 4:29 p.m.,*
in response to message #9 by Michael J.

Hi Mike,

> is the future
The only thing that is certain about the future is that it is uncertain.
HP (and other companies, too) has dumped more than once products that were already on the market, for various reasons. Remember TouchPad/WebOS ?
But I understand your point.

> In your opinion the HP 50g
I do not think that my opinion matters.

> But for a mainstream user, however, it is (sometimes) not worth
> discussing and too complicated and will remain that (see the
> many forum statements in the internet).
Again, this has nothing to do with the underlying technology.
If you have a complex machine that you want to sell you need, for example, adequate documentation (and a lot more). This problems will not vanish if the technology used to create the product changes.
If this is not improved significantly a successor of the 50g will suffer from the same problems that the 50g is suffering from. Regardless of how much better/different the technology is !

That's why I wrote the 'Help integrated into the O.S.'

Let me try a metaphor:
It does not matter whether your car runs on gasoline or diesel (even Porsche is offering Diesel cars now ;-).
What matters is, if it takes you where you want to.

> Besides: Where are the manuals of dynamic geometry and spreadsheet > for ROM 2.10-7 ?
Please ask HP :-)

> The HP 39gII series is the future.
Maybe, maybe not. Only time will tell.
HP's behavior is unpredictable.
However, what do you sell in the meantime until (if ever) a successor of the 50g is ready ?
Like I said, updating the existing machine needs only minor resources and would generate extra cash *and* would slow down the loss of market shares. Regaining lost market shares is very, very expensive.

> You can opt for the future and contribute lots of ideas for the HP 39gII
I would love to and I know that the engineers are very friendly and helpful.
But those yearly changing management is not interested in anything ...
And a yearly changing management is more than just a poor management. It is a sign about a company problem and there is enough subject literature covering this topic and what it means ...
HP is simply *not* interested (read it again, if needed).

And besides that, there is no information available (officially) about used HW and SW, neither is there a SDK, documentation, etc. And these were the things that made the 48 family so successful: A wide variety of third-party-applications !

> Initiate a similar project for the HP 50g to the WP 34S project.
If there is someone with experience in the hardware needed to create a clone I am in for the software. But I am not a hardware guy. Everything that is needed is there, but just as in a puzzle it must be arranged properly.

Regards,
Andreas
http://www.software49g.gmxhome.de

P.S.
> The HP 48/49/50 series, however, is outdated, is death
> STOP, FULL STOP, FINISH!
This has been predicted for over twenty years ... ;-)
And I'd like to see quality products in terms of hardware and software instead of rushing out immature and buggy products (and then refusing to fix them) ...

Edited: 15 Feb 2012, 5:23 p.m.

Re: Professional applications for the HP 50g

*Message #11 Posted by **Michael J.** on 14 Feb 2012, 10:18 a.m.,*
in response to message #1 by Software49g

What is the underlying platform of HP39gII?

Re: Professional applications for the HP 50g

*Message #12 Posted by **Gilles Carpentier** on 16 Feb 2012, 1:16 p.m.,*
in response to message #11 by Michael J.

Processor : CPU ARM9 Display : Grayscale LCD 256x128 Input system logic Algebra Memory 256 Kb user storage

Re: Professional applications for the HP 50g

*Message #13 Posted by **Tim Wessman** on 16 Feb 2012, 1:44 p.m.,*
in response to message #11 by Michael J.

STMP3770

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Using SAM-BA on Linux and flashing WP34s

*Message #1 Posted by **David Griffith** on 13 Feb 2012, 8:56 p.m.*

I'm trying SAM-BA for Linux and Windows to get it to the point where I can specify a file to upload. I'm using an FTDI USB-to-rs232 port. All I get is two frozen dialog boxes. I can't even get the Windows version running in Wine. Help!

Update: I've gotten the Windows version... but it's sam-ba_cdc.exe, not sam-ba.exe (which still barfs with "abnormal program termination". This time I can select the com port and board type, but the dialog just goes away and the process freezes.

Edited: 13 Feb 2012, 9:26 p.m.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #2 Posted by **David Griffith** on 13 Feb 2012, 11:35 p.m.,*
in response to message #1 by David Griffith

Another update: Managed to get MySamba working under Wine, but I'm not sure if anything is happening. I have /dev/ttyUSB0 linked to com1 but it just keeps saying it can't connect to the calculator. I managed to find a Windows XP machine to try this with. Ran MySamba there, and THAT can't communicate with the calculator. What do I do with a stone dead calculator that I can't tell if it's on or off? Do I need to do the dance of the buttons with the programming cable again?

Update: After insisting that Windows check to make sure the USB-to-RS232 dongle was enabled, I tried again. Oh, look, here's a new com device... com8. Why not? I tried everything else. THAT one did the trick. Now I have a freshly flashed wp34s and am waiting for some more overlays because I botched it the first time.

Quick question: Why can't I key in numerator-dot-dot-denominator to enter a fraction? Instead I have to key in 0-dot-numerator-dot-denominator.

Edited: 13 Feb 2012, 11:59 p.m.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #3 Posted by **Sylvain Louboutin** on 14 Feb 2012, 12:36 a.m.,*
in response to message #2 by David Griffith

> After insisting that Windows check to make sure the USB-to-RS232 dongle was enabled, I tried again.

...out of curiosity, how do you manage to do that on windows?

(I reached the point of having a dead/bricked 30b, after a couple of hours developing murderous urges towards microsoft... well, an hour is kinda standard just to boot a windows machine, I know, I was prepared, but still...)

Also tried Wine by the way, same issue...

Re: Using SAM-BA on Linux and flashing WP34s

*Message #4 Posted by **David Griffith** on 14 Feb 2012, 12:43 a.m.,*
in response to message #3 by Sylvain Louboutin

I went through the control panel, add new hardware, and pointed it at the usb-to-rs232. It said the drivers were already installed. After that it was a matter of guessing which com device was the right one.

If I could get the source code to MySamba, I might be able to cook up something for use with Linux natively.

Edited: 14 Feb 2012, 12:43 a.m.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #5 Posted by **Sylvain Louboutin** on 14 Feb 2012, 2:27 a.m.,*
in response to message #4 by David Griffith

Still no luck; will try with a different setup this week... I find it encouraging though that your formerly bricked 30b came back to life when you solved the communication issue.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #6 Posted by **David Griffith** on 14 Feb 2012, 3:45 a.m.,*
in response to message #5 by Sylvain Louboutin

Try this sequence: plug in the calculator then press reset and hold for five seconds. Press and hold the on button for five seconds. Now start MySamba.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #7 Posted by **Sylvain Louboutin** on 14 Feb 2012, 4:40 a.m.,*
in response to message #6 by David Griffith

I'll try that (and Marcus' suggestion as well); but if I start rebooting under windows now (bootcamp'ed Macintosh), I'll end up losing way too much sleep tonight :-)

(There are also a couple of USB->serial adapters that I can borrow with which I'd like to experiment as well).

Re: Using SAM-BA on Linux and flashing WP34s

*Message #8 Posted by **Marcus von Cube, Germany** on 14 Feb 2012, 4:02 a.m.,*
in response to message #5 by Sylvain Louboutin

Check the batteries! A common problem is that the boot loader drains the coin cells with no visible sign of activity. The cable itself draws a significant amount of current, too, even with the calculator turned off. If you are unsuccessful and want to do other things in the meantime then remove the batteries to save their juice! After putting good batteries in you need to press the ON button for a second or two.

If you have the crystal installed and can download the firmware but it does not come up, try the version without _xtal in its name. Then use ON+C to activate it. If the modification is working you will see OK on the display. You can then use the _xtal build which features the stop watch

function and does not need an extra activation of the modification.

Edit for typo.

Edited: 14 Feb 2012, 10:11 a.m.

Re: Using SAM-BA on Linux and flashing WP34s

*Message #9 Posted by **pascal_meheut** on 14 Feb 2012, 4:07 a.m.,*
in response to message #4 by David Griffith

We plan to do it and integrate it in the next emulator.

[Return to Index | Top of Index]

Go back to the main exhibit hall

[Function] Google Plotter

*Message #1 Posted by **robertoataulfo** on 13 Feb 2012, 7:57 p.m.*

```
Enter it in Google search!

sqrt(cos(x))cos(300x)+sqrt(abs(x))-0.7)(4-x*x)^0.01, sqrt(6-x^2), -sqrt(6-x^2) from -4.5 to 4.5
```

Re: [Function] Google Plotter

*Message #2 Posted by **Gerson W. Barbosa** on 13 Feb 2012, 8:15 p.m.,*
in response to message #1 by robertoataulfo

On W|A that's nicer.

Re: [Function] Google Plotter

*Message #3 Posted by **Lyuka** on 14 Feb 2012, 1:59 a.m.,*
in response to message #1 by robertoataulfo

Today's formula for the gnuplot

```
set xrange [ -1.37445 : 1.37445 ]
set yrange [ -1.17810 : 1.57080 ]
set zrange [ -1.00000 : 0.00000 ] reverse
set isosamples 97, 73
set xtics 0.785398
set ytics 0.785398
set ztics 1.0
set view 13, 337
#set pm3d
f(x, y) = ((x**2+y**2-1)**3 - x**2*y**3)
splot f(x, y) title  "(x^2 + y^2 - 1)^3 - x^2 y^3 = 0"
```

Happy Valentine.

Lyuka

HP Forum Archive 20

[Return to Index | Top of Index]

HP30b design choices

*Message #1 Posted by **David Griffith** on 13 Feb 2012, 6:11 p.m.*

I just now got my HP30b for later transformation in a WP34s. Flipping through the manual I found something that made me wonder about what's going through HP's collective mind. That thing is a transparent overlay sticker. Why did HP choose to do that instead of printing the legends on the case of the calculator itself?

Re: HP30b design choices

*Message #2 Posted by **Tim Wessman** on 13 Feb 2012, 6:41 p.m.,*
in response to message #1 by David Griffith

1) The "printing on the case" is actually a foil film that is printed and embedded below the surface of the plastic during injection molding. The lead time on that was very, very long and needed to happen much earlier then the software was able to be finalized (due to #2).

2) The programming was still not yet finished as the beta testers kept pressing to add more features and turn it from a simple "macro recording" as originally envisioned, into a full fledged programming language. We, being advanced users, were more then happy to do that.

3) There was concern about making the device seem cluttered as the vast majority of users would never touch the programming capability. Hence #1 and #2 were not really a concern.

TW

Edited: 13 Feb 2012, 6:45 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculators on Standard Tests

*Message #1 Posted by **Norman Dziedzic** on 13 Feb 2012, 1:25 p.m.*

I was wondering if the hang up of getting certain calculators into specific tests is the ability to pre-program them or store text in them if it would be possible for a manufacturer to include a toggle switch on a calculator that wipes the memory with a corresponding message to the screen.

It might give the testing boards peace of mind (is that possible) that the memory is wiped and the manufacturers more freedom to design calculators as they see fit and not to a 3rd party requirement for use on a standardized test?

But I guess this isn't always the case as with the 35s on the NCEES exam?

Re: Calculators on Standard Tests

*Message #2 Posted by **Lincoln R.** on 13 Feb 2012, 1:44 p.m.,*
in response to message #1 by Norman Dziedzic

A lot of calculators do that, but honestly, if you wanted to circumvent it you could. For instance, on the TI-83 it's pretty easy for a test proctor to ask students to reset memory and show the "Mem Cleared" message. But you could just type it in (Although it'd be in all uppercase, lots of proctors would be too lazy to notice), write an assembly language program to display it in the correct case, or even go one step farther and write an assembly program that traps the key sequence and then displays the fake message.

Honestly, cheaters will always find a way to cheat, and stupid restrictions on what tools you may/may not use aren't the end-all answer.

Re: Calculators on Standard Tests

*Message #3 Posted by **bill platt** on 13 Feb 2012, 5:52 p.m.,*
in response to message #2 by Lincoln R.

"Honestly, cheaters will always find a way to cheat, and stupid restrictions on what tools you may/may not use aren't the end-all answer. "

Oh Really? You don't think you can't catch a cheat? And that it isn't worthwhile? What is so "stupid" about restricting cheat prone devices? The license isn't worth the paper it is printed on if cheats are getting through. There is a LOT riding on this.

Good test methods prevent cheating. Unfortunately good test methods also take more time and money. But it is absolutely possible to prevent cheating.

Re: Calculators on Standard Tests

*Message #4 Posted by **Kiyoshi Akima** on 13 Feb 2012, 6:06 p.m.,*
in response to message #3 by bill platt

Do you think you can catch ALL cheaters?

I'm sure somebody like the CIA could come up with a device that's externally indistinguishable from a Casio fx-115ES or an HP 12c Platinum, for example, but with a fast processor and a couple of gig of RAM and the entire contents of a college textbook in ROM.

Would it be worthwhile? For something like a standard test, no. But if someone did this, could you catch it? I don't think so.

I don't mean to say that it's not worthwhile implementing some protocols to deter the vast majority of potential cheaters. But the only way to prevent the use of the above-mentioned device would be to ban all calculators from the test. Then you'd have to ban all wristwatches... and hearing aids... and maybe even eyeglasses... and buttons on clothes...

Re: Calculators on Standard Tests

*Message #5 Posted by **bill platt** on 13 Feb 2012, 6:28 p.m.,*
in response to message #4 by Kiyoshi Akima

If it comes to that, so be it. No big deal. Heck, you could have to put on a smock to take the test. Like I said, it is time, effort and money. Bad tests are standardized and easily figured out. Good tests require longhand answers and work to be shown and are not repeated year to year. But that costs money.

I can assure you, my professors in graduate school knew exactly where every student stood, in actual understanding and capability, at the end of each course. The problem with these tests is, on a fundamental level, their anonymity. And now that many states' will only allow those with ABET accredited degrees to sit, it begs the question: what's the point? Why not make the degree process the proof of capability? And for the Principles and Practice exam, it was always open-book. The problems were difficult real-world problems. You can't cheat on them, if they are fresh each year...even if you have all the resources you could want...

So, yes, you can catch Every Single Cheater, if you care to.

Edited: 13 Feb 2012, 6:29 p.m.

Re: Calculators on Standard Tests

*Message #6 Posted by **Lincoln R.** on 14 Feb 2012, 11:44 a.m.,*
in response to message #2 by Lincoln R.

Actually, I agree with Bill on the "good tests" remark. I don't think standardized tests are an effective measure of anything other than how good you are at taking standardized tests (or cheating on them, as the case may be.)

While many people here probably finished primary school long enough ago to escape this atrocity, when I was in high school we had to take state-sanctioned standardized tests and pass them to graduate. Honestly, most of the tests were a joke, and just diluted the value of the education. Particular points of interest:

* Algebra II, where the last 1/3 of the class was spent studying standardized test taking strategies and taking multiple-choice practice tests, rather than learning real math. Why? The school district and the math teacher would get in trouble with the state if too many people failed the machine-graded multiple choice test.

* Chemistry. Every year, the vast majority of students failed this test (The class was mandatory, passing the test was optional because you had to take 4 sciences and only had to pass 2 or 3 of the tests depending on whether you were going for the standard or advanced diploma). When I took chemistry, I was one of

only three people in my school to pass it. However, the teacher told us of an interesting trend (and also gave us some old practice tests to prove his point): Did the large number of people failing this test convince the state that chemistry education needed to be improved? No. It convinced them that they needed to make the test easier, so every year the test got progressively easier.

Even those problems aside, the tests were poorly written, often contained typos, had ludicrous issues such as two multiple choice letters having the same answer, so on so forth. But that didn't matter. The point wasn't to prove that the state's public education was adequate - it was to produce a cookie-cutter test to let the state continue believing their education was adequate.

Re: Calculators on Standard Tests

*Message #7 Posted by **Tim Wessman** on 14 Feb 2012, 12:20 p.m.,*
in response to message #6 by Lincoln R.

If you've never seen this video (Changing Education Paradigms) or heard the talk, you should watch this. One of my favorites: http://www.youtube.com/watch?v=zDZFcDGpL4U

Edited: 14 Feb 2012, 12:21 p.m.

Re: Calculators on Standard Tests

*Message #8 Posted by **Don Shepherd** on 14 Feb 2012, 12:49 p.m.,*
in response to message #7 by Tim Wessman

That's a good video Tim, thanks.

Re: Calculators on Standard Tests

*Message #9 Posted by **Norman Dziedzic** on 14 Feb 2012, 3:26 p.m.,*
in response to message #7 by Tim Wessman

Very interesting video. Thanks for the link Tim.

My wife is a teacher and says right now the system seems set up to beat the kids over the head with their weaknesses.

Re: Calculators on Standard Tests

*Message #10 Posted by **Lincoln R.** on 15 Feb 2012, 1:11 a.m.,*
in response to message #7 by Tim Wessman

That was a really interesting video that seems to have a lot of things right. I agree, especially on the ADHD thing. There's not something wrong with children because they find a video game more entertaining than a math lecture, and loading them up on medicine isn't going to do anything except turn them into drones.

Re: Calculators on Standard Tests

*Message #11 Posted by **Marcus von Cube, Germany** on 13 Feb 2012, 3:06 p.m.,*
in response to message #1 by Norman Dziedzic

The nSpire has a "Press to test" feature that not only disables some functions (don't ask me which but likely those that access previously stored information) but lights an LED on the device which cannot easily be faked.

Re: Calculators on Standard Tests

*Message #12 Posted by **Don Shepherd** on 13 Feb 2012, 4:24 p.m.,*
in response to message #11 by Marcus von Cube, Germany

This explains the NSpire press-to-test thing. It blocks access to existing user files and, optionally, certain geometry things. But you don't want to do it accidentally (especially at home) because to get out of press-to-test mode requires a second NSpire.

Re: Calculators on Standard Tests

*Message #13 Posted by **bill platt** on 13 Feb 2012, 5:53 p.m.,*
in response to message #12 by Don Shepherd

I don't want a calculator with a stupid made-up misspelled name such as "nspire." That's more embarrassing than a pocket protector.

Edited: 13 Feb 2012, 5:54 p.m.

Re: Calculators on Standard Tests

*Message #14 Posted by **John B. Smitherman** on 13 Feb 2012, 9:49 p.m.,*
in response to message #13 by bill platt

> Quote:
>
> I don't want a calculator with a stupid made-up misspelled name such as "nspire."

You're not inspired by the nspire? ;-)

John

Re: Calculators on Standard Tests

*Message #15 Posted by **Don Shepherd** on 13 Feb 2012, 10:07 p.m.,*
in response to message #13 by bill platt

> Quote:
>
> I don't want a calculator with a stupid made-up misspelled name such as "nspire."

How about an HP Xpander?

:)

Re: Calculators on Standard Tests

*Message #16 Posted by **bill platt** on 13 Feb 2012, 10:48 p.m.,*
in response to message #15 by Don Shepherd

touchee. don't like that one, neither ;-0

Re: Calculators on Standard Tests

*Message #17 Posted by **Cristian Arezzini** on 14 Feb 2012, 12:08 a.m.,*

in response to message #1 by Norman Dziedzic

They could keep a stock of calculators handy, and give each student, for the duration of the test, the same model he/she's used to... this way they would be sure it isn't a "cheat unit"! And it would increase sales :)

Cristian

Re: Calculators on Standard Tests

*Message #18 Posted by **NateB** on 14 Feb 2012, 12:17 a.m.,*
in response to message #1 by Norman Dziedzic

For the NCEES exams, the focus is on preventing a test taker from copying questions.

All phones, cameras, recording device, and other electronic devices are prohibited in the exam room. They check all calculators to make sure they are approved for use on the exam. Also, pencils, pens, paper, etc. are prohibited. They provide the (really crappy) pencil (with an even crappier eraser). All scratchwork is to be done in the test booklet only. They give you a final warning at the start of the exam. If you accidentally bring a prohibited item into the exam room, you can turn it over to a proctor. If you are caught with a prohibited item after the grace period, you will be ejected from the exam, your test will be ruled invalid, and depending on the circumstances, you may be sanctioned by the NCEES.

You also sign a non-disclosure agreement at the start of the exam.

You can use a fully programmed 33s or 35s. The concern isn't what you might bring in, it's what you may be able to get out.

Re: Calculators on Standard Tests

*Message #19 Posted by **bill platt** on 14 Feb 2012, 10:26 p.m.,*
in response to message #18 by NateB

"The concern isn't what you might bring in, it's what you may be able to get out. "

And that is the fundamental flaw with the system. A well-designed test can go home with the test-taker and it won't compromise the next test.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2012 location

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 13 Feb 2012, 7:15 a.m.*

I know it may be early for this question, but I would like to know if there are advances regarding the HHC 2012 location. Planning ahead a trip, and getting low fares (or using frequent flyer awards) is critical from people traveling from other countries. I'm not sure at all about being able to go this year, but such a definition may help to improve the chances. TIA.

Re: HHC 2012 location

*Message #2 Posted by **Jake Schwartz** on 13 Feb 2012, 10:57 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> I would like to know if there are advances regarding the HHC 2012 location.

Right now, the leading **candidate** is the HP facility in Houston, Texas.

Jake Schwartz

Re: HHC 2012 location

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 12:31 p.m.,*
in response to message #2 by Jake Schwartz

Jake, Is there a time frame being discussed for the HHC? Thanks

Re: HHC 2012 location

*Message #4 Posted by **Jeff O.** on 13 Feb 2012, 1:38 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

Kerem,
I believe the time has already been set at September 22 and 23, 2012.

Re: HHC 2012 location

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 13 Feb 2012, 1:00 p.m.,*
in response to message #2 by Jake Schwartz

Jake, thank you. If it is the previous Compaq campus, I have been there some 6 times over the years, and I may say it's a very fine place, indeed!

Re: HHC 2012 location

*Message #6 Posted by **Michael de Estrada** on 13 Feb 2012, 3:59 p.m.,*
in response to message #2 by Jake Schwartz

That's interesting. Not too far from where I live, so I might attend although I don't have anything to contribute.

Re: HHC 2012 location

*Message #7 Posted by **Jake Schwartz** on 13 Feb 2012, 4:56 p.m.,*
in response to message #6 by Michael de Estrada

We're told that this currently is the largest HP facility in the U.S.

Jake

Re: HHC 2012 location

*Message #8 Posted by **gene wright** on 13 Feb 2012, 5:23 p.m.,*
in response to message #6 by Michael de Estrada

You mean "don't have anything to contribute ... yet"

That's the beauty of these HHC gatherings. Plan to go. Think of something interesting to you about calculating, or whatever (we had discussions of making telescope mirrors a year or two ago).

Communicate that idea to the committee and let us see what we think!

But, by all means, please come. :-)

Re: HHC 2012 location

*Message #9 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 5:33 p.m.,*
in response to message #8 by gene wright

I was thinking about participating this year, but having read Michael's email, I was about to change my mind since I can not think of anything to contribute (interesting enough to keep everyone in the room and awake). Thanks for the feedback Gene, little bit more encouraging. How do we get in touch with the committe? Thanks!

Re: HHC 2012 location

*Message #10 Posted by **gene wright** on 13 Feb 2012, 8:11 p.m.,*
in response to message #9 by Kerem Kapkin (Silicon Valley, CA)

Last year's site will do just fine:

http://hhuc.us/2011/sitemap.htm

Re: HHC 2012 location

*Message #11 Posted by **Ethan Conner** on 13 Feb 2012, 11:19 p.m.,*
in response to message #10 by gene wright

It didn't take long to put this years conference geographically out of reach. Lol

Re: HHC 2012 location

*Message #12 Posted by **gene wright** on 13 Feb 2012, 11:32 p.m.,*
in response to message #11 by Ethan Conner

Geographically out of reach...meaning what?

Are you outside the USA? This conference is almost always in the USA, but there is often a gathering in Europe in the fall as well.

Are you in the USA but not near Texas? Many, many people travel across the country and world to come to these HHC events.

What makes this out of reach? ...so far, not a single conference has been held within 2 hours driving time for me. :-)

Re: HHC 2012 location

*Message #13 Posted by **Ethan Conner** on 14 Feb 2012, 12:37 a.m.,*
in response to message #12 by gene wright

You posted last years site would do fine. That was California wasn't it? If Houston is still on that would be in my range. :) Houston is a four hour drive for me.

Re: HHC 2012 location

*Message #14 Posted by **Namir** on 13 Feb 2012, 7:01 p.m.,*
in response to message #6 by Michael de Estrada

Your mere presence is a valuable contribution. We all get together to enjoy the fellowship!

amir

Re: HHC 2012 location

*Message #15 Posted by **Dave Shaffer (Arizona)** on 13 Feb 2012, 7:18 p.m.,*
in response to message #14 by Namir

I heartily second Namir's comments.

I have been to only one HHC, and still remember the folks I met and the good time we all had. (And, I've even crossed paths with Namir a couple of times since then!)

Re: HHC 2012 location

*Message #16 Posted by **Patrice** on 14 Feb 2012, 8:27 a.m.,*
in response to message #2 by Jake Schwartz

Planning a side trip to NASA?

Re: HHC 2012 location

*Message #17 Posted by **Marcus von Cube, Germany** on 14 Feb 2012, 10:10 a.m.,*
in response to message #16 by Patrice

Quote:

> Planning a side trip to NASA?

That would make a very good reason to attend.

To be precise, another very good reason... :-)

Re: HHC 2012 location

*Message #18 Posted by **John B. Smitherman** on 14 Feb 2012, 11:21 a.m.,*
in response to message #17 by Marcus von Cube, Germany

Here are a few points of interest in the Houston area:

NASA Johnson Space Center link

Galleria link

San Jacinto Monument link

Kemah Boardwalk link

Galveston link

St. Arnold Brewery link

Haak Winery link

Re: HHC 2012 location

*Message #19 Posted by **Eric Rechlin** on 14 Feb 2012, 2:04 p.m.,*
in response to message #18 by John B. Smitherman

The San Jacinto monument is nothing special, but the battleship Texas parked right next to it is well worth visiting.

Saint Arnold is always fun to visit; I'm going there again this Saturday. Bring your own food and arrive early so you can get a picnic bench to comfortably spend your day with friends.

Houston has many, many museums, too. The Museum of Natural Science has an interesting permanent exhibit on oil extraction. The Museum of Fine Arts, though not as nice as what you might find in, say, New York City, is still quite extensive (and they are about to start a large expansion project, adding perhaps 50% to the exhibit space). We have a holocaust museum too, and some more unusual museums, such as the Art Car Museum, the Museum of Printing History, and the Beer Can House.

But in some ways, the biggest thing Houston has to offer is restaurants. Sure, Michelin doesn't bother visiting Houston to "star" them, but I personally think it's the best place to eat out in the world, due to the combination of affordable prices, a wide variety of different foods due to the mix of different cultures, and a huge selection (more restaurants per capita than anywhere but NYC).

Eric

Re: HHC 2012 location

*Message #20 Posted by **Ethan Conner** on 14 Feb 2012, 2:31 p.m.,*
in response to message #19 by Eric Rechlin

Lone star flight museum. http://www.lsfm.org/

Re: HHC 2012 location

*Message #21 Posted by **Patrice** on 14 Feb 2012, 3:59 p.m.,*
in response to message #20 by Ethan Conner

From France, there is something that make the NASA Johnson Space Center special.
The every day job of the guys working there is about writing the USA history of space, the only place where they can say the same is in Florida.
I only regret that they didn't have a failure such as a 41C could have saved the butt of a shuttle :)

Re: HHC 2012 location - NASA

*Message #22 Posted by **Andrés C. Rodríguez (Argentina)** on 14 Feb 2012, 4:12 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Near (but not inside of) Johnson Space Center, NASA has (or at least used to have) a nice place for visitors, with an exhibit of some real, flown spacecraft, not-flown boosters such as a Saturn V, astronaut spacesuits from different time periods, an IMAX theatre projecting impressive space films, a piece of lunar rock (so visitors can touch it), a space shuttle mockup, including cockpit, some simulators, etc. I've been there four times, but all of them were some years ago, so it may have changed. Of course, there was also a nice gift shop, with items ranging from videos and books to posters and paintings to T-shirts and keychains.

Edited: 14 Feb 2012, 4:13 p.m.

Re: HHC 2012 location - NASA

*Message #23 Posted by **Eric Rechlin** on 14 Feb 2012, 5:19 p.m.,*
in response to message #22 by Andrés C. Rodríguez (Argentina)

Things have changed a lot.

There's Space Center Houston, which is a commercialized museum/gift shop. Then you can take a trolley from there to the Johnson Space Center, where they let you go into a few buildings.

However, this has been cut back a bit in the last decade, so if you want to do some of the more interesting stuff (like using the actual simulators the astronauts use, or visit the Neutral Buoyancy Laboratory) I think you might need to arrange for a special tour.

In front of JSC is the rocket park, with a bunch of unused rockets, including a Saturn V. Last time I was there it was completely open to the public, with everything rotting from exposure to the elements, but they have since built a large building to enclose them, and supposedly restored the Saturn V. I assume you could see this if you do the SCH tour; I don't know if this is still freely accessible to the public without a tour.

The JSC used to do an annual open house, where members of the public could freely see many of the facilities, covering far more than the normal SCH tour, but I don't think they've done that in years. That was a lot of fun.

Eric

Re: HHC 2012 location - NASA

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 14 Feb 2012, 8:09 p.m.,*
in response to message #23 by Eric Rechlin

Space Center Houston was the visitor facility indeed, I couldn't recall the name. I liked it a lot. But I was not able to visit any "real" NASA buliding; as you said a previous appointment was needed, and it's a difficult thing to arrange for a foreign visitor with little available time. Yes, rockets were shown on the outside of SCH. You had to pay a ticket to enter SCH and also for the "rocket tour".

Re: HHC 2012 location - NASA

*Message #25 Posted by **David Ramsey** on 15 Feb 2012, 8:58 p.m.,*
in response to message #24 by Andrés C. Rodríguez (Argentina)

Given how tight a schedule HHC seems to be run on, how many people would take the opportunity to avail themselves of a NASA side trip, or indeed any side trip?

Just wondering. HHC 2011 left just enough time for a nice sit-down supper in a very nearby restaurant.

Re: HHC 2012 location - NASA

*Message #26 Posted by **Gerry Schultz** on 15 Feb 2012, 9:38 p.m.,*
in response to message #25 by David Ramsey

Hi David. If the location for HHC 2012 is Houston, I would probably drive and visit some relatives along the way. In the past I've added a couple of days before and after the end of the conference to visit the local attractions and go on tours like NIST.

The first conference day can go from 8 AM to 10 PM so it gets long. The second day lasts until around 6 PM and by then I'm pretty tired. So, I suggest any group tours should be scheduled for the Friday before or the Monday after. I know it's hard for some of my fellow attendees to commit to coming in early or staying an extra day due to scheduling constraints or finances. Let's have some fun while in Houston. I always intend to enjoy myself as much as possible.

Gerry

Re: HHC 2012 location - NASA

*Message #27 Posted by **Ethan Conner** on 15 Feb 2012, 9:39 p.m.,*
in response to message #25 by David Ramsey

I would only have a four hour drive but would take at least one and maybe two days vacation for the side trips.

Re: HHC 2012 location - NASA

*Message #28 Posted by **Mark Hardman** on 15 Feb 2012, 9:54 p.m.,*
in response to message #25 by David Ramsey

Just to set expectations, from the HP/Compaq Campus in North Houston (off of Hwy 249) to JSC in South Houston (off of I-45 and NASA Road 1) it is a good 60 miles. Given the route and 25 years experience with Houson traffic, I'd expect the drive to take an hour and a half at a minimum.

But, for those interested, I'd be glad to look into renting a tour bus for an afternoon that does not interfere with the HHC conference.

Mark Hardman
Houston, TX

Re: HHC 2012 location - NASA

*Message #29 Posted by **Guenter Schink** on 16 Feb 2012, 3:51 p.m.,*
in response to message #28 by Mark Hardman

> Quote:
>
> But, for those interested, I'd be glad to look into renting a tour bus for an afternoon that does not interfere with the HHC conference.

Provided the HHCC2012 really will be at Houston:

I'll arrive on Thursday afternoon, and like others do I plan to support some preparatory work for the conference on Friday. I need to get more training in sacking the proceedings. :-)

The committee will be busy all Friday, and they deserve to have the oppurtunity for such an activity, if they like to.

Therefore I suggest that such an activity would be best suited on Monday afternoon, allowing for some cleanup activities in the morning. Concerning the transportation, I believe a lot of people will have a car. I'll have one, and more folks will join.

Nevertheless it would be great if you could do some planning beforehand enabling people to commit themselves.

Cheers, Günter

Re: HHC 2012 location - NASA - OT

*Message #30 Posted by **Andrés C. Rodríguez (Argentina)** on 15 Feb 2012, 9:58 p.m.,*
in response to message #25 by David Ramsey

One of the times I was in Houston, I only had the "time window" for lunch at a conference (George Brown Convention Center, IIRC) as free time. With a fellow visitor, we hired a taxi, went from the convention center to NASA Houston Space Center, have the taxi waiting for us for an hour, and return to the conference just in time for the afternoon sessions. It was tight, but feasible (even on a regular weekday, not in a weekend). More time at HSC would have been better, but this arrangement was much better than nothing. The taxi costed U$S 100, and we shared the expense. Just recalling, it was my second visit to HSC...

Re: HHC 2012 location - NASA

*Message #31 Posted by **David Ramsey** on 17 Feb 2012, 9:45 p.m.,*
in response to message #23 by Eric Rechlin

FWIW, I stopped taking NASA seriously when they decided to use a Saturn V as a lawn ornament. That was some time ago.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: New release on SF

*Message #1 Posted by **Marcus von Cube, Germany** on 13 Feb 2012, 4:43 a.m.*

I've put up a V3 release on SF. It will still need some polishing but should be working. If not, please tell us!

https://sourceforge.net/projects/wp34s/files/

Edited: 13 Feb 2012, 4:43 a.m.

Re: WP 34S: New release on SF

*Message #2 Posted by **Paul Dale** on 13 Feb 2012, 5:58 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Enjoy everyone :-)

- Pauli

Re: WP 34S: New release on SF

*Message #3 Posted by **Walter B** on 13 Feb 2012, 11:59 a.m.,*
in response to message #2 by Paul Dale

... and please don't forget to report to us the bugs which are in for sure :-)

Walter

Re: WP 34S: New release on SF

*Message #4 Posted by **Les Wright** on 20 Feb 2012, 2:13 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Thanks, gents.

I am a late rather than early adopter and was waiting for the Sourceforge release. Till now I have been pleased with 2.2.

I like what v. 3 is doing with organizing program, register, and flash memory. It actually is simpler than the multiple library setup of v. 2.

The manual still needs to be cleaned as it still mentions the now obsolete SENDL function when discussing Serial I/O syncing with the emulator. Apart from that, looks amazing.

I satisfied myself with throwaway paper overlays for 2.2, but now have splurged on Eric Rechlin's proper vinyl overlays for this version. I am assuming that the keyboard layout is settled and will not change throughout updates to v. 3.

Again, thank you for this amazing project.

Les

Edited: 22 Feb 2012, 1:37 a.m. after one or more responses were posted

Re: WP 34S: New release on SF

*Message #5 Posted by **Paul Dale** on 20 Feb 2012, 2:26 a.m.,*
in response to message #4 by Les Wright

Please let us know about all and any problems with the firmware and the manual. They will be addressed.

Yes, version 3 is a significant improvement over version 2. The flash management is out of sight better, not to mention having more free flash for users. We've separate programs, more functions, better accuracy for some functions, double precision and more. I definitely think it is worth buying a new overlay and letting v2 die quietly :-)

The version 3 overlay is pretty much fixed. We're arguing over SHOW & up arrow (alpha case change) on the ON button, so a trivial change might happen. However, we're well aware of the need to not alter the overlay so don't expect to need a new one even if things do change. Currently the up arrow enters the register browser and SHOW displays the full mantissa. We're thinking of changing this so that SHOW enters the register browser and up arrow does something else. The reason being is that f-shift and g-shift x<>y <(and)> display the mantissa in single precision mode, the parts of the mantissa in double and shift around the integer display. Thus the current SHOW behaviour is redundant.

The outstanding question is what to put on the case shift up arrow (if anything). Any suggestions?

We also have a (very) small number of free character bitmaps available, any suggestions here?

- Pauli

Re: WP 34S: New release on SF

*Message #6 Posted by **Marcus von Cube, Germany** on 20 Feb 2012, 4:49 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> The outstanding question is what to put on the case shift up arrow (if anything). Any suggestions?

If we don't come up with anything better I would propose to enter lower case alpha mode directly with f EXIT. Let SHOW start the register browser and <( )> handle the display of numbers.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Scientific version of 30b by HP?

*Message #1 Posted by **kc** on 13 Feb 2012, 12:24 a.m.*

Well, I'm not talking about WP34S. WP34S is really great, but what if I'm too lazy to do all the cumbersome works of flashing and labelling?
People in this forum are highly demanding towards quality of HP calculators, and yet, the 30b seems to be generally regarded by the forum members as a quality product. I don't have a 30b, but AFAIK, it alreay contains common scientific functions, just buried somewhere inside menus. Therefore, I think it wouldn't be too difficult for HP to remap the keys to produce a scientific version of it. Or is HP already doing that?
Or better still, it would be really nice if HP would buy the invention of WP34S and produce a version of it :)

Re: Scientific version of 30b by HP?

*Message #2 Posted by **Paul Dale** on 13 Feb 2012, 12:34 a.m.,*
in response to message #1 by kc

You can buy a pre-flashed 34S plus overlay. Well not at the moment, buy I'm sure it will be available again soon.

HP wasn't interested in the 34S firmware when I offered it to them. We've come a long way since then, but I suspect this hasn't changed.

I've no idea what kind of scientific calculator, if any, they are working on.

- Pauli

Re: Scientific version of 30b by HP?

*Message #3 Posted by **Reth** on 13 Feb 2012, 2:32 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> You can buy a pre-flashed 34S plus overlay.
>
> - Pauli

Add the cable to that and you'll sell alot more of them. I'd buy one to support the project. Cheers,

Re: Scientific version of 30b by HP?

*Message #4 Posted by **From Hong Kong** on 13 Feb 2012, 3:58 a.m.,*
in response to message #2 by Paul Dale

> Quote:

> HP wasn't interested in the 34S firmware when I offered it to them. We've come a long way since then, but I suspect this hasn't changed.

The reason behind is that HP doesn't want to pay even though HP is interested in your product. That's why HP's new breed of calculators have got a lot of H/W or S/W problems!

HP is a miser!!!

Re: Scientific version of 30b by HP?

*Message #5 Posted by **Paul Dale** on 13 Feb 2012, 5:07 a.m.,*
in response to message #4 by From Hong Kong

I very much doubt this was the reason. In fact, I'm certain it isn't. We didn't ask for money, the project is open source and hence freely available anyway. We can and would license it under alternative terms if asked -- this has been done for the power saving code e.g. (main.c from memory).

The reasons given at the time I asked were: no scientific calculator was on the immediate road map and that the software would need to be re-written to use HP's internal mathematics library. The former clearly changed with the 15C LE, the latter is likely still a concern.

- Pauli

Re: Scientific version of 30b by HP?

*Message #6 Posted by **Mark Storkamp** on 13 Feb 2012, 9:26 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> the software would need to be re-written to use HP's internal mathematics library.

You mean the library that says log(10^20)=14? (as on the 20b) That's a good plan.

Re: Scientific version of 30b by HP?

*Message #7 Posted by **Tim Wessman** on 13 Feb 2012, 10:38 a.m.,*
in response to message #6 by Mark Storkamp

Strange, currently returns 20 and has for several years now. . .

TW

<edited since I read a 14^20 for some reason>

Edited: 13 Feb 2012, 11:16 a.m. after one or more responses were posted

Re: Scientific version of 30b by HP?

*Message #8 Posted by **peacecalc** on 13 Feb 2012, 11:05 a.m.,*
in response to message #7 by Tim Wessman

Hello Tim, hello Mark,

I don't get the joke???? Which bases you use for the log?

@Mark: 26.5?

@Tim: 7.5

Sincerely peacecalc

Re: Scientific version of 30b by HP?

*Message #9 Posted by **Walter B** on 13 Feb 2012, 12:05 p.m.,*
in response to message #8 by peacecalc

I prefer base 27 for Mark's solution :-)

Re: Scientific version of 30b by HP?

*Message #10 Posted by **Michael de Estrada** on 13 Feb 2012, 11:14 a.m.,*
in response to message #7 by Tim Wessman

I get 21 on my Sinclair Scientific and Elektronika B3-19M.

Edited: 13 Feb 2012, 11:22 a.m.

Re: Scientific version of 30b by HP?

*Message #11 Posted by **Bart (UK)** on 13 Feb 2012, 5:21 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> I get 21 on my Sinclair Scientific and Elektronika B3-19M.

That could happen if you used 10E20 (or 10^x on some calculators, although the B3-19M only seems to have Y^x).

Edit: assuming base 10 for the log.

Edited: 13 Feb 2012, 5:31 p.m.

Re: Scientific version of 30b by HP?

*Message #12 Posted by **Mark Storkamp** on 13 Feb 2012, 3:18 p.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> Strange, currently returns 20 and has for several years now. . .
>
> TW
>
> <edited since I read a 14^20 for some reason>

Doesn't help those who in effect are doing the beta testing for HP by buying something

before it's been rev'ed once or twice.

Re: Scientific version of 30b by HP?

*Message #13 Posted by **Michael de Estrada** on 13 Feb 2012, 3:27 p.m.,*
in response to message #7 by Tim Wessman

So now you are getting log(10^20) = 20 ? Interesting.

Re: Scientific version of 30b by HP?

*Message #14 Posted by **Bart (UK)** on 13 Feb 2012, 5:22 p.m.,*
in response to message #13 by Michael de Estrada

> Quote:
>
> So now you are getting log(10^20) = 20 ? Interesting.

Why "Interesting"? That would be the correct answer.

Edit: assuming base 10 for the log.

Edited: 13 Feb 2012, 5:28 p.m.

Re: Scientific version of 30b by HP?

*Message #15 Posted by **Thomas Chrapkiewicz** on 13 Feb 2012, 1:41 p.m.,*
in response to message #2 by Paul Dale

Is there a supplier of flashed 30b/20b units in the USA?

TomC

Re: Scientific version of 30b by HP?

*Message #16 Posted by **Eric Rechlin** on 13 Feb 2012, 2:40 p.m.,*
in response to message #15 by Thomas Chrapkiewicz

I plan to provide them in the near future. Actually I'll do it now if anyone wants, but I plan to make it an official listing on my site soon. Probably by the end of the month.

Eric

Re: Scientific version of 30b by HP?

*Message #17 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 3:06 p.m.,*
in response to message #16 by Eric Rechlin

Eric, are you also considering with or without crystal upgrades, or by default all WP-34s' get the crystal upgrades. I think having the upgrade by default is a better choice.

Re: Scientific version of 30b by HP?

*Message #18 Posted by **Eric Rechlin** on 13 Feb 2012, 5:11 p.m.,*
in response to message #17 by Kerem Kapkin (Silicon Valley, CA)

I haven't decided, but I am strongly leaning towards having it be a full-service thing. Ideally it would be a 30b, with the overlay preinstalled, the crystal preinstalled, the latest 3.0 build flashed (or perhaps the last-known-stable build, but I don't know how to determine that), and maybe a printed manual (but as long as it still says "DRAFT" in the watermark I won't bother printing it, and I personally don't think the manual is suitable for printing anyway).

Eric

Re: Scientific version of 30b by HP?

*Message #19 Posted by **Paul Dale** on 13 Feb 2012, 5:24 p.m.,*
in response to message #18 by Eric Rechlin

> Quote:
>
> (or perhaps the last-known-stable build, but I don't know how to determine that)

Version 2.2 would be this.

Version 3 will get there, probably fairly quickly though.

We've no current plans for major or significant changes after version 3. We've taken the hardware about as far as we can and a lot further than any of us thought possible at the outset.

- Pauli

Re: Scientific version of 30b by HP?

*Message #20 Posted by **Jeff O.** on 13 Feb 2012, 8:08 p.m.,*
in response to message #19 by Paul Dale

Drat, I was hoping for at least a v3.5 with a "proper" complex mode per Marcus' proposal. (message no. 14)

Edited: 13 Feb 2012, 8:36 p.m.

Re: Scientific version of 30b by HP?

*Message #21 Posted by **Paul Dale** on 14 Feb 2012, 12:02 a.m.,*
in response to message #20 by Jeff O.

I'm pretty sure that proper complex support like the 42s is what we'll aim for rather than the 15c's relatively poor substitute. It won't, however, be in the 30b body. We'll be using something more capable: DIY RPN 5, OpenRPN, the 15CC or something entirely different. We simply don't know at the moment.

- Pauli

Re: Scientific version of 30b by HP?

*Message #22 Posted by **Jeff O.** on 14 Feb 2012, 10:19 a.m.,*
in response to message #21 by Paul Dale

Agreed that proper complex support is as on the 42S, with a display that can

show real and imaginary or magnitude and angle at the same time. However, I feel that a 15C-style implementation in a device that cannot display both parts (i.e., the 30b) would be preferable to the current wp34s paradigm. But I can see that you would not want to spend any time developing such a paradigm for wp34s if better hardware that will allow the preferred implementation is expected to arrive.

Re: Scientific version of 30b by HP?

*Message #23 Posted by **David Griffith** on 13 Feb 2012, 12:34 p.m.,*
in response to message #1 by kc

As others have stated, you can buy a pre-flashed WP34s. The unavoidable problem with the WP34s is that its hardware is fairly anemic and the display is not optimal. What really needs to happen is for HP to commission the WP34s team to decide what the hardware should be like and have them make the firmware. The last time HP tried to make an RPN calculator of that kind, they came out with the HP35s, which falls flat in several important areas.

Re: Scientific version of 30b by HP?

*Message #24 Posted by **Jake Schwartz** on 13 Feb 2012, 5:03 p.m.,*
in response to message #23 by David Griffith

> Quote:
>
> What really needs to happen is for HP to commission the WP34s team to decide what the hardware should be like and have them make the firmware.

Even if the 17BII+ screen was available, I feel that the 34S could be significantly more powerful than it is now. Imagine substituting soft-key menus in place of that keystroke-crazy catalog system....I guess it can't hurt to dream....

Jake

Re: Scientific version of 30b by HP?

*Message #25 Posted by **Paul Dale** on 13 Feb 2012, 5:22 p.m.,*
in response to message #24 by Jake Schwartz

I'm not sure I understand here. With the current screen a soft key setup just isn't viable. The dot matrix portion is simply too tight for this and seven segments don't work well. The CPU can't drive any more LCD segments so a screen upgrade isn't feasible either.

As for more powerful, yet alone significantly more powerful, I'd like to know how so we can implement it :-)

- Pauli

Re: Scientific version of 30b by HP?

*Message #26 Posted by **David Griffith** on 13 Feb 2012, 6:14 p.m.,*
in response to message #25 by Paul Dale

I'm talking about you working out what CPU and support chips to use in order to properly use a dot-matrix display and somehow getting HP to build that calculator. More memory would be good

too.

Re: Scientific version of 30b by HP?

*Message #27 Posted by **db (martinez, ca.)** on 13 Feb 2012, 7:24 p.m.,*
in response to message #26 by David Griffith

David; Yes on both. The 34s is 99% "all it can be" on the hardware it is on now.
The ability, and willingness, of the trinity to rewrite the firmware to fix each shortcoming has resulted in an OS that hp could only dream of.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-85 Keyboard Repair

*Message #1 Posted by **aj04062** on 12 Feb 2012, 7:44 p.m.*

Anyone have a suggestion on how to re-fuse the corners of the white rectangular key contact on this model?

I was going to try disassemble, clean with alcohol and glue with Plastruct (contains MEK)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The smallest ever LED RPN calculator

*Message #1 Posted by **Michael de Estrada** on 12 Feb 2012, 7:15 p.m.*

And it's not an HP

About the size of a pack of cigarettes, the Hanimex 276, made in Hong Kong for the Australian Hanimex Company was the smallest ever LED RPN calculator. It was based on the National Semiconductor MM5760 chipset with a calculator forensics number of 8.843762. It sports most of the same functions of the Novus Mathematician except for x^2 and M + x^2, due to the reduced number of keyboard buttons. This particular pristine unit currently resides in the collection of one out our beloved members, who is well know for his addiction to non-HP RPN calculators.

Edited: 12 Feb 2012, 7:25 p.m.

Re: The smallest ever LED RPN calculator

*Message #2 Posted by **Martin Pinckney** on 12 Feb 2012, 10:41 p.m.,*
in response to message #1 by Michael de Estrada

About the same feature set as the HP 35, and IMO very attractive styling, too.

When was it produced?

Re: The smallest ever LED RPN calculator

*Message #3 Posted by **Michael de Estrada** on 12 Feb 2012, 10:49 p.m.,*
in response to message #2 by Martin Pinckney

I can't say for certain, but mid to late 1970s when National Semiconductor was making the chips. There's a whole bunch of other brands that used them, including the Argentinian Microcifra 10 and Taiwanese Prinztronic. Two big differences from the HP-35 is that it only has a 3-level stack and no scientific notation.

Edited: 12 Feb 2012, 10:51 p.m.

Re: The smallest ever LED RPN calculator

*Message #4 Posted by **Paul Dale** on 12 Feb 2012, 10:49 p.m.,*
in response to message #1 by Michael de Estrada

This looks remarkably similar to some of the scientific 4-banger designs that have floated around over the years.

- Pauli

Re: The smallest ever LED RPN calculator

*Message #5 Posted by **David Griffith** on 13 Feb 2012, 12:01 a.m.,*
in response to message #1 by Michael de Estrada

I wonder how much it would cost to produce something like that nowadays.

Re: The smallest ever LED RPN calculator

*Message #6 Posted by **hpnut** on 13 Feb 2012, 12:16 a.m.,*
in response to message #5 by David Griffith

i wonder of Michael Steinmann can replicate an LED HP25C :-)

Re: Smallest?

*Message #7 Posted by **Maximilian Hohmann** on 13 Feb 2012, 2:28 a.m.,*
in response to message #1 by Michael de Estrada

Good morning!

I don't have that particular calculator (alas...) to take masurements, but if it's the same size than the similar looking Hanimex 202, then the Sinclair Scientific is smaller. In width, thickness, area and volume, but not in length. If that counts.

Funny contest. Usually it goes: Mine is bigger :-) !

Regards, max

Re: Smallest?

*Message #8 Posted by **Michael de Estrada** on 13 Feb 2012, 9:49 a.m.,*
in response to message #7 by Maximilian Hohmann

You are correct ! I had completely forgotten about the Sinclair Scientific.

The dimensions I measured using a ruler are as follows:

Hanimex 276 : 3-7/8" L X 2-1/2" W X 7/8" T

Sinclair Scientific : 4-3/8" L X 2" W X 3/4" T

That works out to the following areas and volumes:

Hanimex 276 : A = 9.7 in^2 V = 8.5 in^3

Sinclair Scientific : A = 8.8 in^2 V = 6.6 in^3

Also, the Sinclair is 9 grams lighter at 105gm with 4 AAA cells .vs. 114gm for the Hanimex with a 9V battery.

So, I probably should have made the title "the second smallest ever RPN LED calculator."

The Sinclair was far more limited with only a two level stack and no storage memory, although it could

handle much larger numbers due its perpetual scientific notation mode. Also, it performs trig operations in radians only and lacks the constant pi for easy conversion from or to degrees. Log operations are base 10 as well.

Edited: 13 Feb 2012, 10:59 a.m.

Re: The smallest ever LED RPN calculator

*Message #9 Posted by **Raymond Del Tondo** on 13 Feb 2012, 11:36 a.m.,*
in response to message #1 by Michael de Estrada

Hi Michael,

is it smaller than a Commodore Minuteman 6* ?

Cheers

Raymond

Re: The smallest ever LED RPN calculator

*Message #10 Posted by **Michael de Estrada** on 13 Feb 2012, 12:26 p.m.,*
in response to message #9 by Raymond Del Tondo

It's about the same size.

Re: The smallest ever LED RPN calculator

*Message #11 Posted by **John Robinson** on 14 Feb 2012, 12:19 a.m.,*
in response to message #1 by Michael de Estrada

My first ever calculator, well actually my fathers calculator was a Hanimex ESR 1010SN, see : Hanimex ESR1010SN I have fond memories of that little beastie !! But then my curiosity of electronics took over and I disassembled it, even took the metal lid of the main ceramic chip - needless to say, it didn't work after that :-(

Cheers, John

Re: The smallest ever LED RPN calculator

*Message #12 Posted by **Bill Wiese** on 16 Feb 2012, 10:24 p.m.,*
in response to message #1 by Michael de Estrada

This was a variation on my/my dad's 2nd calculator externals.

The package design & form factor look remarkably like that of the 1975-vintage Casio "Pocket Mini"... in particular - the on/off switch on the side - the black display area popping up from the metal faceplate

The std Pocket Mini used a blue-green 8 digit VFD display, as did most Casio calcs of those years.

The Pocket Mini came in a couple of revisions... including a LED version with rounder keys. The common VFD version had rounded-corner square keys pulled into a 'tighter matrix' (i.e, matrix has more substantial border from edge of calc) and had gasketing around the keys.

Casio VFD 4-bangers at the time used Hitachi calc chips.

http://images.search.yahoo.com/search/images?_adv_prop=image&fr=yfp-t-465&va=casio+pocket+mini

Bill Wiese San Jose CA

Edited: 16 Feb 2012, 10:27 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-17B Language selection disappeared.

*Message #1 Posted by **Kees van der Sanden** on 12 Feb 2012, 8:03 a.m.*

A few day ago a receiver the next question:

After having used this calculator for 24 years now, suddenly the system-language has changed from German to English. How to switch it back to German? The INTL item has disappeared from the modes menu. The serial-nr is 2809A93321 HP1987 MADE IN USA. A hard reset by removing the batteries and short the battery terminals didn't solve this problem.

Any other suggestion?

Re: HP-17B Language selection disappeared.

*Message #2 Posted by **bill platt** on 12 Feb 2012, 9:35 a.m.,*
in response to message #1 by Kees van der Sanden

The 17b has an auto-detect feature. If it detects that its user's English is above college level, it disables all other languages.

Re: HP-17B Language selection disappeared.

*Message #3 Posted by **bill platt** on 12 Feb 2012, 1:07 p.m.,*
in response to message #1 by Kees van der Sanden

I wonder what would come out if you ran it painstakingly through the ROM extraction process? Would it spit out the original International ROM, or this strange switch?

Re: HP-17B Language selection disappeared.

*Message #4 Posted by **Don Shepherd** on 12 Feb 2012, 1:21 p.m.,*
in response to message #1 by Kees van der Sanden

Have you tried resetting via the sequence CLR + third menu key from the left? That might work.

Re: HP-17B Language selection disappeared.

*Message #5 Posted by **Don Shepherd** on 12 Feb 2012, 7:15 p.m.,*
in response to message #1 by Kees van der Sanden

You could perform the self-test. If you get OK-17B-I, I believe that means you have the international version, which has the language selections. If you get OK-17B-E, you have the English-only version.

I've never heard of an international version turning into an English-only version before. If true, that would seem to be a ROM defect.

Re: HP-17B Language selection disappeared.

*Message #6 Posted by **Kees van der Sanden** on 13 Feb 2012, 12:46 p.m.,*
in response to message #5 by Don Shepherd

I also think it is the ROM.

A few years ago a downloaded the ROM of a HP-17B for the EMU42 emulator.
The ROM size was 96K. That's 32K more than the ROM size of the LEWIS processor.
So, i think this calculator has an additional ROM for the languages.
As a test I emulated the original ROM image with EMU42. It emulates as an international version.
The language selection is available.
Then I stripped 32K at the end of the ROM image.
This ROM emulates as an HP-17B without the language selection!

Conclusion: The additional ROM is no longer detected by the calculator.

Edited: 13 Feb 2012, 1:07 p.m.

Re: HP-17B Language selection disappeared.

*Message #7 Posted by **Don Shepherd** on 13 Feb 2012, 1:31 p.m.,*
in response to message #6 by Kees van der Sanden

So when you do the self-test, do you get OK-17B-E or OK-17B-I?

Re: HP-17B Language selection disappeared.

*Message #8 Posted by **Kees van der Sanden** on 13 Feb 2012, 1:55 p.m.,*
in response to message #7 by Don Shepherd

Unfortunately i don't have the calculator here.
I received the question by email.
I will ask to owner to perform the self test and report the results.

Many thanks.

Re: HP-17B Language selection disappeared.

*Message #9 Posted by **Christoph Giesselink** on 13 Feb 2012, 1:34 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> You could perform the self-test. If you get OK-17B-I, I believe that means you have the international version, which has the language selections. If you get OK-17B-E, you have the English-only version.
>
> I've never heard of an international version turning into an English-only version before. If true, that would seem to be a ROM defect.

I fully agree with Don.

The difference between the International and the English version of the 17B is the additional 32KB ROM chip mapped at address #20000. The English/Basic 64KB ROM (inside the Lewis CPU chip) look at

startup at address #20000 for the sequence 20000:F3C5A (output of the build in memory scanner). If the sequence is found the English ROM calls a specified address inside the additional 32KB ROM for the international initialization.

Here're HP82240B log's of the self test (done with Emu42 and HP82240B printer simulation)

```
17B International:


SPD 1004240
ROM  OK
ROM2 OK
DRAM OK
URAM OK
OK-17B-I
COPYRIGHT HP 1987


17B English:


SPD 1005392
ROM  OK
DRAM OK
URAM OK
OK-17B-E
COPYRIGHT HP 1987
```

One difference between the International and English version is the already mentioned OK message. The 2nd difference is the additional "ROM2 OK" message at the International version.

Any repeating byte sequence at address #20000 like 20000:A3A3A3 looks like an open data bus, in the case of the International version that means a defect around the additional ROM chip.

Christoph

Re: HP-17B Language selection disappeared.

*Message #10 Posted by **Don Shepherd** on 13 Feb 2012, 2:02 p.m.,*
in response to message #9 by Christoph Giesselink

Thanks Christoph. I didn't know about that ROM2 OK in the self-test, thanks for that info.

Re: HP-17B Language selection disappeared.

*Message #11 Posted by **bill platt** on 13 Feb 2012, 10:51 p.m.,*
in response to message #10 by Don Shepherd

Only the coolest forum this side of the galaxy :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 48 Meta Kernel card for sale?

*Message #1 Posted by **bluesun08** on 12 Feb 2012, 7:51 a.m.*

Where can i get a HP 48 Meta Kernel card? Have someone a card for sale?

Edited: 12 Feb 2012, 8:18 a.m.

Re: HP 48 Meta Kernel card for sale?

*Message #2 Posted by **Gerson W. Barbosa** on 12 Feb 2012, 8:30 a.m.,*
in response to message #1 by bluesun08

An alternative is copying the Meta Kernal Full Version file (freely available at www.hpcalc.org) onto a 128K RAM card.

Re: HP 48 Meta Kernel card for sale?

*Message #3 Posted by **Timo** on 13 Feb 2012, 8:51 a.m.,*
in response to message #1 by bluesun08

Hi,

I'd also like to recommend SpeedUI 11.11 by Raymond Del Tondo. It is comparable to Meta Kernel in a certain way since it also greatly speeds up and simplifies the User Interface of the HP-48GX. You will also need a free 128k RAM card in Slot 1 to install it.

I've bee using it for over a year now and am absolutely satisfied with it. Compared to MetaKernel I see two significant advantages:

1. It is still being maintained by Rayomd who releases important updates every now and then.
2. It is a modular installation consistitng of several optional libraries. It allows you to only install the features you need most. Therefore you can save a bit of card memory for other things as well.

It's a bit tricky to filter out what you don't need at the beginning, but I can provide you with a list of the librares I use if you need one.

You can download the installation files here

Re: HP 48 Meta Kernel card for sale?

*Message #4 Posted by **Cristian Arezzini** on 13 Feb 2012, 9:36 a.m.,*
in response to message #3 by Timo

I second everything that Timo said. I've been using SpeedUI for a while now. It's a little complex to install, but after installing it, my 48GX feels like it's something ten years more modern...

Cristian

Re: HP 48 Meta Kernel card for sale?

*Message #5 Posted by **Thomas Chrapkiewicz** on 14 Feb 2012, 7:48 p.m.,*
in response to message #3 by Timo

Timo:

I've been most curious to try it out for some time. Please share the details about the libraries you've used and instructions to install them (email is fine)..

TomC

Re: HP 48 Meta Kernel card for sale?

*Message #6 Posted by **Timo** on 16 Feb 2012, 8:17 a.m.,*
in response to message #5 by Thomas Chrapkiewicz

Hi Thomas,

you have mail. I'll also post the list of my SpeedUI libs below for all forum members to access.

Kind regards, Timo

```
Library-Name    Lib-ID  Port
_____________________________


SpeedUI 11.11:

CF              4       0
UFL             257     1
UI              805     1
UF              809     1
B0              176     1
B1              177     1
B2              178     1
B3              179     1
B6              182     1
E4              228     1
EA              234     1
SBC             224     1
```

Install CF.lib first, then all other librares. It must be installed into Port 0! Perform a warmstart [On]+[C] after storing each library in port memory.

The listing represents an almost full install of SpeedUI 11.11 but it leaves enough Port 1 memory to allow installation of additional libraries as well. The SpeedUI zip-file does contain readme material which will explain certain aspects of the installation quite good.

Edited: 16 Feb 2012, 8:20 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 NUT Assembler question

*Message #1 Posted by **MichaelG** on 12 Feb 2012, 7:06 a.m.*

While verifying the D41 NUT disassemlber I came across some strange code in the NUT ROM. It took me quite a while to figure out that the output of the disassemlber is wrong.

After digging deeper into the topic it turned out there is an ambiguity in the op codes.

It's about the op code 3E8. D41 turns it into "REGN=C 15" which doesn't make any sense in the context but the transformation seems to be right. Looking into the op code table there is a special case for 3E8 meaning "SLSABC" which is the right choice in the context.

I have the strong feeling there are more exceptions. My question is how are these exceptions defined? Do I need to check display writing op codes first? That would mean on the other hand there is a documentions error and "REG=C <n>" is valid for n=0..E instead of F.

Any ideas?

Michael

Re: HP-41 NUT Assembler question

*Message #2 Posted by **Meindert Kuipers** on 12 Feb 2012, 7:37 a.m.,*
in response to message #1 by MichaelG

Hi Michael,

This simply translates to WRIT 15(e) in JDA mnemonics, but could be a display write instruction, depending on the context. I think it will be very difficult to check for display instructions depending on which peripheral is selected.

You might want to take a look at my disassembler, built in the M2kM software. Take a look at the various options, it could be very interesting to take some of these in your software as well. I like your initiative, so please go on!

When you software is more stable, I will take it thorugh a test. I have a disassembly option to allow re-assembly with SDK41, and will test it with your assembler as well.

Regards,

Meindert

Re: HP-41 NUT Assembler question

*Message #3 Posted by **MichaelG** on 12 Feb 2012, 8:27 a.m.,*
in response to message #2 by Meindert Kuipers

Thx, got it. I wasn't aware about the fact that the display needs to be selected first (day by day I learn more about the inside of the 41). So, the disassembler creates the right code (or at least does it's best under the given circumstances).

Sure, I'll have a look at your suggestions.

Michael

Re: HP-41 NUT Assembler question

*Message #4 Posted by **MichaelG** on 12 Feb 2012, 9:08 a.m.,*
in response to message #3 by MichaelG

Success! I simply enhanced the definition of the input label file. There you now specify the address range(s) where the assumed peripheral is active:

```
display 07ef 07fc
```

That results in the following code (addr 07f1 is the one of interest):

```
 07EF 1B0    [MESSL]         C=STK
 07F0 330    (L07F0)         CXISA
 07F1 3E8                    SLSABC
 07F2 23A                    C=C+1   M
 07F3 2F6                    ?C#0    XS
 07F4 3E3                    GONC    (L07F0)         ;-4    07F0
 07F5 1E0                    GOTOC
 07F6 130010 [ENLCD]         LDI     010
 07F8 270                    DADD=C
 07F9 1300FD                 LDI     0FD
 07FB 3F0                    PFAD=C
 07FC 3E0                    RTN
```

Thx to Warren, the rest was already prepared.

Michael

Re: HP-41 NUT Assembler question

*Message #5 Posted by **MichaelG** on 12 Feb 2012, 9:23 a.m.,*
in response to message #4 by MichaelG

The new version is online.

Michael

Re: HP-41 NUT Assembler question

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Feb 2012, 2:49 a.m.,*
in response to message #5 by MichaelG

Hi Michael, where is the new version stored? Also your link at TOS to SDK41R6.1-32V1.zip is broken. Thanks and Best Regards, Kerem

Re: HP-41 NUT Assembler question

*Message #7 Posted by **MichaelG** on 14 Feb 2012, 3:35 a.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

I see, there are 2 threads running. This one was only about a specific question I had that's

why I didn't post the link again. But here it is: http://download.michael-goericke.de/hp41/SDK41R6.1-32.zip

Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC

*Message #1 Posted by **Benoit Maag** on 12 Feb 2012, 3:56 a.m.*

Was out of stock, but Michael Steimann has just released a new batch of DM-15CC for sale at rpn-calc.ch - est ship date Feb 27

Re: DM-15CC

*Message #2 Posted by **Paul Dale** on 12 Feb 2012, 4:03 a.m.,*
in response to message #1 by Benoit Maag

Mine is ordered :)

- Pauli

Re: DM-15CC

*Message #3 Posted by **hpnut** on 12 Feb 2012, 4:59 a.m.,*
in response to message #1 by Benoit Maag

Placed my order too, I bet I will have the first unit in Malaysia :-)

if it's any good, will also order the 16C

hpnut in Malaysia

Re: DM-15CC

*Message #4 Posted by **Vince (Italy)** on 12 Feb 2012, 10:17 a.m.,*
in response to message #3 by hpnut

> Quote:
>
> if it's any good, will also order the 16C

I think you might try it. The 15C can be flashed with the 16C firmware, I guess

Re: DM-15CC

*Message #5 Posted by **Antonio Petri (UK)** on 12 Feb 2012, 7:22 a.m.,*
in response to message #1 by Benoit Maag

Placed my order too. I look forward to the 16C, as I have got only my original one and I am now too afraid to use it!

Re: DM-15CC

*Message #6 Posted by **Thomas Radtke** on 12 Feb 2012, 7:33 a.m.,*
in response to message #1 by Benoit Maag

Ordered one to leave the 15C LE at home :-).

Maybe the ON-key is stiff enough to even be able to carry it in my trowser (front!) pocket.

Re: DM-15CC

*Message #7 Posted by **Gerson W. Barbosa** on 12 Feb 2012, 8:15 a.m.,*
in response to message #1 by Benoit Maag

Mine has just been ordered. Thanks!

Re: DM-15CC

*Message #8 Posted by **Michael de Estrada** on 12 Feb 2012, 9:04 a.m.,*
in response to message #1 by Benoit Maag

Just placed my order for one as well. PayPal really screwed me on the exchange rate from USD to CHF. Am I the first Yank to order one of these ?

Re: DM-15CC

*Message #9 Posted by **Mark Hardman** on 12 Feb 2012, 10:19 a.m.,*
in response to message #8 by Michael de Estrada

I guess that I was the second "Yank" to order.

I agree that the PayPal exchange rate was on the extreme low side. The current exchange rate that I see published is 0.9163USD per CHF. PayPay charged 0.893929USD per CHF. But, in the end, its only a difference of $1.81. Thankfully the price was not in Euros.

Mark Hardman

Edited: 12 Feb 2012, 10:21 a.m.

Re: DM-15CC

*Message #10 Posted by **Michael de Estrada** on 12 Feb 2012, 11:07 a.m.,*
in response to message #9 by Mark Hardman

PayPal has all kinds of sneaky ways to increase their fees on international payments. I've been charged an effective fee of a little over 3% for domestic payments, but was charged nearly 5% on payments received in USD from Germany. They won't disclose how their fees are calculated, you just have to calculate it based on the fee amount that is deducted from the invoiced amount.

Re: DM-15CC

*Message #11 Posted by **Gerardo Rincon** on 12 Feb 2012, 11:44 a.m.,*
in response to message #9 by Mark Hardman

I Ordered mine today. Shipping to Michigan:

From amount $74.95 USD To amount 67.00 CHF Exchange rate: 1 U.S. Dollar = 0.893929 Swiss

Francs

I am very excited on receiving this calculator. It's a truly innovation.

How about trying an HP-32S also?

Re: DM-15CC

*Message #12 Posted by **RedGlyph** on 13 Feb 2012, 1:44 p.m.,*
in response to message #9 by Mark Hardman

You can choose, either Paypal does the conversion between the currencies, or it doesn't and Visa does it (which is usually most favourable).

They also got me the first time, then I changed the defaults.

Re: DM-15CC

*Message #13 Posted by **From Hong Kong** on 12 Feb 2012, 11:48 a.m.,*
in response to message #1 by Benoit Maag

I've already placed an order. Hopefully, the next incarnation of DM-15CC will have 2 CR2032 batteries loaded and be on par with HP-15C LE in speed.

Re: DM-15CC

*Message #14 Posted by **Lode** on 12 Feb 2012, 12:14 p.m.,*
in response to message #13 by From Hong Kong

It looks like HP managed to get the emulation running at way faster speed, but at the cost of emulation accuracy (almost all bugs are related to handling keypresses and the display), while the DC-15CC has a slower, but more accurate emulation. Just my wild guess from seeing the results posted here though :)

Re: DM-15CC

*Message #15 Posted by **Giancarlo** on 12 Feb 2012, 12:36 p.m.,*
in response to message #14 by Lode

Hello, Does anybody know the size of the calc? I saw the video on youtube but i cannot understand the size very well,

Thanks

Giancarlo

Re: DM-15CC

*Message #16 Posted by **Michael de Estrada** on 12 Feb 2012, 12:39 p.m.,*
in response to message #15 by Giancarlo

Supposedly it's the same as a credit card, but much thicker.

Re: DM-15CC

*Message #17 Posted by **RedGlyph** on 13 Feb 2012, 1:48 p.m.,*
in response to message #15 by Giancarlo

86x57x8 mm

Re: DM-15CC

*Message #18 Posted by **Thomas Radtke** on 12 Feb 2012, 1:51 p.m.,*
in response to message #14 by Lode

> Quote:
>
> [...] while the DC-15CC has a slower, but more accurate emulation.

If it is a true emulation, HP will likely hunt Mike down.

Re: DM-15CC

*Message #19 Posted by **Katie Wasserman** on 12 Feb 2012, 4:50 p.m.,*
in response to message #18 by Thomas Radtke

> Quote:
>
> If it is a true emulation, HP will likely hunt Mike down.

I'm concerned about this prospect too, but hope that HP realizes that this is not going to interfere with their selling the 15C LE nor cut into sales of anything else that have currently. They should view the DM-15CC as free advertising for the real deal and make the real deal more available and bug-free. Maybe the DM-16CC will get HP to offer a 16C LE (or 16C+).

Re: DM-15CC

*Message #20 Posted by **RedGlyph** on 13 Feb 2012, 1:51 p.m.,*
in response to message #18 by Thomas Radtke

No, they can't, that's the beauty of it :)

Check this link: http://nonpareil.brouhaha.com/microcode_copyright_status/

Re: DM-15CC

*Message #21 Posted by **Paul Dale** on 13 Feb 2012, 3:15 p.m.,*
in response to message #20 by RedGlyph

And how would that stop a large corporation burying you under a mountain of lawyers if they decided they wanted you stopped?

Right has little to do with the legal system unfortunately.

- Pauli

Re: DM-15CC

*Message #22 Posted by **Ethan Conner** on 13 Feb 2012, 4:27 p.m.,*
in response to message #21 by Paul Dale

I agree having witnessed this "lawyering" over nothing more than a trade name. The large

company successfully beat the small company into submission and took the trade name. It was brutal. There was absolutely nothing right about it.

Re: DM-15CC

*Message #23 Posted by **db (martinez, ca.)** on 13 Feb 2012, 9:56 p.m.,*
in response to message #22 by Ethan Conner

Eathan & Paul;
Agreed, so lets hope that hp doesn't want to stir mierda, or doesn't want to try to bully around the country where their numbered bank accounts are.
Eathan; There's another sad story about laiers twisting around facts and stealing a well known name. In the late '40s the Pl**u**mb company, whose only claim to fame is boy scout hatchets, legally stole the right of Pl**o**mb Tools to use the name of it's founder Alphonse Plomb, which it had used for over 30 years. Note to self: always trademark the names for any major corporations that i found.

Re: DM-15CC

*Message #24 Posted by **Andy Lamming (UK)** on 12 Feb 2012, 2:23 p.m.,*
in response to message #14 by Lode

My DM-15CC completes Katie Wasserman's Pi programme for the 15C in 5 hours 48 minutes. So that's 7½ times faster than the 43 hours she reports for the original 15C, but quite a bit slower than the 16 minutes she reports for the LE.

Re: DM-15CC

*Message #25 Posted by **Giancarlo** on 12 Feb 2012, 4:54 p.m.,*
in response to message #24 by Andy Lamming (UK)

Just ordered mine...

bye

Giancarlo

Re: DM-15CC

*Message #26 Posted by **uhmgawa** on 14 Feb 2012, 1:21 a.m.,*
in response to message #24 by Andy Lamming (UK)

> Quote:
>
> My DM-15CC completes Katie Wasserman's Pi programme for the 15C in 5 hours 48 minutes. So that's 7½ times faster than the 43 hours she reports for the original 15C, but quite a bit slower than the 16 minutes she reports for the LE.

Is the above 7.5x speed increase relative to a legacy 15C consistent for general operation? That seems disproportional given the LPC1114 and sam7 are both 32-bit ARM cores, moreover the LPC1114 design is capable of a 48MHz clock rate compared to the sam7 at 36MHz. While the LPC1114 could be running at a more conservative clock, even at 48MHz it is quite close to parity power-budget with one CR2032 cell vs. the sam7 @ 36MHz feeding from 2x CR2032.

As a reference point, KEMU configured for size optimization (rather than performance) on a C

runtime hostile 8-bit 8MHz SoC yields a rough 6x performance over a legacy voyager.

Re: DM-15CC

*Message #27 Posted by **db (martinez, ca.)** on 12 Feb 2012, 5:49 p.m.,*
in response to message #1 by Benoit Maag

just got home; he'd sent me an email and i tried ordering.
it's sold out already.

Re: DM-15CC

*Message #28 Posted by **Michael de Estrada** on 12 Feb 2012, 6:38 p.m.,*
in response to message #27 by db (martinez, ca.)

Wow ! This must be the first time ever that I've gotten in ahead of you on a non-HP RPN calc. Well, at least it looks like there will be more of them coming in late March. Or, we could trade on something....maybe a Sanyo CZ 2901 ? ;)

Edited: 12 Feb 2012, 6:44 p.m. after one or more responses were posted

Re: DM-15CC

*Message #29 Posted by **aj04062** on 12 Feb 2012, 6:42 p.m.,*
in response to message #28 by Michael de Estrada

I ordered mine in the first batch. Seeing that they have already arrived in the UK, hopefully I will see it this week.

I am missing that Red Dot, anyone wanna trade? ;)

keep the peace

Re: DM-15CC

*Message #30 Posted by **db (martinez, ca.)** on 12 Feb 2012, 7:36 p.m.,*
in response to message #29 by aj04062

Michael & aj;
You guys are cruel. In a week or two you'll probably be posting that the DM-15cc is so good you wouldn't trade two red dots for it.

Re: DM-15CC

*Message #31 Posted by **Barry Reeves** on 13 Feb 2012, 2:37 p.m.,*
in response to message #27 by db (martinez, ca.)

I missed it again too. :(Maybe next batch.

Re: DM-15CC

*Message #32 Posted by **Geoff Quickfall** on 14 Feb 2012, 4:41 a.m.,*
in response to message #1 by Benoit Maag

Sorry, I ordered two.

About five seconds after the email arrived saying he was taking orders.

;-)

Re: DM-15CC

*Message #33 Posted by **Michael de Estrada** on 14 Feb 2012, 9:25 a.m.,*
in response to message #32 by Geoff Quickfall

> Quote:
>
> Sorry, I ordered two.

Pilots make good salaries.

Re: DM-15CC

*Message #34 Posted by **db (martinez, ca.)** on 14 Feb 2012, 12:44 p.m.,*
in response to message #33 by Michael de Estrada

> Quote:
>
> Pilots make good salaries.

.....and have quick reaction times

Re: DM-15CC

*Message #35 Posted by **Geoff Quickfall** on 14 Feb 2012, 12:51 p.m.,*
in response to message #33 by Michael de Estrada

Starting at 35,000 with ten years experience and a 4 year degree.

Only make a good salary if airline grows and you are not living under a threat of chapter 11 for 25 years! Just watch the movie "wall street" to see what 'shareholder value has done to the airline industry in Canada.

Top salary in your last 5 years as a capt on 777 or larger. 8 paycuts in 26 years (each new contract to help the airline shift money to the shareholders) and not even cost of living in the mean time.

But it is fun!

Looking forward to stereo vision DM-15CC

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE programming, does CPU run fast?

*Message #1 Posted by **designnut** on 11 Feb 2012, 10:26 p.m.*

Most of the time related to running a program is the actual keying of it, it takes time. Does the CPU run at warp speed during programming? Sam

Re: HP 15C LE programming, does CPU run fast?

*Message #2 Posted by **Jeff O.** on 12 Feb 2012, 5:13 p.m.,*
in response to message #1 by designnut

Sam,
As far as I know, during entry of data or programs from the keyboard, the processor runs at full speed only during the time that a key is actually held down. So if you are quick with your keypresses, you should not use up too much battery life entering programs.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41C bad display - where to start from ?

*Message #1 Posted by **Alberto Fenini** on 11 Feb 2012, 6:28 p.m.*

ciao a tutti,
I have purchased for a fair price an HP41C, that I wanted to use as my everyday calc, thus I wasn't looking for anything mint, nos, nib ... just working...
There are a couple of small chips on the (plexi)glass, but I don't mind.
What I do mind about, is that when turned on, the display works like this : (sequence of 0, and sequence of 5) :

The second digit is missing a couple of segments, and this impair the view of few characters and numbers.
Since I had a spare "half Blanknut" I have tried to swap the keyboard/display unit, with the following result :

The board is the same, but the display is getting worst
I may have a bad "half blanknut", but I don't want to open the other 41Cs I have just for the fun of it.
What could I check to get the display working ?
Would it make sense to de-solder the blanknut display and put it on the original keyboard assembly ?
Curiosity : when opening the unit, rather than the usual gold zebra strip, I have found inside this one :

Thanks for any advice, take care, Alberto

Re: HP-41C bad display - where to start from ?

*Message #2 Posted by **db (martinez, ca.)** on 11 Feb 2012, 9:54 p.m.,*
in response to message #1 by Alberto Fenini

Alberto;
You might check the 13 or so fingers that connect the screen. If the unit was dropped one or two of the solder joints may be loose and need to be touched up. Just pry on them to see if they move.

Re: HP-41C bad display - where to start from ?

*Message #3 Posted by **Raymond Del Tondo** on 11 Feb 2012, 10:01 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

IMHO the "bacon strip" interconnector is the worst of the various interconnect variants used in the HP-41, because it shrinks over time, and thus is prone for bad contacts.
Theoretically the gold ring interconnector (zebra strip) shown above the bacon strip is the best solution, but your unit looks deformed, and thus may not provide proper contact between the CPU and the kbd pcb.

But let's get to the LCD. There's always a chance to get non-working segments,
especially when the damaged protective plexiglass indicates that the calc suffered rough treatment...

Did you actually put the 41C LCD into your blanknut, or did you really swap the keyboard pcb?
I ask because the latter is much work because of the many heat stakes, and isn't worth the effort in most cases.

Or does the blanknut LCD look like on the pic before any changes?

In my experience, bad interconnectors (CPU-KBD and KBD-battery) are the most common cause for display and keyboard problems.
In somewhat rarer cases, one or more solder bridges between the LCD and the kbd pcb have become bad.
The latter can be fixed using a suitable soldering iron.

HTH

Ray

Re: HP-41C bad display - where to start from ?

*Message #4 Posted by **Alberto Fenini** on 12 Feb 2012, 4:13 a.m.,*
in response to message #3 by Raymond Del Tondo

Thank you very much for your replies.
This is what I have :

The unit on the left is the complete HP41C I have purchased, it has the bacon zebra strip and few (two to my knowledge) segments not working on the second digit.
Then, on the right, I have the upper half shell of a blanknut, it includes the keyboard, the display, the gold zebra strip.
This unit was purchased as a spare for my Blanknut, just in case ... It's from "Better Control Medical Computers inc." as the front label reads, it was used in a medical environment as part of a proprietary system for insuline dosage.
Now, the back of the orginal HP41-c looks like this :

It looks nice, but, some cold soldering or detached links may always be possible. I don't know what's happend to the original unit, but I would exclude it has been dropped, since the rest of the case is in good conditions, no chips, no cracks.
The back of the Blanknut looks like this :

The only thing I did, was to move the CPU board from the original HP41 to the half Blanknut, at first using the gold zebra strip, than I also tried with the bacon zebra.
Question :is there any way, to lit up all the segments (no, I don't have the test module), may be just applying a low voltage to the display contacts, and check the functionality ?
This would isolate the problem eventually to bad contacts between the cpu board and the keyboard board because of the zebra connectors
Thanks everybody ! Have a nice weekend, Alberto

Re: HP-41C bad display - where to start from ?

*Message #5 Posted by **Randy** on 12 Feb 2012, 10:08 a.m.,*
in response to message #4 by Alberto Fenini

Display issues in fullnuts are a real pain as the only way to trouble-shoot is to swap parts. On the upside, it is good soldering practice ;-)

Missing segments have nothing to do with soldering as they are always a bad driver or a bad lcd and in some rare cases, both. If there was no corrosion in the unit, I would first try the driver. If there was any

corrosion, or gold interconnects, suspect the LCD first. Based on the greenish color of the polarizer in your problem unit, I suspect it has the more problematic connector. Pink or white LCD elastomers are far more reliable than the gold. This is the opposite of the situation with the keyboard to logic board connector.

Illuminating all segments: only possible with an HP service rom or PPC rom.

IMO, I would not mess with the damaged plastic lens. They are very, very difficult to replace/repair. Almost always turn out worse than they start.

Re: HP-41C bad display - where to start from ?

*Message #6 Posted by **Alberto Fenini** on 12 Feb 2012, 10:37 a.m.,*
in response to message #5 by Randy

ciao Randy,
thank you very much for your reply, do you mean that is probably a problem of the zebra strip ?
thanks for help, Alberto

Re: HP-41C bad display - where to start from ?

*Message #7 Posted by **Alberto Fenini** on 12 Feb 2012, 10:55 a.m.,*
in response to message #6 by Alberto Fenini

And, if I well understand, that the ony way to isolate the probelm, not having a PPC module, is to use a fully working unit and begin to swap elements.
This would tell me if is the board, the display, or the connectorm right ?
Thanks again Alberto

Re: HP-41C bad display - where to start from ?

*Message #8 Posted by **Randy** on 12 Feb 2012, 10:58 a.m.,*
in response to message #7 by Alberto Fenini

The pink elastromeric keyboard to logic board connectors are the source of many forms of 41 trouble. They can be the source of the missing display segments although the problem is more likely to be the driver or lcd.

Troubleshoot using only the gold version keyboard to logic board connector. Change only one part per test. You changed at least three by substituting the blanknut.

Re: HP-41C bad display - where to start from ?

*Message #9 Posted by **aurelio** on 12 Feb 2012, 2:01 p.m.,*
in response to message #7 by Alberto Fenini

Ciao Alberto, reading your words "use a fully working unit and begin to swap elements" I'm quite scared, maybe 'cause I'm not experienced like you in soldering, or maybe because always, first at school, then at work the advice for all was: "if the system works, don't touch it, let it work and it 'll work lifetime". Even if I had a dozen of 41 working HPs, never I should try the thrill... Excuse me, maybe I've not so skilled in this matter and for this reason I've not courage enough to to risk the healt of a fully working (ancient) calculator.

Edited: 12 Feb 2012, 2:24 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Classic cleaning tips?

*Message #1 Posted by **Kees Bouw** on 11 Feb 2012, 3:08 p.m.*

I am about to clean the HP-80 that I won a few years ago on eBay. Because it works fine, I am only going to clean the outside. The back label is intact and I do not want to open it. It is not very dirty and there are no particular problems with its appearance. There is just some dirt and dust here and there, like on the borders of the keyboard and at the sides of the keys. What would be the best way to clean it? Obviously, I don't want any liquid creeping in between the keys or the on/off switch. Does alcohol dissolve the key legends on the keyboard or on the keys? Anything else I should definitely NOT do? I don't have a lot of experience with this, so all tips are welcome. Thanks!

Re: Classic cleaning tips?

*Message #2 Posted by **Jan** on 11 Feb 2012, 4:16 p.m.,*
in response to message #1 by Kees Bouw

Does alcohol dissolve the key legends on the keyboard or on the keys?

Possibly or even likely. It actually DID on my 67 (tested it on a small spot => test failed so I stopped immediately). With the 80 more or less being of the same generation as the 67 I would not take any risks: avoid alcohol or any organic solvents in general.

Re: Classic cleaning tips?

*Message #3 Posted by **aurelio** on 11 Feb 2012, 6:27 p.m.,*
in response to message #2 by Jan

I tryed ttwo years ago to clean with alchool my 67 and actually I did it unsuccesfully, no good results but in confidence no damages too, only don't insist too much in the same point, problems could be in that case due to a too strong mechanichal action. I can say you: absolutely not try to clean even with water the woodstock calculators: the key legends on the keyboard dissolves just looking at them.....but in the classic models legends are pretty hard to dissolve

Anyway the best advice I can give you is to avoid any risk with these kind of jewels, let them be as they are, just remove the dust with a soft brush...calculators are like cats, don't like the shower and your 80 will apreciate if you will leave it "in peace"

Re: Classic cleaning tips?

*Message #4 Posted by **Jan** on 11 Feb 2012, 7:30 p.m.,*
in response to message #3 by aurelio

Much of the commercially available alcohol contains some water. Maybe that's the reason of the problem I had with the 67 (after all, the 67 is in fact a 2nd generation calculator, just like the woodstocks (same manufactoring techniques probably)). So avoid any cleaning with liquids and/or rubbing.

Re: Classic cleaning tips?

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 11 Feb 2012, 6:02 p.m.,*
in response to message #1 by Kees Bouw

I use a cotton swab and micro fiber cloth with lens cleaning solution holding the keyboard upside down. Works very well removing any black dirt on and around the keys, on the overlay.

Edited: 11 Feb 2012, 6:03 p.m.

Re: Classic cleaning tips?

*Message #6 Posted by **Nick R** on 11 Feb 2012, 7:48 p.m.,*
in response to message #1 by Kees Bouw

I use a Q Tip slightly moistened with Windex for removing dirt, followed by another Q Tip moistened with water to get rid of any Windex residue.

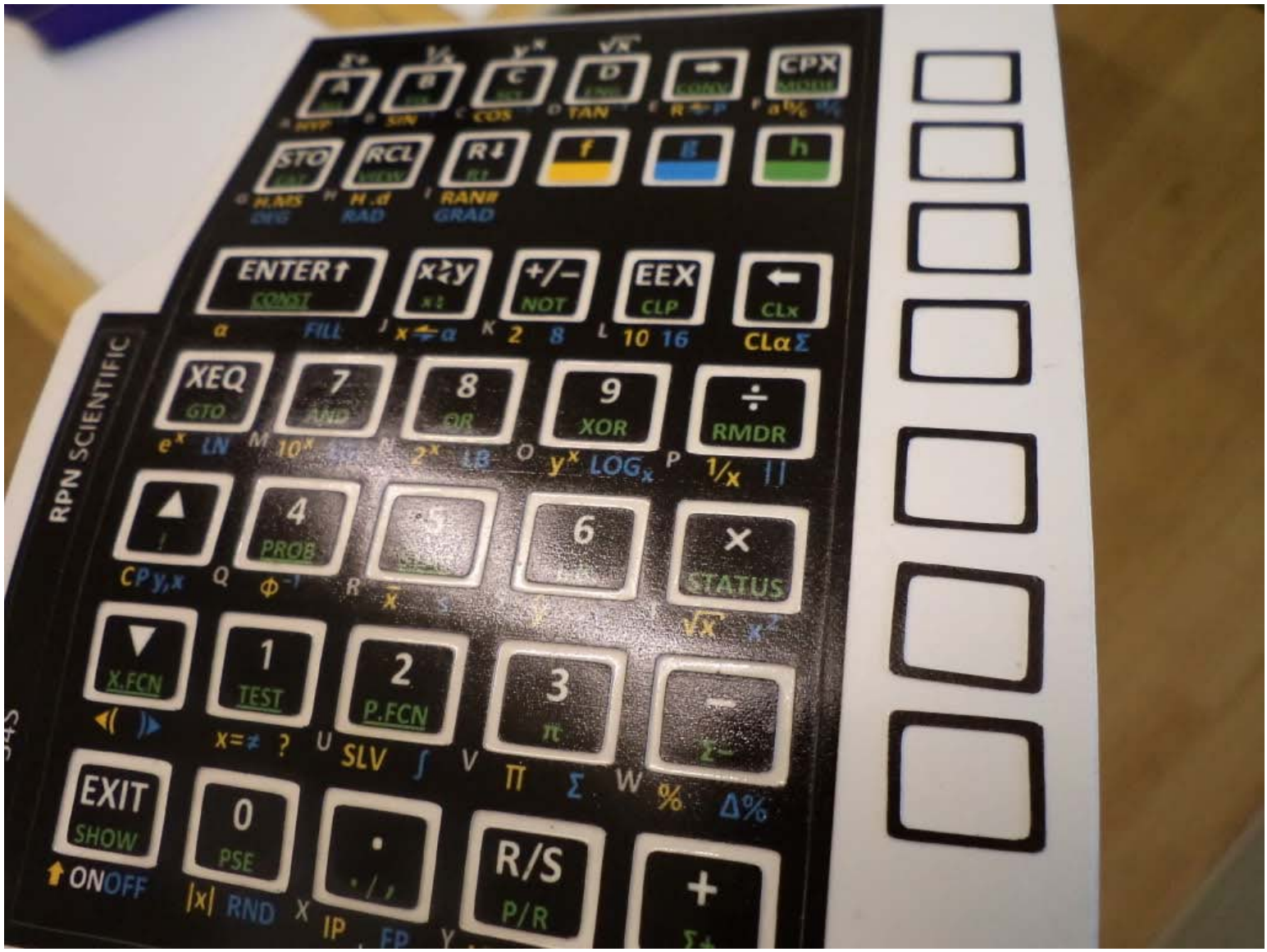
[Return to Index | Top of Index]

Go back to the main exhibit hall

Making the wp-34s label glossy

*Message #1 Posted by **Jose Poyan** on 11 Feb 2012, 2:29 p.m.*

Hi, I sprayed a layer of varnish on my wp-34s label, which was too matt for my taste, to make it similar to hp keyboards. This is the result. Now it reflects too much light, but you can try it if you like it so I wanted to share the photos. The label doesn't really look like the calculator plastic. (I chose a hp-20b becouse it is black, like the label, althought I dont know the difference with the hp-30b; I still need to flash the calculator)


RPN SCIENTIFIC
ENTER↑
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EEX
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CLx
XEQ
GTO
7
AND
8
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STATUS
X.FCN
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PSE
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SLV
LOG
RND
IP

WP-34S
RPN SCIENTIFIC
ENTER↑
CONST
XEQ
GTO
STO
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RCL
VIEW
R↓
CPX
CONV
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STATUS
EXIT
SHOW
ON
OFF
R/S
P/R
LBL
RTN
TEST
STAT
PROB
L.R.
P.FCN
X.FCN
SLV
PSE
RND
IP
FP
HYP
SIN
COS
TAN
SCI
ENG
FIX
ALL
DEG
RAD
GRAD
AND
OR
LN
LG
LOG
CLα
RMDR

Re: Making the wp-34s label glossy
*Message #2 Posted by **Marcus von Cube, Germany** on 11 Feb 2012, 2:50 p.m.,*
in response to message #1 by Jose Poyan

The lightly rough surface of the print together with the varnish results in an irritating glare.

You will only know if it works for you or not after you have reflashed your calculator. Since it's a V2 overlay, get the most recent V22 release from SourceForge.

Next step: Get yourself a new (V3) overlay and put it on a 30b. With the soon to be released V3 firmware this is a whole new experience. :-) It might be fun to explore the differences between the two.

Re: Making the wp-34s label glossy
*Message #3 Posted by **Eric Rechlin** on 11 Feb 2012, 3:34 p.m.,*
in response to message #1 by Jose Poyan

You have one of the very oldest overlays, it seems.

The ones I have been making for the last 5 months or so have a thin coat of paint on them, giving them a semi-gloss appearance.

Eric

Re: Making the wp-34s label glossy
*Message #4 Posted by **Jose Poyan** on 12 Feb 2012, 10:05 a.m.,*
in response to message #3 by Eric Rechlin

Yes, I'll do it. I'll remove the overlay and I'll buy the new V3. But can I do it with my 20b? I dont understand why everyone is going for the 30b

Re: Making the wp-34s label glossy

*Message #5 Posted by **Marcus von Cube, Germany** on 12 Feb 2012, 11:10 a.m.,*
in response to message #4 by Jose Poyan

The keyboard mechanics of the 30b are far better than those of the 20b.

Re: Making the wp-34s label glossy

*Message #6 Posted by **Walter B** on 12 Feb 2012, 12:15 p.m.,*
in response to message #4 by Jose Poyan

The 20b has keys like - forgive me - a Casio, while the 30b has keys with tactile feedback like an HP of those days that were :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Wand: scanning from monitor?

*Message #1 Posted by **MichaelG** on 11 Feb 2012, 2:20 p.m.*

Do you think the HP-41 wand scans a bar code from a monitor instead from paper? It's just an idea. If the idea promises some success I would try to modify the user code compiler to output the bar code in a window.

Michael

Re: HP-41 Wand: scanning from monitor?

*Message #2 Posted by **Raymond Wiker** on 11 Feb 2012, 3:06 p.m.,*
in response to message #1 by MichaelG

I'm almost certain that it won't work, but you can check it on http://rwiker.github.com/hp41barcode/ .

Re: HP-41 Wand: scanning from monitor?

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 12:38 p.m.,*
in response to message #1 by MichaelG

I am very certain that it will not work on a CRT monitor, however it may work on a LCD Monitor since many bar code scanners have been able to read successfully from LCD monitors or from mobile LCD devices.

Re: HP-41 Wand: scanning from monitor?

*Message #4 Posted by **MichaelG** on 13 Feb 2012, 2:33 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

It's about an LCD only.

Right now I do not have a wand (that's why I'm asking). If the chance is high that it works I'd try to get one.

Michael

Re: HP-41 Wand: scanning from monitor?

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 3:13 p.m.,*
in response to message #4 by MichaelG

Michael, I would like to support your efforts. I can loan you my HP-41 barcode reader wand or can do some testing for you using specific bar codes on LCD PC monitors that I have. You can also send me an e-mail to discuss this further if you would like. Regards.

Re: HP-41 Wand: scanning from monitor?

*Message #6 Posted by **MichaelG** on 15 Feb 2012, 3:39 a.m.,*

in response to message #5 by Kerem Kapkin (Silicon Valley, CA)

I'll try again a response...

I really appriate your offer. I live in Germany and it is very expensive to ship a package from the US to Germany and back. For the first steps it would be very helpful if you could do some tests for me (when I have something testable).

Thx a lot! Michael

Re: HP-41 Wand: scanning from monitor?

*Message #7 Posted by **Ángel Martin** on 13 Feb 2012, 3:16 p.m.,*
in response to message #4 by MichaelG

Didn't work for me - LCD monitor, different scale sizes, to not avail. Just one data point, by all means you go ahead and try as well.

Re: HP-41 Wand: scanning from monitor?

*Message #8 Posted by **sylvandb** on 13 Feb 2012, 3:20 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

Probably those barcode scanners which read successfully from LCD monitors/screens are using a camera and doing image processing.

IIRC the 41c wand is a simple phototransistor or photodiode set up to sense reflected light (white space) or its absence (the bars). I suspect that this design would not be happy with the flickering light emitted from a CRT or even the higher-frequency flickering light from the LCD backlight (either cold-cathode fluorescent or PWM LEDs).

But it might work... And perhaps could be modified to work.

It might be easier to start with a new approach. For example, two photodiodes could be aligned to two areas on the display and those areas could alternate light and dark. One could be a clock, the other data. Then the higher-frequency noise could be ignored because the clock would give the frequency of interest and the data could be checked in sync with the clock. (Think a one way optical I2C or SPI.)

Re: HP-41 Wand: scanning from monitor?

*Message #9 Posted by **Meindert Kuipers** on 13 Feb 2012, 3:26 p.m.,*
in response to message #8 by sylvandb

Or maybe connect a red LED to the PC and control it in the right sequence while holding the wand over it?

Re: HP-41 Wand: scanning from monitor?

*Message #10 Posted by **Diego Diaz** on 14 Feb 2012, 3:06 a.m.,*
in response to message #9 by Meindert Kuipers

Hi all,

The LED pointing to a Wand tip approach (or the other way around if you prefer) certainly works. I tested it a few years ago and managed to simulate some keyboard entries from the Wand.

Just the Wand switch must remain pressed along the whole transmission process.

Also have doubts that CRT or LCD screens can do the job... (too flickery IMHO) but it's just a hobby, so better give it a try and let us know! ;-)

Cheers from Caribbean Sea.

Diego.

Re: HP-41 Wand: scanning from monitor?

*Message #11 Posted by **Vassilis Prevelakis** on 16 Feb 2012, 9:42 a.m.,*
in response to message #10 by Diego Diaz

ho ho this brings back old memories.

it was back in 1983 or 1984 when I was trying to see how to get data into my HP-41C without actually typing it in when I investigated using the Wand as an input device (without going through the process of printing the barcode and scanning it manually).

So I used Blue Tac to anchor my wand over the "CAPS LOCK" LED on my BBC microcomputer and then wrote a program to flash the LED simulating various types of barcode. I remember being able to download entire programs, compiled using modified versions of the programs included in the HP Book "Creating your own Barcode" (available on the MoHPC DVD).

The Blue Tac also prevented stray light from confusing the sensor.

The only problem was that I had to press the key on the wand before sending each bar code.

I then came across the data sheet of the HEDS-3000 Wand (a version of the Wand designed for connection to other computers) and realized that the HP-41 Wand was a HEDS-3000 connected to the special connector with the ROM and interface. (more info on the HEDS-3000 are in the Jan.1981 HP Journal)

So I disassembled the connector and disconnected the cable. I then added connectors to both ends so that I could use the Wand as before.

Alternatively I could disconnect the interface connector and connect the Wand cable to the user port of the BBC (essentially a parallel port) and use the Wand as an input device of my BBC (I remember writing a program to read some barcode from BYTE magazine in HP-41 format). I also used the Wand to read BBC programs distributed in barcode format by the BBC-User magazine.

I also connected the interface connector of the Wand to the BBC so that I could use the BBC to send data and programs to the HP-41. I do not recall actually doing anything with that. It could be because I didn't have the time or I somehow was too scared to connect my precious HP-41C directly to another computer (I remember the HEDS data sheet suggested using a transient voltage suppression device - Transzorb - between the HEDS and the computer and I didn't have these parts at the time).

**vp

Edited: 16 Feb 2012, 10:52 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC - got it !

*Message #1 Posted by **Andy Lamming (UK)** on 11 Feb 2012, 1:32 p.m.*

My order for the credit-card size DM-15CC has arrrived. It is a neatly finished-off product - and it works ! Someone remarked the display contrast ratio wasn't too good but mine is just fine. The blister keys do have to be pushed quite positively to register. The thingy the bank gave me to access my account online uses much the same plastic blister keyboard and that was stiff at first, but with use it has eased, so perhaps it will with the DM15.

I ran Katie Wasserman's pi programme, it took 5 hours 48 minutes. Katie says the original HP-15C takes 43 hours, so it is 7½ times faster than that, but obviously slower than the LE. (I set it off at 6 p.m. & I was just ready to give up & go to sleep when it got there!)

All in all I'd say not a replacement for the desk top, but so portable it is really handy for those programmes that you enter just once and use with different data when on the move. Like times & wind lay-off in a holding pattern (aircraft).

Re: DM-15CC - got it !

*Message #2 Posted by **Jeff Johnson** on 11 Feb 2012, 6:17 p.m.,*
in response to message #1 by Andy Lamming (UK)

Cool! Looking forward to hearing a lot of feedback on these little calculators. If reviews are favorable, I'll order one when they are available again. Seems like a useful size, like in a "Go" kit for field work.

Re: DM-15CC - got it !

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 1:58 p.m.,*
in response to message #1 by Andy Lamming (UK)

Just curious, does 15CC has the PSE bug?

Re: DM-15CC - got it !

*Message #4 Posted by **Marcus von Cube, Germany** on 13 Feb 2012, 2:57 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

I was told it hasn't. I'll tell you when I've mine in the hands.

Re: DM-15CC - got it !

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Feb 2012, 3:16 p.m.,*
in response to message #4 by Marcus von Cube, Germany

It will be interesting to see if DM-15CC has the HP-15LE bugs such as the PSE. Seems like not all new HP-15C emulations has the HP-15C LE bugs for an example, I recently downloaded HP-15C emulator for iPhone called ClassicRPN version 3.2.2 by AmeloConsulting. It does NOT have the PSE bug.

Edited: 13 Feb 2012, 3:20 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 39gII plot speed

*Message #1 Posted by **Alex Mark (Greece)** on 11 Feb 2012, 1:00 p.m.*

Hi all,

I hope this has not been posted before, but the following link seems interesting:

HP 39gII plot speed test

Kind regards from Greece

Alex

Re: HP 39gII plot speed

*Message #2 Posted by **Bart (UK)** on 11 Feb 2012, 5:28 p.m.,*
in response to message #1 by Alex Mark (Greece)

If I am not mistaken, that is the same as what the 50g plots here

Re: HP 39gII plot speed

*Message #3 Posted by **Alex Mark (Greece)** on 12 Feb 2012, 6:51 a.m.,*
in response to message #2 by Bart (UK)

I think you are right, but the speed difference is fascinating!

Re: HP 39gII plot speed

*Message #4 Posted by **Dominic Richens** on 12 Feb 2012, 7:28 a.m.,*
in response to message #3 by Alex Mark (Greece)

hmm, might be time to replace my HP-48SX after all :D

Re: HP 39gII plot speed

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 12 Feb 2012, 7:37 a.m.,*
in response to message #4 by Dominic Richens

> Quote:
>
> hmm, might be time to replace my HP-48SX after all :D

Not until a 50gII is released, I fear... ;-)

Massimo

Re: HP 39gII plot speed

*Message #6 Posted by **Gilles Carpentier** on 12 Feb 2012, 3:04 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

It seems that the 39GII is available in Europe :

For example :HP39GII

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE now on UK HP web site - SRP £120

*Message #1 Posted by **Antonio Petri (UK)** on 11 Feb 2012, 10:04 a.m.*

http://www8.hp.com/uk/en/products/calculators/product-detail.html?oid=5153395

Good that I have got mine from Sleath for £89.95

Re: 109 Euros in Germany...

*Message #2 Posted by **Maximilian Hohmann** on 11 Feb 2012, 1:02 p.m.,*
in response to message #1 by Antonio Petri (UK)

... but "currently unavailable in the HP store" according to the German HP website.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

32-bit MCODE tool chain for the HP41 incl. D41 now

*Message #1 Posted by **MichaelG** on 11 Feb 2012, 3:15 a.m.*

This new release of the 32-bit MCODE tool chain for the HP41 now contains the disassembler.

Compared to the original version the disassembler mutated into a quite powerful tool. It is now a 2-pass disassembler that is able to create and insert symbolic labels instead of relative or absolute jump addresses.

Further you now can specify single addresses or adress ranges that the disassembler converts into constant tables instead of translating them into MCODE.

I am still investigation whether is makes sense to add 2 more options to convert the 2 message types (messl and mesa) into real message statements instead of simple constant tables. Unfortunately the A41 is lacking the MESA statement...

Pay attention new download link:

download.michael-goericke.de/hp41/SDK41R6.1-32.zip

Michael

Re: 32-bit MCODE tool chain for the HP41 incl. D41 now

*Message #2 Posted by **MichaelG** on 12 Feb 2012, 5:29 a.m.,*
in response to message #1 by MichaelG

The next version of the disassembler is available now. It implements decoding of MESSL and MESA strings. For details please refer to the manual.

download.michael-goericke.de/hp41/SDK41R6.1-32.zip

Michael

PS: I think I'm going to stop at that point. The 32-bit versions of the tools are running even with some more features compared to the original. If you think something should be implemented or a feature would ease your life let me know.

Edited: 12 Feb 2012, 5:31 a.m.

Re: 32-bit MCODE tool chain for the HP41 incl. D41 now

*Message #3 Posted by **MichaelG** on 12 Feb 2012, 9:25 a.m.,*
in response to message #1 by MichaelG

Next verion is online that adds the feature to specify peripherals in given address ranges.

Michael

Re: 32-bit MCODE tool chain for the HP41 incl. D41 now

*Message #4 Posted by **Ángel Martin** on 12 Feb 2012, 1:21 p.m.,*
in response to message #3 by MichaelG

This is a great job Michael, thanks for updating and upgrading the tools- the Coconut is still kicking sound!

Viele Gruesse, ÁM

Re: 32-bit MCODE tool chain for the HP41 incl. D41 now

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 12 Feb 2012, 8:57 p.m.,*
in response to message #1 by MichaelG

Thank you for all these updates and keeping up with the MCODE tool chain. Some times getting distracted from enjoying my 41 but always going back. It would be very useful to have your MCODE tools update/upgrades would be published at the TOS as well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Seeking DIY5 update and webpage

*Message #1 Posted by **David Griffith** on 11 Feb 2012, 3:07 a.m.*

Would someone please tell me what the current status of the DIY5 project is? Further, it would be nice if a webpage for it was created.

Re: Seeking DIY5 update and webpage

*Message #2 Posted by **Eric Smith** on 11 Feb 2012, 1:27 p.m.,*
in response to message #1 by David Griffith

There isn't a DIY5 yet, though Rich has done some work on the schematic and on packaging concepts. The last updates on the DIY4X and DIY5 were posted here in December and January. The reason there aren't more frequent updates is that there isn't significant progress to report. Trust me, I definitely enjoy showing off cool stuff when we have it.

Since then I've been working on a rewrite of the keyboard scanning and debounce, which didn't work as well as I'd hoped. It was being done on a 100 Hz timer interrupt, along with timekeeping. Now I'm taking advantage of the GPIO edge interrupts and a separate timer.

Back in October I ordered 10 pieces of the new microcontroller with more memory, and tracking shows that the package was finally delivered yesterday, though I'm out of town so I won't get it until Monday. I need to find a rework technician that can replace a QFP100, to try it on one of the DIY4X boards.

I'm not much of a web developer, and don't want to spend any time or effort on developing a web page until we get closer to being able to offer a product.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Most Error Free HP Calculator Models

*Message #1 Posted by **Sid Cave** on 10 Feb 2012, 9:37 p.m.*

Which models of HP calculator are the most "error" free? I would categorize "bugs" (like the cosine bugs in the 33s and 35s) or "compromises" (like the Woodstock y^x implementation using logarithms "2^3=8.000000002") as "errors". Additionally, program execution errors, where the fault lies in the calculator, and other operational glitches ("1 1 . <- ENTER" bug in some 11c's) would count. I would not count the practical limits based on the number of digits of precision a calculator has and any unavoidable rounding that this would cause. Thus, a good 10-digit calculator and a good 12-digit calculator would score equally. I would also exclude any keyboard, switch or battery problems, as they are mechanical or electrical rather than algorithmic in nature, unless they were so pervasive as to make the model unsuitable for general use.

Models with errors that I have experienced or seen reported: 35, 21, 25(c), 11c(at least some of them), 15c, 32sii, 33s, 35s, 42s, 50g. What about the Spice series or the 32s? I have not heard of any errors in those.

Re: Most Error Free HP Calculator Models

*Message #2 Posted by **John B. Smitherman** on 10 Feb 2012, 11:38 p.m.,*
in response to message #1 by Sid Cave

34c

Sid, you might try looking here for more: Finseth

Re: Most Error Free HP Calculator Models

*Message #3 Posted by **Sid Cave** on 11 Feb 2012, 8:58 a.m.,*
in response to message #2 by John B. Smitherman

Thanks, that is where I saw some bugs reported. However, some models with errors do not have them indicated in their entries.

Re: Most Error Free HP Calculator Models

*Message #4 Posted by **Hans Dorn** on 11 Feb 2012, 9:35 p.m.,*
in response to message #3 by Sid Cave

My guess would be the HP-01 ;)

Cheers

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

is it possible to "merge" an HP-42s into an HP-97 ?

*Message #1 Posted by **Giovanni Jimenez** on 10 Feb 2012, 4:37 p.m.*

I believe the HP-42s is one of the most versatile and powerful calculators by HP, and that the HP-97 has the best “layout” in terms of keys and size as a desk calculator, so I am wondering if it would be possible to combine these 2 jewels into one calculator.

My idea is to make this as simple as possible, which to me means physically installing an HP-42s inside and HP-97 and connect them (though a microprocessor maybe?), and map the keys on the HP-97 to get the Hp-42s results, on a modified double line LCD screen. For ex, when you press the [e^x] key (3rd row, 3rd column on the HP-97 keyboard), internally you are really “pressing” f^ [LN] (1st row, 5th column on the HP-42s).

I understand that there are many challenges like how to account for all those functions on the 42s not present on the HP-97 (for ex [Catalog]), but there are also some functions on the HP-97 not present on the HP-42s that could be remapped (like [Write data], or [Merge]). The idea would be to make the Printer and Magnetic Card Reader operationally as well.

I am sure that someone with the right training, experience and tools would be able to do it (and I suspect there are many skillful enthusiasts in this forum).

I am ready to offer my HP-42s and my HP-97 as “guinea pigs” for this project, and if it is successful, the brave person who makes this transformation can get either my (2nd) HP-97 or HP-42s, or some monetary reward to be determined.

Giovanni

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #2 Posted by **Donald Williams** on 10 Feb 2012, 4:51 p.m.,*
in response to message #1 by Giovanni Jimenez

Sorry. Beyond my abilities, but maybe I can find some help.

Hey guys!

He wants a "Desktop", "Modified", "WP-34S".

When can you start?

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #3 Posted by **Marcus von Cube, Germany** on 10 Feb 2012, 5:46 p.m.,*
in response to message #2 by Donald Williams

Give us the hardware!

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #4 Posted by **Giovanni Jimenez** on 10 Feb 2012, 8:12 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Marcus

If you are serious, I can send you the hardware (if by that you mean the HP-97 and the HP-42s). Just say the word.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #5 Posted by **Marcus von Cube, Germany** on 11 Feb 2012, 7:08 a.m.,*
in response to message #4 by Giovanni Jimenez

Not the way you are thinking. Just butchering two vintage calcs will not produce anything useful. I was thinking of a neat desktop platform with a modern processor and decent display so that we can start porting our firmware to it. A desktop version of Eric's design with a big rechargeable battery and USB for desktop connection and charging would be fine. Adding a printer wouldn't hurt either. :-)

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #6 Posted by **Barry Reeves** on 10 Feb 2012, 4:52 p.m.,*
in response to message #1 by Giovanni Jimenez

This sounds like a job for Dr. Frankenstein.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #7 Posted by **marais** on 10 Feb 2012, 5:17 p.m.,*
in response to message #6 by Barry Reeves

I often thought that the 97 should be a good platform for refitting with a modern CPU.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #8 Posted by **Paul Dale** on 10 Feb 2012, 6:37 p.m.,*
in response to message #1 by Giovanni Jimenez

Wouldn't it be better to get a small single PCB computer, put that in the 97 case along with a power supply and run a version of free 42?

- Pauli

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #9 Posted by **Giovanni Jimenez** on 10 Feb 2012, 8:11 p.m.,*
in response to message #8 by Paul Dale

Interesting. What "small single PCB computer" could do the work ?

And who would be able to do it ?

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #10 Posted by **Katie Wasserman** on 10 Feb 2012, 10:04 p.m.,*
in response to message #9 by Giovanni Jimenez

Take a look at this article I wrote. I added a somewhat modern but very limited microcomputer to a 97 and programmed it to take control of the keyboard when needed and do some simeple stuff.

It's not really what you're asking about because it's totally dependent on the existing processor in the 97, but it will at least explain the keyboard scanning. It would be easy to rip out the guts of a 97 and replace it with a fast processor that scans the keyboard and runs the display. (I've done exactly this on a broken HP-21 making it into a simple integer calculator.) Printing would probably not be that hard either. Porting all the 42s functionality over and having it work on an extremely limited display is another story.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #11 Posted by **marais** on 11 Feb 2012, 3:26 a.m.,*
in response to message #10 by Katie Wasserman

I would not want to keep the original display, but rather replace it with a DL1416B (or the HP equivalent) alphanumeric LED display. The size matches the original display. The tough parts really are the printer and the card reader. Are they sufficiently documented?

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #12 Posted by **Giovanni Jimenez** on 11 Feb 2012, 2:22 p.m.,*
in response to message #11 by marais

Marais, I agree that part of the improvement should be to install a new LCD multiline screen. The HP-42s has 2 lines, but 4 wouldn't hurt.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #13 Posted by **Steve Leibson** on 10 Feb 2012, 9:15 p.m.,*
in response to message #8 by Paul Dale

It looks as though Atmel has an eval/dev board for the ARM7 processor used in the retargetable calculators. The board's pricey at $100 but provides breakout access to the processor's I/O for a prototype. That board could take modified WP 34S code that's suitably altered to scan the HP 97 keyboard and drive the LED display. Once the code is written, creating a low-cost circuit board with just the needed parts is an easier proposition.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #14 Posted by **Paul Dale** on 10 Feb 2012, 9:53 p.m.,*
in response to message #13 by Steve Leibson

I wouldn't bother with something custom. Find a microATX or small device -- you get a full fledged PC in a small form factor. Install a basic operating system -- DOS, Linux or even Windows.

Hook up the keyboard -- I'd use an IPAC or equivalent to connect the switches to the keyboard port on the PC.

The only remaining thing is the screen, no ideas here but I'm sure something is available.

Finally modify the free42 software to handle the keyboard mapping and display and set it to start on

boot.

The end result wouldn't be battery operated but given the size of the 97's case, this doesn't seem like much of a problem.

- Pauli

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #15 Posted by **Marcus von Cube, Germany** on 11 Feb 2012, 7:21 a.m.,*
in response to message #13 by Steve Leibson

I wouldn't bother with the AT91SAM7L which is fine for a power constrained device such as the 30b or 12C but wouldn't be suitable for a desktop machine. We are constantly working on saving space here and there to be able to enrich WP 34S. On a platform with more power and memory this would be much less of a chore.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #16 Posted by **Donald Williams** on 11 Feb 2012, 2:39 a.m.,*
in response to message #8 by Paul Dale

Pehaps this

Raspberry PI

Model A approx $25.00.

The concept is to run Linux on-board so a Free 42 native application might be possible. I guess a GPIO hack for keyboard and display is also feasible. Not much documentation to date, but tantalizing block diagrams. I confess this is not in my area of expertise so better minds than mine could discredit this hypothesis.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #17 Posted by **Howard Owen** on 11 Feb 2012, 3:26 p.m.,*
in response to message #16 by Donald Williams

Want!

An initial run of 10,000 will probably vanish. They aren't taking pre-orders.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #18 Posted by **Eric Smith** on 11 Feb 2012, 5:59 p.m.,*
in response to message #16 by Donald Williams

It's an interesting product and the price is certainly good, but I don't think it will make a good calculator. From 6 AA cells, the battery life will be more like that of a cell phone than a calculator.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #19 Posted by **Donald Williams** on 11 Feb 2012, 9:14 p.m.,*
in response to message #18 by Eric Smith

I was thinking "Desktop". No need for portability.

Re: is it possible to "merge" an HP-42s into an HP-97 ?

*Message #20 Posted by **David Griffith** on 11 Feb 2012, 2:59 a.m.,*
in response to message #1 by Giovanni Jimenez

I would not want to chop up an HP42s.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

the end of the world as we know it....

*Message #1 Posted by **troy** on 10 Feb 2012, 1:24 p.m.*

fellow forum members,

i just want to share an experience: i almost had a coronary the other day. i went to my lab class to help out the TA; i now always bring my 15c LE with me anywhere i go. left about an hour later and got back to the office and did some work. when it was time to go home, i was checking my pocket but could not find the 15c. it was too late to go back to the lab---already closed---and i was not sure if i actually left it there. double checked my office, backtracked my steps and checked every nook and cranny i could think of. but alas! no sign of the 15c.

i went home and complained to my wife that i just lost my beloved 15c. "don't worry, it'll show up at lost and found. nobody knows how to use it." i guess that's the silver lining.

as for me, i could not wait for the night to be over so i can go back to the lab and check if it's in the lost and found. and what do you know? holy of holies, it was there!

too much melodrama, no? :)

on a different note, somebody posted on the 15c facebook page about calling HP support and getting the info that there will likely be no more runs of the 15c LE. i guess the mayan predictions are coming true, huh?

have a good weekend everyone.

Re: the end of the world as we know it....

*Message #2 Posted by **Jan** on 10 Feb 2012, 6:25 p.m.,*
in response to message #1 by troy

"on a different note, somebody posted on the 15c facebook page about calling HP support and getting the info that there will likely be no more runs of the 15c LE"

I would have no problems with that, provided HP takes the 15C into production again as a regular model. It's simply a fantastic calculator.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My 15C LE has finally arrived...

*Message #1 Posted by **Antonio Petri (UK)** on 10 Feb 2012, 12:21 p.m.*

CNA151011Z; LE No 17906 for the record. All keys work ok and the PSE bug too :) I must say that, having bought all my HP calculators I have owned so far (total of 10) between 1979 and 1989, the keyboard of this unit is a bit odd. The keys feel so hollow and thin at the touch that they give the impression I could easily puncture them with a needle. But, apart from that, I am happy with this calculator and, given that I have bought it to use it daily and not to keep it in a drawer, I hope it will offer a good and reasonably long service.

that makes 2 of us

*Message #2 Posted by **Jan** on 10 Feb 2012, 3:24 p.m.,*
in response to message #1 by Antonio Petri (UK)

Same here. Mine arrived today as well. All systems go (yes, that includes the PSE-bug). Limited edition number: 17910 (odd how units with LE-numbers that close can end up in different places like the UK and The Netherlands). I like the keyboard actually. Indeed, the keys give a somewhat hollow impression (in fact they ARE hollow, if I am well informed) but the typical HP-click is much more pronounced than in the Voyagers of yesteryear. Only time will tell (my unit is for every-day use as well) but the 15C LE seems quite robust (shall I try Bill Hewlett's drop test or not?). The only issue is that there is a very small dent in the front-plate of my unit but I can live with that. And then there is my obsession: SPEED. Lovely to see an integral that takes minutes on a regular 15C being crunched in an instant. My advice to HP: consider the possibility of making this "new" 15C a part of your regular product portfolio (remove the bug(s) though). It's worth it and I think there is a market for it (IMHO). Anyway, it's a nice machine and my special thanks go to Tim Wessman and the rest of the guys involved for making it possible.

Re: that makes 2 of us

*Message #3 Posted by **Antonio Petri (UK)** on 10 Feb 2012, 4:13 p.m.,*
in response to message #2 by Jan

Yes, I would really like to see this 15C being part of the regular catalog. The speed is impressive indeed. IMHO, this is, at present, the best RPN scientific, non graphic, calculator and it should be regularly available. The HP 35S is good too, but the form factor and the Matrix operations (and perhaps the speed too? I haven't got a 35S so I cannot compare) makes the 15C much more attractive even if it lacks some of the functionality of the 35S. I had signed the 15C petition quite a long time ago, but I was almost certain it would have been ignored. Thank you HP for proving me wrong!

Re: that makes 2 of us

*Message #4 Posted by **Marcus von Cube, Germany** on 10 Feb 2012, 4:40 p.m.,*
in response to message #3 by Antonio Petri (UK)

You should have a look at WP 34S (try the emulator first)! It's the most powerful RPN programmable you can find at the moment.

Re: that makes 2 of us

*Message #5 Posted by **Antonio Petri (UK)** on 10 Feb 2012, 5:29 p.m.,*
in response to message #4 by Marcus von Cube, Germany

I know it would be by far the most powerful RPN calculator to buy if it was available as an off the shelf product. But there are too many steps to go through to have one up and running and at moment I am a bit lazy! :) Anyway, It is a great project and you guys have done and are doing really an outstanding job.

Re: that makes 2 of us

*Message #6 Posted by **Bart (UK)** on 11 Feb 2012, 5:34 a.m.,*
in response to message #5 by Antonio Petri (UK)

> Quote:
>
> ...if it was available as an off the shelf product.

WP34s package at a European supplier

Re: that makes 2 of us

*Message #7 Posted by **Antonio Petri (UK)** on 11 Feb 2012, 9:22 a.m.,*
in response to message #6 by Bart (UK)

Ok, that's interesting. Still need to stick the overlays on the 30B, but I might give that chore to my 15 years old son as a first step into RPN...

Re: that makes 2 of us

*Message #8 Posted by **Bart (UK)** on 11 Feb 2012, 9:33 a.m.,*
in response to message #7 by Antonio Petri (UK)

At least you won't have to worry about software installions on a PC, a programming cable, serial port or USB->serial converter (although the excellent FTDI units are useful for connecting other serial-based products to a USB only PC too) etc.

And if shipping to Spain is too expensive when you need an update, I'd be willing to flash it for you so it will only cost local postage.

Edited: 11 Feb 2012, 9:36 a.m.

Re: that makes 2 of us

*Message #9 Posted by **Antonio Petri (UK)** on 11 Feb 2012, 10:11 a.m.,*
in response to message #8 by Bart (UK)

Thank you for the offer. I think that, if HP drops RPN, in the future the WP34S will be the only choice. I always wondered why HP has been unable to to promote properly RPN. I remember the AOS guys back in time trying to prove their point and then failing all the time to beat me in calculating correctly a complex numerical expression with a TI.

Re: that makes 2 of us

*Message #10 Posted by **Jan** on 10 Feb 2012, 6:21 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Well, with the HP20/30 serving as a "mothership", the formfactor of the WP 34S is less attractive in my view and (equally important) less handy. One of the main virtues of the voyager-design are its compact size and elegant dimensions (which could very well be one of the reasons the 12C gained such a popularity in the financial community (where looks are sometimes even more important than actual performance)). Being true shirt-pocket calculators, the voyagers are just convenient to carry around. Would it be a suggestion to repurpose the 12C into a scientific in the future? After all, for what I have heard the performance of the 34S is just great and in my opinion it deserves a better platform.

Re: that makes 2 of us

*Message #11 Posted by **Michael de Estrada** on 10 Feb 2012, 7:12 p.m.,*
in response to message #4 by Marcus von Cube, Germany

I just downloaded all the WP34S files and have the emulator up and running on my computer, so I'm going to play around with it for a while before I commit to hardware. Am I to assume that the emulator represents the latest version of the firmware ? The manual and emulator report version 2.2.

Re: that makes 2 of us

*Message #12 Posted by **Paul Dale** on 10 Feb 2012, 7:19 p.m.,*
in response to message #11 by Michael de Estrada

Grab the latest version from subversion directly. The download archive is the older v2.2 firmware.

We'll be putting together a v3.0 firmware download soon.

- Pauli

Re: that makes 2 of us

*Message #13 Posted by **Michael de Estrada** on 10 Feb 2012, 7:34 p.m.,*
in response to message #12 by Paul Dale

Sorry, but you lost me there. Can you provide a link ? Thanks.

Re: that makes 2 of us

*Message #14 Posted by **Paul Dale** on 10 Feb 2012, 9:58 p.m.,*
in response to message #13 by Michael de Estrada

It should be possible to download the files from: http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/windows/bin/ You'll need to click on the *Rev* column to download the files.

To do this properly, you really want a subversion client. I don't remember what most people are using, although I'm sure someone will comment.

Or wait until the v3 release archive is produced -- soon hopefully.

- Pauli

Re: that makes 2 of us

*Message #15 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 10 Feb 2012, 5:19 p.m.,*
in response to message #3 by Antonio Petri (UK)

+1 Agreed with Marcus. If you need a very powerful, fast and everyday carry workhorse scientific calculator (non-graphic) try WP34s emulator, or repurpose a HP-20b/30b to WP-34s or two or three (can afford many).

Re: that makes 2 of us

*Message #16 Posted by **Jan** on 10 Feb 2012, 6:07 p.m.,*
in response to message #3 by Antonio Petri (UK)

Don't forget the complex-number capabilities of the 15C, which are far superior to those of the 35S.

Re: My 15C LE has finally arrived...

*Message #17 Posted by **Roger Blake** on 11 Feb 2012, 5:53 a.m.,*
in response to message #1 by Antonio Petri (UK)

My third HP-15C/LE has also arrived from wfsleath (first two were from Samson a few months ago.) Serial CNA1510118 and LEN 17915. No problems with keyboard, and as I've said before, unlike some other people, I think the keys on this model are absolutely fine and far better than the original, but each to his own taste I guess. What I do notice about the keyboard is the very slight flex when pressing keys hard, almost insignificant, but the original didn't suffer from this Same firmware date as others but manual is now Edition 2.4 Sep 2011 with correct self-test information. The case is poorer than the first two models :-(Slightly thinner and slightly glossier material, also mine is all creased up and doesn't look nice at all. The first two I was quite happy with. May treat myself to one of those leather cases advertised on Ebay ...

Re: My 15C LE has finally arrived...

*Message #18 Posted by **Thomas Radtke** on 11 Feb 2012, 6:38 a.m.,*
in response to message #17 by Roger Blake

> Quote:
>
> May treat myself to one of those leather cases advertised on Ebay ...

Are there really leather cases? I ordered the one mentioned here (still waiting), just one day before someone discovered it's just fake leather. Hope it is worth the buy nonetheless.

Re: My 15C LE has finally arrived...

*Message #19 Posted by **Michael de Estrada** on 11 Feb 2012, 9:21 a.m.,*
in response to message #18 by Thomas Radtke

Mine smell like leather.

Re: My 15C LE has finally arrived...

*Message #20 Posted by **John B. Smitherman** on 11 Feb 2012, 12:11 p.m.,*
in response to message #19 by Michael de Estrada

> Quote:
>
> Mine smell like leather.

Ah, the marvels of modern chemistry. ;-)

Re: My 15C LE has finally arrived...

*Message #21 Posted by **Thomas Radtke** on 12 Feb 2012, 8:00 a.m.,*
in response to message #20 by John B. Smitherman

Or wishful thinking.

Reminds me that Alzheimers desease can be early diagnosed with smell tests. I'm unable to smell leather since my mid 30th. 10 years later, I should eventually visit my doc or quit smoking. Or both.

Re: My 15C LE has finally arrived...

*Message #22 Posted by **Thomas Radtke** on 16 Feb 2012, 1:16 a.m.,*
in response to message #19 by Michael de Estrada

It feels like leather but smells like something completely different, to avoid a bad word. Nonetheless, it looks gentle, fits well, and is quite sturdy.

Re: My 15C LE has finally arrived...

*Message #23 Posted by **Alexander Oestert** on 11 Feb 2012, 1:02 p.m.,*
in response to message #18 by Thomas Radtke

Not leather but worth what I payed! Fits well, easy to insert calculator and pull out again.

Re: My 15C LE has finally arrived...

*Message #24 Posted by **Thomas Radtke** on 12 Feb 2012, 8:01 a.m.,*
in response to message #23 by Alexander Oestert

Sounds great, thanks Alex. OTOH, *my* slip case fits the 15C LE perfectly. It seems, there's quite some tolerance in these matters (at HP).

Re: My 15C LE has finally arrived...

*Message #25 Posted by **Roger Blake** on 13 Feb 2012, 8:51 a.m.,*
in response to message #17 by Roger Blake

Just noticed that the "HP15C" (NW250AA) is available on the HP UK store for £100+£20VAT=£120. That's $158.03+$31.61TAX=$189.64. Sleath's price is currently £89.95=$142.15(INC VAT). Interesting too that the calculator is only described as a limited edition way down in the detailed text desciption.

Re: My 15C LE has finally arrived...

*Message #26 Posted by **Rob Willett** on 15 Feb 2012, 6:43 a.m.,*
in response to message #25 by Roger Blake

Well my HP 15C LE (no 17301) turned up yesterday. A nice man from Sleuth rang me and asked for confirmation I still wanted it and needed a credit card number from me. I was rather touched and surprised about the personal element.

Turned up yesterday, very well packaged.

Unpacked, opened, turned it on and starting using it. Sitting in front of me on my desk at work. Not really used it any anger.

The keys feel firm to my touch with a slight looseness around the f and g key, but to be honest, I wouldn't have noticed if I hasn't checked specifically. Compared to my HP35S (which now looks SOOOOOOOO big) the keys seem fine. The calculator looks smart and exactly how I would expect it to.

The case feels a little flimsier than the original case (but thats from memory).

It feels odd looking at a brand spanking new HP 15C.

I might now sell my HP 35S. Any interest?

Rob.

Re: My 15C LE has finally arrived...

*Message #27 Posted by **Derek Walker (UK)** on 15 Feb 2012, 8:57 a.m.,*
in response to message #26 by Rob Willett

My two have now arrived from Sleath's as well, one Monday and one Tuesday, apparently due to an error when the first was sent, but rectified with no trouble.

To my relief, both passed the keyboard test, I'd say if anything the key click is slightly more positive than either my HP35s or 2007 vintage 12C. The case fit is tighter than the 12C, but not enough to be a problem.

LE numbers are 16110 and 17647, both with 2011 week 51 serial numbers. The LE numbers I've seen posted seemed to jump from up to 3000 for the first (US) batch, to 10000+ for all the subsequent ones, I wonder what happened to the ones in the gap, does anyone have one? I suppose the post-recall batch might have been re-numbered, but I would have expected that to be done with the serial numbers not the LE numbers.

Despite the PSE issue and others, I'm still very pleased to have a scientific Voyager on the desk in front of me, not something I ever really expected to see without a big investment via TAS.

Re: My 15C LE has finally arrived...

*Message #28 Posted by **Michael de Estrada** on 15 Feb 2012, 11:46 a.m.,*
in response to message #27 by Derek Walker (UK)

There are plenty of USA suffix ABA units with LE #s between 3000 and 10000. All of these were produced in the same time frame as the first 3000, but were released later after going through additional QC to weed out the bad ones. These are all distinguished by having a seal on the outer plastic package and an errata sheet for the self-tests. I bought 3 of these with LE #s 6487, 6915 and 7117, and they all had date codes 132. There are also reported to be a few replacements with LE #s in the 10000 to 13000 range, presumably for the ones that were discarded. So, it appears that 10000 were made for the USA market and less than 20000 all told

for the world market. At this time it appears that the entire USA market is secondary.

Re: My 15C LE has finally arrived...

*Message #29 Posted by **Derek Walker (UK)** on 16 Feb 2012, 2:42 a.m.,*
in response to message #28 by Michael de Estrada

Thanks for the info', I'd missed that the later US batch had those numbers. The current European models also have the seal, but get a manual with corrected self tests.

In Britain, I'm only aware of one retailer offering the 15CLE so far (stock only arrived here last week), and they had around a dozen available in stock after fulfilling pre-orders.

Re: My 15C LE has finally arrived...

*Message #30 Posted by **Bart (UK)** on 17 Feb 2012, 7:00 a.m.,*
in response to message #29 by Derek Walker (UK)

> Quote:
>
> In Britain, I'm only aware of one retailer offering the 15CLE so far (stock only arrived here last week), and they had around a dozen available in stock after fulfilling pre-orders.

Calculators Direct are now also offering the 15C LE.

I noted that Sleath's stock went down from 15 on Monday to 10 today - that's faster than what I've seen their stock go down on other HP calcs.

edit: What's interesting is that neither are selling the 12C 30th AE (I remember they did seem to have stock of the 12C Plat 25th AE well into 2010 - a slow seller?).

Edited: 17 Feb 2012, 7:07 a.m.

Re: My 15C LE has finally arrived...

*Message #31 Posted by **Antonio Maschio (Italy)** on 16 Feb 2012, 8:26 a.m.,*
in response to message #1 by Antonio Petri (UK)

> Quote:
>
> CNA151011Z; LE No 17906 for the record....

Mine is CNA14801S2
LE No 10644

Bought from an Italian seller on January 27, 2012. Strange, here in Italy I got an older model than yours.

Ciao.

-- Antonio

Edited: 16 Feb 2012, 8:26 a.m.

Re: My 15C LE has finally arrived...

*Message #32 Posted by **Antonio Petri (UK)** on 16 Feb 2012, 8:58 a.m.,*
in response to message #31 by Antonio Maschio (Italy)

Which Italian seller did you buy it from? This is the first hp calculator I have bought outside Italy. I used to buy calculators from a shop and also have the possibility to try few of them before buying one, so there was no chance to get a defective one. I can't do this anymore, it seems you can only buy online now.

Re: My 15C LE has finally arrived...

*Message #33 Posted by **Antonio Maschio (Italy)** on 17 Feb 2012, 4:48 a.m.,*
in response to message #32 by Antonio Petri (UK)

I couldn't try my model before buying it, but it seems perfect, apart the rattling of the 'f' and 'g' keys.

I could write here the shop's mail, if I was sure I can. But if you are in a hurry, write me privately, and I'll transmit it to you. In the meantime, I can get some info, and if they let me, I'll share this shop with MoHPC, although I cannot believe an Italian small shop in a peripehrical small town can beat any UK shop... ;-)

Ciao!

(scrivi pure in italiano, se mi scrivi privatamente...)

-- Antonio

Re: My 15C LE has finally arrived...

*Message #34 Posted by **Massimo Gnerucci (Italy)** on 17 Feb 2012, 8:39 a.m.,*
in response to message #33 by Antonio Maschio (Italy)

Credo sia un certo "sovrano delle calcolatrici"... ;)

Ciao,
Massimo

Re: My 15C LE has finally arrived...

*Message #35 Posted by **Antonio Petri (UK)** on 17 Feb 2012, 9:44 a.m.,*
in response to message #34 by Massimo Gnerucci (Italy)

Ok, found it! Grazie! the 15CLE is listed at €140, which XE.com converts it to £116.694. So, it is cheaper here at moment.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

it's here !!! (and this is not a Red Dot ...)

*Message #1 Posted by **Alberto Fenini** on 10 Feb 2012, 11:02 a.m.*

And this is the second one, just arrived ...
Is missing the plastic box, which I have for his brother HP-41
but is a nice addition to the family ...

Re: it's here !!! (and this is not a Red Dot ...)

*Message #2 Posted by **David Ramsey** on 10 Feb 2012, 11:32 a.m.,*
in response to message #1 by Alberto Fenini

You mean his brother, HP-46...

Re: it's here !!! (and this is not a Red Dot ...)

*Message #3 Posted by **Alberto Fenini** on 10 Feb 2012, 12:37 p.m.,*
in response to message #2 by David Ramsey

you are right, I meant the HP46 ...

Re: it's here !!! (and this is not a Red Dot ...)

*Message #4 Posted by **Kees van der Sanden** on 10 Feb 2012, 3:12 p.m.,*
in response to message #3 by Alberto Fenini

You are right, but this HP-46 is also not a Red Key. My HP-46 and all others i found have a red key above the 7. On your picture this key is green!

Re: it's here !!! (and this is not a Red Dot ...)

*Message #5 Posted by **Michael de Estrada** on 10 Feb 2012, 3:34 p.m.,*
in response to message #4 by Kees van der Sanden

It looks more like orange to me.

Re: it's here !!! (and this is not a Red Dot ...)

*Message #6 Posted by **Alberto Fenini** on 10 Feb 2012, 6:01 p.m.,*
in response to message #5 by Michael de Estrada

The last addiction to my collection is an HP-81 and the key is GREEN
is now pictured with his brother the HP-46 which has an ORANGE key and I had purchased a couple of years ago

Both are working, but the HP-46 came with the original soft cover and the original hard cover, which is more like a suitcase
ciao a tutti, Alberto

Re: it's here !!! (and this is not a Red Dot ...)

*Message #7 Posted by **Michael de Estrada** on 10 Feb 2012, 12:01 p.m.,*
in response to message #1 by Alberto Fenini

Bellissima ! I'm content to own just the HP-46.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP-34s] 30b for 18,99€ in Germany

*Message #1 Posted by **Alexander Oestert** on 10 Feb 2012, 4:16 a.m.*

Maybe intersting for future WP-34s conversions:

Do an ebay search for NW238AA, there is a brand new 30b to be had for 18,99€, free shipping in Germany.

I'm not the seller and am not affiliated to them in any way. The first one I bought was already delivered, so I purchased a second one before posting this here. ;-) I did not test the other item that comes up for 17,10€.

If you feel this posting to be inappropriate, I will delete it.

Edited: 10 Feb 2012, 4:19 a.m.

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #2 Posted by **Maximilian Hohmann** on 10 Feb 2012, 4:42 a.m.,*
in response to message #1 by Alexander Oestert

Hello!

> Quote:
>
> Do an ebay search for NW238AA, there is a brand new 30b to be had for 18,99€, free shipping in Germany.

Thank you for the heads-up (sometimes it has its benefits to be sitting at home in standby-status...)! There is even a seller who has it 17,10 Euros including shipping, just finished clicking "Buy Now!".

Unfortunately, I will not be able to convert it to anything else as all the necessary software does not run on my Macintosh, if I understand correctly.

Regards, max

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #3 Posted by **pascal_meheut** on 10 Feb 2012, 5:00 a.m.,*
in response to message #2 by Maximilian Hohmann

You can flash from a Windows XP virtual machine running on your Macintosh. This is what I do and it works fine.

We have plan to support flashing from any platform but I cannot tell you when it will be available.

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #4 Posted by **Marcus von Cube, Germany** on 10 Feb 2012, 5:43 a.m.,*

in response to message #2 by Maximilian Hohmann

> Quote:
>
> Unfortunately, I will not be able to convert it to anything else as all the necessary software does not run on my Macintosh, if I understand correctly.

As Pascal has already stated Parallels or other virtualization software running Windows XP works fine. If you do not want to install such an environment I can do the flashing for you. Mail me if you are interested.

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #5 Posted by **Maximilian Hohmann** on 10 Feb 2012, 6:00 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Thanks Pascal and Marcus for your replies,

as old-fashioned as I am with my calculators, I am also with my computers... no parallels desktop here, my PowerBook still runs on a trusted G4 processor (but no red LED display, I'm afraid :-)) Recently I feared that it's time has finally come when the Video RAM failed, but I found a repair wizard over the internet who replaced (or resoldered?) it again for a fixed price of 100 Euros (cheeeeap compared to the alternative of having to buy the current 17" MacBook Pro for 2500 Euros...).

I think I could do the flashing at the office, but the PCs have all been upgraded to Windows 7 recently, will that work?

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Feb 2012, 8:08 a.m.,*
in response to message #5 by Maximilian Hohmann

The MySamba utility should work under Windows 7. I have yet install my Windows 7 copy in another virtual machine on my iMac and try.

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #7 Posted by **pascal_meheut** on 10 Feb 2012, 10:50 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Never worked for me under Windows 7 virtualized but it may be a driver problem with the USB->Serial adapter I'm using.

Also, the new emulator works under MacOSX but not on G4.

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #8 Posted by **Bob Cortopassi** on 10 Feb 2012, 11:49 a.m.,*
in response to message #5 by Maximilian Hohmann

MySamba has worked perfectly for me in Windows 7 Professional using an FTDI USB->Serial converter I purchased from Eric Rechlin here.

Good luck!

Might be a better deal (If you need more than one)

*Message #9 Posted by **Frank Boehm (Germany)** on 10 Feb 2012, 8:06 a.m.,*
in response to message #1 by Alexander Oestert

http://www.mindfactory.de/product_info.php/info/p786509_HP-Taschenrechner-NW238AA-30B.html

If you only need one, the other mindfactory companies offer free shipping today, with prices around 18 EUR.

(I'm not affiliated with them...)

Re: [WP-34s] 30b for 18,99€ in Germany

*Message #10 Posted by **Hubert Weikert** on 10 Feb 2012, 1:32 p.m.,*
in response to message #1 by Alexander Oestert

An other is 13.98 Euro for 30B and 11.19 Euro for 10bii+ plus 5.89 Euro shipping (per shipping) to Germany.

See http://tintenshop.net/index.php?info=p6038564&cat=c7003864

Hubert, not affiliated with them.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12C has keyboard problems, too

*Message #1 Posted by **Eric Rechlin** on 10 Feb 2012, 1:17 a.m.*

It looks like it's not just the 15C LE that has problems with keys in the keyboard not working properly. I just grabbed a brand new 12C (just opened the packaging, serial number 4CY1300M4V), and its [PV] key doesn't register unless you press it really hard.

Anyone else seeing problems with recent 12C keyboards, too?

Eric

12C has keyboard problems, too

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 10 Feb 2012, 1:39 a.m.,*
in response to message #1 by Eric Rechlin

Eric, here is my experience with HP-12C keyboards: Purchased a 12C from a local electronics store in Santa Clara about 5 months ago which had a defective ENTER key, went back to replaced it with another one and checked the new one in front of the customer service which was also defective. We went through ALL 6 units in the store (Brand New) which had defective keyboards, 2X ENTER Key, PV, PMT, 5, +. So I drove to another store in San Jose which had 7 in stock. ALL HP-12C's except one had issues with Keyboard. 12 Bad ones and one good one, 8% Yield. Also my 30th Anniversary 12C (from HP EPP store) has a bad sigma and + key but too frustrated with HP to replace it. No more new HP calculators unless I can test the keyboard before I purchase it.

Edited: 10 Feb 2012, 1:40 a.m.

Re: 12C has keyboard problems, too

*Message #3 Posted by **Paulo MO** on 10 Feb 2012, 3:45 a.m.,*
in response to message #1 by Eric Rechlin

Some 5 months ago, I got a 12c+ from you (4CY11705LP). Bad ENTER key, bad "1" key, unsatisfying keyboard overall.

In another thread on this forum, some three months ago, we seem to have reached the empirical conclusion that calculators from 4CY have lower quality keyboards than calculators from the other factory (CNA). They can easily be recognized by a slightly different key font, and, notably, by the uncommonly large "%" key sign see here and here .

In my case, after many contacts and much frustration with an incredibly inefficient HP costumer service (Brasil), I decided to open the calculator. It turns out that the circuit board was not sufficiently pressed down by the heat stakes. I thus introduced a felt pad on the "bad key" region, so that the back panel would slightly push the board down. Both keys are now working fine. It still is an overall lower quality keyboard, though :-(

The 15 LEs seem to be produced only on the CNA factory. That is probably why the general feel of their keyboard is always good. But, as we all know, problems with particular keys exist there, also.

Paulo

Edited: 10 Feb 2012, 3:54 a.m.

Re: 12C has keyboard problems, too

*Message #4 Posted by **Bob Cortopassi** on 10 Feb 2012, 11:45 a.m.,*
in response to message #3 by Paulo MO

Of my recent production HPs, only one has keyboard issues, and that's actually a 30b.

- 12C - 4CY fine
- 35S - CNA fine
- 15C LE - CNA fine
- 30b - 4CY fine
- 30b - 4CY inconsistent) key

Maybe there really is a rhyme/reason to this, but it seems to me like common low-cost, average reliability Chinese manufacture.

In my experience, HP has been on par or better than their peers in this area.

Re: 12C has keyboard problems, too

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 10 Feb 2012, 11:52 a.m.,*
in response to message #3 by Paulo MO

I opened up one of the defective units with defective PMT and PV keys, no click, hard to press and difficult to respond. Removed the heat stakes holding the keyboard and found out that there is rubber pad between the keyboard and the keypad.

HOWEVER the rubber pad was almost 1/4"-1/2" bigger than its intended space so in order to fit the pad, it was wrinkled and somewhat folded into the space between the keyboard and the keypad. The keys over the folded/wrinkled areas of the pad failed to work properly thus required more force to press and didn't click. I was able to cut strips of that rubber pad in order to reduce the size to fit and put the keyboard back on using small screws. All keys worked fine. I am not sure all the problems on HP-12C keyboard were caused by this issue but at least one was.

Re: 12C has keyboard problems, too

*Message #6 Posted by **Steve Fennell** on 10 Feb 2012, 3:01 p.m.,*
in response to message #1 by Eric Rechlin

So far no issues with my 30th 12C. Serial number starts with CNA. Also have three 15C LEs with CNA serial numbers and no keyboard issues. Maybe the 4CY plant?

Re: 12C has keyboard problems, too

*Message #7 Posted by **Ernst Fueloep** on 10 Feb 2012, 4:08 p.m.,*
in response to message #1 by Eric Rechlin

Yes, I have bought a new HP-12C with serial 4CYxxxx and the 1 key and 9 key have to be pressed very hard to be recognized.

The calculator is basically unusable in this condition.

I have contacted HP support and wait for an answer. Hopefully they will replace it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's Tired Basic Calculator Line

*Message #1 Posted by **Jeff** on 9 Feb 2012, 2:29 p.m.*

A few years ago HP introduced a new lineup of home and office calculators that looked kind of, well, ugly.

They've gotten rid of a bunch of them, but what's there now is less than inspiring.

I wonder if HP is giving up on them, or if they plan to spruce them up a little.

The scientific and financial ones are fine, but having a good shirt pocket unit is handy, as well.

http://www.shopping.hp.com/webapp/shopping/can.do?landing=calculator&category=Office&catLevel=1&storeName=storefronts&jumpid=in_R329_prodexp/hhoslp/psg_ipg/calculator/Home_&_office_calculators

Re: HP's Tired Basic Calculator Line

*Message #2 Posted by **Dirk Mehldau** on 10 Feb 2012, 1:03 a.m.,*
in response to message #1 by Jeff

Hi Jeff,

For a shirt-pocket unit you may have a look at the DM-15CC (www.rpn-calc.ch or elsewhere in the forum). This is a credit card sized HP-15C clone.

Regards

Dirk

Edited: 10 Feb 2012, 1:04 a.m.

Re: HP's Tired Basic Calculator Line

*Message #3 Posted by **Jeff** on 10 Feb 2012, 9:39 a.m.,*
in response to message #2 by Dirk Mehldau

Thanks. Too bad they don't make a financial version of the DM-15CC!

Re: HP's Tired Basic Calculator Line

*Message #4 Posted by **Walter B** on 10 Feb 2012, 5:54 a.m.,*
in response to message #1 by Jeff

Voyagers are perfectly shirt-pocketable, and even a WP 34S will do ;-)

Re: HP's Tired Basic Calculator Line

*Message #5 Posted by **Dirk Mehldau** on 10 Feb 2012, 1:33 p.m.,*
in response to message #4 by Walter B

Walter is completely right! Nothing more to say. ;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sleath UK has started dispatching 15C LE orders

*Message #1 Posted by **Antonio Petri (UK)** on 9 Feb 2012, 11:23 a.m.*

I have just received an email message from them informing that they have dispatched my order.

Re: Sleath UK has started dispatching 15C LE orders

*Message #2 Posted by **Torsten** on 9 Feb 2012, 1:34 p.m.,*
in response to message #1 by Antonio Petri (UK)

I got one today from dynatech.de here in Germany.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-80 Function Question

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 9 Feb 2012, 1:52 a.m.*

I recently obtained a HP-80. While experimenting with various functions, I noticed that consecutive presses on (Yellow Shift)+(dot) changes the X value and the stack. Seems like doing some calculation, however couldn't find any information in the manual or elsewhere what type of function it is performing. Any idea? Thanks.

Re: HP-80 Function Question

*Message #2 Posted by **Ignazio Cara (Italy)** on 10 Feb 2012, 3:00 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

The result is the same as SIGMA+, and there are nothing in the user's manual, if I remember well.

You can make some test to verify the results in the stack:

Reg X SUM of data;

Reg Y Num of data;

Reg Z SUM of X^2;

Reg T the same of Y reg.

HTH

Ignazio

Edited: 10 Feb 2012, 3:02 p.m.

Re: HP-80 Function Question

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 10 Feb 2012, 4:27 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

I was suspecting that however, after total clear: Pressing shift+dot generates: 0 1 2 3 5 11 26 66 227

Pressing sigma+ generates: 0 1 0 -1 -3 -5 -8 -20 -57 -158

Re: HP-80 Function Question

*Message #4 Posted by **Gerson W. Barbosa** on 10 Feb 2012, 7:51 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

That's what shift-dot does on the HP-80, whatever it is, starting from a clear stack:

```
T: 0 0 0 1 5 14 39 160 836 5192
Z: 0 0 0 1 5 14 39 160 836 5192
Y: 0 1 1 1 2  6 15  40 161  837
X: 0 0 1 2 3  5 11  26  66  227
```

Here is a BASIC program that produces the contents of stack registers X and Y:

```
 5 CLS
10 A = 0: B = 0: X = 0: B = 1
20 PRINT X;
25 IF X > 100000 THEN END
30 C = A + B
40 D = B + X * X
50 X = A: A = C
60 Y = B: B = D
70 GOTO 20


0  0  1  2  3  5  11  26  66  227  1064  6257  62979  1251797
```

Re: HP-80 Function Question

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 11 Feb 2012, 2:27 p.m.,*
in response to message #4 by Gerson W. Barbosa

An interesting function. I wonder if HP was thinking about another financial or statistical function which later they decided not to include thus never made it to the keyboard. I am still trying to figure out what this calculation could be used for, expecially given the numbers displayed as an integer.

Re: HP-80 Function Question

*Message #6 Posted by **Gerson W. Barbosa** on 12 Feb 2012, 1:01 a.m.,*
in response to message #5 by Kerem Kapkin (Silicon Valley, CA)

Interestingly most of the first few terms are prime numbers:

```
1  2  3  5  11  26  66  227  1064  6257  62979  1251797
```

The next five terms are composites, however:

```
#include <iostream.h>
int main()
{
  unsigned __int64 a = 0, b = 1, c, d, x=0, y=0;
  a = 0; b = 1; x = 0; y = 0;
  for (char i = 1; i <=19; i++)
  {
    cout << x <<" ";
    c = a + b;
    d = b + x*x;
    x = a;
    a = c;
    y = b;
    b = d;
  }
  printf("\n\n");
  system("pause");
  return 0;
}


0 0 1 2 3 5 11 26 66 227 1064 6257 62979 1251797 41590664 4048283972 1575050706489 1732929385089902 16392067401671570099
```

RPL in exact mode on the HP 50g will handle those large numbers more easily than C++ though.

Update:

Yes, better on the HP 50g. No more primes, however. At least up to the 30th term:

```
\<< 0 1 0 { } 5 ROLL 1 SWAP
```

```
  START
    OVER + 4 ROLLD SQ OVER + UNROT OVER + UNROT 4 ROLL
  NEXT
  NIP NIP NIP
\>>
```

```
{ 0 0 1 2 3 5 11 26 66 227 1064 6257 62979 1251797 41590664 4048283972 1575050706489
```

```
 1732929385089902 16392067401671570099 2480817510413371984757417
```

```
 3003049215326694619490920314339 26869987970703968929193831740572674106 2
```

```
 6154455520511000772441212952982808207904869679674
```

```
 9018304589686585177361346575276066985332356116811106581625207
```

```
 7219962535457761745839714472582131303971423758429963020741375913509949045858 4
```

```
 3787732275394833344975569490810576040975725363348007919370868186316223369509539710768841976803823 7
```

```
 8132981767236212743294589642248099730187436105347012252031324658365246552364996594926915125606942540256820882750546341073 9
```

```
52127859013413671535047407030236395396849222294009161464949665161373119998521755364631031658322711552753670697410492320867402812466645759
 90995845778068297
```

```
14346915790067721633176240664001666629165029005346590080187806856469612582037080298125024141950588218469346345125388922632222175608248895
 18185403399728040557501172362103337453970311201525586794024
```

```
66145392426196670157751694600396451696020482379488309297589369490227493838452111265830722847572958345973667892914792187598144060583637941
 607985223389951295320507722962429395246663115759330160410264116972745539149807512850697106773091084160458 72 }
```

Edited: 12 Feb 2012, 4:43 p.m.

Re: HP-80 Function Question

*Message #7 Posted by **Thomas Klemm** on 13 Feb 2012, 6:32 p.m.,*
in response to message #6 by Gerson W. Barbosa

Yet another implementation using Python:

```
def diff(xs):
    y = xs.pop(0)
    ys = []
    for x in xs:
        ys.append(x - y)
        y = x
    return ys


x, y, z, t = 0, 0, 0, 0


xs = []
for i in range(10):
    x, y, z, t = x + y, z + 1, t + x**2, t + x**2
    xs.append(x)
```

```
print xs
dxs = diff(xs)
print dxs
d2xs = diff(dxs)
print d2xs
```

I calculated the difference between sequent elements:

```
[0, 1, 2, 3, 5, 11, 26, 66, 227, 1064]
[1, 1, 1, 2, 6, 15, 40, 161, 837]
[0, 0, 1, 4, 9, 25, 121, 676]
```

This shows that the 2nd difference is the same as the initial sequence squared and shifted.

Or as a recursive formula: $x_{n+3} = 2\,x_{n+2} - x_{n+1} + x_n^2$ together with the initial values: $x_0=0$, $x_1=1$, $x_2=2$.

This leads to the simple program:

```
x = [0, 1, 2]


for n in range(10):
    x.append(2*x[n+2] - x[n+1] + x[n]**2)


print x
```

... which produces the same result:

```
[0, 1, 2, 3, 5, 11, 26, 66, 227, 1064, 6257, 62979, 1251797]
```

I've tried in vain to use *WolframAlpha* to find a closed form. So I'm afraid there isn't.

Cheers
Thomas

Edited: 13 Feb 2012, 7:06 p.m.

Re: HP-80 Function Question

*Message #8 Posted by **Gerson W. Barbosa** on 13 Feb 2012, 8:50 p.m.,*
in response to message #7 by Thomas Klemm

Very nice!

> Quote:
>
> I've tried in vain to use *WolframAlpha* to find a closed form. So I'm afraid there isn't.

It's not in OEIS either.

Regards,

Gerson.

Re: HP-80 Function Question

*Message #9 Posted by **Thomas Klemm** on 14 Feb 2012, 3:09 a.m.,*
in response to message #8 by Gerson W. Barbosa

> Quote:
>
> It's not in OEIS either.

You may ask them to add it. I wonder if they'll accept it.

Since after the first step of the recursion $t' = z'$ we can just forget about t:

```
  1. z' = z + x^2
  2. y' = z + 1
  3. x' = x + y

x''' = x'' + y''
y''  = z' + 1 = z + x^2 + 1
x''  = x' + y' => x'' - x' = y' = z + 1

x''' = x'' + x'' - x' + x^2
     = 2 x'' - x' + x^2
```

Just in case somebody might not believe that two sequences are equal when they agree on the first few elements.

Cheers
Thomas

Edited: 14 Feb 2012, 3:13 a.m.

Re: HP-80 Function Question

*Message #10 Posted by **Thomas Klemm** on 13 Feb 2012, 6:57 p.m.,*
in response to message #3 by Kerem Kapkin (Silicon Valley, CA)

This is my understanding what both operations *sigma+* and *shift dot* do:

```
T: T + X^2
Z: T + X^2
Y: Z + 1
X: Y + X
```

However *sigma+* seems to change its mind if you don't enter a number and starts to calculate the following instead:

```
T: T - X^2
Z: T - X^2
Y: Z - 1
X: Y + X
```

I filled the stack with *1*:

sigma+:

```
T: 1    2   -2  -18  -43
Z: 1    2   -2  -18  -43
Y: 1    2    1   -3  -19
X: 1    2    4    5    2
```

shift dot:

```
T: 1    2    6   22   71
Z: 1    2    6   22   71
Y: 1    2    3    7   23
X: 1    2    4    7   14
```

I can't help but I think you just found a bug. Try the following:

```
shift CLEAR
7
STO
sigma+
RCL
sigma+
mean
```

You'll get blinking *9.999999999 99* instead of *7*. But you get the correct result when using *shift dot* instead.

Kind regards
Thomas

Re: HP-80 Function Question

*Message #11 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Feb 2012, 2:09 a.m.,*
in response to message #10 by Thomas Klemm

Dear Thomas and Gerson,thank you very much for your responses and detailed analysis. I will use your directions and further experiment with this function. I have been away from my HP-80 last couple days. I also noticed that the sequence you enter the numbers (PV first vs n first) for PMT calculation gives different results. This may be due to limited number of registers HP-80 has and trying to utilize the stack as much as possible in order to solve the equation. I have feeling that shift dot is executing some sort of a subroutine which is being used as part of this solver, although it does seems like a bug since under the right conditions works better than the sigma+ function. Your responses have been very helpful, I have much more to think about now. Sincerely.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - Vintage Computer Festival May 5,6, Wall NJ

*Message #1 Posted by **David Hayden** on 8 Feb 2012, 11:27 p.m.*

I just received an email saying that the Vintage Computer Festival will be May 5 and 6 this year at the InfoAge center in Wall, NJ. I attended the last one 2 years ago and it's a lot of fun. In addition to the Festival itself, the InfoAge center is on the site of the Marconi transatlantic telegraph receiving station. I believe this was the first transatlantic telecommunications available. They have a great radio museum and several other exhibits.

Vintage Computer Festival Website

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Blog Entry (repeated functions) is now up

*Message #1 Posted by **Eddie W. Shore** on 8 Feb 2012, 10:10 p.m.*

http://edspi31415.blogspot.com/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Choices, choices

*Message #1 Posted by **Geir Isene** on 8 Feb 2012, 5:54 p.m.*

The EVAL program I just created may or may not be of interest to you, but I would like to present a possibly neat way of using "dynamic" menus on the HP-41. The menu (top row of labels) changes depending on the context to make better use of the top labels and make the program more user friendly.

The program itself makes it easy to make a requirement specification and then pitch cases against that specification to get a total score of how well a case fits the bill.

Link to my blog post about the program.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Spice repair - dilemma & opinions, please

*Message #1 Posted by **McAllan** on 8 Feb 2012, 4:09 p.m.*

Hi

I do a bit of calculator collecting and mostly the machines I have in my collection I've repaired one way or the other so normally I've no bigger troubles here almost no matter what's wrong but the HP spice series seems to be the exception.

I got the following two half to/or fully defective ones. A 38E from '79 and a 32E from '82.

Lets start with the 38E. The zero-key does not respond - the keyboard is made of flexible plastic and so is the "PCB" the four chips are not soldered. I've tried cleaning the contact but no luck. I can short the traces near the contact point to the key which results in a zero so no defective ICs. Otherwise in great not very used condition and all other keys work. Do you think it's possible to repair the keyboard with conductive paint? Something tells me it's expensive and perhaps other keys are on their way to eternity too and because of construction they're as good as unreachable unless they're edge keys.

The 32E on the other hand is very well used, display glass not intact but based on past experience I might be able to fix it acceptable. However I cannot get it to work - it seems just dead. I wonder if the inverter could be the case. Is there a common fault in these I can look for? I've tried to measure for shorted transistors but no obvious defective one as far as I can tell from my multimeter on diode setting. Also the 32E is with a normal PCB and constantly messing with the inverter put stress on the soldered ribbon cable.

Another possibility. Which of the two do you consider the most interesting/valuable model? One has a nice PCB with decent "klixon" or what to call them style buttons, the other one an intact glass. The 38E worked flawlessly when I got it but some very occasional light use later the zero is not working. So my heart says the 38E even though I'm mostly a mathematical guy. Also I loved the date arithmetic. Btw. so far I can tell it's functionally and performance wise identical to the original/normal 12C. But It can very well be you say the 32E is more scarce so should repair that first.

My first though is to take the PCB from the 32E. It seems identical to the non solder "PCB" of the older 38E and it even got the room for the 3 small ICs while the 32E only populates two. So unsolder the ICs replace with those from the 38E. Reuse inverter from 38E (also because it's battery end isn't damaged by slight corrosion). Put the PCB in the 38E. As far as I can see closely comparing the outer shells of the 38E and 32E they seems 100% identical so it should be very doable - I have no trouble using a soldering iron. Yeah I "loose" a defective 32E which I btw. was given for free since I love old junk but gets a 38E with higher quality keyboard it should have had from the beginning. Oh and odds are the display is intact of the 32E so if buying one with defective segments it can be repaired - defective ones are cheaper ;) - exactly why most of my calculators have required some sort of repair or at least mostly a total clean w. total disassembly and shine up to look great again.

They must have had a lot of warranty issues since the newer is way better than the older. Without having tried the 32E functioning I believe it's almost on par with Ti SR-50(A) - functionally identical but of course the materials can differ. One can only wonder why many (all?) of their newer calculators use keys basically identical to the older 38E. IMHO that design should have been ditched at the design state. A much better choice would have been conductive rubber like many other things today and from the far east back then - with hard outer keys for quality

appearance - it's much more durable and when they make trouble a clean is usually all that's needed.

Edit: One last question. The big IC - I believe that's the CPU? Are they identical on the 38E and 32E? If so I can just use the one already on the 32E if it's not defective. Leaving one unsoldered for a spare part. That is of course if there's no risk the CPU may damage the ROMs from the 38E. Uf only I could get some life into the 32E...

Edited: 8 Feb 2012, 4:14 p.m.

Re: Spice repair - dilemma & opinions, please

*Message #2 Posted by **McAllan** on 9 Feb 2012, 3:41 p.m.,*
in response to message #1 by McAllan

Got the 32E to work. Was a bad connection.

But the dilemma still stands. Should I try to fix both or just combine the best parts to get a good one.

Does anyone know at which dates HP switched to making soldered versions of the spice series? Seems like defective ones of those will be good to keep an eye out for as spares for those with flexible non-solder boards gone bad.

Yeah not quite original. But IMHO better a working one than a paperweight ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C Production nmrs

*Message #1 Posted by **Dominique Deprez** on 8 Feb 2012, 2:43 p.m.*

Dear

I have 2 HP12C in my collection with the following numbers

USA 2749AQ7554 USA 2324AQ4570

Which one is the oldest and best produced ?

Thanks for informing me

Dominique

Re: HP 12C Production nmrs

*Message #2 Posted by **Jeff O.** on 8 Feb 2012, 3:15 p.m.,*
in response to message #1 by Dominique Deprez

Are you sure those are Q's and not 0's (zeros)?

Assuming they are zeroes, the 2324A unit is oldest, having been made in 1983. The other was made in 1987. As for "best produced", I believe that all units from the 1980's are regarded as high quality.

Edited: 8 Feb 2012, 3:16 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

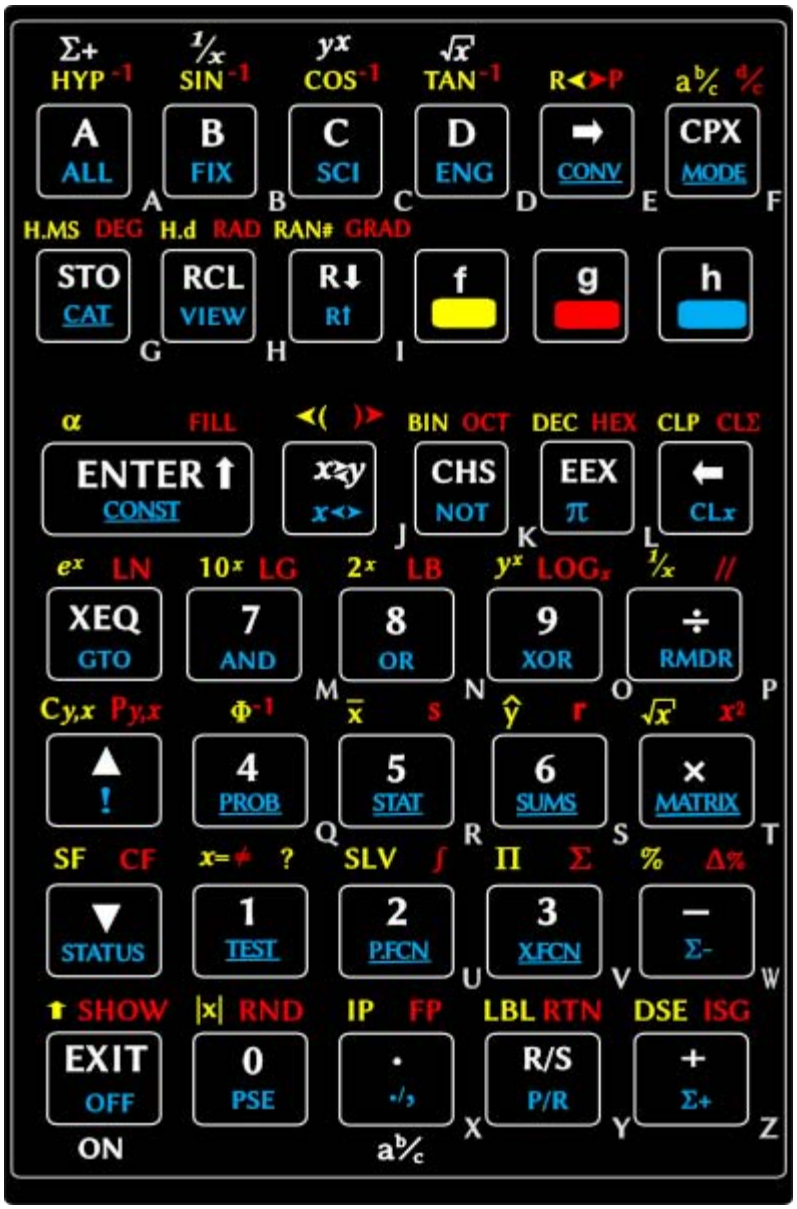
devolution of the wp34s label---or fun with colors

*Message #1 Posted by **troy** on 8 Feb 2012, 2:19 p.m.*

i'll post snapshots of all three on an actual calculator once i've laid them all out.

version 1:

version 2:


Σ+ HYP⁻¹
1/x SIN⁻¹
yx COS⁻¹
√x TAN⁻¹
R◄►P
a b/c d/c
A ALL
B FIX
C SCI
D ENG
CONV
CPX MODE
H.MS DEG H.d RAD RAN# GRAD
STO CAT
RCL VIEW
R↓ R↑
f
g
h
α FILL ◄( )► BIN OCT DEC HEX CLP CLΣ
ENTER↑ CONST
x≷y x◄►
CHS NOT
EEX π
CLx
ex LN 10x LG 2x LB yx LOGx 1/x //
XEQ GTO
7 AND
8 OR
9 XOR
÷ RMDR
Cy,x Py,x Φ⁻¹ x̄ s ŷ r √x x²
▲ !
4 PROB
5 STAT
6 SUMS
× MATRIX
SF CF x=? ? SLV ∫ Π Σ % Δ%
▼ STATUS
1 TEST
2 P.FCN
3 X.FCN
− Σ-
↑ SHOW |x| RND IP FP LBL RTN DSE ISG
EXIT OFF
0 PSE
. •/,
R/S P/R
+ Σ+
ON
a b/c

version 3:

Re: devolution of the wp34s label---or fun with colors

*Message #2 Posted by **Jim Yohe** on 8 Feb 2012, 4:04 p.m.,*
in response to message #1 by troy

Opinion: Version three is more pleasing.

Re: devolution of the wp34s label---or fun with colors

*Message #3 Posted by **Eddie W. Shore** on 8 Feb 2012, 9:58 p.m.,*
in response to message #2 by Jim Yohe

> Quote:
>
> Opinion: Version three is more pleasing.

I agree, I prefer version 3 as well.

Re: devolution of the wp34s label---or fun with colors

*Message #4 Posted by **Jeff O.** on 8 Feb 2012, 10:07 p.m.,*
in response to message #1 by troy

I also like version 3.

Things I like: the pi symbol, the sigma symbol, the separate Cy,x an Py,x labels.

Nit-picky things I would change: the slanted 1 with serif in both instances of 1/x, the x with a bar, the x in |x|, and the y with carat are not the same as the other lower case x's and y's, and I would raise the x in 2^x and 10^x.

...

Re: devolution of the wp34s label---or fun with colors

*Message #5 Posted by **Walter B** on 9 Feb 2012, 1:31 a.m.,*
in response to message #4 by Jeff O.

> Quote:
>
> and I would raise the x in 2^x and 10^x

... and in e^x as well. And center lower case pi.

Edited: 9 Feb 2012, 1:33 a.m.

Re: devolution of the wp34s label---or fun with colors

*Message #6 Posted by **troy** on 9 Feb 2012, 2:23 a.m.,*
in response to message #5 by Walter B

thanks!

those are excellent points! you look at the monitor too long, everything starts looking the same.

that's why a different set of eyes always help.

Re: devolution of the wp34s label---or fun with colors

*Message #7 Posted by **Philippe Lasnier** on 9 Feb 2012, 4:38 a.m.,*
in response to message #1 by troy

I like version 3 too, although I agree that this is nothing more than a personal aesthetic opinion.

But, and I know this looks too obvious to be a mistake, so there must be a reason I missed, why is there two entries for 1/x, Sigma+, Y^x, sqrt(x), a b/c ? E.g. 1/x is over the B key in white and above the / (divide) key accessible with "f".

Regards,

Philippe

Re: devolution of the wp34s label---or fun with colors

*Message #8 Posted by **Dirk Mehldau** on 9 Feb 2012, 5:34 a.m.,*
in response to message #7 by Philippe Lasnier

As long as there is no LBL A to LBL D in programm memory the keys A to D will act as Sigma +, 1/x, y^x, SQRT(x).

As soon as there is one of LBL A to LBL D defined the corresponing key will A to D will call the programm and the "white fuction" has to be called the alternative, shifted way.

Regards

Dirk

Re: devolution of the wp34s label---or fun with colors

*Message #9 Posted by **Dirk Mehldau** on 9 Feb 2012, 5:40 a.m.,*
in response to message #1 by troy

One could have the g-functions on the buttom of the keys and leave their colour blue, the gold f-functions and the green h-functions above the keys.

...or rename h to something completely different, use a symbol.

Just for those who are familiar with the Voyager series. ;-)

But at the end, the WP 34s neither is a "genuine" Hewlett Packard calculator nor is it a Voyager series calculator. Why not try something different?

Re: devolution of the wp34s label---or fun with colors

*Message #10 Posted by **Dirk Mehldau** on 9 Feb 2012, 5:50 a.m.,*
in response to message #1 by troy

Is anyone interested in a transparent overlay for use on a repurposed HP 30b?

Edited: 9 Feb 2012, 5:50 a.m.

Re: devolution of the wp34s label---or fun with colors

*Message #11 Posted by **Alexander Oestert** on 9 Feb 2012, 6:08 a.m.,*
in response to message #10 by Dirk Mehldau

Exactly what I was thinking. I'm very interested!

Edited: 9 Feb 2012, 6:09 a.m.

Re: devolution of the wp34s label---or fun with colors

*Message #12 Posted by **Jeff O.** on 9 Feb 2012, 9:26 a.m.,*
in response to message #10 by Dirk Mehldau

Yes, I would like to see that.

Color choices may be challenging. The keys themselves can stay the same, white for primary function and blue for the h-shifted functions on the lower slanted portion. I think that black will just about have to be used for one of the keyboard-plane label colors. If the yellow-gold that has been used for the f-shifted

functions on the black overlays shows up well on the silver background of the 30b, f-shift could stay that color and g-shift could be black. If yellow-gold does not show up well, I'd say use black for f-shift. That leaves the g-shifted and alpha labels. Not sure if green will show up very well on the silver background. For the default functions of the A, B, C and D keys, I might suggest something like below, i.e. white (edit - as Eric points out, this will not work on a clear overlay, so it will have to be siver) labels inside black boxes, to emphasize that these are primary key functions when active.

Edited: 9 Feb 2012, 10:19 a.m. after one or more responses were posted

Re: devolution of the wp34s label---or fun with colors

*Message #13 Posted by **Eric Rechlin** on 9 Feb 2012, 9:32 a.m.,*
in response to message #12 by Jeff O.

White labels inside black boxes on a transparent overlay?

What kind of printer prints with white ink?

Eric

Re: devolution of the wp34s label---or fun with colors

*Message #14 Posted by **Jeff O.** on 9 Feb 2012, 9:53 a.m.,*
in response to message #13 by Eric Rechlin

Oops. Guess that would be silver labels inside a black box.

> Quote:
>
> What kind of printer prints with white ink?

A very expensive one?

Re: devolution of the wp34s label---or fun with colors

*Message #15 Posted by **Eric Rechlin** on 9 Feb 2012, 11:43 a.m.,*
in response to message #14 by Jeff O.

Nice...now if only I could fit that in my apartment. :)

Eric

Re: devolution of the wp34s label---or fun with colors

*Message #16 Posted by **troy** on 9 Feb 2012, 12:49 p.m.,*
in response to message #15 by Eric Rechlin

LOL! at least you can purchase it. :) i have neither space nor moolah to even consider one.

Re: devolution of the wp34s label---or fun with colors

*Message #17 Posted by **Jim Yohe** on 9 Feb 2012, 11:38 a.m.,*
in response to message #13 by Eric Rechlin

Come on HP ... make us a custom set of keys and faceplate. ;-)

Re: devolution of the wp34s label---or fun with colors

*Message #18 Posted by **Walter B** on 9 Feb 2012, 2:45 p.m.,*
in response to message #17 by Jim Yohe

Sorry, we know they won't do that - the bias to pay is too high.

Re: devolution of the wp34s label---or fun with colors

*Message #19 Posted by **Mark Storkamp** on 9 Feb 2012, 12:06 p.m.,*
in response to message #1 by troy

The consensus seems to be for #3, but as someone who is red-green colorblind, those two colors for f and g are difficult to distinguish.

Re: devolution of the wp34s label---or fun with colors

*Message #20 Posted by **Egan Ford** on 9 Feb 2012, 2:52 p.m.,*
in response to message #1 by troy

I like #1. There is a certain retro appeal to it. It is also more readable in low light.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Limited run of blue key slant WP34S overlays

*Message #1 Posted by **Bob Cortopassi** on 8 Feb 2012, 12:02 p.m.*

Forum Friends,

Eric has graciously offered to do a custom run of overlays for the WP 34S. I'm embedding an image of the overlay that myself and at least one other forum member are ordering.

In the interest of maximizing Eric's ROI, I thought I would let everyone know in case there is additional interest in ordering one or more of these overlays.

Regards, Bob

Edited: 8 Feb 2012, 12:44 p.m.

Re: Limited run of blue key slant WP34S overlays

*Message #2 Posted by **Barry Reeves** on 8 Feb 2012, 12:58 p.m.,*
in response to message #1 by Bob Cortopassi

I have to admit, I like this layout better. It seems much cleaner. I'll be ordering some too.

Re: Limited run of blue key slant WP34S overlays

*Message #3 Posted by **Walter B** on 8 Feb 2012, 1:03 p.m.,*
in response to message #1 by Bob Cortopassi

As the designer of the original UI I must ask you urgently: please (!) print the labels on the prefix keys white and get that 'g' from Helvetica. Will calm my stomach significantly :-) TIA!

Besides, there's a very long tradition of g-shifted functions being printed blue - nearly as long as f-shifted ones printed yellow (or golden, as HP expressed it). Where present, h-shifted functions were printed black so far, what we cannot allow here ;-) Anyway I still think the green color is the better alternative on the slanted front. Depending on the printer, both green and blue may be chosen a bit lighter.

Respectfully,
Walter

Re: Limited run of blue key slant WP34S overlays

*Message #4 Posted by **Walter B** on 8 Feb 2012, 1:11 p.m.,*
in response to message #3 by Walter B

Well, why not print the h-shifted labels black on a grey background? So the slanted part of the key will become grey. Just crossed my mind - sometimes the so called 'impossible' may be the best choice :-)

Re: Limited run of blue key slant WP34S overlays
*Message #5 Posted by **Bob Cortopassi** on 8 Feb 2012, 3:28 p.m.,*
in response to message #3 by Walter B

Walter,

> Quote:
>
> As the designer of the original UI I must ask you urgently: please (!) print the labels on the prefix keys white and get that 'g' from Helvetica. Will calm my stomach significantly :-) TIA!

Done!

> Quote:
>
> Besides, there's a very long tradition of g-shifted functions being printed blue...

I agree with this, as it is clearly a fact. Never the less, set your 15C or 41 or any number of other calculators next to your 34S. The similarity of the blue "g" key is much less noticeable than the glaring difference of the green key slants shining out at you.

Ideally, I'd like to keep g blue as well as the key front, but that would require firmware changes, and I've no doubt how you and the rest of the team would shoot me down if I proposed swapping the function (and keycodes all over the place) of the g and h shift keys.

Thanks for your thoughts, Walter, and all the hard work that got us to this point. Customizing wouldn't be possible if you and the team hadn't first created it.

Regards, Bob

Re: Limited run of blue key slant WP34S overlays
*Message #6 Posted by **Jeff O.** on 8 Feb 2012, 1:16 p.m.,*
in response to message #1 by Bob Cortopassi

I had been working on an alternative overlay since the other day when Eric said he would be willing to make custom ones. It is very similar to yours except for a couple of things:
1. changed the font of all lower case x and y to Century Schoolbook, to more closely match the classic HP look for these characters
2. moved the alpha labels to the lower right corner of each key instead of lower left.

Edit - Bob was kind enough to incorporate my ideas, see his following post.

Edited: 8 Feb 2012, 8:01 p.m. after one or more responses were posted

Re: Limited run of blue key slant WP34S overlays
*Message #7 Posted by **Marcus von Cube, Germany** on 8 Feb 2012, 1:25 p.m.,*
in response to message #6 by Jeff O.

I can live with the placement of the f/g labels above the keys but I prefer the yellow/blue/green color scheme of the original design.

Re: Limited run of blue key slant WP34S overlays
*Message #8 Posted by **Jeff O.** on 8 Feb 2012, 1:58 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Happily, it appears that various preferences can be accommodated.

Re: Limited run of blue key slant WP34S overlays
*Message #9 Posted by **Bob Cortopassi** on 8 Feb 2012, 3:00 p.m.,*
in response to message #6 by Jeff O.

Here's an updated version with Helvetica "g", white shift labels, and the serif'd lowercase x/y. I've also shifted the alpha labels to the right of the respective key instead of the left. I think this will accommodate Jeff's request, and is a look I really like.

Edited: 8 Feb 2012, 3:10 p.m.

Re: Limited run of blue key slant WP34S overlays

*Message #10 Posted by **Jeff O.** on 8 Feb 2012, 3:15 p.m.,*
in response to message #9 by Bob Cortopassi

That looks great! Guess I'll place an order with Eric.

Re: Limited run of blue key slant WP34S overlays

*Message #11 Posted by **Dominic Richens** on 8 Feb 2012, 3:38 p.m.,*
in response to message #9 by Bob Cortopassi

Even better!

Re: Limited run of blue key slant WP34S overlays

*Message #12 Posted by **Dominic Richens** on 9 Feb 2012, 11:52 a.m.,*
in response to message #6 by Jeff O.

Hi Jeff,

> Quote:
>
> 2. moved the alpha labels to the lower right corner of each key instead of lower left.

Just curious, why move the alpha labels?

Re: Limited run of blue key slant WP34S overlays

*Message #13 Posted by **Jeff O.** on 9 Feb 2012, 12:24 p.m.,*
in response to message #12 by Dominic Richens

Lower right corner matches previous HP calculators, for example the HP48.

Re: Limited run of blue key slant WP34S overlays

*Message #14 Posted by **Gerson W. Barbosa** on 9 Feb 2012, 12:52 p.m.,*
in response to message #13 by Jeff O.

But this causes the alpha labels to hide when keying (wasn't this the reason for placing the lettering above the keys rather than below?) Also this breaks the symmetry of the alpha labels placement in the lower half of the overlay. The only change I would suggest to Walter's design would be placing the labels above the keys, as in the original HP-34C and these later overlays.

Re: Limited run of blue key slant WP34S overlays
*Message #15 Posted by **Dominic Richens** on 9 Feb 2012, 4:07 p.m.,*
in response to message #13 by Jeff O.

> Quote:
>
> Lower right corner matches previous HP calculators, for example the HP48.

That's what I thought. Good reason for it.

Though I do concur with Gerson that as a right-handed person, I have a slight preference for labels on the left so that my big fat thumb doesn't obscure the alpha label when it is already on the right key.

Re: Limited run of blue key slant WP34S overlays
*Message #16 Posted by **Gerson W. Barbosa** on 9 Feb 2012, 6:30 p.m.,*
in response to message #15 by Dominic Richens

Actually there's no problem if the labels are hidden when the keys are pressed, this happens with the primary functions all the time. Anyway, it would be great to have three or four options to choose from when ordering the overlays. I think I'll stick to the current version. It looks just fine for me.

Re: Limited run of blue key slant WP34S overlays
*Message #17 Posted by **Marcus von Cube, Germany** on 9 Feb 2012, 6:43 p.m.,*
in response to message #16 by Gerson W. Barbosa

I hope you have upgraded the 20b to V3 and flashed the 30b to a 34S in the meantime. ;-)

Re: Limited run of blue key slant WP34S overlays
*Message #18 Posted by **Gerson W. Barbosa** on 9 Feb 2012, 7:29 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Not yet. No FTDI USB-serial cable no joy. Might get one soon :-)

Re: Limited run of blue key slant WP34S overlays
*Message #19 Posted by **Walter B** on 10 Feb 2012, 5:26 a.m.,*
in response to message #16 by Gerson W. Barbosa

Obrigado, Gerson. Thanks. The current version comes closest to what the designer had in mind d:-) and of course you're right with the hidden labels.

Re: Limited run of blue key slant WP34S overlays
*Message #20 Posted by **troy** on 8 Feb 2012, 2:11 p.m.,*
in response to message #1 by Bob Cortopassi

oh, dang! and i thought i could capitalize on you guys so i can get back the price i paid for the cutter! :)

anyway, i should say that i've seen the light (or the printout of my friend's printer), and green/yellow/blue isn't as bad on my eye as i thought it'd be. i guess i'll have to get an hp printer now! (mine's an old canon).

here's the layout. any takers? :)

i still prefer the linux libertine greek fonts though.

Re: Limited run of blue key slant WP34S overlays

*Message #21 Posted by **Bob Cortopassi** on 9 Feb 2012, 6:49 p.m.,*
in response to message #1 by Bob Cortopassi

This is the version that we actually ended up ordering from Eric. Printing is set to occur on Friday.

There are numerous changes in addition to the color swap and label relocations:

1. Numerals changed to Arial font to match legacy HPs
2. Key top labels changed to a very light gray instead of stark white
3. Revised pi symbol
4. Larger -1 exponent on inverse functions to make them more visible
5. Changed all register references (x and y) to italic serif font to match legacy HPs
6. CPy,x expanded to discrete labels
7. Increased size of s and r
8. Change sign key relabeled CHS
9. Relabeled factorial key to x! for better visibility and to match legacy HP
10. Many small alignment changes to improve consistency and legibility

Re: Limited run of blue key slant WP34S overlays
*Message #22 Posted by **Dirk Mehldau** on 10 Feb 2012, 1:47 a.m.,*
in response to message #21 by Bob Cortopassi

Even though we all are used to see blue labels on the slanted edge, I must admit that the green g-shift-key embarresses me.

Couldn't the f- and h-labels be placed above the keys - even though this is in contrast to the classic HP three-shift-keys-layout?

Dirk

Re: Limited run of blue key slant WP34S overlays
*Message #23 Posted by **Alexander Oestert** on 12 Feb 2012, 6:57 a.m.,*
in response to message #22 by Dirk Mehldau

> Quote:
>
> the green g-shift-key embarresses me.

One could get rid of the letters f, g and h altogether and just put the respective colors on the labels. Or do the letters serve any specific purpose?

Re: Limited run of blue key slant WP34S overlays
*Message #24 Posted by **Marcus von Cube, Germany** on 12 Feb 2012, 9:28 a.m.,*
in response to message #23 by Alexander Oestert

The letters help to name key sequences in absence of color.

Re: Limited run of blue key slant WP34S overlays
*Message #25 Posted by **Walter B** on 10 Feb 2012, 5:35 a.m.,*
in response to message #21 by Bob Cortopassi

The x and y letters look quite nice in general. The f, g, h letters are looking like they were originally designed.

> Quote:
>
> Change sign key relabeled CHS.

FYI, +/- was prefered over CHS resulting from a poll in this forum many weeks ago.

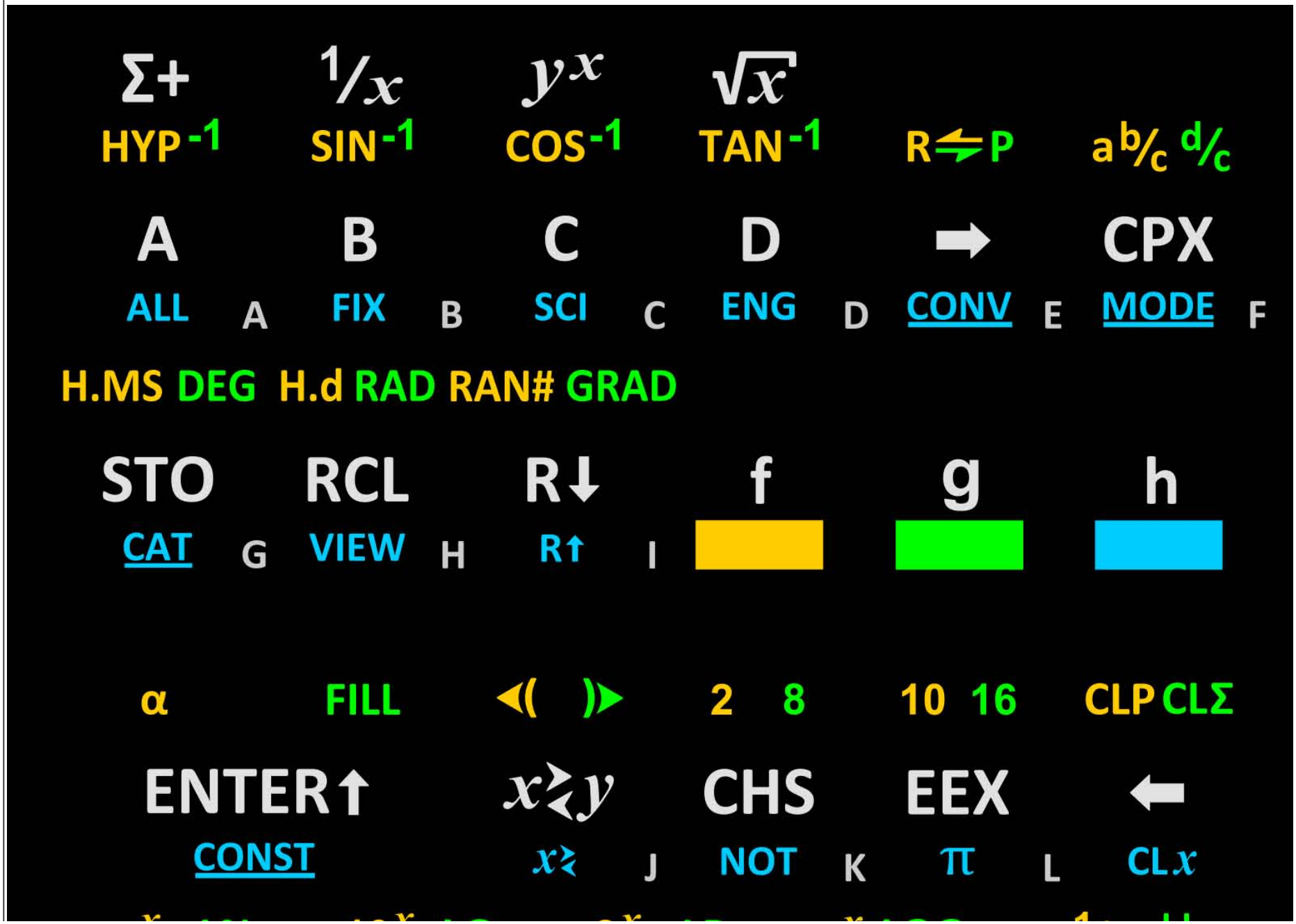
Re: Limited run of blue key slant WP34S overlays
*Message #26 Posted by **Barry Reeves** on 10 Feb 2012, 10:07 a.m.,*

in response to message #25 by Walter B

Very nice tweeks. Looks good. As for little things like the CHS vs +/- Eric certainly has the ability to include both on the new overlays, then people can choose the one they prefer.

Re: Limited run of blue key slant WP34S overlays
*Message #27 Posted by **Eric Rechlin** on 11 Feb 2012, 3:39 p.m.,*
in response to message #21 by Bob Cortopassi

This is what I ended up producing and mailing today for those who had ordered it:



e^x LN 10^x LG 2^x LB y^x LOG$_x$ $1/x$ Π
XEQ 7 8 9 ÷
GTO AND M OR N XOR O RMDR P
Cy,x Py,x Φ^{-1} $\bar{x}$ s $\hat{y}$ r $\sqrt{x}$ x^2
▲ 4 5 6 ×
$x!$ PROB Q STAT R SUMS S MATRIX T
SF CF $x=$ ≠ ? SLV ∫ Π Σ % Δ%
▼ 1 2 3 −
STATUS TEST P.FCN U X.FCN V Σ− W
⬆ SHOW |x| RND IP FP LBL RTN DSE ISG
EXIT 0 • R/S +
OFF PSE • / , X P/R Y Σ+ Z
ON $a^b/_c$

Eric

Re: Limited run of blue key slant WP34S overlays
*Message #28 Posted by **Marcus von Cube, Germany** on 11 Feb 2012, 3:48 p.m.,*
in response to message #27 by Eric Rechlin

Alpha left and swap back blue and green and I'm a taker. I don't like the yellow/green pairing for f/g. (Eric, don't take this as an order, it's just me expressing my personal opinion.)

Re: Limited run of blue key slant WP34S overlays
*Message #29 Posted by **Bob Cortopassi** on 13 Feb 2012, 12:37 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Marcus,

I'm curious as to your preference for the alpha labels on the left. To my knowledge, the WP 34S is the only HP (or HP-like) that has ever had alpha labels to the left of the respective key. Here's a partial list of alpha to the right models:

- HP-22s
- HP-32s
- HP-32sii
- HP-48s/sx
- HP-48g/gx
- HP-49g/gii/g+
- HP-33s
- HP-50g
- HP-35s

Of the other HP models with alpha, the 42s uses menus, the 41C family has alpha as the only marking on the slanted key fronts, and the clam shells have dedicated alpha keyboards.

Thoughts?

Re: Limited run of blue key slant WP34S overlays
*Message #30 Posted by **Alexander Oestert** on 12 Feb 2012, 4:46 a.m.,*
in response to message #27 by Eric Rechlin

What happend to the grey key label background? They were my main reason for ordering... :-(

Edited: 12 Feb 2012, 6:59 a.m.

Re: Limited run of blue key slant WP34S overlays
*Message #31 Posted by **Eric Rechlin** on 12 Feb 2012, 8:57 a.m.,*
in response to message #30 by Alexander Oestert

Those were just guidelines to show approximately where to cut. They should never have been shown to the public, but some people didn't hide those layers before posting sample images here.

Eric

Re: Limited run of blue key slant WP34S overlays
*Message #32 Posted by **Alexander Oestert** on 13 Feb 2012, 1:15 p.m.,*
in response to message #31 by Eric Rechlin

Eric, is there a difference for you (in cost and work involved) wether you produce an overlay from your own image or from an image provided by the customer? Is the number of overlays produced from a specific layout an additional factor in this or could you produce just one custom overlay at the same cost as usual?

No matter what I like your original overlays I have in V2 and V3 and am also looking forward to having this limited run version, be it grey or black!

Re: Limited run of blue key slant WP34S overlays
*Message #33 Posted by **Eric Rechlin** on 13 Feb 2012, 2:37 p.m.,*
in response to message #32 by Alexander Oestert

The time to set up a custom run is relatively minimal, but it's likely that I would need to spend some time tweaking the layout to get all the alignments right. After I got the "final" image from Bob for this, I still had to go in and rearrange some things, and it still took me 3 tries (making useless overlays in the process) to get the cut lines right.

If it's a minor variation of one of the (now two) existing layouts, it should be pretty simple, but if it's significantly different it will take some work.

Eric

Re: Limited run of blue key slant WP34S overlays
*Message #34 Posted by **Gerry Schultz** on 13 Feb 2012, 9:04 p.m.,*
in response to message #33 by Eric Rechlin

Eric, please refresh my memory. How do I order some of the limited run WP 34s overlays?

Thanks, Gerry

Re: Limited run of blue key slant WP34S overlays

*Message #35 Posted by **Eric Rechlin** on 14 Feb 2012, 11:10 a.m.,*
in response to message #34 by Gerry Schultz

Order the overlay as normal, but when sending payment, make sure to add a comment specifying you want the special blue key slant design. Following up with an email to confirm this would be ideal also. 21 sold so far!

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The Condition Number of a Matrix

*Message #1 Posted by **Namir** on 8 Feb 2012, 9:50 a.m.*

I have heard of the **Condition Number of a Matrix** in the past and have not paid much attention to this matrix property, until recently. I have been playing with a search algorithm that solves iteratively systems of linear equations. After the basic testing, I moved to more involved testing that uses random matrices. I began to notice that the number of iterations (for a fixed number of equations) varied widely!! I wrote my Matlab and Excel VBA code such that I can watch the progress of conversion to the solution. I noticed that in some cases the solution converged faster than other cases, where the iteration seem to struggle. I first looked at the value of the determinant of the matrix as a possible indicator for how easy or difficult to work with a articular matrix. I then came across internet articles that talked about the condition number of a matrix as being a good indicator for the ease or difficulty of solving linear equations with a matrix [bold]regardless of the algorithm used and the precision of the computation[/bold]. I find this to be somewhat of a revelation since most numerical analysis books rarely mention the condition number of a matrix as an indicator for the level of ease to solve linear equations.

Namir

Edited: 8 Feb 2012, 9:50 a.m.

Re: The Condition Number of a Matrix

*Message #2 Posted by **Jeff Kearns** on 8 Feb 2012, 2:48 p.m.,*
in response to message #1 by Namir

Condition Number is defined as the product of the norm of A and the norm of A-inverse.

If we use the usual Euclidean norm on vectors and the associated matrix norm, then the condition number is the ratio of the largest singular value of matrix A to the smallest. (Singular values are computed by process called SVD - Singular Value Decomposition and in Matlab the calculation is simply invoked by command svd).

Condition number depends on the underlying norm. However, regardless of the norm, it is always greater or equal to 1. If it is close to one, the matrix is well conditioned which means its inverse can be computed with good accuracy. If the condition number is large, then the matrix is said to be ill-conditioned. Practically, such a matrix is almost singular, and the computation of its inverse, or solution of a linear system of equations is prone to large numerical errors. A matrix that is not invertible has the condition number equal to infinity.

Re: The Condition Number of a Matrix

*Message #3 Posted by **Namir** on 8 Feb 2012, 4:24 p.m.,*
in response to message #2 by Jeff Kearns

Right on Jeff!!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE: keyboard problems

*Message #1 Posted by **dietmar13** on 7 Feb 2012, 2:04 p.m.*

hello, i have bought a HP 15C LE from "The Calculator Store" and got it today.

S/N: CNA148022R (Lim. Ed. No.: 11041) - european version?

unfortunately is the "*" key not working as expected. you have to press hard or more than twice until it is recogniced.

how should i proceed: contact the store or HP directly?

i thought, the keyboard problem was solved?

the best

dietmar

Re: HP 15C LE: keyboard problems

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Feb 2012, 3:41 p.m.,*
in response to message #1 by dietmar13

You should return it to the dealer.

Re: HP 15C LE: keyboard problems

*Message #3 Posted by **Reth** on 7 Feb 2012, 5:05 p.m.,*
in response to message #1 by dietmar13

Now that's bad...

Re: HP 15C LE: keyboard problems

*Message #4 Posted by **Lincoln R.** on 7 Feb 2012, 8:00 p.m.,*
in response to message #1 by dietmar13

Ask the dealer first. If they have more for exchanges send it back to them. If not, then try HP, they might actually have some in stock for replacing dead units under warranty.

Re: HP 15C LE: keyboard problems

*Message #5 Posted by **Bart (UK)** on 9 Feb 2012, 11:04 a.m.,*
in response to message #1 by dietmar13

Mine arrived from "The Calculator Store" yesterday. I tested all the keys (pressing as lightly as possible until they clicked), and I'm happy to report there are no problems. All keys registered first time, every time.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 30b -> wp 34s

*Message #1 Posted by **Christopher Johnson** on 7 Feb 2012, 12:06 p.m.*

Alright, putting in the caps and crystal to say the least was quite a job. WOW those things are tiny. 2 caps are gone somewhere in the carpet. I'm glad I bought 8 of them. Quite a job for 51 year old hands and eyes. I was going to take pictures but I wouldn't want anyone to see my GREAT solder work. The calculator still works.

Is there anyway to check the clock without the 34s firmware?

I'm guessing that calc_xtal_full.bin is the firmware that I need to be able to use the clock. That is the standard firmware with the clock function. Correct?

Now waiting on the cable and overlay.

CJ

Re: hp 30b -> wp 34s

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Feb 2012, 12:40 p.m.,*
in response to message #1 by Christopher Johnson

I'm not aware of a feature in the original 30b firmware to enable the crystal so you will have to wait for the cable.

calc(_full).bin supports the crystal but you need to activate it with ON+C.

calc_xtal(_full).bin supports only modified calculators. The crystal is activated on a cold boot (you'll notice a delay when powering on the calculator the first time after a reset.) I've added the stop watch function to this release.

The images with _full in the name contain some user code library routines which show up in CAT.

Re: hp 30b -> wp 34s

*Message #3 Posted by **Christopher Johnson** on 7 Feb 2012, 9:46 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Marcus.

Looking forward to flashing this thing and taking it around the block to see what it can do.

CJ

Re: hp 30b -> wp 34s

*Message #4 Posted by **Sylvain Louboutin** on 7 Feb 2012, 1:40 p.m.,*
in response to message #1 by Christopher Johnson

I received everything, cable, overlays, crystal and caps (and a 30b of course), now I just need one quite evening to try to put it all together :-)

Re: hp 30b -> wp 34s

*Message #5 Posted by **David Griffith** on 7 Feb 2012, 11:31 p.m.,*
in response to message #1 by Christopher Johnson

Where's the list/writeup on applying these mods? I just received my overlay and am waiting on the calculator.

Re: hp 30b -> wp 34s

*Message #6 Posted by **Jeff O.** on 8 Feb 2012, 7:38 a.m.,*
in response to message #5 by David Griffith

Crystal addition is discussed in this thread.

Re: hp 30b -> wp 34s

*Message #7 Posted by **Dominic Richens** on 8 Feb 2012, 10:16 a.m.,*
in response to message #5 by David Griffith

I copied some of the previous discussion to a page under wp34s on wiki4hp.com

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[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP28S battery door trouble

*Message #1 Posted by **David Griffith** on 6 Feb 2012, 10:43 p.m.*

I recently acquired an HP28S in good condition except for one problem. It seems to be a design flaw making itself known. Anyhow, the battery springs push against the batteries and the battery cover causing it to bulge out. This leaves a palpable edge that makes it a difficult to close the cover without pushing on the battery door. Is there a workable fix for this?

Re: HP28S battery door trouble

*Message #2 Posted by **Michael de Estrada** on 6 Feb 2012, 11:03 p.m.,*
in response to message #1 by David Griffith

This is the achilles heel of this design, and is absolutely the worst battery door design ever devised by HP. Eventually either the door breaks or the case breaks, leaving you with no way to keep it in place. Perhaps some other forum members can help with preventive measures or fixes, but my only advice is to pray.

Re: HP28S battery door trouble

*Message #3 Posted by **David Griffith** on 6 Feb 2012, 11:53 p.m.,*
in response to message #2 by Michael de Estrada

Looking closer, it seems that the door is okay, but the case is starting to fail. If I could get the calculator open, then I think I could push on the springs to reduce their height a bit, then wedge a metal rod in there to keep the cells back. Then the door can be inserted and it won't stick out.

Re: HP28S battery door trouble

*Message #4 Posted by **Barry Reeves** on 7 Feb 2012, 10:13 a.m.,*
in response to message #3 by David Griffith

If nothing has chipped off yet, a bit of epoxy on the case should strengthen it enough.

Re: HP28S battery door trouble

*Message #5 Posted by **bill platt** on 7 Feb 2012, 11:30 a.m.,*
in response to message #1 by David Griffith

I've gone through *three* $150 point and shoot cameras for essentially the same reason. You'd think someone would learn something...but some of us are slow on the uptake :-/

Re: HP28S battery door trouble

*Message #6 Posted by **Sylvain Louboutin** on 7 Feb 2012, 2:35 p.m.,*
in response to message #5 by bill platt

...something to keep in mind every time you hear someone complains about Apple products lack of

removable batteries :-)

Re: HP28S battery door trouble

*Message #7 Posted by **bill platt** on 7 Feb 2012, 3:45 p.m.,*
in response to message #6 by Sylvain Louboutin

LOL >:<

Re: HP28S battery door trouble

*Message #8 Posted by **Mike Morrow** on 7 Feb 2012, 3:52 p.m.,*
in response to message #6 by Sylvain Louboutin

I sense gospel from the Book of Jobs in the Apple religion. It's obvious that the money to be made by Apple servicing departments, or by the purchase of a new phone, is the only reason Apple batteries aren't accessible. The same pathological need for control prevented SD card support. Saint Steve apparently even disliked SIM card access, but that privilege was graciously granted by Apple-god.

The Clamshell door design is a yet another example of poor engineering by HP. It's failure is not a rational argument for Apple-Nazi-like customer control, any more than the failure of the Woodstock charging system is an argument against rechargeable batteries in any device.

Re: HP28S battery door trouble

*Message #9 Posted by **Ethan Conner** on 7 Feb 2012, 4:24 p.m.,*
in response to message #8 by Mike Morrow

Also the fact that 90% of forum members could and would change their own battery just for a chance to open a device up. Lol

Re: HP28S battery door trouble

*Message #10 Posted by **bill platt** on 7 Feb 2012, 7:22 p.m.,*
in response to message #9 by Ethan Conner

Haha absolutely!

Re: HP28S battery door trouble

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 7 Feb 2012, 5:14 p.m.,*
in response to message #8 by Mike Morrow

Amen, Mike! ;)

Re: HP28S battery door trouble

*Message #12 Posted by **Steve Fennell** on 7 Feb 2012, 5:56 p.m.,*
in response to message #8 by Mike Morrow

> Quote:
>
> Apple-Nazi-like

You win the hyperbole award.

Re: HP28S battery door trouble

*Message #13 Posted by **bill platt** on 7 Feb 2012, 7:25 p.m.,*
in response to message #12 by Steve Fennell

what's that old usenet saw about the 1st person to say the n word loses the argument by default?

Re: HP28S battery door trouble

*Message #14 Posted by **Steve Fennell** on 7 Feb 2012, 8:17 p.m.,*
in response to message #13 by bill platt

I think it's Godwin's Law. Here's a link written by Mike Godwin.

Re: HP28S battery door trouble

*Message #15 Posted by **bill platt** on 7 Feb 2012, 9:30 p.m.,*
in response to message #14 by Steve Fennell

That's hilarious. Tnx 4 lnk. 73, Bill

Re: HP28S battery door trouble

*Message #16 Posted by **bill platt** on 7 Feb 2012, 7:24 p.m.,*
in response to message #8 by Mike Morrow

"Saint Steve apparently even disliked SIM card access"

He wouldn't have sold a single phone in many countries round the world if he had not given simm access--that's how it works in the rest of the world. The "unlocked phone" is actually normal--the US phone-facsists have us brainwashed thinking it is not.

Re: HP28S battery door trouble

*Message #17 Posted by **Thomas Okken** on 10 Feb 2012, 1:58 a.m.,*
in response to message #5 by bill platt

> Quote:
>
> I've gone through *three* $150 point and shoot cameras for essentially the same reason. You'd think someone would learn something...but some of us are slow on the uptake :-/

Ha! That reminds me of my Olympus D-340R -- one of the nicer early digital cameras, took great pictures, and I took it with me wherever I went, until the LCD on the back stopped working after 10+ years... But nice as it was, the one thing that *always* ticked me off was the battery door. Having to apply 100 pounds of pressure on an area of 1 cm^2 while twisting a tiny recessed lever that also needs massive force but that you can only get purchase on with your fingernails... how does such a horrible design ever make it past QA? The irony being that Olympus is not a company that has a reputation for crappy products, and neither is (or, well, was) HP, and yet sometimes they produced these real stinkers. Oh, yes, the Woodstock battery situation... Or my 1991 VW Passat with its flaky electronics and a cooling system that could not keep the engine cool while also running the AC in stop-and-go traffic in 90 °F weather... It's the juxtaposition of *mostly* great products that then have these glaring flaws (that any halfway sane QA process would have caught) that is so weird, and so amusing. I guess it's also a bit endearing. My perfect Toyota is just a bit... well, *boring*, by comparison...

Re: HP28S battery door trouble

*Message #18 Posted by **bill platt** on 10 Feb 2012, 7:44 p.m.,*
in response to message #17 by Thomas Okken

LOL on Toyota. I have 2 of them. My Corolla made 200k miles yesterday. I have replaced the driver's side door handle 3 times. Every 67ooo miles I put the 4th one (3rd replace) on a week ago.

Edited: 10 Feb 2012, 7:44 p.m.

Re: HP28S battery door trouble

*Message #19 Posted by **David Griffith** on 7 Feb 2012, 11:34 p.m.,*
in response to message #1 by David Griffith

Has anyone here tried making a clip this the one shown in this link? http://www.mpshp.com/hp28s

Re: HP28S battery door trouble

*Message #20 Posted by **Keith Midson** on 8 Feb 2012, 4:25 a.m.,*
in response to message #1 by David Griffith

The 28S is my personal favorite of all the HP's (well it was my first HP - I do have many other favorites now as well ...). I've found the best way to fix the battery door is to buy a new 28S!
HP did overcome this design flaw in the last version of the 19Bii - a back access battery door. This design came about well after production of the 28S ceased unfortunately. Cheers, Keith

Edited: 8 Feb 2012, 4:26 a.m.

Re: HP28S battery door trouble

*Message #21 Posted by **David Griffith** on 8 Feb 2012, 6:55 a.m.,*
in response to message #20 by Keith Midson

Advising me to buy another 28s is not helpful... I want to find someone who can make one of those clips.

Re: HP28S battery door trouble

*Message #22 Posted by **aj04062** on 8 Feb 2012, 7:40 a.m.,*
in response to message #21 by David Griffith

Hey David,

I'd be up for designing this in CAD and having my sheetmetal shop make some. Contact me directly if interested.

Adam

Re: HP28S battery door trouble

*Message #23 Posted by **Vince (Italy)** on 8 Feb 2012, 7:44 a.m.,*
in response to message #21 by David Griffith

Someone has built one of them using a computer case slot insert. Hope it helps.

Re: HP28S battery door trouble

*Message #24 Posted by **Neil Hamilton (Ottawa)** on 8 Feb 2012, 8:24 a.m.,*
in response to message #23 by Vince (Italy)

That would be me and there is more info here in this article -- skip to the bottom.

I would not say I did a very good job but at least it was simple and has the calculator functional again, if not esthetically pleasing.

The offer from Adam's metal shop is likely your best bet if you want a result more in keeping with the original source from the link you gave.

You'll note that I mentioned in the article that I thought that the springs were way too stiff and should be cut down to reduce the stress on the case.

Good luck David!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

it's here !!!

*Message #1 Posted by **Alberto Fenini** on 6 Feb 2012, 6:22 p.m.*

I know it's kind of childish, but I couldn't resist.
When I started collecting few years ago, I had never thought I would have one
I just wanted to share with everybody that my Red Dot is finally here...

The serial number (barely readable) is 1143A 02499
This unit is actually joining the rest of the family, a version 2 with raised dot, a more common version 3 and a very common version 4.
Should I consider opening this unit and replacing the key "." and restoring the silver trim or should I leave it the way it is ???
If of interest to anyone, I will post pics of the manual, which is also for the red dot, and of the power supply which to me looks very much older than the usual classic power supply
Take care everybody, Alberto

Re: it's here !!!

*Message #2 Posted by **Michael de Estrada** on 6 Feb 2012, 6:32 p.m.,*
in response to message #1 by Alberto Fenini

Fantastico ! Please don't restore it or open it. Antiques should be only carefully cleaned and left in their original condition. What is wrong with the "." key, anyway ?

Re: it's here !!!

*Message #3 Posted by **Alberto Fenini** on 6 Feb 2012, 6:57 p.m.,*
in response to message #2 by Michael de Estrada

I agree with you, even if I have restored all my calcs, I feel I should only clean this one and nothing more.
The "." key is kind of molded, like if it was exposed to some high temperature or if it came in contact with some fire
but is fully working.
thanks for the comment !

Re: it's here !!!

*Message #4 Posted by **Giovanni Jimenez** on 6 Feb 2012, 7:46 p.m.,*
in response to message #3 by Alberto Fenini

Alberto

Could you please contact me ? Send me an email to gjimenezdorigo_at_yahoo.com

would like to talk about the HP-35 Red Dot (dont worry, won't try to buy it from you, I know these are invaluable !).

Thank you

Giovanni

Re: it's here !!!

*Message #5 Posted by **Michael de Estrada** on 6 Feb 2012, 8:47 p.m.,*
in response to message #3 by Alberto Fenini

I now see what you mean about the "." key. I certainly would not be concerned about this.

Re: it's here !!!

*Message #6 Posted by **Chuck** on 6 Feb 2012, 8:50 p.m.,*
in response to message #5 by Michael de Estrada

Could it be from those grand days of cigarettes for all?

Re: it's here !!!

*Message #7 Posted by **Michael de Estrada** on 6 Feb 2012, 9:02 p.m.,*
in response to message #6 by Chuck

Or a pipe ember.

Re: it's here !!!

*Message #8 Posted by **aj04062** on 6 Feb 2012, 9:56 p.m.,*
in response to message #7 by Michael de Estrada

Several calculators in my collection have these battle scars from old.

I agree, leave it.

Re: it's here !!!

*Message #9 Posted by **Johnny Bjoern Rasmussen** on 7 Feb 2012, 2:53 a.m.,*
in response to message #8 by aj04062

Congrats! I agree with the others. I would never open it. Leave it as it is and be happy to finally own one.

Johnny

Edited: 7 Feb 2012, 2:53 a.m.

Re: it's here !!!

*Message #10 Posted by **Alberto Fenini** on 10 Feb 2012, 11:03 a.m.,*
in response to message #2 by Michael de Estrada

Not even the silver trim ??????????????
Take care and have a nice weekend ! Alberto

Re: it's here !!!

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 10 Feb 2012, 3:43 p.m.,*
in response to message #10 by Alberto Fenini

No, don't touch it! ;-)

Massimo

Re: it's here !!!

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 7 Feb 2012, 3:25 a.m.,*
in response to message #1 by Alberto Fenini

Congrats Alberto and welcome to the club! ;)

Looks like there's quite a few of them here in Italy...

Greetings,
Massimo

Re: it's here !!!

*Message #13 Posted by **Ignazio Cara (Italy)** on 7 Feb 2012, 7:19 a.m.,*
in response to message #1 by Alberto Fenini

Welcome Alberto, another RD in Italy! BTW, how many 35 RD there are in Italy? A survey proposal.

Congratulazioni.

Ignazio

Re: it's here !!!

*Message #14 Posted by **Paolo Reda** on 7 Feb 2012, 4:13 p.m.,*
in response to message #1 by Alberto Fenini

Be very proud, enjoy this litle gem. I remember when I open the box of my RD..... Many many year ago...
Paolo

Re: it's here !!!

*Message #15 Posted by **Eddie W. Shore** on 8 Feb 2012, 9:59 p.m.,*
in response to message #1 by Alberto Fenini

Happy dance Alberto! :).

Re: it's here !!!

*Message #16 Posted by **aurelio** on 9 Feb 2012, 4:21 p.m.,*
in response to message #1 by Alberto Fenini

complimenti Alberto, for your new entry, congratulations

Re: it's here !!!

*Message #17 Posted by **Matthias Wehrli** on 9 Feb 2012, 5:54 p.m.,*
in response to message #1 by Alberto Fenini

Crap, one more for you is one less for me ..... Keep it save ;)

Re: it's here !!!

*Message #18 Posted by **Massimo Gnerucci (Italy)** on 10 Feb 2012, 3:33 a.m.,*
in response to message #17 by Matthias Wehrli

Matthias, you can't have **everything**!

Eheheheh :)))

Massimo

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DM-15CC launched

*Message #1 Posted by **Andy Lamming (UK)** on 6 Feb 2012, 2:14 p.m.*

I've just noticed that the DM 15CC has been launched, and orders are being taken. It'll be interesting to see what it is like in the flesh (of my palm!)

Re: DM-15CC launched

*Message #2 Posted by **Cristian Arezzini** on 6 Feb 2012, 4:03 p.m.,*
in response to message #1 by Andy Lamming (UK)

Sold out already?!? What. the. heck.

Cristian

Re: DM-15CC launched

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 6 Feb 2012, 4:10 p.m.,*
in response to message #2 by Cristian Arezzini

A slip of the mouse button ordered one for me. Oops!

And it looks like that one got in ahead of the "sold out".

Really looking forward to a 16c version!!

Re: DM-15CC launched

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2012, 4:11 p.m.,*
in response to message #2 by Cristian Arezzini

Yes... we were really fast! ;)

Massimo

Re: DM-15CC launched

*Message #5 Posted by **Paul Dale** on 6 Feb 2012, 4:17 p.m.,*
in response to message #1 by Andy Lamming (UK)

Sigh, missed out :-(

- Pauli

Re: DM-15CC launched

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2012, 4:18 p.m.,*
in response to message #5 by Paul Dale

Just a matter of a few weeks' wait...

Edited: 6 Feb 2012, 4:19 p.m.

Re: DM-15CC launched

*Message #7 Posted by **db (martinez, ca.)** on 6 Feb 2012, 11:26 p.m.,*
in response to message #5 by Paul Dale

double "sigh"
always the bridesmaid, never the bride.

Re: DM-15CC launched

*Message #8 Posted by **gene wright** on 7 Feb 2012, 8:00 a.m.,*

in response to message #7 by db (martinez, ca.)

db, you've wanted to be the bride? I don't recall you saying that at any HHC gatherings. ;-) lol

Re: DM-15CC launched

*Message #9 Posted by **db (martinez, ca.)** on 7 Feb 2012, 8:38 p.m.,*
in response to message #8 by gene wright

> Quote:
>
> you've wanted to be the bride?

"i now pronounce you RPN and nerd. you may kiss the calculator".

just hope i get in on the second batch, and since one is never enough ,the 16 too.

Re: DM-15CC launched

*Message #10 Posted by **gene wright** on 7 Feb 2012, 8:46 p.m.,*
in response to message #9 by db (martinez, ca.)

Once you get one of each, come to HHC this September!

Re: DM-15CC launched

*Message #11 Posted by **Eddie W. Shore** on 8 Feb 2012, 10:11 p.m.,*
in response to message #9 by db (martinez, ca.)

> Quote:
>
> "i now pronounce you RPN and nerd. you may kiss the calculator".
>
> just hope i get in on the second batch, and since one is never enough ,the 16 too.

LOL. This would be a great idea for a picture.

Re: DM-15CC launched

*Message #12 Posted by **db (martinez, ca.)** on 8 Feb 2012, 11:14 p.m.,*
in response to message #11 by Eddie W. Shore

> Quote:
>
> LOL. This would be a great idea for a picture.

Is that a picture of me marring a calculator (RPN of course), or the polygamy angle of me marrying two of them?

Re: DM-15CC launched

*Message #13 Posted by **Reth** on 7 Feb 2012, 12:32 a.m.,*
in response to message #5 by Paul Dale

I got their email at 6:28 this morning and ordered one immediately A$66.66 with shipping. iPhone proved to be worth something ;)

Re: DM-15CC launched

*Message #14 Posted by **bill platt** on 6 Feb 2012, 8:11 p.m.,*
in response to message #1 by Andy Lamming (UK)

http://www.rpn-calc.ch/player.swf?file=sample.flv&autostart=true

Edited: 6 Feb 2012, 8:11 p.m.

Re: DM-15CC launched

*Message #15 Posted by **Mike T.** on 7 Feb 2012, 6:24 p.m.,*

in response to message #14 by bill platt

Wow - Now that is cool, even the keyboard doesn't look too bad.

Given that I know defiantly don't want to buy a buggy 15LE, this looks very interesting even if it isn't the 'real thing'...

Mike T.

PS - I Bet it doesn't have the PSE bug :-)

Re: DM-15CC launched

*Message #16 Posted by **RedGlyph** on 12 Feb 2012, 6:50 a.m.,*
in response to message #15 by Mike T.

The HP-15LE isn't buggy at all.

Only time will tell how long the keyboard lasts, of course, and how often the batteries must be replaced, but I'm very pleased with that version even if I prefer the quality look and feel of the original HP-15C.

The only feature that is not working is the original self-tests, which have been replaced by another test at the CPU level, for the display, the memory and the keyboard. It's true they didn't anticipate that though, the back of the calculator still mentions "Error 9" for the ON-x test, and the manual is a copy of the HP-15C one with both self-tests and no mention of the new test except on a separate errata sheet.

It even comes with a printed manual, which is an exceptional move from HP these days! The printed manual is the Owner's Handbook, but you get a copy of the Advanced Function Handbook on the CD-ROM, along with a buggy software emulator for Windows that I discarded immediately (to think they actually sell those!).

It all depends what you are looking for. If you actually want to use the calculator on a regular basis, the HP-15LE is perfect, and I wouldn't choose the HP-15CC for that purpose. If you are interested in HP calculators in general, the HP-15CC is an interesting piece... but then so is the HP-15LE. When available of course, I see that it is out of stock again on HP site, after a second batch last December.

Re: DM-15CC launched

*Message #17 Posted by **Alexander Oestert** on 12 Feb 2012, 7:06 a.m.,*
in response to message #16 by RedGlyph

Not buggy? Have you recently purchased a version with all the software bugs gone? That would be great news!

Bug list 15c LE

Edited: 12 Feb 2012, 7:09 a.m.

Re: DM-15CC launched

*Message #18 Posted by **RedGlyph** on 18 Feb 2012, 6:19 a.m.,*
in response to message #17 by Alexander Oestert

Thanks for the link, that's interesting to know :)

I haven't checked them all, but those I did are on my version as expected, since I own a "first batch" version. Did HP fix that later on, we'll know if someone post it here but I doubt it.

At least the first bug was already in the HP-15C, and neither of them is critical for the calculations, but some can be annoying (battery-related ones especially).

That being said, those bugs are apparently on the 15CC as well... so while they could be more easily fixed on that version, I'd still rather use a reliable keyboard and comfortable display for everyday's use than the frail and awkward DM-15CC design (not a criticism - it's not intended to be a professional design).

Re: DM-15CC launched

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Feb 2012, 9:19 a.m.,*
in response to message #18 by RedGlyph

Battery issues are quite important.

PAUSE issue is annoying indeed, severely impairing programs. With a one-line, numeric display, PAUSE is one of the very few tools available for a user interface. And is irritating to see kow this product went into production with such a bug; as almost any simple program used as a test would have pointed straight at it.

I hope HP will offer a software update somehow. For now, my HP-15L just rests on its beautiful box as a conversation piece.

[Please note that I call it "15L" because the battery issues prevent it to deserve the "continuous memory" badge. It certainly deserves the "limited" part of the "limited edition" string].

Re: DM-15CC launched

*Message #20 Posted by **Alexander Oestert** on 18 Feb 2012, 10:19 a.m.,*
in response to message #18 by RedGlyph

> Quote:
>
> At least the first bug was already in the HP-15C,

The first on the list is the PSE bug which definitely is not in the original 15c.

> Quote:
>
> That being said, those bugs are apparently on the 15CC as well...

No, I don't think so. Which bugs have you found in the DM-15CC?

Re: DM-15CC launched

*Message #21 Posted by **From Hong Kong** on 7 Feb 2012, 1:07 a.m.,*
in response to message #1 by Andy Lamming (UK)

I'm a bit disappointed in the speed and battery. I don't mind having a double speed with two CR2032 batteries. Anyway, I'll buy two for sure.

I also look forward to a full report from its owners.

Re: DM-15CC launched

*Message #22 Posted by **Matthias Wehrli** on 7 Feb 2012, 1:40 p.m.,*
in response to message #1 by Andy Lamming (UK)

Wow, within 24h the units are all sold out. Thats quiet better than HP itself ;)

Re: DM-15CC launched

*Message #23 Posted by **Geoff Quickfall** on 7 Feb 2012, 1:47 p.m.,*
in response to message #22 by Matthias Wehrli

Go to the site. Only 50 units available as the CPU was not working on the rest.

/:-(

New units in two to three weeks

/;-)

Re: DM-15CC launched

*Message #24 Posted by **Paul Dale** on 7 Feb 2012, 4:47 p.m.,*
in response to message #22 by Matthias Wehrli

More likely within two hours they were all sold.

- Pauli

Re: DM-15CC launched

*Message #25 Posted by **Geoff Quickfall** on 7 Feb 2012, 4:59 p.m.,*
in response to message #24 by Paul Dale

From my email to my failed purchase attempt, 20 minutes!!!!!!!

d:-(

Geoff

Re: DM-15CC launched

*Message #26 Posted by **gene wright** on 7 Feb 2012, 5:14 p.m.,*
in response to message #25 by Geoff Quickfall

Nice hat, Geoff. Woudln't want you getting sunburned up north.

Re: DM-15CC launched

*Message #27 Posted by **Geoff Quickfall** on 7 Feb 2012, 5:42 p.m.,*
in response to message #26 by gene wright

It keeps my hair on the scalp, not too successful though!

Re: DM-15CC launched

*Message #28 Posted by **Egan Ford** on 7 Feb 2012, 2:56 p.m.,*
in response to message #1 by Andy Lamming (UK)

Awesome. I cannot wait to get both the 15 and 16. My only concern from the video is that it looked like it takes a bit of effort to press a key.

Re: DM-15CC launched

*Message #29 Posted by **Bruce Bergman** on 7 Feb 2012, 10:27 p.m.,*
in response to message #28 by Egan Ford

I noticed the same thing. It looks like he is really pressing hard to get some of those keys to register. Not sure if that's just big thumbs, or poor keyboard...

Re: DM-15CC launched

*Message #30 Posted by **Michael de Estrada** on 7 Feb 2012, 10:42 p.m.,*
in response to message #29 by Bruce Bergman

Not big thumbs, but really tiny keyboard. Trying to cram a 4 row x 10 column keyboard into that footprint makes it impractical.

Re: DM-15CC launched

*Message #31 Posted by **bill platt** on 8 Feb 2012, 1:19 p.m.,*
in response to message #30 by Michael de Estrada

You use a Dixon Ticonderoga or a Venus Velvet eraser to push the keys :-)

Re: DM-15CC launched

*Message #32 Posted by **Juergen Keller** on 8 Feb 2012, 1:31 p.m.,*
in response to message #28 by Egan Ford

I've got one from the sample batch a few weeks ago but unfortunately didn't had much time to use it. My first impressions were:

* you have to get used to the form factor; I hold it with both hands and use my thumbs to press the keys; works quite well

* it's really small and fits into every pocket; there is no excuse anymore to not have a calculator at your fingertips

* the keys need strong pressure; however, I've got a message from the manufacturer that this will change in the production run units

* the keys do not always register even if you hear the click

* the display contrast is low; you need good light to read it comfortably

* it is pleasingly fast; sorry, didn't had time to run comparisons yet

* works as the original 15C, including self-tests; no PSE bug :-)

* fair pricing (considering the small production run)

* it looks sweet (the baby factor)

* the sandwich construction provides no good protection against dust sneaking into the display

Re: DM-15CC launched

*Message #33 Posted by **RedGlyph** on 12 Feb 2012, 6:09 a.m.,*
in response to message #32 by Juergen Keller

I have received a production unit on Friday, so here are my first impressions.

Admittedly the size makes it more difficult to punch the keys than a full-sized calculator, but the idea was to build a small calculator from the start. For me the size of the keyboard doesn't make it difficult to use the calculator though, I think it has the right dimensions to be both small and not too small as to be impractical - key spacing makes it more comfortable than a BlackBerry for example.

However, I confirm the keys are hard to press and don't always register, which makes this calculator a bit awkward to use. Add to that a curved surface due to too few screws (four, one in each corner) that makes the calculator bend and sometimes produce a little crushing sound when you press some of the keys, and you get a general impression of something that will not last and is not so pleasant to manipulate.

It is faster than the original HP-15C, although not as fast as the HP-15LE. For example, integration of sin^2(x) from 0 to 45 degrees takes about 30 seconds on an HP-15C, about 5 seconds on the HP-15CC, and less than one second on the HP-15LE. I'd say it more than enough for a calculator.

EDIT: A simple loop with 2000 iterations (LBL A, 1 STO- 0, RCL 0, TEST 1, GTO A) takes

- 19'27" on HP-15C
- 6" on HP-15LE, about 194 times faster
- 2'12" on HP-15CC, about 8.8 times faster. Some complex operations may be faster though.

The ON-x self-test works, the ON-/ one doesn't, however. It displays the first symbols on the screen but pressing any key doesn't make it progress. The only way out is pressing the ON key which produces an "Error 9". Not a big deal I suppose, and it doesn't work on the HP-15LE either, but I think this calculator should have a keyboard test at some point, given this is a weak point of the design.

Unfortunately I could not test the mini-USB connection because I don't have a compatible cable, it looks like a mini-B type like those used on the Motorola smartphone. Not the most common type...

The display is fine, the large numbers are visible enough. While it doesn't offer the same contrast ratio as an original or an LE model, it shouldn't cause any problem in normal conditions. My display was slightly scratched when I received the calculator, it looks like it's prone to being scratched if not taken care of, for instance if stored in a bag without protection. I suppose the units were stacked together after production, that's when it must have happened.

The calculator comes with a protection sleeve that can be seen on the site photos. What is not rendered is its nasty synthetic smell though ;-) It tends to pervade quite a bit.

So in conclusion, this is an interesting gadget for HP-15 enthusiasts, but definitely not something you want to use on a daily basis, or if you must depend on it for an exam or in the field. It could use a better keyboard design, and a more robust case, I expect either to be the weakest feature and to break down first. But you have to look at this as a DIY-grade design, and as such this isn't bad at all!

Edited: 12 Feb 2012, 7:26 a.m.

Re: DM-15CC launched

*Message #34 Posted by **Eric Rechlin** on 12 Feb 2012, 9:03 a.m.,*
in response to message #33 by RedGlyph

Mini-USB is deprecated and I agree it should not have been used (modern devices should use Micro-USB instead), but it's still fairly common. All the recent HP graphing calculators prior to the 39gII still use it, and I have countless devices at home that use it (my old HTC phone, Sony Reader, portable hard drive, memory card reader, GPS, etc).

Eric

Re: DM-15CC launched

*Message #35 Posted by **RedGlyph** on 12 Feb 2012, 12:54 p.m.,*
in response to message #33 by RedGlyph

Finally got a compatible cable from an old Lacie HD drive. But unfortunately, I couldn't establish any connection, neither with FlashMagic, nor with Putty.

There isn't much information to start with, so it could be that (which interface to use, what subtype of LPC1114 CPU), it could also be the USB - RS232 known for being capricious, or a missing driver...

Re: DM-15CC launched

*Message #36 Posted by **Massimo Gnerucci (Italy)** on 13 Feb 2012, 3:30 p.m.,*
in response to message #33 by RedGlyph

Just got my two DM-15CC.
Funny how they sit in the palm of your hand!
Yes, keys do not always register even if you feel the dome "snap" but, all in all, it's a good compromise.

Quite fast relative to the original but obviously not on a par with a 15C LE.
I tried a quick and dirty benchmark (please forgive any inconsistencies/errors due to me not being proficient with the voyagers).

```
LBL A
SIGMA+
SIN
COS
TAN
GTO A
RTN
```

I let them go for 60" and found the following:

```
HP 15C          22 iterations
HP 15C LE             2118 iterations
DM-15CC         140 iterations
```

Here's a family photo! :)

Massimo

Re: DM-15CC launched

*Message #37 Posted by **Michael de Estrada** on 13 Feb 2012, 3:34 p.m.,*
in response to message #36 by Massimo Gnerucci (Italy)

You've got the commas and periods reversed. ;)

Re: DM-15CC launched

*Message #38 Posted by **Marcus von Cube, Germany** on 13 Feb 2012, 4:08 p.m.,*
in response to message #37 by Michael de Estrada

They are perfectly right. ;-)

Re: DM-15CC launched

*Message #39 Posted by **Massimo Gnerucci (Italy)** on 13 Feb 2012, 4:24 p.m.,*
in response to message #37 by Michael de Estrada

> Quote:
>
> You've got the commas and periods reversed. ;)

First things first! ;)
And... DECIMAL-POINT IS COMMA.

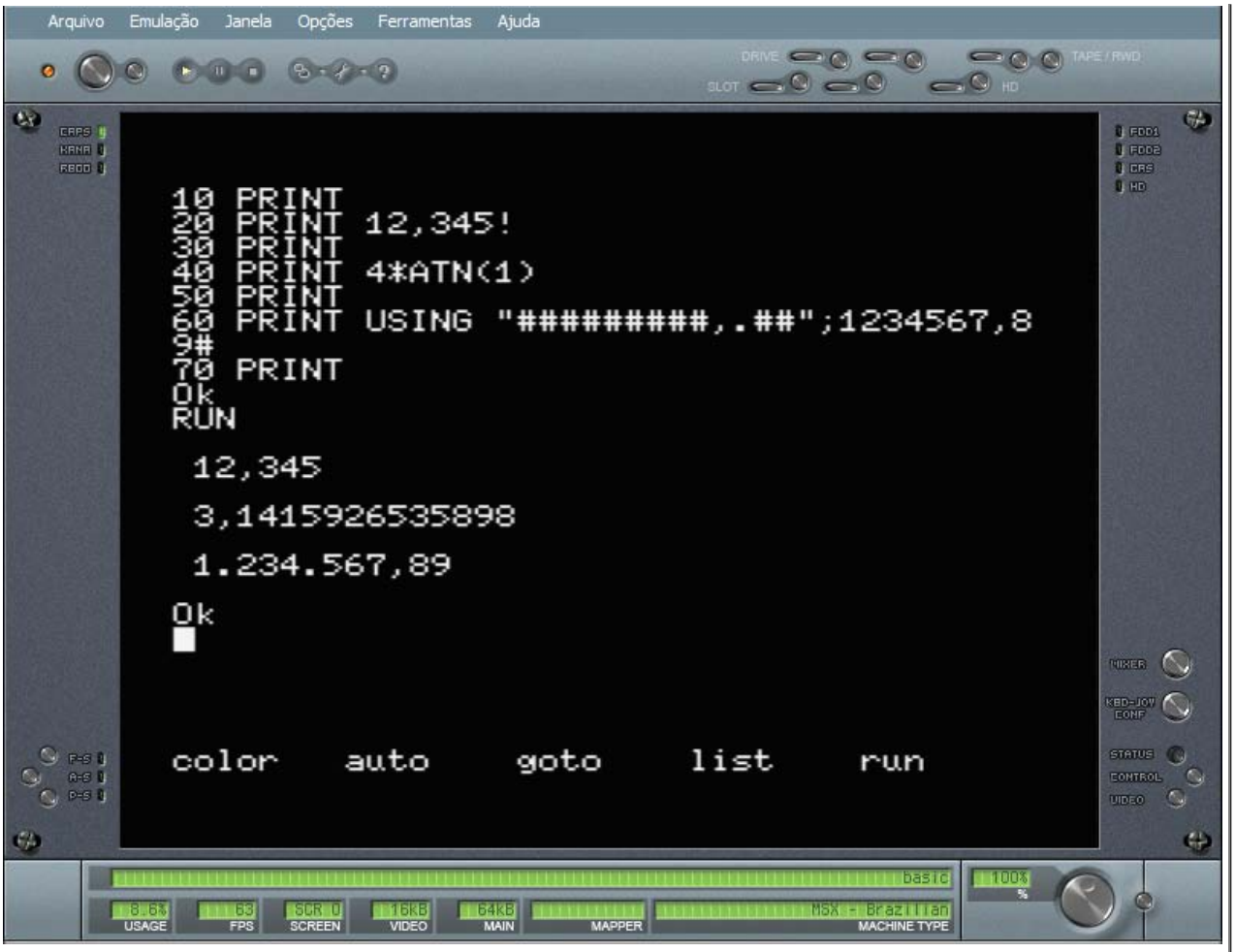
Massimo

Re: DM-15CC launched

*Message #40 Posted by **Gerson W. Barbosa** on 13 Feb 2012, 11:16 p.m.,*
in response to message #39 by Massimo Gnerucci (Italy)

> Quote:
>
> And... DECIMAL-POINT IS COMMA.

That's the only thing I liked in COBOL. In my MSX computer I transferred the ROM to RAM using a program that came in the manual and made some experiments. After some trial and error I found which bytes had to be changed so that everything looked normal also in BASIC :-)



Gerson.

Edited: 13 Feb 2012, 11:20 p.m.

Re: DM-15CC launched

*Message #41 Posted by **Jim Horn** on 13 Feb 2012, 7:55 p.m.,*
in response to message #36 by Massimo Gnerucci (Italy)

Thank you, Massimo, for the picture and results! And it does indeed appear to be a family portrait, showing what comes when two 15Cs get together...

Re: DM-15CC launched

*Message #42 Posted by **Dave Shaffer (Arizona)** on 13 Feb 2012, 8:53 p.m.,*
in response to message #41 by Jim Horn

So THAT's how we get new calculators!

Re: DM-15CC launched

*Message #43 Posted by **Massimo Gnerucci (Italy)** on 14 Feb 2012, 4:28 a.m.,*
in response to message #42 by Dave Shaffer (Arizona)

> Quote:
>
> So THAT's how we get new calculators!

And Happy Valentine's day, everybody...
;)

Re: DM-15CC launched

*Message #44 Posted by **Massimo Gnerucci (Italy)** on 14 Feb 2012, 4:23 a.m.,*

in response to message #41 by Jim Horn

> Quote:
>
> And it does indeed appear to be a family portrait, showing what comes when two 15Cs get together...

Ahahahah :D
ROFL

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S nested error

*Message #1 Posted by **Alessandro Castellani (Italy)** on 6 Feb 2012, 3:42 a.m.*

hi to all,

I've tried on the WP34S emulator (22.1990) to find the minimum of a function using the built-in f'(x) command and solving it for zero:

LBL A my function f(x) that I want to study, result returned in X stack RTN

LBL B f'(x) LBL A RTN

but when I solve for B I receive the message : Nested use of solve (SLV and SLVQ), integrate, sum or product is not allowed.

Could I do this in this way or I must write a routine that calculate the derivate and then use solve on it?

thanks

Alessandro

Re: WP34S nested error

*Message #2 Posted by **Paul Dale** on 6 Feb 2012, 3:48 a.m.,*
in response to message #1 by Alessandro Castellani (Italy)

Version 2 firmware does not permit solve, integrate, f', f'', sum or product to nest or call any of them others.

This stems from a limitation on the number of reserved internal registers.

There are two obvious solutions here.

Code f' or solve yourself and use the built in version of the other (hint: look in the library directory on subversion for outline code for these or grab versions from the library here on the Museum).

The alternative would be to upgrade to version 3 which removes this restriction entirely. In version 3 firmware, you can freely nest and mix these functions subject to having enough available RAM.

- Pauli

Re: WP34S nested error

*Message #3 Posted by **Alessandro Castellani (Italy)** on 6 Feb 2012, 7:56 a.m.,*
in response to message #2 by Paul Dale

Thank you very much Pauli I'll wait 3.0 release.
Alessandro

Re: WP34S nested error

*Message #4 Posted by **Alexander Oestert** on 6 Feb 2012, 9:54 a.m.,*
in response to message #3 by Alessandro Castellani (Italy)

You can get V3 from sourceforge SVN right now! :-)

WP34S V3

*Message #5 Posted by **Marcus von Cube, Germany** on 6 Feb 2012, 10:24 a.m.,*
in response to message #4 by Alexander Oestert

We are preparing a release. Stay tuned! Walter is reworking the manual and Pauli and I are fixing bugs and inconsistencies. The cross platform emulator by Pascal is in the stage of being deployed soon, too.

Edited for correct grammar.

Edited: 6 Feb 2012, 1:25 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B: fastest memory copy?

*Message #1 Posted by **Hans Brueggemann** on 5 Feb 2012, 10:29 a.m.*

gents,
any hints to a fast solution for copying a contiguous memory block (say, a 64kB block from address 0h to 30000h)? i'm currently investigating how to swap the 64kB ROM area with a 2 x 32kB ram area of my FRAM71 module.
http://www.flickr.com/photos/75954327@N05/
that would give the opportunity to "upgrade" an HP-71B with 1BBBB firmware to 2CDCC (or whatever else one would like to put in there). in order to test that "swap" feature, i simply copy the rom area to 30000h, then swap the addresses and set OD to high. however, the copy process via peek/poke is pretty time consuming, and considering the many "memory lost"s along the road, i would rather prefer a faster solution...
thanks in advance,
hans

Edited: 5 Feb 2012, 10:53 a.m. after one or more responses were posted

Re: HP-71B: fastest memory copy?

*Message #2 Posted by **Garth Wilson** on 5 Feb 2012, 10:52 a.m.,*
in response to message #1 by Hans Brueggemann

Use CMOVE in Forth?

Re: HP-71B: fastest memory copy?

*Message #3 Posted by **Raymond Del Tondo** on 5 Feb 2012, 11:01 a.m.,*
in response to message #1 by Hans Brueggemann

Hi,

you could use a small copy routine using Saturn machine language.
Actually there are suitable routines in the ROM,
like MOVEUP or MOVEDN, which expect the source in D0 and target in D1, and the amount of nibs to copy in C[A].

To call the routines from Basic, you may have to write a small BIN file,
or create a LEX file with a suitable keyword, like MEMCPY(src,tgt,nibs)
which then will call the internal memory copy routine.

However I'm sure someone already wrote s.t. like this back then,
so you may also check the LEX file library;-)

HTH

Ray

Edited: 5 Feb 2012, 5:04 p.m.

Re: HP-71B: fastest memory copy?

*Message #4 Posted by **Paul Berger (Canada)** on 5 Feb 2012, 11:17 a.m.,*
in response to message #1 by Hans Brueggemann

I am pretty sure you will need to resort to assembler for this. It is possible that if the peek and poke commands make good use of the processor peeking and poking multiple, up to 16 nibbles at a time may be faster than a single peek and poke. However it can never be as efficient as something written in assembler. Peek would read the target memory into a variable you assigned and then poke would read the data from that variable and write it out to your target address, so your data is handled twice. With a solution written in assembler you could go directly from your source location to you target location.

Memory moving is one where the simplified bus structure of the Saturn processor bites you. The design has all memory devices keeping a local copy of both the program counter and data pointer, and before reading or writing, the CPU sends out a command to tell memory devices load a one of these registers and then 5 more bus cycles to clock out the 5 nibbles of the 20 bit address then the read or write command at which point on the strobe you may read or write data, however the architecture allows for up to 16 data strobes following sending out an address and bus command with each strobe the memory device are supposed to increment their local copy of the address in use (program counter or data pointer). So it would seem to me that the most efficient way to do this would be read 16 nibbles into a register and then write them out to the target. I am sure that it is not coincidence that the working registers in the Saturn are 16 nibbles in size, briefly looking at the instructions available there seems to be instructions to load and save a register in one shot. There are also two data pointer registers that could hold the source and target addresses which should be pretty efficient.

Re: HP-71B: fastest memory copy?

*Message #5 Posted by **Craig Ruff** on 6 Feb 2012, 8:08 p.m.,*
in response to message #1 by Hans Brueggemann

If you get your FRAM module into production, I would be certainly be interested in acquiring one!

Re: HP-71B: fastest memory copy?

*Message #6 Posted by **Hans Brueggemann** on 7 Feb 2012, 3:32 a.m.,*
in response to message #5 by Craig Ruff

craig,
thanks for your interest! there are three FRAM71 currently in prototype state. putting documents and everything else together will take another 6 months. i'll be putting up a doc in the articles section here, so that everybody can decide whether he/she would like to order an FRAM71. if everything works fine, there will be a batch of 25 units (pc.b.s. without parts are already done). anyway, there will be the opportunity to buy the un-assembled p.c.b. for those who don't mind a little soldering challenge.

hans

Edited: 7 Feb 2012, 5:19 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Calculators in 2025, As Predicted In 1978

*Message #1 Posted by **hpnut** on 5 Feb 2012, 7:25 a.m.*

Hi all,

I came across this blog entry http://blog.geekpress.com/2012/02/hp-calculators-in-2025-as-predicted-in.html

from the picture, nice to know that big ENTER key is available in HP calculators in 2025, also a yellow shift key :-)

the calculator has a laughable 1 gigabyte memory

Re: HP Calculators in 2025, As Predicted In 1978

*Message #2 Posted by **Lode** on 5 Feb 2012, 7:57 a.m.,*
in response to message #1 by hpnut

Cool! Its memory and screen specs are way below today's standard, but its AI seems pretty good, and probably its battery life too :)

And about rocket travel... At leasst in the 70's people still dared to dream :(

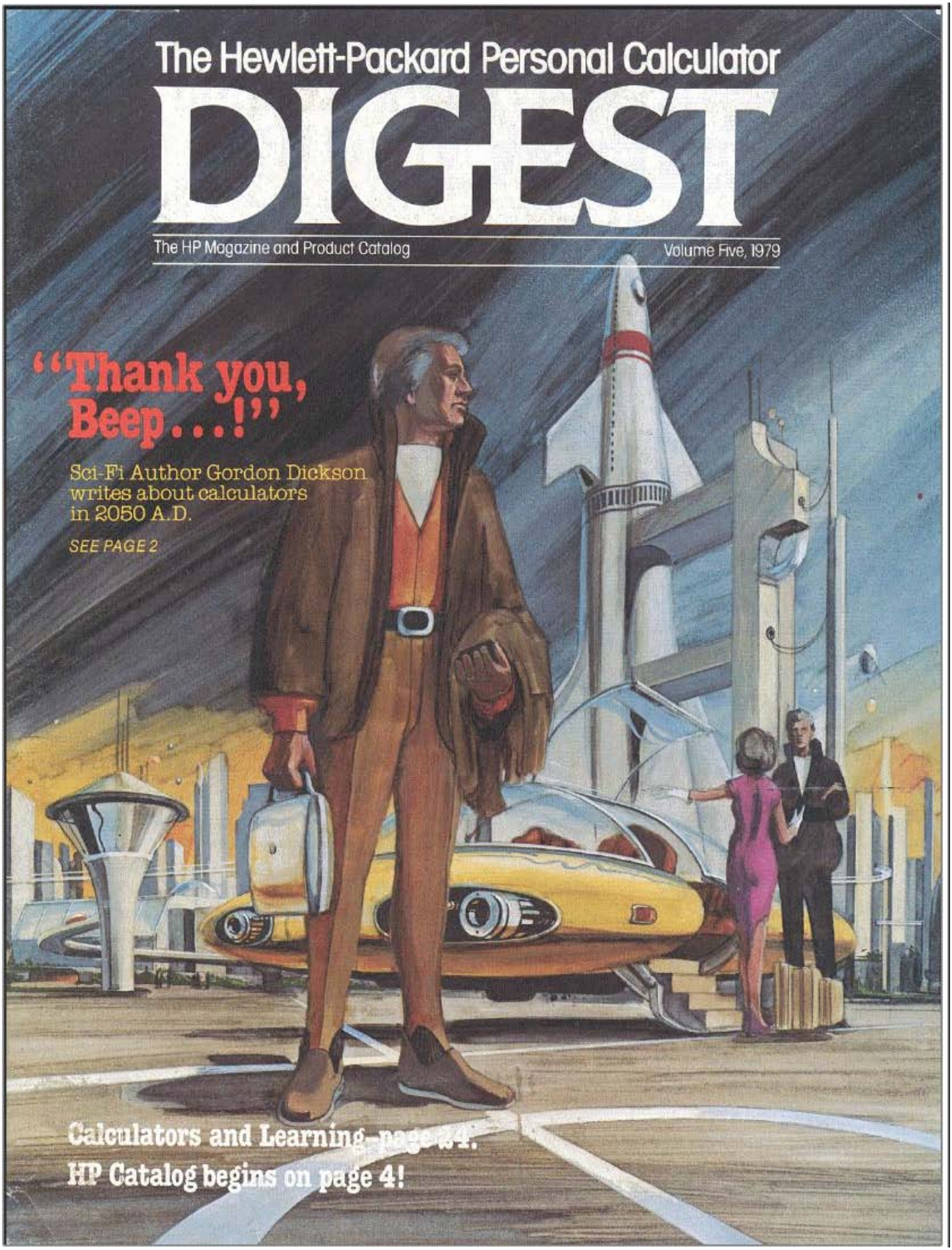
Edited: 5 Feb 2012, 8:03 a.m.

Re: HP Calculators in 2025, As Predicted In 1978

*Message #3 Posted by **Jake Schwartz** on 5 Feb 2012, 4:05 p.m.,*
in response to message #1 by hpnut

The blog talks about the "HP Calculator Journal" in 1978, when we know that it actually was the "Hewlett-Packard Personal Calculator Digest", volume 5, dated 1979. There were eight issues of this promotional publication, starting in 1976 and going up to 1981.

Jake


The Hewlett-Packard Personal Calculator
DIGEST
The HP Magazine and Product Catalog
Volume Five, 1979
"Thank you, Beep...!"
Sci-Fi Author Gordon Dickson writes about calculators in 2050 A.D.
SEE PAGE 2
Calculators and Learning-page 34.
HP Catalog begins on page 4!

Re: HP Calculators in 2025, As Predicted In 1978

*Message #4 Posted by **Kees Bouw** on 5 Feb 2012, 4:14 p.m.,*
in response to message #3 by Jake Schwartz

Thank you very much for the nice picture, Jake. Would it be possible to scan the actual article also? These magazines are not easy to get, and I would like to save this article for future reference :-)

(a short while later)

I have found it on the Museum DVD, but volume 5 is only in B/W. A colour scan would look much better...

Edited: 5 Feb 2012, 4:22 p.m.

Re: HP Calculators in 2025, As Predicted In 1978

*Message #5 Posted by **Jake Schwartz** on 5 Feb 2012, 10:06 p.m.,*
in response to message #4 by Kees Bouw

> Quote:
>
> Would it be possible to scan the actual article also? A colour scan would look much better...

Here you go:

beep.pdf

Re: HP Calculators in 2025, As Predicted In 1978

*Message #6 Posted by **Ethan Conner** on 5 Feb 2012, 11:19 p.m.,*
in response to message #5 by Jake Schwartz

I like the reference to world wide web, wi-fi and AR (augmented reality) navigation. Also the horror of leaving a device or data behind. I enjoyed it.

Re: HP Calculators in 2025, As Predicted In 1978

*Message #7 Posted by **Keith Midson** on 6 Feb 2012, 12:20 a.m.,*
in response to message #6 by Ethan Conner

Very interesting! One of my staff found this article as well - scary how true it all is (a bit of the calculator topic, but the future as seen 100 years ago). Future 100 years ago Cheers, Keith

Re: HP Calculators in 2025, As Predicted In 1978

*Message #8 Posted by **Eric Smith** on 6 Feb 2012, 1:32 a.m.,*
in response to message #7 by Keith Midson

If you want scarily prescient science fiction predictions from a hundred years ago, it's hard to top the short story *The Machine Stops* by E.M. Forster. A free eBook (with minor OCR errors) can be found at ManyBooks.net.

We haven't quite yet reached the society depicted in the story, though we must be getting close, given how accurate this news video from the Onion seems.

Re: HP Calculators in 2025, As Predicted In 1978

*Message #9 Posted by **Mark Scheuern** on 6 Feb 2012, 6:37 a.m.,*
in response to message #8 by Eric Smith

A fun read. Substitute "iPhone" for "HP Calculator" and it's not very far off.

I noticed the cover picture says 2050 but the story takes place in 2025.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My wp 34s V3

*Message #1 Posted by **troy** on 5 Feb 2012, 4:07 a.m.*

first thanks to walter, pauli, and wp34s for their work on the project! and thanks to gene for the cable.

i've finally flashed and put the overlays on my wp34s.

i made some changes to the default overlay:

1. Color scheme: f = orange; g = blue; h = yellow. i didn't like the green look on the original (no offense to walter/pauli); the green looked very dark on my printer no matter how light i get try it and i can't see it well. the yellow color isn't great, but i think it's better.

2. i put the f and g functions (orange and blue) above the key, instead of below. i'm more used to this layout.

3. used BIN, OCT, DEC, HEX instead of 2, 8, 10, 16, respectively.

4. CHS instead of +/-.

5. the divide key (÷) instead of slash (/)

6. alpha characters on the lower right of the key instead of the lower left.

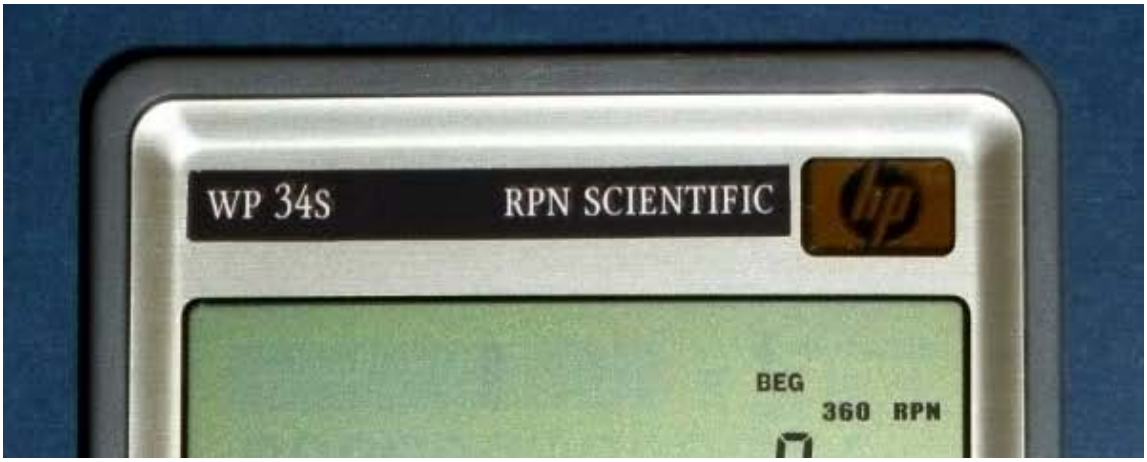
7. Fonts: Linux Biolinum for the keys, Linux Libertine for the label

i'm also planning to write a user's manual for the calculator that can be printed and bound. it will be based largely on the 15c, 32sii and 42s manuals. hopefully, i'll finish the manual by end of march.

my plan is to flash some calculators, apply the overlays, and print and bind the manual and give it as a gift to some friends. I have engineers, college professors, and scientists friends that might appreciate the gift. none of them are RPN users, but hope to convert them to rpn through wp34s.

i'm trying to compile the firmware to individualize some greeting and include the name of the person to whom i'll give the calculator to.

anyways, here's some shot.



0.
Σ+ 1/x yx √x
HYP-1 SIN-1 COS-1 TAN-1 R◄►P a b/c d/c
A ALL
B FIX
C SCI
D ENG
CONV
CPX MODE
A B C D E F
H.MS DEG H.d RAD RAN# GRAD
STO CAT
RCL VIEW
R↓ RI
f
g
h
G H I
α FILL ◄( )► BIN OCT DEC HEX CLP CLΣ
ENTER↑ CONST
x≷y x<►
CHS NOT
EEX π
CLx
J K L
eˣ LN 10ˣ LG 2ˣ LB yˣ LOGx 1/x //
XEQ GTO
7 AND
8 OR
9 XOR
÷ RMDR
M N O P
Cy,x Py,x Φ-1 x̄ s ŷ r √x x²
▲ !
4 PROB
5 STAT
6 SUMS
× MATRIX
Q R S T
SF CF x=≠ ? SLV ∫ Π Σ % Δ%
▼ STATUS
1 TEST
2 P.FCN
3 X.FCN
− Σ-
U V W
SHOW |x| RND IP FP LBL RTN DSE ISG
EXIT OFF
0 PSE
. ,/.
R/S P/R
+ Σ+
ON a b/c
X Y Z

Re: My wp 34s V3

*Message #2 Posted by **Alexander Oestert** on 5 Feb 2012, 4:52 a.m.,*
in response to message #1 by troy

Nice!

Are you also selling your overlays? Cost+shipping worldwide?

Re: My wp 34s V3

*Message #3 Posted by **troy** on 6 Feb 2012, 11:39 a.m.,*

in response to message #2 by Alexander Oestert

hi alexander,

thanks!

actually, i wouldn't mind selling some of the overlays.i don't want to compete with eric's but i figured if i could sell ~60 or so, i would have at least gotten back the investment on the cutting machine, and my wife would be happy! the time spent i consider a labor of love :)

anyways, something like the price that eric is selling would be ok with me.

contact me if you're interested.

thanks!

Re: My wp 34s V3

*Message #4 Posted by **robert rozee** on 5 Feb 2012, 5:48 a.m.,*
in response to message #1 by troy

looks pretty neat... might i suggest that the letters 'f' 'g' and 'h' be printed in black to make them stand out more?

btw, a customizable greeting message would be a nice option in general, perhaps moving the developer's names to an 'about' menu item.

cheers, rob :-)

Re: My wp 34s V3

*Message #5 Posted by **Dominic Richens** on 6 Feb 2012, 9:21 a.m.,*
in response to message #1 by troy

Very nice and great to see this kind of customization by users!!!

While I still prefer Walter's design of font, colour and base labelling (perhaps because I've been using it for 6 months) the one think that immediately strikes me is how much better having f and g labels **above** the keys looks.

For example I still have to think to not hit f - instead of f x for sqrt(). Either because it is more natural (finger does not obscure the label as I push the key) or because that's what every HP calculator I have used did (HP-15C and HP-48SX).

BTW - how do you make yours? Do you have your own cutting machine?

Re: My wp 34s V3

*Message #6 Posted by **troy** on 6 Feb 2012, 11:47 a.m.,*
in response to message #5 by Dominic Richens

thanks dominic,

i used inkscape for the layout and the silhouette cutting machine. i think both of these have been discussed here before. but inkscape mainly because it is free, and linux libertine fonts because it is also free.

[WP34S] alternate V3 overlays

*Message #7 Posted by **Dominic Richens** on 6 Feb 2012, 1:26 p.m.,*
in response to message #5 by Dominic Richens

I am going to try using this with the emulator for a while and see how I like the f and g labels on top.

Already I like that when converting between decimal and hex, I don't have to lift my finger to see which key I'm suppose to press.

IIRC we already had this debate - can't remember why "under" won out?

Edited: 6 Feb 2012, 2:05 p.m. after one or more responses were posted

Re: My wp 34s V3

*Message #8 Posted by **Walter B** on 6 Feb 2012, 1:47 p.m.,*
in response to message #7 by Dominic Richens

> Quote:
>
> IIRC we already had this debate - can't remember why "under" won out?

- The HP-67 featured it ;-)
- All shifted labels are found on one side of the key. Is more logical IMHO and needs less real estate, resulting in a cleaner design.
- The default primary functions in the top row fit nicely.

That's it, if I haven't forgotten anything important :-)

Walter

@troy: Nice job - but I wouldn't choose orange *and* yellow: too little difference IMHO. Did you try red instead of orange already? And I continue prefering the shifted labels on *one* side ;-) And please choose another font for 'g'.

Edited to emphasize point 2.

Edited: 6 Feb 2012, 4:55 p.m. after one or more responses were posted

Re: My wp 34s V3

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2012, 3:38 p.m.,*
in response to message #8 by Walter B

> Quote:
>
> The HP-67 featured it ;-)

Hate that! Everytime I grab a 67 I start pushing wrong keys. :(

Massimo

Re: [WP34S] alternate V3 overlays

*Message #10 Posted by **Bob Cortopassi** on 7 Feb 2012, 8:15 p.m.,*
in response to message #7 by Dominic Richens

Here is mine with minor changes...

Comments?

Re: [WP34S] alternate V3 overlays

*Message #11 Posted by **Christopher Johnson** on 7 Feb 2012, 9:48 p.m.,*
in response to message #10 by Bob Cortopassi

I like this one. I'm used to the labels above the keys so I like that also.

CJ

Re: [WP34S] alternate V3 overlays

*Message #12 Posted by **Dominic Richens** on 8 Feb 2012, 6:56 a.m.,*
in response to message #10 by Bob Cortopassi

I'll buy that!

Re: [WP34S] alternate V3 overlays

*Message #13 Posted by **Walter B** on 8 Feb 2012, 1:14 p.m.,*
in response to message #10 by Bob Cortopassi

Please see my post in your new thread. Thanks.

Re: My wp 34s V3

*Message #14 Posted by **Jeff O.** on 6 Feb 2012, 4:37 p.m.,*
in response to message #1 by troy

Troy,
Nice work!

I like the concept of putting the f-shift and g-shift functions above the keys. Regarding your color scheme, I guess I agree with Walter below that orange and yellow are too similar, and would suggest red if you do not like the green. What I would really like to see, though, is for the h-shift legends on the sloped portion of the keys to be blue, because they are blue on the voyagers (except the 10C which has no blue shift key) and the 41C series, and so it just seems like they should be blue. Based on these thoughts, I guess I suggest something like this:

I also like that your small x's and y's as in 10^x, y^x, Cy,x, etc. are in a font that closely matches the classic HP font for these characters. Was it an oversight that the "x" in the "1/x" above the "B" key does not match this font?

Best regards,

Jeff

Edited: 6 Feb 2012, 4:39 p.m.

Re: My wp 34s V3

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2012, 5:05 p.m.,*
in response to message #14 by Jeff O.

> Quote:
>
> What I would really like to see, though, is for the h-shift legends on the sloped portion of the keys to be blue, because they are blue on the voyagers (except the 10C which has no blue shift key) and the 41C series, and so it just seems like they should be blue.

They were blue also on classics, woodstocks, stings and spices... :)

Massimo

Re: My wp 34s V3

*Message #16 Posted by **Jeff O.** on 6 Feb 2012, 8:17 p.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

Yeah, those too. Even more justification for blue!

Re: My wp 34s V3

*Message #17 Posted by **Jake Schwartz** on 7 Feb 2012, 11:05 a.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

> Quote:
>
> They were blue also on classics, woodstocks, stings and spices... :)

Are we talking about h-shifted functions or merely functions on the slanted part of the keys?

Classics: Yes, the HP65 has blue functions on the slanted portion of the keys, but those are g-shifted. The HP67 h-shifted functions are on the front portion of the keys and are black.

Woodstock (25, 29C) and Sting (19C): The scientifics have blue functions on the slants, but they are g-shifted.

Spice: The 32E and 33E/C have blue functions on the slants, however they are g-shifted. The 34C has h-shifted on the slants (like the 67), and they are black (like the 67).

Jake

Re: My wp 34s V3

*Message #18 Posted by **Jeff O.** on 7 Feb 2012, 11:29 a.m.,*
in response to message #17 by Jake Schwartz

I think we are talking about whatever appears on the slanted portion of the keys. If this change were to be made to an alternate wp34s overlay, the blue functions would be h-shifted instead of g-shifted.

Re: My wp 34s V3

*Message #19 Posted by **Walter B** on 7 Feb 2012, 12:26 p.m.,*
in response to message #18 by Jeff O.

To stirr the pot a bit ;-) traditionally g-shifted functions were inverting f-shifted ones, starting with the HP-55. The HP-65 had that famous f^-1 shift key, but that was the one and only.

Re: My wp 34s V3

*Message #20 Posted by **gene wright** on 7 Feb 2012, 1:04 p.m.,*
in response to message #19 by Walter B

Walter said: "The HP-65 had that famous f^-1 shift key, but that was the one and only."

Gene: Which I have always liked. If there are enough functions and inverses, I have always thought this is a great idea to put more things on the keyboard. Costs you nothing in terms of keypresses and you gain a LOT of additional functions on the keyboard. :-)

Re: My wp 34s V3

*Message #21 Posted by **Bob Cortopassi** on 7 Feb 2012, 1:20 p.m.,*
in response to message #19 by Walter B

This seems like it's turning into a poll. That said, almost every popular calculator, modern or vintage, has key functions printed above the keys. I prefer this, and it seems many others do too. I'd pay for an overlay with top labels.

I agree with the arguments for blue slant labels. Unlike the OP in this thread, I think the choice to use bright yellow for the f functions makes perfect sense - they are those I use most often, and it makes them stand out quickly.

My ideal overlay would simply swap the blue and green colors on the overlay, and have function labels at the top.

Re: My wp 34s V3

*Message #22 Posted by **Neil Hamilton (Ottawa)** on 7 Feb 2012, 1:24 p.m.,*
in response to message #21 by Bob Cortopassi

I find that it is difficult to distinguish the blue from the green in low light conditions so would prefer higher contrasting colours.

Love the idea of labels on the top!

Re: My wp 34s V3

*Message #23 Posted by **Dominic Richens** on 7 Feb 2012, 2:00 p.m.,*
in response to message #22 by Neil Hamilton (Ottawa)

When I have some time I will take a stab at editing Eric's inkscape and Silouette files.

While I have no objection to swapping green and blue, but I loathe to change the green, aside from maybe lightening it up. I prefer Walter's original aesthetic of analogous colours (e.g. from one side of the colour wheel). Replace the green with a red turns it looks like a kid's toy as the colours are no longer complementary nor analogous.

haha! To get the X.FCN catalogue I hit 'g' twice before I realized it wasn't green anymore *sigh*

Edited: 7 Feb 2012, 2:53 p.m. after one or more responses were posted

Re: My wp 34s V3

*Message #24 Posted by **Neil Hamilton (Ottawa)** on 7 Feb 2012, 2:19 p.m.,*

in response to message #23 by Dominic Richens

Sigh!

Need glasses to see up close. Need different glasses to see far away. Can't see in the dark anymore...

Something has got to give! :-)

But... I did manage to solder several sets of crystals and caps a few months ago. Can't be all bad!

Re: My wp 34s V3

*Message #25 Posted by **Bob Cortopassi** on 7 Feb 2012, 3:36 p.m.,*
in response to message #23 by Dominic Richens

That looks fantastic!

Yellow stands out, and (for me) those are the most used functions. Blue on the slants is somewhat muted, and those (again, for me) are the least-used functions and menus.

If Eric builds them, I will buy at least 2 more.

Re: My wp 34s V3

*Message #26 Posted by **Eric Rechlin** on 7 Feb 2012, 3:40 p.m.,*
in response to message #25 by Bob Cortopassi

If you want a custom overlay for the 34S, send me the image you want used (make sure the size and positioning of the keys stays the same as my template image) and I'll make as many as you want. Just give me a little lead time.

Eric

Re: My wp 34s V3

*Message #27 Posted by **Massimo Gnerucci (Italy)** on 7 Feb 2012, 3:16 p.m.,*
in response to message #17 by Jake Schwartz

> Quote:
>
> Are we talking about h-shifted functions or merely functions on the slanted part of the keys?

I was referring to the slanted part of the key.

Re: My wp 34s V3

*Message #28 Posted by **troy** on 7 Feb 2012, 6:08 p.m.,*
in response to message #1 by troy

thanks everyone for the response.

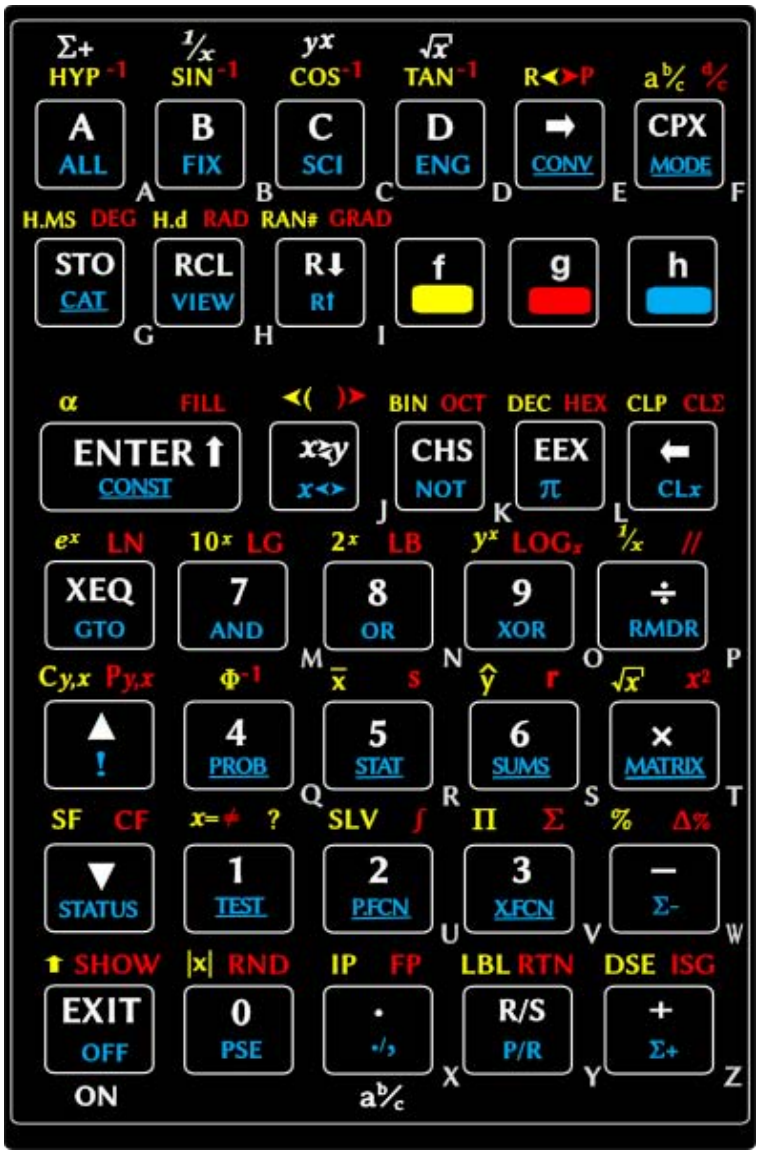
i agree that orange and yellow are hard to distinguish. i would love green but my printer just can't print it good enough to be seen properly. it always comes out dark no matter how light i set it---but if too light, it gets washed out.

so i settled for red. it does not look too good on the screen, but once i laid it on the keys, it actually looked nice, at

least to me. and i can see it---the most important part.

i also changed the f/g/h fonts to Helvetica---people in Switzerland are loving me now!

anyway, here's what i changed it to.



Re: My wp 34s V3

*Message #29 Posted by **David Griffith** on 7 Feb 2012, 11:42 p.m.,*
in response to message #28 by troy

I think I might get hung up on my mental rule that red always precedes the other colors of a triad: Red-Yellow-Blue, Magenta-Yellow-Cyan, Red-Green-Blue, red for the right audio channel... Now I want a custom overlay...

Re: My wp 34s V3

*Message #30 Posted by **Dominic Richens** on 8 Feb 2012, 7:04 a.m.,*
in response to message #29 by David Griffith

oh boy Troy, look what you've started :-)

The little bit of industrial design instruction I got really stressed the importance of choosing colours carefully.. If this was, for example, a piece of safety equipment we would use 3 colours as far apart as

possible from each other (red, blue, yellow) with saturation adjusted so that people with trichromacy can still distinguish between them. The same rule seems to be followed when designing children's toys.

However for a calculator, I think a more subtle approach is needed.

I think Troy needs to buy a better printer :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Information that may be of interest to HP-75 users posted

*Message #1 Posted by **Paul Berger (Canada)** on 4 Feb 2012, 7:52 p.m.*

When I first got a 75 and started playing with it, I started trying out some of the programs found on the archive diskettes available as lif images on the museum's web site and quickly got frustrated with all the "Error: ROM Missing" messages and to make matters worse there did not seem to be any way to identify what "ROM" was missing A little later I did some reading in the NOMAS for the 75 and figured out was the token was for and external ROM call and found that immediately following the token was the hex LEX number associated with the external call. I then wrote a perl script to go though the lif images and yank out basic 75 files and scan them for external calls. Also from the NOMAS I learned where to look in a LEX file for its LEX number and I built another list of the LEX numbers, names and achhive that contained them, and to that file I added the 'LEX' number for all of the plug in ROMs I have available to me, and then wrote another perl script to merge the two files and the result is a file I call Basic_xref. This file along with the LEX list and a list of keywords from all the LEX files and ROMs I have access to is available on my webspace at Paul's Web Space the file name is 75LEX.zip.

At the end of March last year there was a brief discussion about a EPROM board for 75s http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=181314 that I was interested in but the seller would not ship to Canada and I was unable to contact him before the auction ended. Through the kind efforts of a gentleman in Australia that was put in touch with the seller, who told me that he was sure he had another one and would look for it for me, well he found it, and I bought it from him. While doing some restoration on the board I rang out all the connections and from that drew a schematic of the board and then later wrote a short description of the circuit, this is also available on my webspace, see link above as 75EPROM.pdf. this exercise has proven very useful as I now have a very good understanding of how the 75 processor accesses memory and how the plug in ROMs work.

I post this in the hopes that some of this will be of some interest and use of others here.

Re: Information that may be of interest to HP-75 users posted

*Message #2 Posted by **Geir Isene** on 4 Feb 2012, 8:03 p.m.,*
in response to message #1 by Paul Berger (Canada)

Neat. Thanks.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Non-HEPAX configurations for NoVRAM/NoV-32

*Message #1 Posted by **Diego Diaz** on 4 Feb 2012, 4:10 p.m.*

Hi all,

By the time Clonix & NoV family was appearing, back in '03 & '04; with several MS-DOS based configuration tools for every different module, there was a NoVRAM-F.exe and NoVRAM-F.asm which were intended for the user to create a "Free" (hence the "F") configuration for the NoVRAM module. It was very limited though as it only allowed four ROM images to be placed into pages #C to #F, while keeping RAM fixed into #8 to #B area.

One of the advanced users asked me for the possibility of extending this to the available six ROM images and also to allow the four RAM pages to be placed either on #8 - #B or #C - #F, because he was interested on some RAM-Boxes emulation. This was the origin of the latest NoVRAM-R.asm and NoVRAM-R.exe configuration tool from '05.

As several users have currently showed up a growing interest in expanding the range of NoVRAM and NoV-32 configuration possibilities to different non-HEPAX applications I think that recovering this files may be of interest to some of you.

Further more I know of one user that will be very happy to see that page #4 is available in this tool... :-)

The download link for the relevant files is here.

This is just limited to MS-DOS environments (works on any DOS Window) and it calls IC-Prog upon completion but, of course, you can close it and use the NoVRAM-R.HEX file with your USB programer instead.

Also, when used on a NoV-32 module it is just limited to one 16K RAM block, therefore behaving just like a simple NoVRAM.

I will appreciate your feedback in order to evaluate this optional configuration to be included in the next release of the ClonixConfig utility.

All the best and have a nice weekend!

Diego.

Edited: 5 Feb 2012, 11:34 p.m.

Re: Non-HEPAX configurations for NoVRAM/NoV-32

*Message #2 Posted by **Ignazio Cara (Italy)** on 7 Feb 2012, 7:27 a.m.,*
in response to message #1 by Diego Diaz

Hello Diego, you have mail!

Regards

Ignazio

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

32-bit version of User Code Utiltiy for HP-41

*Message #1 Posted by **MichaelG** on 4 Feb 2012, 2:41 p.m.*

To be honest I'm still not 100% sure how this forum works. It seems that one or two replys have been eaten up some how. That's why I restart a new topic.

The next 32-bit version of the user code compiler for the 41 is available. You may want to download here:

download.michael-goericke.de/FocalComp.zip.

It fixes a bug in the code creation of local numeric labels 0-14)and adds a small docu.

As mentioned previously this version needs the .Net 4 runtime (which is available on Win 7 by default).

Michael

Edited: 5 Feb 2012, 1:22 a.m.

Re: 32-bit version of User Code Utiltiy for HP-41

*Message #2 Posted by **Frido Bohn** on 6 Feb 2012, 2:30 p.m.,*
in response to message #1 by MichaelG

> Quote:
>
> To be honest I'm still not 100% sure how this forum works. It seems that one or two replys have been eaten up some how. That's why I restart a new topic.

Michael,

It's not your fault. It's just the overwhelming quantity of postings on this forum that makes it difficult to pick the information one is interested in. All messages are treated with the same priority. Seemingly, posts with a broad audience being marked by a huge tail of replies tend to "eat up" postings with less reply. However, this does not mean that posts with little reply are not valuable. In the contrary, this may be excellent information for few people only. But somehow this is not appreciated by many responses.

With respect to your work, I appreciate your efforts to transfer old 16-bit DOS software to the 32-bit system very much, and at least for me your contributions are very valuable.

Thank you very much!
Frido

Re: 32-bit version of User Code Utiltiy for HP-41

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 6 Feb 2012, 3:29 p.m.,*
in response to message #1 by MichaelG

Michael,

I just wanted to add my thanks to the list for your effort. Having the 32bit HP-41 Focal UC utility is very useful (nice user manual too!), appreciated.

Regards, Kerem

Re: 32-bit version of User Code Utiltiy for HP-41

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2012, 3:45 p.m.,*
in response to message #1 by MichaelG

+1

Thanks Michael!

Massimo

Re: 32-bit version of User Code Utiltiy for HP-41

*Message #5 Posted by **MichaelG** on 8 Feb 2012, 7:12 a.m.,*
in response to message #1 by MichaelG

Thx to all for your replies. I see that as an encouragement to continue.

While the assembler and linker are ports from 16- to 32-bit, the focal compiler is a new implementation started from scratch. Of course I reused a lot of details and special handling from the 16-bit version.

The MCode disassembler is working and got a new feature: it creates a label for each jump (instead of giving an address) where no label is given. Will be released soon.

To keep this posting's topic, I have a very first prototype of the focal decompiler running. I guess you are interested as well...

Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help with HP 41CX - 95% working

*Message #1 Posted by **Russell Dobson** on 4 Feb 2012, 5:44 a.m.*

Hi I just picked up a 1984 model 41CX and there are a few things that are not working. If anyone can help it would be great, everything is working properly except:

1. The USER key needs a firm press to work (using SF27 instead) 2. The ON key won't work at all (remove batteries and press any key gets it started) - I haven't tried using contact cleaner or this like just yet... (not sure but it may be stuck ON) 3. Running CATALOG 5 (lists all alarms that are set) freezes the display (with 'CAT 5' showing)but after I remove batteries and press any key to restart the calc works fine - well everyting except CAT 5. 4. Time and stopwatch functions seem to work fine, but alarms might be a problem as the display goes blank when I execute any xyzalm command. By removing batteries and pressing any key the calc restarts fine but loses the time so its hard to check xyzalm.

I have already repaired the slightly cracked posts and seem to have good contact between the keyboard-CPU and keyboard-display.

The reason I think the on/off key might be stuck ON is that my fully working 41C doesn't restart by pressing any key after putting the batteries in...

thanks, Russell

Re: Help with HP 41CX - 95% working

*Message #2 Posted by **Paul Berger (Canada)** on 4 Feb 2012, 8:08 a.m.,*
in response to message #1 by Russell Dobson

1. Does the user key seem to move normally compared to you C? Does it depress normally but just requires extra force to get it to register? The user button uses the same kind of switch as any other key you should be able to feel the "click" when the dome under the key distorts, if it seems to operate normally, but you have to lean on it to get it to register that would suggest there is contamination under the dome. 2. Again does the action of the on switch feel ok? If it feels ok when the calculator is turned on what happens if you press shift then on? It should display the time. 3&4 These do not sound good. It seems that these functions are causing the calculator to go off into the weeds perhaps there is a faulty component on the CPU card. Access to a diagnostic ROM would be useful here.

I don't think that the problem is the on key being stuck on, I tried holding the on button while inserting batteries and I do not see the behavior you describe on one CX that has been sitting without batteries for a long time I got the memory lost message on the others, two CVs and a CX if I hold the on key while I insert batteries it will not power on when I press a key. The on button does have one unique connection to the CPU card, it is the only button on row 9. So perhaps you still do have a connection problem between the keyboard and CPU card. If your calculator has the elastomer or "zebra" connectors these are know to be problematic in 41s the interface that is two plastic tube with wire ring around them are much more reliable.

If you are really brave you could swap CPU cards with your C, the keyboard and display is identical.

Re: Help with HP 41CX - 95% working

*Message #3 Posted by **Russell Dobson** on 4 Feb 2012, 7:22 p.m.,*
in response to message #2 by Paul Berger (Canada)

Paul, thanks very much for the quick reply. My comments to yours below: 1. The USER and the ON keys feel

very normal in operation and the click is distinct as with all keys. 2. When the calc is on and I press shift ON, I get the same response as just pressing ON - the display goes blank and the only way to restart is to remove batteries very briefly, reinsert and press any key. The calc then operates 'normally'again. 3 & 4. Diagnostic ROM - not sure what/where to get this kind of help?

Connectors shown in this photo:

Any furhter suggestions? Thanks, Russell

Re: Help with HP 41CX - 95% working

*Message #4 Posted by **Paul Berger (Canada)** on 4 Feb 2012, 8:18 p.m.,*
in response to message #3 by Russell Dobson

Well it does indeed look very nice inside, I can't really make out what the interconnect is from your picture, however the plastic frame around the interconnect looks like the one that was used with the elastomer interconnect, and as I said previous if it is the elastomer one they can be bad news in a 41. I know of a source for the better interface which is tiny wires wrapped around a hollow plastic rod, for a good picture of this interconnect go to http://www.keesvandersanden.nl/calculators/coconut_repair_fullnut.php If your CX does have the elastomer interconnect it is likely at least part of your problem.

For the diagnotic ROMs the images are available on a another site, however you need a ROM emulator of some sort to store them on, I built a ROM emulator just so I could use the diagnostic ROMs as well as HPIL related ROMs.

Re: Help with HP 41CX - 95% working

*Message #5 Posted by **Randy** on 4 Feb 2012, 8:59 p.m.,*
in response to message #4 by Paul Berger (Canada)

Unfortunately, as described, it has all the signs of a ROM failure. An HP service rom would be the fastest way to debug.

FWIW, only early CV's had the nasty pink internconnects. The CX pictured has the last version gold

devices.

Re: Help with HP 41CX - 95% working

*Message #6 Posted by **Randy** on 5 Feb 2012, 8:04 a.m.,*
in response to message #5 by Randy

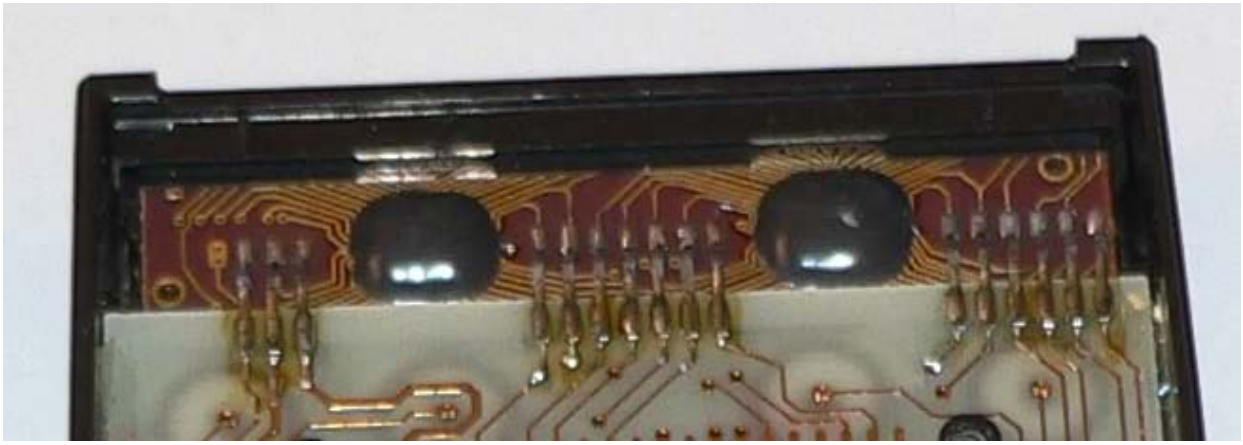
Upon much closer inspection, I would recommend you clean the flux from the display driver contacts. Use the solvent sparingly, otherwise it will get into the four switch domes at the top of the keyboard.

The reason: the bus is exposed there, any contamination can make rom and ram look defective.

Re: Help with HP 41CX - 95% working

*Message #7 Posted by **Russell Dobson** on 6 Feb 2012, 5:32 a.m.,*
in response to message #6 by Randy

Randy, I had a closer look and I see what you mean, there is a lot of flux around the solder on the keyboard circuit board where it connects to the display board:



I will try careful cleaning and let you know.

Thanks, Russell

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Prices on 15C.

*Message #1 Posted by **Paulo MO** on 4 Feb 2012, 3:05 a.m.*

Item #290663440996 (new/pristine old 15c) on TAS just ended. Check out the price, and be amazed.

Who said the market for 15C is exhausted?

:-) Paulo

Re: Prices on 15C.

*Message #2 Posted by **Jim Johnson** on 4 Feb 2012, 8:18 a.m.,*
in response to message #1 by Paulo MO

Boxed items typically go for much higher prices due to collectors driving up the prices. The seller in this auction claimed that the calculator was never used and, indeed, the manual and calculator were pristine. But then there were two bidders that became irrational beyond the $400 price and bid it up just to out bid each other. At that point, it's just who has the most money and the least sense.

Re: Prices on 15C.

*Message #3 Posted by **Michael de Estrada** on 4 Feb 2012, 8:39 a.m.,*
in response to message #2 by Jim Johnson

Also, they were two inexperienced bidders, one with 6 positive feedback and the other a newbie with zero. However, I also agree that the price is not all that extraordinary, and I've seen much higher prices paid on less desirable items.

Re: Prices on 15C.

*Message #4 Posted by **Maximilian Hohmann** on 4 Feb 2012, 9:26 a.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Also, they were two inexperienced bidders...

I would rather call them "alter egos" of the seller.

Re: Prices on 15C.

*Message #5 Posted by **Ethan Conner** on 4 Feb 2012, 1:19 p.m.,*
in response to message #4 by Maximilian Hohmann

Having a low amount of feedback is not necessarily a bad thing. I've been on TAS for years and do about one transaction per year. Being in a bidding war with someone who has zero feedback throws

a big red flag for me. A while back i was about to have the winning bid on an item till noticing all the sneaky tricks the seller had used to disguise the true nature of the item. I sent him a letter calling him on it and shortly after that a bidder with zero feedback outbid me and that was the end of it.

Re: Prices on 15C.

*Message #6 Posted by **Michael de Estrada** on 4 Feb 2012, 2:25 p.m.,*
in response to message #5 by Ethan Conner

I suppose it is possible that the zero feedback newbie was a shill, trying to push the bid price up. Since the other bidder eventually won the auction, there's no way to know. I buy very little on Eb@y now, and much of it is fixed price (BIN) or best offer anyway. On the rare occasions that I do bid in a regular auction, it's a single snipe bid in the last 10 seconds, where I either win or don't.

Re: Prices on 15C.

*Message #7 Posted by **Namir** on 4 Feb 2012, 2:52 p.m.,*
in response to message #2 by Jim Johnson

What percentage of newbies who jack up the price beyond reasonable values end up actually paying??? Any stories folks want to share here?

Namir

Re: Prices on 15C.

*Message #8 Posted by **Joerg Woerner** on 4 Feb 2012, 10:41 p.m.,*
in response to message #7 by Namir

Namir,

This guy (110786150114) paid within a few minutes after the auction ended. He received his FIRST feedback from me.

And bought with his second auction the manual for the HP-16C ;-))

She (110788530799) never paid a $15 calculator - just disappeared.

He (110803246120) won three auctions - paid within a few hours.

This guy (110803246120) received his first and second feedback from me. Paid instantly.

She 110814236369) received her FIRST feedback from me. Paid within a day.

I'm very, very pleased with newbies and had never any problems with them on eBay.

Have a great weekend and don't miss my TI Programmables next week ;-))

Cheers,

Joerg

Re: Prices on 15C.

*Message #9 Posted by **Michael de Estrada** on 5 Feb 2012, 9:40 a.m.,*
in response to message #8 by Joerg Woerner

It depends what kind of product you are selling. I've sold dozens of vintage calculators, and never had any non-paying winning bidders, although a few have not paid immediately. I have had problems with other types of items, such as bicycle parts. I think the type of person who buys vintage calculators tends to be more serious and responsible than the average buying public.

Re: Prices on 15C.

*Message #10 Posted by **Rob Willett** on 5 Feb 2012, 9:54 a.m.,*
in response to message #9 by Michael de Estrada

I've only sold one calculator, an HP 48, the bloke had some feedback but not for some time. He came in about 10 mins to go, so wasn't a snipe he'd forgotten about and won. That's the last I heard from him. Never replied, never paid, raised a dispute with eBay and sold the calculator again a few weeks later, I actually got more for it the second time than the first which was kinda nice, but if I was in this to make money, I'd be bankrupt by now :)

I've brought and sold around 300 things on eBay, I tend to buy more than I sell as eBay has rigged the rules to be so much for the buyer, I think anybody who sells anything worth more than Â£100 is pushing their luck. There's so many ways a buyer can rip you off, from Goods not as described, goods never turning up, claiming the goods are fake etc etc. So long as you're selling lots of cheap stuff, you can lose the costs in the same way shops 'lose' shoplifting costs, simply add a few pence to the average cost, if you're only selling 10 items a year, a single dodgy buyer can wipe out all your profit.

just my 2p worth.

Re: Prices on 15C.

*Message #11 Posted by **Rob Willett** on 5 Feb 2012, 9:57 a.m.,*
in response to message #10 by Rob Willett

I know it's bad form to reply to your own messages, but just seen the eBay price for 290663440996.

I spat out my drink in surprise. Wow oh wow.

Anybody who wants to buy my pristine vintage 15C with case and manual for that price is more than welcome. I'll throw in a few old calculators as well.

There is one born every day...

Re: Prices on 15C.

*Message #12 Posted by **Steve Fennell** on 5 Feb 2012, 11:42 a.m.,*
in response to message #11 by Rob Willett

I'm still waiting for my bobcat.

Obligatory xkcd

Re: Prices on 15C.

*Message #13 Posted by **Michael de Estrada** on 5 Feb 2012, 12:26 p.m.,*
in response to message #10 by Rob Willett

Actually, the main reason I no longer sell much on eB@y is that they now charge a lot more in auction sales fees, and the fee now includes the shipping cost. This makes it particularly unprofitable to ship internationally, where shipping costs can easily exceed the sales price of the item itself. The other change is that although a buyer can leave negative feedback for a seller, a seller can only leave positive feedback for a buyer. So the buyer feedback rating is now pretty much meaningless. Most of my recent calculator sales have been via the MoHPC classifieds, where I can charge less by eliminating the eB@y middleman, and deal with reputable people who pay up front. All of my customers have been very satisfied with their purchases, which is very gratifying as well.

Re: Prices on 15C.

*Message #14 Posted by **Fabricio** on 5 Feb 2012, 1:55 p.m.,*
in response to message #9 by Michael de Estrada

> Quote:
>
> I think the type of person who buys vintage calculators tends to be more serious and responsible than the average buying public.

With exceptions, as always, most of HP-RPN classic calculators users/collectors are engineers and scientists from their middles upward. That most probably results in well educated guys, that has settled in life and have a good income; that would explain their shopping behaviour and also would explain the exorbitant prices that are paid for some of those calculators.

As I wrote in another thread, just ask yourself how much would be paid for a NIB HP42s (if such a thing would still exist) in 2025. Perhaps new HP calculators will exist, some few still with RPN, but definitely a very few of the now new 15cLE will be around by then, and the Voyager and Pioneer series will never ever be seen again, unless in the hands of us in the forum that holds with blood to them. Well, at least I think so.

Re: Prices on 15C.

*Message #15 Posted by **M. Joury** on 6 Feb 2012, 1:10 p.m.,*
in response to message #14 by Fabricio

Hi Fabricio,

It happens that I have three NIB HP-42S calcs. Not offering to sell or anything, just letting you know that the beast does still exist. I grabbed them at sale prices from the UVA (University of Virginia) bookstore several years after they had been discontinued. Four of them were just sitting there on the shelf gathering dust and they were asking around $60 per (if I remember correctly). I instantly bought them all and the three HP-32SII's that they had.

Cheers,

-Marwan

Re: Prices on 15C.

*Message #16 Posted by **Mike Morrow** on 6 Feb 2012, 2:21 p.m.,*
in response to message #15 by M. Joury

Somewhat similar story here. I bought two HP-42S (ROM rev. C) units NIB in 1997 from the bookstore at University of Alabama at Huntsville...unsold stock with dead batteries that had been in store since 1993. One is still NIB, minus the dead batteries. The other after 14 years of daily use still looks new. I bought another one (ROM rev. A) in 2010 NIB at a ham radio fest. All of these were about $100 each.

So there's likely many NIB HP-42S units out there. That's a good thing, since HP no longer has the expertise to make anything as capable.

But like all Pioneers and all other HP calculators since 1985, these have a real butt-ugly color scheme that's very hard to tolerate. I hope the "artistic" imbeciles who set such sub-standards at HP were fired, but with HP being a left-coast company they probably were promoted instead. Or perhaps they went to Apple.

Sorry to hear about your getting stuck with those HP 32Sii units. I bought one of those dogs in 1997...it's still NIB because I found that it was such a poor excuse for an electrical engineer's calculator. That's when I sought the capable 42S instead.

Re: Prices on 15C.

*Message #17 Posted by **Marcus von Cube, Germany** on 6 Feb 2012, 2:57 p.m.,*
in response to message #16 by Mike Morrow

> Quote:
>
> That's a good thing, since HP no longer has the expertise to make anything as capable.

I'm pretty sure the expertise is there. The question is if they want to relaunch a scientific model with the feature set of the 42S or similar. The big markets seem to be elsewhere.

Re: Prices on 15C.

*Message #18 Posted by **Software49g** on 6 Feb 2012, 3:10 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> I'm pretty sure the expertise is there.

I pretty much doubt that.
Even if the two remaing software engineers would have all models in their head there is still a

- non existing calculator marketing (or no resources given)
- non existing calculator management (or no resources given)

If no resources are given then draw your own conlcusions.

Regards,
Andreas
http://www.software49g.gmxhome.de

P.S. and their is a CEO praising Apple products...

Edited: 6 Feb 2012, 3:11 p.m.

Re: Prices on 15C.

*Message #19 Posted by **M. Joury** on 6 Feb 2012, 3:43 p.m.,*
in response to message #16 by Mike Morrow

> Quote:
>
> Sorry to hear about your getting stuck with those HP 32Sii units. I bought one of those dogs in 1997...it's still NIB because I found that it was such a poor excuse for an electrical engineer's calculator. That's when I sought the capable 42S instead.

lol...

A lot of people around these parts seem to love the HP-32S and HP-32Sii. I for one have to agree with you that the 42S is WAYYYY more capable. I take the 32Sii out once in a while just to play.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

You're kidding me ?

*Message #1 Posted by **Christopher Johnson** on 3 Feb 2012, 9:05 p.m.*

Really?

hp41cx on ebay

And there is still time left.

CJ

Re: You're kidding me ?

*Message #2 Posted by **Geoff Quickfall** on 3 Feb 2012, 9:26 p.m.,*
in response to message #1 by Christopher Johnson

An average 41c and the CL board would be faster, better and cheaper then 450!

D;-)

Re: You're kidding me ?

*Message #3 Posted by **Raymond Del Tondo** on 3 Feb 2012, 11:10 p.m.,*
in response to message #2 by Geoff Quickfall

A really NOS HP-41CX can certainly cost more than $450.
However the unit offered on eBay is not even complete. There is no box, no manuals.
Actually there's only the calc and the zipper case.
The eBayer writes: "What you see is what you get" ,
so you might get that awful Sony Vaio keyboard, too;-)

Ray

Re: You're kidding me ?

*Message #4 Posted by **Christopher Johnson** on 3 Feb 2012, 11:30 p.m.,*
in response to message #3 by Raymond Del Tondo

> Quote:
>
> However the unit offered on eBay is not even complete. There is no box, no manuals.

That's my thinking also. I have a super clean hp41cx with the manuals I am thinking of selling. I could call mine NOS and probably get away with it. I won't and I am not saying anything bad about this seller. All the best to them for anything they can get for it.

I am just amazed how much the prices have gone up on this stuff. I should have held onto the stuff I

sold years ago. Oh well hind sight is 20/20 as they say.

CJ

Re: You're kidding me ?

*Message #5 Posted by **bill platt** on 4 Feb 2012, 1:33 a.m.,*
in response to message #4 by Christopher Johnson

If you TVM on it where you bought it new, you still would take a considerable loss...

Re: You're kidding me ?

*Message #6 Posted by **M. Joury** on 4 Feb 2012, 6:54 p.m.,*
in response to message #4 by Christopher Johnson

I have two truly brand-new-in-box never used with all manuals HP-41CX's. The only thing removed from the packaging were the batteries. The little boxes the batteries came in are still there. If I ever decide to sell mine I'll be sure to let you guys know about it but I wouldn't hold my breath :).

Cheers,

-Marwan

Re: You're kidding me ?

*Message #7 Posted by **Namir** on 4 Feb 2012, 7:39 a.m.,*
in response to message #1 by Christopher Johnson

The auction is being bid by a few newbies, which explains their determination to buy their first vintage HP calculator.

Namir

Re: You're kidding me ?

*Message #8 Posted by **aj04062** on 4 Feb 2012, 9:12 a.m.,*
in response to message #7 by Namir

I noticed that too. Could be rigging the auction as well...

Re: You're kidding me ?

*Message #9 Posted by **Namir** on 4 Feb 2012, 2:54 p.m.,*
in response to message #8 by aj04062

Could be too. Some folks here who trade on TAS have developed techniques that hep them read through the cryptic jibber-jabber auction info and make an educated assessment if there was price rigging. No one is 100% sure.

Namir

[Return to Index | Top of Index]

You're kidding me ?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S bitwise logical operations bug?

*Message #1 Posted by **Nigel J Dowrick** on 3 Feb 2012, 2:55 p.m.*

I'm running build 2356 on my (ex-!)HP-30b. When I do yellow-shift-+/- (i.e., entering binary mode), "2c64" appears on the top line and "b" appears in the exponent. So far, so good.

Now, I enter 1010 and press ENTER, twice. I then do green-shift-7 - i.e., AND. I get a binary integer with 64 1s in it! I had expected to get 1010.

Digging out my HP-20b, still running a late version 2 build, I find that I do get 1010 as the result.

A little more experimentation reveals that in version 3, 0 AND 0 is 1 (other arguments giving correct answers). OR has the same problem, and XOR doesn't work either!

Is this a bug? Or have I inadvertently selected some special "give wrong answers" mode setting?

Nigel (UK)

Re: WP 34S bitwise logical operations bug?

*Message #2 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 6:06 p.m.,*
in response to message #1 by Nigel J Dowrick

Bad bug :-(

I have no idea where this crept in. I'm not aware of having changed anything in this area except the register access (which might well be the culprit.)

Edit: Fixed. It wasn't the register access. :-)

Edited: 3 Feb 2012, 6:36 p.m.

Re: WP 34S bitwise logical operations bug?

*Message #3 Posted by **Paul Dale** on 3 Feb 2012, 6:25 p.m.,*
in response to message #1 by Nigel J Dowrick

Was a bug. Fixed now and will be available in the next build. Part of the flash recovery space saving measures gone awry.

- Pauli

Re: WP 34S bitwise logical operations bug?

*Message #4 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 6:35 p.m.,*
in response to message #3 by Paul Dale

I had just fixed it but my commit failed because of your fix. :-) It's built now.

Re: WP 34S bitwise logical operations bug?

*Message #5 Posted by **Nigel J Dowrick** on 4 Feb 2012, 6:43 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Thanks for fixing this - and for the whole project, which continues to be amazing! I haven't enjoyed myself so much for years!

Nigel (UK)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

go41cx overlay Math module

*Message #1 Posted by **Alexander Oestert** on 3 Feb 2012, 12:33 p.m.*

My attempt at overlay files used with the Math module for the go41cx android app by Oliver de Smet

Math Overlay 01

Math Overlay 02

EDIT: I have purged the files on my drpbox due to changes in Oliver's program design.

Edited: 13 Feb 2012, 4:06 a.m. after one or more responses were posted

Re: go41cx overlay Math module

*Message #2 Posted by **Olivier De Smet** on 3 Feb 2012, 4:28 p.m.,*
in response to message #1 by Alexander Oestert

Nice, could I put them on my site ?

Olivier

P.S. printer emulation and hepax support are almost finished .... (next will be sound)

Re: go41cx overlay Math module

*Message #3 Posted by **Vincent Weber** on 3 Feb 2012, 5:45 p.m.,*
in response to message #2 by Olivier De Smet

Great Olivier ! Can you tell me if you intend to extend te character set to halfnut, i.e lower case ? The sandbox module does not display correctly its names.... Also do you intend to support skins/existing modules overlay (graphically complex, cannot be done in pure text). Thanks and cheers

Re: go41cx overlay Math module

*Message #4 Posted by **Olivier De Smet** on 7 Feb 2012, 3:44 a.m.,*
in response to message #3 by Vincent Weber

Hi,

Key entry now useable at speed greater than 1, even works very well at x32 or max speed (around x50 for my slow motorola defy), but PSE and CAT are accelerated too

Fullnut display is done (sandbox is ok), but with the same restriction as real hardware :)

Printer is done, just some limitation about the size of the paper ...

Hepax support (up to 32 KB : 4 8KB modules) with relocation of the rom is done

I added CV support to allow more modules if you don't need XF and Time. But you can still plug XF and Time modules in the CV if needed

I added a CCD-OSX with special addressabilities : look for free page from 3 to 7 then from 15 to 8 :) So you can have a CX with printer (page 6), Hepax (page 7), 3 8K modules (ports 1, 2 and 3), CCD page 15 and a 4K rom module in port 4 (page 14), only page 4 is free (as usual). it gives 48 KW rom, 24 KW hepax ram, 600 regs XF and a 4 KW application pac :)

For the graphical overlays, it's possible, but it is a major rework of the keypad part ...

I hope to post this v1.2 on market tomorrow.

Olivier

Re: go41cx overlay Math module

*Message #5 Posted by **Vincent Weber** on 7 Feb 2012, 4:47 a.m.,*
in response to message #4 by Olivier De Smet

Hi Olivier,

That's awesome work, thank you so much ! I think you'll be the primary reason why I will ditch my Iphone ! A bit more polishing in the graphics/skins/overlays, and you'll be on par with i41cx+ ! Well no, because Antonio also included a CAS in i41cx+, but I've always thought that was a bit too far off ;)

But thanks to all your emulators you 've made the Android plateform the primary one for HP calculators ! Just would need a 17Bi++ as on the iphone. If you get bored, you could port Emu42 from Christoph to Android ;))

I love your 15C too, the way you replaced the useless key codes with mnemonics is brillant, I would just would a bit more polishing (e.g. the size of the back help), and landscape mode to make it perfect.

And, of course, a 65... :)

Sorry to be that demanding, but that's your awesome work that triggered this in the first place :)

Cheers,

Vincent

Re: go41cx overlay Math module

*Message #6 Posted by **Alexander Oestert** on 7 Feb 2012, 5:10 a.m.,*
in response to message #5 by Vincent Weber

> Quote:
>
> Emu42 from Christoph to Android ;))

Try Free42 from Thomas Okken.

Re: go41cx overlay Math module

*Message #7 Posted by **Nick_S** on 7 Feb 2012, 5:33 a.m.,*
in response to message #6 by Alexander Oestert

Emu42 --- so that one can also run the HP28s ROM which works well as a landscape orientation emulated calculator.

Nick

Edited: 7 Feb 2012, 7:21 a.m.

Re: go41cx overlay Math module

*Message #8 Posted by **Vincent Weber** on 7 Feb 2012, 5:42 a.m.,*
in response to message #6 by Alexander Oestert

I'm well aware of wonderful Free42 :)

The reason why I'm asking Emu42 is not for the 42 (although the hardware emulation is also interesting, 100% compatibility), but for the 17BII, 27S and 28S (I would love to say 32II but I don't have the ROM and there is no way to dump it).

Cheers,

Vincent

Re: go41cx overlay Math module

*Message #9 Posted by **Olivier De Smet** on 7 Feb 2012, 6:12 p.m.,*
in response to message #4 by Olivier De Smet

V1.2 is now on the market. The format of the save state changed. Please save your work in xmem, save and export it to be safe on restart after the Memory Lost.

Olivier

Re: go41cx overlay Math module

*Message #10 Posted by **Olivier De Smet** on 12 Feb 2012, 1:51 p.m.,*
in response to message #9 by Olivier De Smet

New release 1.3.0 with graphics for skins and overlay will be soon in the market, now you could customize your overlays. For skins, send them back to me, I will include them.

Olivier

Re: go41cx overlay Math module

*Message #11 Posted by **Alexander Oestert** on 13 Feb 2012, 4:05 a.m.,*
in response to message #10 by Olivier De Smet

Very nice! I'm thinking about throwing out my hardware 41c's...

The only problem I'm having (and had since earlier versions): ADV doesn't work on the printer.

I wish though you had kept the text only overlays as a second option. They would be handy for a quick and dirty user program overlay as they are so much easier to make.

Re: go41cx overlay Math module

*Message #12 Posted by **Vincent Weber** on 13 Feb 2012, 4:26 a.m.,*
in response to message #11 by Alexander Oestert

I fully agree about this overlay. I feel guilty, because I suggested Olivier (probably I was not the only one) to make graphical overlays because the text ones were too limited; but these text ones had the big advantage to be quickly and easily done. What about a code like:

if (file_extension_is_ovl) load_the_text_way(); else load_the_graphics_way();

or is it too naive ? ;)

Cheers,

Vincent

Re: go41cx overlay Math module

*Message #13 Posted by **Alexander Oestert** on 4 Feb 2012, 5:09 a.m.,*
in response to message #2 by Olivier De Smet

> Quote:
>
> Nice, could I put them on my site?

Sure, that's why I posted them here. Grab them and host them on your site, I will eventually purge them from my dropbox. Everyone is free to change and improve the overlays.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP-15C Bug with MATRIX 5
*Message #1 Posted by **Thomas Klemm** on 3 Feb 2012, 11:39 a.m.*

So I was trying to use A^TB to calculate the scalar product of a vector with itself:

Definition of a *4x1* vector *E*

Set *USER* mode to enter the coordinates of the vector $E = [1\ 2\ 3\ 4]^T$:

```
4
ENTER
1
DIM E
MATRIX 1
1 STO E
2 STO E
3 STO E
4 STO E
```

Calculate E^TE

We'd expect that to be: $1^2 + 2^2 + 3^2 + 4^2 = 30$.

```
RCL MATRIX E
RESULT A
ENTER
MATRIX 5
MATRIX 1
RCL A
```

And we get indeed: *30.0000*

Running as a program

Use *CLEAR PRGM* to have all the programs removed. **WARNING:** you may not want to do that!

Now enter the few steps from above:

```
001-42,26,11   RESULT A
002-      36   ENTER
003-42,16, 5   MATRIX 5
004-42,16, 1   MATRIX 1
005-ᵘ  45 11   RCL A
```

And run the program:

```
RCL MATRIX E
RTN
R/S
```

I get an **ERROR 11: Improper Matrix Argument**. For *MATRIX 5* the *Appendix A: Error Conditions* states as possible reasons:

- the input is a scalar;
- the dimensions are incompatible; or
- the result is one of the arguments.

The funny thing is that the result is there. The stack consists of the following values:

```
T:
Z: A       1   1
Y: 30.0000
X: 30.0000
```

But the program stopped at this line:

```
003-42,16, 5   MATRIX 5
```

Workaround

A simple workaround is to add a *RTN* statement at the end of the program. Or you can single-step through the program as well.

Now is this a well known bug of the HP-15C? Could somebody verify this on a *real* calculator and possibly on the HP-15C LE? Unfortunately I can only test this with an emulator.

Kind regards
Thomas

PS: You think I should use *MATRIX 8* followed by x^2 instead?

Edited: 3 Feb 2012, 11:44 a.m.

Re: HP-15C Bug with MATRIX 5

*Message #2 Posted by **Paulo MO** on 3 Feb 2012, 12:34 p.m.,*
in response to message #1 by Thomas Klemm

1. Same thing on the LE.

2. But the problem is not with Matrix 5. It blows up on Matriz 5 simply because you're trying to use it with the number "30", and not with a matrix descriptor.

3. The problem is (and I don't understand what is going on) that the program tries to do a second loop (which is simultaneously why Matrix 5 is being fed the "30" - and thereby screaming for help with the Error 11 - , and why the RTN instruction solves the problem).

4. Why you would need an explicit return is what bothers me. Being the only program in memory, the RTN should be automatic; the program should return to address 000 and halt, not go for another ride at the merry-go-round.

:-(

Paulo

Edited: 3 Feb 2012, 12:36 p.m.

Re: HP-15C Bug with MATRIX 5

*Message #3 Posted by **Thomas Klemm** on 3 Feb 2012, 1:31 p.m.,*
in response to message #2 by Paulo MO

Thanks to your comment I understand better what's happening. But still I think it is somehow related the *MATRIX* operations. Because it never occurred to me in simple programs like:

```
001-       36   ENTER
002-       40   +
```

I'm just leaving the above statement, but I guess the real problem is the *RCL A* command in *USER* mode.

Since the dimension of *A* is *1x1* it jumps over the next step. But this is missing so it starts from scratch at line 000. This is what I consider the bug. Or is it a feature?

With the following program you get an endless-loop:

```
001-45,16,11   RCL MATRIX A
002-42,16, 1   MATRIX 1
003-u  45 11   RCL A
```

This appears to happen with *ISG* as well:

```
001-42, 6,25   ISG I
```

Start with *0* in register *I* and you're *running* for ever.

Thomas

Edited: 3 Feb 2012, 2:06 p.m.

Re: HP-15C Bug with MATRIX 5

*Message #4 Posted by **Paulo MO** on 3 Feb 2012, 2:12 p.m.,*
in response to message #3 by Thomas Klemm

Yeah. It seems that, by some reason it stops the implicit RTN function. When you plug in an explicit RTN instruction, everything works

ok, right? I have no clue as to the "why".

> Quote:
>
> Since the dimension of A is 1x1 it jumps over the next step

It makes no sense. You're being far too nice and/or forgiving. RCL A (after Matrix 1), is supposed to simply return the element 1,1 of A. Not jump, move, skip, or even think :-)

You may have found a bug on the original 15C firmware, and that would be something. It seems to be either that, or that I'm just deeper into Alzheimer than I thought :-)

Cheers Paulo

Re: HP-15C Bug with MATRIX 5

*Message #5 Posted by **Thomas Klemm** on 3 Feb 2012, 2:32 p.m.,*
in response to message #4 by Paulo MO

> Quote:
>
> RCL A (after Matrix 1), is supposed to simply return the element 1,1 of A. Not jump, move, skip, or even think :-)

There's a subtle difference between:

```
003ᵘ   45 11   RCL A
```

and

```
003-   45 11   RCL A
```

The first is entered in *USER* mode while the latter isn't. The first does some *very cool* magic:

- auto-increments registers R_0 and R_1
- skips the next instruction if the end of the matrix is reached

This makes looping through the elements of a matrix very easy. Say you want to square each element:

```
MATRIX 1
LBL 0
RCL A
x²
ᵘ STO A
GTO 0
```

Thomas

Edited: 3 Feb 2012, 3:00 p.m.

Re: HP-15C Bug with MATRIX 5

*Message #6 Posted by **Paulo MO** on 3 Feb 2012, 4:39 p.m.,*
in response to message #5 by Thomas Klemm

In user mode, the increment of R0/R1, thus pointing to the next element is supposed to happen (when reaching the end of a matrix, R0/R1 return to 1,1, in readiness for the next matrix). But the mentioned skipping of the next instruction when the end of a matrix is reached and the instruction is being executed from within a program is, AFAIK, not a feature.

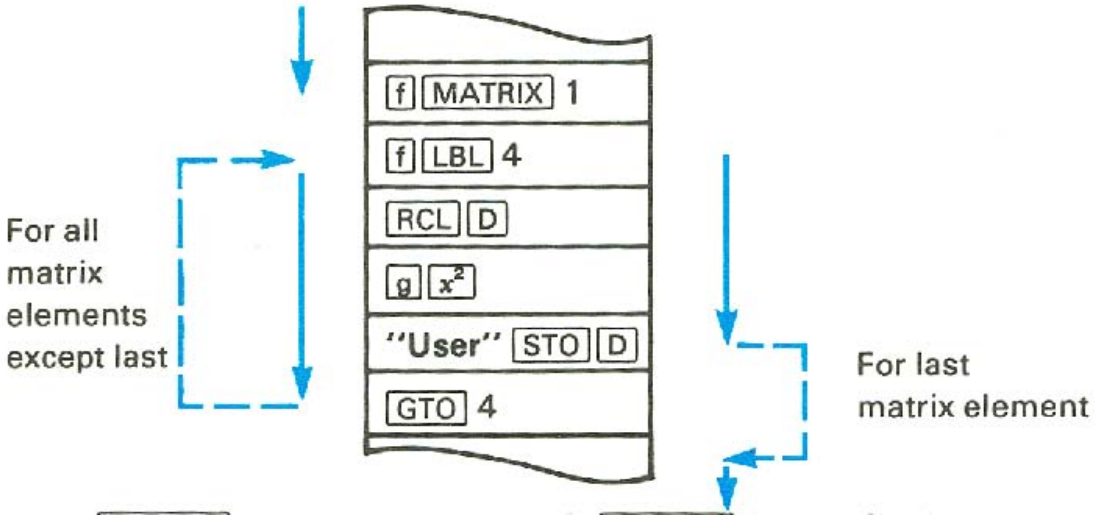
Best

Paulo

Re: HP-15C Bug with MATRIX 5

*Message #7 Posted by **Thomas Klemm** on 3 Feb 2012, 4:54 p.m.,*
in response to message #6 by Paulo MO

In addition, when the last element is accessed by the "User" [STO] or [RCL] instruction—when R_0 and R_1 are returned to 1—program execution skips the next line. This is useful for programming a loop that stores or recalls each matrix element, then continues executing the program. For example, the following sequence squares all elements of matrix **D**:



Best regards
Thomas

Re: HP-15C Bug with MATRIX 5
*Message #8 Posted by **Thomas Klemm** on 3 Feb 2012, 2:49 p.m.,*
in response to message #3 by Thomas Klemm

> Quote:
>
> This appears to happen with *ISG* as well.

This seems to be a general issue with conditional jumps on the last line of the program. You may try this with *MATRIX 7* (row norm) and *MATRIX 8* (Fobenius norm) as well. Just make sure you have a number in the *X*-Register. And unsurprisingly it's the same with *DSE*, *F?*, *x=0*, ...

So this might be the shortest loop-test:

```
001-       40   +
002-    43 20   x=0
```

Just fill the stack with *1s* and hit the *R/S* key.

Thomas

Edited: 3 Feb 2012, 3:20 p.m.

Re: HP-15C Bug with MATRIX 5
*Message #9 Posted by **Paulo MO** on 3 Feb 2012, 4:46 p.m.,*
in response to message #8 by Thomas Klemm

I don't follow you. Conditional jumps are done to either jump the next instruction or not. That is fine and expected. But the point is that RCL A is not a conditional jump instruction, just a RCL (with increment of the indices if in User mode), and that is what makes it awkward. Why should it jump over the implicit RTN, just because the end of the matrix was reached?

I'm giving up. Maybe someone will explain this. I'll be happy if it happens (and feel stupid, too, but I'm getting used to that ;-))

Paulo

Edited: 3 Feb 2012, 4:47 p.m.

Re: HP-15C Bug with MATRIX 5

*Message #10 Posted by **Thomas Klemm** on 3 Feb 2012, 5:08 p.m.,*
in response to message #9 by Paulo MO

> Quote:
>
> Conditional jumps are done to either jump the next instruction or not. That is fine and expected.

At least I was **not** aware that they jump over the implicit *RTN* instruction at the very end and start again at line 000.

> Quote:
>
> I'm giving up. Maybe someone will explain this.

Hopefully the excerpt from the manual above does.

Cheers
Thomas

Re: HP-15C Bug with MATRIX 5

*Message #11 Posted by **Paulo MO** on 3 Feb 2012, 5:38 p.m.,*
in response to message #10 by Thomas Klemm

So you had a manual...

I feel sssoooo ashamed. Another instance of RTFM, hey?

:-) Paulo

Edited: 3 Feb 2012, 5:38 p.m.

Re: HP-15C Bug with MATRIX 5

*Message #12 Posted by **Thomas Klemm** on 3 Feb 2012, 5:57 p.m.,*
in response to message #11 by Paulo MO

> Quote:
>
> So you had a manual...

- HP-15C Owner's Handbook
- HP-15C Advanced Functions Handbook

Have a nice weekend!

Re: HP-15C Bug with MATRIX 5

*Message #13 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 6:50 p.m.,*
in response to message #8 by Thomas Klemm

We had a hard time to get the automatic return on the last step right. It was causing so much grief that I was happy to get rid of it completely by forcing an END statement as the last step in any program.

Re: HP-15C Bug with MATRIX 5

*Message #14 Posted by **Paul Dale** on 3 Feb 2012, 7:02 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Agreed, this was one of the worst bits in the program execution support. Made worse by the introduction of END statements :-(

The current enforced END is a bit confusing to me at times I feel. Single or back step with an empty program from run and you stick at the END, switch to program mode and it swaps between steps 0 and 1. Don't step and you insert after then END making a new program. This has caught me out a few times now.

- Pauli

WP34S: Implicit END

*Message #15 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 7:14 p.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> The current enforced END is a bit confusing to me at times I feel.

I know. :-(

But we need it nonetheless. If you switch to program mode now and the program memory is empty (just containing the single END statement) the PC is reset to zero. I may change it to not putting the END into empty program memory and just add it together with the first command entered. But this will cause problems in other areas.

This discussion may look a bit misplaced in this forum because it deals with very specific implementation details of WP 34S. But I believe this helps to understand how much care and thought is needed to get things right for the user.

Re: HP-15C Bug with MATRIX 5

*Message #16 Posted by **J-F Garnier** on 4 Feb 2012, 4:33 a.m.,*
in response to message #8 by Thomas Klemm

This happens also on the HP11C and HP16C, and even on a HP-34C. I believe this is also the same some many pre-HP41C machines - without END statement.

Re: HP-15C Bug with MATRIX 5

*Message #17 Posted by **Thomas Klemm** on 4 Feb 2012, 7:58 a.m.,*
in response to message #16 by J-F Garnier

You may add the HP-12C to the list. It appears if you manage to make the conditional statement the last one and avoid the *GTO 00* statements that are otherwise added at the end. Just include a few dummy statements until you have a multiple of 8.

It doesn't occur in earlier models I checked and not in subsequent models like the HP-32Sii , HP-20S or the HP-35S as well.

Cheers
Thomas

Re: HP-15C Bug with MATRIX 5

*Message #18 Posted by **Paul Dale** on 4 Feb 2012, 5:07 p.m.,*
in response to message #17 by Thomas Klemm

Wow! The 15C has two known bugs now :-) It only took 30+ years to find and identify.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Solve issue #26 is posted...

*Message #1 Posted by **Richard J. Nelson** on 2 Feb 2012, 6:12 p.m.*

Hello,

Issue #26 of HP Solve has been posted at: [http://h20331.www2.hp.com/Hpsub/cache/580500-0-0-225-121.html] Issue # 26

Museum readers may be interested in the HHC 2011 report, the best speaker winner's paper, and other articles.

X < > Y,

Richard

Re: HP Solve issue #26 is posted...

*Message #2 Posted by **Don Shepherd** on 2 Feb 2012, 6:30 p.m.,*
in response to message #1 by Richard J. Nelson

Richard, the link for issue #26 looks like it downloads something for about 3 minutes (flashing modem lights), but I just end up with an empty .pdf file.

Re: HP Solve issue #26 is posted...

*Message #3 Posted by **Paul Dale** on 2 Feb 2012, 6:32 p.m.,*
in response to message #1 by Richard J. Nelson

Nice work as usual.

A factual error on page 50. The WP 34S uses *decimal* arithmetic not binary. It doesn't use BCD because there are more efficient decimal packings methods available and we've the CPU power to use them effectively.

- Pauli

Re: HP Solve issue #26 is posted...

*Message #4 Posted by **Richard J. Nelson** on 3 Feb 2012, 10:28 a.m.,*
in response to message #3 by Paul Dale

Thanks Pauli for the correction. It is a double mistake because i thought it used BCD. Now I need to review the differences.

X < > Y,

Richard

Re: HP Solve issue #26 is posted...

*Message #5 Posted by **Paul Dale** on 3 Feb 2012, 6:14 p.m.,*
in response to message #4 by Richard J. Nelson

Registers store floating point numbers in densely packed decimal format. We're not using the prefix encoding so we're not binary compatible with other such implementations -- not doing so avoids some large look up tables. Floating point numbers in registers are stored in decimal64 format, double precision numbers in decimal128. Statistical accumulations use *both* of these formats to avoid the large but similar numbers causing truncation problems (as mentioned in many HP calculator manuals).

Internally, computations are performed in base-1000 carrying 39 digits and a huge exponent range.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s Parts List

*Message #1 Posted by **Barry Reeves** on 2 Feb 2012, 3:25 p.m.*

I've just repurposed my first HP30b into a WP34s.(Version 2.2 because those are the overlays I had). It's, by far, the coolest project I've seen in a long time Now I have two others I'm planning to repurpose as well (With version 3). I want to totally populate the PCB of at least one of them, and at least add the clock circuit to the other. I've searched these forums, and I can't seem to find a parts list any where here, but I'm sure I've seen it some where. Can somebody point me in the right direction? If someone knows of a parts kit that can be purchased that would be even better. :).

Re: WP34s Parts List

*Message #2 Posted by **Jeff O.** on 2 Feb 2012, 3:45 p.m.,*
in response to message #1 by Barry Reeves

> Quote:
>
> I want to totally populate the PCB of at least one of them, and at least add the clock circuit to the other.

What additional board population options are there beyond the addition of the crystal (which was recently discussed in this thread)?

Edited: 7 Feb 2012, 7:45 a.m. after one or more responses were posted

Re: WP34s Parts List

*Message #3 Posted by **Barry Reeves** on 2 Feb 2012, 4:28 p.m.,*
in response to message #2 by Jeff O.

There is a place to add a JTAG connector and an on board serial interface.

Re: WP34s Parts List

*Message #4 Posted by **Marcus von Cube, Germany** on 2 Feb 2012, 6:43 p.m.,*
in response to message #3 by Barry Reeves

JTAG is useful if you want to join the team for hardware development. My original unit which has the JTAG connector broke (failure of the serial connection) and I have yet to add the connector to my present development unit. So far I could live without, thanks to the emulator as a debugging platform.

The serial port modification will most probably be not very useful as well. It's better to butcher one of the programming cables and add an FTDI 3V USB/serial converter to the RS232 end of things. I just removed all the guts from the small board, except the switches, and wired the FTDI cable ends directly to the other end of the board.

The crystal modification is very useful. You can then install a special image (calc_xtal.bin) which starts the quartz oscillator on startup and lacks the internal logic to support the RC oscillator. I've added the stopwatch instead (which makes the image larger than the default image, of course.)

Re: WP34s Parts List

*Message #5 Posted by **Barry Reeves** on 3 Feb 2012, 10:20 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I was thinking that the serial port would be very useful to drive IR. This could be used for unit to unit data transfer or data transfer to other devices. It could also be used for remote control. With the extra power drain, it would probably be better to replace the batteries with AAAs, or perhaps a mobile phone lithium polymer battery.

Unless, there are plans to add data transfer to the WP34s, then a serial port is of little use to most people, however I just want to tinker around with hardware a bit. I'll keep one HP30b for tinkering, and the others will become WP34s with crystals.

Re: WP34s Parts List

*Message #6 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 5:56 p.m.,*
in response to message #5 by Barry Reeves

Bary, the wp34s does data transfer! The serial interface is supported by the software to transfer registers, state and programs. The communication is possible between the device and the emulator or between devices. But you don't need the level shifters for the latter, a simple cross over cable is sufficient.

Re: WP34s Parts List

*Message #7 Posted by **Barry Reeves** on 4 Feb 2012, 2:03 p.m.,*
in response to message #6 by Marcus von Cube, Germany

If you can already transfer data between calculators, having IR would make it easier (No cables). But the easiest mod to the calculators would be to run the RX and TX to a small headphone jack. The transfer cable would be very simple and cheap.

Re: WP34s Parts List

*Message #8 Posted by **Marcus von Cube, Germany** on 4 Feb 2012, 2:22 p.m.,*
in response to message #7 by Barry Reeves

Do you mean like this?

Re: WP34s Parts List

*Message #9 Posted by **Barry Reeves** on 6 Feb 2012, 10:40 a.m.,*
in response to message #8 by Marcus von Cube, Germany

That's pretty much exactly what I was thinking. Nice work! If I get mine modded, I'll be sure and follow the same convention of RXD tip, TXD ring, GND sleeve. With some care, you could install a photo diode and IR LED on the other side of that screw post. You would have to cut an opening in both the case and the slide cover, that might be kind of tricky.

Re: WP34s Parts List

*Message #10 Posted by **Barry Reeves** on 6 Feb 2012, 1:17 p.m.,*
in response to message #9 by Barry Reeves

I think I'll just try something like a TFDU6300. I might get by with no additional parts requirements, though a small buffering cap may be required on VCC2.

Re: WP34s Parts List

*Message #11 Posted by **Paul Dale** on 2 Feb 2012, 5:06 p.m.,*
in response to message #1 by Barry Reeves

The only additions we support are the clock -- two capacitors and a crystal. Marcus has bought out the serial port but the programming cable works for this just as well.

We don't have commands to directly access the I/O headers that are present and haven't any intention of adding any.

- Pauli

Re: WP34s Parts List

*Message #12 Posted by **Katie Wasserman** on 3 Feb 2012, 11:10 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> We don't have commands to directly access the I/O headers that are present and haven't any intention of adding any.

While I've been following all the 34s activities pretty closely I've been busy with other stuff and haven't actually re-purposed a 30b yet (would you believe!). However adding the ability to read/write bits from/to an i/o port under program control would be take this project to a whole different level, making the calculator into a hand-held controller for all sorts of electronic things. I would love to help out on such a project.

-Katie

Re: WP34s Parts List

*Message #13 Posted by **uhmgawa** on 3 Feb 2012, 11:43 a.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> ..adding the ability to read/write bits from/to an i/o port under program control would be take this project to a whole different level, making the calculator into a hand-held controller for all sorts of electronic things.

I'm still waiting on arrival of a 30b. However unless a manufacturing change has already displaced the obsoleted die sam7 in favour of the lqfp package, I'm unsure if usable gpio is accessible. Anyone know for certain if recent production has transitioned from die to lqfp package, or if still COB die whether unused gpio is bonded out to the PCB?

Re: WP34s Parts List

*Message #14 Posted by **Barry Reeves** on 3 Feb 2012, 2:41 p.m.,*
in response to message #13 by uhmgawa

Most I0 pins are used by the LCD and keyboard. However, eight of them are brought out to pads on the PCB as well as all four ADC inputs.

Re: WP34s Parts List

*Message #15 Posted by **uhmgawa** on 3 Feb 2012, 6:45 p.m.,*
in response to message #14 by Barry Reeves

> Quote:
>
> Most I0 pins are used by the LCD and keyboard. However, eight of them are brought out to pads on the PCB as well as all four ADC inputs.

I'd forgotten all about the 20b developers kit documentation I'd squirreled away back when, and more importantly the existence of a schematic. Are the board layouts effectively identical between the 20b/30b? Except for the clandestine jumper Marcus had suspected earlier, that is. This could be accomplished via one of the unused floating gpio lines in the 20b being tied to GND in the 30b.

Re: WP34s Parts List

*Message #16 Posted by **Andrés C. Rodríguez (Argentina)** on 6 Feb 2012, 3:17 p.m.,*
in response to message #12 by Katie Wasserman

Even simple low-level "read byte" (PEEK) or "output byte" (POKE) functions may open a full new I/O world for WP34S; and more if analog input is allowed. Let's hope, "NULL" was once dismissed and now it's part of the game!!

Re: WP34s Parts List

*Message #17 Posted by **Marcus von Cube, Germany** on 6 Feb 2012, 3:59 p.m.,*
in response to message #16 by Andrés C. Rodríguez (Argentina)

The software is open source, just go ahead!

Re: WP34s Parts List

*Message #18 Posted by **Andrés C. Rodríguez (Argentina)** on 7 Feb 2012, 3:22 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Would you assist a neophyte in his first steps to add code to the project? I may ask some colleague here at my university to help with the tool chain, etc; but if I eventually start with this I would be starting from absolute zero. I'm interested, but somehow fearfully impressed about starting such an endeavor.

Re: WP34s Parts List

*Message #19 Posted by **Marcus von Cube, Germany** on 7 Feb 2012, 3:30 p.m.,*
in response to message #18 by Andrés C. Rodríguez (Argentina)

Andrés, you are welcome.

The first step should always be to get the tool chain up and running and do a clean rebuild. Code changes should mainly be done on a PC platform. I'm doing all my testing which isn't device specific on the Windows GUI. The debugger coming with Visual C/C++ Express is quite capable.

Re: WP34s Parts List

*Message #20 Posted by **Eric Rechlin** on 3 Feb 2012, 5:02 p.m.,*
in response to message #1 by Barry Reeves

I used to sell a kit with all the parts. This is what I included:

- 18 pF 0603 capacitors (quantity 2)
- 100 ohm 0603 resistor (quantity 1)
- Zero ohm 0603 resistors (quantity 2)
- PNP SOT-23 transistor (quantity 1)
- 32.768 kHz clock crystal (quantity 1)
- MAX3232 TSSOP level shifter (quantity 1)
- 16-pin header for JTAG (quantity 1)

Eric

Re: WP34s Parts List

*Message #21 Posted by **Barry Reeves** on 3 Feb 2012, 5:18 p.m.,*
in response to message #20 by Eric Rechlin

Thanks Eric!

That's just what I was looking for. :^)Maybe we could throw it in the wiki.

Re: WP34s Parts List

*Message #22 Posted by **Dominic Richens** on 3 Feb 2012, 11:39 p.m.,*
in response to message #21 by Barry Reeves

> Quote:
>
> Thanks Eric!
>
> That's just what I was looking for. :^)Maybe we could throw it in the wiki.

Don't wait for permission, just do it. That's what wikis are for!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Price Lowered by HP

*Message #1 Posted by **Namir** on 2 Feb 2012, 8:25 a.m.*

I just checked the hp web site and the price of the HP-15C LE is back to $99.99 AND IS NOT OUT OF STOCK. So all of you crying foul and bitching about the price hike, take a chill pill!!!

:-)

Namir

Edited: 2 Feb 2012, 8:26 a.m.

Re: HP15C LE Price Lowered by HP - REALLY???

*Message #2 Posted by **Joerg Woerner** on 2 Feb 2012, 8:57 a.m.,*
in response to message #1 by Namir

Namir,

Please remember, the steep price tag of $179.99 was at hp's Home & Home Office section. The page and calculator disappeared there...

Regards,

Joerg

Re: HP15C LE Price Lowered by HP

*Message #3 Posted by **Michael de Estrada** on 2 Feb 2012, 9:16 a.m.,*
in response to message #1 by Namir

Namir - That is the hp Small & Medium Business Store, where it has always been $99.99. However, they take orders and charge your credit card w/o having immediate stock, and some people are still waiting to receive their calculators. As Joerg posted, the listing has mysteriously vanished from the hp Home & Home Office Store, where they actually don't sell unless they have stock.

Re: HP15C LE Price Lowered by HP

*Message #4 Posted by **Lincoln R.** on 2 Feb 2012, 9:35 a.m.,*
in response to message #1 by Namir

I still don't think HP was trying to rip people off, it was probably another mistake. Jacking up the price would be stupid - it doesn't take a rocket scientist to realize that very few people would pay $180 for this product, actually resulting in *reduced* profits. That's a kid with lemonade stand mistake ("If I sell 20 cups a day for a quarter each, couldn't I charge $2 for a cup and make 8x the amount of money?")

Re: HP15C LE Price Lowered by HP

*Message #5 Posted by **Namir** on 2 Feb 2012, 11:26 a.m.,*
in response to message #4 by Lincoln R.

People buy the machine for MORE THAN $180!!!!

Re: HP15C LE Price Lowered by HP

*Message #6 Posted by **bill platt** on 2 Feb 2012, 11:31 a.m.,*
in response to message #5 by Namir

How many people?

I bet fewer than 200 around the world will pay that for this new one (unless they think they are getting an original NIB on ebay--by not looking at the fine print so to say)

Re: HP15C LE Price Lowered by HP

*Message #7 Posted by **Derek Walker (UK)** on 2 Feb 2012, 12:32 p.m.,*
in response to message #6 by bill platt

Many of the people who bought calculators from the initial batch from outside the US have paid at least this price. Mine was $99.99 from SC but in excess of $185 (at today's exchange rate) by the time it was in my hand. Buyers in Brazil reported much higher prices due to local taxes.
My UK ordered ones (still not yet arrived here) will be equivalent to about $145 assuming the supplier honours the order price.

Re: HP15C LE Price Lowered by HP

*Message #8 Posted by **Michael de Estrada** on 2 Feb 2012, 11:38 a.m.,*
in response to message #5 by Namir

Exclamation mark abuse !!!!!!!!!!!!!!!!!!!!!!!!!!!!

HP-15C LE no more on HP Home&Home Office Store

*Message #9 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 2 Feb 2012, 12:39 p.m.,*
in response to message #1 by Namir

After Namir's message, I checked the HP Home&Home Office store where 15C was listed for $179 yesterday, but this morning HP-15C LE has been removed from the store website. link to HP Home&Home Office

Edited: 2 Feb 2012, 12:41 p.m.

Re: HP15C LE Price Lowered by HP

*Message #10 Posted by **Jan** on 2 Feb 2012, 12:47 p.m.,*
in response to message #1 by Namir

Maybe it was just a mistake. Maybe some HP guys have checked our reaction and decided it wasn't a good decision to increase the price. Anyway: thanks HP.

Re: HP15C LE Price Lowered by HP

*Message #11 Posted by **Andreas Grund** on 4 Feb 2012, 1:55 a.m.,*

in response to message #10 by Jan

For those who want to know, here in Tokyo/Japan the HP15c is sold in Akihabara for 10900Yen, which is 142$. Beside the English manual, a japanese one is included as hardcopy.

Andreas

Re: HP15C LE Price Lowered by HP

*Message #12 Posted by **Michael de Estrada** on 4 Feb 2012, 9:05 a.m.,*
in response to message #11 by Andreas Grund

So, assuming a 5% consumption tax, the total price would be about 11445 Yen, which is less than $150. How does that price compare with other HP calculators sold in Japan, such as an HP 50g ?

Re: HP15C LE Price Lowered by HP

*Message #13 Posted by **Andreas Grund** on 4 Feb 2012, 9:53 a.m.,*
in response to message #12 by Michael de Estrada

Michael,

the 5% consumption tax is already included in the 10900Yen. Don't ask me about HP's pricing in Japan...

BTW, the serial No. of the one I bought is 14817 and the manufacture date is mid of Dec. 2011 (CNA 1500298). And they keep several more in the shelves.

Andreas

Edited: 4 Feb 2012, 9:56 a.m.

Re: HP15C LE Price Lowered by HP

*Message #14 Posted by **Mark Puscas** on 5 Feb 2012, 3:44 a.m.,*
in response to message #13 by Andreas Grund

What's the key to translating CNA number to manufacture date? For that matter, what is a CNA number? My 15C LE has 4 digits followed by 3 letters.

On a different note, I tried the "$99" link to the 15C on the small business store, it still (Feb 5) says "$99" but when you place it in your cart, it mysteriously jumps to $129.

Thanks, Mark

Re: HP15C LE Price Lowered by HP

*Message #15 Posted by **Andreas Grund** on 5 Feb 2012, 4:31 a.m.,*
in response to message #14 by Mark Puscas

Mark,

CNA means "China" and the codes translates easily

First digit "1" is 2011 (consequently, a "2" will be 2012 eventually)

Second/third digits are "50", this is calender week 50 - mid December

The remaining digits "xxxx" probably are a lot/batch No., seems, as in your case letters are used as well.

Andreas

Re: HP15C LE Price Lowered by HP

*Message #16 Posted by **Marcus von Cube, Germany** on 5 Feb 2012, 10:50 a.m.,*
in response to message #15 by Andreas Grund

My 30bs are 4CY######## (8 digits following the CY). Do you have an explanation?

Re: HP15C LE Price Lowered by HP

*Message #17 Posted by **Michael de Estrada** on 5 Feb 2012, 11:01 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Different manufacturers / factories ?

Re: HP15C LE Price Lowered by HP

*Message #18 Posted by **Jeff O.** on 6 Feb 2012, 7:48 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Marcus,
My understanding is as follows:

The difference between 4CY and CNA as the leading three characters is explained here.

The eight digits break down as follows: digit 1 is the year, digits 2 and 3 are the week, and the last five are an individual unit number. With the 15c LE, there are only 7 characters after the factory ID, with only four characters for the unit number. Since they now use alpha as well as numeric characters, four characters allows a total of 1,679,616 individual ID strings as compared to 100,000 strings with 5 numbers, so four characters is probably enough.

Re: HP15C LE Price Lowered by HP

*Message #19 Posted by **Thomas Radtke** on 6 Feb 2012, 8:04 a.m.,*
in response to message #18 by Jeff O.

> Quote:
>
> The difference between 4CY and CNA as the leading three characters is explained here.
>
> Quote:
>
> Yes, 4CY is a different factory. I do not work for HP or either of these companies, so I am not 100% sure, but I believe that 4CY == Inventec Appliance, and CNA == Kinpo Electronics.

What's CNG as found on the sticker of my 20b? Maybe a different Kinpo plant?

Re: HP15C LE Price Lowered by HP

*Message #20 Posted by **Jeff O.** on 6 Feb 2012, 8:29 a.m.,*
in response to message #19 by Thomas Radtke

I have never see that one, but my guess would be another manufacturing plant, either Kinpo or other.

(If you google CNG, you will find lots of useful information about compressed natural gas.)

Re: HP15C LE Price Lowered by HP

*Message #21 Posted by **Derek Walker (UK)** on 6 Feb 2012, 8:51 a.m.,*
in response to message #19 by Thomas Radtke

I don't know the answer to that, but it's not a new designation, my 2007 HP12C has serial number CNG738#####.
Incidentally, that unit has all loose keys, not just the [f] & [g] keys as much commented on in the 15C-LE. I've never found it an issue when used flat on a desk.

Re: HP15C LE Price Lowered by HP

*Message #22 Posted by **Mark Puscas** on 5 Feb 2012, 12:37 p.m.,*
in response to message #15 by Andreas Grund

Andreas,

Thanks for the info!

Mark

Re: HP15C LE Price Lowered by HP

*Message #23 Posted by **Vince (Italy)** on 5 Feb 2012, 4:37 a.m.,*
in response to message #14 by Mark Puscas

Now it says "$129". I can't see any mistake here. Only bids for making money

Re: HP15C LE Price Lowered by HP

*Message #24 Posted by **Andreas Grund** on 5 Feb 2012, 5:34 p.m.,*
in response to message #23 by Vince (Italy)

Marcus,

my 30b's are 4CY030xxxxx and 4CY031xxxxx, indicating built 2010 in China, CW 30 and 31 respectively.

However, this scheme doesn't work with my 20b....

Gruss,

Andreas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

accuracy of integration and solve routines HP 15C LE

*Message #1 Posted by **Jan** on 2 Feb 2012, 5:34 a.m.*

Hi,

Has anybody tested the integration- and/or solve-function of the 15C LE? And if so, do they seem work properly or not? Doing a lot of algebraic work I primarely use my calculators for checking results. With an increase in speed of 100 times the speed of the original 15C (of which I got 2) and therefore even exceeding the speed of my 32SII and 48G, the 15C LE seems a perfect tool for the job. That is, when I can rely on it. Thanks for your respons.

Re: accuracy of integration and solve routines HP 15C LE

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Feb 2012, 8:40 a.m.,*
in response to message #1 by Jan

The accuracy of the 15C LE is exactly the same as that of the original 15C because it runs the same software. All problems are related to the operation environment of the emulation (display, battery, keyboard).

Re: accuracy of integration and solve routines HP 15C LE

*Message #3 Posted by **Jan** on 2 Feb 2012, 12:51 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks for the info. I had the idea though that the original firmware had to be reverse-engineered since the original documentation was lost at HP. Or is that just a rumour? If not, was the reverse-engineering done in an appropriate way?

Re: accuracy of integration and solve routines HP 15C LE

*Message #4 Posted by **Marcus von Cube, Germany** on 2 Feb 2012, 1:03 p.m.,*
in response to message #3 by Jan

I'm not the most qualified to answer your question but I doubt that any reverse engineering was really necessary. The original code is run in a virtual environment as if the nut processor were still there. It's not, the instructions are interpreted by some software running on the ARM chip. This piece of software not only has to implement the processor but all of the peripherals, too, and map them to the real hardware. Here the trouble has its origins.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sourceforge

*Message #1 Posted by **Paul Dale** on 1 Feb 2012, 8:57 p.m.*

The WP 34S is featured on the Source Forge front page this week.

The number of downloads has spiked massively.

- Pauli

Re: Sourceforge

*Message #2 Posted by **Namir** on 2 Feb 2012, 12:51 a.m.,*
in response to message #1 by Paul Dale

Very nice!!!!!

:-)

Namir

Re: Sourceforge

*Message #3 Posted by **Howard Owen** on 2 Feb 2012, 12:16 p.m.,*
in response to message #1 by Paul Dale

Congratulations! You are about to be blessed with that curse of success: naive users.

Re: Sourceforge

*Message #4 Posted by **Dominic Richens** on 2 Feb 2012, 5:22 p.m.,*
in response to message #1 by Paul Dale

I wonder if Gene is going to get 340 requests for cables this week?

Re: Sourceforge

*Message #5 Posted by **Jake Schwartz** on 2 Feb 2012, 10:30 p.m.,*
in response to message #4 by Dominic Richens

> Quote:
>
> I wonder if Gene is going to get 340 requests for cables this week?

I can only hope that they are matched by an equal number of requests to Eric Rechlin for overlays...

Jake

Re: Sourceforge

*Message #6 Posted by **David Griffith** on 3 Feb 2012, 12:17 a.m.,*
in response to message #5 by Jake Schwartz

This is why HP needs to talk to the wp34s crew and have them spec out and write the firmware for HP's next RPN calculator.

Re: Sourceforge

*Message #7 Posted by **Paul Dale** on 3 Feb 2012, 2:08 a.m.,*
in response to message #6 by David Griffith

I'd certainly be interesting in help where I was able :-)

- Pauli

Re: Sourceforge

*Message #8 Posted by **Jim Johnson** on 3 Feb 2012, 7:34 a.m.,*
in response to message #7 by Paul Dale

This is VERY cool! (limited use of exclamation marks) ;-)

Re: Sourceforge

*Message #9 Posted by **Jim Yohe** on 3 Feb 2012, 11:40 a.m.,*
in response to message #6 by David Griffith

... and a full user-friendly manual while they're at it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP joins the price gougers

*Message #1 Posted by **Michael de Estrada** on 31 Jan 2012, 9:36 p.m.*

Well, HP has decided to join all the profiteers and price gougers, and the HP 15C LE is now in stock for $179.99 at hp Home & Home Office. In fact, they don't even offer free shipping on it, even though shipping is free on much cheaper models such as the 35s. Shame on you, HP.

Edited: 31 Jan 2012, 9:39 p.m.

Re: HP joins the price gougers

*Message #2 Posted by **db (martinez, ca.)** on 31 Jan 2012, 10:01 p.m.,*
in response to message #1 by Michael de Estrada

They probably noticed the old low price and raised it when it was mentioned here.

Re: HP joins the price gougers

*Message #3 Posted by **From Hong Kong** on 31 Jan 2012, 11:56 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Shame on you, HP.

Price isn't the primary issue if the calculator is flawless in operation. HP is most shameful as the company continues to sell a defective product!

Re: HP joins the price gougers

*Message #4 Posted by **Kees Bouw** on 1 Feb 2012, 4:27 a.m.,*
in response to message #3 by From Hong Kong

> Quote:
>
> Price isn't the primary issue if the calculator is flawless in operation. HP is most shameful as the company continues to sell a defective product!

I totally agree. I guess although the name is the same, the HP from today is quite different from the HP that once was proud to sell quality products. "It's HP Jim, but not as we know it..." as Mr. Spock would say.

Re: HP joins the price gougers

*Message #5 Posted by **Mike Morrow** on 1 Feb 2012, 2:28 p.m.,*
in response to message #4 by Kees Bouw

> Quote:
>
> ...the HP from today is quite different from the HP that once was proud to sell quality products.

Would that be the same HP that did such a great high quality job of engineering fool's tech NiCD charging systems on relatively expensive calculators like the Woodstocks...charging systems that easily destroys the calculator? Or produced flimsy press-fit PCB calculators like the early Spice models? Or produced card readers whose rollers turn to gum? Or produced an expensive calculator whose internal plastic screw columns split, causing circuit board separation, like the HP-41? Or produced battery compartment doors that crack the case like the Clamshells? Or produced an expensive RPL calculator with the worst quality fuzzy LCD that's ever been put on a calculator by anyone, like the HP 48S and G?

That must have been when Mr Hewlett and Mr. Packard were elsewhere. No, in fact Hewlett was President and CEO and Packard was Chairman of the Board for most of that time.

Edited: 1 Feb 2012, 3:22 p.m.

Re: HP joins the price gougers

*Message #6 Posted by **bill platt** on 1 Feb 2012, 2:40 a.m.,*
in response to message #1 by Michael de Estrada

Now there really is absolutely no reason to buy one.

Re: HP joins the price gougers

*Message #7 Posted by **Paul Dale** on 1 Feb 2012, 4:29 a.m.,*
in response to message #1 by Michael de Estrada

Charging what the market will bare. Sounds like a perfect example of capitalism in all its glory.

Moral. Now that's an altogether different question.

- Pauli

Re: HP joins the price gougers

*Message #8 Posted by **Jan** on 1 Feb 2012, 5:54 a.m.,*
in response to message #1 by Michael de Estrada

Shame on you HP! I hope they will sell none for this price.

Re: HP joins the price gougers

*Message #9 Posted by **Mark Scheuern** on 1 Feb 2012, 9:25 a.m.,*
in response to message #8 by Jan

> Quote:
>
> Shame on you HP! I hope they will sell none for this price.

I agree that raising the price this much isn't cool but I suppose the argument could be made that if they

realize there actually is still a market for calculators reminiscent of the days of yore and they can make a profit at it, they'll do more of this.

Re: HP joins the price gougers

*Message #10 Posted by **Michael de Estrada** on 1 Feb 2012, 10:27 a.m.,*
in response to message #9 by Mark Scheuern

I doubt it. The only reason this particular product came to light is that there was a concerted effort over many years to do so, based on a petition with many signatures. Then, when it finally happened, there was a perfect storm of problems that sent those involved running for cover. I doubt anyone has the stomach at HP to go through all this again. Frankly, I interpret this latest action by HP of nearly doubling the already high price as their way of giving us the tifosi the big middle finger salute.

Re: HP joins the price gougers

*Message #11 Posted by **Howard Owen** on 1 Feb 2012, 11:49 a.m.,*
in response to message #10 by Michael de Estrada

Let's say you aren't a member of the calculator division at HP. Maybe you are up the management chain some. What do you see? You see a runaway popular product in the HP-15C. You see gougers buying the machine at wholesale, and reselling it for a big premium on the SRP. You see some people buying at retail, and also making a killing. Strictly from a business perspective, does it look to you like the calculator is priced appropriately by HP for the actual retail market?

Modern business exalts shareholder value over all else, including quality, suitability and customers. These are all means to an end: to boost the share price. Those of us who feel that customer focus and passion lead to brilliant design and thus to successful products, with increasing shareholder value as a side effect, will often be disappointed by companies like HP. It's not that the idea of building quality products has disappeared.The people who create products often have that customer focus, if for no other reason than it confers some self respect if you think you are helping to deliver something worthwhile. The problem is, that quality approach is subordinate to shareholder value. If the two ever conflict, the bottom line will win every time.

Re: HP joins the price gougers

*Message #12 Posted by **Michael de Estrada** on 1 Feb 2012, 1:18 p.m.,*
in response to message #11 by Howard Owen

This item has a microscopic impact on company profits, regardless of sales price. It is strictly an image item, and stock value or profitability is irrelevant. HP could have easily controlled the secondary market price gouging by increasing production levels and dispensing with the limited edition moniker.

Re: HP joins the price gougers

*Message #13 Posted by **Howard Owen** on 1 Feb 2012, 1:53 p.m.,*
in response to message #12 by Michael de Estrada

One possibility is that this price hike is a prelude to the introduction of just such a model. I'm always wildly optimistic. :)

My father worked for a rich guy in Nome Alaska in the 1950s.. He told me that he got this advice from his employer: "You get three pennies, you spend one, save one and invest one." Also, ignoring an opportunity to positively impact the bottom line is not the way for a

manager to get ahead in a company that values its share price above all else. The increment you add may be tiny, but it shows that you hew to the bottom line, just like the people who might promote you do.

Re: HP joins the price gougers

*Message #14 Posted by **Antonio Petri (UK)** on 1 Feb 2012, 4:19 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> One possibility is that this price hike is a prelude to the introduction of just such a model. I'm always wildly optimistic. :)

I have signed the hp15C petition just for that reason, I expected to see a 15C or a modernised version of it back in the HP catalog on a regular basis like the 12C+. I didn't want a "limited version", which is quite difficult to get hold of and with an inflated price. Therefore, I haven't decided yet whether to buy one or not, given that I have my original 15C and 11C still perfectly working and in mint conditions. In general, I would like to have the chance to buy a numerical, non graphic, scientific RPN programmable calculator more powerful than the current 35S and possibly with the form factor of the 15C.

Re: HP joins the price gougers

*Message #15 Posted by **Namir** on 1 Feb 2012, 7:56 a.m.,*
in response to message #1 by Michael de Estrada

What was the list price of the original HP-15C? With this figure we can compare prices, be more objective, and set emotions aside.

Namir

Re: HP joins the price gougers

*Message #16 Posted by **Namir** on 1 Feb 2012, 7:59 a.m.,*
in response to message #15 by Namir

I found the price of $135 on this web site!! Cool. So the higher price is not off if you account for inflation and the fact that the 15C LE is 100 times faster than the vintage version.

Re: HP joins the price gougers

*Message #17 Posted by **Jeff Kearns** on 1 Feb 2012, 11:48 a.m.,*
in response to message #16 by Namir

Also from this site... HP 12C price at introduction: $150, now selling at $69.99 HP Site.

The logic escapes me.

Jeff Kearns

Re: HP joins the price gougers

*Message #18 Posted by **Jeff Johnson** on 1 Feb 2012, 11:58 a.m.,*

in response to message #16 by Namir

If they had initially come out with the LE for the same $135 price as the original, we probably wouldn't have batted an eye at it. In the 70's, people were spending weeks of salary for an HP calculator. As a high-schooler, I just drooled on my TI as I looked over the quite-unaffordable HP calculators. But I must agree that listing the LE for $99, then seemingly arbitrarily jacking the price up to $179 is a real slap in the face. If they were wanting to insult their faithful devotees, that was an excellent start! Not hard to see why the WP34S project came into being.

Re: HP joins the price gougers

*Message #19 Posted by **Walter B** on 1 Feb 2012, 1:14 p.m.,*
in response to message #18 by Jeff Johnson

FYI, Pauli and me started the WP 34S project since

1. HP did not offer any reliable scientific RPN calculator we liked for many years after the HP 42S, nor did they seem to listen to engineer's wishes (as expressed in this forum many times) anymore,
2. HP launched a repurposable platform at low cost with the HP 20b, featuring just enough to look promising to us,
3. (last not least) we enjoyed designing a scientific calculator and wanted to show them.

We did *not* do this for price reasons. If we'd have to ask you to pay for our time and development effort, a WP 34S would be a very expensive toy.

For the 15C LE, I've no idea about its startup costs. But as long as HP finds sufficient customers willing to lay down 179 US$ for it, they are free to set its price accordingly. As stated here before, we won't repurpose a 12C nor a 15C LE - too limited and outdated.

Re: HP joins the price gougers

*Message #20 Posted by **Namir** on 1 Feb 2012, 1:47 p.m.,*
in response to message #19 by Walter B

I hear you Walter. when the HP-35s came out, I wrote a comprehensive stat pac for that machine (now available for free on my web site). HP did not offer any support or effort to promote it, or even mention it.

Re: HP joins the price gougers

*Message #21 Posted by **uhmgawa** on 1 Feb 2012, 12:51 p.m.,*
in response to message #16 by Namir

> Quote:
>
> I found the price of $135 on this web site!! Cool. So the higher price is not off if you account for inflation and the fact that the 15C LE is 100 times faster than the vintage version.

I don't think comparing it to the 30 y/o original is really how most consumers operate. Rather calibrate it to what $180 will get you for a competitive pocket calculator today. One particularly ironic comparison is the 30b right in HP's backyard which is essentially the same system in an alternate footprint and a slightly *more* expensive lcd glass. Concerning firmware the 15c le leveraged the 12c+ voyager emulator and the original 15c's firmware, which I'd hazard was likely to be no greater than the

development burden of the 30b firmware. The resulting street price for the 30b is around $18 which presumably includes a sustainable profit.

IMHO the premise for the 15c le price increase is fundamentally flawed, leveraging the misconception of the 15c le's value being comparable to the legacy 15c. Eg, I'm reasonably certain 30 years from now no one will be signing petitions and banging on the table with a "bring back the 15c le" campaign. While I doubt the near double of list price will translate into increased bottom line revenue for HP, I suspect it will delight the ebay trolls who were formerly sitting on hoarded product and facing dwindling sales to more quickly liquidate their surplus.

[edited for clarity]

Edited: 1 Feb 2012, 4:49 p.m. after one or more responses were posted

Re: HP joins the price gougers

*Message #22 Posted by **Mike Morrow** on 1 Feb 2012, 2:01 p.m.,*
in response to message #21 by uhmgawa

> Quote:
>
> I'm reasonably certain 30 years from now no one will be signing petitions and banging on the table with a "bring back the 15c le" campaign.

Inconceivable, I also believe.

But I have little doubt there will still be a "bring back the 42s" campaign...a request that future-HP will, no doubt, have fulfilled just as competently as they have since 1995.

I love the HP 30b concept. I'd love to see an enhanced *non-emulated* 42S with USB I/O, more RAM, real-time clock/calendar, and beeper all in the HP 30b package produced as a commercial HP product.

Edited: 1 Feb 2012, 3:10 p.m.

Re: HP joins the price gougers

*Message #23 Posted by **Paul Dale** on 1 Feb 2012, 4:19 p.m.,*
in response to message #22 by Mike Morrow

> Quote:
>
> I love the HP 30b concept. I'd love to see an enhanced *non-emulated* 42S with USB I/O, more RAM, real-time clock/calendar, and beeper all in the HP 30b package produced as a commercial HP product.

You forgot to address the other fundamental limitation of the 30b: the screen.

With more RAM and a better screen we would have aimed for a 42S replacement not a 34C/15C/32sii.

- Pauli

Re: HP joins the price gougers

*Message #24 Posted by **David Griffith** on 1 Feb 2012, 4:44 p.m.,*
in response to message #23 by Paul Dale

Given how far you guys have come with creating a calculator firmware that people would really want to use, I'm miffed that HP hasn't contacted you to ask what the specs on a new calc should be... At least if they did, you haven't said anything about it. I would love to see what amounts to a turbocharged 42s (though I do have a soft spot for the 32sii). And, yes, I count the limitations of the screen as one of the big warts of the 30b.

Hardware Specifications

*Message #25 Posted by **Paul Dale** on 1 Feb 2012, 5:48 p.m.,*
in response to message #24 by David Griffith

I've not been contacted about anything like this, but if I had I imagine it would have been under a non-disclosure agreement.

I did once offer the 34S firmware to HP but received a negative response at the time. If HP does ever want the firmware, they know my email address :-)

- Pauli

Re: Hardware Specifications

*Message #26 Posted by **Marcus von Cube, Germany** on 2 Feb 2012, 3:28 a.m.,*
in response to message #25 by Paul Dale

I've recently changed the license on one of the hardware specific files to something other then GPL. For a reason. :-)

Re: Hardware Specifications

*Message #27 Posted by **uhmgawa** on 2 Feb 2012, 9:18 a.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> I did once offer the 34S firmware to HP but received a negative response at the time. If HP does ever want the firmware, they know my email address :-)

I'd read that as HP not wanting to risk compromising their closed IP codebase with GPL code and/or any external code for that matter. The latter may well be boilerplate policy. Introducing the former into their codebase may be seen as even more risky given competitive differential in this market is largely retained in a device's firmware. Corresponding hardware design is off-the-shelf SoC centric with little margin existing here for differential. So the motivation to retain competitive IP within closed proprietary firmware is likely substantial.

A more pessimistic interpretation would be of RPN as the dwindling cash cow, where given the overall legacy investment in that segment there is no reason to abandonon it [yet] assuming a low maintenance revenue stream. Bringing in new technology however would seem a low priority with such a business approach.

Re: HP joins the price gougers

*Message #28 Posted by **Mike Morrow** on 1 Feb 2012, 1:32 p.m.,*
in response to message #16 by Namir

From the US Bureau of Labor Statistics, $135 in 1982 is equivalent to $315 in 2011.

One would be foolish to send HP $180 dollars for the 15C-LE when for $150 they'll send you the 50g.

The 15C-LE is not, after all, equivalent to the original 15C. It's only an awkward imitation of old firmware emulated on modern *cheap* hardware. It has no logical reason for existence when something like the 50g is available at lower cost. (Yes...I've got two 15C-LE units...but they cost me each $75.)

Edited: 1 Feb 2012, 1:46 p.m.

Re: HP joins the price gougers

*Message #29 Posted by **Michael de Estrada** on 1 Feb 2012, 2:03 p.m.,*
in response to message #28 by Mike Morrow

> Quote:
>
> (Yes...I've got two 15C-LE units...but they cost me each $75.)

Let me hazard a guess here. You pre-ordered two from CostCentral at $70.52 apiece plus $8 shipping ?

Re: HP joins the price gougers

*Message #30 Posted by **Mike Morrow** on 1 Feb 2012, 2:11 p.m.,*
in response to message #29 by Michael de Estrada

No, it was buy.com. Ordered on-line at 1400 on 8 September and received at 1200 on 9 September (22 hours elapsed time!), using standard Fedex ground shipping! It turned out that the distribution point was just south of Memphis, only 170 miles away.

Edited: 1 Feb 2012, 2:16 p.m.

Re: HP joins the price gougers

*Message #31 Posted by **Michael de Estrada** on 1 Feb 2012, 2:25 p.m.,*
in response to message #30 by Mike Morrow

Interesting. I bought one from Buy.com on the same day at about the same time as you did, however, the price was $78.99 with free shipping. I used a new customer $5 coupon to knock the price down to $73.99. Later that same day, the price jumped to $84.99. The one I pre-ordered from CostCentral.com cost me $80.52 plus $8 FEDEX shipping. I've since bought more for myself and on behalf of other people for more money, but still they all cost less than $99.99, including any sales tax I had to pay. They all were shipped for free.

Edited: 1 Feb 2012, 2:27 p.m.

Re: HP joins the price gougers

*Message #32 Posted by **Mike Morrow** on 1 Feb 2012, 2:45 p.m.,*
in response to message #31 by Michael de Estrada

Yep...with coupon the price each was actually about $76.50. I just rounded to $75.

The thing that really really amazed me was delivery in less than one day. I've never experienced that anywhere anytime...even high-cost Amazon.com one-day shipping. I was not in a hurry to get them, so I wasn't interested in paying for expedited shipping.

I've heard that others have had to wait a bit longer. :-)
(It's too bad it really isn't worth a long wait.)

Re: HP joins the price gougers

*Message #33 Posted by **bill platt** on 1 Feb 2012, 3:16 p.m.,*
in response to message #15 by Namir

The original price is irrelevant.

Re: HP joins the price gougers

*Message #34 Posted by **John Robinson** on 1 Feb 2012, 10:46 p.m.,*
in response to message #1 by Michael de Estrada

Hi really don't understand all the whinging here, did you want the 15c to come back or not ? There was a huge petition to bring the 15c back, I think we are lucky HP responded. They are still a business are they not ? are they not entitled to make a profit ? If you don't like the price, then don't buy it !!

I bought 2 x 15C LE, and I don't even remember or care what I paid, just glad to see them.

What do you lot want, HP to reproduce every model from 1972 onwards for $10 each ? I wish the LE production run was limited to 100 units

Suck it up I say, or shut up. Awaiting barrage of criticism.....

john

Re: HP joins the price gougers

*Message #35 Posted by **Michael de Estrada** on 1 Feb 2012, 11:11 p.m.,*
in response to message #34 by John Robinson

Brilliant post, mate !

Re: HP joins the price gougers

*Message #36 Posted by **Bruce Bergman** on 2 Feb 2012, 12:11 a.m.,*
in response to message #34 by John Robinson

I have to agree with John.

YES, it sucks that the price went up. If indeed it went up purposefully, as opposed to just being another of the (zillions of) mistakes that they've made. Shame on them.

However, WE all wanted it back. We begged for it. We signed petitions. We used these hallowed forums to dream about seeing the 15c (and others) come back from the dead. And what did the caring, honest folks at HP do? They listened, and they provided the 15CLE for us. Bless them.

It wasn't perfect, and it still isn't. But it's what we asked for. Just be thankful they didn't originally price this unit at $180. You know you would have bought one regardless. So some of us got it for less -- our win.

Personally, I'm getting really tired of all the HP bashing.

That's just MY $0.02.

thanks, bruce

Re: HP joins the price gougers

*Message #37 Posted by **Jeff Johnson** on 2 Feb 2012, 9:19 a.m.,*
in response to message #34 by John Robinson

Actually, if HP did go back and reproduce all the models from the 70's onward, this geeky group (me included) would probably buy them all up, even at $100 or more each. Can you imagine the buzz? We're a bunch of fanatics. Tons 'o fun!

Re: HP joins the price gougers

*Message #38 Posted by **uhmgawa** on 2 Feb 2012, 9:55 a.m.,*
in response to message #34 by John Robinson

> Quote:
>
> Suck it up I say, or shut up. Awaiting barrage of criticism.....

It may be helpful to keep the context in mind vs. the literal dialogue alone.

I don't believe the critical commentary here is intended to wound HP but rather honest, passionate marketing feedback from a zealous audience uniquely qualified to do so. IOW folks here *care* about what HP is producing because they want to *buy more* HP product. Were I in HP marketing shoes I'd welcome such valuable feedback, which is otherwise obtained at substantial effort and cost to the vendor. But admittedly separating the useful content from the associated delivery style may at times require a thick skin.

Re: HP joins the price gougers

*Message #39 Posted by **Martin Pinckney** on 2 Feb 2012, 10:19 a.m.,*
in response to message #38 by uhmgawa

Well said!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need help identifying a few components.

*Message #1 Posted by **Bruce Larrabee** on 31 Jan 2012, 5:07 p.m.*

Hello Folks,

Can anyone here identify these parts.

First two different switch parts (I think):

Top and bottom of first part:

Top and bottom of second part:

Then there is this button:

Last is this component, I assume it is a pulse transformer but I can't identify it positively:

Thanks in advance for you help!

Bruce

Re: Need help identifying a few components.

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 31 Jan 2012, 5:22 p.m.,*
in response to message #1 by Bruce Larrabee

5th looks like a hp-41 card reader side latch. However this is my best guess.

Edited: 31 Jan 2012, 5:26 p.m.

Re: Need help identifying a few components.

*Message #3 Posted by **Paul Berger (Canada)** on 31 Jan 2012, 7:39 p.m.,*

in response to message #1 by Bruce Larrabee

The first two are indeed contacts for a key switches each key module had one of each type in it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emu71 for Win v1.01 available

*Message #1 Posted by **Christoph Giesselink** on 31 Jan 2012, 2:13 p.m.*

Emu71 for Win v1.01 is available on http://hp.giesselink.com/ now.

Changes:

- new icon
- single instance mode
- TCP/IP dual stack
- some minor bug fixes

Cheers

Christoph

Re: Emu71 for Win v1.01 available

*Message #2 Posted by **Namir** on 31 Jan 2012, 9:21 p.m.,*
in response to message #1 by Christoph Giesselink

Thanks Christoph. Earlier today I was using version 1.00 to write a short program that implements the basic version of the Gauss elimination algorithm (with no pivoting strategy) for solving linear equations. Since I will be traveling in a few days, I will enjoy playing with the emulator while I am gone.

Namir

Re: Emu71 for Win v1.01 available

*Message #3 Posted by **Mike (Stgt)** on 1 Feb 2012, 9:35 a.m.,*
in response to message #1 by Christoph Giesselink

Hello Christoph!

With 'some minor bug fixes' you do not mean "minor fixes of some bugs" but "fixed some minor bugs", I assume. Just sophistry. :)

Ciao.....Mike

Re: Emu71 for Win v1.01 available

*Message #4 Posted by **Egan Ford** on 1 Feb 2012, 10:48 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph,

Thanks for writing this. 2x for making it open source.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Pause Operation not as expected

*Message #1 Posted by **Russell Dobson** on 31 Jan 2012, 2:35 a.m.*

Hi, I just got my new 15C LE yesterday, its my 9th HP so I am farily familiar with programming these calcs. When using a very simple loop programme the PSE instruction only allows you to see the x register result on the first iteration, then you just see a blank screen until you stop execution with R/S Eg:

LBL 1 1 STO+1 RCL1 PSE GTO 1

It seems like the PSE instruction on each subsequent iteration is in sync with a blank display because after several seconds if I stop execution, the x register might be say 10 or so. All similar previous calcs 29C, 11C, 41C, 32S2 etc all pause and display the x register for about 1 second. (which is what the manual says for the 15C LE as well) Any explanations would help. Thanks

PS: without the PSE those iterations are nice and fast ~485 loops/sec!

Re: HP15C LE Pause Operation not as expected

*Message #2 Posted by **Katie Wasserman** on 31 Jan 2012, 2:59 a.m.,*
in response to message #1 by Russell Dobson

This is very old news. See the list of known bugs here.

There's been no word as to if/when HP will fix any of these bugs, but their silence on the issue is not encouraging.

Re: HP15C LE Pause Operation not as expected

*Message #3 Posted by **Howard Owen** on 1 Feb 2012, 12:11 p.m.,*
in response to message #2 by Katie Wasserman

What if the recent price rise is making the way clear for a new HP-15C? That is, a "non-LE" version, with a MSRP similar to the old 15CLE price? Perhaps the bugs would be fixed in a new model. We might even hope that new bugs wouldn't have been introduced.

The obvious success of the 15CLE makes this more plausible in my mind. That would leave the LE, bugs and all, as a mildy popular collectors item with a truly limited supply. HP would then sell a workaday 15C priced more reasonably.

> Quote:
>
> *You may say that I'm a dreamer*
> *But I'm not the only one.*
>
> John Lennon

Re: HP15C LE Pause Operation not as expected

*Message #4 Posted by **Kees Bouw** on 31 Jan 2012, 3:29 a.m.,*
in response to message #1 by Russell Dobson

What puzzles me is why this was not noticed by anyone at HP, prior to releasing the product. I mean, it is a pretty obvious problem. It is not like you have to do anything unlikely or complicated. Just use a PSE in any program and bingo, it does not work. It makes one wonder if this product was ever tested at all.

Re: HP15C LE Pause Operation not as expected

*Message #5 Posted by **Russell Dobson** on 31 Jan 2012, 4:15 a.m.,*
in response to message #4 by Kees Bouw

Thanks Katie and Kees, I am new to the HP forums and didn't try a search first. I think these calcs have only just arrived here is Australia. Amazing that some of these weren't picked up, the pse function was the first thing I tried!

Re: HP15C LE Pause Operation not as expected

*Message #6 Posted by **Thomas Chrapkiewicz** on 31 Jan 2012, 8:46 p.m.,*
in response to message #4 by Kees Bouw

This bug does not exist in the preproduction 15c+ machine (the prototypes from the HHC2010). (Has this been reported here?) ...and of course this bug does not exist on the original 15c.

Has anyone compared the advantages/disadvantages of the 15c+ code with the 15CLE code?

Perhaps it would be worth transplanting the 15c+ code to a 15CLE machine.(?)

TomC

Re: HP15C LE Pause Operation not as expected

*Message #7 Posted by **Sylvain Louboutin** on 31 Jan 2012, 9:04 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

Now, may be am I imagining things, I'll have to double check when I go home, but I am pretty sure that the PSE bug can also be observed on the emulator (the one on the CD that comes with the 15C LE); dunno if this makes a difference but I am running it using CrossOver (a commercial version of Wine) on Mac OS X.

Re: HP15C LE Pause Operation not as expected

*Message #8 Posted by **Michael de Estrada** on 31 Jan 2012, 10:09 p.m.,*
in response to message #7 by Sylvain Louboutin

It doesn't matter. The PC emulator works exactly the same way as the hardware. I ran the program on page 114 of the manual on emulator on my PC running Windows 7, and the calculator initially pauses for 1 second, displaying 9.000000000, and then goes blank for the remainder of the program, until displaying 0. when it terminates. So, it's a coding problem, not a processor speed or operating system problem.

Edited: 31 Jan 2012, 10:10 p.m.

Re: HP15C LE Pause Operation not as expected

*Message #9 Posted by **Mike Morrow** on 31 Jan 2012, 10:20 p.m.,*
in response to message #8 by Michael de Estrada

I'm sure they must have fixed it on the new $180 models. :-)

Re: HP15C LE Pause Operation not as expected

*Message #10 Posted by **Michael de Estrada** on 31 Jan 2012, 10:24 p.m.,*
in response to message #9 by Mike Morrow

LOL

Re: HP15C LE Pause Operation not as expected

*Message #11 Posted by **Kees Bouw** on 1 Feb 2012, 4:45 a.m.,*
in response to message #9 by Mike Morrow

> Quote:
>
> I'm sure they must have fixed it on the new $180 models. :-)

Yeah... maybe if we all donate another $ 80 to HP, they will fix ours as well!

Re: HP15C LE Pause Operation not as expected

*Message #12 Posted by **Jeff O.** on 3 Feb 2012, 8:31 a.m.,*
in response to message #6 by Thomas Chrapkiewicz

> Quote:
>
> This bug does not exist in the preproduction 15c+ machine (the prototypes from the HHC2010). (Has this been reported here?)

Yes, see this post for example.

> Quote:
>
> Has anyone compared the advantages/disadvantages of the 15c+ code with the 15CLE code?
>
> Perhaps it would be worth transplanting the 15c+ code to a 15CLE machine.(?)

The firmware that came on the 15C+ units presented to HHC 2010 attendees is dated 2009-08-03. While it may not exhibit the so-called PSE bug, there are issues with it, as follows:

At the conference, we were told (if I recall correctly) that integration was “slow” with 15C+. The sample program that was presented with the 15C+ included an integration. The documentation that I have from the meeting states that the program ran on the original 15C in 123 seconds and on the 15C+ in 7.5 seconds. I went ahead and entered the program onto machines running both the 2009-08-03 firmware and the 2011-04-15 firmware of the current production units. On the machine running the 2009-08-03 firmware, it indeed ran in 7 to 8 seconds. With the 2011-04-15 firmware, it ran in about 1.4 seconds, so I can confirm that integration was indeed slow with the 2009-08-03 firmware.

Also found at the conference was a bug in the display of program line numbers. For example, enter 62 steps in program memory, then go to step "000" and back-step. The program counter will show "05o", "05-", then "05r" before showing the correct "059" step number. If you enter 63 steps and back-step, it will start at "057", then "056", etc., all the way down to "000". Continuing to back-step shows step “999”, “998” “997”, “996”, “995” and “994” before cycling back to “057”.

Like the 2011-04-15 firmware of the production units, the 2009-08-03 firmware does not like combinations and permutations in programs. Enter the following program from the 15c LE bug reports article:

```
LBL A
STO 0
LBL 9
8
ENTER
3
Cy,x
DSE 0
GTO 9
RTN
```

Now enter a small number, 1, 2, 3, etc. and run the program. It will come back quickly with the expected answer of 56. Now enter a larger number, like 56, and run the program. The display will briefly show “running” once, then go blank. Despite the blank display, the program continues to run, executes the loops, and then stops. Now alter the program like this:

```
LBL A
STO 0
LBL 9
8
ENTER
3
Cy,x
DSE 0
PSE
GTO 9
RTN
```

Note that I put the PSE in the wrong place if I want to see each iteration then stop. Enter a small number like 5 and run the program. It dutifully stops at each pause and displays 56. Then the display goes blank, but the program is still running. Wait a while and press a key to stop it, then recall register 0. It will have a large negative number in it, indicating that the calculator continued to run after counting down to zero. This is proper execution of the program as entered, except there was no “running” display to tell you that the calculator was still running to indicate that you made an error in the program. If you replace the Cy,x with Py,x, you get the same behavior. If replaced by another function, say y^x, it works fine. So using Cy,x or Py,x in a program blanks the display while the program is running. If you somehow got into an endless loop, you might think the calculator was off while it continued to run with a blank display.

Another anomaly is if you set flag 9, either manually or in a program. With proper operation, the display starts flashing when you set flag 9, and stops if you clear it with g-CF-9, or press the back-arrow key. This is what happens with the 2011-04-15 firmware. With the 2009-08-03 firmware, setting flag 9 causes the display to go blank. If you press a key, there is a momentary display, then it goes blank again. It appears that keystrokes and functions work normally, the display just blanks out after each key-press. Normal display is returned by pressing the back-arrow key, or g-CF-9, i.e. the standard way to clear flag 9.

The above behavior also occurs for overflow conditions which would normally cause a flashing display.

Finally, the 2009-08-03 firmware also exhibits items 3, 4, 5, 6 and 10 from the 15c LE Bug Report Article.

Based on the above, I do not consider the 2009-08-03 firmware to necessarily be a good alternative to the 2011-04-15 firmware.

Edited: 3 Feb 2012, 1:23 p.m. after one or more responses were posted

Re: HP15C LE Pause Operation not as expected

*Message #13 Posted by **uhmgawa** on 3 Feb 2012, 10:25 a.m.,*
in response to message #12 by Jeff O.

> Quote:
>
> Also found at the conference was a bug in the display of program line numbers. For example, enter 62 steps in program memory, then go to step "000" and back-step. The program counter will show "05o", "05-", then "05r" before showing the correct "059" step number. If you enter 63 steps and back-step, it will start at "057", then "056", etc., all the way down to "000". Continuing to back-step shows step “999”, “998” “997”, “996”, “995” and “994” before cycling back to “057”.

That's quite bizarre and I'd wager a sympton of an instruction emulation bug. Otherwise such behavior is outside the scope of functional impact by the emulator to firmware execution.

> Quote:
>
> The display will briefly show “running” once, then go blank. Despite the blank display, the program continues to run..

This and similar quirks including those surrounding display flash are likely related. Voyager firmware emits an excess of writes to the display registers which if strictly emulated can consume substantial cpu time to no benefit. I encountered this rendering to a graphic display which is expected. It isn't immediately obvious to me the sam7 lcd controller presents such overhead however it does appear to require updates to synchronize with its blink timebase. So that may be the root of the problem depending how the emulator was designed to interact with it. It appears all of the above could be addressed by allowing firmware display updates to hit the controller asynchronously. But admittedly speculation on my part as I haven't had to interact with the sam7 segment controller thus far.

Re: HP15C LE Pause Operation not as expected

*Message #14 Posted by **Marcus von Cube, Germany** on 3 Feb 2012, 5:43 p.m.,*
in response to message #13 by uhmgawa

The LCD controller memory in the SAM7 can be updated without caring about the display refresh. But if you want to have it blink you need to wait for at least to update cycles (you can have an interrupt generated on each refresh) before you program the controller to blink. It will then autonomously alternate between the previous and the current images. This requires some software infrastructure but isn't overly complicated.

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

HP 18C Frankencalc

*Message #1 Posted by **Keith Midson** on 31 Jan 2012, 2:30 a.m.*

Some of you will recall this thread: OLD THREAD Well I convinced Bruce to pull apart a perfectly fine 18C and install these strange keys. Now I have a rather unusual 18C!
Some photos HERE
HERE
and HERE!
Enjoy! Keith

Re: HP 18C Frankencalc

*Message #2 Posted by **Ken Shaw** on 31 Jan 2012, 10:52 a.m.,*
in response to message #1 by Keith Midson

Bold and stylish...

But, it could be confusing if you forget which key in the original layout is the blank orange key referred to in the instructions...

Re: HP 18C Frankencalc

*Message #3 Posted by **Keith Midson** on 31 Jan 2012, 3:26 p.m.,*
in response to message #2 by Ken Shaw

The blank orange keys at the top replaced blank grey keys (menu soft keys), and the orange key on the left on the next row down is the original shift key (which is exactly the same color!). The other keys replaced were: EXIT (same, but orange), ENDE (replace ON), NEXT (replace down arrow), and all the numbers and arithmetic keys. So still easy to navigate. There was a SAL button and I couldn't decide where to place that one.

Re: HP 18C Frankencalc

*Message #4 Posted by **Keith Midson** on 31 Jan 2012, 6:37 p.m.,*
in response to message #1 by Keith Midson

OK i've just added another photo HERE that shows it working alongside a 'regular' 18C (with a Chary overlay on the alpha keyboard).
Also uploaded a photo of my HP94F working again now i've got a rebuilt battery for it: HP94F
Cheers, Keith

Edited: 31 Jan 2012, 6:57 p.m.

Re: HP 18C Frankencalc

*Message #5 Posted by **db (martinez, ca.)** on 31 Jan 2012, 10:09 p.m.,*
in response to message #1 by Keith Midson

have you considered adding fuzzy dice, spinning hub caps, and a bobble headed dog?

Re: HP 18C Frankencalc

*Message #6 Posted by **Keith Midson** on 31 Jan 2012, 10:36 p.m.,*
in response to message #5 by db (martinez, ca.)

Hey it's just an 18c ... saving all that for a 28S

Re: HP 18C Frankencalc

*Message #7 Posted by **db (martinez, ca.)** on 31 Jan 2012, 11:52 p.m.,*
in response to message #6 by Keith Midson

with a shiny gold ENTER key sporting a diamond in the center?

Nooooooo

HP Forum Archive 20

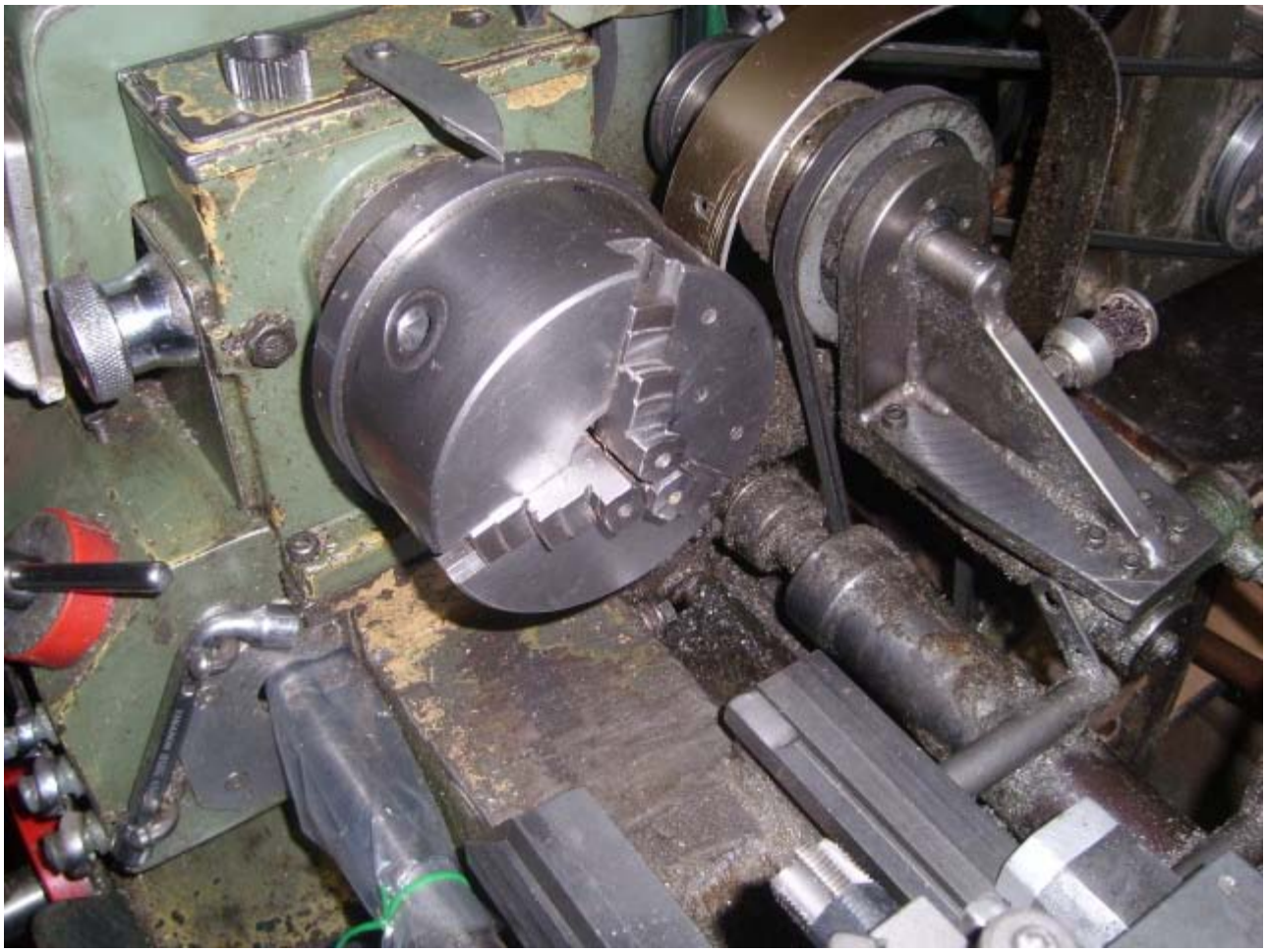
[Return to Index | Top of Index]

HP Printer paper... any worries?

*Message #1 Posted by **Greg Swartz** on 30 Jan 2012, 11:31 p.m.*

Picked up some 82175A Black Print Thermal Calculator Paper and noticed some pictures on the box. Looks like this paper is not recommended for HP-91, 92, and 97. I have a 82143a (or two, and on the lookout for a 82162a, if you have one handy) and will use this for the 143a for now.

Does anyone know why this paper should not be used on the older units? I have a 97 (or two) that I'd like to use it with as well. Any insight would be most appreciated! Especially after what I went through to get the 97 printing again! BTW, thank you wanavet (eBay name, and I saw his gear mentioned here first) for the gear for the 97! I think it was Katie Wasserman's post on making the best of the gear parts available (very nice and self-explanitory post!!), and even got the parts, other than the gear itself, then saw that wanavet had the actual gear made... anyway...



Edited: 1 Feb 2012, 9:44 a.m. after one or more responses were posted

Re: HP Printer paper... any worries?

*Message #2 Posted by **Michael de Estrada** on 30 Jan 2012, 11:53 p.m.,*
in response to message #1 by Greg Swartz

Interesting. I have HP 91, 92, 97 and 82143A, and use the same printer paper in all of them interchangeably without any problems. According to the manual for my HP 91, the part number for a box of six rolls of printer paper is 9270-0513, so maybe there is a difference. Then, the HP 97 and 92 manuals show the part number as 82045A, which definitely suggests a difference.

Edited: 31 Jan 2012, 12:03 a.m.

Re: HP Printer paper... any worries?

*Message #3 Posted by **Bill (Smithville, NJ)** on 31 Jan 2012, 8:06 a.m.,*
in response to message #1 by Greg Swartz

I may have this wrong, but I seem to recall someone saying that there's a difference between the blue versus black thermal papers and the effect on some of the HP calcuators print heads. But I can't find the message thread where this was discussed.

Okay found a couple of discussions:

Paper Too Rough

Different Chemestry

Take your pick - either paper is too rough or the different chemestry in the paper can harm the print head.

Bill

Edited: 31 Jan 2012, 1:58 p.m.

Re: HP Printer paper... any worries?

*Message #4 Posted by **Duane Hess** on 31 Jan 2012, 10:58 p.m.,*
in response to message #1 by Greg Swartz

Hi. This has come up before numerous times. Never sure, in my mind, there was a diffinitive answer.

The HP Journal that announced the printers for the HP-41C series indicated not to use 82175A paper in the 91, 92, and 97 as it would damage the print heads via premature wear. From the 41C Journal articles and others on the 97, etc., the resistors for the 41C era print devices and the 9x units operate at different temperature. If you touch and run your fingernail across the 82175A and 82045A they do feel different.

Various HP product brochures (via the DVDs on this site) have specifically stated 82045A can be used in the 9x calcs and 41C type printers, but the 82175A is for the 41C (and later) printers. However, I was not able to locate those again before this post. Which puzzles me, as I know I've seen them.

One of the posts subsequent to yours suggests there is a 82175B paper. There may very well be, but I've never located it (which doesn't necessarily mean a lot).

PM Corp has paper they claim is OEM equivalent (but the paper is thinner) to 82045A, PMC-05233. Seems in previous articles people have used NCR and various other common papers w/o problems, but I was unable to decipher whether they know the paper is OK or just haven't had problems yet.

What I have found on my own is in the link below: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=204244#204244

Re: HP Printer paper... any worries?

*Message #5 Posted by **Michael de Estrada** on 31 Jan 2012, 11:13 p.m.,*
in response to message #4 by Duane Hess

The paper I've been using came in a box marked 9270-0513, suggesting that it is the same as 82045A. Perhaps this is why I've had no problems using it in my HP 82143A printer that I use with my HP 41CV.

Re: HP Printer paper... any worries?

*Message #6 Posted by **Duane Hess** on 1 Feb 2012, 2:26 a.m.,*
in response to message #5 by Michael de Estrada

I agree. The HP-82162A owner's manual indicates it can use 82045A or 82175A paper. I can't locate references at the moment for some reason, but completely sure the same applies for the 82143A printer.

I'm quite sure 9270-0513 and 82045A is exactly the same paper. I've seen the reference numerous times before. I don't know if it was a part-number change or what.

For example, the HP-91 Owner's manual refers to 9270-0513. There are manuals/brochures which clearly indicate 82045 is the correct paper for the 91/92/97. So 9270-0513 & 82045A, if not the very same paper, is certainly compatible.

I have various HP units & manuals. Certainly for products from the 9810A calculator & onward the 9xxx-xxxx format has been used for paper. Often for the rolls of paper supplied with the unit (typically 2 although that P/N format has 6 roll boxes).

I've often wondred if the 9270-xxxx version is the part number for paper supplied with the unit and 82xxxA is for after-market paper sales. Maybe an HP'er knows.

Tried looking on the DVD's and can't find what I want. My older copies of CD's are in another town. Think with more recent DVD releases some older manuals/brochures may have been replaced with newer editions. i.e. references to older part numbers disappeared. For whatever reason, I'm having a serious frustrations locating what I want. Who knows, somedays the mind goes you know!!!

damn, I'm gabby. Paper discussions seems to torque me up. Not a good sign!

Re: HP Printer paper... any worries?

*Message #7 Posted by **Greg Swartz** on 1 Feb 2012, 9:42 a.m.,*
in response to message #6 by Duane Hess

Thank you all for the wealth of info! I did not mean to rehash an old issue, but at least it was 10-12 years ago, from some of the links provided! I will go look for some appropriate paper for my 97 to keep the old (but ever so pretty) gal in tip-top.

Again, many thanks!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-30b unknown options

*Message #1 Posted by **Christopher Johnson** on 30 Jan 2012, 8:23 p.m.*

I'm exploring my 30b and I hold the PMT button and turn the unit on. I see Tst Screen, Tst Keyboard etc. onto TSys Off and Slow Clk.

Does anyone know what Tsys and Slow Clk are, or what they do?

Thank you for any information on this.

CJ

Re: HP-30b unknown options

*Message #2 Posted by **Eric Smith** on 31 Jan 2012, 3:45 a.m.,*
in response to message #1 by Christopher Johnson

Tsys will, if enabled, prevent the calculator from going into sleep mode, which means that it will drain the batteries much faster than usual.

Re: HP-30b unknown options

*Message #3 Posted by **Marcus von Cube, Germany** on 31 Jan 2012, 4:28 a.m.,*
in response to message #1 by Christopher Johnson

Slow Clk is a way to tell the firmware the actual processor speed which depends on temperature, humidity, and whether it's a holiday or not ;-). The test system has a serial connection, and to make this work a more accurate knowledge of the speed of the system is needed.

Re: HP-30b unknown options

*Message #4 Posted by **Christopher Johnson** on 1 Feb 2012, 8:37 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Thank you Eric and Marcus for the information.

CJ

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Update: HP 50g with HELP for *all* commands integrated into the O.S.

*Message #1 Posted by **Software49g** on 30 Jan 2012, 6:57 p.m.*

Hello,

as promised I made an update for the help.

Included now are

- Help for 201 built-in CAS commands.
- Help for 563 built-in non CAS commands.
- Total help for 764 built-in commands including stack diagrams.
- Context sensitive help from the stack
- "Hyperlinked" navigation to related commands.
- Detailed access for every commands
- Supports all built in fonts.
- New: Detailed description of the related flags used by the command / function
- New: Detailed description of all flags.
- New: Detailed description of all keyboard shortcuts.
- New: Detailed description of all reserved variables.
- New: Detailed description of the Computer Algebra System.

Registered users can download the update from my website here
http://www.software49g.gmxhome.de/Updates.htm

Further information is available here
http://www.software49g.gmxhome.de/FullCommandAndFunctionReference.htm

Let me know if there is anything missing that you would like to see in it.

Enjoy,
Andreas
http://http://www.software49g.gmxhome.de

P.S. I am using a SD card labeled '133x speed' and with it the help shows up instantly.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s Stopwatch

*Message #1 Posted by **Hans-Peter Bieger** on 30 Jan 2012, 4:47 p.m.*

How can i get the stopwachmode with the 2351 firmware?

"Made stop watch work again. Hot key is now h (hold) + EXIT."

At my wp34s: h+Exit=power off

can anyone help me?

Hans-Peter

Re: WP34s Stopwatch

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 6:08 p.m.,*
in response to message #1 by Hans-Peter Bieger

It's normally not compiled in. You should equip your device with a crystal, then you can simply use the calc_xtal.bin variant of the flash file.

If you need it, I can prepare a version with the stop watch enabled even without a crystal but it is of limited accuracy.

Re: WP34s Stopwatch

*Message #3 Posted by **pascal_meheut** on 31 Jan 2012, 12:23 a.m.,*
in response to message #2 by Marcus von Cube, Germany

This is still a work in progress but as Marcus said, it should be available in an specific firmware version.

Without a crystal, the accuracy is indeed quite limited so the plan is also to integrate a calibration mechanism in the distribution. But it will take some time.

Re: WP34s Stopwatch

*Message #4 Posted by **Hans-Peter Bieger** on 1 Feb 2012, 3:00 p.m.,*
in response to message #3 by pascal_meheut

Today i had the "sandcorns" in my mailbox. Ich hope to get the crystals for the weekend. Then i will see:-)

Thanks for the fast answer

Hans-Peter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I Wish HP Higher End Calcs Were Solar-Powered!

*Message #1 Posted by **Jeff** on 30 Jan 2012, 2:54 p.m.*

I don't know why they aren't. While the solar panels might not have enough capacity for real time use, they could be used to charge rechargeable batteries.

Re: I Wish HP Higher End Calcs Were Solar-Powered!

*Message #2 Posted by **Jake Schwartz** on 30 Jan 2012, 4:11 p.m.,*
in response to message #1 by Jeff

Hi,

Back in the early 1980s, I managed to hook up a small solar panel to successfully run the HP41 (except for the card reader) in ambient light. That panel was around 20 square inches - around the same size, or possibly slightly larger than the HP41 itself. I hope that cells have gotten much better in the past three decades or so to do the job.

Jake

Re: I Wish HP Higher End Calcs Were Solar-Powered!

*Message #3 Posted by **Garth Wilson** on 30 Jan 2012, 7:37 p.m.,*
in response to message #2 by Jake Schwartz

The 41 manual says it takes about 20mA when a program is running, which is a lot to get from calculator-sized solar cells at 5 to 6V even in the sun. Common indoor lighting in a house will be well under 1% of the brightness of sunlight. The 50g, inspite of bigger batteries, has very short battery life compared to the 41.

Re: I Wish HP Higher End Calcs Were Solar-Powered!

*Message #4 Posted by **Eric Smith** on 31 Jan 2012, 3:51 a.m.,*
in response to message #1 by Jeff

Why they aren't is that photovoltaics not only don't supply enough current to run the calculator, but also don't supply enough to charge a rechargeable pack in any reasonable interval. They barely supply more than the self-discharge of NiCd and NiMH (except the low-self-discharge NiMH). The amount of power you can get from 10-15 cm^2 of photovoltaics even in bright sunlight is negligible.

Photovoltaics only are sensible on calculators with *extremely* limited processing power, which means not beyond low-end scientific or business calcs. You might notice that on solar-powered scientific calculators, the transcendental functions are often very slow. Such calculators use ultra-low-power masked-ROM microcontrollers which have very little memory and run at amazingly slow clock rates. For obvious reasons that is unsuitable for high-end calculators.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Installation of Sparcom NavPac on 48GX

*Message #1 Posted by **Timo** on 30 Jan 2012, 2:08 p.m.*

Hi Forum members,

it seem that I'm requiring the concentrated knowledge of the forum again. I've recently downloaded the Sparcom Navigation Pack from hpcalc.org. It contains a .bin file that (according to the readme) can be used to install it on a HP 48GX.

I have a 48GX with a 512k RAM card installed and ports 3,4 and 5 completely free. However, I do not know how to handle the bin file and how to install it.

Is there any way to get this pack running in any of my free ports? I've already searched the forum but I could not find anything useful on that problem.

Any advice is greatly apreciated! Kind regards, Timo

Re: Installation of Sparcom NavPac on 48GX

*Message #2 Posted by **Christoph Giesselink** on 30 Jan 2012, 6:37 p.m.,*
in response to message #1 by Timo

> Quote:
>
> it seem that I'm requiring the concentrated knowledge of the forum again. I've recently downloaded the Sparcom Navigation Pack from hpcalc.org. It contains a .bin file that (according to the readme) can be used to install it on a HP 48GX.
>
> I have a 48GX with a 512k RAM card installed and ports 3,4 and 5 completely free. However, I do not know how to handle the bin file and how to install it.
>
> Is there any way to get this pack running in any of my free ports? I've already searched the forum but I could not find anything useful on that problem.

The .bin file cannot be installed in a normal way, because the .bin file is an image dump of the original card content.

You can make such an image with the CARDUPL program from the CARDUPL package. This package also contain the inverse program CARDDWL, but CARDUPL and CARDDWL were designed to make copies of a complete card of any size. So you have _no_ control to which port in the memory card the image is downloaded.

In your case CARDDWL will _overwrite_ the content of port2!

Sorry, I don't know any other program which can do this. I only remember some programs which can copy data from one memory card to another.

Christoph

Re: Installation of Sparcom NavPac on 48GX

*Message #3 Posted by **Timo** on 31 Jan 2012, 3:26 a.m.,*
in response to message #2 by Christoph Giesselink

Hi Christoph and thanks for that interesting response.

If I understand you right, all I'd have to do is to relocate the libs currently installed in Port 2 and then use the CARDDWL tool (just downloaded the package you mentioned) as per the instructions given in the readme and then the card dump sould end up in Port 2 memory. Is this correct?

The NavPac .bin file has a size of about 131kB which seems to be more than the 128k of port memory. Could that pose any problem during transfer?

I assume, that the Sparcom Nav Pack is an auto-attaching lib so restarting the calc after uploading the card should install the lib.

Thanks again and best regards, Timo

Re: Installation of Sparcom NavPac on 48GX

*Message #4 Posted by **Marcus von Cube, Germany** on 31 Jan 2012, 4:22 a.m.,*
in response to message #3 by Timo

Timo, 1K is no always 1K. It depends if you count in powers of 10 or powers of 2. 128KB is 128*1024 which are 131072 bytes.

Re: Installation of Sparcom NavPac on 48GX

*Message #5 Posted by **Christoph Giesselink** on 31 Jan 2012, 12:26 p.m.,*
in response to message #3 by Timo

> Quote:
>
> If I understand you right, all I'd have to do is to relocate the libs currently installed in Port 2 and then use the CARDDWL tool (just downloaded the package you mentioned) as per the instructions given in the readme and then the card dump sould end up in Port 2 memory. Is this correct?

Yes, it is.

But no tool is perfect, so a unknown bug may destroy your data during the download process with CARDDWL. I recommend to make a backup of your RAM card with the CARDUPL program first.

> Quote:
>
> The NavPac .bin file has a size of about 131kB which seems to be more than the 128k of port memory. Could that pose any problem during transfer?

Marcus already gave the correct answer 128KB = 131072 bytes, so no problem.

> Quote:

> I assume, that the Sparcom Nav Pack is an auto-attaching lib so restarting the calc after uploading the card should install the lib.

The last step of CARDDWL on success is doing a calculator warmstart.

BTW: the CARDUPL package at hpcalc.org is a little bit older than the version at my page http://hp.giesselink.com/emu48.htm. The latest version of CARDDWL can simulate a 32KB ROM card with a 128KB RAM card after setting the RAM card write protection switch.

Christoph

Re: Installation of Sparcom NavPac on 48GX

*Message #6 Posted by **Timo** on 31 Jan 2012, 5:34 p.m.,*
in response to message #5 by Christoph Giesselink

Thanks a lot for the tips Christoph and Marcus!

Christoph that backup you mention would only be a backup of port 2, is that correct? And I guess that backup is not required in case I move the libs in port 2 to port 3, again correct?

I've just downloaded the new version of the package from your site.

Ah, and thanks for clarifying that 128k question. I never really gave these fine differences much thought. Guess that's the effect of having been exposed to near-unlimited memory on the home PC for the last couple of years...

Regards, Timo

Re: Installation of Sparcom NavPac on 48GX

*Message #7 Posted by **Christoph Giesselink** on 31 Jan 2012, 7:00 p.m.,*
in response to message #6 by Timo

> Quote:
>
> Christoph that backup you mention would only be a backup of port 2, is that correct?

No, it isn't. Both programs were developt to handle a complete memory card. In your case CARDUPL would transfer the complete 512KB content to the PC.

> Quote:
>
> And I guess that backup is not required in case I move the libs in port 2 to port 3, again correct?

A backup is always a security issue. For the case the file on the PC is larger than the 1st port size, the additional bytes will be loaded at the beginning of the next port (3) and destroy the port information. Or a possible bug of CARDDWL will write one byte more... or there's a bug in the XMODEM download program...

Many things can destroy data, so be sure that you have a copy of the memory card data

somewhere else.

Christoph

Re: Installation of Sparcom NavPac on 48GX

*Message #8 Posted by **Timo** on 1 Feb 2012, 4:23 a.m.,*
in response to message #7 by Christoph Giesselink

All right, thanks for all the valuable information, it's much appreciated!

I'll give it a try sometime this week and see how things develop.

Will report on success (or failure) then.

Kind regards, Timo

Re: Installation of Sparcom NavPac on 48GX

*Message #9 Posted by **Timo** on 1 Feb 2012, 4:25 p.m.,*
in response to message #1 by Timo

I've just finished installing the Sparcom Nav-Package and everything just went like a charm!

Just in case some else tries to install it I will give a short transcript of what I've done:

1. Copy the nav-2.5.1.bin file contained in the download to a directory of your choice.

2. Use the interface program of your choice to transfer the CARDDWL program contained in Christophs CARDUPL package (download link see above) to your HP-48GX.

3. Start the Hyperterminal Application of Windows and define a new connection with the following parameters:

   COM-Port: Same you used in your HP interface program
   Baud: 9600
   Data-Bits: 8
   Stop-Bits: 1
   Parity: None
   Flow Control: None

   After accepting the settings the new connection should automatically be established.

4. Select "Transfer->Send File" from the Hyperterminal menu bar. In the following pop-up window select the bin file you want to transfer and select "XModem" as protocoll in the dropdown menu. Once set up, click the "Send"-Button. Hyperterminal will now wait for an XReceiver on the other end of the line to become active.

5. On your HP-48GX put the number of the port where you want to install the Sparcom Nav-Pack (1 or 2) on the stack. Format must be in Hex so if you which to install to port 2 type R-Shift -> # -> 2 -> ENTER. Then start the CARDDWL program be selecting VAR -> CARDD. The download should start immediately. You can observe the status of the download in the Hyperterminal Window. The HP-48GX will display "Downloading Slot...". The complete download should take about 3 minutes.

6. After the download is finished the HP-48GX automatically performes a warmstart and the NAV48 library of the Sparcom Nav-Pac will be attached. Your done!

Please refer also to the readme in the CARDUPL package for further information on the programs.

I've installed the package in Port 2 of my 512k RAM Card. Previously I moved the libs that were stored there (Chem-Lab and Stat48 Pro) to port 3. Also, the Sparcom pack seems to blend in perfectly with SpeedUI 11.11 that I have installed in ports 0 and 1. No problems encountered so far.

Christoph, that is one really fine tool you have created there, I think I will use it as a standard now to back up my RAM-Cards from time to time. Once again, thanks for pointing me at it and for all your valuable tips!

Kind regards, Timo

Edited: 1 Feb 2012, 4:26 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP34S: "Domain error" when running a program

*Message #1 Posted by **Cristian Arezzini** on 30 Jan 2012, 11:48 a.m.*

I just entered a short program on my 34s, freshly updated. The program ends with a RTN and then an END. After entering it, I went to the CAT, saw it there, and pressed XEQ to run it, and I got a "Domain error". I cleared the error, went to CAT again, pressed XEQ again and now it worked.

Now comes the weirder part. Executing it again, it returned the result "plus one". I tried single-stepping it, and in the single-stepping it got stuck in a loop: where it encountered the RTN, it skipped one step back, thus executing the previous command (which happened to be a INC X); after the INC it executed the RTN again, and so on, always adding 1 to the displayed number.

I have no idea why the single-stepping looped while normal execution only "skipped back" once, but I think neither is the intended behaviour... The manual says that RTN, if in a program and not a subroutine, should stop execution and set the pointer to 000.

The same happened in the emulator.

In case it matters, here's what is in the memory:

```
001   LBL'D'
002   DATE
003   YEAR
004   # 1
005   # 1
006   ->DATE
007   DATE
008   (Delta)DAYS
009   INC X
010   RTN
011   END
```

Cristian

Edited: 30 Jan 2012, 11:59 a.m.

Re: WP34S: "Domain error" when running a program

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 12:25 p.m.,*
in response to message #1 by Cristian Arezzini

I think I can explain the SST issue: A top level RTN sets the PC back to where it was when the program was started. In the case of SST this is the step before the RTN. I agree that this is a little strange and worth reconsideration.

I can't reproduce the strange CAT behaviour. What is your version? I'm running 3.0/2347.

BTW, END serves as a RTN. So RTN is not needed in your case.

Re: WP34S: "Domain error" when running a program

*Message #3 Posted by **Cristian Arezzini** on 30 Jan 2012, 1:39 p.m.,*
in response to message #2 by Marcus von Cube, Germany

The version I'm using is 2347. It's reproducible here, I'm writing down a list of operations to do to show the problem. I'll report it here when I have it.

Cristian

Re: WP34S: "Domain error" when running a program

*Message #4 Posted by **Walter B** on 30 Jan 2012, 1:42 p.m.,*
in response to message #3 by Cristian Arezzini

Can't reproduce the strange CAT behaviour either. Emulator V3.0/2348.

And I count the SST looping being a bug.

Edited: 30 Jan 2012, 1:48 p.m.

Re: WP34S: "Domain error" when running a program

*Message #5 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 3:05 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> And I count the SST looping being a bug.

I concur. I've uploaded a new build.

Re: WP34S: "Domain error" when running a program

*Message #6 Posted by **Cristian Arezzini** on 30 Jan 2012, 3:14 p.m.,*
in response to message #5 by Marcus von Cube, Germany

I updated the emulator, and the loop bug is gone, but the "domain error" and hang-up are still there, as described in my post below...

I also have a .dat file from before the crash... with that dat file, you just go to program mode, move to step 008, exit program mode, and run the program, and here comes the crash. Do you want it to test it?

Cristian

Edited: 30 Jan 2012, 3:16 p.m.

Re: WP34S: "Domain error" when running a program

*Message #7 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 5:22 p.m.,*
in response to message #6 by Cristian Arezzini

I was able to reproduce a loop in the error handler. Pauli has recently converted more stuff to XROM which made the error apparent. The "Domain Error" is thrown inside the [delta]DAYS routine by some bogus input.

I have not tested the weird CAT behaviour. There is most probably still something wrong.

Re: WP34S: "Domain error" when running a program

*Message #8 Posted by **Cristian Arezzini** on 30 Jan 2012, 2:02 p.m.,*
in response to message #3 by Cristian Arezzini

I have problems here. I'm able to consistently get weird results (sometimes the program gives the correct result but also displays the day's name; sometimes I get totally wrong results like 735628; and so on) but I have problems in finding the exact order of commands to induce them. But it seems (though I can't believe it) that unexpected results are triggered when exiting the program edit mode at different locations. If when I exit program mode I was at location 000 I get different results than if I was at 001 or, say 008... I have to experiment some more. I'll report back.

Re: WP34S: "Domain error" when running a program

*Message #9 Posted by **Cristian Arezzini** on 30 Jan 2012, 2:34 p.m.,*
in response to message #3 by Cristian Arezzini

OK, the exact errors aren't exactly reproducible, but a weird behaviour is. Here are the exact steps I take (it seems that every individual keystroke counts...)

```
0) Hard reset, using the cable's "reset" button
1) Contrast- three times, to make display more readable
2) DATE (to verify reset) - it shows 1.012007
3) Back arrow twice to clear display
4) P/R (to enter program mode), it enters at step 000
5) Enter above program, without inserting the ending END because it's already there
6) Right after entering RTN, press P/R (to exit program mode)
7) CAT (it shows Lbl'D' RAM)
8) XEQ (it shows Monday 2007)
```

At this last step, sometimes it shows "Monday 2007", sometimes just 2007, sometimes "Monday 0", sometimes just 2, sometimes "Monday 732679" and so on... and doing CAT and XEQ again and again always gives different results (though sometimes you get the same result 3 or 4 times in a row). I have reflashed the calc, just in case, but it still does the same thing.

On the emulator instead, these following steps:

```
1) Total reset by removing wp34s.dat
2) DATE (shows today's date, taken from system clock)
3) P/R to enter program mode
4) Enter program as above, without ending END
5) Right after entering RTN, press P/R to exit program mode
6) CAT
7) XEQ (it seems to work right, even after several tries)
8) P/R
9) move to step 000
10) P/R
11) CAT
12) XEQ (it displays the correct result but also the weekday)
13) P/R
14) move to step 008
15) P/R
16) CAT
17) XEQ (it says Domain Error)
```

The emulator seems more consistent in that the results are always the same. I was wondering if maybe I had faulty hardware but the emulator does similar (though not identical) things... After the Domain error, sometimes the emulator is left in a locked state. After forcing a quit, and reopening the emulator, it shows garbage on the screen. I have a .dat file from this state if needed...

Cristian

Edited: 30 Jan 2012, 2:35 p.m.

Re: WP34S: "Domain error" when running a program

*Message #10 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 3:14 p.m.,*
in response to message #9 by Cristian Arezzini

I think I can explain why a message is shown: The date functions set an internal message to be shown on the next display event. This only occurs when the program has come to an end. I think it's better not to set the message when a program is running.

Can you try the latest build please? (It still sets the message.)

Re: WP34S: "Domain error" when running a program

*Message #11 Posted by **Paul Dale** on 30 Jan 2012, 4:18 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> I think I can explain why a message is shown: The date functions set an internal message to be shown on the next display event. This only occurs when the program has come to an end. I think it's better not to set the message when a program is running.

The day of week command probably should set the message either way. I agree the rest can not. Or we should be clearing the message a bit more often than we do perhaps.

- Pauli

Re: WP34S: "Domain error" when running a program

*Message #12 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 5:23 p.m.,*
in response to message #11 by Paul Dale

I've made it dependent on the Running flag.

Re: WP34S: "Domain error" when running a program

*Message #13 Posted by **Walter B** on 30 Jan 2012, 4:31 p.m.,*
in response to message #10 by Marcus von Cube, Germany

On the emulator, I consistently get 30 if calling the program via CAT XEQ - and Monday 30 if calling it via XEQ'D' without using CAT.

Re: WP34S: "Domain error" when running a program

*Message #14 Posted by **Cristian Arezzini** on 30 Jan 2012, 5:00 p.m.,*
in response to message #13 by Walter B

> Quote:
>
> On the emulator, I consistently get 30 if calling the program via CAT XEQ - and Monday 30 if calling it via XEQ'D' without using CAT.

Walter, the emulator is more consistent, did you try on the real hardware? Also, did you try on the emulator to enter program mode, go to step 008, exit program mode without changing anything, then run the program wia the CAT? Doesn't it give you the Domain error if you do that?

Cristian

Re: WP34S: "Domain error" when running a program

*Message #15 Posted by **Paul Dale** on 30 Jan 2012, 5:07 p.m.,*
in response to message #14 by Cristian Arezzini

I'm getting no stack change from the console build executing this via CAT when I start with the PC at step 008.

I suspect we might be executing stuff after we return or at least not quite executing properly from the CAT display.

- Pauli

Edited: 30 Jan 2012, 5:08 p.m.

Re: WP34S: "Domain error" when running a program

*Message #16 Posted by **Paul Dale** on 30 Jan 2012, 4:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> A top level RTN sets the PC back to where it was when the program was started. In the case of SST this is the step before the RTN. I agree that this is a little strange and worth reconsideration.

I'm still in favor of resetting the PC to the start of the current program instead of leaving it where it was. I've been caught out by this behaviour more than a few times -- it is both unnatural and annoying.

- Pauli

Re: WP34S: "Domain error" when running a program

*Message #17 Posted by **Marcus von Cube, Germany** on 30 Jan 2012, 5:30 p.m.,*
in response to message #16 by Paul Dale

There was a bug which led to the repositioning of the PC to the INC X statement. There is a problem with resetting the PC to the begin of the current program when we hit a top level RTN: Technically, executing a command that is implemented as XROM is just an ordinary XEQ to a routine which ends in a RTN statement. This would affect the user's PC which is undesirable.

Re: WP34S: "Domain error" when running a program

*Message #18 Posted by **Paul Dale** on 30 Jan 2012, 5:45 p.m.,*
in response to message #17 by Marcus von Cube, Germany

```
if (top level and not xrom)
    pc = 0;
```

???

Okay not 0 but the start of the current program :-)

- Pauli

Re: WP34S: "Domain error" when running a program

*Message #19 Posted by **Marcus von Cube, Germany** on 31 Jan 2012, 7:15 a.m.,*
in response to message #18 by Paul Dale

All issues should be fixed by now. I've implemented something similar to what Pauli has suggested.

Re: WP34S: "Domain error" when running a program

*Message #20 Posted by **Cristian Arezzini** on 31 Jan 2012, 8:31 a.m.,*
in response to message #19 by Marcus von Cube, Germany

After preliminary testing, both on emulator and real calc, everything seems to be ok. Thank you! :)

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 30-B size Question

*Message #1 Posted by **Jeff** on 30 Jan 2012, 10:14 a.m.*

I have always wanted to find a financial calculator that is physically smaller.

Amazon gives the 30-b these dimensions: 9.4 x 7.1 x 1.3 inches HP says: 5.84 x 3.03 x .63 inches.

I wonder which are correct.

Also, it's about time for them to retool their ugly, tired lineup of home and office devices!

http://www.shopping.hp.com/webapp/shopping/can.do;HHOJSID=VfSRPmnQrDntnfpjJWL7QMrCqqPVLNWSpLtQg25G3PJLqcXPjhWY!677933928?landing=calculator&category=Office&catLevel=1&storeName=storefronts&jumpid=in_R329_prodexp/hhoslp/psg_ipg/calculator/Home_&_office_calculators

Re: HP 30b size Question

*Message #2 Posted by **Mike Morrow** on 30 Jan 2012, 7:46 p.m.,*
in response to message #1 by Jeff

Certainly the larger dimensions are not those of the HP 30b.

The HP 30b is one of the most satisfying products from HP Calcs in a long time, IMHO. It is the fastest HP calc ever, and although financial in flavor, it has a reasonable and useful set of scientific functions too. Its firmware does not run through a level of emulation like the HP 50g, HP 12C+, and HP 15C LE.

For speed testing, I use the common 2500-iteration Savage Benchmark. For comparison, benchmark completion times are:

```
HP 50g      65 seconds
HP-15C    5840 seconds
HP 15C LE   48 seconds
HP 30b       6 seconds
```

The result accuracy and precision for the 50g and the 30b are identical, and several orders of magnitude better than that of the 15C and 15C LE.

The 30b is about eight times faster than the 15C LE, even though both use the same AT91SAM7L128 SoC and clock speed. That illustrates the waste in time and battery energy that occurs because an emulation layer has been inserted between the original firmware and the SoC, rather than compiling new code for the SoC.

The HP 30b is a great machine, even if you don't transform it to a WP 34S.

Edited: 31 Jan 2012, 10:22 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New release of go41cx

*Message #1 Posted by **Olivier De Smet** on 30 Jan 2012, 8:19 a.m.*

Release 1.1.0

This one correct a timer bug (now, 'shift' ON works nicelly) and add a new config panel. You can manage :

- States of emulator: save as, load, export/import, ...
- Modules: plug, import/export, infos, ...
- Raws: load, import/export, infos, ...
- Programs: save from main memory to a raw file
- Overlays: load, import/export, ...
- XMem: load, save, import/export, ...
- Regs: display data regs, buffers, program, system, xmem, ...

Overlays are just text files, 70 lines max, 2 lines per key, first for top label, second for shifted label. "null" means no change.

Import/export permit to load/save from the internal files of the application and 'Download' directory of your sd-card, so you can download or mail files.

Olivier

Edited: 30 Jan 2012, 8:22 a.m.

Re: New release of go41cx

*Message #2 Posted by **Vincent Weber** on 30 Jan 2012, 10:54 a.m.,*
in response to message #1 by Olivier De Smet

Hi Olivier,

Nice piece of work !! thanks and congrats ! :) If you can do the following, I will ditch my Iphone and go for Android as a unique mobile phone, as i41cx+ (which is still better than your program so far, but you are catching up !) is the only reason why I keep the iphone:

-Printer emulation -qwerty keyboard for alpha mode -Sound -HEPAX support

How high as those on your to-do list ? ;)

Did you get a chance to look at the HP-65 emulator I indicated to you in a previous post to get inspiration from it to do an HP-65 emulator ? :)

Thanks again for all what you brought, and cheers,

Vincent

Re: New release of go41cx

*Message #3 Posted by **Vincent Weber** on 31 Jan 2012, 3:30 a.m.,*
in response to message #2 by Vincent Weber

One more thing:

I noticed that the lowercase characters are not displayed correctly: take the Sandbox ROM for instance, which is supposed to display "Welcome" on startup, only a few letters are visible. I had the same problem with P41CX on Palmos, but not on i41CX+ on Iphone. It makes me think that the emulation is fullnut rather than halfnut display. Could this be corrected ?

Thanks and cheers,

Vincent

Re: New release of go41cx

*Message #4 Posted by **Alexander Oestert** on 30 Jan 2012, 12:40 p.m.,*
in response to message #1 by Olivier De Smet

I have a 70 line file named math.ovl in the SD download directory that I managed to import and load. How do I now make the overlay visible on the app's keyboard? I downloaded finance.ovl from your site and tried USER mode but can't see anything...

EDIT

Now it works...but I can't say why and what I did differently...

Very nice! :-)

EDIT 2 … and now I can't get rid of it no matter what I do: delete, reset, on-backspace…

EDIT 3 Finally found out how to use EMPTY ;-)

Edited: 30 Jan 2012, 1:49 p.m.

go41cx overlay

*Message #5 Posted by **Alexander Oestert** on 2 Feb 2012, 2:17 a.m.,*
in response to message #1 by Olivier De Smet

Is there a way to display unicode characters like integral or greek theta on the overlay? When I save them in the text file where I can display them, I only end up with garbage on the go41cx user mode.

Re: go41cx overlay

*Message #6 Posted by **Olivier De Smet** on 2 Feb 2012, 3:23 a.m.,*
in response to message #5 by Alexander Oestert

Did you use UTF-8 encoding ? (android unicode default encoding)

Re: go41cx overlay

*Message #7 Posted by **Alexander Oestert** on 2 Feb 2012, 4:06 a.m.,*
in response to message #6 by Olivier De Smet

Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)
*Message #1 Posted by **deleted** on 30 Jan 2012, 4:14 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

modern HP-41 "supermodule" choices on the market

*Message #1 Posted by **Garth Wilson** on 30 Jan 2012, 1:00 a.m.*

I posted questions about the MLDL2000, NoV32/64, Clonix, and 41CL comparison on TOS, as having it there will keep it much easier to find later than it would be here on the hpmuseum forum, and much easier to update months or even years later. From the forum front index page, look under "OPTIONS" and click on "Modules" about 3/4 of the way down the page, and then 'modern "supermodule" choices on the market' (which will probably be at the top of that section now).

Re: modern HP-41 "supermodule" choices on the market

*Message #2 Posted by **Diego Diaz** on 30 Jan 2012, 11:49 p.m.,*
in response to message #1 by Garth Wilson

Hi there,

In order to cover the Clonix and NoV's side of your post, I'm preparing a comparative chart of the modules I've developed along these years.

Hopefully it will be on-line in a couple of days.

Best wishes.

Diego

Re: modern HP-41 "supermodule" choices on the market

*Message #3 Posted by **Meindert Kuipers** on 31 Jan 2012, 1:36 p.m.,*
in response to message #1 by Garth Wilson

I have seen the questions on TOS. I would prefer this forum to collect data, then you could compile a single document to be stored forever in the MoHPC and on TOS.

Here is my feedback regarding the MLDL2000 to your questions:

Battery life: about 8 mA extra when the HP41 is running, less than 1 mA in standby

Module support: virtually no limits, but knowledge of HP41 architecture required. both ROM and ROM emulation (mcode development) supported. HEPAX limited support (like in 41CL, special configuration needed).

Communication: Module images to be up- and downloded using Windows PC with special program (M2kM) using a USB connection. No Linux support (tried, but could not get the USB support properly running). No serial port, but USB. Serial port possible with V2 prototype, but not implemented.

Settings: Controlled by PC software M2kM, no special ROM's needed to control MLDL2000

Storage: FLASH and SRAM storage for many ROM images. Switchable via PC connection or dip-switches on unit (8 configurations possible). Mass storage possible on MLDL2000 V2 prototype, but this will probably not happen. microSD support an USB comunication planned as extension to the HP41CL

Compatiblility: works with all HP41 variations, including CL. Can co-exist with Clonix if correctly configured.

Mcode development: YES, offline (with SDK41 and M2kM), and inline with DAVID assmebled for example

Learning curve: somewhat steep, knowledge of HP41 architecture required

Documnentation: all details available, inlcuding all sources and schematics

How to buy: sorry, all units sold out, no plans for further production runs or a new version V2 (unless I get an offer I cant refuse ...)

Meindert

Re: modern HP-41 "supermodule" choices on the market

*Message #4 Posted by **Diego Diaz** on 1 Feb 2012, 8:59 a.m.,*
in response to message #3 by Meindert Kuipers

Hi all,

A comparative chart for Clonix and NoV's module family is now available here.

Hope it can be useful

All the best.

Diego.

Re: modern HP-41 "supermodule" choices on the market

*Message #5 Posted by **Ángel Martin** on 1 Feb 2012, 3:39 p.m.,*
in response to message #4 by Diego Diaz

Great summary table Diego, thanks for putting it together.

Now I´m ready for my next NoV64 order :'=)

Re: modern HP-41 "supermodule" choices on the market

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 1 Feb 2012, 5:59 p.m.,*
in response to message #4 by Diego Diaz

Diego, this is a GREAT comparison table! Thank you for putting it together. Your Clonix-D and NoVRAM-64 modules give so more capability and flexibility to my 41CL and HP-41. They have been very valuable companions.

Re: modern HP-41 "supermodule" choices on the market

*Message #7 Posted by **Diego Diaz** on 2 Feb 2012, 1:10 p.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

Thanks for your words, much appreciated.

Ángel, I'm pretty sure you'll be one of the users than can take all the "juice" off a NoV-64... :-) Look forward to reading from you.

Glad you're having a good time with your CL/NoV's combo, Kerem.

Enjoy.

Diego

Re: modern HP-41 "supermodule" choices on the market

*Message #8 Posted by **Garth Wilson** on 2 Feb 2012, 4:21 p.m.,*
in response to message #4 by Diego Diaz

Thankyou Diego. I have read through it carefully. Not surprisingly, I have more questions now than I did at the beginning when I didn't know enough to have many questions, LOL. I do want to get one of the modules, and it's a good thing I'm not in a huge hurry because our son's college tuition bill and two big tax bills just took care of the problem of too much money in the bank account! ;)

Re: modern HP-41 "supermodule" choices on the market

*Message #9 Posted by **Diego Diaz** on 2 Feb 2012, 5:15 p.m.,*
in response to message #8 by Garth Wilson

Hi Garth,

Questions are always welcome, (I've learned a lot by answering someone else's questions... :-)

If you think your questions can be of general interest for the other users please share it. Otherwise, just drop me a private mail.

You can take your time, all of my modules are in production in an "on-demand" basis. So please feel free to choose the moment that better suits your needs and budget.

Best wishes.

Diego.

Re: modern HP-41 "supermodule" choices on the market

*Message #10 Posted by **Garth Wilson** on 2 Feb 2012, 4:17 p.m.,*
in response to message #3 by Meindert Kuipers

Thankyou Meindert. Are you implying that it would be ok at this point (which may still be intermediate) to also quote your post above in the topic on TOS? I would be pleased to see you offer more product, including a V2.

Edited: 2 Feb 2012, 4:23 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

modern HP-41 "supermodule" choices on the market

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Overlay

*Message #1 Posted by **Patrice** on 29 Jan 2012, 8:26 p.m.*

Hi Eric,
Do you have a procedure about how yo apply the overlay?
What not to do?
Order of apply?

Patrice

Re: WP34S Overlay

*Message #2 Posted by **Eric Rechlin** on 30 Jan 2012, 2:44 p.m.,*
in response to message #1 by Patrice

Did you see me give the presentation showing how at HHC?

If not, you can see part of it on YouTube, starting around the 25 minute point, although the video got cut off so you can't see the whole thing.

Basically, I do it like this:

1. Place the overlay that goes around the keys. I start in the wide area between the second and third rows of keys, and then slowly go one row at a time, up and down, to make sure it is all even and without any bubbles. Try to center it as best as you can, because there isn't much tolerance in any direction.

2. Place each key label using tweezers/forceps. You don't want to touch the stickers with your fingers, or the oil from your fingers may degrade the adhesive. Bend the overlay backing sheet if it helps cause the stickers to release, making them easier to grab.

If you've already been using the calculator, I suggest cleaning the keys with isopropanol to remove any oil residue.

Eric

Re: WP34S Overlay

*Message #3 Posted by **Patrice** on 30 Jan 2012, 5:24 p.m.,*
in response to message #2 by Eric Rechlin

Thank you

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP34S Overlay

HP Forum Archive 20

[Return to Index | Top of Index]

HP Viridia Wave Viewer Card (palmtop 200LX)

*Message #1 Posted by **aj04062** on 29 Jan 2012, 5:05 p.m.*

Does this card have any utility outside the hospital nowadays?

Edited: 29 Jan 2012, 5:05 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is that white stuff in the battery compartment?

*Message #1 Posted by **Kees Bouw** on 29 Jan 2012, 2:14 p.m.*

A recently acquired HP-65 has white staining in the battery compartment, presumably from a leaked battery. I can't get it off. I tried to remove it with swabs with only water, but after it dried up it seemed worse. Then I used lemon juice, from a small bottle that is normally used for cooking. That did not do much at all. Before I move on to more aggressive solvents, I thought I would ask if anyone here knows what exactly the white stuff is, and how it can be removed. On the same topic: which chemicals leak from a NiCd battery in general and how toxic or aggressive are they? Is there cadmium or a cadmium compound coming out at some point?

Re: What is that white stuff in the battery compartment?

*Message #2 Posted by **Lincoln R.** on 29 Jan 2012, 5:25 p.m.,*
in response to message #1 by Kees Bouw

Ordinary white vinegar will dissolve that stuff, although you want to make sure you clean off all the vinegar with something (distilled water, isopropanol, etc.) afterwards.

Re: What is that white stuff in the battery compartment?

*Message #3 Posted by **From Hong Kong** on 30 Jan 2012, 3:01 a.m.,*
in response to message #1 by Kees Bouw

> Quote:
>
> A recently acquired HP-65 has white staining in the battery compartment, presumably from a leaked battery. I can't get it off. I tried to remove it with swabs with only water, but after it dried up it seemed worse. Then I used lemon juice, from a small bottle that is normally used for cooking. That did not do much at all. Before I move on to more aggressive solvents, I thought I would ask if anyone here knows what exactly the white stuff is, and how it can be removed. On the same topic: which chemicals leak from a NiCd battery in general and how toxic or aggressive are they? Is there cadmium or a cadmium compound coming out at some point?

I used antiseptic alcohol to remove those stains in three occasions and the results were encouraging. It's because: 1) it isn't corrosive to metal; 2) it dissolves both organic and inorganic compounds; and 3) it evaporates rapidly

I hope my experience can help! :)

The white stuff may be the oxides or hydroxides of cadmium.

Re: What is that white stuff in the battery compartment?

*Message #4 Posted by **Kees Bouw** on 31 Jan 2012, 3:33 a.m.,*
in response to message #3 by From Hong Kong

Quote:

The white stuff may be the oxides or hydroxides of cadmium.

I sure hope not, because cadmium is very poisonous.

Re: What is that white stuff in the battery compartment?

*Message #5 Posted by **Ed Look** on 1 Feb 2012, 12:06 p.m.,*
in response to message #1 by Kees Bouw

If there is a suspected leakage of material from a nickel-cadmium battery, then also suspect that it is toxic. Touching a small amount won't hurt you; but do wash your hands and do not ingest any. This sounds silly, but grown people do lick their fingers when they need a little more grip, for example. Do wear thin latex or nitrile gloves. Water will remove it better than alcohol, but in the case of the former, don't use much, just a damp paper towel.

I would recommend also that you do not dispose of the used paper towels, etc. in the trash, if there is a lot of it. With just a smear or little bit of the "white stuff", then it should not be problem.

Cadmium is an internal organ poison and nickel... well, it's not good for you, either, but it's less of an issue than cadmium.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Capacity of the CR2032 Batteries as used in the 15c LE

*Message #1 Posted by **Jeff O.** on 29 Jan 2012, 2:08 p.m.*

There has been a lot of discussion regarding just how much capacity the pair of CR2032 cells will provide as utilized by the 15c LE. I decided to go ahead and run a fresh set of batteries all the way down to see for myself. I did not want to just enter a simple continuous addition loop program and set it running, for a couple of reasons. First, continuous running of a program is not a very real-world test, i.e., I don't think anyone would run a program continuously for a real purpose. Second, and more importantly, I did not want to have to watch it continuously for an unknown amount of time to see when it quit. So I used the following process:

1. Entered Katie Wasserman's "306 digits of pi on a 15C" program. This program takes approximately 16.5 minutes to run on my 15c LE.
2. Ran the program a few times over the course of a morning or a day
3. checked battery voltage
4. repeated steps 2 and 3 until the unit finally quit during a run of the program, keeping track of the number of runs and battery voltage at the checkpoints.

I am happy to report that the unit ran 60 times without issue, each time in the expected execution time of approximately 16.5 minutes. On the 61st run, it finally quit during execution. I'm not sure how long it ran, the display was blank when I checked at about 16 minutes run time. (Each time I ran the program I set an alarm on my 17bII for 16 minutes later. Then when the alarm went off, I watched the "running" display" until it stopped, then verified that it performed correctly by checking the first 20 or so digits and the last 6.) I turned it on and got the "Pr Error" message. It seemed to just clear memory, no weird data corruption or other effects. I reentered the program (it is only 79 steps) and ran it again, this time watching to see when it would quit. It ran for 13 minutes, then the display went blank, and I got the "Pr Error" message when I turned it on. So then I entered a simple addition loop and watched, it ran for 6 minutes. Did that again, and it ran for 5 minutes. That was Thursday afternoon, I believe. Friday morning I entered another simple loop and set it running; it ran for 20 minutes, so the overnight rest allowed the batteries to bounce back a bit. But they are obviously essentially depleted, although I may continue to use the calculator for normal day-to-day calculations to see just how long they last.

At 60 reliable runs of a 16.5 minute program, that represents 16.5 hours of program run time. Based on Katie's reported draw of 10.5 mA per cell during program execution, I managed to extract over 170 mA-Hours from each cell. The cells are Panasonic brand, rated 225 mA-Hours when running at 0.2 mA. So I managed to get over 75% of rated capacity running at 50 times rated current.

As I said, I measured the voltage along the way:

After 4 runs: 2.8 Volts
After 8 runs: 2.7 Volts
After 12 runs: 2.7 Volts
After 16 runs: 2.7 Volts
After 20 runs: 2.8 Volts (yes it seemed to go up.)
After 28 runs: 2.7 Volts
After 36 runs: 2.7 Volts
After 44 runs: 2.6 Volts
After 52 runs: 2.7 Volts (yes, increased again)

After quitting on the 61st run: 2.6 Volts
After quitting 13 minutes into the next run: 2.4 Volts
After quitting 6 minutes into the next run: 2.4 Volts
After quitting 5 minutes into the next run: did not measure
After quitting 20 minutes into the next run the following day: 2.5 Volts

Unfortunately, I forgot to check the initial battery voltage. I used my 15c LE that I received in September and did not use at all beyond doing the keyboard test to insure I had a good unit, so I assume the batteries were in as-new condition. I measured the battery voltage by swapping the cells into a 30b running wp34s and using the BATT function to check voltage. It seems like fresh batteries show 3.1 Volts in wp34s, so I'll assume that's where mine started. If they were actually lower, that means battery life should be even better with new batteries.

16.5 hours of run time on a 15c LE is equivalent to around 2000 hours, or 86 days of run time on a 15C Classic. Would a 15C Classic be able to run that long? Based on these results, I for one feel that battery life with the 15c LE is acceptable. I don't think that HP needs to slow it down to extend battery life, although a user-settable speed setting would certainly be a welcome addition. The high current draw on key press should also be fixed to eliminate any adverse impact on battery life during normal use.

Although battery life may not be as bad as feared, I did confirm that no low-battery indication is given, and that when battery voltage drops too low during program execution to feed the processor, it shuts down and flushes memory. I also discovered another troubling behavior. As I said, I measured the battery voltage by swapping the batteries into a wp34s. I changed the batteries one at a time as directed, putting a new set in the 15c while measuring the test set, but about half the time I got a Pr Error and had to re-enter the program. (That's why I starting measuring every eight runs instead of every four.) If you cannot swap batteries while preserving memory, it does not really matter if there is no low-battery warning or it shuts down and flushes memory during program execution.

Edited: 29 Jan 2012, 2:17 p.m.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #2 Posted by **Kees Bouw** on 29 Jan 2012, 2:22 p.m.,*
in response to message #1 by Jeff O.

As I understand it, pressing a key on the 15C LE draws quite a lot of current. Testing battery life by just running programs therefore may not be accurate, because not many keys will be pressed.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #3 Posted by **Jeff O.** on 29 Jan 2012, 3:31 p.m.,*
in response to message #2 by Kees Bouw

My understanding is that holding a key down draws the same current as a running program. If each key press is roughly 0.5 seconds, it would take 118,800 keypresses to equal 16.5 hours of run time. I'm not saying that the two uses are equivalent, as perhaps it is harder on the batteries to draw 10.5 mA in 118,800 0.5 second pulses than in 60 16.5 minute pulses.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #4 Posted by **Lode** on 29 Jan 2012, 2:42 p.m.,*
in response to message #1 by Jeff O.

It would be interesting to measure how long it takes a fresh set of batteries to be depleted if all you do is continiously hold down a key :)

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #5 Posted by **Jeff O.** on 29 Jan 2012, 3:33 p.m.,*
in response to message #4 by Lode

My understanding is that holding a key down draws the same current as a running program. So it should presumably be the same as if you just ran a program continuously. I did not test that, so I cannot say.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #6 Posted by **Paulo MO** on 29 Jan 2012, 3:39 p.m.,*
in response to message #4 by Lode

AFAIK, the high current draw on key press is the result of setting the processor at full speed whenever a key is detected (to ensure a fast reaction to key press). Hence, as Jeff points out, pressing a key, or running a program at full processor speed should amount to the same.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #7 Posted by **Kees Bouw** on 30 Jan 2012, 7:57 a.m.,*
in response to message #6 by Paulo MO

> Quote:
>
> AFAIK, the high current draw on key press is the result of setting the processor at full speed whenever a key is detected (to ensure a fast reaction to key press). Hence, as Jeff points out, pressing a key, or running a program at full processor speed should amount to the same.

In the 15C LE Bug Report, Katie writes: *"Current draw is over 20ma when holding down a key, leading to rapid battery depletion. While not a bug this is fixable in firmware and does not happen on the 12C+."* But if it is done purposely (to ensure a fast reaction to a key-press) should it be fixed ? And why does it not happen in the 12C+ ? Or is the problem only in the "holding down" (if so, it can't be a serious problem, because mostly keys are just pressed and not held down).

Edited: 30 Jan 2012, 8:02 a.m.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #8 Posted by **Jeff O.** on 30 Jan 2012, 12:43 p.m.,*
in response to message #7 by Kees Bouw

According to this post by Cyrille de Brébisson:

> Quote:
>
> the 12C emulator, in order to try to preserve power usually tells the calculator that the keys are released instantaneously. this avoid a dead loop waiting for the key to release in the 12C ROM and the power use associated with that...

It sounds like in the 12C+, pressing a key runs the processor at full speed for an instant, then the emulation layer tells the processor that the key has been released whether it has been released or not. So apparently you will get fast response to a key press without continuous high-current draw.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #9 Posted by **Gerson W. Barbosa** on 29 Jan 2012, 8:28 p.m.,*
in response to message #1 by Jeff O.

Great experiment! I tried to run a program that would take about six hours to run, but after 2 hours and 40 minutes I noticed the display was dim. I stopped the program and waited five minutes before continuing, so the batteries recovered. When I checked again half an hour later the display was blank and the program had gone (Pr Error).

I used the original Panasonic cells that came with the calculator, both at 3.039V each in the beginning and 2.803V and 2.808V when I measured their voltages again as soon as I noticed the calculator was off. Probably the HP-15C LE had worked for about 10 or 15 minutes before turning itself off. This means it cannot run a program continuously for more than three hours. I had barely used the calculator, but I may repeat the test with fresh cells tomorrow to be sure.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #10 Posted by **Jeff O.** on 29 Jan 2012, 9:56 p.m.,*
in response to message #9 by Gerson W. Barbosa

How many steps is your program? I might want to test another set.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #11 Posted by **Gerson W. Barbosa** on 30 Jan 2012, 6:46 a.m.,*
in response to message #10 by Jeff O.

74 four steps. That's the listing in the message #19 of this thread. Perhaps the less efficient way to solve Karl Schneider's arithmetical challenge :-)

Update: actual running time is shorter than I thought, about three and a half hours (would have to check it again).

Edited: 30 Jan 2012, 5:16 p.m.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #12 Posted by **Bruce Zastera** on 29 Jan 2012, 10:45 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Great experiment! I tried to run a program that would take about six hours to run, but after 2 hours and 40 minutes I noticed the display was dim. I stopped the program and waited five minutes before continuing, so the batteries recovered. When I checked again half an hour later the display was blank and the program had gone (Pr Error).
>
> I used the original Panasonic cells that came with the calculator, both at 3.039V each in the beginning and 2.803V and 2.808V when I measured their voltages again as soon as I noticed the calculator was off. Probably the HP-15C LE had worked for about 10 or 15 minutes before turning itself off. This means it cannot run a program continuously for more than three hours. I had barely used the calculator, but I may repeat the test with fresh cells tomorrow to be sure.

So you couldn't run it for 3 hours continuously, but Jeff O. ran it for 16.5 hours running in intervals. Does running in intervals make that big of a difference to battery life, or is this because your program draws more current than his?

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #13 Posted by **Katie Wasserman** on 29 Jan 2012, 10:56 p.m.,*
in response to message #12 by Bruce Zastera

Running in intervals is much better for battery life (lithium coin cells in particular) than running continuously. Indeed Jeff's rough calculation of the number of keystrokes based on 16.5 hours of battery life might be on the low side.

What greatly surprises me about Jeff's measurements is that he got 75% of the rated capacity on these cells even though they are being run at 100 times the rated current draw. These are super cells!

What doesn't surprise me is the horrible way the 15C LE and 12C+ just die when the cells are exhausted wiping out memory. There's no good reason why they can't shut down gracefully when low voltage is detected.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #14 Posted by **Lyuka** on 29 Jan 2012, 11:07 p.m.,*
in response to message #13 by Katie Wasserman

> Quote:
>
> There's no good reason why they can't shut down gracefully when low voltage is detected.

As the name implies - HP 15 Continuity Limited Edition.

BTW, by the data sheet of Panasonic's CR-2032, though its capacity is rated at standard discharge current of 200uA, the characteristics is specified from relatively heavy load of 1Kohm(3mA)

The data sheet of Maxell's CR-2032 shows very heavy load (300ohm, 5sec) pulse discharge characteristics. Its capacity under that condition is 160mAh(Ta=25) at terminal voltage of 2.5V.
It's 70% (160mAh/230mAh) of nominal capacity.

The data sheet of Energizer's CR-2032 shows very aggressive load (100ohm, 2sec) pulse discharge characteristics. Its capacity under 400ohm, 2sec * 12 times / day condition is 220mAh(Ta=25) at terminal voltage of 2.5V.
It's 97% (220mAh/230mAh) of nomninal capacity.

IMHO, Li-Mn batteries from these three brand have both reliability and surprising high performance.

Lyuka

typo corrected: 100ohm, 2sec -> 400ohm, 2sec

Edited: 30 Jan 2012, 4:02 a.m. after one or more responses were posted

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #15 Posted by **Katie Wasserman** on 30 Jan 2012, 2:31 a.m.,*
in response to message #14 by Lyuka

> Quote:
>
> The data sheet of Energizer's CR-2032 shows very aggressive load (100ohm, 2sec) pulse discharge characteristics. Its capacity under 100ohm, 2sec * 12 times / day condition is 220mAh(Ta=25) at terminal voltage of 2.5V.

I see that here. but it's 400 ohms not 100. At higher currents things get much worse: 1 msec on and 14 msec off pulsed load of 23ma which yields 150mah with a terminal voltage of 2.4. Which is only 62% of nominal capacity. Jeff's test was at 10ma per cell with a pulse that's 16 minutes, nearly 1 million times longer than the short spec sheet pulse and 480 times longer than the long spec sheet pulse.

I think Jeff's batteries were far better than the spec sheets indicate. I suspect that there's something to having two cells in parallel that allows the combination to do better than the sum of the parts.

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #16 Posted by **Lyuka** on 30 Jan 2012, 3:58 a.m.,*
in response to message #15 by Katie Wasserman

> Quote:
>
> I see that here. but it's 400 ohms not 100.

It was my mistake. 400 ohms is correct. I'll correct my post later.

Lyuka

Re: Capacity of the CR2032 Batteries as used in the 15c LE

*Message #17 Posted by **Gerson W. Barbosa** on 30 Jan 2012, 5:12 p.m.,*
in response to message #12 by Bruce Zastera

> Quote:
>
> So you couldn't run it for 3 hours continuously, but Jeff O. ran it for 16.5 hours running in intervals. Does running in intervals make that big of a difference to battery life, or is this because your program draws more current than his?

Running in intervals does make a difference, as Katie said. However the original Panasonic cells were not as fresh as I imagined, so the actual capacity is longer. I've repeated the test succesfully with brand-new maxell cells (initial voltages 3.270V and 3.267V). I was expecting the program to run for 5 hours and 40 minutes, but it didn't take that much time. I checked the display after 3 hours and 5 minutes and didn't notice anything wrong. When I checked it later, the calculator was off. I turned it on and was prepared to see the "Pr Error" message. Instead it displayed the expected result: 534,912,768.0. The chronometer was stopped at 03h52m35s. I don't know long it actually took. Final voltages were 2.874 on both cells (actual voltages were lower, since they had had some time to recover).

My multimeter has a serial interface, but unfortunately the software doesn't run on Vista OS. A discharge curve would be nice, but I am not willing to do this manually.

Edited: 30 Jan 2012, 5:25 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c / 15c LE Hard Case?

*Message #1 Posted by **bluesun08** on 29 Jan 2012, 12:55 p.m.*

Is there a hard case for the 15c / 15c LE?

Re: 15c / 15c LE Hard Case?

*Message #2 Posted by **Brandon Poindexter** on 29 Jan 2012, 7:11 p.m.,*
in response to message #1 by bluesun08

A couple days ago i posted a similar question. And i asked if anyone has these.

If you want a "hard" case i.e. one that is rigid, you might do well with this.

Original idea from this post : http://hagy-box.cocolog-nifty.com/blog/2012/01/15c-gametech-ev.html

Re: 15c / 15c LE Hard Case?

*Message #3 Posted by **Calum Tait** on 29 Jan 2012, 7:41 p.m.,*
in response to message #2 by Brandon Poindexter

To let you know, I bought one of the faux leather expanding kind in your first example and am pretty pleased with it. It fits my 11C very well with just a little, perhaps 2mm, of the calculator showing over the limits of the open end of the case. It is pretty much the same as the original HP soft case in that respect. It seems to be rigid enough to give decent protection too without adding a lot of bulk. Indeed, the case still fits in my shirt pocket! I would certainly recommend this case for early Voyagers but I have heard that there is a slight dimensional difference between the original Voyagers and the 15C LE. I don't have an example of the later machine so can't comment on this model.

Re: 15c / 15c LE Hard Case?

*Message #4 Posted by **Sylvain Louboutin** on 31 Jan 2012, 1:05 a.m.,*
in response to message #2 by Brandon Poindexter

Received today the leather case you mentioned above; looks well made, nice tight fit for my 15C LE, and still fit neatly in one's shirt pocket.

Re: 15c / 15c LE Hard Case?

*Message #5 Posted by **Paulo MO** on 31 Jan 2012, 3:47 p.m.,*
in response to message #4 by Sylvain Louboutin

Don't these cases have a seam on the top border (where the faux leather meets the inside fabric) that colides with the calculator's feet every time you pull it out? I have one of those (from the same seller, so I assume it is precisely the same article) which I don't use for fear of forcing (and losing) the rubber feet.

Re: 15c / 15c LE Hard Case?

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 31 Jan 2012, 3:56 p.m.,*
in response to message #5 by Paulo MO

I have never lost original HP-installed feet (meaning original 12C and new 12C+) using these cases but am **ALWAYS** losing the feet I replaced on my 11C.

The funny thing is that the feet on the 12C+ are way more proud that the original 12C feet or the 11C feet.

My 11C problem is likely that the adhesive I used for my home-made replacement feet isn't up to snuff -- contact cement and bicycle inner-tube patches are what I used. Anybody got a better combo?

Re: 15c / 15c LE Hard Case?

*Message #7 Posted by **Paulo MO** on 31 Jan 2012, 4:31 p.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

The slip cases which come with the machines (if you don't have one, see here, for example) don't seem to put any type of stress on the feet on insertion/withdrawal. Wouldn't that solve your problem?

Re: 15c / 15c LE Hard Case?

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 31 Jan 2012, 4:41 p.m.,*
in response to message #7 by Paulo MO

Agreed. My original cases do not have this problem, and I use an orignal case with my 11C but I bought the hard cases for the purpose of using it with my more treasured 11C rather than my knockoff 12C+. :-)

Does anyone have any good advice on replacement feet and adhesive? How are the replacement feet I have variously seen on EBay?

Re: 15c / 15c LE Hard Case?

*Message #9 Posted by **Dale Reed** on 1 Feb 2012, 8:28 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

I have used these feet with good success on a U.S. made 11C.

Note that it might be possible to identify the replacements (besides the fact that they are not worn) by the corners. The new feet have sharp right-angled corners, but the feet I took off the 11C (I presume they were original) had very small, but non-zero, radius rounding at the corners.

I bought a few sets from this seller. I also used them on my 15C LE when I fixed a marginally-functioning divide key. (I couldn't get the feet off without leaving some adhesive. Others have posted here with how to do it so you don't do that!) Note that the feet on the 15C LE (and I would have to guess on the 12C 30thAE and 12C+...) are a little thicker. The feet I bought were not tall enough to peek over the edges of the little plastic surround ("footwell") in which they sit. So when I set the calculator on a table, the plastic surround sat on the table, not the feet. Simple solution: stack two feet on each corner. (Not the most economical, but expedient at the time....) They have stayed on fine,

even though they catch on stuff because the doubled feet are now thicker than the original.

So I'm guessing that if the 11C feet are, say, 1.0 mm thick, then the 15C LE feet are more like 1.5 mm.

I mailed one of the feet I took off the 15C LE to the seller so he could measure, compare, and perhaps find some thicker stock.

Anyway, to answer the original question: The feet I've purchased from this seller have worked fine and stayed stuck. YMMV. Just be sure to tell the seller if you are putting the feet on a "new" Voyager -- and see if he can send thicker feet.

Dale

Re: 15c / 15c LE Hard Case?

*Message #10 Posted by **uhmgawa** on 3 Feb 2012, 11:31 a.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

> Quote:
>
> I have never lost original HP-installed feet (meaning original 12C and new 12C+) using these cases but am **ALWAYS** losing the feet I replaced on my 11C.

I've seen voyagers lose feet due to breakdown of the adhesive rendering it "gummy" and subsequently failing. The other issue being the location of the screw wells are typically in corners of a foot such that there isn't much surface to anchor it in the areas most subject to peeling.

> Quote:
>
> Does anyone have any good advice on replacement feet and adhesive?

When I looked at this a while ago the best solution for securing replacement feet was an Adhesive Transfer Tape designed for low surface energy plastics. This is adhesive alone without a carrier film and tends to fair better on slightly irregular surfaces compared to film carrier tapes at the same installed thickness. 3M makes an absolutely dizzying number of products which seem suitable. Those with their 300LSE adhesive are specifically designed for low surface energy plastics, ABS in particular.

The only problem is finding someone to sell you a single roll of the product vs. a carton of 48. Failing that you can find evilbay sellers offering what appears to be similar product in small inexpensive quantities albeit from mysterious sources.

Concerning feet you could probably use any rubber sheet around 30~60 durometer. Bicycle inner tube patches sound like a great idea assuming they are about 1mm or so thick. EDPM pond liner "samples" can be had for free although those I've seen have an anti-slip a surface treatment which needs to be sanded off for better performance on the adhesive mating side. Shower stall liner is another possibility.

> Quote:

> How are the replacement feet I have variously seen on EBay?

No idea but I do marvel at the profit margin.

Re: 15c / 15c LE Hard Case?

*Message #11 Posted by **Katie Wasserman** on 3 Feb 2012, 4:56 p.m.,*
in response to message #10 by uhmgawa

I use carpet tape to attached my replacement feet and find it works very well to adhere rubber/vinyl to plastic. It's cheap and available at almost any hardware store in a variety of fabrics.

Re: 15c / 15c LE Hard Case?

*Message #12 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 3 Feb 2012, 5:38 p.m.,*
in response to message #11 by Katie Wasserman

I agree carpet tape works very well, easy to find and cheap. Also I would like to suggest "Servo Tape" for a few reasons. First it is strong but once its removed, won't leave any residue, second it is somewhat compressible therefore provides stability when the rubber pad thickness is uneven and absorbs vibrations very well.

Re: 15c / 15c LE Hard Case?

*Message #13 Posted by **Katie Wasserman** on 3 Feb 2012, 7:57 p.m.,*
in response to message #12 by Kerem Kapkin (Silicon Valley, CA)

Thanks. I've never heard of servo tape, I'll have to give it a try.

Re: 15c / 15c LE Hard Case?

*Message #14 Posted by **uhmgawa** on 3 Feb 2012, 11:24 p.m.,*
in response to message #12 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> > I agree carpet tape works very well, easy to find and cheap. Also I would like to suggest "Servo Tape"..

I've looked at servo tape but wanted an adhesive relatively thin (<10 mils) to avoid excessive height. The feet are less likely to creep out of position if they are sitting within their retaining well. 3M and others make an automotive grade adhesive that would otherwise fit the bill but this is a relatively thick tape with a foamed carrier.

I'd actually looked around for carpet tape initially. However most of what I'd found was reinforced with a loose fabric weave and had an adhesive of fairly gummy consistency. The carpet tape I recall available years ago seemed far more suitable.

Re: 15c / 15c LE Hard Case?

*Message #15 Posted by **Katie Wasserman** on 4 Feb 2012, 11:58 a.m.,*
in response to message #14 by uhmgawa

3M makes a "Scotch" brand 2" wide carpet tape that measures 6 mils, that's the one that works best for me. It's non-woven and feels like paper (but I think it some polymer). I'm pretty sure this is it.

Edit: I'm sure that this is the stuff. And the latest roll I bought is even thinner than the previous one I got, it measures only 4 mils.

Edited: 4 Feb 2012, 12:06 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another bug in the HP15C LE manual

*Message #1 Posted by **Antonio Maschio (Italy)** on 29 Jan 2012, 6:01 a.m.*

In effect this is not a simple bug, since it originates from the original manual (page 53 of Feb. 83 edition).

At page 53 of the LE manual the Average tons of rice should read 6.20, instead of 6.40, being the result 6.202.

Since this mistake is also in the 1983 version, I suppose it was not corrected and simple OCRed into the new version, but I could complain about a missing verification...

My 2 cents for Felix Article.

Please, verify for yourself.

--Antonio

Edited: 29 Jan 2012, 6:02 a.m.

Re: Another bug in the HP15C LE manual

*Message #2 Posted by **J-F Garnier** on 29 Jan 2012, 6:29 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

The value in the manual is correct, if the procedure on page 52 is included.

Re: Another bug in the HP15C LE manual? NO

*Message #3 Posted by **Antonio Maschio (Italy)** on 29 Jan 2012, 8:52 a.m.,*
in response to message #2 by J-F Garnier

Oops, my mistake. Excuse me, all of you, HP included.

-- Antonio

(That's what happens when I don't read carefully; it seemed impossible to me there could be a mistake on the 1983 version; but my hurry in reporting this mistake overwhelmed me. Sorry again)

Edited: 31 Jan 2012, 2:24 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Getting HEXEDIT to work on the HEPAX itself

*Message #1 Posted by **Ángel Martin** on 29 Jan 2012, 5:40 a.m.*

There recently was a thread about getting DISASM to work on the CL, and a related topic was overcoming built-in features in the HEPAX to avoid its own disassembly.

here

Monte´s instructions solved the riddle for DISASM, but there was still another location checking on the same protection which stopped HEXEDIT to work.

To prevent this you need to patch bank'1 of the HEPAX ROM again, at location H´p474 (where p is the page number). Simply replace the current instruction with ¨10B¨ JNC +33d

If you´re using YPOKE on the CL you´d of course do:

"8xx474-010B" YPOKE

where 8xx is the RAM location holding the HEPAX- bank1.

Caveat emptor: as always, this is not thoroughly tested yet. Initial checks show it works without a glitch - pls. report if you find any issues.

Cheers, 'AM

Re: Getting HEXEDIT to work on the HEPAX itself

*Message #2 Posted by **Ángel Martin** on 29 Jan 2012, 6:42 a.m.,*
in response to message #1 by Ángel Martin

Just occured to me that I should make a couple of additional remarks:

1. HEXEDIT on the HEPAX will only work while you stay on Bank'1, for obvious reasons

2. DISASM on the hepax will show the second bank code, as this is where the currently excecuting code resides.

On the DISASM patch, there is a simpler alternative to Monte´s solution. The FOCAL program below does all three patches for you, assuming the HEPAX ROM is plugged on page A and also using the same CL sRAM addresses as in Monte´s document.

```
01 LBL "HPXPTCH"
02 "HEPX"
03 PLUG2L
04 "030>83F"
05 AVIEW
06 YMCPY
```

07 "83F08D-0000" - patches the DISASM glitch
08 YPOKE
09 "8040AC-883F" - maps the patched bank'4 to the MMU
10 YPOKE
11 "02D<83E"
12 AVIEW
13 YMCPY
14 "83E12F-0033" - patches the self-DISASM limitation
15 YPOKE
16 "83E474-010B" - patches the self-HEXEDIT limitation
17 YPOKE
18 "8040A0-883E" - maps the patched bank'1 to the MMU
19 YPOKE
20 "DONE"
21 AVIEW
22 END

Enjoy, 'AM

Edited: 29 Jan 2012, 6:54 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s complex matrix functions

*Message #1 Posted by **Ed Wright** on 28 Jan 2012, 9:42 p.m.*

Does WP34s support determinant and inverse of matrices with complex elements? I know how to do it on the 42S, but not on the WP34s.

Re: WP34s complex matrix functions

*Message #2 Posted by **Paul Dale** on 28 Jan 2012, 9:46 p.m.,*
in response to message #1 by Ed Wright

There is a very good reason you don't know how to do this: the 34S doesn't support complex matrices. Currently, this simply isn't possible -- there is no distinction between real numbers and complex numbers (unlike on the 42s and the RPL devices).

The trick used on the 15c is applicable however, although no special support is present to do the necessary conversions.

- Pauli

Re: WP34s complex matrix functions

*Message #3 Posted by **Ed Wright** on 29 Jan 2012, 10:26 a.m.,*
in response to message #2 by Paul Dale

Thank you!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI Speak and Spell History article - good reading -- enjoy

*Message #1 Posted by **gene wright** on 28 Jan 2012, 4:42 p.m.*

Speak and Spell History

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

new convert?

*Message #1 Posted by **db (martinez, ca.)** on 28 Jan 2012, 4:05 p.m.*

Having bought from Datamath, i'm on Joerg's mailing list. Here's two quotes from this weeks ebay advertisement:

referring to the Corvus 500: "perfect. RPN!"

and "Hewlett Packard HP-11C - Still the best!"

Has *Mr. T.I.* finally been won over?

Re: new convert?

*Message #2 Posted by **Mike Morrow** on 28 Jan 2012, 10:11 p.m.,*
in response to message #1 by db (martinez, ca.)

Not if he classifies the HP-11C as "the best"! I'm not aware of *any* quality of the HP-11C that comes close to being "the best", even if the competition is limited to HP products.

Re: new convert?

*Message #3 Posted by **db (martinez, ca.)** on 28 Jan 2012, 11:10 p.m.,*
in response to message #2 by Mike Morrow

Well, being my first hp doesn't make it the best. You're right in that being equal to the best battery life is not THE best battery life. Having the same high level of protection from dust, liquids, and esd as any other voyager doesn't make it the best either. That it is in the class of hp with the least battery/battery bleeding/battery door/memory lost related (stupid design) problems doesn't make it the only one in that desirable group.

Still; if i was going to be trapped on a desert island for 17 years then an 11c with new batteries would be my *second* choice for a calculator.

Re: new convert?

*Message #4 Posted by **Mike Morrow** on 28 Jan 2012, 11:41 p.m.,*
in response to message #3 by db (martinez, ca.)

If I had a way to charge AAA-cells, the HP 50g would be my choice even though I don't like its RPL or its size. If no electrical resupply was possible, then I'd take an HP-42S, followed rather distantly by a real HP-15C (not LE!!). The HP-11C is far from qualifying as "the best" (in the true since of the term) in any specific detail, and even more removed when an overall evaluation is made.

Re: new convert?

*Message #5 Posted by **uhmgawa** on 29 Jan 2012, 3:27 a.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> The HP-11C is far from qualifying as "the best" (in the true since of the term) in any specific detail..

AFAIK only one slight but measurable advantage exists for the 11c relative to the 15c as the 11/12/16c only contain one ram/rom/display device vs. two present in the 15c. When the NUT is active and generating bus clocks the additional R2D2 adds ~0.37mA to the dynamic current consumption of the system. This is only significant when the NUT is active due to a lengthy native operation or executing a user program. However in typical usage this is likely buried in the measurement noise.

Re: new convert?

*Message #6 Posted by **Joerg Woerner** on 28 Jan 2012, 11:36 p.m.,*
in response to message #1 by db (martinez, ca.)

Dennis,

The HP-11C has at least a much better keyboard than the HP-16C LE ;-))

The Corvus 500 has such a crisp and snappy (perfect) keyboard and great (HP) display.

BUT: Did you notice that I offer both of them CHEAPER than my TI-59???

Cheers, Joerg

BTW: The best of this week's calculators is for sure the Panasonic 850. Go for it. 40 years old and still new.

Re: new convert?

*Message #7 Posted by **db (martinez, ca.)** on 30 Jan 2012, 12:46 a.m.,*
in response to message #6 by Joerg Woerner

> Quote:
>
> I offer both of them CHEAPER than my TI-59

so; since almost every corvus and 11c ever made that hasn't been closed up in some surveyors tailgate is still operating, good ones aren't *that* rare. i'll guess that your expensive 59 is one of the few not crippled by battery leakage directly onto the pcb, bad keys, or card reader issues. some people liked the traverse program in the 58/59 rom more than the 65/67 or even the 41 because it stored points. the 3rd party roms and kirber's rewrite of the hp rom using extended for storage took care of that TI advantage.

if that 850 is as valuable as you say, i may auction off mine next. i never use it. dam thing is missing the enter key. ;-)

Re: new convert?

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 1 Feb 2012, 9:31 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:

> I'll guess that your expensive 59 is one of the few not crippled by battery leakage directly onto the pcb,...

Allowing battery leakage directly onto the pcb must have been considered to be a good idea at the time. H-P incorporated that feature into the HP-41.

Re: new convert?

*Message #9 Posted by **Gerson W. Barbosa** on 1 Feb 2012, 10:34 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

> Quote:
>
> H-P incorporated that feature into the HP-41.

Into the HP-48 & 49 also. That's how I've lost one HP-48S and one HP-49G.

Re: new convert?

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 1 Feb 2012, 10:46 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Into the HP-48 & 49 also. That's how I've lost one HP-48S and one HP-49G.

What is really curious about this is that earlier models show that both HP and TI knew better at one time.

Re: new convert?

*Message #11 Posted by **Michael de Estrada** on 1 Feb 2012, 9:58 p.m.,*
in response to message #6 by Joerg Woerner

> Quote:
>
> The Corvus 500 has such a crisp and snappy (perfect) keyboard and great (HP) display.

I own a very minty Corvus 500, and while the keyboard is certainly clicky, I would not put it in the same league as the better HP models of the day. The snappyness is excessive, obnoxious and noisy to the point that I would probably be removed from a library were I to use it there. Much better is the keyboard on the Omron 12SR, and that green VFD display is positively dreamy.

O,T, Panasonic Power Supplies

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 1 Feb 2012, 10:55 p.m.,*
in response to message #6 by Joerg Woerner

> Quote:
>
> The best of this week's calculators is for sure the Panasonic 850. Go for it. 40 years old and still new.

I have an 850 and two 883's including the specified power supplies. The 850 specifies the JL-022 power supply. The 883 specifies the JL-026 power supply. The power specifications are the same. The JL-022 has a red indicator light in the lower right hand corner. The JL-026's do not have the indicator light. Are these chargers interchangeable?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sandbox ROM vs Childish Prank

*Message #1 Posted by **Howard Owen** on 28 Jan 2012, 3:35 p.m.*

On the HP41 Facebook group, a member posted the ol' SF 11 turn off trick. I recalled another prank along the same lines:

```
01 SF 11
02 OFF
03 'MEMORY LOST
04 AVIEW
```

I keyed this into my HP41CL and it failed, much to my surprise. It turns out the Sandbox ROM startup banner interferes with the AVIEW somehow. I tried it on i41CX and had the same result with the Sandbox ROM installed. Taking it out made it run like I expected.

I don't think Ángel should worry. Given what I'm trying to do here, it's hard to call this a bug. :)

Re: Sandbox ROM vs Childish Prank

*Message #2 Posted by **Ángel Martin** on 29 Jan 2012, 3:03 a.m.,*
in response to message #1 by Howard Owen

Howard, you must be the only SandBox user left in the world ! Sorry it ruined your prank demo :-)

Yes its greetings banner does not yield to the other modules plugged after it, as back then (2002 if memory serves) I knew little about other ways to implement that. The name "SandBox" says it all..

I can of course change this now but it's hardly worth the effort. All other modules after it (SandMATH, 41Z, TOOLBOX, etc, etc) use "approved" calls that hand the execution back on to the OS after the code in the polling points is done - creating buffers, assigning keys, etc.

Best example is the SECURE functions in the CL_Utils module, which allows for user prompts *during* that phase, and yet it returns happily to the OS - assuming the right password is entered.

Best, 'AM

Re: Sandbox ROM vs Childish Prank

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 29 Jan 2012, 5:55 a.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> Howard, you must be the only SandBox user left in the world !

Ángel, Howard is not alone! ;)

I have it burnt into Clonix, and a couple of instances of V41, if memory serves... fond memories, maybe.
Thanks for it, of course.
Massimo

Re: Sandbox ROM vs Childish Prank

*Message #4 Posted by **Ángel Martin** on 29 Jan 2012, 6:16 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

ok, so ¨by popular demand¨ (hey two users and counting!!! :)) I´ll redo the splash code on the SandBox... give me a few days while I dig out the archaeological construct.. should be fun to confront myself with the early sins of my MCODE days - definitely more benign than today´s!

Edited: 29 Jan 2012, 6:16 a.m.

Re: Sandbox ROM vs Childish Prank

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 29 Jan 2012, 8:04 a.m.,*
in response to message #4 by Ángel Martin

> Quote:
>
> ok, so ¨by popular demand¨ (hey two users and counting!!! :))

Ahahah... :D
Thank you if you want to venture in this! Actually mine was not a change request but an endorsement! ;)

Greetings,
Massimo

Edited: 29 Jan 2012, 8:05 a.m.

Re: Sandbox ROM vs Childish Prank

*Message #6 Posted by **Ángel Martin** on 29 Jan 2012, 4:04 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

Well well, it looks like the the needed changes weren´t that difficult - see below for the required patch, involving just patching 5 bytes at address pFE0 to pFE4:

```
BFE0    320     DSPTOG  display ON
BFE1    391     PORT DEP:
BFE2    08C     XQ
BFE3    3DB     ->BBDB  [WAIT&SEE]
BFE4    320     DSPTOG  display OFF
```

Since it uses HalfNut lower case characters it won´t be very descriptive on the CL, specially if you have it in TURBO50 startup.

Best, ÁM.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 printer interface question. (To the M-code gurus out there)

*Message #1 Posted by **Diego Diaz** on 28 Jan 2012, 3:15 p.m.*

Hi all,

I've read almost every line of info regarding HP-41 <> PRINTER interface.

Still a (great) doubt remaining; quoting William Doug Wilder:

"It makes me wonder how the carry bit gets set, what is the hardware sequence that sets carry?"

So far I've been unable to figure out how instructions h'003, h'043 & h'083 handle the carry flag *into* NUT CPU.

These are instructions decoded and executed by the Peripheral chip, issued right after the SELP 9 instruction.

Any comment will be much appreciated.

Thanks for your attention

Diego

Re: HP-41 printer interface question. (To the M-code gurus out there)

*Message #2 Posted by **Eric Smith** on 29 Jan 2012, 4:40 a.m.,*
in response to message #1 by Diego Diaz

For the flag tests of the "intelligent peripheral" chips, the peripheral puts the flag value onto the ISA line during bit time 0. The CPU copies that to the carry flag.

This is for any instruction of the form hexadecimal x03, x43, x83, or xc3 (x being 0, 1, 2, or 3), in a sequence following a peripheral select instruction (x24, x64,xa4, xe4). It does not apply to the "normal" x03, x43, x83, xc3 instructions, which are jump instructions.

Re: HP-41 printer interface question. (To the M-code gurus out there)

*Message #3 Posted by **Diego Diaz** on 29 Jan 2012, 12:18 p.m.,*
in response to message #2 by Eric Smith

Hi Eric,

Thanks a lot for your reply... :-) now back to work!

Cheers.

Diego

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

NoVRAM-M and NoV-32-M

*Message #1 Posted by **cgh** on 28 Jan 2012, 12:50 p.m.*

Hi,

I delievered on TOS a modifed code for the NoVRAM and NoV-32 built by Diego Diaz. This is the **-M** extension.

The aim is to use the 6 pages ROM and 4 or 8 pages RAM at almost the same time, with a dynamic configuration. Like I do not like very much HEPAX, I was finding a solution to test WWRamBox and ES-MLDL images.

I also introduced based on the first work of Diego a feature to disable the RAM read at module plug-in, but keep the write. This is useful to correct or erase a bad RAM page without loosing the others and without flashing the whole module.

Like this code is not handled by the ClonixWinCfg or ClonixCfg tools, please, read the PDF included to learn how to install them. Do not hesitate to contact me if you got trouble.

This code is NOT currently confirmed and approved by Diego but I did not run any problem while using it for one month.

I only tested these two codes (NoVRAM-M and NoV-32-M) in a NoV-32 module, but I believe that NoVRAM-M will run on a NoVRAM.

NOTE: **I am not responsible for any damage on the modules, accessories or calculator which may result when using the code.**

Thanks to Diego Diaz who has developpend and built the Clonix and NoV* module.

Enjoy,

Christophe

Edited: 28 Jan 2012, 12:56 p.m.

Re: NoVRAM-M and NoV-32-M

*Message #2 Posted by **Diego Diaz** on 28 Jan 2012, 4:47 p.m.,*
in response to message #1 by cgh

Hi Christophe, all,

Although I've not had the time for a throughout test, I'm positive that your mods won't hurt any module or calculator... ;-)

I'm also glad to see NoV's users offering other alternatives to the community based on my projects.

Keep up the good job and... enjoy it!

Cheers.

Re: NoVRAM-M and NoV-32-M

*Message #3 Posted by **cgh** on 28 Jan 2012, 6:14 p.m.,*
in response to message #2 by Diego Diaz

Hi Diego, all,

I am happy to ear that. This is due to a question asked by someone I gave the demonstration.

"Is there any risks to damage my calculator by using this module (NoV-32-M) ?"

Feel free to send me all remarks you may have.

Cheers,

Christophe

Edited: 28 Jan 2012, 6:15 p.m.

Re: NoVRAM-M and NoV-32-M

*Message #4 Posted by **Ángel Martin** on 29 Jan 2012, 3:17 a.m.,*
in response to message #1 by cgh

I also think this is good news, adds versatility to the NoVRAM´s platform (Diego´s brainchild) and keeps the 41 alive & kicking.

For sure it´s great if you don´t like the HEPAX or use it, but in your readme file there´s a couple of opening statements that I don´t think are accurate.

1.- the usage of page 6 is only done when there´s no printer, so no conflict will ever occur.

2.- despite having 4 pages they´re bank-switched, so the actual ¨footprint¨ is just one - albeit of course the four blocks need to be burned on the NoVRAM.

3.' Yes XF/XFA are redundant to a CX user, but remember that back then there was a huge instaled base using C´s and CV´s. Besides HEPAX/HEPAXA were all new, and the multi-function technique they invented broke the "FAT barrier". That was innovation - like your new application here also is!

Thanks for sharing, I´ll look into it as it deserves when time permits - but I´m an unconditional HEPAX fan :=)

Best, ÁM

Edited: 29 Jan 2012, 5:11 p.m.

Re: NoVRAM-M and NoV-32-M

*Message #5 Posted by **Richard Wagoner** on 1 Feb 2012, 12:48 p.m.,*
in response to message #1 by cgh

Christophe - As as new user i gotta ask about TOS. I know it's a reference to another site, but what site??

Geez it's not Voldemort....is it....??

Please point me to it.

Thanks,

Rick (the new guy)

Re: NoVRAM-M and NoV-32-M

*Message #6 Posted by **Marcus von Cube, Germany** on 1 Feb 2012, 1:39 p.m.,*
in response to message #5 by Richard Wagoner

It *is* Voldemort. ;-)

The site has an ORG domain and deals with one of the most famous HP calculators ever. It had a 14 segment LCD display if that helps.

Re: NoVRAM-M and NoV-32-M

*Message #7 Posted by **Richard Wagoner** on 1 Feb 2012, 5:50 p.m.,*
in response to message #6 by Marcus von Cube, Germany

I just had to dig a bit further.....thanks for that!

Rick

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP raises MSRP on 15C LE

*Message #1 Posted by **Michael de Estrada** on 28 Jan 2012, 12:13 p.m.*

Today I went to the HP Home & Home Office webstore, and observed that HP has raised the MSRP on the HP 15C LE from $99.99 to $179.99 ! I find it interesting that it's close to the same price currently listed by Samson Cables via eB@y. Given that they show it as being out of stock, I wonder if they are just signaling the secondary market that it is ok to charge more for it, since they will probably no longer be selling them directly. Well, so much to the idea of lowering the price. :<(

Edited: 28 Jan 2012, 12:24 p.m.

Re: HP raises MSRP on 15C LE

*Message #2 Posted by **Michel lahcem** on 28 Jan 2012, 12:56 p.m.,*
in response to message #1 by Michael de Estrada

I've just bought a pair in France this week. Price for one piece was less than 100€ with shipping. Strange that it costs more in the US than in Europe.

Re: HP raises MSRP on 15C LE

*Message #3 Posted by **Eric Rechlin** on 28 Jan 2012, 12:58 p.m.,*
in response to message #1 by Michael de Estrada

I should be getting them in stock soon -- I have six 40-pound boxes scheduled for delivery next week!

Unfortunately, the price has indeed gone up at wholesale, and shipping costs have gone up, too. My supplier is not honoring the pre-order price, either, so I have to pay the new price for all of the calculators I ordered last fall.

This means that for the pre-orders I took last year that I will only now be able to ship, I will be losing an average of $10 per calculator (multiplied by the 90 calculators that were pre-ordered by my customers). Oh well, such is life.

Eric

Re: HP raises MSRP on 15C LE

*Message #4 Posted by **Michael de Estrada** on 28 Jan 2012, 1:43 p.m.,*
in response to message #3 by Eric Rechlin

Sorry to hear this. You are one of the few honest dealers out there, and now you are being punished for your honesty. I think the whole way this thing has played out really sucks, and ultimately reflects badly on HP for the short-sighted manner in which they have marketed this item.

Re: HP raises MSRP on 15C LE

*Message #5 Posted by **Jim Johnson** on 28 Jan 2012, 4:37 p.m.,*
in response to message #1 by Michael de Estrada

Seems to be profiteering by HP since the HP12c is still selling for $69.99. Both of these devices are ARM processor based. There's nothing uniquely different between the two since the display, keyboard and internals are essentially the same. This signals that HP has turned a very bad corner in their corporate direction leaving a legacy of recent poor management and bad marketing decisions.

Re: HP raises MSRP on 15C LE

*Message #6 Posted by **Mark Scheuern** on 29 Jan 2012, 8:32 a.m.,*
in response to message #1 by Michael de Estrada

Strangely, it's still listed as $99.99 in the HP Small and Medium Business Store. I placed my order there on January 19 and it's apparently in limbo, though, so who knows?

Re: HP raises MSRP on 15C LE

*Message #7 Posted by **Michael de Estrada** on 29 Jan 2012, 10:24 a.m.,*
in response to message #6 by Mark Scheuern

The S&MB store accepts orders even when it is not in stock. It can take weeks, even months sometimes to receive your order.

Edited: 29 Jan 2012, 10:26 a.m.

Re: HP raises MSRP on 15C LE

*Message #8 Posted by **Mark Scheuern** on 29 Jan 2012, 10:26 a.m.,*
in response to message #7 by Michael de Estrada

No, that's what makes me wonder. It was (and still is, I think) listed as in stock but it's been ten days now. It shows as ordered but not yet shipped. I suppose I should give them a call... .

Re: HP raises MSRP on 15C LE

*Message #9 Posted by **Mark Scheuern** on 29 Jan 2012, 10:28 a.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> The S&MB store accepts orders even when it is not in stock. It can take weeks, even months sometimes to receive your order.

Ah, thanks. Well I suppose I'll just let it stand and (I hope) get it eventually for what now seems to be a pretty decent price.

Re: HP raises MSRP on 15C LE

*Message #10 Posted by **Michael de Estrada** on 29 Jan 2012, 10:30 a.m.,*
in response to message #9 by Mark Scheuern

At this point you don't have any other options so good luck.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Android HP67 - v1.1 posted

*Message #1 Posted by **MikeO** on 28 Jan 2012, 1:38 a.m.*

I've posted version 1.1.

You can find it by searching the market for 'hp67'. I've added code which dynamically scales the button areas based on the screen density and size.

Not sure how the tablets will handle it - I think much better now - but I may need to produce some higher resolution graphics for those. In the meantime, checkout the tip from Bill regarding the 'zoom' option when running the app on tablets.

Thanks for the feedback. Hope you like this application!

-Mike

Re: Android HP67 - v1.1 posted

*Message #2 Posted by **Alexander Oestert** on 28 Jan 2012, 2:11 a.m.,*
in response to message #1 by MikeO

The LED display is still way too small but at the right position. The touch sensitive area is slightly above each corresponding key: in the first row it is approximately 1/3 of the key height too high, that distance rises the lower one gets and is over one whole key height in the last row on my android tablet.

Re: Android HP67 - v1.1 posted

*Message #3 Posted by **MikeO** on 28 Jan 2012, 12:45 p.m.,*
in response to message #2 by Alexander Oestert

Yes. I think I'm going to need to load up Honeycomb and/or Ice cream sandwich and make a tablet version of this. It's too bad that the android team didn't think of including a (effective) mode in the tablets that would support applications designed for smaller format devices.

;)]

Edited: 28 Jan 2012, 12:56 p.m.

Re: Android HP67 - v1.1 posted

*Message #4 Posted by **Bill (Smithville, NJ)** on 28 Jan 2012, 7:41 a.m.,*
in response to message #1 by MikeO

Hi Mike,

Just tested the latest. Somewhat better but still has issues with pressing the keys.

On my Droid X Phone, I need to press the keys slightly above the key. It's close, but I have to really concentrate on where I am touching.

On my Acer A500 Tablet, the keypress is quite a bit above the key. I'm thinking that zooming it up, accentuates the amount above the key.

You will diffintely want to create a higher resolution image for the tablets. It's like an out of focus photo.

You're getting close. Can't wait to see the next iteration.

Thanks,

Bill

Re: Android HP67 - v1.1 posted

*Message #5 Posted by **MikeO** on 28 Jan 2012, 12:45 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

Hi Bill, yes. see above post re: tablet version.

As for the Droid X, not sure why it's behaving differently than the other phones. On paper, it's 854x480 - my EVO 4G is 800x480. Shouldn't be that different.

I'll have to add some metrics reporting to the application. I'm thinking it would be cool to generate a "data card" in the programs directory so that users could send it to me (or even examine the numbers in the registers) - but I'll probably just add a dialog that dumps the relevant metrics to the screen.

Edited: 28 Jan 2012, 1:16 p.m.

Re: Android HP67 - v1.1 posted

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 28 Jan 2012, 8:02 a.m.,*
in response to message #1 by MikeO

Success on my Galaxy Note @1280*800: every key is right now.

Thank you very much,
Massimo

Re: Android HP67 - v1.1 posted

*Message #7 Posted by **Lode** on 28 Jan 2012, 8:25 a.m.,*
in response to message #1 by MikeO

Looks good! Is there an option to turn off the vibration if you press a key though? I can't find such option, but would like to turn it off. Thanks!

Re: Android HP67 - v1.1 posted

*Message #8 Posted by **MikeO** on 28 Jan 2012, 12:42 p.m.,*
in response to message #7 by Lode

I'll add that as an option. I found personally, without the tactile response, I was often unsure if a key was actually pressed or not.

Re: Android HP67 - v1.1 posted

*Message #9 Posted by **M. Joury** on 29 Jan 2012, 10:19 p.m.,*
in response to message #1 by MikeO

Still can't load it on my 2.3.5 device. Has anyone else managed to load this on an Android 2.3.5 or 2.3.4 device?

Cheers,

-Marwan

Re: Android HP67 - v1.1 posted

*Message #10 Posted by **Vincent Weber** on 30 Jan 2012, 3:47 a.m.,*
in response to message #9 by M. Joury

Hi Marwan,

I had no problem loading it on my Samsung Galaxy Wifi 4.0 (YP-GP1, not a phone but a PMP tablet) running Gingerbread 2.3.5 then upgraded to 2.3.6.

Actually I'm quite surprise you can't load it. Very few devices will have 2.3.7, I think it was a very specific Gingerbread version to run Google Wallet on the Nexus. So if the 2.3.7 requirement was strictly enforced, that would be as good as saying that no Gingerbread device can run it, and that you need Honeycomb (for tablets only) or Ice Cream Sandwich (very few phones upgraded to it at the moment), so, it would be almost as good as saying "for tablets only, no phones". You should be able to see it on any 2.3.x device..... Strange how Aandroid can be sometimes !

Cheers, Vincent

Re: Android HP67 - v1.1 posted

*Message #11 Posted by **M. Joury** on 30 Jan 2012, 10:08 a.m.,*
in response to message #10 by Vincent Weber

Hi Vincent,

That is truly interesting. I am using the exact same device running 2.3.5 and I can't find it through the marketplace directly. If I access it through a web search I can find it but I am told that it is not compatible with my machine. Very odd. Off topic: How did you upgrade to 2.3.6?

I'll try again this morning.

Thanks!

-Marwan

Re: Android HP67 - v1.1 posted

*Message #12 Posted by **Vincent Weber** on 30 Jan 2012, 10:49 a.m.,*
in response to message #11 by M. Joury

Hi Marwan,

Amazing ! I can only think that you are running a US version (are you ?) while i'm using a French

version, and that makes a difference for the Market despite running the same version.

As for upgrading, that was painful. I was running Froyo, I decided that HP-67 emulator was a good reason to upgrade to Gingerbread... so I tried with Kies, which is a real piece of crap, could never get anything out of it. I managed to find a 2.3.5 rom and upgrade via Odin, which was a breezed a worked perfectly first time.... only to realize that 2.3.5 on the GB-YP1 had a major bug: plugging in earphones would crash the device, and that was fixed in 2.3.6 !! I tried the whole day to find a 2.3.6 rom, with no succes; i was discouraged, then, playing the settings on my device I realize that OTA (Over The Air) was actually available on 2.3.5, unlike Froyo ! if you run 2.3.5, simply open the settings, "about device", the first entry is "software update" ! it worked perfectly to upgrade to 2.3.6, unlike stupid Kies.

Hope this helps, cheers,

Vincent

Re: Android HP67 - v1.1 posted

*Message #13 Posted by **M. Joury** on 30 Jan 2012, 1:27 p.m.,*
in response to message #12 by Vincent Weber

Hi Vincent,

Thanks for all the information. And yes, I am running a US version. I wonder if that is indeed the difference. Very strange of ot os but as far as I can tell that is the only difference between our machines.

Thanks again,

-Marwan

Edit: And there is another difference. Mine does not have the "Update" option under Setting->About device. Odder and odder...

Edited: 30 Jan 2012, 1:31 p.m.

Re: Android HP67 - v1.1 posted

*Message #14 Posted by **MikeO** on 30 Jan 2012, 7:37 p.m.,*
in response to message #13 by M. Joury

Yes. I see that the market lists 2.3.7, but I know that the target SDK version is 10. This is a setting in the application manifest which tells the market which version of SDK the application is targeting. I think the market simply lists out the latest 2.3 version.

The level 10 Android SDK should target any 2.3.x android version. That said, manufacturers are free to change the Android source - I'm wondering if this is part of the problem. An update may fix the problem.

Re: Android HP67 - v1.1 posted

*Message #15 Posted by **Thomas Okken** on 8 Feb 2012, 7:29 a.m.,*
in response to message #14 by MikeO

For what it's worth, I was able to install and run it under 2.3.3 (CyanogenMod 7.0.3 on HTC Aria).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is a new model of the HP-50G available???

*Message #1 Posted by **Bill Zimmerly** on 27 Jan 2012, 11:09 p.m.*

I saw this on Facebook a few minutes ago. The guy who made the posting (in Spanish) said that it had a blue casing and a color display! Can we get a comment from any of the HP insiders? I'm quite excited about this if true as the 50G is my favourite calculator.

Re: Is a new model of the HP-50G available???

*Message #2 Posted by **gene wright** on 27 Jan 2012, 11:35 p.m.,*
in response to message #1 by Bill Zimmerly

blue casing as shown in the picture: Yes

Color display?: No

Re: Is a new model of the HP-50G available???

*Message #3 Posted by **Peter Murphy (Livermore)** on 27 Jan 2012, 11:38 p.m.,*
in response to message #2 by gene wright

Googling yields this:

HP 50g Blue Product no.: NW240AA#B17

Blue and White Colour Scheme

The Blue HP50g is back!

After some time without stocks, we have located several lots of this calculator model. Its lively colours are outstanding when compared with the professional but boring black. No more questions in class about whose is the calculator - the blue is yours!

Equal to the black model in everything but colour.

Only available in Spanish-Portuguese (starting guide - the computer as such is in english as the rest of HP50g)

http://www.thecalculatorstore.com/HP-50g-Blue

Re: Is a new model of the HP-50G available???

*Message #4 Posted by **Bill Zimmerly** on 27 Jan 2012, 11:48 p.m.,*
in response to message #3 by Peter Murphy (Livermore)

Thanks Guys! :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Resurrecting a shattered HP 19B
*Message #1 Posted by **Neil Hamilton (Ottawa)** on 27 Jan 2012, 9:09 p.m.*

The Casualty

I recently acquired a truly devastated HP 19B. When it arrived **every** heat stake in the lower section was shattered. The keyboard was lifting off the body to such an extent that the keys in the lower rows were in danger of falling out. This is in addition, the missing battery door. What a wretched life this poor machine must have had!

However, when I hooked it up to power, there was life! I had to pinch the body just below the display (and in several other places as well -- some photos show a big paper clip holding the bottom of the keyboard together -- though this was more to keep the keys from falling out) but it was most definitely capable of life!

I am sorry I did not think to take a photo of the *before* state...

The Method

Having read Geoff Quickfall's excellent thread back in June ("HP 28S: Shucking the Clamshell"), I covered the LCD with a block of blue Styrofoam and heated the upper and lower labels with a blow drier to remove them. As with Geoff's experience, I had *a few* heat stake heads come away with the label. As I discovered later, the ones that were left in their little wells were shattered also. In fact, the only ones which were intact were the ones above the battery area.

There are 2 sizes of heat stake used in this calculator. The majority are 2.4mm (3/32") while there are 6 which are 1.6mm (1/16"). These smaller ones are the 4 middle ones above the top row of keys and the 2 middle ones just below and to the right of the ENTER key (oops! I meant INPUT key). After taking out all the shattered remnants of the heat stake heads, I drilled through every one using a drill press to maintain alignment. I used 0.060" and 0.0935 (ie: 3/32") bits to ensure a good, tight fit for the replacement styrene rods.

The battery compartment heat stakes where shaved conventionally (if not a bit over enthusiastically) with a brad-point bit.

Any crud left over from the drilling operation had to be removed from the body cavity so the calculator had to be fully disassembled at this point. When taking the front shell off the chassis, most of the keys fell out or *drifted* out of their assigned holes. The thin rubber membrane did essentially nothing to hold them in place.

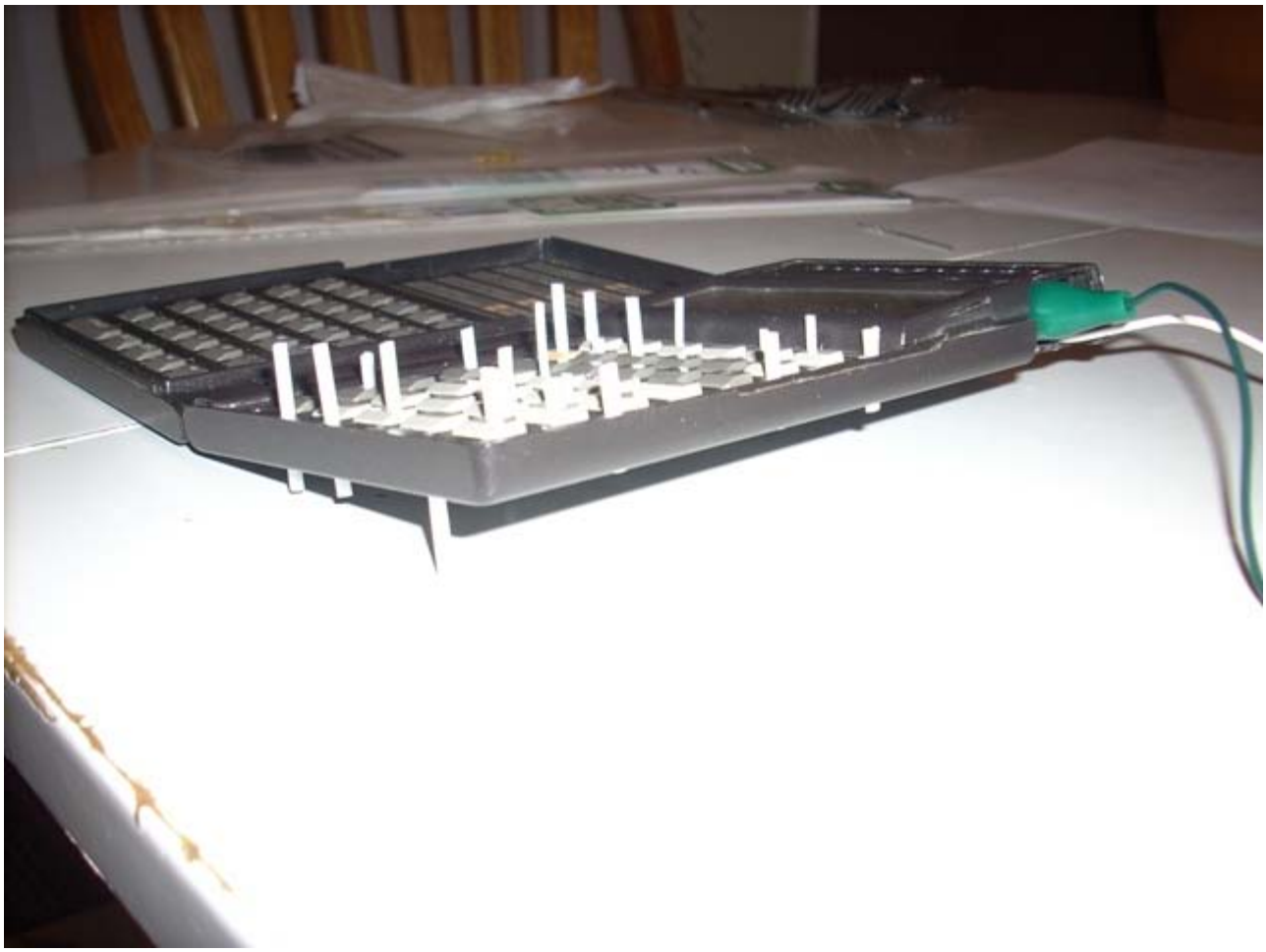
For obvious reasons, the keyboard wants to be key-side down when the reassembly takes place. However, it turns out to be a non-trivial exercise getting them back in and aligning all the keyboard sandwich layers together while trying to poke the styrene replacement rivets into place. As others have mentioned, my state of evolution has not yet advanced to having the required 3rd (or 4th) arm necessary for such a task. None the less, I persevered and repeated the task more than a few times before I finally got everything to stick in the right place when the 2 halves were joined.

It turned out that the *tight fit* for the styrene that I was hoping for was a little too tight. I had to ream each hole out by hand using the drill bits as tiny rasps. This did the trick and allowed the styrene rods to fit sufficiently well. (Note that, by mistake, I purchased 3/32" styrene tubing instead of rods. I don't think this made any structural difference but it would complicate matters if you wished to paint the back after you were done.)

With a minimal number of the styrene rods holding the keyboard (and keys!) in place, I was able to flip the calculator over and test the connectivity and integrity of the keyboard. All keys worked acceptably except that there was very little *snap*. I have some suspicion that I may have applied too much heat to the shell in order to remove the labels. This may have compromised the snap domes somewhat (only thing I can think of).

With the keyboard integrity proven, I inserted the remainder of the styrene rods.

With the still reasonably tight fit I had created for myself, I discovered that the easiest way to get the rods through was to feed the styrene in through the back and push the whole calculator down against the table to drive the rods up through the sandwich and out the keyboard side.



I had purchased a solvent cement that worked for both the styrene and the original ABS. This was a methylene chloride based solvent and due to its low viscosity was capable of wicking down between the tightly fitted styrene rods and the holes in the back of the calculator. I bonded both the back to the styrene rods and the battery compartment heat stakes as well -- since I drilled them a little too much in the first place!

Because of the solvent's low viscosity, I did a nasty job making sure it stayed on my tiny paint brush without dripping onto the back side of the calculator. (It drips pretty easily!!) Unfortunately (or fortunately?), none of my photos does my sloppy job justice.

I next trimmed the keyboard area rods down to just above the keyboard surface, compressed the keyboard, and melted the styrene with a soldering iron.

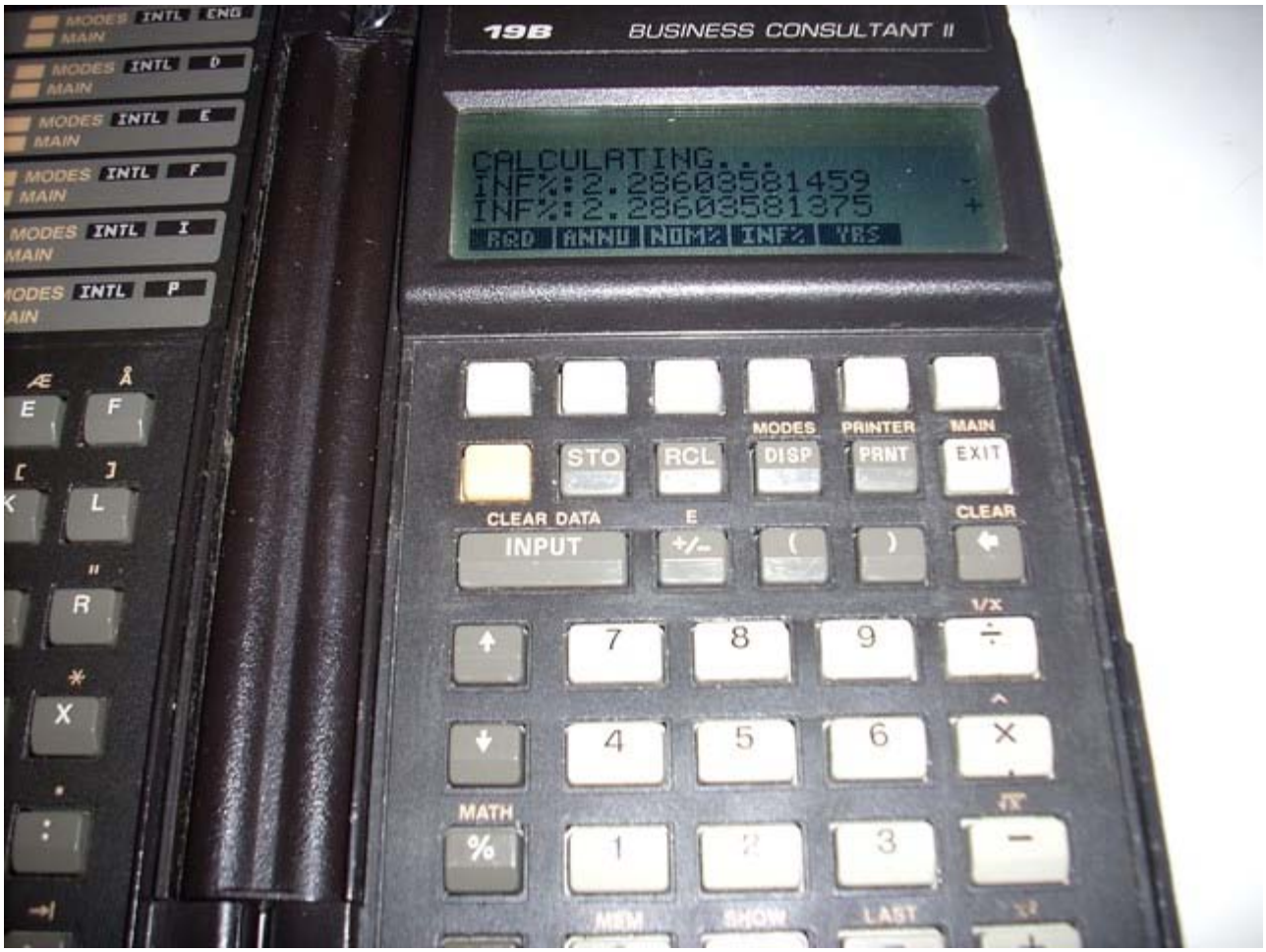
This left a final testing of the assembly, the replacement of the labels, and some work to get a suitable replacement for the battery door.

For the latter, I recalled seeing a link somewhere for a "replacement" Clamshell battery door. The following pictures show quite a reasonable, if not pretty solution to the issue.

Mine is made from an old PC expansion card bracket and is nowhere near as well made as the one depicted in the links but will do until I improve my metal bashing skills.

technical eraser
gommes tout usage

It will not win any prizes for beauty but it is now functional and ready for action once again!



What I Would Do Differently

- I would use a bit less heat to remove the labels as I think this might have softened the plastic snap domes a bit.

- I would look into cutting down the battery springs somewhat before I reassembled everything so they wouldn't impart so much force to the battery door area through the batteries.

- I would buy styrene rods instead of tubes in case I wanted to paint the back afterward.

- I might not have bought a 19B when it was a 19BII I was really looking for. Now I know the difference in the names! (D'oh! Where's the RPN?)

... "shoulders of giants" and all that!

Re: Resurrecting a shattered HP 19B

*Message #2 Posted by **hpnut** on 28 Jan 2012, 7:33 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Hi Neil,

thanks for sharing your repair job :-)

Re: Resurrecting a shattered HP 19B

*Message #3 Posted by **Ed Look** on 28 Jan 2012, 11:48 a.m.,*

in response to message #1 by Neil Hamilton (Ottawa)

Truly, a labor of love! And the results are incredibly good, especially when the calculator arrived in a "smashed" condition! May you enjoy your reclaimed calculator a long time and retain that good feeling that comes with bringing it back yourself.

Re: Resurrecting a shattered HP 19B

*Message #4 Posted by **BobVA** on 28 Jan 2012, 12:28 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Thanks for documenting your work - great job!

This should be an article.

Regards, Bob

Re: Resurrecting a shattered HP 19B

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 30 Jan 2012, 2:18 p.m.,*
in response to message #4 by BobVA

OK. It is now an article...

Re: Resurrecting a shattered HP 19B

*Message #6 Posted by **bill platt** on 28 Jan 2012, 7:11 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Definitely an article.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE firmware and memory questions

*Message #1 Posted by **Lode** on 27 Jan 2012, 3:13 p.m.*

Hi,

I've got some questions about the HP 15C LE.

Would the HP 15C LE work exactly like a HP 12C LE (except for the labels on the buttons) if you put the firmware of the HP 12C LE on it? Or are there some internal differences?

Since it's an ARM CPU emulating a NUT CPU (afaik), which firmware can you change: only the NUT firmware, or can you change the whole firmware including the NUT emulator part, and e.g. create a firmware that just uses the ARM CPU directly to do stuff?

Does it really only have as little memory as the HP 15C had, or does it in fact have a lot more memory in it, for example to run the emulator, but it's just not accessible since the emulated HP 15C firmware isn't aware of its exixtance? Does a chip of 500 bytes of memory (or how much was it?) even exist today? How much physical memory is in there?

How large is the chance that there'll be released a bugfixed version of the HP 15C LE firmware, e.g. fixing the weird screen flashes that happen if you hold down "SST", the high battery drain when holding down a button, etc...?

Thanks a lot!

Re: HP 15C LE firmware and memory questions

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Jan 2012, 4:20 p.m.,*
in response to message #1 by Lode

Last year one of the forum members purchased a HP-15C LE which was incorrectly loaded with HP-12C firmware at the factory although working fine (as a HP-12C). The person noticed the problem when he tried to take a square root of a number, instead he received the same number back (n button on the 12C). Here is the LINK.

Re: HP 15C LE firmware and memory questions

*Message #3 Posted by **Lode** on 27 Jan 2012, 7:18 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

What a shame this person sent it back! If HP never releases the firmware, it's rare and special since nobody can create it by flashing. If HP does release the firmware for flashing some day, then it's not special anymore but then it could be flashed to the correct one and nothing of value was lost (and it could still be rare due to the firmware version).

Re: HP 15C LE firmware and memory questions

*Message #4 Posted by **CAD_Jockey** on 30 Jan 2012, 10:47 a.m.,*

in response to message #3 by Lode

> Quote:
>
> What a shame this person sent it back! If HP never releases the firmware, it's rare and special since nobody can create it by flashing. If HP does release the firmware for flashing some day, then it's not special anymore but then it could be flashed to the correct one and nothing of value was lost (and it could still be rare due to the firmware version).

Actually, I still have it, tucked in a drawer.

Re: HP 15C LE firmware and memory questions

*Message #5 Posted by **Ethan Conner** on 27 Jan 2012, 4:23 p.m.,*
in response to message #1 by Lode

Go to youtube and search uhmgawa. Hp voyager KINOMI and Kinomi Voyager Development may interest you.

Re: HP 15C LE firmware and memory questions

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 5:28 p.m.,*
in response to message #1 by Lode

HP hasn't split the firmware in separate files so you could decide which ROM image you want to run on the emulator kernel. Instead you just get an image to download to the Atmel processor that is fully integrated. In fact, HP has adapted the emulator to the ROM it emulates for various (technical) regions. One result of this approach is that an older (power consuming) bug in the keyboard handler which had already been fixed for the 12C has crept into the 15C LE firmware.

The Chip, an AT91SAM7L128, has 128KB of flash memory, 2KB of battery backed RAM and 4KB of working memory that gets lost in certain power saving situations, i. e. most of the time. This has a few implications:

- You can only emulate systems with at most 2KB or RAM. All the voyagers fall in this category.

- Flash ROM is sufficient for all needs. I've not seen an image file but I assume, they are much shorter than 128KB.

The ROM of the 15C has not been patched to support more than the original 64 registers (448 bytes). It would have been possible but the emulation isn't designed for it. Some RAM is required to save the emulated CPU state and registers but the 2KB aren't nearly exhausted.

Re: HP 15C LE firmware and memory questions

*Message #7 Posted by **Lode** on 27 Jan 2012, 7:19 p.m.,*
in response to message #6 by Marcus von Cube, Germany

I really hope a bugfix version will be available some day!

Re: HP 15C LE firmware and memory questions

*Message #8 Posted by **Thomas Radtke** on 28 Jan 2012, 4:56 a.m.,*
in response to message #7 by Lode

> Quote:
>
> I really hope a bugfix version will be available some day!

Yes. This would likely mean 15C LE owners can turn a 12C+ into a 15C LE by exchanging keytops and firmware in case the LE dies. Too good to be true.

Re: HP 15C LE firmware and memory questions

*Message #9 Posted by **uhmgawa** on 28 Jan 2012, 9:10 a.m.,*
in response to message #1 by Lode

> Quote:
>
> I've got some questions about the HP 15C LE.
>
> Would the HP 15C LE work exactly like a HP 12C LE (except for the labels on the buttons) if you put the firmware of the HP 12C LE on it? Or are there some internal differences?

Fundamentally there should be no differences as AFAIK the SoC is generic Atmel issue. But this does raise an interesting point as it is possible a board layout difference exists between the 12c+ and 15c le, where a gpio etc.. is bonded to vdd/gnd differently between the two board builds. The firmware could then verify the model specific configuraton before agreeing to operate. However while I didn't find evidence of that for the 15c le voyager, it is possible to exist on a COB sam7 only detectable from a practical perspective by crawling into the unit with diagnostic firmware to poke around a bit. However given the reported case of the 15c le mis-flashed with 12c+ firmware, I'd hazard such a contingency doesn't exist.

Re: HP 15C LE firmware and memory questions

*Message #10 Posted by **Marcus von Cube, Germany** on 28 Jan 2012, 11:22 a.m.,*
in response to message #9 by uhmgawa

HP must have done something to this extent to distinguish between the 20b and 30b. If you load the 30b firmware (which is available through Tim) into a 20b it behaves exactly like a 20b without programmability.

Re: HP 15C LE firmware and memory questions

*Message #11 Posted by **uhmgawa** on 28 Jan 2012, 7:24 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> HP must have done something to this extent to distinguish between the 20b and 30b. If you load the 30b firmware (which is available through Tim) into a 20b it behaves exactly like a 20b without programmability.

So perhaps we have a race between last buy for the obsoleted die form of the at91sam7l128 and the product life for the 30b/20b. While I fully expect HP had the wherewithal to engage Atmel contractually for a supply of the die through the product life, the lqfp package in the 15c le sort of sticks out like a sore thumb. I suppose such a supply contract could have been limited to programs in place at the time it was executed. Just wondering whether we'll see a pcb layout change to accommodate a lqfp sam7 in a 20b/30b at some point.

One question I've had which I hope someone can answer is whether the 12c+ 30th Anniversary Edition uses the lqfp package or rather the considerably less inviting COB die.

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP 34S overlays

*Message #1 Posted by **Gerson W. Barbosa** on 27 Jan 2012, 2:00 p.m.*

Here are the overlays I've received from Eric, installed on an HP-20b with an old version 2 firmware and on an HP-30B, still not reflashed. Prior to the installation, I sprayed some varnish onto the second overlay, only a thin layer to give it an extra protection. Both look nice, but perhaps the glossy finish overlay would have been a better match to the original HP-20b faceplace.

Re: WP 34S overlays

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 2:52 p.m.,*
in response to message #1 by Gerson W. Barbosa

Now you need to refresh both devices because neither has a matching keyboard layout. :-)

Enjoy!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)
*Message #1 Posted by **deleted** on 27 Jan 2012, 6:51 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My HP 15C LE has just arrived! Wow!

*Message #1 Posted by **Antonio Maschio (Italy)** on 27 Jan 2012, 6:08 a.m.*

My HP15C-LE is in my hands. All keys work perfectly, with a pleasent click (not equal to the vintage one I've got, but hey, that's it!) and it IS faster, wow!

I'm gonna use it as my everyday calculator, along with a vintage HP11C.

Long live the Voyager series!

-- Antonio

Edited: 28 Jan 2012, 6:04 a.m. after one or more responses were posted

Re: My HP 15C LE has just arrived! Wow!

*Message #2 Posted by **Jeff Johnson** on 27 Jan 2012, 1:00 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Enjoy! Gotta love having a new toy!

Re: My HP 15C LE has just arrived! Wow!

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 27 Jan 2012, 4:08 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Also my unit was delivered today!
And a 12C AE, a 20B, a couple of 30B (one to be converted into WP34S) and other HP recent paraphernalia...

Let's enjoy a late Xmas! ;-)
Massimo

Re: My HP 15C LE has just arrived! Wow!

*Message #4 Posted by **bluesun08** on 27 Jan 2012, 6:09 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

I heard that on the HP 15c LE some keys can be faulty. Which keys are this?

Re: My HP 15C LE has just arrived! Wow!

*Message #5 Posted by **Paulo MO** on 27 Jan 2012, 6:44 p.m.,*
in response to message #4 by bluesun08

It might happen with any key (GSB, in my case, other keys in other cases). But that problem is hopefully taken care of, on the new batch. I don't think you need to worry at all, if you are buying one of the new european batch.

Cheers

Paulo

Re: My HP 15C LE has just arrived! Wow!

*Message #6 Posted by **Lode** on 27 Jan 2012, 7:20 p.m.,*
in response to message #5 by Paulo MO

Is it normal that the "f" and "g" keys rattle when you shake it? They all press fine.

Re: My HP 15C LE has just arrived! Wow!

*Message #7 Posted by **Paulo MO** on 27 Jan 2012, 7:47 p.m.,*
in response to message #6 by Lode

Yes. Those two keys are mounted differently from the others, and that creates the rattling (even though, depending on the moulding sequence, some calculators rattle more than others). You'll be fine. It's a great calculator.

Best

Paulo

Re: My HP 15C LE has just arrived! Wow!

*Message #8 Posted by **Brandon Poindexter** on 27 Jan 2012, 8:40 p.m.,*
in response to message #6 by Lode

Mine rattle as well.

It's a shame that they couldn't get this worked out at first, as when I use it on a solid surface, the F and G keys buzz a little as I type around. Would HP count this as a defect I were to ask for a replacement???

Re: My HP 15C LE has just arrived! Wow!

*Message #9 Posted by **db (martinez, ca.)** on 27 Jan 2012, 9:56 p.m.,*
in response to message #8 by Brandon Poindexter

it's not a fault, or a deficiency. it doesn't cause problems. they'd probably laugh at you.

now the way it eats batteries; that's a defect.

Re: My HP 15C LE has just arrived! Wow!

*Message #10 Posted by **Bruce Zastera** on 27 Jan 2012, 10:28 p.m.,*
in response to message #9 by db (martinez, ca.)

> Quote:
>
> it's not a fault, or a deficiency. it doesn't cause problems. they'd probably laugh at you.
>
> now the way it eats batteries; that's a defect.

Just how fast does it eat batteries?

Frankly, I wish they would actually bring back the HP15C rather than a cheap knockoff of their own product. If I just wanted the same functionality with a lousy keypad and rapidly depleting battery, I could use my iPhone. :)

Edited: 27 Jan 2012, 10:31 p.m.

Re: My HP 15C LE has just arrived! Wow!

*Message #11 Posted by **Antonio Maschio (Italy)** on 28 Jan 2012, 6:10 a.m.,*
in response to message #6 by Lode

Mine rattle as well, but I don't consider it a fault. It seems like they sound just as different keys, and they are indeed!

I experimented it a bit, and all worked well until now. Fast and well-responding.

I read about the mistakes in the manual, and they are all there!

HP, HP, two steps ahead and one backward! But I'm so happy for this little new beast that I can pass over it... ;-)

-- Antonio

Re: My HP 15C LE has just arrived! Wow!

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 28 Jan 2012, 8:18 a.m.,*
in response to message #11 by Antonio Maschio (Italy)

Mine has no rattling keys at all. :)
Now to turn a 30b into a 34s... then back to my beloved 41CL, I presume.

Massimo

Re: My HP 15C LE has just arrived! Wow!

*Message #13 Posted by **Marcus von Cube, Germany** on 28 Jan 2012, 8:56 a.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

Quote:

> Now to turn a 30b into a 34s... then back to my beloved 41CL, I presume.

I doubt the latter. ;-)

Re: My HP 15C LE has just arrived! Wow!

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 28 Jan 2012, 2:58 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Quote:

> I doubt the latter. ;-)

Eheheheh Marcus... :)))
We'll see: right now I have to put together all the pieces needed for the setup, then I'll try a flashing session.
But a love affair 32 years long is hard to break, or so I feel now.

Greetings,
Massimo

Re: My HP 15C LE has just arrived! Wow!

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 29 Jan 2012, 3:11 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> Quote:
> ----------
> Now to turn a 30b into a 34s... then back to my beloved 41CL, I presume.
> ----------
>
> I doubt the latter. ;-)

I must thank everybody who provided guides, tools and how-to's on flashing new firmware on 20B/30B.
Everything went really smooth in about 15 minutes (checking each step 3 times), without using the preferred environment: Windows 7 64bit, Prolific USB-RS232 cable, your modified MySamba program and 2344 firmware release.
I now have a new lightweight, extremely fast, easy to handle, inexpensive, replaceable scientific calculator.
I only miss the overlay that seems to be necessary to use it.

Thank you all: it's an impressive achievement!

Massimo

Re: My HP 15C LE has just arrived! Wow!

*Message #16 Posted by **Marcus von Cube, Germany** on 29 Jan 2012, 3:23 p.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

Eric's achievement with the overlay is priceless. Go for it!

Re: My HP 15C LE has just arrived! Wow!

*Message #17 Posted by **Massimo Gnerucci (Italy)** on 29 Jan 2012, 3:27 p.m.,*
in response to message #16 by Marcus von Cube, Germany

Just did it! ;-)

[Return to Index | Top of Index]

My HP 15C LE has just arrived! Wow!

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Vintage HP15C Key Clicks but Doesn't Register

*Message #1 Posted by **Bruce Zastera** on 27 Jan 2012, 1:07 a.m.*

Sometimes if I press the "1" key too lightly on my vintage HP15C, it clicks but doesn't register the number, but it will register it if I press a little harder. The other keys all register when they click. Anyone know of a fix other than trying to replace the keypad?

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #2 Posted by **David Griffith** on 27 Jan 2012, 1:15 a.m.,*
in response to message #1 by Bruce Zastera

Maybe there's crud underneath the key interfering with the contacts.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #3 Posted by **Bruce Zastera** on 27 Jan 2012, 2:06 a.m.,*
in response to message #2 by David Griffith

> Quote:
>
> Maybe there's crud underneath the key interfering with the contacts.

If that's possible, that's likely the problem since I dug out massive amounts of crud with a dental pick from around the keys. From pictures I thought that the contacts were sealed. My pc board appears to be held on with a lot of heat stakes, so I guess I can't make progress without a lot of effort which could cause more problems than it would solve.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #4 Posted by **bill platt** on 27 Jan 2012, 3:55 a.m.,*
in response to message #3 by Bruce Zastera

Search the articles forum and also this forum for stuff on cleaning keyboards. ook fr Randy Sloyer's posts. Also for Geoff Quickfall's. Sometimes you can actually soak the whole machine in water! (With batteries out).

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #5 Posted by **Bruce Zastera** on 27 Jan 2012, 3:54 a.m.,*
in response to message #1 by Bruce Zastera

I may have fixed it. I found this post by David Smith:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv010.cgi?read=26479

I put a drop of 91% isopropyl alcohol in the hole and scraped with a few strands of wire like he says. That didn't fix it, but then I used a dental pick. It took a couple of tries, but the "1" key seems to be working consistently now, at least for the time being. It still feels a bit softer with less of a click than the other keys. The "4" is a bit soft too, but not causing a problem. At one point while I was screwing around the ON key stopped working. Not sure what that was about, but it all seems OK now. Never in a million years would I have thought of this or thought that would ever work. Thanks David.

Speaking of keys, what is the status with the key problems on the LE? Will the next run have any fixes? I saw a youtube video where the f and g keys were very loose. It looked unacceptable to me, and I have one on back order.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #6 Posted by **geoff quickfall** on 27 Jan 2012, 3:59 a.m.,*
in response to message #5 by Bruce Zastera

i was just typing the explanation when you posted. The spongy feel may vanish as the alcohol evaporates.

A better then alcohol result will occur if you purchase some DeOxit gold and introduce a tiny amount of it to the hole. Use a soft wire next time and not a dental pick as it can puncture the dome used to create the click and positive contact.

Cheers, Geoff

try with the gold first then step up the cleaning with the wires.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #7 Posted by **Kees Bouw** on 27 Jan 2012, 3:34 p.m.,*
in response to message #6 by geoff quickfall

> Quote:
>
> A better then alcohol result will occur if you purchase some DeOxit gold and introduce a tiny amount of it to the hole.

There are many types of DeOxit Gold, for example on www.deoxit.com. Can you be more specific about the exact product to use?

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #8 Posted by **Geoff quickfall** on 28 Jan 2012, 2:32 p.m.,*
in response to message #7 by Kees Bouw

Small tube, have to look for it. The small tube is excellent as you can trim the tip flat, place it over the hole and gently monitor the amount you introduce.

The key will feel soft depending on how much you insert but that will diassappear over time.

It is wonderful on hp 41 bouncy keys too.

Geoff

Edited: 28 Jan 2012, 2:33 p.m.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #9 Posted by **Bruce Zastera** on 29 Jan 2012, 11:59 a.m.,*
in response to message #8 by Geoff quickfall

> Quote:
>
> Small tube, have to look for it. The small tube is excellent as you can trim the tip flat, place it over the hole and gently monitor the amount you introduce.

.

Here is a tube. They also have this can with a long applicator tube that I thought would be good. Which is better?

My "1" key has been working perfectly now for 2 days. I didn't even use the Deoxit yet. I stripped a solid copper wire that was the same diameter as the via hole, put 91% isopropyl in hole and on wire, inserted wire and turned it while holding key.

It makes sense to use a non-metalic brush though as that would have a better chance of sticking to and removing the debris. It might also be less likely to cause damage. Perhaps one can place lips over via and provide a suction.

I may have to repeat the process for my Enter key. It may be my imagination, but it feels harder to press now. It ocassionally doesn't register, whereas I never noticed that before. I don't know how I could have affected that key unless I used too much isopropyl and some debris floated over there.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #10 Posted by **David Griffith** on 27 Jan 2012, 5:09 a.m.,*
in response to message #5 by Bruce Zastera

The shift keys on my 15cLE are noticably looser than the other keys, but it's nowhere near being annoying... and I tend to get annoyed by stuff like this.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #11 Posted by **Bruce Zastera** on 27 Jan 2012, 6:08 a.m.,*
in response to message #10 by David Griffith

> Quote:
>
> The shift keys on my 15cLE are noticably looser than the other keys, but it's nowhere near being annoying... and I tend to get annoyed by stuff like this.

Is it as bad as this? Or this?

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #12 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 7:12 a.m.,*
in response to message #11 by Bruce Zastera

Mine resembles pretty much the second video, but, as David already stated, it's just not annoying at all.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #13 Posted by **Jeff O.** on 27 Jan 2012, 8:18 a.m.,*
in response to message #11 by Bruce Zastera

My two units are wobbly, but not as bad as either of the videos. I don't mind it and I am also pretty picky about such things. You originally asked "Speaking of keys, what is the status with the key problems on the LE? Will the next run have any fixes?" If you are hoping that the f- and g-key wobble will be fixed, I'm pretty sure you will be disappointed. The basic physical design of the calculator results in those two keys being more wobbly than the others. It is probably unlikely that HP will redo the basic design to eliminate this effect. As for the problems with keys not registering when pressed that were reported with the initial run of calculators received back in September, those problems seem to have been fixed in later shipments.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #14 Posted by **uhmgawa** on 27 Jan 2012, 1:07 p.m.,*
in response to message #5 by Bruce Zastera

> Quote:
>
> ..the "1" key seems to be working consistently now, at least for the time being. It still feels a bit softer with less of a click than the other keys. The "4" is a bit soft too, but not causing a problem.

IME there are two common problem scenarios with the legacy voyager keypad. One being the ingress of contamination into the snap dome vent holes. Solvent soaking and/or probe scraping will probably move some of the contamination around, potentially away from the vent hole contact area and improve the situation. But I'm doubtful it actually flushes substantial contamination out of an individual snap dome land. Still if I had one or two problem keys I'd try to loosen up any contamination using a fine bristle brush twist-inserted into the via vent and then mushroomed out, add a mild solvent in the vent via, press down on the dome as the brush is worked/extracted to increase scrubbing pressure to loosen up the contamination. The vent holes are about 1.1mm in diameter.

The less welcome problem is keycap actuator wear-through of the elastomer membrane located over the snap dome array. Tactile domes are designed to be inverted by a probe in their center, sized relatively small compared to their diameter. This is required to minimize the inversion stress and maximize service life, minimize inflection force, and results in a sharper tactile snap. When the ~1.2mm probe in each keycap eventually wears through the membrane it creates a puckered bump which greatly increases the pressure area applied via the key. This is the reason addition force is required to inflect the dome and causes the "mushy" feel. Repair of this is only possible via replacement of the membrane. That's almost the good news as finding a replacement realistically means cannibalizing another voyager or attempting to create a replacement membrane. The original is ~0.45mm thick so 0.5mm sheet may work given the heat stakes are to be reset/glued under pressure. Accurate punching of holes in the elastomer blank could be accomplished via a 1/16" ID tube sharpened to a hollow cone using a drilled plate as an alignment guide.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #15 Posted by **Bruce Zastera** on 27 Jan 2012, 5:31 p.m.,*
in response to message #5 by Bruce Zastera

Dammit. It was working perfectly right after I cleaned it last night, and today it is worse than ever. I'll try to find the DeOxit stuff.

Edited: 27 Jan 2012, 5:31 p.m.

Re: Vintage HP15C Key Clicks but Doesn't Register

*Message #16 Posted by **uhmgawa** on 27 Jan 2012, 6:18 p.m.,*
in response to message #15 by Bruce Zastera

> Quote:
>
> Dammit. It was working perfectly right after I cleaned it last night, and today it is worse than ever. I'll try to find the DeOxit stuff.

Until it flashed off the isopropyl may have softened the contamination sufficiently allowing the dome to displace it when depressed, permitting electrical contact.

FWIW I've actually never encountered a voyager snap dome PCB land with worn gold plating. So it is difficult to predict whether it may be copper oxidation or surface contamination without further disassembly.

Whatever goes into that vent via which successfully dislodges contamination (or dissolves oxidation) needs to be removed as it is only going to hold it in suspension until it evaporates.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 26 Jan 2012, 5:08 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [41CL] Ram

*Message #2 Posted by **Monte Dalrymple** on 27 Jan 2012, 12:32 a.m.,*
in response to message #1 by deleted

The starting address of RAM is 0x800000, but RAM below 0x804FFF is reserved for system use (the 41C register memory and the MMU entries). The memory from 0x805000 to 0x805FFF is the Y-functions buffer area, which can be used if you're not using the YBUILD command. The 58 pages starting at 0x806000 are available for any use.

Monte

(deleted post)

*Message #3 Posted by **deleted** on 27 Jan 2012, 6:32 a.m.,*
in response to message #2 by Monte Dalrymple

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [41CL] Ram

*Message #4 Posted by **Monte Dalrymple** on 27 Jan 2012, 12:17 p.m.,*
in response to message #3 by deleted

Yes, you can use any address in the range.

The page orientation is only used with YMCPY.

Monte

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wrong answer when evaluating log(10^-12)

*Message #1 Posted by **Daniel Greenidge** on 26 Jan 2012, 10:53 a.m.*

Hello everyone,

I know from the power property that log(10^-12) should be -12. Wolfram-Alpha corroborates this.

However, when I evaluate this on both my HP 15C and 50g, the answer turns out to be -11. Here are the exact keystrokes I am using for my 15C:

10 EEX 12 CHS g LOG

Any ideas why this might be?

Thank you, Daniel

Re: Wrong answer when evaluating log(10^-12)

*Message #2 Posted by **Bart (UK)** on 26 Jan 2012, 11:09 a.m.,*
in response to message #1 by Daniel Greenidge

Hint:

You will get the right answer if you do:
10 ENTER 12 CHS Y^X g LOG

Regards

Edit: I should rather have said: "*expected* answer" above.

As Gerson says below, the answer you got is right too, to put it another way: EEX represents "10^" so 10 EEX x = 10 x 10^x = 10^(x+1)

Edited: 26 Jan 2012, 11:26 a.m.

Re: Wrong answer when evaluating log(10^-12)

*Message #3 Posted by **Gerson W. Barbosa** on 26 Jan 2012, 6:53 p.m.,*
in response to message #2 by Bart (UK)

> Quote:
>
> As Gerson says below, the answer you got is right too,

Bart,

I hadn't read your post yet when I said the answer of the calculator was right. "Expected answer" appears to be a more didactic expression, I should have used it myself. By the way, my HP-15C gave a lot of "wrong answers" to me, especially in the beginning, when it was just replacing a TI-59. Oh, and more recently, just some threads below my HP-42S was refusing to give me the answers I expected :-)

Regards,

Gerson.

Edited: 26 Jan 2012, 6:53 p.m.

Re: Wrong answer when evaluating log(10^-12)

*Message #4 Posted by **Gerson W. Barbosa** on 26 Jan 2012, 11:18 a.m.,*
in response to message #1 by Daniel Greenidge

> Quote:
>
> 10 EEX 12 CHS g LOG

The answer is right. The input is wrong. You're actually entering $10*10^{-12}$, that is, $10^{1} * 10^{-12} = 10^{1-12} = 10^{-11}$

Enter the mantissa first, then press EEX and enter the exponent:

```
1
EEX
12
CHS
g LOG
```

When the mantissa is 1, it can be omitted.

Gerson.

Re: Wrong answer when evaluating log(10^-12)

*Message #5 Posted by **Daniel Greenidge** on 26 Jan 2012, 5:54 p.m.,*
in response to message #1 by Daniel Greenidge

Thank you for your help! I feel a bit imbecilic right now but I certainly shall not repeat my mistake.

Regards, Daniel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RedDot or no?

*Message #1 Posted by **Matthias Wehrli** on 26 Jan 2012, 8:29 a.m.*

What do you think about this poor conditioned HP-35A?

Not even the two serials, from which one is amazing, but have a look at the red dot part... ist this glued? I can not contact the seller for more detailed pictures.

RedDot on Ebay

Edited: 26 Jan 2012, 8:29 a.m.

Re: RedDot or no?

*Message #2 Posted by **Randy** on 26 Jan 2012, 9:06 a.m.,*
in response to message #1 by Matthias Wehrli

Don't the version three function keys tell a different story?

Re: RedDot or no?

*Message #3 Posted by **Walter B** on 26 Jan 2012, 9:19 a.m.,*
in response to message #1 by Matthias Wehrli

To me, it looks like a version 4 with some blop next to the switch.

Re: RedDot or no?

*Message #4 Posted by **Lincoln R.** on 26 Jan 2012, 10:13 a.m.,*
in response to message #1 by Matthias Wehrli

Looks like a frankencalculator to me. Neither 1143A 00026 or 1143A 04426 (which might be a mistake since it's on the "property of" tag) seem like correct serial numbers for a version 4. I can't make out the serial number tag on the bottom of the machine in his picture.

If I had to take a guess I'd think this is a calculator that got repaired, possibly not by HP. Both of the legible serial numbers fall into the range that could be red dot models, although did the red dot calculators come from the factory with the sticker inside the battery compartment?

Maybe a lab freak calculator.

*Message #5 Posted by **Frank Boehm (Germany)** on 26 Jan 2012, 10:27 a.m.,*
in response to message #1 by Matthias Wehrli

The typed ser# stickers have been seen on repair units before, so I'd say the serial numbers look "official". However it rather seems someone built a calculator from scrap parts, who knows if there is any electronics in there. It's not impossible that this has been made in HPs own lab as a cheap office calc, the very technical

"name" on the property tag might hint at that too.

Re: RedDot or no?

*Message #6 Posted by **Michael de Estrada** on 26 Jan 2012, 10:45 a.m.,*
in response to message #1 by Matthias Wehrli

There's a 99.99999999% probability that this is not a Red Dot. However, I may walk outside today and get hit by a meteorite, so who knows.

Red Dot Disclaimer

*Message #7 Posted by **Howard Owen** on 26 Jan 2012, 11:30 a.m.,*
in response to message #1 by Matthias Wehrli

Perhaps added in response to queries from Matthias?

> Quote:
>
> I dont see the hole for the red dot on the front was this made without I know the later ones didnt have it however why does this one carry the early hp number ...

Re: Red Dot Disclaimer

*Message #8 Posted by **Matthias Wehrli** on 26 Jan 2012, 4:50 p.m.,*
in response to message #7 by Howard Owen

I'm sad... would have been a nice add to my collection of RedDots (My goal is to get 35 units).

Edited: 26 Jan 2012, 4:51 p.m.

Re: RedDot or no?

*Message #9 Posted by **Michael Eckstein** on 26 Jan 2012, 2:12 p.m.,*
in response to message #1 by Matthias Wehrli

This is the magnified image of the "Red Dot" spot. It's just the "ON" writing molded in the front cover typical for version 4.

Re: RedDot or no?

*Message #10 Posted by **Keith Midson** on 28 Jan 2012, 3:49 p.m.,*

in response to message #9 by Michael Eckstein

Clearly it's not a red dot. Has anyone contacted this seller? I tried, but for some reason it won't let me send a message, only review the 'standard' answers provided on the contact page.

Re: RedDot or no?

*Message #11 Posted by **Thomas Chrapkiewicz** on 26 Jan 2012, 7:45 p.m.,*
in response to message #1 by Matthias Wehrli

Not only is it fake, someone (perhaps not the ebay seller) has made some overtly obvious (and ignorant) screwups in her/his attempt to make it appear much older than it is.

TomC

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some Vintage HP15Cs Faster than Others?

*Message #1 Posted by **Bruce Zastera** on 25 Jan 2012, 11:10 p.m.*

Someone mentioned that their HP15C circa 1985 took 30 seconds to compute 69 factorial. My vintage HP15C computes that almost instantaneously. I purchased mine in 1990, and going by the serial number, it was built in 1986 (first 2 digits are 26 which indicate the number of years since 1960). I'm considering purchasing one from 1983 or 1984, so if those are significantly slower, I'd really like to know that before I buy it.

I'd appreciate it if someone with an older model can tell me how fast their calculators perform the following 2 functions:

69 f x!

100 ENTER 50 g Cx,y

The second of those takes much longer than the first - about 10 seconds on mine.

Please post the first 4 digits of the serial number with any results. I'm only talking about the vintage models here. I understand that the new limited editions are much faster.

Thanks.

Re: Some Vintage HP15Cs Faster than Others?

*Message #2 Posted by **uhmgawa** on 26 Jan 2012, 1:04 a.m.,*
in response to message #1 by Bruce Zastera

> Quote:
>
> Someone mentioned that their HP15C circa 1985 took 30 seconds to compute 69 factorial.

They may have just been mistaken. The clock frequency hasn't seen a manufacturing change and I've never come across more that one version of hp released firmware for the 15c.

> Quote:
>
> I'd appreciate it if someone with an older model can tell me how fast their calculators perform the following 2 functions:
>
> 69 f x!
>
> 100 ENTER 50 g Cx,y
>
> The second of those takes much longer than the first - about 10 seconds on mine.
>
> Please post the first 4 digits of the serial number with any results. I'm only talking about the vintage models here. I understand that the new limited editions are much faster.

~10s for x! and 0.5s for Cx,y on a 24xx and 25xx 15c.

Re: Some Vintage HP15Cs Faster than Others?

*Message #3 Posted by **uhmgawa** on 4 Feb 2012, 12:06 a.m.,*
in response to message #2 by uhmgawa

> Quote:
>
> ..I've never come across more that one version of hp released firmware for the 15c.

But I have come across an apparent oddity which may relate to a firmware version change.

I had loan of a 10c for the purpose of testing KEMU with that model's firmware. When the 10c was running I would get jibberish on the display but the system test would succeed and render all available segments. It took me a while to realize the display mapping was different than every other voyager I've encountered.

This was a 22xx serial number 10c which has the early satellite PCB containing the NUT and display controller. However I have 23xx voyagers with the same satellite PCB configuration, and firmware captured from them treats the display mapping identical to the later single PCB voyagers. So I'm unsure whether the display mapping difference here is a function of the 10c, s/n <= 22xx voyagers, or possibly both.

The sequence of segments enabled during the keypad test for both cases differs although the data written to the display registers is identical. This makes for a simple check to determine what units have this configuration, just by the first set of segments enabled when the keypad ON + test is selected. The corresponding sequences are here although the first display rendered in the sequence is all which is needed. I've only ever encountered the "A" version up until the "B" version generated by this 10c.

Would someone with a 22xx serial number voyager other than a 10c mind telling me what sequence is followed? Also if someone has access to a 22xx < s/n 10c I'd be interested to know how that behaves as well.

Thanks!

Re: Some Vintage HP15Cs Faster than Others?

*Message #4 Posted by **Katie Wasserman** on 4 Feb 2012, 11:33 a.m.,*
in response to message #3 by uhmgawa

Interesting find and nice display pattern map!

My collection verifies what you said:

```
10C 22xx --> b
10C 23xx --> b


11C 20xx --> a
11C 26xx --> a
12C 25xx --> a
12C 33xx --> a
15C 25xx --> a
16C 22xx --> a
16C 25xx --> a
```

Edited: 4 Feb 2012, 11:34 a.m.

Re: Some Vintage HP15Cs Faster than Others?

*Message #5 Posted by **uhmgawa** on 4 Feb 2012, 1:48 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> Interesting find and nice display pattern map!
>
> My collection verifies what you said:
>
> ```
> 10C 22xx --> b
> 10C 23xx --> b
>
> 11C 20xx --> a
> ```

Hmm.. given the above this may be a quirk unique to the 10c.

I have a 2301A 16c and several 23xxA 12c units which all possess the 'a' behaviour. I suppose the only missing data point would be a 24xx 10c, but I wouldn't expect a surprise there. AFAIK that was the last production year for the 10c.

It looks to be a layout change for unknown reasons on the display flex pcb. It is possible the R2D2 in the 10c has a modified pinout which admittedly makes little sense. The ROM image is only 4K words vs. 6K for other voyager models but I haven't tried to drive the bus to determine whether it appears the upper 2K is unused or simply not present. Nothing above 4K is accessed when the image is executing in KEMU and the self test checksum only addresses that range. The device code is 1LF7-0301 which I've never encountered before, however I'd expect an actual silicon change outside of the rom mask to be unlikely.

Unknown at this point. If I ever manage to add a 10c to my own collection I'll trace out the display pcb when I run out of things to do. ;)

Thanks!

[edit: fix formatting botch]

Edited: 4 Feb 2012, 4:14 p.m.

Re: Some Vintage HP15Cs Faster than Others?

*Message #6 Posted by **Peter Murphy (Livermore)** on 26 Jan 2012, 1:35 a.m.,*
in response to message #1 by Bruce Zastera

69! is quick.

100C50 takes 11.3 s on my 24xxA and 11.6 s on my 27xxA.

Re: Some Vintage HP15Cs Faster than Others?

*Message #7 Posted by **Gerson W. Barbosa** on 26 Jan 2012, 1:55 a.m.,*
in response to message #1 by Bruce Zastera

> Quote:

> Please post the first 4 digits of the serial number with any results.

This is irrelevant. Any differences you may notice are due to modifications done by some users, they are not related to the serial numbers. Please take a look at the following past threads:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=77430

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=157905 (professionally done mod)

Regards,

Gerson.

Since you've asked:

69 f x! -> about 0.8 seconds

100 ENTER 50 g Cx,y -> 11.4 seconds

69.5 CHS f x! -> 13.5 seconds.

(2343B75099, no mod)

Edited: 26 Jan 2012, 2:19 a.m.

Re: Some Vintage HP15Cs Faster than Others?

*Message #8 Posted by **Dieter** on 26 Jan 2012, 7:18 a.m.,*
in response to message #1 by Bruce Zastera

Bruce wrote:

> Quote:
>
> Someone mentioned that their HP15C circa 1985 took 30 seconds to compute 69 factorial.

I think we can safely assume that no 15C ever (and no other HP I can think of) would require half a minute to compute 69!. Even on my 34C (about the same speed, maybe a bit slower) this is done within a second. Half a minute might be okay for a user-written program. Maybe this is what the timing refers to.

> Quote:
>
> My vintage HP15C computes that almost instantaneously.

So should any other standard 15C.

> Quote:
>
> I'd appreciate it if someone with an older model can tell me how fast their calculators perform the following 2 functions: 69 f x! 100 ENTER 50 g Cx,y The second of those takes much longer than the first - about 10 seconds on mine.

These are two typical results.

Anyway, I wonder why the 15C took that long for the Cx,y function which is essentially a loop with 50 multiplications and divisions. The current 35s does this within a second, and even a hand-written program in user code does it in just 5 seconds. Yes, the 35s is much faster faster than the 15C (ten, maybe twenty times), but shouldn't a 15C-routine in machine code run at least as fast as a 35s-program in user code?!

Dieter

Edited: 26 Jan 2012, 7:20 a.m.

Re: Some Vintage HP15Cs Faster than Others?

*Message #9 Posted by **Marcus von Cube, Germany** on 26 Jan 2012, 8:52 a.m.,*
in response to message #8 by Dieter

Dieter are you sure the 15C uses multiplications for Cxy? Another approach could be using lnGamma.

Re: Some Vintage HP15Cs Faster than Others?

*Message #10 Posted by **Dieter** on 26 Jan 2012, 3:36 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Of course I'm not sure of *anything* as far as the internal programming of the 15C is concerned. But I don't think that a lngamma approach is used here. First, because in this case that function probably would have been made available to the user. And second, simply think of the time three lngammas would require here... #-)

Dieter

Re: Some Vintage HP15Cs Faster than Others?

*Message #11 Posted by **Bruce Zastera** on 26 Jan 2012, 5:33 p.m.,*
in response to message #10 by Dieter

> Quote:
>
> Of course I'm not sure of *anything* as far as the internal programming of the 15C is concerned. But I don't think that a lngamma approach is used here. First, because in this case that function probably would have been made available to the user.

The x! key appears to return gamma(x+1). For example, -0.5! returns gamma(0.5) = sqrt(pi).

Re: Some Vintage HP15Cs Faster than Others?

*Message #12 Posted by **Dieter** on 26 Jan 2012, 5:46 p.m.,*
in response to message #11 by Bruce Zastera

> Quote:
>
> The x! key appears to return gamma(x+1). For example, -0.5! returns gamma(0.5) = sqrt(pi).

Yes, this is documented in the manual, and it was already available on the good old 34C from 1979.

However, obviously two different algorithms are used for the factorial and the gamma function. Try 10! and the result appears immediately, as with other non-negative integers. Then try 10.001! and the calculator has to switch to "gamma mode" where the result requires a few seconds of computation time.

Dieter

Re: Some Vintage HP15Cs Faster than Others?

*Message #13 Posted by **Bruce Zastera** on 26 Jan 2012, 12:33 p.m.,*
in response to message #8 by Dieter

> Quote:
>
> Anyway, I wonder why the 15C took that long for the Cx,y function which is essentially a loop with 50 multiplications and divisions. The current 35s does this within a second, and even a hand-written program in user code does it in just 5 seconds. Yes, the 35s is much faster faster than the 15C (ten, maybe twenty times), but shouldn't a 15C-routine in machine code run at least as fast as a 35s-program in user code?!

I'm guessing that it takes precautions against overflow such as adding logs. Something like that is required for larger combinatorics.

Re: Some Vintage HP15Cs Faster than Others?

*Message #14 Posted by **Dieter** on 26 Jan 2012, 3:34 p.m.,*
in response to message #13 by Bruce Zastera

I don't think that the 15C uses logs for the C(y,x) function. The usual straightforward implementation of this function will not cause an overflow either - at long as the result doesn't overflow as well.

Example for C(400, 108) = 9,432 E+99:

```
C(400, 108)  =  400 / 108 * 399 / 107 * 398 / 106 * ... * 294 / 2 * 293 / 1
```

Before the last multiplication the value is less than the final result, which is then obtained by the multiplication with 293. In other words: there is no "intermediate overflow". As long as the result is within the limits, the algorithm will not cause an overflow either. At least that's what it looks to me. ;-)

Dieter

Re: Some Vintage HP15Cs Faster than Others?

*Message #15 Posted by **Bruce Zastera** on 26 Jan 2012, 4:56 p.m.,*
in response to message #14 by Dieter

> Quote:
>
> I don't think that the 15C uses logs for the C(y,x) function. The usual straightforward implementation of this function will not cause an overflow either - at long as the result doesn't overflow as well.

> Example for C(400, 108) = 9,432 E+99:
>
> ```
> C(400, 108)  =  400 / 108 * 399 / 107 * 398 / 106 * ... * 294 / 2 * 293
> / 1
> ```
>
> Before the last multiplication the value is less than the final result, which is then obtained by the multiplication with 293. In other words: there is no "intermediate overflow". As long as the result is within the limits, the algorithm will not cause an overflow either. At least that's what it looks to me. ;-)

You're right, I was thinking of evaluating the binomial distribution, where the C(y,x) terms can overflow even though the binomial terms do not since the large C(y,x) terms get multiplied by very small values. Excel had a problem with this a few years ago, and they implemented an algorithm to fix it. That can also be fixed by summing logs. Of course the HP15C doesn't have a key for the binomial distribution.

Re: Some Vintage HP15Cs Faster than Others?

*Message #16 Posted by **Dieter** on 26 Jan 2012, 5:36 p.m.,*
in response to message #15 by Bruce Zastera

Regarding statistical functions I don't think Excel *has* problems. For me it looks more like Excel *is* the problem. ;-)

Just as C(y,x), also the binomial pdf can be evaluated with minimal overflow risk. For instance this way (just the basic idea):

```
function binpdf(x, n, p)
  q = 1-p
  poverq = p/q
  pdf = q^n
  for k = 1 to x
      pdf = pdf * (n - k + 1) / k * poverq
  next k
  binpdf = pdf
end function
```

The major risk here is an underflow during the calculation of q^n. ;-)

Dieter

Re: Some Vintage HP15Cs Faster than Others?

*Message #17 Posted by **Bruce Zastera** on 26 Jan 2012, 6:04 p.m.,*
in response to message #16 by Dieter

> Quote:
>
> Regarding statistical functions I don't think Excel *has* problems. For me it looks more like Excel *is* the problem. ;-)
>
> Just as C(y,x), also the binomial pdf can be evaluated with minimal overflow risk. For instance this way (just the basic idea):
>
> ```
> function binpdf(x, n, p)
>   q = 1-p
>   poverq = p/q
>   pdf = q^n
>   for k = 1 to x
>       pdf = pdf * (n - k + 1) / k * poverq
>   next k
> ```

```
  binpdf = pdf
end function
```

The major risk here is an underflow during the calculation of q^n. ;-)

Here is a link about Microsoft's fix (near the bottom).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 17BII bug video on youtube

*Message #1 Posted by **hpnut** on 25 Jan 2012, 9:39 a.m.*

nice, with scary soundtrack at 00:38.

http://www.youtube.com/watch?v=hOBCpp4t6cg&feature=related

Re: HP 17BII bug video on youtube

*Message #2 Posted by **Juergen Keller** on 25 Jan 2012, 10:02 a.m.,*
in response to message #1 by hpnut

Thank you for the praise :-)

Re: HP 17BII bug video on youtube

*Message #3 Posted by **Gerson W. Barbosa** on 25 Jan 2012, 3:22 p.m.,*
in response to message #2 by Juergen Keller

I'm glad you haven't produced an HP-35S bugs video. The soundtrack would be frightening!

Re: HP 17BII bug video on youtube

*Message #4 Posted by **Juergen Keller** on 25 Jan 2012, 5:23 p.m.,*
in response to message #3 by Gerson W. Barbosa

Don't worry, I don't have that much spare time ;-) BTW, this 17BII bug was fixed by HP in later models, but I've never heard of fixes for the 35S ...

Re: HP 17BII bug video on youtube

*Message #5 Posted by **Nacho** on 25 Jan 2012, 10:58 a.m.,*
in response to message #1 by hpnut

I don't have that bug,

mine is a singapore from 1994 with rom : BA 0

yours?

regards

Re: HP 17BII bug video on youtube

*Message #6 Posted by **Juergen Keller** on 25 Jan 2012, 11:28 a.m.,*
in response to message #5 by Nacho

Only early 17BII calculators have this bug. I remember that I've read somewhere that the bug was fixed in early 1991.

Re: HP 17BII bug video on youtube

*Message #7 Posted by **Mike Morrow** on 25 Jan 2012, 7:16 p.m.,*
in response to message #1 by hpnut

> Quote:
>
> nice, with scary soundtrack at 00:38. http://www.youtube.com/watch?v=hOBCpp4t6cg&feature=related

If you use the "Link" function below the text entry box, you can very quickly and easily create a link to the URL that can be called up simply by clicking the text. For example: Link to Your URL .

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP67 Emulator for Android

*Message #1 Posted by **MikeO** on 25 Jan 2012, 2:27 a.m.*

Well, I finally got to publishing this application on the Android market. I decided to do it as a free application. It is a port of the Windows desktop versions which I developed a couple years ago on Limpidfox.com

I just published it, so it may not show up on searches of the market for a day or two. Olivier De Smet has published one. So, hopefully there will be two soon.

Let me know what you think.

The program files are compatible with the desktop versions - just copy them to/from the "HP Programs" directory on your phone's external storage (which is created when you install the application). For more information on the desktop versions, see the website I linked above.

I have tested these on the HTC Evo (hdpi 533x320) and HTC Rezound (xhdpi 720p 640x360). Requires a touchscreen.

Have fun!

P.S. If you should have other devices approximating the above screen specs, please let me know how it looks/works.

Edited: 25 Jan 2012, 9:56 a.m. after one or more responses were posted

Re: HP67 Emulator for Android

*Message #2 Posted by **Didier Lachieze** on 25 Jan 2012, 2:42 a.m.,*
in response to message #1 by MikeO

It's on the Market, but it says it's incompatible with my Moto Defy (Android 2.2 - 854x480):

Requires Android: 2.3.7 and up

:(

Edited: 25 Jan 2012, 2:43 a.m.

Re: HP67 Emulator for Android

*Message #3 Posted by **MikeO** on 25 Jan 2012, 9:50 a.m.,*
in response to message #2 by Didier Lachieze

Yes. Unfortunately, the ability to work with high density screens is in the 2.3 Android SDK. What I may do is post the 2.2 version on the website - which I need to update anyway.

Re: HP67 Emulator for Android

*Message #4 Posted by **Alexander Oestert** on 25 Jan 2012, 5:10 a.m.,*

in response to message #1 by MikeO

Does not work on my ipad-sized tablet (1280x800, Honeycomb), only a small area up left reacts to tapping, display is also small and in the upper left corner, whole rest of screen is filled with unsharp image of the calc, unresponsive.

Edited: 25 Jan 2012, 5:14 a.m.

Re: HP67 Emulator for Android

*Message #5 Posted by **MikeO** on 25 Jan 2012, 9:45 a.m.,*
in response to message #4 by Alexander Oestert

Yes, I haven't entered the tablets yet. Soon though, very soon...

Re: HP67 Emulator for Android

*Message #6 Posted by **Guenter Schink** on 25 Jan 2012, 1:09 p.m.,*
in response to message #5 by MikeO

> Quote:
>
> Yes, I haven't entered the tablets yet. Soon though, very soon...

But then it would be a good opportunity to have both - the 67 when in portrait mode and the 97, with printing capability of course, when in landscape mode. :-)

Günter

Re: HP67 Emulator for Android

*Message #7 Posted by **MikeO** on 25 Jan 2012, 1:19 p.m.,*
in response to message #6 by Guenter Schink

But of course!

Re: HP67 Emulator for Android

*Message #8 Posted by **Ingo Paschke** on 25 Jan 2012, 6:18 a.m.,*
in response to message #1 by MikeO

Looks nice, but the touch-fields don't line up correctly with the calculator-image (image is about a key height too high, so you have to touch the spaces between the rows). On Galaxy Nexus.

Here's a screenshot:

OFF
ON
W/PRGM
RUN
1/x
√x
y^x
R ▼
x ≷ y
A
B
C
D
E
a
b
c
d
e
Σ+
Σ-
GTO
RTN
DSP
ENG
(i)
X≷I
SST
BST
x̄ s
GSB f
FIX SCI
RND
LBL f
f
g
STO
ST I
RCL
RC I
h
DSZ (i)
ISZ (i)
ENTER ▲
DEG
CHS
RAD
EEX
GRD
CLX
DEL
W/DATA
MERGE
P≷S
CL REG
CL PRGM
−
SF
7
X≷Y
8
R ▼
9
R ▲
x=0 x=y
LN e^x
LOG 10^x
√x x^2
+
CF
4
1/x
5
y^x
6
ABS
x≠0 x≠y
SIN -1
COS -1
TAN -1
×
F?
1
PAUSE
2
π
3
REG
x<0 x≤y
R ⇄ P
D ⇄ R
H ⇄ H.MS
÷
N!
0
LST X
.
H.MS+
R/S
SPACE
x>0 x>y
% %CH
INT FRAC
-x- STK
HEWLETT-PACKARD 67

Re: HP67 Emulator for Android

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 25 Jan 2012, 7:20 a.m.,*
in response to message #8 by Ingo Paschke

Looks and works nice on my Galaxy Note @1280*800 but I have the same keys misalignement problem as reported by Ingo.
Anyway, thanks a lot!
Massimo

Re: HP67 Emulator for Android

*Message #10 Posted by **Jeroen Van Nieuwenhove** on 25 Jan 2012, 9:25 a.m.,*
in response to message #8 by Ingo Paschke

Same issue on my Acer Liquid Mini (320x480). On my petite screen and even taking into account the offset, it is very difficult to select the correct keys. I don't have these problems at all with e.g. Thomas Okken's Free42, although the 42 emulation has one row of keys less. Even Droid48, which has more keys, is relatively easy to use. Could it be that the touch sensitive area for each individual key is too narrow? Also, I would make the haptic feedback optional. Otherwise, good looking app, thanks for this port to Android.

Re: HP67 Emulator for Android

*Message #11 Posted by **MikeO** on 25 Jan 2012, 9:53 a.m.,*
in response to message #8 by Ingo Paschke

Got it. Thanks!

Re: HP67 Emulator for Android

*Message #12 Posted by **M. Joury** on 25 Jan 2012, 10:51 a.m.,*
in response to message #1 by MikeO

I can't seem to find it :(. What are you guys searching on?

Thanks,

-Marwan

Re: HP67 Emulator for Android

*Message #13 Posted by **Steve Simpkin** on 25 Jan 2012, 11:52 a.m.,*
in response to message #12 by M. Joury

If you are not running Android version 2.3 (Gingerbread) or newer, you may not see this App in the Market. I have an original Motorola Droid running Android 2.2 (Froyo) and I cannot find the App either. I

am hoping Mike will be able post a 2.2 compatible version on his website.

Re: HP67 Emulator for Android

*Message #14 Posted by **M. Joury** on 25 Jan 2012, 1:14 p.m.,*
in response to message #13 by Steve Simpkin

I am running 2.3.5 but I see that it requires .7. Thanks!

-Marwan

Re: HP67 Emulator for Android

*Message #15 Posted by **MikeO** on 25 Jan 2012, 1:20 p.m.,*
in response to message #14 by M. Joury

I think it will work with 2.3.x

Re: HP67 Emulator for Android

*Message #16 Posted by **M. Joury** on 25 Jan 2012, 3:41 p.m.,*
in response to message #15 by MikeO

Hmmmmm..... Still can't find it.....

Re: HP67 Emulator for Android

*Message #17 Posted by **M. Joury** on 25 Jan 2012, 9:19 p.m.,*
in response to message #15 by MikeO

Hi Mike,

Ok, it seems that the problem is indeed a compatibility issue. I found the app on my laptop and then used the browser on the Android device to find the app and tried to install it that way. Problem was that it immediately told me that my device was not compatible. As far as I can tell the inky issue might be the 2.3.5 vs. the specified 2.3.7. I can't find any way to force the device to allow installation to see if it works. If you believe that it will work on any 2.3.x device could you lower the requirement to 2.3.0 or whatever the lowest level of 2.3 is? I can then try to download and test it.

Thanks,

-Marwan

Re: HP67 Emulator for Android

*Message #18 Posted by **MikeO** on 26 Jan 2012, 1:34 p.m.,*
in response to message #17 by M. Joury

I'll definitely check it out. The market filter may need tweaking.

Re: HP67 Emulator for Android

*Message #19 Posted by **M. Joury** on 26 Jan 2012, 1:58 p.m.,*
in response to message #18 by MikeO

Thanks Mike!

Re: HP67 Emulator for Android

*Message #20 Posted by **Guenter Schink** on 25 Jan 2012, 1:03 p.m.,*
in response to message #1 by MikeO

> Quote:
>
> P.S. If you should have other devices approximating the above screen specs, please let me know how it looks/works.

Looks pretty good on Samsung Galaxy I9000 (800x480 Android 2.3..) but the keys are hard to hit as Jeroen also has reported.

Looks awful on Acer Iconia 500 (1280x800 Android 3.2.1), but it works!! :-)

When this tablet loads an app with low resolution, it offers the choice to "stretch" or to "zoom". Selecting "stretch" has the effect which Alexander describes. Selecting "zoom" makes it workable. The keys are only slightly misaligned: top row 1/3 down, bottom row 2/3 down. Horizontal alignment is almost perfect.

HTH Günter

Re: HP67 Emulator for Android

*Message #21 Posted by **Bill (Smithville, NJ)** on 25 Jan 2012, 2:54 p.m.,*
in response to message #20 by Guenter Schink

> Quote:
>
> Looks awful on Acer Iconia 500 (1280x800 Android 3.2.1), but it works!! :-)

I think it need a higher resolution image, then would be fine. And thanks for the tip on using Zoom instead of stretch. Still needs a little work on the key alignment, but is usable as is.

Image looks good on my Droid X phone. But the key allignment makes it unusable.

Bill

Edited: 25 Jan 2012, 2:57 p.m.

Re: HP67 Emulator for Android

*Message #22 Posted by **MikeO** on 26 Jan 2012, 1:35 p.m.,*
in response to message #21 by Bill (Smithville, NJ)

With the great feedback on various devices, I'll be working out the key alignment shortly.

Re: HP67 Emulator for Android

*Message #23 Posted by **MikeO** on 28 Jan 2012, 1:34 a.m.,*
in response to message #22 by MikeO

I've posted version 1.1. You can find it by searching the market for 'hp67'. I've added code which dynamically scale the button areas based on the screen density and size.

Not sure how the tablets will handle it - I think much better now - but I may need to produce some higher resolution graphics for those. In the meantime, checkout the tip from Bill regarding the 'zoom' option when running the app on tablets.

Re: HP67 Emulator for Android

*Message #24 Posted by **Ingo Paschke** on 28 Jan 2012, 7:06 a.m.,*
in response to message #23 by MikeO

It's perfect now on my Galaxy Nexus. Even though it looks a bit pixelated in my screenshot above, it looks beautiful on the actual display. Thank you!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #1 Posted by **Diego Diaz** on 24 Jan 2012, 11:51 p.m.*

Hi all,

A new .ZIP archive including several updates is now available at Clonix home page.

Update record:

- NoVRAM & NoV-32 modules are now fully compatible with 41CL and both include the Crash Recovery Function (CRF) inherited from NoV-64. See NoV-64 manual for details on this function.

- Minor changes to NoV-64 manual.

- RAM erasing utilities for NoV's (CLR_RAMn) have been upgraded in order to prevent erratic behavior due to low battery. Now they run faster and more reliabily even with low battery voltages including USB power cable (5v.) as described in this post.

Thanks to Ángel for his patience and helpful test and comments while investigating for this upgrade.

- Patched HEPAX image (fourth bank) to prevent it from switching OFF the HP-41CL when executing DISASM command. This patch is automatically included in NoVRAM, NoV-32 and NoV-64 when configured with ClonixConfig.exe utility, and does not affect DISASM command execution on standard 41's (C/CV/CX)

Thanks to Monte for the patch.

All the best from Dominican Republic.

Diego.

Edited: 24 Jan 2012, 11:58 p.m.

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 25 Jan 2012, 12:37 a.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

Thank you very much for this update. Both Clonix-D and NoV-64 are great additions and indispensable tools to my beloved 41CL and HP-41 to unlock their potential and learn so much more. Very much appreciated.

Happy New Lunar Year!

Cheers, Kerem

Edited: 25 Jan 2012, 12:38 a.m.

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #3 Posted by **Diego Diaz** on 25 Jan 2012, 6:38 a.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Thank you Kerem,

It's also great to have such positive feedbacks... ;-)

Enjoy your 41 system.

Cheers.

Diego

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 25 Jan 2012, 7:24 a.m.,*
in response to message #1 by Diego Diaz

Thank you very much Diego for the, usual, excellent "service" you provide.

Greetings,
Massimo

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #5 Posted by **Frido Bohn** on 25 Jan 2012, 8:40 a.m.,*
in response to message #1 by Diego Diaz

Diego,
¡Muchas gracias por tus esfuerzos!

Frido

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #6 Posted by **Diego Diaz** on 26 Jan 2012, 12:38 a.m.,*
in response to message #5 by Frido Bohn

Thanks for your kind words (also in Spanish: Gracias por vuestros amables comentarios... ;-)

My pleasure.

Cheers

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #7 Posted by **Ángel Martin** on 25 Jan 2012, 4:22 p.m.,*
in response to message #1 by Diego Diaz

It´s even better than Diego makes it sound: the page4 library worls like a charm, so no need to have a CL or MLDL to get into the cutting-edge 41C MCODE, state of the art!

Best, ÁM

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #8 Posted by **Geir Isene** on 25 Jan 2012, 5:12 p.m.,*
in response to message #7 by Ángel Martin

So, no conflict between the #4 Lib and the NoV modules use of address h4100?

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #9 Posted by **Diego Diaz** on 26 Jan 2012, 12:35 a.m.,*
in response to message #8 by Geir Isene

Certainly not Geir... :-)

Ángel was so kind to allow a "NoV-gap" in the H'41xx address range so no conflict will arise.

Best from the Caribbean Sea.

Diego.

Re: Latest update for Clonix & NoV's modules (includes DISASM patch for 41CL)

*Message #10 Posted by **Geir Isene** on 26 Jan 2012, 1:34 p.m.,*
in response to message #1 by Diego Diaz

Updated my NoV-64. Works like a charm. Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

go67c loss of data

*Message #1 Posted by **Vincent Weber** on 24 Jan 2012, 2:03 p.m.*

Hi Olivier,

It seems that sometimes go67c just looses its state - the current card with all its lables is gone... it cannot reproduce on demand, but it seems that the problem happens sometimes after lauching go34c and then switching to go67c. Do you have an idea ?

Thanks and cheers,

Vincent

Re: go67c loss of data

*Message #2 Posted by **Olivier De Smet** on 24 Jan 2012, 4:37 p.m.,*
in response to message #1 by Vincent Weber

Hi,

It's actually normal, only the card (and the pack) is gone, normally, the memory of the calc is restored and the pack was saved.

If you reopen the pack, the card is ok and was saved with the last data written to it.

It's due to the fact that android never tell you when you app will be killed for real. You know when you loose the focus (then i can save calc state and pack if needed) but that's basically all.

Android choosing to kill go67c after launching go34c is a coincidence :) it's just means that there were not enough free mem and the system choose to kill go67c.

So the next launch was a complete reload (and I choose not to save the inserted card and the currently opened pack). If it wasn't killed this will be just a re start with all the state still in mem so with the pack and card loaded

With a real 67 you loose all :(this one keep memory but close your packs, that's all :)

Perhaps I will change that ...

Olivier

Re: go67c loss of data

*Message #3 Posted by **Vincent Weber** on 24 Jan 2012, 4:46 p.m.,*
in response to message #2 by Olivier De Smet

thanks.! i tried "save as" for the first time... and the app crashed !! any clue ?

Re: go67c loss of data

*Message #4 Posted by **Olivier De Smet** on 25 Jan 2012, 5:36 a.m.,*
in response to message #3 by Vincent Weber

You were right, there was a bug in the save/load state behavior. Corrected in 1.0.3, should now save/reload full state (card pack and slot-card)

Olivier

Re: go67c loss of data

*Message #5 Posted by **Vincent Weber** on 25 Jan 2012, 6:22 a.m.,*
in response to message #4 by Olivier De Smet

Thanks Olivier ! seems to work fine now. Btw, a few issues with go41cx:

-Is the R/S key on long touch for some cases ? if you try CAT 2, then R/S to interrupt, it only interrupts if the press on the R/S key is long...

-if you use SHIFT + ON to start the clock, the seconds starts to move only after waiting for a while...

-when you launch the app it displays a lot of messages about the modules loaded, a bit ennoying.

-I put the Advantage, the CCD modified, the Sandmath-II and the 41Z modules in. A bit strange is that the menu structure has change, it is not port 1 2 3 4 in order, but the "Settings entry" is in the middle (between port 1 and 2). Is it normal ?

Thanks and cheers,

Vincent

Re: go67c loss of data

*Message #6 Posted by **Olivier De Smet** on 25 Jan 2012, 7:28 a.m.,*
in response to message #5 by Vincent Weber

- For the R/S key, yes you have to maintain it to register it, it's not a long touch, it's like that ... even to stop a program, sometime you have to maintain it (perhaps a bug in the key scanner)

- shit-on is difficult, it start a 0.01 sec alarm to initiate the display, then a 1 sec to make it change. timer code need more polishing I know.

- clock display blink, yes it's a bug : on a real HP, when you shut off the lcd it's not immediate, there is a fade out delay. Not in the emulation, off is off too fast.

- same for clock: after a master clear, to really start the clock, use 'TIME' function, you will see that it start at that moment.

- the messages can be suppressed, no problem with a settings later.

- the layout of the menu is done by android, if the names are a bit long, it rearrange automatically the display ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35 powers with negative numbers

*Message #1 Posted by **Dan Lewis** on 23 Jan 2012, 9:51 p.m.*

Hi everyone,

I was browsing the internet today, wondering why more of my fellow electrical engineering students won't learn RPN and stop using their TI-89s, when I came across a discussion comparing the TI-89 to the HP-50G. In the discussion, someone said that their little brother typed

-2^4 {which is actually -(2^4)}

into his TI-84 and got -16. This is right. If we type

(-2)^4,

the machine returns 16, also right.

The difference is obviously the parentheses.

WHAT DOES THIS ALL MEAN???

All I have to do with an RPN machine is 2 CHS ENTER 4 Y^X.

SO, I pulled out my trusty HP-35 and tried it!

I pressed:

4 ENTER 2 CHS X^Y (That should do -2^4 = -16 right?)

BUT, to my surprise, the display flashed a big fat ZERO at me!

Why is this? Why does the HP-35 refuse to take a negative number to a power?

I can understand if the power were fractional, such as (-2)^(1/2), resulting in the square root of negative 2.

But the calculator won't do ANY negative number to ANY positive or negative power!

(My 50G can do this just fine.)

Re: HP-35 powers with negative numbers

*Message #2 Posted by **Marcus von Cube, Germany** on 24 Jan 2012, 11:43 a.m.,*
in response to message #1 by Dan Lewis

I looks like it always uses logs and exponentials to compute powers and doesn't perform a check for integer exponents. My 30b and the 15C LE both handle the integer case correctly.

Re: HP-35 powers with negative numbers

*Message #3 Posted by **Katie Wasserman** on 24 Jan 2012, 11:47 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> My 30b and the 15C LE both handle the integer case correctly.

I'll bet not. Try -55555 ^ -55555 on your 30b and tell me what you see.

Re: HP-35 powers with negative numbers

*Message #4 Posted by **Marcus von Cube, Germany** on 24 Jan 2012, 12:35 p.m.,*
in response to message #3 by Katie Wasserman

Katie, that's a good one. ;-)

For those without access to a 30b: The result is a negative zero.

Re: HP-35 powers with negative numbers

*Message #5 Posted by **Katie Wasserman** on 24 Jan 2012, 7:00 p.m.,*
in response to message #4 by Marcus von Cube, Germany

That's not just a display of a negative zero, it's a whole new kind of number, one that does not equal zero.

Re: HP-35 powers with negative numbers

*Message #6 Posted by **Marcus von Cube, Germany** on 25 Jan 2012, 11:45 a.m.,*
in response to message #5 by Katie Wasserman

From what I have tested it's 0, at least if used in any simple arithmetic (*, +). If you have two of these in x and y then ?= returns 1. If you have -0 in y and 0 in x then ?< returns 1.

This looks like a negative zero to me.

Re: HP-35 powers with negative numbers

*Message #7 Posted by **Katie Wasserman** on 25 Jan 2012, 6:15 p.m.,*
in response to message #6 by Marcus von Cube, Germany

If you have -0 in x and 0 in y ?= will return 0. So it's not zero, it's less than zero yet it will work exactly like 0 if used in arithmetic. A pretty strange number if you ask me.

Re: HP-35 powers with negative numbers

*Message #8 Posted by **Marcus von Cube, Germany** on 25 Jan 2012, 9:24 p.m.,*
in response to message #7 by Katie Wasserman

Is -0==0 ? I doubt it.

Re: HP-35 powers with negative numbers

*Message #9 Posted by **Katie Wasserman** on 26 Jan 2012, 7:19 a.m.,*

in response to message #8 by Marcus von Cube, Germany

No -0 does not equal 0, maybe I just said that badly.

Re: HP-35 powers with negative numbers

*Message #10 Posted by **Paul Dale** on 26 Jan 2012, 7:30 a.m.,*
in response to message #8 by Marcus von Cube, Germany

-0==0 is true on the 34S. In both integer and real modes.

- Pauli

Re: HP-35 powers with negative numbers

*Message #11 Posted by **Valentin Albillo** on 26 Jan 2012, 8:08 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> -0==0 is true on the 34S. In both integer and real modes.

Same thing with the HP-71B:

```
> +0=-0

      1
```

However, some functions do treat them differently even though they test equal so -0 it's not just for show.

Best regards from V.

Re: HP-35 powers with negative numbers

*Message #12 Posted by **Dale Reed** on 26 Jan 2012, 2:24 p.m.,*
in response to message #8 by Marcus von Cube, Germany

All of this is specified in IEEE-754 (for binary float) and IEEE-854 (later, for binary and decimal float and others).

[As an aside, note that calculators generally use decimal floating point math, so that 0.1 is an exact number. PCs and other systems (using a C math library, etc.) often use binary floating point math, where the mantissa is binary and the exponent is a power of 2. In these systems, 0.1 decimal is a repeating binary fraction that cannot represent 0.1 exactly, so 0.1 * 10.0 results in a number slightly less than 1.0 (0.9999998 for example).]

I have a fair amount of experience with binary float --- less so with decimal. But I think what follows still applies...

In single precision binary float, +0 is the bit pattern: 0_00000000_00000000000000000000000 (sign, exponent, mantissa all zero bits) and -0 is the bit pattern: 1_00000000_00000000000000000000000 (negative sign, but exponent and mantissa still all zero).

IEEE says that -0 and +0 must compare equal, but many systems take the shortcut of comparing the underlying bit patterns and will result in 'not equal'. (These systems generally are coded to NEVER generate -0, sort of as a "workaround" -- so you'll never have to compare a -0 -- but a -0 received over a comm link will mess them up.)

IEEE 754 also has bit patterns for +/-Infinity, Indefinite, and both "signaling" and "quiet" NaNs (Not a Number). If a variable "x" has NaN (any) for a value, IEEE says x==x should compare FALSE (a NaN never compares equal to anything), but in a system which only compares the underlying bit patterns, x==x will compare TRUE, even if x is NaN.

So is -0==0? Not if the float library was written for speed at the expense of compliance with standards.

Re: HP-35 powers with negative numbers

*Message #13 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 24 Jan 2012, 12:45 p.m.,*
in response to message #3 by Katie Wasserman

;) Sweet!

Re: HP-35 powers with negative numbers

*Message #14 Posted by **Sid Cave** on 24 Jan 2012, 6:59 p.m.,*
in response to message #3 by Katie Wasserman

Being an incurable Smart Alec, I took Katie Wasserman's -55555 ^ -55555 as a challenge. I evaluated it to an exact proper fraction:

-1/12436709…248046875

Which turns out to be around four printed pages long. If anyone wants to see the entire number it is at:

http://home.earthlink.net/~zcave/longnum.txt

Of course I calculated it by hand. Well -- not really. I used Python which has unlimited precision integers. This works out because I could rearrange it like this: -55555 ^ -55555 becomes -1/(55555^55555).

If you want to try it yourself, run the following in your favorite terminal application, assuming you have Python installed. Any UNIX or UNIX like operating systems such as Mac OS X or Linux should already have it. If you are running Windows, first, my condolences. Second, you can install it for free. (http://www.python.org/)

python -c "print '-1/%d' % 55555**55555" > longnum.txt

This could also be calculated using "bc", since it too has unlimited precision integers.

Re: HP-35 powers with negative numbers

*Message #15 Posted by **Katie Wasserman** on 24 Jan 2012, 7:04 p.m.,*
in response to message #14 by Sid Cave

I like it, but my web browser doesn't do it justice.

Re: HP-35 powers with negative numbers

*Message #16 Posted by **Sid Cave** on 24 Jan 2012, 7:14 p.m.,*
in response to message #15 by Katie Wasserman

I just noticed that some browsers do not automatically wrap the text. I reformatted it. Try it now.

Re: HP-35 powers with negative numbers

*Message #17 Posted by **Katie Wasserman** on 24 Jan 2012, 9:49 p.m.,*
in response to message #16 by Sid Cave

Much more impressive looking!

Re: HP-35 powers with negative numbers

*Message #18 Posted by **Jim Yohe** on 25 Jan 2012, 12:59 a.m.,*
in response to message #16 by Sid Cave

Calculated to 263,594 places. Impressive indeed but no more useful than Pi to an equally inordinate number of places. :-)

Re: HP-35 powers with negative numbers

*Message #19 Posted by **Marcus von Cube, Germany** on 25 Jan 2012, 11:50 a.m.,*
in response to message #18 by Jim Yohe

At least it stops there while PI doesn't.

Re: HP-35 powers with negative numbers

*Message #20 Posted by **Katie Wasserman** on 24 Jan 2012, 11:44 a.m.,*
in response to message #1 by Dan Lewis

The 35 was really simple and had limited ROM space so they coded x^y as exp(y * ln(x)). Thus if x is zero or negative the ln function will result in the flashing zero -- the error indicator. This is true for many of the early scientific calculators.

Re: HP-35 powers with negative numbers

*Message #21 Posted by **Valentin Albillo** on 24 Jan 2012, 12:45 p.m.,*
in response to message #20 by Katie Wasserman

> Quote:
>
> The 35 was really simple and had limited ROM space so they coded x^y as exp(y * ln(x)).

The venerable ZX Spectrum of lore did even worse, as it computed Sqrt(x) as x^0.5, which in turn was computed as exp(0.5*ln(x)), thus needing two transcendental functions (and one multiplication), which made the square root function one of the slowest mathematical operations available while with a proper implementation it would be about as fast as a simple division.

If I remember correctly, the ROM code simply pushed x and 0.5 to the math stack and then either fell straight into the x^y routine or made an expression-evaluator call to it. I've got the commented ROM

listing somewhere so I'll eventually check it up.

Best regards from V.

Re: HP-35 powers with negative numbers

*Message #22 Posted by **Dan Lewis** on 24 Jan 2012, 2:16 p.m.,*
in response to message #20 by Katie Wasserman

> Quote:
>
> The 35 was really simple and had limited ROM space so they coded x^y as exp(y * ln(x)). Thus if x is zero or negative the ln function will result in the flashing zero -- the error indicator. This is true for many of the early scientific calculators.

Thank you Katie, that's just what I wanted to know.

I figured it had to be an algorithm/coding type issue, as that is the area of the calculator I know the least about!

Thanks to everyone who participated in this discussion, you have justified the three hours I spent talking to myself saying,

"WHY WON'T IT DO THAT?!"

-Dan Lewis

Re: HP-35 powers with negative numbers

*Message #23 Posted by **Michael de Estrada** on 24 Jan 2012, 11:45 a.m.,*
in response to message #1 by Dan Lewis

Actually, this is a problem for all the HP Classics as well as some of the Woodstocks (HP 21 and HP 25). In fact, the HP 55 returns 4 as the result, instead of 16. By the time the Spices were introduced, the problem had been solved, and all later calculators work properly with negative numbers raised to a power.

Edited: 24 Jan 2012, 11:45 a.m.

Re: HP-35 powers with negative numbers

*Message #24 Posted by **hugh steers** on 24 Jan 2012, 12:53 p.m.,*
in response to message #23 by Michael de Estrada

modern calculators should also handle certain rational power cases.

for example (-32)^(3/5) = -8

there are, of course, the complex answers which are also correct mathematically, but i always like to see the real result given if it exists - especially on calculators without complex numbers!

the above example should also work as (-32)^0.6 = -8

Re: HP-35 powers with negative numbers

*Message #25 Posted by **Nick_S** on 25 Jan 2012, 2:10 a.m.,*

in response to message #24 by hugh steers

> Quote:
>
> for example (-32)^(3/5) = -8
>
> there are, of course, the complex answers which are also correct mathematically, but i always like to see the real result given if it exists - especially on calculators without complex numbers!

The HP15c LE returns an Error 0 for the 32 CHS [enter] 3 5 / y^x calculation in real mode so I tried it using Wolfram Alpha with the input: (-32)^(3/5) real

"Input interpretation: is (-32)^(3/5) a real number?

Result: (-32)^(3/5) is not a real number

Decimal approximation(split over 3 lines): -
2.472135954999579392818347337462552470881236719223051448 5...

+

7.608452130361228576931514667035057147245589073006001779 5... i "

which is the same to 8 dp as the HP15c gives in complex mode.

Nick

Edited: 25 Jan 2012, 2:20 a.m.

Re: HP-35 powers with negative numbers

*Message #26 Posted by **hugh steers** on 25 Jan 2012, 9:03 a.m.,*
in response to message #25 by Nick_S

unfortunately Alpha is not completely correct in saying "Result: (-32)^(3/5) is not a real number". There are, of course, 5 solutions to this calculation, four complex ones and one real one. calculators giving complex answers are just as correct mathematically, but it's nice to give a real output answer to a real input question, whenever it exists.

```
(-32)^(3/5) = ((-32)^3)^(1/5) = (-32768)^(1/5)
```

so, all 5 fifth roots are correct answers. ie the solutions to x^5 + 32768 = 0

However, since complex roots appear in conjugate pairs, there must be one real solution.

namely,

```
(-32)^(3/5) = ((-32)^(1/5))^3 = (-2)^3 = -8
```

Re: HP-35 powers with negative numbers

*Message #27 Posted by **Nick_S** on 26 Jan 2012, 2:41 a.m.,*
in response to message #26 by hugh steers

Thanks, if I feed Alpha the expression x^5 + 32768 directly as input then it does indeed produce

all five roots:

Real root:

x = -8

Complex roots:

x = 8 (-1)^(1/5) ~~ 6.47214 + 4.70228 i

x = -8 (-1)^(2/5) ~~ -2.47214 - 7.60845 i

x = 8 (-1)^(3/5) ~~ -2.47214 + 7.60845 i

x = -8 (-1)^(4/5) ~~ 6.47214 - 4.70228 i

together with a nice star plot of the roots in the complex plane.

Nick

Edited: 26 Jan 2012, 7:01 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: looking for pic of an ARISTO M27's backside

*Message #1 Posted by **Mike (Stgt)** on 24 Jan 2012, 7:45 a.m.*

Wrong forum, I know. I once found in the internet a picture of the short instructions on the backside of the Aristo M27. And lost it in my filing. Today I tried to find it again, alas with no luck. Anybody here who may point me to the right direction?

TIA.....Mike

Re: OT: looking for pic of an ARISTO M27's backside

*Message #2 Posted by **Maximilian Hohmann** on 24 Jan 2012, 7:51 a.m.,*
in response to message #1 by Mike (Stgt)

Hello,

if you can wait till tonight, I will send you a freshly made photo!

Regards, max

Re: OT: looking for pic of an ARISTO M27's backside

*Message #3 Posted by **Mike (Stgt)** on 24 Jan 2012, 8:21 a.m.,*
in response to message #2 by Maximilian Hohmann

No way, I need it now!! Hehe, for sure not, take your time, I may wate 1..2 weeks. Thanks for your kind help.

Ciao.....Mike

Re: OT: looking for pic of an ARISTO M27's backside

*Message #4 Posted by **Maximilian Hohmann** on 24 Jan 2012, 2:13 p.m.,*
in response to message #1 by Mike (Stgt)

Hello again,

here is the photo (a bit difficult to take, because the label is nothing but "raised white plastic on white plastic background")

Full size is here: http://www.bombie.de/tmp/IMG12553_5_6_tonemapped_fullsize.jpg

I have two of the three variants of the M27 and both have identical backs. Still missing the one without the

"CE" key...

Ciao,max

Re: OT: looking for pic of an ARISTO M27's backside

*Message #5 Posted by **Mike (Stgt)** on 25 Jan 2012, 11:36 a.m.,*
in response to message #4 by Maximilian Hohmann

Hallo Max!

Thank you very much for this excellent picture, it is realy perfect. Now my question: do you mind if I use it as "help" for a 4-banger I programmed with Delphi? My son has programming lessons at school and I assisted him a bit in the 'build a four function calculator' exercise. Looking for a fewest keys model I found the Aristo M27 ideal, in addition it has a good coloring and shaping. Like other calculator programs it has moving keys, error beep depending on the kind of error, keys with clicksound, changing cursor, and PC-keybord mapping. To simplify things it lacks calculating with constants and the display is made with fonts instead of pictures of the LED digits. But the backside picture as help screen would be nice because meanwhile I discovered that I accidentally used as faceplate the first calculator made in old Germany.

So I hope your answer will by yes.

Ciao.....Mike

Re: OT: looking for pic of an ARISTO M27's backside

*Message #6 Posted by **Maximilian Hohmann** on 25 Jan 2012, 3:56 p.m.,*
in response to message #5 by Mike (Stgt)

Hello Mike,

> Quote:
>
> So I hope your answer will by yes.

Of course it is, since I took the photo for you (and your son) :-) I hope he enjoys the programming excercise as much as I did mine back then!

BTW: The Aristo M27 is one of the three calculators that I will keep if one day someone or something forces me to give my collection away (together with an Hp-25 and my faithful companion when I really needed a caculator: the Ti59).

Ciao, Max

Re: OT: looking for pic of an ARISTO M27's backside

*Message #7 Posted by **Mike (Stgt)** on 26 Jan 2012, 8:26 a.m.,*
in response to message #6 by Maximilian Hohmann

Thank you very much for your permission! Of cause I will mention you as source of the original photo. I try to augment the contrast, may be I colorize it.

But - is the protokoll for substraction realy correct? To calculate 20-25 press C, 2, 0, +=, 2, 5, -. I assume there is a typo where += and - should be exchanged. As lucky owner of an ARISTO M27, could you please check this.

My son knows the emulators from Christoph Gießelink and as such he had the idea to use a nice faceplate/skin instead of a simple mask for this simple calculator exercise. Alas, because he lives not with me I could not show him my way unfamiliar with Delphi to get a result which was of much more importance - at least for me - than the result on its own.

I try to publish the result next month.

Ciao.....Mike

Re: OT: looking for pic of an ARISTO M27's backside

*Message #8 Posted by **Maximilian Hohmann** on 26 Jan 2012, 11:48 a.m.,*
in response to message #7 by Mike (Stgt)

Hello!

> Quote:
>
> Of cause I will mention you as source of the original photo.

That's really not necessary!

> Quote:
>
> But - is the protokoll for substraction realy correct? To calculate 20-25 press C, 2, 0, +=, 2, 5, -. I assume there is a typo where += and - should be exchanged. As lucky owner of an ARISTO M27, could you please check this.

It really works that way, I just checked to be 100% certain. But this kind of entry logic is not unique to that calculator. Quite a few other calculators of that era work the same way.

And regarding the "lucky ownwer": Yes for sure! What I really can't understand is that mass-produced memory modules for HP-41s from the late 80ies are sold for more than 100 Euros on eBay while you still can find absolute rarities like the Aristo M27 for less than 50 (I think I paid around 30 for each of mine).

Ciao, max

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emulators on iPod touch

*Message #1 Posted by **Mike (Stgt)** on 24 Jan 2012, 7:32 a.m.*

I assume all calc emus written for the iPhone will work on the iPod touch too.

i) which app is recomended for the HP41, which one for the other HP calcs?

ii) are there emulators for this platform with CAS (HP or others)?

iii) are there serious reasons *not* to buy an iPod touch to 'play' with those emulators (or simulators if you prefere)?

Ciao.....Mike

Re: Emulators on iPod touch

*Message #2 Posted by **Maximilian Hohmann** on 24 Jan 2012, 8:01 a.m.,*
in response to message #1 by Mike (Stgt)

> Quote:
>
> iii) are there serious reasons *not* to buy an iPod touch to 'play' with those emulators (or simulators if you prefere)?

One serious reason comes to my mind instantly: The iPad! Depending of course what else you want/need to do with it. I have mine since four weeks or so and must say, that no other electronic device/gadget/toy has fascinated me that much ever. All calculators included...

I have tried a few HP emulators on the iPad (only free ones so far like an HP70 and several Hp48 models), but prefer the actual hardware calculators by far. The functions are there, but the look, feel and smell is missing. On the iPad, I rather use calculators specifically made for that device.

Regards max

Re: Emulators on iPod touch

*Message #3 Posted by **Mike (Stgt)** on 24 Jan 2012, 8:59 a.m.,*
in response to message #2 by Maximilian Hohmann

Thanks for your reply. The thing is, up to now I only had two devices that did fit my needs perfectly: as student the HP-41 and at work the HP200LX. Currently I use a netbook which is waaay too big compared with the Palmtop and - darn! - needs a new accu now. I was told that the iPad would be perfect, even w/o keybord. But I do not look for a replacement of the HP200LX, I don't work during traveling any more. While changing trains I'd like to download some podcasts, xchange mail (only if possible), and have some entertainment including emulators of pocket caöculators.

Ciao.....Mike

Re: Emulators on iPod touch

*Message #4 Posted by **Ángel Martin** on 24 Jan 2012, 10:19 a.m.,*
in response to message #3 by Mike (Stgt)

I use i41CX+ on my Ipod Touch - it works great, has access to all modules on TOS, and yes it has CAS.

Cheers, ÁM

Re: Emulators on iPod touch

*Message #5 Posted by **Mike (Stgt)** on 24 Jan 2012, 11:41 a.m.,*
in response to message #4 by Ángel Martin

What? What?? Did I miss something? CAS on the HP41??? Seems if there are no Allschwil meetings any more we have to join elsewhere now and then. How about this November almost the same distance to Basle, just the oposite side, across the border. :)

Ciao.....Mike

Re: Emulators on iPod touch

*Message #6 Posted by **Juergen Keller** on 24 Jan 2012, 5:53 p.m.,*
in response to message #5 by Mike (Stgt)

> Quote:
>
> How about this November almost the same distance to Basel, just the oposite side, across the border. :)

Great idea!

Re: Emulators on iPod touch

*Message #7 Posted by **Raymond Del Tondo** on 24 Jan 2012, 6:50 p.m.,*
in response to message #5 by Mike (Stgt)

Since there are many new hardware and software development projects related to HP calculating devices,
another Allschwil Meeting could be very interesting, and would make sense IMHO;-)

Re: Emulators on iPod touch

*Message #8 Posted by **Mike (Stgt)** on 25 Jan 2012, 10:49 a.m.,*
in response to message #7 by Raymond Del Tondo

OK, please give me 2 or 3 weekends to check the feasibility in the photo studio of a friend or if Allschwil is the better choice. (Matthias! Do you have some spare time to organize it?)

Ciao.....Mike

Re: Emulators on iPod touch

*Message #9 Posted by **Ángel Martin** on 25 Jan 2012, 11:57 a.m.,*
in response to message #8 by Mike (Stgt)

I vote for Stuttgart this time...

Allschwil meeting in Stuttgart?

*Message #10 Posted by **Mike (Stgt)** on 25 Jan 2012, 12:08 p.m.,*
in response to message #9 by Ángel Martin

Well, there are many alternatives. Alas in Stgt I do not know an inexpensive meeting room, but a snug (Nebenzimmer) of a restaurant could be ok.

Ciao.....Mike

Re: Allschwil meeting in Stuttgart?

*Message #11 Posted by **Ángel Martin** on 25 Jan 2012, 4:26 p.m.,*
in response to message #10 by Mike (Stgt)

Sorry I assumed you were located in Stuttgart - I really don´t care where, just let us know :)

Best, ÁM

Re: Allschwil meeting in Stuttgart?

*Message #12 Posted by **Mike (Stgt)** on 26 Jan 2012, 9:05 a.m.,*
in response to message #11 by Ángel Martin

I work in Stuttgart but I do not live in Stuttgart. Like many others of my colleagues I am a WE commuter (one of them even to Prague, every WE with his own car).

This sayed I would suggest a location where the majority has an advantage.

Ciao.....Mike

Re: Allschwil meeting in Stuttgart?

*Message #13 Posted by **Raymond Del Tondo** on 26 Jan 2012, 8:01 p.m.,*
in response to message #12 by Mike (Stgt)

Cologne. Nearly same distance for most:-)

Re: Allschwil meeting in Stuttgart?

*Message #14 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 4:05 a.m.,*
in response to message #13 by Raymond Del Tondo

Frankfurt isn't bad either. :-)

Re: Allschwil meeting in Stuttgart?

*Message #15 Posted by **Matthias Wehrli** on 28 Jan 2012, 7:09 a.m.,*
in response to message #14 by Marcus von Cube, Germany

Or even Allschwil?

Re: Emulators on iPod touch

*Message #16 Posted by **Geir Isene** on 25 Jan 2012, 5:10 p.m.,*
in response to message #9 by Ángel Martin

Anywhere in Europe will be pretty dandy.

Re: Emulators on iPod touch

*Message #17 Posted by **Mike (Stgt)** on 27 Jan 2012, 4:39 p.m.,*
in response to message #16 by Geir Isene

Yes, how about Strassbourg, Belfort, Lyon, or why not Paris. No, that would be too far west :)

Ciao.....Mike

Re: Emulators on iPod touch

*Message #18 Posted by **JDonley** on 24 Jan 2012, 6:57 p.m.,*
in response to message #3 by Mike (Stgt)

I have 17bii pro and 10bii+ on iPad and they are compatible with iPod touch. Not freebies, about $5 each. They are very nice if finance is your thing. I use my calcs most of the time though.

Re: Emulators on iPod touch

*Message #19 Posted by **Mike (Stgt)** on 25 Jan 2012, 10:52 a.m.,*
in response to message #18 by JDonley

Thank you for the hint. I do like the HP17B2 with its solver.

Ciao.....Mike

Re: Emulators on iPod touch

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Jan 2012, 7:58 p.m.,*
in response to message #1 by Mike (Stgt)

In my case, the mere availability of Free42 by Thomas Okken (and also Byron Foster's 42S derivative of Free42) were enough to justify buying my first iPod Touch in 2009; I later upgraded to a newer unit in 2010.

There are many HP emulators for free, so I currently have a 12C, 21, 35 (webpage, not resident) and two 48 emulators, even if I'm not a RPL type. But Free42 is what I use all the time.

I also have an Android phone, and Free42 also runs there, but (in my particular case) the screen quality and touch response are much better on the iPod.

Re: Emulators on iPod touch

*Message #21 Posted by **Mike (Stgt)** on 26 Jan 2012, 9:08 a.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

Thank you for your reply, now my decission is clear: I try to get a 32GB´model in black this WE.

Ciao.....Mike

Re: Emulators on iPod touch

*Message #22 Posted by **Andrés C. Rodríguez (Argentina)** on 26 Jan 2012, 6:24 p.m.,*
in response to message #21 by Mike (Stgt)

You will not regret your decision. If possible, obtain one which has been already updated to IOS 5 (otherwise, it's a free update, but you will need to take care of doing it, not a big problem anyway). When you open your iPod for the first time, you may find it frustrating to need an (free) iTunes account and download in order to start using it, but, after that, everything will be fine. Good luck!

Re: Emulators on iPod touch

*Message #23 Posted by **Mike (Stgt)** on 27 Jan 2012, 4:36 p.m.,*
in response to message #22 by Andrés C. Rodríguez (Argentina)

hehe, yes, frustrating. w/o internet access there is no chance to make it work. So I took my bike and drove to Basle, great fun, good music, a free wiFi and a bière grenadine. :) and too much devices authorized - hard cheese to get those emulators work. But I will get there.

Thanks again for all who helped.

Ciao.....Mike

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 24 Jan 2012, 5:52 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Someone hacked this together.

*Message #2 Posted by **Frank Boehm (Germany)** on 24 Jan 2012, 7:17 a.m.,*
in response to message #1 by deleted

The calculators were used as a cheap display. Any other calculator would have worked as well :)

Re: Frank, I guess you are wrong! Needs a TI-1000

*Message #3 Posted by **Joerg Woerner** on 24 Jan 2012, 12:21 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Frank,

You can't use a HP-21!

Read the thread below this one:

HP-21 displays all zeroes

Cheers, Joerg

so true

*Message #4 Posted by **Frank Boehm (Germany)** on 25 Jan 2012, 9:36 a.m.,*
in response to message #3 by Joerg Woerner

but a TI-1200 might have worked as well ;)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE Case

*Message #1 Posted by **Brandon Poindexter** on 23 Jan 2012, 9:47 p.m.*

I've had my PH 15c LE for a good month now. But I had this nagging feeling that the case I was supplied with wasn't as "high end" as I had hoped. And after reading the following post:

HP 15c LE and 12c

and by viewing the following jpeg:

has me to believe that I was supplied with the HP 12c case (mine is not texture-marbled like the top one, but instead is flat). I'm not up in arms about it or anything, just a tad bummed is all. I must say though that the 15c LE case "looks" a tad better feeling compared to the one supplied for the 12c.

Which leads me to the question, has anyone bought these Voyager Cases on eBay? The rigid front/back is the reason I'd like it, but not sure 100% if these are any good. Does anyone have experience with them?

Edited: 23 Jan 2012, 10:27 p.m. after one or more responses were posted

Re: HP 15c LE Case

*Message #2 Posted by **Michael de Estrada** on 23 Jan 2012, 10:05 p.m.,*
in response to message #1 by Brandon Poindexter

> Quote:
>
> Which leads me to the question, has anyone bought these Voyager Cases on eBay? The rigid front/back is the reason I'd like it, but not sure 100% if these

> are any good. Does anyone have experience with them?

I've bought 3 of them and like them a lot. They are well made with nice leather and fit very well. It's easy to insert and remove the calculator, and they appear quite sturdy. The cases supplied with HP 15C LE are useless crap, and are much worse than the original Voyager cases.

Re: HP 15c LE Case

*Message #3 Posted by **Brandon Poindexter** on 23 Jan 2012, 10:29 p.m.,*
in response to message #2 by Michael de Estrada

Cool! I guess ill try it out. I was a bit spoiled with the case that came with the HP 35s, as I always kept it in its case. Thanks for your feedback.

Re: HP 15c LE Case

*Message #4 Posted by **Michael de Estrada** on 23 Jan 2012, 10:49 p.m.,*
in response to message #3 by Brandon Poindexter

Even the case that came with the 33s is very nice. It's a similar slip case design with hard top and bottom pieces, although it is not leather. I certainly would have rather had a nice slip case with 15C LE, and dispensed with the silly presentation case.

Re: HP 15c LE Case

*Message #5 Posted by **bill platt** on 23 Jan 2012, 11:17 p.m.,*
in response to message #4 by Michael de Estrada

The standard voyager cases were never leather, either (the standard black ones)...

Re: HP 15c LE Case

*Message #6 Posted by **Michael de Estrada** on 23 Jan 2012, 11:41 p.m.,*
in response to message #5 by bill platt

I never said they were leather, but they were better made with thicker material and thinner seams, so you could easily insert and remove the calculator. Have you tried inserting or removing a 15C LE from it's case ? Not easy at all.

Re: HP 15c LE Case

*Message #7 Posted by **bill platt** on 24 Jan 2012, 12:13 a.m.,*
in response to message #6 by Michael de Estrada

I didn't buy an LE. I have two original Corvallis 15C...

Re: HP 15c LE Case (improving the fit)

*Message #8 Posted by **Nick_S** on 24 Jan 2012, 4:12 a.m.,*
in response to message #6 by Michael de Estrada

> Quote:
>
> Have you tried inserting or removing a 15C LE from it's case ? Not easy at all

This problem can be solved by turning the vinyl case inside-out and carefully trimming the excess fabric closer to the seam all the way round. Then, just reverse it and the calculator can slide in and out more easily.

Note that all three of my HP-15C LE calculators have the fine-grained vinyl case, rather than the marble textured one.

Nick

Edited: 24 Jan 2012, 4:18 a.m.

Re: HP 15c LE Case (improving the fit)

*Message #9 Posted by **Bart (UK)** on 24 Jan 2012, 6:27 a.m.,*
in response to message #8 by Nick_S

> Quote:
>
> This problem can be solved by turning the vinyl case inside-out and carefully trimming the excess fabric closer to the seam all the way round.

I haven't had to do this with the old ones. For that matter why should we be doing HP's work? It's easily done, but that's not the point. And yes, I know it's cheaper than 30 years ago, but then so are many things for which we don't expect to have have to do the finishing touches ourselves.

Re: HP 15c LE Case

*Message #10 Posted by **Thomas Radtke** on 24 Jan 2012, 3:42 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> I've bought 3 of them and like them a lot. They are well made with nice leather and fit very well. It's easy to insert and remove the calculator, and they appear quite sturdy.

The seller even offers inexpensive shippment to Europe. Just ordered one :-).

Re: HP 15c LE Case

*Message #11 Posted by **Reth** on 24 Jan 2012, 3:48 a.m.,*
in response to message #10 by Thomas Radtke

Me too, to Australia

Re: HP 15c LE Case

*Message #12 Posted by **Raymond Wiker** on 24 Jan 2012, 10:46 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> I've bought 3 of them and like them a lot. They are well made with nice leather and fit very well. It's easy to insert and remove the calculator, and they appear quite sturdy. The cases supplied with HP 15C LE are useless crap, and are much worse than the original Voyager cases.

I just ordered 3 - one for my HP-16C, one for an HP-12C that I rescued at work, and one for my HP-15C LE.

Re: HP 15c LE Case

*Message #13 Posted by **John Robinson** on 24 Jan 2012, 6:03 p.m.,*
in response to message #12 by Raymond Wiker

They look much better than those crappy 12C 25th Anniversary cases !

Cheers, John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-21 displays all zeroes

*Message #1 Posted by **Barry Smith** on 23 Jan 2012, 6:29 p.m.*

Hello, I have an HP-21 that was recently working just fine. I removed the battery pack and put it back in, and now the display shows all zeroes. It's possible that some small particles may have gotten inside the case.

Any suggestions as to what might be wrong?

Thanks!

Re: HP-21 displays all zeroes

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Jan 2012, 7:43 p.m.,*
in response to message #1 by Barry Smith

Barry,

Katie has a very good article on this subject which may help. You can find her article in forum Articles area.

Seems like the solution may be to keep the unit on for up to 1/2 hour and turn off, turn it back on again. Quote from Katie's article "A seemingly common problem on some Woodstock machines is that they don't work until they are left on to "warm up" for some period of time. After leaving the on for several minutes (maybe up to 1/2 hour) then turning them off and back on again they start working normally."

Hope it helps,

Regards,Kerem

Edited: 23 Jan 2012, 7:47 p.m.

Re: HP-21 displays all zeroes

*Message #3 Posted by **Randy** on 23 Jan 2012, 9:18 p.m.,*
in response to message #1 by Barry Smith

The article does not apply to the HP21 as it has no external ram.

Based on what happened, the problem is either a bad battery or bad contact with said battery. If the battery has been rebuilt, make sure the cells are connected with a welded strap, do not rely on the spring to do the job - as even a small amount of corrosion will cause problems. When you have a bad battery or bad contact, connecting the calculator to the HP charger can and usually results in catastrophic failure of the ACT (arithmetic, control, timing) IC. In other models of the 20 series, other components can be damaged as well.

Re: HP-21 displays all zeroes

*Message #4 Posted by **Michael de Estrada** on 23 Jan 2012, 9:27 p.m.,*
in response to message #1 by Barry Smith

Some questions.

Is this a NiCd battery pack ?

If so, was it charged inside the calculator ?

Is there any evidence of corrosion on the battery contacts inside the calculator ?

Do you have a voltmeter, and if so what is the battery pack voltage outside the calculator ?

Re: HP-21 displays all zeroes

*Message #5 Posted by **Barry Smith** on 26 Jan 2012, 8:03 p.m.,*
in response to message #4 by Michael de Estrada

I replaced the original batteries with Everready NiMH 1.2V rechargables, then charged them up in the calculator using the original charger.

All was working well until I attempted some additional cleaning of the battery contacts using an eraser: https://picasaweb.google.com/rabbybuns/HP21#

I'll have to ask my brother for help with a voltmeter.

Thanks, everyone, for your advice!

Re: HP-21 displays all zeroes

*Message #6 Posted by **Steve Simpkin** on 27 Jan 2012, 1:22 p.m.,*
in response to message #5 by Barry Smith

Randy said, "When you have a bad battery or bad contact, connecting the calculator to the HP charger can and usually results in catastrophic failure of the ACT (arithmetic, control, timing) IC. In other models of the 20 series, other components can be damaged as well. "
I am afraid what may have occurred is that when you cleaned the battery with an eraser, eraser residue (or another battery connection problem) may have caused the battery to not make a good connection with the calculator. If this happens AND then you plug the charger into the calculator, circuitry damage often occurs. The lesson from this is: NEVER EVER charge the batteries in the calculator. Always use an external charger. Using the batteries as a voltage regulator and over-voltage protection was a very poor decision on HP's part.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Port of ilper for PILBox under Linux & *BSD

*Message #1 Posted by **cgh** on 23 Jan 2012, 6:48 p.m.*

Hello,

I delivered on TOS my port of ilper under Linux & *BSD to use with the PILBox from J.F.Garnier.

See the README for installation instructions.

Enjoy.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #2 Posted by **Geir Isene** on 23 Jan 2012, 6:49 p.m.,*
in response to message #1 by cgh

+1

no actually; +Lots

Re: Port of ilper for PILBox under Linux & *BSD

*Message #3 Posted by **Egan Ford** on 23 Jan 2012, 10:15 p.m.,*
in response to message #2 by Geir Isene

1 + !

Re: Port of ilper for PILBox under Linux & *BSD

*Message #4 Posted by **Geir Isene** on 24 Jan 2012, 3:04 a.m.,*
in response to message #1 by cgh

Most went smooth.

But got this:

```
[noosisegei@maleko:~/Dl/tmp/sdk41/m41] make
gcc -c -g -I../inst -I../mflt -I../misc -I../d41 -I../a41 m41.c
In file included from m41.h:38:0,
                 from m41.c:35:
kbd.h:45:29: error: array type has incomplete element type
In file included from m41.c:35:0:
m41.h:44:0: warning: "border" redefined [enabled by default]
/usr/include/ncurses.h:1139:0: note: this is the location of the previous definition
m41.h:45:0: warning: "getstr" redefined [enabled by default]
/usr/include/ncurses.h:1188:0: note: this is the location of the previous definition
make: *** [m41.o] Error 1
```

Edited: 24 Jan 2012, 3:08 a.m.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #5 Posted by **cgh** on 24 Jan 2012, 12:09 p.m.,*
in response to message #4 by Geir Isene

Hi,

I do not believe that **m41** compiles. I tryed to start the port, but I gave up because I started to rewrite and enhance the **NSIM** emulator.

In fact, I have only worked and used **a41** and **d41** in the SDK.

Sorry.

Edited: 24 Jan 2012, 12:10 p.m.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #6 Posted by **Geir Isene** on 24 Jan 2012, 12:54 p.m.,*
in response to message #5 by cgh

ok, np

Anything I can do to inspire you to complete it?

Re: Port of ilper for PILBox under Linux & *BSD

*Message #7 Posted by **cgh** on 24 Jan 2012, 1:36 p.m.,*
in response to message #6 by Geir Isene

Yes ! Increase the number of hours in a day ;-)

The real problem is that the first port (in 2005) was done on an old FreeBSD (2.2.7). So, I suspect that some headers or structures have changed. I am now working on Debian/Linux and I have the same errors as you.

I will try to do something... during... this year...

Sorry, I do not have a lot of time to program as a hobby :-(

If I make a patch working, I will post here. So... Just wait.

Edited: 24 Jan 2012, 1:37 p.m.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #8 Posted by **Geir Isene** on 24 Jan 2012, 1:51 p.m.,*
in response to message #7 by cgh

hands softly waving in front of you *pendulum swinging... back and forth... back and forth...*

The gentle voice whispers: "You are inspired. You feel a desire, an urge, a compelling enthusiasm for completing the M41 on Linux. When you wake up, you will remember nothing of this. Only the strong urge will remain"

SNAP

Re: Port of ilper for PILBox under Linux & *BSD

*Message #9 Posted by **cgh** on 24 Jan 2012, 4:49 p.m.,*
in response to message #8 by Geir Isene

MEMORY LOST

Edited: 24 Jan 2012, 4:50 p.m.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #10 Posted by **cgh** on 24 Jan 2012, 5:31 p.m.,*
in response to message #4 by Geir Isene

Hi,

Just comment the line **45** in file **m41/kbd.h**

You should have:
//extern struct kbd_data_type kbd_data[39];

With a lot of warnings, it compiles.

Re: Port of ilper for PILBox under Linux & *BSD

*Message #11 Posted by **Geir Isene** on 25 Jan 2012, 1:55 a.m.,*
in response to message #10 by cgh

Hey! My Mumbo-Jumbo worked :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 23 Jan 2012, 6:04 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [Kerem Kapkin] No words to express.

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Jan 2012, 7:24 p.m.,*
in response to message #1 by deleted

You are very welcome. Many people in this forum, across the world contributed so much in many ways to this community without expecting any return, other than seeing another person enjoy and love as much as what they are passionate about in the world of HP calculators. I am glad to be able to pay-forward some of that generosity and goodwill.

Cheers, Kerem

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #1 Posted by **MichaelG** on 23 Jan 2012, 3:32 p.m.*

The subject says it all. Is there any interest in a 32-bit Windows version of Leo Duran's User Code Utility for the HP-41?

The port does not seem that difficult but has one feature I'd like to change. The command seems to accept wildcards for input file names. I'd like to remove that feature and accept only real filenames.

Is is worth the work?

Michael

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 23 Jan 2012, 4:12 p.m.,*
in response to message #1 by MichaelG

Sure!
Why not move one step forward? Thank you.

Greetings,
Massimo

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #3 Posted by **Egan Ford** on 23 Jan 2012, 5:01 p.m.,*
in response to message #1 by MichaelG

I'd prefer a POSIX version that could then be compiled on any platform. For Windows you'd use DJCPP.

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 23 Jan 2012, 5:05 p.m.,*
in response to message #3 by Egan Ford

A Windows only version is fine to me... :p ;)

Massimo

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #5 Posted by **Geir Isene** on 23 Jan 2012, 5:16 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

A Linux only version is fine with me :)

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 23 Jan 2012, 5:46 p.m.,*
in response to message #5 by Geir Isene

Fine! But since it started as a DOS pgm... ;)

Edited: 23 Jan 2012, 5:53 p.m.

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #7 Posted by **Geir Isene** on 23 Jan 2012, 5:56 p.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

POSIX... Compiled for Linux... forget the Windows.

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #8 Posted by **Ángel Martin** on 24 Jan 2012, 2:17 a.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

PLs. don´t forget Windows - some of us still (must) use it , even if we loath it.

Looking forward to the port!

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 24 Jan 2012, 10:28 a.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> PLs. don´t forget Windows - some of us still (must) use it , even if we loath it.

Since it is my bread and butter I won't loathe it. Rather I loathe some fruity boxes... ;)
+1 for the Win version!

Massimo

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #10 Posted by **MichaelG** on 27 Jan 2012, 12:41 p.m.,*
in response to message #1 by MichaelG

I haven't that good news. I've been a software engineer for almost 30 years. Not to blame the author of the tool but I personally judge the source code as highly unmaintainable. It is by far more effort necessary than I am willing to invest for the port. It took me a long while to find a not initialized variable in the original code which created big problems. All my experience tells me even if I get it to work there is a huge amount of testing needed.

The good news are it seems that the conversion from txt to raw works. Having the above information in mind what are the most important conversions for you. The converter support n x m conversions. Can we reduce that for the time being to a needed minimum?

Michael

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #11 Posted by **David Hayden** on 27 Jan 2012, 8:40 p.m.,*
in response to message #1 by MichaelG

I'm curious to see the source code. Can you say where you found it? I can't seem to locate the source with google.

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #12 Posted by **MichaelG** on 28 Jan 2012, 2:25 a.m.,*
in response to message #11 by David Hayden

I found it here: http://hp41.claughan.com/file/hp41uc.zip

After digging a bit deaper into the code I finally gave up. The reason is the port might be possible. But I see the port only as a first step to move the tool to the 32-bit platform. If I port something I also want to be able to maintain the code up to a certain extend (like previously the A41, L41). I see no chance here. I think its better to rewrite the tool. Perhaps its possible to find the logic (its well hidden).

Michael

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #13 Posted by **David Hayden** on 28 Jan 2012, 10:34 p.m.,*
in response to message #12 by MichaelG

Thanks for the pointer to the source code.

I see what you mean about the logic. The overall design seems to be "there are a few dozen distinct translations that can happen, let's code them all and factor out the common parts." If I were writing it, I think I would translate each supported format to/from one common format (maybe RAW). Then each translation would involve two steps: input format to raw, and raw to output format. It might take a little longer at run time, but it would drastically simplify the code.

Another problem is that the code assumes it's running on a little-endian machine. A 32-bit version should probably have source code that works on either little- or big-endian hardware.

Dave

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #14 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 28 Jan 2012, 11:40 p.m.,*
in response to message #1 by MichaelG

+1 for the Win 32 version. Regards, Kerem

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #15 Posted by **MichaelG** on 29 Jan 2012, 5:58 a.m.,*
in response to message #1 by MichaelG

As estimated it is by far easier to start from scratch. And I started it. The compiler now uses the classis technology and is fully table driven. First step is the lexical analysis (the tokenizer) then do what is needed

based on the table entry. There is an entry for each statement describing its opcode, parameters etc. The core compiler is only 260 lines.

The good news is the compiler already creates reasonable output (from txt to raw). The error handling is prepared, thats the next step.

I know some people won't love what's comming now: this version is written in C#/.Net 4.0. Besides the new structure it is one reason why the development can be that fast.

I'm not decided yet whether I go for a command line tool or some sort of GUI. Your input is welcome. For my tests the compiler has a window :-)

And I plan to introduce defines or however it gets called finally. The idea is you can define a constant and use that constant for the rest of the program. The compiler replaces the constant with the assigned value. E.g.

#def IAMACONST 12
RCL IAMACONST

results in

RCL 12

Michael

Edited: 29 Jan 2012, 8:08 a.m.

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #16 Posted by **David Hayden** on 29 Jan 2012, 8:12 a.m.,*
in response to message #15 by MichaelG

The only time I've used hp41uc was to convert a bunch of programs to several different formats, so the command line abilities were my preference. I was able to create a script to convert all the files.

Note that what this really means is that it would be nice to be able to do some sort of batch conversion. A windowed utility could do that too.

One nice feature of a windowed interface might be the ability to expand/collapse LIF directories so you can convert individual files within them.

As for a pre-processor, I'd be happy with the C pre-processor.

Dave

Re: Interest in 32-bit version of User Code Utiltiy for HP-41

*Message #17 Posted by **MichaelG** on 30 Jan 2012, 2:01 p.m.,*
in response to message #1 by MichaelG

Here is the first 32-bit beta version v0.7 of the txt to raw compiler:

download.michael-goericke.de/FocalComp.zip

Right now without docu. The zip contains a small test file that shows how the defines work. The emulator V41 loads the raw files.

The command line is very simple:

FocalComp <filename>

No option right now. Filename needs to be fully qualified (with extension). The output filename is constructed by exchanging the extension with .raw.

As mentioned the runtime environment .Net 4.0 is required. Specifically the client profile version is sufficent. Its standard under Win 7 and there are installer available for XP and Vista in case it isn't already installed on your system.

Special characters in strings aren't handled yet like append

Michael

Edited: 30 Jan 2012, 2:29 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C-LE European deliveries

*Message #1 Posted by **Derek Walker (UK)** on 23 Jan 2012, 5:16 a.m.*

Availability of the 15C-LE in Europe has recently been quoted as 'mid January' (i.e. about a week ago) or 'week 4 of 2012' (about now).

I have two on order from a UK supplier, who sent me this e-mail last Saturday:

```
We have now been advised by HP that the 15C will not be available until February. We have been
pressing them for a definitive date but are still awaiting confirmation.

Apologies for the inconvenience.

If you wish your order to be cancelled please advise otherwise we will keep it on backorder
for you.
```

Having waited this long (and having bought one US model), I will keep them on order, but I wonder what has caused this further delay? If they are coming from China by ship, one would expect the arrival date to have been fixed some time ago.

Edited: 23 Jan 2012, 5:18 a.m.

Re: HP15C-LE European deliveries

*Message #2 Posted by **Bart (UK)** on 23 Jan 2012, 5:32 a.m.,*
in response to message #1 by Derek Walker (UK)

I'm in the same boat, but only ordered one unit.

I too will wait ... it's been so long already.

Re: HP15C-LE European deliveries

*Message #3 Posted by **Jan** on 23 Jan 2012, 1:44 p.m.,*
in response to message #1 by Derek Walker (UK)

I contacted the distributor of HP-calculators in The Netherlands (who previously had indicated the 15C LE would be available by mid-january)some 2 weeks ago and he gave me the same info: february. HP, what is going on?

Re: HP15C-LE European deliveries

*Message #4 Posted by **Lode** on 23 Jan 2012, 3:22 p.m.,*
in response to message #1 by Derek Walker (UK)

I got one in CH from a CH shop.

How can one see whether it's a European version or not?

Its serial number is above 11000. Its firmware is dated april 2011 though.

Re: HP15C-LE European deliveries

*Message #5 Posted by **Bart (UK)** on 24 Jan 2012, 7:21 a.m.,*
in response to message #4 by Lode

> Quote:
>
> How can one see whether it's a European version or not?

Apparently they have different part numbers:

> Quote:
>
> "A note on availability in Europe on both theHP12c Anniversary and HP 15 LE:
> .... they will be a different part number than the US ones **(#B1S instead of #ABA)**."

From: The Calculatorstore blog: And finally ... there are here!!!

Re: HP15C-LE European deliveries

*Message #6 Posted by **Paulo MO** on 23 Jan 2012, 5:15 p.m.,*
in response to message #1 by Derek Walker (UK)

They're probably busy fixing the firmware. :-)

I would happily wait two more months, if they got it right (LSE and power consumption) for the next batch. Long live the concept of a bug free european batch!

Optimist makes the world go round! Yes, money too, Liza :P

Cheers Paulo

Re: HP15C-LE European deliveries

*Message #7 Posted by **From Hong Kong** on 24 Jan 2012, 4:13 a.m.,*
in response to message #6 by Paulo MO

> Quote:
>
> They're probably busy fixing the firmware. :-)
>
> I would happily wait two more months, if they got it right (LSE and power consumption) for the next batch. Long live the concept of a bug free european batch!
>
> Optimist makes the world go round! Yes, money too, Liza :P
>
> Cheers Paulo

I once thought the batch that arrived in Hong Kong was bug free. I don't think they'll do anything

exclusively for the European batch. You will soon be disappointed!

Re: HP15C-LE European deliveries

*Message #8 Posted by **Bart (UK)** on 24 Jan 2012, 7:22 a.m.,*
in response to message #7 by From Hong Kong

I agree with your sentiment, I do not think the firmware will be fixed, but the keyboard issue should be fixed.

Re: HP15C-LE European deliveries

*Message #9 Posted by **Ernst Fueloep** on 26 Jan 2012, 9:03 a.m.,*
in response to message #8 by Bart (UK)

I have received now a HP-15C LE from an European supplier (www.thecalculatorstore.com).

Firmware is still dated 2011-04-15 and it still has the PAUSE bug.

But the keyboard is nice and fully working.

So, it looks like there is not really a change for Europe.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S - indirect addressing issue

*Message #1 Posted by **Gerson W. Barbosa** on 22 Jan 2012, 4:57 p.m.*

I've noticed indirect addressing doesn't work when the fractional part of the index is equal or greater than 0.5. Of course, by definition indices are integer numbers. However, as a convenience, HP calculators accept non-integer number as indices for indirect addressing and just ignore the fractional part. Is this a WP 34S bug or a feature? Thanks!

Gerson.

Re: WP 34S - indirect addressing issue

*Message #2 Posted by **Paul Dale** on 22 Jan 2012, 5:06 p.m.,*
in response to message #1 by Gerson W. Barbosa

It seems to be working:

```
1 STO 01
2 STO 02
1.75 RCL-> X
```

Returns 1 as it should.

In other words, I'm not understanding the problem here. Any chance of a step by step reproduction please?

- Pauli

Re: WP 34S - indirect addressing issue

*Message #3 Posted by **Gerson W. Barbosa** on 22 Jan 2012, 5:11 p.m.,*
in response to message #2 by Paul Dale

Returns 2 in version 2.2 build 1975 (Emulator).

Gerson.

Also,

```
99 STO 99
99.99 RCL-> X
```

returns 99.99

Edited: 22 Jan 2012, 5:20 p.m.

Re: WP 34S - indirect addressing issue

*Message #4 Posted by **Paul Dale** on 22 Jan 2012, 5:39 p.m.,*
in response to message #3 by Gerson W. Barbosa

You are correct. I tested in v3 which this is all working happily.

The proper solution is to upgrade ;-)

I've committed a fix. I don't know when the next v2.2 build will occur.

- Pauli

Re: WP 34S - indirect addressing issue

*Message #5 Posted by **Gerson W. Barbosa** on 22 Jan 2012, 5:54 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> The proper solution is to upgrade ;-)

As soon as I get a working USB-to-serial adapter. Or a new USB cable, if it is ever released :-)

Gerson.

Edited: 22 Jan 2012, 5:55 p.m.

Re: WP 34S - indirect addressing issue

*Message #6 Posted by **Dominic Richens** on 22 Jan 2012, 8:02 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> I don't know when the next v2.2 build will occur.

I could do one this week if someone can point me to the fix. I've yet to patch to serial port fix into 2.2 as well.

Re: WP 34S - indirect addressing issue

*Message #7 Posted by **Paul Dale** on 22 Jan 2012, 8:04 p.m.,*
in response to message #6 by Dominic Richens

I committed the fix in the 2.2 branch.

- Pauli

Re: WP 34S - indirect addressing issue

*Message #8 Posted by **Dieter** on 22 Jan 2012, 5:34 p.m.,*
in response to message #2 by Paul Dale

> Quote:

It seems to be working:

```
1 STO 01
2 STO 02
1.75 RCL-> X
```

Returns 1 as it should.

I can confirm an error for version 2.2 1789 (emulator) where this returns 2.
The same works fine in version 3.0 2289 (also emulated). Here it returns 1, as it should.

Dieter

Re: WP 34S - indirect addressing issue

*Message #9 Posted by **Gerson W. Barbosa** on 22 Jan 2012, 5:46 p.m.,*
in response to message #8 by Dieter

I was having trouble in a program that worked on the HP-42S but would not work on my outdated WP 34S.

Mine was flashed last July. Just received Eric's overlays (very nice on the former 20b!). A suitable USB-to-serial converter is still missing though.

Cheers,

Gerson.

Edited: 22 Jan 2012, 6:03 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Re: Voyager 1xC emulation in the same unit?

*Message #1 Posted by **uhmgawa** on 21 Jan 2012, 2:28 p.m.*

Exhuming this month old thread for context..

> Quote:
>
> > Quote:
> >
> > *Message #15 Posted by uhmgawa on 22 Dec 2011, 5:24 p.m.,*
> >
> > Porting KEMU to the HP-12C+ or 15c le is relatively straightforward. But I'd be more interested to do so as part of a larger functional upgrade...
>
> *in response to message #15 by uhmgawa*
>
> That is a laudible goal which would be greatly appreciated, but I'm sure a lot of people would be very, very happy with a straightforward port, if you should ever be so inclined.

What I had in mind was something like this, described in the latter part of the video.

A KEMU port to a stock sam7 voyager isn't much of a technical hurdle. Rather the question of native firmware status is more of an issue, particularly for a multi-personality voyager.

Re: Voyager 1xC emulation in the same unit?

*Message #2 Posted by **Bart (UK)** on 23 Jan 2012, 5:27 a.m.,*
in response to message #1 by uhmgawa

Nice idea, however having multiple types on one unit presents problems with the keyboard. For functions not directly on the keys, an overlay would be fine of course, but how to change what's on the keys in an instant?

I think it might be a better idea to buy multiple 15C LE units and re-program dedicated units and have overlays like for the WP-34s.

There would of course be copyright issues, even if the code was not a copy of the HP ROM but entirely re-written, it would be a "copy-cat" issue - but HP would have the benefit of extra hardware sales.

Re: Voyager 1xC emulation in the same unit?

*Message #3 Posted by **uhmgawa** on 26 Jan 2012, 1:20 a.m.,*
in response to message #2 by Bart (UK)

> Quote:

> Nice idea, however having multiple types on one unit presents problems with the keyboard.

Indeed it does. The multi-firmware aspect was interesting (at least to me) from an experimental perspective. But the issue of key legends varying between models is a limitation, arguably offset by the partial solution of key legend support possible with a graphic display.

> Quote:
>
> For functions not directly on the keys, an overlay would be fine of course, but how to change what's on the keys in an instant?
>
> I think it might be a better idea to buy multiple 15C LE units and re-program dedicated units and have overlays like for the WP-34s.
>
> There would of course be copyright issues, even if the code was not a copy of the HP ROM but entirely re-written, it would be a "copy-cat" issue.

Before going through that effort, there is the more fundamental missing feature of interoperation (minimally data exchange) between models. Adding it is certainly possible. However the time is far more productively applied to creating maintainable and extensible firmware -- an approach which can straightforwardly address not some, but all of the above.

Re: Voyager 1xC emulation in the same unit?

*Message #4 Posted by **Jeff O.** on 23 Jan 2012, 8:03 a.m.,*
in response to message #1 by uhmgawa

I can see that what you would like to do would be an improvement over a simple port to a sam7 voyager if the hardware were available. I would of course encourage the simple port, because the hardware is available (in my hands, even.) But with the concern over the legality of using the original rom images or reproducing their functionality, I could not blame you if you did neither.

Re: Voyager 1xC emulation in the same unit?

*Message #5 Posted by **uhmgawa** on 24 Jan 2012, 1:09 a.m.,*
in response to message #4 by Jeff O.

> Quote:
>
> I can see that what you would like to do would be an improvement over a simple port to a sam7 voyager if the hardware were available.

I believe I'd started down this slippery slope with a well intentioned push from WalterB [appreciated] in the course of discussing my KINOMI/NUT replacement project. Yet even if one could scare up a display retrofit, there are interconnect issues to resolve. And quite honestly the easiest way to address this is with a new board layout which is a relatively simple task. Well if we've got a new board layout it is difficult to resist adding the sorely missing functionality in that otherwise vacant PCB real estate. But wait, if we're creating a replacement board there really isn't any compelling reason to put an aged AT91SAM7L128 back into the design -- we could do considerably better with a more recent SoC. And having arrived at the foot of the slope, what are we really repurposing besides an ABS enclosure in a unique form factor? If we toss out that design constraint we no longer have the severe display retrofit limitation.

> Quote:

> I would of course encourage the simple port, because the hardware is available (in my hands, even.)

Admittedly a valid argument exists there as the hardware is quite underutilized. Only about 25% of that 128KB flash is actually needed to contain the 15c legacy firmware and a NUT/Voyager emulator. Even the graphic voyager prototype depicted above with KEMU core, all of 11/12/15/16c rom images, multiple firmware support, serial console, graphic rendering, several fonts, demo cruft, etc.. doesn't even cross over 64KB on a C language challenged architecture. Add to this the idle resources present in the sam7 voyager and it is difficult to resist improving upon the design.

> Quote:
>
> But with the concern over the legality of using the original rom images or reproducing their functionality, I could not blame you if you did neither.

Well, there is certainly precedence for releasing an emulator decoupled from its essential firmware. Yet doing so makes for somewhat of a poorly scaling proposition where each user needs to locate and program firmware images before a unit is functional.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Meet @ Embedded World Nuremberg?

*Message #1 Posted by **Meindert Kuipers** on 21 Jan 2012, 9:00 a.m.*

I will be at my employers stand at the Embedded World exhibition in Nuremberg, see here, visiting is free for industry professionals when preregistering. This is one of the largest events worldwide for the embedded industry. When more of the regular MoHPC visitors are also attending we could setup an informal gettogether in Nuremberg in one of the evenings that week. Be aware that this is a busy week in Nuremberg, and that hotels are quickly filling up. As my employer is also based in Nuremberg, I have some resources to find and book a restaurant in advance.

Hope to see some of you there!

Meindert

Re: Meet @ Embedded World Nuremberg?

*Message #2 Posted by **RamLab** on 21 Jan 2012, 10:46 a.m.,*
in response to message #1 by Meindert Kuipers

Goede middag Meindert,

I will be on the Embedded,indirectly for my employer. Most likely on the 8th and the 9th. I do not know if I will have time in the evening, but I will try to meet during the day.

Peter van Erkel

Re: Meet @ Embedded World Nuremberg?

*Message #3 Posted by **RamLab** on 21 Jan 2012, 10:57 a.m.,*
in response to message #2 by RamLab

Hi Meindert,

Sorry I mixed the dates up with the EMV in Duesseldorf.

@ Embedded I will be the 29th and the 1st.

Regards,

Peter van Erkel

Re: Meet @ Embedded World Nuremberg?

*Message #4 Posted by **Marcus von Cube, Germany** on 21 Jan 2012, 1:57 p.m.,*
in response to message #1 by Meindert Kuipers

Meindert, I'm looking forward at meating you. I've just ordered a ticket. Can you somehow arrange for the Hotel? I'm totally free in the date so you can arrange it the way it is best for you.

Re: Meet @ Embedded World Nuremberg?

*Message #5 Posted by **Meindert Kuipers** on 22 Jan 2012, 5:05 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Marcus, I cannot make the hotel reservation for you, but I will be staying at Acom, right next to the Nord-Ost Bahnhof (on the U-bahn from airport to Hbf). I do not know the evening planning yet for me, but I figure that if there are customer meetings for me, they will be on the first 2 days, as people will want to leave on Thursday after the last exhibition day, so I would go for Thursday evening (March 1) for an HP related meeting. Do not forget to look for the mbed guys at either the ARM or NXP stand. Will probably know more about my own planning later next week. I will mostly be on our own stand (Hall 2, stand 220),

Meindert

Re: Meet @ Embedded World Nuremberg?

*Message #6 Posted by **Marcus von Cube, Germany** on 22 Jan 2012, 8:21 a.m.,*
in response to message #5 by Meindert Kuipers

> Quote:
>
> I would go for Thursday evening (March 1) for an HP related meeting.

Acom hotel is booked for the night March 1 to March 2. :-) I'm looking forward to seeing you (and probably some others, too).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CL_UTILS 2H now available - Library#4 is next.

*Message #1 Posted by **Ángel Martin** on 21 Jan 2012, 5:31 a.m.*

A new revision of CL-Utils is now available, as well as an updated manual with more examples and details on the operation.

Will be sumbmitted to TOS, and hopefully also the CL home page.

This is the last version on the "regular" platform (barring bug fixing, which so far it's clean). From now on the development has been transfered to the "LIBRARY #4" project - using a slient library located on page#4 - not as a take-over but as a "silent companion" instead.

Library#4 works great on V41, the CL, Clonix and the MLDL2k.

Obvious advantages are code consolidation, more robust and maintainable, easier to enhance, shared by many other plug-in ROMS, freeing space for additional functions. Can you ask for more?

Only drawback is: can´t have a disabled IL-Printer on the system. If you can live with that minor glitch (barely counts for me) then this is your next step as well.

Cheers, ÁM

Re: CL_UTILS 2H now available - Library#4 is next.

*Message #2 Posted by **Geir Isene** on 21 Jan 2012, 12:01 p.m.,*
in response to message #1 by Ángel Martin

What's the difference between 2G and 2H?

Re: CL_UTILS 2H now available - Library#4 is next.

*Message #3 Posted by **Ángel Martin** on 22 Jan 2012, 8:10 a.m.,*
in response to message #2 by Geir Isene

Many and diverse, but as the proverbial line goes... you´ve got mail

Cheers, ÁM

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s V3 - Build Number recommended?

*Message #1 Posted by **Thomas Chrapkiewicz** on 20 Jan 2012, 6:16 p.m.*

So, I'm ready to flash a WP34s up to V3.

What build number is recommended (and why?)

Thanks, TomC

Re: WP34s V3 - Build Number recommended?

*Message #2 Posted by **Paul Dale** on 20 Jan 2012, 6:27 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

The latest from SVN because v3 is still a work in progress and we're pretty much just bug fixing at this stage.

- Pauli

Re: WP34s V3 - Build Number recommended?

*Message #3 Posted by **Thomas Chrapkiewicz** on 20 Jan 2012, 6:34 p.m.,*
in response to message #2 by Paul Dale

Is there a current bug list?

Thanks, TomC

Re: WP34s V3 - Build Number recommended?

*Message #4 Posted by **Paul Dale** on 20 Jan 2012, 7:02 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

It is empty at the moment :-)

We try very hard to keep on top of this.

- Pauli

Re: WP34s V3 - Build Number recommended?

*Message #5 Posted by **Thomas Chrapkiewicz** on 20 Jan 2012, 8:20 p.m.,*
in response to message #4 by Paul Dale

The link in the article (here in the museum) led me to sourceforge v22. Is this the correct one?

Re: WP34s V3 - Build Number recommended?

*Message #6 Posted by **Paul Dale** on 20 Jan 2012, 8:31 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

Nope, that is version 2.2.

There isn't a proper release of version 3 yet. You'll have to grab it from subversion on sourceforge.

- Pauli

Re: WP34s V3 - Build Number recommended?

*Message #7 Posted by **Thomas Chrapkiewicz** on 24 Jan 2012, 9:21 p.m.,*
in response to message #6 by Paul Dale

So, when I go to subversion, I find revision 2320, 2318, 2311, 2309,...etc...

Can anyone out there comment on what versions they have used and what the bugs are (or are not) in that version?

I would like to be certain to use a reliable version.

Thank you, TomC

Re: WP34s V3 - Build Number recommended?

*Message #8 Posted by **Thomas Chrapkiewicz** on 24 Jan 2012, 10:58 p.m.,*
in response to message #7 by Thomas Chrapkiewicz

I just flashed 2306. It seems to work fine.

How do I find the manual for this version?

Thanks in advance, TomC

Re: WP34s V3 - Build Number recommended?

*Message #9 Posted by **Morten Nygaard Åsnes** on 25 Jan 2012, 2:34 a.m.,*
in response to message #8 by Thomas Chrapkiewicz

> Quote:
>
> I just flashed 2306. It seems to work fine.
>
> How do I find the manual for this version?
>
> Thanks in advance, TomC

I'd just flash the latest one. Hopefully there'll be less bugs with each revision ;-)

The manual isn't updated with every revision anyway, so just grab the latest one here http://wp34s.svn.sourceforge.net/viewvc/wp34s/doc/Manual_wp_34s_3_0.pdf

I flashed 2310 a couple of days ago, and applied the new overlay. Works great so far.

http://i.imgur.com/9M2Vr.jpg

Edited: 25 Jan 2012, 7:02 a.m. after one or more responses were posted

Re: WP34s V3 - Build Number recommended?

*Message #10 Posted by **Walter B** on 25 Jan 2012, 6:28 a.m.,*
in response to message #9 by Morten Nygaard Åsnes

Your picture link shows only 7/37 of what could be shown ;-)

Re: WP34s V3 - Build Number recommended?

*Message #11 Posted by **Didier Lachieze** on 25 Jan 2012, 6:58 a.m.,*
in response to message #10 by Walter B

maybe it's a teaser, and we'll get the full picture once V3 will be officially released ;)

Re: WP34s V3 - Build Number recommended?

*Message #12 Posted by **Morten Nygaard Åsnes** on 25 Jan 2012, 7:02 a.m.,*
in response to message #10 by Walter B

> Quote:
>
> Your picture link shows only 7/37 of what could be shown ;-)

Better now? ;-)

Re: WP34s V3 - Build Number recommended?

*Message #13 Posted by **Paul Dale** on 25 Jan 2012, 4:12 p.m.,*
in response to message #12 by Morten Nygaard Åsnes

A creature of beauty :-)

- Pauli

Re: WP34s V3 - "ON" Button

*Message #14 Posted by **Jim Johnson** on 25 Jan 2012, 6:15 p.m.,*
in response to message #13 by Paul Dale

I've been playing with my WP34S (modified from an HP30b) and was curious about the amount of time that the "ON" button needs to be pressed to turn on the calculator. Mine seems to take more than a brief press to turn it on. Often I'll have to press the button twice to turn it on, or press it for what seems to be from a 0.25 to 0.50 sec. I've tried an unmodified HP30b and an HP20b and the "ON" button responds immediately. Is there a key scan timing issue? Or do I just have a bad HP30b?

Re: WP34s V3 - "ON" Button

*Message #15 Posted by **Jeroen Van Nieuwenhove** on 25 Jan 2012, 6:37 p.m.,*
in response to message #14 by Jim Johnson

I can confirm this behaviour (30B, v3), so it certainly is not something related to your unit. I noticed it as well initially, but I quickly adjusted to pressing the on-key just long enough. I'm curious as well to know whether this keypress latency was built in by design. Given the fact that the original 30b fires up immediately, it doesn't look like a hardware issue.

Re: WP34s V3 - "ON" Button

*Message #16 Posted by **Marcus von Cube, Germany** on 25 Jan 2012, 9:29 p.m.,*
in response to message #15 by Jeroen Van Nieuwenhove

The hardware supports a debounce value for the ON function which I have set to a somewhat higher value than the original firmware. It prevents accidental turn on.

Re: WP34s V3 - "ON" Button

*Message #17 Posted by **Eric Rechlin** on 25 Jan 2012, 9:38 p.m.,*
in response to message #16 by Marcus von Cube, Germany

I've noticed this too, and I'm wondering, have you changed this over the last few months? It seems longer than it once was. Any possibility of making it a little shorter?

Eric

Re: WP34s V3 - "ON" Button

*Message #18 Posted by **Marcus von Cube, Germany** on 25 Jan 2012, 9:55 p.m.,*
in response to message #17 by Eric Rechlin

I'm not aware of any changes to the value, at least not recently. V3 and V2 share the same low level routines.

Re: WP34s V3 - "ON" Button

*Message #19 Posted by **Jim Johnson** on 25 Jan 2012, 11:09 p.m.,*
in response to message #18 by Marcus von Cube, Germany

My recommendation would be to lower the debounce value. It's very frustrating to hit the "ON" key and have the calculator sit there with a blank screen. (I'm using ver. 2283)

Re: WP34s V3 - "ON" Button

*Message #20 Posted by **Walter B** on 26 Jan 2012, 5:42 a.m.,*
in response to message #18 by Marcus von Cube, Germany

It's a very old feature - observable in build 1108 already :-)

Re: WP34s V3 - "ON" Button

*Message #21 Posted by **Eric Rechlin** on 28 Jan 2012, 10:01 a.m.,*
in response to message #20 by Walter B

Actually, I think I know what it is. At first I only used a 20b as a 34S, and now I am using a 30b. The 30b keyboard is different so it makes this more noticeable.

Eric

Re: WP34s V3 - "ON" Button

*Message #22 Posted by **Marcus von Cube, Germany** on 28 Jan 2012, 11:24 a.m.,*
in response to message #21 by Eric Rechlin

It's not only the keyboard difference. The debounce delay was longer than the time the key connects when clicked and immediately released. I've reduced the delay now.

Re: WP34s V3 - Build Number recommended?

*Message #23 Posted by **Thomas Chrapkiewicz** on 25 Jan 2012, 10:31 p.m.,*
in response to message #9 by Morten Nygaard Åsnes

I agree (in theory), I flashed 2320 and it locked up the machine (twice), so that is why I 'backed up' to 2306.

Thank you for the link (below) to the V3 manual.

Regards, TomC

Re: WP34s V3 - Build Number recommended?

*Message #24 Posted by **Paul Dale** on 26 Jan 2012, 12:55 a.m.,*
in response to message #23 by Thomas Chrapkiewicz

Can you provide any details as to what you were doing when the crash occurred?

- Pauli

Re: WP34s V3 - Build Number recommended?

*Message #25 Posted by **Thomas Chrapkiewicz** on 28 Jan 2012, 11:19 a.m.,*
in response to message #24 by Paul Dale

After flashing, I toggled 'debug on' then 'debug off'.

The display then went to: 0.

...and the machine no longer responded to the keyboard.

Perhaps the flashing process corrupted the machine; if anyone thinks this build should be good, then perhaps I'll retry the flashing.

TomC

Re: WP34s V3 - Build Number recommended?

*Message #26 Posted by **Marcus von Cube, Germany** on 28 Jan 2012, 11:37 a.m.,*
in response to message #25 by Thomas Chrapkiewicz

Turning DEBUG ON will quickly deplete the batteries. This is mainly meant to disable some power saving to allow hardware debugging and should otherwise only be used to unlock the SAMBA mode (ON+S). A hang is nonetheless not intended. An initial flash or major version upgrade is better performed with the ERASE button on the cable. We are still changing op-codes regularly so any salvaged (binary) programs or data are most likely causing trouble.

If you have a program on your V2 device and want to upgrade it to V3 you should send it to a matching emulator with SENDP/RECV so that it can be saved to disk and disassembled by Neil's tools. The source can then be recompiled for the new version. Saved library regions can be sent with SENDL n. They can then be saved from the emulator to a region (file) to be later disassembled for recompilation.

Re: WP34s V3 - Build Number recommended?

*Message #27 Posted by **Thomas Chrapkiewicz** on 28 Jan 2012, 12:30 p.m.,*
in response to message #26 by Marcus von Cube, Germany

Thank you Marcus; good information.

I did not have any saved code; this was starting from a fresh 30b.

I likely messed up the flash process. I'll try again soon with the latest version.

The power thing brought up an interesting thought - I've seen the mods posted to include two AAA batteries; I wonder how workable it would be to install a (normally closed) pin jack on the WP34s to plug in an external dual AAA (or AA) battery pack - temporarily bypassing one of the CR2032s.

TomC

Re: WP34s V3 - Build Number recommended?

*Message #28 Posted by **Marcus von Cube, Germany** on 28 Jan 2012, 1:22 p.m.,*
in response to message #27 by Thomas Chrapkiewicz

Since you can do backup/restore to/from flash, there is no need to keep a battery connected to avoid memory loss. Just do an ON+STO before disconnecting the CR3220s and connecting the external power pack. With the next power-on the memory is restored automatically.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 20 Jan 2012, 11:19 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [41CL] Load ROM ?

*Message #2 Posted by **Geir Isene** on 20 Jan 2012, 12:35 p.m.,*
in response to message #1 by deleted

Are you sure you plugged RAM into page 14 first (like "810-RAM" PLUG4L)?

Re: [41CL] Load ROM ?

*Message #3 Posted by **Ángel Martin** on 21 Jan 2012, 2:46 a.m.,*
in response to message #1 by deleted

Well, you can be doing many different things wrong ' hard to tell since you don't provide enough details to know:

- is "TEST" a valid rom image file in the HP-IL disk?
- are you using GETROM from the CCD_OS/X or READROM from the HEPAX?
- is there RAM loaded into the destination page?
- does the "TEST" rom have any viewable function header for CAT2

and a few others more... but hese will probably catch it.

(deleted post)

*Message #4 Posted by **deleted** on 21 Jan 2012, 6:41 a.m.,*
in response to message #3 by Ángel Martin

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [41CL] Load ROM ?

*Message #5 Posted by **Raymond Del Tondo** on 23 Jan 2012, 6:00 a.m.,*
in response to message #4 by deleted

SAVEROM/GETROM use a certain binary data format for the mass media files,
the HEPAX uses a different format, and the ProfiSET uses another format again, so they are all incompatible.

The W&W mass media functions are data format compatible to SAVEROM/GETROM,

(deleted post)

> but the W&W functions do some more copy protection checks and are able to use any drive in the loop,
> where SAVEROM/GETROM always refer to the first mass media device in the loop,
> regardless of the loop address.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 34C and 67 for Android

*Message #1 Posted by **Vincent Weber** on 20 Jan 2012, 11:11 a.m.*

Hi Olivier,

Contrats for the very promising 41cx emulator for Android ! When do you think we could get the 34C and 67 on the market ? I've been waiting for this for years, can't wait...;)

Thanks and cheers,

Vincent

Re: HP 34C and 67 for Android

*Message #2 Posted by **Olivier De Smet** on 20 Jan 2012, 12:12 p.m.,*
in response to message #1 by Vincent Weber

33C will be a free app (perhaps tomorrow or monday) 34C will be a small fee app (same date)

I am finalizing only some test with save and load of state.

33C will have speed from x1 up to x8 34C from x1 up to x32

Both are patched to have correct PSE duration.

The textual instruction will be displayed under the keycode part to help programming.

The 67 will be later (need to finish the card and package concept on android) (you can see it on windows, it will be rather the same concept on android)

Olivier

Re: HP 34C and 67 for Android

*Message #3 Posted by **Vincent Weber** on 20 Jan 2012, 12:16 p.m.,*
in response to message #2 by Olivier De Smet

Thanks a lot ! Much appreciated.

Re: HP 34C and 67 for Android

*Message #4 Posted by **Namir** on 20 Jan 2012, 4:10 p.m.,*
in response to message #2 by Olivier De Smet

Will these apps run on the Kindle Fire, since it uses an OS related to the Anroid (unless I am very mistaken).

Namir

Re: HP 34C and 67 for Android

*Message #5 Posted by **Olivier De Smet** on 21 Jan 2012, 4:07 a.m.,*
in response to message #4 by Namir

I do not know ... someone will have to test :)

Re: HP 34C and 67 for Android

*Message #6 Posted by **Olivier De Smet** on 21 Jan 2012, 5:27 a.m.,*
in response to message #1 by Vincent Weber

Apps posted to the market, should appears in a few hours (names are go33c and go34c).

Olivier

Re: HP 34C and 67 for Android

*Message #7 Posted by **Alexander Oestert** on 21 Jan 2012, 7:21 a.m.,*
in response to message #6 by Olivier De Smet

re: go33c

Programming 'STO 1' yields 'STO 0' under the LED display.

Re: HP 34C and 67 for Android

*Message #8 Posted by **Vincent Weber** on 21 Jan 2012, 7:23 a.m.,*
in response to message #6 by Olivier De Smet

Thank you so much Olivier, I took both, and they are wonderful !

I had issues with Google market to purchase go34C, I have now 8 order confirmation emails, I'm affraid I will be charged 8 times... anyway.

One killer question - do you intend to port go33C and go34C to the Iphone someday ? would be wonderful ! :)

Also, do you intend to do a 65 after the 67 ? a 25c and a 29C ? do you intend to support overlays/printer/... for the 41CX ? :)

Thanks and cheers,

Vincent

Re: HP 34C and 67 for Android

*Message #9 Posted by **Guenter Schink** on 21 Jan 2012, 11:49 a.m.,*
in response to message #6 by Olivier De Smet

Hi Olivier,

the go34C looks good on the Galaxy S. On the Acer Iconia tablet the gold shifted labels are right justified, thus overlapping the blue shifted labels.

HTH Günter

Re: HP 34C and 67 for Android

*Message #10 Posted by **Olivier De Smet** on 21 Jan 2012, 12:42 p.m.,*
in response to message #9 by Guenter Schink

Correction submitted to market, v1.0.1 for go33c and go34c should appear soon

Olivier

Re: HP 34C and 67 for Android

*Message #11 Posted by **Guenter Schink** on 21 Jan 2012, 1:55 p.m.,*
in response to message #10 by Olivier De Smet

Hi Olivier,

that was quick a fix, looks o.k. now.

Thanks a lot, Günter

Re: HP 34C and 67 for Android (Web link?)

*Message #12 Posted by **Nick_S** on 24 Jan 2012, 4:27 a.m.,*
in response to message #9 by Guenter Schink

Could you post a link to the HP-34c Android emulator?

On a tangental note, has anyone had success with one of the environments for running Android applications under MS-Windows? I quite like the idea of running the same suite of applications on both mobile and PC systems.

Nick

Edited: 24 Jan 2012, 7:22 a.m.

Re: HP 34C and 67 for Android

*Message #13 Posted by **Olivier De Smet** on 23 Jan 2012, 4:54 p.m.,*
in response to message #1 by Vincent Weber

go67c is on the android market I also added go11c, go12c, go15c, go16c for voyager series, but YOU NEED TO HAVE A ROM DUMP. go12c is free.

Olivier

Re: HP 34C and 67 for Android

*Message #14 Posted by **Vincent Weber** on 23 Jan 2012, 7:33 p.m.,*
in response to message #13 by Olivier De Smet

They are all great, thank you SP much ! Just one thing, why is the back help on the 15C so small ? Do you intend to do a 65 ? A 25,29 ? Overlays and printer for the 41 ? And port them to the iPhone ? ;)

Thanks and cheers,

Vincent

Re: HP 34C and 67 for Android

*Message #15 Posted by **Olivier De Smet** on 24 Jan 2012, 3:41 a.m.,*
in response to message #14 by Vincent Weber

I will enlarge the help in the next revision for the 15C. For 65, it's another platform and actually I have very little documentation about it, and no rom dump ! (same for the 29). For 25, I have the rom so it could be done rather easily but the 33 is a better choice :)

For the 41, I want to improve it :)

For iphone port, I stopped coding on mac (even if i use a mac computer) when they decided that you have to pay 99$ per year to be a developer !

Olivier

Re: HP 34C and 67 for Android

*Message #16 Posted by **Vincent Weber** on 24 Jan 2012, 5:00 a.m.,*
in response to message #15 by Olivier De Smet

Thanks Olivier. For the 65, I think you could get inspiration from what Jcques Laporte did:

http://www.jacques-laporte.org/sim65.htm

He said that he adapted Eric's code for the 65 ROM, so maybe you could grab the ROM + some insight in his code ?

I understand that the 33 is a better choice than the 25 (same features + subroutines + linear regression), but emulation is not about power, but collection and completeness. Otherwise I would stick to Free42 and would have no interest in your emulators.... ;)

Cheers,

Viuncent

go12c and go15c

*Message #17 Posted by **Alexander Oestert** on 24 Jan 2012, 11:38 a.m.,*
in response to message #13 by Olivier De Smet

I have the go12c and the go15c. Both seem to work flawlessly as far as I can tell after only a few minutes of testing. I would love to see landscape mode in the future, though. :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The HP 15C LE has little appeal to youngsters

*Message #1 Posted by **Michael de Estrada** on 20 Jan 2012, 10:53 a.m.*

I was looking at the customer reviews at the HP Home & Home Office webstore and noticed that the vast majority of reviewers were in either the 55+ or 40-54 age group. I suspect that the 40-54 age reviewers are closer to 54 than 40. Many of them have been owners of the original Voyagers, and have a nostalgic connection to HP, RPN and vintage calculators. Given that this market is limited and not growing, perhaps HP was wise to issue it as a one-time limited edition. Although they seem to no longer be available though normal channels and at MSRP, there is a flood of unsold units on eB@y and the few that manage to sell are at only slightly higher prices. Most of the people like myself who were interested have already bought them, and the market seems to have evaporated. As for myself, this may be the last HP calculator product, either current or vintage, that I will ever buy. I now own all the vintage calcs that interest me as well as all the current models and don't forsee any future ground breaking models emerging.

Re: The HP 15C LE has little appeal to youngsters

*Message #2 Posted by **Paulo MO** on 20 Jan 2012, 11:43 a.m.,*
in response to message #1 by Michael de Estrada

The 15 LE has not yet arrived at all markets (e.g. Europe), and many are still hoping that new emissions may come with some of the early bugs already corrected. Maybe its too early in the game to say that the demand is over. The old ones are still selling, due to their perceived quality/reliability. If the new ones can achieve the same perceived quality levels, I believe we will se a new rise in demand.

In any case, maintaining the production line is probably not logistically expensive, due to the existence of the 12c.

Besides, humankind will tend to get wiser :-) (which means loving the 15c)

Being 50 still leaves us (probability distributions not withstanding) with enough time to see how this all thing will end up.

Best Paulo

Re: The HP 15C LE has little appeal to youngsters

*Message #3 Posted by **Michael de Estrada** on 20 Jan 2012, 1:11 p.m.,*
in response to message #2 by Paulo MO

My observations having both an original 15C and several new 15C LEs are as follows:

1) The new 15C LE are significantly lower quality than the original 15C and the battery life is vastly lower.

2) There is no indication that the bugs will ever be corrected. Some new models for non-USA markets have already arrived in Asia and they have the same version ROMs.

3) School and college age students will mostly buy the much cheaper 33s and 35s, which can also be used in algebraic mode and are far easier to program. The matrix capability of the 15C LE is hampered by the small amount of memory and the one line display. Anyone serious about matrix computation would probably use a 50g or equivalent.

4) Your optimism about increased human wisdom is admirable, but from what I've seen in young entry level engineers, alas I do not share this view. They tend to be intellectually lazy, and show little interest in understanding problems by working them through manually with calculators. Instead, they gravitate towards canned computer programs with GIGO (garbage in garbage out). Today, I spoke with a young engineer at my former company from which I am now retired, who was trying to use one of my programs without having a clue about the underlying theory. He just wanted me to tell him how to enter data so the program would spit out results w/o error codes. It turned out that the problem he wanted to

solve was totally inappropriate for the capabilities of my program. Sigh.

Edited: 20 Jan 2012, 1:13 p.m.

Re: The HP 15C LE has little appeal to youngsters

*Message #4 Posted by **Sylvain Louboutin** on 20 Jan 2012, 5:06 p.m.,*
in response to message #3 by Michael de Estrada

...yep, tell me about it; ever tried explaining the virtues of slide rules while you are at it (some folks don't understand that having gazillions of digits after the decimal point doesn't quite make up for being a few order of magnitude wrong)? ...not to mention trying to buy a new one to see people looking at you with blank stare as if you were from outer space or something... hint: Concise in Japan still make good circular ones, but I digress.

Ok, am I getting old? :-)

Re: The HP 15C LE has little appeal to youngsters

*Message #5 Posted by **Lincoln R.** on 20 Jan 2012, 7:44 p.m.,*
in response to message #3 by Michael de Estrada

I'm 22 with a degree in computer engineering. I bought 2 15C LEs and my 'everyday use' calculator is a 32s that's older than me by a few months. As for the computer program problem, first of all in my area (computer hardware/digital logic) it isn't such an issue: Either you know how to write good HDL code or do competent layouts, board designs, or whatever, or you'll get canned.

In other programs, a lot of it is the universities. They tend to only make students work through a few examples by hand, often picking the most painful and pointless ones possible (Analog circuits that serve no purpose but have tons of nasty arrangements of components resulting in foul systems of equations, mechanical design of something uninteresting like a screw driver or a wrench, etc.) and then tell the students "In the real world, we just let a piece of software do this for us" which convinces the students that doing this work and understanding the theory is a frustrating and pointless endeavor.

Re: The HP 15C LE has little appeal to youngsters

*Message #6 Posted by **Brandon Poindexter** on 20 Jan 2012, 11:49 a.m.,*
in response to message #1 by Michael de Estrada

Well, i'm 20 years old and have been using and enjoying the HP 15c LE in my EE class's. :)

Re: The HP 15C LE has little appeal to youngsters

*Message #7 Posted by **Jeff O.** on 20 Jan 2012, 12:28 p.m.,*
in response to message #6 by Brandon Poindexter

Have any of your fellow students taken note of or expressed interest in it? Do they still teach phasor analysis in the core part of EE programs, or do you only get that if you go into power engineering? The 15c will nicely handle the complex number calculations needed in such analysis.

Edited: 27 Jan 2012, 10:00 p.m. after one or more responses were posted

Re: The HP 15C LE has little appeal to youngsters

*Message #8 Posted by **Lincoln R.** on 20 Jan 2012, 7:45 p.m.,*
in response to message #7 by Jeff O.

At least at my university (Carnegie Mellon in Pittsburgh), Phasor analysis was taught in our sophomore-level analog electronics class. This was true as of 2009, and I believe the curriculum in that course has not changed since then.

Re: The HP 15C LE has little appeal to youngsters

*Message #9 Posted by **Brandon Poindexter** on 21 Jan 2012, 2:44 p.m.,*

in response to message #7 by Jeff O.

Well my major is Technology with a concentration in Network Engineering so my math class's are generally simpler algebra and calculus. And the two EE class's that I need probably wont turn me into a master in EE. So unfortunately i wont be able to utilize my HP 15c LE to its fullest extent. Although I still hope that it serves me well for the remaining years i still have at my university.

I showed it to a close friend and over the past couple years have tried to tell him what he's missing out on, but he isn't into calculator's as much. :)

I showed my HP 35s to a group of people i knew when we work on projects, and the first thing one of them said is "i really like how the buttons feel". I told him a 30-second lecture on how to use RPN, and he quickly got the hang of it. At least for simple one's like addition and subtraction.

The only problem i have with HP's calculators is that they are simply too expensive. One can purchase a TI-30XA anywhere for 10 bucks and use it well in many of there class's. Granted it's nowhere near the capabilities that the 15c has, but from the class's I have been through a TI-30XA will be just as well suited.

Now, I'm pretty sure this all changes once I step into a full fledged EE major type of discussion.

Edited: 21 Jan 2012, 2:58 p.m.

Re: The HP 15C LE has little appeal to youngsters

*Message #10 Posted by **Fabricio** on 20 Jan 2012, 5:17 p.m.,*
in response to message #1 by Michael de Estrada

In my "complain" about "looking for hp calculators", Bill Platt asked "How often and why do you need or find a calculator useful?", and I am going to answer him here for sake of this discussion:

The more basic use of a calculator currently for me is, in first place, simple arithmetic and trigonometry to get distances and angles when working on a FEM-model. But then it is mandatory in my company to do a double check of calculations; first one is thoroughly reviewing the model and the results from analysis to see everything is within reasonable expectations. Second one is to do a simplified independent verification of everything, from the global equilibrium of a structure to the steel area required by software for a concrete column. I do this with my hp, and that´s the reason why I love the 4-line format of the HP 28s, or at least the 2-line format of the 42s. In this stage of the process, a lot of the info used is constant (as the concrete strength for example), but nothing is recorded as this is just a quick independent verification of a structure previously modeled and analysed by state-of-the-art structural software. And this is the moment when I enjoy the most an HP calculator: the sound of the keys, the feeling of the keyboard, the sto-rcl function, rpn... Reality is I could do this with a sharp, casio, or whatever cheap calulator I find around the corner, just don´t want to.

> Quote:
>
> Many of them have been owners of the original Voyagers, and have a nostalgic connection to HP, RPN and vintage calculators...

That´s all: I am so nostalgically conected to the old famous HP and RPN. Plain truth.

Plus:

1. HP 15c (LE or not) is such a powerful calculator, but as you pointed out, with a simple one-line display you don´t love going further into matrix computations, for example. In my humble opinion, 2-lines´ HP42s is a minimum (frequently I fully use the 4-lines HP28s).

2. In Mexico, buying an HP 15c LE from Samson, who send it through UPS, and after clearing customs is around $300-310usd. I am asking myself if I have been the only one to do that crazyness... twice. And so far there is no expectation HP will sell that model in Mexico, as I am pretty sure it is the same in all Latinamerica: Brazil, Argentina, Peru... you name it. But even if it were for sale here, I think it wouldn´t sell that much because of the economical situation; still, in any case, there is no way to measure the appeal to youngsters in this area of the world.

Re: The HP 15C LE has little appeal to youngsters

*Message #11 Posted by **bill platt** on 20 Jan 2012, 9:07 p.m.,*
in response to message #10 by Fabricio

"The more basic use of a calculator currently for me is, in first place, simple arithmetic and trigonometry to get distances and angles when working on a FEM-model...Reality is I could do this with a sharp, casio, or whatever cheap calulator I find around the corner, just don´t want to."

I completely agree, and sounds familiar, too :-)

Re: The HP 15C LE has little appeal to youngsters

*Message #12 Posted by **Dave Shaffer (Arizona)** on 20 Jan 2012, 10:11 p.m.,*
in response to message #10 by Fabricio

> Quote:
>
> In Mexico, buying an HP 15c LE from Samson, who send it through UPS, and after clearing customs is around $300-310usd.

I would have thought the North American free trade act would prevent that?!

Re: The HP 15C LE has little appeal to youngsters

*Message #13 Posted by **Paul Berger (Canada)** on 21 Jan 2012, 10:37 a.m.,*
in response to message #12 by Dave Shaffer (Arizona)

NAFTA only protects applies to duties, it does not prevent UPS from charging exorbitant fees for customs brokerage. NAFTA also does not prevent the receiving country from applying taxes to the imported goods. UPS fees are so bad that I will not bid on items out of country if they specify they will only ship via UPS. When I got my LE I chose shipping by USPS because packages cross the border smoothly to Canada Post, and they never charge any fees for customs clearance. I did however have to pay the 15% HST due in the province I reside in.

Re: The HP 15C LE has little appeal to youngsters

*Message #14 Posted by **db (martinez, ca.)** on 21 Jan 2012, 1:32 p.m.,*
in response to message #10 by Fabricio

> Quote:
>
> I am pretty sure it is the same in all Latinamerica: Brazil, Argentina, Peru...

Que pena. I'd have hoped that HP would at least market to Argentina, since "back in the day" three companies there produced their own RPN calculators.

Re: The HP 15C LE has little appeal to youngsters

*Message #15 Posted by **Andy Lamming (UK)** on 21 Jan 2012, 4:09 a.m.,*
in response to message #1 by Michael de Estrada

I'm definitely beyond the 40-54 age group but my two sons, brought up on 34Cs then 15Cs, have produced three grandchildren for me between them, ages 16, 14, & 8 and they all love their 15Cs (original versions bought expensively on TAS) Granted for the 8 yr old it is only arithmetic calculations. I think they like them in part anyway *because* of the RPN, it makes them feel different (superior?). Also partly because their classmates are less likely to steal them - they don't understand RPN.

Re: The HP 15C LE has little appeal to youngsters

*Message #16 Posted by **Paulo MO** on 21 Jan 2012, 7:57 a.m.,*
in response to message #15 by Andy Lamming (UK)

Lucky skilled you. I have never been capable of forcing the 15c on my kids. Alas, they grew on TI 83's. Will try again when they turn at least 40 ;-)

Re: The HP 15C LE has little appeal to youngsters

*Message #17 Posted by **Tom Mathes** on 24 Jan 2012, 8:35 a.m.,*
in response to message #16 by Paulo MO

My 12 yr. old daughter uses my old HP-33S and she's asked me teach her how to use RPN. I guess the kid takes after my extreme dislike of anything TI (especially since I worked for them).

Re: The HP 15C LE has little appeal to youngsters

*Message #18 Posted by **bill platt** on 24 Jan 2012, 12:43 p.m.,*
in response to message #17 by Tom Mathes

You worked for Texas Instruments?

Re: The HP 15C LE has little appeal to youngsters

*Message #19 Posted by **Paulo MO** on 24 Jan 2012, 4:26 p.m.,*
in response to message #17 by Tom Mathes

No shame in that :-). I spent many late nights adoring the smell and looks of my SR 51A. It even did linear regressions! :P

They blew it with the 58s and its unreliable key debouncing, though...

Paulo

Re: The HP 15C LE has little appeal to youngsters

*Message #20 Posted by **nick lidakis** on 27 Jan 2012, 5:25 p.m.,*
in response to message #1 by Michael de Estrada

The HP 15c LE has little appeal to youngsters because it costs too much as it's ugly.

More younger people than ever (females, too!) are active in tech hobbies. You don't have to browse the web forums for long t figure that out. Micro-controllers, ham radio, basic electronics, Arduino, Linux, the BSDs, etc., etc.

-Sparkfun electronics is doing brisk business, among others: Link: http://www.sparkfun.com/

-Arduio boards and shields are selling briskly.

-PFU/Fujitsu is doing brisk business selling their Happy Hacking Keyboard: http://en.wikipedia.org/wiki/Happy_Hacking_Keyboard A minimalist keyboard with the Control key where it belongs. The kids love 'em. Freaking love 'em.

Ti is selling its Launchpad micro-controller and dev board combo for $4.30. Four dollars and thirty cents! Link:http://processors.wiki.ti.com/index.php/MSP430_LaunchPad_%28MSP-EXP430G2%29

-Linux is humongously popular with the hip, tech kids. Debian, Slackware, Arch, etc., etc. They love their X terminals, love to trade super custom .Xdefault files, mutt .confs, etc. Love using minimalist window managers like awesome (http://awesome.naquadah.org/) and xmonad (http://xmonad.org/).

-Ham Radio has been doing quite well, too. After getting rid of the Morse code requirement, the ARRL is finding that many who get their license eventually get interested in Morse code *and* the new digital modes, like JT56B. Lot's of pics of young (again, females, too!)kids getting their licenses, talking to satellites, etc., in my monthly QST.

There's also a regular "tech" get together here in NYC. Hip guys and gals socialize while soldering. I forget the name of this regular event but it was featured in the New York Times.

So, RPN *could* have appeal to all these youngsters. But at an entry price of $99, I doubt it. Make an entry level RPN for $15, $20 or $25 bucks to whet the appetite. Marketing genius ain't required.

Re: The HP 15C LE has little appeal to youngsters

*Message #21 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 5:32 p.m.,*
in response to message #20 by nick lidakis

Maybe a DIY calc like the 34S would have a chance.

Re: The HP 15C LE has little appeal to youngsters

*Message #22 Posted by **uhmgawa** on 27 Jan 2012, 6:58 p.m.,*
in response to message #20 by nick lidakis

> Quote:
>
> The HP 15c LE has little appeal to youngsters because it costs too much as it's ugly.

Confirming the claim, beauty or lack thereof is in the eye of the beholder.

> Quote:
>
> There's also a regular "tech" get together here in NYC. Hip guys and gals socialize while soldering. I forget the name of this regular event but it was featured in the New York Times.
>
> So, RPN *could* have appeal to all these youngsters. But at an entry price of $99, I doubt it.

Let's try to change that: SAM7 Voyager Schematic

Re: The HP 15C LE has little appeal to youngsters

*Message #23 Posted by **Paul Guertin** on 27 Jan 2012, 11:54 p.m.,*
in response to message #20 by nick lidakis

> Quote:
>
> The HP 15c LE has little appeal to youngsters because it costs too much as it's ugly.

The HP 15C is many things but I don't think ugly is one of them. And those of my students who care about calculators and the like agree. It's a different aesthetic from an iPhone, but that doesn't mean it's ugly.

I think youngsters don't care about the HP 15C because those who would have been interested in it in the 1980s are already running a symbolic mathematics program on their smartphone or tablet. When you've got a Maple equivalent in your pocket, the appeal of a keystroke-programmable calculator becomes very limited.

> Quote:
>
> -PFU/Fujitsu is doing brisk business selling their Happy Hacking Keyboard: http://en.wikipedia.org/wiki/Happy_Hacking_Keyboard A minimalist keyboard with the Control key where it belongs. The kids love 'em. Freaking love 'em.

If those youngsters can buy a $300+ Happy Hacking Pro keyboard, they could afford a $99 calculator if they wanted to. Unless you meant the Happy Hacking Lite, which is a mediocre membrane keyboard.

Re: The HP 15C LE has little appeal to youngsters

*Message #24 Posted by **nick lidakis** on 28 Jan 2012, 12:50 p.m.,*
in response to message #23 by Paul Guertin

> Quote:
>
> The HP 15C is many things but I don't think ugly is one of them

I would argue that it could look a bit dated. Personally, I like the format.

> Quote:
>
> If those youngsters can buy a $300+ Happy Hacking Pro keyboard, they could afford a $99 calculator if they wanted to. Unless you meant the Happy Hacking Lite, which is a mediocre membrane keyboard.

The $79 dollar mediocre keyboard is an upgrade path to the Happy Pro. The mediocre membranes give you the same format and ergonomics of the Pro in a cheaper package.

No such entry level calc available to get the RPN word out, sp to speak.

> Quote:
>
> When you've got a Maple equivalent in your pocket, the appeal of a keystroke-programmable calculator becomes very limited.

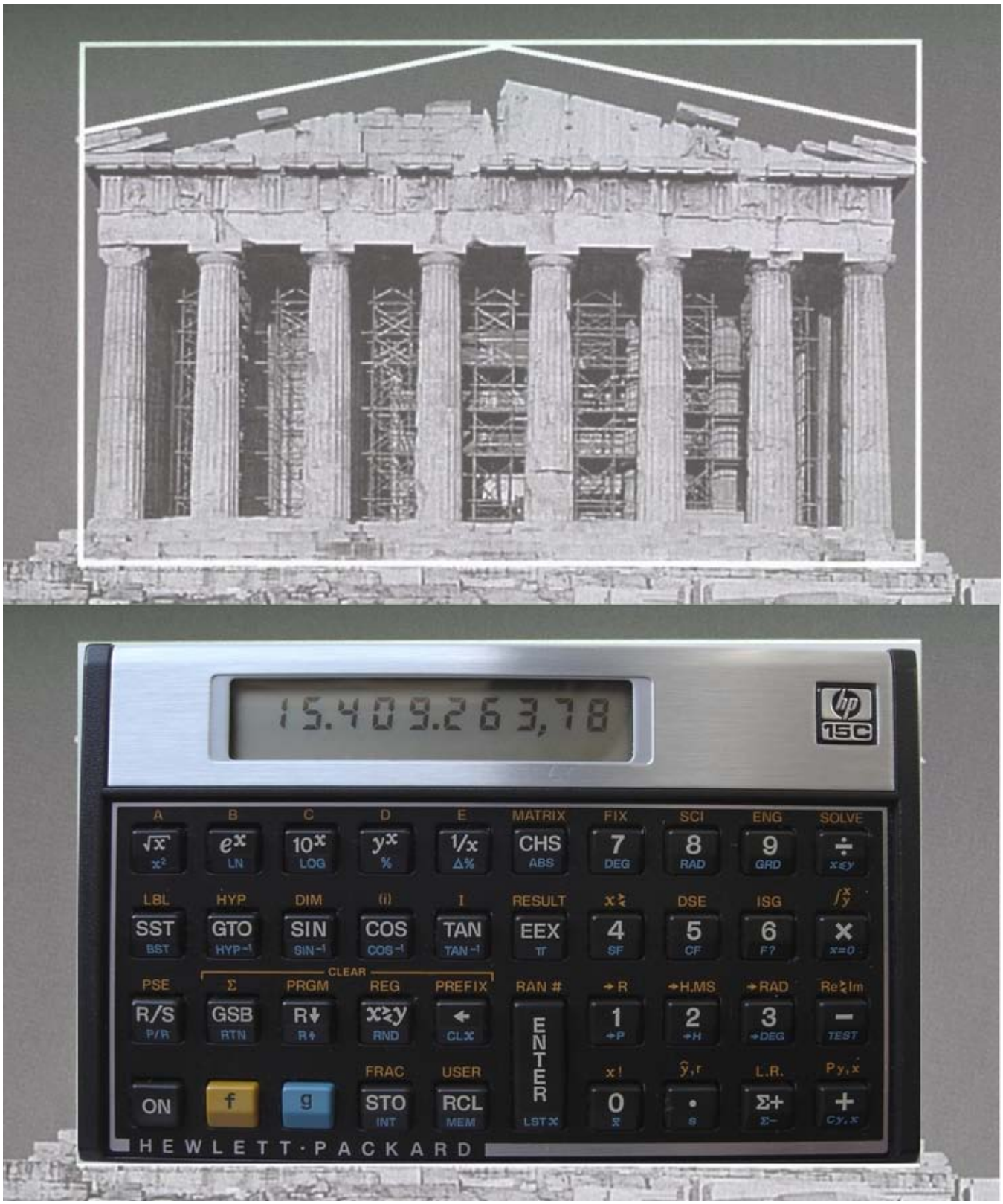
Which still can't be used on exams. HP needs an inexpensive, introductory, *NON-PROGRAMMABLE*, RPN calc to sustain a long term RPN customer base.

Re: The HP 15C LE has little appeal to youngsters

*Message #25 Posted by **Gerson W. Barbosa** on 28 Jan 2012, 1:29 p.m.,*
in response to message #24 by nick lidakis

> Quote:
>
> Personally, I like the format.

This format, you mean! :-)



Link to the source of the original Parthenon picture

Re: The HP 15C LE has little appeal to youngsters

*Message #26 Posted by **Paul Guertin** on 28 Jan 2012, 2:31 p.m.,*
in response to message #24 by nick lidakis

Quote:

> I would argue that it could look a bit dated. Personally, I like the format.

Don't say "a bit dated", say that it's "old school", and all the cool kids will want one. I suppose HP could glue a few brass gears to the backplate and call it steampunk. Or is that passé already?

> Quote:
>
> The [Happy Hacking Lite] is an upgrade path to the Happy Pro. The mediocre membranes give you the same format and ergonomics of the Pro in a cheaper package.

I still see no reason to buy a $79 rubber dome keyboard when you can get a small keyboard with real mechanical keyswitches, such as the Noppoo Choc Mini for about the same price.

The Control key position is a non-issue, because that's trivially fixed in software. I've always had Control to the left of A and Escape to the left of 1, even if the keys themselves have "Caps Lock" or "`~" on them.

> Quote:
>
> Quote: When you've got a Maple equivalent in your pocket, the appeal of a keystroke-programmable calculator becomes very limited.
>
> Which still can't be used on exams.

Depends on which exams. Last year, I split my advanced calculus final exam in two parts. The first half was strictly without calculators of any kind, and the second half took place in a computer lab and students were expected to use Maple.

> Quote:
>
> HP needs an inexpensive, introductory, *NON-PROGRAMMABLE*, RPN calc to sustain a long term RPN customer base.

HP has never made an inexpensive RPN calculator in the past because they never were in the inexpensive calculator business anyway. Today there are cheap basic calculators with an HP logo, but today's HP is not the same company. I don't expect them to be interested in sustaining their RPN user base.

I like RPN and I think that explaining RPN to students is a wonderful way to teach them about the tree structure of an algebraic expression. I always show my freshman calculus students how traditional mathematical notation is just syntactic sugar for a parsing tree.

Despite my love for RPN, I would be extremely surprised to see a basic RPN calculator gain any traction in the marketplace (which is to say, education). The hobbyist market is something else altogether, fortunately.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HPTalx and HP48S

*Message #1 Posted by **Cristian Arezzini** on 20 Jan 2012, 10:01 a.m.*

After a nasty battery leak accident, I decided to remove the batteries from ALL my calculators, except the ones I use daily. This means I have to make backups where applicable, including my several 48 series. I used HPTalx (because I'm on Linux exclusively) and had no problems with my 48G/GX's. But when I try to connect my 48S, something happens - the calculator screen does show data going back and forth - but HPTalx complains that the calculator is unknown. The hardware settings are the same as on the G/GX. As fas as I knew, the protocol is the same... Has someone tried the combination HPTalx/HP48s? Can anyone try? Is there some protocol difference between the two families? I couldn't find anything online...

Cristian

Re: HPTalx and HP48S

*Message #2 Posted by **Raymond Del Tondo** on 20 Jan 2012, 10:36 a.m.,*
in response to message #1 by Cristian Arezzini

Hi,

does HPTalx support the S series at all?
While it implements KERMIT, there's a chance that
the one or other remote cmd returns different results.
As an example, the VERSION cmd is not available on the S series
Or maybe there's an assumption related to the BDL (Binary Download Header) ,
which may not be suitable for the target platform.

Maybe the doc or the sources could tell more?

Raymond

Re: HPTalx and HP48S

*Message #3 Posted by **Cristian Arezzini** on 20 Jan 2012, 10:47 a.m.,*
in response to message #2 by Raymond Del Tondo

Hi Raymond, I didn't think of looking into the sources, I will do that, thank you! At worst, I can always beam the data to a 48G with infrared (or cable) and backup the data from there...

Thank you, Cristian

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C-LE firmware

*Message #1 Posted by **Antonio Maschio (Italy)** on 20 Jan 2012, 4:55 a.m.*

Hi everybody,

I've just ordered a HP15C-LE, and I'm reading here and there about it, its features (and yes, its bugs too).

I've got a simple question: how can I retrieve the firmware version?

Is the firmware updatable? I guess a cable is needed, but: has anyone had such an experience? What is the procedure?

Thanks in advance.

-- Antonio

Re: HP15C-LE firmware

*Message #2 Posted by **Thomas Radtke** on 20 Jan 2012, 5:01 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

There's no revised firmware and no public status report about it available. No one except HP knows *if* it will be available in the future.

Re: HP15C-LE firmware

*Message #3 Posted by **Jeff O.** on 20 Jan 2012, 8:13 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

> Quote:
>
> how can I retrieve the firmware version?

When you get your new 15c LE, press and hold the g key, then press and hold the ENTER key, then press and hold the ON key, then simultaneously release all three keys. This should result in the following display:

```
1.L 2.C 3.H
```

Now press the “2” key. This should result in a display like this:

```
1ChE--FFFFh
```

The above is a checksum (or similar) for the current firmware version. Earlier versions had a different value, it is presumed that any future version will also have a different value.

Now press ENTER. This should result in a display like this:

```
2011-04-15
```

This the date of firmware version loaded on your machine, the above is the date of the current version. Earlier versions had a different date, it is presumed that any future version will also have a different value.

Press ENTER again. This should result in a display like this:

```
C 2008 hP
```

I assume this is HP's copyright notice for the firmware code, it has not changed since the first version.

Pressing enter again will take you back to the first menu. Press 1 or 3 to try those out if you want, they do tests of the keyboard and/or display. To exit, press ON at the main menu.

> Quote:
>
> Is the firmware updatable?

Yes.

> Quote:
>
> I guess a cable is needed…

Yes, a cable is needed. It is the same cable required to turn a 30b into wp34s. These have been supplied by Gene Wright, search for posts by him then contact through the Forum to see if they are still available and further details.

> Quote:
>
> has anyone had such an experience?

Yes.

> Quote:
>
> What is the procedure?

Well, it's a bit convoluted and fraught with pitfalls. As Thomas states, there is no revised firmware and HP has given no indication if there ever will be. So perhaps you could get your cable and if new firmware is ever released come back and ask for the procedure.

...

Re: HP15C-LE firmware

*Message #4 Posted by **Antonio Maschio (Italy)** on 20 Jan 2012, 10:23 a.m.,*
in response to message #3 by Jeff O.

Ok, thanks, very clear, very complete and very kind answer.

When the calculator is mine, I'll play (;-P) with it a bit, then I'll adopt it as my current calculator. Then, as you suggested, when (or should I say 'if'?) a firmware is available, I'll get the cable and ask for your kind help.

Ciao!

I've been longing a new HP15C production line for years!

At last here it is!

-- Antonio

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 19 Jan 2012, 7:47 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: The best emulator for the HP 41 (Android)

*Message #2 Posted by **Alexander Oestert** on 20 Jan 2012, 2:08 a.m.,*
in response to message #1 by deleted

Thanks for the link.

It works great and it works on tablets, unlike others I tried before.

Re: The best emulator for the HP 41 (Android)

*Message #3 Posted by **M. Joury** on 20 Jan 2012, 7:11 a.m.,*
in response to message #2 by Alexander Oestert

Out of interest, does BEEP work for you?

-Marwan

Re: The best emulator for the HP 41 (Android)

*Message #4 Posted by **MichaelG** on 20 Jan 2012, 5:21 a.m.,*
in response to message #1 by deleted

Looks great. Does it feel great as well?

I am just curious how fast this emulator is. Could someone run the following little program and post the result?

LBL "TEST" CLX SETSW 100 RUNSW LBL 01 DSE X GTO 01 STOPSW RCLSW STOP

It takes 9 sec for the real machine, 1.3 sec in the V41. Btw the 32sII runs that in about 3 sec.

Michael

Re: The best emulator for the HP 41 (Android)

*Message #5 Posted by **Olivier De Smet** on 20 Jan 2012, 7:11 a.m.,*
in response to message #4 by MichaelG

You can change the speed only in commercial release. The free one is about the same speed as real hardware

Actually the rom is not patched to allow a 'nice' experience at fast speed.

You can obtain x50 speed up but the keyboard debouncing is also speed-up so key entry became difficult.

up to x4 the keyboard is usable, but after ... but you can change speed after the program is started and reverse back to x1 when finished :)

for your program : x1 : 8.37 sec, x4: 2.48 sec x16: 0.76sec max: 0.13sec with a motorola defy (700MHz one core processor)

P.S. sound is not implemented actually, certainly later

Olivier

Edited: 20 Jan 2012, 7:18 a.m.

(deleted post)

*Message #6 Posted by **deleted** on 20 Jan 2012, 7:39 a.m.,*
in response to message #5 by Olivier De Smet

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: The best emulator for the HP 41 (Android)

*Message #7 Posted by **Olivier De Smet** on 20 Jan 2012, 7:47 a.m.,*
in response to message #6 by deleted

Be patient, I'm planning to be Hepax compliant too ;)

(and perhaps partially utils-cl compliant too)

Olivier

Edited: 20 Jan 2012, 7:57 a.m.

Re: The best emulator for the HP 41 (Android)

*Message #8 Posted by **Tobie Niggli** on 20 Jan 2012, 9:32 a.m.,*
in response to message #7 by Olivier De Smet

Thank you. I allready love it ;-)

Re: The best emulator for the HP 41 (Android)

*Message #9 Posted by **MichaelG** on 20 Jan 2012, 9:24 a.m.,*
in response to message #5 by Olivier De Smet

Thx for the data. They where very interesting. It took me a long while to figure out why your Android device is soooo fast or the V41 sooo slow.

My gut feeling told me a PC should be at least as fast as the Android. The result is not the PC is slow but the V41. I played around by modifying the V41 sources. Now I get down the time needed for that little program to 0.15 sec.

These 0.15 sec doesn't seem to be the end. Right now I cannot make V41 faster because the speed also influences the keyboard handling (like in the Android). Faster means the "NULL" as the response of a long (!) keystroke comes earlier -> too early, more or less instantly. Lets see whether that can be fixed...

Michael

Re: The best emulator for the HP 41 (Android)

*Message #10 Posted by **Guenter Schink** on 20 Jan 2012, 3:40 p.m.,*
in response to message #5 by Olivier De Smet

Hi Olivier,

did you see my comment that the go41CX doesn't work on my Acer Iconia 500 (Android 3.2.1)? The suggested method to get a "Memory lost" doesn't work - though it does on the Galaxy I9000. Any idea or solution?

Günter

Re: The best emulator for the HP 41 (Android)

*Message #11 Posted by **Olivier De Smet** on 21 Jan 2012, 4:08 a.m.,*
in response to message #10 by Guenter Schink

Did you upgrade to the latest version (1.0.2 for go41c and 1.0.3 for go41cx) ?

The last version should display "MEMORY LOST" at first launch.

Olivier

Re: The best emulator for the HP 41 (Android)

*Message #12 Posted by **Guenter Schink** on 21 Jan 2012, 11:34 a.m.,*
in response to message #11 by Olivier De Smet

Thanks Olivier,

the update did it. I also have a report on the go34c in the other thread.

Günter

Re: The best emulator for the HP 41 (Android)

*Message #13 Posted by **Jeff Johnson** on 21 Jan 2012, 6:05 p.m.,*
in response to message #11 by Olivier De Smet

Oliver,

The previous version of go41c wasn't displaying correctly on my Samsung Galaxy Tab 7 (overlapping text), but 1.0.2 works great. Nice job! Looking forward to trying it out.

Re: The best emulator for the HP 41 (Android)

*Message #14 Posted by **Jeff Johnson** on 21 Jan 2012, 6:05 p.m.,*

(deleted post)

in response to message #13 by Jeff Johnson

Make that "Olivier". Sorry.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CX unusual display

*Message #1 Posted by **Bill Kleinsorge (Austin, TX)** on 19 Jan 2012, 5:57 p.m.*

Earlier today, my trusty 41cx apparently went into scientific display mode, and the decimal turned to a comma. Now that it is back in fixed mode, the decimal continues to appear as a comma, and the bottom row of the display is showing a small 0 and a 3.

Is this a malfunction, or have I inadvertently entered some weird display mode?

I have repeated turned it off and taken the battery pack out and put it back in. I have not replaced the batteries since I have never had a low battery warning.

Re: HP 41CX unusual display

*Message #2 Posted by **Kiyoshi Akima** on 19 Jan 2012, 6:12 p.m.,*
in response to message #1 by Bill Kleinsorge (Austin, TX)

The small 0 and 3 indicate that flags 00 and 03 are set. These are user flags, with absolutely no predefined significance to the calculator. Another flag (off the top of my head I want to say 29, but I'm sure somebody will correct me soon) controls whether the radix mark is set to the US or European standards (decimal point is period/comma, thousands separator is comma/period). Whichever flag this is, you'll want to toggle it.

Re: HP 41CX unusual display

*Message #3 Posted by **Les Bell** on 19 Jan 2012, 6:20 p.m.,*
in response to message #2 by Kiyoshi Akima

Flag 29 controls display of thousands separator (set flag to display).

Flag 28 controls radix style (set flag for British/US style, clear for European).

So, for US and general usage, SF 28 and SF 29.

Best,

--- Les
[http://www.lesbell.com.au]

Edited: 19 Jan 2012, 6:21 p.m.

Re: HP 41CX unusual display

*Message #4 Posted by **Frido Bohn** on 20 Jan 2012, 3:36 a.m.,*
in response to message #1 by Bill Kleinsorge (Austin, TX)

Quote:

> Earlier today, my trusty 41cx apparently went into scientific display mode, and the decimal turned to a comma.

Basically, as already said, this all is a "phenomenon" which has its cause in the flag configuration and is completely harmless, although somewhat annoying.
More interstingly is that those flags were apparently switched inadvertedly. Usually, the flags for the numeric display (40 and 41) cannot be manipulated directly with the standard flag-manipulating commands (SF, CF). Can you reconstruct what you have done to get this behaviour?

Re: HP 41CX unusual display

*Message #5 Posted by **Hans Brueggemann** on 20 Jan 2012, 5:49 a.m.,*
in response to message #1 by Bill Kleinsorge (Austin, TX)

bill,
some event messed up the internal "REGISTER d" of your 41C. that register holds the status of the 41's system- and user flags.
i had this on rare occasions when plugging / unplugging modules, while leaving the calculator on (no good idea), or on very old machines with flaky internal contacts. just give your machine the standard ON/BACKSPACE treatment to reset all system/user flags to their default status.
hans

Re: HP 41CX unusual display

*Message #6 Posted by **Fouad M. Kaadou** on 20 Jan 2012, 10:37 a.m.,*
in response to message #5 by Hans Brueggemann

Hello Bill,

As Hans said the flag register also known as the "d Register" was altered. This has happened to my 41CX on a few occasions to. Here is what I did:

```
0
X<>F
FIX 4
SF 28
SF 29
```

and TADA back to normal without losing any data.

Cheers,

Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Integration

*Message #1 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 12:49 p.m.*

I've stumbled across a problem with the Romberg integrator in WP 34S. Just as a test if I had made a mess of the firmware again - quite a common situation in the last few weeks - I started with the integral from 0 to 1 of 1/x. This is infinite but the poor calculator was busily trying to approximate the result until the algorithm failed with a programming error (register limit exceeded).

We tackled the problem by limiting the number of iterations and now the device gives up after a few minutes (a few seconds on the emulator).

I then tried the same with my 15C LE in FIX 4 mode: After 15 minutes or more the display still showed "running" and I stopped it to save on the batteries. My question is, how do other incarnations of the integrate function fare on this task?

Re: Integration

*Message #2 Posted by **Norman Dziedzic** on 19 Jan 2012, 1:22 p.m.,*
in response to message #1 by Marcus von Cube, Germany

50g seems to hang although I only waited about a minute on 'Integral(0,0,INV(X),X)'

From inside equation writer, entered the integral, highlighted the whole thing and got + Infinity very quickly.

Re: Integration

*Message #3 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 1:42 p.m.,*
in response to message #2 by Norman Dziedzic

> Quote:
>
> Integral(0,0,INV(X),X)

I assume you mean Integral(0,1,INV(X),X).

The immediate return with +infinity may be a result of the CAS knowing that the indefinite integral of 1/x is lnx which evaluates to infinity on the lower bound.

Re: Integration

*Message #4 Posted by **Howard Owen** on 19 Jan 2012, 8:38 p.m.,*
in response to message #3 by Marcus von Cube, Germany

If you are gong to special case the integral for the purpose of limiting the iterations, why not do what the 50G does and shortcut the processing up front? Am I misunderstanding what's happening in your code?

Re: Integration

*Message #5 Posted by **Paul Dale** on 19 Jan 2012, 8:39 p.m.,*
in response to message #4 by Howard Owen

We don't and won't do symbolic integration. It looks like the 50G knows that the integral of 1/x dx is Ln(x) and it is using that to short cut the evaluation.

- Pauli

Re: Integration

*Message #6 Posted by **Kiyoshi Akima** on 19 Jan 2012, 1:57 p.m.,*
in response to message #2 by Norman Dziedzic

My 50g hits the limit of 65535 function evaluations and returns a result of 22.8202972649 with IERR of -2.22365339103E-10 .

I don't have my 15C+ with me, but I believe it will hit its limit at 16383 function evaluations.

Re: Integration

*Message #7 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 2:17 p.m.,*
in response to message #6 by Kiyoshi Akima

From a recent mail from Pauli:

> Quote:
>
> The integrator does 8191 function evaluations maximum now.

Re: Integration

*Message #8 Posted by **Paul Dale** on 19 Jan 2012, 4:20 p.m.,*
in response to message #7 by Marcus von Cube, Germany

This is more a bug on my part -- it does 8191 evaluations but only the first 4096 are actually used. The "we've been going too long and need to stop test" is done too late.

We can set this iteration limit to any power of two we want and I will look into the earlier termination.

- Pauli

Re: Integration

*Message #9 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 11:40 a.m.,*
in response to message #8 by Paul Dale

I can't see the bug Pauli mentioned but I have increased the limit to 16383 again which is good for just below 5 minutes of execution time for 1/x (timed on my crystal-less 20b with TICKS). When the integrator is called from the keyboard it will show a progress message.

In a prior version I had added an exit similar to SLV ("Solution not Found") and a skip next

instruction return. It's back to how it was. Convergence can be easily tested with an x[approx]? Y test in a program or by manually comparing the values in x and y.

Edited for typos.

Edited: 20 Jan 2012, 12:00 p.m.

Re: Integration

*Message #10 Posted by **peacecalc** on 19 Jan 2012, 4:44 p.m.,*
in response to message #6 by Kiyoshi Akima

Hello folks,

my hp 50g shows an astonishing behavier:

If I start in exact mode with: for example

4: 192E-14

3: 1

2: '1/X'

1: X

Start with the integration symbol (RS Integral symbol), I get the question: approx. mode on? I answer: yes and I get immediatly the integration value: 2,6979E1

If I start within the approximation mode with the "same" (of course they are not interpretated as exact values) input numbers, I have to wait for the result some minutes.

This looks like a good work around against a long integration duration: just start in exact mode.

Sincerely peacecalc

Edited: 19 Jan 2012, 4:45 p.m.

Re: Integration

*Message #11 Posted by **peacecalc** on 19 Jan 2012, 5:07 p.m.,*
in response to message #6 by Kiyoshi Akima

Hello Kiyoshi Akima,

where on the calc hp 50g you can see how many times the function is calculated for the integration? The "IERR" variable I've already found.

Sincerely peacecalc

Re: Integration

*Message #12 Posted by **Kiyoshi Akima** on 19 Jan 2012, 5:17 p.m.,*
in response to message #11 by peacecalc

Quote:

> where on the calc hp 50g you can see how many times the function is calculated for the integration? The "IERR" variable I've already found.

Rather than integrating the program

```
<< INV >>
```

I merely integrate the program

```
<< 'C' INCR DROP INV >>
```

with the global variable 'C' set to some known initial value.

The same thing can be done on RPN machines by including something along the lines of ISG 0 in the function, followed by a NOP if necessary. For this particular problem, another possible coding would be

```
LBL A
1
STO+ 0
x<>y
/
RTN
```

Re: Integration

*Message #13 Posted by **peacecalc** on 20 Jan 2012, 8:29 a.m.,*
in response to message #12 by Kiyoshi Akima

Hello Kiyoshi Akima,

thanx for your fast reply. The little proggie only works in approxmation mode.

I have a theory why the calculation works better in exact mode. The calc find the antiderivate, but cannot express it with the boundaries, so the calc forced the user to switch to approximation mode. That is shurly faster then the pure approximation.

Sincerely peacecalc

Edited: 20 Jan 2012, 8:29 a.m.

Re: Integration

*Message #14 Posted by **Kiyoshi Akima** on 20 Jan 2012, 12:54 p.m.,*
in response to message #6 by Kiyoshi Akima

The 15C+ takes about an hour and a half to hit its limit of 65535 evaluations.

Re: Integration

*Message #15 Posted by **Oliver Unter Ecker** on 19 Jan 2012, 1:31 p.m.,*
in response to message #1 by Marcus von Cube, Germany

ND1: << 0 1 '1/x' 'x' Integral >> => bad argument [no wait time]

W|A: integrate 1/x from 0 to 1 => (integral does not converge)

Edited: 19 Jan 2012, 1:33 p.m.

Re: Integration

*Message #16 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 1:43 p.m.,*
in response to message #15 by Oliver Unter Ecker

Has ND1 a CAS of some sort?

Re: Integration

*Message #17 Posted by **Oliver Unter Ecker** on 19 Jan 2012, 2:51 p.m.,*
in response to message #16 by Marcus von Cube, Germany

The currently released version has no CAS.

ND1 (and ND0, the free version) can do numeric integration, deal with algebraic expressions (by themselves or in vectors/matrices), has PEVAL, can use OBJ-> to "unpeel" expressions, and can do some things like prime factorization, BigInts, and other stuff listed by the 50g AUR in CAS section.

The last couple of months, I've been working on integrating with a commercial CAS, which will become available within 1-2 months. (Beta testers wanted.)

Details are being finalized, but I'll be very excited when I can make the announcement. It's not just any CAS...

Re: Integration

*Message #18 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 3:00 p.m.,*
in response to message #17 by Oliver Unter Ecker

How does ND1 then find out about the integral being infinite? Or is this just a failure because it attempts to evaluate the function at its endpoints?

Re: Integration

*Message #19 Posted by **Oliver Unter Ecker** on 19 Jan 2012, 4:51 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Sorry, I didn't pick up on your question.

To avoid singularities, the endpoints are never evaluated.

In this specific case, an overflow in the interior of the interval is causing NaN values, which leads to the reported error (which should be changed to something more appropriate).

Re: Integration

*Message #20 Posted by **Gerson W. Barbosa** on 19 Jan 2012, 2:26 p.m.,*
in response to message #1 by Marcus von Cube, Germany

HP-42S: It was still 'Integrating' when I stopped it after thirty minutes. (ACC=0.0001)

Free42 Decimal v1.4.62: 26.97737115553 (ACC<=0.0001). (This corresponds to a lower limit of about 1.92e-12).

Re: Integration

*Message #21 Posted by **Valentin Albillo** on 19 Jan 2012, 3:02 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi, Marcus:

For the HP-71B, you get in a short while:

```
> INTEGRAL(0,1,0,1/IVAR)

     22.8202902142

> IBOUND

     -2.22365339102E-11
```

where the negative IBOUND means the specified precision (1E-12) wasn't achieved. Conversely:

```
> INTEGRAL(1,2,0,1/IVAR)

 .69314718056

> LN(2)

 .69314718056

>IBOUND

 6.93146313016E-13
```

in a few seconds (positive IBOUND, so 12 digits were indeed achieved).

Best regards from V.

Re: Integration

*Message #22 Posted by **Paul Dale** on 19 Jan 2012, 4:23 p.m.,*
in response to message #21 by Valentin Albillo

I think we can work out the maximum number of iterations each integrator uses based on the result of this integral. At least the results being mentioned look rather close to some of those I got with larger iteration limits.

- Pauli

Re: Integration

*Message #23 Posted by **Valentin Albillo** on 19 Jan 2012, 6:26 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> I think we can work out the maximum number of iterations each integrator uses based on the result of this integral.

It's well known that the modified iterative Romberg algorithm as implemented in the HP-71B does a

maximum of **65,535** function evaluations, which can be simply demonstrated like this:

```
>LIST


10 DEF FNF(X) @ N=N+1 @ FNF=1/X @ END DEF
20 N=0 @ DISP INTEGRAL(0,1,0,FNF(IVAR)),N


>RUN


 22.8202902142        65535
```

Best regards from V.

Re: Integration

*Message #24 Posted by **John B. Smitherman** on 19 Jan 2012, 6:07 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Marcus, my TI83+SE gives the error message "TOL NOT MET" within 10 seconds.

Regards,

John

Re: Integration

*Message #25 Posted by **From Hong Kong** on 19 Jan 2012, 11:22 p.m.,*
in response to message #1 by Marcus von Cube, Germany

TI-NSpire CX CAS gave infinity immediately.

Re: Integration

*Message #26 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 3:23 a.m.,*
in response to message #25 by From Hong Kong

Can you try in approximate mode again?

Re: Integration

*Message #27 Posted by **From Hong Kong** on 20 Jan 2012, 4:43 a.m.,*
in response to message #26 by Marcus von Cube, Germany

I'll try and get back to you soon.

TI-85 and TI-86 gave "ERROR 33 TOL NOT MET" after about 40 seconds.

FX-4500P returned "Ma ERROR" immediately.

Edited: 20 Jan 2012, 5:00 a.m.

Re: Integration

*Message #28 Posted by **From Hong Kong** on 20 Jan 2012, 5:08 a.m.,*
in response to message #26 by Marcus von Cube, Germany

It gave the same result immediately.

Edited: 20 Jan 2012, 5:08 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Couple of new HP-17bii solver programs in Articles

*Message #1 Posted by **Don Shepherd** on 19 Jan 2012, 11:04 a.m.*

Link to a couple of new 17bii solver programs.

Re: Couple of new HP-17bii solver programs in Articles

*Message #2 Posted by **y.miyata** on 20 Jan 2012, 9:30 p.m.,*
in response to message #1 by Don Shepherd

Thank you very much for the nice solver programs. Both works quite nicely as you have described. The "LOG(0)" technique should be a good trick to stop the solver when required. In addition, they clearly show how magically a sigle line solver program does a complex calculation.

In fact, now my main calculator is a HP-17BII. I have been using my favorite HP-42S for long for my daily work in biological scientific research field, where frequent calculations with many programs are necessary. However, because the 42S price became quite high, I'm afraid I might be unable to buy another 42S if I happen to break it. So, I tried to translate these 42S programs into 17BII solver forms. Surprisingly, almost all of programs I have written for 42S can be expressed as 17BII solver lines with similar user interfaces. Sometimes it resulted in a very tricky line, but in most cases my 42S program can be expressed as a short and smart equation. In addition, 17BII has a real time clock capability and financial functions which are also quite useful.

I bought a couple of 17BII at low prices for backups, and keep the 42S for other purposes such as programming fun and really complicated calculations.

I'm sure that 17BII is a very powerful and "programmable" calculator.

Re: Couple of new HP-17bii solver programs in Articles

*Message #3 Posted by **Don Shepherd** on 20 Jan 2012, 10:31 p.m.,*
in response to message #2 by y.miyata

You're welcome, I enjoyed writing them. I changed the Hi-Lo program because it really didn't need to end a loop early. LOG(0) (or any illegal instruction, like divide by 0) is handy for exiting a loop early after storing a value of interest in a menu variable, and then RCL'ing the variable, but there are situations in which it won't work, especially if you need to do a lot of further processing after exiting the loop. But it is an interesting approach.

I think most members of the forum aren't especially interested in the 17bii because (a) it's a financial calculator, and (b) it lacks trig functions. But I enjoy the challenge of seeing if the 17b and 17bii can be programmed to solve particular problems, and I'm constantly amazed at what a "non-programmable" calculator can do.

Re: Couple of new HP-17bii solver programs in Articles

*Message #4 Posted by **Allen** on 21 Jan 2012, 12:17 a.m.,*
in response to message #3 by Don Shepherd

Neat Programs, Don! I love the 17bii, and use it as often as I use all my other 42s/32sii/50g/48gx machines combined. It's a very capable and stylish machine!

Re: Couple of new HP-17bii solver programs in Articles

*Message #5 Posted by **Don Shepherd** on 21 Jan 2012, 4:15 p.m.,*

in response to message #4 by Allen

Thanks Allen. I agree, the 17b and 17bii are simply very handsome calculators. I really like the single shift key and an uncluttered key layout. You can print your equations via the infrared printer. The date arithmetic is nice. The solver with its programming-enabling commands is second to none. I wish I could congratulate the HP engineer who invented this solver and thank him or her for IF and Σ.

One subject I don't think I've seen discussed in the forum before is the use of HP programmable calculators to create programs that offer simple challenges that require you to engage your mind, like the Hi-Lo game. I know I've read that stimulating your brain is effective in preventing Alzheimer's disease, and as we all get older that becomes something that I think is important. A collection of programs (that can be implemented on HP programmable calculators) that provide brain stimulation would be a good thing.

As for me, I don't plan to run out of 17b's!

Edited: 21 Jan 2012, 4:26 p.m.

Re: Couple of new HP-17bii solver programs in Articles

*Message #6 Posted by **y.miyata** on 22 Jan 2012, 9:13 p.m.,*
in response to message #3 by Don Shepherd

> I changed the Hi-Lo program because it really didn't need to end a loop early.

I have also enjoyed the upgraded program. When I modify solver lines, I often need to store several "versions" of solver lines in the memory and I wish if I could save the older line and copy it to a new line to modify it (I mean it is often painful to re-enter a whole long line again). Do you think it is possible on 17BII? In case I need a serious debugging, I prefer to do so on the solver in 200LX where I can copy and paste the line.

> (b) it lacks trig functions.

Yes, this might be a major drawback of 17BII, although I rarely need the trig functions. Previously, I had been using 19BII, and it has trig functions. In addition, the separate alpha-keys are convenient to enter equations. However, 19BII is too large and heavy for my lab-coat pocket, and it was painful (and dangerous) to change the batteries of 19BII.

I have 27S and this is also a very nice calculator with the same Pioneer form and the handsome solver with a lot of mathematical and financial functions. The problem is that it does't accept RPN input. Probably, "27SII" with an RPN option might be my ideal calculator.

Re: Couple of new HP-17bii solver programs in Articles

*Message #7 Posted by **Gerson W. Barbosa** on 22 Jan 2012, 10:03 p.m.,*
in response to message #6 by y.miyata

> Quote:
>
> > (b) it lacks trig functions.
> >
> > Yes, this might be a major drawback of 17BII, although I rarely need the trig functions.

Equations for them can be written, however. Here is a compact one for sine:

```
SIN=L(Y:SIGMA(N:0:5:1:(-1)^N*(X*PI/540)^(2*N+1)/FACT(2*N+1)))
*(3-4*SQ(G(Y)))
```

Another one, longer but faster:

```
SIN=L(Y:X*(5.81776417331E-3+L(X2:SQ(X))*(-3.2818376137E-8+G(
X2)*(5.55391606E-14+G(X2)*(2.0935E-26*G(X2)-4.47566E-20)))))*
(3-4*SQ(G(Y)))
```

Others available here.

Re: Couple of new HP-17bii solver programs in Articles

*Message #8 Posted by **y.miyata** on 23 Jan 2012, 8:28 p.m.,*
in response to message #7 by Gerson W. Barbosa

> Quote:
>
> Others available here.

Yes, in fact I remember that previously I have examined all of the equation listed in your link (quite impressive, I would like to take this opportunity to thank you for your very nice article), and I stored equation series No.2 in my HP17BII, which is useful to perform simple trig functions.

But in most of the cases where I need trig functions, I would like to use them in more complicated solver equations such as

COS(x)*(SIN(X))^2/(x*SIN(X+PI))=0.5.

In such cases, even with your trig equations, 17BII seems to be not that much convenient...

Re: Couple of new HP-17bii solver programs in Articles

*Message #9 Posted by **Gerson W. Barbosa** on 23 Jan 2012, 11:05 p.m.,*
in response to message #8 by y.miyata

Thanks! I started converting them from the HP-12C Platinum program during a dull day at the beach. The longer equations were edited and tested first on the HP-200LX, which made the task easier. I personally prefer the first set, but I guess most will prefer the second one for its compactness.

> Quote:
>
> But in most of the cases where I need trig functions, I would like to use them in more complicated solver equations such as
>
> COS(x)*(SIN(X))^2/(x*SIN(X+PI))=0.5.

Yes, you're right! After posting I realized you would need them for something like that. It's a pity the HP-17BII lacks trigs. It would be a great option in this form factor. Perhaps there would be space in ROM for these functions if an international option were not offered.

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

*Message #10 Posted by **Thomas Klemm** on 23 Jan 2012, 11:12 p.m.,*
in response to message #8 by y.miyata

> Quote:
>
> COS(x)*(SIN(X))^2/(x*SIN(X+PI))=0.5

In this case even trigonometric functions wouldn't be of a help as the solutions turn out to be complex numbers:

x ~ +/-2.17519+/-0.743742 i

Kind regards
Thomas

Re: Couple of new HP-17bii solver programs in Articles

*Message #11 Posted by **y.miyata** on 24 Jan 2012, 8:00 p.m.,*
in response to message #10 by Thomas Klemm

> Quote:
>
> the solutions turn out to be complex numbers:

I'm sorry, I made a mistake in writing the equation. The right one is

COS(x)*(SIN(X))^2/(x*SIN(X+PI/**2**))=0.5

I would be glad if you kindly confirm that this equation has 2 real solutions.

Thanks!

Re: Couple of new HP-17bii solver programs in Articles

*Message #12 Posted by **Thomas Klemm** on 24 Jan 2012, 10:30 p.m.,*
in response to message #11 by y.miyata

I simply copied the equation *cos(x)×(sin^2(x))/(x sin(x+pi/2)) = 0.5* into WolframAlpha which gave me these two solutions. Just make sure to use only lowercase *x* and not both *x* and *X* in the equation.

```
x = 0.554572
x = 1.84908
```

From the result I used the alternate form to get: $1-\cos(2x) = x$. Now you could use the HP-17bii with the Taylor-series of this expression to solve the equation:

$$x = 2x^2 - 2x^4/3 + 4x^6/45 - 2x^8/315$$

I didn't do that but according to *WolframAlpha* you should get:

```
x = 0.554573
x = 1.80219
```

This might already be close enough to your needs. Otherwise add more terms of the Taylor expansion.

Cheers
Thomas

Re: Couple of new HP-17bii solver programs in Articles

*Message #13 Posted by **Gerson W. Barbosa** on 25 Jan 2012, 11:50 a.m.,*
in response to message #12 by Thomas Klemm

The equation has actually three real roots. It can be rewritten as $(\sin(x))^2 - 0.5*x = 0$, since $\sin(x+pi/2) = \cos(x)$. When submitting it to WolframAlpha we get

```
x = 0
x ~ 0.554572090829809021393830 36
x ~ 1.849076836438507890568685 1
```

The HP-42S solver gives

```
X=0
```

```
X=0.554572090831
X=1.84907683644


01 LBL "EQ"
02 MVAR "X"
03 0.5
04 RCL "X"
05 *
06 LASTX
07 SIN
08 X^2
09 -
10 .END.
```

The initial estimates, 0.1, 0.5 and 2, respectively, have to be changed *outside* the solver, otherwise the solver may get stuck to the first root it finds.

The HP-200LX solver will always return X=0, no matter the initial estimates, for

```
SQ(L(Y:SIGMA(N:0:5:1:(-1)^N*(X*PI/540)^(2*N+1)/FACT(2*N+1)))
*(3-4*SQ(G(Y))))-0.5*X=0
```

Cheers,

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

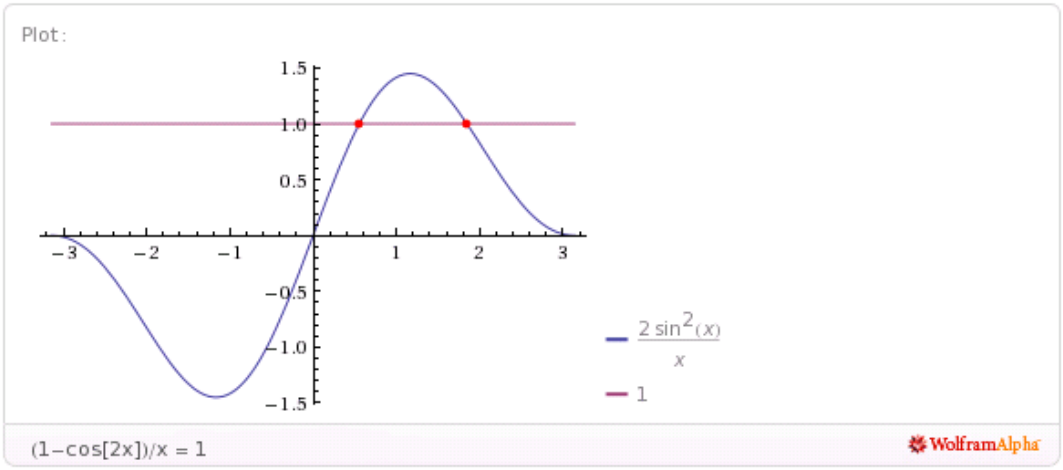
*Message #14 Posted by **Thomas Klemm** on 25 Jan 2012, 5:09 p.m.,*
in response to message #13 by Gerson W. Barbosa

But the value $x = 0$ is not a solution of the initial equation. Instead it's added because we multiplied both sides of the equation with x.

If that turns out to be a problem for the solver we can easily divide the Taylor series again by x and get the following instead:

$$1 = 2x - 2x^3/3 + 4x^5/45 - 2x^7/315$$

Just from looking at the graph I would not expect the solver to have problems to find these two solutions:



Best regards
Thomas

Re: Couple of new HP-17bii solver programs in Articles

*Message #15 Posted by **Gerson W. Barbosa** on 25 Jan 2012, 6:02 p.m.,*
in response to message #14 by Thomas Klemm

> Quote:
>
> But the value *x = 0* is not a solution of the initial equation.

You're right! That's been quite a mistake of mine.

What puzzles me now is the behavior of the HP-42S solver above. I don't remember another example that requires leaving the solver to change estimates.

Regards,

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

*Message #16 Posted by **Thomas Klemm** on 25 Jan 2012, 6:23 p.m.,*
in response to message #15 by Gerson W. Barbosa

> Quote:
>
> have to be changed *outside* the solver

I'm afraid I don't understand your problem. What exactly are you doing here?

Cheers
Thomas

Re: Couple of new HP-17bii solver programs in Articles

*Message #17 Posted by **Gerson W. Barbosa** on 25 Jan 2012, 7:01 p.m.,*
in response to message #16 by Thomas Klemm

Just follow these keystrokes considering, the program "EQ" above is in memory and the variable "X" contains 0:

```
             keystrokes                    display


[Shift] [SOLVER] [EQ] [5] [X] [X]         X=0
[2] [X] [X]                               X=0
[1] [X] [X]                               X=0             ; the
root is stuck at X=0, no matter the estimates
[EXIT]                                                    ; leaves
the SOLVER environment
[2] [STO] [X]                                             ;
stores 2 in the variable "X"
[Shift] [SOLVER] [EQ] [X]                 X=2             ; back
to the SOLVER enviroment again
[X]                                       X=1.84907683644
```

Strange, isn't it?

Cheers,

Gerson.

Edited: 25 Jan 2012, 7:03 p.m.

Re: Couple of new HP-17bii solver programs in Articles

*Message #18 Posted by **Thomas Klemm** on 26 Jan 2012, 3:00 a.m.,*
in response to message #17 by Gerson W. Barbosa

My understanding is that since you entered only one guess the previous solution is used as the other one. Thus it is stuck at *x = 0*.

Instead of leaving the SOLVER environment you can simply enter two guesses:

```
[Shift] [SOLVER] [EQ]
[1] [X]
[2] [X]
[X]
X=1.849077
```

It might be that the solver just uses one of the initial guesses if the result is exactly 0, because there's no possible way to improve that result.

Does this makes sense to you?

Regards
Thomas

Re: Couple of new HP-17bii solver programs in Articles

*Message #19 Posted by **Gerson W. Barbosa** on 26 Jan 2012, 3:41 a.m.,*
in response to message #18 by Thomas Klemm

> Quote:
>
> It might be that the solver just uses one of the initial guesses if the result is exactly 0, because there's no possible way to improve that result.
>
> Does this makes sense to you?

Yes, it does. Thanks! That's exactly the procedure described in the manual. I had already tried [1] ENTER [2] [X] but it would not work. The procedure for the HP-200LX is slightly different and also not so intuitive: *"to enter two guesses, key in the first guess and press the function key once, and then key in the second guess and press the function key twice."* I haven't succeeded on the HP-200LX, however.

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

*Message #20 Posted by **y.miyata** on 26 Jan 2012, 8:47 p.m.,*
in response to message #19 by Gerson W. Barbosa

> Quote:
>
> I had already tried [1] ENTER [2] [X] but it would not work.

On HP-15C, I have got the answer with this way by [1] [ENTER] [2] [f] [SOLVE] [label].

> Quote:
>
> The procedure for the HP-200LX is slightly different and also not so intuitive:

I believe it is almost the same in HP-200LX as in HP-42S.

Store the equation: sin(x)*sin(x)/x-0.5

[calc] 1 [x] 2 [x] [x]

x= 1.849076836438508

0.1 [x] 1 [x] [x]

x=0.554572090829809

Often I prefer to get the answer after plotting the funcion.

[Plot] [Auto] (or [Draw]), move the cursor near the point where the graph crosses the Y=0, then [Solve]

You see the answer in the upper left corner of the screen.

Re: Couple of new HP-17bii solver programs in Articles

*Message #21 Posted by **Gerson W. Barbosa** on 27 Jan 2012, 2:34 p.m.,*
in response to message #20 by y.miyata

> Quote:
>
> Often I prefer to get the answer after plotting the funcion.

Duh! On plotting it I saw where I was going wrong. It turns out my equations assume X is in degrees, not radians! After editing, it works:

```
SQ(L(Y:SIGMA(N:0:6:1:(-
1)^N*(X/3)^(2*N+1)/FACT(2*N+1)))
*(3-4*SQ(G(Y))))=X/2

X=0.554572090829808

  and

X=1.849076836438507
```

Great advice! Thanks!

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

*Message #22 Posted by **y.miyata** on 26 Jan 2012, 8:29 p.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> It can be rewritten as *(sin(x))^2 - 0.5*x = 0*, since *sin(x+pi/2) = cos(x)*.

Yes, you are right, the original equation I had was in fact (sin(x))^2/x=0.5, and I added cos(x) in the numerator (top) and sin(x+pi/2) in the denominator (bottom) [it added

nothing mathematically] to emphasize the trig difficulty in 17BII.

Next subjects you may be interested in will be:

1. Calculate the x value where (sin(x))^2/x reaches maximum. Looking at the graph Thomas kindly illustrated, you may agree that it should be somewhere between x=1 and x=2.

2. Calculate the integration [x=0 to x=pi] of (sin(x))^2/x.

I have done these with HP-42S and HP-15LE (fast!). It was a good exercise to remember how to use these calculators (and also to prevent from Alzheimer's disease...).

Cheers.

Re: Couple of new HP-17bii solver programs in Articles

*Message #23 Posted by **Gerson W. Barbosa** on 27 Jan 2012, 3:04 p.m.,*
in response to message #22 by y.miyata

> Quote:
>
> 1. Calculate the x value where (sin(x))^2/x reaches maximum. Looking at the graph Thomas kindly illustrated, you may agree that it should be somewhere between x=1 and x=2.
>
> 2. Calculate the integration [x=0 to x=pi] of (sin(x))^2/x.

Out of laziness, I've done these on my HP 50g :-)

```
1. 'SQ(SIN(X))/X' DERVX --> '(2*COS(X)*X-SIN(X))*SIN(X)/X^2'
    '(2*COS(X)*X-SIN(X))*SIN(X)/X^2=0' --> X=1.16556118521 (Numeric
Solver)

2. 'Integrate(0,pi,SQ(SIN(X))/X,X)' EVAL  --> 1.21882669653
```

> Quote:
>
> It was a good exercise to remember how to use these calculators (and also to prevent from Alzheimer's disease...).

I've heard studying a foreign language is good for this purpose too. I hope this applies also to languages I started to learn when I was young (and never finished, like German and Russian-- never went beyond lesson 3). Perhaps a good reason to start over :-)

Cheers,

Gerson.

Re: Couple of new HP-17bii solver programs in Articles

*Message #24 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 3:59 p.m.,*
in response to message #23 by Gerson W. Barbosa

Gerson, mache weiter! :-)

Re: Couple of new HP-17bii solver programs in Articles

*Message #25 Posted by **Gerson W. Barbosa** on 27 Jan 2012, 4:37 p.m.,*

in response to message #24 by Marcus von Cube, Germany

Hallo Marcus,

Living in Curitiba, I am surrounded by German descendants (the string "german" appears at least 15 times in the wikipedia article on the city). My daughter studies in a Lutheran high-school and has been studying German for two years (but only two hours a week, which is less than adequate). As of me, there are no excuses :-)

Regards,

Gerson.

OT. Curitiba

*Message #26 Posted by **Marcus von Cube, Germany** on 27 Jan 2012, 5:08 p.m.,*
in response to message #25 by Gerson W. Barbosa

Impressive!

Time to see Brazil... :-)

Re: OT. Curitiba

*Message #27 Posted by **Gerson W. Barbosa** on 27 Jan 2012, 5:19 p.m.,*
in response to message #26 by Marcus von Cube, Germany

Willkommen! :-)

Re: Couple of new HP-17bii solver programs in Articles

*Message #28 Posted by **Don Shepherd** on 22 Jan 2012, 11:09 p.m.,*
in response to message #6 by y.miyata

> Quote:
>
> When I modify solver lines, I often need to store several "versions" of solver lines in the memory and I wish if I could save the older line and copy it to a new line to modify it (I mean it is often painful to re-enter a whole long line again). Do you think it is possible on 17BII?

Unfortunately, no. It would be nice if there was cut and paste available when editing solver equations, but I don't think even the 19bii can do that either. I played with the 19bii solver a few months ago and discovered something I really did not like: if you have an error in your solver equation somewhere, you can't save it until you fix the error, unlike the 17bii solver which does save it, even with the error. That's a huge problem when you get into longer equations, and for that reason I would not want to work on the 19bii, even with its convenient alpha keyboard.

It is ironic that L() and G() were not documented in the 17b or 17bii manuals, but the actual solvers on those machines had them and they worked fine. By the time HP got around to documenting L() and G() in the 17bii+ manuals, Kinpo changed the solver so it didn't work (correctly) like it did previously in the 17b and 17bii.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Assembler problem

*Message #1 Posted by **fhub** on 19 Jan 2012, 4:53 a.m.*

Marcus, with your last change in wp34s_asm I suddenly get a bunch of error messages when I compile my libraries:
"Use of uninitialized value $chars[2] in length at C:\WP34S\TOOLS\WP34S_ASM.EXE line 637."

Franz

Re: [WP34s] Assembler problem

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 19 Jan 2012, 5:30 a.m.,*
in response to message #1 by fhub

We'll look at it. In the meantime, you can wind ASM back to 2225 for now.

This change was an attempt to fix a bug of mine where "0" in quoted labels was misbehaving. Oops!

Re: [WP34s] Assembler problem

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 19 Jan 2012, 7:32 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Franz,

Should be fixed now.

Marcus was kind enough to fix a long latent bug in the tool.

Cheers...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL & NoV-64 (or its siblings)

*Message #1 Posted by **Geir Isene** on 19 Jan 2012, 2:59 a.m.*

I transcended to Nerdvana when I got my first NoV module from Diego, progressed to the Second Circle when I got the CL board and now moving into the Third Circle of Nerdvana with the CL/NoV combo.

I thought I'd share my views on this amazing combination.

First some specs; I have the HP-41CL loaded with the YFNS 2A in page #F, CLUTILS 2G in page #E and CCD OS/X in page #D. This leaves the full 4 blocks of wonderful HEPAX RAM from the NoV-64 module in pages #8-#B as well as the NOV CHAP burned into the ROM of the NoV-64 at page #C. The reason for the latter is that none of the NOV CHAP write-to-h4100 works if the module resides in the CL. These functions work only if the module is inside the NoV-64 module. Also, the NOV CHAP module is essential in the NoV-64 whenever I take the module out and plug it into another HP-41.

The advantage with using the NoV-64 to host the HEPAX are:

1. It saves one 4K page as the NoV module gets HEPAX into page #6, something that the CL cannot do.
2. The HEPAX RAM is permanent in the NoV - despite MEMORY LOST or flat batteries. To get the same permanency on the CL alone, you will have to write the HEPAX RAM to flash, something that takes a lot of time and is risky.

In addition, the NoV-64 provides a full 4 sets of 4*4K of HEPAX blocks. These blocks are easily swapped by writing the configuration into address h4100 - 10X, where "X" (from 0-3) indicates the block to use. This gives you a full 64K of HEPAX RAM for use - some 32 times the usual program memory on your HP-41. Programs can be saved permanently and run from HEPAX RAM. XM files can be saved, manipulated and used from HEPAX RAM. Calculator memory can be saved and retrieved easily (in a couple of seconds using the NOV CHAP command SAVEN and GETN). Unlike the WRALL from the CLUTILS module on the HP-41CL, the SAVEN doesn't save XM. For that, you have the NOV CHAP program BACKUP.

Switching the blocks of HEPAX RAM is done in less than a second with the functions NX (write the number in X to h4100 - such as 103 to switch to the forth HEPAX 4*4K block) or the direct switching functions N100, N101, N102 and N103. These makes it possible to assign the switching functions to keys for lightning fast block switching. Doing this on the CL alone is "possible" but extremely cumbersome and time consuming - taking minutes to do with permanent HEPAX saves - and it becomes increasingly risky.

You can of course save a copy of your favorite modules to the permanent HEPAX ram in the NoV as well. This makes it easy to have 4 different environments with both a couple of modules and plenty of HEPAX RAM to use for each - and even a memory save for each environment. What joy!

I use the 100 HEPAX block as my default and have the ISENE ROM in page #B while retaining pages #8, #9 and #A as HEPAX RAM with lots of programs, a memory save and a few XM files. My 101 environment contains pure math related programs in 4 HEPAX RAM pages. The 102 environment contains my Role-Playing programs with lots of XM files, while my 103 environment hosts my MCODE project(s). Switching between them is with the blink of the eye.

A simple RESTORE program loads the YFNS to page #F, the CLUTILS to #E and the CCD OS/X to page #D

whenever the CL needs new batteries or I manage to lock up the machine with some funny MCODE. Nothing is ever lost with this - I keep an additional backup of RAM and XM on a cassette tape (using the Extended IL ROM) for ultra safety.

With this I have leveled to Nerdvana 3rd Circle.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #2 Posted by **Frido Bohn** on 19 Jan 2012, 8:55 a.m.,*
in response to message #1 by Geir Isene

Having the HEPAX code in the NOV64 could you get DISASM to work properly in the 41CL environment?

Re: HP-41CL & NoV-64 (or its siblings)

*Message #3 Posted by **Geir Isene** on 19 Jan 2012, 1:36 p.m.,*
in response to message #2 by Frido Bohn

What exactly is the problem you encounter with MCODE on the CL?

Re: HP-41CL & NoV-64 (or its siblings)

*Message #4 Posted by **Ángel Martin** on 19 Jan 2012, 3:51 p.m.,*
in response to message #3 by Geir Isene

DISASM doesn´t seem work on the CL, not sure why.

This should not have any impact on the NoVRAM-32-64 or the real HEPAX plugged to the CL, which obviously don´t use the CL image, nor rely on the CL board to operate.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #5 Posted by **Geir Isene** on 19 Jan 2012, 4:58 p.m.,*
in response to message #4 by Ángel Martin

Are you talking about the DISASM 4D module here?

Re: HP-41CL & NoV-64 (or its siblings)

*Message #6 Posted by **Frido Bohn** on 19 Jan 2012, 5:55 p.m.,*
in response to message #5 by Geir Isene

DISASM is not a module, it's a command within the HEPAX module used for disassembly of MCODE. As Ángel said, this command does not work in the CL, more precise, if the HEPAX module from the CL flash is used.
I wonder whether this command will work from within the NOV64 when it's attached to the CL, i.e. if the HEPAX module stored in the CL is bypassed.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #7 Posted by **Geir Isene** on 19 Jan 2012, 6:25 p.m.,*
in response to message #6 by Frido Bohn

Ah, got it. I will check.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #8 Posted by **Geir Isene** on 20 Jan 2012, 12:31 p.m.,*
in response to message #6 by Frido Bohn

The DISASM in the HEPAX module does not work in the CL environment even though the HEPAX resides in the NoV-64 module (the screen simply goes blank, and I have to press ON to get it back). I also checked the DISASM 4D module - end there seems to be an issue there too (will check more).

However, the disassembler in the David Assembler module does work - at least when the module is copied onto the NoV-64 module. It may still work on the pure CL as well (will check that later).

Edited: 20 Jan 2012, 12:31 p.m.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #9 Posted by **Meindert Kuipers** on 20 Jan 2012, 12:33 p.m.,*
in response to message #8 by Geir Isene

I seem to remember that there was a mechanism preventing the HEPAX disassembler to disassemble itself, as a kind of source code protection, so this may be causing the problems.

Meindert

Re: HP-41CL & NoV-64 (or its siblings)

*Message #10 Posted by **Geir Isene** on 20 Jan 2012, 12:37 p.m.,*
in response to message #9 by Meindert Kuipers

The HEPAX module is in page #6 and I try to disassemble the HEPAX RAM in page #8. Would it prevent the user from also disassembling HEPAX RAM altogether?

Re: HP-41CL & NoV-64 (or its siblings)

*Message #11 Posted by **Meindert Kuipers** on 20 Jan 2012, 12:51 p.m.,*
in response to message #10 by Geir Isene

Good question ;) I do not know how this mechanism works, but the implementation of HEPAX support in the 41CL could prevent disassembly in other pages as well. Will it refuse to work on any page?

Re: HP-41CL & NoV-64 (or its siblings)

*Message #12 Posted by **Geir Isene** on 20 Jan 2012, 2:59 p.m.,*
in response to message #11 by Meindert Kuipers

The HEPAX itself resides in page #6 and is on board the NoV-64, not in the CL itself. It refuses to disassemble HEPAX RAM on the NoV-64. I will check later tonight whether it will disassemble another page - like the CCD OS/X on board the CL plugged into page #D.

Update: No, DISASM does not work on the CL regardless if HEPAX is on a

NoV module or not and regardless of the target for the disassembling is on the NoV or on board the CL. Upon running DISASM, the function asks for the start address and the end address. Upon entering the end address, the calculator actually turns off (nothing else happens)

Edited: 20 Jan 2012, 3:19 p.m.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #13 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 20 Jan 2012, 3:39 p.m.,*
in response to message #12 by Geir Isene

I assume if you remove the NoV-64 module from 41CL and plug it into another HP-41, NoV-64 DISASM "will" disassemble MCODE resides in HEPAX RAM correct?

I wonder it has some mismatch that prevents MMU to work with DISASM to fully function during Logical to Physical address conversion on the 41CL.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #14 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 4:26 p.m.,*
in response to message #13 by Kerem Kapkin (Silicon Valley, CA)

You might try with the MMU disabled.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #15 Posted by **Diego Diaz** on 20 Jan 2012, 4:37 p.m.,*
in response to message #13 by Kerem Kapkin (Silicon Valley, CA)

Hi all,

Also tested with real HEPAX, but DISASM still doesn't work on CL.

And yes, DISASM works into NoVRAM-32-64, on any other HP-41C/CV/CX.

Will keep on investigating...

Cheers from the Caribbean Sea.

Diego.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #16 Posted by **Monte Dalrymple** on 20 Jan 2012, 4:47 p.m.,*
in response to message #15 by Diego Diaz

I have duplicated the behavior in the simulator. I think that it has something to do with the value returned from the keyboard scanner when no key is down. The keyboard is read at location

088 in Bank 4, and a branch to the OFF routine is taken at location 08E in the same bank. I will post more information as I discover it.

I think that I also found where the test for disassembling the HEPAX code is, and I'll post that information after I have verified it also.

Monte

Re: HP-41CL & NoV-64 (or its siblings)

*Message #17 Posted by **Monte Dalrymple** on 20 Jan 2012, 10:59 p.m.,*
in response to message #16 by Monte Dalrymple

Here is what I have found:
http://systemyde.com/pdf/hepax_fix.pdf

Re: HP-41CL & NoV-64 (or its siblings)

*Message #18 Posted by **Diego Diaz** on 21 Jan 2012, 12:16 a.m.,*
in response to message #17 by Monte Dalrymple

Hi Monte, all,

Thanks a lot for the patch!

A modified version of HEPAX bank 4 is available for NoVRAM, NoV-32 and NoV-64 users here.

This version only patches the keyborad bug, but does not remove the limitation on self-dissasembling HEPAX.

Just un-zip in your working directory. You may want to keep the original copy of HEPX1D-3.ASM in a safe place, so rename it before you replace it with the new patched one.

You'll need to run ClonixConfig and configure your module as usual for the update to take place.

Enjoy your 41's

Diego

Edited: 21 Jan 2012, 12:18 a.m.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #19 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Jan 2012, 1:28 a.m.,*
in response to message #18 by Diego Diaz

Thank you Monte and Diego for such quick response and resolution!

Diego, do you recommend this HEPAX patch on NoVRAM for modules used with 41CL or can be use used for all HP-41c/cv/cx safely?

Great work, thanks again.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #20 Posted by **Diego Diaz** on 21 Jan 2012, 2:21 a.m.,*
in response to message #19 by Kerem Kapkin (Silicon Valley, CA)

Hi Kerem,

The modified image can be safely used both in CL and standard 41's.

I've tested it both in a CL and a CX, the only drawback I've found so far is that you can't stop the DISASeMbling command by presing ON.

However, in case you enter a long memory block to disasemble and want to stop it middleway, just press R/S; so not a big issue whatsoever.

Hope you find it useful.

Cheers.

Diego.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #21 Posted by **Ángel Martin** on 21 Jan 2012, 5:19 a.m.,*
in response to message #17 by Monte Dalrymple

Fantastic news! Thanks Monte, once again the CL delivers on the promise to be the 21st-century premier calculator !

Hahhh, yes this is a very biased personal opinion, so pls. don't let the dogs loose on me :-).

Re: HP-41CL & NoV-64 (or its siblings)

*Message #22 Posted by **Geir Isene** on 21 Jan 2012, 7:14 a.m.,*
in response to message #21 by Ángel Martin

It never amazes me how quick on its feet this community can be. And heavy weighters like yourself, Monte end Diego (and many others) on board, it's a joy

to be in your vicinity.

Re: HP-41CL & NoV-64 (or its siblings)

*Message #23 Posted by **Diego Diaz** on 21 Jan 2012, 2:39 a.m.,*
in response to message #1 by Geir Isene

Hi Geir,

Thanks a lot for your kind words, your appreciation of the features in the NoV-64 and your many contributions like the ICEBOX and NOV-CHAP.

It's great to count with you in our small community of HP-41 enthusiats.

Cheers from Dominican Republic.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Preservation of Vintage Boxes

*Message #1 Posted by **aj04062** on 18 Jan 2012, 8:24 p.m.*

I recently acquired a HP-91 box to match with the calculator and manual I have. The base of the box is not split, but the all 4 corners of the top are and some edges along the top are splitting.

Does anyone have experience preserving these? I know I could just tape the insides, but seems like a rough approach. These appear to be held together from the graphics paper, so to really "restore", I would need to pull this back to apply some type of tape.

Ideas?

Re: Preservation of Vintage Boxes

*Message #2 Posted by **bill platt** on 18 Jan 2012, 8:35 p.m.,*
in response to message #1 by aj04062

"restoration" is not desirable. More desirable is to simply prevent further damage. Put the box inside a cushioned box, or inside a plexiglas box for display (and a sun shield when not viewing it).

Keep the calculator separate.

All tape degrades with time and doesn't restore--rather it is an ugly defect and non-original.

Edited: 18 Jan 2012, 8:36 p.m.

Re: Preservation of Vintage Boxes

*Message #3 Posted by **aj04062** on 18 Jan 2012, 8:39 p.m.,*
in response to message #2 by bill platt

Why wouldn't you recommend keeping the calculator inside the box?

All ni-cads have been removed to prevent leakage.

Re: Preservation of Vintage Boxes

*Message #4 Posted by **bill platt** on 18 Jan 2012, 10:31 p.m.,*
in response to message #3 by aj04062

Because when you want to pull out the calculator to look at it, play with it, power it up to keep the caps "fresh" etc you would have to touch the box...

Re: Preservation of Vintage Boxes

*Message #5 Posted by **Mojo88** on 19 Jan 2012, 12:14 p.m.,*
in response to message #4 by bill platt

I've dealt a bit with this and had great success with white paper glue. Often I come across a split corner where somebody has taped it and the tape is yellow or peeling off and doing more damage to the artwork. If you can lift the tape off carefully without damaging the graphics, you can usually get a decent result. The glue holds very well, better than the tape if you can keep the corners mated tight while the glue dries. The glue doesn't show when dry unless you use too much and make a mess of it. I've had near perfect results on some occasions and the boxes hold up to regular wear & tear, much better than tape. I'm pretty sure you can get some favorable results. I studied this a bit on the net with some research on restoring antique box art. The next step if you are very serious is to touch up with paint that you match but I've not had to do that with any of mine so far. Good luck!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

IBM 1620 computer

*Message #1 Posted by **Don Shepherd** on 18 Jan 2012, 8:13 p.m.*

I recently got a book on this scientific computer from the early 1960's. Supposedly, it couldn't add; it used lookup tables to perform addition. At one point it had the code name of "Cadet" which, humorously (I think) stood for: **c**an't **a**dd, **d**oesn't **e**ven **t**ry.

Did anyone here ever program or use this computer, and what was it like?

Re: IBM 1620 computer

*Message #2 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 8:28 p.m.,*
in response to message #1 by Don Shepherd

Ah, but it was soon followed by a far more advanced model:

"The 1620 Model II introduced basic ALU hardware for addition and subtraction (making "Can't Add, Doesn't Even Try" no longer applicable) and index registers."

http://en.wikipedia.org/wiki/IBM_1620

Re: IBM 1620 computer

*Message #3 Posted by **Don Shepherd** on 18 Jan 2012, 8:43 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks Gerson, but I can't see that page for 3 more hours! I really don't like this 24-hour blackout.

Re: IBM 1620 computer

*Message #4 Posted by **Paul Dale** on 18 Jan 2012, 8:45 p.m.,*
in response to message #3 by Don Shepherd

Replace the "en" with "m" in the URL :-)

Or turn off style sheets and load the page.

- Pauli

Edited: 18 Jan 2012, 9:09 p.m. after one or more responses were posted

Re: IBM 1620 computer

*Message #5 Posted by **Don Shepherd** on 18 Jan 2012, 8:51 p.m.,*
in response to message #4 by Paul Dale

Thanks Pauli.

Re: IBM 1620 computer

*Message #6 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 9:11 p.m.,*
in response to message #5 by Don Shepherd

Don,

Notice the Taylor series for sin(x) in the fourth picture (IBM 1620 Model I Level A (prototype), as it appeared in the IBM announcement of the machine.)

Regards,

Gerson.

Re: IBM 1620 computer

*Message #7 Posted by **Don Shepherd** on 19 Jan 2012, 5:10 a.m.,*
in response to message #6 by Gerson W. Barbosa

Yeah, I see that. That poor guy trying to thread his **paper** tape is interesting. Magnetic tape must have seemed like a huge breakthrough!

Re: IBM 1620 computer

*Message #8 Posted by **Dave Shaffer (Arizona)** on 18 Jan 2012, 9:51 p.m.,*
in response to message #1 by Don Shepherd

Our local college (Juniata College; Huntingdon, Pa.) got one of these in 1963. I was a Senior in high school then and took a calculus course at Juniata (everybody does that these days, or their high school has calculus, but in 1963 the highest high school math was algebra 2, and it helped that your Dad (who 10 years later introduced me to the HP35) was a part-time physics/engineering instructor got you in the door at the college). I was the "curve buster" in that calculus class - on the first exam I got a grade 30 per cent higher than any of the college students!

Part of the course was to program the 1620. As I recall, the FORTRAN compiler was a deck of cards - you read it in first, and then read in your FORTRAN deck. A bunch of us was sure that we had programmed things OK, but we kept getting error messages. Turned out, there was a bad card in the compiler. (bugs have been around forever!!)

It was S-s-l-l-o-o-w-w! One of the assignments was to calculate pi using various approximation integration over a quarter of a circle (i.e. a lot of square roots). Various members of the class had a different number of slices to use in the approximation (I had inside trapezoidal, some had box approximations, either inside or outside the circle). I had something like 2000 slices, and a run took about 15 minutes of CPU time (you were the only one using the CPU!). My recollection is that I was good to 3 or 4 significant digits. I think any one of our HP calculators would do this now in a second or less!

Re: IBM 1620 computer

*Message #9 Posted by **Steve Leibson** on 18 Jan 2012, 10:18 p.m.,*
in response to message #1 by Don Shepherd

One of these 1620s has been restored to operation at the Computer History Museum in Mountain View, CA. The magnetic core memory had deteriorated from solder flux and was neither operable nor replaceable. So the restoration team got the smallest semiconductor SRAM they could buy, interfaced it to the 1620, and used a small fraction of the capacity of the chip. Before the overall museum redo about a year ago, you could watch a

live demo of the 1620 in operation. I'm not sure they do that any more. And yes, the 1620 did indeed use lookup tables rather than an ALU.

Re: IBM 1620 computer

*Message #10 Posted by **Don Shepherd** on 19 Jan 2012, 5:22 a.m.,*
in response to message #9 by Steve Leibson

Thanks Dave and Steve, very interesting stuff. If I ever travel to California I'll have to see that museum.

So, there was a bad card in the Fortran compiler card deck you had to read in each time. It's amazing how far we have come in this industry. I graduated from high school in 1968, and no schools around here (Louisville KY) had any type of computers then; the closest they got was big old mechanical accounting machines. Upon graduation I enrolled in ECPI, Electronic Computer Programming Institute, and learned IBM 360 assembler, RPG, and COBOL. ECPI couldn't afford the monthly rent on an IBM 360, so our instructor took our card decks to his day job, programmer at Blue Cross Blue Shield, and compiled our work. I was so proud of my first printout from that machine, it said "no diagnostics". I asked the instructor what that meant, and he said "it means you had no errors, congratulations". Great memories.

Edited: 19 Jan 2012, 5:24 a.m.

Re: IBM 1620 computer

*Message #11 Posted by **Eric Smith** on 19 Jan 2012, 5:31 p.m.,*
in response to message #10 by Don Shepherd

Well, it means that you had no **detected** errors. :-)

Re: IBM 1620 computer

*Message #12 Posted by **Don Shepherd** on 19 Jan 2012, 6:12 p.m.,*
in response to message #11 by Eric Smith

What? How could my program contain an error if it got a clean compile? :)

I have a nagging feeling that more than a few members of the current crop of programmers may believe that today.

Re: IBM 1620 computer

*Message #13 Posted by **Mike Morrow** on 19 Jan 2012, 9:32 p.m.,*
in response to message #10 by Don Shepherd

> Quote:
>
> I enrolled in ECPI, Electronic Computer Programming Institute, and learned IBM 360 assembler, RPG, and COBOL.

What about JCL???

You couldn't do much on the System 360/370 without some familiarity with Job Control Language, which for some reason almost everybody hated. There were bumper stickers available that read "Honk If You Love JCL".

Edited: 20 Jan 2012, 4:07 p.m. after one or more responses were posted

Re: IBM 1620 computer

*Message #14 Posted by **Don Shepherd** on 19 Jan 2012, 10:03 p.m.,*
in response to message #13 by Mike Morrow

Mike, I don't remember learning a lot about JCL from that early course at ECPI. In looking back at my old notes (which amazingly I have after 44 years!), this is about the only thing I could find. As I recall, our instructor took our card decks to his Blue Cross Blue Shield office and ran an assembler run to produce our listings one time, but that was probably all. He undoubtedly had to get permission from his boss to do that. I'm sure those simple assemblies didn't eat up very much CPU time.

I never really worked on any 360 or 370 system in a job, but I did take a course at the community college in the Washington DC area on JCL specifically, years later. I much preferred Univac's Runstream to IBM's JCL, as I think anyone would.

Re: IBM 1620 computer

*Message #15 Posted by **Mike Morrow** on 20 Jan 2012, 4:51 p.m.,*
in response to message #14 by Don Shepherd

> Quote:
>
> I much preferred Univac's Runstream to IBM's JCL, as I think anyone would.

I very much agree, Don. Forty years ago I spent many enjoyable hours with the Georgia Tech (GT) Univac 1108 system with Exec 8 Level 27 as the OS. All of my programming that mattered was on the 1108, using some ASR-33 demand access and a lot of batch runs using hollerith cards punched on IBM 026 or 029 punch machines. I did limited programming in Algol on the GT Burroughs B5500 with its TSMCP OS. It was a very intriguing *stack* machine mainframe that documentation described as "Polish Notation" at the machine code level (which users did not utilize). It had a push-*down* stack with elements arranged FIFO from the *top* of stack. That is pretty much really RPN from the early 1960s, long before any HP calculator used it.

GT had an IBM System/360 for administrative use, so there was no access to that. I had my first JCL experience on the University of Arkansas System/370 in 1980. JCL was entertaining to play with, with the proper references, but I never found any benefit to its complexity compared to the Univac 1108 Exec 8 environment. I loved Exec 8 (although Level 31 which replaced Level 27 at GT seemed a bit squirrelly to me).

The era of student mainframe use and the early days of electronic calculators...now those were the good old days. :-)

Re: IBM 1620 computer

*Message #16 Posted by **Marc Ferrer (France)** on 19 Jan 2012, 10:34 a.m.,*
in response to message #9 by Steve Leibson

Hello,

Having read that the 1620 uses lookup tables in its ALU makes me think about HP stuff : the 9810/9820/9830 CPU has 2 256x4 bipolar ROMs dedicated to BCD arithmetic (from US patent 3,839,630)... quite a similar system.

Regards, Marc

Re: IBM 1620 computer

*Message #17 Posted by **Eric Smith** on 20 Jan 2012, 2:40 a.m.,*
in response to message #16 by Marc Ferrer (France)

Yes, but on the 1620 the table was in core, so you could easily change it. For instance, if you wanted to do a bunch of octal arithmetic.

Of course, the next user would be really upset if you didn't restore it to the normal table.

Re: IBM 1620 computer

*Message #18 Posted by **Marc Ferrer (France)** on 20 Jan 2012, 5:26 a.m.,*
in response to message #17 by Eric Smith

Very interesting... it must have been a delight for some facetious programmers, on April 1st :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 34s] Changing the overlay

*Message #1 Posted by **Jeroen Van Nieuwenhove** on 18 Jan 2012, 4:51 p.m.*

Today I removed my v2 overlay for a v3 overlay. Just a few tips:
Use a knife with a very sharp blade (e.g. an x-acto knife) to free a small corner of every individual key overlay, but be careful not to cut in the key itself.
Next, use a pair of tweezers to remove the key overlay by pulling on the corner you just freed. When you do it right, you can remove the key overlay with only a tiny bit of glue remaining on the key.
Do the same for the big overlay between the keys (freeing one corner and then gently lifting the overlay). This overlay will rupture and in my case, a few bigger patches of glue remained.
Use alcohol and a cotton swab/kleenex/... to clean the keys and the space between the keys. The glue will come off quite easily. It is important to remove ALL glue residue, especially on the keys.
Finally, apply the new overlay. I recommend using a pair of tweezers to correctly position the individual key overlays on the keys before adhering them. It is equally important to press firmly along the edges of the key overlays. This way, the calc looks like it comes straight off HP's production line (well, almost).
Of course, with 30B prices under $20, US residents might prefer to simply buy another unit, but for those of us who have to pay a lot more, changing the overlay is quite feasible. I am considering buying another 30B nevertheless, because who knows how long HP will be offering it?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 MCode Assembler/Linker 32-bit version

*Message #1 Posted by **MichaelG** on 18 Jan 2012, 2:51 p.m.*

The current HP41 MCode development suite SDK41 from Warren Furlow was developed about a decade ago. The environment is developing and under the modern 64-bit Windows the 16-bit tools do not work anymore.

I started some research whether it is possible with low effort to move up the tools to the 32-bit level. And indeed the assembler A41 ist running well. The linker L41 produced its first .rom a few minutes ago.

Now everything needs to be tested.

My question for you all: Are you interested in the 32-bit versions at all? Or do you don't care? Meaning is that worth the effort? Do some people volonteer to help me testing the versions? E.g. comparing 16-bit results with the 32-bit results?

The suite contains more tools than A41 and L41. Which tools do you think should be ported to 32-bit as well (hopefully not all)? I guess the disassembler most probably.

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #2 Posted by **cgh** on 18 Jan 2012, 3:00 p.m.,*
in response to message #1 by MichaelG

Hello,

I have ported the SDK41 of Warren Furlow under Linux and *BSD. It works on 32-bits. It need GCC to be compiled, so it may be usable under DOS/Windows with the GCC. I used a41 to generate MCODE and d41 to disassemble. The linker l41 seems to work but I never went further. The t41 compiles, but I never use it. I have tried to make working the emulatotr m41, but I have preferred to start a rewrite of NSIM (nsimII) from Eric Smith.

Christophe

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #3 Posted by **Geir Isene** on 18 Jan 2012, 4:12 p.m.,*
in response to message #2 by cgh

I am very interested in your Linux version - could you send it to me?

I don't care about a 32-bit Windows version as I haven't used Windows since 12 years (except for some once-in-a-blue-moon weird reason)

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #4 Posted by **Eric Smith** on 18 Jan 2012, 5:04 p.m.,*
in response to message #2 by cgh

I'm interested in the Linux version of SDK41 also. Maybe there's enough interest to warrant putting it on a web page? Warren would probably be willing to put it on The Site That Must Remain Nameless.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #5 Posted by **cgh** on 18 Jan 2012, 5:32 p.m.,*
in response to message #4 by Eric Smith

OK. The work is sleeping from several years and will be delivered as is. I gave up. Currently, I have no time to continue this job. I will send it to Warren and see with him to put it on TOS.

Edited: 18 Jan 2012, 5:33 p.m.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #6 Posted by **Geir Isene** on 18 Jan 2012, 5:38 p.m.,*
in response to message #5 by cgh

If it works OK, it would be an improvement over running the SDK in a Dosbox under Linux.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #7 Posted by **MichaelG** on 19 Jan 2012, 2:15 a.m.,*
in response to message #2 by cgh

Thank for your offer. The Windows 32-bit port of A41 and L41 is already finished. Btw, I'm using Visual Studio 2010, so I don't need to deal with command line tools :-)

All the credit goes to Warren. The SDK is written in pure C and beside one or two little glitches they compile and run as 32-bit versions. Some years ago I ported a cross assembler and linker and that was really a pain.

To be honest I changed to behaviour of the assembler a bit. I simply couldn't live with the fact that the assembler modifies the original source code. I did a lot of assembler programming over the years with different tools but never came across that "feature".

The only difference now is the A41 only reads the source file and creates (on demand) a new listing file with the extension .lst.

Another new feature is the A41 now operates fully case-insensitive on the source file.

Lets see whether the demand of the 32-bit Windows version exists (at least for me since I have only 64-bit OSs running).

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #8 Posted by **Frido Bohn** on 19 Jan 2012, 9:12 a.m.,*
in response to message #7 by MichaelG

Well, at least for me a Windows 32-bit version would be very welcome (as I have given up struggeling with Linux for years).

The command-line structure of the assembler/disassmbler/linker complex is not just the state-of-the-art environment nowadays.
I don't know if you have integrated their functionality in one application. That would be nice.
Anyway, I would like to test it as long as you give the instructions what exactly you would like being tested.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #9 Posted by **MichaelG** on 19 Jan 2012, 4:16 p.m.,*
in response to message #8 by Frido Bohn

> Quote:
>
> I don't know if you have integrated their functionality in one application. That would be nice.

This feature has already been availble. It is documented but I admit I came across that while studying the source code. If you list source files instead of object file in the linke file the linker calls the assembler automatically. Additionally when using this feature a small "make" feature makes it even more interesting. The linker checks the last modification date of both the source file and the object file and only runs the assembler if the source file has been modified after the last assembly run.

I discovered some major problems in this area. They seem to be solved now.

Next modification I made to both tools: you HAVE to specify the file extension of all input files. That also includes the object and source files in the linker project file. No implicit file extensions any more.

I think I can go public with the first beta version tomorrow.

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #10 Posted by **MichaelG** on 20 Jan 2012, 4:44 a.m.,*
in response to message #8 by Frido Bohn

I dare to go public. My tests show good results. E.g. I built Monte's huge source file for the CL and compared the ROMs. They are identical. That seems to be a good starting point for the 32-bit version.

If you are interested you can download the tools, a small manual (which lists the differences) and a small expample:

download.michael-goericke.de/SDK41R6.1-32v1.zip

I would be a great help if you have the chance to compare more ROM images created with both the 16-bit and the 32-bit version.

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #11 Posted by **Frido Bohn** on 20 Jan 2012, 8:53 a.m.,*

in response to message #10 by MichaelG

Thanks for sharing!

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #12 Posted by **Meindert Kuipers** on 20 Jan 2012, 11:49 a.m.,*
in response to message #10 by MichaelG

Thanks for sharing, result is a ROM file which is 100% identical to something I made for myself with the original SDK41 under DOSBOX. We finally have somthing running perfectly on a Windows 7 64 bit system. The command line had to be modified slightly though ...

Meindert

PS. the disassembler is not urgent for me, I have a very flexible version in the MLDL2000 manager software, this is not a commandline tool, but interactive under Windows.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #13 Posted by **MichaelG** on 20 Jan 2012, 12:45 p.m.,*
in response to message #12 by Meindert Kuipers

Thx, great news.

What ideas do have in mind regarding the command line?

I started to look at the disassembler. It already creates some reasonable sources but I get some strange errors at the end. Stay tuned...

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #14 Posted by **Diego Diaz** on 21 Jan 2012, 3:21 a.m.,*
in response to message #10 by MichaelG

Hi Michael,

Every contribution to keep the HP-41 alive and kicking is very welcome to most of us... :-)

Thanks for sharing this new tool!

Cheers.

Diego.

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #15 Posted by **MichaelG** on 21 Jan 2012, 3:21 a.m.,*
in response to message #8 by Frido Bohn

Good news the disassembler is running fine. Again there are some slight changes all documented in the PDF:

1) As with the A41 and D41 you need to include the file extension for all input files.

2) Trailing NOPs are omitted

3) You can create both a pure source file or a list file that contains the object code as well as the mnemonics (same format as the list file created by the assemble).

To be consistent I change the format of the options of the tools once again. There are few options that need more data. Option and data are now separated by a colon. Its about these option: D41: /l:file.lbl, /p:9 A41: /a:<xx>

I am sure that makes the options a bit more readable - for humans :-)

The link to the tools is still the same:

download.michael-goericke.de/SDK41R6.1-32v1.zip

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #16 Posted by **MichaelG** on 22 Jan 2012, 6:06 a.m.,*
in response to message #15 by MichaelG

New version uploaded. The A41 now creates a list file with columns to beautify the output. New option /x added which turn on the expansion of the macros .FILLTO and .BSS.

Michael

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #17 Posted by **Monte Dalrymple** on 22 Jan 2012, 10:24 a.m.,*
in response to message #16 by MichaelG

One thing that I would find useful for A41 would be the ability to fill with 0x3FF instead of 0x000. This would leave unused locations unprogrammed when loaded into a Flash memory...

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #18 Posted by **MichaelG** on 22 Jan 2012, 11:50 a.m.,*
in response to message #17 by Monte Dalrymple

Shouldn't be a big deal. Do you need equivalents for both .BSS and .FILLTO? I could think of an optional parameter for both directives or 2 new directives. To be honest 2 new directives is a bit easier to implement. Any ideas for the names?

Michael

PS: I don't know whether you all get a notification mail when someone posts in a thread. At least I don't get one. In order to speed up some communication you can write me to hp41(at)michael-goericke.de

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #19 Posted by **Monte Dalrymple** on 22 Jan 2012, 12:22 p.m.,*
in response to message #18 by MichaelG

I haven't used .BSS yet. New directives might be preferable. A new directive could be .UNFILLTO ;-)

Re: HP-41 MCode Assembler/Linker 32-bit version

*Message #20 Posted by **MichaelG** on 22 Jan 2012, 12:44 p.m.,*
in response to message #17 by Monte Dalrymple

Ok, new version is ready for download (same link). I added a new directive .FILLTOVAL that takes 2 parameters <address> and <value>. E.g.

.FILLTOVAL 0045 35F

That enables you to fill with any value you like.

Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s Re-Flashing

*Message #1 Posted by **Jim Johnson** on 18 Jan 2012, 11:03 a.m.*

I was successful in finally re-flashing the memory of the HP 30b calculator, but with some difficulty. I'm using MySamba, running on a Windows 7 pc. I used a USB to serial adapter (Staples brand, but suspect it's really a Belkin adapter). This connects to the DB-9 serial connector on the flash cable that connects to the 6-pin connector that plugs into the back of the HP 30b. I was successful in getting the calculator to erase (no response of the ON button) after a lot of manipulation of the ERASE and RESET buttons on the programming cable. The HP 30b now "appeared" dead (no display response to a key press). After some frustration using various usb to serial converters, I re-read the instructions about pressing the "ON" key before you try to upload the code to re-flash the calculator. THIS IS ESSENTIAL! The board inside of the HP 30b won't automatically come on when you plug in the programming cable. So before you press "SEND" on the MySamba window, you MUST press the "ON" key (or EXIT key if you've re-labeled the HP30B) on the HP30b so the calculator will power up and communicate with the MySamba program. Once I figured this out, it uploaded the program and re-flashed the HP 30b. Sounds simple, doesn't it? Not if you are interrupted in the middle of the re-flashing process and you miss this step of pressing the "ON" key before re-flashing the AT91SAM7L128-EK processor! Good luck to all in this endeavor and thanks to the tireless WP 34s team.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s Overlay

*Message #1 Posted by **Jim Johnson** on 18 Jan 2012, 10:38 a.m.*

I just received my WP 34s overlay and was very excited to apply this overlay on my HP 30b. I carefully applied the labels and flashed the calculator. After some difficulty in re-flashing (more in another posting), I was finally successful. I noticed that the "OFF" label is located on the sloped portion of the EXIT key and is labeled in a green color. Using the green shift key didn't turn off the calculator. Looking at the WP 34s manual reveals that the blue shift key turns off the calculator, and indeed the overlay shown in the manual reflects that. It seems as if there is an error in the overlays that I received. Is there a corrected overlay? Has this already been noted? If so, my apologies for repeating this in the forum.

Re: WP 34s Overlay

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 10:52 a.m.,*
in response to message #1 by Jim Johnson

The overlay is for the most recent software version: V3. We have yet to create a zip file for release. For the time being, you need to go to the SVN repository and download the manual and the calc.bin file from there. This works fine from the web.

Edited: 18 Jan 2012, 10:53 a.m.

Re: WP 34s Overlay

*Message #3 Posted by **Jim Johnson** on 18 Jan 2012, 11:06 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thank you very much, Marcus. My apologies for the confusion. I'll retrieve the latest V3 version and reflash the micro.

Re: WP 34s Overlay

*Message #4 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 5:59 p.m.,*
in response to message #3 by Jim Johnson

I've updated SVN with the most recent build, including some files from the library which are now available combined with the flash files as calc_full.bin.

Beware: V3 is still a moving target!

Re: WP 34s Overlay

*Message #5 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 6:00 a.m.,*
in response to message #4 by Marcus von Cube, Germany

It's moving again. We are just fixing the integrator.

Re: WP 34s Overlay

*Message #6 Posted by **Paul Dale** on 19 Jan 2012, 6:33 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Making friendlier more than fixing.

- Pauli

[Return to Index | Top of Index]

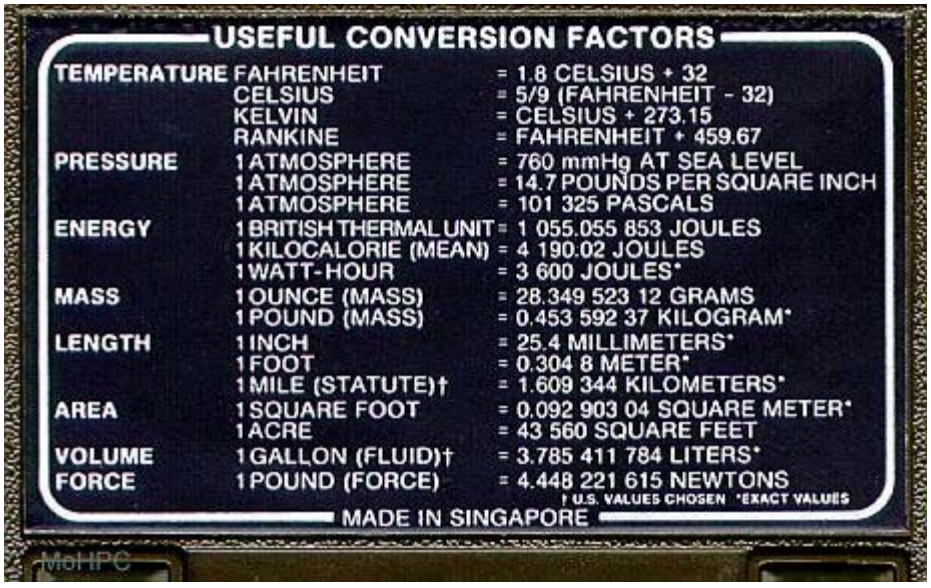
Go back to the main exhibit hall

HP-65/67 back label

*Message #1 Posted by **Kees Bouw** on 18 Jan 2012, 4:55 a.m.*

Does anyone know if a HP-65 **ALWAYS** has this label on the back:

I have seen photo's of a HP-65 on eBay, where the label on the back is the one usually seen on a HP-67, titled "Useful Conversion Factors":



The label appears to be undamaged. Could it be an original HP-65 that has not been tampered with and that still has this Useful Conversion Factors label on the back? (The photo's above are from the museum just to show which label I am talking about, they are not from the HP-65 I have seen.)

Edited: 18 Jan 2012, 4:58 a.m.

Re: HP-65/67 back label

*Message #2 Posted by **Thomas Chrapkiewicz** on 18 Jan 2012, 7:03 a.m.,*
in response to message #1 by Kees Bouw

The HP65 I purchased in 1975 (and still have) has the 'HP65 label' still intact. I suspect the 'conversion factors' label machines were tampered with.

TomC

Re: HP-65/67 back label

*Message #3 Posted by **Dale Reed** on 18 Jan 2012, 9:35 a.m.,*
in response to message #1 by Kees Bouw

Note the "Made in U.S.A." on the bottom line of the HP-65 label and the "Made in Singapore" on the conversion factors label.

If the serial number on the unit in question has an "A" after the first four digits, I would expect a label that says "Made in U.S.A. (the HP-65 label). If the serial number has an "S" after the first four digits, I would expect a label that says "Made in Singapore" (the conversion factors label).

Dale

Re: HP-65/67 back label

*Message #4 Posted by **Kees Bouw** on 18 Jan 2012, 11:40 a.m.,*
in response to message #3 by Dale Reed

> Quote:
>
> Note the "Made in U.S.A." on the bottom line of the HP-65 label and the "Made in Singapore" on the conversion factors label.
>
> If the serial number on the unit in question has an "A" after the first four digits, I would expect a label that says "Made in U.S.A. (the HP-65 label). If the serial number has an "S" after the first four digits, I would expect a label that says "Made in Singapore" (the conversion factors label).
>
> Dale

The serial number has an S and the label says "Made in Singapore" so that matches. Also, there is no serial number etched between the top two feet as is common for the HP-67 (instead, it is on a label between the bottom two feet, just where it should be), so I must conclude that the bottom is genuine HP-65. The "Useful Conversion Factors" label is very even, no folds or wrinkles of any kind. So if someone replaced the back label they have done an extremely good job. If it has been replaced by a new fake label, then it makes no sense that the wrong label was used. They might as well have put on the "usual" label. It's a mystery.

Re: HP-65/67 back label

*Message #5 Posted by **John Robinson** on 18 Jan 2012, 5:11 p.m.,*
in response to message #1 by Kees Bouw

The Useful Conversion Factors label is the HP67 back label. Every 67 I own or have seen has this label. Also, every 65 I own or have seen has the first label.

Cheers, John

Re: HP-65/67 back label

*Message #6 Posted by **John Robinson** on 18 Jan 2012, 5:14 p.m.,*
in response to message #5 by John Robinson

Of course the label could be one of Ben Ong's excellent reproductions, but I don't know why you would use a 67 label when Ben makes 65 labels as well.

The other option is that the whole case back has been swapped, but that would require access to the two screws under the label. I think the 65 and 67 case backs are the same.

Re: HP-65/67 back label

*Message #7 Posted by **Michael de Estrada** on 18 Jan 2012, 10:08 p.m.,*
in response to message #6 by John Robinson

> Quote:
>
> Of course the label could be one of Ben Ong's excellent reproductions, but I don't know why you would use a 67 label when Ben makes 65 labels as well.

I seriously doubt it. Ben's labels omit the "Made in ..." at the bottom of the label to avoid fraud.

Re: HP-65/67 back label

*Message #8 Posted by **Kees Bouw** on 19 Jan 2012, 3:02 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> Ben's labels omit the "Made in ..." at the bottom of the label to avoid fraud.

The label does have "MADE IN SINGAPORE" on it and as far as I can tell from this photo, is a genuine HP-67 label. Since there is no serial number etched between the feet, it must be a genuine HP-65 backside. At the moment, the only reasonable explanation I can think of is that the calculator was serviced some years after it was discontinued, and that the service center no longer had any HP-65 back labels. So they put a HP-67 label on it instead.

Re: HP-65/67 back label

*Message #9 Posted by **John Robinson** on 22 Jan 2012, 5:23 p.m.,*
in response to message #7 by Michael de Estrada

Hmmmm, the labels I have from Ben all have "Made In..." but I did buy them some years ago, so

maybe he has changed them now.

Cheers, John

Re: HP-65/67 back label

*Message #10 Posted by **Michael de Estrada** on 22 Jan 2012, 6:03 p.m.,*
in response to message #9 by John Robinson

Interesting. You must have bought them more than 3 years ago.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking for HP calculators... I´m frustrated

*Message #1 Posted by **Fabricio** on 17 Jan 2012, 9:25 p.m.*

[NOTE: This is a long story out of frustration, not a technical one. Please read it only if you have time to spare!]

I am not a collector as some of you are, but only a hard-core user: my sin was that my father brought home an 11c when I was about to enter middle school (in the middle of the 80´s). For fun, wanting to show off, and a lot of spare time, I learnt rpn. Well, as most of you, I became adicted to it. Most of middle school I used it, as well as my first semester in college. Then HP-28s came around, but was way out of my reach; I even worked to make some money, but only managed to save like 1/3 its cost. I ended up buying a casio (yes, laugh or cry as much as u want). I was so frustrated with that that promised myself I would buy an HP 28s as soon as I could. That only happened when graduated from engineering, but by then HP 48GX was on the shelves and got mine in 1997. I used it very little in the following years, mainly cause my then boss gave me a 32sii. I loved that one, and used it every single day, from 6 to 10 hours daily, from somwhere in 1999 to somewhere in 2004, when it died. Then I started using again my old HP 48GX from somewhere in 2005 until mid 2011 (last august), when I realized that the keyboard was close to useless. I didn´t know about the hp situation nor about this forum; I was naive enough to think that I could get something like the 32sii. I called a friend and he told me he was using the 35s, so I ordered one. As soon as I opened the box, the yellow (turning quickly into red) alarm lights started flashing. You may defend or not the system/firmware of it, but just judging by the quality, it is awful (bear in mind that all I had in life was an 11c, jump to a 32sii, and then my 48GX, all "clasical" ones, at least in the middle level). As I started to look for more models, I realized that there were no "more models", and completely panicked; and then I found this forum, and found the "ugly truth". In desperation I started buying calculators in Ebay and other sites, trying to stock for the rest of my life. The result is that I have now:

HP 28s:

1 like new HP28s (I had to take my frustration out now that I can, in terms of money) from Ebay. 225+int´l shipping.

1 badly used HP28s from Ebay, that feel awful when pressing the keyboard (I don´t count this one for anything other than an expensive paperweight, 129usd+int´l shipping).

1 useless HP28s, bought in Ebay, whose keyboard does not recognize the last 4 keys in the bottom. 125+int´l shipping

1 decent HP28s. not the best but usable. 125+int´l shipping, from Ebay.

1 decent HP28s. offered as mint and the best I could find, but it is a bit worst than the previous one. 325+int´l shipping (it was a rocky mistake...).

HP 15c LE: 2, from samson. one bought in 100, the other one in 150. sent through Fedex, paying somwhere between 50 to 80 usd each, plus around 80usd in taxes, each.

HP 27s:

1 bought in Mexico, useful but it clearly looks was refurbished. aesthetically awful, to say the least. your fingers cry just when touch it.

1 HP 27s bought in Ebay. On it´s way still.

HP 42s:

2 bought in Mexico, one made in Brazil and the other one in Singapore. First one looks to be refurbished, but in great condition. The second one also refurbished, and in very bad condition aesthetically.

1 HP 42s offered as mint, like new, in Ebay, for 375usd + 75ups shipping + 110us taxes. Well, the best way to waste money: while aesthetically it looks really nice (it was originally boxed), it has been used as much as possible so that the keyboard is starting to feel a bit loose.

1 HP 42s offered as "in excellent condition" in Ebay that arrived today, but the faceplate is slightly lifted and with two very small deformations, so I am asumming it was also refurbished.

1 HP 42s bought in Ebay, on its way yet.

HP 48:

1 48GX offered in Mexico as new. Well, it was really new, but stored with bateries so there was some leaking in the batery compartment. I cleaned it, but there are traces of slight corrosion on the metal.

1 48S, bough it for 6usd in Mexico. It has a stain inside the display, that makes difficult to read the fourth line in the stack, but otherwise it is in good shape.

So, as you can see, in my desperation I have put a lot of money and effort to stock for the next 30 years (the span I expect to be left of my working life, clearly if I am not "called" before), and beside the 2 brand new 15cLE, I barely can say that 2-3 calculators are actually in a great, or excellent condition. So, that is my frustration: I can understand HP made the 15cLE for all of us, but it is made in China and don´t expect it to last that much (5 years of everyday use, as average, in my case for the classic ones). We may argue that most things these days are that cheap, but in terms of durability and availability expectation for it in the next 10 years that makes little help. And for the rest of my calculators, I have only to resign myself to live with a lot of them that vary from extremely used (or even abused) to highly used at least, with the suspicious that some of them are refurbished, with most of them with a scratch here and there, and then with the expectation that each will give me only 2-3 years of useful life.

I´m frustrated. Call me an old guy, but I miss the old hp...

PS. And am not talking about how close a cheat some ebay sellers are!

Re: Looking for HP calculators... I´m frustrated

*Message #2 Posted by **Joerg Woerner** on 17 Jan 2012, 9:52 p.m.,*
in response to message #1 by Fabricio

Fabricio,

My 17 years old has access to 3,200 TI calculators. He recently picked a TI Nspire CX and I don't expect it back till he graduates from high school!

He is an Apple guy with an iPhone 4GS, iPod Touch and Apple TV and disliked all the TI-84 iterations and early Nspire's but is hooked up with the new CX model.

Give it a try!

Cheers, Joerg

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #3 Posted by **db (martinez, ca.)** on 17 Jan 2012, 10:07 p.m.,*
in response to message #2 by Joerg Woerner

Joerg;
I was considering ending my other post in this thread with:
"There are worse addictions; some people here actually use Texas Instruments calculators!"

Looking forward to seeing you and Stefan again in April - maybe i'll convert him to RPN.

Re: Looking for HP calculators... I´m frustrated

*Message #4 Posted by **Maximilian Hohmann** on 18 Jan 2012, 3:17 a.m.,*
in response to message #2 by Joerg Woerner

Hello!

> Quote:
>
> My 17 years old has access to 3,200 TI calculators. He recently picked a TI Nspire CX and I don't expect it back till he graduates from high school!

Our son got one of those at school too, recently. The kids love it, because they can download games from the internet and play secretly while pretending to study algebra :-)

But I'm not so convinced of this thing. It really should be called "educational toy" instead of calculator. The display size for simple numbers is microscopic, most functions are hidden in menus and worst of all, it is not programmable! I also have one of its predecessors, the Voyage 200, which I think is far superior in every respect and which I consider the best pocket calculator ever (apart from the Hp25 of course...). This also reflects in the eBay prices that are twice as high for a Voyage compared to the Nspire!

Ciao, max

Re: Looking for HP calculators... I´m frustrated

*Message #5 Posted by **Don Shepherd** on 18 Jan 2012, 9:11 a.m.,*
in response to message #4 by Maximilian Hohmann

> Quote:
>
> it is not programmable

The NSpires have always been programmable, in BASIC. And it is very fast. The current NSpires (CX) are also programmable in Lua, I believe, which is much more powerful but a bit more cumbersome than BASIC.

Re: Looking for HP calculators... I´m frustrated

*Message #6 Posted by **Paul Guertin** on 19 Jan 2012, 9:59 p.m.,*
in response to message #4 by Maximilian Hohmann

> Quote:

> I also have one of its predecessors, the Voyage 200, which I think is far superior in every respect and which I consider the best pocket calculator ever (apart from the Hp25 of course...).

You must have really big pockets.

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #7 Posted by **db (martinez, ca.)** on 17 Jan 2012, 9:54 p.m.,*
in response to message #1 by Fabricio

Bienvenidos al club de hombres viejos.

You can find good articles here on re-fixing your fixed calculators. There is also someone who posts here who is getting ready to publish a book on refurbishing hp calcs. Another person who posts here, Randy Sloyer of "fixthatcalc.com, does fine work on the models he works on but he is in the US and you'd probably have to pay import duties again.

There are worse addictions.

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #8 Posted by **Ed Look** on 18 Jan 2012, 10:49 a.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> Bienvenidos al club de hombres viejos...

Hey! Ouch.

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #9 Posted by **John B. Smitherman** on 18 Jan 2012, 3:27 p.m.,*
in response to message #8 by Ed Look

I prefer this... bienvenido al club de los sabios.

Re: Looking for HP calculators... I am frustrated

*Message #10 Posted by **Fabricio** on 18 Jan 2012, 3:12 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> You can find good articles here on re-fixing your fixed calculators...

How can I confirm that 4 of my 5 HP42s I have now have been really fixed, as I suspect? The only evidence I have is that the face plate is lightly separated upwards, above the display. In some it is evident that it was badly pulled, but in others it is not that evident. As said, I have a dead 32sii, and although it lived for 5+ years the faceplate is still firmly attached to the body of the calculator. Any tip?

BTW, in case they were fixed, what is the usual fail *they*, whoever "they" are, fix in that model?

Re: Looking for HP calculators... I´m frustrated

*Message #11 Posted by **Howard Owen** on 18 Jan 2012, 1:25 a.m.,*
in response to message #1 by Fabricio

> Quote:
>
> I am not a collector as some of you are, but only a hard-core user...

Fairly hard-core, indeed. :)

I buy old calcs to play with them. That makes me an enthusiast. I could describe myself as a collector in that I have several examples of all the models I'm interested in. But that's bush league compared to some of the folks you'll meet around here. :)

Welcome to the asylum!

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #12 Posted by **Nacho** on 18 Jan 2012, 7:03 a.m.,*
in response to message #11 by Howard Owen

Asylum?

what asylum?

I'm 28 years old and like old calcs also :)

My big interest are 48 series.

I have 16 of them, one of the best I have "created" is a singapore unit in near perfect condition with molded keys and black LCD.

Why don't you swap parts of the calcs between them, so you can have prefect ones and not so nice ones?

Regards

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #13 Posted by **Howard Owen** on 18 Jan 2012, 9:37 a.m.,*
in response to message #12 by Nacho

> Quote:
>
> what asylum?

I sometimes think of myself as a "calculator nut." In that case, I belong in an asylum for calculator nuts. This place fits that definition for me. :)

> Quote:
>
> Why don't you swap parts of the calcs between them, so you can have prefect ones and not so nice ones?

I think that comment was meant for the original poster, but I personally have several "frankencalcs." Cobbling a working machine together from several broken ones is one of the great pleasures I derive from my hobby. I think that shows why I think of myself as an enthusiast and not a collector.

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #14 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 10:49 a.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> > Quote:
> >
> > what asylum?
>
> Yes, we know what an asylum is. In other languages it may have a different meaning. *Asilo*, for instance, is the Portuguese word for retirement home. This might explain the confusion.

Re: Looking for HP calculators... Iï¿½m frustrated

*Message #15 Posted by **Howard Owen** on 18 Jan 2012, 12:49 p.m.,*
in response to message #14 by Gerson W. Barbosa

> Quote:
>
> > Yes, we know what an asylum is. In other languages it may have a different meaning.

Exactly. And even if the definition was clear, I used the word in a special sense that may not have been clear. The main meaning in English is "refuge," but the way I used it originally was short for "insane asylum," which is a somewhat ironic use of the word, given the history of such institutions. You may have had no trouble understanding that, but I thought the fellow I was responding to may have misunderstood me. My reply was intended both to provide more context to aid understanding, and to make a joke at my own expense. (Note the smiley. :)

Unfortunately I think I may have confused the issue by saying that the term "fit the definition *for me*." I wasn't trying to be patronizing. My apologies if it seemed that way.

Re: Looking for HP calculators... I´m frustrated

*Message #16 Posted by **John Robinson** on 18 Jan 2012, 2:02 a.m.,*
in response to message #1 by Fabricio

My advice, sell all calculators you have to fund the purchase of an original 15C (or 11C) in mint condition, and never look back !!

Cheers, John

Re: Looking for HP calculators... I´m frustrated

*Message #17 Posted by **bill platt** on 18 Jan 2012, 7:53 p.m.,*
in response to message #16 by John Robinson

Better yet, sell them all and stop worrying about calculators...

I have two 15c but they are hardly the most effective or user-friendly machines. The ones with the algebraic solvers are much more useful, especially the ones allowing variable naming (48 series, 17/27 and 18/19 series)

Re: Looking for HP calculators... I´m frustrated

*Message #18 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 18 Jan 2012, 2:50 a.m.,*
in response to message #1 by Fabricio

I didn't see a WP-34s on the list. Give it a try, you will very much like it and won't cost you so much.

-Cheers, Kerem

Re: Looking for HP calculators... I´m frustrated

*Message #19 Posted by **Chris Randle (UK)** on 18 Jan 2012, 10:18 a.m.,*
in response to message #1 by Fabricio

You seem to like the same HPs that I do, so you may have some joy with the same "fix" as me. I've got a 16C, 28S, 42S and 48SX. I don't collect calculators exactly, just buy, use and accumulate them. I've also got a 35s, so I know what you mean from your description, although I seem to like it more than most here.

Anyway, for what it's worth, here's my suggestion: If you want to take a small gamble, please try the 50g. You can get one for a modest sum (compared to eBay prices for the more desirable older models). You know it will be brand new and not trashed, and will come with a warranty.

I bought one to try, and I was - against expectations - instantly delighted. I've grown more and more excited by it as each day passes. It's not as lovely as the older models, either aesthetically or in terms of build quality, but it's certainly not rubbish either. When you consider its 28/48 heritage, ALG48 and Erable extensions, screen estate and clarity, programming ability (user/sys RPL, Saturn and ARM assembler all on board), speed and memory capacity, you may find it to be a winner. I did, and I've since bought ten more of them! My daily use one is coming up for two years old, and it's been completely reliable. In fact it's probably my favourite computer of all time, perhaps *just* beaten (mainly due to nostalgia) by my first computer, a Commodore PET.

Re: Looking for HP calculators... I´m frustrated

*Message #20 Posted by **Chuck** on 18 Jan 2012, 1:29 p.m.,*
in response to message #1 by Fabricio

I don't know if I'm a collector or also an avid user, and I too dislike most every calculator made in the last 10+ years from al manufacturers (exception Casio slim was nice).

Older HP's I have include the 10, 11, 12, 15, 16, 20, 21, 22, 32, 35, 41, 42, 48, 49, 50, (if I recall correctly) and maybe a few others.

The ONLY one that is ever with me all the time is the 42S from 1987. I hope it is never lost or dies because I don't think I can replace it for what I purchased it 10 years ago ($65).

Re: Looking for HP calculators... I´m frustrated

*Message #21 Posted by **Jim Horn** on 18 Jan 2012, 2:13 p.m.,*
in response to message #20 by Chuck

I have to agree with the suggestion to try the HP-50 and WP-34S. I've been using HP calculators daily since July 1975 with my HP-25. Nowdays I use my WP-34S as my primary calculator with my HP-50 as backup (some things it does better; some things I know how to use better on it). Both are fantastic - even with my WP-34S being a repurposed HP-20, not -30.

For those who gripe about HP being untrustworthy, an earlier posting puts it well - we *know* about the bugs in these machines. Who knows how many are in other vendors' products? Better the devil you know...

Re: Looking for HP calculators... I´m frustrated

*Message #22 Posted by **peacecalc** on 18 Jan 2012, 3:40 p.m.,*
in response to message #1 by Fabricio

Hello Fabricio,

Original from Frabricio: I am not a collector as some of you are, but only a hard-core user...

I've to smile about this: everybody who have more than one calc, becomes a collector, even he uses them as there are made for. No "normal" human creature will buy and use more than one calc, if he is satisfied with that calc. Why should anybody learn different keyboard layouts, commands and so on?

So don't worry, rarely you get really a "new" ancient calc...

Sincerely peacecalc

Re: Looking for HP calculators... I´m frustrated

*Message #23 Posted by **Fabricio** on 18 Jan 2012, 4:18 p.m.,*
in response to message #22 by peacecalc

You are making a very good point that is in my head recently. Before my "crisis" began last august (2011), the only calculator I had was my old HP 48GX (remember, I had an 11c and the 32sii, but they are now just skeletons as they both died long time ago; the 11c probably in 1999, and the 32sii in 2004).

And the whole list in the first post was just purchased in the period september 2011 - January 2012. And not all of the calculators are in the same place; I have distributed several sets of them in three different places, so I can minimize the risk. Just think what would happend if there was a fire in my office, and all caculators are there.

But also reality is that now I have in my desk an HP 42s, which is my favorite one (BTW, I didn´t knew the 42s existed before I found this forum last year!), just 5cm away from my right hand. 50cm away, to the left of my laptop is an HP 28s which I simply love (I really apreciate the "infinite" stack and the 4-line display) and is just waiting for my hands when in need of multiple, larger operations. A 15cLE is beside it, just in case... ah! and a 27s, which is not rpn, but just like to play with it.

Yes, maybe am not "normal" anymore, but happy I found all you so we are not alone!

For all of you just curious, I´m a structural engineer. That is the reason I know nothing about fixing or re-fixing a calculator, and also the reason why I use extensively a calculator every single day.

Regards every one,

Re: Looking for HP calculators... I´m frustrated

*Message #24 Posted by **bill platt** on 18 Jan 2012, 7:54 p.m.,*

in response to message #23 by Fabricio

Do you do FEM?

How often and why do you need or find a calculator useful?

Just curious.

Re: Looking for HP calculators... I´m frustrated

*Message #25 Posted by **Fabricio** on 18 Jan 2012, 4:31 p.m.,*
in response to message #22 by peacecalc

> Quote:
>
> No "normal" human creature will buy and use more than one calc, if he is satisfied with that calc...

Forgot to say, I need all them not in the short term, but in a span of 30 years. I will be using a few at a time, and when they are dead I´ll pick up a spare.

Beside extensive use, apparently I use too much force when pressing the keys, that´s the reason why a brand new HP only lived around 5 years with me. I am assuming most of my used calculators I have bought now will live less than that, and my guess is 3 years. That also applies to the 15cLE, without any basis other than judging the build quality. Doing the math, I need then 10 calculators for a full stock.

Also think about this: if right now it is almost impossible to get a really "new" old calc, or even one in excellent condition, imagine how difficult will be in 2022 to find a usable (forget about aesthetically nice) 42s.

Re: Looking for HP calculators... I´m frustrated

*Message #26 Posted by **Patrick Rendulic** on 19 Jan 2012, 3:30 a.m.,*
in response to message #1 by Fabricio

HP are you listening?

I can understand Fabricio. The only difference between him and me is, that I knew about everything going wrong and I was quick enough to get several 32sii and 48GX at reasonable prices before they got discontinued.

That's enough for my professional career. No longer need HP and their current lineup of crap.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35S - Time Since Memory Reset

*Message #1 Posted by **Ilia** on 17 Jan 2012, 6:52 p.m.*

Is it possible to determine how long ago memory was cleared on the HP-35S?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A Very Early HP Calculator Connection

*Message #1 Posted by **Les Bell** on 17 Jan 2012, 3:56 p.m.*

From back in 1954, in this ad.

Best,

--- Les
[http://www.lesbell.com.au]

Re: A Very Early HP Calculator Connection

*Message #2 Posted by **Namir** on 17 Jan 2012, 6:15 p.m.,*
in response to message #1 by Les Bell

My late father used to work for a local import company that sold Monroe calculators (those that did not need electrical power as well as those that did) in Iraq. He did such a good job that he outsold NCR calculators. he kept one of the top of the line electrical Monroe calculator in his office decades later. I used to play with that machine, before I got my hand of an electronic calculator.

And the world being small, here is an interesting connection. My father's boss at the import company was a Turkish businessman who set up shop in Iraq in the fifties. Around 1960, he moved to Paris, where his daughter married (the now late) French director Claude Berri. Claude's son, Thomas Langmann (named after Thomas, my dad's boss) is the producer of the hit new (and silent) movie "The Artist" that was honored in the Golden Globe Awards last Sunday. It's a small world!

Re: A Very Early HP Calculator Connection

*Message #3 Posted by **John Robinson** on 18 Jan 2012, 5:15 p.m.,*
in response to message #1 by Les Bell

I went straight to the "sexuality" section, much more interesting !!

Cheers, John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking for more HP documents to scan

*Message #1 Posted by **Dave Hicks** on 17 Jan 2012, 12:37 p.m.*

Hi everyone,

I'm starting to plan for a Version 8 of the Museum DVD-ROMs for sometime later this year.

I have a page on manuals that have been submitted or promised since Version 7, here:
http://www.hpmuseum.org/software/swcdv8.htm

And a page on how to scan and transmit scans here:
http://www.hpmuseum.org/software/scanadv.htm

And the list of manuals already on Version 7 is here:
http://www.hpmuseum.org/software/swcdp.htm

If you have any manuals that are still missing, please contact me. Since I have mostly exhausted my own collection, I will have time available to scan manuals that are sent to me. So, if you have manuals, you can scan them, or I can do them.

Thanks!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Tiny Challenge: significant digits

*Message #1 Posted by **Werner** on 17 Jan 2012, 8:23 a.m.*

41/42/...

Challenge: Create a program that will return the number of significant digits.
When run on a 41, it must return 10. The *same* program run on a 42S must return 12, and on Free42 decimal, it must return 25.

Cheers, Werner

Re: Tiny Challenge: significant digits

*Message #2 Posted by **Lyuka** on 17 Jan 2012, 9:33 a.m.,*
in response to message #1 by Werner

```
01>LBL "DIGITS"
02 1
03 1.999
04 STO 00
05>LBL 05
06 Rv
07 10
08 *
09 ENTER
10 ENTER
11 ENTER
12 1
13 +
14 -
15 X=0?
16 GTO 19
17 ISG 00
18 GTO 05
19>LBL 19
20 RCL 00
21 IP
22 RTN
```

How about this?

Lyuka

Re: Tiny Challenge: significant digits

*Message #3 Posted by **J-F Garnier** on 17 Jan 2012, 9:56 a.m.,*
in response to message #1 by Werner

My favorite one:

```
LBL "T"
1
3
1/x
3
*
```

```
-
LOG
CHS
```

Re: Tiny Challenge: significant digits

*Message #4 Posted by **Lyuka** on 17 Jan 2012, 10:02 a.m.,*
in response to message #3 by J-F Garnier

Elegant!

Re: Tiny Challenge: significant digits

*Message #5 Posted by **Gilles Carpentier** on 17 Jan 2012, 12:04 p.m.,*
in response to message #3 by J-F Garnier

Same logic On a 50G :

```
« 1 3 INV 3 * - LOG NEG »

or

« 3 INV ->STR TAIL SIZE »
```

Edited: 17 Jan 2012, 12:05 p.m.

Re: Tiny Challenge: significant digits

*Message #6 Posted by **Oliver Unter Ecker** on 17 Jan 2012, 1:22 p.m.,*
in response to message #5 by Gilles Carpentier

Nice.

Insert ->NUM to make this work in exact mode, too:

```
« 1 3 INV 3 * - LOG NEG ->NUM »
« 3 INV ->NUM ->STR TAIL SIZE »
```

If you EVAL the first, instead of doing ->NUM, it returns +Infinity, as it should.

On ND1, it returns Infinity, too, even though there's no exact mode.
Intriguingly, 0.3333... * 3 is 1 with IEEE-754!

Re: Tiny Challenge: significant digits

*Message #7 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 5:24 p.m.,*
in response to message #6 by Oliver Unter Ecker

> Quote:
>
> On ND1, it returns Infinity, too, even though there's no exact mode. Intriguingly, 0.3333... * 3 is 1 with IEEE-754!

Are you doing binary arithmetic in ND1? With decimal arithmetic this shouldn't happen.

Re: Tiny Challenge: significant digits

*Message #8 Posted by **Oliver Unter Ecker** on 17 Jan 2012, 6:14 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Marcus,

You mean BCD, right? ("Binary arithmetic" sounds like arithmetic with binary numbers...)
Sadly, ND1 doesn't have a BCD option yet.

Reals are IEEE-754 doubles in ND1. And the RPL programs above imply reals. (Unlike on the 50g in exact mode, where they imply BigInts. ND1 does have BigInt support, but I chose to not adopt the HP 50g convention (in exact mode only) to regard a decimal typed without a "dot" as a BigInt. Instead, if you want a BigInt, you have to use R->I (or toBig, in "modern" syntax).)

In the latest release BigFloats are supported, too.
So,

```
« 3 toBigF INV ->NUM ->STR TAIL SIZE »
```

will actually return whatever the BigFloat precision is set to (40 digits, by default).

To confirm that "1/3*3" is "1" in IEEE-754, just type this in gdb:

```
p 1.0/3.0*3.0
```

Works for any integer-valued double I tried.

Not bad for a format, for which 1.12 is 1.1200000000000001.
(Yes... I'm still yearning for including BCD at some point.)

EDIT: I educated myself and do understand now that with "binary arithmetic" you meant (and correctly termed) what to me is floating-point arithmetic. So, yes, ND1 is using binary arithmetic exclusively, for its Real data type.

Edited: 18 Jan 2012, 3:33 p.m.

Re: Tiny Challenge: significant digits

*Message #9 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 5:22 p.m.,*
in response to message #3 by J-F Garnier

On the WP 34S you need to add an ENTER^ after the first number or replace it by # 1 (from the CONST catalogue). It returns 16 in single precision and 34 in double precision which hits the nail on the head.

Re: Tiny Challenge: significant digits

*Message #10 Posted by **J-F Garnier** on 18 Jan 2012, 3:12 p.m.,*
in response to message #3 by J-F Garnier

Here is a version that works with binary arithmetic, such as Free42/Binary. The results is not exactly an integer since binary does not handle decimal digits as such.

Free42/Binary for Windows returns 15.95.

As it is less obvious than the BCD version, I added some comments.

```
01 LBL "T"
02 1.5
03 1/X  ; this creates a mantissa with 101010...
04 ENTER
05 ENTER
06 1
07 +    ; shifts the mantissa 1 bit right, loosing last bit
08 1
09 -    ; shifts back the mantissa left
10 -    ; difference is +/-1 LSB of mantissa
11 ABS
12 LOG
13 +/-
14 END
```

Re: Tiny Challenge: significant digits

*Message #11 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 3:40 p.m.,*
in response to message #10 by J-F Garnier

Nice one! The string-based ones feel like cheats. I like that this uses purely arithmetic to figure the machine resolution.

Translated to RPL, this returns 15.95, too, on my machine.

Re: Tiny Challenge: significant digits

*Message #12 Posted by **Gerson W. Barbosa** on 17 Jan 2012, 10:05 a.m.,*
in response to message #1 by Werner

These have been tested on the HP-42S, Free42 Decimal and on the HP-15C:

```
00 { 17-Byte Prgm }
01>LBL "SD"
02 6
03 ENTER
04 1/X
05 1/X
06 -
07 1/X
08 LOG
09 1
10 +
11 .END.
```

```
001- f LBL A
002-   6
003-   ENTER
004-   1/x
005-   1/x
006-   -
007-   1/x
008- g LOG
009-   1
010-   -
011- g RTN
```

Cheers,

Gerson.

Re: Tiny Challenge: significant digits

*Message #13 Posted by **Gerson W. Barbosa** on 17 Jan 2012, 10:16 a.m.,*
in response to message #12 by Gerson W. Barbosa

Oops! The step 010 in the HP-15C program is

```
010- +
```

That's been a typo, obviously :-)

Re: Tiny Challenge: significant digits

*Message #14 Posted by **Werner** on 18 Jan 2012, 1:46 a.m.,*
in response to message #12 by Gerson W. Barbosa

Almost what I had in mind..

```
01*LBL"SD"
02 .6
03 ENTER
04 1/X
05 1/X
06 -
07 LOG
08 CHS
09 END
```

Werner

Re: Tiny Challenge: significant digits

*Message #15 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 6:32 a.m.,*
in response to message #14 by Werner

To get this working on the 30b you need to input INPUT twice (or should I have said 'enter ENTER twice'? ;-)). The result is 12.

Re: Tiny Challenge: significant digits

*Message #16 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 3:52 p.m.,*
in response to message #14 by Werner

Just for completeness: this method fails on a machine with binary arithmetic. Another instance of IEEE-754 cleverness. Double-reciprocation of 0.6 yields 0.6.

Re: Tiny Challenge: significant digits

*Message #17 Posted by **Werner** on 19 Jan 2012, 5:40 a.m.,*
in response to message #16 by Oliver Unter Ecker

? that has nothing to do with cleverness, but with the different base and smaller ulp.
okay, then this:

```
 .82
 ENTER
 1/X
 1/X
 -
 ABS
 LOG
 CHS
```

works on 41C, 42S, Free42 Decimal and Binary

Werner

Re: Tiny Challenge: significant digits

*Message #18 Posted by **Oliver Unter Ecker** on 19 Jan 2012, 7:01 a.m.,*
in response to message #17 by Werner

> Quote:
>
> ? that has nothing to do with cleverness, but with the different base and smaller ulp.

Ok, thanks, I can understand that explanation and confirm that

```
<< .82 DUP INV INV - ABS LOG NEG >>
```

returns 15.95... on my machine too.

Sorry for using the word "cleverness". I'm inept at anything related to numerical analysis, and had guessed that maybe there was a design goal to build 1/x in IEEE-754 so that 1/(1/x) == x. Upon reflection, that requires infinite (and thereby theoretical) machine resolution.

In gdb:

```
p 1.0/(1.0/0.6) == 0.6  ==> true
p 1.0/(1.0/0.82) == 0.82 ==> false
```

Interestingly (to the goof I am), both 0.6 and 0.82 start out as non-exactly representable numbers in IEEE-754.

Can you tell if a given number (or its inverse) will pass this test, or not, without trying it out?

Re: Tiny Challenge: significant digits

*Message #19 Posted by **Werner** on 19 Jan 2012, 9:00 a.m.,*
in response to message #17 by Werner

In trying this out, I found an error in Free42 Binary (well, rather an 'inexactitude' ;-)
In Free42 Binary, do:

```
0.11 ENTER 11 ENTER 100 / -
```

it is not zero, and it should be. The 11 ENTER 100 / is correct (well to the full 52+1 bits), but the 0.11 constant is not, it misses the last bit (in the 52nd position, with the first bit implied). No doubt this happens because the decimal-to-binary conversion just stops at bit 52 - truncating the result instead of rounding it, as 11 ENTER 100 / does.

in HEX,

```
   0.11d = 0.1C28F5C28F5C28h
11d/100d = 0.1C28F5C28F5C29h
```

In Free42 Decimal, on the other hand, no round-to-even occurs (while it is of course implemented in the real 42S).

Still, I bow in wonder to the amazing achievement of Thomas Okken.

Werner

Re: Tiny Challenge: significant digits

*Message #20 Posted by **Thomas Okken** on 21 Jan 2012, 3:33 p.m.,*
in response to message #19 by Werner

> Quote:
>
> No doubt this happens because the decimal-to-binary conversion just stops at bit 52 - truncating the result instead of rounding it, as 11 ENTER 100 / does.

I think you're right. I haven't touched that code in years and it's a bit light on comments, so I'll have to stare at it a bit more to make sure. The code is *supposed* to keep going through successively lower powers of 2 until they become too small to affect the mantissa, so it should give the correct result, but since it doesn't, I'll have to dust off the debugger and find out why...

- Thomas

Re: Tiny Challenge: significant digits

*Message #21 Posted by **Werner** on 22 Jan 2012, 3:32 a.m.,*
in response to message #20 by Thomas Okken

For this, I can use a workaround - just enter the constants in a different way (like 11 ENTER 100 /), but for the Decimal version not performing a round-to-even is much more fundamental to me, and there's no way round:

```
  3 1/X 2 /


 exact: 0.1666...6665, where the trailing 5 will be rounded.
 42S : 0.166666666666 (round-to-even)
 Free42 Dec: 0.16666 66666 66666 66666 66667 (round up)
```

Or, for addition:

```
 42S : 1 ENTER 5e-12 + -> 1.00000000000
 Free42 Dec: 1 ENTER 5e-25 + -> 1.00000 00000 00000 00000 0001
```

(all tested on iPhone Free42 version)
Werner

Edited: 22 Jan 2012, 3:55 a.m.

Re: Tiny Challenge: significant digits

*Message #22 Posted by **Valentin Albillo** on 17 Jan 2012, 11:16 a.m.,*
in response to message #1 by Werner

Hi, Werner:

This doesn't meet the requirements of your challenge as it's not meant for the 41/42/... as asked but for the **HP-71B** instead, however I thought my approach might result novel.

For the HP-71B you don't actually need a program, just execute this from the command line:

```
-LGT(1-NEIGHBOR(1,0))

      12
```

This mathematical expression will work in any other calculator or computer provided you express it in its native paradigm (RPN, RPL, ...) and have available (or can inmplement) the two numeric functions required, namely **LGT** (base-10 logarithm) and **NEIGHBOR** (machine successor).

Best regards from V.

Re: Tiny Challenge: significant digits

*Message #23 Posted by **Werner** on 18 Jan 2012, 1:47 a.m.,*
in response to message #22 by Valentin Albillo

Bring back the 71B...

Re: Tiny Challenge: significant digits

*Message #24 Posted by **fhub** on 18 Jan 2012, 11:00 a.m.,*
in response to message #23 by Werner

> Quote:
>
> Bring back the 71B...

Well, it **is** already back: ;-)

http://fhub.110mb.com/HP/HP71B.zip

Re: Tiny Challenge: significant digits

*Message #25 Posted by **Werner** on 19 Jan 2012, 5:41 a.m.,*
in response to message #24 by fhub

can't open the link

Re: Tiny Challenge: significant digits

*Message #26 Posted by **fhub** on 19 Jan 2012, 5:55 a.m.,*
in response to message #25 by Werner

> Quote:
>
> can't open the link

Yes, it's once again not working! :-(
This crappy '110mb' is the most unreliable webspace server I've ever seen - you should try it again a few times in the next days.

Re: Tiny Challenge: significant digits

*Message #27 Posted by **fhub** on 19 Jan 2012, 5:02 p.m.,*
in response to message #25 by Werner

> Quote:
>
> can't open the link

Right now it's working again, so take the chance ... :-)

Re: Tiny Challenge: significant digits

*Message #28 Posted by **Dieter** on 17 Jan 2012, 1:45 p.m.,*
in response to message #1 by Werner

> Quote:
>
> Challenge: Create a program that will return the number of significant digits.

The significant digits *of the machine*, that is. When I first read this I assumed that the number of significant digits *of X* should be returned.
In other words: Enter 0.001234 or 1234 or 1234000 and get 4, while Pi would return 10 or 12, depending on the machine. Finally, 0 should return 0 ...or maybe 1?

Any solutions for this one ?-)

Dieter

Re: Tiny Challenge: significant digits

*Message #29 Posted by **Gerson W. Barbosa** on 17 Jan 2012, 2:00 p.m.,*
in response to message #28 by Dieter

For the HP 50g:

```
<< MANT ->STR SIZE 1 - >>
```

Gerson.

Re: Tiny Challenge: significant digits

*Message #30 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 5:47 p.m.,*
in response to message #29 by Gerson W. Barbosa

In single precision this can be done on the 34S, too:

```
ALL 00
CL[alpha]
MANT
[alpha]RC# X
[alpha]LENG
DEC X
```

For double precision the alpha register is too short.

Edit: Thinking again this does not work :-([alpha]RC# X does format to the display size of 12 digits, not the full precision. Back to the drawing board!

Edit again: A loop should do:

```
MANT
0
x[<->] Y
LBL 00
x[!=]0?
SKIP 02
DROP
```

```
RTN
INC Y
FP
SDL 01
GTO 00
```

Edited: 18 Jan 2012, 6:29 a.m. after one or more responses were posted

Re: Tiny Challenge: significant digits

*Message #31 Posted by **Paul Dale** on 17 Jan 2012, 5:57 p.m.,*
in response to message #30 by Marcus von Cube, Germany

This works:

```
LBL A
# 1
9
1/x
MANT
INC Y
SDL 01
FP?
BACK 003
DROP
END
```

- Pauli

Re: Tiny Challenge: significant digits

*Message #32 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 6:13 p.m.,*
in response to message #31 by Paul Dale

See my edited post.

Re: Tiny Challenge: significant digits

*Message #33 Posted by **Paul Dale** on 17 Jan 2012, 10:58 p.m.,*
in response to message #32 by Marcus von Cube, Germany

It needs one small further edit :-)

- Pauli

Re: Tiny Challenge: significant digits

*Message #34 Posted by **Gerson W. Barbosa** on 17 Jan 2012, 10:18 p.m.,*
in response to message #28 by Dieter

> Quote:
>
> Any solutions for this one ?-)

Here's my attempt at the HP-42S version. It will work for 0.001234 or 1234 or 1234000 but not for pi (because it's limited to 11 significant digits only)*. 0 will return 1 (because I think it should— but I may be wrong). On the HP-41 (not tested), all 1E10 constants should be replaced with 1E08.

```
00 { 33-Byte Prgm }
01>LBL "SD"
02 XEQ "MANT"
03 1
```

```
04 X<>Y
05>LBL 00
06 FP
07 X=0?
08 GTO 01
09 10
10 ×
11 1
12 STO+ ST Z
13 Rv
14 GTO 00
15>LBL 01
16 Rv
17 .END.


00 { 37-Byte Prgm }
01>LBL "MANT"
02 X=0?
03 RTN
04 ABS
05 LOG
06 FP
07 10^X
08 1E10
09 ×
10 0,5
11 +
12 IP
13 1E10
14 ÷
15 1
16 X>Y?
17 10^X
18 ×
19 END
```

Gerson.

---

* 12345678910 XEQ SD currently returns 11 instead of 10 because MANT returns 1.2345678909. Too bad the HP-42S doesn't have a MANT command like the WP 34S—

Edited: 17 Jan 2012, 10:46 p.m.

Re: Tiny Challenge: significant digits

*Message #35 Posted by **Werner** on 18 Jan 2012, 4:47 a.m.,*
in response to message #34 by Gerson W. Barbosa

use this MANT:

```
*LBL"MANT"
 X=0?
 RTN
 ENTER
 ABS
 LOG
 INT
 LASTX
 X<Y?
 DSE Y
 LBL 00
 RDN
 10^X
 /
 RTN
```

It only ever scales by a power of 10, and will thus never lose a digit.
Cheers, Werner

Re: Tiny Challenge: significant digits

*Message #36 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 8:43 a.m.,*
in response to message #35 by Werner

I will keep this one. Thanks!

Gerson.

Re: Tiny Challenge: significant digits

*Message #37 Posted by **Dieter** on 18 Jan 2012, 1:18 p.m.,*
in response to message #35 by Werner

For the record: here's one for more recent models featuring a Floor function. Even though it may be called INTG. ;-)
It also handles x=0 differently so that the routine quits at one single common endpoint.

```
M001 LBL M
M002 ENTER
M003 ABS
M004 X<>0?
M005 LOG
M006 INTG
M007 10^x
M008 /
M009 RTN
```

And finally, here's a *completely* different approach for the HP41 with X-Functions resp. the 41CX. The goal was: Just display the mantissa, don't disturb the stack and leave everything as it is, including the display format.

The trick here is this: a ten-digit mantissa, one decimal marker and one leading space or minus-sign sum up to twelve alpha characters which will just fit in two registers, thus cutting off a trailing exponent such as "E-4".

```
01 LBL"MANT"
02 STO 01
03 " "
04 X<0?
05 CLA
06 CLX
07 RCLFLAG
08 SCI 9
09 ARCL 01
10 STOFLAG
11 CLX
12 RCL 01
13 ASTO 01
14 ASHF
15 ASTO 02
16 CLA
17 ARCL 01
18 ARCL 02
19 AVIEW
20 END
```

Yes, users with synthetic programming skills may provide a more elegant solution without any register use. ;-)

Dieter

Re: Tiny Challenge: significant digits

*Message #38 Posted by **Dieter** on 18 Jan 2012, 7:32 a.m.,*

in response to message #34 by Gerson W. Barbosa

> Quote:
>
> Here's my attempt at the HP-42S version.

This one uses another approach, here for the 41/42.

```
01 LBL"SDIG"
02 ,1          ; dummy ISG control number
03 X<>Y
04 LBL 00
05 ENTER
06 SCI IND Z
07 RND         ; round to (z+1) significant digits
08 ISG Z
09 X=Y?
10 GTO 01
11 RDN
12 GTO 00
13 LBL 01
14 RCL Z
15 INT
16 FIX 4       ; optional ;-)
.END.
```

Dieter

Re: Tiny Challenge: significant digits

*Message #39 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 8:29 a.m.,*
in response to message #38 by Dieter

Great alternative challenge and greater solution!

Gerson.

Re: Tiny Challenge: significant digits

*Message #40 Posted by **fhub** on 18 Jan 2012, 10:59 a.m.,*
in response to message #1 by Werner

Here are my 2 versions for the WP34s:

```
Direct version:
---------------
3
1/x
RCL[times] L
DEC X
EXPT
+/-
RTN


Loop version:
-------------
[cmplx]# 1
INC Y
SDR 01
INC X
FP
x=0?
BACK 005
DROP
RTN
```

Re: Tiny Challenge: significant digits

*Message #41 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 11:13 a.m.,*
in response to message #40 by fhub

Here what I have in my hp 50g, based on Werner's:

```
<< .6 DUP INV INV - XPON NEG >>
```

MANT, EXPT— WP 34S has them all. What more is missing? :-)

Re: Tiny Challenge: significant digits

*Message #42 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 11:19 a.m.,*
in response to message #41 by Gerson W. Barbosa

DIGS?

Re: Tiny Challenge: significant digits

*Message #43 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 11:35 a.m.,*
in response to message #42 by Marcus von Cube, Germany

Do you mean SDIG? Aside from solving Dieter's challenge in one step is there any other application for this one? :-)

Re: Tiny Challenge: significant digits

*Message #44 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 12:32 p.m.,*
in response to message #43 by Gerson W. Barbosa

I can't find either of these two in the AUR. Are these really stock functions?

ND1 extends SIZE to Reals.
So #1 can be written

```
<< pi SIZE 1 ->> // machine resolution for Reals
or
<< SIZE(pi)-1 >> // if you like algebraic...
```

and #2 can be written

```
<< MANT SIZE 1 - >> // # significant digits for input Real
```

Edited: 18 Jan 2012, 12:36 p.m.

Re: Tiny Challenge: significant digits

*Message #45 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 1:20 p.m.,*
in response to message #44 by Oliver Unter Ecker

Oliver, we are talking about the WP 34S function set, not RPL.

Re: Tiny Challenge: significant digits

*Message #46 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 2:18 p.m.,*
in response to message #45 by Marcus von Cube, Germany

Oops, sorry, I misread this (it seemed to me in response to Gerson's RPL code). Thanks for the clarification.

Re: Tiny Challenge: significant digits

*Message #47 Posted by **Paul Dale** on 18 Jan 2012, 4:17 p.m.,*
in response to message #41 by Gerson W. Barbosa

The 34S doesn't have anything corresponding to the 71's NEIGHBOR function. Well, yet at least :-)

Anyone care to do a user code implementation of this one? I think it can be done with a fairly short piece of code.

- Pauli

Edited: 18 Jan 2012, 4:17 p.m.

Re: Tiny Challenge: significant digits

*Message #48 Posted by **Dieter** on 18 Jan 2012, 6:32 p.m.,*
in response to message #47 by Paul Dale

I'm not quite sure whether the 34s needs a neighbor function, but I think a function that returns 1 ULP of X might be useful. In this case, neighbor(x) simply equals x plus or minus ulp(x).

Assuming standard 16-digit precision, ULP(x) simply is 10^(EXPT(x)-15):

```
EXPT
1
5
-
10^x
```

Add an ENTER before the first line and a plus or minus at the end, and voilà, you got your neighbor function.

The "15" could be replaced by a special function that returns the current working precision (16 or 34). And if SDL and SDR would accept negative arguments they could be used instead of the final 10^x. Now, if I only knew the English term for "Wink mit dem Zaunpfahl"... ;-)

Dieter

Re: Tiny Challenge: significant digits

*Message #49 Posted by **Gerson W. Barbosa** on 18 Jan 2012, 6:47 p.m.,*
in response to message #48 by Dieter

> Quote:
>
> Now, if I only knew the English term for "Wink mit dem Zaunpfahl"... ;-)

Learn German through images. Not of much help, though.

Re: Tiny Challenge: significant digits

*Message #50 Posted by **Paul Dale** on 18 Jan 2012, 8:43 p.m.,*
in response to message #48 by Dieter

> Quote:
>
> The "15" could be replaced by a special function that returns the current working precision (16 or 34).

We've got a conditional test to determine which mode the device is in. The ULP function should also work in integer mode returning '1'. Then that are infinities and NaN and subnormals to consider -- things are never as easy as they look :-(

> Quote:
>
> And if SDL and SDR would accept negative arguments they could be used instead of the final 10^x.

This works I think:

```
ABS
SDR or SDL
```

Maybe throw in a conditional and a branch to work either way.

Negative arguments are difficult given the way the opcodes are currently structured. Not impossible, just difficult.

> Quote:
>
> Now, if I only knew the English term for "Wink mit dem Zaunpfahl"... ;-)

Google translate gives "hint hint" which seems appropriate but I'm not sure if the intended meaning is quite the same.

- Pauli

Re: Tiny Challenge: significant digits

*Message #51 Posted by **Dieter** on 19 Jan 2012, 3:28 p.m.,*
in response to message #50 by Paul Dale

Here's my first attempt. Sorry, no assembler-compliant output. ;-)

```
01 LBL"ULP"
02  1
03 INTM?
04 SKIP 014
05 DROP
06 SPEC?
07 ERR 01
08 ENTER
09 EXPT
10  3
11  3
12 DBL?
13 SKIP 003
14 DROP
15  1
16  5
17  -
18 10^x
19 X<>Y
20 SIGN
```

```
21 STOx Y
22 DROP
23 END
```

The routine returns 1 ULP of x both in integer and real mode. The result is signed, i.e. the output has the same sign as the input. LastX (err... register L) is set correctly. All "special" arguments like NaN or infinity throw a domain error.

Regarding SDL/SDR and the mysterious "Wink mit dem Zaunpfahl": I realized that these shift functions are not very useful here since their arguments cannot exceed 99. So they will not work for very large or small arguments. A good old 10^x will do the trick.

There is no wrapper that saves and restores the stack, and local variables are not used either. I simply have not looked into this yet.

Dieter

Re: Tiny Challenge: significant digits

*Message #52 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 4:03 p.m.,*
in response to message #51 by Dieter

Don't worry about the stack mechanics, we can take care of this with some XROM only commands.

Re: Tiny Challenge: significant digits

*Message #53 Posted by **Paul Dale** on 19 Jan 2012, 4:18 p.m.,*
in response to message #51 by Dieter

There is no need to worry about stack dynamics or last X, we've special commands for dealing with these automatically. Writing proper internal functions in user code is easy now :-)

We can extend the range of SDL/SDR arguments to 254 but that still won't help since exponents go much further.

- Pauli

Re: Tiny Challenge: significant digits

*Message #54 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 4:48 p.m.,*
in response to message #53 by Paul Dale

Pauli, indirect arguments may well have much higher limits. It might need a modification but not a major one.

Re: Tiny Challenge: significant digits

*Message #55 Posted by **Paul Dale** on 19 Jan 2012, 5:23 p.m.,*
in response to message #54 by Marcus von Cube, Germany

For many commands having larger indirect arugments simply doesn't make sense. e.g. FIX, WSIZE, RL, SL, STO, ... The number of commands where a larger limit is sensible is really quite small and I can't think of any where no limit is good.

There are a bit or two left in the argument command table and we could allow an increased limit for indirect but restrict direct arguments to 254. Sounds potentially confusing to me.

- Pauli

Re: Tiny Challenge: significant digits

*Message #56 Posted by **Paul Dale** on 20 Jan 2012, 5:51 a.m.,*
in response to message #51 by Dieter

The 34S will have the ULP function in the next firmware drop.

- Pauli

Re: Tiny Challenge: significant digits

*Message #57 Posted by **Dieter** on 20 Jan 2012, 9:16 a.m.,*
in response to message #56 by Paul Dale

Here is a slightly simplified version. It also does not take special care of LastX:

```
01 LBL"ULP"
02 1
03 INTM?
04 SKIP 013
05 DROP
06 SPEC?
07 ERR 01
08 ENTER
09 EXPT
10  1
11  8
12 DBL?
13 STO+ X
14  -
15  3
16  +
17 10^x
18 X<>Y
19 SIGN
20  *
21 END
```

I don't know if the 34s has a error-ignore flag (like the 41's Flag 25). If there is such a flag, the error command in line 07 also has to quit the function. This may be done implicitely (user code functions automatically terminate as soon as an error occurs), or two more lines SPEC? RTN are added.

BTW - I assume the original reason for the discussion on SDL/SDR instead of 10^x was execution speed. I wonder if 10^x really is so much slower that the additional code required for a SDL/SDR solution still makes the whole thing faster. On the other hand I did not look into the C-code for 10^x. There might be some more or less substantial improvement speed-wise if the 10^x code first checks whether x is integer or not. In the first case the result simply hat a mantissa of 1 and an exponent of x - no further mathematics required.

BTW2 - in other 34s code samples I noticed constants like #0 or #1. What's the use of these, and in which way do they differ from a simple 0 or 1? Would it make sense to use a "#1" in line 02 here?

Dieter

Re: Tiny Challenge: significant digits

*Message #58 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 9:36 a.m.,*
in response to message #57 by Dieter

0 differs from 0 in that no interpretation of the input has to take place. Think of # as a special RCL command that addresses a list of constants instead of memory registers.

Re: Tiny Challenge: significant digits

*Message #59 Posted by **Dieter** on 20 Jan 2012, 10:14 a.m.,*
in response to message #58 by Marcus von Cube, Germany

This doesn't seem to work in integer mode ("bad mode error"). Is this a bug or a feature?

Dieter

Re: Tiny Challenge: significant digits

*Message #60 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 11:47 a.m.,*
in response to message #59 by Dieter

> Quote:
>
> This doesn't seem to work in integer mode ("bad mode error"). Is this a bug or a feature?

A 'feature' I'm afraid. We have stored the constants in the internal BCD register format only, not as integers. There is no implied conversion (which would be costly in terms of processor cycles, more than interpreting a digit in the code).

Re: Tiny Challenge: significant digits

*Message #61 Posted by **Paul Dale** on 20 Jan 2012, 4:52 p.m.,*
in response to message #60 by Marcus von Cube, Germany

Plus only two of the constants are integers, so supporting such conversion doesn't seem like a big benefit.

- Pauli

Re: Tiny Challenge: significant digits

*Message #62 Posted by **Paul Dale** on 20 Jan 2012, 5:00 p.m.,*
in response to message #57 by Dieter

A few questions:

What is the result for ULP(0) ? 0, the smallest normalised number or the smallest denormalised number? I'll likely switch to the smallest positive denormalised

number instead of 0.

Why the sign preservation?

For integer mode I've used a separate routine:

```
STO L
CLx
INC X
RTN
```

The function table dispatches separately for integer and real modes so this is free space wise. For real mode, I've decided to code this directly in C -- I can play with the exponent field directly and thus avoid the 10^x. Also, handling denomalised numbers properly is something that I think will be difficult for keystroke programs to deal with.

- Pauli

Re: Tiny Challenge: significant digits

*Message #63 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 5:42 p.m.,*
in response to message #62 by Paul Dale

If we want to preserve sign and return 0 for 0 the function is identical to SIGN in integer mode. With Pauli's implementation of ULP (any mode), multiplication with SIGN will return the result of Dieter's routine.

Re: Tiny Challenge: significant digits

*Message #64 Posted by **Valentin Albillo** on 20 Jan 2012, 5:43 p.m.,*
in response to message #62 by Paul Dale

> Quote:
>
> A few questions:
>
> What is the result for ULP(0) ? 0, the smallest normalised number or the smallest denormalised number?

For the HP-71B, the **NEIGHBOR** function returns the smallest positive denormalized number if the second argument is positive, the smallest negative denormalized number if the second argument is negative, and 0 if the second argument is 0.

If you haven't set the flag to allow for denormalized results, you'll get an **Underflow** warning and a default 0 result instead.

Best regards from V.

Re: Tiny Challenge: significant digits

*Message #65 Posted by **Marcus von Cube, Germany** on 20 Jan 2012, 6:07 p.m.,*
in response to message #64 by Valentin Albillo

I think MINVAL & MAXVAL (mode dependent) may be useful information. Denormalized numbers are always allowed in WP 34S, only NaNs and infinities need a system flag to be set to not cause an error.

Re: Tiny Challenge: significant digits

*Message #66 Posted by **Thomas Okken** on 19 Jan 2012, 3:11 a.m.,*
in response to message #48 by Dieter

> Quote:
>
> Now, if I only knew the English term for "Wink mit dem Zaunpfahl"... ;-)

The term you're probably looking for is "broad hint".
For the Germanistically challenged, the literal translation of "Wink mit dem Zaunpfahl" is "hint with a fence-post".

Re: Tiny Challenge: significant digits

*Message #67 Posted by **Paul Dale** on 20 Jan 2012, 7:06 p.m.,*
in response to message #48 by Dieter

> Quote:
>
> I'm not quite sure whether the 34s needs a neighbor function, but I think a function that returns 1 ULP of X might be useful. In this case, neighbor(x) simply equals x plus or minus ulp(x).

Actually it doesn't work this way :-(

ULP(10) = 1e-14. 10 - 1e14 = 9.99999999999999.

The correct neighbour below 10 is 1e-15 below = 9.999999999999999

i.e. 10 - ULP(10) loses a digit.

- Pauli

Re: Tiny Challenge: significant digits

*Message #68 Posted by **Dieter** on 20 Jan 2012, 8:00 p.m.,*
in response to message #67 by Paul Dale

First, it's easier to understand if these numbers with lots of zeros or nines are written with grouped digits. ;-)

Yes, exact powers of 10 are a special case. The next *higher* number here actually is 10 + 1E-14:

```
10 + 1E-14 = 10,00 0000 0000 0001
```

Which is what the proposed routine returns: ULP(10) = 1E-14.

On the other hand, the next *lower* value is not 1E-14 but just 1E-15 below 10:

```
10 - 1E-15 = 9,9999 9999 9999 9999
```

So there are actually two different ways to handle this.

This could be solved by two separate ULP functions, one for each case (up/down). Or we do it the same way as the 71B and implement a neighbor function with two arguments. Or... ;-)

Dieter

Re: Tiny Challenge: significant digits

*Message #69 Posted by **Paul Dale** on 20 Jan 2012, 8:15 p.m.,*
in response to message #68 by Dieter

I was copy/pasting the numbers from the console emulator that doesn't include digit separators or grouping :-)

ULP is good the way it is. It returns 1 ULP. Splitting this for ULP upwards and ULP downwards seems wrong to me. Having a neighbour function like the 71B is one option, having a pair of functions that return the next value larger or smaller than their argument is another (which I think I prefer but not by much).

Anyway, I've got ULP working properly for subnormals. For subnormals (and zero) it returns the smallest subnormal.

- Pauli

Re: Tiny Challenge: significant digits

*Message #70 Posted by **Dieter** on 21 Jan 2012, 8:54 a.m.,*
in response to message #69 by Paul Dale

With regard to the neighbo(u)r function:

> Quote:
>
> ...a pair of functions that return the next value larger or smaller than their argument is another (which I think I prefer but not by much).

Then throw in my preference for the latter solution. In addition to a (signed or unsigned) ULP function. Two separate neighbor functions are fine if they return two values that are not larger resp. smaller, but closer to zero resp. farther out. This difference is important for negative arguments. That's also the main reason why my original ULP routine returns a signed result: adding resp. subtracting this to the original X consistently returns the one or the other.

Dieter

Re: Tiny Challenge: significant digits

*Message #71 Posted by **Paul Dale** on 21 Jan 2012, 5:53 p.m.,*

in response to message #70 by Dieter

I think it would thus be better to have four functions which give the next representable value in the direction:

```
towards 0
away from 0
towards negative infinity
towards positive infinity
```

Maybe the 71b's neighbour or C nextafter function is what we want here after all. Then the user can specify exactly which direction to go.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Speed of the HP-41CL

*Message #1 Posted by **MichaelG** on 17 Jan 2012, 2:38 a.m.*

I recently watched a video on YouTube that shows a speed comparison of the 41CL and 41CX. My feeling was that the CL was about 4 time faster (or a bit more). The maximum turbo mode of the CL is 50.

Where does this big difference come from? I know the example makes intensive use of X-Memory. Does this slow down everything? Run "normal" focal programs faster?

Michael

Re: Speed of the HP-41CL

*Message #2 Posted by **Eric Smith** on 17 Jan 2012, 3:56 a.m.,*
in response to message #1 by MichaelG

In the 50x turbo mode, many, but not all, of the 41's microinstructions run at 50 times the normal speed. However, certain microinstructions, including all the ones that access the display and peripherals, have to run at normal speed, so those run at 1x, or perhaps even slower due to the delay to sync up to the 1x serial bus. This results in the average execution speed being much lower than 50x. The actual speed will vary a lot depending on exactly what your program is doing.

Edited: 17 Jan 2012, 3:56 a.m.

Re: Speed of the HP-41CL

*Message #3 Posted by **BobVA** on 17 Jan 2012, 7:10 a.m.,*
in response to message #1 by MichaelG

I don't think it's the X-MEMORY access, but rather what Eric mentioned above, the need to stay in sync with hardware not on the CPU board. In particular the 41CL manual notes that the keyboard must be scanned (a 1x operation) at every program line, which limits the speedup a program composed of relatively simple functions would see.

For example, a program that made multiple calls to transcendental functions would see a lot bigger speed boost than one that was just incrementing a counter. Cheers, Bob

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Not your everyday TI-59

*Message #1 Posted by **Joerg Woerner** on 16 Jan 2012, 2:21 p.m.*

Folks,

Do you recognize it?

Regards, Joerg

Re: OT: Not your everyday TI-59

*Message #2 Posted by **hpnut** on 16 Jan 2012, 2:32 p.m.,*
in response to message #1 by Joerg Woerner

TI 59 emulator running RPN?

Re: OT: Not your everyday TI-59

*Message #3 Posted by **Gerson W. Barbosa** on 16 Jan 2012, 2:40 p.m.,*
in response to message #1 by Joerg Woerner

http://www.rskey.org/CMS/index.php/exhibit-hall/118

http://www.8bit-homecomputermuseum.at/computer/texas_instruments_tm_990_189.html

Regards,

Gerson.

Re: OT: Not your everyday TI-59

*Message #4 Posted by **Joerg Woerner** on 16 Jan 2012, 2:53 p.m.,*
in response to message #3 by Gerson W. Barbosa

19 minutes - not bad!

Congratulations.

Regards, Joerg

Re: OT: Not your everyday TI-59

*Message #5 Posted by **Eric Smith** on 16 Jan 2012, 2:44 p.m.,*
in response to message #1 by Joerg Woerner

Not a TI-59 at all, though it shares some case parts.

Re: OT: Not your everyday TI-59

*Message #6 Posted by **Joerg Woerner** on 16 Jan 2012, 2:57 p.m.,*
in response to message #5 by Eric Smith

Four times a TI-59:

16-bit vs 4-bit ;-))

I played with it yesterday before I took the pictures to sell it off. The first example in the provided book flashes the LED's.

I could do this even with a 1-bit micro-processor.

And who remembers Motorola's famous 1-bit CPU?????

Joerg

Re: OT: Not your everyday TI-59

*Message #7 Posted by **robert rozee** on 16 Jan 2012, 8:29 p.m.,*
in response to message #1 by Joerg Woerner

a friend of mine has one - are they worth anything much? he's pretty down on his financial luck at the moment.

cheers, rob :-)

Re: OT: For Rob only - Not your everyday TI-59

*Message #8 Posted by **Joerg Woerner** on 16 Jan 2012, 9:17 p.m.,*
in response to message #7 by robert rozee

Rob,

Your friend will know in 6 days and 17 hours.

Cheers,

Joerg

Re: OT: Not your everyday TI-59

*Message #9 Posted by **Mike Morrow** on 17 Jan 2012, 2:25 a.m.,*
in response to message #7 by robert rozee

I don't think they are in great demand. I bought one, with the appropriate books, for $20 at a local hamfest three years ago.

I'd always wanted a 990/189 since TI introduced it. It would have filled the empty spot of that KIM-1 that I wasn't able to afford in 1976. The 9900 series microprocessors had hardware multiply and divide instructions, which was rare back then.

Re: OT: Not your everyday TI-59

*Message #10 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 6:43 a.m.,*
in response to message #9 by Mike Morrow

Mine as awfully bouncing keyboard. I think I'll need to do something about it. Is there a way to fix these old TI bounceboards?

Re: OT: Not your everyday TI-59

*Message #11 Posted by **Joerg Woerner** on 17 Jan 2012, 8:01 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Marcus,

I have NOS TI-59 keyboards here...

Regards, Joerg

Re: OT: Not your everyday TI-59

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 11:48 a.m.,*
in response to message #11 by Joerg Woerner

Service replacements? My 57 is bouncy as well...

Re: OT: Not your everyday TI-59

*Message #13 Posted by **Joerg Woerner** on 17 Jan 2012, 1:12 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Same keyboard - just one row less. Have a saw?

Tell me a TI calculator from 1977 to 1983 NOT bouncy ;-))

Cheers, Joerg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S timing crystal

*Message #1 Posted by **Peter Mansvelder** on 16 Jan 2012, 11:06 a.m.*

Hello, I have succesfuly flashed a HP30b into a WP34s, but I'd like to improve the timing by adding a crystal. I've seen in some earlier posts that it takes a 32768 kHz crystal and 2 capacitors, but since they're SMD devices, I would like to make sure I get the right specs; does anyone have part numbers or specs or even better, a small 'howto' to make the modification?

Peter Mansvelder

Re: wp34S timing crystal

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 16 Jan 2012, 2:10 p.m.,*
in response to message #1 by Peter Mansvelder

Hi Peter,

I purchased the caps and the xtal from Digikey which succesfully added more accurate time function, here are the part details:

300-8340-1-ND .68000 1.36 T CRYSTAL 32.768 KHZ 12.5PF SMD HTSUS: 8541.60.0010 ECCN: EAR99 LEAD: LEAD FREE ROHS: ROHS COMP COUNTRY/ORIGIN: JAPAN CAGE: 0CS65

445-1272-1-ND .10000 .50 T CAP CER 18PF 50V C0G 5% 0603 HTSUS: 8532.24.0020 ECCN: EAR99 LEAD: LEAD FREE ROHS: ROHS COMP COUNTRY/ORIGIN: USA CAGE: 1ZFM7

Cheers, Kerem

Edited: 16 Jan 2012, 2:11 p.m.

Re: wp34S timing crystal

*Message #3 Posted by **Peter Mansvelder** on 17 Jan 2012, 2:41 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Ok, thanks, I found the parts at farnell, they are on order. Now on to another challenge: I got the overlay, but it is for the 3.0 version, and I haven't found an obvious way to get that image from the sourceforge site, I will try with the latest SVN revision...

Re: wp34S timing crystal

*Message #4 Posted by **Jeff O.** on 17 Jan 2012, 3:55 p.m.,*
in response to message #3 by Peter Mansvelder

http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/calc.bin?view=log

Let us know how the crystal installation process goes. A small "How to" would be welcome :-)

Edited: 17 Jan 2012, 3:56 p.m.

Re: wp34S timing crystal

*Message #5 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 5:09 p.m.,*
in response to message #4 by Jeff O.

I'm afraid you will need to be able to solder grains of salt under a microscope. 0603 is definitely too tiny for the average soldering iron. I've done this trice and none of my attempts is worth a beauty contest price (even if all are working fine.)

Re: wp34S timing crystal

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 17 Jan 2012, 6:00 p.m.,*
in response to message #5 by Marcus von Cube, Germany

You are absolutely correct. Magnifying lenses and good lighting is a must. I have done these four times by now (2x30b,2x20b). What I found works the best and cleanest is to Tin the contact pads with enough solder (using a low power 8W-12W soldering iron with a fine tip) for attaching 0603 SMD components (holding them with a very fine tipped tweezers) without having to add more solder to the tip of the soldering iron. Also it is important to make sure the tip is cleaned with a tip cleaner and has no excess solder or kind of residues.

Re: wp34S timing crystal

*Message #7 Posted by **robertoataulfo** on 17 Jan 2012, 6:09 p.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

I live here in Brazil it is impossible to purchase these components can anyone help me?

Re: wp34S timing crystal

*Message #8 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 17 Jan 2012, 6:34 p.m.,*
in response to message #7 by robertoataulfo

I can get the components you need and send them to you, if this helps. You can contact me at kkapkin (at) gmail (dot) com

Re: wp34S timing crystal

*Message #9 Posted by **Jeff O.** on 18 Jan 2012, 10:24 a.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

Do you have a brand/model/source suggestion for the soldering iron? (I did search at digikey and amazon, but there are lots of choices. This one looked most promising, but is 18 Watts and does not look like it has a "needle" tip.)

Edited: 18 Jan 2012, 10:29 a.m.

Re: wp34S timing crystal

*Message #10 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 10:42 a.m.,*
in response to message #9 by Jeff O.

I'm using a low voltage (12V) soldering 'needle' which has roughly the overall size of a

pen. I drive it off my lab power supply.

Re: wp34S timing crystal

*Message #11 Posted by **Jeff O.** on 18 Jan 2012, 11:18 a.m.,*
in response to message #10 by Marcus von Cube, Germany

So far I have come across no such animal in my search.

Re: wp34S timing crystal

*Message #12 Posted by **Marcus von Cube, Germany** on 18 Jan 2012, 11:22 a.m.,*
in response to message #11 by Jeff O.

Go to a Radio Shack or similar! I found mine in a local electronics store.

Maybe this link can help: http://hardforum.com/showthread.php?t=816830.

Edited: 18 Jan 2012, 11:26 a.m.

Re: wp34S timing crystal

*Message #13 Posted by **Jeff O.** on 18 Jan 2012, 1:02 p.m.,*
in response to message #12 by Marcus von Cube, Germany

OK, I just ordered a soldering station, 10 crystals and 20 capacitors*, so I should be able to ruin one of my 30b calculators attempting this in a week or so! (Actually, I think I'll practice on at least one 20b.)

* - ordered 10 crystals because it was something like $10 for 5 or $12 for 10. Ordered 20 capacitors because you need 2 capacitors per crystal and they were dirt cheap.

Edited: 18 Jan 2012, 1:10 p.m.

Re: wp34S timing crystal

*Message #14 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 18 Jan 2012, 1:18 p.m.,*
in response to message #9 by Jeff O.

Marcus' suggestion of a soldering "needle" would the best, but unfortunately I didn't have one. Instead I used an old low power radio shack soldering iron similar to this. Also I used a fine tip similar to this one.

If you go to RadioShack or a local electronic store you will find many choices for low power soldering irons (pens) with fine tips.

Make sure your hands are steady, no coffee or redbull before you begin soldering. Try to do it the right the first time, comes out cleaner, longer time you spend gets messier based on my experience. Also you can get blank, cheap boards with copper contacts from the same electronics store or RadioShack to practice first.

Edited: 18 Jan 2012, 1:19 p.m.

Re: wp34S timing crystal

*Message #15 Posted by **Dave Shaffer (Arizona)** on 18 Jan 2012, 3:08 p.m.,*
in response to message #14 by Kerem Kapkin (Silicon Valley, CA)

You can make a soldering needle: take your fine tip and use a file to thin it down some more. You will have to re-tin it. I have done that with one of those cheap Radio Shack irons.

You could probably also literally use a needle - use some wire to wrap it to the existing tip. You need to make sure there is adequate heat conduction to the needle - this might actually be good: you will effectively have a lower wattage tip (and, again, you will have to tin it somehow - you might want to file off whatever coating might be on the needle originally).

Re: wp34S timing crystal

*Message #16 Posted by **Eric Rechlin** on 18 Jan 2012, 3:05 p.m.,*
in response to message #9 by Jeff O.

You don't need a fancy soldering iron. You could do it with a $10 Radio Shack one if you wanted.

That said, I have a Metcal (OKi) PS-900 and I love it.

Eric

Edited: 18 Jan 2012, 3:07 p.m.

Re: wp34S timing crystal

*Message #17 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 18 Jan 2012, 3:24 p.m.,*
in response to message #16 by Eric Rechlin

Very Nice!! Those cheap RadioShack irons last very long time, they won't fail to justify getting a new iron like Metcal PS-900. That what I should have gotton in the first place. Let's see soldering a few more WP-34s, time module, pil-box,.. may be I need an upgrade.

Re: wp34S timing crystal

*Message #18 Posted by **Jeff O.** on 18 Jan 2012, 3:34 p.m.,*
in response to message #16 by Eric Rechlin

I did not order anything fancy. I needed a new one anyway, and prefer clicking on my computer to walking into a Radio Shack.

Re: wp34S timing crystal

*Message #19 Posted by **Christopher Johnson** on 18 Jan 2012, 1:06 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Hi Kerem,

I have been researching how to do this(not much information out there) and I found this document.

How WP 34S Came into Existence

Page 18 of this pdf shows the crystal and cap(s) c3 and c4 and you say caps. Are 2 caps required for this modification? I haven't opened my 30b yet so I'm not sure what is there and what is not.

Thank you, Christopher

Re: wp34S timing crystal

*Message #20 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 18 Jan 2012, 1:50 p.m.,*
in response to message #19 by Christopher Johnson

Hi Christopher,

You are correct. These are the two (2) capacitors which are placed on C3 and C4 on the left and right side of the Crystal.

In order to open the 30b there are four screws. Two of the screws are under the long lower rubber pad. You don't have to remove the entire lower pad to get access to these screws, just lift the ends of the rubber pad enough to expose the screws. That way, once you are done the pad still retains its double sided glue and sticks very well back into its place.

-Cheers, Kerem

Re: wp34S timing crystal

*Message #21 Posted by **Peter Mansvelder** on 22 Jan 2012, 4:13 p.m.,*
in response to message #20 by Kerem Kapkin (Silicon Valley, CA)

Hello Kerem, I managed to get the parts and solder them onto the HP30B, it is rather simple, here are my findings:

- Backup up the calculator using ON + Store + Store
- Take off the battery cover and take out the batteries
- Take out the 5 screws: 2 on top, one in the middle, 2 under the 'antislip' strip at the bottom of the backside (outside the battery cover)
- flip the calculator over and pry off one of the sides by slightly bending the plastic outer housing, the center 'metallic' part has to come loose. First one side, then the top, then the other side. Actually this is so tight that I wonder where the screws are for...
- Now you have the complete calculator front with the back of the PCB visible.
- Top right you see a place for 3 components, marked C3, C4 and Y1. Each one has 2 copper-coloured pads.
- Take the smallest soldering iron you can find (I use a Weller 12W with a pointy tip) and put some solder on them.
- Take the 2 capacitors (I used 18pF ones in 0603 size, farnell article code 1612182), and solder them into place, using tweezers, a needle and a magnifying glass. It takes some practice, but it is not impossible: this is only my second time, and I haven't fouled up anything yet.
- I used a SMD crystal too (farnell part number 1712821), but there is enough room for a regular 'tubular' watch type crystal, which is much easier. Same method, be careful not to let any solder flow too wide.
- If there is any excess solder, clean it with a needle and some tissue (or better, use desoldering tape). I used regular solder, which is much too big for SMD use, so my work looked somewhat sloppy. But no matter, it worked!
- Put the calculator back in reverse order, and try to set the crystal: ON+C+C. If the crystal is mounted correctly, you get 'OK' and you now have a much improved WP34s! In my example,

there used to be almost 10 minutes to the hour discrepancy in time keeping, but now it runs like a clock!

Hope my findings help someone, it is really an easy job anybody with some electronics experience can succeed at.

Peter Mansvelder

Re: wp34S timing crystal

*Message #22 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 22 Jan 2012, 6:42 p.m.,*
in response to message #21 by Peter Mansvelder

Hello Peter,

Very good summary, thanks for sharing.

Actually Tubular crystals also come in SMD package (which I used and I believe most people have been using) with slightly open leads with a proper angle to allow surface mount on SMD pads, as well as straight leads for through-hole.

AFAIK You are the first/only person reported using non-cylindrical SMD packaging for 30b/20b, great information, thanks. I was wondering if it would work or fit on the space allocated for the crystal on the PCB.

Although you need to do ON+C+C once to get the crystal engaged, I sometimes forget to do the ON+C+C after each firmware update. Firmware updates disengages the crystal timing circuit.

Regards, Kerem

Re: wp34S timing crystal

*Message #23 Posted by **Marcus von Cube, Germany** on 23 Jan 2012, 5:05 a.m.,*
in response to message #22 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> Firmware updates disengages the crystal timing circuit.

There is no way for the software to tell if a crystal is installed or not. The only way is to just set-up the hardware and see what happens. If no crystal is installed, the system simply hangs and can only be reset manually. :-(

Re: wp34S timing crystal

*Message #24 Posted by **Morten Nygaard Åsnes** on 23 Jan 2012, 6:18 a.m.,*
in response to message #23 by Marcus von Cube, Germany

> Quote:
>
> There is no way for the software to tell if a crystal is installed or not. The

> only way is to just set-up the hardware and see what happens. If no crystal is installed, the system simply hangs and can only be reset manually. :-(

Couldn't the calculator write something to flash memory to say the crystal is enabled, and read it back after an update?

Re: wp34S timing crystal

*Message #25 Posted by **Marcus von Cube, Germany** on 23 Jan 2012, 7:17 a.m.,*
in response to message #24 by Morten Nygaard Åsnes

> Quote:
>
> > Couldn't the calculator write something to flash memory to say the crystal is enabled, and read it back after an update?

That's of course possible but updates are often incompatible with previous backup images (even if the CRC is still valid). Now imagine the calculator tries to restore such an invalid image and inadvertently tries to activate the (non existent) crystal just because the respective bit is left over from an older software image. It will be a dead end.

Re: wp34S timing crystal

*Message #26 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Jan 2012, 4:23 p.m.,*
in response to message #23 by Marcus von Cube, Germany

Not a big deal, I just have to remind myself to ON+C+C after the firmware updates. For those who are just installing their capacitors and the crystal for the timing circuit, alhough it is documented in the user manual, ON+C+C after updates ;)

The only thing (which is a nice to have more than a need, especially given valuable limited memory space for the capabilities), is to have a time/date display like the one on HP-17BII+.

Edited: 23 Jan 2012, 4:25 p.m.

Re: wp34S timing crystal

*Message #27 Posted by **Jeff O.** on 22 Jan 2012, 7:45 p.m.,*
in response to message #21 by Peter Mansvelder

Peter,
Thank you for the report. It gives me some confidence that I will be able to add the crystal. I received the parts two days ago, and the capacitors do look somewhat like grains of sand. Speaking of the capacitors, I purchased 15 pF, I assume that will not be a problem since the crystal calls for 12.5 pF and you used 18 pF. Now all I need is my new soldering iron, and working up some nerve to make the attempt.

Re: wp34S timing crystal

*Message #28 Posted by **Jim Johnson** on 22 Jan 2012, 10:58 p.m.,*
in response to message #27 by Jeff O.

18pf load capacitance is a bit high in my experience in using 32.768KHz crystals. Most crystal manufacturers recommend somewhere between 10pf and 12pf. The 18pf will work, you just don't want to load down the oscillator circuit too much.

Re: wp34S timing crystal

*Message #29 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Jan 2012, 1:23 a.m.,*
in response to message #28 by Jim Johnson

Some research on getting the best accuracy from a 32.768 KHz ATMEL AT91SAM7L128 ARM Processor timing circuit suggested that I should use 18pF capacitors. The design specifications noted in this document from ATMEL, recommends 18pF capacitors C12 and C13 shown in the schematics. Therefore I selected 18pF.

Re: wp34S timing crystal

*Message #30 Posted by **Marcus von Cube, Germany** on 23 Jan 2012, 5:08 a.m.,*
in response to message #29 by Kerem Kapkin (Silicon Valley, CA)

15pF do work. I've modified three devices this way.

Re: wp34S timing crystal

*Message #31 Posted by **Bart (UK)** on 24 Jan 2012, 3:49 a.m.,*
in response to message #30 by Marcus von Cube, Germany

No one said they didn't. People are just quoting their various references for their choice of capacitor. For that matter probably anything from 10pf to 20pf will do. Some crystals even recommend as low as 6pf. Then we haven't even started talking about tolerance, temperature stability and drift (which all have a cumulative effect on the capacitance).

Personally, I'd go with the value recommended by the crystal being used. Chances are the Atmel designer just specified the value for the crytal they were using or had the datasheet for (but remember to calulate the required C_L as detailed below).

Edit:
The AT91SAM7L128/64 datasheet, paragraph 35.4.3, table 35-15 only states a maximum of 20pf.

This application note gives more info on the design for the xtal and the internal equivalent C_L.

Remeber too that
$C_{L_{total}}=(C_{L_1}*C_{L_2})/(C_{L_1}+C_{L_2}) + C_{L_i}$

where C_{L_1} and C_{L_2} are the two load capacitors (C3 & C4 on the 20b/30b board) and C_{L_i} is the equivalent internal load capacitance of the uP.

Edited: 24 Jan 2012, 9:46 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 39GII

*Message #1 Posted by **NateB** on 16 Jan 2012, 10:25 a.m.*

I ran across a post on HP's forum describing the new 39GII. Full thread.

> Quote:
>
> The 50g was essentially a response to the problems with the 49g+ keyboard (and color). The plastic on the keyboard tree cracked and keys broke because the suppliers (unknown to HP) were doing the standard practice of "recycling" the leftover sprue from the injection molds into subsequent runs. This meant the plastic no longer had the specified characteristics and was thus too brittle which led to cracking plastic. Once we put a stop to that, and the marketing person that designed the "hey wouldn't it be cool to have a gold calculator!" was no longer there, the reasonable neutral color scheme of the 50g and the name change let everyone know the problems were no longer there.
>
> Fast forward a few years and things have begun to change. Every calculator that has been released in the past 3-4 years that has MSRP of ~30$US or more has been designed in house. This includes the 20b, 30b, 10bII+, 12c (the new ARM version), the 15c (the new ARM version) and the just recently released 39gII.

> The 39gII is the start of a brand new, platform independent codebase for HP graphing calculators. It was developed, designed and written completely in house as a modern, flexible system. It was launched in late October 2011 in China for classroom purchase and is not yet avaiable in other regions.
>
> The 39gII does not emulate any old code. It is a complete implementation of a high end graphing

calculator system. The last time this happened for HP with any released models was back in the late 80s with the HP28c (which spawned the 28s, 48sx, 48gx, 49g, and finally the 50g).

It was deisgned from the ground up to support multiple languages natively through the entire system. It has extensive unicode support with over 23000 characters. Complete, contextual help is seamlessly integrated through the system. To support multiple languages, it has a much higher resolution greyscale screen of 127x256 pixels. The most powerful and capable graphing engine on any hardware graphing calculator sold can be found on this unit as well. Flash memory is handled using a standard 128MB flash chip.

Improvments over the 39gs include:

- full support for units (similar but more extensive to the 48 series with many units, conversions, post and prefixes and so on)
- complete and modern programming language that integrates with the rest of the system. The user can create and define functions and they work as if built in
- much more powerful graphing engine
- support for two font sizes and text formatting
- ability to use a RTF format with notes and embed images into notes
- USB on the go handles connectivity

You may say "well, the 48 had a lot of that stuff already". That would be correct. I like to explain to people that if you drew a line representing unit capability between the 39gs and the 50, the 39gII would be more than half way towards the 50g. It isn't just a "dumbed down high school unit" anymore.

However, this does have things not found on any HP calculator, or ANY othe brand's calculator, before either! :-)

Most common question - why doesn't it have a color screen/larger screen/more stuff? Simple - power consumption and cost.

This calculator runs on 4 AAA batteries in parallel. In fact, you can run it on a single battery in an emergency if needed. Power draw is ~4mA at idle, and ~20mA while running full out. I had one that ran for over 500 hours continuously a few months back. We were going for a lower end high school into college machine that would be a viable product in many developing regions of the globe.

While as a *nix user this probably will not be the type of machine that you would be attracted to, it definitely should show that HP is still serious about graphers and that there may be some great things to come in the future!

--

TW

Although I work for the HP calculator group, the views and comments expressed here are my own.

Re: HP 39GII

*Message #2 Posted by **Software49g** on 16 Jan 2012, 10:58 a.m.,*
in response to message #1 by NateB

Hello,

in this case I'd like to point to my own post there, too.

--- Start of quote --- 24.12.2011 ---

@Tim

It would be fair to mention that (although it has not been done by HP)
- the 50g is available in 6 languages (of course this could be done for more languages)
- will get help for all commands (text and embedded graphics) in the very near future, I am almost ready to release ;-)
- could be updated to a *larger* screen easily, if you do the hardware I'll promise to do the software
- could be given more memory by expanding the virtual processor thus allowing to re-use the vast resources of software that already exist for this platform, and this could be done in a very short time compared to the development time needed for a true 50g successor with uncertain success of the product
- codepages could be flipped in real time to support non ASCII languages
- etc., etc.

Above can be done with the existing codebase and having a different (or called new) codebase does not necessarily extend the user-experience of a product...

SCNR,

Andreas

P.S. Merry Christmas

--- end of quote --- 24.12.2011 ---

Regards,
Andreas

P.S.: as correction to the above quote: the "new" help for the 50g for *all* commands has been released.

Re: HP 39GII

*Message #3 Posted by **David Hayden** on 18 Jan 2012, 1:06 p.m.,*
in response to message #2 by Software49g

> Quote:
>
> - could be given more memory by expanding the virtual processor thus allowing to re-use the vast resources of software that already exist for this platform, and this could be done in a very short time compared to the development time needed for a true 50g successor with uncertain success of the product

I think this is harder than it may appear. The emulated saturn processor uses a 20 bit address. Each address refers to a 4-bit nibble in memory. Most modern processors use a 32 bit address and each address refers to an 8-bit byte.

Suppose you try to expand the memory by going to a 32 bit address. This increases the size of every object in the calculator (because each object starts with a prolog that's an address). Suddenly any code that "knows" an object's size won't work. For example, code that moves a 21-nibble real number (or allocates 21 nibbles to store one) won't work because a real number is no longer 21 nibbles.

Problems like this can be solved, but it requires going through all the code by hand.

And this still assumes that the memory is nibble-addressable instead of byte-addressable. In my opinion, if HP is going through the hassle of converting to a 32 bit address, they might as well go to byte-addressable memory too.

All this assumes that the goal is to port the RPL code base for the 50g to a modern processor. If you're going to go through all that work, maybe it's easier to just abandon RPL as the code for the operating system and go with C instead? It's a whole lot easier to find C programmers than RPL programmers.

I suspect that HP has gone through a similar thought process as above. They've implemented a bunch of low-end machines in C code to build up a revenue stream. The 39GII is just an extension of that process and they must figure that the educational market will be profitable.

We can only hope that their next step will be a high-end scientific programmable.

Dave

P.S. Although I can see why HP might not want to re-implement the RPL code for a 32 bit byte-addressable machine, I think it might make a fun project for the community. For instance, maybe we can por the 48G code and get it running on the 50g hardware?

Re: HP 39GII

*Message #4 Posted by **Thomas Radtke** on 16 Jan 2012, 11:44 a.m.,*
in response to message #1 by NateB

Hopefully this new platform is being developed to a stage where the 48G already was, and is not intended for educational purposes *only*.

If it is, it's great to have students sort out all bugs of the base system first ;-(.

Re: HP 39GII

*Message #5 Posted by **Software49g** on 16 Jan 2012, 5:06 p.m.,*
in response to message #4 by Thomas Radtke

Hello Thomas,

> to a stage where the 48G already was
Besides all that many, many if's and when's that are still before that (and even if done, that does not guarantee success of the product), could you explain to me where

- progress and
- innovation

are, compared to the already available model (HP 50g) if they finally reach the state of the 48G ?

Surely it might be nice to have a "re-programmed" machine as a programming-exercise for the calculator division (and as justification for their existence) *but* where is the benefit for the customer ?

Besides that I would rather see an environment that focuses on quality products in terms of hardware and software instead of rushing out "new shiny buggy" products. As HP calculators has lost the mass market a long time ago this would be a reason for buying one instead of getting a "me-too-toy" from HP.

Just in case you might have forgotten:
50g: still some minor bug, last ROM-Update three years ago. (Was there ever a ROM-Update for the

39/40 family?)
35s: buggy when it came out, will remain buggy until it fades away
20b/30b: depreciation bug since release and unfixed since then
12c: various bugs in the various reincarnations
15c: release bugs have been discussed in detail here recently, no fixes so far

Given all the above they have lost a lot of their credibility (if there is/was any left to loose) that HP calculators are better then their competitiors...
(But I guess, given the prices today for this machines includes beta-testing by the customer.)

Sometimes less is more.

Regards,
Andreas
http://www.software49g.gmxhome.de

P.S. when I got my 48SX in 1989/1990 I trusted the results given by the machine, today I do not trust a result given by a "recent" HP calculator!

Edited: 16 Jan 2012, 5:24 p.m.

Re: HP 39GII

*Message #6 Posted by **Thomas Radtke** on 17 Jan 2012, 1:53 a.m.,*
in response to message #5 by Software49g

Hi Andreas,

> Quote:
>
> [...] could you explain to me where
>
> - progress and
> - innovation
>
> are, compared to the already available model (HP 50g) if they finally reach the state of the 48G ?

I understand the new platform contains no legacy code, and so is more maintainable by the calculator group. This is neither an innovation nor progress in the eye of the customer, but imo *could* lead to a new machine that eventually surpass the 48G.

> Quote:
>
> Besides that I would rather see an environment that focuses on quality products in terms of hardware and software instead of rushing out "new shiny buggy" products.

Agreed.

> Quote:
>
> Given all the above they have lost a lot of their credibility (if there is/was any left to loose) that HP calculators are better then their competitiors...
> (But I guess, given the prices today for this machines includes beta-testing by the

> customer.)

You're running against open doors, but don't forget that HP calculators are probably the best investigated calculators of all. Do you know what problems hide inside a machine like a Casio xyz?

More important, HP is the only manufacturer left selling calculators *I* would use in science and engineering due to the feature set and ease of use. PRN/RPL is important in this respect to *me*.

Re: HP 39GII

*Message #7 Posted by **Software49g** on 17 Jan 2012, 4:13 a.m.,*
in response to message #6 by Thomas Radtke

> contains no legacy code, and so is more
> maintainable by the calculator group.
Well, if they can not maintain their *old* code, now how will they be able to maintain the *new* code when it becomes legacy ?

> but imo *could* lead to a new machine that
> eventually surpass the 48G
So one *could* wait for a machine that *might* be available in a later uncertain future *but* what does one uses *now* ?

Again, all of that what would make up a 50gII is available *now*, with the benefit of *proven* code!
Somebody just needs to plug it all together (larger screen, more memory, O.S. fixes, language support, built-in help, improved EQNLIB, etc., etc.)
Could be done in 3-6 months with fewer effort...

SCNR,
Andreas
http://www.software49g.gmxhome.de

Edited: 17 Jan 2012, 4:24 a.m.

Re: HP 39GII

*Message #8 Posted by **Thomas Radtke** on 17 Jan 2012, 6:38 a.m.,*
in response to message #7 by Software49g

> Quote:
>
> > Well, if they can not maintain their *old* code, now how will they be able to maintain the *new* code when it becomes legacy ?

The calculator group has basically been kicked and reestablished. I wouldn't wonder if the codebase was lost in this process.

> Quote:
>
> > So one *could* wait for a machine that *might* be available in a later uncertain future *but* what does one uses *now* ?

I'm using the 48G, others use the 49 or 50 models. No need to *wait* for anything until supply

stops, right?

Re: HP 39GII

*Message #9 Posted by **Thomas Klemm** on 17 Jan 2012, 7:14 a.m.,*
in response to message #4 by Thomas Radtke

> Quote:
>
> it's great to have students sort out all bugs of the base system first

What makes you think HP will fix them?

Thomas

Re: HP 39GII

*Message #10 Posted by **Thomas Radtke** on 17 Jan 2012, 9:22 a.m.,*
in response to message #9 by Thomas Klemm

> Quote:
>
> What makes you think HP will fix them?

Anything else would be plain stupid in the course of further developing the software towards more sophisticated models.

Edited: 17 Jan 2012, 9:23 a.m.

Re: HP 39GII

*Message #11 Posted by **Software49g** on 17 Jan 2012, 9:43 a.m.,*
in response to message #10 by Thomas Radtke

> Anything else would be plain stupid
Now that would be something totally different from HP.
Like the TouchPad and WebOS, for example.
Or Expander, for example.
Or not fixing the already found bugs, for example.
Or ...

Looks like one needs a masochistic vein to stay with HP...
(And looks like as I got one ;-)

> I wouldn't wonder if the codebase was lost in this process.
Sometimes the code shows up again...

Regards,
Andreas
http://www.software49g.gmxhome.de

Re: HP 39GII

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 11:57 a.m.,*
in response to message #11 by Software49g

> Quote:
>
> Sometimes the code shows up again...

Together with the people who are able to maintain it?

A new code base has the benefit of removing restrictions imposed by the obsolete hardware, and being better suited to the actual device. Power saving in an emulated device is more of an art than an exact science because you need to decide in the emulation layer what the original code is attempting. Strategies good on one platform, be it optimization for speed or for low power consumption, may fail on the emulating hardware. Emulation makes sense to conserve a given development until a replacement is available. Until...

Re: HP 39GII

*Message #13 Posted by **Software49g** on 17 Jan 2012, 1:25 p.m.,*
in response to message #12 by Marcus von Cube, Germany

> to conserve a given development until
> a replacement is available. Until...
You mean like the 12C that is running in an emulated environment for, say 10 years, now ?

> Together with the people who are able to maintain it?
Well, in my projects I always explain and explain and explain the importance of excellent documentation. And then I explain it once more.
Yes, it sometimes slows down progress to insist on documentation and it makes the project more expensive *but* it pays off in the long run.

I like new stuff but at the moment I see the 39gII nowhere close to a 50g replacement.

As I said in another post, HP had very, very little interest in the HP 50g the way they have been behaving with it in the past.
They rather leave this area for their competitors, like TI who keeps selling and selling the TI-83/84/89 and TI-Voyage 200, which, based on ancient hardware, is bought for around € 200,00 !!!

So where did HP fail while TI succeeded ? (And new machine does not guarantee success in the market.)

Thank god I am only watching the game...

Regards,
Andreas
http://www.software49g.gmxhome.de

Re: HP 39GII

*Message #14 Posted by **NateB** on 17 Jan 2012, 4:23 p.m.,*
in response to message #13 by Software49g

> Quote:

> So where did HP fail while TI succeeded ?

They didn't make the transition from the 'professional' market to the educational market. Scientists and engineers moved from handheld programmable calculators to PC/software packages. Every year there is a new batch of children in need of a graphing calculator for their middle school or high school math class.

Re: HP 39GII

*Message #15 Posted by **Marcus von Cube, Germany** on 17 Jan 2012, 5:05 p.m.,*
in response to message #14 by NateB

If we look at what the machine does (or just at the type number) we can easily see what the intended market is: education. If you recall the earliest photos available, China comes into play here, a **huge** market. If that works, money will flow back to the calculator division which is good for all further development. Just believe the protagonists that HP is taking this business seriously, otherwise they would have withdrawn from the market a long time ago.

Now to a more technical detail, emulation. Andreas is citing the 12C and its newest incarnation. He's right that a new machine is emulating a very old design. The emulation layer is quite new, earlier attempts at reinventing the 12C, the platinum, were problematic because the latter is a reimplementation, alas, with mediocre success because neither the hardware nor the (outsourced) development team were in any sense 'leading edge'. The 12C legacy is kind of a mystery in that the customer base just wants to get the exact same thing again and again and again. Not very much room for improvement for the supplier. Here, emulation just isn't the worst thing that can be done.

On the other hand, a machine like the 50g devotes a complete overhaul, in the same way as the 39g was subject to a completely new design. The 50g is a very complex device. Emulating the outdated Saturn processor was the *only* economically viable way to bring something to the market that had a chance to do its job, especially taking into account the situation in the calculator division at the time in question. The effort was huge, simple things things like a larger screen turned out to be utterly complex to implement.

But today, things have changed. The work that had been put into the operating environment (CAS by Bernard Parisse, SYSRPL operating system) has long been put into more modern software by the same people (just try to find out about Bernard). So now, the calculator division which has been restaffed with brilliant heads like Cyrille and Tim is able to deliver something new and exiting without resorting to the old legacy code base. There isn't any 50gII yet, not even on the horizon, but the basis is there. Let's support the new device, at least give it a chance, and convince HP that they are doing the right things at the moment!

Re: HP 39GII

*Message #16 Posted by **Software49g** on 17 Jan 2012, 6:01 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> The effort was huge, simple things like a larger screen
> turned out to be utterly complex to implement.
Sorry Marcus - without going any further into details - the screen has nothing to

do with the emulation.

It is simply a matter of organizing the sources and using defining code where appropriate.
If this hasn't been done, then the only people to blame are the ones working with the sources, period.
As a matter of fact, there are various applications in the ROM, like the 48GX Choose Box,
which is *laid out* for different screen resolutions.
And yes, there is code programmed in a rush which should have not gotten into the ROM at all.

Again, I am more than pretty sure that an update to the 50g can be done very quickly.
And if it is not done, than it means that HP sees no market for a machine like the 50g anymore
which, in conclusion, means that there is no market for a 50gII.

> the outdated Saturn processor
This outdated Saturn processor has 64bit registers, the ARM has only 32bit *today*.
The real pity is that the three pointer registers and the HW-RSTK are only 20bit.

> and convince HP that they are doing the right things at the moment!
I'd like to dream, too, but I have been watching HP calculators (and their decline) since school.

The fact is, that calculators are simply to unimportant for the Hewlett-Packard company nowadays.
The word "calculator" shows up three times in their 2010 annual report (180 pages) *but* no earnings are given.
HP has roughly 320.000 employees and 2 (in words: two) calculator engineers.

Greetings from cloud nine,
Andreas
http://www.software49g.gmxhome.de

P.S. SpeedUI from Raymond shows how much power can be unleashed in the Saturn.
How much of all this Megaherzs in the 39gII is (useless) eaten up from the O.S. and the HAL just to come up with re-inventing the wheel ?
Honestly, I am not too impressed...

Re: HP 39GII

*Message #17 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 1:52 p.m.,*
in response to message #16 by Software49g

Andreas,

> Quote:
>
> Again, I am more than pretty sure that an update to the 50g can be done very quickly. And if it is not done, than it means that HP

> sees no market for a machine like the 50g anymore which, in conclusion, means that there is no market for a 50gII.

I'm sure you're one of the few people on earth who could actually produce a 50g update, and that you're not wrong about it being possible to be done "very quickly" (for you, that is).

But, I think your reasoning here is flawed. The fact that HP is apparently not interested in an incremental update to the 50g, does not say anything about what they think about a future model.

It's been a decade without a truly new product, and releasing an incremental update *now* would be nothing short of a joke. You cannot impress and regain customers with a minor update, while the competition--with much larger resources--has improved by leaps and bounds. IMO, an incremental update would be completely unwise from almost every perspective: marketing, technoloy, use of resources, etc. (And, given that you don't work for HP... there's probably no one around to even do this.)

Why spend one dollar, one hour, on a 100% dead-end avenue?

I find Tim's note amazingly open and encouraging. It tells me the calculator group and ambitious product plans are alive. Building a generational upgrade is to be lauded, and I don't see any reason for negativity about this.

It sounds like they're using modern technology to recreate the feature set in a better way. That sounds like the only proper way to go to me. (SysRPL is *no* way to design a modern calculator!)

So, to me this is great (unexpectedly great) news.

Re: HP 39GII

*Message #18 Posted by **bill platt** on 18 Jan 2012, 7:44 p.m.,*
in response to message #17 by Oliver Unter Ecker

You build for a market.

IF that is Chinese students, then so be it, and HP should go at it full force!

We old-timers will continue to enjoy our dinosaur technology--I know I will :-)

Re: HP 39GII

*Message #19 Posted by **Oliver Unter Ecker** on 19 Jan 2012, 5:11 a.m.,*
in response to message #18 by bill platt

> Quote:
>
> You build for a market.

Yes, but in tech you often shape (or even create) the market too.

One of Steve Jobs' famous lines is "The customer doesn't know what they want." It worked out for Apple, didn't it?

If HP has a spine, they'll continue to have RPN in their future high-end machines. Because *they* know it's better for many use cases. The customer will come around to it, if the explaining is made so that it actually sounds as simple as it is. (Starting an explanation of what RPN is with that it stands for "Reverse Polish Notation", however, is guarantee for instant implosion of interest in newbies.)

Nothing wrong with Algebraic and RPN living in perfect harmony, btw.

Algebraic is often derided here as inferior, but I've not (in my one year here) seen a discussion about what's intimately tied to both: stack vs. notebook.

If you assume former, RPN is the way to go (and you can prove it with keystroke counts, and chaining behavior) and RPL is the *natural and simplest* programming language.

If you assume latter, ALG has the clear edge (because entry looks like math on paper) and any of most modern programming languages, with their free (and robust, highly-optimized) implementations, are the way to go.

A calculator--even in smartphone or tablet form--is different from a computer-based math environment, in how it's used. (Even if there were feature-parity.) Picked up for a few seconds, a few calculations done, little programs want to be written with least of amount of effort and keystrokes.

These observations benefit to keeping the stack and RPN/RPL around.

An example: << sqrt >>

You have two chars to key in to write this program.

There *is* no more efficient program than this here to take the square root of: a number, a complex number, all elements of a vector/list, an algebraic expression, etc.

A stack gives you zero declarative overhead for inputs and outputs. RPL gives you a richer host of math-relevant types than any stock computer language I know, and you can start using it as soon as you know that a program starts with << and is, in its simplest form, just a chain of the instructions you'd apply in interactive mode.

I'm *hoping* (and kinda trust) HP knows that what they created isn't dinosaur technology, and that this tech will be moved into new (possibly hybrid) machines.

Edited: 19 Jan 2012, 5:17 a.m.

Re: HP 39GII

*Message #20 Posted by **bill platt** on 19 Jan 2012, 12:09 p.m.,*
in response to message #19 by Oliver Unter Ecker

Personally, I think the coolest thing in concept is the 48 series with an RPN stack and algebraic objects on that stack. But the RPL language is different from RPN program spaces and so that has always been a source of vexation not only to legacy (rPN) users, but surely to HP marketing as well.

I really really like the 17b solver paradigm. It is actually easier to use than the 48 series solver, even though it would seem to be derived from it. I use the 48 solver as often as the 17b--but even now I trip up occasionally in its use for some reason. Perhaps I should RTFM yet again.

I agree that HP should not throw away the baby with the bathwater. RPL is a foundation worth building on.

Re: HP 39GII

*Message #21 Posted by **Marcus von Cube, Germany** on 19 Jan 2012, 12:36 p.m.,*
in response to message #20 by bill platt

You may be right with RPL but SYSRPL is definitely not the way of further development.

Re: HP 39GII

*Message #22 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 2:00 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Very nice post, Marcus.

I second your thoughts about emulation and wish to add one (obvious) thing: for the 12C (now and the one in 10 years), there're no performance reasons not to emulate. Nor is there a growing feature set to consider. For a 50g successor, there would be both.

Really, let's not dismiss that the HP guys might just know what they're doing.

Re: HP 39GII

*Message #23 Posted by **bill platt** on 18 Jan 2012, 7:39 p.m.,*
in response to message #14 by NateB

Yes, this is true.

To me, the most exciting thing in handhelds is the smartphones--not because they do phone and email (BORING!) but because of the *instrumentation* and *toolmaking* possibilities. The combination of accelerometer, GPS, camera (CCD?), microphone, and what else? You could have a flux-gate compass, you could have a number of others---these sub-systems combined with a powerful processor and a

color graphics display have made all of the fascinating applications possible, from the adorable carpenter's level, all the way up to a FFT spectrum analyzer, etc. By building handhelds with really good specifications (say high bandwidth microphones) and adding some RF capability (can you say frequency counter) they can revolutionize the whole market for effective handheld instrumentation!

Who needs a calculator when you can have it all...

Re: HP 39GII

*Message #24 Posted by **hpnut** on 16 Jan 2012, 11:48 a.m.,*
in response to message #1 by NateB

does it have RPN?

Re: HP 39GII

*Message #25 Posted by **Marcus von Cube, Germany** on 16 Jan 2012, 1:11 p.m.,*
in response to message #24 by hpnut

No!

Re: HP 39GII

*Message #26 Posted by **bill platt** on 16 Jan 2012, 1:54 p.m.,*
in response to message #24 by hpnut

who cares? :-)

Re: HP 39GII

*Message #27 Posted by **Mike Morrow** on 16 Jan 2012, 4:27 p.m.,*
in response to message #1 by NateB

I think this is very welcome news. It seems to indicate that an HP 50g-class (or better) machine may be in the future. One that does not emulate the old terribly obsolete Saturn. One that has an attractive keyboard (as the 39gii seems to have).

Such a non-emulated machine must be blindingly fast, which the 49g+ and 50g never have been.

I'm not too wild about the four *parallel* AA-cells. Two paralleled primary cells have always seemed to be very bad engineering for self-discharge. Four would be much worse.

I also would prefer to see the cursor key set replaced by four separate keys (three in line, one below) just as found on the HP 48GX series.

Also, place the ENTER key *above* the /, X, -, + keys, not below it.

Ensure that the features of the Development Library are included (minus, of course, all the Saturn garbage).

Finally, put some decent feet on the bottom (like on the HP 30b). I've lost several of the tiny little micro feet on my HP 49g+ and HP 50g units, and I don't know where replacements can be obtained. The HP 30b feet are much more substantial and seem much more permanent.

In any event, there seems to be something good to anticipate.

Re: HP 39GII

*Message #28 Posted by **Lyuka** on 17 Jan 2012, 8:44 a.m.,*
in response to message #27 by Mike Morrow

> Quote:
>
> Two paralleled primary cells have always seemed to be very bad engineering for self-discharge.

Nowadays, we can use a hot-swap controller such as LTC4227-1 for redundant power supply.
I hope HP will choose such a straightforward way to manage multiple batteries.

Lyuka

Re: HP 39GII

*Message #29 Posted by **Crawl** on 17 Jan 2012, 1:24 p.m.,*
in response to message #27 by Mike Morrow

> Quote:
>
> I think this is very welcome news. It seems to indicate that an HP 50g-class (or better) machine may be in the future.

I agree. That they're willing to show this level of care is very promising; however, what I really want to see is them turning that level of care towards a CAS machine.

Re: HP 39GII

*Message #30 Posted by **Crawl** on 17 Jan 2012, 2:03 p.m.,*
in response to message #29 by Crawl

> Quote:
>
> hey wouldn't it be cool to have a gold calculator

And aside from how that looked, the big problem with that was that the gold paint delaminated. It was just a bad idea all around.

Re: HP 39GII

*Message #31 Posted by **Oliver Unter Ecker** on 18 Jan 2012, 2:13 p.m.,*
in response to message #29 by Crawl

I hear ya.

Of course, this is a way more complicated affair. (Though entirely solvable if they license something existing.)

One thing that speaks for eventually getting to a CAS is, that it seems to be the 2nd most important reason why people want a calculator these days.

Different to the feelings of most of us here, RPN, any level of programmability, double-wide Enter

keys (and other esoterics) play almost no role these days, in comparison to interactive graphing abilities and, as second priority (for a different set of people), CAS abilities.

I've learned the hard way with my own project that, by and large, people don't care about programmability. (Which, to me, even though I get the message by now, is still utterly amazing...)

To back up these notions, look at what calculator apps are the best sellers for mobile devices.

HP going after a new educational market (China) is a brilliant tactic to regain a foothold. (I'm guessing here that TI hasn't yet infiltrated the Chinese high-school text books...)

Edited: 18 Jan 2012, 2:13 p.m.

Re: HP 39GII

*Message #32 Posted by **Bart (UK)** on 19 Jan 2012, 6:39 a.m.,*
in response to message #1 by NateB

I think this is very welcome news.

I am really happy about this. A completely new design is long overdue. Companies that live in the past are doomed. I know there are a lot of "hangers on" for previous HP calculators, but they are not the future - their buying power is diminishing, selling to specialist groups (engineers, scietists, financiers etc.) is the past, wider appeal and market penetration is where it's at.

To Tim and the calculator team - you have my praise and full support for this move. I just can't wait for it (or similar) to be released in the West (particularly the UK where i live ;-).

Best regards,

Bart

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

strange classic power supply (pics)

*Message #1 Posted by **Alberto Fenini** on 16 Jan 2012, 5:55 a.m.*

ciao a tutti,
last weekend I was sorting out few things in my collection, and I have found out this power supply.
Is quite different from all the others I have, mostly for the shape, and the fact that is only 110 Volts makes me think is quite old.
Has anyone ever seen it before ?
Thanks for your comments, Alberto

Re: strange classic power supply (pics)

*Message #2 Posted by **Paul Berger (Canada)** on 16 Jan 2012, 6:35 a.m.,*
in response to message #1 by Alberto Fenini

That is the North American version of the charger used by the "Classics". My 35 has one that is identical to the one in your picture.

Re: strange classic power supply (pics)

*Message #3 Posted by **hpnut** on 16 Jan 2012, 11:45 a.m.,*
in response to message #1 by Alberto Fenini

a good example of an ugly industrial design. are those cooling fins (the six projections at the top)?

Re: strange classic power supply (pics)

*Message #4 Posted by **Michael de Estrada** on 16 Jan 2012, 11:53 a.m.,*
in response to message #3 by hpnut

Plastic cooling fins ?

Re: strange classic power supply (pics)

*Message #5 Posted by **Ethan Conner** on 16 Jan 2012, 2:06 p.m.,*
in response to message #4 by Michael de Estrada

There are some advantages. Up to 40% lighter, no antenna effect for reduced emi. This is from the Cool Shield website.

Thermal Magic Technology releases its new aluminum-plastic lamp cup, whose weight is lesser and cost is lower compared to aluminum lamp cup.Based on the results of experiments, the average temperature of aluminum-plastic cooling fin is six degrees Celsius lower than that of aluminum cooling pin. Quote from a Taiwan light show.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE keyboard fixed, plus: about the feet

*Message #1 Posted by **Dale Reed** on 14 Jan 2012, 3:54 p.m.*

All,

I was able to fix my 15C LE (#02198) with the bad divide key. Turns out it did not have any bits of white plastic under the dome. Instead, the dome was not aligned properly on the "sticky" sheet of plastic that holds it over the target PCB traces.

I cleaned the dome and the PCB traces anyway, then carefully centered the dome on the PCB traces and stuck the sheet down on it (it took a couple tries to get it just right) and now it works fine.

I had trouble getting the feet off without messing up the adhesive, so I bought some new feet on TAS. It turns out the feet on the original Voyagers are about 1 mm thick, but the feet on the 15C LE are thicker and sit in a well. The replacement feet didn't stick out of the well to contact the surface when I sat the calculator on a table. Simple solution: I bought more than enough feet, so I stuck two replacement feet in each well. Now the feet are a tad taller than the original feet (which are probably more like 1.5 mm) but perfectly acceptable for my use. The foot wells still hold them in place when I slide the calculator in and out of the case.

I sent a couple of the feet I took off to the seller so he/she can get exact measurements.

Thanks to the forum members for posting instructions on disassembly/reassembly and to the TAS seller for working with me.

Dale

Re: 15C LE keyboard fixed, plus: about the feet

*Message #2 Posted by **Don Shepherd** on 14 Jan 2012, 5:57 p.m.,*
in response to message #1 by Dale Reed

It is not necessary to say "TAS". Ebay works just fine and it doesn't confuse new members.

Re: 15C LE keyboard fixed, plus: about the feet

*Message #3 Posted by **Reth** on 15 Jan 2012, 4:24 a.m.,*
in response to message #1 by Dale Reed

I doubt it, plastic pieces are so small that it's very easy to loose them without even noticing. Also slight misalignment of a dome doesn't seem to be a problem at all.

To my observations, of course, but I played quite a bit with it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

82182A Time Module question

*Message #1 Posted by **Monte Dalrymple** on 14 Jan 2012, 12:53 p.m.*

The Time module includes hardware and functions to adjust the accuracy factor for the time module clock. How important are these features?

The hardware required is almost exactly 10% of the total, and with this hardware included it is probably impossible to fit the logic into a low-power programmable logic device. Hence my question.

Monte

Re: 82182A Time Module question

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 14 Jan 2012, 1:12 p.m.,*
in response to message #1 by Monte Dalrymple

What a pity... I've always found the accuracy factor management to be a real helper: I missed it in the newer calcs.

Greetings,
Massimo

Re: 82182A Time Module question

*Message #3 Posted by **Håkan Thörngren** on 14 Jan 2012, 2:19 p.m.,*
in response to message #1 by Monte Dalrymple

I think it is very useful, as it tends to make the clock quite accurate. I can never remember if it works with daylight savings hour (T+X). Hence, I tend to correct it once and live quite happily with it after that not trying to correct it again.

I would say it is important. The whole Time module is a piece of very well designed part of the HP-41 system. I am very especially impressed by the programming of it..

Re: 82182A Time Module question

*Message #4 Posted by **Eric Smith** on 14 Jan 2012, 2:25 p.m.,*
in response to message #3 by Håkan Thörngren

It does the right thing with T+X. In other words, it knows that T+X is not an adjustment for an error, so it changes both the current time, and the record of when the time was set, such that the effective elapsed time since setting remains the same.

Re: 82182A Time Module question

*Message #5 Posted by **Garth Wilson** on 14 Jan 2012, 2:25 p.m.,*
in response to message #1 by Monte Dalrymple

I suppose it depends on the cost versus accuracy of available crystals. Do you have room for a 3mm variable capacitor to trim the crystal frequency? I must have gotten lucky. My 41cx (time module is not separate) keeps very accurate time without ever applying a correction factor.

Re: 82182A Time Module question

*Message #6 Posted by **Eric Smith** on 14 Jan 2012, 2:28 p.m.,*
in response to message #1 by Monte Dalrymple

I've got the accuracy factor implemented in the firmware for the DIY4, though I couldn't do it the same way the timer chip hardware does. The way I've done it has the same long-term effect, but bunches the correction into a periodic "leap-centisecond" or missing centisecond. While having the correction occur closer to continuously would be better, this seemed like a reasonable compromise. Maybe something similar can be done in hardware with less logic required?

Re: 82182A Time Module question

*Message #7 Posted by **Monte Dalrymple** on 14 Jan 2012, 3:05 p.m.,*
in response to message #6 by Eric Smith

Hmm... back to the drawing board. If I restrict the use to the 41CL only perhaps I can pull enough of the functionality into the logic on the 41CL board to make everything fit.

Re: 82182A Time Module question

*Message #8 Posted by **Howard Owen** on 14 Jan 2012, 3:04 p.m.,*
in response to message #1 by Monte Dalrymple

Perhaps you could condition the clock in software? How about NTP/HP-IL? (0.5 :))

Re: 82182A Time Module question

*Message #9 Posted by **Monte Dalrymple** on 14 Jan 2012, 3:17 p.m.,*
in response to message #8 by Howard Owen

But that requires periodic communication with something outside the calculator. The advantage of the accuracy factor correction circuitry is that it is self-contained.

Re: 82182A Time Module question

*Message #10 Posted by **Geir Isene** on 14 Jan 2012, 5:09 p.m.,*
in response to message #1 by Monte Dalrymple

Needed.

Re: 82182A Time Module question

*Message #11 Posted by **Eric Smith** on 14 Jan 2012, 8:49 p.m.,*
in response to message #10 by Geir Isene

> Quote:
>
> Needed.

That depends on a lot of factors, and without considering those factors I don't think it's fair to simply say that it is needed.

It is possible to get higher-stability 32.768 kHz oscillators than the 82182A/41CX used, which would reduce the need for the AF.

Re: 82182A Time Module question

*Message #12 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 16 Jan 2012, 12:22 a.m.,*
in response to message #1 by Monte Dalrymple

Nice to have, but not necessary especially if it will make the time module form factor or system integration with 41CL much more difficult. Also I think with the current xtal and components the time keeping precision of the time module would be as good as a regular wrist watch.

In addition, personally I have no problem of the time precision of the WP-34S. If the same was achieved on 41CL with a time module, personally I don't see the need to use the AF adjustment.

Thank you again for making the 41CL a reality and investing your time and resources into the time module. Very much appreciated!

-Cheers, Kerem

Re: 82182A Time Module question

*Message #13 Posted by **BobVA** on 16 Jan 2012, 11:57 a.m.,*
in response to message #1 by Monte Dalrymple

I think a good solution would be to integrate as much of the timer functionality in the 41CL as you can and give the user the option of disabling it entirely in favor of an actual time module if they wish.

If the omitted functions are critical for a particular user they could then install an actual module and go with that.

The impact of no accuracy adjustment could be ameliorated by (as noted above) using a higher accuracy crystal, incorporating a physical trimmer or a even a TCXO.

I'd say it's well worth the effort of including. I know it's not a 100% solution, but for me it would be 95%. Given the price of used time modules, that's a significant accomplishment.

Bob

Edited: 16 Jan 2012, 12:00 p.m.

Re: 82182A Time Module question

*Message #14 Posted by **Ángel Martin** on 16 Jan 2012, 2:07 p.m.,*
in response to message #13 by BobVA

Well said, that´s the perfect compromise I concur.

I´ve never used the accuracy adjustments on the CX - but having said that I have noticed significant errors in the TIME keeping using the TIME module on a CL, so it may well be more needed there.

Re: 82182A Time Module question

*Message #15 Posted by **Monte Dalrymple** on 16 Jan 2012, 3:00 p.m.,*
in response to message #14 by Ángel Martin

As far as the Time Module is concerned there shouldn't be anything specific to the 41CL that would affect the time-keeping accuracy. The bus still runs normally even during Turbo operation, and all of the Time Module code runs at 1x speed. Signal edge rates are probably different, but that should not affect the time. I suppose that noise on the power lines might have some effect...

As far as a TXCO, they draw a lot more current, like 220uA, so that is not really an option.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Credit Card Sized DM-16CC

*Message #1 Posted by **Mark Hardman** on 14 Jan 2012, 9:41 a.m.*

It looks like Michael at http://www.rpn-calc.ch is also planning to offer a credit card sized version of the HP 16C.

DM-16CC:

Mark Hardman

Re: Credit Card Sized DM-16CC

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Jan 2012, 11:16 a.m.,*
in response to message #1 by Mark Hardman

A geek's dream gadget. :-)

Re: Credit Card Sized DM-16CC

*Message #3 Posted by **Mark Hardman** on 14 Jan 2012, 11:46 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I'm going to need a thicker wallet.

Re: Credit Card Sized DM-16CC

*Message #4 Posted by **htom trites jr** on 16 Jan 2012, 9:51 a.m.,*
in response to message #3 by Mark Hardman

Just too big for a pair of cufflinks. Great fit for my DayTimer Compact wire-bound.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Romberg Integration

*Message #1 Posted by **Paul Dale** on 14 Jan 2012, 6:15 a.m.*

The latest 34S firmware now has a modified version of the PPC IG Romberg integration routine in the firmware. The non-adaptive Gauss-Kronrod quadrature is gone -- for good I hope.

The main modification I made to the PPC IG routine is a little bit of extra code to ensure the final three estimates are equal like the 34c's integration code. The original PPC IG routine only required the final two to be equal. I made a few other small tweaks to Les Wright's port of the PPC IG routine but nothing too significant.

Yet another reason to upgrade to the upcoming v3 firmware. As if there weren't enough reasons already :-) Version 3 is far and away better than version 2!

- Pauli

Re: Romberg Integration

*Message #2 Posted by **Paul Dale** on 14 Jan 2012, 6:33 a.m.,*
in response to message #1 by Paul Dale

Version 3 features: A proper END statement and real separate programs. A proper delete the current program. No flash banks anymore -- all of flash is used now. Local registers for subroutines, deeply nested subroutines limited only by free RAM. Extra commands to check convergence of series and rearrange the stack in any manner. Extra complex constants.

Lots of program memory: 927 maximum program steps in RAM. 3838 program steps in flash. 927 steps in the backup flash region. A massive 5692 program steps maximum -- almost every command being fully merged.

Single and double precision real and complex numbers.

Plus all the old 34S features.

Expect a pre-release once were done with our internal testing and the documentation is updated.

As you can probably tell, I'm excited by this one.

- Pauli

Re: Romberg Integration

*Message #3 Posted by **Namir** on 14 Jan 2012, 4:41 p.m.,*
in response to message #1 by Paul Dale

Paul,

I am under the impression that the Gauss-Kronrod quadrature is better than Romberg's method. I am wrong (I always find it soooo hard to type in this sentence :-))?

I assume your implementation reduces errors in a manner that exceeds any work with Gauss-Kronrod quadrature?

Namir

Re: Romberg Integration

*Message #4 Posted by **Marcus von Cube, Germany** on 14 Jan 2012, 5:40 p.m.,*
in response to message #3 by Namir

The main advantage of the Romberg integrator as implemented is that it is adaptive. GK was always using the same number of points.

Re: Romberg Integration

*Message #5 Posted by **Paul Dale** on 14 Jan 2012, 5:44 p.m.,*
in response to message #3 by Namir

They are different.

Gauss-Kronrod isn't adaptive. It selects a number of fixed points (in our case 21 points) from within the integration interval and then produces an estimate for the integral. It is very good for some functions and utterly hopeless for others.

Romberg's method is adaptive. It refines the sampling until successive estimates agree. Generally, it works better with difficult functions.

Ideally I'd have provided an adaptive method that used G-K quadrature underneath & have had the best of both worlds. This would consume more resources but it is typical of mathematical packages these days.

- Pauli

Re: Romberg Integration

*Message #6 Posted by **Namir** on 14 Jan 2012, 6:48 p.m.,*
in response to message #5 by Paul Dale

How about an algorithm that uses the G-K quadrature in the following quasi-adaptive manner:

```
Set Area2 = G-K quadrature over the entire integral
Number_of_Integral_Divisions = 1
Do
  Area1 = Area2
  Increment Number_of_Integral_Divisions
  Set Area2 = G-K quad applied over Number_of_Integral_Divisions sub-intervals.
Until Abs(Area1 - Area2) < Tolerance
```

Would that work?

Namir

Edited: 14 Jan 2012, 6:48 p.m.

Re: Romberg Integration

*Message #7 Posted by **Paul Dale** on 14 Jan 2012, 7:00 p.m.,*
in response to message #6 by Namir

That ought to work. It is wasting a lot of function evaluations. Adaptive quadratures try to reuse existing evaluations the next time around. G-K isn't all that suited to this -- a method I have seen used is to increase the order of the G-K quadrature reusing the existing evaluated points. This isn't all that suitable for a small memory device. It is also better to be clever about when to subdivide the intervals and make it recursively applied. BTW: G-K gives you an error estimate -- well it gives you two estimates of the integral which is effectively the same which would simplify things a bit.

The problem was that I originally had exactly five registers when I coded the integrator. G-K quadrature just fitted into these. Now that we've local registers, this isn't so much a problem. Romberg does use more e.g.. Doing an adaptive G-K would also use more.

Ever since the 34S was first released, people have been wanting an adaptive integrator, so I've finally provided one. I don't have time to maintain two integrators and I've huge amounts of other coding for the 34S that needs doing so I won't be looking to improve the integration code for a long while yet, if ever. Nevertheless, feel free to code up an adaptive G-K quadrature and we'll look at including it :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)
*Message #1 Posted by **deleted** on 13 Jan 2012, 7:24 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48GX touchup paint

*Message #1 Posted by **David Griffith** on 12 Jan 2012, 9:18 p.m.*

Does anyone have any suggestions for dealing with a little scratch on the bezel of a HP48GX? It wouldn't bother me, but it's a bright slice of shiny in the middle of a field of flat grey

Re: 48GX touchup paint

*Message #2 Posted by **Vince (Italy)** on 12 Jan 2012, 11:54 p.m.,*
in response to message #1 by David Griffith

I treated several issue of this kind (including some faded badges on the Voyager series) with enamel paint for model making (Humbrol better than Revell, in my experience). You have to spread several thin layers of diluted paint, gently rubbing them on the surface. A satisfying result can be fixed with transparent spray varnish.

Obviously, you have to mask the surrounding area (and the whole calculator) with tape and paper.

Hope it helps

Vince

Re: 48GX touchup paint

*Message #3 Posted by **David Griffith** on 13 Jan 2012, 12:52 a.m.,*
in response to message #2 by Vince (Italy)

The scratch isn't bad. It looks like there was a burr left after the bezel was punched out. The shiny spot is on where a burr used to be. I'm probably just worrying about nothing.

Re: 48GX touchup paint

*Message #4 Posted by **Lincoln R.** on 13 Jan 2012, 12:55 a.m.,*
in response to message #2 by Vince (Italy)

I've been meaning to do some experimentation with Testor's model paint (much more available in the US than the brands you mentioned) on an old 32sII that looks like it went through a sand blaster. The last time I messed with it I was just trying to mix to get the colors right and painting some of it onto aluminum foil (similar color to the metal faceplate)

Re: 48GX touchup paint

*Message #5 Posted by **Vince (Italy)** on 13 Jan 2012, 1:19 a.m.,*
in response to message #4 by Lincoln R.

Probably the one is as good as the others. If you carefully try out progressive dilutions directly onto the calculator, it's likely you find the best matching mix; the paint can be easily removed by a specific

thinner, that shouldn't damage the original painting

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #1 Posted by **Fouad M. Kaadou** on 12 Jan 2012, 4:53 p.m.*

Hello,

I need to connect my HP41cx to an Arduino through HPIL. I have seen many people on this site using one of these HPIL peripherals to control external devices. I just want to know the difference because they all seem to serve the same purpose (connecting to external devices).

Thanks in Advance,

Fouad

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #2 Posted by **Christoph Klug** on 12 Jan 2012, 5:29 p.m.,*
in response to message #1 by Fouad M. Kaadou

HP62164 = serial interface, AC powered HP82165 = parallel bus, AC powered some control lines missing HP82166 = parallel bus, DC powered including trigger control line my prefered solution please also review to PIL box

Best regards - Christoph

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #3 Posted by **Garth Wilson** on 12 Jan 2012, 6:47 p.m.,*
in response to message #1 by Fouad M. Kaadou

For RS-232 there is also the FSI-164A which is almost identical to the HP 82164A (including the HPIL commands and registers) except it came with two RS-232 channels standard (instead of just one) and optionally up to eight channels, and it also had a battery-powered option. I got the FSI-164A instead of the HP unit and was always happy with it.

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #4 Posted by **Fouad M. Kaadou** on 13 Jan 2012, 12:13 p.m.,*
in response to message #3 by Garth Wilson

Which would be best for Arduino communication?

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #5 Posted by **Garth Wilson** on 13 Jan 2012, 2:07 p.m.,*
in response to message #4 by Fouad M. Kaadou

RS-232 is generally slower than parallel, but in this case the speed of the HP-41 will be the limiting factor anyway so it doesn't matter. RS-232 requires fewer connections (a minimum of transmit data and receive data, two wires, not including ground), so I would go that way if the Arduino has RS-232 capability (including the line drivers and receivers). The 164 gives you the RS-232. The 165 and 166 are parallel.

On a note that is related and probably of interest on the Arduino but not directly applicable to the 41, synchronous serial (as opposed to **a**synchronous serial like RS-232) interfaces are very popular today for communicating across a PC board (not so much across a room) because they require fewer connections than parallel interfaces, and the fewer pins on the ICs also means you save board space. When you're breadboarding, it also means less labor.

Dallas' 1-Wire interface puts the clock and bidirectional data and sometimes even power on a single wire, but it is very slow, timing-critical, and really only suited for something like digital thermometers which can't change fast so there's no sense in requiring fast communication. Still, each device has a unique address it responds to, and you can have lots on a single wire. It seems extreme to me, taking it a little too far.

I²C uses a clock line and a bidirectional data line, and, although it's much faster than 1-Wire, is usually limited to around a megabit per second.

SPI uses a clock line, data in, data out, plus a select line for every device, meaning at least four lines but one additional one for every device after the first. It sometimes goes over 50 megabits per second, so it's definitely fast enough to store the data on an SD card when you're taking video on your digital camera. Since no line is bidirectional, logic-level translation between different operating voltages is easy too. Microwire is closely related to SPI and Microwire and SPI devices can be put on the same interface.

There are others, but I²C and SPI are the most common, and there are thousands of ICs on the market that you can take advantage of, for things like EEPROM and flash memory, reat-time clocks, relay drivers, keypad scanners, displays, digital potentiometers, A/D and D/A converters, UARTs, USB interfaces, general-purpose I/O expansion, programmable-gain amplifiers, signal generators, etc.-- you get the idea. It's easy to bit-bang these if you have to, but doggone it would be slow to do it on a 41!

Edited: 13 Jan 2012, 2:08 p.m.

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #6 Posted by **Fouad M. Kaadou** on 13 Jan 2012, 6:43 p.m.,*
in response to message #5 by Garth Wilson

What if this was done using a 41CL. Would that make things faster?

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #7 Posted by **Meindert Kuipers** on 14 Jan 2012, 8:57 a.m.,*
in response to message #6 by Fouad M. Kaadou

I think I have done your project already, see this link ;)

This is based on an ARM processor and uses SPI as the interface between the HP41 and the microcontroller. Sources are in the public domain, so feel free to borrow whatever you like ....

Meindert

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #8 Posted by **Howard Owen** on 14 Jan 2012, 3:19 p.m.,*
in response to message #7 by Meindert Kuipers

I missed that when it came out. That is stunning work, Meindert! Will you integrate it all into the MLDL2K13?

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #9 Posted by **Meindert Kuipers** on 15 Jan 2012, 8:43 a.m.,*
in response to message #8 by Howard Owen

At least you are optimistic with 2K13 ;) I seriously doubt if there will ever be a V2 of the MLDL2Kxx. I have played with my newly received HP41CL, and I am deeply impressed, as it can do much more than the MLDL2000. The only thing lacking is a good interface with the PC world (and M2kM Software of course), and I have some ideas to solve that as well.

Meindert

Re: HP 82165A HP-IL/GPIO Interface VS HP 82164A HP-IL/RS-232C Interface VS HP 82166A HP-IL Converter

*Message #10 Posted by **yves** on 15 Jan 2012, 3:45 a.m.,*
in response to message #1 by Fouad M. Kaadou

hello,

The library I previously uploaded for you here : "HP82165A arduino library" is for HP82165A parallel interface. This device provides a parallel port thru HP-IL loop. This implementation uses 8 bits bi-directional, plus software acknowledgment. It's not the fastest but it's reliable for Arduino communication.

The HP82166 is a similar device, which few extra capability (mainly automatic loop power up/down signal and external power source capability).

Yves.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

eBay Impertinence (well, only close to)

*Message #1 Posted by **Juergen Keller** on 12 Jan 2012, 4:01 p.m.*

Just got a notice from a friend that one of my pictures is used for auctioning a 42S, eBay item no. 140678333792. At least, the seller should have stated in the auction text that the picture does not show the actual item, or even ask me.

It's not the first time that this happens to me (thanks to Google image search), I guess I shouldn't fuss and be proud instead ;-)

Juergen (alias jkxyz on eBay)

Re: eBay Impertinence (well, only close to)

*Message #2 Posted by **Jeroen Van Nieuwenhove** on 12 Jan 2012, 5:57 p.m.,*
in response to message #1 by Juergen Keller

Have you contacted the seller? Not only is he using your picture, perhaps infringing on your copyright, but more importantly to the calculator community is he misrepresenting a possibly cosmetically flawed item. You really should ask him to take down your pic and post an actual picture of the item in question. Also, the seller has lifted the description of the HP-42S on this museum without mentioning any source. Sigh.

Edited: 12 Jan 2012, 6:00 p.m.

Re: eBay Impertinence (well, only close to)

*Message #3 Posted by **Juergen Keller** on 13 Jan 2012, 2:28 a.m.,*
in response to message #2 by Jeroen Van Nieuwenhove

Yes, I asked the seller, and he can provide pictures of the actual item on request. He told me that in his opinion the eBay fees for additional pictures are too high.

I don't know what the regulations are for text. I guess it's not too different from pictures. Again, when copying text from the Internet, the minimum you can do is provide a reference to the source.

Re: eBay Impertinence (well, only close to)

*Message #4 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 12 Jan 2012, 6:46 p.m.,*
in response to message #1 by Juergen Keller

The seller says "Feel free to ask more pictures or questions !" so I did, let's see what response I will have, perhaps more of your pictures ;)

Cheers - Kerem

Re: eBay Impertinence (well, only close to)

*Message #5 Posted by **JoeGeller** on 12 Jan 2012, 7:11 p.m.,*
in response to message #1 by Juergen Keller

TAS is very good about taking down copyright material (infringing items). If you created the original photo, that is good enough, you are the copyright owner.

The information is all here: http://pages.ebay.com/help/tp/vero-rights-owner.html#report

Just fill out the form in -step 1- and send it to them. They say FAX, however there is also an email address below in the eBay's registered agent hot link: copyright@ebay.com

On notice (you sending the form to TAS), they act pretty quickly, within a day or two by ending the auction and notifying the seller of the infringing items (as listed in your "take-down" notice).

The seller might complain that you had no copyright claim to the photo at your website or on the picture. Such words are not needed. If you created the work (e.g. a photo), you own the rights to the photo, unless you have assigned the rights to others (e.g. sold or licensed rights to another).

Re: eBay Impertinence (well, only close to)

*Message #6 Posted by **Juergen Keller** on 13 Jan 2012, 2:33 a.m.,*
in response to message #5 by JoeGeller

There was a time when eBay didn't care about it at all. This seems to have changed. Thank you for the link, I will consider this procedure when the same will happen again in the future.

Honestly, I also have to mention that the opposite happened to me: there was a guy asking me to use parts of an auction text from one of my closed auctions. The awareness of copyright is quite different among people.

Edited: 13 Jan 2012, 2:33 a.m.

Re: eBay Impertinence (well, only close to)

*Message #7 Posted by **DavidShenk** on 13 Jan 2012, 12:14 p.m.,*
in response to message #5 by JoeGeller

My experience with TAS is that they are VERY fast at removing copyrighted content, unfortunately, that speed does not include your own personal photos, unless they have a team of lawyers behind them.

About 2 years ago, a seller had bought a custom made item from me, then turned around and relisted it. Not only did they use my photos, but photos I had of other listed items that were obviously not what they were even selling. They ignored my emails, so I complained to TAS. After a week, I complained again. It was at least two weeks before the auction came down. Then of all things, I get a nasty email from the seller that believed they were doing ME a favor by "promoting" my items by using my photos.

There are all kinds...

Dave

Re: eBay Impertinence (well, only close to)

*Message #8 Posted by **Juergen Keller** on 13 Jan 2012, 1:50 p.m.,*
in response to message #7 by DavidShenk

Sometimes it also can be very funny: once a seller directly linked pictures on my web server in his

auction text. I then replaced the pictures with Donad Duck images (or something similar, I don't remember exactly) :-)

Re: eBay Impertinence (well, only close to)

*Message #9 Posted by **davidshenk** on 13 Jan 2012, 1:56 p.m.,*
in response to message #8 by Juergen Keller

That's very thoughtful of them. Not only are they using your photos, they're expecting you to host them too.

I run a hiking website and there are several places where my photos have been directly linked like that. I haven't purposely changed them yet, but it does give you a bit of power.

Dave

Re: eBay Impertinence (well, only close to)

*Message #10 Posted by **JoeGeller** on 13 Jan 2012, 2:07 p.m.,*
in response to message #7 by DavidShenk

Any email or other communication to TAS about copyright infringement, -without- the Exact required bullet points, is considered "ineffective" notice and can be ignored. That's why nearly every service provider today uses nearly identical notice forms (Google, TAS, etc).

Bottom line: Most companies have converted the legalese to a somewhat standard, mostly readable form for non-lawyers. If you send them the exact form that they provided (with all of the items filled in), US companies are required to take some action.

This might be going to far off topic. Google(tm) 17 U.S.C. § 512 (c)(3)(A) to see the list of required items and/or DMCA for more info. If you follow the form exactly, you should have good results.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Slow LCD display - fixable?

*Message #1 Posted by **Cristian Arezzini** on 12 Jan 2012, 3:03 p.m.*

I recently acquired a calculator, it's the same model of my very first scientific calculator - alas it's not an HP, but I really wanted to have one back, as the original was thrown away many years ago. It's an ELORG 51, which is the same as the Elektronika MK-51. The sample I found is in good cosmetic conditions, and it works; but the LCD is "slow". I don't know how to explain exactly, but it sort of looks like each segment takes a long time to become black. It's a little like when batteries get very low, only that in this case, once the segments become black, it's a "bright" black, with good contrast, not faded. I disassembled the calculator, and the inside is in great shape: no corrosion anywhere and no visible damage. But the only components are the main processor, two things that look like dark red/brown resistors, and a small blue thing with two tiny leads on its side, which could be a capacitor. They are marked R1, R2 and C1 but it's a strange font and I don't know if they're actually Latin characters or cyrillic. Does anyone know these symptoms? What went wrong in the circuit? Is it fixable?

Thank you in advance, Cristian

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

GETROM doubt

*Message #1 Posted by **robertoataulfo** on 12 Jan 2012, 7:44 a.m.*

```
When I load a rom using HP ILPer and GETROM, recorded using saverom. How do I access this ROM
on my HP-41CL?
```

Edited: 12 Jan 2012, 12:11 p.m. after one or more responses were posted

Re: GETROM doubt

*Message #2 Posted by **Geir Isene** on 12 Jan 2012, 10:40 a.m.,*
in response to message #1 by robertoataulfo

What does the word "doubt" mean in the heading?

Re: GETROM doubt

*Message #3 Posted by **robertoataulfo** on 12 Jan 2012, 11:25 a.m.,*
in response to message #2 by Geir Isene

Als ich ein ROM mit HP ILPer und GETROM, aufgenommen mit saverom laden. Wie greife ich auf dieses ROM auf meinem HP-41CL?

Edited: 12 Jan 2012, 12:12 p.m. after one or more responses were posted

Re: GETROM doubt

*Message #4 Posted by **Raymond Del Tondo** on 12 Jan 2012, 1:52 p.m.,*
in response to message #3 by robertoataulfo

It's the same as with SAVEROM: (Target) page number in X, mass storage filename in Alpha.
You only have to make sure that the page number contains RAM, but that should be described in the 41CL manual;-)

So if you previously stored a ROM file on tape with Alpha containing "ND1",
and now want to get that ROM back into the calc, put ND1 into Alpha, the wanted page number into X, and XEQ GETROM .

Re: GETROM doubt

*Message #5 Posted by **robertoataulfo** on 12 Jan 2012, 2:05 p.m.,*
in response to message #4 by Raymond Del Tondo

```
Before testing in 41cl, I tested the emu41 (Page 8 Module 4k) but he did not
appear in catalog 2.


Command: 8 in X 'TEST' in Alpha getrom (no error)
```

```
my config (EMU41)


; emu41.ini        emu41 init file


[MODULES]
; page size filename
0  12 rom41cx.bin
3   4 cxfcn2d.bin
5   8 cxtime2c.bin
6   4 prter1e.bin
7   4 hpil1h.bin
; ------------
10  4 CCD_OSX.BIN


[DEVICES]
DISPLAY
HDRIVE1 HD41.DAT
LPRTER1
DOSLINK
```

Edited: 12 Jan 2012, 2:19 p.m.

Re: GETROM doubt

*Message #6 Posted by **Raymond Del Tondo** on 12 Jan 2012, 3:29 p.m.,*
in response to message #5 by robertoataulfo

Your Emu41 config doesn't include a "RAM" page at address 8 .
so the target page wasn't prepared to accept a ROM image download.
You'll have to include a line like
8 4 MLDLRAM.DAT ; RAM
into Emu41.ini , and after a restart of Emu41 there will be a RAM page at address 8.
Please take a look into Emu41.doc for more details.

Once the above config is active, your GETROM of 'TEST' to page 8 should work;-)

Re: GETROM doubt

*Message #7 Posted by **Juergen Keller** on 12 Jan 2012, 3:08 p.m.,*
in response to message #1 by robertoataulfo

You'll find an example procedure in Geoff's quick ref guide (CLONIX is used there, but the procedure is similar). Grab it here.

Edited: 12 Jan 2012, 3:10 p.m.

Re: GETROM doubt

*Message #8 Posted by **robertoataulfo** on 12 Jan 2012, 4:24 p.m.,*
in response to message #7 by Juergen Keller

thank's all

[Return to Index | Top of Index]

Go back to the main exhibit hall

GETROM doubt

HP Forum Archive 20

[Return to Index | Top of Index]

HP48GX : faulty Port 2 ? any way to repair it ?

*Message #1 Posted by **Antoine M. Couëtte** on 12 Jan 2012, 2:59 a.m.*

Hello to all,

In the past few weeks, I have observed the following symptoms on an HP48GX which I have extensively used to develop my HP41 ASTRONAV Software through HrastProgrammer HP41X/Y/Z Emulator.

Whenever I plug into port 2 any type of Card (ROM Card or RAM MEMORY Cards), I get the following message "Warning INVALID CARD DATA".

In addition to this, whenever I plug into Port 2 a RAM Memory card 256K or bigger, all Ports from :2: to ... :33: show as being physically residing within the system, although for a 2MB Ramcard for example, no such Ports above :17: physically exist in the Calculator.

Trying to "PINIT", or even trying "Hard reset" through inserting a needle into the appropriate "foot hole" does not solve this situation at all.

Any clue here ? any (simple) way to fix it ?

Thanks for any information and/or help here.

Antoine

Antoine M. "Kermit" Couëtte

Re: HP48GX : faulty Port 2 ? any way to repair it ?

*Message #2 Posted by **Raymond Del Tondo** on 12 Jan 2012, 3:56 a.m.,*
in response to message #1 by Antoine M. Couëtte

Hello,

the papaer clip reset does not automatically reset all memory,
it's just a hardware reset for the CPU.

Given the symptoms of your calc, you should unplug all cards,
remove the card batteries, and initiate a cold start (ON+A+F) .
After that, and _before_ loading any 3rd party software,
you can insert a ROM card, and check if the symptom is still existent.

HTH

Ray

Re: HP48GX : faulty Port 2 ? any way to repair it ?

*Message #3 Posted by **Antoine M. Couëtte** on 12 Jan 2012, 9:11 a.m.,*
in response to message #2 by Raymond Del Tondo

Thank you Raymond for your kind advice.

I followed it and proceeded as you indicated. I could not establish again a normal calculator behavior since it did not change anything from the previous state depicted here-above.

Is it a software or rather a hardware problem ?

Antoine

Re: HP48GX : faulty Port 2 ? any way to repair it ?

*Message #4 Posted by **Lyuka** on 12 Jan 2012, 7:16 p.m.,*
in response to message #1 by Antoine M. Couëtte

Hi Antoine,

> Quote:
>
> In addition to this, whenever I plug into Port 2 a RAM Memory card 256K or bigger, all Ports from :2: to ... :33: show as being physically residing within the system, although for a 2MB Ramcard for example, no such Ports above :17: physically exist in the Calculator.

The symptoms you stated above implies bridged contacts at the card slot or the malfunctioning address decoder i.e. dead 74HC174 chip on the mother board which is used to make signals to select memory chip in the card.

Try cleaning the contacts of the card slot using compressed air to remove contamination which might exists.

Good luck.

Regards,
Lyuka

Re: HP48GX : faulty Port 2 ? any way to repair it ?

*Message #5 Posted by **Antoine M. Couëtte** on 13 Jan 2012, 10:56 p.m.,*
in response to message #4 by Lyuka

Dear Lyuka,

Thank you for your information and advice.

I did blow compressed air on the card slots contacts to remove possible contamination. The symptoms remain unchanged, and I would conclude that there is something wrong with the address decoder, which is a gripe totally beyond my nonexistent repair capabilities.

In the (dubious ?) case when repairing might be an option, is it worth getting this HP48GX fixed ?

Thank you again, Lyuka San, and

Best Regards

Antoine

Antoine M. Couëtte

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c+ Firmware

*Message #1 Posted by **Matthias Wehrli** on 12 Jan 2012, 1:05 a.m.*

Hi

I got a proto of a new HP-15c+ with the newest firmware. Does anybody has an old version of that software? I was told the original software was EXTREMELY buggy with only a max of 200 registers and a battery life when off of a month.

Matthias

Re: HP-15c+ Firmware

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 12 Jan 2012, 10:06 a.m.,*
in response to message #1 by Matthias Wehrli

Are you referring to HP-15c LE? What is your firmware? The last know production firmware is 2011-4-15. - Kerem

Edited: 12 Jan 2012, 10:08 a.m.

Re: HP-15c+ Firmware

*Message #3 Posted by **Katie Wasserman** on 12 Jan 2012, 10:36 a.m.,*
in response to message #1 by Matthias Wehrli

Are you referring to the 15C Limited Edition (that's what it says on the faceplate)? If so the bugs in the latest known version are listed here including the power consumption issues.

If you are referring to an earlier version of this (before HP decided to call it Limited Edition) it's quite possible that you do have firmware with even more bugs, limited memory and worse battery life. But that hasn't been discussed on this forum to my knowledge. What's the firmware date in yours. Pressing <ON> + <g> + <Enter> then <2> then <Enter> will show the date. The latest is 2011-04-15.

Re: HP-15c+ Firmware

*Message #4 Posted by **Matthias Wehrli** on 12 Jan 2012, 5:57 p.m.,*
in response to message #3 by Katie Wasserman

Yes, I talk about the new relesed HP-15, but not hte commercial version "c LE", but hte proto version of it which is labeled "c+"... Mine is 2011-04-15 but there must be older version(s)

Edited: 12 Jan 2012, 5:59 p.m.

Re: HP-15c+ Firmware

*Message #5 Posted by **Jeff O.** on 13 Jan 2012, 7:36 a.m.,*

in response to message #4 by Matthias Wehrli

The 15c+ units came loaded with firmware dated 2009-08-03.

Re: HP-15c+ Firmware

*Message #6 Posted by **Matthias Wehrli** on 13 Jan 2012, 7:40 a.m.,*
in response to message #5 by Jeff O.

Perfect. Do you / does anybody has thi firmware as a file to programm my unit?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

LiPo rechargable for 41 pack rebuilding?

*Message #1 Posted by **Craig Ruff** on 11 Jan 2012, 11:26 p.m.*

Has anyone thought about using a small 2S LiPo battery pack for rebuilding an 82120A? A quick search found a small 120 mAh 7.4V pack (E-flite EFLB1202S20) that should fit with room to spare (30mm x 20mm x 9mm). It would need 3 diodes inline to drop the voltage to the calculator, and it looks like the standard LiPo charging connector might fit in the recharger connection opening.

Re: LiPo rechargable for 41 pack rebuilding?

*Message #2 Posted by **Juergen Keller** on 12 Jan 2012, 3:03 p.m.,*
in response to message #1 by Craig Ruff

There was a discussion about using LiPo batteries on this forum.

Google is your friend, e.g., search for:
82120a lipo site:hpmuseum.org

Re: LiPo rechargable for 41 pack rebuilding?

*Message #3 Posted by **Craig Ruff** on 12 Jan 2012, 6:01 p.m.,*
in response to message #2 by Juergen Keller

Doh! I only looked in the article section. I think using a 2 cell LiPo pack with voltage dropping diodes should work fine. I'll have a look at running a bench top test before going to the effort of retrofitting an old nicad pack case.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

OT: TI Dataclip (TI1700) project

*Message #1 Posted by **Alberto Fenini** on 11 Jan 2012, 5:23 p.m.*

Dear All,
I have received today a TI1700 that from the pics had chances to be in working conditions.
These are quite rare to be found in working conditions, and I have one that is fully working, so that his was purchased mainly as donor for parts.
I also had another non working unit which I was trying to restore a couple of years ago, and has been useful for learning how to open it and make some tests.
Anyway, I have inserted the batteries in this newer unit and it came back to life. However, only few keys were responsive e no operation could be performed.
I decided to open it and try some basic de-oxidation. Battery compartment was clean, and overall I found no signs of corrosion.
However, once reassambled, I was only able to get a steady "0" and randomly, some numbers as shown in pictures by pressing the keys.
There are two set of pics, the first set belongs to the old unit, which I have pictired to show the components.
Basically there is a main unit, a zebra connector and the keyboard.
The keyboard flat goes under the zebra and is connected to the back of the module thanks to the zebra.
This zebra is very damaged and also the battery + lead does not make contact anymore with the back of the keyboard, which is why I have soldered the yellow cable.
I'm looking for suggestion, if anyone has ever done this before
I was thinking to replace the zebra with half of a zebra connector from a HP-41, would it work ?
Would it be possible to solder some thin cables from the kayboiard foil to the module without melting the keyboard ??
Secondly, would you suggest to drill the rivets and separate the sheets that make up the keyboard and do some seriuos cleaning ?
Thank you very much for any help, Alberto

Set 1 (older unit):

Set 2 (newer unit):

Re: OT: TI Dataclip (TI1700) project - 2nd step

*Message #2 Posted by **Alberto Fenini** on 16 Jan 2012, 8:18 a.m.,*
in response to message #1 by Alberto Fenini

ciao a tutti,
I have made a little step further.
Since this unit was non working, I have decided to open up the keyboard and see if a restoration was possible.
I have several pics, so if anyone is interested just write me and I'll be happy to send those to you.
I have ordered a silver pen which is conductive and is usually used for rework on flexible pcbs, to restore the contacts and eventually rebuild the zebra that connect both pieces.
Any suggestion, as always, is welcome !
Take care Alberto

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CCD OS/X SAVEROM and GETROM doubt.

*Message #1 Posted by **robertoataulfo** on 11 Jan 2012, 11:37 a.m.*

What are the parameters of the commands SAVEROM and GETROM module CCD OS/X ?

Re: CCD OS/X SAVEROM and GETROM doubt.

*Message #2 Posted by **Raymond Del Tondo** on 11 Jan 2012, 12:07 p.m.,*
in response to message #1 by robertoataulfo

Parameters are as usual: Page number in X, name of the mass storage media file in Alpha.

Note that due to the compact size of the functions, only the first mass storage device in the loop will be accessed, regardless of the loop address.

HTH

Ray

Edited: 11 Jan 2012, 12:09 p.m.

Re: CCD OS/X SAVEROM and GETROM NEW doubt.

*Message #3 Posted by **robertoataulfo** on 11 Jan 2012, 1:47 p.m.,*
in response to message #2 by Raymond Del Tondo

```
"Page number in X, name of the mass storage media file in Alpha".
The name of the rom goes where?
```

Edited: 11 Jan 2012, 4:51 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP48S, different hardware construction

*Message #1 Posted by **Cristian Arezzini** on 11 Jan 2012, 9:33 a.m.*

I recently disassembled two of my 48S, one was dead and I wanted to transplant its screen to another who had a bad display. The transplant worked, but I was surprised to see that the internal construction of the two calculators is WAY different. The motherboards just don't look like the same calculator at all. One is yellow/gold, the other is green (like the 48G); one - the green version - has a standard format processor, the other has the silicon of the processor in plain view, mounted on a sort of "holder" that is then soldered to the mainboard. I couldn't find any information about this difference, does anybody know when/why they changed? It must have been a great effort to totally re-design the board and processor...

Cristian

Re: HP48S, different hardware construction

*Message #2 Posted by **Eric Smith** on 11 Jan 2012, 8:00 p.m.,*
in response to message #1 by Cristian Arezzini

The "holder" assembly you describe is "TAB" (Tape Automated Bonding).

HP and other electronics companies redesign their products from time to time to deal with availability of components and for cost reduction.

Re: HP48S, different hardware construction

*Message #3 Posted by **Randy** on 11 Jan 2012, 10:30 p.m.,*
in response to message #2 by Eric Smith

TAB packaging in S and SX was a carry over from the Pioneer design.

When the 48 was updated to the G series, the processor was repackaged in what was then a standard molded flat-pack. HP then updated the S and SX logic boards to use the later package design. The same processor repackaging occurred in the 17Bii. The 42S was not updated even though the 17Bii was basically the same hardware. HP must have had a big pile of 42S TAB processors on the shelf which says alot about how rapidly the calculator market declined in the mid-nineties.

Re: HP48S, different hardware construction

*Message #4 Posted by **Cristian Arezzini** on 12 Jan 2012, 4:54 a.m.,*
in response to message #3 by Randy

Thank you for your replies... I suspected something like that, I just thought it wouldn't be worth the effort and the expense to re-engineer the motherboard for a product "almost" about to be discontinued. And the "updated" S/SX boards must be much rarer than the original ones... I opened maybe 6-7 series S and I only saw one of the newer boards!

Cristian

Re: HP48S, different hardware construction

*Message #5 Posted by **Thomas Chrapkiewicz** on 12 Jan 2012, 8:01 p.m.,*
in response to message #4 by Cristian Arezzini

It would be interesting to know at what week (and serial number) this change in the S/SX hardware occured. This might be helpful to add to article 991 here.

TomC

Re: HP48S, different hardware construction

*Message #6 Posted by **Mike Morrow** on 12 Jan 2012, 4:29 p.m.,*
in response to message #3 by Randy

> Quote:
>
> The 42S was not updated even though the 17Bii was basically the same hardware. HP must have had a big pile of 42S TAB processors on the shelf which says alot about how rapidly the calculator market declined in the mid-nineties.

I think that the sales volume of the HP 42S was never great because HP went out of its way to hide it, or at least not advertise it, all through its short 1988 to 1995 life span. I remember a lot of HP advertising in IEEE Spectrum magazine and other publications for the HP 28S in 1988, and for the HP 48SX in 1990, but nothing *ever* for the poor unheralded HP 42S except what was in EduCalc catalogs. When I finally obtained an HP 42S to replace my old HP-15C, I was stunned by its capability. It made my trusty HP-15C look like a half-baked kludge. No doubt HP downplayed the 42S to direct buyer attention to the upper-end HP 48SX and follow-on models. It's little wonder that the HP 42S during its production life was never popular. I wonder why HP bothered to revise the firmware up to rev. C.

We didn't realize what we had until it was gone and only the mediocre HP 32Sii was available.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

N batteries for HP 41's

*Message #1 Posted by **WaltMaken** on 10 Jan 2012, 11:05 p.m.*

Tuesday, January 10, 2012 Until today, I was buying N batteries for my HP 41CX at my local Radio Shack. They were costing $6.39 + tax for 2. Today I stopped at my local Staples store, and discovered they handle the N batteries, but the cost is only $3.29 + tax for 2. The Wal-Mart stores I've checked do not carry the N battery anymore. If anyone knows of any other sources for N batteries, please add to this thread for future reference. Thanks

Re: N batteries for HP 41's

*Message #2 Posted by **Garth Wilson** on 11 Jan 2012, 12:09 a.m.,*
in response to message #1 by WaltMaken

At Digi-Key: http://search.digikey.com/us/en/products/E90VP/N147-ND/704824 85 cents each for Energizer alkaline if you buy 10.

At Mouser: http://www.mouser.com/ProductDetail/Energizer/E90/?qs=sGAEpiMZZMvWbzBWipm%252bdcEu2SKy6Jl5mvewqmREHRQ%3d $1.34 each for Energizer alkaline if you buy 10.

Re: N batteries for HP 41's

*Message #3 Posted by **Allen** on 11 Jan 2012, 7:07 a.m.,*
in response to message #1 by WaltMaken

Many supermarket pharmacies also carry N-type batteries.

Re: N batteries for HP 41's

*Message #4 Posted by **Michel Beaulieu** on 11 Jan 2012, 8:44 a.m.,*
in response to message #1 by WaltMaken

I bought 4 N, rechargeable, with a charger on eBay for less that 2 Duracell from Radio Shack...

Re: N batteries for HP 41's

*Message #5 Posted by **Eddie W. Shore** on 11 Jan 2012, 9:01 a.m.,*
in response to message #1 by WaltMaken

I got my last N batteries at Radio Shack.

Re: N batteries for HP 41's

*Message #6 Posted by **Hal Bitton in Boise** on 11 Jan 2012, 2:16 p.m.,*
in response to message #1 by WaltMaken

I've seen them at Rite-Aid as I recall.

Radio Shack is way expensive...would hate to have them as my only source.

Re: N batteries for HP 41's

*Message #7 Posted by **Steve Hunt** on 11 Jan 2012, 4:23 p.m.,*
in response to message #6 by Hal Bitton in Boise

For UK readers:

I just bought 20 from here: http://stores.ebay.co.uk/JLS-Batteries?_trksid=p4340.l2563 £10.70 and free delivery.

Steve

Re: N batteries for HP 41's

*Message #8 Posted by **Jim Yohe** on 11 Jan 2012, 4:41 p.m.,*
in response to message #1 by WaltMaken

So ... to extend the life of all the other batteries one might purchase in order to get a better price, should they be stored at a temperature below freezing, just above freezing, or room temperature?

Re: N batteries for HP 41's

*Message #9 Posted by **Dave Shaffer (Arizona)** on 11 Jan 2012, 6:19 p.m.,*
in response to message #8 by Jim Yohe

Duracell says: "We recommend storing batteries at room temperature in a dry environment. Extreme heat or cold reduces battery performance. You'll want to avoid putting battery-powered devices in very warm places. In addition, refrigeration is not necessary or recommended."

Kodak says: "We recommend storing batteries at room temperature in a dry environment. Extreme heat or cold reduces battery performance. You'll want to avoid putting battery-powered devices in very warm places. In addition, refrigeration is not necessary or recommended."

Elsewhere I saw suggestions that it not be too dry (can suck the moisture from the battery chemicals).

So, it looks like you don't have to do much but keep them in the house where it's not too cold and not too hot. (Check with Goldilocks!)

Re: N batteries for HP 41's

*Message #10 Posted by **Ethan Conner** on 11 Jan 2012, 8:57 p.m.,*
in response to message #9 by Dave Shaffer (Arizona)

I used to have a job that took me to an extreme cold environment. We had to keep batteries close to our bodies when not in use. Otherwise they quickly become cold soaked and useless.

Re: N batteries for HP 41's

*Message #11 Posted by **Geir Isene** on 11 Jan 2012, 4:52 p.m.,*
in response to message #1 by WaltMaken

I have bought from this seller two packs of 12 N size batteries. Free shipping.

Re: N batteries for HP 41's

*Message #12 Posted by **dinamarco** on 12 Jan 2012, 8:40 a.m.,*
in response to message #1 by WaltMaken

I only use recharge batteries. It's nice and cheaper... Regards...

Re: N batteries for HP 41's

*Message #13 Posted by **Garth Wilson** on 12 Jan 2012, 12:47 p.m.,*
in response to message #12 by dinamarco

That's not always an option. My 41cx halfnut would show low battery even on a fresh charge, because the voltage on rechargeables is not enough. Why use rechargeables and have to keep recharging though when a set of alkalines lasts a couple of **years** without having to think about it, unless you're using the card reader or the bar code reader a lot.

Edited: 13 Jan 2012, 2:49 a.m. after one or more responses were posted

Re: N batteries for HP 41's

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 12 Jan 2012, 1:32 p.m.,*
in response to message #13 by Garth Wilson

You have to buy new rechargeables then... mine (I have several of them) do not show the low battery warning, when fully charged, on any of my 41s.
You will like them when you have peripherals, not limited to the card reader anymore, that eat quite a lot of juice. :)

Massimo

Re: N batteries for HP 41's

*Message #15 Posted by **Garth Wilson** on 12 Jan 2012, 2:00 p.m.,*
in response to message #14 by Massimo Gnerucci (Italy)

When the battery voltage is down to 1.20 to 1.25 volts, ie, the voltage of rechargeables, my BATT annunciator goes on. But even back when I was interfacing to lots of equipment on HPIL, the alkaline batteries lasted a very long time.

Re: N batteries for HP 41's

*Message #16 Posted by **Dieter** on 12 Jan 2012, 4:04 p.m.,*
in response to message #15 by Garth Wilson

On my 41C and 41CV the BAT announciator comes on as soon as the voltage of the battery pack has dropped to quite exactly 4 V, which means 1 Volt per cell - the usual final discharge voltage of a completely empty NiCd/NiMH battery.

So if your 41CX turns on the announciator at 1,25 V per cell there's something wrong - in this case it would almost permanently display BAT when HP's own NiCd-pack 82120A is used. Which of course is not the way the announciator is supposed to work. ;-)

That's why I think there's a problem with at least one of your rechargeable batteries. One of the cells seems to be dead, or at least its voltage drops more rapidly than in the others. You may determine the voltage of each battery separately with a load of, say, 50...100 mA. Metering the open circuit voltage of the complete pack does not make much sense here.

Dieter

Re: N batteries for HP 41's

*Message #17 Posted by **Garth Wilson** on 12 Jan 2012, 4:41 p.m.,*
in response to message #16 by Dieter

I've never used recheargeables with it, but I always measure the voltage on the alkalines when the BATT annunciator comes on, and the four of them together produce close to 5V. I realize the voltage will be lower under load, but the load when the calc is on but idling is only a couple of mA, and other extensive battery-life testing for our products tells me there's still a fair amount of energy left there. However, since the 41 is so valuable and I don't want to ever have any leakage, I replace them immediately when the annunciator comes on.

Re: N batteries for HP 41's

*Message #18 Posted by **Håkan Thörngren** on 13 Jan 2012, 1:08 a.m.,*
in response to message #16 by Dieter

I have never bought any alkalines for my HP-41s. Back in 1981 when I got my first HP-41, I replaced the supplied alkalines with a 82120A (which was pricy) once the original batteries drained after a couple of months. I usually charged it once per week for years and I used my HP-41 a lot back then.

When the 82120A finally died, I switched to to NiCd N cells and some 5+ years back NiMH N cells (which now need to be replaced).

Rechargeables have work fine for me for years, not a single problem.

I also use NiMH cells in my 48GX, but that one give very short notice before it lose memory after the low bat indication comes up...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Odd looking 41cx

*Message #1 Posted by **Chris Woodhouse** on 10 Jan 2012, 12:31 p.m.*

I had an interesting dream about a 41cx. I was out shopping trying to find a 15C LE when I came across what looked like a 41cx. However something looked odd, then I realized there was no display. So I started to enter some numbers, and as soon as I did, the calculator extended in length to reveal a single line of display. As I added more numbers to the stack it got longer showing more lines of display (up to 4) then as numbers were removed from the stack the calculator got smaller again only displaying the stack levels that had a number in them.

Obviously a ridiculous design for a real calculator (hey it was a dream) but it might translate to a cool feature for an emulator of the 41cx or any RPN calculator.

Chris W

Re: Odd looking 41cx

*Message #2 Posted by **Jeff Brower** on 10 Jan 2012, 8:29 p.m.,*
in response to message #1 by Chris Woodhouse

Have you seen Microsoft Mathmatics? Not quite what you envisioned but it expands as "needed".

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP-34s] V3 overlay and flashing process - Questions

*Message #1 Posted by **Alexander Oestert** on 10 Jan 2012, 12:41 p.m.*

Seeing the V3 overlay reday to ship on Eric's site I actually have two questions before I'll buy them:

1) Is the V3 overlay final now?

2) Is the flashing process for V3 similar to the V2 process or does one have to do anything different?

Thanks in advance!

And a Happy New Year to all of you!

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #2 Posted by **Marcus von Cube, Germany** on 10 Jan 2012, 1:00 p.m.,*
in response to message #1 by Alexander Oestert

There is a difference if you want to fill the library section with the initial flashing process. In fact it's much easier now. Just compile your programs with the new LIB tool into wp34s-lib.dat and then join calc.bin with this single file (copy/b calc.bin+wp34s-lib.dat calcfull.bin). The resulting file can then be sent to the calculator, preferably with MySamba.exe. There are .cmd files that help in the creation of the necessary files.

I don't think we will change the keyboard before V4 which will contain tagged registers so that the calculator knows what is stored there: single or double precision decimals, complex numbers, integers, matrix descriptors, or strings. With such a change, complex mode will have to change and we may introduce assignable keys in the same run. Maybe sometime before the next HHC...

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #3 Posted by **Alexander Oestert** on 10 Jan 2012, 1:40 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks, Marcus. Please allow a follow-up:

a) If I don't want to join any own programs, I could simply flash the calc.bin in the known process, right?

b) V4? That makes me wanting to bail on V3 entirely and just use V2 until then...

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #4 Posted by **Dominic Richens** on 10 Jan 2012, 3:12 p.m.,*
in response to message #3 by Alexander Oestert

> Quote:
>
> Thanks, Marcus. Please allow a follow-up:

> a) If I don't want to join any own programs, I could simply flash the calc.bin in the known process, right?
>
> b) V4? That makes me wanting to bail on V3 entirely and just use V2 until then...

a) right

b) oh no, Marcus has gone and pulled an "Osborne"

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #5 Posted by **Paul Dale** on 10 Jan 2012, 3:16 p.m.,*
in response to message #3 by Alexander Oestert

> Quote:
>
> a) If I don't want to join any own programs, I could simply flash the calc.bin in the known process, right?

Yes.

> Quote:
>
> b) V4? That makes me wanting to bail on V3 entirely and just use V2 until then...

I wouldn't. We don't even know how we'll approach v4 yet, it is still a bit of a dream.

v3 is much nicer than v2 for programming and library management. For day to day use as an RPN scientific, there isn't much difference.

In fact v3 implements everything I wanted for the 42 replacement except typed values (and perhaps a few functions).

- Pauli

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #6 Posted by **Alexander Oestert** on 10 Jan 2012, 3:21 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> For day to day use as an RPN scientific, there isn't much difference.

Great! I will stay with the V2 on both my 20b and my 30b. ;-)

Re: [WP-34s] V3 overlay and flashing process - Questions

*Message #7 Posted by **Marcus von Cube, Germany** on 10 Jan 2012, 6:25 p.m.,*
in response to message #6 by Alexander Oestert

END may be an issue as will be the modified handling of programs associated with this feature.

> I like the V3 keyboard with SF/CF readily available. Being able to run longer programs by means of reducing the number of REGS, having local registers and flags, and so on, make V3 a better platform for programmers.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Eric Rechlin - Overlay

*Message #1 Posted by **robertoataulfo** on 10 Jan 2012, 10:39 a.m.*

```
I hope it is of interest to other collectors.
I have several calculator with the metal damaged.
Eric you could not do overlay to replace the metal?
```

Re: Eric Rechlin - Overlay

*Message #2 Posted by **Eric Rechlin** on 11 Jan 2012, 2:36 p.m.,*
in response to message #1 by robertoataulfo

Because the damage is on the edges, which would be hard to cover with the overlay, I think it would better to try using something like model paint.

Geoff might be able to give some suggestions, too, as he has surely encountered similar damage when restoring calculators.

Eric

Re: Eric Rechlin - Overlay

*Message #3 Posted by **robertoataulfo** on 11 Jan 2012, 2:56 p.m.,*
in response to message #2 by Eric Rechlin

```
I want to take all the metal parts.
The overlay need not be identical to the original.
Please.
My brother made a request of the overlay WP34S you could send along.
```

Re: Eric Rechlin - Overlay

*Message #4 Posted by **Eric Rechlin** on 11 Jan 2012, 7:12 p.m.,*
in response to message #3 by robertoataulfo

I think whatever I could make would look worse than what you have now, and it's too much work anyway, so I'm not going to do it.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE : Workaround for the high current spike

*Message #1 Posted by **Lyuka** on 10 Jan 2012, 10:22 a.m.*

Additional bypassing capacitor of 100uF will reduce the high current spike which may cause "Pr Error".

Current draw at Power-on (10mA/div, 400us/div)

"Workaround for the high current spike "

Regards,
Lyuka

Re: HP-15C LE : Workaround for the high current spike

*Message #2 Posted by **uhmgawa** on 10 Jan 2012, 5:07 p.m.,*
in response to message #1 by Lyuka

> Quote:
>
> Additional bypassing capacitor of 100uF will reduce the high current spike which may cause "Pr Error".

Have you actually measured the VDDCORE voltage rail depression which coincides with that transient? Reason being is the level of bypass Atmel calls for is fairly heavy and I believe HP followed their guidelines relatively closely -- well best I can puzzle out through opaque black solder mask.

What you may be seeing in the overall main inrush at power on also includes the LCD charge pump and its output bypass which is discharged at power on. Atmel had added series resistance to the LCD rail bypass possibly to reduce this turn-on transient. Note the VDDCORE rail is downstream from VDDIO1, is fed by the internal regulator, and has its own bypass so it should be relatively well decoupled from the main VDDIO1 transient. But admittedly I haven't confirmed the effective isolation via measurement.

Re: HP-15C LE : Workaround for the high current spike

*Message #3 Posted by **Lyuka** on 11 Jan 2012, 7:50 p.m.,*
in response to message #2 by uhmgawa

Hi uhmgawa,

The decoupling around the MCU seems good, but it's not the point. Though it's good for stable power supply, the total amount of the bypassing capacitance is not enough to eliminate the supply voltage drop by the internal resistance of the batteries for 40mA-40us spike.
To make the things worse, it's not the in-rush current, in other words, this spike occurs at every any key presses.

As previously mentioned by Seth Morabito at this thread, the battery voltage depression occurs by high current draw (20mA or so) and the internal resistance rises enough to drop the voltage below 2.0V at the current spike. The high current draw condition occurs at every key press or at calculator is "running", and the voltage recovery time of the CR2032 battery is quite long after such heavy load.

By my quick test, the "Pr-Err" happens after battery voltage drop less than 1.8V or so, at that voltage calculator will shutdown.

Regards,
Lyuka

Re: HP-15C LE : Workaround for the high current spike

*Message #4 Posted by **uhmgawa** on 12 Jan 2012, 12:36 a.m.,*
in response to message #3 by Lyuka

> Quote:
>
> To make the things worse, it's not the in-rush current, in other words, this spike occurs at every any key presses.

I see. That's quite interesting as I'd misunderstood this to be a power-on transient.

In that case it seems whatever power conservation profile is in use may actually be disabling power domains in the sam7. Otherwise I'm not sure what would likely be causing such a wakeup transient upon any key press. Atmel doesn't specify instantaneous current draw for the sam7 but the rather heavy bypass usage would be consistent with attempting to tame transients upon wakeup from a power domain disabled to active state.

Re: HP-15C LE : Workaround for the high current spike

*Message #5 Posted by **Marcus von Cube, Germany** on 12 Jan 2012, 3:48 a.m.,*
in response to message #3 by Lyuka

> Quote:
>
> To make the things worse, it's not the in-rush current, in other words, this spike occurs at every any key presses.
>
> ...
>
> The high current draw condition occurs at every key press or at calculator is "running", and the voltage recovery time of the CR2032 battery is quite long after such heavy load.

This is a combination of two effects: The CPU core is powered down between key presses to conserve power, just the LCD is powered and some pull-up resistors for the keyboard. On a key press, the device is woken-up. Here, something has been screwed up in that the processor goes to full power (and stays there as long as the key is down.) The latter should be responsible for the stress on the coin cells.

I'd like to see the same measurements for the 12C+ (same hardware, different firmware), an original 20b or 30b, and, of course, for WP 34S on either hardware.

Re: HP-15C LE : Workaround for the high current spike

*Message #6 Posted by **Lyuka** on 12 Jan 2012, 4:25 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hi Marcus,

I really think that power management of a system which emulating an old hardware is a kind of most difficult, at least confusing thing to do.

> Quote:
>
> I'd like to see the same measurements for the 12C+ (same hardware, different firmware), an original 20b or 30b, and, of course, for WP 34S on either hardware.

So am I. Unfortunately I have non of the calculators you have mentioned above.

Lyuka

Re: HP-15C LE : Workaround for the high current spike

*Message #7 Posted by **uhmgawa** on 12 Jan 2012, 9:52 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> This is a combination of two effects: The CPU core is powered down between key presses to conserve power, just the LCD is powered and some pull-up resistors for the keyboard. On a key press, the device is woken-up. Here, something has been screwed up in that the processor goes to full power (and stays there as long as the key is down.) The latter should be responsible for the stress on the coin cells.

The high sustained current draw at wakeup is a potentially missed power conservation optimization in the emulator design. The ~40us transients seen at beginning and end of this interval, which the additional bypass is attempting to suppress, appear to be a chip/hardware characteristic as this exceeds the sustained current draw specified for the device.

Profiling the current draw for the WP 34S would probably be the most useful as it would be possible to correlate the current draw to known activity in the sam7.

Re: HP-15C LE : Workaround for the high current spike

*Message #8 Posted by **BobVA** on 10 Jan 2012, 8:29 p.m.,*
in response to message #1 by Lyuka

Interesting! Did you measure the standby current? Any increase due to leakage of that capacitor?

Regards, Bob

Re: HP-15C LE : Workaround for the high current spike

*Message #9 Posted by **Lyuka** on 11 Jan 2012, 8:11 p.m.,*
in response to message #8 by BobVA

Hi Bob,

The leakage current of a ceramic capacitor is negligible (for most applications).
The standby current is less than 0.05mA by my coarse measure. 0.047mA by Katie's measurement.

Regards,
Lyuka

Re: HP-15C LE : Workaround for the high current spike

*Message #10 Posted by **Dave Shaffer (Arizona)** on 11 Jan 2012, 9:21 p.m.,*
in response to message #9 by Lyuka

You can get 100 microfarad ceramics that small?!

Re: HP-15C LE : Workaround for the high current spike

*Message #11 Posted by **Lyuka** on 11 Jan 2012, 9:40 p.m.,*
in response to message #10 by Dave Shaffer (Arizona)

You can get 100u/6.3V/X5R/3216 metric size capacitor(s) at,

TDK, C3216X5R0J107M, 100u/6.3V/X5R/3216 metric
or
TaiyoYuden, JMK316BJ107ML-T, 100u/6.3V/X5R/3216 metric

Edited: 11 Jan 2012, 11:22 p.m.

Re: HP-15C LE : Workaround for the high current spike

*Message #12 Posted by **uhmgawa** on 12 Jan 2012, 1:44 a.m.,*
in response to message #11 by Lyuka

> Quote:
>
> You can get 100u/6.3V/X5R/3216 metric size capacitor(s) at..

Alternately the added bulk bypass for the 3V0 rail (VDDIO1 / VDDLCD) can be distributed among C16, C17, C20, and C21. VDDCORE is decoupled by C11 and C12.

Bypassing local to the sam7 would also factor out the impedance of the 3V0 supply trace stretching across the board -- the board is only a two layer design without benefit of a power and ground plane. Actually getting this on two layers is a respectable effort given all vias had to live outside of the tactile dome lands on the opposite side. A concession to simplified (inexpensive) board routing is also quite likely how the 15c le ended up with legged domes vs. the smoother round domes found in the original voyager layout.

Re: HP-15C LE : Workaround for the high current spike

*Message #13 Posted by **Dave Shaffer (Arizona)** on 12 Jan 2012, 2:46 p.m.,*
in response to message #11 by Lyuka

Thanks for the info.

Got any idea what the DC internal resistance is? i.e. could I use these for long time-constant circuits with a 1 meg or even 10 meg resistor and still get tau = RC of 100 seconds or more?

Re: HP-15C LE : Workaround for the high current spike

*Message #14 Posted by **hpnut** on 12 Jan 2012, 4:33 a.m.,*
in response to message #1 by Lyuka

Lyuka, you're one cool dude :-)

cheers,

hpnut in Malaysia

Re: HP-15C LE : Workaround for the high current spike

*Message #15 Posted by **Lyuka** on 12 Jan 2012, 4:43 a.m.,*
in response to message #14 by hpnut

Thanks hpnut :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: TI-88 not Y2K compliant (!)

*Message #1 Posted by **Joerg Woerner** on 9 Jan 2012, 9:34 p.m.*

For the interested reader:

I received today the two TI-88's - they were manufactured in April (left) and May 1982. You might notice a few differences with the keyboard lettering:

The calculator software speaks three languages: English, German and French:

The calculator is not Y2K compliant, it insists to set the Day of Week today, January 9th, 2012 (a Monday on my calendar) on Sunday:

So long, Joerg

Re: OT: TI-88 not Y2K compliant (!)

*Message #2 Posted by **Didier Lachieze** on 10 Jan 2012, 2:34 a.m.,*
in response to message #1 by Joerg Woerner

Thanks for sharing these details and the nice pictures of one of the rarest calculators. You may be able also to take a picture of 3 TI-88 side-by-side which could set a record for many years (or centuries...) to come

TI-88 versus HP-75C

*Message #3 Posted by **Joerg Woerner** on 10 Jan 2012, 7:51 p.m.,*
in response to message #2 by Didier Lachieze

For the record...

Regards, Joerg

Re: TI-88 versus HP-75C

*Message #4 Posted by **Didier Lachieze** on 11 Jan 2012, 3:43 a.m.,*
in response to message #3 by Joerg Woerner

Thanks!

Re: OT: TI-88 not Y2K compliant (!)

*Message #5 Posted by **Namir** on 10 Jan 2012, 7:48 a.m.,*
in response to message #1 by Joerg Woerner

Joerg,

If you attend any HHC conference in the futures (and I sure hope you do), please please please bring at least one of these TI-88 calculators with you. It would be nice to see how they are programmed.

Namir

Re: OT: TI-88 not Y2K compliant (!)

*Message #6 Posted by **Gerson W. Barbosa** on 10 Jan 2012, 8:41 a.m.,*
in response to message #5 by Namir

> Quote:
>
> It would be nice to see how they are programmed.

Namir,

There's an example here, courtesy of Viktor Toth.

Gerson.

Re: OT: TI-88 not Y2K compliant (!)

*Message #7 Posted by **Joerg Woerner** on 10 Jan 2012, 7:54 p.m.,*
in response to message #5 by Namir

Namir,

I will and I will ;-)) I planned for 2011 but had to be in Las Vegas (Pack Expo) to setup a product that we developed for an Australian based customer.

Cheers, Joerg

Re: OT: TI-88 not Y2K compliant (!)

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 10 Jan 2012, 9:50 p.m.,*
in response to message #5 by Namir

> Quote:
>
> It would be nice to see how they are programmed.

You can find more information on programming including a sample program written by Maurice Swinnen in V7N7/8 and V7N9 of TI PPC Notes which are available at Viktor's site.

At one time I had a draft copy of the manual. I think I gave it to Gene Wright but I admit that my memory plays tricks on me these days. If Gene tells me that he doesn't have it I will search my files.

Re: OT: TI-88 not Y2K compliant (!)

*Message #9 Posted by **Miguel Toro** on 10 Jan 2012, 11:45 a.m.,*
in response to message #1 by Joerg Woerner

Hi,

Quote from the site linked by Gerson:

"Date and time, you ask? Yes, the TI-88 has a built-in clock and calendar. For the curious: the TI-88 is Y2K compatible. Interestingly, it contains no perpetual calendar that would allow it to compute the day of the week automatically; instead, it must be entered, in addition to the date."

Perhaps there is a workaround to choose the day of the week.

Miguel

Edited: 10 Jan 2012, 11:46 a.m.

Re: OT: TI-88 not Y2K compliant (!)

*Message #10 Posted by **Joerg Woerner** on 10 Jan 2012, 7:40 p.m.,*
in response to message #9 by Miguel Toro

Today in Dallas, TX:

"I'll file a defect report about the Y2K issue tomorrow, although I doubt a software fix will be forthcoming."

I'll keep ypu posted.

Cheers, Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE: why emulate?

*Message #1 Posted by **Eric Zoob** on 9 Jan 2012, 9:29 p.m.*

I have a naive question: I thought contracting the manufacture of custom chips for embedded applications was standard practice. What would it take (or rather what would it have taken) for HP to send the original chip design out to be shrunk and manufactured using a modern process?

Second question: Has anyone successfully run a program or calculated an integral that takes, say 10-20 minutes or longer, on the new HP-15C LE?

Re: HP-15C LE: why emulate?

*Message #2 Posted by **Katie Wasserman** on 9 Jan 2012, 10:02 p.m.,*
in response to message #1 by Eric Zoob

I ran my pi calculation on a 15C LE for 16+ minutes. Why do you ask, battery life questions?

Re: HP-15C LE: why emulate?

*Message #3 Posted by **Eric Zoob** on 10 Jan 2012, 10:02 a.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> I ran my pi calculation on a 15C LE for 16+ minutes. Why do you ask, battery life questions?

Mostly battery life, and the brown out issue mentioned earlier which I came across on my LE unit. I would rather have only a mild speedup (say 5x) and much longer battery life.

Re: HP-15C LE: why emulate?

*Message #4 Posted by **Katie Wasserman** on 10 Jan 2012, 1:58 p.m.,*
in response to message #3 by Eric Zoob

I like the mild speedup and long battery life idea, but better still would be some way to control the speed via the self-test menu. You can do this to a very limited extent on the 20b/30b by setting Test System On/Off. It would be easy to add a more comprehensive option for this to the 12C+/15C LE firmware once the proper way of doing real-time pauses is worked out.

Re: HP-15C LE: why emulate?

*Message #5 Posted by **Jeff O.** on 10 Jan 2012, 12:37 p.m.,*
in response to message #2 by Katie Wasserman

Katie,
I presume that the full 21 mA current draw during program execution (which you reported here) was being

extracted from the CR2032 batteries during the entire 16+ minute pi calculation program, correct? With all the talk about the weakness of the 2032 batteries, I find that quite surprising. Are you at all surprised that the batteries survived for the whole program and did not brown out, thereby wiping the program and all calculated pi digits? Would you be able to monitor battery voltage while running that program to see how it drops during such an extended period of high demand?
best regards,
Jeff

Re: HP-15C LE: why emulate?

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Jan 2012, 12:49 p.m.,*
in response to message #5 by Jeff O.

The 34S can monitor its voltage (BATT). On the 15C (LE) there is no such function if I'm not mistaken.

Re: HP-15C LE: why emulate?

*Message #7 Posted by **Jeff O.** on 10 Jan 2012, 1:11 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Marcus,
I meant monitor using some sort of test set up. Katie seems to have lots of cool test equipment.

Re: HP-15C LE: why emulate?

*Message #8 Posted by **Katie Wasserman** on 10 Jan 2012, 1:52 p.m.,*
in response to message #7 by Jeff O.

I'm away from my test equipment for a few weeks, but sure I could log the voltage and generate a graph. However, I'm not at all surprised that the CR2032 cells can supply 21ma for 16+ minutes. They are being damaged certainly but not exhausted. Also there are two of them so if they have the same internal resistance they're each suppling only 10.5ma.

Re: HP-15C LE: why emulate?

*Message #9 Posted by **Jeff O.** on 10 Jan 2012, 4:27 p.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> However, I'm not at all surprised that the CR2032 cells can supply 21ma for 16+ minutes

Well, that is "only" about 2.8 mAh extracted from each battery, and their nominal capacity is something like 250 mAh, so I guess it should not have been that surprising. I did not do any calculations, I just recalled the discussion about the inadequacy of the CR2032 cells. According to this paper, the capacity goes down the harder you work the battery. The authors of that paper seemed most concerned with pulse loads, testing up to 80 mA. The highest continuous load for which they give the resultant capacity (to 2.0 FEP voltage) shows about 155 mAh. Capacity seems to drop rapidly with higher continuous load, so probably less than 100 mAh at 10.5 mA continuous. Even if it is only 50 mAh that would allow you to run a program continuously for nearly 5 hours. Does that sound remotely possible, or did I miss a factor of 10 (or 1000, more likely) somewhere in this analysis?

Re: HP-15C LE: why emulate?

*Message #10 Posted by **Katie Wasserman** on 10 Jan 2012, 8:42 p.m.,*
in response to message #9 by Jeff O.

I think that you're in the right ball park on this. There's a lot of variation among battery manufacturers on these CR2032 cells, 50mAh is likely be a realistic estimate for some of them at a current draw of 10.5 continuously. I should do some actual testing....

Re: HP-15C LE: why emulate?

*Message #11 Posted by **Eric Smith** on 10 Jan 2012, 4:19 a.m.,*
in response to message #1 by Eric Zoob

About $1M. Assuming that they actually still have the full engineering documentation on the original design, which they probably don't. And then a few years later the fab line would be shut down, and they'd have to do it again.

It is *far* more sensible to migrate to a standard architecture. When the Atmel part they use today eventually goes away, it won't be too difficult or expensive for them to switch to another ARM-based microcontroller. (Or even MIPS or something else.)

Edited: 10 Jan 2012, 4:20 a.m.

Re: HP-15C LE: why emulate?

*Message #12 Posted by **uhmgawa** on 10 Jan 2012, 9:07 a.m.,*
in response to message #11 by Eric Smith

> Quote:
>
> Assuming that they actually still have the full engineering documentation on the original design, which they probably don't."

That was my first thought upon reading this question. But HP has been evolving the hardware design throughout its lifetime for benefit of the 12C. So it probably wouldn't be as extreme a prospect as capturing a 1980 semiconductor design into contemporary tooling.

> Quote:
>
> "And then a few years later the fab line would be shut down, and they'd have to do it again."

I'd hazard the HP calculator division has no desire (nor budget) to be in the custom semiconductor business given the sales volumes and maturity of these products.

I'm still a little mystified of the rationale specifically for the encore voyager sam7 design in at the time. As a platform for the 12c it was/is complete overkill from a performance and component cost perspective. And HP has history of subcontracting out designs based upon economy architectures elsewhere. Perhaps it was more of a ongoing development/maintenance concern which tipped the scales to the sam7. Or the encore 15c was somewhere on the roadmap and the excess capability was believed a required contingency for that future product.

Re: HP-15C LE: why emulate?

*Message #13 Posted by **Eric Smith** on 10 Jan 2012, 1:35 p.m.,*
in response to message #12 by uhmgawa

They wanted to choose a microcontroller that would be suitable for a wide range of calculator products, not just a 12C or 15C.

Re: HP-15C LE: why emulate?

*Message #14 Posted by **Steve Leibson** on 11 Jan 2012, 12:48 a.m.,*
in response to message #1 by Eric Zoob

This is not a naive question at all. It's one of engineering economics. When the original HP 12C and 15C chips were designed, chips were developed using polygons--drawn rectangles. The design spec may have started with "I need four 56-bit registers for the stack" but would have quickly been converted into drawn rectangles on multiple mask layers, by hand. Today, the design would be specified in a Hardware Description Language (HDL), likely Verilog, and then automatically converted into a netlist of connections and logic elements by an automated synthesis tool. HDL descriptions are comparatively easier to migrate from one process technology to another. Polygon designs require a lot of work, hand work, to retarget.

On the other hand, HP elected to use a standard, inexpensive, and most important, an already designed microprocessor to implement the new 12C and 15C LE. The software emulation layer essentially existed already. So the project to revive the calculators was a relatively low-risk one with a potential payoff. Designing a custom IC would have greatly increased the risk and the cost, reducing the potential payoff and possibly creating a losing proposition for HP.

Re: HP-15C LE: why emulate?

*Message #15 Posted by **Neil Hamilton (Ottawa)** on 11 Jan 2012, 8:09 a.m.,*
in response to message #14 by Steve Leibson

Perhaps it could be a candidate for something like this: http://www.visual6502.org/welcome.html. You have to admire the devotion of some folks!

Re: HP-15C LE: why emulate?

*Message #16 Posted by **uhmgawa** on 11 Jan 2012, 8:56 a.m.,*
in response to message #14 by Steve Leibson

> Quote:
>
> This is not a naive question at all. It's one of engineering economics. When the original HP 12C and 15C chips were designed, chips were developed using polygons--drawn rectangles. The design spec may have started with "I need four 56-bit registers for the stack" but would have quickly been converted into drawn rectangles on multiple mask layers, by hand.

I'm at least a little foggy on that detail. But I believe I recall CAD for mask creation to have been in use by that point in time.

> Quote:
>
> Today, the design would be specified in a Hardware Description Language (HDL), likely Verilog..

It has already been accomplished as a comprehensive effort for the NUT CPU. The result of which

includes this design specification, a substantial and significant engineering achievement in its own right.

[edit: grammar]

Edited: 11 Jan 2012, 6:25 p.m. after one or more responses were posted

Re: HP-15C LE: why emulate?

*Message #17 Posted by **Steve Leibson** on 11 Jan 2012, 10:24 a.m.,*
in response to message #16 by uhmgawa

Yes, CAD was in use at that time. What that meant was that people didn't need to hand draw the polygons. They could drag a rectangle into place. More advanced: you could drag the symbol of a transistor onto a schematic and that would cause the rectangles to be generated. HDLs and synthesis tools did not come into wide use until very late in the 1980s and did not exist at all when the 12C/15C processor were developed.

The HP 12C was introduced in 1981. That means the processor chip was designed in 1980 or 1979. That's before the IBM PC was introduced. So bringing that design into the 21st century is akin to trying to bring one of my WordStar for CP/M files from one of my NorthStar Horizon's 10-hole, hard sector floppy disks into one of today's systems. First, there's the format conversion from WordStar's file format. Then there's the problem of reading a 10-hole, hard-sector, 5.25-inch floppy disk. Seen a new computer with any sort of floppy disk lately, let alone a 5.25-inch floppy?

That's assuming the oxide hasn't fallen off the disk already.

Now the design files for the original 12C/15C processor aren't likely to be on floppy disks. They're more likely to be on 9-track magnetic tape in GDS format. Those would be the files for mask making. The other design docs may or may not be even findable. In fact, the GDS files might not be findable after 30 years either.

FInally, the documentation of the reverse-engineered NEWT processor is truly impressive and I do not mean to say anything against it. But (A) it's not a chip design and (B) it doesn't belong to HP. Thus there is effort and risk needed to transform it into a chip. The HP 41CL project proves this can be done, with effort (and a lot of love).

Edited: 11 Jan 2012, 10:27 a.m.

Re: HP-15C LE: why emulate?

*Message #18 Posted by **uhmgawa** on 11 Jan 2012, 11:14 a.m.,*
in response to message #17 by Steve Leibson

> Quote:
>
> The HP 12C was introduced in 1981. That means the processor chip was designed in 1980 or 1979.

There were several redesigns of voyager silicon, the last of which appears to have occurred somewhere around the start of the current millennium. My point (see #13 above) was speculation of the design being captured in more recent tooling than 30 y/o DG/Calma.

> Quote:
>
> But (A) it's not a chip design and (B) it doesn't belong to HP.

I wasn't suggesting HP should have designed yet another native NUT platform. Rather pointing out a successful design effort of the same in spite of being challenged to recreate a coherent reference specification in advance of its unique functional enhancements.

Re: HP-15C LE: why emulate?

*Message #19 Posted by **Eric Smith** on 12 Jan 2012, 7:50 p.m.,*
in response to message #18 by uhmgawa

> Quote:
>
> There were several redesigns of voyager silicon, the last of which appears to have occurred somewhere around the start of the current millennium.

HP's IC operations went to Agilent in the split in 1999. Presumably Agilent was under contract to continue producing ICs for HP for some period of time. Agilent sold that operation off as part of Avago in 2005. Avago sold that (describing it as a "printer ASIC" business) to Marvell in 2006.

Although the IP probably belongs to HP, in the various reshufflings of HP's calculator business, from Singapore to Australia then back to the US, all of the engineering records were discarded. If HP had wanted to design new silicon for the 12C, they would have had to start from scratch.

While the cost of designing the IC might not have been too unreasonable, the cost of putting it into production would have been a deal-killer. Mask charges for ASICs in current CMOS processes tend to be $1M and up. The older processes had much lower mask charges, but those processes are all either already obsoleted, or on their way out.

Re: HP-15C LE: why emulate?

*Message #20 Posted by **uhmgawa** on 12 Jan 2012, 10:40 p.m.,*
in response to message #19 by Eric Smith

> Quote:
>
> Although the IP probably belongs to HP, in the various reshufflings of HP's calculator business, from Singapore to Australia then back to the US, all of the engineering records were discarded.

I wasn't aware this IP was caught up in the above shuffle. The loss though does seem ironic if not somewhat depressing.

Although I suppose in one interpretation it gives added legitimacy to those motivated to recreate this legacy technology, effectively being an effort of preservation vs. simply a copy of closed IP.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How a little HP-50g program mutated into an iPhone app

*Message #1 Posted by **Peter Murphy (Livermore)** on 9 Jan 2012, 7:47 p.m.*

The program was developed by a pilot to do refueling calculations; the pilot was an engineer, and an experienced 48/49/50 user.

He generalized the program for other aircraft, taught himself programming for iOS, and ended up with a nice-looking application called Aviofuel.

Perhaps pilots and others familiar with such matters (and even with this particular app) will have comments. I think it's a nice and relevant story.

The mutation story is here:

http://www.aviobot.com/2011/aviofuel-story

The app is described here:

http://www.aviobot.com/

Re: How a little HP-50g program mutated into an iPhone app

*Message #2 Posted by **Eddie W. Shore** on 11 Jan 2012, 8:58 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Very nice app, well done. This gives me something to look forward to do on lunch breaks this week: find out what these terms mean.

Re: How a little HP-50g program mutated into an iPhone app

*Message #3 Posted by **Norman Dziedzic** on 11 Jan 2012, 6:05 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Very Neat. Thanks for sharing.

I am on a similar quest but only at the beginning of my App. We already had a mac book so that was not the hurdle is would be for many. Objective C is a bit strange for someone like me out of programming in C for a long time but the basic stuff is ok.

What I really need to find a way to do is mimic the multiple equation solver of the 50g which is no small task. All my equations will have closed form solutions so I don't have to do any iteration but just thinking of parsing and re-arranging equations programaticaly is a little daunting. But, I'm starting a chunk at a time with it and it really is pretty fun when I get the time to work on it.

Re: How a little HP-50g program mutated into an iPhone app

*Message #4 Posted by **Luis Gonzalez** on 12 Jan 2012, 5:55 a.m.,*

in response to message #1 by Peter Murphy (Livermore)

Hello, I'm the AvioFuel developer.

I'm glad you liked the 'mutation' story. Thanks a lot for your comments.

I've been using the HP48/49/50 all these years for many pilot-related tasks, such as aircraft performance calculations, flight-time logging, flight planning, weight&balance calculations, and so on.

Nowadays I use the iPhone and the iPad. I still love my 50g, though. In fact, I use it a lot for app development.

If anyone here wants to play with AvioFuel, I can provide Promo Codes to download the app free of charge from the App Store. Feel free to contact me.

Regards.

Re: How a little HP-50g program mutated into an iPhone app

*Message #5 Posted by **Norman Dziedzic** on 12 Jan 2012, 9:55 a.m.,*
in response to message #4 by Luis Gonzalez

> Quote:
>
> I spent my free time during the following months learning as much as could about Cocoa and Obj-C, reading blogs, tutorials, watching videos and reading books. I didn't even plan to release anything on the App Store. All I wanted was to take advantage of this little magical device for my own needs, to solve my own problems.

This is exactly where I am right now. My son keeps asking me if I'm still working on the that "app thing". I'm sure I have months and months ahead of me. The developer information online from Apple is pretty amazing but did you find any other resources particularly useful. I have a "theach yourself iPhone App developement in 24 Hours book" but I think it is a version old so I'm looking for other places to turn to for more recent information.

Thanks again for sharing!

Re: How a little HP-50g program mutated into an iPhone app

*Message #6 Posted by **Luis Gonzalez** on 12 Jan 2012, 2:14 p.m.,*
in response to message #5 by Norman Dziedzic

> Quote:
>
> The developer information online from Apple is pretty amazing but did you find any other resources particularly useful. I have a "theach yourself iPhone App developement in 24 Hours book" but I think it is a version old so I'm looking for other places to turn to for more recent information.

You can find two great iOS development courses on iTunes, both of them for free:

- Stanford University iPhone/iPad Development Course, by Paul Hegarty. <- This is a must-see. Download the slides from the course site and follow the lectures on iTunes. I learned a lot from this course. Link: http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewPodcast?id=473757255

- Madison Technical College Advanced iPhone Development, by Dr. Brad Larson <- Also very good. It dives into more advanced topics. Larson is the author of Molecules and Pi Cubed, two great apps. Link: http://itunes.apple.com/itunes-u/advanced-iphone-development/id407243032

Books (You can find most of them on Amazon):

Basics:

Learning Objective-C on the Mac, by Mark Dalrymple and Scott Knaster -> My first Obj-C book. Great for beginners.

Cocoa Programming for Mac OSX for Dummies, by Erick Tejkowski -> I learned the basics of Cocoa with this one. Very good read, easy to follow.

Beginning iPhone Development, by Dave Mark and Jeff LaMarche -> My first iPhone development book. Very good. Easy read. It gives you a very good foundation.

iPhone App Development: The Missing Manual, by Craig Hockenberry -> It covers the whole app development process, from the beginning to the end. You'll need basic Cocoa Touch and Obj-C knowledge in order to get the most out of it.

Intermediate/Advanced:

Core Animation, by Marcus Zarra and Matt Long -> Teaches you everything about Core Animation on iOS. I strongly recommend it if you wanna give your app a distinctive touch.

Pro Core Data for iOS, by Michael Privat and Robert Warner -> Once you get enough experience with basic iOS development, you'll realize sooner or later that you need to use Core Data for everything but the most basics apps. I found Core Data a bit complicated and obscure at first. This book helped me a lot.

iPhone 3D: Developing Graphical Applications with OpenGL, by Philip Rideout -> If you plan to develop 3D graphics apps (or games), this is a must. It covers OpenGL ES with lots of examples. You'll need a good C++ foundation, though.

Web:

There are plenty of great sites about iOS development. I think stackoverflow.com and iphonedevsdk.com are both extremely useful for beginners.

Regards, and happy coding! :-)

Re: How a little HP-50g program mutated into an iPhone app

*Message #7 Posted by **Norman Dziedzic** on 12 Jan 2012, 6:06 p.m.,*
in response to message #6 by Luis Gonzalez

Luis Thank you very much! I found out that there are several different Stanford classes in the iTunes store (different semesters). The first one I got was too old. Looks like the latest will require me to update the OS on our mac book pro.

But I hadn't found the Madison Technical College one.

That looks like a great collection of references. I'm already finding I want/need to do things I can't with the standard controls.

> Funny you mentioned a good C++ background. I have a mediocre C++ at best :-) I'm old enough to have to take FORTRAN at school and tought myself C and a little C++ over the years.
>
> But strangely enough, I have been developing industrial machinery controls for a long time and the Interface Builder is very much like the programs we use to develop for machinery.
>
> Take Care

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Homebrewed HP48 cards

*Message #1 Posted by **David Griffith** on 8 Jan 2012, 8:13 p.m.*

Some time ago I found pages on making homebrewed HP48 cards (typically battery-backed RAM), but I can't find them anymore. Does anyone here know anything helpful on that subject?

Re: Homebrewed HP48 cards

*Message #2 Posted by **Ben Moss** on 8 Jan 2012, 9:17 p.m.,*
in response to message #1 by David Griffith

There are a couple of designs available at hpcalc.org under HP48 -> Documentation -> Miscellaneous.

http://www.hpcalc.org/hp48/docs/misc/

Edited: 8 Jan 2012, 9:18 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CL-UTILS revision 2G released

*Message #1 Posted by **Ángel Martin** on 8 Jan 2012, 9:45 a.m.*

After much fiddling with Howard Owen's HEPINI function I managed to reduce its code lenght, reclaiming about 35 bytes. I also squeezed 50 more bytes from other sections, and got rid of Y1SEC - redundant with YSEC in the YFNS ROM - all in all freeing up space for four new functions, plus usability enhancements to the existing functionality.

Also as usual in this maintenance releases some minor bugs were fixed, none of them had been reported anyway.

Should be posted at TOS shortly, drop me a line if you need it before that.

Re: CL-UTILS revision 2G released

*Message #2 Posted by **Geir Isene** on 8 Jan 2012, 12:53 p.m.,*
in response to message #1 by Ángel Martin

Me want.

Re: CL-UTILS revision 2G released

*Message #3 Posted by **Geoff quick fall** on 8 Jan 2012, 1:45 p.m.,*
in response to message #1 by Ángel Martin

Me toooo!

Thanks Angel.

Re: CL-UTILS revision 2G released

*Message #4 Posted by **Howard Owen** on 8 Jan 2012, 3:19 p.m.,*
in response to message #1 by Ángel Martin

Cool! I look forward to seeing your optimizations.

Re: CL-UTILS revision 2G released

*Message #5 Posted by **Ángel Martin** on 8 Jan 2012, 3:40 p.m.,*
in response to message #4 by Howard Owen

Here it is in all its g(l)ory ;-)

It wasn´t easy, but the COCONUT CPU has such an extense instruction set that it´s doable. I have to say I ´ve spent the unthinkable time trying to get this one shorter - but I did!

```
098     "X"
019     "Y"             Y: number of pages
010     "P"             X: first page#
005     "E"
```

```
008     "H"             Howard Owen
0B8     READ  2(Y)      Get the number of pages N
38D     ?NC XQ          Convert it to hex
008     ->02E3          [BCDBIN]
0E6     B<>C  S&X       store N in B
0F8     READ  3(X)      Get the first page number S
38D     ?NC XQ          Convert it to hex
008     ->02E3          [BCDBIN]
106     A=C  S&X        But store the result in A  (A=S)
130     LDI S&X         comparison with the start page# in A
010     CON:            Results in (hex) 010 in C [1:0]
306     ?A<C  S&X       Valid start page # is: 7< S <16
0B5     ?NC GO          Start >= 16, DATA ERROR
0A2     ->282D          [ERRDE]
130     LDI S&X         Now test the lower bound
007     CON:            Load hex 07 in C [1:0]
0A6     A<>C  S&X       C=Start page
306     ?A<C  S&X       is 7 less than Start?
3D3     JNC -06         Nope, DATA ERROR
0E6     B<>C  S&X       B=Start page, S
106     A=C  S&X        A=# of pages, N
130     LDI S&X         Valid #Pgs is 0 < N < 9
009     CON:            Load 09 into C [1:0]
306     ?A<C  S&X       Is N < 9?
3D3     JNC -06         Nope, DATA ERROR
346     ?A#0  S&X       Is N not equal to 0?
3C3     JNC -08         Nope, DATA ERROR
0C6     C=B  S&X        Start page in C[S&X]
070     N=C             START page number in N[S&X]
0A6     A<>C  S&X
106     A=C  S&X        copy #pgs N to C[S&X]
126     A=A+B  S&X      A(X)=start page + number of pages = highest page +1
0A6     A<>C  S&X       C(X)=hp+1, A(X)=page count
266     C=C-1  S&X      C(X)=hp
158     M=C             highest page number in M[S&X]
0A6     A<>C  S&X       A(X)=hp,  C(X)=page count
0E6     B<>C  S&X       B(X)=page count,  C(X)=START page
0C6     C=B  S&X        B(X) is the count down index (page count)
266     C=C-1  S&X      Underflow will set the carry bit
067     ?C  RTN         Done!, end function.
0E6     B<>C  S&X       place decremented counter back in B(X)
0B0     C=N             Calculate the current page from the base pg# & counter
106     A=C  S&X        base page number in A(X)
126     A=A+B  S&X      current page in A=(S+N-1)
379     PORT DEP:       Initialize the current page
03C     XQ              pg# expected in A(X)
1ED     ->A1ED          [INITPG]
3B3     JNC  -10d       [LOOP] ,and loop
04E     C=0  ALL        Prepare to load ROM address into C
0A6     A<>C  S&X       current Page number to C
106     A=C  S&X        keep it in A
13C     RCR  8          Rotate page in C(X) into MSN of address field (C[6:3])
0A6     A<>C  S&X       Fetch current page again
106     A=C  S&X
040     WROM            Write X to page base address
0A0     SLCTP           C[6:3] is the address field
01C     PT=  3          P points to the low nibble
0E0     SLCTQ
15C     PT=  6          Q is the high nibble.
112     A=C  P-Q        A[ADR]=page base address
0B0     C=N             START page number in N[S&X]
0B2     A<>C  P-Q       bring it back to C
112     A=C  P-Q        Save base address in N
070     N=C             N[ADR]=page base address
010     LD@PT-  0       N[S&X]=lowest page number
3D0     LD@PT-  F
390     LD@PT-  E
1D0     LD@PT-  7       C[ADR]=page relative address of the last page pointer (lpp)
15C     PT=  6          Set Q back from the LC3
152     A=A+C  P-Q      A[ADR]=absolute address of the lpp
092     B=A P-Q         save xFE7 in B[ADR] for later
0B0     C=N ALL         lowest page number in C[S&X]
31C     PT=  1
010     LD@PT-  0
058     G=C  @PT+       G= PCALC flag:lowest page number
379     PORT DEP:       Set LPP and write it to ROM address
03C     XQ              Lowest Page Pointer = LPP
25D     ->A25D          [PCALC]
0D2     C=B  P-Q        restore previous absolute ADR
23A     C=C+1 M         adr: xFE8
112     A=C  P-Q
```

```
198     C=M ALL         highest page number in C[S&X]
31C     PT=  1
050     LD@PT-  1       This flag says we will subtract from the current page to get
the  previous page
058     G=C  @PT+       G has '1P', where 'P' is the highest page number.
379     PORT DEP:       Set NPP and write it to ROM address
03C     XQ              Next Page Pointer = NPP
25D     ->A25D          [PCALC]
0D2     C=B  P-Q        restore previous ADR
010     LD@PT-  0       remove absolute nibble
23A     C=C+1 M         adr: xFE8
23A     C=C+1 M         adr: xFE9
3DC     PT=PT+1
0F2     B<>C  P-Q
130     LDI S&X
091     CON:
106     A=C  S&X
379     PORT DEP:       Load Character
03C     XQ
250     ->A250          [LMLDL]
010     LD@PT-  0
3D0     LD@PT-  F
390     LD@PT-  E       adr: xFED
350     LD@PT-  D       word: 090
15C     PT= 6
0F2     B<>C  P-Q
130     LDI S&X
090     CON:
106     A=C  S&X
379     PORT DEP:       Load Character
03C     XQ
250     ->A250          [LMLDL]
0F2     B<>C  P-Q
23A     C=C+1 M         adr: xFEE
23A     C=C+1 M         adr: xFEF
0F2     B<>C  P-Q
130     LDI S&X
091     CON:
106     A=C  S&X
379     PORT DEP:       Load Character
03C     XQ
250     ->A250          [LMLDL]
0F2     B<>C  P-Q
23A     C=C+1 M         adr: xFF0
23A     C=C+1 M         adr: xFF1
0F2     B<>C  P-Q
130     LDI S&X
0E5     CON:
106     A=C  S&X
379     PORT DEP:       Load Character
03C     XQ
250     ->A250          [LMLDL]
0F2     B<>C  P-Q
23A     C=C+1 M         adr: xFF2
0F2     B<>C  P-Q
130     LDI S&X
00F     CON:
106     A=C  S&X
379     PORT DEP:       Load Character
03C     XQ
250     ->A250          [LMLDL]
0F2     B<>C  P-Q
23A     C=C+1 M         adr: xFF3
0F2     B<>C  P-Q
130     LDI S&X
200     CON:
106     A=C  S&X
0B0     C=N  ALL
09C     PT=  5
010     LD@PT-  0
010     LD@PT-  0
010     LD@PT-  0
112     A=C  P-Q
15C     PT=  6
132     A=A+B  P-Q      ADR field
0B2     A<>C  P-Q       ADR field
112     A=C  P-Q        ADR field
0A6     A<>C  S&X       get byte value to C[S&X]
040     WROM
3E0     RTN
04E     C=0  ALL
```

```
39C     PT=  0
098     C=G  @PT+
31C     PT=  1
010     LD@PT-  0       C(X)=passed extreme (highest or lowest) page number
106     A=C  S&X        Save it in A[S&X]
0B0     C=N             Get current address into C[ADR]
07C     RCR  4          Rotate the high nibble into C[3]
3C6     RSHFC S&X       Mask off the nibbles to the left
3C6     RSHFC S&X       What remains is the current page number
246     C=A-C S&X       Difference with current page number
2E6     ?C#0  S&X       are they different?
03F     JC   +07        yes, go to [PNEQ]
15C     PT=  6          no, go on
010     LD@PT-  0       Otherwise, we are on one of the extreme pages
010     LD@PT-  0       The pointer to the next or previous page is
010     LD@PT-  0       therefore 0.
03C     RCR  3
0AB     JNC  +21d       [PCONT]
0B0     C=N             We are in a page between the extremes
07C     RCR  4          Get current base address into C[ADR])
3C6     RSHFC S&X       Rotate the high nibble into C[3]
3C6     RSHFC S&X       Mask off the nibbles to the left
106     A=C  S&X        Store CURRENT page number in A(X)
39C     PT=  0          Get the add/subtract flag
098     C=G  @PT+
3CE     RSHFC  ALL
21C     PT=  2
010     LD@PT-  0
010     LD@PT-  0
2E6     ?C#0  S&X       Add/subtract flag
02F     JC   +05        ADD
0A6     A<>C  S&X
106     A=C  S&X        Get the page number back in C[S&X]
266     C=C-1  S&X      the current page minus 1 is the previous page
023     JNC  +04        PCONT
0A6     A<>C  S&X
106     A=C  S&X        C=A S&X
226     C=C+1  S&X      the current page plus 1 is the next page
15C     PT=  6
0B2     A<>C  P-Q       Load the previous pointer address
040     WROM            and write the computed value
3E0     RTN
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emulators for old HP

*Message #1 Posted by **Olivier De Smet** on 8 Jan 2012, 7:55 a.m.*

Hello,

I enjoy writing emulators of old computers and calculators (see http://sites.google.com/site/olivier2smet2/)

After finishing an hp67/97 emulator for windows (with the roms from nonpareil), I started an HP15C emulator for windows (with the roms of an old nonpareil release .. I use to archive files from internet for my own use ;)).

Soon I started a new hp 67 emulator for android, followed by an HP33/34 one (same woodstock processor).

As it was nice to write this one for android I started a new HP11/12/15/16 one for android.

Actually it's near the end of the beta phase. (perhaps I will start an HP41 emulator before finishing this one ...)

But I have now a strange observation :

when running emulators (windows or android) from the HP1x roms from nonpareil, it display "running" with the "r" in the lower part of the second digit, but my own original hp15c display "running" with the "r" in the upper part of the digit. (sr 2242a12656)

Did someone already notice this display artifact ?

Could it be due to roms version ?

Olivier

P.S. all those 1X emulator are private (as it seems there are some trouble with the copyright of HP1x roms)

Re: Emulators for old HP

*Message #2 Posted by **Vladan Dugaric** on 8 Jan 2012, 8:01 a.m.,*
in response to message #1 by Olivier De Smet

That is Eric Smith's signature - if a calculator uses his nonpareil code and ROM images, it will show lowered r, as opposed to real calculator's raised r.

Vladan

Re: Emulators for old HP

*Message #3 Posted by **Olivier De Smet** on 8 Jan 2012, 8:07 a.m.,*
in response to message #2 by Vladan Dugaric

I hope he changed some other stuff, this one is very easy to patch (even with checksum).

I have a dis assembler for those roms, I commented 50% of the 15 rom to patch it with 224 registers (vs 64

for original), btw it seems that the HP15 roms can't do certain matrix op for matrice larger than 9x9).

Its also usefull to find when to be in FAST or SLOW mode (for display pause ...)

Olivier

Re: Emulators for old HP

*Message #4 Posted by **J-F Garnier** on 8 Jan 2012, 11:13 a.m.,*
in response to message #3 by Olivier De Smet

it seems that the HP15 roms can't do certain matrix op for matrice larger than 9x9

Interesting observation. I too have my personal HP15C emulator (based on my Emu41 and using the same source for the ROMs...) and I also patched it for higher register size (up to 192 only, configured as 94 user registers and 99 register pool, so I didn't have to patch the MEM display code).

Can you give more details?

J-F

Edited: 8 Jan 2012, 11:19 a.m.

Re: Emulators for old HP

*Message #5 Posted by **uhmgawa** on 9 Jan 2012, 9:59 a.m.,*
in response to message #3 by Olivier De Smet

> Quote:
>
> I have a dis assembler for those roms, I commented 50% of the 15 rom to patch it with 224 registers (vs 64 for original)..

That level of coverage is quite encouraging actually. I myself had only commented scattered points of interest in the 15c image. I'd been interested to kindle an open effort documenting the entire rom image. However having some explicit release of copyright status from HP would lend creditability to the effort. I can't see that happening though until the 15c le runs it course as a product. assuming it would ever happen.

Also the persistent elephant in the room is that of time being better spent on truly reusable firmware such as the wp-34s work.

Re: Emulators for old HP

*Message #6 Posted by **Christoph Giesselink** on 10 Jan 2012, 12:29 p.m.,*
in response to message #3 by Olivier De Smet

> Quote:
>
> btw it seems that the HP15 roms can't do certain matrix op for matrice larger than 9x9

referring to the

HP-15C
Owner’s Handbook

HP Part Number: 00015-90001
Edition 2.4, Sep 2011
p140,

"Matrix Dimensions: Up to 64 matrix elements can be stored in memory. You can use all 64 elements in one matrix or distribute them among up to five matrices."

Regards

Christoph

Re: Emulators for old HP

*Message #7 Posted by **Olivier De Smet** on 10 Jan 2012, 1:49 p.m.,*
in response to message #6 by Christoph Giesselink

With patched roms (ie 224 registers) a 9x9 matrix can be used, determinant and inverse can be computed, but with a 10x10 matrix, determinant is always false (and take too little time to be computed).

The rom can deal with such a matrix ie you can have 64x1 matrix with regular roms, so non-square matrix can have one dimension greater than 9 (but less than 100).

The basic routines can deal with 10x10 and larger matrix but not with 100x1 matrix (2 digits for one dimension).

More elaborate operation such as inverse and determinant fail at 10x10 and success with 9x9 (even if standard rom are supposed to be limited with 8x8)

Re: Emulators for old HP

*Message #8 Posted by **Paul Dale** on 16 Jan 2012, 5:33 p.m.,*
in response to message #7 by Olivier De Smet

My guess here would be that the LU decomposition is storing the partial pivots in the matrix descriptor and that the descriptor is overflowing somehow. The Doolittle algorithm is easy to code without limiting the size of matrix it can handle -- putting a limit in would be more effort. However, it does need to store the pivots so that systems of equations and inverses can be evaluated and to restore the original matrix later.

- Pauli

Re: Emulators for old HP

*Message #9 Posted by **Paul Dale** on 16 Jan 2012, 5:38 p.m.,*
in response to message #7 by Olivier De Smet

Anyone up to producing a patched image for the 15C LE with the extra memory? :-)

- Pauli

Re: Emulators for old HP

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 8 Jan 2012, 8:44 a.m.,*
in response to message #1 by Olivier De Smet

> Quote:
>
> P.S. all those 1X emulator are private (as it seems there are some trouble with the copyright of HP1x roms)

When ready, could you release only the emulator, please? Finding ROMs would be our problem. ;)

I am planning to switch soon to an Android phone so I am *very* interested in a 41 emulator!... :)

Massimo

Re: Emulators for old HP

*Message #11 Posted by **Namir** on 9 Jan 2012, 8:12 a.m.,*
in response to message #1 by Olivier De Smet

Olivier,

I am sure I can speak for most if not all forum members--we are all eager to download the new emulators when they are ready for release!

Namir

Re: Emulators for old HP

*Message #12 Posted by **Mike (Stgt)** on 10 Jan 2012, 1:33 p.m.,*
in response to message #11 by Namir

I'd like to have the ROM of the HP-10C, I do not mind if the r of 'running' is up or down.

Ciao.....Mike

Re: Emulators for old HP

*Message #13 Posted by **Thomas Klemm** on 11 Jan 2012, 6:10 a.m.,*
in response to message #12 by Mike (Stgt)

Probably Eric Smith could do this but I'm afraid he won't. There were some nice pictures of his rom-sucker here: http://gallery.brouhaha.com/romsucker-voyager.

The link is broken, but we can still use The Wayback Machine.

IIRC the reason why he didn't extract the ROM of the HP-10C was that he didn't have one.

Chances are small that HP will ever release the HP-10C again even as an emulator. But just for the sake of completeness I'd appreciate it nevertheless.

So maybe if we ask him politely?

Kind regards
Thomas

Re: Emulators for old HP

*Message #14 Posted by **uhmgawa** on 11 Jan 2012, 9:14 a.m.,*
in response to message #13 by Thomas Klemm

> Quote:
>
> Chances are small that HP will ever release the HP-10C again even as an emulator. But just for the sake of completeness I'd appreciate it nevertheless.

I had been looking for a loaner 10c to complete the set of KEMU images. Yet from a practical perspective even the 11c image is hard to justify in light of a 15c. That said I wouldn't refuse access to a loaner 10c for a few minutes.

> Quote:
>
> So maybe if we ask him politely?

The polite asking needs to be of HP in terms of a clarification on *their* interpretation of voyager firmware copyright status, which matters far more than the apparent legal status. Although I'd be surprised to see this happen before the 15c le product life cycle draws to a close.

Re: Emulators for old HP

*Message #15 Posted by **Thomas Klemm** on 11 Jan 2012, 10:38 a.m.,*
in response to message #14 by uhmgawa

I'm not a lawyer but I read somewhere (maybe even on Eric's site) that in order to claim the copyright of the firmware ROM it must be "written" in it. Since this statement is missing in older ROMs it won't be possible for HP to sue you if you copy it. However this was my understanding why the ROM of the HP-42S is not available whereas the ROMs of the HP-41C and older models are: at the end of the HP-42S self-test it says: COPYRIGHT HP 1988. On the other hand the ROMs for the 48/49/50 series are available.

Recently I stumbled upon Dave's ROM Dump Copying Comments. Besides the legal there's a moral issue here as well. But then we know HP dumped all this information of the voyager series. Therefore I don't think we steal but preserve their work by sharing these ROMs.

With the advent of emulators as smart phone apps the situation changed: suddenly some money could be made with these outmoded ROMs. It's a pity because it made access of the voyager emulators harder.

So I hope you will gain "access to a loaner 10c for a few minutes" in the near future.

Best regards
Thomas

Re: Emulators for old HP

*Message #16 Posted by **uhmgawa** on 11 Jan 2012, 11:29 a.m.,*
in response to message #15 by Thomas Klemm

> Quote:
>
> I'm not a lawyer but I read somewhere (maybe even on Eric's site) that in order

> to claim the copyright of the firmware ROM it must be "written" in it.

Yes I'm familiar with Eric's efforts to demystify the issue.

> Quote:
>
> Since this statement is missing in older ROMs it won't be possible for HP to sue you if you copy it.

Probably technically true but I am neither a lawyer nor do I welcome needing one in order to prove that theory.

> Quote:
>
> So I hope you will gain "access to a loaner 10c for a few minutes" in the near future.

I'd like to cross off the 10c from a testing perspective. I don't expect problems but early on I did chase down KEMU bugs which I'd only seen surface on some Voyager models. Even then doing so may cross the line as thus far I've only used images captured from devices I actually own.

Re: Emulators for old HP

*Message #17 Posted by **Paul Dale** on 16 Jan 2012, 5:36 p.m.,*
in response to message #15 by Thomas Klemm

> Quote:
>
> Since this statement is missing in older ROMs it won't be possible for HP to sue you if you copy it.

They can still sue you. They might go in knowing they can't win, but they could outlast you.

- Pauli

Re: Emulators for old HP

*Message #18 Posted by **Mike (Stgt)** on 11 Jan 2012, 11:18 a.m.,*
in response to message #13 by Thomas Klemm

I do not ask anybody for a ROM image just for collecting/playing with it - as long as the distribution could be unlawful. And I still have enough to do with all the other ROMs and emulators. But now and then my collector-me shows up: there is still missing the ROM of the 10C. Hard cheese.

Ciao.....Mike

Re: Emulators for old HP

*Message #19 Posted by **Olivier De Smet** on 16 Jan 2012, 1:20 p.m.,*
in response to message #11 by Namir

I just finished my registering as android developper.

You can search now for go41c a free HP41C emulator in Android Market

Olivier

More emulators to follow ...

Re: Emulators for old HP

*Message #20 Posted by **Kees Bouw** on 16 Jan 2012, 2:41 p.m.,*
in response to message #19 by Olivier De Smet

> Quote:
>
> More emulators to follow ...

Can you do a HP-65 for Android please?

Re: Emulators for old HP

*Message #21 Posted by **Olivier De Smet** on 16 Jan 2012, 3:16 p.m.,*
in response to message #20 by Kees Bouw

First 33C, 34C, 67 (with card reader support) then perhaps 11C, 12C, 15C, 16C after ... who knows ...

Olivier

Re: Emulators for old HP

*Message #22 Posted by **Massimo Gnerucci (Italy)** on 16 Jan 2012, 4:55 p.m.,*
in response to message #19 by Olivier De Smet

THANK YOU Olivier!
I should receive my Galaxy Note soon so I will test it @ 1280 * 800. I also see a 41CX version: I think I will buy it right after.

Greetings,
Massimo

Edited: 16 Jan 2012, 4:55 p.m.

Re: Emulators for old HP

*Message #23 Posted by **Jeroen Van Nieuwenhove** on 16 Jan 2012, 5:26 p.m.,*
in response to message #19 by Olivier De Smet

I just installed the app on my Acer Liquid phone.
There seems to be a problem with the LCD display handling: the regular LCD display elements work allright, but the display contains gibberish. Whenever I push keys, the display changes, so clearly the emulator reacts to keys being pressed, but I cannot make out anything from the screen.
Nevertheless, this app looks very promising, thank you for this effort!

Re: Emulators for old HP

*Message #24 Posted by **Guenter Schink** on 16 Jan 2012, 5:36 p.m.,*
in response to message #19 by Olivier De Smet

> Quote:
>
> I just finished my registering as android developper.
>
> You can search now for go41c a free HP41C emulator in Android Market
>
> Olivier
>
> More emulators to follow ...

I've downloaded the 41c and also bought the 41cx, probably I'm one of the first ones :-)

The 41cx (and the 41c) work good for the first few minutes on my Galaxy S GT-i9000. Not so on my tablet Acer Iconia 500. The "<--" from the menu and "on" simply don't result in "Memory lost"

As described, the calc being off, I press "<--" from the menu and the "<--" becomes and stays green framed. then I press and hold the "on" key until its green framed, release the "<--" button -- only garbage in the display. The same sequence works perfectly well on the phone.

But I believe it's a promising approach.

GÃ¼nter

Now busy playing around ...

Re: Emulators for old HP

*Message #25 Posted by **Howard Owen** on 16 Jan 2012, 6:01 p.m.,*
in response to message #1 by Olivier De Smet

I bought the 41CX version as well. So far no problems on my EVO 4G. I haven't exercised it much yet.

Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] About SKIP and BACK

*Message #1 Posted by **fhub** on 8 Jan 2012, 6:41 a.m.*

I found it already a bit strange when SKIP and BACK were extended to a range of 255 instead of 99 - we've always been told that long SKIPs/BACKs should be replaced by GTO labels, and that's in fact true: changing anything within this range would need to count all jumps again.

But now (with todays ASM tool) it's indeed necessary to change all SKIP xx by SKIP 0xx (same for BACK) - it just doesn't accept 2-digit jumps anymore! :-(

That's really a bit annoying - it requires to change all existing sources and you can't simply make sourcefiles compatible anymore for V2 and V3 versions of WP34s!

So I would suggest to either undo these changes for SKIP and BACK again (i.e. going back to 2-digit addresses) or make the ASM tool a bit more tolerant so that it would accept xx and xxx as jump addresses.

Franz

Re: [WP34s] About SKIP and BACK

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 8 Jan 2012, 8:06 a.m.,*
in response to message #1 by fhub

It does still accept 2-digit offsets for V2 code (or more correctly, older wp34s.op files).

The problem is (fully documented in the ASM manual) that the instruction format comes directly from the wp34s.op file. If that file generates an instruction with a 3-digit number, the assembler will be looking for a 3-digit number***. That is the price we are paying to have an assembler that will accept new instructions that were not ever dreamed up when the tool was written. Putting in exceptions to the rule tends to break new, upcoming features.

Technically, a 2-digit BACK/SKIP instruction does not exist in the current machine anymore.

Rather than using SKIP/BACK, use JMP and a symbolic label instead and feed this through the PP. That tool will correctly create 2-digit numbers for V2 code (or older wp34s.op file) and 3-digit numbers for V3 code. If your offset exceeds the maximum allowed, the tool will automatically switch the instruction to a GTO and insert a LBL at the appropriate target location.

PP has the other benefit that if you come back to your code and inject a few more steps between your branch and your target at a later date, PP will regenerate the correct branch offsets for you (or "promote" it to a GTO/LBL) automatically. It also alleviates the need for you to count steps -- which is even more important when the offset limit is north of 200 steps (I guess that should be "south" for those Australians among us)!

Additionally, many of us feel that the PP-ready JMP is much more readable and self documenting than using BACK/SKIP instructions.

In the meantime, you can use this little ditty to convert your older code to the newer style if you want. Simply

run it as a filter:

```
$ skip2.pl < old.wp34s > new.wp34s
```

(Hopefully there are no bugs :-)

```
#!/usr/bin/perl -w
# Convert 2-digit BACK/SKIP to 3-digit versions.
while (<>) {
  # Look for any 2-digit BACK/SKIP instructions.
  if (/(SKIP|BACK)\s+(\d{2})($|\s+)/) {
    my $offset2 = $2;
    my $offset3 = sprintf "%03d", $offset2;


    # Replace the 2-digit SKIP/BACK with a 3-digit variant.
    # Be careful to put the white space back exactly as it was found!
    s/(SKIP|BACK)(\s+)${offset2}/${1}${2}${offset3}/;
  }
  print;
}
```

*** This is a consequence of the instruction lookup method used. A table is built from wp34s.op with all legal instructions (eg: SKIP 000, SKIP 001, etc.). The source instruction is parsed out of the source line and an explicit match is attempted against the legal instructions.

Re: [WP34s] About SKIP and BACK

*Message #3 Posted by **fhub** on 8 Jan 2012, 8:52 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

> Quote:
>
> It does still accept 2-digit offsets for V2 code (or more correctly, older wp34s.op files).

Ok, I just thought that with all the powerful possibilities of Perl it won't be difficult to accept such 2-digit offsets for SKIP/BACK (maybe even for other commands) in all cases by simply replacing "SKIP xx" with "SKIP 0xx".

Re: [WP34s] About SKIP and BACK

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 8 Jan 2012, 8:35 p.m.,*
in response to message #3 by fhub

OK, since I was working it that area anyway, I decided I might as well just slurp that little fragment into the main script and do this for you on-the-fly.

You can add the "-sb2to3" switch to either LIB or ASM and it will do the conversion of BACK and/or SKIP from 2-digit to 3-digit on any instances it encounters.

However, the best approach is still to port your code to PP where all that messy stuff is done for you magically...

Re: [WP34s] About SKIP and BACK

*Message #5 Posted by **fhub** on 9 Jan 2012, 4:40 a.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:

> OK, since I was working it that area anyway, I decided I might as well just slurp that little fragment into the main script and do this for you on-the-fly.

Great service, many thanks! :-)

Franz

Re: [WP34s] About SKIP and BACK

*Message #6 Posted by **fhub** on 9 Jan 2012, 6:20 a.m.,*
in response to message #5 by fhub

Neil, just 2 little 'cosmetic' problems:

1) PP script: in the helptext for the -v3 option the letters in "enhancement" are a bit mixed-up ;-)

2) ASM & LIB script: my perl2exe doesn't like one line in your helptext for the new -sb2to3 option: it thinks that "use with old-style V2 ..." should include a module 'with.pm' - what a stupid compiler! ;-)
Maybe you could change the line-wrapping in these 2 scripts a bit when you make your next changes ... ("use with" shouldn't be the first text in a line).

Franz

Re: [WP34s] About SKIP and BACK

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 9 Jan 2012, 6:26 a.m.,*
in response to message #6 by fhub

Thanks. Done.

Edited: 9 Jan 2012, 6:37 a.m.

Re: [WP34s] About SKIP and BACK

*Message #8 Posted by **fhub** on 9 Jan 2012, 5:57 p.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

Hey, I just saw this in the SVN:
"Pull in Marcus' really bright idea about zero extending instructions and re-search the instruction hash. Allows coding source with things such as "RCL 4"."

Great, that's much better than -sb2to3. :-)

I guess this also works for SKIP 05 (and even SKIP 5) --> SKIP 005.
Then you could remove this -sb2to3 option again. ;-)

Re: [WP34s] About SKIP and BACK

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 9 Jan 2012, 6:10 p.m.,*
in response to message #8 by fhub

Yup!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPN programming exercise - Fibonacci numbers

*Message #1 Posted by **Gerson W. Barbosa** on 7 Jan 2012, 8:27 p.m.*

Write a short program on your favorite RPN calculator to display the Fibonacci sequence:

```
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ...
```

No manual initialization allowed. On the HP-15C LE you might want to use R/S instead of PSE. Currently I have a couple of 7-step HP-12C programs and one 6-step WP 34S program, but this can always be improved (except by creating a new firmware just for this task - FIB can of course be used if needed :-).

Happy programming!

Re: RPN programming exercise - Fibonacci numbers

*Message #2 Posted by **Paul Dale** on 7 Jan 2012, 8:53 p.m.,*
in response to message #1 by Gerson W. Barbosa

Two completely untest 34S solutions both six steps.

```
01    iC 0          Clx
02    iC 1          FIB
03    x[<->] Y      PSE 10
04    RCL+ Y        RCL L
05    PSE 10        INC X
06    BACK 003      BACK 004
```

The left version is more suitable to other RPN calculators of course. Both are untested and likely broken but the ideas are probably okay.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #3 Posted by **Gerson W. Barbosa** on 7 Jan 2012, 9:19 p.m.,*
in response to message #2 by Paul Dale

It works. It's similar to the one I came up with when using FIB. I forgot to mention the step count should include LBL when applicable, sorry!

```
001 LBL 99
002 0
003 FIB
004 PSE 10
005 INC L
006 RCL L
007 BACK 04
```

Gerson.

Edited: 7 Jan 2012, 9:20 p.m.

Re: RPN programming exercise - Fibonacci numbers

*Message #4 Posted by **Paul Dale** on 9 Jan 2012, 9:15 p.m.,*
in response to message #3 by Gerson W. Barbosa

How about another:

```
01 iC 0
02 iC 1
03 [cmplx]ENTER
04 +
05 PSE 10
06 BACK 003
```

Six steps, seven with an initial label.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #5 Posted by **Gerson W. Barbosa** on 9 Jan 2012, 10:17 p.m.,*
in response to message #4 by Paul Dale

Nice use of ^{C}ENTER as DUP2 in RPL!

```
%%HP: T(3)A(R)F(,);
\<< \-> n
  \<< 0 1 1 n 2 -
    START DUP2 +
    NEXT n \->LIST
  \>>
\>>
```

Gerson.

Re: RPN programming exercise - Fibonacci numbers

*Message #6 Posted by **Paul Dale** on 9 Jan 2012, 10:32 p.m.,*
in response to message #4 by Paul Dale

And another:

```
01 iC 0
02 iC 1
03 +
04 PSE 10
05 y[<->] L
06 BACK 003
```

Same length though.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #7 Posted by **Gerson W. Barbosa** on 9 Jan 2012, 10:46 p.m.,*
in response to message #6 by Paul Dale

There's more than a way to skin a cat. On the HP-15C:

```
001- f LBL A
002- g CLx
003- f MATRIX 1
```

```
004- f LBL 0
005- f PSE
006-   RCL + 0
007- f x<> 0
008-   GTO 0
```

Gerson.

Edited: 9 Jan 2012, 11:20 p.m.

Re: RPN programming exercise - Fibonacci numbers

*Message #8 Posted by **Paul Dale** on 11 Jan 2012, 6:31 a.m.,*
in response to message #7 by Gerson W. Barbosa

I'm very tempted to add some more complex constants to the 34s "[cmplx] 1" e.g.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #9 Posted by **Gerson W. Barbosa** on 11 Jan 2012, 10:29 a.m.,*
in response to message #8 by Paul Dale

That would be useful, not just for this task, so go ahead if there's room enough. By the way, is it possible to enter **i** (1 0) in one step only? Thanks!

Gerson.

Re: RPN programming exercise - Fibonacci numbers

*Message #10 Posted by **Paul Dale** on 11 Jan 2012, 2:53 p.m.,*
in response to message #9 by Gerson W. Barbosa

I can't think of a way to get i on the stack in one step. Can do it in two though.

We do have a complex version of the constants catalogue which puts zero in Y already. This doesn't include any small integers though. "CPX h-shift CONST"

I've been thinking about possible functions to help with the commands in xrom stuff. If any more get added, some will be exposed to the user but don't expect them to necessarily be pleasant to use.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #11 Posted by **Gerson W. Barbosa** on 11 Jan 2012, 4:15 p.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> We do have a complex version of the constants catalogue which puts zero in Y already. This doesn't include any small integers though. "CPX h-shift CONST"

Yes, I had checked that but then I realized it wouldn't make sense to include

small integers there. Changing the behavior of the CPX key before numeric keys and [.] might be a option, for instance CPX 123 would put 0 in Y and 123 in X. [CPX] [R/S] might be a non-intuitive shortcut for entering **i**. I don't know the impact of these changes in the executable size though. Also, this may not be useful enough to be worth the trouble.

Gerson.

Re: RPN programming exercise - Fibonacci numbers

*Message #12 Posted by **Paul Dale** on 11 Jan 2012, 4:19 p.m.,*
in response to message #11 by Gerson W. Barbosa

A function that does pretty much nothing requires of the order of 100 bytes. This is function table overheads, catalogue overheads and the actual function prelude/epilogue that seems almost unavoidable.

Making small changes to the keyboard handler isn't so bad -- much of this is table based now so adding a command to an unused location is usually cheap.

Adding a complex prefix to digit entry is quite a different change. No idea how large this would be.

The current work is moving as much functionality into internal keystroke programs as we can. Very slow but saving lots of space.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #13 Posted by **Marcus von Cube, Germany** on 11 Jan 2012, 4:32 p.m.,*
in response to message #12 by Paul Dale

```
XLBL"i"
iC 1
iC 0
RTN
```

This should do the trick with minimum overhead. We have to add a catalogue entry and a command table entry but that's not too expensive.

Re: RPN programming exercise - Fibonacci numbers

*Message #14 Posted by **Paul Dale** on 11 Jan 2012, 4:40 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> This should do the trick with minimum overhead. We have to add a catalogue entry and a command table entry but that's not too expensive.

Not quite -- the stack dynamics would be incorrect :-(

```
XLBL"i"
xIN NILADIC_1_COMPLEX
iC 1
iC 0
xOUT xOUT_NORMAL
```

will work however. The code is 8 bytes, the command table is 10 - 12 bytes (I forget which) and the catalogue entry is 10 bits but can't live in the complex constants catalogue which is compiled automatically -- the complex functions catalogue seems like an okay place to put it.

Pauli

Edited: 11 Jan 2012, 5:21 p.m.

Re: RPN programming exercise - Fibonacci numbers

*Message #15 Posted by **Paul Dale** on 12 Jan 2012, 5:25 a.m.,*
in response to message #11 by Gerson W. Barbosa

We've got a shorter solution on the 34s now:

```
01 [cmplx]i
02 RCL+ Y
03 PSE 10
04 x[<->] Y
05 BACK 003
```

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #16 Posted by **Gerson W. Barbosa** on 12 Jan 2012, 8:03 a.m.,*
in response to message #15 by Paul Dale

That's what [cmplx]i was for! If the steps 02 and 03 are swapped the sequence will begin with F(0). I'd searched for an **i** constant in the HP-42S catalog but there was none. I think this first appeared in the HP-28C. If now WP 34S has it, then it was worth posting this simple RPN exercise :-)

BTW, how [cmplx]i is entered?

Gerson.

Re: RPN programming exercise - Fibonacci numbers

*Message #17 Posted by **Marcus von Cube, Germany** on 12 Jan 2012, 8:31 a.m.,*
in response to message #16 by Gerson W. Barbosa

> Quote:
>
> BTW, how [cmplx]i is entered?

It's in the complex catalogue (CPX 3) but I just mapped it to CPX dot as well. I'm sure Walter will find a better place on the keyboard.

Re: RPN programming exercise - Fibonacci numbers

*Message #18 Posted by **Paul Dale** on 12 Jan 2012, 5:34 p.m.,*
in response to message #17 by Marcus von Cube, Germany

We couldn't put it in the complex constants catalogue since that is automatically produced alongside the real version. Still, the complex catalogue is a decent place and Walter will likely find somewhere decent on the keyboard to locate it. "CPX 1" might be okay which would allow "CPX 0" as well :-)

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #19 Posted by **Marcus von Cube, Germany** on 12 Jan 2012, 8:33 a.m.,*
in response to message #15 by Paul Dale

Remember that WP 34S instructions are generally 16 bits long. This allows to cramp so much functionality into a single instruction but costs more bytes than other designs. We are down to 10 bytes here, still pretty decent...

Re: RPN programming exercise - Fibonacci numbers

*Message #20 Posted by **Paul Dale** on 12 Jan 2012, 5:38 p.m.,*
in response to message #19 by Marcus von Cube, Germany

We have way more than 256 different instructions kind of required this and by doing so the argument can be squeezed into the instruction as well.

We currently have 571 instructions and that is not counting integer, real & complex as different functions (there are 660 if you do that). We've almost got as many different functions as the 15C has total op-codes.

- Pauli

Edited: 12 Jan 2012, 5:38 p.m.

Re: RPN programming exercise - Fibonacci numbers

*Message #21 Posted by **Allen** on 7 Jan 2012, 9:45 p.m.,*
in response to message #1 by Gerson W. Barbosa

For 42S:

```
00 { 10-Byte Prgm }
01>LBL 01
02 CLST
03 SIGN
04>LBL 02
05 STO+ ST Y
06 X<>Y
07 PSE
08 GTO 02
```

```
09 .END.
```

Edited: 7 Jan 2012, 9:46 p.m.

Re: RPN programming exercise - Fibonacci numbers

*Message #22 Posted by **Gerson W. Barbosa** on 7 Jan 2012, 10:08 p.m.,*
in response to message #21 by Allen

10 bytes! One step shorter here... but 1 byte longer.

Re: RPN programming exercise - Fibonacci numbers

*Message #23 Posted by **Gerson W. Barbosa** on 8 Jan 2012, 9:07 a.m.,*
in response to message #1 by Gerson W. Barbosa

This is supposed to be just an exercise, not a challenge. Feel free to submit your solutions. Different approaches are always interesting, regardless of code size or register usage.

Here are my solutions:

```
WP-34S


001 LBL 88
002 1
003 LN
004 STOP
005 RCL+ L
006 BACK 02


HP-12C


01-  0
02-  n!
03-  LASTx
04-  PSE
05-  x<>y
06-  +
07-  GTO 03


01-  1
02-  LN
03-  PSE
04-  LASTx
05-  x<>y
06-  +
07-  GTO 03
```

Re: RPN programming exercise - Fibonacci numbers

*Message #24 Posted by **Fouad M. Kaadou** on 8 Jan 2012, 1:14 p.m.,*
in response to message #23 by Gerson W. Barbosa

Here are a few for the HP41C:

```
01 LBL 00
02 CLST
03 E
04 ENTER
05 LBL 01
06 X<>Z
07 ST+ Z
08 VIEW Z
09 PSE
```

```
10 GTO 01
11 END
```

16 Bytes

```
01 LBl 00
02 .
03 E
04 LBL 01
05 X<>Y
06 ST+ Y
07 VIEW Y
08 PSE
09 GTO 01
10 END
```

16 Bytes

```
01 LBL 00
02 E
03 .
04 LBL 01
05 +
06 PSE
07 LASTX
08 X<>Y
09 GTO 01
10 END
```

14 Bytes

I used local labels and synthetic instructions to make the programs shorter.

. = 0

E = 1

Cheers,

Fouad

Re: RPN programming exercise - Fibonacci numbers

*Message #25 Posted by **Gerson W. Barbosa** on 8 Jan 2012, 3:18 p.m.,*
in response to message #24 by Fouad M. Kaadou

Thanks for your participation!

I'd completely forgotten about this old thread. Not exactly the same problem, but some interesting ideas there, like Kioshi Ashima's as implemented on the WP 34S:

```
001 LBL 11
002 FIX 00
003 # Phi
004 FILL
005 2
006 +
007 /
008 PSE 10
009 *
010 BACK 02


This is based on the formula F(n) = round(phi^n/sqrt(5)) (See
https://oeis.org/A000045). The first two Fibonacci numbers are not
properly rounded by FIX 0 though.
```

Regards,

Gerson.

Edited: 8 Jan 2012, 3:21 p.m.

RPL programming exercise - One Fibonacci number

*Message #26 Posted by **Oliver Unter Ecker** on 8 Jan 2012, 3:27 p.m.,*
in response to message #1 by Gerson W. Barbosa

On an RPL machine, these two instructions

```
DUP2 +
```

will compute the *next* Fibonacci number, given the two previous ones on the stack.

So, a full program becomes

```
\<< 0 1
    2 100 START
       DUP2 +
    NEXT
\>>
```

(Though, on an RPL machine you'd want to collect the resulting numbers in a list, of course, and not just dump them on the stack.)

With this being too easy for an RPL machine, here's the advanced RPL programming exercise:
if F(10) is 55, what are the last 4 digits of F(10^14)?

(You're welcome to try this on your RPN machine, too, and I will be multo impressed if you can solve this...)

Re: RPL programming exercise - One Fibonacci number

*Message #27 Posted by **Gerson W. Barbosa** on 8 Jan 2012, 5:17 p.m.,*
in response to message #26 by Oliver Unter Ecker

> Quote:
>
> if F(10) is 55, what are the last 4 digits of F(10^14)?

Just a guess: 6875.

Re: RPL programming exercise - One Fibonacci number

*Message #28 Posted by **Oliver Unter Ecker** on 8 Jan 2012, 6:14 p.m.,*
in response to message #27 by Gerson W. Barbosa

lol. For a guess, that's pretty good! Did a calculator help you with your guess?

Re: RPL programming exercise - One Fibonacci number

*Message #29 Posted by **Gerson W. Barbosa** on 8 Jan 2012, 6:46 p.m.,*
in response to message #28 by Oliver Unter Ecker

Yes. I used your program to check it up to F(10^5) on my HP 50g:

```
%%HP: T(3)A(R)F(,);
```

```
\<< 0 1 2 4 ROLL
  START DUP2 + ROT DROP
  NEXT
\>>


  F(10^2)    354224848179261915075
  F(10^3)    final digits:  228875
  F(10^4)    final digits:  366875
  F(10^5)    final digits:  746875
```

These appear to follow a pattern.

P.S.: The latter has 20,899 digits (~10^5*$\log_{10}$(phi)). It took about one hour or so on the real 50g (I haven't timed it).

Edited: 8 Jan 2012, 7:06 p.m.

Re: RPL programming exercise - One Fibonacci number

*Message #30 Posted by **Oliver Unter Ecker** on 8 Jan 2012, 7:10 p.m.,*
in response to message #29 by Gerson W. Barbosa

Brilliant, Gerson!

Ok.

So, for the tenacious ones: how about the last 14 decimal digits of F(10^14)?

EDIT: you could have used the MOD instruction to keep the number of digits down. That would compute F(10^5) *a lot* faster. But, still, 10^14 is out of reach with this approach.

Edited: 8 Jan 2012, 7:21 p.m.

Re: RPL programming exercise - One Fibonacci number

*Message #31 Posted by **Gerson W. Barbosa** on 8 Jan 2012, 8:37 p.m.,*
in response to message #30 by Oliver Unter Ecker

The last four digits of F(10^4) coincide with the last four digits of F(10000) because 10^14 mod 15000 equals 10000.So it suffices to compute F(10000), easily done on the real 50g. See Pisano periods here. There is a calculator for the cycle lengths (scroll down halfway through the page). For modulus 10000 the result is

```
Fibs mod 10000: cycle length is 15000
```

It will not compute the cycle length for modulus 10^14, but it can be extrapolated from lower power of 10. The length appears to be 1.5*10^14, which means this approach won't be of help in this case.

Cheers,

Gerson.

P.S.: The fourth and higher powers of 10 modulus 15000 equals 10000 - so my guess was indeed right :-)

Edited: 8 Jan 2012, 10:07 p.m.

Re: RPL programming exercise - One Fibonacci number

*Message #32 Posted by **Oliver Unter Ecker** on 9 Jan 2012, 5:43 a.m.,*
in response to message #31 by Gerson W. Barbosa

Yes, your guess was right. I volunteer your result is even right to 5 digits.
(Which still doesn't help much toward 14 digits...)

Re: RPL programming exercise - One Fibonacci number

*Message #33 Posted by **Oliver Unter Ecker** on 9 Jan 2012, 6:56 p.m.,*
in response to message #30 by Oliver Unter Ecker

If you look up the Fibonacci page on wikipedia, you'll see various methods for direct computation of F(n).

One is matrix exponentiation: F(n) = [[0 1][1 1]] ^ n

This program for the 50g will tell you what F(100) mod 10^14 is, for example:

```
\<< 1.E14 R\->I MODSTO
    [[0 1][1 1]] 1.E2 R\->I POWMOD
    {1 2} GET
\>>
```

It takes about 1s on Emu48, so I figure about 10s on a 50g.

Now, if you change 1.E2 to 1.E3 it will produce a negative result. No idea why.

If you try 1.E14 it will tell you: "POWMOD Error: Integer too large"

I conclude that on the 50g POWMOD first does the POW, then the MOD, which, uhm, renders this instruction pretty much useless for matrices. (You want to MOD while you're POW'ing, or else you don't avoid the giant intermediate numbers.)

Well, it works on ND1, and the result is: 88299560546875

Modular matrix exponentiation can be made very fast with the binary method, where you're, essentially, moving in powers of 2 with every iteration. There're only ~50 (~log2(10^14)) matrix multiplications necessary to arrive at 10^14.

This could also be made to work on the 50g with ~10 lines of code to write a proper version of POWMOD. I'm pretty sure this could be made to run in under a minute, for F(10^14).

There's a Project Euler problem (#304) where finding this number (almost this number, there's a different modulus) is the first part of the simple but brutal task of summing up the Fibonacci numbers for each of 100,000 primes following 10^14.

On the 50g, 10 of those primes

```
\<< 1.E14 R\->I 1 10 START NEXTPRIME NEXT \>>
```

take about a minute to find (5s in Emulator; not sure how long exactly on the 50g), so 100,000 is a bit... daunting.

(I'm not sure what's done on the 50g, but this speed suggests to me that they're not using Miller-Rabin for the probabilistic primality check that kicks in for large numbers, used by NEXTPRIME.)

Once you have the F(NEXTPRIME(10^14)) and F(PREVPRIME(10^14)), you can use normal Fibonacci iteration (with MOD) to compute the spans between primes and eliminate the need to use matrix exponentiation to find each F(n). With an average of 33 numbers from prime to prime in this range, you're looking at having to compute 3.3 million Fibonacci numbers, though.

If you're interested, here's RPL+ code to do all that:

```
\<< 1234567891011 =m
   1e14 =bias
   1e5 =count


   \<< [[0 1][1 1]] \->big  SWAP
      m modpow
      DUP {1 1} GET
      SWAP {2 1} GET \>> =F2


   0 =sum
   bias =:prev =a
   a F2 EVAL
   1 count START
      1
      a NEXTPRIME =:a prev -
      START
         DUP ROT +
         m MOD
      NEXT
      a =prev
      DUP sum + m MOD =sum
   NEXT
   DROP DROP
   sum
\>>
```

Note that the matrix exponentiation method actually computes F(n-1), F(n), F(n+1) at once. So, to continue with Fib iteration you can pick two of them from the result matrix, and you're ready to go.

Re: RPL programming exercise - One Fibonacci number

*Message #34 Posted by **Thomas Klemm** on 9 Jan 2012, 9:03 p.m.,*
in response to message #30 by Oliver Unter Ecker

> Quote:
>
> So, for the tenacious ones: how about the last 14 decimal digits of F(10^14)?

We can combine the Fibonacci- and the Lucas-Sequence to find a fast algorithm to calculate both sequences using the following identities:

$$F_{n+1} = \frac{1}{2}(F_n + L_n),$$

$$F_{2n} = F_n L_n,$$

$$L_{n+1} = \frac{1}{2}(5F_n + L_n),$$

$$L_{2n} = \frac{1}{2}(5F_n^2 + L_n^2),$$

The idea is similar to binary exponentiation (a.k.a square-and-multiply algorithm). Here's a Python-program:

```
#!/usr/bin/python


K = 10**14
B = 2**47
N = 0
M = 10**14


F = 0
L = 2


while B > 1:
    (F, L) = (F*L % M, (5*F*F+L*L)/2 % M)
    B /= 2
    N *=2
    print "%20d %20d %20d %20d %20d" % (N, B, K, F, L)
    if K >= B:
        (F, L) = ((F+L)/2 % M,(5*F+L)/2 % M)
        K -= B
        N += 1
        print "%20d %20d %20d %20d %20d" % (N, B, K, F, L)
```

And that's the output:

```
                   N                    B                    K
F                    L


                   0        70368744177664      100000000000000
0                    2
                   1        70368744177664       29631255822336
1                    1
                   2        35184372088832       29631255822336
1                    3
                   4        17592186044416       29631255822336
3                    7
                   5        17592186044416       12039069777920
5                   11
                  10         8796093022208       12039069777920
55                 123
                  11         8796093022208        3242976755712
89                 199
                  22         4398046511104        3242976755712
17711              39603
                  44         2199023255552        3242976755712
701408733        1568397607
                  45         2199023255552        1043953500160
1134903170         2537720636
                  90         1099511627776        1043953500160
67194370816120    26026380244498
                 180          549755813888        1043953500160
38521399707760    95774259272002
                 181          549755813888         494197686272
67147829489881    44190628905401
                 362          274877906944         494197686272
73003235747281    62383406970803
                 363          274877906944         219319779328
67693321359042    13699792853604
                 726          137438953472         219319779328
22604627687368    59229375788818
                 727          137438953472          81880825856
40917001738093    86126257112829
                1454           68719476736          81880825856
68797008295097    27914836383243
                1455           68719476736          13161349120
48355922339170    85949938929364
                2910           34359738368          13161349120
29880280387880     1222581444498
                5820           17179869184          13161349120
19590131884240    30816254472002
               11640            8589934592          13161349120
19866585048480    83263801888002
               11641            8589934592           4571414528
51565193468241    91298363565201
               23282            4294967296           4571414528
94702926281441    21451378170403
               23283            4294967296            276447232
```

```
58077152225922        47483004788804
              46566             2147483648             276447232
53214104177288        83596643750418
              93132             1073741824             276447232
75272696106384          856675174722
             186264              536870912             276447232
32522299625248        84969227777282
             372528              268435456             276447232
10340608015936        31006195307522
             372529              268435456               8011776
20673401661729        41354617693601
             745058              134217728               8011776
58418769896129        96892716347203
            1490116               67108864               8011776
48860609677187        39467245923207
            2980232               33554432               8011776
67118061778709        99561741164847
            5960464               16777216               8011776
35902403842523        89664428533407
           11920928                8388608               8011776
20398272665861        51376915027647
           23841856                4194304               8011776
15043208059067        60138774356607
           23841857                4194304               3817472
37590991207837        67677407325971
           47683714                2097152               3817472
79233668834727        93180651092843
           47683715                2097152               1720320
86207159963785        44674497633239
           95367430                1048576               1720320
68859452249615        77012557631123
           95367431                1048576                671744
72936004940369        10654909439599
          190734862                 524288                671744
76957202272031        55876229280803
          190734863                 524288                147456
66416715776417        20331120320479
          381469726                 262144                147456
89852350343743        94115666789443
          762939452                 131072                147456
10390253505149        64051296250247
          762939453                 131072                 16384
37220774877698        58001281887996
         1525878906                  65536                 16384
1539434313208       72834288896018
         3051757812                  32768                 16384
34530356005744        10933216256322
         6103515624                  16384                 16384
86304808313568         3648804967682
         6103515625                  16384                     0
44976806640625        17586423267761
        12207031250                   8192                     0
74957275390625        45489501953123
        24414062500                   4096                     0
14520263671875        81231689453127
        48828125000                   2048                     0
71563720703125        64288330078127
        97656250000                   1024                     0
90838623046875         8721923828127
       195312500000                    512                     0
85528564453125        49542236328127
       390625000000                    256                     0
60955810546875        86651611328127
       781250000000                    128                     0
57012939453125        87432861328127
      1562500000000                     64                     0
78924560546875        85870361328127
      3125000000000                     32                     0
92950439453125        88995361328127
      6250000000000                     16                     0
50799560546875        82745361328127
     12500000000000                      8                     0
36700439453125        95245361328127
     25000000000000                      4                     0
38299560546875        70245361328127
     50000000000000                      2                     0
11700439453125        20245361328127
    100000000000000                      1                     0
88299560546875        20245361328127
```

My guess is that this algorithm should be fast on a HP-50g as well. Due to the lack of arbitrary precision the HP-42S doesn't qualify for this.

Kind regards
Thomas

Re: RPL programming exercise - One Fibonacci number

*Message #35 Posted by **Oliver Unter Ecker** on 10 Jan 2012, 8:48 a.m.,*
in response to message #34 by Thomas Klemm

Nice work, again, Thomas.

> Quote:
>
> Due to the lack of arbitrary precision the HP-42S doesn't qualify for this.

That's what I used to think too, until, almost exactly one year ago, an intrepid bunch (some active posters here) showed the way: Making Fib bits visible (on Silicium.org)

(I think this is my all-time favorite calculator-related discussion. It starts slow but quickly shows real ingenuity. I still can't get over those HP-28C print-outs.)

Now, I'd be willing to bet that F(10^14) mod 10^14 can even be solved on a 15C (LE).

Edited: 10 Jan 2012, 9:08 a.m.

Re: RPL programming exercise - One Fibonacci number

*Message #36 Posted by **Thomas Klemm** on 11 Jan 2012, 6:24 a.m.,*
in response to message #35 by Oliver Unter Ecker

Thanks for link: it's an interesting post! I didn't mean to say it's impossible to do it using the HP-42S. Or we could use Peter's MCODE Multi-Precision Library for HP-41. I might give it a try but this is definitely not my first choice.

Thanks for the challenge as well!
Thomas

Re: RPL programming exercise - One Fibonacci number

*Message #37 Posted by **Werner** on 13 Jan 2012, 1:17 p.m.,*
in response to message #34 by Thomas Klemm

The 42S not, no, but Free42 decimal (as on the iPhone) can determine the last 12 digits this way.

Cheers, Werner

Re: RPL programming exercise - One Fibonacci number

*Message #38 Posted by **Thomas Klemm** on 14 Jan 2012, 3:05 a.m.,*
in response to message #37 by Werner

Challenge accepted:

```
1E12
STO 00
1E14
XEQ "Fib"
```

gives:

```
y: 245361328127
x: 299560546875
```

Cheers
Thomas

```
00 { 90-Byte Prgm }
01 LBL "Fib"
02 STO 01
03 LOG
04 2
05 LOG
06 /
07 IP
08 1
09 +
10 2
11 X<>Y
12 Y^X
13 STO 02
14 CLST
15 2
16 X<>Y
17 LBL 00
18 1
19 RCL 02
20 X<=Y?
21 GTO 02
22 RDN
23 RDN
24 RCL ST Y
25 X^2
26 X<>Y
27 STO* ST Z
28 X^2
29 STO+ ST Y
30 2
31 STO/ 02
32 STO/ ST Z
33 *
34 +
35 RCL 00
36 MOD
37 X<>Y
38 RCL 00
39 MOD
40 RCL 01
41 RCL 02
42 X<=Y?
43 GTO 01
44 RDN
45 RDN
46 GTO 00
47 LBL 01
48 -
49 STO 01
50 RDN
51 STO+ ST Y
52 2
53 STO/ ST Z
54 *
55 RCL+ ST Y
56 RCL 00
57 MOD
58 X<>Y
59 RCL 00
60 MOD
61 GTO 00
62 LBL 02
```

```
63 RDN
64 RDN
65 END
```

Edited: 14 Jan 2012, 3:11 a.m.

Re: RPL programming exercise - One Fibonacci number

*Message #39 Posted by **Thomas Klemm** on 9 Jan 2012, 3:02 a.m.,*
in response to message #26 by Oliver Unter Ecker

My approach was slightly different: It's clear that the last digit of F_n has to repeat since there are only *10x10 = 100* possibilities for the two previous values. I used the following program with initial values *ST X: 1* and *ST Y: 0*:

```
X<>Y
RCL+ ST Y
10
MOD
```

It turns out the length of the period is *60*. So I added a loop to find the period for the last two digits:

```
00 { 27-Byte Prgm }
01 LBL "Fib"
02 X<>Y
03 60
04 X<> ST Z
05 LBL 00
06 X<>Y
07 RCL+ ST Y
08 100
09 MOD
10 DSE ST Z
11 GTO 00
12 END
```

This gave me the following sequence:

```
y:  20   40   60   80   0
x:  61   21   81   41   1
```

Thus the period is: *60 x 5 = 300*

Next step was to change line 03 to *300* and line 08 to *1E3* to find another sequence of *5*:

```
y:  600   200   800   400   0
x:  801   601   401   201   1
```

After changing line 03 to *1500* and line 08 to *1E4* I got a sequence of *10*:

```
y:  8000   6000   4000   2000   0      8000   6000   4000   2000   0
x:  9001   8001   7001   6001   5001   4001   3001   2001   1001   1
```

Thus I ended up with a period of *60 x 5 x 5 x 10 = 15,000*. From here I did the same as Gerson: 10^{14} *MOD 15,000 = 10,000*. Changed line 03 to *10000* and line 08 to *1E5* to find:

```
y: 30626
x: 66875
```

Cheers
Thomas

Edited: 9 Jan 2012, 3:07 a.m.

Re: RPL programming exercise - One Fibonacci number

*Message #40 Posted by **Oliver Unter Ecker** on 9 Jan 2012, 5:41 a.m.,*
in response to message #39 by Thomas Klemm

Wow, Thomas, very nice! I *am* impressed.

Re: RPN programming exercise - Fibonacci numbers

*Message #41 Posted by **Morten Nygaard Åsnes** on 13 Jan 2012, 3:31 a.m.,*
in response to message #1 by Gerson W. Barbosa

HP 35s

```
F001 LBL F
F002 0
F003 1
F004 PSE
F005 eqn REGX+REGY
F006 GTO F004
```

Re: RPN programming exercise - Fibonacci numbers

*Message #42 Posted by **Gerson W. Barbosa** on 13 Jan 2012, 10:19 a.m.,*
in response to message #41 by Morten Nygaard Åsnes

Great! The first 6-step program for an unmodified HP calculator!

Since it does show F(0) and F(1) before looping (thanks to the 2-line display) that's okay. Also, this allows us to match Allen's 10-byte step solution for the HP-42S above:

```
00 {10-Byte Prgm }
01 LBL 00
02 CLST
03 N!
04 LBL 01
05 PSE
06 RCL+ ST L
07 GTO 01
08 .END.
```

Gerson.

Re: RPN programming exercise - Fibonacci numbers

*Message #43 Posted by **Paul Dale** on 13 Jan 2012, 4:01 p.m.,*
in response to message #42 by Gerson W. Barbosa

I rather doubt the 35s solution is less than 10 bytes.

- Pauli

Re: RPN programming exercise - Fibonacci numbers

*Message #44 Posted by **Gerson W. Barbosa** on 13 Jan 2012, 4:28 p.m.,*
in response to message #43 by Paul Dale

Sorry! I think I didn't make myself clear. I meant showing F(0) and F(1) at the same time like Morten did would allow *me* to achieve the 10-byte count in the HP-42S. My post was really ambiguous, I realize now.

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 emaluation

*Message #1 Posted by **Eric Foers** on 7 Jan 2012, 2:55 p.m.*

I have just had a thought on the practical use of HP41 emaluators. What I find 'difficult' (for want of a better word) about the PC versions, is that you either have to use the mouse, or you have limited keyboard facilities.

This could be overcome by someone building a USB keypad with the 41's keys which interacts with the emulation software. I am not able to do so myself, but would glady pay for one (& suspect that may of us who would like to see the 41 revived would also), and imagine that there are one or two specialists who subscribe to this site who could.

There could be additional facilities on such a keypad, like a activation switch & memory on which to store programs, which would then be portable between PC's.

Edited: 7 Jan 2012, 2:56 p.m.

Re: HP41 emaluation

*Message #2 Posted by **Eric v d Wateren** on 8 Jan 2012, 7:07 a.m.,*
in response to message #1 by Eric Foers

I very much agree with your thought, and had similar ideas for some time... unfortunately without the technical skills to realise them. I'd love to have a small Bluetooth connected HP41 keyboard that could be used to interact with PC, Mac or iPod/iPad based emulators!

In such a configuration one would combine all the power, storage- and extended display capabilities of the emulator device with the (in my opinion) never surpassed tactile quality of the physical HP41 keyboard. It would be hard to beat this combination!

The same keyboard could also be usable for data entry into other applications (such as spreadsheets). As an iMac user I find the Apple cordless keyboard a serious compromise when entering large amounts of numeric data and I often wondered how useful it would to be abke to simply connect a nice HP41-type keyboard.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Pens for SHARP CE-150 printer/cassette interface

*Message #1 Posted by **Miguel Toro** on 7 Jan 2012, 2:50 p.m.*

Hi,

I recently bought a Sharp PC-1500 + CE-150 interface for 40$ on eBay. The PC-1500 is as new and the CE-150 needed a battery replacement that I made, but the printer came without pens. Since I know that there are a lot of fans of Sharp pocket computers in this forum, I would like to ask if someone knows where I could find spare pens for the printer.

The PC-1500 is a beauty and I do not understand why it has a so low value at the auctions. Anyway, it was good for me. I think I had an excellent deal. Thanks and regards,

Miguel

Re: [OT] Pens for SHARP CE-150 printer/cassette interface

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Jan 2012, 4:34 p.m.,*
in response to message #1 by Miguel Toro

Google for "Christiane Laß" in Germany. Her company sells accessories for medical equipment, the pens amongst them. Url: http://www.lass-hno.de

Re: [OT] Pens for SHARP CE-150 printer/cassette interface

*Message #3 Posted by **From Hong Kong** on 8 Jan 2012, 3:35 a.m.,*
in response to message #1 by Miguel Toro

> Quote:
>
> The PC-1500 is a beauty and I do not understand why it has a so low value at the auctions. Anyway, it was good for me. I think I had an excellent deal. Thanks and regards,

In 1980s', PC-1500 was one of the most popular pocket computers in Hong Kong because it was cheap and could be programmed in machine language. However, it has a large form factor and can only display one line only, making it less attractive especially when compared with later models such as PC-1350, PC-1360, PC-1600 and PC-E500S.

Re: [OT] Pens for SHARP CE-150 printer/cassette interface

*Message #4 Posted by **robertoataulfo** on 8 Jan 2012, 7:39 a.m.,*
in response to message #3 by From Hong Kong

```
I prefer the PC-1500A.
I really like my 75D (1 line display.)
```

Re: [OT] Pens for SHARP CE-150 printer/cassette interface

*Message #5 Posted by **Klaus** on 9 Jan 2012, 9:45 a.m.,*
in response to message #1 by Miguel Toro

Do you know the pen that contain 3 tips: a pencil, a rolling-ink pen and a pen to write on a tablet computer? The pencil without the tip fits inside a dried-out pen. It can be refilled in seconds with a new pencil core in seconds. Plus, it is also the spirit of SHARP (was their first product) to use a pencil for that.

A dried-out pen is easy to obtain.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Custom Made Leather Cases for Voyager Calculators

*Message #1 Posted by **Juergen Keller** on 7 Jan 2012, 2:48 p.m.*

A while ago someone was asking for a defective Voyager calculator in the ads section. The reason was that he wanted to commission Gfeller Casemakers to produce a custom made leather case for his Voyager calculator, and obviously, he didn't wanted to give away his own. As I had a defective 12C I sent it to him, and he offered to return the favor by sending me such a leather case. Well, that made me quite happy! :-)

Last week, I found a letter from the US in my mailbox. I was amazed when I found two leather cases inside! The cases are professionally hand-crafted, look very nice and will last forever I guess. One of the cases uses a thicker leather, the other a thinner one. In my opinion the thinner case looks more elegant whereas the thicker case provides better protection. Therefore I would choose the thinner case for calculators residing at one location (at home, in the office), and choose the thicker case when I take a calculator around with me in my backpack.

If anybody is interested in such leather cases you may contact: Steve Derricott (sd@gfeller.us) at Gfeller Casemakers. I'm not affiliated with this company in any way. I can imagine that such cases are not cheap, but as the company says on their website, leather goods are a solid choice and a wise investment, and in my opinion, they suit HP calculators very well.

Re: Custom Made Leather Cases for Voyager Calculators

*Message #2 Posted by **jonathan G harris** on 7 Jan 2012, 2:56 p.m.,*
in response to message #1 by Juergen Keller

Looks pretty nice. As I keep my new (1rst stringer) 15C LE in my shirt pocket everyday at work I may have to get one of these.

Years back, before I was even out of school (2006 EE grad...) I thought I saw a link on the HP website that sold fancy calculator cases for the Voyager series. They had some crazy cases that were probably more for show than for actual protection. Some of the cases they had on their website were made of leather, snakeskin, ostrich skin. They were expensive(25-60ish?) but I thought one day I would buy one. I haven't been able to find that link since I last saw it back probably in 2005.

Re: Custom Made Leather Cases for Voyager Calculators

*Message #3 Posted by **hpnut** on 7 Jan 2012, 9:53 p.m.,*
in response to message #1 by Juergen Keller

fashion-wise, the tan colour is god awful. perhaps black leather is better match.

Re: Custom Made Leather Cases for Voyager Calculators

*Message #4 Posted by **Geoff Quickfall** on 8 Jan 2012, 3:17 p.m.,*
in response to message #3 by hpnut

Yes tan is bland, but it would shoe polish a nice rustic brown, which I prefer over black. Black leather might as well be Naugahyde (vinyl for you post 70's people).

Of course that is a personal choice!

I checked the site and a personal email is required as this is not in the catalogue.

Geoff

p.s. all spelling mistakes are the province of my IPAD "spell check an erroneous substitution" program.

Re: Custom Made Leather Cases for Voyager Calculators

*Message #5 Posted by **Juergen Keller** on 8 Jan 2012, 3:43 p.m.,*
in response to message #4 by Geoff Quickfall

> Quote:
>
> I checked the site and a personal email is required as this is not in the catalogue.

Yes, not an official product, just contact Steve Derricott: sd@gfeller.us.

> Quote:
>
> p.s. all spelling mistakes are the province of my IPAD "spell check an erroneous substitution" program.

Disable the spell checker. However, be aware that you cannot put the blame on the iPad anymore ;-)

Re: Custom Made Leather Cases for Voyager Calculators

*Message #6 Posted by **Geoff Quickfall** on 8 Jan 2012, 3:49 p.m.,*
in response to message #5 by Juergen Keller

But that is why I uze spill chicker!

It's all about deniability.

;-(

Re: Custom Made Leather Cases for Voyager Calculators

*Message #7 Posted by **Ángel Martin** on 9 Jan 2012, 1:38 a.m.,*
in response to message #6 by Geoff Quickfall

> Quote:
>
> It's all about deniability.

Aaaahh, that river in Egypt, right??

:-)

Re: Custom Made Leather Cases for Voyager Calculators

*Message #8 Posted by **Geoff Quickfall** on 9 Jan 2012, 2:23 a.m.,*
in response to message #7 by Ángel Martin

That's the danubability!

And it is in euripides

;-)

Re: Custom Made Leather Cases for Voyager Calculators

*Message #9 Posted by **Paul Dale** on 9 Jan 2012, 2:47 a.m.,*
in response to message #1 by Juergen Keller

I managed to convince a boot maker friend to make some custom cases for the 42S and 32Sii as a special favour to me:

&

Made out of nice thick buffalo hide & yes the photographs don't even remotely do these justice. They are far more protective than the alligator leather ones I bought off eBay and as good or better than the real cases.

I know adverts are naughty here, but if anyone wants something like this as a special one off, message me. I *might* be able to convince him to make some more (or perhaps my eldest daughter -- who is also interested in leather work could make some). Absolutely no promises here however -- I've asked neither of them if they are willing or not.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New TI-PPP discovered!

*Message #1 Posted by **robertoataulfo** on 7 Jan 2012, 6:03 a.m.*

I have not forgotten! :-)

Re: New TI-PPP discovered!

*Message #2 Posted by **NateB** on 7 Jan 2012, 9:27 a.m.,*
in response to message #1 by robertoataulfo

I've been waiting too...

New TI-PPP discovered! Here it is!

*Message #3 Posted by **Joerg Woerner** on 7 Jan 2012, 1:17 p.m.,*
in response to message #1 by robertoataulfo

Oops - I was to busy with my other prototype: The PHOENIX 1.

It arrived a few weeks ago from the ashes and is since yesterday featured on the cover of my Datamath Calculator Museum.

The TI-PPP stills needs some time, but here is a picture at least.

It is a real triple-P with ENTER key:

One P for Programmable

One P for Printing

One P for Prototype

Cheers,

Joerg

Re: New TI-PPP discovered! Here it is!

*Message #4 Posted by **Marcus von Cube, Germany** on 7 Jan 2012, 4:21 p.m.,*
in response to message #3 by Joerg Woerner

It looks very much like an industrial handheld device.

Re: New TI-PPP discovered! Here it is!

*Message #5 Posted by **Joerg Woerner** on 7 Jan 2012, 5:25 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Look at the TI-78 - Texas Instruments had only one customer. It's now a huge market (UPS, Grocery stores...) owned by Symbol / Motorola and others.

Liebe Gruesse aus Rochester, Joerg

Re: New TI-PPP discovered! Here it is!

*Message #6 Posted by **gene wright** on 10 Jan 2012, 10:35 a.m.,*
in response to message #5 by Joerg Woerner

I agree - this looks like some sort of industrial device. Not as exciting as I had hoped. ;-)

(I don't get very excited about the HP 94 either)

Re: New TI-PPP discovered! Here it is!

*Message #7 Posted by **Namir** on 7 Jan 2012, 5:24 p.m.,*
in response to message #3 by Joerg Woerner

Yawn!!!!!!!!!!

Namir

Re: New TI-PPP discovered! Here it is!

*Message #8 Posted by **hpnut** on 7 Jan 2012, 9:25 p.m.,*
in response to message #3 by Joerg Woerner

My, my...it has a big ENTER key. only if it were RPN, sigh.....

Re: New TI-PPP discovered! Here it is!

*Message #9 Posted by **db (martinez, ca.)** on 7 Jan 2012, 9:39 p.m.,*
in response to message #8 by hpnut

or in this thread; rPn.

Re: New TI-PPP discovered! Here it is!

*Message #10 Posted by **Joerg Woerner** on 7 Jan 2012, 10:02 p.m.,*
in response to message #9 by db (martinez, ca.)

rPn ????

Joerg

Re: New TI-PPP discovered! Here it is!

*Message #11 Posted by **db (martinez, ca.)** on 8 Jan 2012, 10:24 p.m.,*
in response to message #10 by Joerg Woerner

PPPP

Re: New TI-PPP discovered! Here it is!

*Message #12 Posted by **Eddie W. Shore** on 11 Jan 2012, 9:01 a.m.,*
in response to message #3 by Joerg Woerner

It looks like an inventory tracking device.

Re: New TI-PPP discovered!

*Message #13 Posted by **Reth** on 8 Jan 2012, 3:13 a.m.,*
in response to message #1 by robertoataulfo

Too bad there is no different sections in this HP calculator forum, if they were, one of them should be named "TI fans"

Re: New TI-PPP discovered!

*Message #14 Posted by **robertoataulfo** on 8 Jan 2012, 7:46 a.m.,*
in response to message #13 by Reth

```
With great pride I'm a fan of TI and HP's.
What's wrong with discussing a different brand here?
I feel very proud to have learned a lot and increased my collection of other brands
here.
I keep thinking there are people who could keep quiet because they add nothing.
Thankfully, nobody knows (or will not) read this. :-)
"This forum is for discussion of HP calculators including usage, repairs, sources of
replacement parts, general information etc."
```

Re: New TI-PPP discovered!

*Message #15 Posted by **Frido Bohn** on 10 Jan 2012, 6:26 a.m.,*
in response to message #14 by robertoataulfo

Wow, you made so many disputable statements ;-)
Please don't take this too seriously.

> Quote:
>
> With great pride I'm a fan of TI and HP's.

As long as your fandoom towards HP is bigger it's OK.

> Quote:
>
> What's wrong with discussing a different brand here?

Nothing, as long as HP is eventually shown to be the superior brand, and for the amusement of genuine HP fans.

> Quote:
>
> I feel very proud to have learned a lot and increased my collection of other brands here.

See the previous response: as long as the collection of other brands serve to show you the superiority of

HP it's OK.

> Quote:
>
> Thankfully, nobody knows (or will not) read this. :-)

Uhm... Sorry, I did. And worse, it urged me to make a reply.

> Quote:
>
> "This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc."

Yep!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Overlay Available For V3

*Message #1 Posted by **Mark Hardman** on 6 Jan 2012, 10:29 p.m.*

I just noticed that Eric has updated his overlay with the latest graphics for V3.

http://commerce.hpcalc.org/overlay.php

Looks like I need to buy another 30b.

Mark Hardman

Re: WP 34S Overlay Available For V3

*Message #2 Posted by **Jim Yohe** on 7 Jan 2012, 1:15 a.m.,*
in response to message #1 by Mark Hardman

Because you don't want to remove the overlay from the keyboard of your previous one you have on hand?

Re: WP 34S Overlay Available For V3

*Message #3 Posted by **Paul Dale** on 7 Jan 2012, 2:15 a.m.,*
in response to message #2 by Jim Yohe

Has anyone tried removing an overlay? How did you go? How did you do it?

- Pauli

Re: WP 34S Overlay Available For V3

*Message #4 Posted by **Jeff O.** on 11 Jan 2012, 8:45 a.m.,*
in response to message #3 by Paul Dale

I removed one of Eric's original matte finish overlays from a 30b. I wanted to replace it with one of the new satin finish ones which I thought looked much nicer. My intention was to attempt to remove it more or less intact so I could hopefully re-install it on a 20b that I had kicking around. Removal of the key-plane sticker was not difficult, I just lifted a corner and started pulling. Any hope of re-use was quickly dashed, as the very thin sections between the keys stretched and broke. Once I got the whole overlay off, there were a few places where the adhesive was left behind. This was easily removed just by rubbing with a soft cloth. To remove the key labels, I lifted a corner with a knife blade and pulled them off. Quite a bit of adhesive was left on many keys. Since the keys are not nearly as smooth as the keyboard plane, I did not think I would be able to simply rub the adhesive off. Rather than risk creating a gooey mess trying to somehow clean the keys, I decided to just leave it. I hoped that leaving the adhesive residue on the keys would be OK, since I was going to apply new labels anyway, so there would just be more adhesive in some spots. I then installed the new satin finish overlay and key labels. Over the next few days, various corners of various key labels kept popping up. I would rub them down, then later another would do the same. I eventually rubbed all of the key labels fairly aggressively with some smooth, round-ended tool, which seemed to adhere them. If I had it to do over again (which it appears that I will), I would find a way to clean any adhesive residue off of the keys.

...

Re: WP 34S Overlay Available For V3

*Message #5 Posted by **Dominic Richens** on 11 Jan 2012, 10:04 a.m.,*
in response to message #4 by Jeff O.

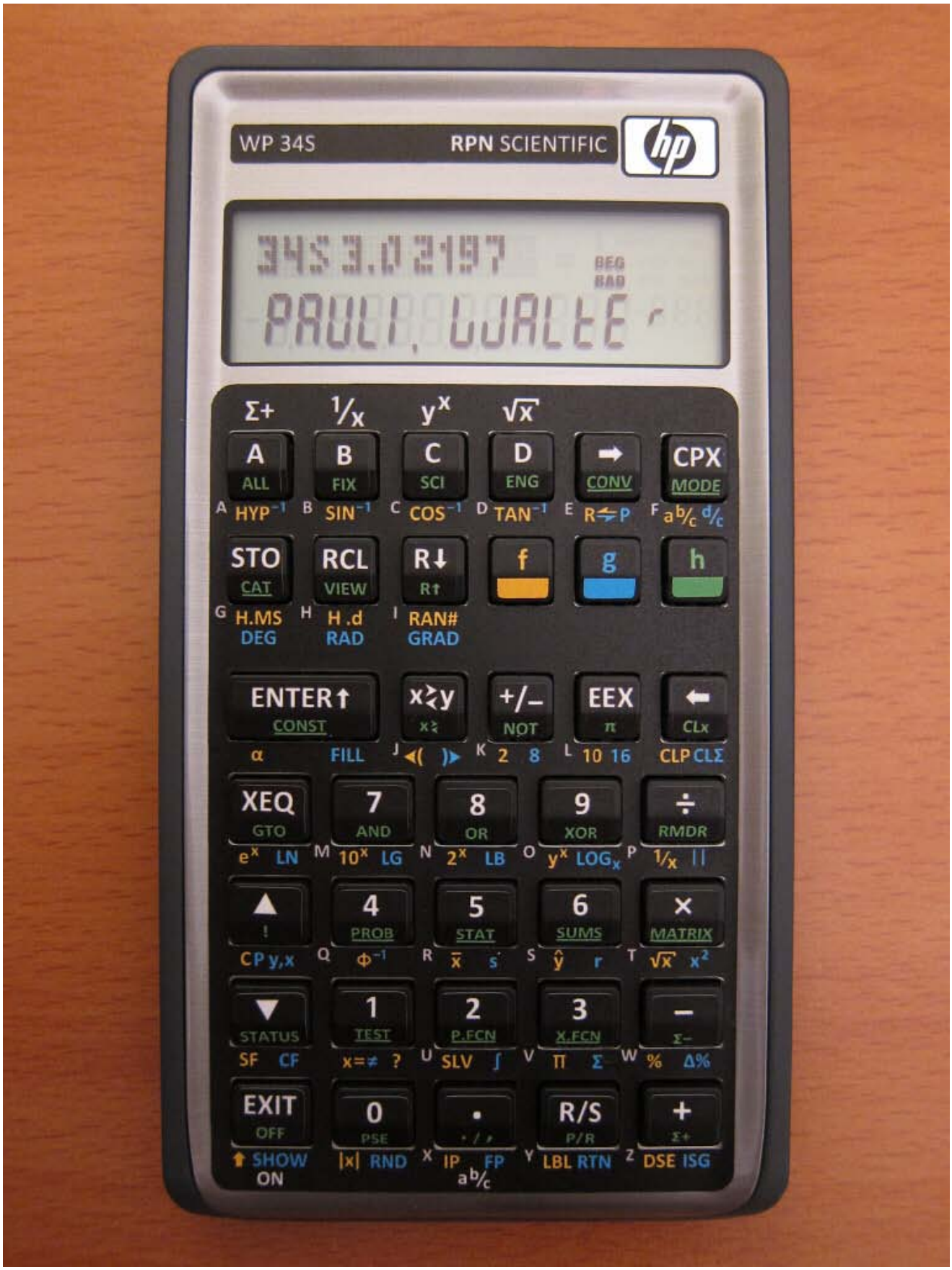
Need a picture! Especially with the obligatory VERS screen.

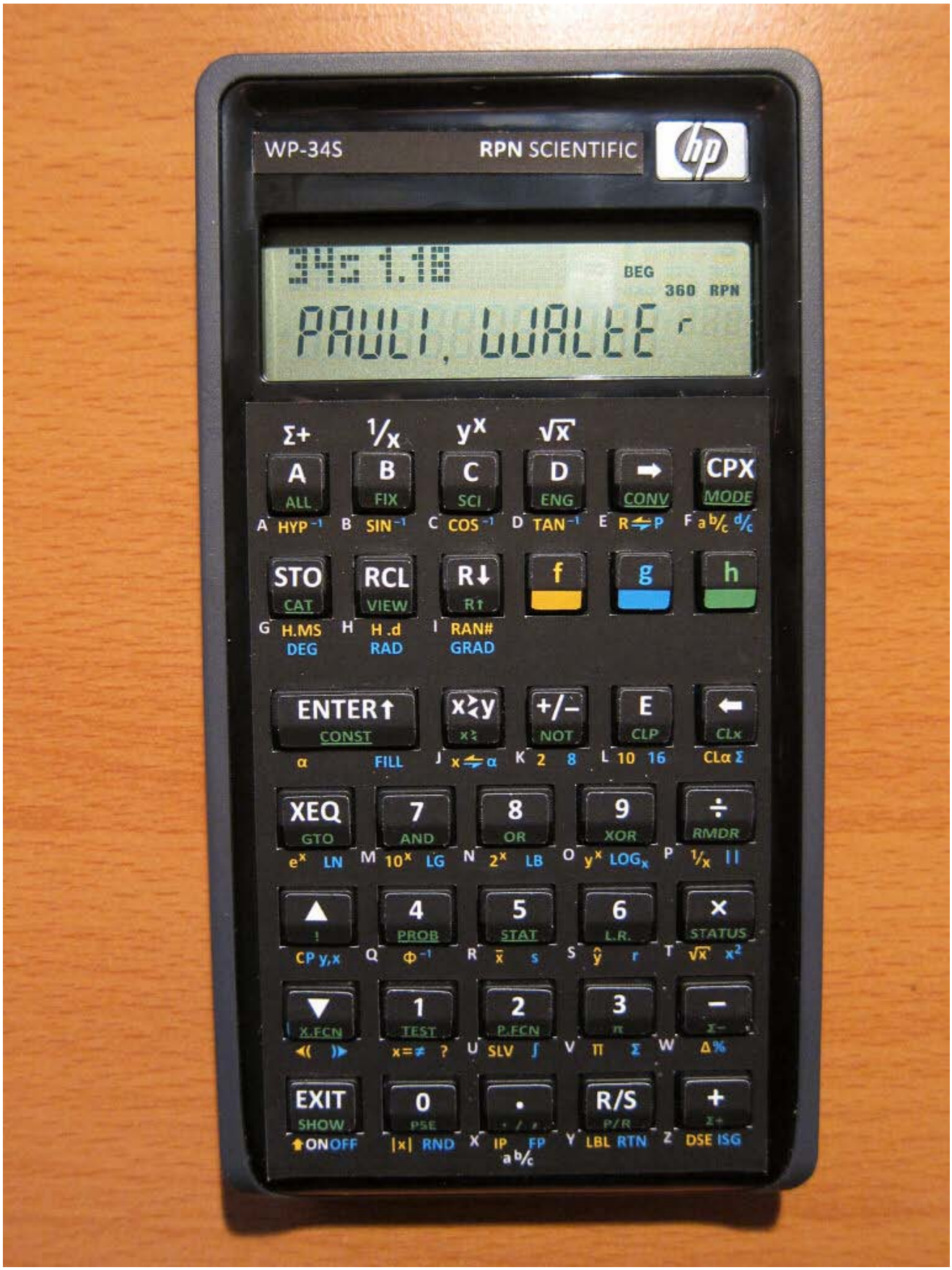
Re: WP 34S Overlay Available For V3

*Message #6 Posted by **Jeff O.** on 11 Jan 2012, 12:56 p.m.,*
in response to message #5 by Dominic Richens

It basically looks just like the first picture below, except it is a version 2 layout. I believe that the second picture below is the original matte finish version (on a 20b), the type of which I removed and replaced.

(the pictures are linked from, credited to and property of Eric Rechlin.)


WP 34S
RPN SCIENTIFIC
34S 3.02197
BEG
RAD
PAUL, GJALTE
Σ+ 1/x y^x √x
A ALL
B FIX
C SCI
D ENG
CONV
CPX MODE
A HYP^-1 B SIN^-1 C COS^-1 D TAN^-1 E R⇄P F a b/c d/c
STO CAT
RCL VIEW
R↓ R↑
f
g
h
G H.MS DEG H H.d RAD I RAN# GRAD
ENTER↑ CONST
x⇄y x≷
+/- NOT
EEX π
CLx
α FILL J ◀( )▶ K 2 8 L 10 16 CLP CLΣ
XEQ GTO
7 AND
8 OR
9 XOR
÷ RMDR
e^x LN M 10^x LG N 2^x LB O y^x LOG_x P 1/x ||
▲
4 PROB
5 STAT
6 SUMS
× MATRIX
CP y,x Q Φ^-1 R x̄ s S ŷ r T √x x^2
▼ STATUS
1 TEST
2 P.FCN
3 X.FCN
− Σ-
SF CF x=≠ ? U SLV ∫ V Π Σ W % Δ%
EXIT OFF
0 PSE
• , /
R/S P/R
+ Σ+
SHOW ON |x| RND X IP FP a b/c Y LBL RTN Z DSE ISG



Re: WP 34S Overlay Available For V3

*Message #7 Posted by **Dominic Richens** on 12 Jan 2012, 12:00 p.m.,*
in response to message #6 by Jeff O.

Very nice - may I use you 30b picture on the wikipedia page?

Re: WP 34S Overlay Available For V3

*Message #8 Posted by **Jeff O.** on 12 Jan 2012, 12:31 p.m.,*
in response to message #7 by Dominic Richens

The pictures are Eric Rechlin's, so I cannot grant permission.

Re: WP 34S Overlay Available For V3

*Message #9 Posted by **Dominic Richens** on 12 Jan 2012, 12:57 p.m.,*
in response to message #8 by Jeff O.

D'oh - missed that part - Eric?

Re: WP 34S Overlay Available For V3

*Message #10 Posted by **Jeroen Van Nieuwenhove** on 12 Jan 2012, 6:42 p.m.,*
in response to message #7 by Dominic Richens

I have high quality v2 pictures on my FlickR account with Creative Commons licence that you can use. Alas, no VERS screen. I will add v2 picture with a VERS screen and v3 pictures as soon as I receive the new overlays. 34s set on FlickR

Re: WP 34S Overlay Available For V3

*Message #11 Posted by **Jeroen Van Nieuwenhove** on 12 Jan 2012, 6:18 p.m.,*
in response to message #4 by Jeff O.

Thanks for your warning concerning removing the adhesive sticking to the keys. I will certainly take this to heart when "updating" the overlay. FWIW, I installed the matte overlay to begin with, but on a few keys on top, the lower corner keeps popping up ever so slightly. I would recommend not only thoroughly removing any adhesive residue from the old overlay, but also cleaning (perhaps with alcohol) every key before installing the new overlay to remove any fingerprint residue. You also *really* need a pair of tweezers to apply the individual key overlays neatly. Rub firmly around the edges after applying. That being said, I have nothing but praise for Eric's overlays quality wise.

Edited: 12 Jan 2012, 6:31 p.m.

Re: WP 34S Overlay Available For V3

*Message #12 Posted by **Mark Hardman** on 7 Jan 2012, 2:30 a.m.,*
in response to message #2 by Jim Yohe

I'm a collector at heart. The V3 upgrade represents substantially more than just moving around a few keyboard labels. I would no more replace the firmware and overlay on my WP 34S V2 than I would replace the ROM on my "all bugs" HP 41C. Ten years from now, I will be proud to display and make occasional use of the complete series of all of the WP 34S variants that were ever produced.

(I predict at least five distinct versions before each member of the PWM trinity is institutionalized by the authorities of their home countries.)

Mark Hardman

Re: WP 34S Overlay Available For V3

*Message #13 Posted by **Paul Dale** on 7 Jan 2012, 4:10 a.m.,*
in response to message #12 by Mark Hardman

> Quote:
>
> The V3 upgrade represents substantially more than just moving around a few keyboard labels.

The v3 version will be significantly better than v2 in so many ways. At the rate I'm reclaiming flash space by converting functions to keystroke programs, it will have substantially *more* flash for user code than even v2 *without* matrix

support.

Seriously, forget v2 it is little more than a testing of the waters now :-)

> Quote:
>
> Ten years from now, I will be proud to display and make occasional use of the complete series of all of the WP 34S variants that were ever produced.

2202 and counting -- you'll never get them all :-) If you do I'll be very impressed. Even so, all firmware revisions and changes will survive on sourceforge forever so they aren't exactly collectable.

> Quote:
>
> (I predict at least five distinct versions before each member of the PWM trinity is institutionalized by the authorities of their home countries.)

Sadly, I don't :-(

- Pauli

Re: WP 34S Overlay Available For V3

*Message #14 Posted by **fhub** on 7 Jan 2012, 5:44 a.m.,*
in response to message #13 by Paul Dale

> Quote:
>
> The v3 version will be significantly better than v2 in so many ways. At the rate I'm reclaiming flash space by converting functions to keystroke programs, it will have substantially *more* flash for user code than even v2 *without* matrix support.

Well I hope your last sentence will **not** be true if we replace "flash" by "bugs"! ;-)

You certainly know the saying "never change a running system", and you've developed all those builtin-functions over a long time and they have been tested thoroughly. Now you're rewriting lots of them as XROM code and so chances are not so small that many new bugs will be introduced (just remember your previous MIN/MAX attempt ;-)).

Franz

Re: WP 34S Overlay Available For V3

*Message #15 Posted by **Paul Dale** on 7 Jan 2012, 7:21 a.m.,*
in response to message #14 by fhub

We'll fix the bugs as they are found. I've also found a new bug which I've fixed -- to be honest, I don't think that a lot of the built in functions have been stressed all that much by anyone yet.

At least this time I'm making an attempt to verify the functions before I commit them -- I didn't do that with min & max with bad consequences :-(

- Pauli

Re: WP 34S Overlay Available For V3

*Message #16 Posted by **pascal_meheut** on 7 Jan 2012, 8:04 a.m.,*
in response to message #14 by fhub

> Quote:
>
> You certainly know the saying "never change a running system"

We should all still run the ENIAC then? BTW, you can stick to an older version of the firmware or use another

calculator.

The WP34s is not a life-critical system as far as I know ;-)

Re: WP 34S Overlay Available For V3

*Message #17 Posted by **Andrés C. Rodríguez (Argentina)** on 14 Jan 2012, 2:01 p.m.,*
in response to message #16 by pascal_meheut

Well, ENIAC would just run for some hours before needing changes of some of its electronic tubes, because they aged and failed frequently. So it would not keep its "running system" status for long.

Re: WP 34S Overlay Available For V3

*Message #18 Posted by **Howard Owen** on 7 Jan 2012, 10:33 a.m.,*
in response to message #13 by Paul Dale

> Quote:
>
> Even so, all firmware revisions and changes will survive on sourceforge forever so they aren't exactly collectable.

Ah, but the overlays themselves might be, assuming Eric didn't vastly overestimate demand.

Re: WP 34S Overlay Available For V3

*Message #19 Posted by **Sylvain Louboutin** on 14 Jan 2012, 12:55 p.m.,*
in response to message #1 by Mark Hardman

Note that Amazon was selling a 30b for US$19.- just recently... now I just ordered a set of overlay (gosh I hope I ordered the v3 version...), Gene is sending me a cable, I should soon be the proud owner of a WP34S !

Question: has any one tried using an AVRISP Mk II instead? will give it a try...

Re: WP 34S Overlay Available For V3

*Message #20 Posted by **Marcus von Cube, Germany** on 14 Jan 2012, 1:49 p.m.,*
in response to message #19 by Sylvain Louboutin

> Quote:
>
> Question: has any one tried using an AVRISP Mk II instead? will give it a try...

This tool is for programming the AVR line of micro-controllers, not the ARM based chips.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Available now: HP 50g with HELP for *all* commands integrated into the O.S.

*Message #1 Posted by **Software49g** on 6 Jan 2012, 10:27 p.m.*

Hello,

the 'Full Command and Function Reference' integrated into the O.S. is available now.
http://www.software49g.gmxhome.de/FullCommandAndFunctionReference.htm

This is a complete help system containing detailed help entries for 764 user commands including stack diagrams.

The help system is very flexible and very fast and allows adding any additional help desired.

Regards,
Andreas
http://www.software49g.gmxhome.de

Edited: 8 Jan 2012, 1:34 p.m. after one or more responses were posted

ADVERTISEMENT!

*Message #2 Posted by **Reth** on 8 Jan 2012, 3:02 a.m.,*
in response to message #1 by Software49g

Andreas, you are knocking on the wrong door. First of all, here you will find very few people interested in RPL. Second, you sell your thing, hence your post is an advertisement and should not be posted here. I suggest you to obey the rules of this forum and delete it.

Edited: 8 Jan 2012, 5:19 a.m.

Re: ADVERTISEMENT!

*Message #3 Posted by **Cristian Arezzini** on 8 Jan 2012, 5:25 a.m.,*
in response to message #2 by Reth

Well, it is true that it is an advertisement for something for sale, but - though we are a minority even here - there are some who actually like and use RPL.

Re: ADVERTISEMENT!

*Message #4 Posted by **Reth** on 8 Jan 2012, 11:15 p.m.,*
in response to message #3 by Cristian Arezzini

> Quote:
>
> Well, it is true that it is an advertisement for something for sale, but - though we are a minority even here - there are some who actually like and use RPL.

That's what I said - only a few. BTW I use RPL a lot and I noticed it doesn't attract any interest here. A brief look at the archive would proof my point.

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #5 Posted by **Geoff Quickfall** on 8 Jan 2012, 2:50 p.m.,*
in response to message #2 by Reth

Hello Reth and Andreas!

Must disagree with you on both counts, Reth:

RPL is alive and well, just attend any HHC and you will see how popular it is! All programming contests include if not feature or are tailored to RPL. It is not my favorite system because I grew up on RPN and am lazy by nature. having said that I have written my share of, albeit, clumsy RPL programs.

Your second point about advertisement, while technically correct, is a little harsh. of course I say this with a bias in mind. Would you have me post the eventual completion of my book some where else, or Eric hide his 34s overlays at another site. Perhaps Diego should not tout the latest clonix/novram or the pil box latest version should not be discussed. There are many more examples I am sure!

As in Andreas's case et.al. a little leeway may be allowed. This was part of his independent project which he has improved upon since I have had the pleasure of knowing him. It is created by one of ours at the museum and his contributions to RPL and the 48/49 are well known. Also, this was his presentation at HCC2011 and he mentioned that he would let us know when the project was completed as well as updated.

What better place then the forum. Consider this, he also created this with NO help or aid from a commercial enterprise.

In conclusion, I am more then happy to have member projects discussed and noted here on the forum. I would be totally adverse to commercial enterprises posting adds here such as HP, TI, SHARP and etc..

Again, this is my opinion and may not be shared by the others.

Happy new year and all the best,

Geoff

Edited: 8 Jan 2012, 3:02 p.m. after one or more responses were posted

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #6 Posted by **Marcus von Cube, Germany** on 8 Jan 2012, 2:58 p.m.,*
in response to message #5 by Geoff Quickfall

I'm with you, Geoff.

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #7 Posted by **Geoff quickfall** on 8 Jan 2012, 3:19 p.m.,*
in response to message #6 by Marcus von Cube, Germany

d;-D

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #8 Posted by **Mike Morrow** on 8 Jan 2012, 4:33 p.m.,*
in response to message #5 by Geoff Quickfall

Well said!

Re: ADVERTISEMENT! Full Stop ;)

*Message #9 Posted by **Reth** on 8 Jan 2012, 11:24 p.m.,*
in response to message #5 by Geoff Quickfall

Your caveat turns my point upside down, so I disagree with you completely. It's an advertising full stop. As a rule RPL stuff gets overlooked here. And I use only RPL for programing since the appearance of the HP-28S which replaced my stolen HP-41CV back then. So I know what I'm talking about.

Happy New Year to you and to all the rest, Andreas including.

Cheers, Reth

Re: ADVERTISEMENT! Are you near Sydney?

*Message #10 Posted by **Geoff Quickfall** on 9 Jan 2012, 2:31 a.m.,*
in response to message #9 by Reth

Reth, where are you in Australia?

I get to Sydney about once every two months. Maybe we can meet for a pint? Manly would be good place to meet.

Cheers, Geoff

Re: ADVERTISEMENT! Are you near Sydney?

*Message #11 Posted by **Paul Dale** on 9 Jan 2012, 3:00 a.m.,*
in response to message #10 by Geoff Quickfall

Geoff, if you're ever in Brisbane please let me know.

Sydney is about 1,000km away (it is the closest capital city from here) which is a *little* too far to drive for a day trip. I did once do an overnight driving trip to Sydney but never again.

- Pauli

Re: ADVERTISEMENT! Are you near Sydney?

*Message #12 Posted by **Geoff Quickfall** on 9 Jan 2012, 2:45 p.m.,*
in response to message #11 by Paul Dale

Pauli!

Thanks, unfortunately, I only get a day at a time to enjoy your beautiful country so 1000km drive would severely cut the beer quaffing out of the picture.

Cheers, Geoff

Re: ADVERTISEMENT! Are you near Sydney?

*Message #13 Posted by **Reth** on 10 Jan 2012, 3:24 a.m.,*
in response to message #10 by Geoff Quickfall

I am in Sydney. I'll be glad to meet you. Just let me know earlier so I can arrange it. Email me: rmollov@telstra.com

Cheers,

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #14 Posted by **Software49g** on 11 Jan 2012, 1:50 p.m.,*
in response to message #5 by Geoff Quickfall

Hi Geoff,

thanks for the flowers, it has been a pleasure meeting you again in San Diego. Too bad that there was only too little time...

A lot of people did ask for a fully integrated version of a help for the 50g as I showed at HHC 2011, so my only intention was to let people know that it is available *now* and at a very reasonable price, which is actually even cheaper than printing out the AUR at Staples or with HP ink.

I did not intend to offend anybody.

Regards, Andreas
http://www.software49g.gmxhome.de

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #15 Posted by **Jeff Kearns** on 12 Jan 2012, 6:25 p.m.,*
in response to message #14 by Software49g

No matter how hard we try, someone always risks being offended. I have learned something new about the 50G and I am not in the least offended by your post - I suspect that applies to many others too and hopefully the majority. I may just avail myself of this package in the near term!

Cheers,

Jeff Kearns

Re: ADVERTISEMENT! Yes but with a caveat...

*Message #16 Posted by **Software49g** on 12 Jan 2012, 7:46 p.m.,*
in response to message #15 by Jeff Kearns

Hi Jeff,

thanks for letting my know.

Regarding the help let me say again, that anything is possible.

So any good ideas what should/could be in there is welcome.
The possibilities are endless...

Regards,
Andreas
http://www.software49g.gmxhome.de

Re: ADVERTISEMENT!

*Message #17 Posted by **bill platt** on 8 Jan 2012, 3:42 p.m.,*
in response to message #2 by Reth

I dunno, Reth, RPL seems to be part of the MoHPC subject to me:

Available now: HP 50g with HELP for *all* commands integrated into the O.S.

Edited: 8 Jan 2012, 3:45 p.m.

Re: ADVERTISEMENT!

*Message #18 Posted by **Mike Morrow** on 8 Jan 2012, 4:43 p.m.,*
in response to message #17 by bill platt

There's even a front-page major topic on RPL here.

Re: ADVERTISEMENT!

*Message #19 Posted by **Oliver Unter Ecker** on 8 Jan 2012, 4:03 p.m.,*
in response to message #2 by Reth

Reth,

C'mon, the RPN/RPL world has gotten so small, let's be gentle with the endangered species of "active contributor".

Commercial or free, the few active heads are doing this mainly as a labor of love. I'm sure you don't mean to discourage, but negative feedback easily does just that.

I don't mind reading small relevant product announcements here. In fact, I'm glad to read about projects in this field and learn how some care to keep this world alive.

Best,

Oliver

Re: ADVERTISEMENT!

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Jan 2012, 7:26 p.m.,*
in response to message #2 by Reth

Perhaps a brief "announcement", which just lets us know that some product or program (or new version) is available, and just gives a email address (or web page address) for interested people to contact; and doesn't include any commercial hype or details, nor pricing; and coming from a member of the community (and not from a commercial entreprise or venture) should not be considered "advertising" or otherwise banned, IMHO.

It's good to learn when WP34S overlays, HP41 add-ons (such as Clonix, PILbox, MDL, etc), HP41 backplane replacements, 41CL Boards, DIY"x" (when available) and such offerings become available. Same for emulators, free or not.

OTOH, repeated (or long) messages about such availability may enter "advertising" waters, and should not appear in the forum.

Please disregard any idiomatic mistake.

Re: ADVERTISEMENT!

*Message #21 Posted by **Garth Wilson** on 8 Jan 2012, 7:35 p.m.,*
in response to message #2 by Reth

Advertising something here that directly relates to part of this forum's raison d'etre definitely does not constitute spam.

Re: ADVERTISEMENT!

*Message #22 Posted by **Bart (UK)** on 9 Jan 2012, 4:11 a.m.,*
in response to message #2 by Reth

> Quote:
>
> First of all, here you will find very few people interested in RPL.

Speak for yoyrself, we are not all RPN geriatrix ;-)

Re: ADVERTISEMENT!

*Message #23 Posted by **Geoff Quickfall** on 9 Jan 2012, 2:43 p.m.,*
in response to message #22 by Bart (UK)

OUCH!

;-(

Re: ADVERTISEMENT!

*Message #24 Posted by **bill platt** on 9 Jan 2012, 3:55 p.m.,*
in response to message #23 by Geoff Quickfall

Some of are geriatric in our 40s even haha...

Re: ADVERTISEMENT!

*Message #25 Posted by **Ethan Conner** on 9 Jan 2012, 4:34 p.m.,*
in response to message #24 by bill platt

Yes....lol

Re: ADVERTISEMENT!

*Message #26 Posted by **Reth** on 11 Jan 2012, 12:55 a.m.,*
in response to message #22 by Bart (UK)

I DO speak for myself - I am long time RPL user and broke up with the RPN long time ago, buddy ;) And I'm only 55 YO.

Cheers,

Re: Available now: HP 50g with HELP for *all* commands integrated into the O.S.

*Message #27 Posted by **Nick_S** on 9 Jan 2012, 1:36 a.m.,*
in response to message #1 by Software49g

It would be nice if HP would licence an on-line help system like this to distribute with the calculator. It would certainly be much more convenient that wading through the manuals to find what arguments a given command requires.

Nick

Re: Available now: HP 50g with HELP for *all* commands integrated into the O.S.

*Message #28 Posted by **Software49g** on 11 Jan 2012, 1:58 p.m.,*
in response to message #27 by Nick_S

Hello,

> much more convenient that wading through the manuals
> to find what arguments a given command requires
The help I coded contains the stack diagrams for *all* commands.

> It would be nice if HP would licence an on-line help system
> like this to distribute with the calculator.
They have my telephone number.

But HP has done *nothing* for the 50g in the past three years.

So, unfortunately, this allows only one conclusion: HP has very, very little interest in the HP 50g.

As I have said before, updating the HP 50g with a higher resolution screen and adding some more flash memory inside of it wouldn't be to hard to do including compatibility to the vast amount of software that exists already. (Remember: Customers do not buy hardware, they do not buy software either. Customers buy solutions.)

But apparently HP does not want to be successful with the HP 50g as they did everything they could to be *not* successful with it in the past, which is really a pity as everything one would need is already there respectively has already been written.

HP *could* update the 50g easily, I would estimate that updating the machine could be done in three to six months, but again, HP has shown very, very little interest in this marvelous machine, which is really a pity IMHO.

Anyhow, most likely I will now add the flags description to the HELP for *all* commands integrated into the O.S. and then anybody who wants it can have a *full* substitution for the manual *inside* the calculator which means that using it will get a lot easier.

And, as I said, it is possible to add anything you want, even long explanation texts including graphics. So if someone provides me with some good ideas of what else should be in an integrated help I could add it. As the help entries are fetched from the SD card the possibilities are endless...

Regards, Andreas
http://www.software49g.gmxhome.de

Re: Available now: HP 50g with HELP for *all* commands integrated into the O.S.

*Message #29 Posted by **Howard Owen** on 12 Jan 2012, 9:30 p.m.,*
in response to message #28 by Software49g

> Quote:
>
> *But* HP has done *nothing* for the 50g in the past three years.

Which leaves the field clear for talented people like yourself to exploit the nice, relatively open platform HP has provided.

This is the great strength of this community: so many brilliant people are motivated to work on these wonderful machines that even a 32 year old machine like the 41C is evergreen. If HP isn't pushing the state of the art forward as well as we might like, what does it really matter?

Regards,
Howard

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator natural language user interface

*Message #1 Posted by **Donald Williams** on 6 Jan 2012, 5:22 p.m.*

Any predictions on when we will see this?

I am not sure if I would appreciate it or not. My wife has a new iPhone 4S and the SIRI interface is intriguing. I began to wonder about a calculator interface using the same technology.

I know it will happen sooner or later. Unfortunately I doubt that RPN will be in the mix.

Re: Calculator natural language user interface

*Message #2 Posted by **Oliver Unter Ecker** on 6 Jan 2012, 5:56 p.m.,*
in response to message #1 by Donald Williams

SIRI supports interaction with Wolfram|Alpha ==> one BIG calculator...

Edited: 6 Jan 2012, 5:56 p.m.

Re: Calculator natural language user interface

*Message #3 Posted by **Donald Williams** on 6 Jan 2012, 6:48 p.m.,*
in response to message #2 by Oliver Unter Ecker

Thanks for the info. I will have to experiment with that.

Trouble is, my wife is very possessive of that phone.

Re: Calculator natural language user interface

*Message #4 Posted by **Garth Wilson** on 6 Jan 2012, 8:21 p.m.,*
in response to message #1 by Donald Williams

Natural language? That will never be suitable for math and logical stuff-- at least not in English. I understand that Korean however is RPN.

Re: Calculator natural language user interface

*Message #5 Posted by **Paul Guertin** on 6 Jan 2012, 9:43 p.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> Natural language? That will never be suitable for math and logical stuff

Spoken language is not a good fit for math, but a CAS that can decipher handwritten math would be fun to use.

Re: Calculator natural language user interface

*Message #6 Posted by **uhmgawa** on 6 Jan 2012, 10:01 p.m.,*
in response to message #4 by Garth Wilson

> Quote:
>
> Natural language? That will never be suitable for math and logical stuff-- at least not in English. I understand that Korean however is RPN.

Japanese language grammar is basically RPN in the sense the predicate/operator follows its objects/arguments. I've heard Korean as well is of similar structure.

The other nice attribute being grammar rules largely apply, compared to say English where the exceptions to a rule seemingly outnumber the actual instances of it. It's fairly easy with a quite modest command of Japanese grammar to construct rambling sentences which while structurally correct, are so unnaturally complex that a listener is challenged to parse them in realtime. At least that's my excuse for being chronically unintelligible.

Re: Calculator natural language user interface

*Message #7 Posted by **Donald Williams** on 7 Jan 2012, 12:29 a.m.,*
in response to message #4 by Garth Wilson

I apologize for the poor communication on my part when I started the thread. I did not really mean "Natural Language" per se. What I was contemplating was a device which understood words rather than sentences. Something similar to what my Garmin GPS accomplishes now.

Imagine this

You speak the word "Start" or "Begin"

The device display turns on with -- 00.0000 --

You speak the word "Two"

The display changes to -- 02.0000 --

You speak the word "Enter"

The calculator copies the register to the stack

You speak the words "Log" "Ten"

The display changes to -- 00.3010 --

You speak the words "Ten" "Multiply"

The display changes to -- 03.0100 --

In other words you eliminate the keyboard. I have thought about it a great deal today and I think the approach has a lot of merit.

I realize this kind of technology is currently too expensive for consumer grade calculators at the present time, but think about it.

Dumping the keyboard has some pretty obvious economic advantages. I also think it has some advantages for the user. No more hunting for that seldom used function that resides on a shifted key or is buried in some menu. No more user assigned keys to compensate. In fact -No more keyboard - no more keyboard complaints.

I think we will see this on a smart phone soon.

Re: Calculator natural language user interface

*Message #8 Posted by **Ethan Conner** on 7 Jan 2012, 12:43 a.m.,*
in response to message #7 by Donald Williams

It will be just like present day voice command systems(siri,bluetooth voice dial) you have to raise your voice for the device to respond. There will be a room full of engineers or students shouting at their calculators. The guy in the cubicle or seat next to you will be picked up by your calculator and it'll screw up your equation or program.

Re: Calculator natural language user interface

*Message #9 Posted by **Donald Williams** on 7 Jan 2012, 11:17 a.m.,*
in response to message #8 by Ethan Conner

True.

That was my first criticism also. You won't use this technology in the class room or the exam room. So an on screen keyboard will have to remain available, and I really fumble with the iPhone screen keyboard.

Re: Calculator natural language user interface

*Message #10 Posted by **Garth Wilson** on 7 Jan 2012, 2:43 a.m.,*
in response to message #7 by Donald Williams

I think that for anything beyond the simplest operations, you'll run into problems like you get in "My father shot an elephant in his pajamas," or "The butler stood at the door and called the guests' names" versus "The butler stood at the door and called the guests names." (One was doing his job, whereas the other one ought to be fired.)

Although I don't dispute that there are valid applications for voice recognition, I hope the keyboard never goes away. I can write much better than I can talk. OTOH, I called the post office from my cell phone outdoors last year, and the voice-recognition system was totally unable to correctly interpret anything through the little bit of wind noise on the microphone.

There is the Frogpad though, which makes it possible to type 80wpm on a small, one-hand keyboard with about 20 keys. See http://www.youtube.com/watch?v=RNsrfaHl9kI and http://www.youtube.com/watch?v=TmzYovAMHE4 .

Re: Calculator natural language user interface

*Message #11 Posted by **peacecalc** on 7 Jan 2012, 6:10 a.m.,*
in response to message #7 by Donald Williams

Hello Donald,

your example illustrates fine, that this is not "natural language" anyway. It's a kind of adaptation the human speaking towards a machine.

And there are existing three problems:

The technical one: the spoken word has to be transformed into a signal which can be handled by the machine.

The semantical one: is the signal for the machine that, what it should be: a certain command in a distinct situation.

The anthropogenical one: In which ways I'm transforming myself in using such a machine? My speaking, my behavior and last not least my cognition of problems.

The first two are lying one the hand, the last is often forgotten, but in my eyes the most important.

It don't say: Don't do it, but I hope we beware of that.

Sincerely Peacecalc

Re: Calculator natural language user interface

*Message #12 Posted by **Donald Williams** on 7 Jan 2012, 12:29 p.m.,*
in response to message #11 by peacecalc

"The technical one: the spoken word has to be transformed into a signal which can be handled by the machine."

Nothing trivial about this problem, but I would argue that we are well along the path to a solution.

Example: I never use the on screen keyboard on my Garmin Nuvi GPS. It is much easier and simpler to use voice commands, than to attempt keyboard entry.

"The semantical one: is the signal for the machine that, what it should be: a certain command in a distinct situation."

Agreed. That is the difficult problem. The lexicon of a 4 banger calculator would be completely manageable. The lexicon of a 50G would be daunting.

Example: I think the Garmin GPS minimizes that problem by using voice prompts. Knowing the context created by the voice prompts it can then select the appropriate lexicon for the next command. I don't think you could implement a calculator that way and I don't know how to attempt to solve the dilemma.

"The anthropogenical one: In which ways I'm transforming myself in using such a machine? My speaking, my behavior and last not least my cognition of problems."

The device will transform the individual.

Example: I bought that Garmin GPS many years ago when it was "new" technology. I was not interested in voice recognition. I thought it was simply a marketing gimmick. It turned out that the worst feature of the device was the on screen keyboard. There is so much latency with key press response that it was frustrating to use, so I gave it to my wife expecting her to be disappointed also. In fact she commented often how pleased she was with the device. Her secret was that she never used the keyboard and now I realize that I never will either. The voice response is an order of magnitude faster than the keyboard even if it had a perfect keyboard.

OT: Since I introduced the topic with a comment about SIRI let me make another observation. The thing that impresses me the most about SIRI is not what SIRI understands, but what SIRI does when it does not understand. It is my first experience with a man machine interface that does not respond with "invalid input" and then just quit.

Edited: 7 Jan 2012, 1:39 p.m.

Re: Calculator natural language user interface

*Message #13 Posted by **Vince (Italy)** on 7 Jan 2012, 9:45 a.m.,*
in response to message #1 by Donald Williams

> Quote:
>
> I am not sure if I would appreciate it or not. My wife has a new iPhone 4S and the SIRI interface is intriguing. I began to wonder about a calculator interface using the same technology.

The SIRI interface must surely be intriguing on a phone; but the matter is probably quite a different thing on a calculator.

As far as I am concerned, one of the most fascinating aspects of a calculator dwells in its keyboard: colours, shape of the keys,feel... most of us pay considerable attention to "mushy" or "sticky" keys.

Maybe it's a silly attitude, but I like by far to feel the click of the enter key under my finger better than to hear the voice of myself commanding the calculator.

Warm regards

Vince

Edited: 7 Jan 2012, 9:46 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Very relevant to the HP-15C LE power usage

*Message #1 Posted by **Seth Morabito** on 6 Jan 2012, 4:40 p.m.*

An interesting white paper titled "High pulse drain impact on CR2032 coin cell battery capacity".

http://www.embedded.com/ContentEETimes/Documents/Schweber/C0924/C0924post.pdf

Edited: 6 Jan 2012, 4:41 p.m.

Re: Very relevant to the HP-15C LE power usage

*Message #2 Posted by **htom trites jr** on 6 Jan 2012, 10:38 p.m.,*
in response to message #1 by Seth Morabito

Interesting. Charge pump from the battery into a capacitor to power intermittent high[sic]-current discharge circuits?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Texas TI-88

*Message #1 Posted by **robertoataulfo** on 6 Jan 2012, 1:07 p.m.*

Who had the luck?

TI-88 Sale

Re: [OT] Texas TI-88

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 6 Jan 2012, 1:17 p.m.,*
in response to message #1 by robertoataulfo

Reserve price not met

Re: [OT] Texas TI-88

*Message #3 Posted by **robertoataulfo** on 6 Jan 2012, 1:22 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

The seller ended before the deadline

Re: [OT] Texas TI-88

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 6 Jan 2012, 1:35 p.m.,*
in response to message #3 by robertoataulfo

So you will never know... ;)

Re: [OT] Texas TI-88

*Message #5 Posted by **Joerg Woerner** on 6 Jan 2012, 10:28 p.m.,*
in response to message #1 by robertoataulfo

Search here.

Joerg

TI-88 and the TI CCC

*Message #6 Posted by **Joerg Woerner** on 7 Jan 2012, 1:33 p.m.,*
in response to message #5 by Joerg Woerner

CCC = Calculator Collector Community

I received yesterday multiple emails from HP Forum members about the TI-88 ebay auction and like to explain the background of it here in the Forum.

The seller of the TI-88 (he owned actually two of them) preferred to ship the calculator only within the US, a well known topic - just remember the HP-15C LE craziness...

Two TI collectors from Europe and regular customers on my own eBay auctions asked be on already on the very first day of the auction, if they could use my US based home address for their bids. I had already a bid (more than the minimum bid but less than the reserve price) on the TI-88 and BOTH gentlemen planned to bid higher than I wanted to bid. I contacted the seller, talked with him about half an hour and we decided to retract my bid and he ended the auction. Both TI-88 were shipped to me and I forward them (without any commission...) to the proud new owners.

For me a win-win situation:

(1) I can inspect them, one is a very early prototype and the other was used to debug the design flaw, that actually killed the TI-88! (Gene, now we / I know it...).

(2) I'll meet one of the collectors the first time in person!

Hope this explains what really happened.

Best regards, Joerg

Re: TI-88 and the TI CCC

*Message #7 Posted by **Marcus von Cube, Germany** on 7 Jan 2012, 4:15 p.m.,*
in response to message #6 by Joerg Woerner

Thanks for the explanation. I hope the two machines will not only find a good home but will be helpful in preserving the memories of these machines. Is there a manual available anywhere? Or at least a list of commands?

Re: TI-88 and the TI CCC

*Message #8 Posted by **Joerg Woerner** on 7 Jan 2012, 5:26 p.m.,*
in response to message #7 by Marcus von Cube, Germany

There is a manual - please check Viktor T. Toth's website.

Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

17BII+ vs 19BII Business Consulatant II

*Message #1 Posted by **Jeff Kearns** on 5 Jan 2012, 11:27 p.m.*

I have read excellent comments regarding the 17BII+ (except for the keyboard) and have only just remarked, via the demo feature on the HP website here, the similarity between its menu system and that of the 19BII.

Is there anything the 17BII+ can do that the 19BII cannot? Sure, it has the clock, calendar and alarms features, but I suspect the 19BII is a much more capable all-purpose calculator, especially where maths functions such as trig and hyperbolic trig are concerned. What are the benefits of this calculator, aside from form factor - which is a matter of personal taste anyway?

Cheers,

Jeff Kearns

Re: 17BII+ vs 19BII Business Consulatant II

*Message #2 Posted by **bill platt** on 5 Jan 2012, 11:34 p.m.,*
in response to message #1 by Jeff Kearns

One of the most important distinctions is the solver. The 19bii has the original solver. The 17bii+ has the somewhat mucked-up solver, which I think doesn't handle Let and Get correctly and has some significant differences with how it handles initial guesses etc. Look in archives I think you'll find a discussion of this.

And yes, 19bii has trig functions in the menus.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #3 Posted by **Jeff Kearns** on 5 Jan 2012, 11:57 p.m.,*
in response to message #2 by bill platt

Bill,

My initial search was incomplete. You are correct; this has already been discussed ad nauseam. I now have little interest in the 17BII+ after reviewing the archives. Thanks.

Jeff

Re: 17BII+ vs 19BII Business Consulatant II

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 8:51 a.m.,*
in response to message #2 by bill platt

I think you have to differentiate between the 2 "new" 17Bii+ machines; the latest (silver) **does** have L() and G() [they are documented in the manual as well]. I have no idea about the clunky bronze one. All reports I have seen say "no".

Running in my silver 17Bii+, several solver routines actually executed **faster** than my original 17Bii's. I have no doubt that it does have a different solver and if I put more complex problems in, some of the issues mentioned here in the last half year may very well crop up. However, I think that majority of these complaints have come from the early bronze 17Bii+, not the silver one.

About the biggest difference I note between the 17Bii and the (silver) 17Bii+ is the calculation of amortization schedules. The 17Bii+ seems to repeat the calculation from scratch when you are doing the later runs (say 49-60, for example). The 17Bii just continues where it left off so it is much faster there.

I picked up my 17Bii+ for $0.01 on TAS (plus $17 shipping, of course) and I am most happy with it (it definitely slipped in under the radar!)! The buttons are **WAY** better than the new-in-blister-pack very late model 17Bii (black face) I picked up at HHC2011. Those ones have the hollow feel of the current crop of HP's (ugh!) -- which includes the 12C+ I have BTW (and I suspect the 15C LE). My older 17Bii's all have gorgeous keyboards.

However the largest differentiating factor has got to be the screen of the 17Bii+ vs. the older ones. Just no comparison -- the 17Bii+ wins hands down! Contrast and viewing angle are far superior.

Battery consumptions? That remains to be seen but I doubt the new ones are in the same league as the 3x 357.

I can't answer the question about 19Bii vs. 17Bii+ because my 19Bii is still in transit (purchased yesterday). The 17Bii(+)'s do not have the rich set of math functions in the 19Bii so it is clearly not as useful as an all-around calculator.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #5 Posted by **Don Shepherd** on 6 Jan 2012, 10:39 a.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> I have no idea about the clunky bronze one. All reports I have seen say "no".

The brown/bronze 17bii+ has L() and G() as well, and they are documented in the manual. But both the brown/bronze and the silver 17bii+'s have the exact same solver, and the problems documented elsewhere in the forum affect both machines. You won't run into the problems if you never use L() and G(), nor will you run into the problems if you do use L() and G() only for non-menu (that is, what you might call local) variables.

> Quote:
>
> I think that majority of these complaints have come from the early bronze 17Bii+, not the silver one.

That's because the problems were identified before the silver 17bii+'s came out. But, because they have the same solver, the silver ones are affected too.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 11:29 a.m.,*
in response to message #5 by Don Shepherd

Good to know. I certainly have not pushed mine to anywhere near the extent that you have yours. A

wizard like yourself, I am not! Some of your spectacular solver studies have just boggled my mind! :-)

...I seem to recall that someone had a run-in with HP trying to get a resolution to the L()/G() **not** being in their bronze unit. HP came back saying something to the effect that "These are not in the manual so they are not part of the specification" (I am paraphrasing wickedly here). Am I mistaken in that recollection?

I don't have a manual from the *bronze age*, nor do I have one of those units, so I cannot check...

Cheers...

Re: 17BII+ vs 19BII Business Consulatant II

*Message #7 Posted by **Don Shepherd** on 6 Jan 2012, 1:07 p.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

> Quote:
>
> Some of your spectacular solver studies have just boggled my mind

I've been intrigued by the 17b solver since around 2007. I find the whole idea of "can an equation be a program" to be very interesting, and I have been amazed at what others have done with this solver. HP never advertised the 17b as a "programmable" calculator, but it certainly is, principally due to L() and G() and IF() and Σ().

> Quote:
>
> someone had a run-in with HP trying to get a resolution to the L()/G() not being in their bronze unit. HP came back saying something to the effect that "These are not in the manual so they are not part of the specification"

It may have been that someone with an HP17bii complained that their unit didn't have L() and G() because those functions were not in their manual, so they assumed the functions were not in the hardware. But they were. I've got about 10 17b/17bii's and they all have L() and G(), but only the manuals for the plusses contain the *documentation* for L() and G(). If someone has any 17b that they think does not have the L() and G() functions, I'd like to know about it. AFAIK, all 17b varieties have those functions.

It would not surprize me that HP customer service people wouldn't know about L() and G(), and therefore would give that response. They can't know everything.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 1:24 p.m.,*
in response to message #7 by Don Shepherd

I guess this was the thread I was recalling, maybe it is not correct:

L() and G() unsupported on NEW HP17BII+ (Long)

Re: 17BII+ vs 19BII Business Consulatant II

*Message #9 Posted by **Don Shepherd** on 6 Jan 2012, 3:09 p.m.,*

in response to message #8 by Neil Hamilton (Ottawa)

That thread was from 2005. I didn't own a 17bii+ in those days, I first got one in 2007 and it had the L() and G() functions and its documentation of solver functions included L() and G() as well. I believe that the author of that thread said that L() and G() were unsupported because they didn't work, but he was able to enter the L() and G() functions in a formula and get a result, just the wrong result!

This is the formula he entered:

```
L(A:X) + 2*G(A) – B = 0
```

He said he entered 5 for X then solved for B and got 5 when it should have been 10. Actually, it should have been 15 because L(A:X) will give you 5 and 2*5 will give you 10, hence 15 would be correct (which Hugh Steers pointed out). Entering that equation on my 2007 17bii+, I get the correct answer, 15. Entering it on a 17b also yields 15. So if that poster really got 5, maybe there was a problem with the early versions of the 17bii+ that was corrected by 2007, who knows. But the problem wasn't that L() and G() weren't present in his unit; they were, else when he CALC'd his formula he would have received the message INVALID EQUATION.

In those old threads, there was much gnashing of teeth regarding the 17bii+ solver not working like the original 17b and 17bii solver, and that is true and unfortunate. If HP ever updates the 17bii+ solver to perform like the original 17b solver, I'll be the first in line to buy one (or 2 or 3 or ...).

Re: 17BII+ vs 19BII Business Consulatant II

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 3:16 p.m.,*
in response to message #9 by Don Shepherd

I know what you mean. I am an engineer and really have little professional use for a financial calculator but I just the **love** the 17Bii.

I put the $0.01 bid in on the 17Bii+ mostly as a joke but have been very pleased with it thus far. It would be really nice to attack its guts and replace it with an emulation of the the 42S some day... Its a great chassis.

Cheers...

Re: 17BII+ vs 19BII Business Consulatant II

*Message #11 Posted by **bill platt** on 6 Jan 2012, 5:52 p.m.,*
in response to message #10 by Neil Hamilton (Ottawa)

Have you seen the solver program listed in the Articles forum which runs on a 17b or bii (not sure it will work on the + as it uses L and G) which gives you trig functions?

W.B. McGuire wrote the first one I was aware of, but I see that Gerson has also written a bunch, including Hyperbolics!

Edited: 6 Jan 2012, 5:53 p.m.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 8:33 p.m.,*
in response to message #11 by bill platt

Hi Bill,

Can you be more specific as to which article won't run on the17Bii+? I tried the 2nd set of Trig equations from here and TAN from group 4 as well and things seemed to work fine. I get corect answers for everything I tried.

(I admit to lack of patience to type in more of the longer ones :-)

Thanks...

Re: 17BII+ vs 19BII Business Consulatant II

*Message #13 Posted by **bill platt** on 6 Jan 2012, 8:49 p.m.,*
in response to message #12 by Neil Hamilton (Ottawa)

It has been a long time since I looked into this--I just am not sure whether Bruce's formulation works on the new + machines, that's all. Maybe Gerson has made something for them but I haven't reviewed them at all.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #14 Posted by **bill platt** on 6 Jan 2012, 5:50 p.m.,*
in response to message #7 by Don Shepherd

The L and G were included in an HP applications publication, back in the 17b/19b days.

Actually come to think of it, I believe it was in the 19b manaul, too (I don't have one). Somewhere, I have a paper copy of the pertinent pages of the applications book, which was written for the 19b, 17b and 27s (all three have the same solver).

Re: 17BII+ vs 19BII Business Consulatant II

*Message #15 Posted by **Don Shepherd** on 6 Jan 2012, 6:34 p.m.,*
in response to message #14 by bill platt

L() and G() are described in detail in the *Technical Applications Manual for the HP-27S and HP-19B*; that is **the source** for advanced solver techniques. L() and G() are listed as solver functions in the HP-17bii+ manuals, but they are not listed in any of the 17b, 17bii, 27s, or 19bii manuals that I am aware of.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #16 Posted by **bill platt** on 6 Jan 2012, 8:30 p.m.,*
in response to message #15 by Don Shepherd

That's exactly the application thing I was remembering--thanks.

I wonder why they didn't put it in the manual? Perhaps it was something of an "easter egg"?

Re: 17BII+ vs 19BII Business Consulatant II

*Message #17 Posted by **Don Shepherd** on 6 Jan 2012, 10:20 p.m.,*
in response to message #16 by bill platt

> Quote:
>
> I wonder why they didn't put ...L() and G()... in the manual?

I've often wondered about that too. One possibility is that L() and G() were meant for debugging the first solver, and they forgot to remove that code prior to production. That would explain why it wasn't in the manuals. Then someone--undoubtedly a member of this forum!!--found out about those functions, and the rest is history.

Alas, we'll probably never know because the authors and developers are long gone.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #18 Posted by **Don Shepherd** on 6 Jan 2012, 3:59 a.m.,*
in response to message #1 by Jeff Kearns

Jeff, Bill is right, the solver in the 17bii+ will be a disappointment if you want to do formula customization using L() and G(). It also uses the iterative solver in some situations where the original 17b and 17bii solver would use the faster direct solver.

If you don't need trigs, I heartily recommend the 17b or, if you must have RPN, the 17bii.

The alpha keyboard of the 19bii is nice, as is RAN#, but the battery door is a well-known problem.

Re: 17BII+ vs 19BII Business Consulatant II

*Message #19 Posted by **Raymond Del Tondo** on 6 Jan 2012, 8:52 p.m.,*
in response to message #18 by Don Shepherd

> Quote:
>
> but the battery door is a well-known problem.

The latest incarnation of the 19 BII with black housing and darker keys has the battery door like ist should have been from the beginning: A clip cover on the back side, which can easily be applied and removed. The whole battery contact force has been transferred to the housing. WAY better than the original battery door.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c vs. 15cLE keyboard

*Message #1 Posted by **Ethan Conner** on 5 Jan 2012, 9:20 p.m.*

It took a few months but the right 15c for what i wanted showed up on TAS at the right price. It's beat up but functional. The keyboard does feel different but i don't know that it is "better" different, just not the same as an LE. Yes the "f" and "g" keys don't wobble but that's about the only thing that feels better than the LE. Semantics warriors unite! lol

Re: 15c vs. 15cLE keyboard

*Message #2 Posted by **Michael de Estrada** on 5 Jan 2012, 9:26 p.m.,*
in response to message #1 by Ethan Conner

I guess it's just a matter of personal preference. I prefer the softer but very positive feel of the original Voyager keyboards. They are also quieter and don't repeat the way the new ones do.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

For those in UK: 15C LE available for pre-order at Sleath's

*Message #1 Posted by **Bart (UK)** on 5 Jan 2012, 5:42 p.m.*

The 15C LE is available in the UK for pre-order at WF Sleath's @ £89.95 inc. VAT with expected availability mid-January.

Sleath's HP15C Scientific Calculator (Limited Edition)

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #2 Posted by **Michael de Estrada** on 5 Jan 2012, 5:58 p.m.,*
in response to message #1 by Bart (UK)

That's about $140 USD, which is about what it would cost to have a friend in the USA get one for MSRP and ship it to the UK. How does VAT compare with import duty tax ?

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #3 Posted by **Bart (UK)** on 5 Jan 2012, 8:19 p.m.,*
in response to message #2 by Michael de Estrada

Any item (even a gift) coming into the UK is subject to both duty and VAT, see
HM Revenue & Customs: Tax on goods ordered from overseas.
Don't forget to include the £8 or so that Parcelforce/RM will charge for admin fee to collect the tax on behalf of HMRC.
See: the fees i paid on my original 15C LE & 12C 30th ed.

Edited: 5 Jan 2012, 8:29 p.m.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #4 Posted by **Michael de Estrada** on 5 Jan 2012, 8:33 p.m.,*
in response to message #3 by Bart (UK)

So basically, it is cheaper for you to buy it directly in the UK.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #5 Posted by **Derek Walker (UK)** on 6 Jan 2012, 2:56 a.m.,*
in response to message #4 by Michael de Estrada

I bought from SC in September when their price was $99.99. Tracked shipping added $40, and UK VAT and handling added £29.47, so my total cost was around £120 at the then exchange rate.
There's also the warranty issue, one hopes the key problems will not recur but had my unit suffered from faulty keys, I'd have had a dilemma whether to spend more money on trans-Atlantic postage or not.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #6 Posted by **Bart (UK)** on 6 Jan 2012, 5:27 a.m.,*
in response to message #4 by Michael de Estrada

I purchased both the 15C LE and 12C 30th ed. as I figured this was the most cost-effective (and I wanted both anyway). The combined purchase price in £ was just below the Duty threshold of £135, so just VAT was payable on the price & postage. Total with all costs was just under £180, i.e. £90 each. So Sleath's 15C LE with cheapest postage is £92.30, is in that ball-park.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #7 Posted by **Borja** on 9 Jan 2012, 3:32 a.m.,*
in response to message #2 by Michael de Estrada

I'm not affiliated in any way, but the Spanish "The Calculator Store" lists the HP-15C LE for € 109.90, VAT included. There's no additional VAT or import duties into the UK, just the shipping cost.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #8 Posted by **Derek Walker (UK)** on 6 Jan 2012, 3:10 a.m.,*
in response to message #1 by Bart (UK)

Thanks for the tip - I was wondering whether any UK retailer would offer the 15C LE.
Although Sleath's are a mail order company, they have in the past (by prior arrangement) let me collect a calculator from their east London office (and pay for it on the spot), to avoid having to get it delivered to a work address.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #9 Posted by **Rob Willett** on 6 Jan 2012, 9:47 a.m.,*
in response to message #8 by Derek Walker (UK)

I've ordered one as a spare. We'll see how many actually get through and how many are put on TAS.

Rob.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #10 Posted by **Michael de Estrada** on 6 Jan 2012, 10:37 a.m.,*
in response to message #9 by Rob Willett

Funny thing is that the USA TAS is now flooded with listings for the 15C LE, and they are no longer selling, except at much reduced prices. All the fools who swept them up with the expectation of turning a quick profit are now stuck with unsold inventory. Samson has been trying for weeks now at $199.99 each, and has not sold a single one. I hope the greedy bastards get their just comeuppance.

Re: For those in UK: 15C LE available for pre-order at Sleath's

*Message #11 Posted by **Paul Brogger** on 6 Jan 2012, 7:26 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> I hope the greedy bastards get their just comeuppance.

In the dark, immortal words of Stewie Griffin (the precocious baby on "The Family Guy" show): "Mark my words -- someday, when you least expect it, your uppance *will* come!"

Edited: 6 Jan 2012, 7:27 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Digital watch wars

*Message #1 Posted by **Howard Owen** on 5 Jan 2012, 7:20 a.m.*

Article .

The patent drawing of the HP01 is cool.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: HP goes green

*Message #1 Posted by **Juergen Keller** on 5 Jan 2012, 3:40 a.m.*

From time to time there are discussions in this forum that HP is not the good company we knew from our younger days. So I thought I will spread some positive news about HP:

HP is the top scoring company in the Guide to Greener Electronics ranking. There is still much room for improvement but HP is definitely on the right path. Congratulation!

Re: OT: HP goes green

*Message #2 Posted by **Borja** on 9 Jan 2012, 3:29 a.m.,*
in response to message #1 by Juergen Keller

I'm afraid Greenpeace isn't exactly dependable as a source of information.

I just remember the inordinate quantities of carton boxes HP uses to ship anything. At least in my experience, any slightly complex system will be delivered as countless indivudual boxes. Each power cable in a box, each hard drive in a box...

Even _LICENSE CERTIFICATES IN A PADDED BOX, ONE SHEET OF PAPER FOR EACH BOX_.

I've really witnessed it, and I think there are published photos somewhere. The Register, maybe.

Perhaps they have changed, I haven't bought such stuff from HP in two years or so. But, consider them a green company...

Re: OT: HP goes green

*Message #3 Posted by **Juergen Keller** on 9 Jan 2012, 7:04 a.m.,*
in response to message #2 by Borja

I didn't say HP is already green but on the right path:

> Quote:
>
> There is still much room for improvement but HP is definitely on the right path.

If you look at the link I provided, you'll see that HP is somewhere in the brown area. Let's hope they will continue the efforts and further improve their policies and practices.

Re: OT: HP goes green

*Message #4 Posted by **Paul Gaster** on 9 Jan 2012, 9:52 a.m.,*
in response to message #2 by Borja

I cannot find the one you mentioned yet, but here is a good one: HP shipping fail

It is a power cord in a box, in a large...I mean really large...box, all attached to a skid.

OK, this was from 2009, but still....

Re: OT: HP goes green

*Message #5 Posted by **Paul Gaster** on 9 Jan 2012, 9:57 a.m.,*
in response to message #4 by Paul Gaster

I spoke too soon. Here are the pictures of the 17 boxes for 32 pages that HP shipped: HP shatters excessive packaging world record

Re: OT: HP goes green

*Message #6 Posted by **Paul Gaster** on 9 Jan 2012, 9:59 a.m.,*
in response to message #5 by Paul Gaster

How about a computer mouse in a box, strapped to a wood pallet?

Stand aside, the Enormouse cometh

Re: OT: HP goes green

*Message #7 Posted by **Ethan Conner** on 9 Jan 2012, 1:25 p.m.,*
in response to message #2 by Borja

I'm afraid Greenpeace isn't exactly dependable as a source of information.

I have to agree with your statement. Having once witnessed their very selective application of going green to western nations with lots of money and freewheeling court systems. Let me say that there was some cleaning up to be done and it was taken care of. Meanwhile our communist neighbors were and still are free to continue massively polluting to the extent that their environmental disaster in the same area is visible with the naked eye from space. They don't operate in or go after countries where their safety is not 100 percent guaranteed or where they are not guaranteed a decent ROI through the court system. Having seen their hypocrisy first hand i'm not impressed nor do i trust much of what they say. It may have started with noble intentions but to me they are just as much a racket as any corporation you'd care to name.

Re: OT: HP goes green

*Message #8 Posted by **Hugh Evans** on 9 Jan 2012, 8:12 a.m.,*
in response to message #1 by Juergen Keller

From my experience in the chemical industry, going green is generally motivated simply by complying with the most restrictive state and federal regulations... Almost entirely for the purpose of maintaining competitive presence in all markets. Much of the time it does improve material costs and gives a nice bottom line. From a PR perspective, offering a "green" product line is a great marketing scheme. As far as I'm concerned, regardless of your anyone's personal views about the environment I think most of us can agree that reducing waste and improving efficiency are good things.

My long term concern is the movement by a few ultra environmentally conscious to begin requiring full disclosure of product composition. In other words "you can trust us to keep your trade secrets safe." In my line of work, it's hard enough already to trust partners in certain southeast Asian countries with anything remotely resembling formulation data. One would think we were guarding the Colonel's list of secret herbs and spices with the lengths we go to.

Overall, the end result is a good thing. But at the end of the day, 99% of green manufacturing is the result of adaptation to the current political climate in order to survive and compete.

Re: OT: HP goes green

*Message #9 Posted by **Howard Owen** on 9 Jan 2012, 10:00 a.m.,*
in response to message #8 by Hugh Evans

> Quote:
>
> Overall, the end result is a good thing. But at the end of the day, 99% of green manufacturing is the result of adaptation to the current political climate in order to survive and compete.

It's not just regulation that's driving green manufacturing.

Walmart famously squeezes its suppliers to use less packaging. More stuff crammed into a given shelf space means more products can squeeze in. Less packaging also reduces the suppler's costs, allowing them to meet WM's price demands. Shipping costs go down too. A felicitous side effect is less waste going into landfills.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s build compiler

*Message #1 Posted by **David Griffith** on 5 Jan 2012, 3:04 a.m.*

Looking at the WP34s build files, it seems that I need CodeSourcery G++ Lite. Exactly what target platform flavor should I choose when downloading this?

Re: WP34s build compiler

*Message #2 Posted by **pascal_meheut** on 5 Jan 2012, 4:57 a.m.,*
in response to message #1 by David Griffith

No you don't. What platform do you want to build for and what do you want to build? The calc.bin firmware? The old Windows emulator? The new Qt Emulator?

Re: WP34s build compiler

*Message #3 Posted by **fhub** on 5 Jan 2012, 5:43 a.m.,*
in response to message #2 by pascal_meheut

> Quote:
>
> The old Windows emulator? The new Qt Emulator?

Is there any advantage of the new Qt emulator over the old Windows emulator?

I'm sure some here would like to try this new emulator, but certainly not many of us (including me) have (or want to download and install) a complete C environment just to compile this sources.

Is it really so difficult to provide a ready-to-use Windows EXE for this new Qt emulator?

Franz

Re: WP34s build compiler

*Message #4 Posted by **pascal_meheut** on 6 Jan 2012, 12:00 a.m.,*
in response to message #3 by fhub

I'm currently working on the packaging so the next releases will include an .EXE (and the equivalent for Mac & Linux). I'll finish the serial communication after.

The main advantage over the old one will be its availability on other platforms and the fact that it will be easier for the team to add functions. We are considering flashing from the emulator for instance...

Re: WP34s build compiler

*Message #5 Posted by **Dominic Richens** on 5 Jan 2012, 10:24 a.m.,*
in response to message #1 by David Griffith

You'll find pages describing the free Windows build environment (for emulator and calc.bin) at wiki4hp.

I would say the Qt emulator is less mature (e.g. serial comms still a work in progress) plus the focus has been on getting the Mac and Linux emulators to work.

On the other hand - the Qt windows emulator certainly needs testers. The basic calculator, including simulator flash handing, works fine and Pascal could use some help testing.

Edited: 5 Jan 2012, 10:24 a.m.

Re: WP34s build compiler

*Message #6 Posted by **Marcus von Cube, Germany** on 5 Jan 2012, 1:01 p.m.,*
in response to message #1 by David Griffith

I tried CodeSourcery, was pleased with the space optimizations it was able to do, and was very frustrated that the nicely optimized code simply didn't work correctly. That's the reason why I chose Yagarto.de as the compiler. No issues so far.

Re: WP34s build compiler

*Message #7 Posted by **David Griffith** on 5 Jan 2012, 7:37 p.m.,*

in response to message #1 by David Griffith

I forgot to mention that I use Linux and would like to avoid having to mess with Wine in order to do compilation.

Re: WP34s build compiler

*Message #8 Posted by **Dominic Richens** on 5 Jan 2012, 10:07 p.m.,*
in response to message #7 by David Griffith

plain old gcc / g++ works for the Qt version then. I'm sure there is an ARM chain for Linux but I'm not sure there is a Linux based tool to flash the HP-20b/30b with calc.bin

Re: WP34s build compiler

*Message #9 Posted by **David Griffith** on 6 Jan 2012, 10:12 p.m.,*
in response to message #8 by Dominic Richens

The regular GCC setup in Linux seems to work for the Qt emulator so far. I haven't yet identified all the development packages that are necessary. Is there anyone here using Linux to tinker about with the WP34s source code from whom I can get some info? I'm still trying to identify the correct cross-compiler to install for building the calculator firmware. For flashing the firmware image to the calculator, there's a version of SAM-BA for Linux.

qextserialenumerator_unix.cpp:(.text._ZN5QListI7QStringE13detach_helperEi[QList<QString>::detach_helper(int)]+0x27): undefined reference to `QListData::detach(int)' collect2: ld returned 1 exit status

Edited: 6 Jan 2012, 10:26 p.m.

Re: WP34s build compiler

*Message #10 Posted by **pascal_meheut** on 7 Jan 2012, 1:43 a.m.,*
in response to message #9 by David Griffith

> Quote:
>
> qextserialenumerator_unix.cpp:(.text._ZN5QListI7QStringE13detach_helperEi[QList<QString>::detach_helper(int)]+0x27): undefined reference to `QListData::detach(int)' collect2: ld returned 1 exit status

This one is strange and I cannot reproduce it. Anyway, still a lot of work to do on the serial port and I'm quite busy with my real-world work at the moment.

Re: WP34s build compiler

*Message #11 Posted by **David Griffith** on 7 Jan 2012, 3:46 a.m.,*
in response to message #10 by pascal_meheut

That error message is what I got when I tried to compile the Qt interface emulator.

Re: WP34s build compiler

*Message #12 Posted by **David Griffith** on 8 Jan 2012, 12:45 a.m.,*
in response to message #11 by David Griffith

So... are there any Linux users out there who can give me a hand?

Re: WP34s build compiler

*Message #13 Posted by **Dominic Richens** on 8 Jan 2012, 2:32 p.m.,*
in response to message #12 by David Griffith

> Quote:
>
> qextserialenumerator_unix.cpp:(.text._ZN5QListI7QStringE13detach_helperEi[QList<QString>::detach_helper(int)]+0x27): undefined reference to `QListData::detach(int)' collect2: ld returned 1 exit status

I'll poke around tomorrow when I can get at my Linux environment. My initial guess is there is something wrong with your Qt build, since it's complaining that one QtCore bit is failing to link to another.

What version of Qt are you using and what verion of gcc?

Re: WP34s build compiler

*Message #14 Posted by **pascal_meheut** on 8 Jan 2012, 4:39 p.m.,*
in response to message #13 by Dominic Richens

I'm compiling using gcc-4.6.1 and Qt4.7.4. Other versions of gcc should work.

The problem may come from the qextserial library binaries. I plan to add a way to not include the serial code and also another to recompile the library too.

Re: WP34s build compiler

*Message #15 Posted by **David Griffith** on 8 Jan 2012, 7:04 p.m.,*
in response to message #13 by Dominic Richens

I'm using GCC 4.4.5 and Qt 4.6.3 as installed though APT on Debian Squeeze. I suspected my Qt problems might be because I don't have the right development packages installed, but based on what I see here today, that might not be right.

Re: WP34s build compiler

*Message #16 Posted by **pascal_meheut** on 9 Jan 2012, 6:01 a.m.,*
in response to message #15 by David Griffith

Qt 4.7.4 or Qt 4.8 are supported. I never tested with an older version.

Re: WP34s build compiler

*Message #17 Posted by **pascal_meheut** on 9 Jan 2012, 3:25 p.m.,*
in response to message #16 by pascal_meheut

You can also try "make qt_gui_no_serial". It compiles without the serial libraries. Just commited it.

Re: WP34s build compiler

*Message #18 Posted by **Nobby K.** on 16 Jan 2012, 9:45 a.m.,*
in response to message #13 by Dominic Richens

You should download the source code of 'qextserialport' using Mercurial and rebuild qextserialport.a reading trunk/QtGui/SerialPort.txt. The qextserialport.a which is downloaded from Sourceforge.net(SVN) is used only limited enviorment. If your version of toolchain is different to Pascal, you should re-build qextserialport.a.

I'm using GCC 4.1.2 and Qt 4.6.1 on linux self build for QtGui, and arm-none-eabi-gcc 4.6.2 ,which is builded from source code by my self, on cross build for calc.bin.

Re: WP34s build compiler

*Message #19 Posted by **pascal_meheut** on 16 Jan 2012, 10:13 p.m.,*
in response to message #18 by Nobby K.

There is even a SerialPort.txt file in the WP34-s/QtGui distribution describing how to recompile this library.

Re: WP34s build compiler

*Message #20 Posted by **Marcus von Cube, Germany** on 6 Jan 2012, 8:49 a.m.,*
in response to message #7 by David Griffith

I think the Yagarto.de offering is a port of the standard GNU ARM cross compiler, neatly packaged for MacOS and Windows. As stated earlier, CodeSourcery G++ does not produce working binaries of the firmware. I have no idea why.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I had a dream - HP's next calculator

*Message #1 Posted by **Michael de Estrada** on 5 Jan 2012, 12:30 a.m.*

Yes folks, I had a dream about the next calculator product from HP. It is a non-programmable business/scientific/statistics calculator with a nice segmented display and all functions on the keyboard. The nice clicky buttons are sloped like the 12c, 15c LE and 35s, so one shifted function is above the key and the other on the key slope to remove the clutter of both shifted functions above the key. It can work in both RPN and algebraic mode. It has an affordable MSRP of $30 USD. The model number of this fictional new calculator is HP 10sb.

Actually, except for the RPN part, that fictional calculator already exists in the HP 10bII+, which I've been playing with for a while, and am truly impressed with it's capabilities. It already has some of the trappings of an RPN machine, such as the INPUT key that functions as ENTER for two variable operations and a SWAP key that is effectively x<>y. All it needs is a full 4-level stack, roll down / roll up key, and a mode switch between RPN and Algebraic/Chain.

I had a dream.

Edited: 5 Jan 2012, 12:31 a.m.

Re: I had a dream - HP's next calculator

*Message #2 Posted by **Eric Smith** on 5 Jan 2012, 1:19 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> The model number of this fictional new calculator is HP 10sb.

Good thing it's not the 10bs! :-)

Re: I had a dream - HP's next calculator

*Message #3 Posted by **Michael de Estrada** on 5 Jan 2012, 9:27 a.m.,*
in response to message #2 by Eric Smith

haha. That was intentional.

Re: I had a dream - HP's next calculator

*Message #4 Posted by **bill platt** on 5 Jan 2012, 1:47 a.m.,*
in response to message #1 by Michael de Estrada

If it doesn't have the solver of the 17b, then I don't want it.

Re: I had a dream - HP's next calculator

*Message #5 Posted by **hpnut** on 5 Jan 2012, 4:46 a.m.,*
in response to message #4 by bill platt

I say take out the Algebraic, then you have a pure HP. HP manuals are tiresome to read when they have to explain both RPN and algebraic.

Re: I had a dream - HP's next calculator

*Message #6 Posted by **Michael de Estrada** on 5 Jan 2012, 9:34 a.m.,*
in response to message #5 by hpnut

I was assuming that HP management would not be on board unless algebraic mode was retained. They have to pander to the ignorant masses who have yet to drink from the fountain of wisdom.

Re: I had a dream - HP's next calculator

*Message #7 Posted by **bill platt** on 5 Jan 2012, 12:15 p.m.,*
in response to message #6 by Michael de Estrada

RPN is sooooo outdated. It would be madness to go down that path any longer.

We like RPN, but the world could care less and you know what? You'll never convince them it is better. So it should be dropped in the future.

Edited: 5 Jan 2012, 12:16 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C In The News

*Message #1 Posted by **Paul Brogger** on 4 Jan 2012, 9:50 p.m.*

FWIW, Steve Gibson and Leo LaPorte mention the newly-available 15C (and gush a bit about RPN) at a couple points in their most recent "Security Now" netcast.

Re: 15C In The News

*Message #2 Posted by **David Griffith** on 5 Jan 2012, 12:16 a.m.,*
in response to message #1 by Paul Brogger

"RPN is Yoda-speak." Heheh...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Most usable keystroke calculator?

*Message #1 Posted by **Sid Cave** on 4 Jan 2012, 7:37 p.m.*

What do people think is the most usable calculator or calculator application (including apps for phones and tablets)? The criterion I propose is a calculator that is usable in a manual keystroke fashion. It may be programmable, but that is a neutral attribute. I am looking for one that I can bang away on the keys without getting frustrated by extraneous keystrokes. For example, the 50g and 35s get hurt by their HEX-OCT-BIN mode behavior. They are essentially unusable due to the enormous keystroke overhead for entering HEX values in particular. Sometimes there are more modifier keys for entering the numbers than there are digits. Two to five for the 50g (there is an extra ENTER required prior to an operation), and three for the 35s. That's simply unusable. Of the calculators that I own, two rise to the top, the HP32s and the iOS app PCalc. They are not without faults, but they are the best I have found. Why doesn't PCalc use BCD? Of course you can have my 16c when you pry it from my cold dead hands, though it fails for scientific functions. Oh, and RPN/L only, of course.

Re: Most usable keystroke calculator?

*Message #2 Posted by **Paul Dale** on 4 Jan 2012, 7:38 p.m.,*
in response to message #1 by Sid Cave

The WP-34S of course.

- Pauli

Re: Most usable keystroke calculator?

*Message #3 Posted by **Sid Cave** on 5 Jan 2012, 8:50 a.m.,*
in response to message #2 by Paul Dale

That is one to consider. The quick look I took found that it ships from a seller in Spain. I wonder how much it costs to ship to the US, or is there a US based seller?

Re: Most usable keystroke calculator?

*Message #4 Posted by **Jeff O.** on 5 Jan 2012, 9:01 a.m.,*
in response to message #3 by Sid Cave

You don't need to buy it from Spain. Buy a 30b from whoever you want (currently available from Amazon.com for $19.79), then read this article to learn how to turn it into a wp34s.

Re: Most usable keystroke calculator?

*Message #5 Posted by **Jeff Kearns** on 5 Jan 2012, 11:32 a.m.,*
in response to message #4 by Jeff O.

It is CDN $79.49 on Amazon.ca. What a rip-off!

Amazon.ca link to 30b

Jeff Kearns

Re: Most usable keystroke calculator?

*Message #6 Posted by **Dominic Richens** on 5 Jan 2012, 10:10 p.m.,*
in response to message #5 by Jeff Kearns

> Quote:
>
> It is CDN $79.49 on Amazon.ca. What a rip-off!
>
> Amazon.ca link to 30b

Yeah no kidding. Perhaps someone can buy us a couple and ship them to Ottawa for us - even covering their time and postage we'd still be ahead.

Seeking benevolent middle-man for US to Can shipping

*Message #7 Posted by **Jeff Kearns** on 5 Jan 2012, 10:39 p.m.,*
in response to message #6 by Dominic Richens

Dominic,

I believe you are acquainted with Neil... I live in Aylmer and work downtown. Hopefully the subject line will result in a friendly offer to buy and ship on our behalf. I would get two at that price and just keep one as a 30b and use the other to create my own WP34s - that way I can return Neil's 20b modified-unit to him sooner.

Cheers,

Jeff Kearns

Re: Seeking benevolent middle-man for US to Can shipping

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 6 Jan 2012, 9:11 a.m.,*
in response to message #7 by Jeff Kearns

While not as cheap as the Amazon.com site, Samson Cables is still selling the 30b for $30 with $12 shipping to our neck of the woods. I suspect that the pro-rated shipping would go down if several were purchased. Still much cheaper than the Amazon.ca site.

Re: Seeking benevolent middle-man for US to Can shipping

*Message #9 Posted by **Dominic Richens** on 6 Jan 2012, 9:38 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

Thanks Neil I didn't notice they sold them. That works out to 8.75$ shipping each if Jeff and I order 2 each together.

Re: Most usable keystroke calculator?

*Message #10 Posted by **Ed Wright** on 4 Jan 2012, 8:53 p.m.,*
in response to message #1 by Sid Cave

I'm sure 10 people will have 11 different opinions. My favorite is Free42 by Thomas Okken. I use it on my PC and Android phone - it's available for many platforms (Windows, Linux, iPhone, WM, Palm, Android, etc.) which is a big plus. The HP-42S has many functions buried in menus, but it allows you to create a custom menu of six functions and have them available on the bottom line of the display, so they're available just as if they were unshifted keyboard functions. If you need more than six functions in addition to what's native on the keyboard, you're back to multiple keystrokes navigating menus, but for me it's the best calculator and simulator out there. Oh, and the simulator is, as the name suggests, free.

Re: Most usable keystroke calculator?

*Message #11 Posted by **Thomas Klemm** on 5 Jan 2012, 12:55 a.m.,*
in response to message #10 by Ed Wright

> Quote:
>
> it allows you to create a custom menu of six functions

The CUSTOM menu has 18 fields. The other two lines of six fields can be displayed using the arrow-keys.

Kind regards
Thomas

Re: Most usable keystroke calculator?

*Message #12 Posted by **Ed Wright** on 5 Jan 2012, 8:23 p.m.,*
in response to message #11 by Thomas Klemm

Thank you for pointing that out. After all this time, I didn't know that. I can make good use of 12 more easily accessible functions.

Re: Most usable keystroke calculator?

*Message #13 Posted by **Sid Cave** on 5 Jan 2012, 9:35 a.m.,*
in response to message #10 by Ed Wright

Free42 is a nice one. I was a little put off by having to fiddle with the top row keys to go from "A…F" to "DEC". I was using "SHIFT BASE DEC" until I just found that "EXIT DEC" works as well. Not too shabby. One keystroke to go from DEC to HEX or A…F, and two to go from A…F to DEC.

There is also a excellent derivative of Free42 for iOS devices. It is "42s RPN Calculator" by Byron Foster. Thomas Okken even links to it on his Free42 page. It costs $9.99, but it has some very nice user interface enhancements, more preference settings and a nicely polished skin. It has the ability to turn off the key-clicks, which you cannot do in the original Free42 for iOS. It is one of the front runners now.

Re: Most usable keystroke calculator?

*Message #14 Posted by **Joerg Woerner** on 4 Jan 2012, 9:17 p.m.,*
in response to message #1 by Sid Cave

My Casio CM-100 - simple and plain ;-))

Joerg

Edited: 4 Jan 2012, 9:18 p.m.

Re: Most usable keystroke calculator?

*Message #15 Posted by **Mike Morrow** on 4 Jan 2012, 10:15 p.m.,*
in response to message #1 by Sid Cave

Consider the Casio fx-115ES, a.k.a. fx-991ES, or the slightly improved but not generally available in USA fx-991ES Plus.

IMHO, it's the first non-RPN calculator that does so much (but not programming) that it's worth learning its very non-RPN user interface. Here in the US it's typically about $18. If you wind up hating it, you'd still not be out much.

Would you believe it performs Gauss-Kronrod numerical integration, and has stunning numerical accuracy in general? The keyboard "feel" is not like any HP, but that's not necessarily bad.

I have Casio calculators that are as much as 34 years old. They *all still work*. I can't say that about all of my TI and HP machines.

Re: Most usable keystroke calculator?

*Message #16 Posted by **David Hayden** on 4 Jan 2012, 11:00 p.m.,*
in response to message #1 by Sid Cave

I really liked my first HP calculator - the 29C because it could be operated completely with one hand. You cradle it in your 4 fingers and use your thumb to operate it. Calculator in one hand, pencil in the other - it was high school homework bliss, if there can be such a thing.

For modern calcs I'm with Pauli - the 34S.

Dave

Re: Most usable keystroke calculator?

*Message #17 Posted by **Michael de Estrada** on 4 Jan 2012, 11:32 p.m.,*
in response to message #16 by David Hayden

All the Woodstocks are like that. For me it was the 21, even with my small hands. I held it in my left hand. Also, it was far and away the most pocketable of the LED generation calcs.

Re: Most usable keystroke calculator?

*Message #18 Posted by **Sid Cave** on 5 Jan 2012, 10:00 a.m.,*
in response to message #17 by Michael de Estrada

The HP-21 is a sentimental favorite for me as well. It took me through 4 years of college. I still have mine, and it still works. It is sorely limited though. There are some nice free emulators available for it, such as Nonpareil and its offspring, like "rpn-21" by Maciej Bartosiak for iOS. There is also a payed one for iOS that is better in many regards, except for being implemented with binary math. Sorry, but 100 - 99.99 - 0.01 does not equal 5.1156995e-15.

Re: Most usable keystroke calculator?

*Message #19 Posted by **Vince (Italy)** on 5 Jan 2012, 12:12 a.m.,*
in response to message #1 by Sid Cave

It seems you already know the answer. My advice is: stick to the 32s; otherwise, you should give up RPN.

Warm regards

Vince

Re: Most usable keystroke calculator?

*Message #20 Posted by **Jim Yohe** on 5 Jan 2012, 12:41 a.m.,*
in response to message #19 by Vince (Italy)

Ummm ... a 32sii :-D

Re: Most usable keystroke calculator?

*Message #21 Posted by **Vince (Italy)** on 5 Jan 2012, 1:16 a.m.,*
in response to message #20 by Jim Yohe

From an aesthetical perspective, I like very much the turquoise/orange keyboard of the 32sII, but I find the layout of the 32s keyboard more straightforward, the greater number of menus notwithstanding. If you don't need the additional features, maybe the 32s remains the best choice. It seems that Sid doesn't care about advanced features (programming capability included); so, maybe a less cluttered keyboard could be more suitable. A strictly subjective opinion, of course.

Warm regards

Vince

Re: Most usable keystroke calculator?

*Message #22 Posted by **Kees Bouw** on 5 Jan 2012, 3:41 a.m.,*
in response to message #19 by Vince (Italy)

How about bugs and known issues, does the 32s have any?

Re: Most usable keystroke calculator?

*Message #23 Posted by **Sid Cave** on 5 Jan 2012, 10:04 a.m.,*
in response to message #22 by Kees Bouw

I have not heard of any, nor have I seen any in my own. However, I have not done any testing to actually look for bugs.

Re: Most usable keystroke calculator?

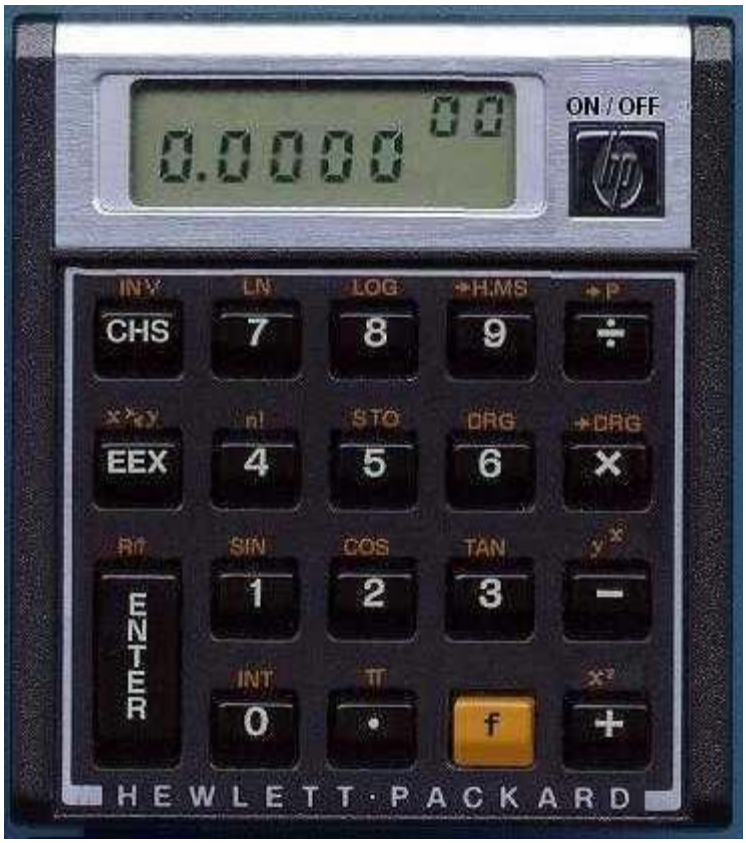
*Message #24 Posted by **Vince (Italy)** on 5 Jan 2012, 2:25 p.m.,*
in response to message #22 by Kees Bouw

> Quote:
>
> I have not heard of any, nor have I seen any in my own. However, I have not done any testing to actually look for bugs.

and on the 32s page of the Craig Finset site, none is reported

Re: Most usable keystroke calculator?

*Message #25 Posted by **C.Ret** on 5 Jan 2012, 4:05 a.m.,*
in response to message #1 by Sid Cave



The best keystroke RPN calculator have still to be invent...

Edited: 5 Jan 2012, 4:09 a.m.

Re: Most usable keystroke calculator?

*Message #26 Posted by **Paul Dale** on 5 Jan 2012, 4:35 a.m.,*
in response to message #25 by C.Ret

CLx ??

- Pauli

Re: Most usable keystroke calculator?

*Message #27 Posted by **Reth** on 5 Jan 2012, 5:12 a.m.,*
in response to message #26 by Paul Dale

> Quote:
>
> CLx ??
>
> - Pauli

Should replace the useless EEX key

Re: Most usable keystroke calculator?

*Message #28 Posted by **peacecalc** on 5 Jan 2012, 11:10 a.m.,*
in response to message #27 by Reth

Hello usabilities searchers,

CLX can be replaced by a multiplying with zero. Ouh the EEX key is very important, such a small calculator mutates to a real number-crusher!

Sincerely peacecalc

Re: Most usable keystroke calculator?

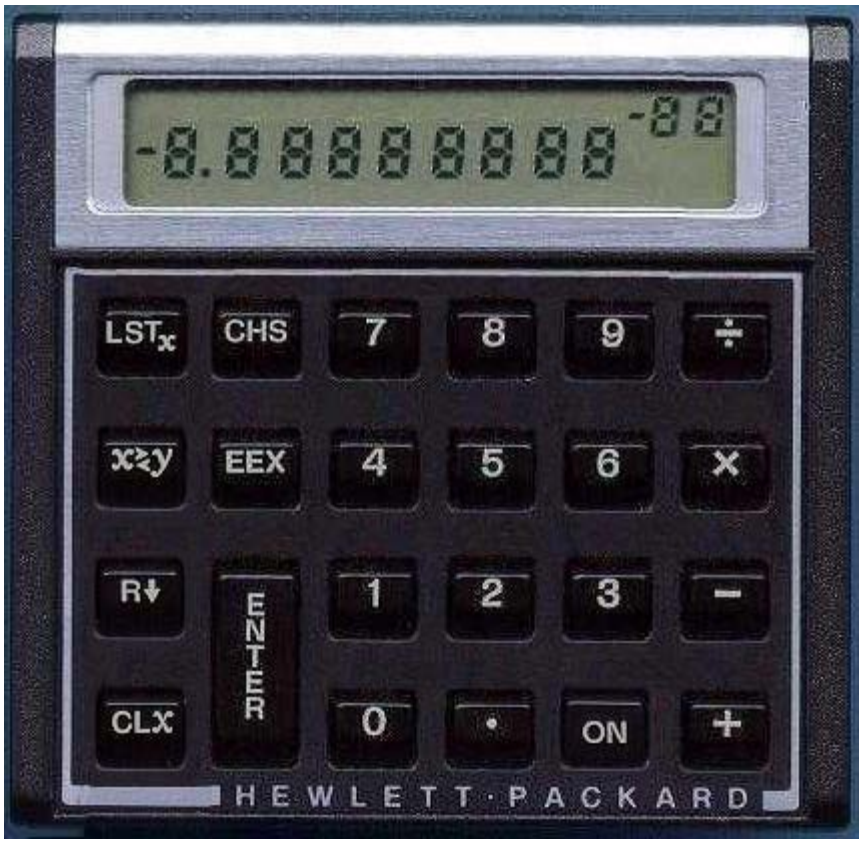
*Message #29 Posted by **C.Ret** on 5 Jan 2012, 2:47 p.m.,*
in response to message #28 by peacecalc

In fact, I realise that Pauly is right.

I so much use to type on keyboard, and I am so prone to errors, that I often have to correct entries with the 'back-delete' key.

That means that a keystroke calculator must have a 'back erase' key. Or as an alternative way to correct mistyping an 'Clx' Key.

Perhaps, we have to INVENT same thing more like this one:



which is a good full RPN four operation banger !

Re: Most usable keystroke calculator?

*Message #30 Posted by **Oliver Unter Ecker** on 5 Jan 2012, 12:00 p.m.,*
in response to message #1 by Sid Cave

Tried ND0 yet? (Free, for iOS.)

0xabcd will enter a hex number, and you can mix hex and dec at will.

Eval

```
\<< 1e6 primes total toHex \>>
```

to get the sum of the first million primes... as a hex number.

You didn't say what else you need. Personally, I'd die without a visible multi-level stack and an unshifted undo key.

Re: Most usable keystroke calculator?

*Message #31 Posted by **Crawl** on 6 Jan 2012, 4:10 p.m.,*
in response to message #1 by Sid Cave

I like the Sharp 506 and 516 for scientific and different number bases, though they're not RPN.

Re: Most usable keystroke calculator?

*Message #32 Posted by **M. Joury** on 6 Jan 2012, 4:25 p.m.,*
in response to message #1 by Sid Cave

> Quote:
>
> For example, the 50g and 35s get hurt by their HEX-OCT-BIN mode behavior. They are essentially unusable due to the enormous keystroke overhead for entering HEX values in particular.

I completely agree with that statement in regards to the HP35S. However, IMHO, the 48 series and their derivatives are pretty easy to use with non-decimal base input. All you need to do is prepend the '#' symbol to turn the number entered into the currently selected base. If you don't like having the '#' key shifted just assign it somewhere easily accessible.

Just my $0.02.

Cheers,

-Marwan

Re: Most usable keystroke calculator?

*Message #33 Posted by **Lutz Jacob** on 7 Jan 2012, 3:49 p.m.,*
in response to message #1 by Sid Cave

> Quote:
>
> For example, the 50g and 35s get hurt by their HEX-OCT-BIN mode behavior.

That's the reason why I prefer the 33s for daily tasks. It's not that beautiful but efficient usage is more important to me.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happy 40th Birthday, HP35

*Message #1 Posted by **Jake Schwartz** on 4 Jan 2012, 8:24 a.m.*

Hi,

As I remember the date of the initial press release of the HP35 being 4 January, 1972, it seemed appropriate to wish the '35 a happy 40th birthday. Life was definitely different after this machine came into being.

Jake Schwartz

Re: Happy 40th Birthday, HP35

*Message #2 Posted by **Namir** on 4 Jan 2012, 12:04 p.m.,*
in response to message #1 by Jake Schwartz

As Asian wisdom says, "The journey of a thousand mile begins with the first step." The HP-35 was that first step. Look where we are now!

Namir

Re: Happy 40th Birthday, HP35

*Message #3 Posted by **designnut** on 4 Jan 2012, 3:21 p.m.,*
in response to message #2 by Namir

I used an enjoyed all up through the 32SII, after that they lost me.

Re: Happy 40th Birthday, HP35

*Message #4 Posted by **Joerg Woerner** on 4 Jan 2012, 4:12 p.m.,*
in response to message #2 by Namir

Good question!

HP, where are you?????

Regards, Joerg

Re: Happy 40th Birthday, HP35

*Message #5 Posted by **Howard Owen** on 4 Jan 2012, 6:41 p.m.,*
in response to message #4 by Joerg Woerner

"We" are in DIY heaven.

Re: Happy 40th Birthday, HP35

*Message #6 Posted by **Joerg Woerner** on 4 Jan 2012, 7:31 p.m.,*
in response to message #5 by Howard Owen

Apple changed the computer community FROM DIY to serious business.

Hewlett Packard tries to change the calculator community TO DIY???

Cheers,

Joerg

Re: Happy 40th Birthday, HP35

*Message #7 Posted by **db (martinez, ca.)** on 4 Jan 2012, 10:15 p.m.,*
in response to message #2 by Namir

> Quote:
>
> Look where we are now!

Yes, look.

Surveying field work that used to take a three man crew a day to preform correctly is now done by one person in the field and two in the office (in the same time) but very often incorrectly because the automation has given anyone with a degree in computer-gamesmanship those office jobs and any unemployable relative can turn on the field computer. Simple but important things like turning multiple angles used to obtain an order of accuracy of one in 5000 for third order work was done with older equipment as a matter of course. It is still done to that level but totally automated with modern instruments operated roboticly by garbage like the carlson field computer. Results more than twenty times as fine are gotten using the old manual methods with the great new instruments. Mistakes are much more common now too. Since it is not absolutely necessary to have someone with experience and knowledge to do lay-out all the time; vacuum cleaners get sent to places they don't belong to do work they can't do.

The average office employee spends 25% of it's time goofing around on the internet. On the bright side: there are more arrogant twits than ever before in history who can pretend their data entry job at a terminal makes them a professional.
It used to be that employers had to have people who could think in lots of key positions. Now intelligence is concentrated in fewer positions and the merely connected or agreeable can be given a computer to do their "work", right or wrong.

If you are as old as me, you can remember how often a bill was wrong in the '70s: almost never. Now my AT&T bill for instance is wrong 10 months out of 12. This is because third rate hack bean counters with a secret handshake run things and let computers do the work because people are too expensive. How many times have you bought a computer or part that's screwed up from the factory? Or a program that's no good at all. How many people got saddled with Vista and then tried to replace it with Linux 11? How many of those would have gladly gone back to an abacus?

People used to think and take pride in their work. Now they hide in their cubicle checking their ebay bids over the the idiot filled porn pipe that is the internet.

The 41cx; now that is a computer.....

Re: Happy 40th Birthday, HP35

*Message #8 Posted by **Nick R** on 5 Jan 2012, 11:52 a.m.,*
in response to message #7 by db (martinez, ca.)

Your comments on surveying field work took me back to when I was working as a chainman in the 1970s. The minimum closing accuracy required legally on traverses was one in 5000, but our employers expected one in 10,000. Anything less than this meant we'd be sent back out to find the error. Distances were measured with a 200 foot steel tape pulled taught against the string of a suspended plumb bob. By today's standards, we chainman would be considered unskilled laborers, as most of the day's work consisted of cutting line with axes, but we very rarely failed to achieve the company's goal of accuracy. I'd like to think this was due to us taking pride in our work, but the reality was none of us wanted to go back and re-run an unsatisfactory traverse.
Everything is now electronic, and the reflectng prism has replaced the plumb bob held by a scruffy individual standing in a swamp surrounded by mosquitoes as his boots fill with water. Measuring a distance across a river is done in a fraction of a second with a laser beam. We did the same thing a lot slower by tying the end of the steel tape to a dog and persuading him to swim across for a biscuit.
Steel tapes did have one advantage, however. While working near an electric fence I was able to throw my end of it onto the wire and shock the instrument man who was holding the other end.

Re: Happy 40th Birthday, HP35

*Message #9 Posted by **db (martinez, ca.)** on 5 Jan 2012, 10:42 p.m.,*
in response to message #8 by Nick R

> Quote:
>
> While working near an electric fence I was able to throw my end of it onto the wire and shock the instrument man who was holding the other end.

Nick; you've got a mean streak, don't you?

I'm not admitting any of my pranks here, because none are as good as yours.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #1 Posted by **gene wright** on 4 Jan 2012, 8:13 a.m.*

Red dot

Pictures show manual, AC adapter, case, etc. Looks in good shape and has the 2.02 bug.

FWIW.

Edited: 4 Jan 2012, 8:24 a.m.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #2 Posted by **Michael de Estrada** on 4 Jan 2012, 9:19 a.m.,*
in response to message #1 by gene wright

Calculator appears to be legit. Accessories (ac adapter, manual, hard case) are from later versions, however.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #3 Posted by **Lincoln R.** on 6 Jan 2012, 11:49 a.m.,*
in response to message #2 by Michael de Estrada

Just curious, what tells you that the hard case is from a newer model? The only difference I've ever noticed is the address, i've seen some later ones with a Corvallis, OR address on the label.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #4 Posted by **Michael de Estrada** on 6 Jan 2012, 11:57 a.m.,*
in response to message #3 by Lincoln R.

I have the original hard cases for my 35 V1 Red Dot as well as for my 35 V3, and the moldings on the interior are different.

Edited: 6 Jan 2012, 11:58 a.m.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #5 Posted by **Matthias Wehrli** on 6 Jan 2012, 4:54 p.m.,*
in response to message #4 by Michael de Estrada

Sorry, but the price is double of that what I "usually" pay for RedDots.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #6 Posted by **Michael de Estrada** on 6 Jan 2012, 5:45 p.m.,*
in response to message #5 by Matthias Wehrli

Maybe the seller heard you, since the price has been reduced. Still, it's more than twice what I paid, and mine is 100% original. It also includes the cardboard box it was shipped in directly from HP to the original owner, who then sold it to me. I even have the printed invoice from HP to the original owner with name, address and serial number, such that it is completely authenticatable. Amazingly, the original owner lived in the same city for the nearly forty years between the time he bought it and sold it to me. And no, I'm not interested in selling it at any price.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 6 Jan 2012, 6:38 p.m.,*
in response to message #6 by Michael de Estrada

It's still more than 14 times what I paid for mine.
Sometimes zooming through blurred images of wrongly described items and taking some risk is deeply rewarding! ;-)

Massimo

Edited: 6 Jan 2012, 6:40 p.m.

Re: OT: FYI...Red dot HP 35 with rom bug on TAS

*Message #8 Posted by **Michael de Estrada** on 6 Jan 2012, 7:19 p.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

Bravo Massimo !

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 9826A key switches

*Message #1 Posted by **David Ramsey** on 3 Jan 2012, 10:22 p.m.*

I've come into possession of a 9826A controller, the red-headed stepchild of HP collectors.

It was free, and has 2.7MB of memory.

I installed a TAS-obtained BASIC 2.0 card. It took me a while to figure out how to use it, 'cause the manual says with a ROM BASIC card it will simply come up automatically and say READY, but in reality it displays "ROM: B B" at the upper right hand corner of the screen and you have to press "B". But I digress...

Several of the keys on the keyboard don't register. Checking with a multimeter, I can see that pressing a working key shorts the corresponding switch's two contacts on the bottom of the keyboard PCB, whereas pressing a non-working key does not. OK, so the problem is the key switch.

The dead keys are *really dead* and will not register no matter how hard I bang on them.

Physically, the 9826A key switches look very like modern key switches. They snap into a metal support plate and have two solder points on the keyboard PCB.

So: any suggestions as to my options? Is removing a key switch and trying to disassemble and clean it reasonable? Should I look for a parts machine?

Re: HP 9826A key switches

*Message #2 Posted by **David Ramsey** on 3 Jan 2012, 11:21 p.m.,*
in response to message #1 by David Ramsey

Ah, never mind. The solution is:

1. Unsolder and remove key switch. Professional desoldering station is a help, but a standard iron and pump type solder sucker can get it done.

2. Disassemble key switch. Surprisingly easy to do.

3. Remove metal switch contact plates. Wipe on T-shirt.

4. Snap switch back together and check for proper operation.

5. Repeat until done.

Re: HP 9826A key switches

*Message #3 Posted by **Tony Duell** on 4 Jan 2012, 4:34 a.m.,*
in response to message #2 by David Ramsey

I am pretty sure I totally dismantled one of these keyboards (perhaps on a 9836, it's the same part). As you

said, it's not hard, and I found a normal soldering iron and solder sucker was easily good enough.

One thing I did was to sort the keyswitches into working and not working when I took them out. I cleaned up the not-working ones and they seemed OK, but when I put it back together, I put the non-working ones in little-used places (I almost never use the numeric keypad, so the cleaned ones ended up there).

Re: HP 9826A key switches

*Message #4 Posted by **David Ramsey** on 4 Jan 2012, 7:29 p.m.,*
in response to message #3 by Tony Duell

I'm sufficiently unskilled with a soldering iron and sucker to worry about lifting traces or otherwise damaging the keyboard. I did remove, disassemble, and clean the four switches on the main keyboard that weren't working (A,H,J, and X) and they're all back in now. There are five more nonfunctional switches on the numeric pad and I just noticed the "6" key on the main keyboard doesn't work, but I'm going to wait until I get my desoldering station (reasonably cheap these days) to do any more work.

The machine has 2.7MB of memory but no language cards when I received it. I found the BASIC 2.0 card in California and the HPL card in Israel, both are now installed and working perfectly, although the manual's description of how the language cards work is nothing like my system. The manual says with just the BASIC card installed, the system will come up with BASIC READY, and that with both cards installed it'll say WHICH SYSTEM? B H

Mine says ROM: B H at the upper right of the screen with both cards, and ROM: B with only the BASIC card. But pressing B or H still works.

Disks format and I can save and load files with no problem.

Oddly, the machine identifies itself as a 9836A when it boots. Perhaps this is the result of a service or parts swap?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DIY4X, DIY5 update

*Message #1 Posted by **Eric Smith** on 3 Jan 2012, 4:59 p.m.*

Last month Angel Martin asked for pictures of the DIY5 (which doesn't exist yet), and I explained that the DIY4X that I showed at the HHC 2011 broke as soon as I got it back to the hotel.

Today Richard Ottosen finished assembling the first of the new DIY4X display adapter boards, and I made the necessary minor changes to the firmware, and we were both amazed that it worked the first time.

There are some photos here. The third photo in particular shows off the display, although not under ideal lighting conditions.

Richard will build two more display adapter boards so that we can upgrade upgrade the other two DIY4 calculators to DIY4X.

The new display adapter board also is designed to provide USB support, once we upgrade the processor to the newer chip with USB support (and more RAM and Flash).

We might make a few more DIY4X calculators for firmware development, but after this the main development thrust will be the DIY5, which will be functionally similar to the DIY4X, but designed for manufacture.

Re: DIY4X, DIY5 update

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 3 Jan 2012, 5:59 p.m.,*
in response to message #1 by Eric Smith

Thank you for the update Eric, really nice *beast* indeed!

Greetings,
Massimo

Re: DIY4X, DIY5 update

*Message #3 Posted by **David Griffith** on 4 Jan 2012, 1:42 a.m.,*
in response to message #1 by Eric Smith

Do you have any pics of hardware with the alternate keyboard?

Re: DIY4X, DIY5 update

*Message #4 Posted by **Eric Smith** on 4 Jan 2012, 4:16 a.m.,*
in response to message #3 by David Griffith

We haven't built the alternate keyboard (42S/10b/20b layout) yet. If we build more DIY4X units, we'll build the alternate keyboard and kludge it onto some units. However, the DIY4X with the alternate keyboard will be the same overall length as with the regular (41C) keyboard, because it will still have the full length of the DIY4 main board plus display adapter.

The objective with the DIY5 is to have a separate keyboard, so that the with the alternate keyboard layout, the calculator will be the same width and length as the 42S. The height will not match as the calculator will be more wedge-shaped to accommodate the two AAA cells at the display end.

Re: DIY4X, DIY5 update

*Message #5 Posted by **Ángel Martin** on 4 Jan 2012, 7:06 a.m.,*
in response to message #4 by Eric Smith

It´s looking good, nothing short of the expectations created from the HHC reports. Looking forward to the final product!

DIY4X USB power tested, and more photos

*Message #6 Posted by **Eric Smith** on 5 Jan 2012, 1:39 a.m.,*
in response to message #1 by Eric Smith

Designing the DIY4X such that it can be powered from either 3V (lithium coin cell, or two alkaline AAA cells), or from 5V from USB, while not drawing more current from the battery than we previously had without the USB circuitry, was slightly tricky. We weren't 100% certain that our method would work properly, but we tested it this evening and it seems to work OK.

When powered from USB, we still have about 15uA of drain from the battery, regardless of what mode the calculator is in, off, idle, or running. Part of that is the quiescent power consumption of the boost regulator used to power the calculator from the battery, but that doesn't explain the full 15uA. However, we feel that 15uA is low enough that it is not an issue. That's about the same current that the DIY4X draws from the battery when "off" and with no USB power. (We expect to do several things to reduce the "off" current in the future, but aren't sure how it will affect the battery drain when USB power is applied.)

The USB port will not recharge any kind of batteries, and supports calculator operation as a USB device only, not host or OTG.

We don't yet have the new processor with USB support (and bigger memory), so at the moment the actual USB data lines are not wired.

The MicroSD socket will eventually be jumpered over to the SD socket footprint on the DIY4 main board.

Here are three more sets of photos:

- original DIY4 with 16x2 character LCD module, as built in July 2011
- DIY4X display adapater (not attached to main board)
- DIY4X powered from USB port

I'm sorry that the pictures aren't better; I don't have a real digital camera or tripod here, and have been forced to rely on my cell phone.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Never make a dime of profit...

*Message #1 Posted by **Kees Bouw** on 3 Jan 2012, 3:31 p.m.*

It is quite shocking that recent HP calculators have so many bugs. Are all current HP calculators this buggy? If I wanted to use a new HP calculator for serious work, which model should I get to have a minimum amount of bugs and problems? Did the older ones, like the HP-25, HP-65, HP-67 also have this many bugs? Do TI calculators like the TI-84 and TI-89 also have (many) bugs? It is really not something you would expect from a company like Hewlett-Packard. Remember Dave Packards wise words about the bugs in the HP-35: "We're going to tell everyone and offer them a replacement. It would be better to never make a dime of profit than to have a product out there with a problem"

Re: Never make a dime of profit...

*Message #2 Posted by **Eric Smith** on 3 Jan 2012, 5:04 p.m.,*
in response to message #1 by Kees Bouw

The HP-25, HP-65, and HP-67 you mention have very few known bugs, although there were some bugs in the HP-67 early on, and not all units in the field were upgraded to fix them. The same is true of the HP-41C; the HP-41CV and HP-41CX have all of the most serious bugs fixed.

The newer calculators definitely have a lot more bugs than the older ones, but they also have a lot more features, and thus contain a lot more code. I think it is to be expected that software with more features and more code will have more bugs.

Re: Never make a dime of profit...

*Message #3 Posted by **Koralatov** on 4 Jan 2012, 7:26 a.m.,*
in response to message #2 by Eric Smith

In my admittedly limited programming experience, the number of bugs in any piece of software rises at least in proportion to the increased complexity of any code written.

Re: Never make a dime of profit...

*Message #4 Posted by **Kees Bouw** on 4 Jan 2012, 8:55 a.m.,*
in response to message #3 by Koralatov

> Quote:
>
> In my admittedly limited programming experience, the number of bugs in any piece of software rises at least in proportion to the increased complexity of any code written.

It may be that this is often the case, but it should not be like that. More code just means that it has to be tested and debugged better. From a company like HP, which supposedly delivers high quality equipment, that would be expected. Furthermore, some bugs are not related to the complexity. They even managed to create new bugs in old software, like the PSE bug in the 15c LE that is running the

original 15c software, where this bug is not present. Remaining question: which currently available HP calculator has the least amount of bugs? The 50g perhaps?

Edited: 4 Jan 2012, 8:58 a.m.

Re: Never make a dime of profit...

*Message #5 Posted by **Marcus von Cube, Germany** on 4 Jan 2012, 9:41 a.m.,*
in response to message #4 by Kees Bouw

Don't underestimate the complexity of emulation. Especially the LCD controller in the original 15C seems to be hard to emulate correctly. The PSE bug is a consequence of an unsuccessful optimization attempt in this area.

Re: Never make a dime of profit...

*Message #6 Posted by **Mark Storkamp** on 4 Jan 2012, 11:52 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Don't underestimate the complexity of emulation. Especially the LCD controller in the original 15C seems to be hard to emulate correctly. The PSE bug is a consequence of an unsuccessful optimization attempt in this area.

I would rephrase that and say the PSE bug is a consequence of not properly testing an optimization attempt. Those who had tested the calculator the previous year did not have that version of software. I have not seen any group come forward and claim they tested the released version of software. Unless you count those who purchased it.

Re: Never make a dime of profit...

*Message #7 Posted by **Jeff O.** on 5 Jan 2012, 11:28 a.m.,*
in response to message #6 by Mark Storkamp

Firmware version 2011-04-15, which is the version loaded on the production machines, was made available on 2011-4-21 to some of those who tested the calculator the previous year. Unfortunately, apparently no one ran any tests using the PSE instruction, and no other issues with flashing displays or other odd behavior were reported. The memory corruption with self test problem had been found and reported with the previous firmware version. Unfortunately, the 2011-04-15 firmware was not re-checked for this problem. To my knowledge, power consumption was not measured by any user and power management was never considered or discussed.

Re: Never make a dime of profit...

*Message #8 Posted by **Eric Smith** on 4 Jan 2012, 5:58 p.m.,*
in response to message #5 by Marcus von Cube, Germany

It is not hard to emulate the Voyager LCD controller correctly. It isn't a complicated device. I got it working correctly in only a few hours. I've even told the appropriate people how to do it, multiple times.

It's fine to optimize things, but it shouldn't be that difficult to verify that the optimization actually works correctly.

Re: Never make a dime of profit...

*Message #9 Posted by **uhmgawa** on 6 Jan 2012, 1:06 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Don't underestimate the complexity of emulation. Especially the LCD controller in the original 15C seems to be hard to emulate correctly. The PSE bug is a consequence of an unsuccessful optimization attempt in this area.

The only area I've found where the voyager lcd controller model itself can impact emulation is the lack of an inherent "update logically complete" operation to aid synchronization. The firmware simply writes to the display registers and the controller captures these accesses, updating the lcd scan data on the fly as a hardware function. Moreover as the voyager firmware emits redundant display register updates, considerable emulation time can be consumed to no benefit if the attempt is made to render the emulated display on every register modification. IOW if the cost of a display update is substantial relative to the intended speed of instruction emulation, this likely needs to be addressed.

The sam7's segment controller timing window constraints when entering/exiting hardware blink mode probably aren't helping here requiring the emulator update of the display effectively to synchronize with the controller's internal timebase. Add to this the practical need of the NUT instruction-to-glass update to occur within a latency appearing acceptably responsive to the user and overall there are some details which need to be worked out specific to the sam7.

IIRC when first implementing graphic support for KEMU, I'd reinitialized the phase of the blink timebase with each 030 blink operation on the assumption doing so would avoid runt blink periods. However exactly the opposite was true as the firmware effectively disables and reenables display blink mode for short intervals of time undetectable to the user when blink phase is maintained. Of course in hindsight that's exactly the behavior resulting from the r2d2 controller's internal asynchronous, free-running timebase.

Re: Never make a dime of profit...

*Message #10 Posted by **Mike Morrow** on 4 Jan 2012, 3:14 p.m.,*
in response to message #4 by Kees Bouw

> Quote:
>
> It may be that this is often the case, but it should not be like that...From a company like HP, which supposedly delivers high quality equipment, that would be expected.

Well, let's get a little perspective.

Here's some of the more important HP calculators produced since 1972, with their equivalent cost in 2011 US dollars (from US BLS)).

Model	Date	List Price	2011 Equivalent
HP-35	1972	$395	$2138
HP-45	1974	$395	$2012
HP-21	1975	$125	$ 526
HP-25	1975	$195	$ 820
HP-67	1976	$450	$1680
HP-41C	1979	$295	$ 919

```
HP-34C  1979    $150          $ 467
HP-15C  1982    $135          $ 316
HP-42S  1988    $120          $ 229
```

All these represent some top-quality popular HP calculators from "the good old days". The only one that would be a bargain at its inflation-adjusted price is the HP-42S.

If today it was possible to sell a *perfect* HP-15C for $316, I have no doubt that HP could match the original. But there would be few purchasers at that price. Frankly, everything available today is dirt cheap...an HP 50G is $150 list from HP, but typically $105 elsewhere. When the toys we buy are so cheap, there can be no logic attached to extensive error-checking and quality control prior to marketing. *There ain't no such thing as a free lunch*!

In addition, HP is usually awarded too much credit for perfection from 35 years ago. The Woodstock series have the most negligently- and incompetently-designed battery charging system in the history of portable calculators...it could and did easily destroy the calculator. A major product defect! The new HP-67 that I bought in 1977 (for a whole month's take-home pay) had some trigonometric result issues that HP addressed only by inserting a notice card with the manual. We've seen recently that the HP-15C has a basic bug with GSB and indirection that it handled, with NO notice made, by quietly eliminating the manual's reference to the intended function. The magnetic card readers on all HP calculators turn gummy. The battery door designs on most HP calculators really are weak, *except for the ill-fated Woodstock line*. The whole battery compartment design of the Clamshells is a horror which results in permanent cracking of the calculator case near the cell opening. I'm sure there are many more examples from *the good old days* of HP calculator history. On the cases I cite above, one could pay a lot of money for an item that was orders of magnitude less capable than today's models, and still wind up with a defective unit.

Re: Never make a dime of profit...

*Message #11 Posted by **Michael de Estrada** on 4 Jan 2012, 3:49 p.m.,*
in response to message #10 by Mike Morrow

While you're at it, why not mention the awful flimsy junk that were known as Spices ? Of all the calculators that HP ever produced, these had to be the worst in this respect, and even the cheapest HP calculator made today is much better.

Re: Never make a dime of profit...

*Message #12 Posted by **Mike Morrow** on 4 Jan 2012, 4:45 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> While you're at it, why not mention the awful flimsy junk that were known as Spices?

Agreed! My list from the good old days is far far from complete. :-)

I like a lot of things about how the HP-34C functions, and the later soldered-chip version is passable. But even that feels flimsy, and the Spice battery door design was done by fools, apparently.

The successor, the HP-15C, has a few oddities of construction especially in the early models. The several iterations of later single PCB design were a great improvement, yet it's hard to understand why HP would make such drastic physical modifications without also

correcting the GSB indirection bug that they didn't tell anyone about (but obviously knew about).

Re: Never make a dime of profit...

*Message #13 Posted by **bill platt** on 4 Jan 2012, 5:52 p.m.,*
in response to message #12 by Mike Morrow

RE: GSB, was that the one that someone reported here just discovering recently?

Re: Never make a dime of profit...

*Message #14 Posted by **Mike Morrow** on 4 Jan 2012, 8:14 p.m.,*
in response to message #13 by bill platt

Yes. Unknown to the customer community apparently, but well known to HP, 30 years ago. HP then "solved" the problem by eliminating from the manual the description of the GSB function that did not work (negative numbers in the I register), even though the feature works on the HP-11C. Cheesy and somewhat dishonest. Dishonorable!

Re: Never make a dime of profit...

*Message #15 Posted by **Kees Bouw** on 4 Jan 2012, 3:53 p.m.,*
in response to message #10 by Mike Morrow

> Quote:
>
> If today it was possible to sell a *perfect* HP-15C for $316, I have no doubt that HP could match the original. But there would be few purchasers at that price.

I doubt that. I think they easily could have sold the first batch at $ 295 or more. There was and still is very high demand, and even higher prices were paid on eBay.

> Quote:
>
> When the toys we buy are so cheap, there can be no logic attached to extensive error-checking and quality control prior to marketing. *There ain't no such thing as a free lunch*!

From Hewlett Packard I do not expect cheap toys. If I want cheap toys there are lots of other manufacturers to choose from. From Hewlett Packard I expect high quality, well tested products. Of course at a higher price. Now it seems that we have no choice anymore: you can only buy cheap toys, even from Hewlett Packard.

Re: Never make a dime of profit...

*Message #16 Posted by **Michael de Estrada** on 4 Jan 2012, 4:09 p.m.,*
in response to message #15 by Kees Bouw

Only a handful of buyers, mostly outside the USA paid very high prices for the 15C LE. Go to ebaby now and you'll see dozens of listings for it at much lower prices that are not selling. I certainly would not pay that much for it, when I can buy a very clean original for the same price.

Re: Never make a dime of profit...

*Message #17 Posted by **Juergen Keller** on 4 Jan 2012, 4:21 p.m.,*
in response to message #15 by Kees Bouw

Times are changing, and I suppose that the market for high-quality calculators is quite small. Calculators don't play the same role anymore, and the quality level of HP products is in the range of its competitors. The days of outstanding quality of HP products is gone.

Re: Never make a dime of profit...

*Message #18 Posted by **Lyuka** on 5 Jan 2012, 12:24 a.m.,*
in response to message #17 by Juergen Keller

I'm dreaming if Agilent technolgy would make 42SII as an accessory of their measurement equipments line.

Lyuka

Re: Never make a dime of profit...

*Message #19 Posted by **Mike Morrow** on 4 Jan 2012, 5:17 p.m.,*
in response to message #15 by Kees Bouw

> Quote:
>
> If I want cheap toys there are lots of other manufacturers to choose from.

The real problem is "who do you go to if you want quality that is *better* than what the idolized HP now provides?" I don't see any corporations eager to fill this "gap".

Contrary to what has been gratuitously asserted, there is NO verified (or likely) market of sufficient size that would pay $300 for an HP-15C. There's only a few oddballs with, arguably, a lot more money than sense. A company would be insane to go to the effort and expense to produce a Voyager or other old device that was identical or better in quality and performance to the 30 year old originals. Plus, as we know well, there were many surprising and significant lapses of quality of design and construction in many of the esteemed HP products of yesteryear.

One must resist the urge to live in a dream world that doesn't exist now, and in fact has never existed. I doubt that the entire HP calculator operation contributes significantly to HP's annual return to stockholders. Were I their CEO (apparently not much talent is required), I'd drop it altogether or sell it off if some imprudent buyer could be found.

Re: Never make a dime of profit...

*Message #20 Posted by **bill platt** on 4 Jan 2012, 5:29 p.m.,*
in response to message #10 by Mike Morrow

I agree with you in principle, however the following statement may require some further considerations:

"When the toys we buy are so cheap, there can be no logic attached to extensive error-checking and quality control prior to marketing. There ain't no such thing as a free lunch!"

I think market size, scale have to be considered here and would run counter to your hypothesis. In other words, take the preproduction market size estimate for the HP45, or the 657 etc, and compare it to the 15c or 42s market estimate. I think the market size grew much much larger with each generation and HP knew this and figured this into the price. The R&D was amortized over more units."

If we knew the estimated market size for the current production, we might find that in fact your hypothesis stand up: perhaps the latest production was based on a considerably smaller market, while still offering a lower price. "Something's gotta give" would apply here, in support of your hypothesis.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

ILPer v1.41 published

*Message #1 Posted by **Christoph Giesselink** on 3 Jan 2012, 2:38 p.m.*

I just published the promised ILPer version 1.41 at http://hp.giesselink.com/hpil.htm.

To clear the complete text area call the context menu of text window and choose "Select All" then another call of the context menu and choose "Delete". This works in the "Printer" and in the "HP-IL Scope" window.

No further changes to the prior version 1.4.

Regards

Christoph

Re: ILPer v1.41 published

*Message #2 Posted by **robertoataulfo** on 3 Jan 2012, 5:12 p.m.,*
in response to message #1 by Christoph Giesselink

41 x thanks

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Devil for 2012

*Message #1 Posted by **Ángel Martin** on 3 Jan 2012, 12:49 p.m.*

You would no doubt indulge my calling it Devil - as a friendly nickname for the HP-IL Development Module, a good old friend.

This module has a few wonders inside, like the SCOPE mode - a monumental tribute to the MCODE demi-gods. But if you've ever looked under the hood you'd be surprised to see how EMPTY that module is, really - with almost 3k blank it barely qualifies as an 8k module.

So I set forth to adding a few complementary functions to it, mainly launchers to group all related functions into a few ones - similar idea to the concept used in the CL-UTILS, if you're familiar with those.

Since there still was a lot of available room I included Ed Keefe's 16C Emulator in the upper ROM, changing all those Advantage Functions to the HP-IL Devl equivalents. This proved to be a nice exercise, as the upper page is totally self-contained, thus it leds itself to the 4k "DIGIT_PAC" ROM.

In summary, both the "DIGITPAC" and "HPIL-DEVL+" modules are now available as New Year's present to all who care. Soon in a TOS near you.

Best, 'AM.

BTW maybe somebody can explain to me why the HP-IL Devl module image locks-up V41? There's nothing wrong with the code for the polling points, so it must be V41's fault?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12c Anniversary Seft Test

*Message #1 Posted by **Nick Mihiylov** on 3 Jan 2012, 12:42 p.m.*

Could someone explain why the self test for the HP12c 25th Anniversary Edition and the 12c Platinum takes as long as it does? It seems that these self tests run for minutes as compared to the almost instantaeneous result I get on the HP15C LE model.

Is this something to be concerned with?

Thanks,

Nick

Re: HP12c Anniversary Seft Test

*Message #2 Posted by **Eric Smith** on 3 Jan 2012, 5:05 p.m.,*
in response to message #1 by Nick Mihiylov

The 12C Platinum and the 25th Anniversary Edition use a *much* slower processor than the 15C LE.

Re: HP12c Anniversary Seft Test

*Message #3 Posted by **Koralatov** on 4 Jan 2012, 7:23 a.m.,*
in response to message #1 by Nick Mihiylov

Seeing as there are some serious battery-life concerns with the HP-15C LE, I'd consider the slower processor a boon.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A propos battery life

*Message #1 Posted by **John Mosand** on 3 Jan 2012, 10:32 a.m.*

My 10c from 1982 still operates nicely on the original batteries! It was used quite a bit until I got my 48SX in 1990, then occasionally. The 48SX has been used almost daily since then and I've changed batteries only twice. Any better?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #1 Posted by **Antoine M. Couëtte** on 3 Jan 2012, 9:50 a.m.*

Dear All,

In a recent Thread (which seems to have vanished somewhere, and by the way, WHERE ... ???) I recently reported my inability to run EMU41 on my new Windows 7 64-Bit laptop.

Thanks to information obtained here and there - including from this Forum (thanks again to you my Friends) I simply purchased the (expensive) Windows 7 PRO upgrade to my former "Family" Windows 7 Software. I then downloaded from the Internet the (free) "Windows Virtual PC" software which enables to run under "Windows XP Mode".

Under this "Windows (virtual) XP" mode, I was then able to run EXACTLY AS BEFORE ON MY FORMER WINDOWS AND VISTA laptops, both EMU41 and HrastProgrammer data exchange software between HP48GX/49G and laptop without any problem through my USB converter.

For my applications, i.e. running EMU41 as well as both way data exchange between Calculators and Laptop, I do not even need anything else. Therefore, although I downloaded a trial copy of the "Tao ExDOS 2009 Trial Version", I am not planning to register and use it all because it seems no longer necessary to me .... unless one of you recommends it for some reason (no longer immediately obvious to me).

Thanks again for the nice Info I could find once again on our HP Museum Forum.

Meanwhile, Best Regards to you all from Sunny Mauritius Island.

Kermit

Antoine M. "Kermit" Couëtte

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #2 Posted by **Bill (Smithville, NJ)** on 3 Jan 2012, 12:20 p.m.,*
in response to message #1 by Antoine M. Couëtte

> Quote:
>
> I simply purchased the (expensive) Windows 7 PRO upgrade to my former "Family" Windows 7 Software. I then downloaded from the Internet the (free) "Windows Virtual PC" software which enables to run under "Windows XP Mode".

Glad to see you got it solved, but...

It's a shame that you purchased Win 7 Pro. I'm pretty sure you could have use Sun's Virtual Box to do the same

with the standard windows 7. Sun's Virtual Box is also free. You'd just need the Win XP disk to install. I'm currenty running several versions of Linux, Win XP, Xenix 386, CPM/86, and several versions of DOS thru Virtual Box on my 64 Bit Win 7. All work great.

Bill

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #3 Posted by **Frido Bohn** on 4 Jan 2012, 3:26 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

> Quote:
>
> Sun's Virtual Box is also free. You'd just need the Win XP disk to install.

The same applies to VMWare Player. Note that the advertised VMWare Workstation is not that for free. Besides the serious ones, you would even be able to run that OS with the bitten-into apple ;-)

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #4 Posted by **Antoine M. Couëtte** on 4 Jan 2012, 4:21 a.m.,*
in response to message #3 by Frido Bohn

Thanks for the Info too, Frido, with same comment as hereabove. One nice thing is that - thanks to both of you - I now know of 2 additionnal "fall back options" just in case ...

Thanks again

Kermit

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #5 Posted by **Antoine M. Couëtte** on 4 Jan 2012, 4:18 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Thanks for the Info, Bill,...

... which might have come a bit late. But I was really in a hurry with not much time to devote to this problem, so I chose the "hammer" to take care of the "moskito" ...

Regards

Antoine

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #6 Posted by **Jeff O.** on 3 Jan 2012, 12:27 p.m.,*
in response to message #1 by Antoine M. Couëtte

> Quote:

> In a recent Thread (which seems to have vanished somewhere, and by the way, WHERE ... ???)

Was it this thread which is now in HP Forum Archive 20?

Re: SOLVED !!! (was : Running EMU41 16-Bit MS-DOS Programs on new 64-Bit Windows 7 Laptop)

*Message #7 Posted by **Antoine M. Couëtte** on 4 Jan 2012, 4:16 a.m.,*
in response to message #6 by Jeff O.

Yes, Jeff, it was this thread ! I had forgotten abour the Archives...

Thanks again

Antoine

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

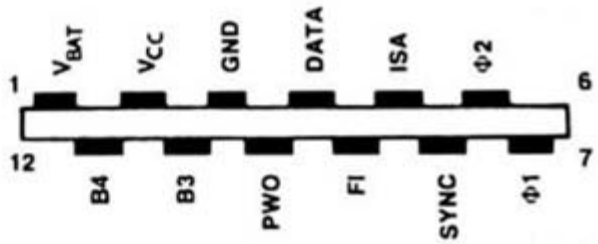
HP41C "Power Module"

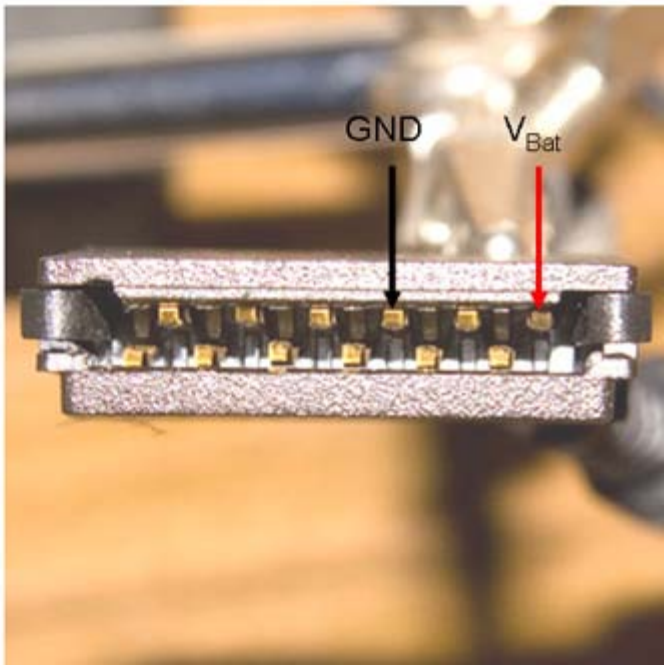
*Message #1 Posted by **Frido Bohn** on 2 Jan 2012, 12:05 p.m.*

Ever since the 41C has been built discussions came up because of the power supply. Although the standard machine is very "green" and has a minimum power consumption users get nervous when devices are connected that do not fit in that line. The first to mention is the magnetic card reader which eats lots of energy and renders a BAT signal pretty fast after not too abundant usage.
With the rise of the 41CL the energy question has become even more pressing, first and foremost if you want to perform writing operations on flash.

To make long things short, I pursued the idea to feed the 41C "backwards". The IO ports have connectors over which an external power source may supply the calculator, thus being independent of battery power (Figure 1).

Contacts at 41C Port
Source: Figure 4-6 HP-41C/CV/CX Alphanumeric Programmable Scientific Calculator Service Manual (Aug 1983)





View on 41C Module

Figure 1

I (ab)used a simple memory module and withdrew the memory chip for the purpose to solder wires on the respective port outlets and connect them to a 6V DC

supply (with VBat being positive and GND negative polarity).
Any other module would work just as fine but I think that a memory module is the most easily obtainable and cheapest. The power supply of a cell phone was a good solution for me. The voltage is stable and the output current of 800 mA is enough to drive a magnetic card reader and is sufficient to warrant accurate flash writings in the 41CL (Figure 2).

Figure 2

The battery compartment can be left operational while the external power source is used. I measured a "loading current" of about 2.5 µA when the power supply was used in parallel. A such a low current does not produce any heat even if the calculator is active over night and does not harm the batteries as far as I made the experience. Of course, the battery compartment may be pulled out while the external source is used. Caution has to be exercised if the external power supply is taken from the socket. I made the experience that in that case the batteries feed the voltage converter, in my situation with a current of about 8 mA.

Interestingly, this solution works well on all 41 fullnuts (HP41C/CV/CX) but not so well on the halfnuts (41CX with rounded display corners). The main problem in the halfnut models is that the external power supply appears not to render enough power to the circuitry to shut off the low bat annunciator (BAT). Even a rise of up to 8V (I didn't dare more) was not able to toggle off the BAT signal, i.e. Flag 49 was still active. However, the halfnut performed well with exception of the CLOCK (resp. SHIFT ON) operation - which of course is a default behavior when the battery is low.

I do not know if this kind of solution has been suggested before and if I have "carried coals to Newcastle" (the German proverb I am familiar with would be "to carry owls to Athens"). I have used this form of external power supply for a couple of months now and I am very satisfied with it. I think that this may be generally a good solution for people who do not have a battery pack with rechargeables as it is a "minimal invasive" way to supply the HP41 with external power. The basic prerequisites are a free physical port, some basic tinkering and the exertion of blasphemy on an original HP41 module.

Re: HP41C "Power Module"

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 2 Jan 2012, 1:00 p.m.,*
in response to message #1 by Frido Bohn

Well done.
Not so different from Diego's solution: he uses an USB cable connected to an empty module, so you can attach it to any free port or to a wall adapter. I have to try if it gives the problems you mention when attached to an halfnut.

Greetings,
Massimo

Re: HP41C "Power Module"

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 2 Jan 2012, 1:19 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

> Quote:
>
> I have to try if it gives the problems you mention when attached to an halfnut.

Yes, confirmed. You're right!

Greetings,
Massimo

Re: HP41C "Power Module"

*Message #4 Posted by **Bill (Smithville, NJ)** on 2 Jan 2012, 1:41 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

> Quote:
>
> so you can attach it to any free port or to a wall adapter

Or to a small USB LI-Ion battery pack. There are several makes of battery packs that are charged using a standard usb cable. I have the Energizer one which came with a zipper case that holds all sorts of adapters. The battery is 2 A capacity. I also have a smaller 1.25 A battery by Duracell.

Bill

Re: HP41C "Power Module"

*Message #5 Posted by **gene wright** on 2 Jan 2012, 2:46 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

Ok, so someone needs to get set up making some of these. People donate some cash and a memory module :-) and get a power hookup back.

Re: HP41C "Power Module"

*Message #6 Posted by **aj04062** on 2 Jan 2012, 10:37 p.m.,*
in response to message #5 by gene wright

Gene, you got me thinking.

I think we could make up a small PCB that would have contacts that connect to the 41 and include either a micro or standard USB connector on the other side. We could then make up a shell using rapid protyping plastic. That way you could utilize any off the shelf cables or wall warts.

Re: HP41C "Power Module"

*Message #7 Posted by **Mike Morrow** on 2 Jan 2012, 8:38 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

> Quote:
>
> The battery is 2 A capacity. I also have a smaller 1.25 A battery by Duracell.

...2 Ah, 1.25 Ah??

Re: HP41C "Power Module"

*Message #8 Posted by **Paul Berger (Canada)** on 2 Jan 2012, 10:24 p.m.,*
in response to message #1 by Frido Bohn

I did some poking around inside my half nut and it would seem that the battery voltage is being monitored differently. My best guess would be that in the half nuts the battery voltage is monitored at the battery terminal. With +5VDC connected to Vbat on the I/O port the "BAT" indicator does come on however all the other voltages inside are normal and the calculator seems to operate just fine. There are a number of steering diodes inside to protect the calculator from reverse voltage and also to isolate the battery terminals from Vbat on the I/O ports, because of these diodes when you apply 5VDC to the Vbat connection the voltage on the battery terminal is about 1V, however if you apply 5VDC directly to the battery terminals the calculator of course powers on and the "BAT" indicator does not come on.

Re: HP41C "Power Module"

*Message #9 Posted by **Ángel Martin** on 3 Jan 2012, 8:53 a.m.,*
in response to message #8 by Paul Berger (Canada)

I confirm your findings for halfnuts. I´m using one of Diego´s USB power modules and definitely the BAT annunciator comes on - even if the calculator seems to work well without batteries.

So yet one more reason to favor FullNuts over their half-board breed, can you spell CL??

Best, ÁM

Re: HP41C "Power Module"

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 3 Jan 2012, 9:30 a.m.,*
in response to message #9 by Ángel Martin

> Quote:

> I´m using one of Diego´s USB power modules and definitely the BAT annunciator comes on

As testified by my (ugly) picture... ;-)

Greetings,
Massimo

Re: HP41C "Power Module"

*Message #11 Posted by **Geir Isene** on 3 Jan 2012, 3:35 p.m.,*
in response to message #9 by Ángel Martin

> Quote:
>
> ...can you spell CL??

Eh... yes: C ... L

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Battery life of HP 15c LE?

*Message #1 Posted by **Brandon Poindexter** on 1 Jan 2012, 10:22 p.m.*

Does anyone know if the battery life of the new HP 15c LE is comparable to the battery life of the HP 12c+? I think they use basically the same package, just a slightly different exterior ? If so what has been the battery life of the HP 12c+? (Beside what is advertised in the manuals)

Reason being is that my 3 year old HP 35s is, for the 1st time giving me a low battery warning. I'd like to think that I have used the HP 35s quite heavily. And if the HP 15c LE (or HP 12c+ if they are the same internally) can give me around 3 years of use on one set of batteries, I personally would think that is a pretty darn good in this day and age.

Re: Battery life of HP 15c LE?

*Message #2 Posted by **Michael de Estrada** on 1 Jan 2012, 10:50 p.m.,*
in response to message #1 by Brandon Poindexter

Katie Wasserman and others have documented very high power consumption in the 15C LE, so it's very doubtful that you'll get near the battery life of a 35s. I've been using a 15c LE regularly for 4 months, and the batteries are not yet spent, but I don't run a lot of time consuming programs. One thing you don't want to do is hold buttons down for extended periods.

Edited: 1 Jan 2012, 10:51 p.m.

Re: Battery life of HP 15c LE?

*Message #3 Posted by **Katie Wasserman** on 1 Jan 2012, 10:52 p.m.,*
in response to message #2 by Michael de Estrada

You beat me to the pumch by 1 minute!

Re: Battery life of HP 15c LE?

*Message #4 Posted by **Katie Wasserman** on 1 Jan 2012, 10:51 p.m.,*
in response to message #1 by Brandon Poindexter

You're out of luck. The power consumption is way too high on the 15C LE with the current fir mare and the low battery warning doesn't work.

Here's a summary of the known problems. You'll find more details, if you want them, by searching this forum.

Re: Battery life of HP 15c LE?

*Message #5 Posted by **Brandon Poindexter** on 2 Jan 2012, 8:24 a.m.,*
in response to message #4 by Katie Wasserman

Hmmm, is there any reason why the HP 15c LE does this but not the HP 12c+?

Also i tried installing the old batteries from the HP 35s into my HP 15c LE. I got a "Pr error". Which is fine considering how low it might be (i didn't have any Programs on the 15c LE). But is the original HP 15c (or LE) designed with some sort of fail safe when the batteries are TOO low? Because I could not do anything. Pressing any key turns it off completely, and turning it on would just display "Pr error" again.

Edited: 2 Jan 2012, 8:28 a.m.

Re: Battery life of HP 15c LE?

*Message #6 Posted by **Katie Wasserman** on 2 Jan 2012, 11:29 a.m.,*
in response to message #5 by Brandon Poindexter

> Quote:
>
> Hmmm, is there any reason why the HP 15c LE does this but not the HP 12c+?

The keyboard scanning code in the 15C LE appears to not be the same as the code used in the 12C+, if it were the 20ma key-down current draw would not happen. Both the 12C+ and the 15C LE have poorly functioning low battery warning code as well as non-functioning brownout detection. Translation: it's incredibly easy to lose memory with low batteries, as you apparently have already discovered.

Re: Battery life of HP 15c LE?

*Message #7 Posted by **Lyuka** on 3 Jan 2012, 7:17 a.m.,*
in response to message #6 by Katie Wasserman

Hi Katie,

I confirmed the high current draw issue of the 15C LE on the recently arrived my 15C LE.
The measurement have been done using a current sense resistor and a digital oscilloscope, and found an interesting behavior at a key press.

Confirmation of the High power comsumption issue of the HP-15C LE.

Regards,
Lyuka

Edited: 3 Jan 2012, 7:20 a.m.

Re: Battery life of HP 15c LE?

*Message #8 Posted by **Marcus von Cube, Germany** on 3 Jan 2012, 7:55 a.m.,*
in response to message #7 by Lyuka

I'm a bit envious. ;-)

This is exactly the kind of measurements I'd like to see for WP 34S. Test cases would be off, on (idle), deep sleep, wake-up (after half a second of idling the calculator goes to deep sleep; a key stroke will wake it up), a simple operation (ENTER), demanding operation (LOG, program), and flash write (ON+STO). This would help to identify any bugs in my power saving scheme.

Another test would involve a gradual lowering of the supply voltage to test the brown out detection algorithm. With the battery symbol lit, the above tests should give different results because high speed is disabled (you can force this with the SLOW command).

Re: Battery life of HP 15c LE?

*Message #9 Posted by **Katie Wasserman** on 3 Jan 2012, 10:10 a.m.,*
in response to message #7 by Lyuka

Lyuka,

Nicely done!

I'm not sure which part of the waveform you are revering to as "interesting", the little dip right after the key is pressed? Also, is the 42ma current spike an artifact of the way you did made the measurements, perhaps switching power on?

-Katie

Edited: 3 Jan 2012, 10:10 a.m.

Re: Battery life of HP 15c LE?

*Message #10 Posted by **Lyuka** on 3 Jan 2012, 10:38 a.m.,*
in response to message #9 by Katie Wasserman

Katie,

> Quote:
>
> the little dip right after the key is pressed

It might be the debouncing process period of which typically 10 to 20ms are used.
By this measurement, 'current-saving' seems working well within that period,
and the high power consumption after that period must be avoided and it can easily be fixed.

The high current spike might cause memory error when the battery's internal resistance got high.

Lyuka

Edited: 7 Jan 2012, 12:44 p.m.

Re: Battery life of HP 15c LE?

*Message #11 Posted by **Kees Bouw** on 2 Jan 2012, 3:03 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> Here's a summary of the known problems. You'll find more details, if you want them, by searching this forum.

Is there also a list of known problems or bugs for the HP35s ?

Thank you,

Kees.

Re: Battery life of HP 15c LE?

*Message #12 Posted by **Thomas Radtke** on 2 Jan 2012, 3:43 p.m.,*
in response to message #11 by Kees Bouw

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=735

Re: Battery life of HP 15c LE?

*Message #13 Posted by **Jim Yohe** on 2 Jan 2012, 7:44 p.m.,*
in response to message #4 by Katie Wasserman

Do these problems pertain only to the LE or do some of these pertain to the original one as well? Is there a bug list for the original someplace here or elsewhere?

Re: Battery life of HP 15c LE?

*Message #14 Posted by **John B. Smitherman** on 2 Jan 2012, 7:55 p.m.,*
in response to message #13 by Jim Yohe

There's nothing mentioned here... Link

Regards,

John

Re: Battery life of HP 15c LE?

*Message #15 Posted by **Jim Yohe** on 2 Jan 2012, 8:31 p.m.,*
in response to message #14 by John B. Smitherman

There sure isn't. Thank you.

Re: Battery life of HP 15c LE?

*Message #16 Posted by **Jeff O.** on 3 Jan 2012, 8:32 a.m.,*
in response to message #13 by Jim Yohe

All of the bugs or issues described in the 15c LE bug list article pertain only to the new 15c Limited Edition running firmware revision date 2011-04-15. However, after the 15c LE was released, an issue with the original was discovered, as described in this thread.

Re: Battery life of HP 15c LE?

*Message #17 Posted by **Peter Murphy (Livermore)** on 2 Jan 2012, 1:29 a.m.,*
in response to message #1 by Brandon Poindexter

This may be old news, and it does not directly address Poindexter's question, but it's an interesting data point. The Introduction to the original 15C Owner's Handbook has four bulleted items touting the calculator's features:

****

* 448 bytes of program memory (one or two bytes per instruction) and sophisticated programming capability,

including conditional and unconditional branching, subroutines, flags, and editing.

* Four advanced mathematics capabilities: complex number calculations, matrix calculations, solving for roots, and numerical integration.

* Direct and indirect storage in up to 67 registers.

* Long-life batteries.

****

The Introduction to the 15C LE Owner's Handbook repeats the first three items word for word (the new Handbook was intended to duplicate the original exactly, as far as I know), but it omits the last item. A reasonable conclusion is obvious.

Re: Battery life of HP 15c LE?

*Message #18 Posted by **Eddie W. Shore** on 2 Jan 2012, 10:30 a.m.,*
in response to message #1 by Brandon Poindexter

I have been using my 15C LE since October and it is still on its original batteries. Usage is anywhere from 2 to 10 hours a week.

Re: Battery life of HP 15c LE?

*Message #19 Posted by **Marcus von Cube, Germany** on 2 Jan 2012, 5:47 p.m.,*
in response to message #18 by Eddie W. Shore

Power saving on this type of device (with the added complication of the supply by two coin cells) is more of an art than exact science. The WP 34S is essentially the same device with a slightly more demanding display. I've put considerable effort into the power saving.

There are several modes of operation with varying demands on the power source. From full speed (1) to half speed (2) to medium speed (3) to idle mode (4) to deep sleep (5) to backup (6).

I know that (1) is too demanding on the coin cells and thus disabled when the battery voltage falls below a certain threshold. (2) is tolerable but the time for some computations increases noticeably. (3) is fine for routine tasks like keyboard scan but not for any serious computations. (4) allows interrupts to be active because the kernel is running but the processor clock is stopped unless an interrupt occurs; all RAM is active in this mode; I keep the calculator in this state for some tenths of a second to allow house keeping(*) and very fast reaction to user input before switching to the next state. (5) shuts down much of the device but the display is still showing; this is the mode you will see most of the time when the calculator waits for user input; the keyboard is active in a special wake-up mode, restarting the processor; this costs a little in terms of processor cycles because all state in the 4KB working RAM is lost and has to be rebuilt. (6) is the state when the calculator is apparently off; only the 2KB backup RAM are kept alive.

Choosing the best of these mode for the varying requirements isn't easy...

(*) House keeping includes monitoring the battery voltage and scanning the keyboard.

Edited: 2 Jan 2012, 5:55 p.m.

Re: AAA batteries on WP34S - a fantasy

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Jan 2012, 7:30 p.m.,*
in response to message #19 by Marcus von Cube, Germany

Hi Marcus,

I wonder (with little hope) if there is a hardware pin (or pad, trace or whatever) that may be used to signal the power state of WP34S. Such signal may control an external power supply, leaving the CR-2032s just for RAM backup purposes when everything else is turned off. When the calculator is not sleeping, the external power supply should turn itself on, and supply the needed current without exhausting the CR2032s. Such power supply may be just a simple circuit powered by two AAA batteries, and located on a yet-to-be-created holder fixed to the back of the WP34S.

(A less-polished implementation may use just a couple of AAA batteries and steering diodes).

Re: AAA batteries on WP34S - a fantasy

*Message #21 Posted by **Marcus von Cube, Germany** on 3 Jan 2012, 7:42 a.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

Setting a pin to high when not idling is certainly possible. There are pads on the board which might be interfaced. What you would need to implement in hardware is something that disconnects the coin cells while the power supply is active.

You can run the calculator without any coin cells by feeding power through the serial connector or the jtag connector. Before you disconnect the power, just do an ON+STO backup to flash. The restore will be automatic with the next power on after a memory fail.

Re: AAA batteries on WP34S - a fantasy

*Message #22 Posted by **Lyuka** on 3 Jan 2012, 8:32 a.m.,*
in response to message #21 by Marcus von Cube, Germany

> Quote:
>
> What you would need to implement in hardware is something that disconnects the coin cells while the power supply is active.

I prefer Linear technology's LTC4413 for that purpose.

Lyuka

30b/34s AAAA batteries a reality

*Message #23 Posted by **Bart (UK)** on 3 Jan 2012, 1:03 p.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

I converted my HP-30b (repurposed to a WP-34s) to 2x AAAA-style cells taken from a 9V battery. Mounted behind the screen.

Hole cut in the casing to accomodate the 2 cells:

Just right to fit the cover back on and hold it all in place:

NOTE: These cells that I extracted from the 9V battery had THE OPPOSITE polarity to that expected.

Re: 30b/34s AAAA batteries a reality

*Message #24 Posted by **Katie Wasserman** on 3 Jan 2012, 3:07 p.m.,*
in response to message #23 by Bart (UK)

I applaud your ingenuity!

It looks like you need to solder in replacement cells, I would think that this would be more inconvenient than keeping around a large bunch of spare 2032 cells.

Re: 30b/34s AAAA batteries a reality

*Message #25 Posted by **Bart (UK)** on 3 Jan 2012, 7:08 p.m.,*
in response to message #24 by Katie Wasserman

Well, for me that is not a problem, I am quite happy to solder. These cells are from a 9V battery (thanks to your mention of it :-) and come nicely tabbed together and can be separated into 3 pairs, so it's just a quick desolder and resolder. I can pop in a CR2032 to save the memory whilst doing so. Also I paid £7.00 for 10 Procell 9v, that's £0.12 (or ~USD 0.20) per cell. I don't think I can find CR2032 cells at that price (for a decent brand).

Anyway, it is also somewhat of a proof of concept. I think this shows that with some internal re-design and no increase in dimentions, these batteries can used.

I have just completed a write-up on this: Installing AAAA batteries on the HP-30b

Edited: 3 Jan 2012, 7:11 p.m.

Re: AAA batteries on WP34S - a fantasy

*Message #26 Posted by **uhmgawa** on 6 Jan 2012, 6:39 p.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> (A less-polished implementation may use just a couple of AAA batteries and steering diodes).

There is benefit in simple, SoC independent switching as this is arguably the definitive point to assess actual current draw. Other considerations exist once the SoC is in the decision loop such as detecting the external power supply is actually present and supplying an in-tolerance voltage under the prospective load. You'd likely still want to draw from the internal coin cells if that was the only viable power source.

I'd start with an analog approach using an unadorned mosfet high-side switch in series with the coin cells, the gate of which can be driven off by the external supply when it is within usable tolerance.

Conserving current draw is of course part of a well thought out design. But I think a more complete approach is to plan for the eventuality of a brownout and assure all user context is captured in nonvolatile storage. The worst case inconvenience for a cell/battery giving up the ghost should be finding a replacement, but not recovering data.

Re: AAA batteries on WP34S - a fantasy

*Message #27 Posted by **Andrés C. Rodríguez (Argentina)** on 7 Jan 2012, 9:29 a.m.,*
in response to message #26 by uhmgawa

I assume SoC means "system on a chip", please confirm.

I think that the CR2032s should always be kept installed, so to maintain the non-volatile RAM contents. The steering-diodes (or, better, your switch, or the "ideal diodes" suggested in a previous post) should help avoiding the drainage of the coin cells while running programs.

If a small, switching power supply is to be used, it may be important to knnow the power status of the system, in order to turn off such power supply when appropriate (CR2032s will then supply the standby power). If plain AAA (or AAAA) cells are series connected without a switching power supply, there is a chance that, if their voltage drops below a certain level, the steering circuit will put them off-line, and the CR2032s will unexpectedly be at the front line again.

In any case, the "low battery" condition acquires many new meanings, and more analysis is due to avoid undetected situations which may end in data losses. And backing everything to flash all the time is limited by the maximum number of reliable write cycles available.

Please disregard any idiomatic mistake.

Re: AAA batteries on WP34S - a fantasy

*Message #28 Posted by **Marcus von Cube, Germany** on 7 Jan 2012, 4:11 p.m.,*
in response to message #27 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> In any case, the "low battery" condition acquires many new meanings, and more analysis is due to avoid undetected situations which may end in data losses.
> And backing everything to flash all the time is limited by the maximum number of reliable write cycles available.

Twenty thousand writes to flash according to the manual. I don't think you can achieve this with manual writes to flash every time you are about to change batteries.

Re: AAA batteries on WP34S - a fantasy

*Message #29 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Jan 2012, 12:12 p.m.,*
in response to message #28 by Marcus von Cube, Germany

I intended to mean "saving data to flash frequently", because it may be not clear if the CR32s are about to die...

Re: AAA batteries on WP34S - a fantasy

*Message #30 Posted by **uhmgawa** on 7 Jan 2012, 7:11 p.m.,*
in response to message #27 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> I assume SoC means "system on a chip", please confirm.

Yes.

> Quote:
>
> If a small, switching power supply is to be used, it may be important to knnow the power status of the system, in order to turn off such power supply when appropriate (CR2032s will then supply the standby power).

I wasn't envisioning a boot regulator in that picture. If headroom is needed above the coin cell 3V, another cell can be added in the external pack which also simplifies isolation of the two power sources. Alternatively if a boot regulator is used to create the headroom it could be enabled via sensing the load current.

> Quote:
>
> If plain AAA (or AAAA) cells are series connected without a switching power supply, there is a chance that, if their voltage drops below a certain level, the steering circuit will put them off-line, and the CR2032s will unexpectedly be at the front line again.

As long as the external source is isolated, it is possible to sense its voltage and make the decision of whether it is suitable to power the load independent of the coin cell voltage. Some hysteresis or memory would be needed in the voltage sensing to prevent either oscillation or partial biasing of the switch. Eg: a partially exhausted external supply may be sensed at suitable voltage until connected to the load, after which it droops out of tolerance, after which it is disconnected and recovers back within tolerance, etc.. In that scenario the coin cells are left enabled until the external supply is serviced.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 Card Reader repairs

*Message #1 Posted by **Steve Hunt** on 1 Jan 2012, 3:41 p.m.*

I just finished replacing the "gummy" wheels on my two card readers with pairs of 'O' rings. The 'worm gear' on one of them seemed loose on its motor shaft, so I used a tiny amount of 'super glue' to fix it as recommended in one article. After much tearing out of what little hair I have left, I was able to re-assemble them both OK.

Both now work reasonably well. The one which I didn't need to glue works silently; it gives occasional checksum errors, but I can live with it. The other one is quite noisy, often shows MALFUNCTION, sometimes shows CHECKSUM error, and about one time in 5 passes it works OK.

Since doing the repairs, and a bit late in the day, I've learned through old postings on this forum:

1) There is a clutch mechanism between the motor shaft and the gear; so perhaps gluing the two together was not a good idea

2) The wheel shaft is eccentric and can be adjusted using the screwdriver slot for optimum pressure on the card.

3) 'O' rings might not be the best replacement solution because they apply uneven pressure.

So now I don't know what to do:

Should I pull them apart again and swap the 'O' rings for something else? If so, what?

Do I need to separate the glued shaft and worm gear, and try to implement a replacement clutch assembly? If so with what?

How important is it to have the drive wheel position adjusted correctly? Is there a recommended way to do it.

Grateful for any advice from the group. I'm not keen to pull them apart again, but neither do I want premature wear or damage to cards.

Regards, Steve

Re: HP41 Card Reader repairs

*Message #2 Posted by **Randy** on 2 Jan 2012, 10:17 a.m.,*
in response to message #1 by Steve Hunt

> Quote:
>
> 1) There is a clutch mechanism between the motor shaft and the gear; so perhaps gluing the two together was not a good idea

Urban legend. HP called it a coupler, not a clutch. Attaching with glue is perfectly acceptable.

> Quote:

> 2) The wheel shaft is eccentric and can be adjusted using the screwdriver slot for optimum pressure on the card.

HP service procedure is to power the motor from a 3 volt dc source (motor leads disconnected from electronics) and adjust the eccentric for 180 +/- 20 ma current while holding a card in place under the drive roller. What you'll find with most o-rings is the current will be on the high side (200-250ma) and the easiest procedure is to simply position the small molded indicator dot on the eccentric to be opposite the motor, the screwdriver slot perpendicular to the card path.

> Quote:
>
> 3) 'O' rings might not be the best replacement solution because they apply uneven pressure.

Not true at all, they just might not last as long as a solid face roller. In practice, they are far better and easier for the one-off home repair as they provide a consistent OD, something that is most times difficult to obtain with silicone tubing. The typical usage failure with o-rings is the wrong size. Should be US size 005. When placed on the shaft the OD should be very close to 0.250 inches. Better to be a little undersized than over. I know one eBay seller had be providing rings that were too large, don't know if that is still the case. FWIW, seller Waterhosko's are correct.

Re: HP41 Card Reader repairs

*Message #3 Posted by **Steve Hunt** on 2 Jan 2012, 1:41 p.m.,*
in response to message #2 by Randy

Randy,

Thanks for that. I think, then, that I'll simply strip the slightly noisy one and try adjusting the eccentric.

Thanks again. Steve

Re: HP41 Card Reader repairs

*Message #4 Posted by **Randy** on 2 Jan 2012, 2:52 p.m.,*
in response to message #3 by Steve Hunt

If you tear it back down, remove the gear/o-ring assembly and check the motor current with the drive screw only. It should be less than 40-50ma. Any more than that means the lead screw is not attached on center or is not fully seated. Either of these would likely cause noisy operation.

OTH, if the eccentric is set with the dot to the motor side, the motor current is sky-high and this would be the cause.

Squealing is also caused by bearing noise. The very end of the worm screw shaft where it enters the plastic frame has a thrust bearing inside the plastic. A micro-drop of plastic safe oil on the end bearing of the shaft cures most noisy readers.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Science Project with HP41CX and Arduino?

*Message #1 Posted by **Fouad M. Kaadou** on 1 Jan 2012, 3:17 p.m.*

Hello,

I have a science fair coming up at school and was thinking of making an Arduino robot controlled by my HP41CX using the IR module on the 41CX.

Is it possible?

Thanks in advance,

Fouad

Re: Science Project with HP41CX and Arduino?

*Message #2 Posted by **BobVA** on 1 Jan 2012, 6:26 p.m.,*
in response to message #1 by Fouad M. Kaadou

Depends on what you want to do. The IR link is one-way only, so you can't get data back from the robot. But, it sounds like that you want to use the 41C as a handheld controller? That sounds workable, but you'll have to decide if it's worth the effort. There are several articles you should be able to google up on the format of the IR printer data stream. Here's a start.

You might need a dedicated Arduino on the robot for this - recovering the data from the IR stream can be a processor intensive task. The HP-41c side would be simple - just "print" the appropriate commands.

Regards, Bob

Re: Science Project with HP41CX and Arduino?

*Message #3 Posted by **Fouad M. Kaadou** on 2 Jan 2012, 4:46 a.m.,*
in response to message #2 by BobVA

Thanks Bob. Yes I want the calculator to be the controller.

I'll do the research and see if its worth it. What about HP-IL? could that be used for a 2 way communication?

Regards,

-Fouad

Re: Science Project with HP41CX and Arduino?

*Message #4 Posted by **John Robinson** on 2 Jan 2012, 4:53 a.m.,*
in response to message #3 by Fouad M. Kaadou

HP-IL will permit 2 way communication, perhaps you could use a PIL IO board, see : http://www.jeffcalc.hp41.eu/hpil/index.html

Cheers, John

Re: Science Project with HP41CX and Arduino?

*Message #5 Posted by **Garth Wilson** on 2 Jan 2012, 5:17 a.m.,*
in response to message #3 by Fouad M. Kaadou

HPIL is a highly intelligent interface method that allows dozens of devices to be connected at once. There are interface adapters from HPIL to IEEE-488, parallel, RS-232, and video (I have all of these) but they're not cheap or easy to find these days. The HP-41 can handle all of these at once, and more, but be forewarned that it is not a fast machine. The HP-71 ran HPIL about 30 times as fast as the 41 did (around 5,000 bytes per second versus 150), and can process the incoming and outgoing info much faster too.

The HP-50g is in production today and is much faster than either of these, and, although it does not have HPIL, does have a serial port which I believe can be controlled to do a lot with it, if you write your software and make your devices to add the intelligence you need to split out signals to various processes and so on. I've used the 41 and 71 to control a lot of instrumentation and take data. Although I have a 50g, I can't say I'm familiar with it, and I think going the 50g route would require a lot more custom programming (it's not for casual users); but if you haven't already made a big investment in time and equipment with the 41 or 71, I tend to think the 50g might be the better way for you to go, based on computing power as well as support. Perhaps others can comment on that note.

Re: Science Project with HP41CX and Arduino?

*Message #6 Posted by **yves** on 2 Jan 2012, 2:58 p.m.,*
in response to message #3 by Fouad M. Kaadou

Hello,

I can provide to the community a software library for interfacing HP-IL loop to Arduino.

(I originally wrote it when my girlfriend asked if that old funny calculator could do the coffee ? then I created what we may call a "*vintage coffee/lamp/radio wake up device, with room heat temperature control*"... ;)

This library handles signals provided by an HP82165A HP-IL GPIO Interface, allowing Ascii commands and responses between HP-IL controller and Arduino, Trigger signal handling for sensors measures, and Services requests for emergency...

I can also give you a basic program (sorry it's for HP71) to test Arduino protocol.

Due to number of pins needed by the GPIO interface (8 data lines, 6 hand shake lines, 2 hp-il signals plus ground), you'll need an Arduino Mega (and patience to connect the correct wires).

Yves.

Re: Science Project with HP41CX and Arduino?

*Message #7 Posted by **Fouad M. Kaadou** on 2 Jan 2012, 6:48 p.m.,*
in response to message #6 by yves

Hello Yves,

I would be very thankful if you could provide me with some of your programs. I think HP-IL is the way to go. If that fails I will rely on IR interfacing.

Thanks to all,

Fouad

Re: Science Project with HP41CX and Arduino?

*Message #8 Posted by **Christoph Klug** on 3 Jan 2012, 1:32 p.m.,*
in response to message #7 by Fouad M. Kaadou

Muche more technical details about interfaching HP-41 by HP-IL to external interface hardware for advanced control and measurement applications you find in my two books "HP-41 Input Output Board" and "IL2000 Interface System". Look under ebay Germany HP-41 - there you find this reference book...

Best regards - Christoph Klug

Re: Science Project with HP41CX and Arduino?

*Message #9 Posted by **Fouad M. Kaadou** on 3 Jan 2012, 4:37 p.m.,*
in response to message #8 by Christoph Klug

Hello Christoph,

Nice book I am inclined to purchase a copy. Does it directly discuss anything about arduino interfacing?

Re: Science Project with HP41CX and Arduino?

*Message #10 Posted by **yves** on 4 Jan 2012, 4:04 a.m.,*
in response to message #7 by Fouad M. Kaadou

Hello,

You'll find the Arduino library for HP82165A GPIO Interface here : Arduino library for HP82165A GPIO Interface

Enclose file HP71_Basic.txt is a sample basic program (for HP 71B) to dialog with Arduino.

Instructions : - Turn on HP82165A GPIO Interface and connect HP-IL Loop - Turn on Arduino and coonect SUB25 cable to HP82165A - For this sample, Arduino is connected to 3 leds, 1 relay and a dht11 humidity/temperature sensor - Run HP 71B basic program

Press key 1 to enter and send an Arduino Ascii command.

Commands recognized in HP71b.ino sample are : - "red" : turns a red led on - "yellow" : turns a yellow led on - "green" : turns a green led on - "blink" : blink all leds - "on" : turns all leds on - "off" : turns all leds off - "up1" : turns a 220 V relay on (Switch on a lamp) - "down1" : turns a 220 V relay off (Switch off a lamp) - "srq" : tell Arduino to perform a service request interrupt (you can also press MSRQ button on HP82165A)

Arduino replies "OK" when command is recognized and handled.You may notice that Arduino

also understand french commands, so that my children can also play...

- Press key 2 to send a trigger signal In this example, Arduino send back humidity and temperature from a DHT11 sensor

Press key 0 to exit

Merry new year

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Time Module+Overlay! 82182A for HP41c

*Message #1 Posted by **robertoataulfo** on 1 Jan 2012, 11:07 a.m.*

HP Time module

Re: HP Time Module+Overlay! 82182A for HP41c

*Message #2 Posted by **Howard Owen** on 1 Jan 2012, 12:33 p.m.,*
in response to message #1 by robertoataulfo

Shhhh...

:)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 50g finance program

*Message #1 Posted by **peacecalc** on 1 Jan 2012, 10:22 a.m.*

Hello Hp 50g,

the hp 50g has a built-in modul for payments with constant periodical payments. This works fine.

My proggies here are calculating the cashflow and the internal rate of interest for a certain cashflow. The proggies are not tested with a lot of examples, but with some examples out of the 12c or 17bii manuals.

I like to explain the two proggies in a short way for input and output. Enjoy!

First: the CFLOW-Program:

%%HP: T(3)A(R)F(,);

\<< 100 / { } \-> Co L Z LE

\<< PUSH -3 SF -105 SF Co 1 L SIZE

FOR I L I GET OBJ\-> DROP Z 1 + SWAP NEG ^ 1 SWAP - Z / SWAP Z

1 + SWAP NEG 1 + ^ * * LE SWAP + 'LE' STO

NEXT LE + \GSLIST POP

\>>

\>>

INPUT:

STACK 3: payment "Co", mostly negativ.

STACK 2: a list with lists of three objects

STACK 1: interest rate for that cashflow

a example for the list: {{500 1 2}{400 3 5}{100 9 2}} I have to explain the objects for example: {400 3 5} First Value: Payment Second Value: Payed at the end of third period Third Value: The payment of 400 bucks for five periods (group of payment with constant value)

interest rate value as percent without percent: 10% -> 10 as Input

OUTPUT: netto present value (NPV).

Second program: IRR Program:

Very important! This program only works when the program CFLOW is in the same directory, too.

%%HP: T(3)A(R)F(,);

\<< 5, 10, \-> Co L XI XI1

\<< PUSH -3, SF -105, SF Co L XI CFLOW Co L XI1 CFLOW DUPDUP ABS

WHILE ,005 \>=

REPEAT 3, PICK - ROT SWAP / XI XI1 2, PICK - ROT * - XI1 'XI'

STO 'XI1' STO Co L XI1 CFLOW DUPDUP ABS

END 3, DROPN XI1 POP

\>>

\>>

INPUT:

STACK 2: payment "Co", mostly negativ.

STACK 1: a list with lists of three objects (explained above).

OUTPUT: the internal interest rate in percent without percent f. e.: 12,5 means 12,5 %

The IRR program works with the regula falsi method. There is a difference which can be zero in a division. The program is simple and has no error handling for this situation. May be the IRR value converges against the wrong value, that could be caused by wrong start values for the rate (here 5 and 10, the first two values in the beginning of the program). IRR terminates, when NPV is zero, that means less then 0,005 Cent.

Sincerely peacecalc

Edited: 1 Jan 2012, 10:25 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Clone

*Message #1 Posted by **Gerardo Rincon** on 1 Jan 2012, 9:03 a.m.*

It looks like the HP-15C Clone will soon be ready:

http://www.rpn-calc.ch/

Edited: 1 Jan 2012, 10:58 a.m.

Re: HP 15C Clone

*Message #2 Posted by **hpnut** on 1 Jan 2012, 8:05 p.m.,*
in response to message #1 by Gerardo Rincon

Michael has priced it at Swiss Francs 50 (excluding shipment). that's a very attractive proposition :-)

I will definitely place an order.

Re: HP 15C Clone

*Message #3 Posted by **Koralatov** on 1 Jan 2012, 8:29 p.m.,*
in response to message #2 by hpnut

It is pretty intriguing, especially because of its size. Not sure I'm in love with the keyboard though; in my experience, using keys like that is an exercise in frustration. Still, I requested notification when it ships, and depending on the reviews here, I may just shell over the 50 Fr.

Edited: 2 Jan 2012, 2:27 a.m.

Re: HP 15C Clone

*Message #4 Posted by **robert rozee** on 2 Jan 2012, 8:39 a.m.,*
in response to message #3 by Koralatov

i wonder if the designer would care to port his code to the 15C-LE, to produce a fully working version (of the LE)...

Re: HP 15C Clone

*Message #5 Posted by **Alexander Oestert** on 2 Jan 2012, 9:02 a.m.,*
in response to message #4 by robert rozee

> Quote:
>
> i wonder if the designer would care to port his code to the 15C-LE, to produce a fully working version (of the LE)...

That is a great idea. As I have given up hope that HP will ever deliver a bug free firmware, I would even consider paying that porting effort!

Re: HP 15C Clone

*Message #6 Posted by **Thomas Radtke** on 2 Jan 2012, 11:37 a.m.,*
in response to message #5 by Alexander Oestert

> Quote:
>
> That is a great idea. As I have given up hope that HP will ever deliver a bug free firmware, I would even consider paying that porting effort!

Alexander, even if this is genuine code in his clone, do you seriously consider it being bugfree? Or more reliable than the emulated 15C by HP?

Remember, there's currently no way to get the original 15C LE firmnware back into the machine!

Hier könnte sehr gut der Teufel mit dem Beelzebub ausgetrieben werden.

Re: HP 15C Clone

*Message #7 Posted by **Alexander Oestert** on 2 Jan 2012, 1:11 p.m.,*
in response to message #6 by Thomas Radtke

Once it were ported, I am sure there would be a good chance of a community effort to make it bug free or even enhance it a little! Both machines could profit from that.

Re: HP 15C Clone

*Message #8 Posted by **Thomas Radtke** on 2 Jan 2012, 1:40 p.m.,*
in response to message #7 by Alexander Oestert

Hopefully, the RoHS hardware of the machine survives until this community effort is ready to rock *rolling eyes*.

Re: HP 15C Clone

*Message #9 Posted by **Thomas Radtke** on 2 Jan 2012, 11:31 a.m.,*
in response to message #4 by robert rozee

From the 'features' tab on his site:

> Quote:
>
> based on the original microcode of the HP-15C

I guess he (will) license(d) the code from HP, so we're out of luck here.

Re: HP 15C Clone

*Message #10 Posted by **Vince (Italy)** on 2 Jan 2012, 12:21 p.m.,*
in response to message #9 by Thomas Radtke

The complete quotation is:

"based on the original microcode of the HP-15C doing the exact same thing and a little more ..."

So, it appears that the code is different. Besides, since it's downloadable from the site:

"initial 'vanilla' firmware: firmware_vanilla.hex"

it's unlikely to be licensed from HP

Re: HP 15C Clone

*Message #11 Posted by **Thomas Radtke** on 2 Jan 2012, 1:42 p.m.,*
in response to message #10 by Vince (Italy)

> Quote:
>
> The complete quotation is:
>
> "based on the original microcode of the HP-15C doing the exact same thing and a little more ..."
>
> So, it appears that the code is different. Besides, since it's downloadable from the site:
>
> "initial 'vanilla' firmware: firmware_vanilla.hex"
>
> it's unlikely to be licensed from HP

Thank you, Vince. I omitted the last part of the sentence not for the bad. "doing the exact same thing", in my eyes, means a plain copy. Obviously I'm wrong here since, as you've pointed out, there's the firmware available.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] XROM routines

*Message #1 Posted by **fhub** on 1 Jan 2012, 7:54 a.m.*

I just saw this in the new SVN:

```
XLBL"MAX"
        STO L
        x< Y
                x[<->] Y
        DROP
        RTN
```

I guess this gives the MIN and not the MAX of X and Y.
(same for XLBL"MIN", it's also wrong)

Just wanted to mention it before we really get a new build which then again doesn't work correctly anymore. ;-)

Franz

Re: [WP34s] XROM routines

*Message #2 Posted by **Marcus von Cube, Germany** on 1 Jan 2012, 12:17 p.m.,*
in response to message #1 by fhub

It's very likely that the recent build(s) are completely broken because we are doing a major overhaul of the code base.

Your analysis of MAX seems to be right. The code isn't included yet so no harm is done.

Re: [WP34s] XROM routines

*Message #3 Posted by **fhub** on 1 Jan 2012, 12:37 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> It's very likely that the recent build(s) are completely broken because we are doing a major overhaul of the code base.

Oje oje, so what you're doing currently is rather a program demolition than a program development, correct? ;-)

Re: [WP34s] XROM routines

*Message #4 Posted by **Marcus von Cube, Germany** on 1 Jan 2012, 1:32 p.m.,*
in response to message #3 by fhub

It's more of a metamorphosis. Kind of transforming a caterpillar into a butterfly. This takes its time. :-)

Re: [WP34s] XROM routines

*Message #5 Posted by **Paul Dale** on 1 Jan 2012, 6:19 p.m.,*
in response to message #1 by fhub

Franz, great catch. I threw that code together late last night and hadn't tested it :-(Luckily, it wasn't being included.

The current development effort is to move a lot of the C functions into the XROM (keystroke) portion of ROM. This should reclaim a lot of space which we can then either provide to the user as additional library space or use to add new functions and capabilities.

We've done a lot of working making XROM quickly callable and expanding and modifying the relative addressing the assembler can generate. We're also currently working on providing double precision support so the converted routines can work without introducing any additional error in the results and in providing some utility routine entry/exit routines to greatly simplify stack and last X management.

Exciting times for the project but also a huge amount of effort will be required. So if anyone wants to volunteer to help code some of the mathematical routines, drop any of us a line. The only skill you need is being able to write mathematical FOCAL programs.

- Pauli

Re: [WP34s] XROM routines

*Message #6 Posted by **fhub** on 6 Jan 2012, 6:21 a.m.,*
in response to message #5 by Paul Dale

Is it intended that since a few versions manually entering a RTN (or END) is now displaying "true"? (and RTN+1 shows "false")

Franz

Re: [WP34s] XROM routines

*Message #7 Posted by **Marcus von Cube, Germany** on 6 Jan 2012, 8:40 a.m.,*
in response to message #6 by fhub

A manual RTN should simply set the PC to the beginning of the program area in RAM and clear the return stack. There was a bug which prevented RTN to behave correctly in certain circumstances. I suppose that my fix did break the manual RTN function.

Edit: It was just a missing "else". Fixed now.

Edited: 6 Jan 2012, 9:15 a.m.

Re: [WP34s] XROM routines

*Message #8 Posted by **Paul Dale** on 6 Jan 2012, 7:18 p.m.,*
in response to message #6 by fhub

No, RTN and RTN+1 shouldn't display true or false. If they are it is a bug.

Conversely, the built in quadratic solver will now display true for real roots and false for complex -- a function of the rewrite using double precision mode and the new XROM prelude / epilogue -- these handle all the stack and last X management and allocate local registers, switch to an eight level stack

and change to double precision mode. Porting code to XROM is now a matter of putting xIN at the start and using xOUT instead of RTN.

- Pauli

Re: [WP34s] XROM routines

*Message #9 Posted by **Marcus von Cube, Germany** on 7 Jan 2012, 3:39 a.m.,*
in response to message #8 by Paul Dale

The manual RTN case is fixed. The quadratic solver should not display true/false when called manually. If it does I need to look at the reason why. A neat "C" in the display should suffice for the complex case.

(Edit: C is shown as intended, not true or false)

We have many unused special flags, namely X, Y, Z, T, L, I, J and K which might play a role here. A to D already have a meaning, C is the binary carry bit, but may be redefined here. This would make the 'skip next step on complex result' mechanism obsolete. Any suggestions?

Edited: 7 Jan 2012, 3:50 a.m.

Re: [WP34s] XROM routines

*Message #10 Posted by **fhub** on 7 Jan 2012, 6:14 a.m.,*
in response to message #8 by Paul Dale

BTW, there's still another thing that would interest me: execution time!

Have you made any tests on a real calc of the execution times of these new (now XROM) functions? I could imagine that there might be a quite big difference between running these functions as either builtin or XROM code (maybe comparable to interpreted or compiled BASIC programs in the beginning of the computer aera)!?
Certainly not if you just use such a function once (i.e. manually), but what if these XROM functions are called within a program loop?

Franz

Re: [WP34s] XROM routines

*Message #11 Posted by **Paul Dale** on 7 Jan 2012, 7:28 a.m.,*
in response to message #10 by fhub

No we've not looked at execution time. The 34S guide has always been correctness then functionality then speed. That won't change unless the speed becomes unmanageably slow.

The keystroke program interpreter is fairly efficient and floating point operations are very slow on this device -- some very much so (logarithms). Most of what I've converted so far is pretty esoteric or fairly trivial -- i.e. speed isn't a big issue.

I'm not planning on ever converting the core functions (trig, exponential, log, arithmetic, square root). I doubt I'll convert gamma and a few other more advanced functions. I'm thinking about doing the statistical distributions where a slight slow down will hardly be noticed and more of the easy functions.

There is only one of me and there is a lot to do :-(

- Pauli

Re: [WP34s] XROM routines

*Message #12 Posted by **fhub** on 7 Jan 2012, 7:47 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> There is only one of me

No cloning allowed in Australia? ;-)

Re: [WP34s] XROM routines

*Message #13 Posted by **Paul Dale** on 7 Jan 2012, 4:19 p.m.,*
in response to message #12 by fhub

Unfortunately, no. If it were allowed my world domination plans would be very much advanced.

At least there is an avid tester and reviewer of the code I commit who catches mistakes for me :)

- Pauli

Re: [WP34s] XROM routines

*Message #14 Posted by **fhub** on 9 Jan 2012, 6:51 a.m.,*
in response to message #1 by fhub

> Quote:
>
> I just saw this in the new SVN:

Well, since a few SVN versions I even see lots of (still undocumented) new commands in the XROM routines and also in wp34s.op, for example:
xIN, xOUT, xMSET, xMCLR, CNVG?, SHFL, iRCL, sRCL, dRCL, BSRF, BSRB ...

Now I'm curious: are these commands only for creating XROM routines (i.e. to compile for the developer team), or do they also have any use for the end-user in writing programs for the WP34s?

In the second case it would be very helpful if we could get at least a minimum description of what these commands do and how to use them.

Franz

Edited: 9 Jan 2012, 7:07 a.m.

Re: [WP34s] XROM routines

*Message #15 Posted by **Neil Hamilton (Ottawa)** on 9 Jan 2012, 7:16 a.m.,*
in response to message #14 by fhub

Those commands that are only eligible for XROM will show up with an "xrom" attribute in the wp34s.op file. These will behave as unrecognized instructions if attempted to be used via the assembler in the user area of the calculator (RAM or flash).

Since they are not available to the user, they will not appear in any catalogues in the calculator itself.

Re: [WP34s] XROM routines

*Message #16 Posted by **fhub** on 9 Jan 2012, 7:37 a.m.,*
in response to message #15 by Neil Hamilton (Ottawa)

Aha, so that still leaves CNVG?, SHFL, iRCL/sRCL/dRCL, BSRF/BSRB for usual programming ...

But how to use these commands?

Edited: 9 Jan 2012, 10:06 a.m.

Re: [WP34s] XROM routines

*Message #17 Posted by **Marcus von Cube, Germany** on 9 Jan 2012, 10:21 a.m.,*
in response to message #16 by fhub

Franz,

here you are:

CNVG? - A convergence test. Ask Pauli for details.

SHFL - A generic 4 level stack shuffler. The argument is bit encoded, so not really useful for casual programming.

BSRF/BSRB - Branch SubRoutine Forward/Backward: SKIP and BACK for subroutine calls.

iRCL/sRCL/dRCL - These are mine :-). They are "alien" RCL instructions which allow the access to data stored in the "wrong" format.

iRCL - takes an integer value stored in one of the integer modes and recalls it to X, properly converted.

sRCL - takes a single precision value in a register and recalls it to X, properly converted.

dRCL - takes a double precision value (register numbers match those for DBLON mode) and converts it to single precision or integer if required.

DBLON mode creates a double precision environment. The named registers are converted automatically. The necessary room is taken away from the high numbered registers. Register access is double precision, too. For example, STO 01 will access the space otherwise occupied by single precision registers 02 and 03.

xIN/xOUT are only available to XROM code. They create a private double precision stack and return stack (for RTN addresses and local registers and flags), not interfering with the user's data.

Re: [WP34s] XROM routines

*Message #18 Posted by **fhub** on 9 Jan 2012, 10:54 a.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> iRCL/sRCL/dRCL - These are mine :-). They are "alien" RCL instructions

Well Marcus, as you described these functions they are indeed 'alien' and would probably better fit into 'Area 51' than into the WP34s. ;-)

As for BSRF/BSRB: I've no clue how they could differ from the usual BACK/SKIP? If they should return after going to a subroutine, then what's the difference to a simple XEQ ?

And I guess SHFL can arrange the stack in any order!? Well, with the 4 available stack exchange commands (x/y/z/t<->..) I don't really see any use for this exotic command.

In short words: now I know just as much as before. ;-)

Nevertheless thanks!

Re: [WP34s] XROM routines

*Message #19 Posted by **Marcus von Cube, Germany** on 9 Jan 2012, 11:21 a.m.,*
in response to message #18 by fhub

In XROM, the relative branches are very fast because there is no search, the offset is directly added to the current program address. XEQ and GTO need to search for the label which is less efficient. For user code, the advantage is smaller because the relative branches make a search in order to detect the long instructions (such as LBL'ABC') and count them only as a single step. For XROM, all the 'dirty work' is done by the assembler during compile.

The "alien" RCL instructions are interesting for those who regularly switch between modes and need access to data stored in another mode than the one they are currently working in. Maybe I'll add the corresponding STO instructions one day.

SHFL simplifies some operations for XROM commands (look at xrom/quadratic.wp34s).

Re: [WP34s] XROM routines

*Message #20 Posted by **fhub** on 9 Jan 2012, 2:01 p.m.,*
in response to message #19 by Marcus von Cube, Germany

> Quote:
>
> In XROM, the relative branches are very fast because there is no search, the offset is directly added to the current program address. XEQ and GTO need to search for the label which is less efficient. For user code, the advantage is smaller because the relative branches make a search in order to detect the long instructions (such as LBL'ABC') and count them only as a single step. For XROM, all the 'dirty work' is done by the assembler during compile.

So the command BSRF/BSRB nnn is equivalent to SKIP/BACK nnn, but returns to the following step at the next RTN!? Or in other words it works like a subroutine call XEQ (current linenumber +/- nnn), but with the advantage that you don't need a LBL for it and so the WP34s doesn't have to search for a LBL first!?

I hope I got it know ... ;-)

Re: [WP34s] XROM routines

*Message #21 Posted by **Marcus von Cube, Germany** on 9 Jan 2012, 3:29 p.m.,*
in response to message #20 by fhub

Franz, you got it.

Re: [WP34s] XROM routines

*Message #22 Posted by **Paul Dale** on 9 Jan 2012, 3:00 p.m.,*
in response to message #18 by fhub

> Quote:
>
> And I guess SHFL can arrange the stack in any order!? Well, with the 4 available stack exchange commands (x/y/z/t<->..) I don't really see any use for this exotic command.

SHFL doesn't just allow rearrangements of the stack. It can also duplicate stack levels. So e.g. you can rearrange [X Y Z T] into [Z Y Y X] using a single instruction (not that I can think of a use for that particular operation).

I added it back again because I noticed that the quadratic solver had a series of three consecutive stack manipulations and wanted to streamline that. I've also wanted a DROPY instruction on quite a few occasions and SHFL gives you this too [X Y Z T] -> [X Z T T].

I've not gone back an reworked all the existing code to use this instruction yet but will eventually.

- Pauli

Re: [WP34s] XROM routines

*Message #23 Posted by **Paul Dale** on 9 Jan 2012, 3:03 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> CNVG? - A convergence test. Ask Pauli for details.

Better to look at the comment above the cmdconverged() function in xeq.c

The command allows you to check for the convergence of a series approximation. It permits a check for relative error, absolute error or complex distance against one of three threshold tolerances (or optionally, one of these three chosen base on the current mode settings).

It is proving to be quite a step saver in xrom, although the argument is a bit cryptic.

- Pauli

Re: [WP34s] XROM routines

*Message #24 Posted by **fhub** on 9 Jan 2012, 3:43 p.m.,*
in response to message #23 by Paul Dale

> Quote:
>
> Better to look at the comment above the cmdconverged() function in xeq.c

Thanks, this CNVG? is indeed quite well documented there (but of course hard to remember for practical use).

The SHFL parameter is still not clear to me, but it seems to use a 8-bit structure (2 bits for each register)!? What I've not found out yet is the order (XXYYZZTT ?) and which value means to put which register content into which destination.
I'll have to read xrom.wp34s and xeq.c a bit more carefully ...

Franz

Edited: 9 Jan 2012, 3:43 p.m.

Re: [WP34s] XROM routines

*Message #25 Posted by **Paul Dale** on 9 Jan 2012, 4:10 p.m.,*
in response to message #24 by fhub

Registers are numbered 0 for X through to 3 for T.

The argument is of the form (in binary):

```
ttzzyyxx
```

where tt is the register to be placed into T, zz for Z etc.

Thus my earlier example of [X Y Z T] into [Z Y Y X] would require this binary pattern as the argument:

```
00 01 01 10
```

I.e. SHFL 022

And DROP Y is SHFL 248.

In the xrom.wp34s file, a number of macros are defined to make accessing these commands easier from xrom. Not useful for user programs though, but they do indicate what goes where.

- Pauli

Re: [WP34s] XROM routines

*Message #26 Posted by **fhub** on 9 Jan 2012, 4:28 p.m.,*
in response to message #25 by Paul Dale

Ahhh thanks, now everything is clear - again a very powerful command!

It's a pity that 2 bits can only hold 4 numbers, otherwise you could have included the value 0 for putting into any register (something like CLy or CLz).

BTW, this CNVG? would have been very useful in my polynomial rootsolver.

Franz

Re: [WP34s] XROM routines

*Message #27 Posted by **Paul Dale** on 9 Jan 2012, 4:45 p.m.,*
in response to message #26 by fhub

> Quote:
>
> It's a pity that 2 bits can only hold 4 numbers, otherwise you could have included the value 0 for putting into any register (something like CLy or CLz).

I had an even more power version of this ages ago that got lost along the way. It included L as well and I did contemplate 0 as well. Still, it should be a useful if cryptic command.

> Quote:
>
> BTW, this CNVG? would have been very useful in my polynomial rootsolver.

Don't you mean "will be" :-)

- Pauli

Re: [WP34s] XROM routines

*Message #28 Posted by **fhub** on 9 Jan 2012, 5:05 p.m.,*
in response to message #27 by Paul Dale

> Quote:
>
> Don't you mean "will be" :-)

Well, I've already thought about rewriting my PRS program (and even made a few subroutines for the new version), but it would be much work and I'm not sure if it would still fit into about 500 steps.

The problem is that I've written it in the old V2 style and used the top registers R80-99 for the main variables (like the old statistic functions). Moving down these registers to R00-19 isn't a problem, but moving up the polynomial coefficients 20 registers makes many commands (or better their parameters) much more complicated and would need some additional steps for these commands (like R-COPY/SWAP, loops etc.).

It would be great if there would be a mechanism in WP34s to define somewhere a special register, and this value should be automatically used as an offset to all other (or only to specified) register calls. Or something like defining a second register set Sxx starting with a special register number Rnn, but being addressed as S00.

Maybe I could solve my problem also with local registers (but 16 are not enough, would require using also A-D), but so far I'm not familiar with this 'local' stuff.

Franz

Edited: 9 Jan 2012, 5:07 p.m.

Re: [WP34s] XROM routines

*Message #29 Posted by **Paul Dale** on 9 Jan 2012, 5:14 p.m.,*
in response to message #28 by fhub

It does sound like local registers are what you require here. Put a "LocR 16" at the start of the solver and then freely use registers .00 - .15 plus A - D throughout.

Leave the polynomial coefficients and order in exactly the same place they are now (i.e. registers 00 - 79) and there will be no conflict. You'd even gain another 20 registers for coefficients if the program was run from flash :-)

- Pauli

Re: [WP34s] XROM routines

*Message #30 Posted by **Marcus von Cube, Germany** on 9 Jan 2012, 5:24 p.m.,*
in response to message #29 by Paul Dale

Local registers are best suited to non interactive routines. As soon as you do an XEQ (or use a hot key) from the keyboard, the return stack is initialized and the local registers are gone. R/S is fine, though. So you should keep all data entered by the user in global registers and use locals for all the intermediate stuff which is used during the computation.

Re: [WP34s] XROM routines

*Message #31 Posted by **fhub** on 9 Jan 2012, 5:35 p.m.,*
in response to message #30 by Marcus von Cube, Germany

> Quote:
>
> As soon as you do an XEQ (or use a hot key) from the keyboard, the return stack is initialized and the local registers are gone.

Yep, that's exactly another problem I already found when I thought about a new version - just forgot about it at the moment. :-(

There's in fact a problem because the PRS program uses XEQ 11/12/13 to edit/recalculate or display the solution again, and then

the local regs are removed - damned, it's all not so easy ...

Re: [WP34s] XROM routines

*Message #32 Posted by **fhub** on 9 Jan 2012, 5:31 p.m.,*
in response to message #29 by Paul Dale

> Quote:
>
> It does sound like local registers are what you require here. Put a "LocR 16" at the start of the solver and then freely use registers .00 - .15 plus A - D throughout.

Yes, that's what I was thinking about. And "LocR 16" does not reduce the user RAM (i.e. the registers R00-99) like loading a bigger program does?

I could even use this LocR twice, first in the main program and then again in the Laguerre subroutine, because they only share some of my 20 registers, so I could avoid using A-D.

Ok, let's see if I still have enough energy to rewrite my program, because I've already worked almost one month on it (reading certainly more than 30 articles and studying programs about efficient polynomial root solving methods, especially for multiple roots).

Franz

Re: [WP34s] XROM routines

*Message #33 Posted by **Marcus von Cube, Germany** on 10 Jan 2012, 4:28 a.m.,*
in response to message #32 by fhub

> Quote:
>
> Yes, that's what I was thinking about. And "LocR 16" does not reduce the user RAM (i.e. the registers R00-99) like loading a bigger program does?

User RAM is divided in roughly 3 areas: Program/local data, global registers, and state.

You can shift the boundary between program/local data and the registers by executing a REGS command. If you have a long program in RAM and all global regs allocated then there will not be much headroom for local registers. For testing your program you should do a REGS 49 or something alike. When everything works, copy the program to the backup area or to the library and clear the RAM program to make room for more local registers. REGS can then be reset to 99.

> Quote:

> Ok, let's see if I still have enough energy to rewrite my program, because I've already worked almost one month on it (reading certainly more than 30 articles and studying programs about efficient polynomial root solving methods, especially for multiple roots).

Life long learning is the best method to keep your gray matter in good shape. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happy New Year 0111.1101.1100

*Message #1 Posted by **Marcus von Cube, Germany** on 31 Dec 2011, 10:26 a.m.*

Our Australian friends have already left 0111.1101.1011 behind.

All the best!

Re: Happy New Year 0111.1101.1100

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 31 Dec 2011, 11:03 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Happy New Year from Italy, too... [T-07:00 right now]

Massimo

I prefer a happy '7dC'

*Message #3 Posted by **geoff quickfall** on 31 Dec 2011, 11:08 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Off to Hong Kong today so I think I miss new years. Cross the date line today at 2300Z, get one hour of new years and then change to Jan 2nd!

So actually new years is 1 hour long for me.

Saves on the champagne!

All the best all!

Geoff

Re: I prefer a happy '7dC'

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 31 Dec 2011, 11:14 a.m.,*
in response to message #3 by geoff quickfall

Hi Geoff! Was the 41CL up to the task of keeping the right time? ;-)

Greetings,
Massimo

Re: I prefer a happy '7dC'

*Message #5 Posted by **Dave Shaffer (Arizona)** on 31 Dec 2011, 4:39 p.m.,*
in response to message #3 by geoff quickfall

> Quote:
>
> Saves on the champagne!

Hope the gang up front isn't sipping!

Re: Happy New Year 0111.1101.1100

*Message #6 Posted by **Jairo Cifuentes** on 31 Dec 2011, 1:11 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Happy New Year from Guatemala in Central America, thanks WP-34S team.

Re: Happy New Year 0111.1101.1100

*Message #7 Posted by **Mark Hardman** on 31 Dec 2011, 3:15 p.m.,*
in response to message #6 by Jairo Cifuentes

Only 0010.0011 years until 0111.1111.1111!

Re: Happy New Year 0111.1101.1100

*Message #8 Posted by **Michael de Estrada** on 31 Dec 2011, 8:53 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Próspero año nuevo 3734 (octal).

Re: Happy New Year 0111.1101.1100

*Message #9 Posted by **Adam Vaughn** on 1 Jan 2012, 3:30 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Happy New Year, everyone! Made sure to flip the 'leap year' switch on my HP 59309A HPIB digital clock from 365 to 366. Cheers!

Re: Happy New Year 0111.1101.1100
*Message #10 Posted by **Eddie W. Shore** on 1 Jan 2012, 9:37 p.m.,*
in response to message #9 by Adam Vaughn

Happy New Year!

Re: Happy New Year 0111.1101.1100
*Message #11 Posted by **Dave Shaffer (Arizona)** on 2 Jan 2012, 1:58 p.m.,*
in response to message #9 by Adam Vaughn

They should have put a bit more logic in their clock, then it would be good for 100+ years.

I used to work at the National Radio Astronomy Observatory in W.Va., where there was a one second tick sent to all the telescopes from a master clock in the lab building. At each 'scope, there was the "NRAO Universal Clock" which

counted up the ticks and displayed the time (and made it available to the data computers to time tag data). The logic therein had leap years accounted for, but not the 100/400 year option.

The handbook for the clock, designed in the 60s or 70s, therefore stated (slightly tongue-in-cheek) that "the NRAO Universal Clock will display the correct date until March 1, 2100, at which point the operator will have to go over to the clock and manually advance the date by one."

One of the most optimistic things I've ever seen in print!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP35S solve problem

*Message #1 Posted by **Alessandro Castellani (Italy)** on 31 Dec 2011, 9:35 a.m.*

```
I'm new in this forum and I have a problem on my 35S:
when I try to solve for the expression x^2-4 I always find only the
 positive root (2) even if I give it two initial estimates like -3
 and -1 very close to the negative root (-2).
This happens only trying to solve the expression directly from the
EQN list, if I define the expression  in a program and I solve it
 giving the same initial estimates, solve result is fine.


This is my operation sequence in RPN mode:
I insert the expression in the EQN list:
[EQN] X^2-4 [ENTER] [C]
I store in the X variable the first estimate (-3)
3[+/-][STO][X][ENTER]
I store in the X register the second estimate (-1)
1[+/-][ENTER]
from EQN list I recall the expression and I solve it for the variable X:
 result is always 2


Could anyone explain me where I wrong ?


Thanks in advance and my best wishes for an happy 2012 to everybody.
```

Re: HP35S solve problem

*Message #2 Posted by **Dieter** on 31 Dec 2011, 10:51 a.m.,*
in response to message #1 by Alessandro Castellani (Italy)

Alessandro, there's nothing wrong with your 35s. You just discovered a feature that is often overlooked: the 35s can solve equations symbolically. It does so if the variable appears only once in the equation.

This also happens in your case. Here, the equation

```
X^2 - 4
```

or

```
X^2 - 4 = 0
```

is automatically transformed to

```
X = SQRT(4)
```

This exact solution is then evaluated by the 35s, using its regular functions. So the square root always returns a positive result.

This also means that - in such a case - the two initial guesses do not matter at all, they are completely ignored.

If you want the usual numerical solution by successive iteration, simply change the equation a bit so that the variable appears twice:

```
X*X - 4
```

or

```
X^2 - 4 = 0*X
```

All this has been discussed before. For more information and further details, please take a look at this thread.

Dieter

Edited: 31 Dec 2011, 11:18 a.m.

Re: HP35S solve problem

*Message #3 Posted by **Alessandro Castellani (Italy)** on 2 Jan 2012, 3:37 a.m.,*
in response to message #2 by Dieter

Thank you very much Dieter.

Alessandro

Re: HP35S solve problem

*Message #4 Posted by **Paul Dale** on 2 Jan 2012, 4:00 a.m.,*
in response to message #2 by Dieter

How fares the 35S with X! = 6 ??

Variable appearing exactly once but there is no inverse gamma function on the device that I'm aware of.

- Pauli

Re: HP35S solve problem

*Message #5 Posted by **Norman Dziedzic** on 2 Jan 2012, 11:20 a.m.,*
in response to message #4 by Paul Dale

Without using the multiple variable trick in the equation it went for about 40 seconds and I canceled it.

Using the equation X!=6+0*X

It returned 3.000 (my setting Fix 3) after about 10 seconds.

Re: HP35S solve problem

*Message #6 Posted by **Dieter** on 2 Jan 2012, 3:06 p.m.,*
in response to message #4 by Paul Dale

Well, there are some restrictions so that not *all* cases with a single appearance of the variable are solved symbolically. For instance, consider periodic functions like sin or cos. An equation like

```
SIN(X) = 0,5
```

will not be solved directly since there is an infinite number of solutions (30, 150, 390, 510, ... degrees). So the 35s will not simply set x = arcsin(0,5) and return 30 degrees.

The case you mentioned

```
X! = 6
```

cannot be solved directly since there is no inverse factorial or inverse Gamma function on the 35s. So the usual iterative approach is applied here. I tried various initial guesses between 0 and 20 - the 35s always came up with the correct result x = 3, usually within 4 - 10 seconds. No tweaking (...+0*X) was required.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repurposing the HP20b in an engineering class

*Message #1 Posted by **Peter Murphy (Livermore)** on 31 Dec 2011, 1:45 a.m.*

Some specifics from the professor's web site:

****

Columbia University

ENGI E1112

Gateway Lab for Computer Science and Computer Engineering

Fall 2011

Overview

In this project, you will write new firmware for an HP 20b calculator. This is an example of embedded programming: coding software for something that does not, and should not, appear to be a computer in the traditional sense, yet is one at its core. The plummeting cost of integrated circuits has made such embedded systems ubiquitous, and this trend promises to continue. The challenges of designing such systems run the gamut from traditional electrical issues such as sensor noise and power consumption all the way to high-level computer science problems such as efficient algorithm design to human factors engineering. You will experience all of these, and learn some standard solutions, while performing this project.

1: Getting Started: Hello World

2: Listening to the Keyboard

3: Entering and displaying numbers

4: An RPN Calculator

****

Seven teams of students completed written reports and presentations. Links to those 14 items, to the professor's instructions for parts 1, 2, and 3, and to other pertinent stuff are all at the URL below.

All this might hold interest for the WP34 crowd here.

The URL:

http://www.cs.columbia.edu/~sedwards/classes/2011/gateway-fall/index.html

Re: Repurposing the HP20b in an engineering class

*Message #2 Posted by **Bruce Bergman** on 31 Dec 2011, 1:53 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Awesome!!! I love this!

More, more!

Re: Repurposing the HP20b in an engineering class

*Message #3 Posted by **Dominic Richens** on 31 Dec 2011, 8:33 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Good to see Prof Edwards creating a new generation of HP calculator fanatics :-)

I wonder if he and any of his students know about wp34s? I had a quick look at a few of the reports and none of their code looks like Pauli or Marcus'

Re: Repurposing the HP20b in an engineering class

*Message #4 Posted by **David Griffith** on 1 Jan 2012, 6:22 p.m.,*
in response to message #3 by Dominic Richens

I asked the professor about this. He didn't let his students know because they might be tempted to copy it.

Re: Repurposing the HP20b in an engineering class

*Message #5 Posted by **Marcus von Cube, Germany** on 31 Dec 2011, 10:02 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

It looks like they managed to create an OpenOCD configuration for the 20b for flashing which might prove useful for me. It may even help to resurrect my original development unit. :-)

I'm going to download the sample files...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT but interesting; a new calendar proposal

*Message #1 Posted by **Don Shepherd** on 30 Dec 2011, 5:22 p.m.*

This article describes a proposal for a new calendar in which a given date would fall on the same day, forever!

Get ready to change all the days-between-dates algorithms.

Re: OT but interesting; a new calendar proposal

*Message #2 Posted by **Paul Dale** on 30 Dec 2011, 5:26 p.m.,*
in response to message #1 by Don Shepherd

Didn't the French try something like this around 1800?

I'm guessing the probability of this calendar being generally accepted is pretty much zero.

Still, it is a neat idea.

- Pauli

Re: OT but interesting; a new calendar proposal

*Message #3 Posted by **Katie Wasserman** on 30 Dec 2011, 6:29 p.m.,*
in response to message #1 by Don Shepherd

I like it, another guaranteed round of Y2K-like programming work, I'll be able to retire in style! :)

Re: OT but interesting; a new calendar proposal

*Message #4 Posted by **John B. Smitherman** on 30 Dec 2011, 7:08 p.m.,*
in response to message #1 by Don Shepherd

I don't mean to hijack your thread but if you haven't done so already you should pick up a copy of Theoni Pappas' 2012 Math Calendar: Link

It's guaranteed to entertain.

Happy New Year!

John

Re: OT but interesting; a new calendar proposal

*Message #5 Posted by **Don Shepherd** on 31 Dec 2011, 11:11 a.m.,*
in response to message #1 by Don Shepherd

Here is an interesting page that includes a FORTRAN subroutine to determine which years get the extra week

to keep in synch with the sun. FORTRAN forever!!

Re: OT but interesting; a new calendar proposal

*Message #6 Posted by **Jeff O.** on 1 Jan 2012, 1:01 p.m.,*
in response to message #1 by Don Shepherd

I'm not sure that I see a real need here, although the concept is interesting. If Pope Gregory's monks had come up with it, it might have stood a chance. But I think their goal was to fix the Julian calanedar with as little impact as possible, other than skipping 10 days in October 1582. I always thought that a more sensible arrangement of the number of days in the months would have been as follows:

```
January - 30 days
February - 31 days
March - 30 days
April - 31 days
May - 30 days
June - 31 days
July - 30 days
August - 31 days
September - 30 days
October - 31 days
November - 30 days
December - 30 days in common years
December - 31 days in leap years
```

So in leap years, just add an extra day at the end of the year. Rules for leap years would be the same as the 97/400 Gregorian calendar. Of course the above has no real practical advantage over the curent system (of which I can think) but at least does not seem so random with regard to the numbers of days in the months.

Re: OT but interesting; a new calendar proposal

*Message #7 Posted by **Don Shepherd** on 1 Jan 2012, 1:35 p.m.,*
in response to message #6 by Jeff O.

Thanks Jeff. I agree, it is an interesting concept, but it seems to be a solution in search of a problem. I don't know of any business or indvidual that has a problem with the current system; a given date falls on a different day each year. So what. It's been that way for as long as I can remember. Even folks born on February 29 are able to celebrate their birthday each year. Heck, I wish I had been born on Feb. 29; then maybe I'd be 30 instead of 61!

I do see huge problems with adding another week at the end of the year every 5 or 6 years. Parents of school-age kids currently struggle to take care of their kids during the typical 2-week school vacation; how could they accomodate 3 weeks? And I would think that extra week would cause businesses lots of troubles.

The author also proposes everyone on earth use the same time (Greenwich time, UTC, or whatever it's called these days). I've often thought that that might have advantages, we'd just have to get used to "9 to 5" being a variable. Even if we didn't have time zones, localities would still want people working and going to school during the daylight hours, so the actual hours of work would vary based on geography.

Re: OT but interesting; a new calendar proposal

*Message #8 Posted by **Dave Shaffer (Arizona)** on 2 Jan 2012, 1:44 p.m.,*
in response to message #7 by Don Shepherd

> Quote:
>
> The author also proposes everyone on earth use the same time (Greenwich time, UTC, or

whatever it's called these days).

I've had a similar (even less likley to be adopted by anybody!) idea, but (as an astronomer) suggest that we all use Greenwich Sidereal Time (GST in astronomy parlance), which is the time kept by the stars.

Everybody could still have a "9 to 5" job (or whatever other hours you choose), but those hours would rotate throughout the year with respect to day and night. At times, you would go to work in the daytime, 6 months later you would go to work in the dark - so nobody would have a permanent "night shift"! Also, your day would be 3m 57s shorter, and you would gain an extra day each year, which should be a holiday!

For an even more radical alternative view, check out the Jan 1, 2012 Foxtrot cartoon.

Re: OT but interesting; a new calendar proposal

*Message #9 Posted by **Jeff O.** on 2 Jan 2012, 4:45 p.m.,*
in response to message #7 by Don Shepherd

Quote:

...it seems to be a solution in search of a problem. I don't know of any business or indvidual that has a problem with the current system; a given date falls on a different day each year. So what.

I agree completely.

But another thought did occur to me. Following their own logic, I think Hanke and Henry did not go far enough. With their system, the days of the months will still wander about the days of the week. Why not propose thirteen 28 day months? That way each date of each month will fall on the same day of the week as in every other month. They would still need to add their extra week every 6 or 7 years. In that case just make the 13 month 35 days long. Or call it the fourteenth month. Seems like this would further simplify figuring out the days between dates. Perhaps they considered it and worried that the triskaidekaphobes would protest too much.

In any case, I think I have probably devoted enough thought to these concepts. But thanks for bringing it up.

Re: OT but interesting; a new calendar proposal

*Message #10 Posted by **C.Ret** on 3 Jan 2012, 2:36 a.m.,*
in response to message #7 by Don Shepherd

Quote:

Heck, I wish I had been born on Feb. 29; then maybe I'd be 30 instead of 61!

I think you may be only 15 instead of 61 !

As anyone may agree, today's teenagers don't know how to divide !

Re: OT but interesting; a new calendar proposal

*Message #11 Posted by **Paul Dale** on 2 Jan 2012, 4:29 p.m.,*
in response to message #6 by Jeff O.

Isn't this what the current system originally was before the New Year was moved from March to January? Well with the Gregorian adaptations which came later.

- Pauli

Re: OT but interesting; a new calendar proposal

*Message #12 Posted by **BruceH** on 1 Jan 2012, 2:25 p.m.,*
in response to message #1 by Don Shepherd

I think it would be easier to slow the Earth's orbit than adopt a new calendar!

Re: OT but interesting; a new calendar proposal

*Message #13 Posted by **Don Shepherd** on 2 Jan 2012, 4:32 p.m.,*
in response to message #12 by BruceH

> Quote:
>
> slow the Earth's orbit

Not exactly slowing the Earth's orbit around the Sun, but didn't Superman, in one of those movies, race around the Earth in a westward direction in order to get the Earth to reverse the direction of its rotation, so that he could "turn back time" and rescue someone who had died?

An idea that has always intrigued me (thanks to Carl Sagan I think) is that, if we could travel faster than the speed of light, we could race away from the Earth and, with a powerful enough telescope, see ourselves being born. But the physicists have always told us that nothing can travel faster than the speed of light. I believe that recently someone found something that could....

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.8

*Message #1 Posted by **robertoataulfo** on 30 Dec 2011, 4:24 p.m.*

```
CATALOG ( 1439 bytes)


30/12/11  19:22:37


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR" @ PWIDTH INF @ WIDTH 32
2 GOSUB 26 @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
5 IF B$='u' THEN C$="Purge" @ GOSUB 14 @ GOSUB 24 @ PURGE A$&B$ @ GOTO 1
6 IF B$="a" THEN C$="Print Catalog" @ GOSUB 15 @ PRINT C$[7,13]&":"&A$(I) @ I=1 @ GOTO 30
7 IF B$='e' AND POS("BT",A$[12,12])#0 THEN C$="Edit" @ GOSUB 14 @ GOSUB 24 @ EDIT A$ @ END
8 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 14 @ RUN A$
9 IF B$='c' THEN C$="Copy to" @ GOSUB 14 @ GOTO 18
10 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
11 IF B$="b" THEN BYE
12 IF B$='p' AND POS("BT",A$[12,12])#0 THEN C$="Print" @ D$=A$ @ GOSUB 14 @ GOTO 16
13 GOTO 2
14 A$=A$[1,POS(A$," ")-1] @ INPUT "File ?",A$;A$
15 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP B$ @ RETURN
16 GOSUB 24 @ GOSUB 32 @ IF A$="keys" THEN PLIST KEYS ELSE PLIST A$
17 PRINT @ GOTO 2
18 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
19 IF B=2 THEN B$=A$(1)&D$&A$(3)
20 IF B=3 THEN B$=A$(1)&D$&A$(2)
21 DISP C$&" "&B$&" ?" @ B=VAL(WKEY$) @ GOSUB 24
22 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
23 GOTO 2
24 B$="" @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
25 RETURN
26 IF B=1 THEN A$=CAT$(I)
27 IF B=2 THEN A$=XCAT$(I)
28 IF B=3 THEN A$=TCAT$(':dr',I)
29 RETURN
30 GOSUB 33
31 GOSUB 26 @ IF A$="" THEN I=1 @ GOTO 2 ELSE PRINT A$ @ I=I+1 @ GOTO 31
32 PRINT A$;' (';D$[13,18];'bytes)'
33 PRINT @ C$=DATE$ @ PRINT C$[7,8]&C$[3,6]&C$[1,2]&"  "&TIME$ @ PRINT @ RETURN


a    = Print Catalog
c    = Copy File to
e    = Edit Basic File
r    = Run Basic File
p    = Print Basic File
b    = Bye (Off)
x    = exchange media
u    = Purge File
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


:Xmem=82718A
```

```
Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dave Ramsey et al with early HP 41C conversions to CL

*Message #1 Posted by **geoff quickfall** on 30 Dec 2011, 3:16 p.m.*

I thought I would start a separate thread for this as a few people have converted the old hex nut version 41C's to the CL.

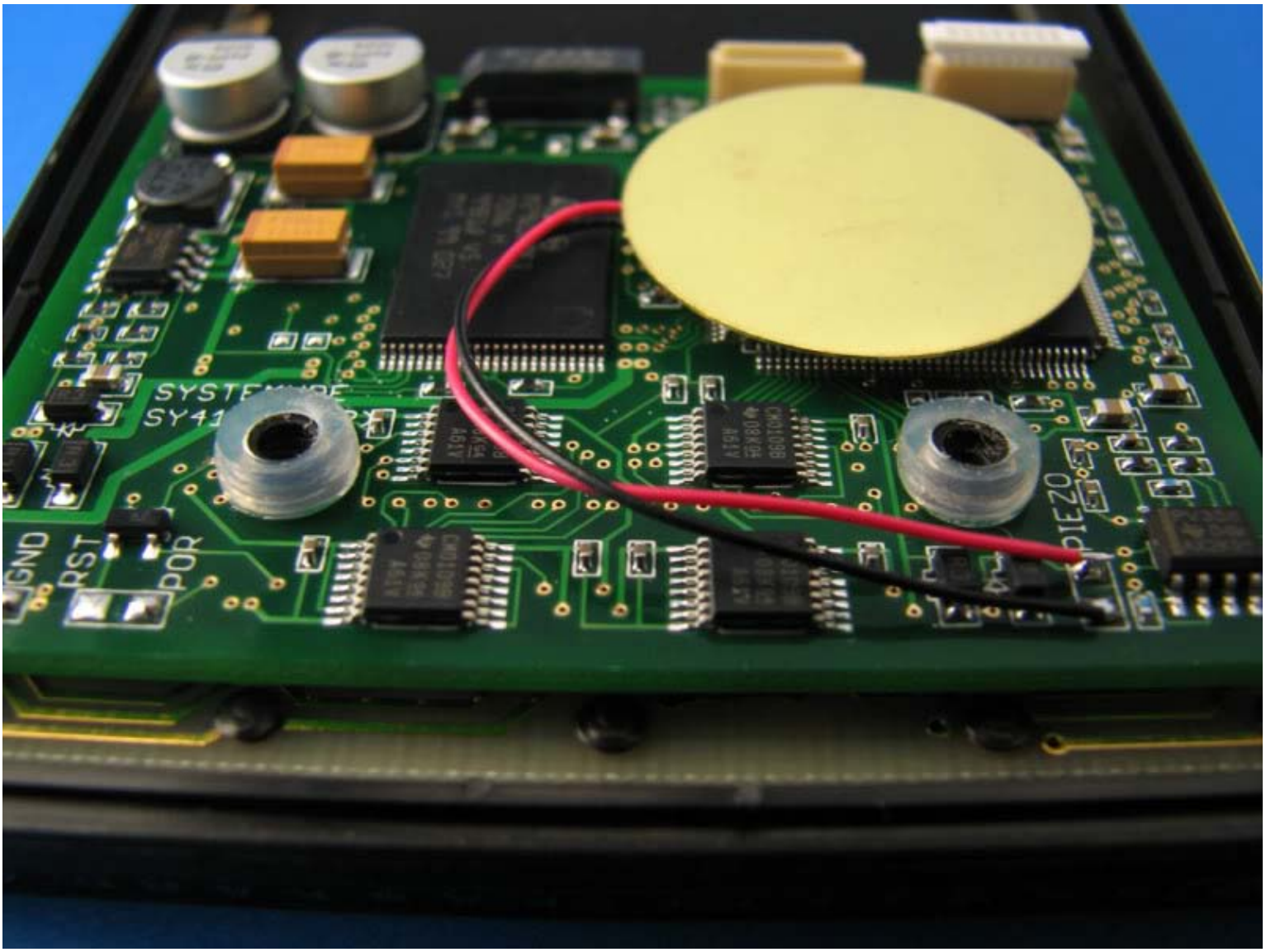
The hex nuts were not meant to be removed and replaced more then a few times at best. Maybe it just my clumsy fingers but read on!

The hex nuts indicate an early 41C. Trouble sometimes is the posts are not threaded initially and reinstalling them can result in a cross threading leading to a stripped and thinner post.

You are correct (from Daves posting below) as the back shell is different from later versions due to the hex nut installation. HP actually, on repairs, removed the hex nuts and replaced them with plastic spacers. These were slightly thicker then the height of the posts protruding from the logic pca. This resulted in the rear shell pressing the board onto the strips as opposed to the hex nuts doing the pressing.

A simple replacement for the hex nuts would involve similar spacers or silicon tubing cut to a slightly higher height then the protruding portion of the screw posts. This would have the same affect of the rear shell compressing the pca into the zebra strips.

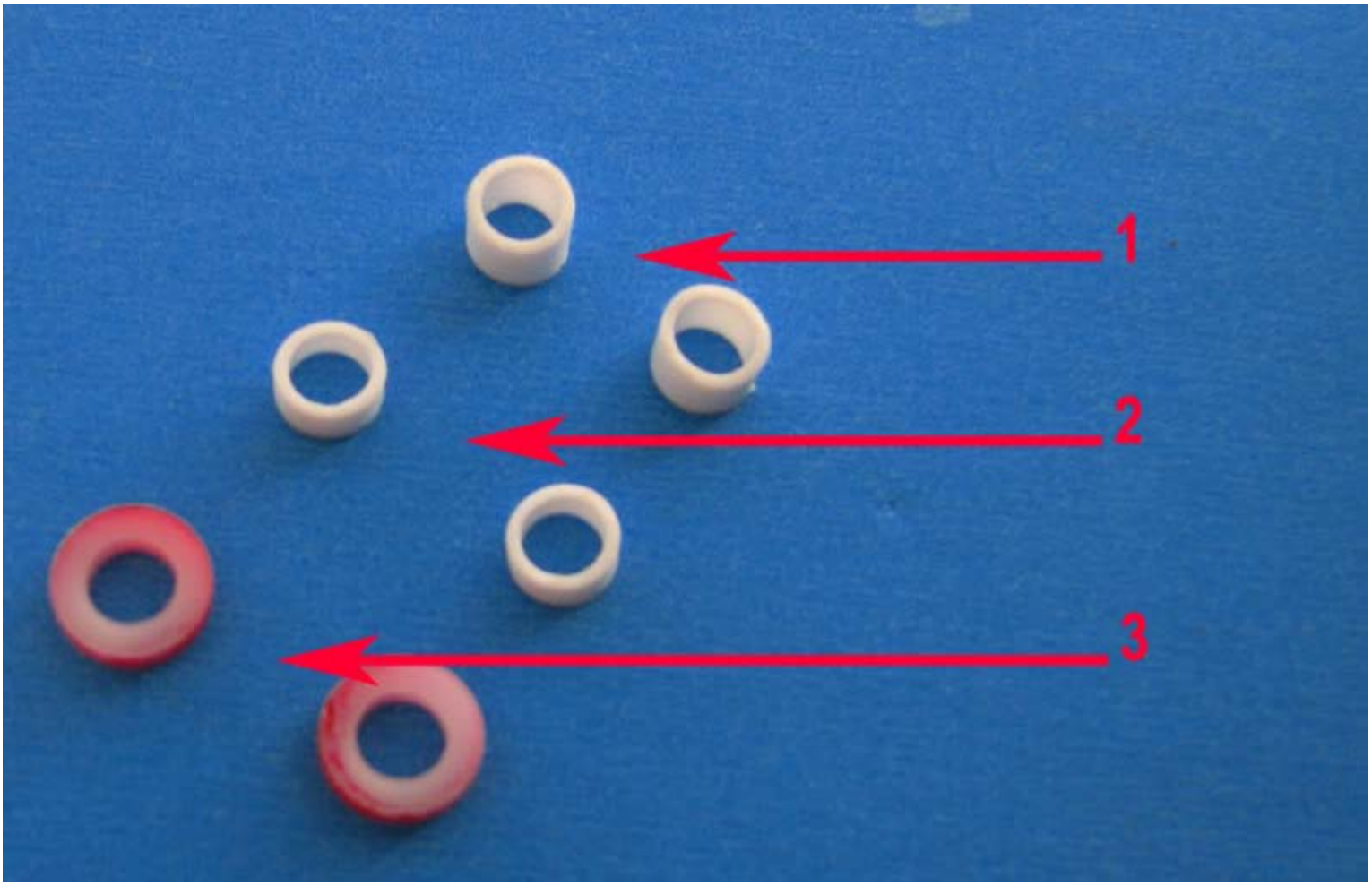
Silicon tubing replacements for stripped hex nuts:



Spacers precut; #1, #2

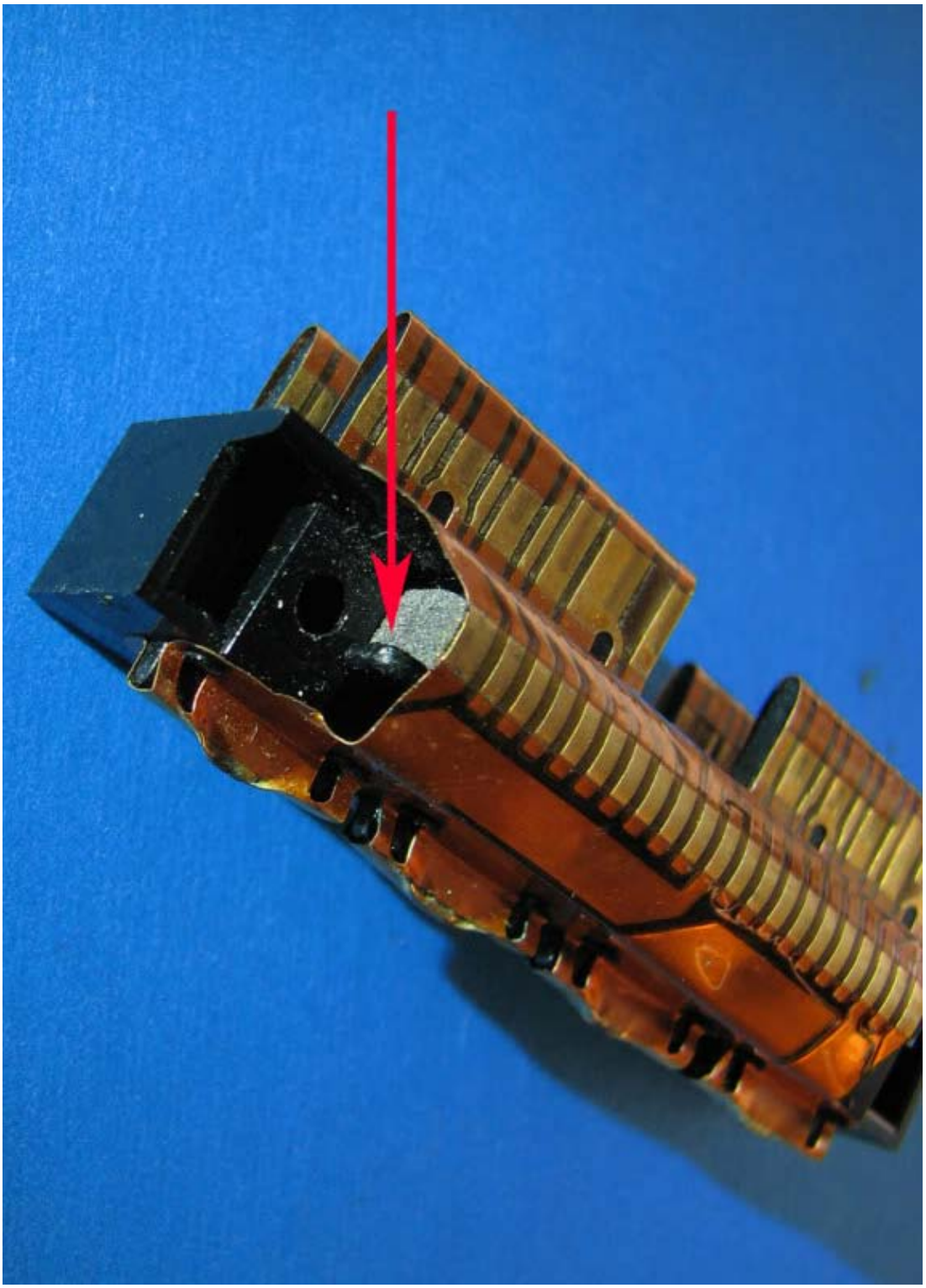
```
#1 top post reinforcements cut to length (flush with top of screw posts.


#2 bottom spacers/reinforcements cut to a silly millimeter more then flush.
#3 original HP spacers, which do not compress the screw posts, hence no reinforcement ability.
```



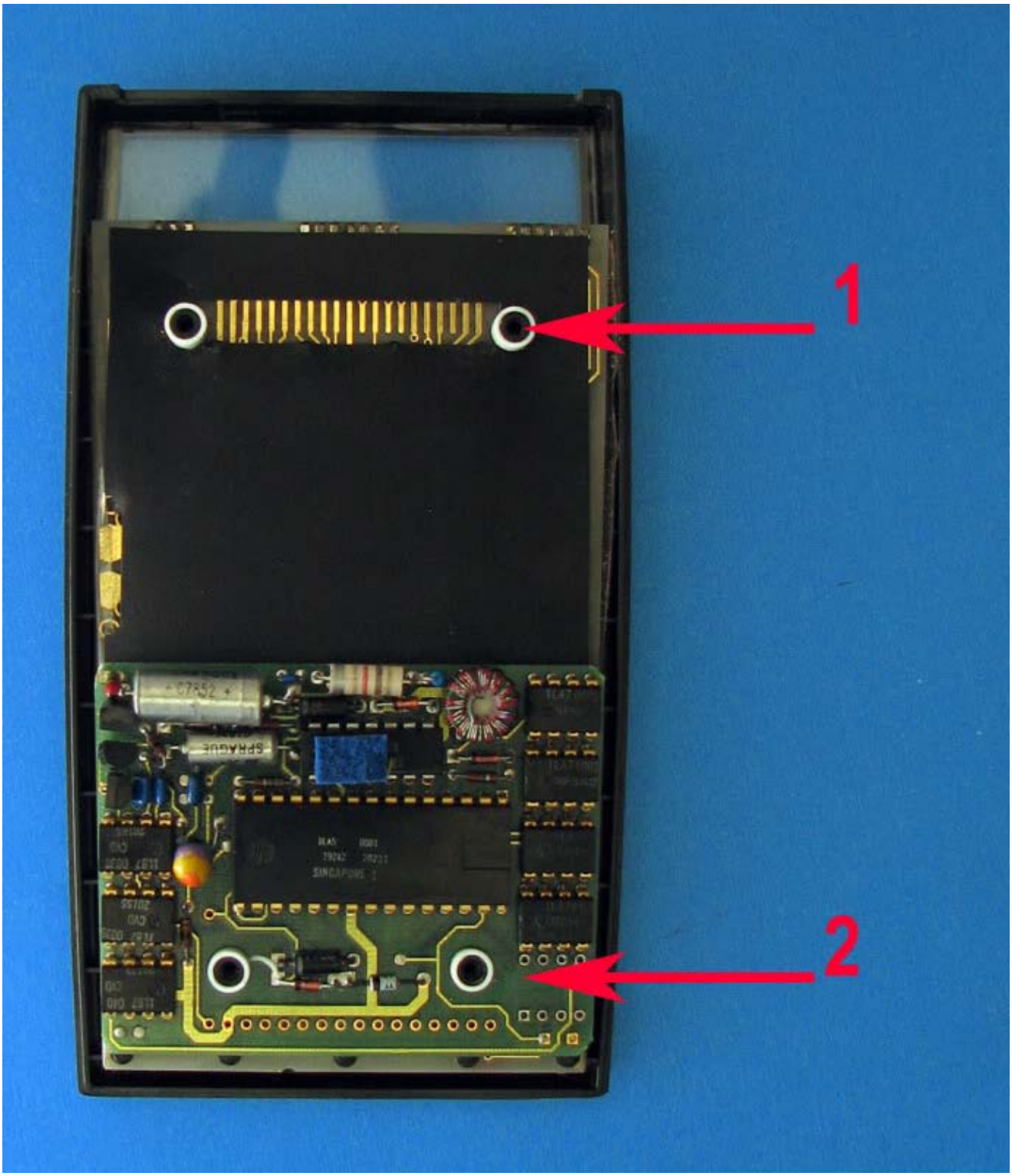
One can also purchase styrene tubing for the top posts but this requires shaving the very tips of the battery/module block. You probably remember this from the HCC2011 presentation and the youtube copy.

Shaving a tiny portion of the indicated vertical plastic from both sides of the battery/module block:



Module in place showing the new reinforcements and indicating the area of the battery/module block that needs shaving (immediately adjacent to the reinforcements on the screw posts (white):

The logic PCA plus spacers and upper post reinforcements in place:



The tubing is 7/32” or 5.5mm and also comes in brass (overkill?).

As Monte states, the posts and contacts must be good, or, as I found out during a flash write, BOOOM, no more CL. Fortunately Monte re-flashed the machine successfully. But as a simple google of "flash drives power interupts during write" this can be fatal to the drive.

So insure good connections. Non stripped posts, internally as well as the external hex nuts. Good elastomer (as Angel states below, how does one tell?) or wire wrapped zebras, clean pca and battery/module block contacts.

Cheers, Geoff

Edited: 30 Dec 2011, 3:40 p.m. after one or more responses were posted

Re: Dave Ramsey et al with early HP 41C conversions to CL

*Message #2 Posted by **Ángel Martin** on 30 Dec 2011, 3:26 p.m.,*
in response to message #1 by geoff quickfall

Many thanks for posting this again Geoff, it´s always valuable and I keep misplacing the links to previous postings.

> Quote:
>
> Good elastomer or wire wrapped zebras, clean pca and battery/module block contact

In your last sentence you imply that there are ¨good¨ elastomer stripes - how can we tell them from the ¨bad¨ ones??

Best, ÁM

Re: Dave Ramsey et al with early HP 41C conversions to CL

*Message #3 Posted by **Geoff Quickfall** on 30 Dec 2011, 3:40 p.m.,*
in response to message #2 by Ángel Martin

Well, that is a good question? Other then obvious defects I can only state that a working elastomer on a CL in normal operations would be and indication of a good elastomer.

Of course that does not involve the increased load on the elastomer during a flash write operation. But then, how does one now if the wire wrapped connector is any better in each individual case.

For me, the elastomer connector would, when placed in its brackets, be proud, that is extend above the retaining bracket to ensure a positive contact.

I guess a caveat on the elastomer statement is required.

Cheers, Angel!

Re: Dave Ramsey et al with early HP 41C conversions to CL

*Message #4 Posted by **David Ramsey** on 30 Dec 2011, 5:13 p.m.,*
in response to message #1 by geoff quickfall

I also saw one machine (my original dead 41) with the plastic spacers. The nuts are a way better solution: the only way to improve them would, of course, be to have the posts they screw onto made of metal, or at least pre-threaded.

I was very careful putting the nuts back on. HP appears to have used some sort of mild thread lock compound originally. None of my nut drivers would fit so I started the nuts with my fingers (one of them took quite a while to get lined up right) and tightened them with-- take a deep breath-- needle nose pliers!

But it all works. Just wish I had a suitable calc with a better keyboard. My Blanknuts were the only other candidates I had and I didn't want to potentially screw them up...

Re: Dave Ramsey et al with early HP 41C conversions to CL

*Message #5 Posted by **David Ramsey** on 1 Jan 2012, 12:51 a.m.,*
in response to message #1 by geoff quickfall

Hey, Geoff, would acetone work as an adhesive to re-attach the broken post?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Read the letter that brought down HP CEO Mark Hurd

*Message #1 Posted by **Peter Murphy (Livermore)** on 30 Dec 2011, 2:37 p.m.*

In a Houston Chronicle blog (but widely trumpeted):

http://blog.chron.com/techblog/2011/12/read-the-letter-that-brought-down-hp-ceo-mark-hurd/

Re: Read the letter that brought down HP CEO Mark Hurd

*Message #2 Posted by **Brian Walsh** on 31 Dec 2011, 12:35 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Wow, that's a doozy. It's abundantly clear that HP had no other choice but to fire him.

Full size images of the attorney's letter:
Page 1
Page 2
Page 3
Page 4
Page 5
Page 6
Page 7
Page 8

I wonder what if anything Oracle will do with him?

Re: Read the letter that brought down HP CEO Mark Hurd

*Message #3 Posted by **bill platt** on 31 Dec 2011, 6:25 a.m.,*
in response to message #2 by Brian Walsh

Wow.

Re: Read the letter that brought down HP CEO Mark Hurd

*Message #4 Posted by **Katie Wasserman** on 31 Dec 2011, 9:48 a.m.,*
in response to message #2 by Brian Walsh

> Quote:
>
> It's abundantly clear that HP had no other choice but to fire him.

It sure is. Assuming the allegations are true, how can Oracle (or any public company) have him in their top ranks.

Edited: 31 Dec 2011, 9:52 a.m.

Re: Read the letter that brought down HP CEO Mark Hurd

*Message #5 Posted by **David Ramsey** on 31 Dec 2011, 11:30 a.m.,*
in response to message #4 by Katie Wasserman

Well, yeah, but:

> Quote:
>
> The Times also has obtained a timeline, provided by attorneys working for HP, of excerpts from emails sent from Fisher that tell a different story. In the emails, which are juxtaposed against passages in the letter, Fisher appears to seek more opportunities to be at events with Hurd, and expresses delight at being around him.

And:

> Quote:
>
> Fisher has since said the letter written by Allred contains many inaccuracies.

I doubt we'll ever know the full story.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S V3: Question about wp34s_asm.exe

*Message #1 Posted by **Miguel Toro** on 30 Dec 2011, 7:13 a.m.*

Hi,

Excuse if this is a stupid question but I see that the Perl version of the assembler is at revision 2093 and the exe version is at just 1698, instead (updated two months ago). Could I still use wp34s_asm.exe to assemble for version 3.0?

Thanks,

Miguel

Re: WP34S V3: Question about wp34s_asm.exe

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 30 Dec 2011, 7:38 a.m.,*
in response to message #1 by Miguel Toro

Hi Miguel,

Sorry, but the EXE is VERY out of date at the moment. And it is not a silly question at all.

There are some significant changes happening to the calculator binary images that would mean that 1698 will not build correct translations for the RAM/state file. I am trying to get those format changes resolved this week.

1698 *might* have a chance of building a flash image for V3, though the size limits will be quite constrained (V3 has a single consolidated flash image now instead of many smaller 'pages').

There are many new checks that 1698 will not undertake. For example, it will not force the image to have an END statement if you have forgotten to include one -- something the latest calculator needs.

I will try and get an EXE built soon.

(Here is my flimsy excuse:) I have to do the EXE compilation on a special, stripped down Windows machine (I develop the Perl on Ubuntu) which I have to get out and setup every time (including plugging in a special hard disk!). I have to admit to a certain laziness at doing this (and I have to find room on the dining room table).

However, the Perl is always up to date. Is there a chance of you installing one of the many Perl packages available -- at least for the short term? The documentation mentions and gives coordinates for several distributions.

(I had not been aware of anybody actually using the EXE versions... I never hear feedback about them. :-)

Best regards...

Re: WP34S V3: Question about wp34s_asm.exe

*Message #3 Posted by **Miguel Toro** on 30 Dec 2011, 7:55 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Hi Neil,

I always used the exe versions that always did a good job, so I am one of its fans! if not the only one perhaps :-) So please, do not forget us, poor and lazy people not wanting to deal with Perl.

Thank you for your excellent work and regards,

Miguel

Re: WP34S V3: Question about wp34s_asm.exe

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 6:01 p.m.,*
in response to message #3 by Miguel Toro

Hi Miguel,

Happy New Year!

I have put the latest versions of both tools (ASM and PP) up on the SVN server.

Since I have been discussing this with Franz I might as well give some wider comment: There is also a newer tool called LIB (wp34s_lib.exe) designed for the V3 calculator (only!). This one is still pretty rough but its intention is to allow the user to add new programs to a library, remove existing programs, or replace programs of the same name. It works with both the flash (wp34s-lib.dat) and the brand new state-file (wp34s.dat) formats.

I am afraid there is no documentation as yet other than the standard '-h' switch. The program will likely attempt to pull a few surprises before we polish it up. Be patient with it.

Depending on what you have asked LIB to do, it may execute each of the other 2 programs several (many!?) times in sequence. Therefore, for the EXE version, the first time it runs it could take a while (because the previously documented decompression latency). Thereafter it should speed up.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #5 Posted by **Miguel Toro** on 1 Jan 2012, 6:53 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

Hi Neil,

Happy new year for you too!

Thanks for this update and I will also test the new tool. I will report to you on those "surprises" if any.

Thanks again and regards,

Miguel

Edited: 1 Jan 2012, 6:54 p.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #6 Posted by **fhub** on 1 Jan 2012, 7:19 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> There is also a newer tool called LIB (wp34s_lib.exe) designed for the V3 calculator (only!).

Hi Neil,

I've made a few short tests with the new wp34s_lib.exe but no matter which function (i.e. options) I use, I always get an error message from the assembler about a missing "dat file '2'".

Here's one example where I just wanted to diplay a catalog:

```
C:\x>wp34s_lib -ilib wp34s-lib.dat -cat
ERROR: Cannot open dat file '2' for reading: No such file or directory
Initial library catalogue (format: flash file)
ERROR: WP34S_LIB.EXE::print_prog_name: First line of propram was not a correctly
formatted LBL: ''
```

It's now too late here to make more tests, but you can count on me again tomorrow.

BTW, I could manage to 'crack' the Indigo perl2exe, so now it doesn't display this 'evaluation' message anymore, and I could successfully compile all your 3 scripts to EXEs - and they work exactly the same way as your versions, but are only about 900 kB and also start much faster.
(of course the lib.exe does also not work - same error as above with your version).

Franz

Re: WP34S V3: Question about wp34s_asm.exe

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 2 Jan 2012, 6:37 a.m.,*
in response to message #6 by fhub

Franz,

Turn on more debugging by adding "-d 2" to the command line of LIB. Capture the output and send both the output and the input "wp34s-lib.dat" file to me via email. I will have a look.

(I thought I had posted this same message last night but I must have screwed something up.)

Re: WP34S V3: Question about wp34s_asm.exe

*Message #8 Posted by **fhub** on 2 Jan 2012, 8:55 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

Ok Neil,

I've now done the 2 steps again from the scratch (assembling 3 source files to a dat file and then trying to list them again with the libmanager with -cat, here's the console output:

```
C:\TEMP>wp34s_asm PF.wp34s TVM.wp34s TRIGON.wp34s -o wp34s-lib.dat
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: 6839
// Running in V3 State-mode. Max words: 922
```

```
// Total words: 596
// Total steps: 575


C:\TEMP>wp34s_lib -ilib wp34s-lib.dat -cat -d 2
// DEBUG: WP34S_LIB.EXE::disassemble_binary: Processing library binary for
'wp34s-lib.dat'
// DEBUG: WP34S_LIB.EXE::run_prog: Spawning command line: 'wp34s_asm.exe -
dis wp34s-lib.dat -s 2 -ns'
ERROR: Cannot open dat file '2' for reading: No such file or directory
// DEBUG: WP34S_LIB.EXE::run_prog: Output of spawned program:


Initial library catalogue (format: flash file)
Use of uninitialized value $prog_line in pattern match (m//) at
C:\TEMP\WP34S_LIB.EXE line 1036.
Use of uninitialized value $prog_line in pattern match (m//) at
C:\TEMP\WP34S_LIB.EXE line 1036.
Use of uninitialized value $prog_line in concatenation (.) or string at
C:\TEMP\WP34S_LIB.EXE line 1046.
ERROR: WP34S_LIB.EXE::print_prog_name: First line of propram was not a
correctly formatted LBL: ''
```

Running the lib.exe produced a file with the name "&1" in the folder which contains just the disassamber listing of the 3 source files - nothing strange in this &1 file except the 3rd commented line in the header:

```
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP34S_ASM.EXE: Source file(s): wp34s-lib.dat, 2
```

You can see, also here appears the same strange file "2" as in the error output above.

I guess there's some problem in the communication between the lib and the asm tool, probably this file "&1" shouldn't have been created at all but there should be some temporary output of the disassembler which is then the input for the libmanager!?

Re: WP34S V3: Question about wp34s_asm.exe

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 2 Jan 2012, 10:42 a.m.,*
in response to message #8 by fhub

> Quote:
>
> // DEBUG: WP34S_LIB.EXE::run_prog: Spawning command line: 'wp34s_asm.exe -dis wp34s-lib.dat -s 2 -ns' ERROR: Cannot open dat file '2' for reading: No such file or directory

The problem is MS-DOS COMMAND.EXE. This command shell does not handle the redirection of both STDOUT and STDERR as I was expecting. The mysteriousness is all coming from LIB line 784. The '2>&1' thingy is designed to capture both STDOUT and STDERR to STDOUT. However, COMMAND.EXE is not recognizing this and is instead interpreting this as "2 > &1" which would translate to a file called "2" and redirection of the STDOUT to a file called "&1".

All subsequent errors and nonsense stem from this single line not behaving as expected.

I will have to see if there is a cure for this. If not, all sub-par shells, such as COMMAND.EXE from MS-DOS might be "out of the running" -- at least until I get a unified program together.

(I do have one other trick up my sleeve but will have no way to test it since I don't have any MS-DOS based computers at hand. It is a long shot.)

Re: WP34S V3: Question about wp34s_asm.exe

*Message #10 Posted by **fhub** on 2 Jan 2012, 11:00 a.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

> Quote:
>
> The '2>&1' thingy is designed to capture both STDOUT and STDERR to STDOUT.

Yes, that's indeed not possible under Win98/MSDOS.

> Quote:
>
> I will have to see if there is a cure for this.

Why do you use these redirections (with ">") at all?
Why not simply (and consistently) use "-i infile" and "-o outfile" whenever you need a temporary file for the communication between your modules?

I was already long ago wondering why your asm expects a "-o outfile" but your pp requires an indirection "> file" to get a file instead of a console output.
With "-i" and "-o" you could certainly avoid all those problems with redirecting files ...

Edited: 2 Jan 2012, 11:01 a.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #11 Posted by **fhub** on 2 Jan 2012, 11:21 a.m.,*
in response to message #10 by fhub

I've now tried it again after removing this 2>&1 in the line 784 (i.e. now it's just `$cmd`), and now the libmanager seems to work - no more error messages.

This is what I get when I run it:

```
C:\Temp>wp34s_lib -ilib wp34s-lib.dat -cat
Initial library catalogue (format: flash file)
  Source: wp34s-lib.dat, Program name: PF, Line number: 1
  Source: wp34s-lib.dat, Program name: TVM, Line number: 31
  Source: wp34s-lib.dat, Program name: TRI, Line number: 293
Library details:
// WP 34S assembly preprocessor enabled: '-pp'
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// Running WP 34S preprocessor from: wp34s_pp.exe
// WP 34s version: 30
// CRC16: EA42
// Running in V3 Lib-mode. Max words: 4094
// Total words: 596
// Total steps: 575
```

Edit: I've now also tried the other 2 main functions of the libmanager (adding and removing a file to/from the library) and both functions seem to work fine. :-)

There's only one thing that confuses me a bit: if I create a library from a few files which are together larger than about 520 steps, then the displayed CRC of the asm is different from the CRC which lib -cat shows!?

(and there's difference in the asm CRC between creating the lib.dat file with or without the option -lib)

Here's an example:

```
C:\TEMP>wp34s_asm TVM.wp34s TRIGON.wp34s -o Test.dat -lib
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: C1BB
// Running in V3 Lib-mode. Max words: 4094
// Total words: 565
// Total steps: 545


C:\TEMP>wp34s_lib -ilib Test.dat -no_pp -cat
Initial library catalogue (format: flash file)
  Source: Test.dat, Program name: TVM, Line number: 1
  Source: Test.dat, Program name: TRI, Line number: 263
Library details:
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: 43C0
// Running in V3 Lib-mode. Max words: 4094
// Total words: 565
// Total steps: 545
```

This does not happen for a single file or if the files don't go beyond this 520 step limit. I'm not sure if this is normal or if it's another problem?

Edited: 2 Jan 2012, 12:28 p.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 2 Jan 2012, 11:50 a.m., in response to message #11 by fhub*

> Quote:
>
> Why do you use these redirections (with ">") at all? Why not simply (and consistently) use "-i infile" and "-o outfile" whenever you need a temporary file for the communication between your modules?
>
> I was already long ago wondering why your asm expects a "-o outfile" but your pp requires an indirection "> file" to get a file instead of a console output. With "-i" and "-o" you could certainly avoid all those problems with redirecting files ...

Sigh! It must be nice to be so smart.

You do realize that much of the development in the last few days has been to solely support **you** and your antiquated system. No one else is having the issues you are having and it is all related to your choice of obsolete platform. Some amount of gratitude might be in order.

The changes you have made are fine as long as no errors occur anywhere in the tool chain. The reason that specific style of redirection was used was to ensure that messages sent to STDERR were also captured. Sure I could have used intermediate files for errors but **every** other command shell deals with

these things correctly. I use the facilities that are available to me.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #13 Posted by **Miguel Toro** on 2 Jan 2012, 5:22 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

Hi Neil,

I tested both wp34s_asm and wp34s_lib (great tool!) and so far so good. The programs work flawlessly so far. I first created a wp34s-lib.dat and then added some other routines, using -cat to see the results and not a single problem found. It is nice not to have to install Perl in my machine :-)

Thank you very much for a great job and regards,

Miguel

Edited: 2 Jan 2012, 5:23 p.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #14 Posted by **Neil Hamilton (Ottawa)** on 2 Jan 2012, 10:06 p.m.,*
in response to message #13 by Miguel Toro

Thanks, Miguel. Its nice to know something is working. :-)

I have revamped the error handling mechanism in order to better support obsolete platforms. I can only test it on the COMMAND.EXE that comes with Windows XP. Works fine with that shell. We'll see what happens... So new Perl and EXE are available.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #15 Posted by **fhub** on 3 Jan 2012, 8:30 a.m.,*
in response to message #14 by Neil Hamilton (Ottawa)

> Quote:
>
> I have revamped the error handling mechanism in order to better support obsolete platforms. I can only test it on the COMMAND.EXE that comes with Windows XP. Works fine with that shell. We'll see what happens... So new Perl and EXE are available.

Many thanks, Neil!

Your new scripts are now also working perfectly in Win98 - at least as EXE versions (I've made again my own EXEs with perl2exe, because they are much smaller and faster).

Regards from an obsolete user on an obsolete OS, ;-)
Franz

Re: WP34S V3: Question about wp34s_asm.exe

*Message #16 Posted by **Neil Hamilton (Ottawa)** on 3 Jan 2012, 9:09 a.m.,*
in response to message #15 by fhub

Glad to hear that. Now I can get back to doing what I should have been doing to support the latest design wave. :-) The Australian and German wolves are howling at my door...

Only the 1st invocation of the current EXEs are vveeerrry sssllllooowww. Since LIB runs both ASM and PP, it will be even sssssssllllllloooooowwwwwwer the 1st time around. Subsequent runs come from cached copies of the decompressed image(s) so they are much faster.

It is still possible that these images can be made smaller with the tool I am using but I don't intend to look more deeply into it. :-) "It works for me!"

I suspect you will have to "refresh" yours every few weeks because the Indigo demo version of the tool probably has a time limit built into it the output EXE. Technically, you will be in violation of the terms of the Indigo Perl2Exe license if you use it beyond 30 days unless you register your copy (and pay the license fee).

Re: WP34S V3: Question about wp34s_asm.exe

*Message #17 Posted by **fhub** on 3 Jan 2012, 10:01 a.m.,*
in response to message #16 by Neil Hamilton (Ottawa)

> Quote:
>
> It is still possible that these images can be made smaller with the tool I am using but I don't intend to look more deeply into it. :-) "It works for me!"

From the size of your EXEs and even more from the temporarily created files (15-16MB!) I guess your tool includes the complete Perl library in the produced EXEs, even those modules that aren't used at all!?
The perl2exe I'm using only puts 3 or 4 small DLLs into the produced EXEs, so their size is only about 900kB and also the temporary files are no more than 600kB.

> Quote:
>
> I suspect you will have to "refresh" yours every few weeks because the Indigo demo version of the tool probably has a time limit built into it the output EXE.

No, I've just tried all 3 EXEs with setting the date forward (and back) even a few years, and they still work without any restrictions.

> Quote:
>
> Technically, you will be in violation of the terms of the Indigo Perl2Exe license if you use it beyond 30 days unless you register your copy (and pay the license fee).

Well, I know I'm a bad boy! ;-)
And I'm even a worse boy, because I even had to patch one of the files used by perl2exe, because without this patch it always displayed a message about being a "evaluation version...", and this message was then appended to every output file and confused your scripts of course - in short words: without my patch these EXEs won't

have worked at all!

But for working on my private computer in my own home I don't care about such things like copyrights or licenses at all - what I'm doing behind closed doors is solely my business. ;-)

Franz

Re: WP34S V3: Question about wp34s_asm.exe

*Message #18 Posted by **Neil Hamilton (Ottawa)** on 3 Jan 2012, 10:06 a.m.,*
in response to message #17 by fhub

> Quote:
>
> But for working on my private computer in my own home I don't care about such things like copyrights or licenses at all - what I'm doing behind closed doors is solely my business. ;-)

That is fine, but that is also why I cannot build and distribute anything built using that tool -- unless I purchase a license -- something I don't see a need to spend my money on right now.

I'd rather spend money acquiring a 19BII than Indigo Perl2Exe. :-)

Re: WP34S V3: Question about wp34s_asm.exe

*Message #19 Posted by **fhub** on 3 Jan 2012, 10:10 a.m.,*
in response to message #18 by Neil Hamilton (Ottawa)

> Quote:
>
> I'd rather spend money acquiring a 19BII than Indigo Perl2Exe. :-)

Yep, that's definitely the better choice!

BTW, since your tool for creating Perl EXEs is free, can it be downloaded anywhere?

Maybe I could have a look at it, but of course only if it's running under Windows ...

Re: WP34S V3: Question about wp34s_asm.exe

*Message #20 Posted by **Neil Hamilton (Ottawa)** on 3 Jan 2012, 10:37 a.m.,*
in response to message #19 by fhub

Yes it is free and the output is freely distributable. Where I got it, I cannot recall but it was probably CPAN (Comprehensive Perl Archive Network). I will look at my notes and see if I was careful enough to have recorded it.

I run it under Windows XP since I am creating a Windows EXE. I believe it can cross compile from Linux but I have never tried -- one step too many for me...

Re: WP34S V3: Question about wp34s_asm.exe

*Message #21 Posted by **fhub** on 31 Dec 2011, 11:57 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

> Quote:
>
> I will try and get an EXE built soon.

Neil, before you do this you should know the following:

I've now found IndigoPerl 9.02 (Perl 5.10+) and installed this here because it's a lot smaller than ActivePerl or Strawberry.
And after many tests I've found that there's definitely a problem with your scripts when it comes to calling another script - at least under Windows!

Your pp is working perfectly, your asm is working perfectly as long as I don't use the -pp switch, but both the lib script (which always calls asm) and the asm script with -pp don't work at all: they just don't find the called script (there's an OS error message like "Command or file not found" and then a few more errors from the scripts, because they don't get any output file from the called script).

Since there's also a perl2exe on the IndigoPerl website (which BTW create EXEs of your scripts with only about 900kB!), I've tried it with both methods: running your scripts directly with Indigo's perl.exe and also as compiled EXEs (with perl2exe), but there's no difference: as long as the script doesn't call another script everything is ok, but calling another script fails (and I've set the path to perl.exe correctly and even made a file association from .pl to this perl.exe!).

So there must be some problems in your code for calling another script - maybe your method of calling another perl script doesn't work under Windows!?

Franz

Edited: 31 Dec 2011, 12:17 p.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #22 Posted by **Neil Hamilton (Ottawa)** on 31 Dec 2011, 1:23 p.m.,*
in response to message #21 by fhub

Thanks for the feedback. I will look at it soon.

Off slaying other alligators...

Re: WP34S V3: Question about wp34s_asm.exe

*Message #23 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 10:37 a.m.,*
in response to message #21 by fhub

OK, Franz. I have had a look at my tool-set creating the EXE.

The brand new LIB tool definitely has issues (but it is not officially released yet).

The EXEs I build using the compiler I have here (and I can't recall where I got it but it is documented in this forum) generates both ASM and PP that work fine. I can run ASM with the '-pp' switch and it does everything it is supposed to.

I suspect that there is a difference in the extraction of the script name, directory, and suffix in line 341 of ASM WRT to your compiler and mine. This is likely resulting in an invalid build up of the command I want to run.

Try this experiment and let me know the results:

1) Set the following environment variable to 1 in order to print some debug details.

```
$ set WP34s_ASM_PRESERVE_PP_DBG=1
```

2) Give me the command line you ran and any and all error logs generated using.

I downloaded Indigo but have not installed it. It sounds promising that its footprint is much smaller.

When I have some time to install it, I will give you more info.

Unfortunately, the Indigo Perl2EXE has exactly the same issue as the other attractive one I identified (thread). The license does not allow output from unregistered copies of the tool to distributed.

I am not really interested in spending money for a tool that is of little use to me.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #24 Posted by **fhub** on 1 Jan 2012, 11:19 a.m.,*
in response to message #23 by Neil Hamilton (Ottawa)

> Quote:
>
> I suspect that there is a difference in the extraction of the script name, directory, and suffix in line 341 of ASM WRT to your compiler and mine. This is likely resulting in an invalid build up of the command I want to run.

Yes, but it's not only in the compiled EXE - both running the EXE and the .pl script don't work.

Here's the complete output after setting this debug option.

First for running the script:

```
C:\WP34S\tools>perl wp34s_asm.pl primesieve_pp.wp34s -pp -o Test.dat
// WP 34S assembly preprocessor enabled: '-pp'
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// Running WP 34S preprocessor from: wp34s_pp.pl
// Running: 'wp34s_pp.pl  -m 90 -cat  .__0.037200927734375.tmp -v3 -sd 4'
Befehl oder Dateiname nicht gefunden.
Use of uninitialized value $lines[-1] in pattern match (m//) at wp34s_asm.pl line
1421.
// WARNING: wp34s_asm.pl: V3 mode: Missing terminal "END" in file 'wp34s_pp.lst'.
Appending after last statement in source...
// WP 34s version: 30
// CRC16: FE44
// Running in V3 State-mode. Max words: 922
// Total words: 1
// Total steps: 1
```

And this is when I run the compiled EXE:

```
C:\WP34S\tools>wp34s_asm primesieve_pp.wp34s -pp -o Test.dat
// WP 34S assembly preprocessor enabled: '-pp'
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// Running WP 34S preprocessor from: wp34s_pp.pl
// Running: 'wp34s_pp.pl  -m 90 -cat  .__0.554046630859375.tmp -v3 -sd 4'
Befehl oder Dateiname nicht gefunden.
Use of uninitialized value $lines[-1] in pattern match (m//) at
C:\WP34S\TOOLS\WP34S_ASM.EXE line 1421.
// WARNING: WP34S_ASM.EXE: V3 mode: Missing terminal "END" in file 'wp34s_pp.lst'.
Appending after last statement in source...
// WP 34s version: 30
// CRC16: FE44
// Running in V3 State-mode. Max words: 922
// Total words: 1
// Total steps: 1
```

What's a bit strange is that also the EXE says "// Running WP 34S preprocessor from: wp34s_pp.pl"!?
I thought you have included a check whether it's running from a .pl script or from an EXE, and so it should call the wp34s_pp.exe in this case, shouldn't it?
And it's indeed running the wp34s_pp.pl because if I temporarily remove this file from the folder I get an error message that it doesn't find this script.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #25 Posted by **fhub** on 1 Jan 2012, 11:43 a.m.,*
in response to message #24 by fhub

I just had another idea:
Looking into your asm script I don't see anywhere that you explicitely call/run/start perl.exe !?

I don't know which OS you're using (Linux/Unix?), and maybe on your OS it works if you just use "wp34s_pp.pl" on the commandline, but this doesn't work under Windows, not even if you have associated perl.exe with the fileextension .pl

In Windows you have to enter "perl wp34s_pp.pl" (or at least "start wp34s_pp.pl") for running this script, the scriptname alone is not enough! Maybe this is the reason for the failure (and the error message "Command or filename not found")?

Re: WP34S V3: Question about wp34s_asm.exe

*Message #26 Posted by **Marcus von Cube, Germany** on 1 Jan 2012, 12:12 p.m.,*
in response to message #25 by fhub

Franz, have you set the PATH to point to the directory containing the .pl scripts?

Re: WP34S V3: Question about wp34s_asm.exe

*Message #27 Posted by **fhub** on 1 Jan 2012, 12:24 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> Franz, have you set the PATH to point to the directory containing the .pl scripts?

No, not necessary because I'm running it from within the folder that contains all scripts. Only the path to the perl interpreter is set.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #28 Posted by **Marcus von Cube, Germany** on 1 Jan 2012, 1:36 p.m.,*
in response to message #27 by fhub

It depends on how perl looks for a script. If it takes the present working directory into account, ok; if not, no luck. The original Unix behavior is not to have "." in the search path.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #29 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 2:11 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Marcus,

MS-DOS is different from a Unix/Linux system. Close, but different. MS-DOS searches the current directory first, and only if this fails to find the program being sought does it resort to the PATH statement. Its exactly the same as if the path was setup with "./:${PATH}". Hence, that is probably not the problem.

It is more likely the file associations: ftype, assoc, and PATHEXT still need to be setup for Franz's Perl installation. This, along with the small change to the Perl script should solve the problem.

Franz,

Another thing you should try -- before you modify the Perl script -- is to run the program using the fully named executable:

```
$ wp34s_asm.exe -pp ...
```

This is likely the difference between your invocation and mine.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #30 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 2:04 p.m.,*
in response to message #24 by fhub

I *think* what is happening is that, for some reason, your executable is coming back with capital ".EXE" and not lower case ".exe". Why this would be different from my setup, I don't know -- unless its because I don't use the bare program name but tend to type "wp34s_asm.exe" instead of "wp34s_asm".

Unfortunately, my script is case specific and it is looking for lower case ".exe". The capitals are befuddling it. This is easily fixed by changing line 348 of the ASM from:

```
  if( $script_name =~ /\.exe$/ ) {
```

to:

```
  if( $script_name =~ /\.exe$/i ) {
```

and line 351 from:

```
    $preproc =~ s/\.pl$/\.exe/;
```

to:

```
$preproc =~ s/\.pl$/\.exe/i;
```

This makes the search and replacement case insensitive. If you can try this at your end and let me know the result, I will make the official change in my source.

(This is deduced because the second invocation is still trying to run the Perl version of PP and not an EXE version. Therefore the search. and thus the replace as well, failed.)

The other thing this log is telling me is that you don't have the MS-DOS file associations setup correctly. (See the Assembler documentation, section 7.2.2, footnote 28.) This is why you are still required to use "perl" in front of your Perl commands. Fixing the file associations will solve this. As noted in the documentation, some packages set these up for you (all should!!) and some don't.

Question: If you have Indigo up and running, why not just use it with the native Perl scripts rather than go to the trouble of the EXE? If you get the file associations setup correctly, it should "just work".

Re: WP34S V3: Question about wp34s_asm.exe

*Message #31 Posted by **fhub** on 1 Jan 2012, 3:22 p.m.,*
in response to message #30 by Neil Hamilton (Ottawa)

Ok Neil, I've now tried your suggestion with adding this "i" to make it case-insensitive, compiled new EXEs of your scripts and 'in principle' it works now. 'In principle' because calling the pp.exe from the asm.exe works, but now I have another problem: this crappy 'free' Indigo perl2exe displays a text like "This exe file was created with ..." after each run of such a compiled EXE, and this text is now appended to the preprocessor file wp34s_pp.lst, and so of course the assembler gives an error message because this text is just 'nonsense' at the end of this file!

So I'm again in the same situation - your scripts compiled with this Indigo perl2exe don't work.
BTW, since your libmanager contains the same code (checking for .exe) I've made the same changes with this "i" here, but for the lib.exe it didn't work - it still doesn't call the asm.exe (I've no clue why, it should work the same as for asm with -pp).
And this libmanager was indeed my main goal, because I always can run the preprocessor separately before using the assembler, but the libmanager works only with calling the asm.

And why don't I run the scripts directly? Well, because it doesn't work!
I've already said that I have set the file association (.pl to perl.exe), because if I enter "start xxx.pl" or if I choose xxx.pl in TotalCommander then perl.exe is called automatically - so the file association is ok. But of course just entering "xxx" or "xxx.pl" on the commandline does NOT work, because Windows/MSDOS doesn't recognize this as any executable command (like xxx.bat for example) - and I don't know HOW I should tell Windows to accept "xxx.pl" as such a 'command' (using perl.exe to execute it).

Well, I've now really enough of all those troubles and I'll probably stop trying to get these Perl scripts working correctly - I've already wasted MANY hours trying all possible tricks to get them running. I've already told you long time ago that it would certainly be much more comfortable to have all your scripts in one single tool (e.g. wp34s_tool.pl) and adding -asm, -lib or -pp to choose what you need to do - this would avoid all those damned problems under Windows with calling one script by another one (there would just be 3 subroutines WITHIN one script). But you decided NOT to make it that simple, and so we have now

these problems under Windows - and I'm finally giving up now. :-(

Franz

Edited: 1 Jan 2012, 3:25 p.m.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #32 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 3:45 p.m.,*
in response to message #31 by fhub

Sounds like you don't have your PATHEXT variable set correctly if DOS is not recognizing the Perl scripts as executables. Did you look up and follow all three steps in the footnote?

Puttting everything in a single tool is actually a goal but it is not quite so simple as you think. Partly because, as with many designs, it has been extended WAY beyond what its original intentions were. It has begun but don't hold your breath -- it will be a while.

As I said, LIB has not been officially released for public use yet. It still has many issues -- none of which are things you have identified. I haven't completed the code for it to work with DOS so Ii am not surprised it has issues there.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #33 Posted by **fhub** on 1 Jan 2012, 4:01 p.m.,*
in response to message #32 by Neil Hamilton (Ottawa)

> Quote:
>
> Sounds like you don't have your PATHEXT variable set correctly if DOS is not recognizing the Perl scripts as executables. Did you look up and follow all three steps in the footnote?

Well, I've just looked at those instructions but that's nothing I can do here. Although I have of course also newer computers (with Windows XP, Vista and 7), but most of the time I'm working on my very old notebook here (which is the only one connected to the internet), and on this notebook the only OS is Windows 98! And I'm sure you can imagine that these things just don't work in Win98. ;-)

Isn't there a simple way that I could just add "perl" or "perl.exe" in your scripts where those other scripts are called?

Re: WP34S V3: Question about wp34s_asm.exe

*Message #34 Posted by **Neil Hamilton (Ottawa)** on 1 Jan 2012, 5:02 p.m.,*
in response to message #33 by fhub

> Quote:
>
> Well, I've just looked at those instructions but that's nothing I can do here. Although I have of course also newer computers (with Windows XP, Vista and 7), but most of the time I'm working on my very old notebook here (which is the only one connected to the internet), and on this notebook the only OS is Windows 98! And I'm

> sure you can imagine that these things just don't work in Win98. ;-)

Well, you beat me! There seems to be nothing I can do to get antiquated Windows 98 running with this Perl stuff. I guess you are firmly in the EXE-land. Hopefully, we can make the EXEs work on that O/S. (Incidentally, it is because of Windows 98 -- or more particularly, CMD.EXE from MS-DOS -- that the name of the executable came back as ".EXE" instead of the ".exe" that I was expecting.)

> Quote:
>
> Isn't there a simple way that I could just add "perl" or "perl.exe" in your scripts where those other scripts are called?

I thought I supplied a method to do this but it does not work in this case. I supplied a mechanism to change the name of the script which was called. However, it doesn't allow you to put a "perl.exe " in front of it because the name is also used as a search parameter so I know where to get the script to launch. No good deed goes unpunished!

I am in the process of trying to get LIB working with the EXE. I could have it tonight -- or it may take longer....

The other 2 EXE's have been update but not committed. I will commit all 3 as a set.

Note that there are still issues with LIB and it is still **not officially released for public use yet**. There is no documentation and has been little testing. Expect you fingers to hurt from the sharp edges!

Re: WP34S V3: Question about wp34s_asm.exe

*Message #35 Posted by **fhub** on 4 Jan 2012, 8:13 a.m.,*
in response to message #1 by Miguel Toro

Hi Neil,

I've already posted this 2 days ago but maybe you've overlooked it in this long thread:

There's a difference in the displayed CRCs of wp34s_asm and wp34s_lib if all files together are bigger than the RAM limit (about 520 steps).

Here's a sample output:

```
C:\TEMP>wp34s_asm PF.wp34s TVM.wp34s TRIGON.wp34s -o Test.dat
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: E0E8
// Running in V3 State-mode. Max words: 922
// Total words: 596
// Total steps: 575


C:\TEMP>wp34s_lib -ilib Test.dat -cat
Initial library catalogue (format: flash file)
  Source: Test.dat, Program name: PF, Line number: 1
  Source: Test.dat, Program name: TVM, Line number: 31
  Source: Test.dat, Program name: TRI, Line number: 293
```

```
Library details:
// WP 34S assembly preprocessor enabled: '-pp'
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// Running WP 34S preprocessor from: wp34s_pp.exe
// WP 34s version: 30
// CRC16: 78C8
// Running in V3 Lib-mode. Max words: 4094
// Total words: 596
// Total steps: 575
```

You can see that the assembler produces CRC16: E0E8 for these 3 files (the same with or without the -lib option), but the libmanager displays CRC16: 78C8 for the 3 files!?

If I create the dat file directly with wp34s_lib, then this shows also CRC16: 78C8 at the end (i.e. different to the asm output).

Is this ok or is there a bug anywhere? (Maybe these 2 CRCs (of asm and lib) have different meaning?)

For a single file or if the files together are smaller than the RAM limit, this does not happen - here both tools show the same CRC.

Franz

Re: WP34S V3: Question about wp34s_asm.exe

*Message #36 Posted by **Neil Hamilton (Ottawa)** on 4 Jan 2012, 9:45 a.m.,*
in response to message #35 by fhub

The ASM run is reporting that the output is in "state mode" while the LIB is reporting "flash mode". The CRC and format are definitely different for these 2 modes***.

The ASM should not be able to write a state-mode file by itself. At the very least, it would need an initial (valid) wp34s.dat from the emulator to modify. (And I was not aware that the ASM even had this ability -- that is part of LIB. A surprise to me!)

Looks like a bug in the ASM.

For now, when building for the V3 calculator, I would use the LIB tool when creating flash images. The ASM tool will likely become obsolete as a standalone tool for pure assembly in V3 calculator very shortly. It will still have standalone uses as a disassembler though. Disassembly does not care if it is a state file or a flash file. Its primary use in the V3 flow is as a utility for LIB.

ASM will (hopefully) still work as the main front end for the V2 flow, as before. LIB is not designed for the V2 flow.

(Aside: LIB asserts several undocumented command line parameters when launching ASM -- designed only for the V3 flow. The user should not normally be setting these switches.)

I will look at this tonight.

*** The state file is the file emitted by the emulator covering the RAM, registers, and (well) the *state* (wp34s.dat). The flash format is the format used for the flash region (wp34s-lib.dat). They have different structures and uses. For example, the location and coverage of the CRC is different in the two formats. I am not sure if this is documented yet.

Re: WP34S V3: Question about wp34s_asm.exe

*Message #37 Posted by **fhub** on 4 Jan 2012, 10:38 a.m.,*

in response to message #36 by Neil Hamilton (Ottawa)

> Quote:
>
> The ASM run is reporting that the output is in "state mode" while the LIB is reporting "flash mode". The CRC and format are definitely different for these 2 modes***.

Well, but as I already mentioned above I get the same CRC if I run the ASM in libmode (with -lib) - look here:

```
C:\TEMP>wp34s_asm PF.wp34s TVM.wp34s TRIGON.wp34s -o Test.dat -lib
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: E0E8
// Running in V3 Lib-mode. Max words: 4094
// Total words: 596
// Total steps: 575
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

tapping heat stakes

*Message #1 Posted by **David Griffith** on 30 Dec 2011, 2:54 a.m.*

Back in October[1] Djj posted an account of threading the heat stakes inside a 15c-LE to reassemble it after repairing some keys. Would someone who knows what the inside of a 32sii looks like comment on whether or not a trick like that could be used to reassemble a 32sii? That approach would be much more preferable than using stubs of metal clipped from an old chip and then epoxying the PCB down.

[1] http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=200353#200353

Re: tapping heat stakes

*Message #2 Posted by **Artur-Brazil** on 30 Dec 2011, 11:12 a.m.,*
in response to message #1 by David Griffith

You really don't need to attach metal and epoxy to the posts. Just use 10 min expoxy in gel and a heavy weight to pressure the parts together. Cut the melting head of posts off the PCB, do what you need to the PCB, put it back; prepare some epoxy and, quickly put a drop over each hole. The epoxy will hold the pcb after cured. You will need to make the most well distributed pressure on pcb as you can during at least two hours, so, use something heavy and small plastic or wood pins to support it over pcb. No need to drill anything with the risks this proccess carry on. Best new year!!! artur mario jr at gmail dot com

Re: tapping heat stakes

*Message #3 Posted by **David Griffith** on 30 Dec 2011, 5:36 p.m.,*
in response to message #2 by Artur-Brazil

My reason for wanting to tap the heat stake stubs is because it makes subsequent disassembly easy. With the use of epoxy, that wouldn't be the case.

Re: tapping heat stakes

*Message #4 Posted by **Reth** on 30 Dec 2011, 11:47 p.m.,*
in response to message #3 by David Griffith

> Quote:
>
> With the use of epoxy, that wouldn't be the case.

Sure it is - I did it and it all works just fine. The PCB fits/snaps pretty well on the heat stakes and would stay in place even without sealing it with epoxy. Little drops are easy to remove if need be to open it again. Worked on mine - no problem for over a month now.

Cheers,

Reth

Re: tapping heat stakes

*Message #5 Posted by **uhmgawa** on 31 Dec 2011, 12:22 a.m.,*
in response to message #3 by David Griffith

> Quote:
>
> My reason for wanting to tap the heat stake stubs is because it makes subsequent disassembly easy. With the use of epoxy, that wouldn't be the case.

Yea I really wouldn't recommend using epoxy as suggested here as it will bond far too well to the pcb and be a nightmare to remove should you have cause to subsequently free the pcb. Actually it probably isn't the best adhesive choice either for a number of reasons.

The best method I've found to reseat ABS heat stakes is with acetone. Acetone is an aggressive ABS solvent and spectacularly volatile. As such it creates an excellent weld bond and flashes off quite rapidly. The net effect is you can "glue" a new head onto a stake post in about 30 seconds, during which the head can be held under pressure to restore joint compression. I've built a small ad-hoc jig to apply pressure to the joint until the solvent dissipates but a drill press quill with a weight on the quill lever works as well.

A little acetone goes a long way and some experimentation on scrap ABS might be a good ideal to get the feel for its characteristics. One issue with pure acetone is its low viscosity which can cause it to run away from the intended target in this application. I thought to experiment by dissolving some scrap ABS in acetone to create a more viscous adhesive which should stay put far better, but have been doing ok with straight acetone applied sparingly.

On that last note I'd recommend using a syringe with about a 30 gauge needle to apply the stuff to the stake posts as you wouldn't want unintended ABS exposed to the solvent as I've alarmed earlier.

Re: tapping heat stakes

*Message #6 Posted by **David Griffith** on 31 Dec 2011, 3:04 a.m.,*
in response to message #5 by uhmgawa

I've done similar things with ABS and acetone with a slight modification. I dripped acetone on ABS shavings and stirred until I got a paste and then used that to make the bond. That fixes the low viscosity problem. It's particularly useful for filling gaps.

Edited: 31 Dec 2011, 3:04 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Circuit for HP3421A Data aquisition

*Message #1 Posted by **Barrie Carruthers** on 29 Dec 2011, 11:37 p.m.*

It may sound incredible but we are still using HP 85's and HP 3421A's in our workplace. Slowly, the HP3421A's are dying, and to get them up and running again I dearly need a technical service manual or the circuit diagram of the motherboard. Can anybody help?

Re: Circuit for HP3421A Data aquisition

*Message #2 Posted by **Diego Diaz** on 30 Dec 2011, 6:34 a.m.,*
in response to message #1 by Barrie Carruthers

You've got mail.

Cheers.

Diego

Re: Circuit for HP3421A Data aquisition

*Message #3 Posted by **RamLab** on 30 Dec 2011, 6:22 a.m.,*
in response to message #1 by Barrie Carruthers

Hello Barrie,

Good to see you are still using the HP3421A's. I do to, however mostly as MUX infront of a HP34401. But sometimes I bring out the old Thermo Couples. I still need to build a connection box for K-couples.

RamLab

Re: Circuit for HP3421A Data aquisition

*Message #4 Posted by **Barrie Carruthers** on 1 Jan 2012, 3:50 a.m.,*
in response to message #3 by RamLab

Thanks for your responses guys. Now the drama starts while I try to nut out what all these error codes are really trying to tell me. Cheers

Re: Circuit for HP3421A Data aquisition

*Message #5 Posted by **RamLab** on 6 Jan 2012, 7:14 a.m.,*
in response to message #4 by Barrie Carruthers

Hi Barrie,

The error codes you can find in the Operating manual on page 18. On one of the HP3421A's I get an Error 0. Most likely due to moving the 44462A Units. On the other one a 19... it took me a while to

realize that that one is under HPIB control, so that's the HPIB address.

Regards,

RamLab

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S V3 : STATUS questions

*Message #1 Posted by **Miguel Toro** on 29 Dec 2011, 5:46 p.m.*

Hello WP34s Team,

Today I finally made the jump to version 3.0. Reading about the new memory management I tried the STATUS command to see the new information available. So now I have some questions and a comment:

1 - What is exactly the first information shown? It says Steps: 531, FL. 2046

2 - Why is there a difference between the steps shown by STATUS and the steps available when I switch to program mode?

STATUS: 531, Program mode: 525.

3 - I think there is something wrong using [arrow down] and [arrow up] while in STATUS: when viewing the information with [arrow down] and after seeing the registers available, the calculator cycles through flags and stack registers only, but when using [arrow up], it cycles through the entire information.

Well that is all for now,

As always, thank you for this magnificent device and regards,

Miguel

Note: I am using revision 2092.

Edited: 29 Dec 2011, 5:48 p.m.

Re: WP34S V3 : STATUS questions

*Message #2 Posted by **Paul Dale** on 29 Dec 2011, 6:29 p.m.,*
in response to message #1 by Miguel Toro

> Quote:
>
> 1 - What is exactly the first information shown? It says Steps: 531, FL. 2046

Steps of RAM and steps of flash available. The current work to put more commands in xrom has taken up some space which we hope to reclaim once the commands are moved.

> Quote:
>
> 2 - Why is there a difference between the steps shown by STATUS and the steps available when I switch to program mode?
>
> STATUS: 531, Program mode: 525.

Marcus will confirm this I'm sure but I think this is due to us reserving a few stack levels that can't be converted to program steps. Without any stack levels, programs cannot execute.

> Quote:
>
> 3 - I think there is something wrong using [arrow down] and [arrow up] while in STATUS: when viewing the information with [arrow down] and after seeing the registers available, the calculator cycles through flags and stack registers only, but when using [arrow up], it cycles through the entire information.

Seems like you found a bug.

- Pauli

Re: WP34S V3 : STATUS questions

*Message #3 Posted by **Marcus von Cube, Germany** on 30 Dec 2011, 5:58 a.m.,*
in response to message #2 by Paul Dale

The bug should be fixed.

Pauli is right, there are some return stack levels reserved which cannot be used as program memory. Try the REGS command if you need more steps. :-)

The new XROM stuff is work in progress (and disabled for the flash build in the most recent compile which recovers another page of user flash memory.)

Re: WP34S V3 : STATUS questions

*Message #4 Posted by **Miguel Toro** on 30 Dec 2011, 6:53 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Thank you, Pauli and Marcus.

Very OT : Marcus, I was looking for information about the CE-163 memory module for a SHARP PC-1500 finding a forum with lot of information about these matters and I was gladly surprised seeing you as a frequent contributor...in fluent French!

Wow, Chapeau!

Miguel

OT: MySilicium

*Message #5 Posted by **Marcus von Cube, Germany** on 30 Dec 2011, 11:12 a.m.,*
in response to message #4 by Miguel Toro

> Quote:
>
> ...in fluent French!

I wish it were as fluent as it might appear. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

[41CL] CLUTILS.MOD

*Message #1 Posted by **robertoataulfo** on 29 Dec 2011, 5:00 p.m.*

```
I extracted the module CLUTILS.MOD: `-YFNZ 2B`.ROM and -CLUTLS 2E.ROM. I need to put in my 41cl
both files?
I will use to create a EMU41. Lif
Thank's
```

Re: [41CL] CLUTILS.MOD

*Message #2 Posted by **Monte Dalrymple** on 29 Dec 2011, 6:18 p.m.,*
in response to message #1 by robertoataulfo

Your machine contains YFNZ -2B already, along with CLUTILS -2C, so you only need to update CLUTILS. I'm not sure what the updates are... I still use -2C without any problems.

Re: [41CL] CLUTILS.MOD

*Message #3 Posted by **robertoataulfo** on 29 Dec 2011, 6:32 p.m.,*
in response to message #2 by Monte Dalrymple

but the functions of CLUTILS 2E (Angel Martin) has no more resources?

Re: [41CL] CLUTILS.MOD

*Message #4 Posted by **Ángel Martin** on 30 Dec 2011, 2:22 a.m.,*
in response to message #3 by robertoataulfo

CLUTILS-2E is a self-contained module, doesn't need other resourcers (but complements the YFNZ function set). It works perfectly well with the official revision YFNS-2B.

I included a copy of YFNS-2B' in the CLUTLS MOD file only to do testing on V41 of those functions that call Y-functions, like the launchers. Most of CLUTILS will obviously do nothing on V41 for obvious reasons.

Revision 2E corrects a few issues present in the 2C version included in the CL Library, plus it adds more functions for the HEPAX configuration, as well as the Page-plug functions PLUGG and PLUGGX.

I think it's a good idea to use it from RAM first, which BTW is also the only way the SECURE and PASSWORD functionality works - since it writes to RAM.

Re: [41CL] CLUTILS.MOD

*Message #5 Posted by **robertoataulfo** on 30 Dec 2011, 5:45 a.m.,*
in response to message #4 by Ángel Martin

please send CLUTILS.MOD version F Thank's

Edited: 30 Dec 2011, 5:45 a.m.

Re: [41CL] CLUTILS.MOD

*Message #6 Posted by **Geir Isene** on 30 Dec 2011, 9:19 a.m.,*
in response to message #5 by robertoataulfo

Me 2

Re: [41CL] CLUTILS.MOD

*Message #7 Posted by **Ángel Martin** on 30 Dec 2011, 11:11 a.m.,*
in response to message #6 by Geir Isene

Polishing a couple of enhancements - should be ready... next year! :-)

Re: [41CL] CLUTILS.MOD

*Message #8 Posted by **Geoff Quickfall** on 30 Dec 2011, 2:45 p.m.,*
in response to message #7 by Ángel Martin

NEXT YEAR, NEXT YEAR!

oh, yes, I see.

Happy New Year everyone.

Sorry Marcus, Anne and I missed you Christmas eve Angel. We managed to find the only restaurant open in Mainz on Christmas eve. Even had some wine and beer.

Next time,

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE received in Hong Kong

*Message #1 Posted by **From Hong Kong** on 29 Dec 2011, 4:37 a.m.*

The HP-15 LE has finally arrived in Hong Kong. I bought two units. Surprisingly, the LE# of one of my units is 168XX. I start to think the rumoured limited production run of 10,000 units is a hype!

The firmware is still dated 2011-04-15. I haven't tested against all the known bugs but tried out only a few tests. As expected, the PSE bug is still here.

Re: HP-15C LE received in Hong Kong

*Message #2 Posted by **Thomas Radtke** on 29 Dec 2011, 6:14 a.m.,*
in response to message #1 by From Hong Kong

We've already had 13xxx numbered replacement units for US models.

Re: HP-15C LE received in Hong Kong

*Message #3 Posted by **Jorge Rodriguez** on 29 Dec 2011, 10:40 a.m.,*
in response to message #1 by From Hong Kong

Hello

Recently I purchased an HP-15C LE at BUY.COM and my LE number is 062XX.

Re: HP-15C LE received in Hong Kong

*Message #4 Posted by **Michael de Estrada** on 29 Dec 2011, 12:19 p.m.,*
in response to message #1 by From Hong Kong

What is the product number as shown on the outside plastic packaging ? Does it end with #ABA or something else ?

Re: HP-15C LE received in Hong Kong

*Message #5 Posted by **Jorge Rodriguez** on 29 Dec 2011, 4:42 p.m.,*
in response to message #4 by Michael de Estrada

The back of the calculator has CNA1320HLD is that the product number? I will look at the box when I get home.

Re: HP-15C LE received in Hong Kong

*Message #6 Posted by **Michael de Estrada** on 29 Dec 2011, 6:14 p.m.,*
in response to message #5 by Jorge Rodriguez

No, that's the serial / date code number. The product number appears only on the transparent plastic

packaging for the presentation box. I expect yours to have the suffix #ABA, because you bought yours in the USA, but the Hong Kong unit to be different. You will also find a sticker with the serial number on it. BTW, that serial number indicates manufacture in mid-August, 2011 (32nd week), same as all the other units that have been sold in the USA. The only exception so far appears to be the replacement units for the ones with defective keyboards.

Edited: 29 Dec 2011, 6:17 p.m.

Re: HP-15C LE received in Hong Kong

*Message #7 Posted by **Paul Brogger** on 29 Dec 2011, 8:08 p.m.,*
in response to message #6 by Michael de Estrada

In case it's of any interest -- to anyone other than me, that is -- mine just came with serial # CNA1320GT5 (sounds like a sports car), LE# 08247 and product number NW250AA#ABA.

Re: HP-15C LE received in Hong Kong

*Message #8 Posted by **From Hong Kong** on 29 Dec 2011, 11:09 p.m.,*
in response to message #5 by Jorge Rodriguez

> Quote:
>
> The back of the calculator has CNA1320HLD is that the product number? I will look at the box when I get home.

The serial number (not product no.) of mine is CNA15nnnRZ where n stands for a digit.

Re: HP-15C LE received in Hong Kong

*Message #9 Posted by **From Hong Kong** on 29 Dec 2011, 11:03 p.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> What is the product number as shown on the outside plastic packaging ? Does it end with #ABA or something else ?

The HP Product No is NW250AA#B1L. It ends with #B1L.

Re: HP-15C LE received in Hong Kong

*Message #10 Posted by **hpnut** on 30 Dec 2011, 1:43 a.m.,*
in response to message #9 by From Hong Kong

Interesting.

#ABA is North American market

#B1L = ?

Re: HP-15C LE received in Hong Kong

*Message #11 Posted by **From Hong Kong** on 30 Dec 2011, 2:22 a.m.,*

in response to message #10 by hpnut

> Quote:
>
> Interesting.
>
> #ABA is North American market
>
> #B1L = ?

#B1L = "**B**eyond America **1**st **L**ot"? :P

Edited: 30 Dec 2011, 2:24 a.m.

Re: HP-15C LE received in Hong Kong

*Message #12 Posted by **Jorge Rodriguez** on 30 Dec 2011, 2:59 p.m.,*
in response to message #4 by Michael de Estrada

The product number is NW250AA#ABA.

Re: HP-15C LE received in Hong Kong

*Message #13 Posted by **Lyuka** on 31 Dec 2011, 6:39 a.m.,*
in response to message #1 by From Hong Kong

The 15C LE has delivered in Japan at last.

CNA15000DN, Number 16188, 2011-04-15, C 2008 hP

I confirmed that the 15C LE is damn fast.
It's 30 times faster than the triple-speed modified 15C.

Lyuka

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Martians can come!

*Message #1 Posted by **robertoataulfo** on 28 Dec 2011, 6:06 a.m.*

```
Martians can come!
I am prepared for the final battle. :-))
```

Edited: 28 Dec 2011, 6:07 a.m.

Re: Martians can come!

*Message #2 Posted by **Ángel Martin** on 28 Dec 2011, 10:46 a.m.,*
in response to message #1 by robertoataulfo

Some would argue they already have :-)

Nice pic indeed, may those three champions live merry and prosperous adventures- and you keep us posted.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 200LX Solver program in HP Calc

*Message #1 Posted by **Ken Chevy** on 28 Dec 2011, 6:01 a.m.*

Hello... a little about me. I bought several HP calcs back in the 80's and then the 18c came out for $175. Bought that, then as soon as the 19B came out I bought that and a few months later bought the 19BII to get RPN. Fell in love with HP Solve. Then the HP95LX in 1991 and the HP 100LX in 1993 and then the HP 200LX came out in November of 1994 and I bought one of the first ones to hit Corvallis, Oregon... $660. Yikes! I still have a few... they are great. Now, last month Nov 2011, I bought a Kindle Fire. It has Android on it. I am looking for a 200LX EMULATOR or at least a 200 LX Calc/Solver emulator that will run on the Kindle Fire. I MISS MY SOLVER! Yes, there is a 200 LX sitting right here by my hand, but I want to have the functions on the Kindle Fire. Has anyone made an emulator yet that a dummy like me could figure out how to put it on the Kindle Fire?

I wish I would have caught that other thread a couple weeks ago. I MUST have the original disks and stuff for the 200 LX lying around here... since I have a few of them. Even got a 95LX and one of those 700LX, no phone to go with it though. It is like new. I need to get rid of some of this stuff.

Can anyone point me at an emulator? Please???

Regards,

Ken Chevy, Salem, Oregon

Re: HP 200LX Solver program in HP Calc

*Message #2 Posted by **aj04062** on 28 Dec 2011, 7:21 a.m.,*
in response to message #1 by Ken Chevy

Look at this THREAD

I wonder if installing DOSBOX and this emulator would work.

Edited: 28 Dec 2011, 7:21 a.m.

Re: HP 200LX Solver program in HP Calc

*Message #3 Posted by **Ken Chevy** on 28 Dec 2011, 7:34 p.m.,*
in response to message #2 by aj04062

Thanks, yes, that is how I ended up here. From reading that thread before leaving my post. I have to go reread it and see if I am smart enough to understand what to do.

Ken

Re: HP 200LX Solver program in HP Calc

*Message #4 Posted by **Jeff Kearns** on 28 Dec 2011, 10:46 p.m.,*
in response to message #3 by Ken Chevy

Device Support Page

You may also wish to visit this page...

Re: HP 200LX Solver program in HP Calc

*Message #5 Posted by **Ken Chevy** on 29 Dec 2011, 6:52 p.m.,*
in response to message #4 by Jeff Kearns

Wow, they still support the 200LX? I'll have to check that out. Thanks!

Ken

Re: HP 200LX Solver program in HP Calc

*Message #6 Posted by **Bill (Smithville, NJ)** on 28 Dec 2011, 8:45 a.m.,*
in response to message #1 by Ken Chevy

Ken,

I have an Android Acer A500 Tablet and use AnDOSBox to run the HP-200LX Cpack Program. This version of DosBox had better support for the touchscreen keyboard. I also use a replacement for the standard android keyboad. The program I use is "Tablet Keyboard" which has better support for the special PC keys that are really needed to run old PC programs.

Note: My Acer is running Android version 3.2 - I'm pretty sure the Fire is running an older version, so not sure how AnDOSBox and the replacement keyboard would run on the older Android version.

It is kinda fun running old dos programs on the Tablet. I've even run a CP/M emulator that worked great.

Bill

Re: HP 200LX Solver program in HP Calc

*Message #7 Posted by **Ken Chevy** on 29 Dec 2011, 6:33 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Hi Bill, The Kindle Fire is running a customized Android 2.3 Gingerbread OS.

I will see if I can figure it out, may have to call for help, for a list of steps to do. I have chronic pain issues and the narcotics I take for it, four pills every six hours, only usually give me two hours or so where I can think halfway decently and then the pain is back and I lay in bed with my eyes watering. After a couple of years, life has turned into a real drag, but I do the best I can with what I have.

So I really like computers and stuff like that. I really like the Fire. I just regret my health has this bad part in it until I can get it figured out with the doctor.

Do I REALLY need the HP Calc/Solver on the Fire? Probably not, since I have six or eight 200LX's lying around so one is always handy no matter where I am in the house, but it would be NICE to have it on the Fire!

So, if I can't figure out how to get the DosBox on the Fire in a couple of days, I will be back whining for help on how to do it by the steps.

Also, the Fire does NOT have an SDcard slot, all it has is a USB connection.

Depending on how well I am doing with the pain, you may not see me reply to a post for a day or so... it all depends if I can think or not. Sometimes it is lying in bed for even a week or more at a time, everything on hold as far as getting anything done.

I DO understand the saying "Life can SUCK at times"... now.

Thanks for the help so far!

Regards,

Ken

Re: HP 200LX Solver program in HP Calc

*Message #8 Posted by **Forrest Switzer** on 29 Dec 2011, 12:14 a.m.,*
in response to message #1 by Ken Chevy

Maybe you need a 720 to complete your collection. I am sure I have a few laying around here.

;-)

Forrest

Re: HP 200LX Solver program in HP Calc

*Message #9 Posted by **Ken Chevy** on 29 Dec 2011, 6:46 p.m.,*
in response to message #8 by Forrest Switzer

Hi Forrest,

I never did get into the Jornadas. What was the top one they had? A 728 with 64 megs of ram? No, instead of buying I need to be selling this stuff if I can ever concentrate long enough to carry through with getting it done. I even built a little shed in my back yard so I would have a place for stuff. The two car garage on the house is to PARK cars in. NOT for storing stuff in. LOL

Ken

Re: HP 200LX Solver program in HP Calc

*Message #10 Posted by **Dave Shaffer (Arizona)** on 29 Dec 2011, 9:12 p.m.,*
in response to message #9 by Ken Chevy

> Quote:
>
> The two car garage on the house is to PARK cars in. NOT for storing stuff in. LOL

Nah - I've got a three-car garage, with barely room for two cars. (My wife's! Mine lives outside. The other is my '86 Subaru XT which gets driven about 300 miles/year.) Anybody want 35 years of Astrophysical Journal or Publications of the Astronomical Society of the Pacific?!?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL installation on machine with zebra strip

*Message #1 Posted by **David Ramsey** on 27 Dec 2011, 11:42 p.m.*

My preferred donor calculator, a 41C with a dead CPU, meets the specifications for the 41CL except that its CPU board connects with the white zebra strip connectors instead of the desired wired-wrapped-around-a-tube connector.

That said, the existing connectors seem to be in fine shape and there seems no obvious physical reason they wouldn't work. Has anyone installed a 41CL circuit board in such a machine? Would long-term reliability be better with the other connector?

Re: 41CL installation on machine with zebra strip

*Message #2 Posted by **Ángel Martin** on 28 Dec 2011, 2:56 a.m.,*
in response to message #1 by David Ramsey

I have one CL board installed in a 41C with such elastomeric strip. It works fine, so far no issues. I also heard of others who installed it in similar setups, no bad reports. So it may be that although less preferable it´s also a valid configuration, I don´t know the reasons Monte had to recommend not to use those.

Re: 41CL installation on machine with zebra strip

*Message #3 Posted by **robertoataulfo** on 28 Dec 2011, 3:21 a.m.,*
in response to message #2 by Ángel Martin

```
I have two 41cl using elastomeric strip to about 2 weeks and not showing any error
I also like to know the reason for not using
```

Re: 41CL installation on machine with zebra strip

*Message #4 Posted by **BobVA** on 28 Dec 2011, 10:14 a.m.,*
in response to message #1 by David Ramsey

My uninformed guess is that Monte is concerned about the resistance of the zebra strip posing a problem during high-current operations, particularly during flash writing which could corrupt the firmware.

I saw this problem with a card reader and a dodgy zebra connector. Everything worked fine until it tried to read a card then the 41 would malfunction. Replacing the connector with a PW connector fixed it.

Regards, Bob

Re: 41CL installation on machine with zebra strip

*Message #5 Posted by **Monte Dalrymple** on 28 Dec 2011, 1:23 p.m.,*
in response to message #4 by BobVA

Yes, this is the reason that I don't recommend using this type of connector. Everything will be working fine until the (relatively) high current is needed for the Flash write operation. This is exactly where a contact

failure will be a problem, as it can lead to corruption of the Flash memory. Unfortunately such memory corruption is not necessarily restricted to the sector being written, so the OS might be affected, which is very bad news.

Re: 41CL installation on machine with zebra strip

*Message #6 Posted by **David Ramsey** on 29 Dec 2011, 12:16 a.m.,*
in response to message #5 by Monte Dalrymple

OK, good to know. Moving on to the 41CV with the correct display and serial number...and the correct contact thingy.

Too bad one of the lower posts came off with the original CPU. Sigh. And there are no hobby shops in Reno and Home Depot does not carry styrene cement. Perhaps I can order some online.

Re: 41CL installation on machine with zebra strip

*Message #7 Posted by **BobVA** on 29 Dec 2011, 12:58 p.m.,*
in response to message #6 by David Ramsey

Can you put the zebra connector in the CV, then use the printed wiring connector to install the NEWT board in the C?

Regards, Bob

Re: 41CL installation on machine with zebra strip

*Message #8 Posted by **David Ramsey** on 29 Dec 2011, 3:52 p.m.,*
in response to message #7 by BobVA

Tried that, but all I get is random scrambled flashes on the display...which is also what I get when I put in the known good CV board, so I conclude that my dead 41 has problems in the keyboard or display circuitry...

Re: 41CL installation on machine with zebra strip

*Message #9 Posted by **BobVA** on 29 Dec 2011, 4:43 p.m.,*
in response to message #8 by David Ramsey

Bummer - well at least you know you're not losing out on a good host due to lack of a PWC.

You might want to put up a separate post with the symptoms and see if someone (Randy!) has an idea for troubleshooting/repair.

Regards, Bob

Re: 41CL installation on machine with zebra strip

*Message #10 Posted by **David Ramsey** on 29 Dec 2011, 7:34 p.m.,*
in response to message #9 by BobVA

The "dead 41" is a machine I acquired years ago, for parts. I don't really care if it never works again; the only question now is if there any are usable parts in it at all. If a good CPU doesn't work in it, and its CPU doesn't work in other machines, I might as well toss

it...

In the meantime I found some styrene cement at a local crafts store and am waiting the requisite 24 hours for the repaired post to set.

Edited: 29 Dec 2011, 7:36 p.m.

Re: 41CL installation on machine with zebra strip

*Message #11 Posted by **Randy** on 30 Dec 2011, 11:24 a.m.,*
in response to message #10 by David Ramsey

Hopefully it was the liquid solvent welder, not thick cement... also, just as important are the screws. Early C's and CV's had 0.25 inch long screws in the lower posts. The short screws are the cause of most post failures. HP changed these out to 0.375 inch length screws in all later and serviced units.

Shoot me an email to my museum address if you need a set of screws and new rubber feet. I was going to contact Monty to see if he wanted to add these to the CL kit but he doesn't have an email :(

Re: 41CL installation on machine with zebra strip

*Message #12 Posted by **David Ramsey** on 30 Dec 2011, 1:05 p.m.,*
in response to message #11 by Randy

I would love a set (or two) of those screws, thanks! I just ordered extra rubber feet on eBay so I can pass on those.

The cement I used was a thick gel similar to what we used to call "airplane glue." However I used very little of it. I guess the stuff I should use is a rather thin liquid, right? Guess I'll have to find that online.

I see Geoff's paper wherein he not only glues the post but puts plastic shavings down the hole and a drop of solvent on top of that. I can try that as soon as I get the correct glue and some screws.

In other news, I installed the 41CL board in a 41C I had. It wasn't my first choice due to a slightly mushy "1" key (but it still works perfectly). The CPU board was actually held in by two silver nuts threaded over the plastic posts. I initially thought this was something someone had done to the machine, but the inside of the back case was different, too: on the other machines I've looked at, the plastic posts on the keyboard half fit into recesses on the back, and the back is designed to apply pressure to the CPU board when it's on. This back wouldn't work that way; it's obvious the nuts provide all the pressure.

Not only is this more reliable, it means cracked posts should be less of a problem.

In any case it all went together easily and now I have a working 41CL, finally! Now all I have to do is repair the 41CV I screwed up.

Re: 41CL installation on machine with zebra strip

*Message #13 Posted by **BobVA** on 30 Dec 2011, 4:48 p.m.,*
in response to message #12 by David Ramsey

Amazing the number of thing they tried rather than screws, isn't it? :-)

Geoff just put up an interesting post on the hex nut approach.

Glad you got it working!

Bob

Edited: 30 Dec 2011, 4:49 p.m.

Re: 41CL installation on machine with zebra strip

*Message #14 Posted by **Randy** on 30 Dec 2011, 6:34 p.m.,*
in response to message #12 by David Ramsey

> Quote:
>
> In other news, I installed the 41CL board in a 41C I had. It wasn't my first choice due to a slightly mushy "1" key (but it still works perfectly).

This is a common problem in "tall key" 41C's. Most have less travel in the 1 and many times the 2 key giving the impression of "softness".

I've never pulled a board off one to figure it out why it only happens in those early units but I suspect they changed the frame and stake configuration to resolve the problem. The nuts used to attach the logic board amplify the problem so keep them as loose as possible to minimize the effect.

Installing longer screws will make the whole issue of the wrong glue a moot point. I would not remove them again just to re-glue. The plastic shavings trick, again, totally unnecessary with the correct screws.

BTW, "correct" is my way of saying tri-lobular plastic threading #2 sized screws, not plain old sheet metal spiral threaded types.

Re: 41CL installation on machine with zebra strip

*Message #15 Posted by **Monte Dalrymple** on 30 Dec 2011, 1:19 p.m.,*
in response to message #11 by Randy

monted (at) systemyde.com

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[41CL + ILPer] Help

*Message #1 Posted by **robertoataulfo** on 27 Dec 2011, 7:26 p.m.*

```
How do I load a module using the ILPer + 41CL?
Or is there another easier way?
```

Re: [41CL + ILPer] Help

*Message #2 Posted by **Ángel Martin** on 28 Dec 2011, 2:58 a.m.,*
in response to message #1 by robertoataulfo

Easisest way is to plug the HEPAX and use READROM-WRTROM. Other modules have equivalent functions, choose your favorite.

All this isn´t required if the module is already in the internal CL Libary of course.

Edited: 28 Dec 2011, 2:59 a.m.

Re: [41CL + ILPer] Help

*Message #3 Posted by **robertoataulfo** on 28 Dec 2011, 3:11 a.m.,*
in response to message #2 by Ángel Martin

```
Good but how can I use ILPer as the only file that it accepts .dat?
How do I convert a .mod for .dat or as I add one .mod for .dat?
```

Edited: 28 Dec 2011, 3:11 a.m.

Re: [41CL + ILPer] Help

*Message #4 Posted by **J-F Garnier** on 28 Dec 2011, 4:31 a.m.,*
in response to message #3 by robertoataulfo

Here is a possible way:

Use Emu41 to load the module into the Emu41 environment, then save it to the LIF image file. Then you can access it from your 41CL using ILPer/PILBox.

Note that Emu41 doesn't recognize .mod format, you have to use the .rom alternative. Most ROM from TOS are available in.rom format.

Re: [41CL + ILPer] Help

*Message #5 Posted by **robertoataulfo** on 28 Dec 2011, 5:34 a.m.,*
in response to message #4 by J-F Garnier

```
How do I convert .Mod to .Rom?
Thanks but is there another solution?
```

Edited: 28 Dec 2011, 5:35 a.m.

Re: [41CL + ILPer] Help

*Message #6 Posted by **Diego Diaz** on 28 Dec 2011, 8:55 a.m.,*
in response to message #5 by robertoataulfo

Hi,

To convert .mod files into .rom you can use "MODfile.exe", a small (DOS based) utility that you will find along with the V41 emulator on TOS.

Google for "V41 emulator" and you'll get the url... :-)

Cheers!

Diego

Edited: 28 Dec 2011, 8:57 a.m.

Re: [41CL + ILPer] Help

*Message #7 Posted by **Howard Owen** on 28 Dec 2011, 9:38 a.m.,*
in response to message #5 by robertoataulfo

I have been working on and off for years on a Perl solution that will take a .mod file, extract the roms, convert to .bin and place them into a LIF image. I have most of the pieces written except for the mod -> rom piece. Integrating them all will take a bit of effort too. I can't guarantee when I'll have that done, (I'm a lot slower than I once was at this sort of thing,) but I'm not that far off from a solution.

In the meantime, the .mod -> MODFILE.EXE -> .rom -> EMU41 -> LIF via WRTROM -> 41CL via READROM is the best path I've found.

Re: [41CL + ILPer] Help

*Message #8 Posted by **Ángel Martin** on 28 Dec 2011, 10:43 a.m.,*
in response to message #5 by robertoataulfo

I saw your photo w- the three superb specimens , including the MLDL - so I think your best option here is to use the MLDL and its controlling SW (ML2k). It has all you need to move ROM images from the HEPAX into the MLDL as ROM files and back. That´s exactly how I do it.

Re: [41CL + ILPer] Help

*Message #9 Posted by **Frido Bohn** on 29 Dec 2011, 9:54 a.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> - so I think your best option here is to use the MLDL and its controlling SW (ML2k).

I use the ML2k software alone (thank you Meindert Kuipers) to extract ROMs from MODs. To put the SW on work you have to install the USB serial converter driver from FTDI

which are freely obtainable. It is a superb tool to manipulate MOD files (on WINDOWS use the "right-arrow" context for further commands) and can be used also for FAT listing and disassembling code.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some 41CL Questions

*Message #1 Posted by **Gerry Schultz** on 27 Dec 2011, 6:00 p.m.*

Hi, now that Christmas is over, I thought I would put together some of my questions about the 41CL. I've been reading the 41CL Calculator manual and was wondering about a few things.

First, some observations. In the supplemental sheet sent along with the 41CL circuit board, it shows 0x0DF000 as holding IMDB.ROM which, I assume, is the 41CL Image Database. On page 51 of the manual, the memory map shows this range of Flash to be open. The same thing for the 0x0C9000 through 0x0CF000 and 0x0D1000 through 0xD7000. I want to mention this because if someone starts tinkering without reading the supplemental sheet and copies data into these address ranges thinking they are available, they could get a nasty surprise.

I'm confused about how memory is addressed in a 41C. I've read a lot of books about the 41C so I do understand some of its unique capabilities, but RAM vs. ROM addressing I've never quite followed. I know that 41C storage registers are addressed in 7-byte registers and program instructions are byte (or multi-byte) in size. The absolute addressing for RAM is 000 to 1FF as explained in W.A.C. Mier-Jedrezejowicz's book "Extend your HP-41", in chapter 8. Extended memory goes on up to 3EF(and filling in some memory gaps as well), as explained on page 547. For ROM memory, there are 16 4K memory pages with the first 8 covering the internal O/S, Extended Functions (CX only), HP Diagnostic module, Timer module (page switched with additional CX functions), Printer and HP-IL. The upper 8 pages cover the 4 I/O ports (page 190). Finally, the ROM M-code instruction bytes are 10-bits long with some instructions being 20-bits long.

One area of confusion is the 10-bit ROM vs. 8-bit RAM addressing. For HP-41 FOCAL programs in ROM, the two extra bits are not used, but M-code instructions use all 10 bits are used. Is this why M-code programs can only be run in ROM space and not RAM space? Also, how does the 41 assign a memory module to the RAM address space when plugged into an I/O port verses assigning ROM modules plugged into an I/O port to the ROM addressing space? It appears these upper 8 4K I/O pages can assigned to either memory space, so is there an MMU in a 41C doing these memory re-assignments behind the scenes?

An interesting statement on page 193 says: "Programs in ROM always run from lower addresses to higher addresses. This is the same direction as data addressing in RAM, but the opposite direction to programming addressing in RAM. ...The HP-41 has to know if a User code program is in RAM or ROM since the instructions are read in the opposite directions in the two cases. COPY has to reverse the instructions when copying a program from ROM to RAM." How does the 41 do this? How does the 41 memory addressing ROM/RAM space map into the 41CL memory addressing space especially when one is 10-bits deep and the other is 8-bits deep?

Another area I'm confused about is Logical Addressing and Bank Switching. For instance, the function YMCLR in the 41CL manual, under logical address; L3, L2, L1, L0, - B arguments, what does that mean? At the bottom of page 39 of the 41CL manual, it says: "The 41C system uses a 16-bit (64K) program address, which is divided into sixteen pages of 4K each. For many of these pages, there can be up to four "banks", which are selected under software control during program operation." Which software control, the O/S or the program in ROM and what is being switched in and from where in relation to the 41C memory space? On the next page, "To accomplish this mapping, the MMU takes the upper four bits of the program address (which selects the page), plus the two bits which select the bank, and forms a special memory address." Which 4-bits and 2-bits? The 4K ROM addressing are absolute addressing bits 0 through 11. So are bits 12 through 15 page addressing and bits 16 and 17 are page addressing or since absolute addressing bit 23 identifies Flash verses RAM, are these page and bank addressing bits

17 through 22?

I want to understand these issues clearly before I do too much to not hose my 41CL.

Thank you for your responses. Gerry

Re: Some 41CL Questions

*Message #2 Posted by **Diego Diaz** on 27 Dec 2011, 11:30 p.m.,*
in response to message #1 by Gerry Schultz

Hi Gerry,

Your post looks quite more like an exam than a "... mmm... I was just wondering about a few things..." :-)

Ok, not that I'm the most authoritative voice in here (that's even more true when talking about 41CL) but since none of the "gurus" seems to be around... I'll give it a go and will try my best in order to explain HP-41 addressing scheme.

"RAM vs. ROM addressing"

In short this is the very key of the subject, if you get a clear picture on the details that make RAM and ROM addressing *soooo* different you will more likely have got a pretty good understandig of the remaining questions.

First of all, referring to user RAM, Data/Storage registers, User program area... and all the many different ways to call HP-41 "read/write" registers, is IMHO the cause of most misundertandings.

These storage registers *ARE NOT* RAM, in the sense we can see RAM into most any other type of microprocessor controlled device. These registers are built and are accessed (and this is more important from the point of view of the questions you've brougth here) like a solid state storage *peripheral*.

The only "memory" which NUT processor can access to and read from is the 64K (16 pages 4K each) with a word length of 10 bits.

So called "user programs" (FOCAL) are just a sequence of bytes (8bits) organized into registers (7bytes each) quite like a "record" in a disk drive. When you hit the "R/S" key, you're just instructing the CPU to start reading this bytes sequence from the "record" thru a "Parser" (interpreter) which decides the parts of the CPU program in ROM (this is the "real program" the NUT processor can execute: M-code) that is needed to perform the requirements in the "user instruction".

The NUT processor can only execute instructions stored into its ROM area (these 64K). Further more it cannot even write in this area, this is why when some users got access to the realms of M-code, they coined anew instruction to allow writing in the "ROM" addressing space. The instruction itself is a NOP for the NUT processor... so, every device willing to handle such writing instruction (H'040, aka WROM) has to find its own way to achieve the task. This is how most RAM boxes work (W&W, ERAMCO, HEPAX...)

When the parsing from a given command (say XEQ "ABC") finds that such "ABC" corresponds to a FOCAL program located into ROM area (this is encoded in the FAT of the page where the program is located) then it simply treats it like if there were a sequence of bytes just as if it was located in the storage registers (aka user RAM).

Therefore, RAM modules and ROM modules are intrinsecally different, when you plug a RAM module you're just plugging another "peripheral drive" while ROM modules are placed into the 64K memory addressing space.

I'm not familiar (yet) with CL's "logical addressing" so I think that some others here will give you a better advice on the subject.

Regarding Bank-Switching, this is a technique that allows a "program" (read M-code program into ROM addressing area) to turn OFF a given bank and turn another one ON in the same address.

The porgram continues on the new memory bank as if it still was in the same address (in fact it is) so effectivelly doubling (or even quadrupling) the amount of mamory without requiring a wider address bus.

Again, as in the H'040 WROM instruction, the instructions used to perform the bankswiching ON and OFF wereNOP's for the NUT processor, so every module that requred Bank-Switching, had to built its own scheme and inplementation. Most of them are similar like the ones in the Advantage PAC, the IR printer, the CX EXT funcs, or the HEPAX (this last goes a bit further by using four banks in a single page), but some curiousities can be found like the W&W 64K RAM box (or its implementation in the 41CY) which handles BS in a slightly different way.

Hope this may be useful. Sure you'll find more details on the CL from other contributors soon.

All the best from the Canary Islands.

Diego.

Re: Some 41CL Questions

*Message #3 Posted by **Howard Owen** on 28 Dec 2011, 10:20 a.m.,*
in response to message #2 by Diego Diaz

Thanks for that exposition, Diego! I learned a thing or two. :)

Re: Some 41CL Questions

*Message #4 Posted by **Ángel Martin** on 28 Dec 2011, 3:21 a.m.,*
in response to message #1 by Gerry Schultz

Now that was a crystal-clear explanation on the RAM-ROM subject from Diego, I finally understand some things :=)

I´m no expert on the CL inner design, but it has helped me to think of ¨logical¨ addresses as those the native 41C OS would recognize, using its nomenclature and conventions - whilst ¨physical¨ addresses are the real ones used by the NEWT processor on the CL board.

Similar concepts are the DATA addresses and the PROGRAM addrsses, which I associate to ¨41-style RAM¨ registers and ¨41-style ROM¨ respectively.

HTH, I found the CL manual to be very well written, so after a few of my own CPU cycles I´ve normally grasped most of it. There is a lot of innovation in there ¡ mostly transparent to the typical user, to Monte´s credit, so no doubt some effort will be required.

Best, ÁM

Re: Some 41CL Questions

*Message #5 Posted by **Monte Dalrymple** on 28 Dec 2011, 2:09 p.m.,*
in response to message #4 by Ángel Martin

Diego covered the RAM-ROM quite well, so I'll just comment on the logical versus physical issue.

The logical address space consists of the ROM and RAM addresses available in a normal 41C context. That is, the 64k x 10 bit program memory and 1k x 56 bit (7 byte) register memory. To the 41CL user these appear to operate identically to how they work in the 41C. But in the 41CL these address spaces happen to be mapped into a much larger physical memory space. This phycical memory space is 16M x 16 bits and is divided in half, with the lower half assigned to Flash and the upper half assigned to RAM. On the current 41CL boards the Flash is 1M x 16 and the RAM is 256K x 16.

The regular 41C register address space is mapped to a specific location in the physical RAM, starting at address 0x800000. The details of this mapping is covered in the 41CL manual.

The 41C program address space is normally broken into 4k pages, and most of these pages can also use bank-switching to contain four banks (but only one at a time). These pages (and each bank) are also mapped into a physical address, in either Flash or RAM. A number of the pages (those used for the OS) are mapped to specific Flash addresses. Those pages that are not specifically mapped by the hardware (the pages used for the OS) can be optionally mapped to any address in physical memory using the MMU. This mapping information used by the MMU is also stored in specific locations in the physical RAM memory, and is automatically accessed by the hardware to calculate where in physical memory to find the required data.

Operation of the MMU is conpletely transparent to the user. When you use a PLUG command to insert an image into a Port, what the software is really doing is programming the MMU to point that correspond page of logical memory at the location in physical memory where the image is located. From that point on when the 41C software reads from that page of logical memory, the data will actually be fetched from the correct location in physical memory.

The details about where things are located in physical memory is also contained in the 41CL manual. Most users should not need to be concerned with these details, though. That's what the PLUG commands are for.

As far as messing up the 41CL, I've tried to make it hard to do. But there are a couple of things that you do need to be careful of. First, don't plug a module into an address that is concurrently mapped by the MMU. This will lead to a bus fight, because in this case the 41CL hardware actually drives the bus with the data just like a physical module would do. Second, be very careful when erasing or programming the Flash. I originally did not plan to make Flash erase and write operations available to the user, but changed m mind before the Beta units went out because I wanted to provide a way to patch the software in the field if necessary. (And it's a good thing that I did, given the bugs that I managed to miss the first time around). But aside from these two cases, the 41CL should be fairly robust. Certainly a memory clear or battery removal will fix just about everything except a corrupted Flash memory.

I hope this helps, Monte

Edited: 28 Dec 2011, 4:00 p.m.

Re: Some 41CL Questions

*Message #6 Posted by **Frido Bohn** on 29 Dec 2011, 9:39 a.m.,*
in response to message #5 by Monte Dalrymple

Dear Diego and Monte,

Thank you for the clarification of how RAM and ROM are defined in the 41C and the 41CL, respectively.
However, there are some assumptions (or better concealed questions) which came up after reading the

thread.

1.
The flash memory of the 41CL can be erased except for the portion where the OS resides. This is the area from 0x000000 to 0x007000.
Consequently, the command "000000 (in ALPHA) YFERASE" would render the error message "OS AREA" as the first 32k are protected. Trying to "patch" the OS area by YFWR would lead to the same error message. However, are there any commands documented in the 41CL manual that could harm this area?

2.
The content of the RAM of the 41CL (0x800000 and above) is restored to its initial status after power is turned off completely,
i.e. batteries are taken out for a while and a MEMORY LOST shows up after power on.

3.
Contents of flash which are overwritten, e.g. by a new version, may survive the writing procedure and generate artifacts or a strange behaviour if plugged on a page because "writes to flash can only change a "1" to a "0" and never vice-versa" as stated in the 41CL manual. Therefore, it is recommended to erase that portion first and filling it with "1s" before re-writing it. (How to handle this, is extensively documented in the 41CL manual.)
Thus, the revision of a 4k module in flash means that 28k have to moved around more or less unnecessarily, only due to the 32k span of the erase command.
To overcome this situation, would it be possible to generate a "zero-ROM" or "NOP-ROM" (full of "1s") which is written first on the 4k sector of interest as a means of deletion before the actual piece of code (e.g. a revision of a module) is written onto it?

Thanks for your patience

Re: Some 41CL Questions

*Message #7 Posted by **Monte Dalrymple** on 29 Dec 2011, 11:14 a.m.,*
in response to message #6 by Frido Bohn

1. The OS area (0x000000 to 0x007FFF) is protected by an address check in the YFERASE and YFWR functions. Since these are the only two commands that could conceivably affect the OS area, it is in all cases protected from corruption. The Flash memory itself can be programmed to protect certain sectors. I don't use this feature because my Flash programmer does not support this. Unfortunately I bought a relatively inexpensive Flash programmer.

2. RAM contents are not retained without power. There is a capacitor on the 41CL board that will supply the RAM for about 20-30 seconds without batteries, but after that time the contents are unpredictable. However, the OS does initialize the 41C "register" area when the "Memory Lost" condition is detected. Extended memory is not initialized, and neither are the MMU contents.

3. The erase operation is the only way to clear a Flash sector. The 32K word erase is a feature of the Flash chips themselves. It would be much more convenient if the erase size were 4K, but it is what it is. Writing all ones to a page doesn't do anything, because it is essentially a "No Operation" for the Flash memory device. Any existing zeros in the page stay at zero. The same will be true of the ones already existing in the page. This is why I initially located the "XXXn" user mnemonics in separate sectors. But then there wasn't room for the solution book images in the Flash for the production boards. If I revise the board I will probably route more address lines to the Flash so that I can place a larger device on the board.

Hope this helps,
Monte

Re: Some 41CL Questions

*Message #8 Posted by **Monte Dalrymple** on 29 Dec 2011, 11:22 a.m.,*
in response to message #7 by Monte Dalrymple

I should note that if power is interrupted during a Flash erase or write, unpredicatable things can happen. Geoff had his OS area corrupted when this happened. That's why you should always use fresh batteries when working with Flash.

I personally use RAM to hold stuff, and only update the Flash when I really, really want to make something permanent.

My original plan was to use and FRAM, which is non-volatile, for the RAM. But that would have added $25 to the cost, because the technology is very expensive. It would also have added another 30uA to the standby power. That's is why I went with regular RAM.

Re: Some 41CL Questions

*Message #9 Posted by **Geir Isene** on 29 Dec 2011, 6:09 p.m.,*
in response to message #8 by Monte Dalrymple

This is precisely why the HP-41CL and the NoV-64 (or 32K or the 16K version) are great companions. I now use only my HP-41CL, and with my NoV-64 plugged in, I have constant memory HEPAX to save RAM, programs, XM files etc. to easily (without having to erase any flash or do any risky operations). Heaven I say.

Re: Some 41CL Questions

*Message #10 Posted by **Gerry Schultz** on 29 Dec 2011, 6:58 p.m.,*
in response to message #8 by Monte Dalrymple

Hi Diego, sorry for my delay in responding. I've been busy at work and haven't had time to get back to this thread. I apologize if my "just a few questions..." seems more like an exam. I'm more of a hardware guy and I'm accustomed to the simple, flat addressing space of a PC. The RAM/ROM memory space was always a little weird in the 41 to me as RAM seems more assessable to the user than the ROM (storage registers, program space, key assignments, the curtain, etc) but all the heavy lifting is done by the uP on the ROM side. So, I've always thought of 41C RAM as primary as that's the space I work in.

So, thank you for the explanation on the differences of RAM space verses ROM space in the 41C. I had never thought of RAM as a peripheral with the basic addressing space of the 41C being ROM. On Bank switching, it sounds to me like you're saying the OS has nothing to do with it, but it's implemented in individual application modules and are unique to the application, though similar. The alternate banks are located within the module itself and are self-contained.

Angel, thank you for your posting. I agree that Monte's manual is well written. It's just that there's a lot of information packed into it and I really have to study what he's written. That's why my original questions were so detailed. I feel like I'm missing some basic information that would help fill the gaps between my knowledge and Monte's writing. I am very excited about the 41CL and it's literally a quantum leap from how I thought about how the 41C works to what Monte has put in the 41CL.

Monte, thank you for your posting. I won't claim to understand what everyone has written yet, but I like the 41C system and have a lot of fun with it. Now that I have just about every application module ever developed for the 41 here in one machine, it's almost like starting over again.

In reading and re-reading what you say about logical and physical addressing, I'm still confused. As an example, the YMCLR function that is used to initialize 4K blocks of memory to either a user-selected value or copies from another location in memory. Why 6 hex digits for physical addressing? If this function writes to 4096 memory locations and aligns the write to a 4K boundary, then all you would need to specify are hex digits P4 and P5 as P0 through P3 would be zero for the 4K boundary alignment. Unless the user has to put in zeros for hex digits P0 through P3 for this function to work properly (then why have 5 digits in the first place?). As for the logical addressing option in this function, L0 through L3 specifies a 4K block of memory within the 41C RAM/ROM memory space (assuming L0 is the least significant digit). How do you specify which page of the 41C 64K memory space are you referring to and how does the Bank hex digit fit into identifying the starting location (as an offset?)?

I apologize in advance if it seems like I'm nit-picking. I'm trying to understand how to properly set up the alpha register prior to using a function such as this. As another example of my confusion, under your section on Using FORTH41, you poke locations 0x804040 (MMU register for Page 4) with 809A and 0x80470 (MMU register for Page 7) with 809B after disabling the MMU. Yet the Flash addresses for forth4 and forth5 are 0x09A000 and 0x09B000 respectively. I don't understand. I would think you are specifying where in memory you want the 41C to look for the Forth41 module.

Thank you all again for taking the time to answer my questions. It will make sense to me and I hope you all have enough patience to put up with my struggle to understand this.

Gerry

Re: Some 41CL Questions

*Message #11 Posted by **Monte Dalrymple** on 29 Dec 2011, 10:49 p.m.,*
in response to message #10 by Gerry Schultz

YMCLR uses the same format as YPEEK and YPOKE for the Alpha register contents so that a common subroutine can be used to check the syntax. Characters 8, 7 and 6 are forced to 0s internally before the operation on the 4k page starts.

For the logical address format, L3-L0 are the 16-bit logical address. In this case characters 10, 9 and 8 are forced to 0s internally before the operation on the 4k page starts. In this format character 6 specifies the Bank information. Character 11 (L3) is the 41C "page".

Writing 809A to memory location 0x804040 tells the MMU to enable translation for page 4 (this is the "1" in bit 15), and to substitute the 12-bit value 09A for the "4" in a logical address in page 4. Writing 809B to memory location 0x804070 tells the MMU to enable translation for page 7, and to substitute the 12-bit value 09B for the "7" in a logical address in page 7. So, when fetching the first word of the Forth41 module at logical address 4000 the data at physical address 0x09A000 will actually be fetched instead.

Hope that helps,

Monte

Re: Some 41CL Questions

*Message #12 Posted by **Gerry Schultz** on 30 Dec 2011, 12:29 a.m.,*
in response to message #11 by Monte Dalrymple

Sure did, Monte. Obviously I miscounted the bits so thank you for the explaination and patience. When I have more questions, I'll let you know.

Thanks, Gerry

Re: Some 41CL Questions

*Message #13 Posted by **Diego Diaz** on 30 Dec 2011, 7:03 a.m.,*
in response to message #10 by Gerry Schultz

Hi Gerry,

I've enjoyed a lot while answering your questions... which BTW are perfectly reasonable when looking at RAM & ROM from a "standard" perspective.

And, as a very positive collateral effect, I've learned a lot about CL's memory management and organization by reading Monte's reply so, as usual, this is the point when asking/posting in this forum: keep the info sharing spirit alive! :-)

Enjoy your 41's (whichever "flavour") and best wishes for the New Year!

Diego.

Re: Some 41CL Questions

*Message #14 Posted by **Gerry Schultz** on 30 Dec 2011, 2:48 p.m.,*
in response to message #13 by Diego Diaz

Thank you Diego for your kind words. That's exactly why I posted here. I thought that if I have questions, that others would too. Also, I also like it when my questions prompts others to ask their own and a spirted discussion ensues. So even if my questions look ignorant or stupid, I'll still ask them.

I also appreciate the time and patience everyone expends to answer questions here on this forum. I know that when I composed my questions, I spent an hour or two writing and re-writing them to make sure I was clear and concise on what I was asking about. Just think about the time Monte, Angel, Frido, you and others spend thinking about and responding to all these questions.

So, yes, thank you all for the contributors to this forum for your energy and willingness to add your knowledge and experience to our community. I for one deeply appricate everyone's contributions.

Gerry

Re: Some 41CL Questions

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 30 Dec 2011, 3:07 p.m.,*
in response to message #14 by Gerry Schultz

Quote:

Just think about the time Monte, Angel, Frido, you and others spend thinking about and responding to all these questions.

So, yes, thank you all for the contributors to this forum for your energy and willingness to add your knowledge and experience to our community. I for one deeply appricate everyone's contributions.

You're not alone Gerry, thank you all for your time and patience.
Happy New Year!

Massimo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Not working anymore

*Message #1 Posted by **fhub** on 27 Dec 2011, 4:49 p.m.*

Today I finally tried to switch to the newest SVN 2083/2085 and now nothing is working anymore. :-(

First problem is the new assembler: I compiled my 4 programs PF, TVM, TRIGON and PRS together with the new option '-lib' and got a wp34s-lib.dat, but when I tried to list it in the WP34s each of the 4 Libs just displayed END, none of the program was visible.
Then I compiled it without '-lib' (and had to use '-dl' because of the size) and then it seemed to work in the emulator - at least I could see, load and run the programs.

But now my PRS program suddenly stopped with an error message "Out of range" and the command was R-SWAP.
A few manual tests showed that this R-SWAP is now only working if the number nn is less than half of the sss number.

The R-SWAP parameter is sss.nnddd, and here are a few examples how R-SWAP behaves in the current version:

```
10 -> error
10.09 -> error
...
10.06 -> error
10.05 -> works
```

Maybe this has something to do with the new double precision (because of the half registers), but I definitely haven't set this mode (I've checked it).

Good that I still have some older versions ...

Franz

Re: [WP34s] Not working anymore

*Message #2 Posted by **fhub** on 27 Dec 2011, 5:12 p.m.,*
in response to message #1 by fhub

Oh my god, it's even worse! :-(

I just realized that for my test polynomial this R-SWAP code shouldn't even have been reached in my PRS program, so I single-stepped through the program and found that now even simple test functions don't work anymore!

For example: with 0 in the X-register the test x=1? returns true!!!

Re: [WP34s] Not working anymore

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 27 Dec 2011, 5:45 p.m.,*
in response to message #2 by fhub

> Quote:
>
> Oh my god, it's even worse! :-(

Ya know... you could supply feedback without all of the emotive angst. It would be just as helpful and not nearly so irritating.

If you are willing to go with the bleeding edge of the development, you will get paper cuts now and then. Calling on the almighty for deliverance will not hasten your respite.

There is (was?) a problem with the assembler up until a few minutes ago that it generated images of the wrong style for the latest calculator design. It should be fixed now. We are still trying to mix and match the images into the machine-as-a-whole. Your patience and understanding is encouraged.

From where did you get the idea to use the '-lib' switch with the assembler? The SVN log maybe? I didn't exposed it in the help menu (-h) for the very good reason that it shouldn't be enabled by the end user. It is used as part of the internal tool chain. Nothing good will likely come from trying to turn it on. It works in conjunction with the new LIB tool to modify how images are created.

Re: [WP34s] Not working anymore

*Message #4 Posted by **fhub** on 27 Dec 2011, 5:55 p.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

> Quote:
>
> Ya know... you could supply feedback without all of the emotive angst. It would be just as helpful and not nearly so irritating.
>
> If you are willing to go with the bleeding edge of the development, you will get paper cuts now and then. Calling on the almighty for deliverance will not hasten your respite.

Could you please stop trying to tell me what I should write and how I should write it?
Can't you imagine that everyone has it's own style?

> Quote:
>
> From where did you get the idea to use the '-lib' switch with the assembler? The SVN log maybe?

Yes, exactly from there!

Now I've recompiled it (or better: tried to do it) with your new SVN 2086 build and without this '-lib' switch and now guess what I get: an error message "ERROR: Too many program steps encountered (> 922 words)."
With the '-lib' switch it compiles without error - strange, isn't it? ;-)

Franz

Edited: 27 Dec 2011, 5:56 p.m.

Re: [WP34s] Not working anymore

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 27 Dec 2011, 6:47 p.m.,*
in response to message #4 by fhub

> Quote:
>
> Could you please stop trying to tell me what I should write and how I should write it? Can't you imagine that everyone has it's own style?

Dial back your emotions and it will help all around. It is not "style" if my teenager says "Shut Up, Dawg!" to my mother. Such indiscriminate pleas to deities can offend a reasonable fraction of people.

> Quote:
>
> Now I've recompiled it (or better: tried to do it) with your new SVN 2086 build and without this '-lib' switch and now guess what I get: an error message "ERROR: Too many program steps encountered (> 922 words)." With the '-lib' switch it compiles without error - strange, isn't it? ;-)

This is telling me that you probably have more than 922 words in your program. Is that correct? If so, then the assembler is doing exactly what it should and trapping the error. If you have fewer than 922 words in your program and this is occurring, then there is a bug in the assembler and we will attempt to track it down.

The reason it may have "worked" before was that the limit check had been modified (note the use of past tense) to use the wrong value -- a MUCH larger value than was legal. I recently discovered that this has been the case for a few weeks (since SVN 2062). If you used these previous versions and your jobs went through, chances are the output image was not strictly legal if you were exceeding the 922 limit.

Can you provide the log spit out by the assembler after you ran with '-lib' switch on? That that would be very helpful. For example, the lines similar to these:

```
// Opcode map source:
/home/nhamilton/Downloads/wp34s/wp34s_svn/trunk/tools/wp34s.op
// Opcode SVN version: 2083
// WP 34s version: 30
// CRC16: E02F
// Running in V3 RAM-mode. RAM-mode max words: 922
// Total words: 37
// Total steps: 36
```

If your image is truly too large, you might have to assemble it with the LIB tool since that tool was designed to generate images for use with the flash. The flash has more space available than the RAM. As of now, the RAM is capable of holding 922 words and the flash 4094 words. You can look for these values at the top of the ./trunk/tools/wp34s.op file.

[It might be possible to assemble a monster program with the ASM tool using the '-lib' switch but this has not been tested in this exact manner as yet.]

Note that the emulator may behave differently from the actual calculator WRT to these numbers. So even if the emulator worked with these previous images, the actual calculator may not. Marcus will likely update you more completely on that matter.

Regards...

Re: [WP34s] Not working anymore

*Message #6 Posted by **fhub** on 28 Dec 2011, 5:43 a.m.,*
in response to message #5 by Neil Hamilton (Ottawa)

> Quote:
>
> Such indiscriminate pleas to deities can offend a reasonable fraction of people.

Well, "Oh my god" is in fact a very usual saying in German if you're shocked about something - and I was indeed shocked about such terrible bugs.

> Quote:
>
> Can you provide the log spit out by the assembler after you ran with '-lib' switch on? That that would be very helpful.

Ok, the call in my batchfile looks like this (everything needed is in the current folder):
tinyperl wp34s_asm.pl -op wp34s.op PF.wp34s TVM.wp34s TRIGON.wp34s PRS.wp34s -o wp34s-lib.dat -lib

And the assembler output is this:

```
// Opcode map source: wp34s.op (specified)
// Opcode SVN version: -- unknown --
// WP 34s version: 30
// CRC16: AC41
// Running in V3 Lib-mode. Lib-mode max words: 4094
// Total words: 1100
// Total steps: 1071
```

> Quote:
>
> If your image is truly too large, you might have to assemble it with the LIB tool since that tool was designed to generate images for use with the flash. The flash has more space available than the RAM. As of now, the RAM is capable of holding 922 words and the flash 4094 words. You can look for these values at the top of the ./trunk/tools/wp34s.op file.
>
> [It might be possible to assemble a monster program with the ASM tool using the '-lib' switch but this has not been tested in this exact manner as yet.]

Yes, my image is indeed too large (for RAM), but what I want is a library file (wp34s-lib.dat) containing all my programs, since now it's not possible anymore to use/load those single wp34s-n.dat files.
And I've said already more than once that I can't get the LIB tool to work, so I have to do it directly with the ASM tool.

Franz

Edited: 28 Dec 2011, 5:46 a.m.

Re: [WP34s] Not working anymore

*Message #7 Posted by **fhub** on 28 Dec 2011, 6:03 a.m.,*
in response to message #2 by fhub

I've now tracked down these 2 (maybe related) bugs about R-SWAP and tests x=1? to SVN 2071, here both appeared the first time (in SVN 2070 everything was still ok).

Re: [WP34s] Not working anymore

*Message #8 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 7:40 a.m.,*
in response to message #2 by fhub

I'll check it out. X=1? not working and R-SWAP, even in standard precision throws an error?

Edit: The X=1? issue should be fixed with the next revision. I still have to look after the R-SWAP problem.

Edited: 28 Dec 2011, 7:56 a.m. after one or more responses were posted

Re: [WP34s] Not working anymore

*Message #9 Posted by **fhub** on 28 Dec 2011, 7:50 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> I'll check it out. X=1? not working and R-SWAP, even in standard precision throws an error?

Yes, x=1? e.g. gives 'true' also with 0 in X.
And R-SWAP (with sss.nn in X) gives an error if nn>sss/2.
Both errors since SVN2071.

Edited: 28 Dec 2011, 7:57 a.m.

Re: [WP34s] Not working anymore

*Message #10 Posted by **fhub** on 28 Dec 2011, 8:14 a.m.,*
in response to message #9 by fhub

BTW Marcus, I saw that there's now a new function 'RND nn', that's really a great enhancement! :-)

I believe this new function will be used much more often than the ROUND function, and so I would prefer having this new RND on the keyboard on [g]0 where currently ROUND is located (and also the current keyboard label RND would better fit to this new function), and put ROUND into the catalog where also ROUNDI is.

So maybe you could change this during your bugfixing, but of course only if you agree with me ... ;-)

Edited: 28 Dec 2011, 8:17 a.m.

Re: [WP34s] Not working anymore

*Message #11 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 8:21 a.m.,*
in response to message #10 by fhub

I will not walk into Walter's territory without further consultation. Having ROUND on the keyboard is quite reasonable for the average user who wants to make the displayed result the

present value of X. Being able to round to a given number of significant digits is more a matter of programming, I suppose.

Re: [WP34s] Not working anymore

*Message #12 Posted by **fhub** on 28 Dec 2011, 8:33 a.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> I will not walk into Walter's territory without further consultation.

Yes, as for predators it's very dangerous to intrude into the marked territory of others. :-)

> Quote:
>
> Being able to round to a given number of significant digits is more a matter of programming, I suppose.

Well maybe, but for programming it would even be more useful if the parameter nn (the number of digits to round) could be taken from any register - but that was already discussed for SDL/SDR too, and probably it's just too complicated to implement.

Re: [WP34s] Not working anymore

*Message #13 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 8:48 a.m.,*
in response to message #12 by fhub

All argument taking commands support the -> indirection operator.

The bugs should be fixed. Can you try again?

Re: [WP34s] working again

*Message #14 Posted by **fhub** on 28 Dec 2011, 9:18 a.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> All argument taking commands support the -> indirection operator.

Aaah, that's great - I must have overlooked this so far!

> Quote:
>
> The bugs should be fixed. Can you try again?

Yep, both things are working correctly again - thanks! :-)

BTW, I just found that [g]RTN doesn't display the BEG announciator anymore (if I have a program in RAM and I'm within this program).
Is this intended?

Re: [WP34s] working again

*Message #15 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 9:42 a.m.,*
in response to message #14 by fhub

> Quote:
>
> BTW, I just found that [g]RTN doesn't display the BEG announciator anymore (if I have a program in RAM and I'm within this program). Is this intended?

Another one I have to look into... [g]RTN no longer goes to location zero if not in program mode but to location 001 instead which isn't indicated by the annunciator.

Re: [WP34s] working again

*Message #16 Posted by **fhub** on 28 Dec 2011, 10:32 a.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> Another one I have to look into... [g]RTN no longer goes to location zero if not in program mode but to location 001 instead which isn't indicated by the annunciator.

Thinking a bit more about this [g]RTN it seems not so clear where this command should actually go!?

If you have more than one program in RAM and you're currently within (running) e.g. program 2, then should [g]RTN really put you on line 000, which would mean you're kicked out of your program 2 and have to choose it again via the CATalog if you want to restart it!

Maybe it would be better if [g]RTN would put you at the beginning of the current/active program (so a simple R/S would run it again) instead of line 000 - but I guess this won't be easy to implement (and maybe it would even require that each program has its own line numbers, i.e. start with 001 or 000).

Edited: 28 Dec 2011, 10:33 a.m.

Re: [WP34s] working again

*Message #17 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 11:28 a.m.,*
in response to message #16 by fhub

Use GTO [dot] [up] for this! (You can leave out the h prefix: XEQ [dot] is the same as [h] GTO [dot]).

Put LBL A in front of each program and a simple A will restart it.

A manual return is mainly useful to get you out of library space.

Re: [WP34s] working again

*Message #18 Posted by **fhub** on 28 Dec 2011, 11:44 a.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> Use GTO [dot] [up] for this! (You can leave out the h prefix: XEQ [dot] is the same as [h] GTO [dot]).
>
> Put LBL A in front of each program and a simple A will restart it.

Good tips, thanks! :-)

> Quote:
>
> A manual return is mainly useful to get you out of library space.

Are you sure? IIRC it didn't work this way when I last tried it - but I'm not sure, I'll check it again.

Re: [WP34s] working again

*Message #19 Posted by **fhub** on 28 Dec 2011, 12:43 p.m.,*
in response to message #18 by fhub

> Quote:
>
> Are you sure? IIRC it didn't work this way when I last tried it - but I'm not sure, I'll check it again.

Yes, I was wrong, [g]RTN gets you out of the library.

Another question, Marcus:
In the CATalog I see Lib1, Lib2 and Lib3.
Lib1 is the file wp34s-lib.dat, Lib2 is wp34s.dat (backup?), but what's Lib3?

Couldn't this be named a bit better, e.g. Lib, Bak and ??? (don't know what Lib3 is for)?

And what's wp34s.dat (Lib2) really good for? Isn't this file always updated with the current RAM content when I close the emulator? And if it's automatically reloaded when I start the emulator again, then RAM and Lib2 should contain the same programs, right?

Re: [WP34s] working again

*Message #20 Posted by **fhub** on 28 Dec 2011, 1:34 p.m.,*
in response to message #19 by fhub

And another thing, a little request:

It now has already happened more than once to me that loading a program into the RAM automatically reduced the registers, and then running the program gave an error message.

Won't it be nice if this register reducing would give a short warning before or even ask if it should indeed be done (i.e. if the program should be loaded)? Something like "Reduce regs? " or "Set regs to nn?", as it is done when you try to clear a program.

Re: [WP34s] working again

*Message #21 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 4:25 p.m.,*
in response to message #20 by fhub

The respective chapter in the manual is still to be written. It should state: "Use local registers or start using global registers with low addresses first because high addresses may become deallocated when the program area grows."

Lib 3 is the ROM contents. It was just a little bit shorter to just number the areas instead of naming them.

Lib 2 is the backup. Do a SAVE to copy RAM to lib 2. This will prevent any automatic generation of backup data that you have observed. (It happens on startup of the emulator when no valid backup is detected.)

Re: [WP34s] working again

*Message #22 Posted by **fhub** on 28 Dec 2011, 5:36 p.m.,*
in response to message #21 by Marcus von Cube, Germany

Ok, so the relations are the following:

```
RAM  <-> wp34s.dat
Lib1 <-> wp34s-lib.dat
Lib2 <-> wp34s-backup.dat
Lib3 <-> ROM
```

BTW, an automatic backup-file is NOT created on startup (as you wrote), you definitely have to do a SAVE to create it (I've just tested it).

And for Lib3 I would really prefer the name ROM instead. OTOH what is this Lib3/ROM still good for, after WHO and deltaX have now also removed from there? Is this any area the user himself could access? Or is it just reserved for any future use?

One more question:
Is there any useful purpose for listing all those ENDs

in the CATalog? I find it a bit annoying to get an END after each name/label when scrolling through this list.

Edited: 28 Dec 2011, 6:05 p.m.

Re: [WP34s] working again

*Message #23 Posted by **Marcus von Cube, Germany** on 29 Dec 2011, 5:53 a.m.,*
in response to message #22 by fhub

> Quote:
>
> BTW, an automatic backup-file is NOT created on startup (as you wrote), you definitely have to do a SAVE to create it (I've just tested it).

The backup is created internally but not written to a file. So you just get the same information in the backup that was in the state file on startup. This is only done if no backup file is found.

> Quote:
>
> And for Lib3 I would really prefer the name ROM instead. OTOH what is this Lib3/ROM still good for, after WHO and deltaX have now also removed from there? Is this any area the user himself could access? Or is it just reserved for any future use?

This looks more like a bug than a feature. I'll check it. WHO and '[delta]X' should still be present.

> Quote:
>
> One more question: Is there any useful purpose for listing all those ENDs in the CATalog? I find it a bit annoying to get an END after each name/label when scrolling through this list.

It helps you to distinguish between separate programs. Look into the vector or matrix code which has many global labels in a single program.

Re: [WP34s] working again

*Message #24 Posted by **fhub** on 29 Dec 2011, 6:20 a.m.,*
in response to message #23 by Marcus von Cube, Germany

> Quote:
>
> This looks more like a bug than a feature. I'll check it. WHO and '[delta]X' should still be present.

I believe that Pauli has removed those 2 entries from the ROM catalog - look at SVN 2087.

Re: [WP34s] working again

*Message #25 Posted by **Marcus von Cube, Germany** on 29 Dec 2011, 8:13 a.m.,*
in response to message #24 by fhub

I've removed XROM from the CAT display.

Re: [WP34s] Not working anymore

*Message #26 Posted by **Paul Dale** on 28 Dec 2011, 5:19 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> All argument taking commands support the -> indirection operator.

Almost all argument taking commands support ->. The exceptions are few: conversions, constants, alpha characters which you won't ever see directly and LBL which you will.

I'm likely to change SKIP and BACK to not accept -> and instead increase the branch range (via the assembler if not via the keyboard too). In light of this, can anyone suggest a good use for indirect SKIP or BACK? I can come up with a couple of things where it could be used but nothing that shouts out and demands its use.

- Pauli

RND nn

*Message #27 Posted by **gene wright** on 28 Dec 2011, 10:51 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Hey Marcus!

Probably a dumb idea/question, as I haven't had enough coffee yet today.

Can the round function round values in a register other than X? Usually, we round the "displayed" value to the display setting.

how about rounding the value in a register in the same way?

Again, probably a way to do this already, but thought I'd ask.

Re: RND nn

*Message #28 Posted by **fhub** on 28 Dec 2011, 10:56 a.m.,*
in response to message #27 by gene wright

> Quote:
>
> Can the round function round values in a register other than X?

No Gene, that's not possible.
This would require 2 parameters (which register to round and how many digits), and I can't imagine that such double-parameters would ever be implemented.

Re: RND nn

*Message #29 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 11:30 a.m.,*
in response to message #28 by fhub

Franz has hit the nail on the head. You will need an exchange operation before and after applying the rounding operation (ROUND or RND nn) to get this effect.

Re: RND nn

*Message #30 Posted by **gene wright** on 28 Dec 2011, 12:58 p.m.,*
in response to message #29 by Marcus von Cube, Germany

Actually, I intended to say to the display setting.

So a round command like this would round register XY to the number of decimal places of the display setting.

More coffee so perhaps a clearer explanation of what I meant. ;-)

Re: [WP34s] Not working anymore

*Message #31 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 8:15 a.m.,*
in response to message #9 by fhub

I found the R-SWAP error but I need a good idea on how to fix it. Hold on!

Re: [WP34s] Not working anymore

*Message #32 Posted by **fhub** on 28 Dec 2011, 8:26 a.m.,*
in response to message #31 by Marcus von Cube, Germany

> Quote:
>
> I found the R-SWAP error but I need a good idea on how to fix it. Hold on!

Well, without going through your C-sources I can't really help you of course, but I guess that both bug may be related. Maybe the true bug is in the test function, and the R-SWAP fails because testing source, destination and number of registers returns a wrong result if nn>sss/2 !?
(just a guess, but it would indeed be a coincidence if both bugs would have appeared independently in the same SVN)

And I have no clue how introducing double precision could have any influence on R-SWAP or testing x=_?

Re: [WP34s] Not working anymore

*Message #33 Posted by **Marcus von Cube, Germany** on 28 Dec 2011, 8:52 a.m.,*
in response to message #32 by fhub

The x=1 test was affected by a bad copy and paste. I had to provide for a double precision compare against zero and one in both single and double precision (complex and real variants). I changed the code for zero and pasted it for one without updating it correctly in all places.

R-SWAP did some pointer arithmetic for range checking which needed an update.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reply from HP on 15C LE Availability

*Message #1 Posted by **frank Knight** on 27 Dec 2011, 3:41 a.m.*

Dear Frank,

Thank you for contacting the HP Home & Home Office Sales Center.

I understand that you are inquiring as to when the HP 15c Scientific Calculator will be back in stock. Before anything else, I would like to thank you for choosing HP as your brand of choice and buying your desired products here in our online store. HP offers the best and innovative products to assure customer satisfaction.

I am sorry for the inconvenience that this has caused you. This is a popular product, Frank, due to its demand we are current out of supply.

Regrettably, we do not have information as to when this particular product will be available. I am sorry that I cannot provide you with an exact date, however I do recommend that you visit our website regularly to check for availability since shipments of our products are received daily.

As an alternative, I would like to recommend that you take a look at the HP 48gII Graphing Calculator. With its 128K total memory, more than 80K of user memory, built-in constant library, and structured programming for creating applications, the HP 48gII gives you reliable, high-level assistance for demanding engineering and surveying applications. You can refer to the URL below:
http://www.shopping.hp.com/product/calculator/HP/1/storefronts/F2226A%2523ABA

I hope this information has been of assistance to you, Frank. Please reply to this message if there is anything else we can do. For online chat assistance, please visit: http://www.shopping.hp.com/webapp/shopping/help.do. For your convenience, you may also call the HP Home & Home Office Sales Center directly at 1-888-222-0029 between 7:00 AM - 2:00 AM EST, seven days a week.

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Thank you for shopping at the HP Home and Home Office Store. We value your business and support. Our goal is to continue bringing you quality products and solutions.

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*Prices, promotions and availability are subject to change. Orders may be subject to applicable sales tax, shipping and handling charges.

Re: Reply from HP on 15C LE Availability

*Message #2 Posted by **Reth** on 27 Dec 2011, 4:07 a.m.,*
in response to message #1 by frank Knight

What a joke...

Re: Reply from HP on 15C LE Availability

*Message #3 Posted by **Marcus von Cube, Germany** on 27 Dec 2011, 7:04 a.m.,*
in response to message #2 by Reth

Canned joke...

Re: Reply from HP on 15C LE Availability

*Message #4 Posted by **Howard Owen** on 27 Dec 2011, 7:19 a.m.,*
in response to message #1 by frank Knight

He recommends the 48gII and not the 35S?

Re: Reply from HP on 15C LE Availability

*Message #5 Posted by **peacecalc** on 27 Dec 2011, 7:52 a.m.,*
in response to message #1 by frank Knight

Hello Frank,

it sounds like an automatically produced answer. You never know how many persons have to respond how many questions.

That the system recommends a hp 48 doesn't match to the hp 15c, but from the system point of view a good approximation.

Sincerely peacecalc

Re: Reply from HP on 15C LE Availability

*Message #6 Posted by **Paul Gaster** on 27 Dec 2011, 8:25 a.m.,*
in response to message #1 by frank Knight

I see a bigger problem with that canned response from HP.

1. The 48GII specs listed in the email reply are wrong. There are two versions of the 48GII. I think it was either 2006 or 2007 HP introduced an updated version that added a USB port and the Equation Library from the 48G. It also now takes 4 AAA batteries. Memory was updated also to 256k vs the old that has 128k. The old one had 80k free. The new one has much more.

2. HP's websites for the 48GII either have broken links or have wrong information on the 48GII as well.

store link with wrong info

broken Data sheet link and broken learning modules link

I know these have been pointed out before.

On a related note, HP still has an incorrect data sheet for the 15C LE floating around. You can find it with google easily:

15C LE with 12 character display

Edited: 27 Dec 2011, 8:26 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE finally arrived

*Message #1 Posted by **Hal Bitton in Boise** on 27 Dec 2011, 12:03 a.m.*

My 15C LE finally arrived on Christmas eve. My wife stuck a bow on the mailing envelope and told me I couldn't open it until the next morning. Anyway, for the record, I'm very happy with it. Key detents feel great, and all the keys register perfectly. And it is fast...my '85 15C finds a root for x^2 -3x-10 in about 15 seconds, compared to about 1/2 second for the 15C LE.

Can anyone think of another instance of a company bringing back a product 22 years after it was discontinued due to popular demand? This is rather unprecedented, isn't it? Seems to me HP could capitalize on this with some sort of advertising campaign. Happy new year to all ! Hal

Re: 15C LE finally arrived

*Message #2 Posted by **David Griffith** on 27 Dec 2011, 12:29 a.m.,*
in response to message #1 by Hal Bitton in Boise

Hopefully this can lead to an HP35s done right. For instance, ditch the directional buttons and adopt the layout of the 30b, keep the LCD, fix the bugs, use menu keys like the 32sii, and make it updatable.

Re: 15C LE finally arrived

*Message #3 Posted by **Alexander Oestert** on 27 Dec 2011, 2:33 a.m.,*
in response to message #2 by David Griffith

> Quote:
>
> Hopefully this can lead to an HP35s done right.

I would be pleased if it would lead to a HP 15c LE done right ;-(

Re: 15C LE finally arrived

*Message #4 Posted by **Michael de Estrada** on 27 Dec 2011, 9:03 a.m.,*
in response to message #2 by David Griffith

> Quote:
>
> Hopefully this can lead to an HP35s done right.

It already exists. It's called the hp 33s.

Re: 15C LE finally arrived

*Message #5 Posted by **Keith Beyer** on 27 Dec 2011, 10:22 p.m.,*
in response to message #2 by David Griffith

> Quote:
>
> Hopefully this can lead to an HP35s done right. For instance, ditch the directional buttons and adopt the layout of the 30b, keep the LCD, fix the bugs, use menu keys like the 32sii, and make it updatable.

I agree. I would use my 35s much more if it weren't so confusing to use compared to my other HP calcs. One of the big appeals of the 15C LE is I already know where everything is on the keyboard and how to use the calculator.

The 35s with a 2 line display was a great idea, just not well executed.

Re: 15C LE finally arrived

*Message #6 Posted by **Michael de Estrada** on 28 Dec 2011, 9:37 a.m.,*
in response to message #5 by Keith Beyer

The 33s also has a 2-line display, and is almost identical in layout and functionality to a 32Sii. It has the same R<>P conversion, same separate STO and RCL primary keys, same minus sign nicely centered on the mantissa. And for all it's superior features, it costs $20 less. So, IMO the 35s is in many ways a step backwards. About the only superior feature is the less cluttered layout of the shifted functions with the sloping keys, which incidentally they copied from the 15C.

Re: 15C LE finally arrived

*Message #7 Posted by **Jeff Kearns** on 29 Dec 2011, 12:06 a.m.,*
in response to message #6 by Michael de Estrada

I agree. Given the choice, I would pick the 33s over the 35s, even though the latter 'looks nicer' and has the BIG Enter key in the right place with more efficient use of the available memory for programming and use of labels and line number addressing.

The 33s, despite its reputation for having a funky chevron keyboard, and a moderate list of bugs - see link below (some of which seem to have been addressed in later releases post 2005... but not the trigonometric bug) has a reliable keyboard with positive feedback and a great display. It is also faster than the 35s.

It really is the successor to the 32sii. The 35s with its unreliable keyboard and especially without R>P conversion on the keyboard as well as other nuisances, falls short of the mark. It could have been a real winner.

HP 33s Bug Discussion

HP 35S Bug List

Regards,

Jeff Kearns

Re: 15C LE finally arrived

*Message #8 Posted by **Thomas Radtke** on 29 Dec 2011, 6:53 a.m.,*
in response to message #7 by Jeff Kearns

From what was written in a different thread, issue 15 from the 35s bug list also applies to the 33s. I cannot confirm this as I have no 33s, so it would be kind if anyone could check and update the list.

Re: 15C LE finally arrived

*Message #9 Posted by **Ethan Conner** on 27 Dec 2011, 2:58 a.m.,*
in response to message #1 by Hal Bitton in Boise

It's happened in the automotive industry. The one that comes to mind is the T-bird by Ford. However the 69 Camaro has been back in production under license for several years now and this year the 64 Mustang is available again also under license.

Re: 15C LE finally arrived

*Message #10 Posted by **John B. Smitherman** on 27 Dec 2011, 9:29 a.m.,*
in response to message #9 by Ethan Conner

As well as the VW Beetle and Mini Cooper.

John

Re: 15C LE finally arrived

*Message #11 Posted by **Gerson W. Barbosa** on 27 Dec 2011, 9:35 a.m.,*
in response to message #10 by John B. Smitherman

Except that the New Beetle is not Buggy :-)

Re: 15C LE finally arrived

*Message #12 Posted by **Glenn Shields** on 27 Dec 2011, 9:54 p.m.,*
in response to message #11 by Gerson W. Barbosa

The New Beetle is a good example of the kind of corporate thinking that we need: my wife has a 2006 that has had some serious problems, but most all were fixed under warranty, and she continues to love this car. If only HP would really embrace the "Das Auto" campaign: "Give the people what they want..." Regards, Glenn

Bringing back old products

*Message #13 Posted by **Steve Leibson** on 27 Dec 2011, 11:57 a.m.,*
in response to message #1 by Hal Bitton in Boise

"Can anyone think of another instance of a company bringing back a product 22 years after it was discontinued due to popular demand?"

Actually, Chrysler just announced the return of the Dodge Dart after a 40-year absence.

Re: Bringing back old products

*Message #14 Posted by **Dave Mabry** on 27 Dec 2011, 2:29 p.m.,*
in response to message #13 by Steve Leibson

Quote:

> "Can anyone think of another instance of a company bringing back a product 22 years after it was discontinued due to popular demand?"
>
> Actually, Chrysler just announced the return of the Dodge Dart after a 40-year absence.

Just the name...NOT the car!

Re: Bringing back old products

*Message #15 Posted by **DigiGal** on 28 Dec 2011, 7:53 p.m.,*
in response to message #14 by Dave Mabry

> Quote:
>
> "Can anyone think of another instance of a company bringing back a product 22 years after it was discontinued due to popular demand?"

Don't know if it was due to popular demand but here's one with a Reboot Retro look as well as a new full lineup...

Brand New Commodore 64 link...

Edited: 28 Dec 2011, 7:55 p.m.

Re: Bringing back old products

*Message #16 Posted by **David Griffith** on 29 Dec 2011, 12:46 a.m.,*
in response to message #15 by DigiGal

It's nothing more than a PC in an ersatz C64 shell. They couldn't even put the control key in the right place.

Re: Bringing back old products

*Message #17 Posted by **Thomas Radtke** on 29 Dec 2011, 4:51 a.m.,*
in response to message #16 by David Griffith

It's not even a C64 breadbox. It's one that takes oversized bread. Plus the four function keys are so called 'multimedia keys' :-/

Re: Bringing back old products

*Message #18 Posted by **Steve Leibson** on 28 Dec 2011, 10:26 p.m.,*
in response to message #14 by Dave Mabry

Nah, there has to be a car too. No one will pay Chrysler just for a name.

Re: Bringing back old products

*Message #19 Posted by **bill platt** on 28 Dec 2011, 11:16 p.m.,*
in response to message #18 by Steve Leibson

it will be as much Dart as the new Charger is charger, and the new Camaro is camaro, in other words, in name only.

If you want it to be dart, first, it has to be ugly. Second, it has to have a carburator. Third, it has to refuse to go around a turn. 4th, it has to have 500 lb chrome bumpers. 6, it has to look like there is no bottom to the car, because it rusted out after the 1st 6 months.

Edited: 28 Dec 2011, 11:18 p.m.

Re: Bringing back old products

*Message #20 Posted by **Vince (Italy)** on 29 Dec 2011, 1:58 p.m.,*
in response to message #14 by Dave Mabry

> Quote:
>
> Just the name...NOT the car!

The same thing as for the 15c LA. Just the name, not the calculator. The 15c LE is a hardware emulator of the original calculator. It's faster, but it isn't a real 15c

Re: Bringing back old products

*Message #21 Posted by **Eric Smith** on 29 Dec 2011, 2:30 p.m.,*
in response to message #20 by Vince (Italy)

There's simulation going on, but it is running the firmware of the original 15C, with only a few minor tweaks.

There were also hardware changes between a 1983 15C and a 1988 15C, yet I don't recall anyone complaining that the 1988 model wasn't a real 15C.

Re: Bringing back old products

*Message #22 Posted by **Vince (Italy)** on 29 Dec 2011, 3:08 p.m.,*
in response to message #21 by Eric Smith

I understand your point. But, anyway, the underlying hardware utterly differs from the original one. The firmware is running on a totally different platform. Several software emulators running on PC platform use the original firmware; they remain emulators anyway

There surely are some differences between a 1983 15C and a 1988 15C, but they are alterations made by HP in order to somehow improve the original project. The 15C LE is an entirely new machine manufactured by Kinpo.

I'm not a "serious" collector, because actually the serious collector should extend his/her collection following precise criteria; the only criterion I adopt is the subjective aesthetic sense: if I like a calculator, I buy it (without spending my last euro, of course).

However, from a (serious or not) collector perspective the 15C LE should have little or no value (besides the commercial value, I mean). But perhaps I'm going wrong...

Edited: 30 Dec 2011, 1:11 a.m. after one or more responses were posted

Re: Bringing back old products

*Message #23 Posted by **Ethan Conner** on 29 Dec 2011, 4:28 p.m.,*
in response to message #22 by Vince (Italy)

All i know is people keep buying the LE and haven't heard of anyone giving them back so it must be "real" enough.

Re: Bringing back old products

*Message #24 Posted by **Vince (Italy)** on 30 Dec 2011, 5:04 a.m.,*
in response to message #23 by Ethan Conner

I wouldn't like to be misunderstood as a result of my bad command of the English language; hurting anyone's feelings has never been my intention, and I apologize, if I unintentionally did it. I'll try to explain my point in a more exhaustive way, hoping to succeed in making myself clearer.

In my opinion, the use of a calculator on a regular and methodical basis in (not just) professional contexts is a little anachronistic. And it must not be only my opinion, considering the difference between the wide assortment of models (not only from HP) available a couple of decades ago, and the current limited one. There are several ways to accomplish the same tasks in a "better, faster, cheaper" manner.

Nevertheless, many people still use calculators; and I obviously find it very understandable, considering that I am with them, reading (and rarely writing) some posts on this forum.

And many people use "old" calculators, not the new ones, although the newer calculators are a lot faster and more efficient. Somehow, it would be indicative of a passion for calculators that surpasses their practical use; hence, calculators must have an appeal that doesn't directly correlate with their function. This concept, in general, usually constitutes the basis of the collecting.

On the other hand,we observe here several occurences that are anomalous in collectors' enviroments. Every collector attaches fundamental importance to the genuineness of each item. The item has to be authentic, not tampered with. This principle someway clashes with the success met by the 15C LE, sold at up to 500$ on eBay. And still on eBay, I saw two seller refurbished 42s, one simply repaired, the other one improved as well (memory increased up 32k, overclocked), the latter obviously not being a valid instance of the original model. Well, the second calculator has been sold at a higher price than the first one.

Such situations seem to indicate that, in the current calculators' market, three distinct groups act: the advanced users (or hardened users of such a beautiful tool), the investors (or, if you like, the scalpers), and the collectors.

Introducing the 15C LE on the market obviously satisfies the first group, and evidently the second too. But not the group of the collectors, of which I consider myself an (unworthy) exponent.

So, if some members of the first group have bought the 15C LE, it's obvious that they don't regret it. But as it don't represent (currently, at least) a collectible item,as the real 15C is, paying it five times its commercial value makes little or no sense. That's all.

I only intended to express this idea, without offending anyone.

Warm regards

Vince

Edited: 30 Dec 2011, 10:15 a.m. after one or more responses were posted

Re: Bringing back old products

*Message #25 Posted by **Martin Pinckney** on 30 Dec 2011, 9:44 a.m.,*
in response to message #24 by Vince (Italy)

> Quote:
>
> In my opinion, the use of a calculator on a regular and methodical basis in (not just) professional contexts is a little anachronistic ... There are several ways to accomplish the same tasks in a "better, faster, cheaper" manner.
>
> Nevertheless, many people still use calculators...

I for one use them because they are in fact *better, faster*, if not cheaper, for the purposes I use them - having considerable computing power at hand (literally) without moving to a different location (where a PC is) and loading up a specific program.

> Quote:
>
> And many people use "old" calculators, not the new ones, although the newer calculators are a lot faster and more efficient.

I for one use older calculators because they are in fact *better*, if not faster, than the newer ones.

Re: Bringing back old products

*Message #26 Posted by **Palmer O. Hanson, Jr.** on 31 Dec 2011, 9:43 p.m.,*
in response to message #24 by Vince (Italy)

The best explanation for the idea of

> Quote:
>
> a passion for calculators that surpasses their practical use; hence, calculators must have an appeal that doesn't directly correlate with their function.

is to simply recognize that cult-like characteristics are involved.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thank you WP34s team

*Message #1 Posted by **JimP** on 26 Dec 2011, 8:41 p.m.*

To Pauli, Walter, Marcus, Gene, Eric, and everyone else who has contributed to the WP34S repurposing project -- Thank you very much for everything that you have done, whether it be coding, design, cable, overlay, or suggestions to make it better. It's already great.

Merry Christmas and all the best for 2012, Jim

Re: Thank you WP34s team

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Dec 2011, 5:01 a.m.,*
in response to message #1 by JimP

It's good to hear you like it. And we haven't stopped yet. :-)

Re: Thank you WP34s team

*Message #3 Posted by **robertoataulfo** on 27 Dec 2011, 6:32 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Only the overlay is missing :-(

Re: Thank you WP34s team

*Message #4 Posted by **Eric Rechlin** on 27 Dec 2011, 11:38 a.m.,*
in response to message #3 by robertoataulfo

How is it missing?

Eric

Re: Thank you WP34s team

*Message #5 Posted by **robertoataulfo** on 27 Dec 2011, 12:55 p.m.,*
in response to message #4 by Eric Rechlin

Version 3.0 :-(

Re: Thank you WP34s team

*Message #6 Posted by **Eric Rechlin** on 27 Dec 2011, 4:42 p.m.,*
in response to message #5 by robertoataulfo

I'm still waiting for them to finalize the layout. Right now there is no official 3.0 layout. Hopefully this will be soon.

Eric

Re: Thank you WP34s team

*Message #7 Posted by **Walter B** on 2 Jan 2012, 12:41 p.m.,*
in response to message #6 by Eric Rechlin

The finalized and officially released v3.0 layout is available at SourceForge, build 2109. Enjoy!

Re: Thank you WP34s team

*Message #8 Posted by **JimP** on 28 Dec 2011, 5:09 a.m.,*
in response to message #2 by Marcus von Cube, Germany

And I forgot to mention the manual! Great work -- it's almost tempting to imagine it in bound form like the old HP manuals.

Re: Thank you WP34s team

*Message #9 Posted by **Walter B** on 2 Jan 2012, 12:42 p.m.,*
in response to message #8 by JimP

Thanks for your very kind words! Great you like it - it's the sum of many contributions and ideas of the team in the last three years.

Re: Thank you WP34s team

*Message #10 Posted by **Jim Horn** on 27 Dec 2011, 3:04 p.m.,*
in response to message #1 by JimP

Amen! It's become my main at-work calculator. Thank you team for a tremendous tool!

Re: Thank you WP34s team

*Message #11 Posted by **Les Wright** on 29 Dec 2011, 11:59 p.m.,*
in response to message #1 by JimP

I love the project so much I got two 30b's (Samson Cables recently had them marked down) and have them flashed with the most recent v. 2.2. I spent a few dollars to get a bunch of temporary overlays colour laser printed, and this will serve me well until v. 3 gives us a release candidate and an established overlay for Eric to work with.

Indeed, I have become so enamoured with the calculator that my much-coveted 15C LE has gotten little attention since I got it. Anything I would want to do with a 15C the 34S does better and faster. It really is a labour of love by and for those who want a great RPN programmable in the best HP tradition.

Les

Re: Thank you WP34s team

*Message #12 Posted by **Marcus von Cube, Germany** on 31 Dec 2011, 3:16 p.m.,*
in response to message #1 by JimP

Quote:

> ...everyone else who has contributed to the WP34S repurposing project...

Most notably Neil who is quite busy at the moment implementing new requirements from Pauli and me. It might not be widely known, but Neil's tools are a vital part of the building process. We are working on moving more native code to user code in order to pack more functionality in the available flash space, a task which would be impossible without Neil's assembler and preprocessor.

Re: Thank you WP34s team

*Message #13 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 31 Dec 2011, 4:38 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Dear Marcus, Pauli, Walter, Neil, Gene, Eric, and everyone who supported with codes, debugging, overlays and various other improvements from the keyboard layout to the capabilities. Great team work in Global scale.

Happy New Year!

WP-34s has been one of the significant highlights of this year in HP Calculator history and future. Thank you for your dedication and everything you have done for this project, it is truly appreciated by so many across the world.

Wishing you all, a wonderful New Year with Health, Happiness, Joy, Peace, Success and Good Fortune.

Best Regards, Kerem

Re: Thank you WP34s team

*Message #14 Posted by **Marcus von Cube, Germany** on 31 Dec 2011, 4:49 p.m.,*
in response to message #13 by Kerem Kapkin (Silicon Valley, CA)

I can only speak for myself. The main motivation for me in joining the WP 34S team was sheer fun. And still it is. :-)

Re: Thank you WP34s team

*Message #15 Posted by **gene wright** on 31 Dec 2011, 5:13 p.m.,*
in response to message #13 by Kerem Kapkin (Silicon Valley, CA)

Oh, I do very little. I simply go to the post office about once a week!

Good job all the REAL WP 34S team! ;-)

Re: Thank you WP34s team

*Message #16 Posted by **Paul Dale** on 31 Dec 2011, 5:24 p.m.,*
in response to message #12 by Marcus von Cube, Germany

> Quote:
>
> Most notably Neil who is quite busy at the moment implementing new requirements from Pauli and me.

And had taskmasters we can be :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.7

*Message #1 Posted by **robertoataulfo** on 26 Dec 2011, 7:03 p.m.*

```
CATALOG ( 1437 bytes)


21/12/11  11:07:31


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR" @ PWIDTH INF @ WIDTH 32
2 GOSUB 26 @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
5 IF B$='u' THEN C$="Purge" @ GOSUB 14 @ GOSUB 24 @ PURGE A$&B$ @ GOTO 1
6 IF B$="a" THEN C$="Print Catalog" @ GOSUB 15 @ PRINT C$[7,13]&":"&A$(I) @ I=1 @ GOTO 31
7 IF B$='e' AND POS("BT",A$[12,12])#0 THEN C$="Edit" @ GOSUB 14 @ GOSUB 24 @ EDIT A$ @ END
8 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 14 @ RUN A$
9 IF B$='c' THEN C$="Copy to" @ GOSUB 14 @ GOTO 18
10 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
11 IF B$="b" THEN BYE
12 IF B$='p' AND POS("BT",A$[12,12])#0 THEN C$="Print" @ D$=A$ @ GOSUB 14 @ GOTO 16
13 GOTO 2
14 A$=A$[1,POS(A$," ")-1] @ INPUT "File ?",A$;A$
15 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP B$ @ RETURN
16 GOSUB 24 @ GOSUB 32 @ IF A$="keys" THEN PLIST KEYS ELSE PLIST A$
17 PRINT @ GOTO 2
18 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
19 IF B=2 THEN B$=A$(1)&D$&A$(3)
20 IF B=3 THEN B$=A$(1)&D$&A$(2)
21 DISP C$&" "&B$&" ?" @ B=VAL(WKEY$) @ GOSUB 24
22 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
23 GOTO 2
24 B$="" @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
25 RETURN
26 IF B=1 THEN A$=CAT$(I)
27 IF B=2 THEN A$=XCAT$(I)
28 IF B=3 THEN A$=TCAT$(':dr',I)
30 RETURN
31 GOSUB 33 @ GOSUB 26 @ IF A$="" THEN I=1 @ GOTO 2 ELSE PRINT A$ @ I=I+1 @ GOTO 31
32 PRINT A$;' (';VAL(D$[13,18]);'bytes)'
33 PRINT @ C$=DATE$ @ PRINT C$[7,8]&C$[3,6]&C$[1,2]&"  "&TIME$ @ PRINT @ RETURN


a    = Print Catalog
c    = Copy File to
e    = Edit Basic File
r    = Run Basic File
p    = Print Basic File
b    = Bye (Off)
x    = exchange media
u    = Purge File
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


:Xmem=82718A


Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S - INC X and RCL L (LASTx)

*Message #1 Posted by **Gerson W. Barbosa** on 26 Dec 2011, 1:10 p.m.*

Is there a reason INC X doesn't affect the register L (LASTx)? Thanks!

Re: WP 34S - INC X and RCL L (LASTx)

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Dec 2011, 2:47 p.m.,*
in response to message #1 by Gerson W. Barbosa

Simplicity. X is just another register. We would need to check for X as a special case (not only for INC).

Re: WP 34S - INC X and RCL L (LASTx)

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 26 Dec 2011, 2:57 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I think it may be better not to save LastX when just incrementing (or decrementing) a register, to avoid the loss of generality. And, eventually, LastX may well end containing a "1" as the "last" operand added or substracted...

Re: WP 34S - INC X and RCL L (LASTx)

*Message #4 Posted by **Gerson W. Barbosa** on 26 Dec 2011, 3:17 p.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

I can't think of a situation in which updating LastX after INC or DEC would be inconvenient. On the other hand here it would save two steps:

```
001 LBL A               001 LBL A
002 1                   002 INC X
003 x<>y                003 RCL L
004 +                       ...
005 RCL L
    ...
```

Re: WP 34S - INC X and RCL L (LASTx)

*Message #5 Posted by **Paul Dale** on 26 Dec 2011, 4:33 p.m.,*
in response to message #4 by Gerson W. Barbosa

How about:

```
001 LBL A
002 ENTER
003 INC Y
    ...
```

No steps saved :-)

On the other hand, INC not setting LastX has been a boon several times.

- Pauli

Edited: 26 Dec 2011, 4:34 p.m.

Re: WP 34S - INC X and RCL L (LASTx)

*Message #6 Posted by **Gerson W. Barbosa** on 26 Dec 2011, 5:04 p.m.,*
in response to message #5 by Paul Dale

That'll do, thanks!

Gerson.

Re: WP 34S - INC X and RCL L (LASTx)

*Message #7 Posted by **fhub** on 26 Dec 2011, 4:12 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Simplicity. X is just another register. We would need to check for X as a special case (not only for INC).

But it's definitely inconsistent! IMO one should really be able to trust that LastX (L) is set to X whenever X is changed. Otherwise we would need a (complete!) table which operations set L and which not.

Re: WP 34S - INC X and RCL L (LASTx)

*Message #8 Posted by **gene wright** on 26 Dec 2011, 4:14 p.m.,*
in response to message #7 by fhub

I do agree that consistency is to be preferred.

What reasons are there for not incrementing X specifically?

Re: WP 34S - INC X and RCL L (LASTx)

*Message #9 Posted by **Paul Dale** on 26 Dec 2011, 4:46 p.m.,*
in response to message #8 by gene wright

Get out your trusty 41c and execute ISG X. Is the old X saved in LastX? No. The same is true on the 34S for all six increment and decrement operations. INC and DEC are there because I've seen way too many cases of "ISG nn NOP" in programs. i.e. they are very useful short cuts. In this way INC and DEC are *completely consistent* with their kindred commands.

Not setting LastX for these operations has actually been a bonus more times than not. There have been a number of rather clever pieces of code written that rely on this behaviour. As an aside: I've contemplated introducing fast arithmetic operations that allow you to add, subtract, multiply or divide X and a constant argument. These would most likely not save LastX either.

Finally, as Marcus mentioned, I'm very unlikely to introduce LastX saving here, checking for X specially would require extra code which we kind of don't have space for. What about ISG, DSE, X<> or even CLx ? They change X but nobody has ever called for them to set LastX that I'm aware

of? Must they too be modified to save LastX even though it breaks backward compatibility with everything?

Sorry, but I think it is consistent the way it is and that it is more useful not setting LastX. I'm going to be difficult to convince otherwise I suspect.

- Pauli

Re: WP 34S - INC X and RCL L (LASTx)

*Message #10 Posted by **Gerson W. Barbosa** on 26 Dec 2011, 5:23 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> What about ISG, DSE, X<> or even CLx ? They change X but nobody has ever called for them to set LastX that I'm aware of?

Perhaps because ISG and DSE are used primarily for loop control, unlike INC and DEC. My opinion is the same as Franz's above, but considering that lots of (built-in?) code have been written with this behavior in mind, better keep it this way.

Gerson.

Re: WP 34S - INC X and RCL L (LASTx)

*Message #11 Posted by **Paul Dale** on 26 Dec 2011, 5:33 p.m.,*
in response to message #10 by Gerson W. Barbosa

> Quote:
>
> Perhaps because ISG and DSE are used primarily for loop control, unlike INC and DEC.

Go through the 41c software archive -- ISG and DSE are very commonly used for their +1 or -1 effect and are often followed by a NOP instruction: DEG, empty alpha and the like. Not always of course but surprisingly often -- this is the heritage of INC and DEC.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Overlay?

*Message #1 Posted by **robertoataulfo** on 26 Dec 2011, 7:39 a.m.*

Eric new WP 34S Overlay version 3.0 ?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C Prestige

*Message #1 Posted by **Keith Midson** on 26 Dec 2011, 3:32 a.m.*

Hi all, Hope everyone had a great Christmas!
I have a growing collection of 12C's (a subset of my larger HP collection - here: 12C collection). I am really keen to get hold of a 12C Prestige - there has been some discussion on this forum previously HERE
It looks like it was only released in some countries - does anyone know how to get hold of one? Can anyone help me get one (i'm in Australia). Many thanks, Keith

Re: HP 12C Prestige

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 26 Dec 2011, 3:16 p.m.,*
in response to message #1 by Keith Midson

Recently I noticed afew of them on TAS. However title says HP-12C#ABA AFAIK it is the part number for the current standard HP-12C with 2x2032 batteries. AFAIK the model number for the HP-12C Prestige is F2233A. However the photo is the photo of HP-12C Prestige with white face. Seller has not returned my questions about the clarification. If you search the TAS with HP-12C#ABA you will find a few sellers posting HP-12C Prestige (at least by photo).

Link

I hope this helps. Regards, Kerem

Re: HP 12C Prestige

*Message #3 Posted by **Don Shepherd** on 26 Dec 2011, 3:19 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

It would be extremely helpful to new users not to use the term TAS. Just call it what it is: Ebay.

Re: HP 12C Prestige

*Message #4 Posted by **Ron Ross** on 26 Dec 2011, 11:19 p.m.,*
in response to message #3 by Don Shepherd

I believe the moderator doesn't mind you using ebay in your post as long as you identify your ebay handle. This was to discourage others from bad mouthing others without actually identifying your ebay name. I feel this is only fair and this simple rule is often abused and or overlooked.

ebay name: fysics

Edited: 26 Dec 2011, 11:20 p.m.

Re: HP 12C Prestige

*Message #5 Posted by **Keith Midson** on 26 Dec 2011, 3:47 p.m.,*

in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Hi Kerem, I also saw these and also asked a while ago - I got a response that they weren't the Prestige version. False advertising!

Re: HP 12C Prestige

*Message #6 Posted by **Gerson W. Barbosa** on 26 Dec 2011, 9:44 p.m.,*
in response to message #1 by Keith Midson

http://www.hp.com/latam/br/produtos/calculadoras/12c_pres.html

Not sure whether it is still available though.

Looks like it's not availabe anywhere:

http://www.submarino.com.br/busca?dep=%20&y=0&q=HP-12c%20prestige&x=0&group=237230

Edited: 26 Dec 2011, 9:54 p.m.

Re: HP 12C Prestige

*Message #7 Posted by **Artur-Brazil** on 27 Dec 2011, 5:00 a.m.,*
in response to message #1 by Keith Midson

Hi, Keith,

Please, drop me a message and I'll help you on this matter. arturmariojr at gmail dot com

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[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Double precision registers - What are your feelings?

*Message #1 Posted by **Marcus von Cube, Germany** on 25 Dec 2011, 5:58 p.m.*

I know here are some numerical analysts which may help to decide about a feature in WP 34S which may, or may not, be exposed to the user: double precision registers.

The decimal64 format used for the registers and stack provide 16 decimal digits. The decimal128 variant has room for 34 decimal digits. All internal computations are done to at least 39 digits and then rounded to the register format.

The latest firmware has added commands to switch to decimal128 as the register format, thus exposing much higher precision to the user. The commands in question are DBLON, DBLOFF (in MODE) and DBL? (in TEST). The reason to implement the feature is that we want to implement more algorithms in user code which is hopefully much more compact than the present native implementations are. We do not want to sacrifice accuracy and will therefore use double precision registers internally for this.

The question is: Is it worthwhile - or even dangerous - to expose this to the user. There will certainly be some functions which will not return results accurate to 34 decimal places. On the other hand, there are many that do, most notably the basic arithmetic but also exponentials and logarithms.

As an example, I tried PI LN EXP PI - and got 1e-33 as the result which looks very promising. 10 Phi Phi^-1 returns infinity in normal mode and (10 - 5e-13) in double precision mode as the result. The usable range of the function is obviously considerably expanded.

What are your feelings about the feature? Leave it user accessible or not? Do you have applications for it?

Re: WP 34S: Double precision registers - What are your feelings?

*Message #2 Posted by **fhub** on 25 Dec 2011, 6:25 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> What are your feelings about the feature? Leave it user accessible or not? Do you have applications for it?

Well, I can't say if I'll ever really need or use it, but who knows? So I would say: if it's already implemented and working then make it also accessible to the user.

BTW, does this double presision also increase the exponent range, i.e. work with higher exponents than E+/-380?

Re: WP 34S: Double precision registers - What are your feelings?

*Message #3 Posted by **Marcus von Cube, Germany** on 25 Dec 2011, 6:35 p.m.,*
in response to message #2 by fhub

> Quote:
>
> BTW, does this double presision also increase the exponent range, i.e. work with higher exponents than E+/-380?

It does. See here! The exponent range is larger than the display can show. In this case, "HIG" is displayed in the exponent field. We need to modify SHOW to allow a better display of double precision numbers which exceed the range. You can use LOG for a quick estimate. The format is more suited to intermediate results than to final values.

Re: WP 34S: Double precision registers - What are your feelings?

*Message #4 Posted by **fhub** on 25 Dec 2011, 6:41 p.m.,*
in response to message #3 by Marcus von Cube, Germany

WOW, more than 6000!?

This WP34s is more and more turning into a monster machine ... :-)

Re: WP 34S: Double precision registers - What are your feelings?

*Message #5 Posted by **Paul Dale** on 25 Dec 2011, 8:03 p.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> The exponent range is larger than the display can show. In this case, "HIG" is displayed in the exponent field.

Several functions will break down for arguments with large exponents. For example, the trig functions won't modulo reduce properly but there will be others.

- Pauli

Re: WP 34S: Double precision registers - What are your feelings?

*Message #6 Posted by **Dieter** on 26 Dec 2011, 10:52 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> You can use LOG for a quick estimate

Well, on the 34s we have this EXP function that should return the exact exponent here. ;-)

Dieter

Re: WP 34S: Double precision registers - What are your feelings?

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Dec 2011, 2:42 p.m.,*
in response to message #6 by Dieter

> Quote:

> Well, on the 34s we have this EXP function that should return the exact exponent here. ;-)

I know, but LOG is on the keyboard. :-)

Re: WP 34S: Double precision registers - What are your feelings?

*Message #8 Posted by **Paul Dale** on 25 Dec 2011, 7:31 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> On the other hand, there are many that do, most notably the basic arithmetic but also exponentials and logarithms.

Basic arithmetic, square root should be correctly rounded. Exponentials could be wrong in the last digit -- I can live with that.

Logarithms won't be so good -- I terminate the series at a relative error of 1e-32 between successive terms. Which means the last two digits could easily be incorrect as could the third last. This is pushing past the bounds of what I deem acceptable in a calculator, at least what is exposed to the user.

Several other functions are, by design, not even close to 34 digits accurate. The statistical functions being some of them -- phi is better than many of the others. Try F or t they won't be as good -- stopping at a relative error of 1e-24 or less between successive methods.

SIN/COS/TAN should be good, their inverses less so. Gamma won't be accurate to all digits e.g.

Don't judge a function from a single or even many evaluations.

- Pauli

Re: WP 34S: Double precision registers - What are your feelings?

*Message #9 Posted by **Marcus von Cube, Germany** on 26 Dec 2011, 4:43 a.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> Don't judge a function from a single or even many evaluations.

No Question! As a compromise, we could deliberately round functions with questionable accuracy to less digits or increase the number of iterations depending on the double precision flag. I'm on the side of rounding to less significant digits for those functions we do not trust.

BTW, I don't think anybody will ever try to calculate sin(10^6000). We can reduce the allowed argument range the same way we reduce the resulting number of figures.

Re: WP 34S: Double precision registers - What are your feelings?

*Message #10 Posted by **Paul Dale** on 26 Dec 2011, 5:01 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:

> BTW, I don't think anybody will ever try to calculate sin(10^6000). We can reduce the allowed argument range the same way we reduce the resulting number of figures.

I'm certain someone will try. I remember comparisons of calculators evaluating SIN(1E90 radians) and comparing the results, that value is pretty large.

There is quite a lot of discussion about argument reduction in the numeric mathematics literature I've got and quite some effort has been put into being able to do the modulo 2 PI reduction trig functions require. Muler's Elementary Functions has an entire chapter dedicated to this topic. A quick google turned up this one. Also this one talking about .NET's failings on this front.

- Pauli

Re: WP 34S: Double precision registers - What are your feelings?

*Message #11 Posted by **fhub** on 26 Dec 2011, 6:03 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> I'm certain someone will try. I remember comparisons of calculators evaluating SIN(1E90 radians) and comparing the results, that value is pretty large.

Well, maybe you should implement a new constant with the value "Oops!" and return this value for function calls with such unusual arguments. ;-)

Re: WP 34S: Double precision registers - What are your feelings?

*Message #12 Posted by **Paul Dale** on 26 Dec 2011, 6:06 a.m.,*
in response to message #11 by fhub

Nice suggestion :-)

The 34S should be good for trig arguments up to the largest decimal64 value (circa 10^384).

- Pauli

Re: WP 34S: Double precision registers - What are your feelings?

*Message #13 Posted by **fhub** on 26 Dec 2011, 6:19 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> The 34S should be good for trig arguments up to the largest decimal64 value (circa 10^384).

I would say that's more than enough in a universe with only about 10^80 atoms. ;-)

Re: WP 34S: Double precision registers - What are your feelings?

*Message #14 Posted by **Dieter** on 26 Dec 2011, 11:09 a.m.,*
in response to message #8 by Paul Dale

Usually the error in the final result is significantly less than difference between the last two approximations - since the algorithms converge the error decreases with every iteration. For instance, the method used for the normal quantile has better than quadratic, almost cubic convergence. So if the last two approximations are only 1E-20 apart, the final result usually can be expected to have about 50 valid digits. ;-)

So a closer look at the used methods and their convergence properties may show that the precision is "good enough" even for double precision mode.

However, there is an even better idea: an internal function may accept the desired precision as an additional argument, so that it is evaluated as precisely as required - neither better (slower) nor worse (inexact). So a direct call by the user or within a program may terminate as soon as the result has 16 correct digits, while the internal call of the same function, used within a more complicated algorithm, may return 30+ digits. On the other hand the initial estimates for the quantile functions only require logarithms that are correct in, say, five significant digits. That's why I think such a "flexible precision" approach may be a good idea.

Dieter

Re: WP 34S: Double precision registers - What are your feelings?

*Message #15 Posted by **htom trites jr** on 25 Dec 2011, 9:17 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Double precision? Yikes! Many struggle with the simpler dangers of floating point and decimal <-> binary conversions.

Yes, it can be dangerous to allow users access to double precision packages and operators.

Yes, it's very useful to those who understand it, and its limitations.

I'd allow it, and hope the manual eventually gets a complete listing of error bounds for the included functions.

Double complex even more so!

Re: WP 34S: Double precision registers - What are your feelings?

*Message #16 Posted by **Paul Dale** on 25 Dec 2011, 10:22 p.m.,*
in response to message #15 by htom trites jr

> Quote:
>
> I'd allow it, and hope the manual eventually gets a complete listing of error bounds for the included functions.

Are you volunteering to do the error analysis involved? I'm not up to it, I don't feel.

- Pauli

Re: WP 34S: Double precision registers - What are your feelings?

*Message #17 Posted by **Dieter** on 26 Dec 2011, 10:49 a.m.,*
in response to message #1 by Marcus von Cube, Germany

User accessible double precision? Great! No question - yes! yes! yes! Pleeeease keep this feature! That's what

I am looking for as long as I use programmable calculators!

There's a simple reason for this: if a user-programmed function is expected to return a full precision result (i.e. correct in all returned (standard-precision) digits) the calculation usually has to be done with some additional guard digits. You can't expect a 10-digit result if the whole calculation is done with not more than the same 10 digits.

So the idea is quite exactly the same as yours: Yes, let's provide the user with the tools that enable him to write his own routines *with the same precision as the built-in functions*. That's what I always missed on my other calculators.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

i41CX+ Load Modules to Odd Pages

*Message #1 Posted by **Howard Owen** on 25 Dec 2011, 2:40 p.m.*

The title says it all. There's no reference in the FAQ to being able to load a module to an odd numbered (9, B, D, F) page. I also can't come up with a search that captures any discussion on this topic in the archives. Is this possible?

Thanks,
Howard

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #1 Posted by **fhub** on 25 Dec 2011, 9:03 a.m.*

Although there seems to be not much interest in polynomial rootsolving, here's finally my program for the WP34s - maybe at least a few members here will like and use it. ;-)

I've put it in the Article section:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=1133

Now I've also put the file in my download folder:
http://www.hpmuseum.org/guest/fhub/prs.zip

If you have any remarks, suggestions or questions about my program feel free to post them here. Of course also if you find any polynomial(s) where my program fails or gives wrong or inaccurate results - although this is very unlikely. ;-)

Just in case you need a polynomial rootsolver for the PC, or if you want to test my WP34s program - here's a very interesting website about polynomial rootsolving, which has programs for the PC and also an online rootsolver:
http://www.hvks.com/Numerical/winsolve.html

There's also still the previous version of this 'RootFinder' program available (WinSolve), which has the advantage that it doesn't need .NET4, so this is my prefered version:
http://www.hvks.com/Numerical/Downloads/winsolve.zip

Merry Christmas to all,
Franz

Edited: 3 Jan 2012, 7:33 a.m. after one or more responses were posted

Re: [WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #2 Posted by **Namir** on 25 Dec 2011, 5:18 p.m.,*
in response to message #1 by fhub

How does your root solver handle polynomials with a high number of duplicate roots? Such as:

(x-1.234)^20 = 0

Namir

Re: [WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #3 Posted by **fhub** on 25 Dec 2011, 5:57 p.m.,*
in response to message #2 by Namir

> Quote:

> How does your root solver handle polynomials with a high number of duplicate roots? Such as:
>
> (x-1.234)^20 = 0

Your example above will be solved **exactly** - well, at least if you enter all coefficients with full precision, but that's not possible e.g. for 1.234^20. But with integer coefficients it works.

The Laguerre method automatically solves all polynomials of the form (x-x0)^n correctly, and all other multiplicities within a polynomial should be solved by my special routine for multiple roots - usually exact for integer roots (and even not too 'long' rational numbers) and with about 12 or more digits precision for all other (irrational) roots.

You can try the examples that Valentin has posted about a month ago (the thread is in the archive and has also a name like "polynomial roots solver").
He has given the examples (x+1)^30 and (x^2+x+1)^10 and both are solved exactly by my program. Also the example from the HP-71B paper (x+1)^20 gives absolutely correct roots, whereas the HP-71B program returns very inaccurate (I would call it even wrong) solutions.

Franz

Edited: 25 Dec 2011, 6:13 p.m.

Re: [WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #4 Posted by **fhub** on 26 Dec 2011, 7:17 a.m.,*
in response to message #2 by Namir

> Quote:
>
> How does your root solver handle polynomials with a high number of duplicate roots? Such as:
>
> (x-1.234)^20 = 0

Hi again, Namir!

I've now written a small routine which created your above polynomial and then let my program solve it, and although of course the coefficients couldn't be stored with full precision (i.e. all digits) my PRS solver returns all 20 solutions absolutely exact as -1.234!

I think that tells all about the quality of this polynomial rootsolver ... :-)

Franz

Re: [WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 26 Dec 2011, 7:21 a.m.,*
in response to message #4 by fhub

Hmmm. Shouldn't the root have been positive 1.234? Might have some work yet. :-)

Re: [WP34s] The ultimate polynomial rootsolver is here ;-)

*Message #6 Posted by **fhub** on 26 Dec 2011, 7:43 a.m.,*
in response to message #5 by Neil Hamilton (Ottawa)

> Quote:
>
> Hmmm. Shouldn't the root have been positive 1.234? Might have some work yet. :-)

Oops, of course you're right!
My short program just created (x+1.234)^20 instead of (x-1.234)^20.
So everything is fine at the end ... :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Reducing omega

*Message #1 Posted by **NateB** on 24 Dec 2011, 10:04 p.m.*

Interesting article about a breakthrough in matrix-multiplication.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP50g Advertisement

*Message #1 Posted by **NateB** on 24 Dec 2011, 9:17 p.m.*

This is the first HP calculator advertisement I've ever seen in print. It is being run in the Dec 2011 issue of ASCE's *Civil Engineering* magazine.

Re: HP50g Advertisement

*Message #2 Posted by **bill platt** on 24 Dec 2011, 9:49 p.m.,*
in response to message #1 by NateB

That's pretty funny.

Why would someone think to use a calculator instead of a laptop? I am curious how they came to that decision. I'm not saying it was the wrong decision--inquiring minds want to know!

Re: HP50g Advertisement

*Message #3 Posted by **NateB** on 24 Dec 2011, 10:07 p.m.,*
in response to message #2 by bill platt

Same here. Battery life? Durability?

Re: HP50g Advertisement

*Message #4 Posted by **Raymond Del Tondo** on 24 Dec 2011, 10:14 p.m.,*

in response to message #2 by bill platt

Maybe because a 50g together with a StreamSmart is cheaper than most laptops, or maybe because it's sufficient for the task.

On a laptop one may have to install some suitable analysis software. Maybe the 50g built-in analysis features are either well suited for the task, or easily customized to do it right;-)

And don't forget mobility: The 50g eats batts within a few weeks, but a laptop only runs 2 to 7 hours on a charge.

Apart from that, HP sponsored the ad, and maybe more, so there are reasons beyond the above...

Re: HP50g Advertisement

*Message #5 Posted by **bill platt** on 25 Dec 2011, 12:29 a.m.,*
in response to message #4 by Raymond Del Tondo

Very plausible ideas.

I think it is interesting and perhaps heartening to know that people doing this sort of project have the 50g "on the radar" as it were.

Re: HP50g Advertisement

*Message #6 Posted by **Egan Ford** on 25 Dec 2011, 12:44 a.m.,*
in response to message #4 by Raymond Del Tondo

> Quote:
>
> Maybe because a 50g together with a StreamSmart is cheaper than most laptops

Given the relative cost of the project as a whole the cost of a laptop vs. calculator would be a rounding error. I'd also wager for every 50g there is probably a dozen or so laptops.

My guess, personal choice. The 50g isn't going to outclass a laptop in capabilities, but rather in simplicity. If any of us were on the crew we would probably do the same, not because we should, but because we could.

Re: HP50g Advertisement

*Message #7 Posted by **Ethan Conner** on 25 Dec 2011, 1:30 a.m.,*
in response to message #6 by Egan Ford

Looking at the NAE website HP is a listed sponsor. I would say that if a wealthy Chinese business man gave them a couple million to keep making runs and told them to say they were taking their data on an abacus they would gladly go along.

Re: HP50g Advertisement

*Message #8 Posted by **NateB** on 25 Dec 2011, 1:48 a.m.,*
in response to message #7 by Ethan Conner

I thought the same, but HP also sells laptops.

Re: HP50g Advertisement

*Message #9 Posted by **Howard Owen** on 25 Dec 2011, 11:14 a.m.,*
in response to message #8 by NateB

> Quote:
>
> I thought the same, but HP also sells laptops.

They make just a little bit more from the laptops too.

This is the marketing team targeting a particular product. Someone higher up has invested some marketing budget into sponsoring this particular effort. A pretty smart buy, I'd say. Flying a jet on the ground at supersonic speeds has appeal from applied math to the NASCAR crowd. I'm sure they are using this affiliation to push laptops too, but the 50g is an obvious niche product that can benefit from the jet afterglow.

None of which speaks to why you might use a 50g for something like this. Perhaps weight on board a grounded jet is at a premium? Maybe the 50g performs better than a laptop when confronted with extremes of temperature, vibration and dust? A laptop designed to survive those conditions would cost a lot more than a 50g. Just because a project will take a lot of money to complete doesn't mean money isn't tight. Quite the opposite, in fact.

It's all speculation. But one thing doesn't seem speculative to me. That jet is cooooool! :)

Re: HP50g Advertisement
*Message #10 Posted by **Vince (Italy)** on 25 Dec 2011, 4:51 a.m.,*
in response to message #2 by bill platt

It would be an unreasonable choice if it were real. Such a complex and difficult task cannot be accomplished using a (sophisticated as it is) calculator. They mainly use a CFD system from FARO Technologies Inc. running on PC platform supplied by Lenovo. The Hp 50g is used in the context of some "educational" activities that are a by-product of the main project; so the advertisement is a sort of publicity gimmick: http://www.landspeed.com/jetcar/classroom.html

Re: HP50g Advertisement
*Message #11 Posted by **bill platt** on 25 Dec 2011, 10:52 a.m.,*
in response to message #10 by Vince (Italy)

Now that makes sense! It also explains the tone of the ad copy--which seemed targeted to students...

Re: HP50g Advertisement
*Message #12 Posted by **Gerson W. Barbosa** on 25 Dec 2011, 7:03 p.m.,*
in response to message #2 by bill platt

One of these days when I was watching a Discovery Channel program about the SpaceShip One project I noticed there was an HP-48G (or GX) on the aerodynamics engineer's desktop. I think he was actually using it, but I'm not sure.

Re: HP50g Advertisement
*Message #13 Posted by **Garth Wilson** on 26 Dec 2011, 12:31 a.m.,*
in response to message #2 by bill platt

> Quote:
>
> That's pretty funny.
>
> Why would someone think to use a calculator instead of a laptop? I am curious how they came to that decision. I'm not saying it was the wrong decision--inquiring minds want to know!

When I got my 41cx in the 80's, others would say that for the price, you might as well get a PC, as if the only reason to get a 41 was if you couldn't afford a PC. I did get a PC later of course, but I'm glad I got the 41cx first. There's little overlap in the purposes of the two types of computers, and I did a lot with the 41cx that I could not have done with a PC, because of issues of size, portability, durability, ease of personal programming and interfacing to several pieces of lab equipment at once, etc.. For some purposes, GHz speeds and 64-bit buses are irrelevant to the value of a computer.

Re: HP50g Advertisement
*Message #14 Posted by **bill platt** on 26 Dec 2011, 12:44 a.m.,*
in response to message #13 by Garth Wilson

networking was Wild West on "PC" or Apple in 1982. The 41CV came with a built-in networking feature.

Re: HP50g Advertisement
*Message #15 Posted by **hpnut** on 24 Dec 2011, 10:31 p.m.,*
in response to message #1 by NateB

Übercool ;-)

Re: HP50g Advertisement
*Message #16 Posted by **Thomas Klemm** on 25 Dec 2011, 10:40 a.m.,*
in response to message #1 by NateB

So I guess they are just happy they don't have to do multiple integrals.

Re: HP50g Advertisement
*Message #17 Posted by **bill platt** on 25 Dec 2011, 10:53 a.m.,*
in response to message #16 by Thomas Klemm

Hahaha, I just started reading that thread last night. I think I need to do some brushing up before I understand all of it :-D

Re: HP50g Advertisement
*Message #18 Posted by **Eric Rechlin** on 25 Dec 2011, 11:58 a.m.,*

in response to message #1 by NateB

Strange that that ad refers to it as the "HP-50g" when the official name (used in all other HP material) is the "HP 50g".

Eric

Re: HP50g Advertisement
*Message #19 Posted by **Gerson W. Barbosa** on 25 Dec 2011, 12:41 p.m.,*
in response to message #18 by Eric Rechlin

Because of formatting, perhaps. Without the hyphen HP and 50g would be in different lines. When this happens I usually add an hyphen too (or any other character), but I set its color to white.

Re: HP50g Advertisement
*Message #20 Posted by **Neil Hamilton (Ottawa)** on 25 Dec 2011, 1:52 p.m.,*
in response to message #19 by Gerson W. Barbosa

Most editors have non-break spaces and hyphens for just this purpose. IIRC try ctrl-shift-dash for a non-break hyphen and ctrl-shift-space for a non-break space. YMMV with editors.

Re: HP50g Advertisement
*Message #21 Posted by **Gerson W. Barbosa** on 25 Dec 2011, 2:29 p.m.,*
in response to message #20 by Neil Hamilton (Ottawa)

These work on MS Word 2007. Thanks for the tip :-)

Re: HP50g Advertisement
*Message #22 Posted by **Patrice** on 25 Dec 2011, 6:18 p.m.,*
in response to message #21 by Gerson W. Barbosa

If not mistaken, it works the same since 20 years :)

Re: HP50g Advertisement
*Message #23 Posted by **Gerson W. Barbosa** on 25 Dec 2011, 6:40 p.m.,*
in response to message #22 by Patrice

Oh, what I've been missing! :-(

Re: HP50g Advertisement
*Message #24 Posted by **Martin Pinckney** on 26 Dec 2011, 4:39 a.m.,*
in response to message #1 by NateB

I've seen print ads for the 50g in surveying magazines for about a year, now.

Re: HP50g Advertisement
*Message #25 Posted by **Eddie W. Shore** on 1 Jan 2012, 9:39 p.m.,*
in response to message #1 by NateB

> Quote:
>
> This is the first HP calculator advertisement I've ever seen in print. It is being run in the Dec 2011 issue of ASCE's *Civil Engineering* magazine.

This is a first.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CES Attendees will meet....

*Message #1 Posted by **Richard J. Nelson** on 24 Dec 2011, 12:23 p.m.*

The 2012 CES is January 10 - 13 2012 (Tues - Fri). HP Calculator users often meet during this time for dinner and interesting conversation. This CES it will be Wednesday January 11th at either 6 PM or 7 PM based on show hours and at a place to be determined by those interested. The last two years it was at Harrahs.

If you are interested in attending send me an email at rjnelson at cox dot net.

X < > Y,

Richard

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S 41CL] Important Update !

*Message #1 Posted by **robertoataulfo** on 24 Dec 2011, 8:17 a.m.*

```
A Merry Christmas to all and that in 2012 we have various gifts such as 41cl and WP34S.
Thank you all for making this hobby a source of happiness in my life.
All have much health so much happiness and peace and tranquility.
Live long and prosper for everyone.
```

Edited: 24 Dec 2011, 8:17 a.m.

Re: [WP34S 41CL] Important Update !

*Message #2 Posted by **Raymond Del Tondo** on 24 Dec 2011, 8:29 a.m.,*
in response to message #1 by robertoataulfo

1 +

Re: [WP34S 41CL] Important Update !

*Message #3 Posted by **Gerson W. Barbosa** on 24 Dec 2011, 9:10 a.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> 1 +

In RPN, *comme il faut* :-)

1 +

Re: [WP34S 41CL] Important Update !

*Message #4 Posted by **Marcus von Cube, Germany** on 24 Dec 2011, 3:09 p.m.,*
in response to message #1 by robertoataulfo

Thanks, Roberto!

Merry Christmas to all of you.

BTW, I had the pleasure to hold Geoff's 41CL in my hands. We met in Mainz today. :-)

Re: [WP34S 41CL] Important Update !

*Message #5 Posted by **Howard Owen** on 24 Dec 2011, 3:59 p.m.,*
in response to message #1 by robertoataulfo

Thanks for your good wishes! It has indeed been a very good year for HP calculator enthusiasts.

Best holiday wishes to everyone!

Howard

Re: [WP34S 41CL] Important Update !

*Message #6 Posted by **Kerem Kapkin(Silicon Valley, CA)** on 24 Dec 2011, 4:50 p.m.,*
in response to message #1 by robertoataulfo

+1 ;-)

Re: [WP34S 41CL] Important Update !

*Message #7 Posted by **Les Bell** on 24 Dec 2011, 5:31 p.m.,*
in response to message #1 by robertoataulfo

1 + (!)

As Howard mentioned, it has been a great year for HP calculator enthusiasts!

Best,

--- Les
[http://www.lesbell.com.au]

Re: [WP34S 41CL] Important Update !

*Message #8 Posted by **Geir Isene** on 24 Dec 2011, 7:38 p.m.,*
in response to message #7 by Les Bell

"1 +"

Now, that's a fundamentally neat take on a simple new invention.

Re: [WP34S 41CL] Important Update !

*Message #9 Posted by **Paul Dale** on 24 Dec 2011, 8:03 p.m.,*
in response to message #1 by robertoataulfo

Merry Christmas to all.

The 34S v3 should be out next year and will put v2 to shame! At least that is our intention.

And a happy new year to all as well.

- Pauli

Re: [WP34S 41CL] Important Update !

*Message #10 Posted by **Dominic Richens** on 24 Dec 2011, 8:49 p.m.,*
in response to message #1 by robertoataulfo

Making all of your acquaintances this year has been an un-expected blessing this year. It is always refreshing to interact with such talented, passionate and giving people.

And in this day and age of companies that are so closed and secretive (a certain fruit-based computer company

comes to mind) it's good to know there are still companies like HP that will create a really cool tool then publish the schematic and an SDK and give away free cables so we can have fun and create an even cooler tool!

Edited: 24 Dec 2011, 8:50 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL & TIME module (extending time keeping)

*Message #1 Posted by **Diego Diaz** on 23 Dec 2011, 9:28 p.m.*

Hi all,

Some of the CL users out there that want to have the TIME functions handy (I know of a number of them), will have eventually noticed that the TIME module is prone to loose its contents a few secon after the CL has been disconnected from a power source.

A standard HP-41 can keep the time for some 2'30" or 3 minutes just using its internal capacitor (470 uF).

Due to its internal design, CL's cannot hold charge enough in its caps to keep the TIME module running more than 15 or 20 seconds, which is a very tight gap if you need to replace a set of alkalines.

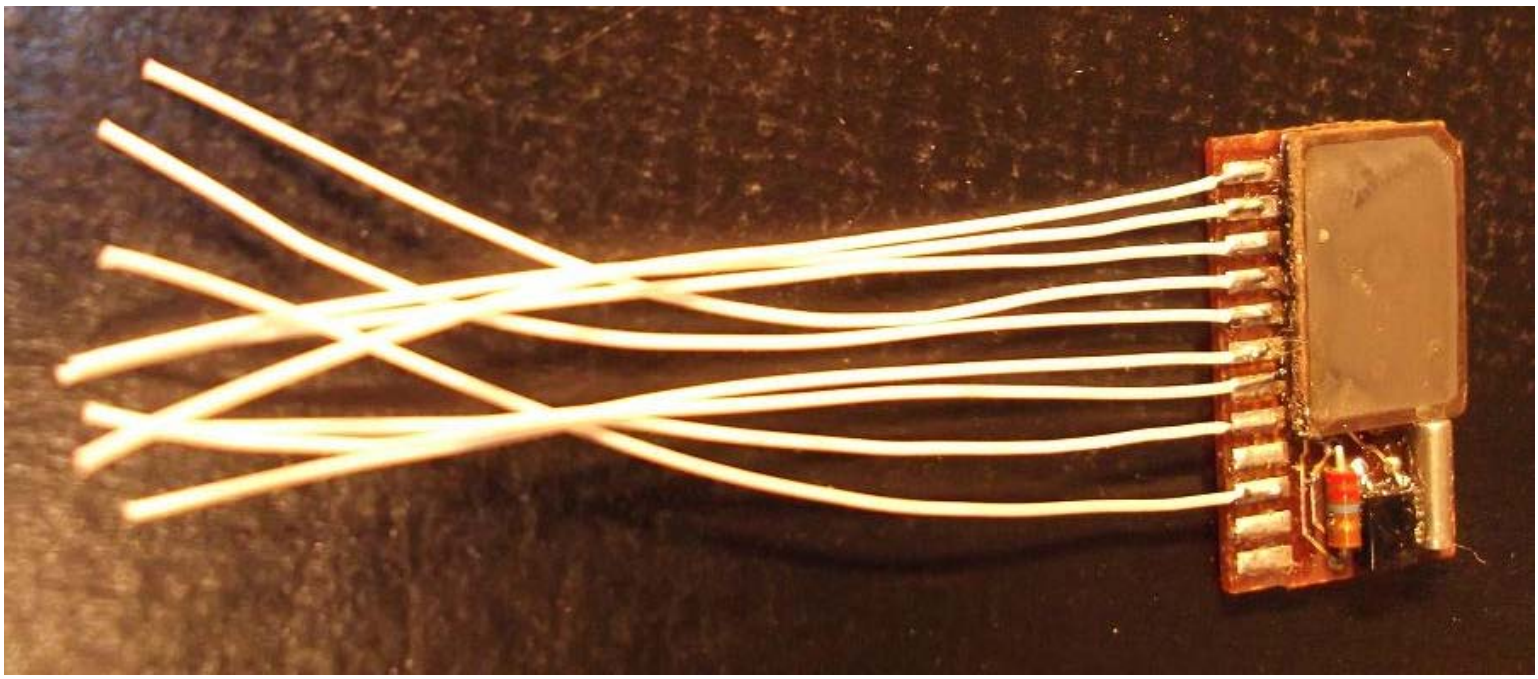
I'm not a SW guy, but like to have my clocks on time, so when it comes to fit a TIME module into my CL I included a small capacitor (220 uF 6.3v) PC CON type.

To avoid the capacitor being discharged thru the NEWT board, a diode is inserted in the module's power line.

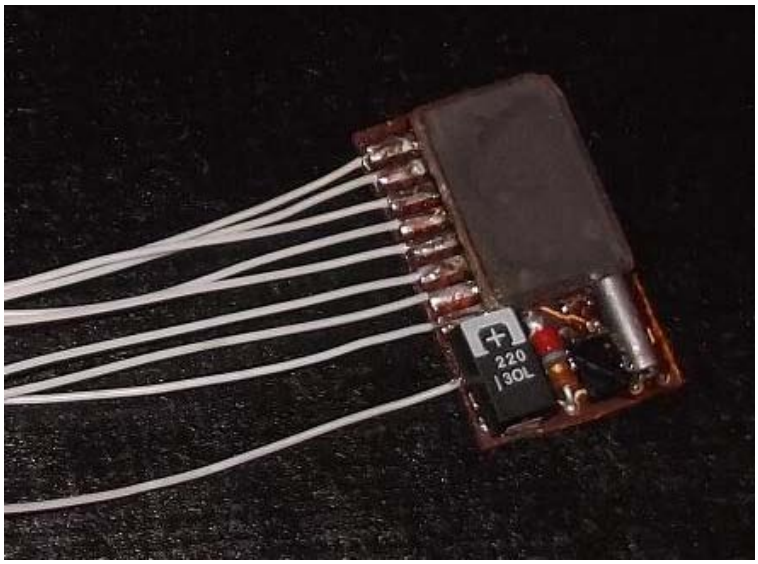
As a result, the time is kept for about 1'45", good enough to replace batteries or find any other suitable power source.

Some pics my help with the details:

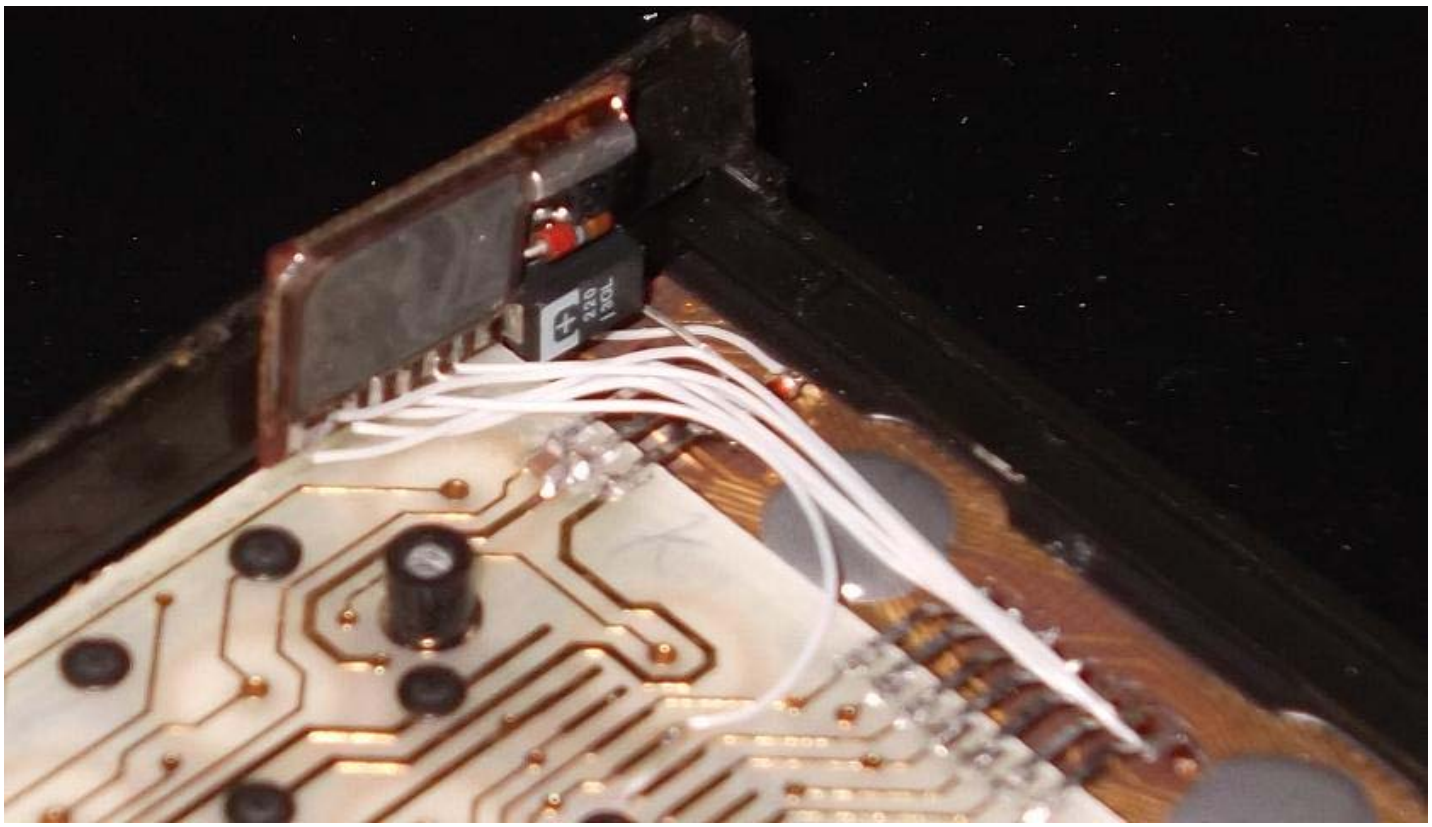
The TIME module disassembled and pre-wired.



The added capacitor.



And the TIME module in its new place.



Hope this can be useful for someone.

Merry Christmas!!

Diego

Re: HP-41CL & TIME module (extending time keeping)

*Message #2 Posted by **Geoff Quickfall** on 24 Dec 2011, 6:00 p.m.,*
in response to message #1 by Diego Diaz

Excellent job and your soldering skills are exquisite.

I will be hardwiring to my system also.

Cheers, Geoff

Re: HP-41CL & TIME module (extending time keeping)

*Message #3 Posted by **Diego Diaz** on 25 Dec 2011, 6:51 p.m.,*
in response to message #2 by Geoff Quickfall

Thanks for your kind words Geoff, same can be said on your restoration skills... :-)

Merry Christmas and all the best from the Canary Islands.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

41CL Flash Update Question

*Message #1 Posted by **Howard Owen** on 23 Dec 2011, 5:47 p.m.*

I have Ángel's new CLUTILS 2E loaded in RAM on my 41CL. I want to update the image in flash, and I'd like to confirm my understanding of how that works before I plunge ahead. I understand that flash must be erased in 64k chunks. So that means you have to save off 7 pages (8 if you want to keep a backup of the original ROM) somewhere and write them back after the erase.

Assuming my understanding is correct, I'm then left with a question about the mnemonics for the standard ROMs. Where is that mnemonic kept? If write the new CLUTILS 2E on top of the existing CLUTILS, will the new ROM inherit the 'CLUT' mnemonic for mapping it into port memory? Can I add my own mnemonics to the table, wherever it is located?

Sorry if I missed this in the documentation, and thanks in advance for any help you can offer.

Merry Christmas
Howard

Re: 41CL Flash Update Question

*Message #2 Posted by **Gerry Schultz** on 23 Dec 2011, 6:29 p.m.,*
in response to message #1 by Howard Owen

Howard, I don't know about you, but I'm nervous about writing back to flash on my 41CL until I thoroughly understand how this works. I've already seen one post where a new 41CL owner accidentally over-wrote some of his flash memory. Given my conservative mind-set when it comes to storage, the very first thing I want to do is COMPLETELY back up all of my flash to a PC so if I accidentally screw up, I can restore it to factory specs. Then I want to back up all my RAM just for the heck of it. Geoff has talked about this in some of his posts and I want to do that too before I start tinkering around. Also, in the new production version of the 41CL, some of the user flash (the XXXA 4K section I think) has solution books located there so if you're not careful, they could be over written if you didn't see that in the user notes that were sent with the 41CL circuit board.

So, for us 41CL Newbies, how do I backup both RAM and flash to a Win7 PC? Please write this as simply as possible because I'm an idiot and if there is a way to screw this up, my fingers will find it!

Thank you,

Gerry

P.S. I do have the 41CL serial port option installed and a good cable to a PC serial port.

Edited: 23 Dec 2011, 6:42 p.m.

Re: 41CL Flash Update Question

*Message #3 Posted by **Howard Owen** on 23 Dec 2011, 7:06 p.m.,*

in response to message #2 by Gerry Schultz

> Quote:
>
> I've already seen one post where a new 41CL owner accidentally over-wrote some of his flash memory.

I saw that too. I think that happened because he wasn't aware that an erase would take out 8 pages of flash at a time. Hence the need to back up the 64K block that contains the ROM you want to update.

> Quote:
>
> Given my conservative mind-set when it comes to storage, the very first thing I want to do is COMPLETELY back up all of my flash to a PC so if I accidentally screw up, I can restore it to factory specs.

This would be nice too. I have the PIL-Box, which connects HP-IL to USB, and the ILPer software that will serve up a virtual LIF disk. One way to do it would be to map blocks of 7 pages into port memory (8 minus one for the HEPAX) and write them out to LIF. The HEPAX WRTROM will do contiguous pages. So you'd set up the mnemonics in extended memory or normal registers, and step through them seven at a time.

> Quote:
>
> Then I want to back up all my RAM just for the heck of it. Geoff has talked about this in some of his posts and I want to do that too before I start tinkering around.

I've done this using Geoff's procedure. You write the state of the calculator to flash. It involves erasing a section of user flash, which to me less hair raising than overwriting pieces of the library.

> Quote:
>
> P.S. I do have the 41CL serial port option installed and a good cable to a PC serial port.

I haven't installed mine yet. As far as I know, there's no software to drive the calculator end of things.

Re: 41CL Flash Update Question

*Message #4 Posted by **Monte Dalrymple** on 23 Dec 2011, 10:28 p.m.,*
in response to message #3 by Howard Owen

Look at the description of the serial functions in the 41CL manual. There are also programs for linux and windows on the website.

If you aren't aware, there is also a 41CL wiki located at

http://www.wiki4hp.com/doku.php?id=41cl:replacement_cpu_board

with information generated by the Beta testers. All users are encouraged to contribute there themselves.

Re: 41CL Flash Update Question

*Message #5 Posted by **Monte Dalrymple** on 23 Dec 2011, 10:22 p.m.,*

in response to message #1 by Howard Owen

The image mnemonics are hard-coded in YFNZ. Each mnemonic points to a specific physical address and "knows" the size of the image stored at that location.

All of the production boards contain an Image Database at address 0x0DF000, and I want to update YFNZ at some point to use this database. But I don't have a schedule for that yet. I also hope to add functions that will allow users to add mnemonics to the table.

Re: 41CL Flash Update Question

*Message #6 Posted by **Howard Owen** on 24 Dec 2011, 12:46 a.m.,*
in response to message #5 by Monte Dalrymple

> Quote:
>
> Each mnemonic points to a specific physical address and "knows" the size of the image stored at that location.

But it would be OK to store back an updated ROM as long as the page count didn't change? (i.e. the "known" sizes are multiples of 4096.)

> Quote:
>
> All of the production boards contain an Image Database at address 0x0DF000, and I want to update YFNZ at some point to use this database. But I don't have a schedule for that yet. I also hope to add functions that will allow users to add mnemonics to the table.

That would be very cool. :)

I'm looking at Geoff's QRG for the beta. I assume that patching YFNS using the procedure there would be a bad idea? The version being patched is YFNS 1A, whereas YFNZ in the production board shows YFNS 2B in cat 2. (The table in the manual still has "yfnsX 1a for both ROMS.)

Re: 41CL Flash Update Question

*Message #7 Posted by **Monte Dalrymple** on 24 Dec 2011, 9:24 a.m.,*
in response to message #6 by Howard Owen

Yes, you can store an updated (or different) image to Flash as long as the image type (size) doesn't change.

There is no need to patch -2B. All of those patches to the Beta versions are already applied to the release version.

The only reason you might want to mess with the -2B version would be to modify one of the polling points to select the 50x Turbo mode every time the calc is turned on. The instructions for doing this are available on the 41CL website. I don't recommend attempting to do this until you are familiar with working with the Flash.

Re: 41CL Flash Update Question

*Message #8 Posted by **Ángel Martin** on 24 Dec 2011, 10:47 a.m.,*
in response to message #1 by Howard Owen

Yes, Flash is ERASED in sectors of 32k, that is 8x blocks of 4k each. So if you want to update CLUTLS (or any other ROM) you´ll have to have all the 8x blocks in RAM and do a YFWRT eight times.

That´s why typically the Flash update routines first copy to RAM those blocks that won't be updated as well before doing YERASE, since otherwise there'll be gone.

For instance, see the following script to re-flash sector 0x0F6. This assumes new versions of the 41Z, CLUTLS, and YFNS are already loaded in RAM, at locations 0x807, 0x80C, 0x80D, and 0x80E. Thus it first copies the other four in safe locations prior to YFERASEing the sector,and then proceeds to re-write all blocks back to the same locations.

You will have to modify the program below unless the exact same conditions apply.

Hope this helps, just make sure you're 150% sure that it all is safe to proceed and use a fresh set of batteries.

And one more things: CLUTLS 2F is ready - corrects a few glitches and changes the YFWALL/YFRALL destination to preserve the sector where the Solution Books roms are stored. You may want to use this version instead - let me know and I can send you the image file.

```
LBL "RFSC06"
TURBO50
"060>810        USPS page# 1
YMCPY
"061>811        USPS page# 2
YMCPY
"066>816        ALPHA ROM
YMCPY
"067>817        Astro-2010 - p#1
YMCPY
"060000"
YFERASE
"810>060
YFWR
"811>061
YFWR
"807>062        YFNZ 2B'
YFWR
"80D>063        41Z_L
YFWR
"80E>064        41Z_U
YFWR
"80C>062        CLUTILS 2E
YFWR
"816>066
YFWR
"817>067
YFWR
"YFNS"
PLUG1L
END
```

Edited: 24 Dec 2011, 10:54 a.m.

Re: 41CL Flash Update Question

*Message #9 Posted by **Howard Owen** on 24 Dec 2011, 12:56 p.m.,*
in response to message #8 by Ángel Martin

Well, I went ahead and bit the bullet. I patched YFNS to XROM 15, and updated CLUT to CLUTILS 2E. The first part of the process is described in this document on the Wiki. However I refrained from patching anything other than the XROM number because it looked to me like the rest of the patch applied to an

older version of YFNS. Monte's post confirmed this for me.

I had a bit of an adventure getting your newest CLUTILS onto my calculator though. I've mislaid the burner for my NoV64, which would have been the easiest way to get the bits onboard. What I resorted to was HEPAX + HPIL + PIL-Box. I converted the CLUTLS 2E ROM image to a packed 10 bit format using CLBIN41.EXE (part of JF's EMU41.) I then loaded it in EMU41 and wrote it to LIF using HEPAX's WRTROM. Over on the real calc, I read the image in with HEPAX's READROM. At this point I got a checksum error.

The ROM checksum isn't checked by the 41C's operating system, but the HEPAX complained, rightly or wrongly, that it was invalid. This is ironic since the first page of the HEPAX 1D module has an invalid checksum itself. But I was left wondering whether I had corrupted the image at some point during the transfer or if the checksum didn't actually match, or if HEPAX was crazy.

To resolve this, I decided to dump a disassembly of the ROM to my virtual IL console. I could then compare it to your source listing. Well, it turns out that the HEPAX DISASSEM command doesn't work on the CL for some reason. So I loaded the ZENROM and used MCED's disassembler. The process took a while, but I was left with a usable listing of the code. I grabbed the source code out of your "Blueprint" PDF and set about massaging the two so I could compare them.

Because the two listings used different mnemonics and were formatted very differently overall, I wrote a Perl script that found address offsets and the associated data in each. (I looked for patterns matching the page specific addresses plus 3 hex digits.) I produced two lists of these, one for each source listing. I then tried to compare the two. This was an adventure in chasing down subtle format differences and rationalizing other glitches. I finally decided that my image on the calculator contained the same bits that your listing contained.

Finally, back on the calculator, I followed the procedure you outlined above to update CLUTLS and a patched YFNS. I didn't know there was a new 41Z module, so here we go again. :) It should go much better with most of the wrinkles ironed out. I would very much like your updated CLUTLS. You can email me on gmail. I'm egbokalaka.

Thank you, and Merry Christmas!

Howard

You´ve got mail

*Message #10 Posted by **Ángel Martin** on 25 Dec 2011, 1:30 p.m.,*
in response to message #9 by Howard Owen

sorry you had to go through all that hassle! Truth is I never worry about the checksum byte, so… it´s never ¨correct¨.

Re: You´ve got mail

*Message #11 Posted by **Howard Owen** on 25 Dec 2011, 9:37 p.m.,*
in response to message #10 by Ángel Martin

Nothing I do in pursuit of this hobby is ever a hassle! (I actually like writing text parsers in Perl, for example. :) Even if it were a hassle, the pleasure you have given me with your work over the years would far outweigh any trouble.

Thanks for the updated module!

Regards,
Howard

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE just arrived

*Message #1 Posted by **Keith Beyer** on 23 Dec 2011, 12:44 p.m.*

Just got it. Nice. Lighter than the original 15C. Has wiggly f and g keys like the first run. What did they supposedly fix from the first run?

Re: 15C LE just arrived

*Message #2 Posted by **Thomas Radtke** on 23 Dec 2011, 1:04 p.m.,*
in response to message #1 by Keith Beyer

Some keys won't register on some calculators (probably due to dirt).

The wiggly shift keys cannot be fixed easily, and I think the only problem about this is that they are the only keys outside the matrix. If all keys were 'loose', nobody would have complained about that, imo ;-).

Several problems remain, unfortunately.

Re: 15C LE just arrived

*Message #3 Posted by **David Griffith** on 24 Dec 2011, 12:17 a.m.,*
in response to message #2 by Thomas Radtke

Is this from the lot that most recently showed up on buy.com? I haven't been able to get to mine yet and I'm thinking "uh oh".

Re: 15C LE just arrived

*Message #4 Posted by **Keith Beyer** on 24 Dec 2011, 9:31 a.m.,*
in response to message #3 by David Griffith

No, I bought this on the HP website on 12/21/11. The standard shipping was super fast. I assume this is the second run of calculators, but I thought one issue they would fix was the wobbly f and g keys. It's weird because all the other keys are fine. Everything works well as far as I can tell.

Re: 15C LE just arrived

*Message #5 Posted by **Ethan Conner** on 24 Dec 2011, 10:59 a.m.,*
in response to message #4 by Keith Beyer

The f and g are wobbly on every LE because they are stand alone where the rest of the keypad is tied together. If you are waiting for a "fix" on that you better get comfortable. lol

Re: 15C LE just arrived

*Message #6 Posted by **Michael de Estrada** on 24 Dec 2011, 12:39 p.m.,*
in response to message #5 by Ethan Conner

Re: 15C LE just arrived

*Message #7 Posted by **David Griffith** on 24 Dec 2011, 3:17 p.m.,*
in response to message #5 by Ethan Conner

Are the corresponding keys wobbly on the current 12c+?

Edited: 24 Dec 2011, 3:18 p.m.

Re: 15C LE just arrived

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 24 Dec 2011, 5:41 p.m.,*
in response to message #7 by David Griffith

Not on mine...

Re: 15C LE just arrived

*Message #9 Posted by **David Griffith** on 24 Dec 2011, 5:52 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

Does anyone know of a teardown with photos on the 12c? Perhaps that could be used as a reference on how to fix the wobbly 15cle keys.

Re: 15C LE just arrived

*Message #10 Posted by **NateB** on 24 Dec 2011, 7:46 p.m.,*
in response to message #9 by David Griffith

The problem is also related to the molds used for those keys. As the molds wear, the keys will have a greater tendency to wiggle. There is more info on the f and g keys

in an earlier thread. Basically, the wiggle varies, is within the expected tolerance for the keys, and is not something that HP will be correcting.

Re: 15C LE just arrived

*Message #11 Posted by **David Griffith** on 25 Dec 2011, 1:55 a.m.,*
in response to message #10 by NateB

I thought I saw some posts here and elsewhere from people who had the jiggly key problem and HP fixed it.

Re: 15C LE just arrived

*Message #12 Posted by **Jeff O.** on 25 Dec 2011, 7:05 p.m.,*
in response to message #11 by David Griffith

HP "fixed" (i.e. replaced) units which had keys that did not register when pressed or required excessive pressure to cause to register.

Re: 15C LE just arrived

*Message #13 Posted by **David Griffith** on 26 Dec 2011, 8:48 p.m.,*
in response to message #12 by Jeff O.

I opened up my new 15c LE yesterday. The shift keys jiggle a little, but no more than on some other calculators I've had and I wasn't bothered then. I still need to fiddle with it to get the hang of using it. I think I'll stick with the 32sii for everyday use, but this purchase was a good one.

Re: 15C LE just arrived

*Message #14 Posted by **Keith Beyer** on 30 Dec 2011, 11:55 a.m.,*
in response to message #13 by David Griffith

My complaint with the wobbly f and g keys is this: They have been making the 12C for about 30 years WITHOUT wobbly f and g keys, so why do something different with the 15C? I bought a 12C new about 10 years ago and all keys were solid then and still are. I can only guess they are using a different manufacturer for the 15C, and somehow the production of those two keys is different??

I'll be ok using the calculator, and I'm not saying it is a fatal flaw. My concern is those keys will fail eventually.

Re: 15C LE just arrived

*Message #15 Posted by **Paul Brogger** on 24 Dec 2011, 9:15 a.m.,*
in response to message #2 by Thomas Radtke

Would someone please link to the current problem list?

Thanks,

PJB

Re: 15C LE just arrived

*Message #16 Posted by **Jeff O.** on 24 Dec 2011, 12:15 p.m.,*
in response to message #15 by Paul Brogger

Paul,
Katie prepared a bug list article.

Also a few threads with discusion:
Thread

another

another

another

another

Re: 15C LE just arrived

*Message #17 Posted by **Katie Wasserman** on 25 Dec 2011, 5:42 p.m.,*
in response to message #16 by Jeff O.

Jeff,

I've added your findings to the bug list article.

-Katie

Re: 15C LE just arrived

*Message #18 Posted by **Jeff O.** on 25 Dec 2011, 9:42 p.m.,*
in response to message #17 by Katie Wasserman

Thanks,
My findings are fairly minor, but probably good to get them all in one place.

Seems like this one you found ought to be in the list too.

Re: 15C LE just arrived

*Message #19 Posted by **Katie Wasserman** on 26 Dec 2011, 5:26 a.m.,*
in response to message #18 by Jeff O.

Thanks, I've updated the list again.

I'm not that all that hopeful that any of these issues will be addressed, HP seems to be selling out of the 15C LE's awfully quickly even with these bugs.

Re: 15C LE just arrived

*Message #20 Posted by **Michael de Estrada** on 23 Dec 2011, 1:05 p.m.,*
in response to message #1 by Keith Beyer

Quote:

> Lighter than the original 15C

Are you sure ? My original HP 15C weighs 116 grams, whereas my several HP 15C LEs weigh 121 grams.

Re: 15C LE just arrived

*Message #21 Posted by **Paul Brogger** on 24 Dec 2011, 9:14 a.m.,*
in response to message #20 by Michael de Estrada

> Quote:
>
> . . . my several HP 15C LEs weigh 121 grams

Well, do the math: if "several" together weigh 121 grams, each one *must* be lighter . . .

;-)

Re: 15C LE just arrived

*Message #22 Posted by **Michael de Estrada** on 24 Dec 2011, 10:05 a.m.,*
in response to message #21 by Paul Brogger

Perdón, pero no entiendo inglés.

Re: 15C LE just arrived

*Message #23 Posted by **Peter Murphy (Livermore)** on 24 Dec 2011, 10:31 a.m.,*
in response to message #22 by Michael de Estrada

Se trata de la palabra "together," o sea "juntos." Una muy pequena broma.

Re: 15C LE just arrived

*Message #24 Posted by **Michael de Estrada** on 24 Dec 2011, 12:34 p.m.,*
in response to message #23 by Peter Murphy (Livermore)

¿ Que palabra es "pequena" ?

Re: 15C LE just arrived

*Message #25 Posted by **Borja** on 25 Dec 2011, 2:34 p.m.,*
in response to message #24 by Michael de Estrada

Hay uno que dice que sus 15Cs LE pesan 121 gramos. Como dice, en traducción literal, "mis varias 15Cs" (my several 15C) se entiende que se refiere al *conjunto*.

Así que, necesariamente, cada una pesará una fracción de esos 121 gramos.

Una bromilla por una confusión escribiendo, vamos ;)

Re: 15C LE just arrived

*Message #26 Posted by **Michael de Estrada** on 25 Dec 2011, 3:38 p.m.,*
in response to message #25 by Borja

Yo entiendo perfectamente la bromita. Cuando undo dice que mis 15Cs pesan 121 gramos, se entiende que yo estoy diciendo "cada una". Sin decir que es la cantidad, no es lógico inferir que ese número es el total de los objetos. Por ejemplo, yo podría haber dicho "mis tres 15Cs pesan 121 gramos," y con esto entender que cada uno pesa 40.3 gramos.

Y con esto, le deseo feliz navidad y un próspero año nuevo. :)

Edited: 25 Dec 2011, 4:57 p.m. after one or more responses were posted

Re: 15C LE just arrived

*Message #27 Posted by **Gerson W. Barbosa** on 25 Dec 2011, 4:14 p.m.,*
in response to message #26 by Michael de Estrada

> Quote:
>
> Cuando undo dice que mis 15Cs pesan 121 gramos, se entiende que yo estoy diciendo "cado uno"

¡Perfectamente! Las palabras "cada una" están implícitas. Asi es en inglés, asi es en español, asi es en portugués. Aliás, minhas três HP-15Cs, duas HP-15Cs originais e uma HP-15C LE, também pesam 121 gramas [cada]. Não as pesei, acredito no que vocês dizem :-)

Edited: 25 Dec 2011, 4:17 p.m.

Re: 15C LE just arrived

*Message #28 Posted by **Frank Knight** on 25 Dec 2011, 9:31 p.m.,*
in response to message #1 by Keith Beyer

> Quote:
>
> Just got it. Nice. Lighter than the original 15C. Has wiggly f and g keys like the first run. What did they supposedly fix from the first run?

Just ordered a couple from Buy.com tonight for the $99 plus free ship Got a late start on these new editions!

Re: 15C LE just arrived

*Message #29 Posted by **Michael de Estrada** on 25 Dec 2011, 10:18 p.m.,*
in response to message #28 by Frank Knight

I'm curious how you were able to order more than one, since they have a limit of one. Did they change that since the time when you ordered ? Just for fun I tried to put two in my cart and it wouldn't allow it. I've already ordered all I want, so this was just idle curiosity.

Edit: I see they have them on ebaby again, so I assume you bought them there with no limit on quantity.

Anyway, I like to see them undercut the price gougers. Looks like SC has only managed to sell two out of 100 to just one buyer so far at $250.

Edited: 25 Dec 2011, 10:37 p.m.

Re: 15C LE just arrived

*Message #30 Posted by **Frank Knight** on 26 Dec 2011, 4:08 a.m.,*
in response to message #29 by Michael de Estrada

> Quote:
>
> I'm curious how you were able to order more than one, since they have a limit of one. Did they change that since the time when you ordered ? Just for fun I tried to put two in my cart and it wouldn't allow it. I've already ordered all I want, so this was just idle curiosity.
>
> Edit: I see they have them on ebaby again, so I assume you bought them there with no limit on quantity.
>
> Anyway, I like to see them undercut the price gougers. Looks like SC has only managed to sell two out of 100 to just one buyer so far at $250.

Correct, did an Internet search which brought me to their Ebay page, Buy.com. Ordered and they processed 2, wanted for personal use. I did see later the Buy.com order page with limit 1 and all the scalpers everywhere else with the $149 and $199 prices.

Re: 15C LE just arrived

*Message #31 Posted by **Keith Beyer** on 26 Dec 2011, 10:23 a.m.,*
in response to message #30 by Frank Knight

They appear to be out of stock now, but if you order on the HP website and enter the coupon save15hp, you get $15 off. So, with free standard shipping, that's $85 for the calculator plus sales tax, which is what I paid.

Re: 15C LE just arrived

*Message #32 Posted by **Frank Knight** on 26 Dec 2011, 12:49 p.m.,*
in response to message #31 by Keith Beyer

Yes, checked there first and were out of stock, but said check back soon, so maybe HP will get more. Before I found the Buy.Com units I emailed HP Customer service to see when they might have more. 2 is my limit though for this model so I am set. I think I have 3 or 4 35S and still have a few HP classics left and newer such as 20S, 48GX, 49, 50 and business models though sold most classics out on ebay from 2003-2005. Have a pile of non-HP left. Since HP charges state tax not much difference for me on price.

Re: 15C LE just arrived

*Message #33 Posted by **Michael de Estrada** on 26 Dec 2011, 1:22 p.m.,*
in response to message #32 by Frank Knight

Last time HP said "check back soon," it took 3 months for them to restock. It's like us hispanics when we say mañana (tomorrow), it really means someday in our lifetime.

Re: 15C LE just arrived

*Message #34 Posted by **Frank Knight** on 26 Dec 2011, 7:47 p.m.,*
in response to message #33 by Michael de Estrada

> Quote:
>
> Last time HP said "check back soon," it took 3 months for them to restock. It's like us hispanics when we say mañana (tomorrow), it really means someday in our lifetime.

Perhaps they are concentrating on the 42SII or 42S LE! ;+}

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s/QtGui] What is qextserialport?

*Message #1 Posted by **Nobby K.** on 23 Dec 2011, 8:50 a.m.*

Hi all.

I tried to build QtGui on linux platform. But it faild because of link error relayted on libqextserialport.a.

In QtGui/SerialPort.txt, it is discribed that libqextserialport.a is external library.

On Ubuntu 11.10, build is succeeded, but on my linux box(vine linux 5.1), the binary which comes with 'svn update' does not link.

What is the purpose for linking serial library? And how to configure without linking the serial port functions?

I'm making Japanese page, how to build wp34s. Please see, if interested.
http://park11.wakwak.com/~nkon/homepc/hpcalc/

Re: [WP34s/QtGui] What is qextserialport?

*Message #2 Posted by **Marcus von Cube, Germany** on 23 Dec 2011, 1:34 p.m.,*
in response to message #1 by Nobby K.

The calculator has serial communications built in and so has the emulator. The emulator serves as the link to the calculator to send programs and data to the device.

Re: [WP34s/QtGui] What is qextserialport?

*Message #3 Posted by **Nobby K.** on 23 Dec 2011, 11:50 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> The calculator has serial communications built in and so has the emulator. The emulator serves as the link to the calculator to send programs and data to the device.

Thanks response.

I succeeded to build local version of libqtextserialport.a and QtGui. The trunk(2702) works good.

I think that it is better to be selectable serial port function. Because the cost of building the library does not balance the frequency to be used. To use serial port, hardware hack is needed, such as soldering ADM3202.

Re: [WP34s/QtGui] What is qextserialport?

*Message #4 Posted by **Marcus von Cube, Germany** on 24 Dec 2011, 3:07 p.m.,*
in response to message #3 by Nobby K.

No hardware modification is necessary if you use the programming cable that is used to flash an HP 30b to become a 34S.

Re: [WP34s/QtGui] What is qextserialport?

*Message #5 Posted by **Nobby K.** on 24 Dec 2011, 9:50 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> No hardware modification is necessary if you use the programming cable that is used to flash an HP 30b to become a 34S.

Oh, I mistook. That is a good function. I will try it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Polynomial roots again ...

*Message #1 Posted by **fhub** on 23 Dec 2011, 4:57 a.m.*

I've now finally finished my Polynomial RootSolver for the WP34s, and I think it's a quite good piece of software. :-)

Unlike almost every other such program (at least for calculators) it also calculates multiple roots with full precision, where the usual programs fail miserably and give completely wrong roots.

Although I've tested my program with MANY example polynomials I've found in the dozens of sources (about polynomial root solving) that I've read (and so I far I get excellent results!), but before releasing my program I would like to make a few more tests.

So does anyone know a special collection of 'hard to solve' polynomials, especially with multiple roots?
But please no polynomials with multiplicity=degree, i.e. P(x)=(x-x0)^n, because this is too easy and is automatically solved exactly by the used Laguerre method. ;-)

Franz

Re: Polynomial roots again ...

*Message #2 Posted by **Werner** on 23 Dec 2011, 1:25 p.m.,*
in response to message #1 by fhub

This PDF http://www-irma.u-strasbg.fr/~bugeaud/travaux/PolSurvRev1.pdf gives some classes of polynomials with integer coefficients, yet arbitrarily close roots.

Cheers, Werner

Re: Polynomial roots again ...

*Message #3 Posted by **fhub** on 23 Dec 2011, 2:33 p.m.,*
in response to message #2 by Werner

> Quote:
>
> This PDF http://www-irma.u-strasbg.fr/~bugeaud/travaux/PolSurvRev1.pdf gives some classes of polynomials with integer coefficients, yet arbitrarily close roots.

Thanks Werner, but I was rather expecting a ready-to-use list of polynomials known to be a hard task for rootsolvers (like Valentin's matrix examples).

It's already enough work to enter lots of (usually quite long) coefficients into the WP34s, but I'm absolutely not keen on studying a long abstract mathematical paper just to be able to build such polynomials by myself - for this task I could just use a CAS.

Franz

Edited: 23 Dec 2011, 2:35 p.m.

Re: Polynomial roots again ...

*Message #4 Posted by **Werner** on 27 Dec 2011, 2:11 a.m.,*
in response to message #3 by fhub

There's no need to study anything.. if you cared to scan the document for 5 minutes, you would see that the polynomial

```
x^d - 2*(a*x - 1)^2 = 0
```

has two roots separated by a distance less than a^(-(d+2)/2) If you take a to be a convenient 10, and d=30, for instance, this means that

```
x^30 - 200*x^2 + 40*x - 2 = 0
```

has two roots that agree to 16 digits, yet are distinct:

```
0.09999999999999992929
0.10000000000000007071
```

By making the order of the first term larger, you can get the roots arbitrarily close, but still distinct. This means that your routine to eliminate multiplicity in roots will not apply here, but numerically they will be treated as multiple roots, resulting in slower convergence and loss of accuracy. The HP48, working with 15 internal digits, returns

```
.0999999635205
.100000036479
```

losing *nine* digits.

Cheers, Werner

Re: Polynomial roots again ...

*Message #5 Posted by **fhub** on 27 Dec 2011, 6:44 a.m.,*
in response to message #4 by Werner

> Quote:
>
> ```
> x^30 - 200*x^2 + 40*x - 2 = 0
> ```
>
> has two roots that agree to 16 digits, yet are distinct:
>
> ```
> 0.09999999999999992929
> 0.10000000000000007071
> ```
>
> By making the order of the first term larger, you can get the roots arbitrarily close, but still distinct. This means that your routine to eliminate multiplicity in roots will not apply here, but numerically they will be treated as multiple roots, resulting in slower convergence and loss of accuracy. The HP48, working with 15 internal digits, returns
>
> ```
> .0999999635205
> .100000036479
> ```
>
> losing *nine* digits.

Hi Werner,

I've now played a bit with your polynomial above, and of course 'distinct' roots which agree to 16 digits are just beyond the calculation accuracy of PRS (or should I say WP34s?).

In line 402 of PRS there's my 'multiple root threshold' (SDL 10) which I've chosen after many tests with and without multiple roots. If I change that line to "SDL 08" then I get in fact 2 distinct roots for your polynomial, but (like the HP48) with much less significant digits - a 'multiple' root of 0.1 (which PRS returns with its default SDL 10) is definitely much more accurate than the 2 roots given by the HP48 (or if I change SDL to 08).

So I would indeed say that my program returns a much better result for this example. But as I already mentioned - if you construct polynomials with distinct roots (or root clusters) only in the 16th (or higher) digit, then you shouldn't wonder that you don't get absolutely exact results.

After your example I'm thinking about making this 'threshold' value for multiple roots (SDL 10) an option that can be changed by the user (like the accuracy 1e-15 in R99)!? OTOH this would make the usage of the program more complicated - and which user would really know when (and to which value) change this parameter for multiplicity testing ... :-(

Franz

Edited: 27 Dec 2011, 11:17 a.m.

Re: Polynomial roots again ...

*Message #6 Posted by **Werner** on 27 Dec 2011, 4:29 a.m.,*
in response to message #3 by fhub

A bit further on, you see the more general formula

```
x^d - 2*(a*x-1)^(d-1) = 0
```

that has d-1 roots very close together. For a=d=10, that amounts to

```
x^10 - 2*(10*x - 1)^9 = 0
x^10 - 2000000000*x^9 + 1800000000*x^8 - 720000000*x^7
+ 168000000*x^6 - 25200000*x^5 + 2520000*x^4 - 168000*x^3
+ 7200*x^2 - 180*x + 2 = 0
```

Here, the WolframAlpha and the HP-48 results differ in the third digit already.

Cheers, Werner

Re: Polynomial roots again ...

*Message #7 Posted by **Marcus von Cube, Germany** on 23 Dec 2011, 1:40 p.m.,*
in response to message #1 by fhub

With the most recent emulator you can test the double precision functionality. In DBLON mode you loose some registers, of course. With the full setup, 50 double precision registers are available. The set of lettered registers is reduced to X, Y, Z, T, L and I.

There are most probably some rough edges. I'd like to here from you.

Re: Polynomial roots again ...

*Message #8 Posted by **fhub** on 23 Dec 2011, 2:29 p.m.,*

in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> I'd like to here from you.

Well Marcus, I'm not yet very impressed with the latest improvements (I'm still using SVN 2030 before the new flash handling has been introduced).

After my program had reached the 510 step limit I tried loading and running it in the newer versions, just to see that this reduces the number of available registers, and I definitely need many/all of them. Since I want to solve also very high-degree polynomials (my program limit is now 39), I'm using all registers R80-R99 for my calculations, so reducing the registers for more program steps is not acceptable for my program. So I finally decided to switch back to the older version again and to remove an (almost never used) feature of my program again, and now my final version is 504 steps, which is enough for polynomials upto degree 39 (and runs even in version 2 of WP34s).

I also don't know yet what I should think about this new DBL precision mode - is this really necessary (i.e. does it really give any better results)???
At least for my polynomial solver I don't think so, because also without DBL precision I already get results accurate to all displayed 12 digits, and I can't imagine that this new mode would do it any better. And with even more register reducement it's definitely a no-go for me.

And finally I'm absolutely not happy with this new library management - it was so much easier with single wp34s-n.dat files for each program!

Franz

Edited: 23 Dec 2011, 2:37 p.m.

Re: Polynomial roots again ...

*Message #9 Posted by **Marcus von Cube, Germany** on 23 Dec 2011, 2:55 p.m.,*
in response to message #8 by fhub

I have to disagree. The new library management is way better in getting the most out of the rare flash memory.

Many registers and long programs work well together if you let the program run off library or backup space and use RAM exclusively for data with a combination of global and local registers. Local registers are very handy for internal variables while global registers should be used for user data.

The reason to introduce double precision mode was an idea to implement more functions in user code which will save space, hopefully more than the new feature costs. Double precision comes in handy when an algorithm is susceptible to cancellation. The more digits the better. The internal precision is already at 39 digits and we won't loose too much of the potential when we start implementing stuff in user code with the help of double precision registers.

Re: Polynomial roots again ...

*Message #10 Posted by **fhub** on 23 Dec 2011, 3:31 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Yes, if the reason for double precision is turning built-in functions into external user code, you're right of course. But for usual programs I see not need for it.

And my problem with the new library is that I can't get the libmanager working here (with my TinyPerl), and so I still prefer separated dat-files created by the perfectly working assembler. But of course it's just a matter of taste, and maybe I'll like it more when I become familiar with it anytime in the future ...

Edited: 23 Dec 2011, 3:32 p.m.

Re: Polynomial roots again ...

*Message #11 Posted by **Valentin Albillo** on 23 Dec 2011, 4:49 p.m.,*
in response to message #1 by fhub

> Quote:
>
> I've now finally finished my Polynomial RootSolver for the WP34s, and I think it's a quite good piece of software. :-) [...] So does anyone know a special collection of 'hard to solve' polynomials, especially with multiple roots?

Last time I heard of your *"Polynomial RootSolver for the WP34s"* was about a month ago, in this post of yours (the highlighting is mine):

> "Message #24 Posted by fhub on 20 Nov 2011, 3:57 p.m.,
> in response to message #23 by Dieter
>
> Quote:
>
> > So it's about time for you to show your latest Laguerre solver. ;-)
>
> **No Dieter, not after these attacks a week ago!**
>
> **Since this time my programs are only private.**"

So I take it that now you're asking for people to share their knowledge and materials with you *("a special collection of 'hard to solve' polynomials")* while publicly stating that you won't share a thing with anyone because of some bruised ego you've got or something ?

Or have you (silently) changed your mind since that post of yours ?

Not that a change of mind on your part would be unheard of, actually ...

Best regards from V.

Re: Polynomial roots again ...

*Message #12 Posted by **fhub** on 23 Dec 2011, 5:48 p.m.,*
in response to message #11 by Valentin Albillo

Would you really say that posting a few polynomials (or a link to them) is "share their knowledge and materials" with me?
Well, then I've also "shared my knowledge" more than a dozen of times in the past month when I reported bugs in the latest WP34s development. ;-)

And if you had read my posting a bit more mindfully then your reply won't have been necessary at all - I quote myself:
"..., but **before releasing my program** I would like to make a few more tests."

Re: Polynomial roots again ...

*Message #13 Posted by **C.Ret** on 28 Dec 2011, 12:42 p.m.,*
in response to message #12 by fhub

Please forbid my poor english understanding. I am not native English reader. Can you explain me a bit; "releasing your program" does it mean that it will be soon possible to buy it?

All software people and companies I know speak or claim about “release” when they want to make me buy a new version of their products!

Re: Polynomial roots again ...

*Message #14 Posted by **fhub** on 28 Dec 2011, 12:49 p.m.,*
in response to message #13 by C.Ret

> Quote:
>
> Please forbid my poor english understanding. I am not native English reader. Can you explain me a bit; "releasing your program" does it mean that it will be soon possible to buy it?
>
> All software people and companies I know speak or claim about “release” when they want to make me buy a new version of their products!

LOL, of course not, I'm not a salesman or a company. ;-)
I'm also not a native English speaker, and maybe 'publish' would have been a better word than 'release'.

My program is already out (free of course) - see this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=207771#207771

Regards,
Franz

Edited: 28 Dec 2011, 12:49 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator from a smoking environment: What is to be done?

*Message #1 Posted by **Peter Murphy (Livermore)** on 22 Dec 2011, 10:37 p.m.*

I've got two calculators that I can smell at a distance. Does anyone have a recipe for reducing that odor? The cases stink, too.

(My New Year's resolution: ASK eBay sellers about the environment in which their calculators have lived.)

Re: Calculator from a smoking environment: What is to be done?

*Message #2 Posted by **uhmgawa** on 22 Dec 2011, 11:17 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

> Quote:
>
> I've got two calculators that I can smell at a distance. Does anyone have a recipe for reducing that odor? The cases stink, too.
>
> (My New Year's resolution: ASK eBay sellers about the environment in which their calculators have lived.)

My condolences as I have one of those too. Smells like someone left the device in a desk drawer on top of a box of cheap incense for a decade or so. I've tried dismantling the unit, washing 4-5 times in a dishwasher, soaking in vinegar, packing it disassembled in baking soda for weeks. No dice whatsoever, the stench refuses to leave.

In the process of the above nonsense I'd peeled the serial number sticker off the case to preserve it, stuck it elsewhere and forgot about it. Weeks later I was unknowing working in the area where I'd stashed the serial number and thought I was having flash backs of that rancid smell. Then I noticed the sticker. Unbelievable.

Sorry I have no advise other than digging a hole in the backyard. My casualty is a sam7 12c+ so at least I'm not going to worry too much about hitting the flash wearout on this particular unit.

Re: Calculator from a smoking environment: What is to be done?

*Message #3 Posted by **Katie Wasserman** on 22 Dec 2011, 11:36 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Open it up and clean everything as best you can with 99% isopropyl alcohol inside and Novus #1 outside. Then leave it open to the air, preferably outside and in the sun if you can, for a long time. It will eventually be smell free but may take a month or longer.

Re: Calculator from a smoking environment: What is to be done?

*Message #4 Posted by **Nicholas Winterer** on 22 Dec 2011, 11:49 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Try wiping it down with Acetone or VM&P Naphtha.

Re: Calculator from a smoking environment: What is to be done?

*Message #5 Posted by **uhmgawa** on 23 Dec 2011, 12:32 a.m.,*
in response to message #4 by Nicholas Winterer

> Quote:
>
> Try wiping it down with Acetone or VM&P Naphtha.

Please do not use Acetone on ABS plastic as it will immediately soften and destroy the finish. In fact it dissolves ABS so readily it makes a superb ABS glue. IIRC there can be variation in the distillate composition of Naphtha so you might want to test that sparingly on the inside of the housing before going too far.

Re: Calculator from a smoking environment: What is to be done?

*Message #6 Posted by **Mark Hardman** on 23 Dec 2011, 6:59 p.m.,*
in response to message #5 by uhmgawa

> Quote:
>
> Try wiping it down with Acetone or VM&P Naphtha.

If Acetone and Naphtha don't do the trick, try applying Thixotropic Dichloromethane liberally. ;-)

Re: Calculator from a smoking environment: What is to be done?

*Message #7 Posted by **Nick R** on 23 Dec 2011, 1:06 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

You could try placing the items in a zip-lock bag along with a Bounce dryer sheet for a few days.

Re: Calculator from a smoking environment: What is to be done?

*Message #8 Posted by **Ben Moss** on 23 Dec 2011, 1:35 a.m.,*
in response to message #7 by Nick R

Similar idea: I placed a smokey calculator in a drawer with some baking soda while not in use. I kept it like this for several months but I'm not sure if that length of time is necessary. The smell did go away.

Re: Calculator from a smoking environment: What is to be done?

*Message #9 Posted by **Peter Murphy (Livermore)** on 23 Dec 2011, 11:34 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Thanks to all for suggestions. I'll try the minimally invasive ones first, starting with that of Ben Moss.

Re: Calculator from a smoking environment: What is to be done?

*Message #10 Posted by **Allen** on 23 Dec 2011, 2:39 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I have several books that were detoxed by sealing them in a bag with Silica Gel. It took a few months, but finally worked. Perhaps the same will work with calculators?

Re: Calculator from a smoking environment: What is to be done?

*Message #11 Posted by **Peter Murphy (Livermore)** on 23 Dec 2011, 3:06 p.m.,*
in response to message #10 by Allen

Allen, that's very interesting and possibly very valuable. In what form, exactly, did you obtain and deploy the silica gel?

Re: Calculator from a smoking environment: What is to be done?

*Message #12 Posted by **Allen** on 23 Dec 2011, 4:48 p.m.,*
in response to message #11 by Peter Murphy (Livermore)

Something like this Silica Gel Desiccant.

Re: Calculator from a smoking environment: What is to be done?

*Message #13 Posted by **Peter Murphy (Livermore)** on 23 Dec 2011, 8:01 p.m.,*
in response to message #12 by Allen

Terrific: neat, cheap, noninvasive. I'll report back next year.

Re: Calculator from a smoking environment: What is to be done?

*Message #14 Posted by **Duane Hess** on 23 Dec 2011, 8:54 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Something I used (probably not a good idea for circuitry) on plastic parts was a degreaser. Specifically I used Super Clean Tough Task Cleaner Degreaser from Casey's (think 7-11, Gas 'n Stop, etc.). (my brother smokes like a damn chimney)

When I've used it on plastic, glass, non-porous surfaces that damn nicotine comes right off. Your paper towel will be a disguisting yellowy-brown. It smells exactly like 409 cleaner, feels like 409, looks like 409, makes you choke like 409, etc. So 409 might work just as well.

Never checked for smell beforehand but afterwards there wasn't any. Just be sure to RINSE, RINSE, RINSE. I don't use it on anything I can't hold under warm running water and rub with a clean rag/paper towel. It takes quite a lot to rinse the degreaser off. (which may mean there is more left to clean)

** must warn you, I've only once used the degreaser on an ink surface. i.e. the keyboard back-plate on a HP-91/97, for example, where the yellow nomenclature is. The yellow lettering looked very solid and I only sprayed and immediately rinsed. I have used similar cleaners (Mean Green?) on keys of a HP-46 (removed & washed each key cap) and in a few light rubs the cleaner started taking the colored lettering right off. So I make a point to never rub on ink-printed nomenclature. Use a q-tip & go around it. Spray on the lettering and then immediately hold under water. Then PAT the lettered area dry.

Maybe the colored lettering on a 46 versus newer items is different, but never trusted the cleaner subsequently. i.e. the coloring on the 46 appeared to hold, then in about 1/2 a wipe most of it was suddenly gone.

But never had any problem using the degreaser on a case and rubbing on it with a rag.

Re: Calculator from a smoking environment: What is to be done?

*Message #15 Posted by **Hugh Evans** on 26 Dec 2011, 11:02 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Extended soaking in isopropyl alcohol sounds very reasonable, but I don't have a tobacconated calculator to test this on. After all of the surface cleaning, this is ultimately a question of solubility... Which gives me an idea, based off of a concept I encountered for cleaning old records: PVA adhesive.

The idea would be to disassemble as much as possible, and apply a thick layer of PVA adhesive. Elevated temperatures will accelerate the process of light organics molecules being absorbed into the adhesive layer. After several weeks, peel off the adhesive (should clean the textured parts very nicely) and see if it improves.

If anyone wishes to give this a shot of has a calculator scrap they would like to try this on, let me know. I do technical work in the adhesives/sealants/polymer industry, so providing material samples is easy enough from my end.

Re: Calculator from a smoking environment: What is to be done?

*Message #16 Posted by **JDonley** on 27 Dec 2011, 11:10 a.m.,*
in response to message #15 by Hugh Evans

soak it in 89 octane gasoline and then light it with a match. That is the only way I was able to get the smell off some gloves I bought made in China.

Re: Calculator from a smoking environment: What is to be done?

*Message #17 Posted by **Nick R** on 27 Dec 2011, 11:30 p.m.,*
in response to message #16 by JDonley

That sounds like the ideal treatment for the HP35S and HP15C LE models.

Re: Calculator from a smoking environment: What is to be done?

*Message #18 Posted by **Frank knight** on 27 Dec 2011, 12:53 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

> Quote:
>
> I've got two calculators that I can smell at a distance. Does anyone have a recipe for reducing that odor? The cases stink, too.
>
> (My New Year's resolution: ASK eBay sellers about the environment in which their calculators have lived.)

I wonder if any of the Fabreeze (sp?) category products would help.....application methods would be an additional variable.

Re: Calculator from a smoking environment: What is to be done?

*Message #19 Posted by **robert rozee** on 27 Dec 2011, 5:39 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

i use a product call De-Solv-It to clean most things, it is a citrus oil based solvent intended for removing stains. works like a treat on dirt and ink marks, and leaves behind a faint orangish odour.

it also softens/dissolves adhesives, and is marvellous for removing unwanted labels and stickers. just apply to the top of the sticker, leave for 10 minutes or so to soak through, then the sticker will peel off cleanly. once the De-Solv-It has fully evaporated away, the adhesive on most labels will become sticky again.

applied lightly and rubbed off with a cloth, it will restore most items to a new-looking finish with remarkably little effort.

i believe eucalyptus oil works similarly well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Coburlin Is No More!

*Message #1 Posted by **Dan Grelinger** on 22 Dec 2011, 8:29 p.m.*

After discussions on this forum a few months ago about forum posters blocking him from bidding on their items, he no longer has any items for sale on eBay (TAS)!

But, wait! Who is this 'garbaco'? A new ebay member (11/1/11) already has 65 vintage HP calculating instruments and accessories, all at ridiculous Buy-It-Now prices and $5.95 or $9.95 shipping charges. And this seller is also from California! Perhaps this is a relation, one who shares the same genetic material with the 'big C'? Tricky, tricky, tricky!

So, for those who have blocked coburlin from bidding on their ebay items, you may wish to block his evil twin, garbaco, for the same reasons.

Re: Coburlin Is No More!

*Message #2 Posted by **Michael de Estrada** on 22 Dec 2011, 9:01 p.m.,*
in response to message #1 by Dan Grelinger

Yes, it's him. Same listings, word for word. Same photos. And of course same prices. As to his bidding on auctions, his bids were always totally lowball, so there was never any risk he'd win, unless you did a really bad job in the listing and nobody else noticed it. I don't sell on ebaby anymore, so it's a moot point.

Re: Coburlin Is No More!

*Message #3 Posted by **Howard Owen** on 22 Dec 2011, 9:08 p.m.,*
in response to message #1 by Dan Grelinger

> Quote:
>
> But, wait! Who is this 'garbaco'?

Greedy avaricious reseller, buying antique calculators. Outrageous!

Re: Coburlin Is No More!

*Message #4 Posted by **Michael de Estrada** on 22 Dec 2011, 9:20 p.m.,*
in response to message #3 by Howard Owen

It's actually "garboco", but I still like the "garbaco" name better.

Edited: 22 Dec 2011, 9:24 p.m.

Re: Coburlin Is No More!

*Message #5 Posted by **Howard Owen** on 22 Dec 2011, 9:34 p.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> It's actually "garboco", but I still like the "garbaco" name better.

No problem. "Greedy avaricious reseller buying *old* calculators. Outrageous!"

Or "Garb*age of* co*burlin*

Re: Coburlin Is No More!

*Message #6 Posted by **bill platt** on 22 Dec 2011, 9:29 p.m.,*
in response to message #1 by Dan Grelinger

Before there was coburlin, there was burlin.

Re: Coburlin Is No More!

*Message #7 Posted by **Namir** on 23 Dec 2011, 12:26 a.m.,*
in response to message #6 by bill platt

You are correct. I ask myself if including "co" to burlin or in the new handle is related to either the state of Colorado (I believe burlin was selling out of CO) or maybe his initials.

Namir

Re: Coburlin Is No More!

*Message #8 Posted by **Howard Owen** on 22 Dec 2011, 9:41 p.m.,*
in response to message #1 by Dan Grelinger

And just to prove that cobofoo is not the only one gouging out there:

time module for $299.00.

Re: Coburlin Is No More!

*Message #9 Posted by **Ángel Martin** on 23 Dec 2011, 2:46 a.m.,*
in response to message #8 by Howard Owen

It´s a wild world out there - and one subject to the markets, we know what that means. Like in everything in life, knowledge protects from pitfalls (buyers beware!) and on the other hand, sellers... try to make a business - sometimes in the gray zones of what's reasonable and "fair".

As frustrating and unpleasant it feels to many of us, the truth is it's all perfectly legal of course - yet not everybody's modus operandi (profit to others expense?)- thank goodness for that.

Re: Coburlin Is No More!

*Message #10 Posted by **Juergen Keller** on 23 Dec 2011, 3:57 a.m.,*
in response to message #9 by Ángel Martin

That's why I start my auctions always at 1 EUR. Well, I didn't sold a TIME module for $299 but I always got, at least, a fair price. What is eBay without bidding? Just another boring store ...

Re: Coburlin Is No More!

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 23 Dec 2011, 4:47 a.m.,*
in response to message #1 by Dan Grelinger

Old news, actually... :-)
Heads-up from Nov, 2.

Season's Greetings,
Massimo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator Market

*Message #1 Posted by **Benoit Maag** on 22 Dec 2011, 3:45 a.m.*

I was wondering about the size of the scientific calculator market, and the shares of hp, ti, Casio... is there any reference on that? The only datapoint I have is Casio celebrating the 1 billion mark a few years ago (all calculator types included).

Re: Calculator Market

*Message #2 Posted by **Ethan Conner** on 22 Dec 2011, 8:06 a.m.,*
in response to message #1 by Benoit Maag

I found a Wall Street Journal article from 2009 that was about the TI N-spire that lists market share for the U.S. concerning graphing calculators. The article uses NPD (national purchase diary) as the data source. The article states that TI has 80% and HP 5% but doesn't give a percentage for Casio. However it says Casio is second in market share so i infer that means 15%. I'm sure that there are forum members that will be able to shed more light on the subject.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

YFNS vs YFNZ

*Message #1 Posted by **Howard Owen** on 21 Dec 2011, 9:38 p.m.*

THe 41CL ROM library contains two versions of the CL extra functions ROM. They differ only in their ROM labels and in their XROM numbers. The YFNZ ROM has XROM 15, and is the default version. (i.e. it is loaded when the MMU is disabled, hardwired into port 7.) The"alternate" version is called YFNS. It has an XROM number of 31.

In order to play with flash memory on the 41CL, it is necessary to map one or the other of these ROMs into RAM. For some reason, people writing code like that tend to map the YFNS version at ROM address 0x062000 into RAM, rather than the default YFNZ version at ROM address 0x070000. They often also "restore" the port mapping of the YFNS version when they are through. This has caused me some confusion, because code I wrote using the YFNZ version fails to work if the YFNS version is loaded.

Is there an XROM collision that leads people to prefer YFNS over YFNZ? Or perhaps this is a legacy of the beta test era?

Re: YFNS vs YFNZ

*Message #2 Posted by **Monte Dalrymple** on 21 Dec 2011, 9:50 p.m.,*
in response to message #1 by Howard Owen

I think that this is probably an artifact of the Beta testing.
The 41CL hardware does not allow the first sector of Flash memory to be written, to protect the operating system. The YFNZ version is located in this sector. So, when patching is required the YFNS version was used, because it can be written back to the Flash.

Re: YFNS vs YFNZ

*Message #3 Posted by **Geoff Quickfall** on 21 Dec 2011, 10:08 p.m.,*
in response to message #2 by Monte Dalrymple

To that end we were also patching the YFNS to read ROM id #15 using a ypoke command.

Cheers, Geoff

p.s. I encourage all CL users to sign into Bruce Bergmans wiki in which is a dedicated CL forum including PDFs and etc:

HP 41CL wiki

Also there are some beta pdf's created which are available with an email to me.

geoffqf@xxxtelus.net (remove the xxx of course.)

Edited: 21 Dec 2011, 10:10 p.m.

Re: YFNS vs YFNZ

*Message #4 Posted by **Ángel Martin** on 22 Dec 2011, 3:45 a.m.,*
in response to message #2 by Monte Dalrymple

One reason to use the XROM#15 one is CLUTILS - the function launchers expect that id# to work.

The drawback is HEPAX RAM tends to use the same id# in 16k configurations, so a manual adjustment is required.

I have re-flashed my YFNS#31 with a patched version of the YFNZ#15, so I'm totally commited to that id number.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Return of the 15C with Bad Zebra?

*Message #1 Posted by **aj04062** on 21 Dec 2011, 9:24 p.m.*

I pulled an old 15C out of the box today to see if it was still malfunctioning after a brief time of normal function. When I tried to use it, the same malfunction occurred.

Reference this old THREAD

Here is a picture of what happens.

Any key that is pressed results in this display. If you press a key twice, it will "stick". I have left the batteries out to try again in a few weeks. Last time I did this, it worked normally when I installed batteries.

Thoughts?

Re: Return of the 15C with Bad Zebra?

*Message #2 Posted by **uhmgawa** on 22 Dec 2011, 5:01 p.m.,*
in response to message #1 by aj04062

> Quote:
>
> I pulled an old 15C out of the box today to see if it was still malfunctioning after a brief time of normal function. When I tried to use it, the same malfunction occurred.. Any key that is pressed results in this display.

The voyager lcd controller will mindlessly render whatever display data has been sent to it long after the NUT cpu has gone off into the weeds. It is autonomous in the sense it generates its own scan clock and as long as it hasn't been disabled it will persistently render the last captured display data. The dropout voltage for the display registers is spectacularly low and your best bet to determine weather the cpu is repeatedly writing that display data is to remove the button cells and short the corresponding terminals to discharge the internal bypass capacitors.

> Quote:
>
> If you press a key twice, it will "stick".

Not sure I quite follow what you mean by "stick"?

> Quote:
>
> I have left the batteries out to try again in a few weeks. Last time I did this, it worked normally when I installed batteries.

Waiting for weeks isn't necessary to dropout the voltage rail, try the above.

You may also have an intermittent related to temperature or handling of the unit. If you are comfortable to open the unit, further debug is possible particularly if you have access to an oscilloscope.

Re: Return of the 15C with Bad Zebra?

*Message #3 Posted by **aj04062** on 22 Dec 2011, 7:59 p.m.,*
in response to message #2 by uhmgawa

If I press any key once you will see the displayed "text". After you release the key, the screen goes blank. If I press quickly press any key, the display with remain as shown. If I press any key again, it will go blank.

I tried shorting the terminals. Nothing changed. I have no problem pulling the the unit apart and do have a scope.

I know 4.5V would be an appropriate voltage setting on a bench power supply, what should the max current be?

What do I need to look at with the scope?

Re: Return of the 15C with Bad Zebra?

*Message #4 Posted by **uhmgawa** on 23 Dec 2011, 1:52 p.m.,*
in response to message #3 by aj04062

> Quote:
>
> If I press any key once you will see the displayed "text". After you release the key, the screen goes blank. If I press quickly press any key, the display with remain as shown. If I press any key again, it will go blank.

Is the 15c to your knowledge actually in its "on" mode when you see the above behavior? Or is it "off" and pressing any key causes the above?

Other than being illegible text, are the driven lcd segments solidly polarized or do you see any indication of weak partial drive? The latter would point a finger at the lcd controller or contamination of the interconnect between it and the lcd glass.

> Quote:
>
> I tried shorting the terminals. Nothing changed. I have no problem pulling the the unit apart and do have a scope.

In the event you haven't opened one up before, do so in something like a deep tray to capture the esd bonding springs which are carefully designed to disappear as soon as being exposed to light.

Concerning springs, once you have it open do a quick check of the button cell positive spring terminal to verify the pcb end is solidly under tension between the pcb and the cell stack well -- the spring tension is divided in two parts due to the cell well. I've seen a loose spring cause all sorts of trouble and it could also frustrate the attempt to discharge the power rail as above.

> Quote:

> I know 4.5V would be an appropriate voltage setting on a bench power supply, what should the max current be?

When the cpu is active and the LC tank is driven, somewhere around 1ma is typical. Note you'll need to hold a key down to keep the cpu active as it will enter poweroff in under 100ms when it is idle and no keys are down.

> Quote:
>
> What do I need to look at with the scope?

Take a look at the LC tank and verify it reliably becomes active (~880KHz) upon key press and becomes inactive when the key is released. IIRC the inductor is situated horizontally just under the cell well on that vintage voyager.

Before that I'd get a jeweler's loupe and have a look at the solder joints of all package leads checking for fillet stress fractures, and shorts due to whiskers or contamination. You can also try poking at the leads with a toothpick to see whether that alters the behavior. Mild flexing/torque of the case/pcb (back removed) may also be useful. At least this is what I'd hope is the source of the trouble, and (if I follow correctly) the intermittent nature of the problem would seem to indicate some type of dependency on temperature, humidity, or stress.

Unfortunately except for the cpu, the only source of replacement ram/rom/display devices are another 15c. And the only conclusive approach to debug a suspect device is to sniff the ISA bus to capture the transactions which is somewhat involved electrically and mechanically. FWIW I've disassembled dozens of voyagers and every problem I've encountered has been due to an interconnect of some sort.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C back in stock at hp.com

*Message #1 Posted by **sjthomas** on 21 Dec 2011, 1:11 p.m.*

Here

Get 'em while they're hot!

Re: 15C back in stock at hp.com

*Message #2 Posted by **Jeff Johnson** on 21 Dec 2011, 1:25 p.m.,*
in response to message #1 by sjthomas

Wow, yeah. And BUY.COM has them again, but now they are $256.66 + shipping. Just got mine last week from BUY.COM for $94.95 with free shipping. What is up with this market?

Re: 15C back in stock at hp.com

*Message #3 Posted by **NateB** on 21 Dec 2011, 1:50 p.m.,*
in response to message #2 by Jeff Johnson

Buy.com is out of stock. The ones selling for $256.66 (why such a random amount?) are being sold by Samson cable.

The resellers are buying all the available stock from Buy.com and HP and then listing them at a 300% markup. Hopefully HP gets the supply issue worked out and all the speculators get hosed.

Re: 15C back in stock at hp.com

*Message #4 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 1:54 p.m.,*
in response to message #2 by Jeff Johnson

> Quote:
>
> What is up with this market?

Good old law of Supply and Demand. Demand is high and apparently supply is *limited*...

Re: 15C back in stock at hp.com

*Message #5 Posted by **Bill Smith** on 21 Dec 2011, 2:01 p.m.,*
in response to message #1 by sjthomas

Got one! Almost didn't notice they were in stock, but have been checking their site daily for the last month or so.

Re: 15C back in stock at hp.com

*Message #6 Posted by **Jeff Johnson** on 21 Dec 2011, 2:35 p.m.,*
in response to message #5 by Bill Smith

Glad you snagged one, Bill. Seems like "daily" checking isn't good enough with this crazy situation. To catch it, you probably need to either be lucky, or hit "refresh" on a web browser hourly, for days on end. Worth the effort, though, in my opinion.

Re: 15C back in stock at hp.com

*Message #7 Posted by **Michael de Estrada** on 21 Dec 2011, 2:26 p.m.,*
in response to message #1 by sjthomas

Also, use coupon code SAVE15HP to get $15 off. Effective price will then be $84.99. Also, don't bother paying for expedited shipping, because standard free shipping is plenty quick IME. You will have to pay your state sales tax, however.

Re: 15C back in stock at hp.com (+ name-dropping)

*Message #8 Posted by **Paul Brogger** on 21 Dec 2011, 7:05 p.m.,*
in response to message #1 by sjthomas

I just ordered one -- Merry Christmas to me!

Also, having notified him of the fact, no less a techie than Steve Gibson (creator of of "SpinRite", among other things, at Gibson Research Corporation) celebrates the 15C's renewed availability via a Tweet and at the end of his most recent Security Now podcast.

He says his own favorite is the 11C, and from listening to earlier episodes of the show I understand he's got a half-dozen (!) of them in his refrigerator for long-term backup. (Smart guy!)

Edited: 21 Dec 2011, 9:03 p.m.

Re: 15C back in stock at hp.com

*Message #9 Posted by **Dan Grelinger** on 22 Dec 2011, 10:32 a.m.,*
in response to message #1 by sjthomas

And they are back in stock at Buy.com as well, for $99.99 with Free Shipping. This ordering limit is now 1.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thimet index for 15C LE

*Message #1 Posted by **Jeff Johnson** on 21 Dec 2011, 9:42 a.m.*

Has anyone run the Thimet speed index on the new HP 15C LE? I'm curious as to how it compares to the "100 times faster" metric. The Thimet index should be a little more representative, since it includes some floating point math and transcendental functions. The original 15C clocked in with an index of 2.7, the new 35s with a 9.5, and the 50g with a 260.

Re: Thimet index for 15C LE

*Message #2 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 10:40 a.m.,*
in response to message #1 by Jeff Johnson

60 iterations in 10.06 seconds (performance index = 202.8). That's about 75 times faster than the HP-15C in his table (2.7). That's a double-speed unit, however:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=77430

150 appears to be the right factor.

Re: Thimet index for 15C LE

*Message #3 Posted by **Jeff Johnson** on 21 Dec 2011, 11:27 a.m.,*
in response to message #2 by Gerson W. Barbosa

Good info. Thanks! I was curious how it stacked up with the others. Also didn't know about the "double speed" unit. That's interesting too.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.6

*Message #1 Posted by **robertoataulfo** on 21 Dec 2011, 7:02 a.m.*

```
CATALOG ( 1426 bytes)


19/12/11  14:14:54


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR" @ PWIDTH INF
2 GOSUB 26 @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
5 IF B$='u' THEN C$="Purge" @ GOSUB 14 @ GOSUB 24 @ PURGE A$&B$ @ GOTO 1
6 IF B$="a" THEN C$="Print Catalog" @ GOSUB 15 @ PRINT C$[7,13]&":"&A$(I) @ I=1 @ GOTO 30
7 IF B$='e' AND POS("BT",A$[12,12])#0 THEN C$="Edit" @ GOSUB 14 @ GOSUB 24 @ EDIT A$&B$ @ END
8 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 14 @ RUN A$
9 IF B$='c' THEN C$="Copy to" @ GOSUB 14 @ GOTO 18
10 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
11 IF B$="b" THEN BYE
12 IF B$='p' AND POS("BT",A$[12,12])#0 THEN C$="Print" @ D$=A$ @ GOSUB 14 @ GOSUB 24 @ GOTO 16
13 GOTO 2
14 A$=A$[1,POS(A$," ")-1]
15 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
16 GOSUB 32 @ IF A$="keys" THEN PLIST KEYS ELSE PLIST A$
17 PRINT @ GOTO 2
18 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
19 IF B=2 THEN B$=A$(1)&D$&A$(3)
20 IF B=3 THEN B$=A$(1)&D$&A$(2)
21 DISP C$&" "&B$&" ?" @ B=VAL(WKEY$) @ GOSUB 24
22 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
23 GOTO 2
24 B$="" @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
25 RETURN
26 IF B=1 THEN A$=CAT$(I)
27 IF B=2 THEN A$=XCAT$(I)
28 IF B=3 THEN A$=TCAT$(':dr',I)
29 RETURN
30 GOSUB 33
31 GOSUB 26 @ IF A$="" THEN I=1 @ GOTO 2 ELSE PRINT A$ @ I=I+1 @ GOTO 30
32 PRINT A$;' (';VAL(D$[13,18]);'bytes)'
33 PRINT @ C$=DATE$ @ PRINT C$[7,8]&C$[3,6]&C$[1,2]&"  "&TIME$ @ PRINT @ RETURN


a    = Print Catalog
c    = Copy File to
e    = Edit Basic File
r    = Run Basic File
p    = Print Basic File
b    = Bye (Off)
x    = exchange media
u    = Purge File
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


:Xmem=82718A
```

```
Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.11 available

*Message #1 Posted by **Raymond Del Tondo** on 20 Dec 2011, 7:28 p.m.*

Hello all,

here's an important update for SpeedUI.

SpeedUI 11.11 fixes some serious bugs
and adds some new features.
See RelNotes.txt for details.

For installation/uninstallation, please take a look into
StartHere.pdf supplied with the latest SpeedUI archive.

The new version is available here:
http://www.hpmuseum.org/guest/deltondo/speedui.pdf (Walkthrough PDF)

http://www.hpmuseum.org/guest/deltondo/sui_1111.zip (SpeedUI zip archive)

and on www.hpcalc.org once the site will be updated.

Have fun:-)

Raymond

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #1 Posted by **Diego Diaz** on 20 Dec 2011, 6:43 p.m.*

Hi all,

After some diving into NoVRAM and NoV-32 code, I've fixed the issues that prevented them to properly work on HP-41CL machines.

Details on previous thread: here.

The updated code is here, just replace the enclosed files in your working directory and reprogram your NoV's as usual.

Now the whole range of Clonix and NoV's modules are compatible with HP-41CL.

As a "collateral effect" I've also added the RAM shadowing feature to the NoVRAM and NoV-32 modules... ;-)

Please let me know of any issue you may find.

Hope this helps.

Enjoy your 41's and best wishes for the upcoming Xmas season.

Diego.

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #2 Posted by **Meindert Kuipers** on 21 Dec 2011, 3:12 a.m.,*
in response to message #1 by Diego Diaz

Could you shed a light on what the issue was? I expect my CL soon and could run into the same type of problem when it needs to work with the MLDL2000,

Meindert

[Meindert] Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #3 Posted by **robertoataulfo** on 21 Dec 2011, 6:19 a.m.,*
in response to message #2 by Meindert Kuipers

```
Meindert I did not understand what would be the use of MLDL2000 with 41CL?
I have both but on different machines.
I do not see what use to use the two simultaneously.
Can you help me this question?
```

Edited: 21 Dec 2011, 6:20 a.m.

Re: [Meindert] Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #4 Posted by **Meindert Kuipers** on 21 Dec 2011, 12:35 p.m.,*
in response to message #3 by robertoataulfo

Obviously this type of knowledge may be interesting just for fun. And there may be several use cases for the MLDL2000, if only for easy transfer of ROM images from the PC to MLDL2000 to the 41CL.

Meindert

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 21 Dec 2011, 3:44 a.m.,*
in response to message #1 by Diego Diaz

Thank you Diego! (as usual...)

Season's Greetings,
Massimo

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #6 Posted by **Ángel Martin** on 21 Dec 2011, 4:38 a.m.,*
in response to message #1 by Diego Diaz

Hola Diego, I tried my NoVRAM with the new configuration files quickly this morning and sure enough the start sequence works great, and the HEPAX relocates itself to page#6. I believe you said that page #8 must be free during the start-up process, but I might be wrong. Just in case the MMU configuration is YFNS on page#E and CLUTILS on page#F - nothing else so no conflcits.

There is however a (new) problem: the two non-hepax ROM images burned (the "back-seat passengers" so to speak) are not there!, Seemingly not on the VRAM at all, as they don't show up on the standard CX either.

I'm using pages #C and #D for the "passangers". I tried it twice, starting the burning from the scratch. Same result, and the disconcerting part is that those images are not shown in the non-CL machine either. Is it possible that the upgraded files have caused this?

I'll try this evening with other pages to see if the same issue occurs - it may be me making some mistake, who knows.

Saludos, Ángel

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #7 Posted by **Diego Diaz** on 21 Dec 2011, 12:10 p.m.,*
in response to message #6 by Ángel Martin

Hi there,

Meindert, it was a clock phase missing issue. Since the code in the NoVRAM is so tight (just 2Kbytes) I have to run some "tricky" code in order to keep NoV "in time".

At some point it seems that the Phi pulse witdh on the CL is slightly narrower than the original 41 and the NoV lost its pace.

After moving a few instructions up and down a bit, (namely 166.66nS in two different Phases) NoV can now stay in sync as it should.

Due to the very different concept in your MLDL2000 (HW interfaced) I doubt this trouble could arise in your case, but it is always a pleasure to find someone who can listen to these "old techie tales"... ;-)

Thanks for your (as usual) kind words Massimo, and Merry Xmas to Italy!

Ángel, you're right (sorry) I switch the "back seats" OFF, to ease the testing procedure, and forgot to turn them back ON once the timing issue was fixed.

I've already uploaded the "fixed" update, it may take a few hours until my ISP will actually "update" it on-line.

In the meanwhile, you can use the NoV-32 files to configure your NoVRAM, it will work as expected (of course just one 16K RAM block)

Enjoy your toys!!

Diego.

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #8 Posted by **Eric Smith** on 21 Dec 2011, 4:54 p.m.,*
in response to message #1 by Diego Diaz

Does this apply to Nov64 also?

Re: HP-41CL & NoVRAM/NoV-32 issue fixed... ;-)

*Message #9 Posted by **Diego Diaz** on 21 Dec 2011, 6:25 p.m.,*
in response to message #8 by Eric Smith

Hi Eric,

To your question, NoV-64 has a different microcontroller, different code, and duoble program space, so it works with HP-41CL.

Update is applicable only to NoVRAM and NoV-32 modules.

Cheers.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

14b is not calculating PMT correctly

*Message #1 Posted by **Eric Peltier** on 20 Dec 2011, 4:51 p.m.*

14b is not calculating PMT correctly. I have a 14B 50th Aniv Edition. I am a mortgage professional, so, I calculate PMT quite a bit. It has suddenly started calculating PMT incorrectly. I have checked it against several sources. Any ideas why? Is there a setting that got messed up? Thanks in advance!

Re: 14b is not calculating PMT correctly

*Message #2 Posted by **Raymond Del Tondo** on 20 Dec 2011, 5:05 p.m.,*
in response to message #1 by Eric Peltier

Did you try again after a reset of the calc?

Re: 14b is not calculating PMT correctly

*Message #3 Posted by **Eric Peltier** on 20 Dec 2011, 5:26 p.m.,*
in response to message #2 by Raymond Del Tondo

I'm not sure how to reset it. I took the batteries out for 10 minutes and that did not fix it.

Re: 14b is not calculating PMT correctly

*Message #4 Posted by **Eric Peltier** on 20 Dec 2011, 5:38 p.m.,*
in response to message #3 by Eric Peltier

I found instructions online on how to reset it. It did not help.

Re: 14b is not calculating PMT correctly

*Message #5 Posted by **geoff quickfall** on 20 Dec 2011, 5:10 p.m.,*
in response to message #1 by Eric Peltier

Not a finance guy, but doesn't the PMT depend on the payment schedule.

That is, is there a flag that toggles Canadian to American style, another that calculates end of payment period or beginning?

In other words, if it worked correctly out of the box, then try the reset suggested as this would reset all the applicable states.

Geoff

Re: 14b is not calculating PMT correctly

*Message #6 Posted by **Eric Peltier** on 20 Dec 2011, 5:39 p.m.,*
in response to message #5 by geoff quickfall

I agree, this may be part of the problem. But I do not have the instructions....

Give us the exact keystrokes you are keying in and the results please

*Message #7 Posted by **gene wright** on 20 Dec 2011, 8:18 p.m.,*
in response to message #6 by Eric Peltier

and that will help us see if the 14b is giving wrong answers. If so, it is always possible it has bit the dust.

But easier to tell if you give very complete examples. :-)

Re: 14b is not calculating PMT correctly

*Message #8 Posted by **jose gonzalez divasson** on 20 Dec 2011, 5:45 p.m.,*
in response to message #5 by geoff quickfall

I was desperate with the same problem with my 12c - I wasn't able to reproduce my mortgage numbers froim the bank. At the end it was all about being in BEG mode instead of END!

In other models it may have to do with the number of oeriods per year.

Re: 14b is not calculating PMT correctly

*Message #9 Posted by **Don Shepherd** on 20 Dec 2011, 6:21 p.m.,*
in response to message #8 by jose gonzalez divasson

Yeah, for loans you want to be in END mode. You will get the wrong payment amount if you are in BEGIN mode.

Re: 14b is not calculating PMT correctly

*Message #10 Posted by **Allen** on 20 Dec 2011, 8:42 p.m.,*
in response to message #1 by Eric Peltier

Almost all the problems I've had like this ended up being the P/YR setting was off.

This happens on the HP10b as well.

Press RCL SHIFT PMT and you should get P/YR=12.00 You can change to 26 Payments per yr by typing 26 STO SHIFT PMT

If you hold ON+N+SIGMA at the same time, The P/YR will get reset to 12.

If this does not work, type here your 5 FIN variables so we can recreate the issue.

E.g. (I=4%, PMT=360, PV=1000, FV=0 ----> PMT= -4.77)

Re: 14b is not calculating PMT correctly

*Message #11 Posted by **Eric Peltier** on 21 Dec 2011, 10:42 a.m.,*
in response to message #10 by Allen

Allen

The ON+N+SIGMA worked! Somehow, the darn thing got set to 10 payments a year. I'm not sure how,

since it just sits on my desk, not banged around a bag or anything. Thanks!!!!

Re: 14b is not calculating PMT correctly

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 21 Dec 2011, 11:04 a.m.,*
in response to message #11 by Eric Peltier

I don't have a 14B but on my ancient 10B, when you clear the TVM registers using the [SHIFT] CLEAR_ALL sequence, it briefly displays the P_Yr value.

Do you never clear your TVM registers?

(It could be that this clears EVERYTHING on this machine. I am not sure. I bought it as a red-shirted "expendable crew member" so I could learn how to dismantle Pioneer calculators. Don't use it very much -- **much** prefer my (several) 17Bii's running in RPN mode!)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15CLE disassembly / reassembly recommendations?

*Message #1 Posted by **Thomas Chrapkiewicz** on 20 Dec 2011, 11:53 a.m.*

Has anyone disassembled a 15CLE?

Removing the back is simple - only the 6 screws.

I've noticed that the PCB is retained with heat stakes.

If and when I remove these I would like some ideas on the proper screws to re-retain the PCB.

Thanks in advance,

TomC

Re: 15CLE disassembly / reassembly recommendations?

*Message #2 Posted by **Jeff O.** on 20 Dec 2011, 1:46 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Check out this thread which described disassembly and repair of a bad key.

Here is a direct link to the pictures.

Re: 15CLE disassembly / reassembly recommendations?

*Message #3 Posted by **Thomas Chrapkiewicz** on 20 Dec 2011, 2:16 p.m.,*
in response to message #2 by Jeff O.

Thanks! I thought I had seen this before.

...and thanks djj for posting this.

TomC

Re: 15CLE disassembly / reassembly recommendations?

*Message #4 Posted by **David Griffith** on 21 Dec 2011, 12:10 a.m.,*
in response to message #2 by Jeff O.

Very interesting... I wonder if that trick can be used with other calculators that heat-stake the PCB.

[Return to Index | Top of Index]

Go back to the main exhibit hall

15CLE disassembly / reassembly recommendations?

41CL - Shut Off that Auto-Turn Off

*Message #1 Posted by **Frido Bohn** on 20 Dec 2011, 5:27 a.m.*

Annoyed about the 41CL turning off automatically after about 30 seconds being idle?
Then simply set Flag 44. This flag forces the HP41 to continuous on.
Unfortunately this is not feasible by standard means. Executing FS 44 renders a mere NONEXISTENT because system flags are not in reach of the (standard) user.
One solution would be the use of synthetic code. The PPC ROM offers the command "IF" to invert every kind of flag, regardless whether it is a user or system flag.

For the sole purpose to activate Flag 44, here some MCODE:

```
08E     N
00F     O
013     S
003     C               ; Name of the routine: "CSON" (ContinuouS ON)
3B8     READ 14 (d)     ; Reads RAM register 14 (d) where the flag configuration resides into
CPU register C
10E     A=C ALL         ; Transfers the flag settings to CPU register A
04E     C=0 ALL         ; Fills CPU register C with zeros
21C     R=2             ; Sets the pointer to Nybble 2
210     LD @R 8         ; Puts "8" at Nybble 2 resulting in CPU register C containing a mask
where only Flag 44 is set
370     C=C OR A        ; An "or" statement cares about the original flag setting being
preserved while Flag 44 is set
3A8     WRIT 14(d)      ; The modified flag setting is written back to RAM register 14
3E0     RTN
```

Now Flag 44 is set and the calculator does not turn off automatically. To get back to the original status simply turn off the HP41 manually: Flag 44 will be not set at the next turn on.

Now some remarks to disclaim any kind of liability here: While the 41CL is on battery power it makes of course sense that the machine is turned off automatically while being idle because the power consumption would eat the charge pretty fast. If you have an external power solution or if you don't care about battery life then the continuous power on is not that critical.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #2 Posted by **Paul Dale** on 20 Dec 2011, 5:33 a.m.,*
in response to message #1 by Frido Bohn

Isn't this what the ON command does?

- Pauli

Re: 41CL - Shut Off that Auto-Turn Off

*Message #3 Posted by **Frido Bohn** on 20 Dec 2011, 6:28 a.m.,*
in response to message #2 by Paul Dale

Quote:

> Isn't this what the ON command does?

Oh, sh..!

I was thinking hard about some way to overcome the auto-turn off and wondered if there was a simple way.
And of course, you are completely right! The "ON" command!
To get kind out off this and regain back a minimum of reputation I would like to state that the code may serve as an example how to manipulate flags in MCODE.
Sorry about this! I made a fool of myself.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #4 Posted by **Ángel Martin** on 20 Dec 2011, 7:24 a.m.,*
in response to message #3 by Frido Bohn

Not at all, the more people getting into MCODE the better - it's all an opportunity to learn.

There are several available functions to set/clear/toggle the status of any of the 55 flags: SFX, CFX, TOGF.... have a look at the CCD, CCD_OS/X, AMC_OS/X, etc.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #5 Posted by **Håkan Thörngren** on 21 Dec 2011, 9:01 a.m.,*
in response to message #4 by Ángel Martin

I agree, the more people who try MCODE the better!

One has to start somewhere, and simple routines are a great stating point. Your example has the advantage over 'ON' of being programmable.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #6 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 9:22 a.m.,*
in response to message #5 by Håkan Thörngren

I don't have a 41 anymore, but on my 42 'ON' is a programmable command. I assume it is on the 41 also.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 21 Dec 2011, 9:37 a.m.,*
in response to message #6 by Gerson W. Barbosa

No Gerson, it is not assignable nor programmable (manual)

Massimo

Re: 41CL - Shut Off that Auto-Turn Off

*Message #8 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 9:56 a.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

You're right! I should have tried it on V41. Thanks for the link to the manual.

Gerson.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #9 Posted by **M. Joury** on 21 Dec 2011, 10:55 a.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

It is assignable. I just tried it and you can assign 'ON'.

Cheers,

-Marwan

Re: 41CL - Shut Off that Auto-Turn Off

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 21 Dec 2011, 3:02 p.m.,*
in response to message #9 by M. Joury

You're right Marwan! It's the ON key that is not assignable.
Sorry,
Massimo

Re: 41CL - Shut Off that Auto-Turn Off

*Message #11 Posted by **M. Joury** on 21 Dec 2011, 3:07 p.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

Yes. Unlike the HP48 series where you can assign to any key you cannot assign to the top 4 keys (ON, USER, PRGM, and ALPHA) on the 41.

Cheers,

-Marwan

Re: 41CL - Shut Off that Auto-Turn Off

*Message #12 Posted by **geoff quickfall** on 21 Dec 2011, 4:01 p.m.,*
in response to message #11 by M. Joury

probably apparent from the above postings but two separate "ON" definitions are discussed:

```
The "ON/USER" key which under normal circumstances is not
 assignable.  However on the CX this toggle key and the
PRGM/ALPHA
 key are reassigned in ED mode.  I think I remember that
synthetics
 may be able to access those key locations.


The "ON" function whose sole purpose is to overide the timed
out
 "OFF" function by toggling flag 44. This flag, when not set,
turns
 the calculator 'off' after 10 minutes.  When set, the
calculator
 stays 'on' indefinitely (battery dependent) until selected off
 with the toggle switch.  I cannot remember if it is set
 to 'off' at each toggle 'off' cycle.
```

Cheers, Geoff

Edited: 21 Dec 2011, 4:06 p.m.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 20 Dec 2011, 4:44 p.m.,*
in response to message #1 by Frido Bohn

But why is your CL shutting down after 30"?
Mine doesn't...

Greetings,
Massimo

Re: 41CL - Shut Off that Auto-Turn Off

*Message #14 Posted by **Craig Ruff** on 20 Dec 2011, 7:03 p.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

Nor does mine after I finally finished the lower screw post repair by waiting long enough (23 hours) for the epoxy to cure fully! I followed aj04062's procedure described in his HP-41 Permanent broken Post Fix posting. Because drilling out the 41CL's mounting holes would cause damage, I used an 11/64" square nose end mill bit to remove the plastic posts, then sized two 2-56 threaded standoffs to a bit below 11/64" outside diameter and cut to length. Two 2-56 binding head screws completed the repair.

Edited: 20 Dec 2011, 7:11 p.m.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #15 Posted by **Frido Bohn** on 21 Dec 2011, 4:13 a.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

This really astounds me. I thought it is a feature of the 41CL but instead it evolves to be a bug although insignificant?
With my 41CL specimen, the shut-off time appears to be independend from the TURBO state and is well below 1 minute. A usual HP41 would shut-off after 10 minutes.
Is there any entry point where this time can be manipulated?

Re: 41CL - Shut Off that Auto-Turn Off

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 21 Dec 2011, 6:44 a.m.,*
in response to message #15 by Frido Bohn

Try going through these advices first.

Massimo

Re: 41CL - Shut Off that Auto-Turn Off

*Message #17 Posted by **Monte Dalrymple** on 21 Dec 2011, 11:22 a.m.,*
in response to message #15 by Frido Bohn

This may be due to the early display driver chips. Take a look at this thread to determine the display driver type and the solution if in fact this is the source of the problem:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=186130#186130

If the display drivers are covered with little caps like show in this example, rather than epoxy blobs, then you'll need to add the capacitor as shown here.

Edited: 21 Dec 2011, 11:24 a.m.

Re: 41CL - Shut Off that Auto-Turn Off

*Message #18 Posted by **Frido Bohn** on 22 Dec 2011, 3:39 a.m.,*
in response to message #17 by Monte Dalrymple

> Quote:
>
> If the display drivers are covered with little caps like show in this example, rather than epoxy blobs, then you'll need to add the capacitor as shown here.

By adding a capacitor the issue with the auto-power off within 1 minute in idle state has been resolved.
Thank you, Monte!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL - HEPAX DISASM non-functional?

*Message #1 Posted by **Frido Bohn** on 20 Dec 2011, 4:19 a.m.*

I tried to use the DISASM function being part of the HEPAX ROM (-HEPAX 1D) in the 41CL which unfortunately appears to be non-operational.
Every time I execute it the calc turns off. Any idea, how to make the command work?

Re: 41CL - HEPAX DISASM non-functional?

*Message #2 Posted by **Ángel Martin** on 20 Dec 2011, 7:26 a.m.,*
in response to message #1 by Frido Bohn

You're right, same thing on mine. It's not TURBO related, as it also happens on standard speed. Looks like it's time to look into the DISASM code...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Buy.com has 15c-le again

*Message #1 Posted by **David Griffith** on 19 Dec 2011, 8:31 p.m.*

I just ordered a 15c LE from buy.com. They just got a bunch in.

Re: Buy.com has 15c-le again

*Message #2 Posted by **Michael de Estrada** on 19 Dec 2011, 8:53 p.m.,*
in response to message #1 by David Griffith

Interesting. They've again raised the price by $5 and now it's $99.99, same as MSRP at HP H&HO. Also, they now show a limit of 1, presumably to kill the profiteering. I like these guys.

So far, they've not relisted on TAS, where the prices have come down a bunch lately. I just saw a new listing with a 1 cent start price and a $135 BIN price. Quite a few have sold for under $200, and I'm glad to see the price gougers being ignored.

Edited: 19 Dec 2011, 8:59 p.m.

Re: Buy.com has 15c-le again

*Message #3 Posted by **Michael de Estrada** on 19 Dec 2011, 9:57 p.m.,*
in response to message #2 by Michael de Estrada

They just listed them on TAS again, one has sold already, and they show only 12 left in stock, so this should be over shortly.

Sold out again !

*Message #4 Posted by **Michael de Estrada** on 19 Dec 2011, 10:19 p.m.,*
in response to message #3 by Michael de Estrada

Someone bought the 12 remaining ones on TAS. Out of stock again. This is crazy.

Re: Sold out again !

*Message #5 Posted by **aj04062** on 19 Dec 2011, 10:22 p.m.,*
in response to message #4 by Michael de Estrada

Concur!

Re: Sold out again !

*Message #6 Posted by **CG** on 21 Dec 2011, 8:16 a.m.,*
in response to message #5 by aj04062

Dear all, What in the name of God means "TAS"? Cheers CG.

Re: Sold out again !

*Message #7 Posted by **John S. Miller** on 21 Dec 2011, 8:21 a.m.,*
in response to message #6 by CG

> Quote:
>
> Dear all, What in the name of God means "TAS"? Cheers CG.

It means, "that auction site."

Re: Sold out again !

*Message #8 Posted by **CG** on 21 Dec 2011, 8:23 a.m.,*
in response to message #7 by John S. Miller

Thank you very much John...Oh my God, that one has me scretching my head over and over...

cheers !!

CG,

Re: Sold out again !
*Message #9 Posted by **Don Shepherd** on 21 Dec 2011, 9:20 a.m.,*
in response to message #4 by Michael de Estrada

Can we please stop using TAS instead of Ebay and stop confusing people. Nothing bad will happen if we say Ebay.

Ebay Ebay Ebay Ebay....I'm still breathing...Ebay Ebay.

Re: Sold out again !
*Message #10 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 9:28 a.m.,*
in response to message #9 by Don Shepherd

> Quote:
>
> Nothing bad will happen if we say Ebay.

You are right! I've just said "eBay" aloud and the sun is still shining bright outside :-)

Re: Sold out again !
*Message #11 Posted by **M. Joury** on 21 Dec 2011, 10:58 a.m.,*
in response to message #10 by Gerson W. Barbosa

Darn! I said it a half dozen times and it is still cloudy outside just like it has been all week--I thought that the sun would come out!

Cheer,

-Marwan

Re: Sold out again !
*Message #12 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 12:45 p.m.,*
in response to message #11 by M. Joury

SC trying to cash in on the madness
*Message #13 Posted by **Michael de Estrada** on 21 Dec 2011, 10:44 a.m.,*
in response to message #4 by Michael de Estrada

Here

Re: SC trying to cash in on the madness
*Message #14 Posted by **M. Joury** on 21 Dec 2011, 10:59 a.m.,*

in response to message #13 by Michael de Estrada

Makes me ill. I will never buy from them again.

Just my $0.02.

Cheers,

-Marwan

Edited: 21 Dec 2011, 11:42 a.m.

Re: SC trying to cash in on the madness

*Message #15 Posted by **Gordon Strickland** on 22 Dec 2011, 3:29 p.m.,*
in response to message #14 by M. Joury

You seem to be ignoring the fact that they are offering the additional benefit of being able to buy an extended, three-year warranty for only $34.99!

Re: SC trying to cash in on the madness

*Message #16 Posted by **M. Joury** on 22 Dec 2011, 3:44 p.m.,*
in response to message #15 by Gordon Strickland

Ha! So I can buy one unit for $301.13 with warranty and shipping or I could buy... Let's see... Three units from somewhere else for less money. I was one of the first to buy my three from buy.com at the original selling price. Was that $79.99 or $84.99--can't remember exactly.

I do realize that you are being facetious :-).

Cheers,

-Marwan

Re: SC trying to cash in on the madness

*Message #17 Posted by **Nick R** on 21 Dec 2011, 11:20 a.m.,*
in response to message #13 by Michael de Estrada

"...has undergone additional quality control by HP."

That's assuming HP did much in the way of quality control in the first place. Expecting quality from Chinese electronics manufacturers these days is a bit of a crap game - with the emphasis on crap.

Re: SC trying to cash in on the madness

*Message #18 Posted by **Nick_S** on 22 Dec 2011, 1:37 a.m.,*
in response to message #13 by Michael de Estrada

Well, the HP15C LE is listed at their old SC price of $149.99 and they are in stock on the main SC Website. So why bother with the auction site?

Re: SC trying to cash in on the madness

*Message #19 Posted by **Dan Grelinger** on 22 Dec 2011, 10:36 a.m.,*
in response to message #18 by Nick_S

Buy.com is selling them again. $99.99 and Free Shipping. Limit of 1. 9:30am CST.

Re: SC trying to cash in on the madness

*Message #20 Posted by **Michael de Estrada** on 22 Dec 2011, 11:18 a.m.,*
in response to message #19 by Dan Grelinger

Yeah, the party's pretty much over for Samson and the other price gougers. Samson hasn't made a single sale in 1 1/2 days since they've listed at $249.99 + $14.35 shipping. Interestingly, if you look at the Buy.com store listing, they also link to the Samson listing at $256.66. Hmmm, should I pay $99.99 or $256.66 ? Difficult decision there.

Re: SC trying to cash in on the madness

*Message #21 Posted by **Michael de Estrada** on 22 Dec 2011, 12:17 p.m.,*
in response to message #20 by Michael de Estrada

Oops. Buy.com is sold out again, but at least HP Home still has them for $99.99.

Re: SC trying to cash in on the madness

*Message #22 Posted by **Howard Owen** on 22 Dec 2011, 2:20 p.m.,*
in response to message #21 by Michael de Estrada

Can you say "artificial scarcity?"

Re: SC trying to cash in on the madness

*Message #23 Posted by **Thomas Radtke** on 22 Dec 2011, 3:47 p.m.,*
in response to message #22 by Howard Owen

> Quote:
>
> Can you say "artificial scarcity?"

Articel in Scare-City?

How would the 15C LE be perceived w/o all those ado? No hoarders, and probably a virtually unlimited supply for those actually using it. Even more since there are still problems.

While at it ... Michael was right, keys do bounce. Noticed a mysterious double entry when debugging a program and actually saw it live on pressing 'RCL 2', where I had the register entry on key down, and '2' on key up on the display. Hard to enforce, seem to happen only if you don't expect it ;-(.

HP, [re]invent [the wheel]. And repair your products.

Re: SC trying to cash in on the madness

*Message #24 Posted by **Howard Owen** on 22 Dec 2011, 9:17 p.m.,*
in response to message #23 by Thomas Radtke

I meant that letting the supply of a "limited edition" calculator dwindle close to zero, then opening the spigot sporadically so your resellers periodically run out of stock could be seen as a way to maximize profits.

I see two possible problems with that. First, the profits mainly accrue to the resellers. Second, it's a bit of a conspiracy theory. I'm not sure the marketeers at HP are capable of that level of thinking. On the other hand, nobody has said what "limited" actually means.

Re: SC trying to cash in on the madness

*Message #25 Posted by **Alexander Oestert** on 23 Dec 2011, 2:22 a.m.,*
in response to message #24 by Howard Owen

> Quote:
>
> nobody has said what "limited" actually means.

Considering the problems and the bugs it has, it's fairly easy to tell what "Limited" means!

:-(

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Serial port communciations on the CL?

*Message #1 Posted by **Geoff Quickfall** on 19 Dec 2011, 4:26 p.m.*

Just a question,

I use CLONIX for updating the CL so I have not been playing with the serial port.

Has anyone got a step by step procedure for Windows and Mac users that they can send me.

I will PDF it and edit along with trying it out. The idea is to get this to the WIKI:

HP 41CL Wiki (Bruce Bergman)

Ultimately the WIKI would be a great place to go to source everyones contributions in one stop. Maybe create a single PDF manual with different sections:

```
-THE CL BY MONTE! (all current manuals)
-INSTALLATION tips and information including screw post fixes and etc.
-CLONIX transfers to CL
-MDLD2 via serial
-SERIAL for the MAC AND WINDOWS
-CLUTILS (the ultimate utilities rom)
```

Cheers, Geoff

we could also create a ROM manual database as the CL has them all (almost?).

Edited: 19 Dec 2011, 4:27 p.m.

Re: Serial port communciations on the CL?

*Message #2 Posted by **Ángel Martin** on 19 Dec 2011, 4:40 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff you'll no doubt remember that Raymond Wiker wrote the CS source code for CLWRITER - and also shared the procedure with the CL beta users. Do you still have that? I can re-send if not.

Fact is it works like a charm - so there's two grand ways to transfer ROMS to/from the CL, CLONIX and Serial Transfer.

I use them indistinctly, CLONIX are easier when multiple blocks are to be tranferred at once, and also once burned it removes the PC dependency. On the other hand Serial is unbeatable for quick-drop ROM updates - remember that I make many changes to the code... a godsend.

Re: Serial port communciations on the CL?

*Message #3 Posted by **Geir Isene** on 19 Dec 2011, 8:08 p.m.,*
in response to message #2 by Ángel Martin

There is also the third way that I use: HP-IL/PIL-BOX/PC w/EMU41 in Dosbox under Linux

Also works like a charm :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unabashed CL user promotion or why the 41CL?

*Message #1 Posted by **Geoff Quickfall** on 19 Dec 2011, 2:44 p.m.*

Hello all;

This is directed to anyone that knows the 41C family (CX) capabilities and draw backs.

I have a CL (actually 2 now). On the way to Sydney, Australia (a 15 hour leg) on Thursday last week the display faded to non existance on the CL. No big deal as it was a cold solder joint on one of the LCD contacts and easily fixed today.

As a result I could not use the following routines:

```
Great Circle routine
- data base solutions
- coordinate solutions
Intermediate Latitude
Break scheduler with print functions (very important!)
World time clock
Alarm setting
Stopwatch setting
Temperature corrections
Assorted conversions
Fuel in Tank
Airport door codes (security encrypted)
Phone numbers (PDA)
Metric altitude conversion (data based)
```

I pulled out my 42S (32K version) and had to plod through with it ;-) It does contain the majority of programs listed but does not contain the convenient data bases which allow for Airport code prompts. I can only say, I could not wait to get home and fix the solder joint on the LCD as the 41CL was sorely missed, especially its ability to do dynamic time functions. The 42S is great but once bitten by the 41 and now the 41CL, I cannot go back

So now to the crux of this story. Basically, why the 41CL?

```
-the 41CL is fast, very fast, at least, for my programs,
 faster then the 42S.
-the display on the 41CL is clear due to the dedicated LCD segments
 as opposed to the 42S dot matrix.  Much easier to see at night in
 low light.
-My CL routines use the dynamic time functions (with module) and
 the 42S does not.


AND NOW THE BIG REASON


-Its ability to be fully 'backup and restore' capable is the big
 seller for me.
```

I removed the batteries today, disassembled the calculator, and repaired the solder joint on the LCD panel. Of course this resulted in Memory Lost but who cares. I did not have to use the tape deck, card reader, HPIL or any other mass storage device.

I simply copied the current HP41CL state back into the Memory from its flash protected storage registers. It took

15 seconds. The memory transfer included all alarms, extended memory data bases and memory registers. Bang, 15 seconds and all of it back.

Tomorrow over to the Simon Fraser University and in 15 seconds I have my Palynology memory swapped from its on board flash location and then back to work on Friday, 15 seconds later and the calculator is configured for the B777 flight.

THANKS MONTE.

I urge anyone using the 41C still to consider the CL upgrade. Unbelievable!!!

Geoff

Edited: 19 Dec 2011, 2:46 p.m.

Re: Unabashed CL user promotion or why the 41CL?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 19 Dec 2011, 3:21 p.m.,*
in response to message #1 by Geoff Quickfall

Bravo, Geoff! ;)

Massimo

Re: Unabashed CL user promotion or why the 41CL?

*Message #3 Posted by **Meindert Kuipers** on 19 Dec 2011, 3:35 p.m.,*

in response to message #1 by Geoff Quickfall

I am eagerly awaiting my 41CL. According to tracking info it is now in customs, so I am keeping my fingers crossed, though Dutch customs is usuall pretty efficient. Hope to have it before Christmas!

One of my goals is to see how and if I can modify my MLDL2000 software tools to make the functionality work with the 41CL.

Re: Unabashed CL user promotion or why the 41CL?

*Message #4 Posted by **Gerry Schultz** on 19 Dec 2011, 3:48 p.m.,*
in response to message #3 by Meindert Kuipers

Geoff and Meindert, I have had my 41CL for a while and it's a truly amazing machine. I haven't done a lot with it yet as we are in the holiday season, but it is so fast and has so much built into it, I am blown away! I have been reading and re-reading Monte's manual as there is a lot of power built into the Cl-Utils so I am being careful and taking my time. I just printed out the CL-Utils ROM manual and will start reading it too. It will hopefully answer some questions I'm putting together about the 41CL. If not, I will post them here.

I can't stop thanking Monte for such an outstanding upgrade to the HP-41C. Also, a heartfelt thanks to Geoff for his work on my donor 41C. Finally, thanks to you Angel for the manual. I can't wait to start reading it.

So much fun!

Gerry

Re: Unabashed CL user promotion or why the 41CL?

*Message #5 Posted by **Ángel Martin** on 19 Dec 2011, 4:17 p.m.,*
in response to message #3 by Meindert Kuipers

Meindert, the MLDL2k works great on the CL - just need to respect the physical addresses so there's no conflicts. Rest assured that both seem to be perfectly compatible.

BTW, the MLDL2k (w/ HEPAX) is the *best* practical method to exchange information between V41 and the real world - all throughout the HEPAX RAM blocks, being "shareable" between both wordls.

Would it be a wild pipe dream to have a future intelligent USB connection that would have a hot-link between both, the real machine and the Windows emulator??

Imagine...

Re: Unabashed CL user promotion or why the 41CL?

*Message #6 Posted by **Howard Owen** on 19 Dec 2011, 4:37 p.m.,*
in response to message #5 by Ángel Martin

Maybe you could hack it together using PIL-box and a virtual LIF disk? I seem to recall that IL-Per allows concurrent access, but it actually doesn't work.

Re: Unabashed CL user promotion or why the 41CL?

*Message #7 Posted by **Geir Isene** on 19 Dec 2011, 8:16 p.m.,*
in response to message #6 by Howard Owen

PIL-BOX & virtual LIF file works great - I did a full sync program between my calendar program on the 41 and Google Calendar/my Android device using the PIL-BOX/EMU41 w/virtual LIF file.

Re: Unabashed CL user promotion or why the 41CL?

*Message #8 Posted by **Howard Owen** on 19 Dec 2011, 10:15 p.m.,*
in response to message #7 by Geir Isene

Could you do concurrent access from real and emulated calcs? If you can do that, then you could do development on emu41 (or v41, suitably modified) and automatically download images to the real 41.

Actually, I don't know v41 very well. Perhaps you can write to a LIF image from within it?

Re: Unabashed CL user promotion or why the 41CL?

*Message #9 Posted by **Geir Isene** on 20 Dec 2011, 6:22 a.m.,*
in response to message #8 by Howard Owen

Yes, you can do this with EMU41 :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CL-UTILS Manual now available

*Message #1 Posted by **Ángel Martin** on 19 Dec 2011, 1:53 p.m.*

Hi folks, finally I got around writing the User's Manual for the CL-UTILS module. It's revision 2E, with functions covering the production run of the CL board - so will hopefully be useful to all CL owners.

Also more documentation is available: blueprint, QRG, etc. Make sure you check TOS in a couple of days or so and download your Xmas parcel :-)

Best, 'AM

Edited: 19 Dec 2011, 1:55 p.m.

Re: CL-UTILS Manual now available

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Dec 2011, 2:01 p.m.,*
in response to message #1 by Ángel Martin

Thanks Angel! For writing the CL-UTILS and now the manual! Very helpful. Regards, Kerem

Re: CL-UTILS Manual now available

*Message #3 Posted by **Geoff Quickfall** on 19 Dec 2011, 2:22 p.m.,*
in response to message #1 by Ángel Martin

Thanks Angel,

CLUTILS is a must have for the CL group!

The CL is a must have, nough said!

Geoff

Hey Angel... don't make us wait!

*Message #4 Posted by **gene wright** on 19 Dec 2011, 2:53 p.m.,*
in response to message #3 by Geoff Quickfall

Put it up somewhere and send us a link.

:-)

Re: Hey Angel... don't make us wait!

*Message #5 Posted by **Ángel Martin** on 19 Dec 2011, 3:03 p.m.,*
in response to message #4 by gene wright

> Quote:

> Put it up somewhere and send us a link

Gene, would love to but believe it or not I don't have any server or web place to put it up on - will be glad to send it over to anyone who could do so.

Here's the QRG to whet your appetite :-)

```
#       Function        Description
1       -CLUTLS 2E      Module Header
2       ?MMU            MMU Status Yes/No
3       SCLF _          Global Launcher
4       BAUD _          Baud functions launcher
5       CLLIB _         CL ID Library
6       MMU _           MMU functions launcher
7       MMUCAT          MMU Catalog
8       PLUGG _         Plug Page
9       PLUGG? _        Page Location MMU
10      PLUGGX          Plug Page by X
11      PLG#4 _         Page#4 Plug
12      PLUG _          PLUG functions launcher
13      ROMLIB          ROM Library
14      UPG#4           Clears MMU entry for page #4
15      TURBO _         TURBO functions launcher
16      UPLUG _         UPLUG functions Launcher
17      Y1SEC           One-second delay
18      YBSP            ALPHA back Space
19      YCL>            Clears string from ">"
20      YCL-            Clears string from hyphen
21      YFNZ?           Page location of YNFS
22      YINPT _         Y Input
23      YRALL           Y-Read-ALL
24      YSWAP>          swaps both sides of ">"
25      YSWAP-          swaps both sides of hyphen
26      YWALL           Y-Write-ALL
27      -SYS/EXT        Section Header
28      ADRID           Address ID
29      BFCAT           Buffer Catalog
30      BLCAT           Block Catalog
31      CDE             Code
32      DCD             Decode
33      DTOA            Display to ALPHA
34      DTST            Display Test
35      HEPINI          HEPAX FileSys Init
36      "HPX4"          HEPAX FileSys Init - CL
37      "HPX8"          HEPAX FileSys Init - CL
38      "HPX16"         HEPAX FileSys Init - CL
39      SECURE          enable password lock
40      UNLOCK          disable password lock
41      XPASS           change password
```

Edited: 19 Dec 2011, 3:06 p.m.

How about more info for plugging into Pages 6 and 7 ?

*Message #6 Posted by **gene wright** on 19 Dec 2011, 3:38 p.m.,*
in response to message #5 by Ángel Martin

Great document.

Suggestion for some?

What roms can be plugged into pages 6 and 7? What problems can / does that create?

Can someone simply plug the CCD/OSX into page 7 (no HP IL) and be ok? What about page 6?

Re: How about more info for plugging into Pages 6 and 7 ?

*Message #7 Posted by **Ángel Martin** on 19 Dec 2011, 4:08 p.m.,*
in response to message #6 by gene wright

Gene, this is a manual for the CL Utils module - not a compendium of the collective knowledge on the 41 system.

I've had the AOSX plugged in page 7 since day-1, only remove it when using the HPIL.

Page 6 is trickier - as it has more scanning entry points than the others - because of the printer stuff. The only module I know to be 100% compatible with page#6 location is the HEPAX - but unfortunately that won't work on the CL because page#6 doesn't support bank-switching.

Re: How about more info for plugging into Pages 6 and 7 ?

*Message #8 Posted by **gene wright** on 19 Dec 2011, 5:24 p.m.,*
in response to message #7 by Ángel Martin

Oh, but you are one of THE 41CL experts. :-)

The knowledge that the CCD-OSX and AOSX modules should work there helps. I had wanted to put the YFNS there, but for various reasons it is in page 8. But I can save 4K by moving the CCDX there.

Thanks for all you do.

Re: Hey Angel... don't make us wait!

*Message #9 Posted by **Howard Owen** on 19 Dec 2011, 4:42 p.m.,*
in response to message #5 by Ángel Martin

Quote:

```
#       Function        Description
.
35      HEPINI          HEPAX FileSys Init
.
```

Cool! I made it on to one of your modules :)

Edit: Wow! I'm onboard the 41CL! I had no idea. I wrote a FOCAL program to do the initialization on mine LOL.

Edited: 19 Dec 2011, 4:53 p.m.

Re: Hey Angel... don't make us wait!

*Message #10 Posted by **Ángel Martin** on 19 Dec 2011, 4:54 p.m.,*
in response to message #9 by Howard Owen

Howard you sure did, as it´s duly credited to you in the manual :-) In fact HEPINI is used in the other three HEPAX Config functions, saving over 100 bytes over the older versions.

BTW I wrestled with the HEPINI M-code for a while trying to "optimize" it (or at least reduce its length) but apart from the first three lines (strictly speaking unneeded but good practice nevertheless) I couldn't make any improvement! [picture-perfect:-)

I did find an issue with one instruction in the main loop where you increase A[S&X] for the page# - but I could have created it during the optimization attempts. So the code is pretty much the same as the function you wrote for the MLDL2k - thanks!

Re: Hey Angel... don't make us wait!

*Message #11 Posted by **Howard Owen** on 19 Dec 2011, 5:16 p.m.,*
in response to message #10 by Ángel Martin

Thank you, Ángel! It's an honor and a thrill to be included!

Could you send me your source? I'd like to check that possible bug.

I don't seem to have the HPXNN functions in my production release of the 41CL CLUT module. This is what I ended up with for initializing my HEPAX configuration.

```
01 LBL 'HEP
02 TURBO50
03 'HEPX
04 PLUG2U
05 'CLUT
06 PLUG2L
07 '0B9>808
08 AVIEW
09 YMCPY
10 '0B9>809
11 AVIEW
12 YMCPY
13 '0B9>80A
14 AVIEW
15 YMCPY
16 '0B9>80B
17 AVIEW
18 YMCPY
19 'PLUG RAM
20 AVIEW
21 '808-RAM
22 PLUG3L
23 '809-RAM
24 PLUG3U
25 '80A-RAM
26 PLUG4L
27 '80B-RAM
28 PLUG4U
29 4
30 12
31 HEPINI
32 HEPROOM
33 TURBOX
34 VIEW X
```

Edit: The HPXNN functions would radically reduce the size of this FOCAL. :)

Edited: 19 Dec 2011, 5:33 p.m.

Re: Hey Angel... don't make us wait!

*Message #12 Posted by **Ángel Martin** on 19 Dec 2011, 5:41 p.m.,*
in response to message #11 by Howard Owen

the ROM and the source code (a.k.a blueprint) are already posted at TOS, easiest think to download.

Re: Hey Angel... don't make us wait!

*Message #13 Posted by **Monte Dalrymple** on 19 Dec 2011, 3:17 p.m.,*
in response to message #4 by gene wright

Here it is: http://www.systemyde.com/pdf/CLUTILS_Man.pdf

Re: Hey Angel... don't make us wait!

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 19 Dec 2011, 3:24 p.m.,*
in response to message #13 by Monte Dalrymple

Thank you, Ángel! Thank you, Monte!

Massimo

Re: Hey Angel... don't make us wait!

*Message #15 Posted by **Howard Owen** on 19 Dec 2011, 5:31 p.m.,*
in response to message #14 by Massimo Gnerucci (Italy)

> Quote:
>
> Thank you, Ángel! Thank you, Monte!
>
> Massimo

Double Ditto!

Re: Hey Angel... don't make us wait!

*Message #16 Posted by **Frido Bohn** on 20 Dec 2011, 5:14 a.m.,*
in response to message #13 by Monte Dalrymple

Monte, thank you for providing the CL-Utils manual!
I already wondered where the commands would be explained.

WARNING: WARNING: WARNING

*Message #17 Posted by **Ángel Martin** on 20 Dec 2011, 2:39 a.m.,*
in response to message #1 by Ángel Martin

In the current version (2E) the Backup to Flash uses sector at address 0x0C8, thus if used it will DELETE the Solution Books ROMS.

To prevent this you need to PATCH the code at the following locations in the CLUTILS ROM: (x: = page number).

x0EE, change current value "043" to new value "044"
x0FB, change current value "043" to new value "044"
x105, change current value "043" to new value "044"

This will use sector at address 0x0D8 instead.

You can patch it using YPOKE or HEPAX' HEXEDIT function. CLUTILS needs to be loaded in RAM for this to work.

I'll make this change permanent in version 2F, but in the mean time you'll need to have CLUTILS in RAM to make the changes stated above.

0D8 and beyond

*Message #18 Posted by **Etienne Victoria** on 20 Dec 2011, 6:14 a.m.,*
in response to message #17 by Ángel Martin

Hello Angel,

Great work, both CLUTILS and the manual - very handy and thorough explanations..thank you!!

I never use my CL without YINPT.

My 0D8 is full with TIMER SLN, Blood glucose, Monopoly 1 & 2, Sudoku so I'll patch my CLUTILS to a more remote place :-)

Thanks again !

Etienne

Edited for typo

Edited: 20 Dec 2011, 6:15 a.m.

Re: 0D8 and beyond

*Message #19 Posted by **Ángel Martin** on 20 Dec 2011, 7:33 a.m.,*
in response to message #18 by Etienne Victoria

Hi Etienne, absolutely right but what's more remote than that?

Addresses beyond 0xE7 are already taken with other modules, so it's getting tight - imagine!

Practically there's two sectors available, assuming the first USER FLASH sector is taken by the Solution Books modules.

Best, ÁM

Re: 0D8 and beyond

*Message #20 Posted by **Etienne Victoria** on 20 Dec 2011, 11:37 a.m.,*
in response to message #19 by Ángel Martin

Well..I agree...more remote is actually E00-->E7F for me :-(

I was also looking at 00F and wondering if it's empty or hosting another page of the Multiprecision ROM...

But yes...it's getting tight...

Cheers

Etienne

Edited for typo E7F

Edited: 20 Dec 2011, 11:38 a.m.

RAM instead of flash?

*Message #21 Posted by **Frido Bohn** on 21 Dec 2011, 4:32 a.m.,*
in response to message #19 by Ángel Martin

> Quote:
>
> Addresses beyond 0xE7 are already taken with other modules, so it's getting tight - imagine!

For the more or less uninitiated in profound knowledge about flash and RAM: What would be the main disadvantage of saving stuff into user RAM?
I am thinking of the address space 0x806000 - 0x83FFFF (which is about 232kB).
The RAM content would not survive a MEMORY LOST condition. Is this right?
But anyway, as long as you don't push the 41CL to its extremes such condition is not a standard occurence, and hence the user RAM would
appear to be a handy storage space if the free room in flash is at its limits.

Re: RAM instead of flash?

*Message #22 Posted by **Ángel Martin** on 21 Dec 2011, 4:46 a.m.,*
in response to message #21 by Frido Bohn

Using CL-SRAM for backup is a perfectly valid approach. It WILL survive a Memory Lost - so even better than you thought - but will fade away like your "dayddy's best jeans" if the batteries are removed from the machine for a (undetermined) while.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Video: talk on HP Calculators by Randall Neff

*Message #1 Posted by **Ed Spittles** on 19 Dec 2011, 1:45 p.m.*

Those of you with an hour, and a flash-enabled browser, might be interested in this talk by Dr Randall Neff which first surveys HP's calculator offerings through time, and then talks about the internals.

It's the fourth video listed on this page:
http://www.sjsu.edu/atn/services/webcasting/archives/fall_2011/hist/computing.html "The HP-35 Calculator" 9/28/11

Cheers Ed

Re: Video: talk on HP Calculators by Randall Neff

*Message #2 Posted by **Michel Beaulieu** on 19 Dec 2011, 9:42 p.m.,*
in response to message #1 by Ed Spittles

Not only the 35 but all great vintage HP calculators. Great conferene, every minute of listening was delightful. Thanks for the link

Re: Video: talk on HP Calculators by Randall Neff

*Message #3 Posted by **David Ramsey** on 21 Dec 2011, 12:35 p.m.,*
in response to message #2 by Michel Beaulieu

Well, except for the fact that his slide and talk say the HP-35 had a "3 level stack". Nope. 4 levels.

Granted, it was a long time ago. But still.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Message to Katie Wasserman: thanks!

*Message #1 Posted by **Ignazio Cara (Italy)** on 19 Dec 2011, 11:32 a.m.*

Through the valuable article by Katie I was able to resurrect an HP-27. Thanks to a small resistor 32 kOhm, this little beauty can fully be together with other woodstock in the collection of an avid collector. Many thanks again and regards from Italy.

Ignazio

Re: Message to Katie Wasserman: thanks!

*Message #2 Posted by **hpnut** on 19 Dec 2011, 12:12 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

Please share with us Katie's work.

Re: Message to Katie Wasserman: thanks!

*Message #3 Posted by **Ignazio Cara (Italy)** on 20 Dec 2011, 5:04 a.m.,*
in response to message #2 by hpnut

Of course, hpnut. I was trying to repair the hp-27 of my dear friend. No display but good tensions from the DC-DC inverter and a current drain of 110 mA. How you can read in the article of Katie about the issues of Woodstock's series calculator, I have cut the SYNC trace from the ACT to the rest of the calculator and insert one resistor (32KOhm, 1/4W, 5%) that has resurrected the little beauty, so far. My first attempt has been with a 20 KOhm resistor but with value of resistor the 27 needed 3 or 4 minuts to warm up properly. It's all, I'll be available for any further information.

Regards from Italy.

Ignazio

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

[WP34s] About the Perl tools

*Message #1 Posted by **fhub** on 19 Dec 2011, 7:52 a.m.*

After the latest wp34s_asm.pl suddenly stopped working with my TinyPerl, I've done some trial-and-error changes to this Perl script, because I have no clue about the Perl language at all.

With this latest asm.pl I got an error message about "POSIX", so I looked for this name in the source and found a line "use POSIX;". Now after removing (or commenting out) this line, the assembler is working again with TinyPerl. :-)

Ok, after this experience I also tried to fix the preprocessor pp.pl, because this one has never worked for me. Here the problem is not "POSIX" but after a few compares I found that the line "use strict;" is the reason for the failure with TinyPerl, and after removing this line now also the preprocessor is finally working here for me.

Now the only remaining problem is the new library manager lib.pl:
After having also removed the "use POSIX" and "use strict" lines to avoid the first error messages, I still get an error when I try to run it: "ERROR: lib::split_END: Likely the assembler run failed. Halting lib."

Ok, looking at the source I saw that it calls the assembler script as subprocess (in the line 'my $DEFAULT_ASM = "wp34s_asm.pl";), and this can't work of course for me because I don't have a full Perl installed. So I tried to call TinyPerl instead by changing the line above to "my $DEFAULT_ASM = "tinyperl.exe wp34s_asm.pl";", but that didn't work but gave a new error message:
"ERROR: lib::run_prog: Cannot locate daughter script 'tinyperl.exe wp34s_asm.pl' in current directory or '.\'."

Well, I could imagine that my trial won't work, because certainly the Perl script lib.pl can only call a Perl script as daughter, but not an EXE file like TinyPerl.

But now I've no idea how I could solve this last problem, so that also the new libmanager would work here with my TinyPerl. Does any Perl expert here have any suggestions for me? ;-)

Franz

Edited: 19 Dec 2011, 7:53 a.m.

Re: [WP34s] About the Perl tools

*Message #2 Posted by **Marcus von Cube, Germany** on 19 Dec 2011, 8:55 a.m.,*
in response to message #1 by fhub

Sorry, I'm of not much help here because my Perl knowledge is as bad as yours. Congratulations that you got it working at all for you.

For the time being, the lib manager is far from working the way I'd like to see it. You can simply throw all your sources at the assembler and let it output a large file named wp34s-lib.dat. If it complains about maxsteps being exceeded you can patch the value in the op-code file. The maximum is then the same as maxlibsteps. I tried to do this in the asm script (the name of the variable is near the top of the script) as an intermediate measure until all is neatly working.

My latest commit fixes some serious issues with the software, so please update!

Re: [WP34s] About the Perl tools

*Message #3 Posted by **fhub** on 19 Dec 2011, 9:10 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks, that seems to be a good intermediate solution! :-)

The main problem without having a full Perl installation is currently calling a Perl sub-script from within another Perl script, and this is now even done twice: the assembler calls the preprocessor (if used with -pp), and now also the libmanager calls the assembler.

That's all quite a bit complicated IMO, and I hope this will be simplified in the future - I would really appreciate a single Perl script which can do ALL of these tasks: preprocess, assemble and put it together into a library file!

Edited: 19 Dec 2011, 10:17 a.m.

Re: [WP34s] About the Perl tools

*Message #4 Posted by **pascal_meheut** on 19 Dec 2011, 10:38 a.m.,*
in response to message #3 by fhub

Question: why do you use TinyPerl and not the real one?

Re: [WP34s] About the Perl tools

*Message #5 Posted by **fhub** on 19 Dec 2011, 10:42 a.m.,*
in response to message #4 by pascal_meheut

> Quote:
>
> Question: why do you use TinyPerl and not the real one?

What's the "real" one?
If you mean ActivePerl then I have already answered your question here:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=207248#207248

Re: [WP34s] About the Perl tools

*Message #6 Posted by **sylvandb** on 19 Dec 2011, 7:20 p.m.,*
in response to message #5 by fhub

> Quote:
>
> What's the "real" one?
> If you mean ActivePerl then I have already answered your question

I found ActivePerl became way too fat and was non-standard in too many ways. Years ago I switched to strawberry perl -- strawberry is nothing more and nothing less than the normal perl sources compiled for windows. However I don't currently use windows very much so haven't tried it for 2-3 years now.

http://strawberryperl.com/

Looks like the current download is 40mb, previous version 34mb. Don't know how big it is installed.

Edit: Strawberry Perl and ActiveState Perl are the two windows builds linked on perl.org

Edited: 19 Dec 2011, 7:21 p.m.

Re: [WP34s] About the Perl tools

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 19 Dec 2011, 11:23 a.m.,*
in response to message #1 by fhub

I will quibble with the word "fix" in this post. As has been pointed out previously the "fix" is required in tinyperl as its parser -- and now apparently library/module set as well -- is broken and/or deficient. These scripts are designed for a compliant Perl v5.8+ environment -- which tinyperl is most definitely not.

In this specific case, the "use POSIX" allows use of the "ceil" function. Unless tinyperl already has knowledge of this function, your patched version will not be able to calculate some values. I am surprised that it doesn't crash with POSIX commented out except, knowing your history, you probably have not asked ASM to fire up the PP script (ie: did not use the "-pp" switch). If you are not running the PP from within the ASM, it is just possible that the line with the ceil function is never called and you might just survive. (Speculation)

Turning off "use strict" might be OK here because the ASM and PP scripts were already vetted under "strict" mode so there should be no issues. Turning it off in a normal/functional Perl environment is not usually a very good idea as it usually indicates that there are some latent issues you are trying to avoid. (LIB might still have it turned off because I am still tracking some issues.)

The "split_END" error is saying that the spawned assembler run from the LIB tool did not actually succeed. In your case, since you don't usually use the PP, you might be able to add the "-no_pp" switch to the LIB tool invocation to prevent it from running PP. No promises though. PP is on by default in the LIB tool.

The ASM script detects whether it is run from an EXE or Perl script and assumes that the daughter programs are of the same variety. You might be able to adjust what is called by the ASM by using the "-pp_script" switch to change it. I think in your case, it is not "path-aware" and cannot locate "tinyperl.exe" in the current directory. Try adding the complete path to the tinyperl.exe executable to the switch (or edit the default as you did) and see what happens. The equivalent switch does not (yet) exist in LIB so this trick will not work there. LIB is too new and has not really been released to the general public yet. It is in SVN but only showed up there last night for a look-see by the development team. It might go through some wicked gyrations before we are done.

A word of warning: The latest SVN assembler might not build correct images for the current V3 calculator -- at least until the calculator catches up to changes in the binary image specification. Marcus may have more to say on that shortly. Again, you might be in the middle of a development change.

Neil

Re: [WP34s] About the Perl tools

*Message #8 Posted by **Marcus von Cube, Germany** on 19 Dec 2011, 11:38 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

No need to worry, the executables are up to date and collaborate with the modified format. (The emulator works with both old and new formats but since there are recent op-code changes, reassembly is

mandatory.)

Re: [WP34s] About the Perl tools

*Message #9 Posted by **fhub** on 19 Dec 2011, 11:47 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

Thanks Neil, I'll try all your suggestions!

With all my work on your scripts I'm sure I'll become a Perl expert, too - anytime in the future. ;-)

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS

*Message #1 Posted by **robertoataulfo** on 19 Dec 2011, 7:28 a.m.*

71B Clear Case

Re: Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS

*Message #2 Posted by **Matthias Wehrli** on 19 Dec 2011, 7:36 a.m.,*
in response to message #1 by robertoataulfo

Unfortuantelly its only a clear back side..... and for this, the price is much too high for me.

Matthias

Re: Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS

*Message #3 Posted by **robertoataulfo** on 19 Dec 2011, 7:40 a.m.,*
in response to message #2 by Matthias Wehrli

I'm not selling. Just put it because I thought it was rare. sorry

Re: Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS

*Message #4 Posted by **Juergen Keller** on 19 Dec 2011, 2:18 p.m.,*
in response to message #2 by Matthias Wehrli

Hi Matthias,

so you mean that there are also 71B prototypes with clear _front_ side? If so do you have pictures?

Best, Juergen

Edited: 19 Dec 2011, 2:19 p.m.

Re: Vintage HP71B Calculator HP 71B RARE CLEAR CASE! in TAS

*Message #5 Posted by **Keith Midson** on 19 Dec 2011, 11:43 p.m.,*
in response to message #2 by Matthias Wehrli

The one in my collection is also only a clear back case - i've only ever seen one like this on ebay once before (about 3 years ago) and it went for over $600 from memory. I also haven't seen a clear cased front 71B - if such a beast exists i'd love to see photos! Cheers, Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: planimeters for sale

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 18 Dec 2011, 11:58 p.m.*

A local thrift store has two K&E planimeters for sale. One has a 620000 logo and appears to be complete and in near mint condition. The second does not have an identifying logo but the hardware is very similar to the first. There may be some missing accessories. It is also in near mint condition. Each device has an asking price of $125 which seems to be a little steep to me but it may be negotiable..

I am personally not interested as I already have an Aristo No. 1130L for my collection.

Re: OT: planimeters for sale

*Message #2 Posted by **Nick R** on 19 Dec 2011, 1:38 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The asking price does seem to be on the high side, particularly if they're later model compensating polar planimeters that don't come in a wooden case.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wikipedia on the 15C LE

Message #1 Posted by ***Peter Murphy (Livermore)*** *on 18 Dec 2011, 9:36 p.m.*

The HP-15C Limited Edition is a reproduction of the 15C based on the modern ARM powered 12C hardware, released at the same time as the 30th Anniversary Edition HP-12C. This model is powered by 2 CR2032 batteries, and can easily be differentiated from original production run (1982-1989) 15Cs by the "Limited Edition" script below the HP 15C logo, and the black text on brushed metal back label, as opposed to the white text on black of the original.

http://en.wikipedia.org/wiki/HP-10C_series#HP-15C%20Limited%20Edition

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Tutorial Posted (Memory Exchange, MISO)

*Message #1 Posted by **Eddie W. Shore** on 18 Dec 2011, 3:49 p.m.*

HP 15C Tutorial Parts 15 and 16 are posted:

Part 15: Memory Exchange Part 16: Solving equations with multiple variables

http://edspi31415.blogspot.com

Edited: 18 Dec 2011, 3:49 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Impressive TI NSpire CX CAS Multiple Integration

*Message #1 Posted by **Namir** on 18 Dec 2011, 1:59 p.m.*

I have been playing with double and tripLE integration using the Monte Carlo method and with nested Simpson 1/3 rules using Excel VBA. The Monte Carlo method is very easy to program. Both methods work well, with the nested Simpson method performing better than the Monte Carlo for the same number of function calls.

Out of curiosity, I powered up my TI Nspire CX CAS (the newest version) and tried to perform double and triple integrations. To my surprised, the machine gave me the correct answer in both cases, instead of complaining that it could only do single integration! Very impressive TI! Sorry 15C, you no can do!!!

Namir

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #2 Posted by **Crawl** on 18 Dec 2011, 7:49 p.m.,*
in response to message #1 by Namir

Pretty sure the TI89 and HP50g can do multiple integration out of the box, too.

No idea what the point of your last line was. Obviously the HP15C can't do any symbolic integrals, and while it might not be able to do triple integrals numerically out of the box, I'm sure such abilities can be programmed.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #3 Posted by **Namir** on 18 Dec 2011, 9:04 p.m.,*
in response to message #2 by Crawl

I certainly would like to see an HP-15C program that uses the built-in Integrate feature to perform multiple integration.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #4 Posted by **Valentin Albillo** on 19 Dec 2011, 6:27 a.m.,*
in response to message #3 by Namir

> Quote:
>
> I certainly would like to see an HP-15C program that uses the built-in Integrate feature to perform multiple integration.

The **HP-34C Solution Book "Advanced Math"** features a program of mine which does exactly that to implement double integrals on the HP-34C, using 3-point Gauss for the outer integral and the built-in integration capability for the inner one.

Though specifically written for the HP-34C it can be ported to the **HP-15C** with little or no change. Come to that, the same applies to all programs featured in the book, but if you're interested just in the particular one which computes double integrals and you can't find the Solutions Book, it's also featured here:

http://membres.multimania.fr/albillo/calc/pdf/DatafileVA024.pdf

Best regards from V.

Edited: 19 Dec 2011, 6:43 a.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #5 Posted by **Namir** on 19 Dec 2011, 8:16 a.m.,*

in response to message #4 by Valentin Albillo

Thank you Valentin! Your article has definitely answered my question!

Namir

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #6 Posted by **Valentin Albillo** on 19 Dec 2011, 10:58 a.m.,*
in response to message #5 by Namir

> Quote:
>
> Thank you Valentin! Your article has definitely answered my question!

You're welcome. If you're interested in testing out some particular methods against hard multiple integrals you may want to check **problems 6, 7, and 10** in this interesting paper:

http://crd.lbl.gov/~dhbailey/dhbpapers/tenproblems.pdf

Problem 7 in particular, I included in this ancient post where I gave both the **HP-71B MATH ROM** implementation as well as a simple **Monte-Carlo** BASIC implementation:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=53268

Best regards from V.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #7 Posted by **Ángel Martin** on 19 Dec 2011, 10:27 a.m.,*
in response to message #4 by Valentin Albillo

Very portable to the 41/Advantage as well, and running great on the CL ;-)

Cheers, ÁM.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #8 Posted by **Ángel Martin** on 19 Dec 2011, 2:55 p.m.,*
in response to message #4 by Valentin Albillo

Here´s the listing for the 41 version - in case you wonder:- It uses R10 istead of "I", so the usage is simple

1. store number of intervals in R10, set FIX for precision
2. type the function program name in Alpha
3. enter integration limits in T,Z,Y,X
4. XEQ "2DITG"

Enjoy, 'AM

```
01      LBL "2DITG"
02      STO 03
03      RDN
04      STO 04
05      RDN
06      X<>Y
07      STO 06
08      -
09      RCL 10
10      /
11      STO 07
12      RCL 08
13      ST- 08
14      LBL 02
15      RCL 06
16      RCL 06
17      RCL 07
18      ST+ 06
19      +
20      STO 00
21      X<>Y
22      ST- 00
```

```
23      +
24      2
25      ST/ 00
26      /
27      STO 01
28      XEQ 00
29      +
30      XEQ 01
31      STO 02
32      RCL 01
33      XEQ 00
34      -
35      XEQ 01
36      ST+ 02
37      5
38      ST* 02
39      RCL 01
40      XEQ 01
41      8
42      *
43      ST+ 02
44      RCL 00
45      ST* 02
46      9
47      ST/ 02
48      RCL 02
49      ST+ 08
50      DSE 10
51      GTO 02
52      RCL 08
53      RTN
54      LBL 00
55      RCL 00
56      ,6
57      SQRT
58      *
59      RTN
60      LBL 01
61      STO 05
62      RCL 04
63      RCL 03
64      INTEG
65      END
```

Edited: 19 Dec 2011, 2:57 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #9 Posted by **Valentin Albillo** on 19 Dec 2011, 4:24 p.m.,*
in response to message #8 by Ángel Martin

Hi, Ángel:

Thanks for your interest and for the translation.

Matter of fact this simple program translates with minimal effort to run in many other RPN models (HP-34C, HP-15C, HP-41** + Advantage ROM, etc) and an HP-71B version would be equally straightforward but moot as the **INTEGRATE** keyword (a funny function) allows for up to 5-dimensional integrals *per se*.

A useful template to compute multiple integrals with the HP-71B plus examples can be found at point 10 in one of my articles, namely:

http://membres.multimania.fr/albillo/calc/pdf/DatafileVA012.pdf

By the way, I don't remember whether I've already ranted about this here but I think that the HP programmer (or team) who decided to name the keywords INTEGRATE instead of **INTEG**, FNROOT instead of **SOLVE**, FVAR instead of **FV**, and IVAR instead of **IV** had *absolutely no idea of what "ergonomic" and "economic" mean*, as the shorter keywords are faster to type and most importantly you can fit more complex expressions in the command line for immediate execution without the hassle of having to write a program just because your expression doesn't fit in a line (which is easily the case with multiple integrals).

Best regards from V.

Edited: 19 Dec 2011, 4:33 p.m.

Multiple Integration - WP 34S

*Message #10 Posted by **Marcus von Cube, Germany** on 19 Dec 2011, 5:05 p.m.,*
in response to message #9 by Valentin Albillo

With the recent addition of local registers and recursive programming, WP 34S has the ability to do multiple integration with the built-in integrator (a non adaptive Gauss-Kronrod quadrature). I've not done it, but it should be straight forward to write a subroutine for the function to integrate and another which calls the integrator for the defined function. This subroutine can than be used as the argument for the integrator. Not as comfortable as just typing in a formula but still easier than creating your own integrator in RPN.

Re: Multiple Integration - WP 34S

*Message #11 Posted by **Marcus von Cube, Germany** on 20 Dec 2011, 12:31 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Here is a short example of a recursive call to the WP 34S integrator. It computes S(0,1,S(0,1 X*Y,Y),X). The result is 0.25. No global registers are used, the outer subroutine at LBL 00 creates a local register .00 which is visible to the inner subroutine at LBL 01.

```
LBL A
  0
  ENTER[^]
  1
  [integral] 00
  RTN


LBL 00
  LocR 00
  STO .00
  0
  ENTER[^]
  1
  [integral] 01
  RTN


LBL 01
  RCL[times] .00
  RTN


END
```

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #12 Posted by **Oliver Unter Ecker** on 19 Dec 2011, 5:32 a.m.,*
in response to message #1 by Namir

Hi Namir,

Can you show us the examples you tried? I'm interested to see how the syntax looks for multiple integration.

Does it work for both definite and indefinite integrals?

Have you been seeing it fail for some other examples? (Would like to see those, too.)

Thanks!

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #13 Posted by **Namir** on 19 Dec 2011, 8:13 a.m.,*
in response to message #12 by Oliver Unter Ecker

I tried the simple integrals:

```
      / \ 1   / \ 1
     /       /
    /       /    X*Y dX dY = 0.25
  \/ 0    \/ 0
```

```
     /\1    / \ 1   / \ 1
    /      /       /
```

```
  /     /     /
 \/ 0  \/ 0  \/ 0   X*Y*Z dX dY dZ = 0.125
```

Syntax on the 50g

*Message #14 Posted by **Oliver Unter Ecker** on 19 Dec 2011, 11:55 a.m.,*
in response to message #13 by Namir

Thanks. (I was secretly hoping for something a bit more exciting...)

How about the syntax on the TI?

On the 50g, I notice that 'S(11,14,X^2+4*Y,X)' EVAL works, whereas 'S(7,10,S(11,14,X^2+4*Y,X),Y)' does *not* enter. ("Invalid syntax" is reported.)

In an RPL program, one could feed the (symbolic) output of the inner integral into the outer integral. So, yes, as per Crawl, there is out-of-box capability for multiple integration on the 50g.

(On ND2, in development, S(7,10,S(11,14,X^2+4*Y,X),Y) works and returns 1719.)

["S" is my poor man's integral symbol.]

Re: Syntax on the 50g

*Message #15 Posted by **Crawl** on 19 Dec 2011, 1:45 p.m.,*
in response to message #14 by Oliver Unter Ecker

It should work.

My tip for figuring out the syntax on the HP50g is to enter an expression in the equation editor (which is usually intuitive), but if you don't like that and want the "code", turn off "textbook" in display.

That gave me

'S(7,10,S(11,14,(x^2)+(4*y),x),y)'

which evaluates to 1719

I'm not able to duplicate your error. It enters fine (on the stack) even if I enter what you have (which is identical to what I have, minus the extra parenthesis)

Maybe you just made a typo on the calculator?

Or maybe there's a mode difference, but I don't know which mode should make a difference, or why.

Re: Syntax on the 50g

*Message #16 Posted by **Crawl** on 19 Dec 2011, 1:49 p.m.,*
in response to message #15 by Crawl

> Quote:
>
> I'm not able to duplicate your error. It enters fine (on the stack) even if I enter what you have (which is identical to what I have, minus the extra parenthesis)

And, actually, that's only because I had the "show all parens" flag checked. Without it, it looks absolutely identical to what you had.

Re: Syntax on the 50g

*Message #17 Posted by **Oliver Unter Ecker** on 19 Dec 2011, 2:24 p.m.,*
in response to message #15 by Crawl

Thanks, Crawl.

You're right. It's all good.
I had entered

```
'S(7,10,S(11,14,X^2+4*Y,X),Y
```

and expected auto-completion to provide the closing chars for me, but, that, apparently, doesn't work in this instance and caused the syntax error.

(Yes, I'm that lazy/trusting of auto-completion...)

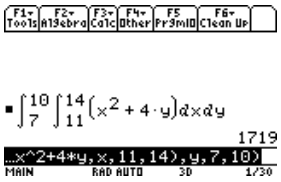
Edited: 19 Dec 2011, 2:32 p.m.

Re: Syntax on the 50g

*Message #18 Posted by **Crawl** on 19 Dec 2011, 10:01 p.m.,*
in response to message #14 by Oliver Unter Ecker

> Quote:
>
> How about the syntax on the TI?

It's pretty intuitive on the TI89. Just nest the integrals like on the HP50g (except that the limits come at the end rather than the beginning of the syntax)



Re: Syntax on the 50g

*Message #19 Posted by **Oliver Unter Ecker** on 20 Dec 2011, 4:33 a.m.,*
in response to message #18 by Crawl

Thanks for that, Crawl.

Makes sense. I had wondered if there might be, perhaps, a special "SS" syntax.

Re: Syntax on the 50g

*Message #20 Posted by **Crawl** on 20 Dec 2011, 9:38 a.m.,*
in response to message #19 by Oliver Unter Ecker

The problem with that approach is that you then wouldn't be able to do quadruple, quintuple, etc., integrals.

The great thing about the CAS in these modern calculators is that they're fully integrated, so you can (for example) combine complex numbers with symbolic expressions in matrices, or (as in this case) combine integrals with integrals to do multiple integration, etc.

There's probably no limit to the number of integrals you can nest, other than calculator memory and the increasing amount of time it would take to evaluate them.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #21 Posted by **Crawl** on 19 Dec 2011, 8:35 a.m.,*
in response to message #1 by Namir

> Quote:
>
> Both methods work well, with the nested Simpson method performing better than the Monte Carlo for the same number of function calls.

Monte Carlo eventually wins, because the error goes as 1 over the square root of the number of function evaluations, [i]regardless of the dimension of the integral[i].

On the other hand, with nested Simpsons, error goes as 1 over the number of function evaluations raised to the (4/dimension) power.

So when you have 8 dimension integrals, Monte Carlo and Simpsons are equally good. For 9 or more dimension integrals, Monte Carlo is better.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #22 Posted by **Crawl** on 20 Dec 2011, 3:47 p.m.,*
in response to message #21 by Crawl

I tried the 6-dimensional integral of tan(x*y*z*t*a*b) over x,y,z,t,a,b, all variables ranging between 0 and 1.

In maybe about a minute I set up an Excel spreadsheet that calculated it with Monte Carlo simulation (30K points), getting 0.015.

Anyway care to try to do better?

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #23 Posted by **Valentin Albillo** on 20 Dec 2011, 6:30 p.m.,*
in response to message #22 by Crawl

> Quote:
>
> I tried the 6-dimensional integral of tan(x*y*z*t*a*b) over x,y,z,t,a,b, all variables ranging between 0 and 1.
>
> In maybe about a minute I set up an Excel spreadsheet that calculated it with Monte Carlo simulation (30K points), getting 0.015.
>
> Anyway care to try to do better?

Well, this extremely simple **HP-71B** Monte Carlo code (80+ bytes):

```
10  DESTROY ALL @ RANDOMIZE 1 @ RADIANS
20  FOR K=1 TO 6 @ M=10^K @ S=0 @ DISP K;M, @ FOR I=1 TO M
30  S=S+TAN(RND*RND*RND*RND*RND*RND) @ NEXT I @ DISP S/M @ NEXT K
```

repeatably runs to give:

```
>RUN

1  10          6.5740257498E-3
2  100         1.64187909582E-2
3  1000        1.67187076886E-2
4  10000       1.51787016672E-2
5  100000      1.56906185411E-2
6  1000000     1.57093573935E-2
```

which agrees with your result. The final value should have about Log10(Sqrt(1000000)) = **3** correct digits so **0.0157** should be accurate to all the digits shown.

Curiously enough, the final value (**0.015709**) closely resembles **Pi/200 = 0.015708** ... I'll let you figure out whether that's a coincidence or not ... :D

Best regards from V.

`

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #24 Posted by **Thomas Klemm** on 21 Dec 2011, 12:49 a.m.,*
in response to message #23 by Valentin Albillo

> Quote:

> I'll let you figure out whether that's a coincidence or not ... :D

I used the Taylor expansion of *tan(x)* (up to the term of x^{19}) and got:

```
1.57094692997E-2
```

Compared to Pi/200 I'd say: coincidence.

Kind regards
Thomas

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #25 Posted by **Crawl** on 22 Dec 2011, 4:53 p.m.,*
in response to message #24 by Thomas Klemm

Thomas Klemm probably has the winning technique.

I'll post some solutions one at a time since it'll take a while to get it all together.

This is Simpsons's Rule on an HP50g.

First you need this program

```
%%HP: T(3)A(R)F(.);
\<< \-> N F T
  \<< N 2 / DUP IP == N 0 \=/ AND N T \=/ AND
    IF
    THEN F 2 *
    ELSE N 2 / DUP IP \=/
      IF
      THEN 4 F *
      ELSE F
      END
    END
  \>>
\>>
```

which I named SIMPCO.

Then this is the program you run:

```
%%HP: T(3)A(R)F(.);
\<< 0 0 0 0 0 0 0 0 0 0 0 0 \-> T A B C D E F S P1 P2 P3 P4 P5 P6
  \<< 0 T
    FOR A A 1 T SIMPCO 'P1' STO 0 T
      FOR B B P1 T SIMPCO 'P2' STO 0 T
        FOR C C P2 T SIMPCO 'P3' STO 0 T
          FOR D D P3 T SIMPCO 'P4' STO 0 T
            FOR E E P4 T SIMPCO 'P5' STO 0 T
              FOR F F P5 T SIMPCO 'P6' STO A B C D E F * * * * * T 6 ^ / TAN T 3 * 6 ^ / P6 * S
+ 'S' STO
              NEXT
            NEXT
          NEXT
        NEXT
      NEXT
    NEXT S
  \>>
\>>
```

I named it SIMP6, but it doesn't really matter what you name it.

You give as an argument an even number (t). It will do (t/2) applications of Simpsons rule in each dimension, which works out to (t+1)^6 function evaluations.

Results:

```
t     Calculation Result   Time on Calculator Time on Emulator
2     1.57143781232e-2     2min22sec          4sec
4     1.57096718319e-2      x                 1min18sec
6     1.57095084843e-2      x                 9min48sec
```

You probably could do the t=6 case on an actual calculator, provided you were willing to let it run for 6 or 7 hours. Better use USB power.

Edited: 22 Dec 2011, 4:54 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #26 Posted by **Crawl** on 22 Dec 2011, 6:04 p.m.,*
in response to message #25 by Crawl

Here's the Taylor series solution.

```
%%HP: T(3)A(R)F(.);
\<< X TAN X ROT TAYLR X A B C D E F * * * * * = SUBST A RISCH B
RISCH C RISCH D RISCH E RISCH F RISCH A 1 = SUBST B 1 = SUBST
C 1 = SUBST D 1 = SUBST E 1 = SUBST F 1 = SUBST \->NUM
\>>
```

The argument is the number of terms to take in the Taylor series.

And results:

```
t       Result                  Calculator Time  Emulator Time
1       1.5625e-2               9sec
3       1.57063802083e-2        20sec
5       1.57092380044e-2        32sec
7       1.5709443877e-2         44sec
9       1.57094657465e-2        1min
...
15      1.57094692786e-2                         5sec
17      1.57094692959e-2                         6sec
19      1.57094692997e-2        3min             7sec
21      1.57094693005e-2                         9sec
...
29      1.57094693006e-2        3min34sec        9sec
```

Also, I'm getting slight differences between the physical and the emulator. The emulator gives a result 1ulp less for the t=19 and 29 cases I checked on both.

Edited: 22 Dec 2011, 6:15 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #27 Posted by **Thomas Klemm** on 23 Dec 2011, 12:24 a.m.,*
in response to message #26 by Crawl

Is it possible to just calculate the coefficients of the Taylor series using the HP-50G? I was trying to do that using the HP-48G without success. So I let WolframAlpha do this and entered them into the HP-42S which was quite a pain, you may believe me. Once I have stored them into the registers 01, 02, ... I used the following program:

```
00 { 33-Byte Prgm }
01 LBL "ITAN"
02 STO "n"
03 10
04 STO 00
05 CLX
06 LBL 00
07 RCL IND 00
08 RCL 00
09 2
10 *
11 RCL "n"
12 Y^X
13 /
14 +
15 DSE 00
16 GTO 00
17 END
```

To run the program you just enter the dimension, in this case $n = 6$.

With minor changes this program could be used with the HP-15C and most other models as well. So yes, with only a little cheating (i.e. using W|A for the coefficients) we can do multiple integration. Purists would first write a program to calculate the Bernoulli-numbers to get the coefficients without that ugly hack. Now I'm curious how the TI NSpire CX handles this problem.

This Taylor expansion converges only slowly for the upper bound $x = 1$. Therefore I tried to find a substitution that might transform that to something like $1/2$ but to no avail. Maybe somebody else has an idea?

Since the quotient of succeding coefficents a_i/a_{i+1} converges to $(Pi/2)^2$ some kind of convergence acceleration could be helpful but I didn't try that.

Here we're just lucky because $n = 6$: the harder you're trying to make it by adding more dimensions, the faster it converges.

Kind regards
Thomas

Edited: 23 Dec 2011, 12:47 a.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #28 Posted by **Thomas Klemm** on 23 Dec 2011, 2:45 a.m.,*
in response to message #27 by Thomas Klemm

> Quote:
>
> Purists would first write a program to calculate the Bernoulli-numbers to get the coefficients without that ugly hack.

For those too lazy to enter those numbers manually but still willing to enter a program into the calculator:

```
00 { 49-Byte Prgm }
01 LBL "INIT"
02 ENTER
03 +
04 LASTX
05 1E3
06 /
07 1
08 +
09 STO 00
10 RDN
11 LASTX
12 RCL+ ST Y
13 N!
14 1/X
15 LBL 00
16 RCL IND 00
17 RCL ST Z
18 N!
19 /
20 X<>Y
21 -
22 X<>Y
23 2
24 -
25 X<>Y
26 ISG 00
27 GTO 00
28 STO IND 00
29 RCL 00
30 IP
31 END
```

Now you enter the following:

```
1
STO 01
XEQ "INIT"
R/S
R/S
R/S
R/S
R/S
(...)
```

Just keep on pressing [R/S] until you feel like it's enough, let's assume stop with 20. Now replace line 03 in the other program ("ITAN") with this number.

BTW: In the end I didn't use the Bernoulli-numbers but simply the fact that: $sin(x) = cos(x)\ tan(x)$. This gives a system of equations for the unknown coefficients of $tan(x)$.

So I hope the purists are happy now.

Cheers

Thomas

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #29 Posted by **Crawl** on 23 Dec 2011, 6:25 p.m.,*
in response to message #27 by Thomas Klemm

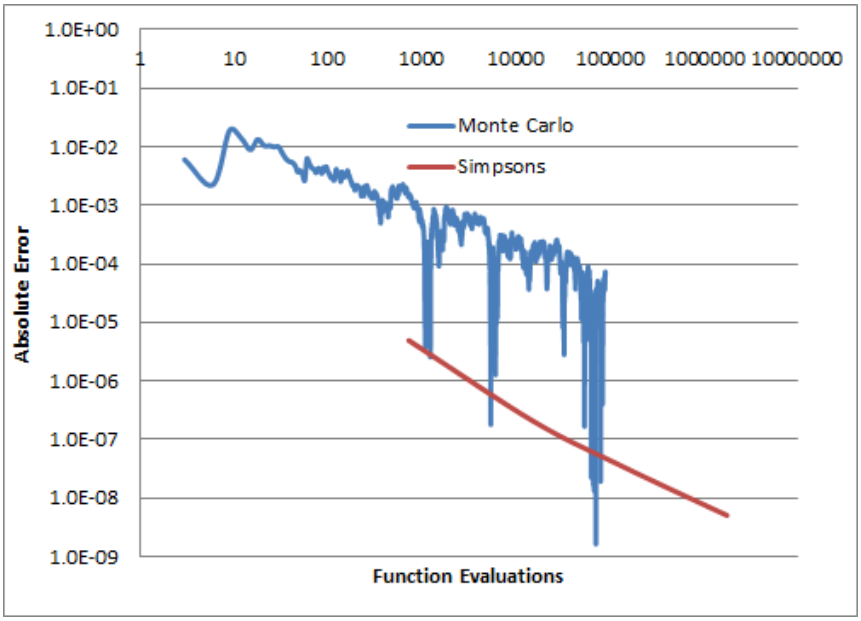
> Quote:
>
> Is it possible to just calculate the coefficients of the Taylor series using the HP-50G? I was trying to do that using the HP-48G without success.

Yes, it can. I don't know about the 48.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #30 Posted by **Crawl** on 22 Dec 2011, 10:37 p.m.,*
in response to message #25 by Crawl

And this compares the absolute error between using the Monte Carlo method versus Simpson's Rule.



Even for this problem, Simpson's Rule is more efficient than Monte Carlo.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #31 Posted by **Crawl** on 23 Dec 2011, 6:21 p.m.,*
in response to message #30 by Crawl

Another thing you could try would be to just enter the integral as-is and try to let the built-in integral routines try to deal with it.

$$\int_0^1\int_0^1\int_0^1\int_0^1\int_0^1 \tan(A\cdot B\cdot C\cdot D\cdot E\cdot F)\,dA\ d$$

I think we have evidence here that you should be able to get at least a few digits of accuracy this way, and by adjusting the FIX setting you can only ask for a few.

You don't really need a program for this, but this lets the calculator time itself, and I can also just let it run and do something else and have the calculator alert me when it's finished.

```
Fix  Returned  Full               Time (with Emulator)
0    2.e-2     1.57089974862e-2   2min26sec
1    1.6e-2    1.57089974862e-2   2min30sec
2    0.02      1.57089974862e-2   2min32sec
3    0.016     1.57090853677e-2   3min46sec
4    0.0157    1.57094436066e-2   43min45sec
5    ?                            Over 6 hours!
```

I didn't even bother trying this with a physical calculator.

Edited: 23 Dec 2011, 6:21 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #32 Posted by **Crawl** on 24 Dec 2011, 11:37 a.m.,*
in response to message #31 by Crawl

The FIX5 case finally stopped running.

The clock says it took 25 hours, 13 minutes, but that's very approximate, since the computer was in sleep mode several times over that period.

The result is

1.57094677879e-2

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #33 Posted by **Thomas Klemm** on 25 Dec 2011, 3:18 p.m.,*
in response to message #32 by Crawl

> Quote:
>
> 25 hours, 13 minutes

That's amazing! Just for comparison: it takes ~60ms for Free42 on my iPhone to calculate this integral to 16 correct places (both "INIT" and "ITAN") when I use 20 terms to get:

```
1.570946930078026084759965e-2
```

However with 40 terms it takes ~240ms to produce 24 correct places[1]:

```
1.570946930078026389931 57e-2
```

Just imagine how long it would take to do that with your method.

Cheers
Thomas

---

1. Of course I can't be sure whether all places are correct, but it's the case for $n = 1$ compared to $-\log(\cos(1))$ and $n = 2$ compared to Valentin's result when I use 100 terms. Therefore I assume the coefficients of the Taylor series are correct. And with $n = 6$ fewer terms are needed to get the same result.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #34 Posted by **Oliver Unter Ecker** on 23 Dec 2011, 6:04 p.m.,*
in response to message #25 by Crawl

Nice job, Crawl.

I tried your code, unchanged, on my calcs.
Results:

```
t     Calculation Result   Time on ND1       Time on CalcPad/Mac
2     0.0157143781230784   12sec             0.7sec
4     0.0157096718412068   x                 12.6sec
6     0.0157095084875193   x                 88sec
```

Then I gave it a quick speed treatment.
I used what's called "natural math entry" on ND1 for SIMPCO and changed it to this:

```
f(N,F,T)=F * (N%2 ? 4 : (N && N != T ? 2 : 1))
```

Then I changed some RPL instructions into RPL+ for SIMP6:

```
\<< 0 \-> T S
  \<< 0 T
    FOR A A 1 T simpco =P1 0 T
      FOR B B P1 T simpco =P2 0 T
        FOR C C P2 T simpco =P3 0 T
          FOR D D P3 T simpco =P4 0 T
            FOR E E P4 T simpco =P5 0 T
              FOR F F P5 T simpco =P6 A B C D E F * * * * * T 6 ^ / TAN T 3 * 6 ^ / P6 * =+S
              NEXT
            NEXT
          NEXT
        NEXT
      NEXT
    NEXT S
  \>>
\>>
```

New timings:

```
t     Calculation Result   Time on ND1       Time on CalcPad/Mac
2     0.0157143781230784   0.8sec            0.052sec
4     0.0157096718412068   17s               0.9sec
6     0.0157095084875193   2min6sec          6.9sec
8     0.0157094817061892   x                 32sec
```

Edited: 23 Dec 2011, 7:12 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #35 Posted by **Oliver Unter Ecker** on 23 Dec 2011, 7:37 p.m.,*
in response to message #34 by Oliver Unter Ecker

A further 3x speed improvement is obtained by changing this RPL code

```
A B C D E F * * * * * T 6 ^ / TAN T 3 * 6 ^ / P6 *
```

into this RPL+ code

```
P6*TAN((A*B*C*D*E*F)/T^6)/(T*3)^6
```

Another 10% is squeezed out by writing SIMPSO in JavaScript, like so:

```
function (N, F, T) { /*as is*/
    return F * (N%2 ? 4 : (N && N != T ? 2 : 1));
}
```

The improved timings:

```
t     Calculation Result   Time on ND1       Time on CalcPad/Mac
2     0.0157143781230784   0.3sec            0.022sec
4     0.0157096718412068   4.7sec            0.3sec
6     0.0157095084875193   33sec             2.2sec
8     0.0157094817061892   x                 9.6sec
10    0.0157094743918417   x                 31sec
12    0.0157094717597684   x                 1min23sec
```

That's ~500x faster than a 50g for this task, on <10x faster HW (iPhone vs. 50g HW).

Edited: 23 Dec 2011, 7:45 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #36 Posted by **Oliver Unter Ecker** on 20 Dec 2011, 7:00 p.m.,*
in response to message #22 by Crawl

I had W|A try better.

```
integrate (integrate (integrate (integrate (integrate (integrate (tan(x*y*z*t*a*b))
dx from 0 to 1) dy from 0 to 1) dz from 0 to 1) dt from 0 to 1) da from 0 to 1) db from 0 to 1)
```

First it wanted more time, then it volunteered another server, as the first decided to quit. (Again! It's pretty easy to get into that condition with W|A. I wonder if it really, physically, brings down a server. The icon of a server farm suggests as much to me.)

Maybe there's a better question to ask W|A that will return a result.

Anyway. See, that's where "SSSSSS" syntax may be useful: for higher dimensions, switch to an altogether different algorithm. Here: Monte Carlo.
The nested syntax doesn't easily allow for that.

Here's home-baked Monte-Carlo in RPL+:

```
\<< 5 =l
   0 =sum
   1 l START 1 l START 1 l START
   1 l START 1 l START 1 l START
      random =x random =y random =z
      random =t random =a random =b
      tan(x*y*z*a*b*t) =+sum
   NEXT NEXT NEXT
   NEXT NEXT NEXT
   sum/l^6
\>>
```

Returns 0.015xxx, with latter digits varying by run, in ~7s on my iPhone.
That's for 5^6 (~16K) samples. Even with 7^6 (~118K) samples, it's still showing variability past the 5.

[Crawl: Off-topic, but since you had responded to my question about modular exponentation of a non-integer and the thread is archived: Here's how that played out: As suspected, this was not about any non-integer. The polynomial was special, and so were its roots. The secret sauce knowledge to have was about Pisot numbers, and Newton's Identities. Took me *weeks* to figure out, even with hints... but ultimately a great problem to solve. And running on an app calc in 1s/root.]

[EDIT: Added RPL+ code.]

Edited: 20 Dec 2011, 7:56 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #37 Posted by **Gerson W. Barbosa** on 20 Dec 2011, 8:15 p.m.,*
in response to message #36 by Oliver Unter Ecker

> Quote:
>
> I had W|A try better.
>
> ```
> integrate (integrate (integrate (integrate (integrate (integrate (tan(x*y*z*t*a*b))
> dx from 0 to 1) dy from 0 to 1) dz from 0 to 1) dt from 0 to 1) da from 0 to 1) db from
> 0 to 1)
> ```

It will understand the following syntax:

```
integrate tan(x*y*z*t*a*b) dx dy dz dt da db, x=0..1, y=0..1, z=0..1, t=0..1, a=0..1, b=0..1
```

However, this is all it gives out:

Computation timed out. No more results available.

which might mean

Buy Mathematica, buy Mathematica... :-)

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #38 Posted by **Valentin Albillo** on 21 Dec 2011, 9:22 a.m.,*
in response to message #37 by Gerson W. Barbosa

> Quote:
>
> However, this is all it gives out:
>
> ***Computation timed out***. No more results available.
>
> which might mean
>
> **Buy Mathematica, buy Mathematica...** :-)

Surely it does. W/A, while being an outstanding piece of software and a very useful one at that, also fails miserably in many surprisingly simple computational tasks with the added puzzlement that sometimes it will work alright for a very slight variation of the computation that's giving it the bends.

I initially submitted a lot of reports but never received a reply or noticed any action at all being taken on them so I don't bother anymore.

Best regards from V.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #39 Posted by **Thomas Klemm** on 23 Dec 2011, 3:03 a.m.,*
in response to message #38 by Valentin Albillo

> Quote:
>
> I initially submitted a lot of reports but never received a reply or noticed any action at all being taken on them so I don't bother anymore.

My experiences with WolframAlpha were positive: I once reported a bug and was informed some time later, when it was fixed. So I encourage reporting them.

Kind regards
Thomas

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #40 Posted by **Valentin Albillo** on 21 Dec 2011, 4:37 p.m.,*
in response to message #37 by Gerson W. Barbosa

> Quote:
>
> It will understand the following syntax:
>
> ```
> integrate tan(x*y*z*t*a*b) dx dy dz dt da db, x=0..1, y=0..1, z=0..1, t=0..1, a=0..1,
> b=0..1
> ```

Trying that syntax out in W/A with the 2-dimensional version, namely:

```
integrate tan(x*y) dx dy, x=0..1, y=0..1
```

produces **0.275687** after a while and refuses to compute any more digits (*"Computation timed out"*) which is pretty useless for identification purposes.

On the other hand, the **HP-71B** produces with the help of just a little code (and my constant recognition program):

```
> CAT
```

```
    workfile   BASIC    54 07/18/04 12:38

> LIST

    10 DEF FNF(X)=INTEGRAL(0,1,0,TAN(X*IVAR))
    20 DISP INTEGRAL(0,1,0,FNF(IVAR))

> CALL @ CALL IDENTIFY(RES,S$) @ S$

  .2756872738  ("identified as")  5/179*Pi^2
```

which seems quite a reasonable agreement as the alleged symbolic identification evaluates to **.275687273774**, i.e., *a 10-digit agreement* with the numerically computed value for the double integral.

Whether the symbolic identification is absolutely correct would require many more digits and that would only serve as empirical reassuring, never proof, that would demand symbolics.

Oh, and by the way, a Monte-Carlo run with 10^7 samples produces **.27571**6754735, which is good to nearly 5 digits, not bad for a dumb probabilistic method.

Best regards from V.

Edited: 21 Dec 2011, 4:50 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #41 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 5:37 p.m.,*
in response to message #40 by Valentin Albillo

Hello Valentin,

> Quote:
>
> Trying that syntax out in W/A with the 2-dimensional version, namely:
>
> ```
> integrate tan(x*y) dx dy, x=0..1, y=0..1
> ```
>
> produces **0.275687** after a while and refuses to compute any more digits (*"Computation timed out"*) which is pretty useless for identification purposes.

I had tried that on W|A but I failed to notice any connection to pi. I had divided 0.275687 by pi on the HP-32SII and obtained 8.77538976e-2. Had I divided it again by pi I would have gotten 2.79329332e-2. Finally FDISP would have returned 0 5/179.

Best regards,

Gerson.

P.S.: By the way, one of these days I observed e^(e*pi) = 5113.98499978, which multiplied by 200 equals 1022796.99996. A coincidence?

Edited: 21 Dec 2011, 5:43 p.m.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #42 Posted by **Gerson W. Barbosa** on 22 Dec 2011, 6:29 a.m.,*
in response to message #40 by Valentin Albillo

> Quote:
>
> Trying that syntax out in W/A with the 2-dimensional version, namely:
>
> ```
> integrate tan(x*y) dx dy, x=0..1, y=0..1
> ```
>
> produces **0.275687** after a while and refuses to compute any more digits (*"Computation timed out"*) which is pretty useless for identification purposes.

W|A returns "integral tan(x y) dx = -(log(cos(x y)))/y+constant" for "integrate tan(x*y) dx". We can use the HP-15C

```
f LBL A
  COS
g LN
  x<>y
  /
g RTN
```

and get

```
0 ENTER 1 Integrate A CHS   ->   0.2756872439
```

We can also try this online integrator and obtain

```
Numerical Integration of -(log(cos(x)))/x in the interval [0,1]
Method          Value                    Estimated Error
-------------------------------------------------------------------------
Romberg         0.2756872738004371       2e-16


Gauss-Legendre  0.2756872738004297       9e-15


Double Exp      0.2756872738004369       9e-16
```

which is remarkably close to 5/179*pi^2:

```
                0.2756872737734458
```

Best regards,

Gerson.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #43 Posted by **Valentin Albillo** on 23 Dec 2011, 4:13 a.m.,*
in response to message #42 by Gerson W. Barbosa

> Quote:
>
> We can also try this online integrator and obtain
>
> ```
> Numerical Integration of -(log(cos(x)))/x in the interval [0,1]
> Method          Value                    Estimated Error
> -------------------------------------------------------------------------
> Romberg         0.2756872738004371       2e-16
>
>
> Gauss-Legendre  0.2756872738004297       9e-15
>
>
> Double Exp      0.2756872738004369       9e-16
> ```

Hehe, no need for a lousy online integrator, my very own integrator produces:

```
        Integral[-log(cos(x))/x] in [0,1] =
0.27568727380043716388975206142159327295557988379607996904909339414027953447558064939638505676331764634919
```

which, as I stated, is remarkably close to:

```
                                  5*pi^2/179 =
0.27568727377344577147582377094626120489703070969946342531880864179385600062623478332407188278543441988335
```

so both values aren't identical though in this case I don't think their similarity is coincidental. Thanks for your interest and

Best regards from V.

Re: Impressive TI NSpire CX CAS Multiple Integration

*Message #44 Posted by **Thomas Klemm** on 23 Dec 2011, 5:24 a.m.,*
in response to message #42 by Gerson W. Barbosa

Using the Taylor expansion of *tan(x)* I can confirm this result. With *Free42* we have something like 20 internal figures; I forgot the exact number. When I take the first 100 terms into account I get the following value for *n = 2*:

```
0.27568727380043716388975 21
```

Cheers
Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[ilper] Expert in "C" Please

*Message #1 Posted by **robertoataulfo** on 18 Dec 2011, 11:19 a.m.*

```
Who could build a new version putting a control to clear the screen of the printer?
ilper source
```

Edited: 18 Dec 2011, 11:20 a.m.

Re: [ilper] Expert in "C" Please

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Dec 2011, 12:24 p.m.,*
in response to message #1 by robertoataulfo

I've downloaded it but don't hold your breath.

Re: [ilper] Expert in "C" Please

*Message #3 Posted by **Christoph Giesselink** on 19 Dec 2011, 6:33 p.m.,*
in response to message #1 by robertoataulfo

I will publish ILPer v1.41 early next year. This version will have a new context menu for the printer and scope window with an enabled "Delete" menu entry for deleting selected text.

Christoph

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP won't fix PSE bug on 15CLE?

*Message #1 Posted by **MK-52** on 18 Dec 2011, 10:24 a.m.*

July Inc., a HP calculators distributor in Japan, announced HP won't fix PSE bug because "the behaviour is by design". :-(

Edited: 18 Dec 2011, 10:28 a.m.

Re: HP won't fix PSE bug on 15CLE?

*Message #2 Posted by **Lincoln R.** on 18 Dec 2011, 11:37 a.m.,*
in response to message #1 by MK-52

I don't believe that. HP themselves admits that it is a bug, this sounds like loudmouthing on the part of a distributor.

Re: HP won't fix PSE bug on 15CLE?

*Message #3 Posted by **Thomas Radtke** on 18 Dec 2011, 12:19 p.m.,*
in response to message #1 by MK-52

Do they claim literally that this is an official HP announcment? Any chance to translate the text into readable english?

Re: HP won't fix PSE bug on 15CLE?

*Message #4 Posted by **MK-52** on 18 Dec 2011, 1:08 p.m.,*
in response to message #3 by Thomas Radtke

July.co.jp (Japanese)

> Quote:
>
> 2. Problems reported on www.hpmuseum.org
>
> Problems will not be resolved. HP's view is "these are by design".

Sorry for my poor translation. I am not sure this is an HP official announcement. At least HP told them that they won't fix bugs.

Edited: 18 Dec 2011, 1:14 p.m.

Re: HP won't fix PSE bug on 15CLE?

*Message #5 Posted by **Thomas Radtke** on 18 Dec 2011, 1:31 p.m.,*
in response to message #4 by MK-52

> Quote:
>
> July.co.jp (Japanese)
>
> Sorry for my poor translation. I am not sure this is an HP official announcement. At least HP told them that they won't fix bugs.

Thank you very much for your finding and the translation! I'm sure *someone* told July so. However, I'm not sure if one hand of HP knows what the other does ;-). No really, there where so many things messed up around the 15C LE, I wouldn't wonder if that 'announcement' means nothing.

Re: HP won't fix PSE bug on 15CLE?

*Message #6 Posted by **Michael de Estrada** on 18 Dec 2011, 1:51 p.m.,*
in response to message #5 by Thomas Radtke

I think the proper translation from Japanese is "Screw You."

Re: HP won't fix PSE bug on 15CLE?

*Message #7 Posted by **db (martinez, ca.)** on 18 Dec 2011, 1:17 p.m.,*
in response to message #1 by MK-52

This is the smallest and most inconsequential of the bugs. For the time&energy cost of using a run-stop command instead and pressing r/s, one gets to have time to write down or store the intermediate answer. The only loss is to the pride of the programmer and i'm not sure how many programmers have any pride in their work any more, or shame for that matter.

Re: HP won't fix PSE bug on 15CLE?

*Message #8 Posted by **Marcus von Cube, Germany** on 18 Dec 2011, 1:21 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> The only loss is to the pride of the programmer and i'm not sure how many programmers have any pride in their work any more...

There are some, the designers of this piece of software being among them, for sure!

I assume that there will be no official return policy but a new image will eventually appear for those having the means to upgrade the firmware in their devices.

Re: HP won't fix PSE bug on 15CLE?

*Message #9 Posted by **Michael de Estrada** on 18 Dec 2011, 1:38 p.m.,*
in response to message #8 by Marcus von Cube, Germany

I assume you are beating a dead horse.

Re: HP won't fix PSE bug on 15CLE?

*Message #10 Posted by **Ethan Conner** on 18 Dec 2011, 1:54 p.m.,*
in response to message #9 by Michael de Estrada

Lol !

Re: HP won't fix PSE bug on 15CLE?

*Message #11 Posted by **db (martinez, ca.)** on 18 Dec 2011, 2:31 p.m.,*
in response to message #9 by Michael de Estrada

Michael; Tell me that theres not some programmers (at microsoft or for windows-based products) that you wouldn't like to beat **with** a dead horse.

Re: HP won't fix PSE bug on 15CLE?

*Message #12 Posted by **Michael de Estrada** on 18 Dec 2011, 2:59 p.m.,*
in response to message #11 by db (martinez, ca.)

I wasn't aware that Microsoft employed any programmers.

Re: HP won't fix PSE bug on 15CLE?

*Message #13 Posted by **db (martinez, ca.)** on 18 Dec 2011, 2:27 p.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> There are some, the designers of this piece of software being among them, for sure!

Absolutely. He writes good code. Before this, Tim and his partner John Evers wrote what i think is the best fully integrated surveying program on the market. And it's for an hp too. I have three of those 15Cs and have no regrets at all but i will update the software when it comes available. I think it's great that that is possible.

The trinity of the wp34s are no slouches either.

Re: HP won't fix PSE bug on 15CLE?

*Message #14 Posted by **Katie Wasserman** on 18 Dec 2011, 2:18 p.m.,*
in response to message #7 by db (martinez, ca.)

I agree. While it would be nice to have the PSE bug fixed, I think that the power consumption problem and low-battery memory loss issues are much more important.

Re: HP won't fix PSE bug on 15CLE?

*Message #15 Posted by **Eddie W. Shore** on 18 Dec 2011, 3:51 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> This is the smallest and most inconsequential of the bugs. For the time&energy cost of using a run-stop command instead and pressing r/s, one gets to have time to write down or store the intermediate answer. The only loss is to the pride of the programmer and i'm not sure how many programmers have any pride in their work any more, or shame for that matter.

It would be nice if PSE works as it should, even though I prefer to R/S to PSE.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Paging Gene

*Message #1 Posted by **David Griffith** on 18 Dec 2011, 6:43 a.m.*

I don't know how else to contact you, so here goes... I'd like to get one of those programming cables from you. Please PM me with your email address.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hack a 15C-le into a 16C?

*Message #1 Posted by **David Griffith** on 18 Dec 2011, 5:54 a.m.*

Have any of you involved in the development of the WP34s given any thought to the concept of hacking a 15C-le into an emulation of the 16C?

Re: Hack a 15C-le into a 16C?

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Dec 2011, 9:31 a.m.,*
in response to message #1 by David Griffith

Maybe a 12C+ is the better choice because it is easier to get.

You'll need a firmware image to patch the 16C ROM in. This is not (yet) available for the 15C.

Re: Hack a 15C-le into a 16C?

*Message #3 Posted by **uhmgawa** on 18 Dec 2011, 2:12 p.m.,*
in response to message #1 by David Griffith

> Quote:
>
> Have any of you involved in the development of the WP34s given any thought to the concept of hacking a 15C-le into an emulation of the 16C?

I've been thinking to do a KEMU port to the sam7 voyagers for some time now. But my impasse is really wanting to displace the segment display with a graphic matrix.

It is quite possible to do so as the lcd segment controller drive is multiplexed as gpio. However a custom module of either COG or COB topology is realistically required. COG provides minimal vertical elevation but has problematic active area asymmetry, has interconnect routing issues, and needs off-glass charge pump capacitors (which could be located on a flex pc interconnect). COB can address routing and charge pump components allowing use of a less expensive FFC interconnect. But a conventional COB unit is problematic due to available z-axis consumed via pcb, zebras, and compression frame residing in tandem to the glass. The frame and zebras can be displaced by heat seal tape and in doing so we don't need a particularly ridgid pcb. It might be possible to reduce it to 0.4mm -- however the COB encapsulant projection could double that. Even dismissing all the above, it is still a custom glass prospect to optimally fill the existing window and fit within the existing glass enclosure void. I think the quote I had for a near ideal 192x32 unit was somewhere in the US$7-8K ballpark which included one-time tooling and delivery of the first 1K units.

That's a tall order and travelling this path may not make much sense unless leveraging it as an opportunity to provide some sorely missing features. Eg, at a minimum: external communication, high endurance NV memory, additional RWM, perhaps external power.. Basically what I would have hoped for in an encore voyager 30 years later, particularly a 15c.

Anyway this is all very much possible and straightforward with with a new pcb layout. Doing so also allows

the major simplification of freeing us from the need to shoehorn these enhancements into the existing design. However at this point we get to question whether the aged sam7 is worth the effort of bringing forward given more cost effective and higher performance SoCs currently available.

The one consideration which (at least to me) prevents the above tirade from being wholesale dismissed is the fact such a prospective board+display swap on an encore voyager is mechanically a fairly minor undertaking. But I suppose from my POV I don't find a clear delineation in the slippery slope continuum corresponding to a meaningful partial feature set. At least that's my excuse for not having pursued a physical prototype thus far.

Re: Hack a 15C-le into a 16C?

*Message #4 Posted by **Paul Dale** on 18 Dec 2011, 4:33 p.m.,*
in response to message #1 by David Griffith

Walter and I did discuss the possibility of re-purposing the 12c and decided it wasn't worth our efforts -- the segmented screen is too limiting being far worse than the 30b's which has always been quite an impediment.

- Pauli

Re: Hack a 15C-le into a 16C?

*Message #5 Posted by **Les Bell** on 18 Dec 2011, 5:03 p.m.,*
in response to message #1 by David Griffith

> Quote:
>
> Have any of you involved in the development of the WP34s given any thought to the concept of hacking a 15C-le into an emulation of the 16C?

If anyone's thinking about it, a couple of comments:

1) the 16C's maximum wordsize of 56 bits was huge for the time, but 64-bit processors are common now. I'm not sure how much of a practical limitation this is, but getting around it would be a huge job given the architectural platform;

2) the 16C uses the HP floating-point implementation of that era, rather than the now-ubiquitous IEEE 754(?) format (although the manual did provide conversion routines). An implementation of the IEEE format would be much more useful.

I'd say that an upgraded rewrite, rather than a straight port, would probably be easier, as well as more useful.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Hack a 15C-le into a 16C?

*Message #6 Posted by **Paul Dale** on 18 Dec 2011, 5:06 p.m.,*
in response to message #5 by Les Bell

The 16C allows a word size up to 64.

- Pauli

Re: Hack a 15C-le into a 16C?

*Message #7 Posted by **Les Bell** on 18 Dec 2011, 5:13 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> The 16C allows a word size up to 64.

Yes - you're right. I've no idea why I'd got the idea the max was 56 bits. I've never used any WSIZE larger than 32 bits anyway, and the display made even *that* quite painful.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Hack a 15C-le into a 16C?

*Message #8 Posted by **Paul Dale** on 18 Dec 2011, 5:28 p.m.,*
in response to message #7 by Les Bell

The CPU registers are 56 bits perhaps?

- Pauli

Re: Hack a 15C-le into a 16C?

*Message #9 Posted by **Marcus von Cube, Germany** on 19 Dec 2011, 2:28 a.m.,*
in response to message #8 by Paul Dale

The register size of the 16C varies with the configured word size and so does the number of available registers. In float mode, the word size is set to 56 bits but in integer mode, almost any word size up to 64 is legal. I haven't tried 1 though. It should be possible to configure the 16C to a single bit machine in unsigned mode (with a register size of 8, I assume.)

Re: Hack a 15C-le into a 16C?

*Message #10 Posted by **Paul Dale** on 19 Dec 2011, 2:57 a.m.,*
in response to message #9 by Marcus von Cube, Germany

The internal CPU registers are 56 bits wide.

The calculator can be configured with any integer size from 1 to 64 bits. 1 bit works in signed modes too -- you get zero and something negative depending on the mode. In unsigned you get 0 and 1.

The actual memory used by registers is the next multiple of 4 up from the word size. Thus, 1 bit registers use 4 bits of memory.

- Pauli

Re: Hack a 15C-le into a 16C?

*Message #11 Posted by **Les Bell** on 19 Dec 2011, 3:56 a.m.,*

in response to message #10 by Paul Dale

> Quote:
>
> The actual memory used by registers is the next multiple of 4 up from the word size. Thus, 1 bit registers use 4 bits of memory.

Yep. Setting mine to 1-bit word size gives me 406 registers, equivalent to the 203 bytes available.

As to why I remembered 56-bit rather than 64-bit maximum word size, it beats me. Probably a recollection of the CPU register size.

Best,

--- Les
[http://www.lesbell.com.au]

Edited: 19 Dec 2011, 3:57 a.m.

Re: Hack a 15C-le into a 16C?

*Message #12 Posted by **Katie Wasserman** on 18 Dec 2011, 8:02 p.m.,*
in response to message #7 by Les Bell

You probably got that idea becasue a 56-bit word size is the value set when switching back from floating point mode to integer mode.

Re: Hack a 15C-le into a 16C?

*Message #13 Posted by **Neil Hamilton (Ottawa)** on 19 Dec 2011, 3:01 p.m.,*
in response to message #1 by David Griffith

Speaking of which, does anyone have the details of the LCD and keyboard port mappings for the 12C+/15C LE?

A while ago there were rumours of a 12C+ SDK but I can find no further references.

Thanks...

Voyager 1xC emulation in the same unit?

*Message #14 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 20 Dec 2011, 11:47 p.m.,*
in response to message #1 by David Griffith

Hi David,

Have you seen this (if you haven't you will be amazed): HP 1xC Voyager

Great way to combine 1xC Voyager series into one! I wonder if this would be possible using the new HP-12C+ ATMEL CPU with emulations instead of the KINOMI custom CPU.

Any thoughs? Regards, Kerem

Re: Voyager 1xC emulation in the same unit?

*Message #15 Posted by **uhmgawa** on 22 Dec 2011, 5:24 p.m.,*
in response to message #14 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> I wonder if this would be possible using the new HP-12C+ ATMEL CPU with emulations instead of the KINOMI custom CPU.

The NUT cpu and Voyager system emulator in use (KEMU) isn't tied to the KINOMI module in any way and the first prototype was actually cobbled together around a Hitachi SH1. The version of the KINOMI module shown in the demonstration used an Atmel AVR atmega1284p SoC. This was largely due to the extreme size restrictions imposed by the 14.0mm x 14.6mm footprint of the original NUT cpu lqfp package. Otherwise *far* more hospitable SoC choices exist.

Porting KEMU to the HP-12C+ or 15c le is relatively straightforward. But I'd be more interested to do so as part of a larger functional upgrade to the encore voyager which frees us from the 7-segment display, adds some form of external i/o to the device, and perhaps extends available user memory (ideally as non-volatile).

Re: Voyager 1xC emulation in the same unit?

*Message #16 Posted by **David Griffith** on 22 Dec 2011, 8:34 p.m.,*
in response to message #15 by uhmgawa

I like!!!

Re: Voyager 1xC emulation in the same unit?

*Message #17 Posted by **Eric Smith** on 22 Dec 2011, 9:42 p.m.,*
in response to message #15 by uhmgawa

What LCD module are you using?

Re: Voyager 1xC emulation in the same unit?

*Message #18 Posted by **uhmgawa** on 23 Dec 2011, 12:00 a.m.,*
in response to message #17 by Eric Smith

> Quote:
>
> What LCD module are you using?

I haven't found anything as standard product which I'd call even remotely usable relative to either a NUT or sam7 voyager's available display area. Given space constraints about the only configuration option is a zebra or TAB-style interconnect, as the asymmetry (or rather the glass extension for ITO/bump interconnect) of COG rule it out. There are also other unique requirements such as a straight reflective polarizer and an aspect ratio in the range of 5:1 to 6:1 which pretty much leave the empty set as far as COTS graphic devices. Just satisfying the desired resolution, aspect ratio, and polarizer pushes the problem to at least a semi-custom display.

Frankly concerning a graphic display upgrade, I'm undecided whether a voyager retrofit is really the best use of time, funds, and effort relative a new modified mechanical design.

BTW on a semi-related subject, I didn't intend come across as dismissing the openRPN effort in this regard. However my personal experience with the above sends me screaming into my pillow to witness a clean slate effort painting itself into a corner, flirting with the headache of shoehorning a display into an already defined enclosure footprint.

Re: Voyager 1xC emulation in the same unit?

*Message #19 Posted by **Eric Smith** on 23 Dec 2011, 4:47 p.m.,*
in response to message #18 by uhmgawa

I was just interested in what LCDs you've used in your existing prototypes as shown in your videos.

Re: Voyager 1xC emulation in the same unit?

*Message #20 Posted by **Jeff O.** on 22 Dec 2011, 10:54 p.m.,*
in response to message #15 by uhmgawa

> Quote:
>
> Porting KEMU to the HP-12C+ or 15c le is relatively straightforward. But I'd be more interested to do so as part of a larger functional upgrade...

That is a laudible goal which would be greatly appreciated, but I'm sure a lot of people would be very, very happy with a straightforward port, if you should ever be so inclined.

Re: Voyager 1xC emulation in the same unit?

*Message #21 Posted by **robert rozee** on 23 Dec 2011, 7:00 a.m.,*
in response to message #20 by Jeff O.

it seems a good enough reason for the project would be to produce a bug-free set of firmware that can be reprogrammed into an unmodified 15C-LE set of hardware. and the 15C-LE already has a 'licence' (of sorts) to use the original 15C firmware image.

i'm quite sure if you could produce a firmware for the 15C-LE that was (say) 10x faster than an original 15C, drew just a couple of mA from the 2032 cells, and was 100% functional, then you would collect a great many new friends!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #1 Posted by **Egan Ford** on 17 Dec 2011, 10:16 p.m.*

http://www.wired.com/gadgetlab/2011/12/number-pad-watch-nerdier-than-calculator-watch/

Well nerds, it is?

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #2 Posted by **Howard Owen** on 18 Dec 2011, 5:10 p.m.,*
in response to message #1 by Egan Ford

This is more generically nerdy than a calculator watch. However, for this crowd, I suspect it the latter would win out.

I recall someone (Eric Smith?) had a nixie tube watch at one of the HHCs. That thing was the very acme of nerddom.

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #3 Posted by **Jeff O.** on 18 Dec 2011, 7:45 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> I recall someone (Eric Smith?) had a nixie tube watch at one of the HHCs.

Was it Geoff?:

Geoff's nixie watch

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #4 Posted by **Geoff Quickfall** on 18 Dec 2011, 9:17 p.m.,*
in response to message #3 by Jeff O.

Eric Smith wore one at HCC2009 and was responsible for me purchasing one for the sheer geekness of it!

I wore mine this last HCC.

Geoff

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #5 Posted by **David Ramsey** on 19 Dec 2011, 10:10 a.m.,*
in response to message #4 by Geoff Quickfall

Geoff, you wore your HP-01 this last HHC...you and Gene and I all did, and we were sitting right together. I'm sure I would have noticed a Nixie watch...

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #6 Posted by **Geoff Quickfall** on 19 Dec 2011, 11:55 a.m.,*
in response to message #5 by David Ramsey

Dave, you are correct,

Call it jet lag, 31 hours up in a row by the time I keyed in the response in the hotel room, and then a beer (after we landed of course). Of course it was the HP01, it was my presentation that had the Nixie watch!

Geoff ;-)

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #7 Posted by **Jim Yohe** on 19 Dec 2011, 1:11 a.m.,*
in response to message #1 by Egan Ford

That keypad has "nothing" over the Nixie watch, IMHO.

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #8 Posted by **Howard Owen** on 19 Dec 2011, 4:42 a.m.,*
in response to message #7 by Jim Yohe

Can't argue with that. :)

Re: OT: Number Pad Watch Nerdier Than Calculator Watch?

*Message #9 Posted by **megarat** on 20 Dec 2011, 4:27 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> Well nerds, it is?

Hardly. I argue that true nerdiness prioritizes function over fashion, and as this thing stands, it's all fashion, zero function.

(When I first saw the subject line and the images, I got the impression that it would be an actual wrist-mounted numeric keypad, and actually got excited. As a user of 10-keyless keyboards (to minimize the distance between the keys and the mouse) I really like the idea of plugging that thing into my computer and swinging over my dominant hand whenever I need to 10-key in some numbers. Geeky, yes, but geeky-cool in a curiously useful kind of way.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

OT: Number Pad Watch Nerdier Than Calculator Watch?

HP Forum Archive 20

[Return to Index | Top of Index]

New Year's resolutions ?

*Message #1 Posted by **Michael de Estrada** on 17 Dec 2011, 10:05 p.m.*

Do you have any New Year's resolutions vis a vis calculators ? Mine is very simple - no more calculators. It's not that I can't afford them, because I can. It's simply a matter of having every make and model, past and present, that interests me. In many cases I have more than one sample of a given model, and they all are in working condition. In some cases I'm missing accessories such as an HP-70 printed manual, but in most cases they're complete. I have insufficient room to store them. Some are stored in shoe boxes, piled up in a closet. Some are piled up in a display case. Some just sit on the floor in the middle of my home office (aka guest bedroom). Enough is enough.

Re: New Year's resolutions ?

*Message #2 Posted by **Egan Ford** on 17 Dec 2011, 10:17 p.m.,*
in response to message #1 by Michael de Estrada

I'd like to complete another HP-IL project and write about it in 2012.

Re: New Year's resolutions ?

*Message #3 Posted by **Eric Smith** on 18 Dec 2011, 1:09 a.m.,*
in response to message #1 by Michael de Estrada

Some years back I made a New Year's resolution that I wouldn't make any New Year's resolutions. Thus far I'm doing a pretty good job of sticking to that one.

Re: New Year's resolutions ?

*Message #4 Posted by **Hans Brueggemann** on 18 Dec 2011, 3:31 a.m.,*
in response to message #1 by Michael de Estrada

That's an easy one: Get my first batch of FRAM71 modules into production ;o)
hans

Re: New Year's resolutions ?

*Message #5 Posted by **Namir** on 18 Dec 2011, 10:51 a.m.,*
in response to message #4 by Hans Brueggemann

What is a New Year's resolution???? Is it a piece of software or hardware?

Edited: 18 Dec 2011, 10:52 a.m.

Re: New Year's resolutions ?

*Message #6 Posted by **David Ramsey** on 18 Dec 2011, 11:05 a.m.,*
in response to message #1 by Michael de Estrada

I'm making the same resolution: no more calculators or related items in 2012, mainly because of the insane spending spree I went on this year re desktop machines. Not only did I spend a lot of money, but I have no place else to put anything! Desktop machines are big!

Exceptions for previous commitments: a 41CL board, paper and parts for a 9100 printer, and that's it! No, really...

Re: New Year's resolutions ?

*Message #7 Posted by **Eddie W. Shore** on 18 Dec 2011, 3:53 p.m.,*
in response to message #1 by Michael de Estrada

I think I am the opposite, I will probably collect additional calculators, both old and new during 2012. But then again, I won't need a resolution to do that.

Re: New Year's resolutions ?

*Message #8 Posted by **David Hayden** on 19 Dec 2011, 11:19 p.m.,*
in response to message #1 by Michael de Estrada

Attend HHC2012.

Finish the coding project I started last spring and present it at the above conference.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator Clear Case

*Message #1 Posted by **Joerg Woerner** on 17 Dec 2011, 9:23 p.m.*

Collectors,

I just received my first two Texas Instruments Clear Case calculators and like to understand why they were manufactured.

Is it about the missing 3D modeling in the 1970's or about the injection molding optimization? Any ideas?

Thanks and Regards,

Joerg

Re: Calculator Clear Case

*Message #2 Posted by **Eric Smith** on 18 Dec 2011, 1:14 a.m.,*
in response to message #1 by Joerg Woerner

Yes, that's exactly why it is done. It's not as important now do the sophisticated 3D CAD, but it's sometimes still done since it is still a useful verification.

After the clear cases are made and it is verified that the design meets the requirements, the texturing is added to the mold. It is then not possible to make good clear cases again because:

1. With the textured mold, the resulting case would not really be optically clear
2. After non-transparent material has been molded, trying to mold transparent material will usually result in the molded part having residue of the non-transparent material, unless you mold and discard a large number of items to flush it all out.

Re: Calculator Clear Case

*Message #3 Posted by **David Griffith** on 18 Dec 2011, 5:53 a.m.,*
in response to message #2 by Eric Smith

That reminds me of a few classic Macintoshes that floating around the collector community like that. One sold on Ebay last year for around $500 I think.

Re: Calculator Clear Case

*Message #4 Posted by **Bob Patton** on 18 Dec 2011, 10:30 a.m.,*
in response to message #1 by Joerg Woerner

Joerg, I'm sending you images of a clear SR-10 case containing SR-11 innards.

Re: Calculator Clear Case

*Message #5 Posted by **David Ramsey** on 18 Dec 2011, 11:07 a.m.,*
in response to message #1 by Joerg Woerner

I have a clear case Newton 110. The engineer at Apple I asked about it said it was to help check component fitment inside the case.

Clear Newton 110

*Message #6 Posted by **Frank Boehm (Germany)** on 18 Dec 2011, 2:19 p.m.,*
in response to message #5 by David Ramsey

That's fortunately/unfornately not the whole truth. I just read about it this week - a larger batch of clear 110s has been manufactured and were available for purchase by employees, good customers and I think as well on a developer conference. They were manufactured for the looks, the development has long been finished before the production run.
Nice to have, but not too rare (guesstimates are talking about a four-digit number of clear 110s).

Re: Calculator Clear Case

*Message #7 Posted by **Alberto Fenini** on 19 Dec 2011, 10:55 a.m.,*
in response to message #1 by Joerg Woerner

Congratulation !!
So you were between the ones looking at that auction ?
It went from 43 US$ to over 700 US$ in the last hour ....
nice items, congratulation again !
Alberto

Re: Calculator Clear Case

*Message #8 Posted by **Keith Midson** on 19 Dec 2011, 10:51 p.m.,*
in response to message #7 by Alberto Fenini

Nice TI's Joerg, but alas they aren't HP's ...
my 71B
my 28S
HP clear cases
BTW, there is a clear cased 71B for sale on ebay right now - it ended without a bid and is now relisted (I am not the seller, but it's someone I know - item 290647978271) - the price is reasonable, i'm not sure why no-one is bidding.
Cheers, Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 9826A HPL ROM board part number

*Message #1 Posted by **David Ramsey** on 17 Dec 2011, 7:21 p.m.*

Can someone here confirm that 98261-66541 is the correct part number for an HPL ROM board for a 9826A?

It seems to be (and the part number "looks like" the part numbers for the BASIC boards), but the HP Computer Museum lists the part number for an HPL ROM board as "98604A"...

Re: HP 9826A HPL ROM board part number

*Message #2 Posted by **Eric Smith** on 17 Dec 2011, 7:29 p.m.,*
in response to message #1 by David Ramsey

It is common for there to be two different numbers, a nnnnA number (four digits, one letter) for something ordered as a "product", and nnnnn-nnnnn (two groups of 5 digits, called a 5x5 part number), for something ordered as a service replacement part. It's entirely possible that both numbers you gave are for the same thing.

Re: HP 9826A HPL ROM board part number

*Message #3 Posted by **David Ramsey** on 17 Dec 2011, 10:12 p.m.,*
in response to message #2 by Eric Smith

Thanks, Eric. The photo of the item seems to visually match the computer museum's photo, so that's probably the case.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Time module !!!1

*Message #1 Posted by **robertoataulfo** on 17 Dec 2011, 6:41 p.m.*

Time module in TAS

Re: Time module !!!1

*Message #2 Posted by **Garth Wilson** on 17 Dec 2011, 8:18 p.m.,*
in response to message #1 by robertoataulfo

"HAWLETT PACKARD" and "ULTRA RARE" I had to laugh. Yes, the time module is very hard to come by on TAS, but not 41's, unless what's so rare is the spelling.

Edited: 17 Dec 2011, 8:20 p.m.

Re: Time module !!!1

*Message #3 Posted by **Howard Owen** on 17 Dec 2011, 9:46 p.m.,*
in response to message #1 by robertoataulfo

I saw that one. I'm not willing to spend that much just to get a time module.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Really pocketable 15C clone

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 17 Dec 2011, 3:25 p.m.*

HERE! :-)

Greetings,
Massimo

Re: Really pocketable 15C clone

*Message #2 Posted by **DigiGal** on 17 Dec 2011, 4:43 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Neat, novelty !!!

Re: Really pocketable 15C clone

*Message #3 Posted by **Namir** on 17 Dec 2011, 4:54 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Where do we place our orders?

Namir

Re: Really pocketable 15C clone

*Message #4 Posted by **Mike Morrow** on 17 Dec 2011, 5:06 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

That's amazing. A sophisticated RPN scientific in credit card size...a first in calculator history.

I want one (or two) (or three)!

Re: Really pocketable 15C clone

*Message #5 Posted by **db (martinez, ca.)** on 17 Dec 2011, 5:26 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

want hell. i **need** one
does PSE function?

Re: Really pocketable 15C clone

*Message #6 Posted by **Paul Dale** on 17 Dec 2011, 5:32 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

I suspect this is the web site: http://www.rpn-calc.ch/. No sign of orders or preorders yet.

- Pauli

Re: Really pocketable 15C clone

*Message #7 Posted by **htom trites jr** on 17 Dec 2011, 8:07 p.m.,*
in response to message #6 by Paul Dale

I think the currently popular exclamation is "WANT!"

Re: Really pocketable 15C clone

*Message #8 Posted by **bill platt** on 17 Dec 2011, 8:32 p.m.,*
in response to message #7 by htom trites jr

Aw, he killed the project:

http://www.rpn-calc.ch/

Re: Really pocketable 15C clone

*Message #9 Posted by **Jim Yohe** on 17 Dec 2011, 9:11 p.m.,*
in response to message #8 by bill platt

There's a couple of model numbers listed. Maybe he only killed one of them?

Re: Really pocketable 15C clone

*Message #10 Posted by **Mike Morrow** on 17 Dec 2011, 9:59 p.m.,*
in response to message #9 by Jim Yohe

The outstanding and exceptional aspect of the unit shown is, IMHO, its size. The fact that it's an HP 15C clone, at a time when HP has produced its own full-sized (and thus less desirable) HP 15C clone, is irrelevant.

The unit shown would be a tremendous competitor in high demand, based on small size and large capability that has never been matched in the whole electronic calculator era.

Re: Really pocketable 15C clone

*Message #11 Posted by **Howard Owen** on 17 Dec 2011, 9:53 p.m.,*
in response to message #8 by bill platt

Looks like the credit card sized clone emerged from the ashes. That's a very clever way to keep what must have been a very large investment in time and effort alive. It's a brilliant novelty. I wonder if he's aware how many of those he could sell to members of this site alone?

Re: Really pocketable 15C clone

*Message #12 Posted by **Namir** on 17 Dec 2011, 11:19 p.m.,*
in response to message #8 by bill platt

Bill,

The post you see is an old one. He decided to switch to the credit card size when HP launched the 15C-LE back in the fall.

Namir

Re: Really pocketable 15C clone

*Message #13 Posted by **Juergen Keller** on 18 Dec 2011, 5:55 a.m.,*
in response to message #12 by Namir

Exactly. Last year I pre-ordered a DM-15C and then he stopped the project due to the announcement of the 15CLE. I didn't cancel my pre-order hoping that he will succeed with a similar product. And this video looks promising :-)

Re: Really pocketable 15C clone

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 18 Dec 2011, 5:56 a.m.,*
in response to message #13 by Juergen Keller

Me too... :)

Re: Really pocketable 15C clone

*Message #15 Posted by **Egan Ford** on 17 Dec 2011, 10:15 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

I've got enough 15Cs. What I need is more 16Cs.

Re: Really pocketable 15C clone

*Message #16 Posted by **htom trites jr** on 18 Dec 2011, 1:22 p.m.,*
in response to message #15 by Egan Ford

It's an emulator, so reprogramming might be possible. Business card size, 3.5" x 2", you *could* put ten keytops across, but there would be little space between them. A keytop 1/8" on a side might work much better.

Re: Really pocketable 15C clone

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 18 Dec 2011, 11:41 p.m.,*
in response to message #15 by Egan Ford

> Quote:
>
> I've got enough 15Cs. What I need is more 16Cs.

Are 16C's really that hard to find? If so, I suspect that I need to sell mine since I purchased it in 1998 and haven't used it for more than an hour since. The previous owner obviously didn't use it very much. The spine on the manual doesn't show any evidence of use.

Re: Really pocketable 15C clone

*Message #18 Posted by **Geoff Quickfall** on 18 Dec 2011, 9:20 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Just ordered one and was told "you are on the list for Jan of 2012".

Had to order it, next version will fit on the wrist (just hoping).

Geoff

Re: Really pocketable 15C clone

*Message #19 Posted by **Walter B** on 19 Dec 2011, 1:57 p.m.,*
in response to message #18 by Geoff Quickfall

It's looking very nice and nerdy, but I think the keys are just too packed. Did you watch him operating the calculator? Doesn't look very relaxed. So here pocketability was driven over the limit IMHO. A 30b or 15C in their original size fit my shirt pocket quite well. And I don't need anything smaller, not even on my wrist.

Just my 20m€ as usual.

Re: Really pocketable 15C clone

*Message #20 Posted by **Geoff Quickfall** on 19 Dec 2011, 2:14 p.m.,*
in response to message #19 by Walter B

I agree about the size, but still, it's like having a book on the head of a pin, don't need it but it looks good!

Although, the U-watch works for me, don't wear it as the strap attachments combined with my ability to use epoxy causes lug failure.

I think part of the problem is the nervousness factor on pressing the keys. My attempts at youtube took a few takes as my brain and my fingers did not work in unison (sp?) and the intitial attempts looked "nervous".

In anycase, if the it does work with my fingers, well then, slick! More of a novelty but I will take it to work with about 280 lines of programming covering the basics:

```
Great Circle
Intermediate Longitude
Conversions
Temperature Altitude corrections
Wind chill (only in the winter!)
Fuel SG check
```

Cheers, GEoff

Edited: 19 Dec 2011, 2:15 p.m.

Re: Really pocketable 15C clone

*Message #21 Posted by **Mike Morrow** on 19 Dec 2011, 2:09 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Judging from statements at the DM-15CC website:

1. **"based on the original microcode of the HP-15C"** and **"runs on a battery saving LPC1114 ARM processor emulating the NUT processor"**
Is there no danger that HP will assert ownership of the firmware?

2. **"uses one CR2032 battery"**
That's a much better approach than paralleling two cells as the HP models do. That's just bad engineering by

HP!

3. **"runs up to 60 times faster than the original calculator"**
This would be about half the speed of the new HP 15C-LE. That's good, especially if it means that that energy consumption from the single CR2032 is half or less than that of the 15C-LE.

The thing that's somewhat disappointing about this exciting product is its use of emulation of the old firmware rather than using all new native LPC1114 firmware coding.

A comparison of benchmark run times on the emulated HP 15C-LE versus the non-emulated HP 30b shows that identical tasks take about eight times longer on the HP 15C-LE compared to the HP 30b, even though *both use the same SAM7L SoC and clock frequency*. That shows that a task performed on the 15C-LE will use eight times the energy of the same task on the 30b.

Such gross inefficiency means that *emulation is a really really bad idea* for programmable calculators operating from a very small battery. In terms of reasonable battery life, emulation works for the HP 12C+ because user programming on the 12C+ is typically negligible. It remains to be seen if it will be practical in the 15C-LE, which is much more likely to be employed for user programming.

Regardless, the DM-15CC is irresistible! Here's a very interesting and more detailed demo video of the DM-15CC prototype. Fantastic work.

Edited: 19 Dec 2011, 3:09 p.m.

Re: Really pocketable 15C clone

*Message #22 Posted by **Walter B** on 19 Dec 2011, 5:27 p.m.,*
in response to message #21 by Mike Morrow

As with the HP-15C LE itself, I don't want to spoil the party. The 15CC is a cute little toy, and I appreciate the great work to create it. All who want a programming model being 30 years old feel free to buy either one (or both). Enjoy decoding key codes.

But all who want readable programs beware. The 15C programming paradigm is simply outdated. Most Pioneers show a better UI already, and even the WP 34S v1.x was more advanced than the 15CC. V2.2 runs circles around it. So if you want a tool to do serious work ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41CV faulty

*Message #1 Posted by **Steve Hunt** on 17 Dec 2011, 11:34 a.m.*

Hi folks - new to the forum so please go easy with a "newbie".

I have an HP41CV (Fullnut I think you call it) which has seen better days - badly corroded battery terminals, and intermittent contact between the logic board and keyboard. Rather than scrap it, I pulled it to pieces and hard-wired the logic board to the keyboard. Temporarily I've connected a 6v supply directly across the appropriate keyboard traces.

It doesn't work! Here are the symptoms:

At power-up the display shows the "flying duck" in the leftmost display position and the PGRM annunciator is on. None of the keys has any effect except:

* Pressing the ON key causes the display to briefly show "MEMORY LOST" and the beep to sound before going back to the original display.

* Pressing R/S changes the display to "0," at the left and "00" at the right. Pressing R/S again puts it back to the original display.

Before throwing it in the bin I wondered if those symptoms give any pointers to what the fault might be.

I've very carefully check my hard-wiring of the logic board to the keyboard - everything looks correct with no shorts.

Grateful for any help, Steve

Re: HP41CV faulty

*Message #2 Posted by **Randy** on 17 Dec 2011, 12:16 p.m.,*
in response to message #1 by Steve Hunt

Anytime a 41 displays MEMORY LOST at power on (other than after a complete reset of memory) is usually a sign of a bad rom or ram.

Realistically, the only way to troubleshoot is with the HP 41 service rom.

Re: HP41CV faulty

*Message #3 Posted by **Steve Hunt** on 17 Dec 2011, 1:56 p.m.,*
in response to message #2 by Randy

Thanks Randy - looks like it's on its way to the bin!

Steve

Re: HP41CV faulty

*Message #4 Posted by **Håkan Thörngren** on 17 Dec 2011, 2:06 p.m.,*
in response to message #3 by Steve Hunt

Do NOT throw it!

If it has a good keyboard and LCD, it can probably be salvaged and converted to a 41CL by replacing the logic board.

At worst, it will most likely have some use for spare parts!

Re: HP41CV faulty

*Message #5 Posted by **Steve Hunt** on 17 Dec 2011, 5:35 p.m.,*
in response to message #4 by Håkan Thörngren

Yes - the "bin" in question is the spare parts bin ;) I have 3 other HP41s, so it might come in useful at some stage.

Next job is to replace the "crumbling" drive wheel on my card reader!

Thanks for the advice, Steve

Re: HP41CV faulty

*Message #6 Posted by **dinamarco** on 26 Dec 2011, 8:23 p.m.,*
in response to message #4 by Håkan Thörngren

How can I do it? How "transform" my HP-41CV into a HP-41CL? regards...

Re: HP41CV faulty

*Message #7 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Dec 2011, 12:45 a.m.,*
in response to message #6 by dinamarco

Hi dinamarco,

Checkout this 41CL Link . You will find all the necessary information about the 41CL upgrade. Also checkout this for further information.41CL wiki link Regards, Kerem

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.5

*Message #1 Posted by **robertoataulfo** on 17 Dec 2011, 9:41 a.m.*

```
CATALOG ( 1309 bytes)


15/12/11  20:59:38


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR" @ PWIDTH INF
2 GOSUB 27 @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
5 IF B$='u' THEN C$="Purge" @ GOSUB 14 @ GOSUB 25 @ PURGE A$&B$ @ GOTO 1
6 IF B$="a" THEN I=1 @ GOTO 31
7 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 14 @ GOSUB 25 @ EDIT A$&B$ @ END
8 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 14 @ RUN A$
9 IF B$='c' THEN C$="Copy to" @ GOSUB 14 @ GOTO 19
10 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
11 IF B$="b" THEN BYE
12 IF B$='p' THEN C$="Print" @ D$=A$ @ GOSUB 14 @ GOSUB 25 @ GOTO 16
13 GOTO 2
14 A$=A$[1,POS(A$," ")-1]
15 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
16 PRINT A$;' (';VAL(D$[13,18]);'bytes)'
17 PRINT @ C$=DATE$ @ PRINT C$[7,8]&C$[3,6]&C$[1,2]&"  "&TIME$ @ PRINT
18 PLIST A$&B$ @ PRINT @ GOTO 2
19 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
20 IF B=2 THEN B$=A$(1)&D$&A$(3)
21 IF B=3 THEN B$=A$(1)&D$&A$(2)
22 DISP C$&" "&B$&" ?" @ B=VAL(WKEY$) @ GOSUB 25
23 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
24 GOTO 2
25 B$="" @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
26 RETURN
27 IF B=1 THEN A$=CAT$(I)
28 IF B=2 THEN A$=XCAT$(I)
29 IF B=3 THEN A$=TCAT$(':dr',I)
30 RETURN
31 GOSUB 27 @ IF A$="" THEN I=1 @ GOTO 2 ELSE PRINT A$ @ I=I+1 @ GOTO 31


a    = Print Catalog
e    = Edit Basic File
r    = Run Basic File
c    = Copy File to
p    = Print Basic File
b    = Bye (Off)
x    = exchange media
u    = Purge File
Up   = Next File
Down = Previous File


KEYLEX75  - UNLOCK
          - SHLOCK
          - CTLOCK
          - GETMSG($,$)
          - GETKEY$($)
          - WKEY$


:Xmem=82718A



Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] New flash handling?

*Message #1 Posted by **fhub** on 17 Dec 2011, 7:45 a.m.*

Marcus, could we please get a short description of the new flash structure and handling?

In the current SVN I can't even load any of my programs with "PRCL n" because PRCL now doesn't accept a parameter anymore. :-(

Franz

Re: [WP34s] New flash handling?

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Dec 2011, 8:55 a.m.,*
in response to message #1 by fhub

Here is a short description:

There are no longer any regions (copies of the RAM program structure) which can be individually accessed by number. There are just four program areas:

RAM
User library
User backup
ROM

Each area (except ROM) can be divided into individual programs delimited by END. To make any program (in any area except ROM) the current program you can use CAT and navigate to a label within the program. ENTER will just position the PC while R/S or XEQ will run the program. P/R lets you inspect the program.

The following commands act on a single program only:

CLP - removes current program from RAM or library. CLP can be directly accessed from the CAT browser.

PSTO - stores the current program in the library. The program must start with a LBL'xyz' instruction which serves as kind of a file name. Programs are always appended to the end of the flash area. If a program with the same name exists, it will be deleted first. PSTO is mapped to STO in the CAT browser.

PRCL - Creates a copy of the current program at the end of RAM. The source may even be RAM so you can make a duplicate of your code on the device. No automatic removal of duplicate labels is attempted. XROM cannot be copied, all other programs are available to PRCL. Single program size is bound by some 900 steps. If needed, room in RAM is increased by clearing the statistical sums and reducing the number of registers before PRCL is performed. PRCL is mapped to RCL in the CAT browser.

LOAD and SAVE have not changed. SAVE is the only way to store something in the backup (PSTO 0 is no longer available).

In case of trouble do a manual RTN to force the PC to location zero in RAM. There may still be situations

where the internal pointers get a bit mixed up.

Re: [WP34s] New flash handling?

*Message #3 Posted by **fhub** on 17 Dec 2011, 9:32 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks for the explanation, Marcus!

That's now indeed a completely different flash handling, and I still don't fully understand it.

Ok, let's begin with my usual daily work on my PolynomSolver (everything for the emulator of course):
I guess now I have to compile my source to wp34s-lib.dat instead of wp34s-n.dat (with n=1..9), right?

And what if I already have e.g. 10 separate programs? Do I need to have them all in one single source file to compile them to wp34s-lib.dat?
So I would always have to compile all of them again and again, even if I only change something in the source of one program?
And what's the size limit for this wp34s-lib.dat? What if I have hundred programs which would compile together to e.g. 10kB?

> Quote:
>
> If needed, room in RAM is increased by clearing the statistical sums and reducing the number of registers before PRCL is performed.

What if my program is too big to load (and PRCL reduces the stat registers), but these registers are used in my program (as it is the case in my PolySolver)?

Re: [WP34s] New flash handling?

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Dec 2011, 11:50 a.m.,*
in response to message #3 by fhub

The assembler is being updated to support updating the library so you can just recompile any sources and they are automatically updated in the library.

Until then, it's better to compile into wp34s-backup.dat or wps3s.dat and run (and test) from there. Use PSTO to add the program to the library.

The automatic measures to increase the available space to load a program are only carried out if there isn't enough room beforehand. Just use REGS to decrease the number of registers before you attempt the PRCL. If you need a very long program and a lot of memory for data, run the program from the backup or from the library.

Re: [WP34s] New flash handling?

*Message #5 Posted by **fhub** on 17 Dec 2011, 12:14 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Oh my god, after having worked almost every day in the last months with the WP34s I'm quite familiar with these 'n' flash files and this new stuff sounds rather complicated to me - I'm not sure if I'll like it!?

But at least the increase in possible program steps in RAM is a great advantage - my Laguerre PolySolver has now (with more than 500 steps) already reached the current size limit, and I was already thinking about removing some of its features ...

Re: [WP34s] New flash handling?

*Message #6 Posted by **Marcus von Cube, Germany** on 17 Dec 2011, 12:29 p.m.,*
in response to message #5 by fhub

Even within the limits of 510 steps you could separate parts of it and create routines with global labels which do part of the work and are called by the main program. These routines may well be stored in a program region.

I think you will be comfortable with the new features if you work with them. The main reason for the change was a better exploitation of the available flash space which is now organized in pages of 256 bytes (no longer 1 KB chunks). There is no slack, all programs in the library are contiguously aligned in the available space. Being able to have larger single programs (even in RAM for editing) is an additional benefit.

Re: [WP34s] New flash handling?

*Message #7 Posted by **Dominic Richens** on 18 Dec 2011, 10:02 p.m.,*
in response to message #5 by fhub

You'll like it :-)

The best part you no longer have to organize the programs you want into 1kb pages. Just throw everything into the wp34s-lib.dat Also less problems with multiple programs wanting to use the hotkey labels A-D or internal LBL 0-9 etc..

Re: [WP34s] New flash handling?

*Message #8 Posted by **fhub** on 19 Dec 2011, 4:42 a.m.,*
in response to message #7 by Dominic Richens

> Quote:
>
> You'll like it :-)

Well, maybe I would if I could! :-(

Unfortunately now not even the new assembler (not to speak of the library manager) is working with my TinyPerl.

So I guess I'll stop updating to new WP34s versions and stay with SVN 2030 (the last version before this new flash handling) ...

Franz

Re: [WP34s] New flash handling?

*Message #9 Posted by **Marcus von Cube, Germany** on 19 Dec 2011, 8:41 a.m.,*
in response to message #8 by fhub

Tiny Perl is just too tiny I'm afraid. Any hopes to upgrade your PC to a more recent

model that supports ActivePerl? With the new Qt based emulators being developed you may even switch to Linux (where Perl is standard). Linux will most certainly get more juice out of the same hardware than Windows does.

Re: [WP34s] New flash handling?

*Message #10 Posted by **fhub** on 19 Dec 2011, 8:47 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> ... you may even switch to Linux ...

Linux??? Never!!!

That's almost as if I was to undergo a sex change! ;-)

Re: [WP34s] New flash handling?

*Message #11 Posted by **Dominic Richens** on 19 Dec 2011, 9:26 a.m.,*
in response to message #10 by fhub

> Quote:
>
> Linux??? Never!!!
>
> That's almost as if I was to undergo a sex change! ;-)

It's not that bad. It's more like switching from People's Party (Windows - don't ask questions, you _will_ like what we give you) to Social Democrat (Linux - have what you like, but you have to do it yourself) :-)

Why don't you use ActivePerl? I remember it was very simple to install - though the full thing does suck > 120MB of disk because it include almost 40M of documentation and 80 Mb of libraries - it should be possible to delete most of them.

Re: [WP34s] New flash handling?

*Message #12 Posted by **fhub** on 19 Dec 2011, 10:09 a.m.,*
in response to message #11 by Dominic Richens

> Quote:
>
> Why don't you use ActivePerl? I remember it was very simple to install - though the full thing does suck > 120MB of disk because it include almost 40M of documentation and 80 Mb of libraries - it should be possible to delete most of them.

Well, you've already written the reason yourself: 90% of all my work I'm doing on my VERY old internet notebook, and this notebook has VERY limited resources. So I definitely can't (and don't want to) install 120MB just for running one single Perl script!

But if anyone would show me a small (maybe upto 10MB) ready-to-use (no need to install dozens MBs useless libraries) Perl package, I would certainly download and use it. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emmanuel Compes

*Message #1 Posted by **Matthias Wehrli** on 17 Dec 2011, 4:53 a.m.*

Emmanuel (3e0_rtn) sells through ebay in these days... Take care: I still did not get the EPROMS I paid for 3 years ago (certainly all provable by emails, sorry)

Re: Emmanuel Compes

*Message #2 Posted by **Jean-Pierre Fouques** on 17 Dec 2011, 11:27 a.m.,*
in response to message #1 by Matthias Wehrli

Thanks. However I had some deals with him. He was reliable and helpful. I know that he only ship to UE. In the past he got problems with guys. They refused to pay customs taxes and/or to recover registered mails. FYI he was also selling in july and august. Why waiting 3 years? Did you ask for ebay protection? Did you pay him through paypal? Did you contact him? If you want, I can tell him. Yours.

Edited: 17 Dec 2011, 11:30 a.m.

Emmanuel Compes (Site)

*Message #3 Posted by **robertoataulfo** on 17 Dec 2011, 2:14 p.m.,*
in response to message #2 by Jean-Pierre Fouques

Emmanuel Site

Re: Emmanuel Compes

*Message #4 Posted by **Dan Grelinger** on 18 Dec 2011, 9:55 a.m.,*
in response to message #1 by Matthias Wehrli

I had a bad experience with Emmanuel, and doubt his integrity. A few years ago I was selling a rare HP-41C 3rd-party item (ZEPROM) on ebay. A previous bidder had put in a bid well above any previous bids, and his highest bid was therefore not yet 'disclosed' by ebay. Very near to the auction's end, Emmanuel placed about a dozen successive bids on my item, each $5 to $10 more than the last, until he exposed the other bidder's maximum bid, and then he immediately retracted ALL of his bids, claiming he had entered the wrong amount! I challenged him on it, fearing claims of bid manipulation from the original high bidder, and he claimed that his son was bidding for him on ebay and made a mistake!

At best, this person is dishonest and unreliable. Using Google to search this site for his name turns up many hits, most of them warnings and descriptions of bad experienes, few of them endorsements.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #1 Posted by **Antoine M. Couëtte** on 17 Dec 2011, 2:37 a.m.*

Hello to all,

This post I am sending to our Forum further to a suggestion just e-mailed to me by Jean-François Garnier, our well known and highly regarded developer and "father" of EMU41.

For the past years and up until one week ago, I had been able to run EMU41 (a MS-DOS program as I understand it to be) on all my previous laptops using WINDOWS VISTA, WINDOWS XP, WINDOWS 2000 and maybe also some previous versions of WINDOWS. My EMU41 setting up and running procedure had always been quite simple and consistently the exact same one : I just stored all EMU41 files in one same dedicated EMU41 Folder, then left clicked on the "EMU41" icon and it worked perfectly well.

As an example, my last laptop was a SAMSUNG Q45 32-bit processor running with VISTA. It ran at about 600/700 times the speed of a conventional HP41, which is absolutely wonderful and quite highly appreciated - *if not a must in some cases* - for running some of my self-developed ASTRONAV Software which will usually take up to more than one hour for Lunars on a conventional HP41.

Congratulations and Thanks again for EMU41 to you Jean-François !

****

My brand new laptop is a LENOVO "THINKPAD" T420 with a 62-bit processor running with WINDOWS 7. Any time I attempt running EMU41 through the very same settings as indicated here-above, I am getting the following message :

"**The version of this file is not compatible with the version of Windows you are running. Check you Computer System information to see whether you need an x86 (32-bit) or x64 (64-bit) version of the program, and then contact your software publisher.**"

Such Warning Message seems pointing out towards 2 directions :

- Windows Version, and

- Processor type.

Actually, when compared to my former SAMSUNG Q45 32-bit processor running with VISTA, my new laptop :

- is running with a different and more recent Windows Version, i.e. WINDOWS 7, and

- is also running with a different Processor, namely a 62-bit Processor.

****

Is my EMU41 current problem then due to the new WINDOWS 7 Version, and/or to the new 64-bit Processor I am using ? or to any other reason ?

Just for the case where it might be simply a WINDOWS version problem not related any way to the Processor type (be it a 32-bit or a 64-bit Processor) is it still possible to run "modern" laptops directly in MS-DOS mode instead of in WINDOWS mode ? If so, what is the applicable (laptop starting ?) procedure ?

****

Thanking you for Your Kind Attention, and thanking you in advance for any help to solve this unexpected and new problem, I am remaining

Most Sincerely Yours

Merry X-Mas and Happy New Year 2012 to you all !

Antoine M. "Kermit" Couëtte

PS : A last personal note now : after having been laid off from my previous BOEING B757 Company which went bankrupt, I am now quite happy flying the AIRBUS A340 from MAURITIUS ISLAND to Europe, Africa, China, South East Asia and Australia. *Somebody has got to do it, anyway !*

Edited: 18 Dec 2011, 12:19 p.m. after one or more responses were posted

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 17 Dec 2011, 7:21 a.m.,*
in response to message #1 by Antoine M. Couëtte

Hello Antoine!
In order to execute DOS mode 16 bit programs under Windows 64bit OS you may try to use DOSBox
If I am not wrong there were reports of EMU41 running smoothly under DOSBox...

Season's Greetings,
Massimo

Edited: 17 Dec 2011, 7:21 a.m.

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #3 Posted by **Antoine M. Couëtte** on 17 Dec 2011, 10:52 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Hello Massimo,

Nice to read from you in Milano !

Thank you very much for your reply.

I will have to wait for about 10 days before I have sufficient time to implement and try the DOSBOX on my laptop.

Meanwhile, if anybody in this forum has got some ideas as to why EMU41 does not seem to run on 64-bit WINDOWS 7 computers, please feel free to contribute.

Meanwhile also I will be flying twice from Mauritius to Europe, starting with ... Milan MXP where I am

scheduled to land to-morrow afternoon Dec 19, 2011 at 16:50 Local Time (MK30 flight from MRU to MXP, then at the Melia Milano hotel, downtown Milano). ***That's a small world, isn't it ?***

Have a Great Day,

Merry Christmas, and

Happy New Year 2012

Antoine

Antoine M. "Kermit"Couëtte

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #4 Posted by **fhub** on 18 Dec 2011, 4:58 a.m.,*
in response to message #3 by Antoine M. Couëtte

> Quote:
>
> Meanwhile, if anybody in this forum has got some ideas as to why EMU41 does not seem to run on 64-bit WINDOWS 7 computers, please feel free to contribute.

Well, the answer is quite simple:
Microsoft has completely removed the support of any 16-bit programs (DOS and Windows) in their 64-bit Windows versions, so there's no chance for running them (unless you use an emulator like DosBox).

Franz

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #5 Posted by **Bill (Smithville, NJ)** on 18 Dec 2011, 8:23 a.m.,*
in response to message #4 by fhub

Franz,

> Quote:
>
> oved the support of any 16-bit programs (DOS and Windows) in their 64-bit Windows versions

That was really driving me crazy for awhile, since I had a lot of old Turbo Pascal programs that wouldn't run. Then someone here put me onto Free Pascal and I recompiled and all is well again.

I'm wondering if the source to EMU41 is available and if it can be recompiled into 32 bit code?

Bill

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #6 Posted by **fhub** on 18 Dec 2011, 9:40 a.m.,*
in response to message #5 by Bill (Smithville, NJ)

> Quote:
>
> That was really driving me crazy for awhile, since I had a lot of old Turbo Pascal programs that wouldn't run. Then someone here put me onto Free Pascal and I recompiled and all is well again.

Yes Bill, I've moved to Borland Delphi for my TurboPascal programs. ;-)

> Quote:
>
> I'm wondering if the source to EMU41 is available and if it can be recompiled into 32 bit code?

Well, the source is available here:
http://www.jeffcalc.hp41.eu/emu41/index.html
It's written in C so it should be possible to port it to 32-bit, but this would be quite a lot of work I'm afraid.

Franz

Re: Unable to start and run EMU41 on new 64-bit Processor Laptop running with Windows 7

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 18 Dec 2011, 10:23 a.m.,*
in response to message #3 by Antoine M. Couëtte

> Quote:
>
> Meanwhile also I will be flying twice from Mauritius to Europe, starting with ... Milan MXP where I am scheduled to land to-morrow afternoon Dec 19, 2011 at 16:50 Local Time (MK30 flight from MRU to MXP, then at the Melia Milano hotel, downtown Milano). That's a small world, isn't it ?

Indeed!
Alas, this is not the best part of the year to find the time to meet...
Next time, maybe? ;-)

Seasons' Greetings,
Massimo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What's special about it?

*Message #1 Posted by **robertoataulfo** on 16 Dec 2011, 6:50 a.m.*

Rare Calculator?

Rare

*Message #2 Posted by **Frank Boehm (Germany)** on 16 Dec 2011, 7:23 a.m.,*
in response to message #1 by robertoataulfo

One of the rarest TIs.

Re: Rare

*Message #3 Posted by **Martin Pinckney** on 16 Dec 2011, 8:52 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Pretty basic function set. Is it a very early model? Prior to the SR series?

Link to Datamath site

*Message #4 Posted by **Frank Boehm (Germany)** on 16 Dec 2011, 9:15 a.m.,*
in response to message #3 by Martin Pinckney

Datamath
Should tell everything ;)

Re: Link to Datamath site

*Message #5 Posted by **Martin Pinckney** on 16 Dec 2011, 9:50 a.m.,*
in response to message #4 by Frank Boehm (Germany)

Thanks.

Re: IT WAS AN ACCIDENT!

*Message #6 Posted by **Joerg Woerner** on 16 Dec 2011, 12:30 p.m.,*
in response to message #4 by Frank Boehm (Germany)

...and an accident!

I (the guy with the feedback of 6179) was trying to win this auction for a collector friend in Germany.

He (the guy with 134 feedback) did not expect my bid and overlooked my earlier bids...

He placed a sniper bid with a "I want it badly" value and I placed one with "I want it for a friend" -

well s**t happens.

The interesting part of the equation is number three in the game with a feedback of 2476! He placed immediately after that accident an auction with a Concept III and a Buy-It-Now of $127.50 out on eBay (120830113245), accepting a best offer of $100.

Maybe I see my share ;-))

Cheers,

Joerg

Re: IT WAS AN ACCIDENT!

*Message #7 Posted by **Jeff Kearns** on 16 Dec 2011, 1:43 p.m.,*
in response to message #6 by Joerg Woerner

I know we are treading on OT/verbotten territory here with this discussion, but as I (perhaps mis-) read between the lines, something smells a little fishy here...

The games people play - for the sake of a few bucks.

Re: IT WAS AN ACCIDENT!

*Message #8 Posted by **Joerg Woerner** on 16 Dec 2011, 1:48 p.m.,*
in response to message #7 by Jeff Kearns

Nothing between the lines - just business as usual.

Wants and Needs create Demands and define at the end the Price tag.

Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The best way to order a 15C LE in German

*Message #1 Posted by **Timo** on 16 Dec 2011, 3:43 a.m.*

Dear forum memebers!

After having been informed that the 15C LE is on offer again on buy.com I decided to give myself a christmas present and would therefore like to order two 15C LE. However, buy.com does state in its shipment conditions that international shipping is not possible, which rules out placing a direct order there. Amazon.com would be another option which has the 15C LE on offer as well - but for 199$...

So what would be the best option for me to order the two LEs on my 'wishlist'? Would anybody here on the forum living in the US be willing to order two and send them to Germany by private shipping? I'm sure we can figure out a way to transfer the necessary money (PayPal, bank transfer,...).

Thanks for the help in advance and best regards, Timo

Re: The best way to order a 15C LE in German

*Message #2 Posted by **Bart (UK)** on 16 Dec 2011, 4:30 a.m.,*
in response to message #1 by Timo

From Eric Rechlin at www.hpcalc.org at $95 + shipping (go to his commerce site). Not in time for Christmas, but states back order to mid-January.

Another option is Samson Cables, but they're selling at $150 + shipping, stating new shipment due to arrive on 20 Dec.

Re: The best way to order a 15C LE in German

*Message #3 Posted by **Timo** on 16 Dec 2011, 6:06 a.m.,*
in response to message #2 by Bart (UK)

Thanks a lot for the quick response, Bart!

I've ordered my 2 15Cs and will be patiently (more or less) awaiting delivery.

I knew right away that the calcs would not make it to Garmany in time to land under the christmas tree - but my birthday is in late January, so it would be a bit of a late christmas and birthday present... ;)

Kind regards, Timo

Re: The best way to order a 15C LE in German

*Message #4 Posted by **jose gonzalez divasson** on 16 Dec 2011, 2:07 p.m.,*
in response to message #3 by Timo

Timo,

It's scheduled to arrive to Europe 2nd half of January.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100Bs obtained

*Message #1 Posted by **David Ramsey** on 16 Dec 2011, 12:45 a.m.*

I spent several hours today with Larry Atherton going over the two 9100Bs he's spent the last couple of months restoring for me.

Both are, of course, functionally and cosmetically perfect. The later unit-- the one that uses a standard power cord rather than the unique power cord the earlier model uses-- has a better CRT, as the display for the earlier unit is slightly dim in the center of the screen. With their rebuilt keyboards, card readers, and electronics, everything else about these machines is as perfect as it's possible to make it.

Sadly, the lowest wire in the flex cable for the 9100's printer failed *as Larry was demonstrating how to use it.* We verified this fault with a continuity test. Of course the only possible fix is a printhead salvaged from another printer, so if anybody has a dead 9100 printer laying around, let me know. The fault is in the black plastic block that the tungsten printhead wires protrude from, and there's visible, very light corrosion on the wires entering the block. We decided that it's probably better to leave things as they are, since opening the block might well result in a showing of disintegrated flex cable wiring and a totally nonfunctional printer rather than one that simply can't print the last line of pixels.

I shall post pictures soon...

Re: 9100Bs obtained

*Message #2 Posted by **Namir** on 16 Dec 2011, 12:57 a.m.,*
in response to message #1 by David Ramsey

David,

Where did you say you live??? It was nice seeing you at HHC2011, but maybe I'd like to come and visit with you and play with these machines and write a few programs one each one. I think it would be totally worth the trip.

Namir

Re: 9100Bs obtained

*Message #3 Posted by **David Ramsey** on 16 Dec 2011, 9:51 a.m.,*
in response to message #2 by Namir

Namir,

I live in Reno, and you're welcome to drop by any time.

I'm trying to get some quotes on conference rooms and room rates from the local casinos for a possible venue for HHC 2012. I think a casino would be great given the limited time we have: the big Grand Sierra Resort is 1/2 mile from the Reno airport and at meal breaks attendees would have their choice of everything from burgers at Johhny Rockets to hint buffets to the really expensive stuff...

Re: 9100Bs obtained

*Message #4 Posted by **Namir** on 16 Dec 2011, 12:50 p.m.,*
in response to message #3 by David Ramsey

I plan to be in AZ in early February. I might get a flight from Phoenix to Reno and visit for a few days (like 2 or 3 days).

Let me know if that works for you!

Namir

Re: 9100Bs obtained

*Message #5 Posted by **Joerg Woerner** on 16 Dec 2011, 1:02 p.m.,*
in response to message #4 by Namir

Namir,

I just returned from Goodyear - just a few miles of Phoenix. We should coordinate our trips ;-))

Cheers,

Joerg

Re: 9100Bs obtained

*Message #6 Posted by **Namir** on 16 Dec 2011, 3:53 p.m.,*
in response to message #5 by Joerg Woerner

I got there after Thanksgiving and returned December 9th.

Maybe next time.

I was able to have lunch with Richard Nelson.

Namir

Re: 9100Bs obtained

*Message #7 Posted by **David Ramsey** on 16 Dec 2011, 10:11 p.m.,*
in response to message #5 by Joerg Woerner

You should! I live out on the far edge of town, about 10 miles from the airport, so you'd need to rent a car since all the hotels are up in that part of town...

Re: 9100Bs obtained

*Message #8 Posted by **Namir** on 16 Dec 2011, 11:09 p.m.,*
in response to message #7 by David Ramsey

I will keep that in mind. How cold does it get in February?

Namir

Re: 9100Bs obtained

*Message #9 Posted by **David Ramsey** on 17 Dec 2011, 12:37 a.m.,*
in response to message #8 by Namir

It can get quite cold here in February. Earlier this week the low was 16 degrees; Feb will be similar.

Re: 9100Bs obtained

*Message #10 Posted by **Namir** on 17 Dec 2011, 8:20 a.m.,*
in response to message #9 by David Ramsey

Ouch! Do you get snow?

Re: 9100Bs obtained

*Message #11 Posted by **David Ramsey** on 17 Dec 2011, 11:31 a.m.,*
in response to message #10 by Namir

Yes, we get snow. We're right by Lake Tahoe, one of the biggest ski areas in the nation. However, down on the valley floor, it's relatively rare for snow (on the roads, at least) to last too long. The very low humidity and brilliant sun can get rid of it very quickly. Many times I've woken up to a winter wonderland at 7AM and found no trace of snow left by 2PM.

Besides, you want to come play with this stuff. I'll have ready for you:

9100B 9810A 9815A 9820A 9825A 9830A 9835A HP-85 HP-87

You know you want to...maybe if you take me to lunch I'll let you touch the SR-60.

-- David

Re: 9100Bs obtained

*Message #12 Posted by **aj04062** on 16 Dec 2011, 9:20 a.m.,*
in response to message #1 by David Ramsey

Have you tried to contact Emil through the Google Group OldCalculatorForum?

Re: 9100Bs obtained

*Message #13 Posted by **David Ramsey** on 16 Dec 2011, 9:51 a.m.,*
in response to message #12 by aj04062

Who's Emil?

Re: 9100Bs obtained

*Message #14 Posted by **aj04062** on 16 Dec 2011, 10:01 a.m.,*
in response to message #13 by David Ramsey

Check this thread

Re: 9100Bs obtained

*Message #15 Posted by **David Ramsey** on 17 Dec 2011, 12:37 a.m.,*
in response to message #14 by aj04062

Thanks, I did!

Re: 9100Bs obtained

*Message #16 Posted by **David Ramsey** on 17 Dec 2011, 11:40 a.m.,*
in response to message #1 by David Ramsey

As promised, photos. First, the two machines together:

The newer unit is on the left, the older on the right. The older unit uses a unique power cord and has a slightly dimmer area in the middle of its CRT. The newer unit has a standard power cord and a perfect CRT. It's interesting to see the subtle changes HP made between the early and late units: thicker power cables internally, improvements to the circuitry for the ROM and core memory...

The newer unit, if not the bestest nicest 9100B in existence, would certainly be in the running:

Some might argue the rather glossy finish of the epoxy paint isn't how the machine looked from the factory. True enough. Perhaps I'll hit it with some matte spray.

The tags from each machine: Purdue from the new machine and Barrett-Cravens from the old one.

Edited: 17 Dec 2011, 11:43 a.m.

Re: 9100Bs obtained

*Message #17 Posted by **MikeT.** on 18 Dec 2011, 3:19 p.m.,*
in response to message #16 by David Ramsey

Careful - in that sort of condition Perdue might want it back...

Very nicely done.

Mike T.

Re: 9100Bs obtained

*Message #18 Posted by **robertoataulfo** on 18 Dec 2011, 3:41 p.m.,*
in response to message #16 by David Ramsey

Now I know who will give me my Christmas present this year. :-)

[Return to Index | Top of Index]

9100Bs obtained

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41CL Backup of Flash Contents

*Message #1 Posted by **Frido Bohn** on 15 Dec 2011, 2:07 p.m.*

Spontaneously that notorious song came to my mind: Oops, I did it again.
In my case, I managed accidentaly to erase the flash contents of the sectors following the address 0x0C9. I realized that YFERASE works sector wise and not by page much too late.
Now my question: is there any archive from which I can backup those "last-minute" ROMs (ISENE to IMDB)?

Re: HP41CL Backup of Flash Contents

*Message #2 Posted by **Monte Dalrymple** on 15 Dec 2011, 5:54 p.m.,*
in response to message #1 by Frido Bohn

Those late-addition images are available at

http://www.isene.com/isene.cgi?hp-41

The imdb image isn't posted yet, but there is no software
yet that can use it, so that shouldn't be a problem. If I
(or someone else) gets around to writing something that takes
advantage if it, I'll post it on the 41CL pages.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.4

*Message #1 Posted by **robertoataulfo** on 15 Dec 2011, 8:02 a.m.*

```
CATALOG ( 1219 bytes)


13/12/11  20:50:09


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR"
2 IF B=1 THEN A$=CAT$(I)
3 IF B=2 THEN A$=XCAT$(I)
4 IF B=3 THEN A$=TCAT$(':dr',I)
5 IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
6 B$=WKEY$ @ IF B$="…" THEN I=I+1
7 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
8 IF B$='u' THEN C$="Purge" @ GOSUB 16 @ GOSUB 27 @ PURGE A$&B$ @ GOTO 1
9 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 16 @ GOSUB 27 @ EDIT A$&B$ @ END
10 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 16 @ RUN A$
11 IF B$='c' THEN C$="Copy to" @ GOSUB 16 @ GOTO 21
12 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
13 IF B$="b" THEN BYE
14 IF B$='p' THEN C$="Print" @ D$=A$ @ GOSUB 16 @ GOSUB 27 @ GOTO 18
15 GOTO 2
16 A$=A$[1,POS(A$," ")-1]
17 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
18 PWIDTH INF @ PRINT A$;' (';VAL(D$[13,18]);'bytes)'
19 PRINT @ B$=DATE$ @ PRINT B$[7,8]&B$[3,6]&B$[1,2]&"  "&TIME$ @ PRINT
20 PLIST A$&B$ @ PRINT @ GOTO 2
21 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
22 IF B=2 THEN B$=A$(1)&D$&A$(3)
23 IF B=3 THEN B$=A$(1)&D$&A$(2)
24 DISP C$&" "&B$&" ?" @ B=VAL(WKEY$) @ GOSUB 27
25 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
26 GOTO 2
27 B$="" @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
28 RETURN


u    = Purge File
e    = Edit Basic File
r    = Run Basic File
c    = Copy File to
p    = Print Basic File
b    = Bye (Off)
x    = exchange media
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


:Xmem=82718A
```

Edited: 15 Dec 2011, 8:03 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Problems activating HP15C LE emulator

*Message #1 Posted by **Nick_S** on 15 Dec 2011, 3:25 a.m.*

Hi

I have been trying to activate the installed HP15c emulator program which came with my LE calculator, but with no success.

Typing in the serial number of the CD-Rom directly into the HP Calculator Licence Activation popup dialogue just keeps returning a new blank dialogue box each time after it has said "connecting to activation server"

I tried the cut-and-paste method by choosing the offline option and pasting in the <PRODUCT DATA> ... </PRODUCT DATA>

into the http://activate.hpcalculating.com/ web page which then gave instructions to "Paste text from the Activation Dialog starting with <LICENSE> and ending with <\LICENSE>"

So I pasted the <LICENSE> ... <\LICENSE> in the HP Calculator Licence Activation popup dialogue and it still returned a new blank dialogue box.

Having tried this several times I now get the message "Exceeded maximum activations."

Any ideas on how to proceed? HP really needs to reconsider this on-line activation method. Surely entering the licence key from the CD-Rom as part of the initial software installation should be sufficient.

Nick

Edited: 15 Dec 2011, 7:46 a.m.

Re: Problems activating HP15C LE emulator

*Message #2 Posted by **Bill (Smithville, NJ)** on 15 Dec 2011, 11:10 a.m.,*
in response to message #1 by Nick_S

I never really understood WHY hp even requires you to activate it. Are they afraid that they will sell fewer of the actual hardware calculator? Didn't they already sell all that they chose to produce?

Are they afraid you might share your copy with other people - thus exposing it to more people who might buy the actual harware (assumming that HP decided to produce more of them).

I know - they are afraid that their competion will get it and then .. what? I would think the competion would have just bought a real calculator which came with the emulator.

I would think having the emulator out there would increase sales of the actual hardware. But then I'm not a marketing person.

It reminds me of Canon and Nikon manuals for their digital cameras. Canon will let you download a PDF, but

it has a watermark that says COPY in large letters slanted across the page. Even the PDF that ships on the CDROM that comes with the camera has the watermark. Of course they protect the document, so it's very difficult to remove the watermark. Nikon will let you download a PDF but it has the NOPRINT turned on. When you purchase the camera, they will let you download a printable PDF only upon registeration.

Okay, now that that's off my chest, I feel better...

Bill

Re: Problems activating HP15C LE emulator

*Message #3 Posted by **Fred Lusk** on 15 Dec 2011, 5:21 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

I never have that problem with cameras since I shoot Olympus (OM-1N, OM-4T, E-1, E-5, and ST-6020) and all of their manuals are freely available in PDF format with no watermark, no printing restrictions, and no registration required. Shooting Olympus, plus being an engineer, using RPN, and once having owned a rotary engine Mazda (RX-2), makes me one of society's outcasts. :-)

Re: Problems activating HP15C LE emulator

*Message #4 Posted by **Bill (Smithville, NJ)** on 15 Dec 2011, 5:37 p.m.,*
in response to message #3 by Fred Lusk

Hi Fred,

> Quote:
>
> since I shoot Olympus

Good to see another Olympus fan. I've been an Olympus Film fan for years - OM-1N and OM-2. But my favorite is the Pen F. I have a complete set of lenes and accessories for the Pen F. It was great - 72 photos per roll of film. And the size was fantastic. If and when work comes back, I'd love to have the digital version of the Pen. A freiend of mine uses the digital Pen will all his old film lenses and the results are great.

For some reason, when I went digital, I went all Canon.

Bill

Re: Problems activating HP15C LE emulator

*Message #5 Posted by **M. Joury** on 15 Dec 2011, 6:49 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

If you went digital back around 2003/2004/2005 Canon was the way to go. Now there are lots more options. I am actually very happy with my Canon cameras (been shooting Canon from way back when the F1 was new) but I have often wished I had the money to go out and splurge on a different system just for fun. Problem is that once you have a few lenses (including a quite pricey 70-200 F2.8 IS) switching brands is not so easy.

Cheers,

-Marwan

Re: Problems activating HP15C LE emulator

*Message #6 Posted by **Fred Lusk** on 18 Dec 2011, 12:56 p.m.,*
in response to message #5 by M. Joury

The reason I don't shoot Canon is when you push the button they go "BOOM." :-)

Re: Problems activating HP15C LE emulator

*Message #7 Posted by **Paul Berger (Canada)** on 15 Dec 2011, 6:45 p.m.,*
in response to message #3 by Fred Lusk

Me too I had a OM-2n for many years and now have an E30 DSLR, I still have the OM series bellows and a few OM lenses. My second car was a RX-3 station wagon.

Edited: 15 Dec 2011, 6:48 p.m.

Re: Problems activating HP15C LE emulator

*Message #8 Posted by **Dave Shaffer (Arizona)** on 15 Dec 2011, 10:30 p.m.,*
in response to message #7 by Paul Berger (Canada)

We are all a bunch of non-conformists here, so: Anybody else who is a Pentax DSLR user? I like it that I can use my Pentax lenses from 1975 on my new (2011) K5D!!

Marwan is right, too - once you have a few pricey lenses from one of the camera brands, you are more or less stuck on that one.

By the way, us Pentax / Olympus / Sony users have image stabilization built-in to the camera body, which works with ANY lens. Saves a few bucks on lenses - don't need that fancy IS / VR!!

Re: Problems activating HP15C LE emulator

*Message #9 Posted by **kc** on 16 Dec 2011, 12:02 a.m.,*
in response to message #8 by Dave Shaffer (Arizona)

I am a Pentax fan, and I own a K20d and now the K5. I always think that I am quite special. Asuume that 1 out of 100 use HP RPN calculators; and assume that 1 out of 100 use Pentax cameras, then I am 1 out of 10000...

Re: Problems activating HP15C LE emulator

*Message #10 Posted by **Lincoln R.** on 16 Dec 2011, 3:18 a.m.,*
in response to message #8 by Dave Shaffer (Arizona)

I'm also a Pentax user. My first SLR was a K1000 SE I rescued from the trash bin at a thrift store I volunteered at in high school (they had a 'pitch all film cameras' policy since most of what they got was 80s fixed-focus point & shoot crap) and that was the camera that got me involved in photo again. I accumulated more gear (some more that the thrift was tossing, some from a used camera shop) and took the stuff with me when I went to college. I later bought a dSLR and went for the K200d for the same reason as you. This all worked out to my favor when I decided to minor in photography, I've ran many a roll of Ilford HP5 through that old Pentax K1000.

Re: Problems activating HP15C LE emulator

*Message #11 Posted by **Dominic Richens** on 18 Dec 2011, 10:14 p.m.,*
in response to message #8 by Dave Shaffer (Arizona)

Non-conformist? I have a Nikon DSLR and I can use any F-mount lens from 1959 onwards. Not that I want to - the coatings that appear in the 1970's make all the AI-S lenses better.

Re: Problems activating HP15C LE emulator

*Message #12 Posted by **Thomas Radtke** on 16 Dec 2011, 2:37 a.m.,*
in response to message #3 by Fred Lusk

Olympus OM-40p. ADM was a killer feature in 1985.

I missed the Wankel engine, and I'm just a scientist. But I drove the Saab 900! ;-).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Do you know these 2 functions ?

*Message #1 Posted by **PGILLET** on 15 Dec 2011, 2:23 a.m.*

Hello,

What's the purpose of these 2 functions (for x>0) ?

y1=(90*x+100*int(x)+int(60*x))/250
y2=(250*x-60*int(x)-int(100*x))/90

It's easy ... :)

Re: Do you know these 2 functions ?

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Dec 2011, 3:26 a.m.,*
in response to message #1 by PGILLET

Easy? I can't make anything out of it by looking at the Wolfram Alpha plots.

Re: Do you know these 2 functions ?

*Message #3 Posted by **Alexander Oestert** on 15 Dec 2011, 4:17 a.m.,*
in response to message #1 by PGILLET

Two-directional unit conversion

Re: Do you know these 2 functions ?

*Message #4 Posted by **PGILLET** on 15 Dec 2011, 9:01 a.m.,*
in response to message #1 by PGILLET

It was easy :)

y1 = Decimal Degrees -> Degrees/Minutes/Seconds

y2 = Degrees/Minutes/Seconds -> Decimal Degrees

I don't think it's widely used ...

Re: Do you know these 2 functions ?

*Message #5 Posted by **Oliver Unter Ecker** on 16 Dec 2011, 6:04 p.m.,*
in response to message #4 by PGILLET

These are really sweet. Thank you for sharing!
Did you develop them yourself?

I think I'm going to use them in a calculator I know...

One should note that int() needs to do more than truncate to an int. It needs to round to internal precision as well, or you get something like 2.5111111111 for y2(2.3) (using IEEE-754 doubles).

Re: Do you know these 2 functions ?

*Message #6 Posted by **Paul Dale** on 16 Dec 2011, 6:15 p.m.,*
in response to message #5 by Oliver Unter Ecker

Correctly dealing with rounding is by far the most difficult part of properly implementing these functions.

More so with binary floating point numbers than decimal ones.

- Pauli

Re: Do you know these 2 functions ?

*Message #7 Posted by **Werner** on 17 Dec 2011, 5:56 p.m.,*
in response to message #6 by Paul Dale

Many of the H.MMSS numbers cannot be represented correctly in binary floating point... I've looked at Free42 Binary, it does a good job.

Some errors of the HMS arithmetic functions on the 41C:

```
 1.20 0.20 HMS-          0.5959999999
 1.0 0.5959999999 HMS-   1.080000e-10
```

and, even one on the venerable 42S (where the equivalents of the above problems do get the correct results!)

```
 1.0 5.95999999999e-1 HMS+ -> 1.6000
```

The 5.959..e-1 kludge is the only way to enter a 12-digit number between 1 and 0.1, btw.

These 41/42-style programs do get it right, well, as far as I've been able to tell:

```
*LBL"HR"
 XEQ 02
 3600
 /
 RTN


*LBL"HMS-"
 CHS
*LBL"HMS+"
 XEQ 02
 X<>Y
 XEQ 02
 +
*LBL"S-H"
 3600
 /
*LBL"HMS"
 ENTER
 FRC
 .4
 *
 -
  E4
 %
 FRC
 .004
 *
 -
 RTN


*LBL"H-S"
*LBL 02
 XEQ 00
*LBL 00
 ENTER
 INT
 .4
 *
 -
  E2
 *
 END
```

Cheers, Werner

Edited: 22 Dec 2011, 7:26 a.m.

Re: Do you know these 2 functions ?

*Message #8 Posted by **PGILLET** on 21 Dec 2011, 6:14 a.m.,*
in response to message #5 by Oliver Unter Ecker

> Quote:
>
> These are really sweet. Thank you for sharing!
> Did you develop them yourself?
>
> I think I'm going to use them in a calculator I know...
>
> One should note that int() needs to do more than truncate to an int. It needs to round to internal precision as well, or you get something like 2.5111111111 for y2(2.3) (using IEEE-754 doubles).

Hello,

Yes, I discovered these 2 formulas years ago.

Are they known elsewhere ?

You're right about rounding to internal precision:

That's what I do now in my implementation of the dd->dms formula on the TI-86 as a built-in function

The TI-86 computes 14 digits and displays 12 => Rounding is done to 12 digits **before and after** the formula:

(It's good old Z80 programming)

ld hl,_OP1 ; hl = OP1 address (Floating point register number 1)

ld a,(hl) ; Get OP1 flag byte

ld (mem1),a ; save OP1 flag byte

and $7F ; Clear sign bit => positive

ld (hl),a ; OP1=abs(x)

call _RNDGUARD ; OP1=OP1 rounded to 12 digits (abs(x) rounded, I call it x')

call _op1toop4 ; OP4=OP1 (x')

ld hl,n90

call _mov10toop2 ; OP2=90

call _FPMULT ; OP1=OP1*OP2 (90*x')

call _op1toop5 ; OP5=OP1 (90*x')

call _op4toop1 ; OP1=OP4 (x')

call _INTGR ; OP1=int(OP1) (int(x'))

ld hl,n100

call _mov10toop2 ; OP2=100

call _FPMULT ; OP1=OP1*OP2 (100*int(x'))

call _op5toop2 ; OP2=OP5 (90*x')

call _FPADD ; OP1=OP1+OP2 (90*x'+100*int(x'))

call _op1toop5 ; oP5=OP1 (90*x'+100*int(x'))

call _op4toop1 ; OP1=OP4 (x')

ld hl,n60

call _mov10toop2 ; OP2=60

call _FPMULT ; OP1=OP1*OP2 (60*x')

call _INTGR ; OP1=int(OP1) (int(60*x'))

call _op5toop2 ; OP2=OP5 (90*x'+100*int(x'))

call _FPADD ; OP1=OP1+OP2 (90*x'+100*int(x')+int(60*x'))

ld hl,n250

call _mov10toop2 ; OP2=250

call _FPDIV ; OP1=OP1/OP2 ((90*x'+100*int(x')+int (60*x'))/250)

call _RNDGUARD ; OP1=OP1 rounded to 12 digits

ld a,(mem1)

and $80 ; Keep sign bit only

ld hl,_OP1

or (hl)

ld (hl),a ; Restore sign bit

ret

Re: Do you know these 2 functions ?

*Message #9 Posted by **Oliver Unter Ecker** on 21 Dec 2011, 12:14 p.m.,*
in response to message #8 by PGILLET

I have not seen them before and find them quite remarkable. Wonder how you found them.

Here's my implementation of your formula (in MorphEngine):

```
        "toHMS": function(x) { return
this.toPrecision((90*x+100*this["int"](this.toPrecision(x))+this["int"](this.toPrecision(60*x)))/250);
},
```

"this" points to the function collection for the "Number" (=Reals) data type.

Cheers.

Re: Do you know these 2 functions ?

*Message #10 Posted by **J-F Garnier** on 21 Dec 2011, 2:46 p.m.,*
in response to message #8 by PGILLET

Hello,

I didn't know these formulae either. Interesting.

However, here is case with abnormal result:

```
7.5 1/x XEQ "HMS1"
Result is 0.0760
The HP-41C HMS function correctly returns 0.0800 .
The HP32SII ->HMS function returns 0.0759999999999 .


Here is my test program:
 01*LBL "HMS1"
 02 ENTER^
 03 ENTER^
 04 ENTER^
 05 90
 06 *
 07 X<>Y
```

```
08 INT
09 100
10 *
11 +
12 X<>Y
13 60
14 *
15 INT
16 +
17 250
18 /
19 END
```

Edited: 21 Dec 2011, 2:48 p.m.

Re: Do you know these 2 functions ?

*Message #11 Posted by **Werner** on 21 Dec 2011, 3:29 p.m.,*
in response to message #10 by J-F Garnier

While the 0.0760 is wrong, I'm afraid it's the 41C that returns the abnormal result in this case... no doubt there's some 'cosmetic rounding' taking place that doesn't always work.
The correct result is delivered by the 32SII (and also by the 42S). My formulas used in the programs above return the correct result as well. (for HMS that would be:

```
x := 3600*HR;
x := x/100 + int(x/60)*0.4;
x := x/100 + int(x/60)*0.4;
```

Cheers, Werner

Re: Do you know these 2 functions ?

*Message #12 Posted by **Gerson W. Barbosa** on 21 Dec 2011, 3:36 p.m.,*
in response to message #10 by J-F Garnier

> Quote:
>
> The HP-41C HMS function correctly returns 0.0800 .

So does the HP-15C :-)

> Quote:
>
> The HP32SII ->HMS function returns 0.0759999999999 .

So does the HP-42S :-(

The BASIC sub-routines below (from the QBASIC program in this thread convert D.MMSS to D.D (line 310) and D.D to D.MMSS (lines 320-328).

```
310 M = INT(100 * FNFRAC(AN)): S = 100 * FNFRAC(100 * FNFRAC(AN)): AN = INT(AN) + M / 60 + S /
3600: RETURN
320 T = FNFRAC(AN): M = INT(60 * T): S = FNFRAC(((3600 * T) / 60)) * 60
323 IF INT(S + .5) = 60 THEN S = 0: M = M + 1
325 IF M = 60 THEN M = 0: AN = AN + 1
328 RETURN
```

This morning I had W|A simplify the first line. The result appears to be correct (at least for positive arguments -- I haven't tested it with negative arguments), despite being longer than PGILLET's original function:

```
y2 = (180*IP[x] + 3*IP[100*FP[x]] + 5*FP[100*FP[x]])/180
```

I didn't try to simplify the other function. When converting my original CASIO PB-700 program to QBASIC, I remember the function would not work correctly unless lines 323 and 325 were added. Perhaps both the HP-32SII and the HP-42S are using a similar simplified formula.

Edited: 21 Dec 2011, 3:48 p.m.

Re: Do you know these 2 functions ?

*Message #13 Posted by **Werner** on 22 Dec 2011, 12:01 p.m.,*

in response to message #12 by Gerson W. Barbosa

But 0.0759999... *is* the correct value for an input of 0.1333.. The 42S and 32SII have it right.
It's a bit like complaining (1/3)*3 does not equal 1.

And, on a decimal machine, using

```
x := HR - FRC(HR)*0.4;
HMS := x - FRC(x*100)*0.004;
```

does not need any rounding.

Cheers, Werner

Re: Do you know these 2 functions ?

*Message #14 Posted by **Gerson W. Barbosa** on 22 Dec 2011, 3:11 p.m.,*
in response to message #13 by Werner

> Quote:
>
> It's a bit like complaining (1/3)*3 does not equal 1.

As in Dr. Randall's talk above... I found that ridiculous when I watched it, yet I did the same...

Cheers,

Gerson.

Re: Do you know these 2 functions ?

*Message #15 Posted by **Dieter** on 22 Dec 2011, 2:58 p.m.,*
in response to message #12 by Gerson W. Barbosa

Gerson, I think you used the wrong smilies. ;-) In fact, the 41C and 15C are wrong. They return an incorrect result due to rounding. I see Werner already said it, but anyway, let's take a closer look at this:

There is one basic thing we have to consider: the argument for the H.MS function is *not* 1/7,5 hours. In fact, it's the *10-digit-rounded value* of this, i.e. all we can do is apply the H.MS function to x = 0,1333333333 hours. The correct H.MS representation of this is as follows:

```
   0,13333 33333  hours
 x 3600 seconds/hour
 = 479,99 99998 8 seconds
```

In other words: The exact result of H.MS(0,13333 33333) is exactly

```
   7 minutes and 59,99999988 seconds
```

In h.ms notation this result would be displayed as

```
   0,075999 99998 8
```

This full-precision result requires 11 significant digits. But there are just 10 of them on the 41C and 15C. So the last digit gets rounded and the correct 10-digit result should be

```
   0,075999 99999
```

But that's not what these machines return. They return exactly 8 minutes. Which is plain wrong. Or "inexact", if you prefer. ;-)

Now let's take a look at the same problem on a 12-digit machine. Here, the input value is

```
   0,13333 33333 33 hours
 x 3600 seconds/hour
 = 479,99 99999 988 seconds
 = 7 minutes, 59,999 99999 88 seconds
```

In h.ms notation this result would be displayed as

```
   0,075999 99999 988
```

This exact result has 13 significant digits. So again, the last digit has to be rounded and the final, correct 12-digit result is

```
0,075999 99999 99
```

And that's exactly what the 32s returns.

So actually both the 41C and 15C are wrong :-(
While on the other hand the 32s is right :-)

Dieter

Edited: 22 Dec 2011, 3:00 p.m.

Re: Do you know these 2 functions ?

*Message #16 Posted by **Gerson W. Barbosa** on 22 Dec 2011, 3:15 p.m.,*
in response to message #15 by Dieter

> Quote:
>
> Gerson, I think you used the wrong smilies. ;-)

Smiles duly reversed :-)

Thanks both of you!

Gerson.

Edited: 22 Dec 2011, 3:16 p.m.

Re: Do you know these 2 functions ?

*Message #17 Posted by **Oliver Unter Ecker** on 21 Dec 2011, 3:46 p.m.,*
in response to message #10 by J-F Garnier

The formula returns 0.08, too. It's all in the proper rounding to internal precision, as mentioned above.

See the code above.

Re: Do you know these 2 functions ?

*Message #18 Posted by **PGILLET** on 21 Dec 2011, 4:13 p.m.,*
in response to message #17 by Oliver Unter Ecker

It seems better to round each time before calling int()

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: This is Inevitable!

*Message #1 Posted by **Namir** on 14 Dec 2011, 3:42 p.m.*

Hi All!

I found this video on YouTube that is based on music our friend HrastProgrammer has composed! The title of the video is **Inevitable**

Namir

There is another video of HrastProgrammer on YouTube titled Genesis. It is one of my favorites!

Edited: 14 Dec 2011, 3:49 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Preview of the 'Full Command and Function Reference' inside your HP 50g / HELP for *all* commands.

*Message #1 Posted by **Software49g** on 14 Dec 2011, 7:09 a.m.*

Hello everybody,

I have coded the "Full Command and Function Reference" section of the Advanced User's Reference Manual (AUR) as an integrated help for the HP 50g including all text and graphics, stack diagrams, related commands and the access to each command.

A first glimpse about this new product is available here:
http://www.software49g.gmxhome.de/FullCommandAndFunctionReference.htm

Currently I am debugging it but an initial release should be available soon.

Feedback is appreciated.

Regards,
Andreas
http://www.software49g.gmxhome.de

Edited: 14 Dec 2011, 7:09 a.m.

Re: Preview of the 'Full Command and Function Reference' inside your HP 50g / HELP for *all* commands.

*Message #2 Posted by **Software49g** on 18 Dec 2011, 3:07 p.m.,*
in response to message #1 by Software49g

Hi folks,

I am done with all entries ;-)

Hopefully I'll accomplish an initial release before christmas.

Regards,
Andreas
http://www.software49g.gmxhome.de

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Casio FX-720P

*Message #1 Posted by **robertoataulfo** on 14 Dec 2011, 7:03 a.m.*

I got an fx-720p disassembled.
I have a question in which order the metal mask is placed right after the keys or on top of the plastic mask.

FX-720P Photo

Re: OT: Casio FX-720P

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Dec 2011, 3:17 a.m.,*
in response to message #1 by robertoataulfo

I don't plan to disassemble mine but I would suggest to put the rubber between the metal sheet and the board.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dr Z Beat the Racetrack module document pages

*Message #1 Posted by **Mark** on 13 Dec 2011, 5:38 p.m.*

Hello I am searching for the first 2 pages of the Dr Z Beat the Racetrack program for the HP41c, module 82500a - a24. It was published and sold in the mid-1980's. Any idea where I might find an archive of Hp manuals? Is anyone familiar with the program? I have the module working and prompting me, but I don't know what keys to press to enter data. Thanks, Mark

Re: Dr Z Beat the Racetrack module document pages

*Message #2 Posted by **Jim Creybohm** on 13 Dec 2011, 8:15 p.m.,*
in response to message #1 by Mark

Hi Mark,

I found a copy of the manual on TOS. Let me know via email if you need further help.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - Length of day question

*Message #1 Posted by **Cristian Arezzini** on 13 Dec 2011, 1:18 p.m.*

Ok, this has nothing to do with calculators, even less with HP, but it has to do with math and physics and this forum has a bunch of very knowledgeable people, so I thought I might ask... The shortest day of the year (meaning, the day with least sun illumination) is the day of the winter solstice, which is around December 21st. And I always thought that approaching that date, the sunrise would get always later and later, and the sunset always sooner. But I found out that the sunrise has its "latest" peak after the end of December, while the sunset has its "soonest" around December 13th. I always thought they would be "symmetrical". I can't understand why the sunset stops getting earlier while the sunrise is still getting later. Does this question make sense at all? :) Anyone here knows the answer?

Cristian

Re: OT - Length of day question

*Message #2 Posted by **Thomas Chrapkiewicz** on 13 Dec 2011, 1:43 p.m.,*
in response to message #1 by Cristian Arezzini

The rotational axis of the earth is not perpindicular to its orbital plane.

NOAA has (had?) a sunrise/sunset table calculator which one can easily plot to see the assymmetry.

TomC

Re: OT - Length of day question

*Message #3 Posted by **bill platt** on 13 Dec 2011, 2:20 p.m.,*
in response to message #1 by Cristian Arezzini

Look up "Analemma" to learn more about this.

Essentially, the location of Local Apparent Noon -- the zenith of the sun--is not in the same place all year--and it is not symmetrical with the seasons.

Note that in addition to the tilting of our axis relative to the orbital plane, we also have a non-circular orbit. The northern hemisphere winter is actually when we are *closer* to the sun!

Obviously not only the tilt angle of our axis, but also where it points relative to the orbital apogee and perigee affect how our days get aligned.

For fun, see this:

http://www.analemma.com/Pages/framesPage.html

Edited: 13 Dec 2011, 2:21 p.m.

Re: OT - Length of day question

*Message #4 Posted by **Dave Shaffer (Arizona)** on 13 Dec 2011, 2:58 p.m.,*
in response to message #3 by bill platt

As Bill notes, the Earth's orbit is not circular.

As Kepler deduced about 400 years ago, all orbits are ellipses, with the Sun at one of the foci - hence the Earth's distance from the Sun varies throughout the year. He also realized that the speed of a planet in its orbit is not constant, but when the planet is closer to the sun, it moves faster and vice-versa.

However, the spin rate of the Earth - i.e. the length of the day - is basically constant. (I say basically, because at the millisecond level, the length of the day does vary.) This is the length of the day that you measure with respect to the stars or something far, far away from the Earth.

A "day" as most of us think of it, however, is tied to the Sun. i.e. It's a "day" from one noon to the next, say.

But, since where the Sun is in the sky depends on both the rotational (daily spin) position AND orbital location of the Earth, the time of local solar noon changes systematically throughout the year - the curvature of the Earth's orbit has to be taken into account and added to (or subtracted from, if we are getting behind) the Earth's rotational position.

This effect shifts the daylight part of the day ahead or behind. This results in the analemma effect (the figure 8 often drawn on a globe) which notes how far behind or ahead the sun is. The amount of behindedness or aheadedness is with respect to a fictitious Sun that would be observed if the Earth was in a circular orbit.

To a small extent, the shift is fast enough that part of it occurs during the day, shifting sunrise and sunset by slightly different amounts. As also noted, the tilt of the Earth's axis, which affects where the Sun appears to rise and set, also comes into play.

See here for some more details.

See also .

Edited: 13 Dec 2011, 3:15 p.m.

Re: OT - Length of day question

*Message #5 Posted by **Miguel Toro** on 13 Dec 2011, 3:43 p.m.,*
in response to message #3 by bill platt

Hi Bill,

Is there any RPN program (I suppose someone already did it) calculating the equation of time? Since I cannot afford a watch with such "complication", at least I could find consolation programming this on my 34s :-)

Miguel

Re: OT - Length of day question

*Message #6 Posted by **Jim Horn** on 13 Dec 2011, 4:37 p.m.,*
in response to message #5 by Miguel Toro

Oh yes - the HP-65 Navigation Pack had such a program which had to run in 99 steps and less than 10 registers so almost any more recent machine should be up to it. The algorithm was a sum-of-harmonics approximation as I recall. It's been a long time since I read my copy of that 1975 era book...

Re: OT - Length of day question

*Message #7 Posted by **Dale Reed** on 13 Dec 2011, 4:44 p.m.,*
in response to message #5 by Miguel Toro

Miguel,

I don't have an RPN program, but it should be pretty straightforward to go from the NOAA equations to an RPN program. The equations will get you from local Lat/Lon and time (with UTC offset) to solar azimuth and elevation and sunrise/sunset times.

For those of you using industrial Programmable Controllers, I have a version in IEC-61131-3 structured text language available as well.

There are about a dozen program constants, and lots of sin/cos/tan and asin/acos/atan. Probably too many steps for an HP-25, but I think an 11C could handle it.

Dale

Re: OT - Length of day question

*Message #8 Posted by **Thomas Klemm** on 13 Dec 2011, 6:51 p.m.,*
in response to message #5 by Miguel Toro

Hi Miguel

> Quote:
>
> Is there any RPN program (I suppose someone already did it) calculating the equation of time?

cf. article 1014: Sunrise and Sunset

Kind regards
Thomas

PS: If interested in the math I highly recommend the paper by Christian Blatter.

Re: OT - Length of day question

*Message #9 Posted by **M. Joury** on 13 Dec 2011, 9:24 p.m.,*
in response to message #5 by Miguel Toro

Hi Miguel,

See my response below.

BTW, for those that have the museum DVD there is a 41 program there as well.

Cheers,

-Marwan

Edited: 13 Dec 2011, 9:25 p.m.

Re: OT - Length of day question

*Message #10 Posted by **Miguel Toro** on 14 Dec 2011, 9:01 a.m.,*
in response to message #5 by Miguel Toro

Thank you all for your reponses.

Now I have a nice and interesting reading ahead.

Regards,

Miguel

Re: OT - Length of day question

*Message #11 Posted by **C.Ret** on 13 Dec 2011, 2:41 p.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> I always thought they would be "symmetrical". I can't understand why the sunset stops getting earlier while the sunrise is still getting later.

Good remark!

A lot of people actually have understood that sunset and sunrise changes would be symmetrical. The main reason is that a lot of us have been teach like that, since 'length of day' have only been explain through season inclination of the Earth’s axe of rotation. If we only take into account this only explanation, then the sunset cannot stop getting earlier while the sunrise is still getting later. Something important is missing.

The important fact is missing!

Edited: 13 Dec 2011, 3:50 p.m. after one or more responses were posted

Re: OT - Length of day question

*Message #12 Posted by **bill platt** on 13 Dec 2011, 2:48 p.m.,*
in response to message #11 by C.Ret

C.

The shift has nothing to do per se with the sun being a disk nor with our definitions of sunrise and sunset. I am not saying that these do not have an effect on what we consider a "day" but the shift exists regardless of the size of the sun's disk...

By the way, when you see the sun just kissing the horizon, it is actually pretty much all the way below the horizon--because the rays are bent, we see the sun over the horizon. In other words, there is essentially a superior mirage at every sunrise and sunset...but this can vary dramatically with weather conditions. Timing the sunset can be quite off from the theoretical point.

Re: OT - Length of day question

*Message #13 Posted by **C.Ret** on 13 Dec 2011, 3:49 p.m.,*
in response to message #12 by bill platt

You right, I miss samething in my explanation.

And only realise now that analemma have effect on sunrise and sunset. Up to now, I only consider analemma to have impact on position of the Sun in the sky and only care of it for navigation application.

I like this forum. Every day something to discover and misskownlege to correct.

Thank you very much.

Re: OT - Length of day question

*Message #14 Posted by **bill platt** on 13 Dec 2011, 5:00 p.m.,*
in response to message #13 by C.Ret

Hi C:

"I like this forum."

Me too! :-)

Re: OT - Length of day question

*Message #15 Posted by **Eddie W. Shore** on 14 Dec 2011, 8:34 a.m.,*
in response to message #14 by bill platt

> Quote:
>
> Hi C:
>
> "I like this forum."
>
> Me too! :-)

Me three! :)

Re: OT - Length of day question

*Message #16 Posted by **Jeff O.** on 13 Dec 2011, 2:45 p.m.,*
in response to message #1 by Cristian Arezzini

A sunrise/sunset table for a year can be generated here.

Re: OT - Length of day question

*Message #17 Posted by **M. Joury** on 13 Dec 2011, 3:53 p.m.,*
in response to message #16 by Jeff O.

I have a pretty accurate sunrise/sunset program for the HP-41 (and versions for several other calculators such as the 33S, 35S, and 39gs among others). If anyone is interested please contact me using forum email.

Relatively slow on the 41C/V/X but runs great on the 41CL.

Cheers,

-Marwan

Edited: 13 Dec 2011, 3:54 p.m.

Re: OT - Length of day question

*Message #18 Posted by **Bernard Rochlin** on 13 Dec 2011, 5:05 p.m.,*
in response to message #1 by Cristian Arezzini

Here in the southern hemisphere 32 degrees South the pattern of the above is reversed. The earliest sunrise is December 4 and the latest snset is January 5 in the southern summer. in winter the earliest sunset is on June 5 and the latest rise is on July 6.

Re: OT - Length of day question

*Message #19 Posted by **Cristian Arezzini** on 13 Dec 2011, 6:35 p.m.,*
in response to message #1 by Cristian Arezzini

Thank you everyone for all the responses! It will take some time to read (and understand) all the material, but this is exactly what I was looking for. I knew I would get informative responses here... How I love this place! :)

Cristian

Re: OT - Length of day question

*Message #20 Posted by **Vince (Italy)** on 14 Dec 2011, 12:43 a.m.,*
in response to message #19 by Cristian Arezzini

I'll try to add some more information. Since the Earth orbit is an ellipse, according to the second Kepler law, the Earth angular velocity is greater when the Earth is closer to the Sun in its orbit (perihelion), and lesser when it's around the aphelion, because its surface velocity has to keep constant along the whole orbit.

The duration of the day is the time interval between two consecutive culmination of the Sun. Since the distance between the Earth and the Sun is not infinite, that interval consists of the time lenght of a whole Earth rotation plus an additional angle that is equivalent to the apparent motion of the Sun along the ecliptic. The angular velocity of the Earth along its orbit is greatest at the end of December, then the time lenght between two consecutive culminations is extended.

Hope it helps

Vince

Re: OT - Length of day question

*Message #21 Posted by **M. Joury** on 14 Dec 2011, 9:28 a.m.,*
in response to message #1 by Cristian Arezzini

I have added my programs for the HP41C, HP42S, HP33S, and HP35S to the articles section. For those interested in the HP39gs version please continue to contact me via forum mail.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP SMB 15C LE ship date

*Message #1 Posted by **Scott Newell** on 12 Dec 2011, 7:56 p.m.*

Just got a notice from HP SMB: calcs should ship by December 22nd!

Hopefully the 3 month delay was productive.

Re: HP SMB 15C LE ship date

*Message #2 Posted by **jimi** on 12 Dec 2011, 8:07 p.m.,*
in response to message #1 by Scott Newell

I guessed I missed something... So the limited edition calculator is getting another run? I guess it's really not that limited?

Re: HP SMB 15C LE ship date

*Message #3 Posted by **Brandon Poindexter** on 12 Dec 2011, 8:25 p.m.,*
in response to message #2 by jimi

I think its more of a "lets-try-this-again" attempt by HP, as i think initially they silently recalled it. That's just my take though and i could be completely wrong.

Re: HP SMB 15C LE ship date

*Message #4 Posted by **jimi** on 12 Dec 2011, 9:13 p.m.,*
in response to message #3 by Brandon Poindexter

Recalled? I hadn't heard that anywhere. I got one from the initial batch, but I've never gotten around to opening it. All my calcs have been packed up since I moved.

Re: HP SMB 15C LE ship date

*Message #5 Posted by **Michael de Estrada** on 12 Dec 2011, 9:20 p.m.,*
in response to message #4 by jimi

I'd recommend that you run the keyboard self-test on it to make sure you don't have a defective keyboard. You should be able to get it replaced under warranty if you have a defective unit.

Re: HP SMB 15C LE ship date

*Message #6 Posted by **Namir** on 12 Dec 2011, 8:55 p.m.,*
in response to message #1 by Scott Newell

I think this is the boat shipment we have all been waiting for. My own guess is that these machines will have the same firmware as the ones flown, a few months ago, to the US.

Namir

Re: HP SMB 15C LE ship date

*Message #7 Posted by **Allen** on 12 Dec 2011, 11:31 p.m.,*
in response to message #6 by Namir

Namir, I think you are right. If that's true, the keyboard issue will still be resident in some 11% or so of the units. I have not had a faulty one yet, but I didn't buy very many.

Re: HP SMB 15C LE ship date

*Message #8 Posted by **Eric Rechlin** on 12 Dec 2011, 11:38 p.m.,*
in response to message #7 by Allen

It only takes a few weeks for boats to get here from China, at the absolute most (giving time for slow dock workers to sit on the containers for a while), so I would think that this wasn't simply the shipment that was sent back in September.

Eric

Re: HP SMB 15C LE ship date

*Message #9 Posted by **Michael de Estrada** on 13 Dec 2011, 12:05 a.m.,*
in response to message #8 by Eric Rechlin

I bet you're right. Also, I bet the LE numbers will begin with "1" and the serial / batch numbers will indicate manufacture date in October.

Re: HP SMB 15C LE ship date

*Message #10 Posted by **Scott Newell** on 17 Dec 2011, 11:25 p.m.,*
in response to message #1 by Scott Newell

And they're here! CNA132094S (#00446) and CNA132094H (#00296). Both have 2011-04-15 firmware. No printed self test addendum to the manual and no tape seal on the clear outer box. Keys feel fine. The f and g keys show the slight misalignment.

These are from an HP SMB order placed around 9/26.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C-LE available at Buy.com

*Message #1 Posted by **Dave Mabry** on 12 Dec 2011, 2:07 p.m.*

Just got a message from Buy.com that the HP15C-LE is again in stock. I placed an order, so it's probably true.

Click here to go to the page where it's available. $90 and free shipping. Probably won't last long.

Re: HP15C-LE available at Buy.com

*Message #2 Posted by **NateB** on 12 Dec 2011, 2:54 p.m.,*
in response to message #1 by Dave Mabry

Looks like it is a popular item.

The reluctance to reissue the 15c reminds me of the underestimated demand for the HP-35.

Re: HP15C-LE available at Buy.com

*Message #3 Posted by **Dan Grelinger** on 12 Dec 2011, 8:25 p.m.,*
in response to message #1 by Dave Mabry

It will be interesting to see how long they last. The are now up to a Rank for today of '3', up 30767% from yesterday's rank of 926, so orders appear strong.
I got a kick out of the limit that buy.com is placing on orders. You may only order 25 of these at a time!

Re: HP15C-LE available at Buy.com

*Message #4 Posted by **jimi** on 12 Dec 2011, 9:17 p.m.,*
in response to message #3 by Dan Grelinger

Well, given that it seems to be a no brainer to buy a stack of them, since they initially seemed to have tripled in value on TAS. If HP continues to pump them out, I don't know how long that will last.

If it did, that's a quick several thousand dollar profit though.

Re: HP15C-LE available at Buy.com

*Message #5 Posted by **hpnut** on 13 Dec 2011, 5:16 a.m.,*
in response to message #1 by Dave Mabry

Hahaha. Samsons still selling them at $149.99 plus shipping. let the market forces determine the "right" price

for consumers.

http://www.samsoncables.com/catalog/prodDetail.cfm?Prod_ID=434&Sku=HP15C

hpnut in Malaysia (I got mine from Samsons at $99 early on)

Edited: 13 Dec 2011, 5:27 a.m.

Re: HP15C-LE available at Buy.com

*Message #6 Posted by **Steve Fennell** on 13 Dec 2011, 1:06 p.m.,*
in response to message #1 by Dave Mabry

Now the price is $94.99. Get them while they are hot.

People are paying $300+ for these on TAS. Nice profit margin if you're so inclined.

Re: HP15C-LE available at Buy.com

*Message #7 Posted by **Howard Owen** on 13 Dec 2011, 1:18 p.m.,*
in response to message #6 by Steve Fennell

Or, resell one for $110.00, and point everyone to buy.com.

"Nice Price!! (But you can get it cheaper at retail.)"

Re: HP15C-LE available at Buy.com

*Message #8 Posted by **Lincoln R.** on 13 Dec 2011, 3:43 p.m.,*
in response to message #7 by Howard Owen

I seriously considered buying 4 or 5 when they first came out and selling them on TAS for what I paid for them + TAS fees and shipping to try to force down the prices of the scalpers, but then decided that they would probably just get bought by the scalpers.

Re: HP15C-LE available at Buy.com

*Message #9 Posted by **Steve Fennell** on 13 Dec 2011, 4:32 p.m.,*
in response to message #8 by Lincoln R.

Even the auctions are getting bid up. It's not just the BIN prices that are high.

Buy.com is also selling them on TAS

*Message #10 Posted by **Michael de Estrada** on 13 Dec 2011, 5:26 p.m.,*
in response to message #9 by Steve Fennell

Here

So far they've sold over 60 today and early on someone bought 25. It will be interesting to see how many they have for sale this time. Last time when they sold them on TAS they only had 50, but they've already exceeded that number. They're still being sold for only $89.99 with free shipping.

Edit: They show 259 still available with 64 sold so far.

Edited: 13 Dec 2011, 6:19 p.m.

Re: HP15C-LE available at Buy.com

*Message #11 Posted by **NateB** on 13 Dec 2011, 8:42 p.m.,*
in response to message #6 by Steve Fennell

I see they've also dropped the purchase limit from 25 to 2... The eBay listing has been removed "because the item is no longer available."

Edited: 13 Dec 2011, 8:45 p.m.

Re: HP15C-LE available at Buy.com

*Message #12 Posted by **Michael de Estrada** on 13 Dec 2011, 9:18 p.m.,*
in response to message #11 by NateB

Yeah, it's deja vu all over again.

Re: HP15C-LE available at Buy.com

*Message #13 Posted by **Michael de Estrada** on 13 Dec 2011, 11:53 p.m.,*
in response to message #11 by NateB

They've relisted it for the same $94.99 price as their online store. No mention of quantity limits. I'm going to bed now. It will be interesting to see if it's still there in the morning.

Edited: 14 Dec 2011, 12:17 a.m.

Re: HP15C-LE available at Buy.com

*Message #14 Posted by **Dan Grelinger** on 14 Dec 2011, 11:18 a.m.,*
in response to message #13 by Michael de Estrada

I ordered my first unit the first time they were on buy.com, and ordered a second on Monday at $89.99. It is scheduled for delivery tomorrow (12/15/11). They are still available just now at the higher ($94.99) price and lower limit per order (2).

I wonder if all you have to do is place 10 separate orders to buy 20 units?

Re: HP15C-LE available at Buy.com

*Message #15 Posted by **Michael de Estrada** on 14 Dec 2011, 11:33 a.m.,*
in response to message #14 by Dan Grelinger

Somehow I think they won't accept repeat orders from the same buyer. Just like they won't honor repeated use of coupons meant only for first time buyers. It's a moot point, since I've got all the ones I want, and am not interested in selling them.

Re: HP15C-LE available at Buy.com

*Message #16 Posted by **Dan Grelinger** on 15 Dec 2011, 8:34 a.m.,*
in response to message #15 by Michael de Estrada

The maximum order quantity on buy.com has changed again, now it is 10. The sales rank was 9 yesterday, and now it is 5, so these are still selling popularly.

Re: HP15C-LE available at Buy.com

*Message #17 Posted by **Dan Grelinger** on 15 Dec 2011, 3:35 p.m.,*
in response to message #1 by Dave Mabry

I received my unit today. Limited Edition Number 09368, Serial Number CNA1320HT8 (when was it made?) ROM date is 2011-04-15. I tested the keyboard several times and found no issues (my first unit a few months ago had two keys with problems).

There is an "Errata Sheet to Self Tests (p261)" included with the documentation now. It corrects the text concerning the correct way to execute the self tests.

My replacement unit from HP for the first defective one is Limited Edition Number 13520 and CNA14400SG.

Re: HP15C-LE available at Buy.com

*Message #18 Posted by **Michael de Estrada** on 15 Dec 2011, 5:11 p.m.,*
in response to message #17 by Dan Grelinger

The serial number suggests that it was part of the original production in mid-August. My guess is that they inspected all of them, and discarded the bad ones. They also took the opportunity to add the errata sheet.

Re: HP15C-LE available at Buy.com

*Message #19 Posted by **Allen** on 15 Dec 2011, 8:49 p.m.,*
in response to message #18 by Michael de Estrada

The way Dec 2011 units were sealed using a clear sticker on the top of the box, suggests they went through some quality control stage as Michael Suggests.

I also observe the black plastic tray is un-evenly replaced in a few units, suggesting they were quickly taking the black trays out (e.g. to include the errata sheet below). The clearance between the manual, the edges of the black tray holding the 15C, and the edges of the box is quite small.

Re: HP15C-LE available at Buy.com

*Message #20 Posted by **Jeff O.** on 16 Dec 2011, 8:08 a.m.,*
in response to message #17 by Dan Grelinger

> Quote:
>
> There is an "Errata Sheet to Self Tests (p261)" included with the documentation now. It corrects the text concerning the correct way to execute the self tests.

Does it warn against performing the original self tests?

I presume there is not an "Errata Sheet to PSE Instruction (p68, 270)" which states that it does not work more than once in a program?

Edited: 16 Dec 2011, 8:16 a.m.

Re: HP15C-LE available at Buy.com

*Message #21 Posted by **Dan Grelinger** on 18 Dec 2011, 10:08 a.m.,*

in response to message #20 by Jeff O.

The Errata Sheet to Self Tests is only the replacement text for the Self Test section of the handbook. There is no warning concerning the original self tests, and nothing on the PSE instruction.

Re: HP15C-LE available at Buy.com

*Message #22 Posted by **Mike Phillips** on 16 Dec 2011, 10:00 a.m.,*
in response to message #17 by Dan Grelinger

Got my unit last night, LE # 06457. Does look like its part of the original run.

The packing included the Errata sheet. Tested all the keys, all felt good.

Haven't had chance to really use it yet - annoying thing called work is taking up my time.

Re: HP15C-LE available at Buy.com

*Message #23 Posted by **Jeff O.** on 16 Dec 2011, 12:13 p.m.,*
in response to message #22 by Mike Phillips

> Quote:
>
> Does look like its part of the original run.

Is the serial number of the form CNA132xxxx (first production run) or CNA144xxxx (postulated second production run after the keyboard issues were sorted out.)

Re: HP15C-LE available at Buy.com

*Message #24 Posted by **Mike Phillips** on 16 Dec 2011, 12:28 p.m.,*
in response to message #23 by Jeff O.

Its a CNA132xxxx serial number.

Re: HP15C-LE available at Buy.com

*Message #25 Posted by **Jeff Johnson** on 16 Dec 2011, 4:12 p.m.,*
in response to message #23 by Jeff O.

Ordered mine from buy.com on 12/14/11 and received today (2 days). Keys feel good. CNA1320J6D. Limited Edition #06037. Doesn't bother me if the "Limited" is unlimited. Just glad it's available again for all those who want one. Worth the wait, and didn't have to get gigged on eB** or other places trying to resell at 100% mark-up.

Re: HP15C-LE available at Buy.com

*Message #26 Posted by **Thomas Radtke** on 16 Dec 2011, 12:01 p.m.,*
in response to message #1 by Dave Mabry

If the LEs listed here are all US models, it *seems* this market alone covers about 10,000 calculators (given continuous LE-numbers for each contry specific 'model'). If this is true, how limited is this limited edition, actually?

Re: HP15C-LE available at Buy.com

*Message #27 Posted by **Paul Taylor (junkmine)** on 16 Dec 2011, 1:55 p.m.,*
in response to message #26 by Thomas Radtke

I just received two of these from buy.com today, that makes 5 total, 4 from buy.com 1 from HP plus my original one I purchased new in 1982 still works great but I keep in a little shrine above my desk! The new ones are serial numbers 05953 and 06449. Look the same as the ones from the original run (sub 01000 serial numbers). Ran the self test and keyboard test and did some of my own basic math test, all good.

From the time I put them in my buy.com cart to when I checked out the price went from $89.99 to $94.99, they know a sucker when they see one.

They are sold out again

*Message #28 Posted by **Michael de Estrada** on 16 Dec 2011, 9:38 p.m.,*
in response to message #1 by Dave Mabry

Just checked and they are sold out in the online store and have ended the eB** listing. So, I guess it's wait until HP's store has them again or pay higher prices to gougers. Anyway, I hope none of you procrastinated, and got your orders in on time.

Re: They are sold out again

*Message #29 Posted by **bill platt** on 17 Dec 2011, 1:25 p.m.,*
in response to message #28 by Michael de Estrada

I didn't bother. 5 years from now these 1st LE calculators will be $10 on craigs list

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[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any DIY5 pics out there?

*Message #1 Posted by **Ángel Martin** on 12 Dec 2011, 11:17 a.m.*

I was wondering whether some DIY5 pics have been posted already - for all of us who didnt't go the the last HC meeting? Thanks.

Re: Any DIY5 pics out there?

*Message #2 Posted by **Eric Smith** on 12 Dec 2011, 3:14 p.m.,*
in response to message #1 by Ángel Martin

There isn't a DIY5 yet. At HHC 2011 I showed a DIY4 calculator modified to use a graphic display. I refer to that as the DIY4X. The short answer to your question is that I don't have any good photos or video at the moment. We got the graphic display in August, and were in quite a hurry to get it working, so our current display adapter board is somewhat of a kludge, and not very robust. At the moment it is broken, or I'd take some photos and post them.

Longer answer:

When we first got the display this past August, we weren't sure that it would be satisfactory, so rather than actually modifying the calculator, we kludged the display, which uses a SPI (synchronous serial) interface, to plug into the SD card slot.

When we saw how amazing the display is, Richard Ottosen designed an adapter board to plug into the 14-pin connector for the DIY4 character display module. This allowed us to put the calculator into a reasonable package, rather than having the kludge hanging out the SD slot. This is the model I showed at HHC 2011. I don't remember whether I showed the SD slot kludge.

Richard etched the adapter board himself, and there were some problems with the etch, which resulted in the adapter board not being as robust as we would like. Richard warned me that it might not survive being mailed to me, or being taken to the conference. As it turned out, it worked just fine until I took it back to the hotel room after the Sunday conference session was over. whereupon it stopped working.

Rather than fix it or make any more manually etched boards, Richard is going to design a better adapter board and send it out to a PCB fab house. We will use that to update all three existing DIY4 boards. We are considering making a few more DIY4X calculators with the new adapter, but the longer-term plan is to redesign the main board to include the graphic LCD support, as well as some other design changes including USB support. That will be the DIY5.

When we make more units of the DIY4X with the new display adapter, or we make some DIY5s, we intend to make a small number of units available to outside firmware developers. I've already got HP-41 firmware running on it, but we want to support newly-created calculator firmware as well. That development can take place in parallel with our efforts to develop a production-quality industrial design.

Re: Any DIY5 pics out there?

*Message #3 Posted by **Ángel Martin** on 13 Dec 2011, 9:16 a.m.,*

in response to message #2 by Eric Smith

Appreciate the explanation - pls. keep us posted on the progress and good luck with the project.

Edited: 13 Dec 2011, 5:06 p.m.

Re: Any DIY5 pics out there?

*Message #4 Posted by **Eric Smith** on 14 Dec 2011, 3:13 a.m.,*
in response to message #1 by Ángel Martin

Richard reminded me that he sent me some photos of the DIY4X during and after assembly before he shipped it to me in August: http://www.flickr.com/photos/22368471@N04/sets/72157628413263533/

Re: Any DIY5 pics out there?

*Message #5 Posted by **Walter B** on 14 Dec 2011, 1:30 p.m.,*
in response to message #4 by Eric Smith

Eric,

Really great development! Especially the display looks like running circles around everything else I know in the calculator market. Do you plan to allow for softkeys in the DIY5? What are your plans for the function set?

Re: Any DIY5 pics out there?

*Message #6 Posted by **Eric Smith** on 14 Dec 2011, 6:56 p.m.,*
in response to message #5 by Walter B

The DIY5 is intended to be available with at least two different keyboard layouts.

One layout will be an -41 style layout, the same as we currently have on the DIY4X, and is not intended for soft keys, although there is nothing in the hardware that would prevent the firmware from offering them. There are only five keys in the top row. The function set of the provided firmware would be similar to the 41CX with some extensions to support the SD card and such. It could support alternate firmware if someone wanted to write some.

The other planned layout is the Pioneer/42s/20b/30b layout, which is intended for soft keys. I believe we can package the DIY5 with this keyboard layout in a package of comparable size to the Pioneer. While it is expected to have a MicroUSB connector (device only, for connection to a PC or Mac), we have not yet decided whether to include a MicroSD card slot. The issue is that SD cards (including Micro) can draw up to 100mA, which is too much for lithium coin cells to reliably provide.[*] We're looking at three possibilities:

1. No MicroSD card, lithium coin cells, slim packaging comparable to Pioneer
2. With MicroSD card, two AAA alkaline cells, more wedge-shaped packaging to accomodate the AAAs at the display end
3. With MicroSD card, color OLED display[**] instead of B&W, lithium polymer rechargeable battery, slim packaging

This model is intended as a firmware development platform, so the early units would be provided to firmware developers with only a hardware test program in the flash memory. It would be up to the firmware developers to decide what functions they want to implement.

If you have a desire for a keyboard layout that doesn't match either the 41 or Pioneer, we'd be

interested in trying to accommodate it.

Eric

[*] CR2032 coin cells are only intended to provide a peak current drain (pulsed) of about 6.8 mA. When they are fresh, they can do this with only about 0.3V drop. We've found that they actually can supply enough current for an SD card, but at a higher voltage drop. However, near end of life, when you would most desperately need the SD card to work, so as to save the calculator memory to the SD card before the batteries fail, is exactly when it won't work. Near end of life, the internal resistance of the coin cell is very high, so a current spike from the SD card will drive the already low battery voltage below the level that can keep the processor operating. In other words, you'll lose the data in memory that you were trying to write to the SD card.

[**] Oddly enough, the color OLED display is significantly *less* expensive than the black-and-white display. However, it sucks a lot of power, so I don't think it's practical without a rechargeable lithium polymer battery. Personally, I don't want to have to recharge my calculator frequently, so I prefer the black-and-white display and prefer to focus my development efforts on that.

Edited: 14 Dec 2011, 7:03 p.m.

Re: Any DIY5 pics out there?

*Message #7 Posted by **Cristian Arezzini** on 14 Dec 2011, 11:52 p.m.,*
in response to message #6 by Eric Smith

Me wantsss!!! :) FWIW, I'd strongly prefer option 2 above - not 1 because I like the SD, and not 3 because I strongly dislike rechargeables and am all for standard, easy-to-find batteries. And I don't really need color screens on calculators.

Cristian

Re: Any DIY5 pics out there?

*Message #8 Posted by **Eric Smith** on 15 Dec 2011, 3:07 a.m.,*
in response to message #7 by Cristian Arezzini

The point of option 3, with the OLED display, isn't to make people that want a color display and rechargeable batteries happy. The point is that it costs a *lot* less than the high-quality monochrome LCD. And I really do mean a **lot**. The monochrome LCD costs over $45 each in quantity one, and not much less than that in quantity 1000.

Guess what a calculator has to sell for if has a $45 display. Hint: increasing the component cost of a product by $X usually increases the retail price by at least $3X, and more commonly by $4X.

This means that if the rest of the components in the calculator cost only $1, the retail price would still have to be over $135. Unfortunately, I can't get the rest of the components for $1, or anywhere close to that.

The OLED display, on the other hand, costs under $14 in quantity one.

If cost was not a concern, there is no question that I'd want the monochrome display. It looks absolutely beautiful. At the conference, people thought it was a static mockup until they saw the display change as I pressed the buttons.

In fact, the display looks even better in reality than it does in Richard's photo of the oblique view of the assembled DIY4X, because in that photo there was glare from the mylar covering the display. With a real production case, there won't be mylar over it. The top view with no overlay is closer to reality, if you mentally edit out the diagonal yellow stripes of the protective film. It's too bad that photo doesn't show the four-level stack or annunciators.

Note that this is a graphic display, 400x240 (about 173 dpi or 68 dpcm), showing an open-source font, Liberation Sans, which is derived from Bitstream Vera. This font was used because it was readily available and I was in quite a hurry to get it working in time for the conference, not because I think it is an ideal calculator font. The real -41 uses slashed zeros rather than dotted, and I would prefer that. Since it is a graphic display, you will be able to use any font you like, subject to only a few limitations.

Edited: 15 Dec 2011, 3:17 a.m.

Re: Any DIY5 pics out there?

*Message #9 Posted by **Walter B** on 15 Dec 2011, 1:23 a.m.,*
in response to message #6 by Eric Smith

Eric,

Thanks a lot for your elaborate explanation. As Christian, I vote for option 2, for the same reasons. I look forward to see this baby progressing. Wish you all the best. If there's any support I can supply, don't hesitate to contact me.

Questions about need for MicroSD card

*Message #10 Posted by **Eric Smith** on 15 Dec 2011, 3:22 a.m.,*
in response to message #9 by Walter B

How strongly do you guys feel about needing the MicroSD slot, given that there will be a MicroUSB (device only) interface, allowing transferring your programs and data to/from a computer?

Would you feel that you needed the MicroSD slot if you had both the USB port, and some hardwired internal flash memory for program and data storage?

Re: Questions about need for MicroSD card

*Message #11 Posted by **Marcus von Cube, Germany** on 15 Dec 2011, 3:28 a.m.,*
in response to message #10 by Eric Smith

I don't like swapping cards much. What about Bluetooth or USB on the Go?

USB, Bluetooth

*Message #12 Posted by **Eric Smith** on 15 Dec 2011, 3:53 a.m.,*
in response to message #11 by Marcus von Cube, Germany

We can support USB device (for connection to a host PC), but the calculator cannot be a USB host because it cannot provide 5V at 100mA. To do OTG with "limited power sourcing" still requires at least 4.4V at 8mA, and even that is difficult and expensive for us to provide. Also, the OTG protocol introduced a whole lot of added complexity beyond the already absurd complexity of normal USB, and I don't have time to develop

firmware for that.

What is your proposed usage model for OTG? In other words, what other OTG device would you use with the calculator, and for what purpose?

I've considered Bluetooth as an optional module that could be inserted in the battery compartment, but I'm not convinced that it would be cost-effective. The new "Low-Energy Bluetooth" is appealing, but normal Bluetooth devices such as your existing laptop or cell phone do not support "Low-Energy Bluetooth", so there's a chicken-and-egg problem.

Re: USB, Bluetooth

*Message #13 Posted by **Marcus von Cube, Germany** on 15 Dec 2011, 9:46 a.m.,*
in response to message #12 by Eric Smith

I was thinking of connecting two calculators for data transfer via BT or USB. The same can be achieved with IrDA but modern devices lack the technology in favor of BT.

Re: Questions about need for MicroSD card

*Message #14 Posted by **Paul Dale** on 15 Dec 2011, 3:37 a.m.,*
in response to message #10 by Eric Smith

To me it will be a question of the available internal memory.

The user will want some of course. The firmware will need lots. With a MicroSD the space becomes effectively unlimited without it things are more constrained.

I'd expect a firmware image for a device like this to be much larger than for e.g. the 34S -- not so much for the actual mathematical support which needn't be a lot larger. Rather, all the other extras will consume space.

Fonts e.g. aren't small especially when they are a bit map on a high resolution display. I'd expect a couple of fonts will be required at least or a scalable font.

- Pauli

Re: Questions about need for MicroSD card

*Message #15 Posted by **Eric Smith** on 15 Dec 2011, 4:18 a.m.,*
in response to message #14 by Paul Dale

There will be one megabyte of flash in the microcontroller chip. Presumably any that isn't taken up by firmware (including fonts) can be used for user storage. The erase page size is 4KB and that endurance is 20,000 erase cycles per page. The programming current is 7mA in low-power mode.

What I'm proposing is that we could include some additional nonvolatile memory accessible over an SPI port. In the current DIY4 we have a 128KB FRAM, which is byte-writeable and has effectively no endurance limit. We could instead use a normal SPI flash part, or an SPI PCM (Phase Change Memory).

SPI flash memory costs about $1.40 for a 2MB part with 4K sectors and endurance of

10,000 cycles.

SPI PCM costs about $5 for 16MB, is written in 32-byte pages, and has an endurance of 1,000,000 writes per 32-byte page.

Flash uses up to 30mA, and PCM uses up to 50mA, so either is still enough to be a problem for coin cells, and would require the AAA battery option.

What I was trying to avoid was the need for AAA cells, but since internal flash or PCM would need AAA cells anyhow, it seems like having the MicroSD slot is probably the best option. I was really hoping to find an option that was workable with CR2032 coin cells, in order to have a very slim calculator, but after looking at the data sheets for representative nonvolatile memory chips it seems unlikely.

Re: Questions about need for MicroSD card

*Message #16 Posted by **Paul Dale** on 15 Dec 2011, 4:54 a.m.,*
in response to message #15 by Eric Smith

One megabyte of flash seems adequate but not copious. Assuming 128kb of available non-volatile RAM and 1Mb of flash, the flash disappears quickly:

- 128kb RAM backup -- this seems useful on the 34S with its 2kb of non-volatile RAM and would only be more useful with more RAM.
- 128kb fonts -- guessing here but a small vector font is in realm.
- 128kb or 256kb of user flash -- how much would people want? Don't answer all of it :-)

That's half and we've not started the firmware proper. The 34S firmware has had a lot of size optimisations made many of which really ought to be avoided in future and there are quite a few things I'd do differently a second time around. At a very minimum 256kb and likely more -- people always want more functions which use more space: integrated complex numbers, proper matrix support, units, real fractions, unlimited length integers, interval arithmetic, formulas, ...

Anyway, a built-in flash device seems unnecessary for user storage.

The ability to access a read-only flash device might still be useful. Firmware updates via SD card or even firmware on SD card freeing almost all the CPU's flash for the user. Just random ideas here now.

Is there a reason for not including a FRAM part for user storage? Is the current draw too high or the cost? Being able to drop down to a zero power standby state would be amazing.

This would also free up all the CPU's internal RAM to be volatile if desired. An amount of volatile RAM is really useful too -- the 34S makes very extensive use of this 4kb. A device with plenty of non-volatile RAM wouldn't need it but quite an amount could end up wasted for housekeeping tasks.

- Pauli

Re: Questions about need for MicroSD card

*Message #17 Posted by **Eric Smith** on 15 Dec 2011, 5:38 a.m.,*

in response to message #16 by Paul Dale

> Quote:
>
> One megabyte of flash seems adequate but not copious.

It is *eight* times what you have now, and you're already complaining! :-)

> Quote:
>
> how much would people want? Don't answer all of it

Of course people don't want 100% of it. They want **300%** of it!

> Quote:
>
> Is there a reason for not including a FRAM part for user storage?

The density of FRAM is really low compared to other memory technologies, and the price is high. The current DIY4X has a 128KB FRAM which costs about $10. That same $10 can buy 16MB of flash or 32MB of PCM.

On the other hand, the FRAM does have a few advantages. It doesn't need to be erased in sectors like flash, it has effectively unlimited endurance, and it only requires 2.5 mA, so it can be used from coin cells.

The question is whether having 1MB of internal flash, 128KB of FRAM, and a USB port, would make it satisfactory to not have a MicroSD.

Re: Questions about need for MicroSD card

*Message #18 Posted by **Paul Dale** on 15 Dec 2011, 6:06 a.m.,*
in response to message #17 by Eric Smith

> Quote:
>
> It is *eight* times what you have now, and you're already complaining! :-)

Complaints are cheap and easy ;-)

With a pile more flash, we'd (the 34S triad) would give the user a lot more space, we'd not spend the huge amounts of effort trimming the code, we'd add more functions, ... It would be easy to double or quadruple the size of the current firmware -- still only half of the 1MB suggested which is lots of headroom for anything I can imagine a calculator being asked to do by its users.

> Quote:
>
> The question is whether having 1MB of internal flash, 128KB of FRAM, and a USB port, would make it satisfactory to not have a MicroSD.

A USB port is essential -- backups and upgrades demand this. Could a slave port be put to other use? No idea. But this one is easy to get out of the way. I/O is a must. Without USB, you have to have the SD or serial.

128KB of user (F)RAM is more than a 100x100 matrix or many tens of thousands of programming steps. Without a large library of routines like the 41CL can call on, I don't see this running out quickly. Then add flash backups and storage to further increase the capabilities. Thus, to my mind at least, 1MB/128kB has to be enough to avoid requiring any SD card, allowing the smaller form factor case.

More interesting, to me at least, would be 128KB of FRAM (almost all for the user) + 128KB of (sometimes battery backed) internal RAM (firmware) + 1MB of internal flash (user + firmware). There are housekeeping operations that will require extra storage. The 34S's main ones are some of the matrix operations and some of the statistical functions. We don't have compacting garbage collection which is a must on an always-on device. The 34S has twice as much volatile as non-volatile RAM and we're using it all or close enough to all of it.

- Pauli

Re: Questions about need for MicroSD card

*Message #19 Posted by **Eric Smith** on 15 Dec 2011, 6:26 a.m.,*
in response to message #18 by Paul Dale

The current plan definitely has USB (device only). No decision has been made on the serial port; the development units will have it but production might not.

The three main options under consideration are:

1. high quality monochrome LCD, USB device, no MicroSD, 128KB FRAM, two CR2032 coin cells, slim, hideously expensive
2. high quality monochrome LCD, USB device, MicroSD, two AAA cells, wedge shaped, hideously expensive
3. color OLED, USB device, MicroSD, lithium polymer rechargeable battery, slim, only moderately expensive

I can predict the response. Everyone wants "high quality monochrome LCD" and "only moderately expensive". Sorry, those two features are mutually exclusive due to the cost of the display.

Edited: 15 Dec 2011, 6:28 a.m.

Re: Questions about need for MicroSD card

*Message #20 Posted by **Paul Dale** on 15 Dec 2011, 6:38 a.m.,*
in response to message #19 by Eric Smith

I'd be happy with option 1, with this level of hardware the 42S can finally be topped as the best RPN keystroke programmable. As I mentioned, I feel that MicroSD is something that can be lived without.

I also quite like slim calculators :-)

Or option 4 (you knew it was coming):

colour OLED, USB device, no MicroSD, 128KB FRAM, lithium polymer rechargeable battery, slim, only moderately expensive.

Something must be impossible here :-)

- Pauli

Re: Questions about need for MicroSD card

*Message #21 Posted by **Eric Smith** on 15 Dec 2011, 6:53 a.m.,*
in response to message #20 by Paul Dale

I don't seen any technical or cost problem with your proposed option 4. I just question having expensive FRAM built-in when there's enough power to use cheap MicroSD cards.

Re: Questions about need for MicroSD card

*Message #22 Posted by **Paul Dale** on 15 Dec 2011, 7:21 a.m.,*
in response to message #21 by Eric Smith

Thanks for the clarification, of course you are right -- I'm not thinking entirely straight tonight.

- Pauli

RAM

*Message #23 Posted by **Eric Smith** on 15 Dec 2011, 6:30 a.m.,*
in response to message #18 by Paul Dale

The current DIY4X has 16KB of RAM, all of which is battery-backed (vs. 6KB with only 2KB battery-backed in the Atmel AT91SAM7L128).

The new ones (and any we retrofit) will have 128KB of RAM, all of which is battery-backed.

With either chip it is possible to turn off some of the RAM to save power, but the savings is so small that I haven't bothered to try it.

font memory

*Message #24 Posted by **Eric Smith** on 15 Dec 2011, 4:36 a.m.,*
in response to message #14 by Paul Dale

Right now the DIY4X has only 16KB of RAM, though the next ones we build (or the current ones if we retrofit them) will have 128KB of RAM.

Due to the 16KB RAM limit of the current calculator, I do NOT use a frame buffer in RAM for the display, as that would take about 12KB. The display contains its own internal memory, which cannot be read back. The display can only be written in increments of one full horizontal scan line (400 pixels).

The way my firmware works now is that any update to the display loops over the individual scan lines of the update area, render one line, and sends it to the display. An optimization would be to use DMA for the transfer to the display, and to start composing the next scanline while the current one is being transferred.

With the 128KB RAM, it would be possible to have a full display bitmap kept in RAM, but I don't think it's a good utilization of the memory, unless it is needed for graphing functions.

The current DIY4X firmware contains three sizes of the Deja Vu Sans Mono font. The large one used for the stack and alpha-mode displays contains a superset of the 41 character set, with a total of 116 glyphs. There is no compression, in order to keep display updates fast, so it uses 19KB of flash.

The tiny font used for the annunciators does not have the full set of glyphs, and occupies 1084 bytes of flash.

The third font in an intermediate size used only for showing debug messages, and occupies 2032 bytes of flash.

I don't think it is desirable to render a scalable font in the calculator due to both memory and performance constraints.

Re: font memory

*Message #25 Posted by **Paul Dale** on 15 Dec 2011, 5:02 a.m.,*
in response to message #24 by Eric Smith

Those font sizes are much better than I'd figured. Very easy to work withing those limits at least. The 34S's fonts are 122 bytes for the 7 segment characters and 2152 bytes for the two fonts. This represents a fair potion of available flash and the bitmaps are densely packed.

The 34S doesn't use a frame buffer either, in fact we use the LCD RAM as extra semi-volatile storage between keystrokes. The screen is regenerated after every user action and some commands. Given the space cost of a frame buffer, this seems like a sensible thing to continue.

Anyway, 1Mb of flash seems more than adequate.

- Pauli

Re: Questions about need for MicroSD card

*Message #26 Posted by **Bart (UK)** on 15 Dec 2011, 7:06 a.m.,*
in response to message #10 by Eric Smith

Personally I'd say dump the USB (it was not a Microsoft invention and therefore *even now* the support in MS operating systems is flaky).

Transferring/backup/upgrades via MicroSD is good. (SD is all I use on the 50G). These days PCs and laptops have SD slots as standard (Most take MicroSD, but SD converter cards are still relatively easy to come by).

Re: Any DIY5 pics out there?

*Message #27 Posted by **David Griffith** on 15 Dec 2011, 1:38 a.m.,*
in response to message #6 by Eric Smith

I like Option 2. Standard cells are much preferable to lithium ion packs and the problems they pose for replacement. A colour display might be nice for graphs, but for a calculator it's just not warranted. I'm definitely going to like the alternate 32s/20b/30b/32sii layout.

Battery size and life questions

*Message #28 Posted by **Eric Smith** on 15 Dec 2011, 3:30 a.m.,*
in response to message #27 by David Griffith

How do you feel about AAA alkaline vs. CR2032 lithium coin cells?

In particular, ignoring the SD card issue, and all other things being equal, do you prefer a slimmer calculator with coin cells, or one with a more pronounced wedge shape with AAA cells?

How much does battery life enter into your preferences? Bearing in mind that more or larger cells result in a larger calculator, which would you prefer out of the following choices:

1. one CR2032 lithium coin cell, six month battery life
2. two CR2032 lithium coin cells, one year battery life
3. two AAA alkaline cells, two year battery life
4. three AAA alkaline cells, three year battery life
5. four AAA alkaline cells, four year battery life

[Note that the battery life figures listed are purely hypothetical, as battery life depends on how much you use the calculator. However, the ratios of battery life in the choices are a reasonable approximation, since a AAA alkaline cell stores roughly twice the energy of a CR2032 lithium coin cell.]

Re: Battery size and life questions

*Message #29 Posted by **David Griffith** on 15 Dec 2011, 4:43 a.m.,*
in response to message #28 by Eric Smith

Two 2032 cells with a replacement interval of one year is good. I wouldn't be bothered by the additional thickness required to accomodate AAA cells. Two AAA cells and two years of life is sufficient. More AAA cells would edge over into the realm of "too big". I carried around a big old TI85 since it came out. It would be good to have a powerhouse calculator in a smaller package.

Something else that may need consideration is what sort of non-volatile memory to use. It seems to me that programs are to be stored in flash memory. I think that's not prudent given the limited rewrite cycles of flash cells. I believe supercapacitors are small enough to provide enough juice to keep RAM alive while you change the batteries. This segues to the SD card issue. I'd prefer to keep my programs there instead of in a flash soldered to the calculator's PCB. That way I can pop in a new SD card if things get dodgy. I'm already dealing with this sort of problem with digital cameras. It should be very clear to all of us that we have a tendency like something and stick with it for a very long time. Otherwise we'd be posting at ticalc.org. Projects like this should be planned with this tendency in mind.

Re: Battery size and life questions

*Message #30 Posted by **Bart (UK)** on 15 Dec 2011, 8:04 a.m.,*
in response to message #28 by Eric Smith

Option 2. CR2032 just doesn't have grunt to exploit high processor speeds for lengthly programmes.

Actually AAAA would be an option. I have heard they can be difficult to find, but for me they are available in my local Tesco store. Not only are they cheaper than CR2032, but still have longer life (~3x Ah, 1.5x Wh) and higher instant current drain capability (less than 1/30th internal resistance).

Another option is two N cells, giving 3V in the space of about one AAA cell, but probably still better performance than two CR2032.

Re: Battery size and life questions

*Message #31 Posted by **Eric Smith** on 15 Dec 2011, 10:48 a.m.,*
in response to message #30 by Bart (UK)

We're avoiding both AAAA and N because they are a lot more expensive at retail than AAA. By the time other industrial design considerations are taken into account, AAAA and N don't actually allow me to make the case much slimmer than with AAA.

Your Tesco store either has much lower prices on AAAA, or much higher prices on CR2032, than anything around here. We have CR2032 for less than the price of a AAA, but AAAA for much more than a AAA.

Re: Battery size and life questions

*Message #32 Posted by **Bart (UK)** on 15 Dec 2011, 12:12 p.m.,*
in response to message #31 by Eric Smith

AAA: pack of 4 for £2.00 (cheaper/cell in bigger packs)
AAAA: pack of 2 for £4.00 (haven't seen them in bigger packs)
N: pack of 2 for £4.00 (haven't seen them in bigger packs)
CR2032: pack of 2 for £4.00 (bigger packs only available on the internet)

On the face of it the N and AAAA cells are the same as the 2032's, but in reality two N or AAAA cells in series will still beat the pants off two 2032's in parallel (especially w.r.t. internal resistance, but also more capacity. In reality I think you will get more than double the life because of the significant lower drop in voltage at peak currents).

Addendum: Of course buying on the internet is much cheaper (but AAAA remain indeed reasonably expensive).

Edited: 15 Dec 2011, 12:40 p.m.

Re: Battery size and life questions

*Message #33 Posted by **Katie Wasserman** on 15 Dec 2011, 10:10 a.m.,*
in response to message #28 by Eric Smith

If you really want this to be DIY, a good compromise battery option exists. Power it from 2

or 3 AAAA sized cells that users obtain at low cost by opening up a 9 volt alkaline battery. The cells inside are not quite AAAA size but close enough to be interchangeable with store bought AAAA cells. They are around 600mAh and are under 8 mm in diameter. The advantage that these have over CR2032 is a much higher discharge rate without damage to the cell and will easily be able to power a microSD card. The advantage they have over AAA cells is that they are about 2.5mm less diameter.

There are 6 of them inside a 9 volt battery. Amazon sells Energizer 9 Volt industrial batteries for $0.83 each, that's under $0.14 per AAAA cell which makes them about the least expensive option. All you need is a needle nose pliers and 30 seconds of time to get at the cells.

Edited: 15 Dec 2011, 10:11 a.m.

Re: Battery size and life questions

*Message #34 Posted by **Eric Smith** on 15 Dec 2011, 10:41 a.m.,*
in response to message #33 by Katie Wasserman

DIY has just been the "code name". Don't read too much into it.

8.3mm max dia still requires more of a wedge shape than the 3.2mm max thickness coin cell, especially since the battery compartment design effectively requires two thicknesses of case plastic for cylindrical cells, while the coin cell only requires one.

Re: Battery size and life questions

*Message #35 Posted by **Bart (UK)** on 15 Dec 2011, 12:41 p.m.,*
in response to message #34 by Eric Smith

I find a wedge preferable to coin cells.

Re: Battery size and life questions

*Message #36 Posted by **M. Joury** on 15 Dec 2011, 11:27 a.m.,*
in response to message #28 by Eric Smith

My personal preference would be option 3 or 4. It is more than just a matter of battery life for me. There is also the issue of having the correct cells available. I always have some AAA cells lying around but generally have to go out to buy CR2032's. I know that someone is going to say: "Well what's the bug deal if you only have to do it once a year"? There is some validity to that argument and I agree that it is not a big hardship, but personally I would still prefer the AAA cells. The added size and wedge shape don't concern me too much.

Cheers,

-Marwan

Edited: 15 Dec 2011, 11:29 a.m.

Re: Battery size and life questions

*Message #37 Posted by **David Hayden** on 15 Dec 2011, 4:50 p.m.,*
in response to message #28 by Eric Smith

Any of those options would be okay by me. In other words, if you can get 6 months of battery life out of it, I'd be happy.

I'd be more concerned with the affect on form factor of the different battery choices. Consider things like the balance and whether it can be comfortably held in one hand too.

Re: Battery size and life questions

*Message #38 Posted by **Eric Smith** on 15 Dec 2011, 8:47 p.m.,*
in response to message #37 by David Hayden

I was initially concerned about balance with two AAAs at the display end of the calculator. Two alkaline AAA cells together are about 23g, for a weight of less than an ounce. I did a very unscientific experiment of putting two AAAs in the display end of a calculator mockup, and didn't find it to be much of a problem. The HP-41 card reader was fairly heavy, and I don't recall much complaint about that. (But lots of complaints about how quickly it drained batteries.)

Re: Battery size and life questions

*Message #39 Posted by **Adrian Godwin** on 16 Dec 2011, 4:35 p.m.,*
in response to message #38 by Eric Smith

Also consider disposable lithium AAAs, which have higher capacity, the same voltage and lower weight than alkalines.

Re: Any DIY5 pics out there?

*Message #40 Posted by **Håkan Thörngren** on 15 Dec 2011, 7:42 a.m.,*
in response to message #6 by Eric Smith

Frequent recharging is highly undesirable. Standard rechargeables, like AAAs is what I would prefer. If it works one month or more with moderate use on 2 rechargeable AAAs I would be extremely pleased. One week between charges and heavy use would also be acceptable to me.

Some wedge shape is a small price to pay for standard batteries. If it also gives MicroSD, the better.

I vote for (2).

Put simply, I do not want to recharge often, and I do not want to go out to hunt for new batteries several times per year either.

Re: Any DIY5 pics out there?

*Message #41 Posted by **Eric Smith** on 15 Dec 2011, 10:43 a.m.,*
in response to message #40 by Håkan Thörngren

I'm going to recommend against rechargeable AAA, for the same reason that most calculator vendors do, which is that you won't get much (if any) warning of battery low before it dies. We can set a reasonable battery low threshold voltage detection for alkaline, but not for NiMH or NiCd.

Re: Any DIY5 pics out there?

*Message #42 Posted by **M. Joury** on 15 Dec 2011, 11:33 a.m.,*

in response to message #6 by Eric Smith

Option 2. For same reasons as I noted above plus I really like the convenience of a Micro SD card for backup and transferring data.

I am not as strongly anti-color/anti-rechargeable as some others. My one concern with that approach would be an easy way to replace the LiPo cell/battery when it gives out which is bound to happen eventually. I hate gadgets that make it hard or impossible to replace a warn out battery.

Cheers,

-Marwan

Re: Any DIY5 pics out there?

*Message #43 Posted by **Ethan Conner** on 15 Dec 2011, 1:44 p.m.,*
in response to message #42 by M. Joury

Any option that involves AAA batteries. Easy to obtain power source plus it makes some of the other options easier to incorporate from a power drain perspective. :)

Re: Any DIY5 pics out there?

*Message #44 Posted by **Eric Smith** on 15 Dec 2011, 8:37 p.m.,*
in response to message #42 by M. Joury

> Quote:
>
> I hate gadgets that make it hard or impossible to replace a warn out battery.

I agree with you completely. Unfortunately, there are good reasons why this is done.

If we did use a lithium polymer cell in the DIY5, we would state that it was not user-serviceable, and we would definitely not encourage end user replacement. However, for improved factory serviceability it would use a connector rather than being soldered in place. The case would use "security screws".

Having given an appropriate warning that the calculator is not user-serviceable, I'm certain that everyone would respect that warning, not buy themselves a set of security bits, not open their calculator, and not replace the lithium polymer cell.

Re: Any DIY5 pics out there?

*Message #45 Posted by **M. Joury** on 15 Dec 2011, 10:20 p.m.,*
in response to message #44 by Eric Smith

LOL

Re: Any DIY5 pics out there?

*Message #46 Posted by **db (martinez, ca.)** on 15 Dec 2011, 10:41 p.m.,*
in response to message #44 by Eric Smith

Yes. For sure. No "programmers with screwdrivers" in *this* bunch.

BTW: i vote AAA cells, or even Katies AAAA idea. I'd probably use rechargables anyway. I use them for a lot of things. And what my vote lacks in technical knowledge may be partially made up for by being one of the few (2?) people who have actually bought one of your calculators.

Re: Any DIY5 pics out there?

*Message #47 Posted by **uhmgawa** on 15 Dec 2011, 10:42 p.m.,*
in response to message #6 by Eric Smith

Quote:

- With MicroSD card, two AAA alkaline cells, more wedge-shaped packaging to accomodate the AAAs at the display end
- With MicroSD card, color OLED display[**] instead of B&W, lithium polymer rechargeable battery, slim packaging [/ol]

I've grappled with this issue routinely as well. Having demountable storage seems really convenient. However one question to consider is whether demountable media really fits into a typical user's workflow. Demountable in the event of near-wearout may be all that is needed and in the case of 1e6 cycle endurance devices you may not even need to provide for this assuming a write to NV memory is a power-off event.

Accommodating the current draw of an SD card starts to push the device outside of a grab/use/drop/forget-till-next-time use model if that is your primary target. From personal experience I have more high power, high performance devices which require daily electron feeding than I really care to own. If demountable media is a must-have, SIM cards might be an alternative or even a similar custom design approach using chip scale EEPROM, etc.. assuming you can live within about 128KB capacity.

Concerning power source, if the footprint is extended to house common AAA cells, I don't think anyone will miss losing problematic CR2032s. But the impact to the form factor may be objectionable to some as they will likely contend for z-axis space with the display.

Quote:

[**] Oddly enough, the color OLED display is significantly *less* expensive than the black-and-white display.However, it sucks a lot of power, so I don't think it's practical without a rechargeable lithium polymer battery. Personally, I don't want to have to recharge my calculator frequently, so I prefer the black-and-white display and prefer to focus my development efforts on that.

As long as you're selecting from the cell/media handheld component supply pipe, everything is unnaturally cheap. But an illuminated display may be functional overkill for a calculator as whatever task you're using it to assist, itself normally requires illumination.

Re: Any DIY5 pics out there?

*Message #48 Posted by **Eric Smith** on 16 Dec 2011, 3:47 a.m.,*
in response to message #47 by uhmgawa

Quote:

Demountable in the event of near-wearout may be all that is needed

We've actually considered putting the MicroSD card slot in the battery compartment rather than exposed on the outside of the calculator. That would have the advantage of making it less likely for contamination to enter the calculator through the card slot, and less likely for the card to fall out unexpectedly and become lost. (I've had that happen with the 49g+ and 50g.)

On the other hand, it's less convenient if the user wants to routinely swap memory cards. I don't get the impression that many calculator users expect to swap cards frequently.

> Quote:
>
> If demountable media is a must-have, SIM cards might be an alternative or even a similar custom design approach using chip scale EEPROM, etc.. assuming you can live within about 128KB capacity.

Although I briefly considered it, I don't think we want to use any kind of proprietary or uncommon removable media.

If we were to include a small (e.g., 128KB) built-in nonvolatile memory, it would almost certainly be FRAM, both to avoid endurance limitations and because FRAM requires very little energy to write compared to other nonvolatile memory technologies.

However, from a cost perspective, it is very difficult to justify including both a MicroSD slot and an internal FRAM. Similarly, although we'd like to include both USB and a serial port, we can't justify the cost, and we expect the majority of users to take advantage of USB, with only a small minority having any use for a serial port.

> Quote:
>
> Concerning power source, if the footprint is extended to house common AAA cells, I don't think anyone will miss losing problematic CR2032s. But the impact to the form factor may be objectionable to some as they will likely contend for z-axis space with the display.

I'm not sure which axis you're calling "z", but the plan is to put the AAA cells behind the display, as you look at the calculator from the front. Based on feedback received from questions asked months ago, and some of the comments in this thread, it seems that most people are willing to accept a wedge-shaped calculator to accommodate the batteries, but don't want a calculator that is significantly longer than the 42S/20b/30b case.

The current DIY4X with a 41-style keyboard is nearly as long as the 41 with a card reader. The only way to make it shorter is to ditch the graphic display, or tighten the keyboard row spacing. The 42S/20b/30b case has two fewer rows of keys, so it will be about the same length as the 42S.

What I personally don't like about the 42S/20b/30b case design is that it is too wide to comfortably operate one-handed, which is how I often use my 41. This is due to the keyboard having six columns rather than five, and there's no way to fix it other than reducing the keyboard column spacing. However, I haven't heard a single complaint about the width from anyone other than Richard and myself, so apparently this is a non-issue for the majority of potential customers.

Re: Any DIY5 pics out there?

*Message #49 Posted by **David Griffith** on 16 Dec 2011, 5:17 a.m.,*
in response to message #48 by Eric Smith

According to Wikipedia, FRAM does indeed have cycle limitations. Maybe have a look at MRAM or PRAM?

Re: Any DIY5 pics out there?

*Message #50 Posted by **Eric Smith** on 16 Dec 2011, 11:30 a.m.,*
in response to message #49 by David Griffith

I would rely on the information in the manufacturer's data sheet on the part, rather than on Wikipedia. Wikipedia is correct that there are limits on the endurance, but that isn't the whole story.

The endurance specification for the part in question is 10^14 cycles, and you only access the FRAM when the user pokes the buttons on the calculator to tell it to do a read or write operation, the endurance is effectively unlimited.

Even if the user writes a user-code program that just beats on the FRAM mercilessly, 10^14 cycles is going to last a **very** long time. Just how long is left as an exercise for the reader.

MRAM in great. It's available in slightly higher density than FRAM, but also is more expensive. It uses a lot more energy to write, so it is less desirable for memory for a calculator.

Re: Any DIY5 pics out there?

*Message #51 Posted by **M. Joury** on 16 Dec 2011, 12:28 p.m.,*
in response to message #50 by Eric Smith

> Quote:
>
> Just how long is left as an exercise for the reader.

Couldn't resist :-)...

Well, using my trusty HP-41CV...

At 10,000 writes per second the memory would last 317.09 years (if I did the math right). I'd say that for all intents and purposes that is unlimited.

Cheers,

-Marwan

Re: Any DIY5 pics out there?

*Message #52 Posted by **Paul Dale** on 16 Dec 2011, 5:30 a.m.,*
in response to message #48 by Eric Smith

> Quote:

> What I personally don't like about the 42S/20b/30b case design is that it is too wide to comfortably operate one-handed, which is how I often use my 41.

You are not alone, I've thought the same thing :-)

For hex arithmetic, six keys wide is pretty much required however.

- Pauli

Re: Any DIY5 pics out there?

*Message #53 Posted by **Eric Smith** on 16 Dec 2011, 11:31 a.m.,*
in response to message #52 by Paul Dale

While I understand the aesthetic appeal of having A through F in a single row, in practice I don't have that big an issue with putting "F" on the first key of the second row.

Re: Any DIY5 pics out there?

*Message #54 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Dec 2011, 6:32 a.m.,*
in response to message #48 by Eric Smith

IMHO, six-columns keyboards are a blessing for HEX mode, because you can set the A...F digits entry keys in a (redefined) row; having "A" to "E" on one row and just "F" on other row is not as easy or intuitive...

Re: Any DIY5 pics out there?

*Message #55 Posted by **M. Joury** on 16 Dec 2011, 7:47 a.m.,*
in response to message #48 by Eric Smith

I don't know if this has been mentioned elsewhere, but it would be nice if the USB port would power the calculator when plugged in like it does with the 50g.

Cheers,

-Marwan

Re: Any DIY5 pics out there?

*Message #56 Posted by **Eric Smith** on 16 Dec 2011, 11:37 a.m.,*
in response to message #55 by M. Joury

> Quote:
>
> but it would be nice if the USB port would power the calculator when plugged in

With disposable batteries (vs. echargeable), it would require a significant change to the calculator power supply to be able to do that. Richard designed the power supply for very high efficiency in the normal mode of operation, which is going from battery voltage of 2.0-3.0V (or slightly higher with fresh alkaline cells) to 3.1V. We'd have to add a buck regulator to the board to deal with input voltage from USB, which is at least 4.4V, because we'd have to step that down. I'm reluctant to add the cost of another

regulator and associated components, but that's probably worthwhile enough to justify it.

There are combined buck-boost regulators, but the boost-mode efficiency isn't as good as our dedicated boost regulator.

Re: Any DIY5 pics out there?

*Message #57 Posted by **uhmgawa** on 17 Dec 2011, 2:10 a.m.,*
in response to message #55 by M. Joury

> Quote:
>
> I don't know if this has been mentioned elsewhere, but it would be nice if the USB port would power the calculator when plugged in..

I think that would be a given, as some return for piercing a hole in the enclosure to the outside world. I'm not particularly in love with USB, but it is so commonplace and inexpensive there really isn't any better choice for simple wired external power + communications in this class of device.

Unfortunately it is somewhat of a weak link in terms of reliability for device lifetimes expected here as the connectors are typically rated for a maximum 5K mating cycles assuming ideal conditions, considerably less otherwise. Perhaps a moulded silicone plug shield would be a reasonable option to consider.

On a different train of thought, I've kicked around the feasibility of avoiding external connections altogether, approaching an environmentally sealed enclosure. IR will get bits in/out however a simple ISM RF link will put less of a dent into the energy budget, have essentially no orientation issues, and avoid the need for IR window logistics in the enclosure.

Charging current can be induced by magnetic flux. PV cells are another possibility -- perhaps remote due to the logistics involved. However the concept of a calc sitting idle on the desk harvesting waste energy for later appeals to me. But even using primary cells is reasonable. Eg, in the case of cylindrical AAA cells it is relatively straightforward to create a battery well closed by a round plug/o-ring.

Re: Any DIY5 pics out there?

*Message #58 Posted by **Eric Smith** on 17 Dec 2011, 4:10 a.m.,*
in response to message #57 by uhmgawa

Powering the DIY5 from USB is most definitely NOT a given. It's a feature we'd like to have, but it's not as easy as one might imagine. We would have to either add a buck regulator and two schottky diodes, in addition to the boost regulator we use from the two AAA cells, or switch to using only a buck regulator with four AAA cells.

If we stick with the two AAA cells and add a buck regulator for USB, we introduce a schottky diode drop in the battery path, which takes away from the usable battery life.

The problem with using four AAA cells and only a buck regulator is that the buck regulator has to be on all of the time, even when the calculator is "off", because it

has to supply at least 1.85V to the processor to maintain memory and timekeeping. While some buck regulators have a "burst mode" for dealing with low-load conditions, the quiescent current is usually far too high. This afternoon we found a buck regulator that might do the job, but we'll have to evaluate it.

Now I've started to wonder what power supply chip(s) the 49g+ and 50g power supplies use, and why they switched from three AAAs to four.

Re: Any DIY5 pics out there?

*Message #59 Posted by **David Griffith** on 17 Dec 2011, 7:38 a.m.,*
in response to message #58 by Eric Smith

If you're expecting to get at least a year of calculation from two AAA cells, then powering the DIY5 externally doesn't sound very useful. Think about how often you need to change the batteries in a TV remote and recall that they typically don't have recharge jacks. USB should be for communication only. It would be nice to make the jack easily replacable if the need arises. Recessed and under a rubber plug sounds good.

Concealing the SD card in the battery compartment also sounds like a good idea. I don't anticipate swapping it around a lot. Maybe occasionally when loading a bunch of new programs. In any case, it should be removable without having to first remove the cells.

Re: Any DIY5 pics out there?

*Message #60 Posted by **Eric Smith** on 17 Dec 2011, 12:04 p.m.,*
in response to message #59 by David Griffith

A year from two AAA cells is based on assumptions that are not likely to be valid for all users. In particular, not for "power users". As I wrote when explaining the options, really only the relative lives of the different options were approximately accurate, and not the absolute times indicated.

The original plan with two AAA cells and USB was that the power from the USB would power the USB transceiver, but nothing else in the calculator, such as the processor. As I've described, the reason for that plan was the lack of suitably buck-boost regulators. However, there is a problem with that plan, which is that as long as the calculator is plugged into USB the main oscillator has to run at 48 MHz, so the power consumption is higher than usual. This means that using USB would significantly reduce the battery life.

I've described some of the alternatives previously, and we're now considering how to proceed.

I don't think we can make the USB receptacle "easily replaceable". It's soldered in, after all. The only products I can think of that have "easily replaceable" USB receptacles are USB host adapters (e.g., for PCI, CardBus, PCI Express, or ExpressCard), where they are replaced by replacing the entire host adapter.

We probably can't have the receptacle recessed or under a rubber plug, even though I agree that it's a good idea, because it complicates the industrial design too much. If we were experts at industrial design, or could afford to

hire people that were...

I wanted to put the SD card in the battery compartment, and would certainly prefer that it be replaceable without removing the AAA cells, but doing that requires an extra PCB, two connectors, and a flex jumper, which increase cost, decreases reliability, and makes it harder to do the industrial design.

Edited: 17 Dec 2011, 12:06 p.m.

Re: Any DIY5 pics out there?

*Message #61 Posted by **uhmgawa** on 17 Dec 2011, 3:02 p.m.,*
in response to message #58 by Eric Smith

> Quote:
>
> We would have to either add a buck regulator and two schottky diodes, in addition to the boost regulator we use from the two AAA cells, or switch to using only a buck regulator with four AAA cells... If we stick with the two AAA cells and add a buck regulator for USB, we introduce a schottky diode drop in the battery path, which takes away from the usable battery life.

Unless you have a need for efficient conversion off the usb power rail, a linear regulator can be used to drop the usb voltage. And rather than suffering the diode drop, a high side p-channel switch on the internal cell gated from the usb rail would disconnect the internal cell when usb power is present.

I suppose if you wanted to get fancy you could add an inductor (and free-wheeling diode to ground) between the p-channel switch and internal rechargeable cell(s), then PWM the gate to charge the internal cells via buck conversion. When usb power isn't present the inductor DC saturates and effectively won't cause a voltage drop.

> Quote:
>
> The problem with using four AAA cells and only a buck regulator is that the buck regulator has to be on all of the time, even when the calculator is "off", because it has to supply at least 1.85V to the processor to maintain memory and timekeeping. While some buck regulators have a "burst mode" for dealing with low-load conditions, the quiescent current is usually far too high. This afternoon we found a buck regulator that might do the job, but we'll have to evaluate it.

I faced a similar issue with the prospect of 3V cores powered from the legacy voyager 4V5 button stack. The current draw of smps control circuitry is going to exceed that of a linear regulator at these current budgets. Using a low quiescent current linear regulator in tandem with a buck converter would have addressed the issue of data retention power. The SoC can perform the switch between linear and smps as needed for power on/off. The problem I had particular to my scenario was finding a linear regulator with a quiescent current comparable to a NUT in a powoff state in order to approximate the fabled decade+ shelf life a NUT leveraged from SR44s. No regulators really come close but TI has some IIRC with about a 1uA Iq. I believe since then I found a linear regulator from

Analog Devices which can best that.

Re: Any DIY5 pics out there?

*Message #62 Posted by **sylvandb** on 18 Dec 2011, 12:41 a.m.,*
in response to message #57 by uhmgawa

> Quote:
>
> Unfortunately [USB] is somewhat of a weak link in terms of reliability for device lifetimes expected here as the connectors are typically rated for a maximum 5K mating cycles assuming ideal conditions, considerably less otherwise.

When looking for a reliable USB connector, check female micro-usb (NOT mini-USB). With the female micro-USB being adopted as a standard charge input, high-reliability connectors are available. IIRC, the baseline is 15K cycles, and the 'springs' are on the male part (cable end) which is easily replaceable.

Re: Any DIY5 pics out there?

*Message #63 Posted by **Eric Smith** on 18 Dec 2011, 1:19 a.m.,*
in response to message #62 by sylvandb

The plan is to use a Micro-B receptacle.

If we were going to support USB OTG, we'd use a Micro-AB receptacle. However, OTG presents too many challenges for our power management design, and for firmware development.

Power management for OTG would be easy if we used a rechargeable lithium-polymer cell, because there are single-chip solutions for that. Implementing OTG using primary cells is much more difficult, especially because we need very high efficiency.

Re: Any DIY5 pics out there?

*Message #64 Posted by **sylvandb** on 18 Dec 2011, 4:40 p.m.,*
in response to message #63 by Eric Smith

> Quote:
>
> The plan is to use a Micro-B receptacle.
>
> If we were going to support USB OTG, we'd use a Micro-AB receptacle. However, OTG presents too many challenges for our power management design, and for firmware development.
>
> Power management for OTG would be easy if we used a rechargeable lithium-polymer cell, because there are single-chip solutions for that. Implementing OTG using primary cells is much more difficult, especially because we need very high efficiency.

If power is the only/major reason not to do OTG, leave power out but do the rest. In other words, you cannot call it OTG, but all functionality is present except for power. Then it is easy to use a special cable which activates OTG and supplies power to the USB device, or a special powered USB hub which activates OTG and does not need power from the host.

(I've seen reference to several devices which do this, but the only one I own is the HP TouchPad.)

Re: Any DIY5 pics out there?

*Message #65 Posted by **Derek Walker (UK)** on 16 Dec 2011, 8:09 a.m.,*
in response to message #48 by Eric Smith

A quick check on the calc's in my desk drawer (HP, TI, Casio, Canon) shows that most have five columns of keys on the numeric keypad and six columns on the function keys above them. Almost all (including HP35s and WP34s ex HP20b) are between 76mm and 82mm wide, the exception being the very petite Casio FX-82 Solar (FX-260 in US) at 70mm without its slide-on case.
I've sometimes wondered if there is merit in having a slim calculator with coin cells for memory retention and hand-held use, with an AA-battery desk cradle giving a better viewing angle for desktop use. However AFAIK such an item has never been available, so maybe it's not so good an idea....

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Defective HP-41CV for 41CL?

*Message #1 Posted by **Ernst Fueloep** on 12 Dec 2011, 8:59 a.m.*

I have a defective HP-41CV which is cosmetically in an excellent condition. But I have no idea why it is not working. When I insert new batteries the calculator immediately shows the following display and doesn't react on any key press:

Any ideas what may be wrong with this HP-41CV? Would this be a suitable unit for the HP-41CL upgrade? The S/N is 2236xxxxxxx.

Re: Defective HP-41CV for 41CL?

*Message #2 Posted by **Eric Smith** on 12 Dec 2011, 3:18 p.m.,*
in response to message #1 by Ernst Fueloep

Try executing the BEEP function. If it beeps, the logic board is probably fine, the problem is most likely with the flex circuit or zebra strip. If it doesn't BEEP, the problem could still be with the flex circuit, zebra strip, or logic board.

If only the logic board has failed, then it is a great candidate for the 41CL upgrade.

If the flex circuit or zebra strip has failed, they would have to be repaired or replaced before the 41CL would work.

Re: Defective HP-41CV for 41CL?

*Message #3 Posted by **db (martinez, ca.)** on 12 Dec 2011, 9:50 p.m.,*
in response to message #1 by Ernst Fueloep

41s sometimes make a screen full of crazy characters if you wiggle an IL cable when it's in the process of transferring info (this probably includes interrupting any I/O, such as a memory chip or dedicated printer). Letting it set for a half a year with no power will sometimes fix it, but: you NEED a donor and this looks like one. besides, the loco characters i'm talking about usually look more like japanese kangi.

Re: Defective HP-41CV for 41CL?

*Message #4 Posted by **Juergen Keller** on 13 Dec 2011, 12:57 a.m.,*
in response to message #1 by Ernst Fueloep

As it does not work properly, it makes sense to open and inspect it anyway. I haven't seen many 41s where the logic board was defective, my first guess is some kind of contact problem. Check for broken screw posts and check the zebra strip. Probably, the fix will be easy, and then the question is obsolete :-) Good luck!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.3

*Message #1 Posted by **robertoataulfo** on 12 Dec 2011, 7:09 a.m.*

```
CATALOG ( 1196 bytes)


11/12/11  14:48:43


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xmem" @ A$(3)="3:DR"
2 IF B=1 THEN A$=CAT$(I)
3 IF B=2 THEN A$=XCAT$(I)
4 IF B=3 THEN A$=TCAT$(':dr',I)
5 IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
6 B$=WKEY$ @ IF B$="…" THEN I=I+1
7 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
8 IF B$='u' THEN C$="Purge" @ GOSUB 16 @ PURGE A$ @ GOTO 1
9 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 16 @ EDIT A$ @ END
10 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 16 @ RUN A$
11 IF B$='c' THEN C$="Copy to drive " @ GOSUB 16 @ GOTO 21
12 IF B$="x" THEN B=GETMSG("1:75 2:Xmem 3:DR ?","123") @ I=1 @ GOTO 2
13 IF B$="b" THEN BYE
14 IF B$='p' THEN C$="Print" @ D$=A$ @ GOSUB 16 @ GOTO 18
15 GOTO 2
16 A$=A$[1,POS(A$," ")-1]
17 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
18 PWIDTH INF @ PRINT A$;' (';VAL(D$[13,18]);'bytes)'
19 PRINT @ B$=DATE$ @ PRINT B$[7,8]&B$[3,6]&B$[1,2]&"  "&TIME$ @ PRINT
20 PLIST A$ @ PRINT @ GOTO 2
21 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
22 IF B=2 THEN B$=A$(1)&D$&A$(3)
23 IF B=3 THEN B$=A$(1)&D$&A$(2)
24 DISP C$[1,8]&B$&" ?" @ B=VAL(WKEY$) @ B$=A$ @ IF B#1 THEN B$=A$(B)[2,LEN(A$(B))]
25 IF A$="keys" THEN COPY KEYS TO B$ ELSE COPY A$ TO B$
26 GOTO 2


u    = Purge File
e    = Edit Basic File
r    = Run Basic File
c    = Copy File to
p    = Print Basic File
b    = Bye (Off)
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


:Xmem=82718A


Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Cosine curio

*Message #1 Posted by **Bob Patton** on 11 Dec 2011, 5:17 p.m.*

```
     Laguerre cosine approximation
        Math history fun fact
I came across this some 50 years ago,
before calculators had trig keys.


It's good to about 4 significant digits for first quadrant,
and exact at 0, 45, 60, 90 degrees.


m = angle/90 for degrees or angle/pi/2 for radians


                  -m^2
 ( ---------------------------------- - 1)
   sqrt((-m^3 + 4m^2 -5m + 2)/3) + m


This can be expressed in linear form as:


-(((((((4-m)m-5)m+2)/3)^(1/2)+m)^(-1)mm)-1)


which can be keyed in directly on a simple chain-logic memory
calculator with a square root key and the ability to find the
reciprocal using some combination of / and = keys. Handle the
leading minus at the end, just mentally if necessary.


To test it, on a 12C, for angles in degrees:


90 / ENTER ENTER ENTER
4 x<>y - X 5 - X 2 + 3 / g-sqrt + 1/x  X X 1 - CHS
```

<*** End of File ***>

Re: OT: Cosine curio

*Message #2 Posted by **Crawl** on 11 Dec 2011, 9:23 p.m.,*
in response to message #1 by Bob Patton

It seems like the final 1 should be positive, not negative.

Re: OT: Cosine curio

*Message #3 Posted by **Namir** on 12 Dec 2011, 6:49 p.m.,*
in response to message #1 by Bob Patton

Interesting approximation! Can we enhance it now that we have tools like Matlab and Excel?

Crawl it right in pointing out that the trailing -1 in the first two equations should be +1.

Namir

Re: OT: Cosine curio

*Message #4 Posted by **C.Ret** on 13 Dec 2011, 5:45 a.m.,*
in response to message #1 by Bob Patton

Really interesting approximation.

As **Namir** and **Crawl** have already point out, there is a typo in the developed formulae only.

$$1-\frac{m^2}{m+\sqrt{\frac{2-5.m+4.m^2-m^3}{3}}}$$

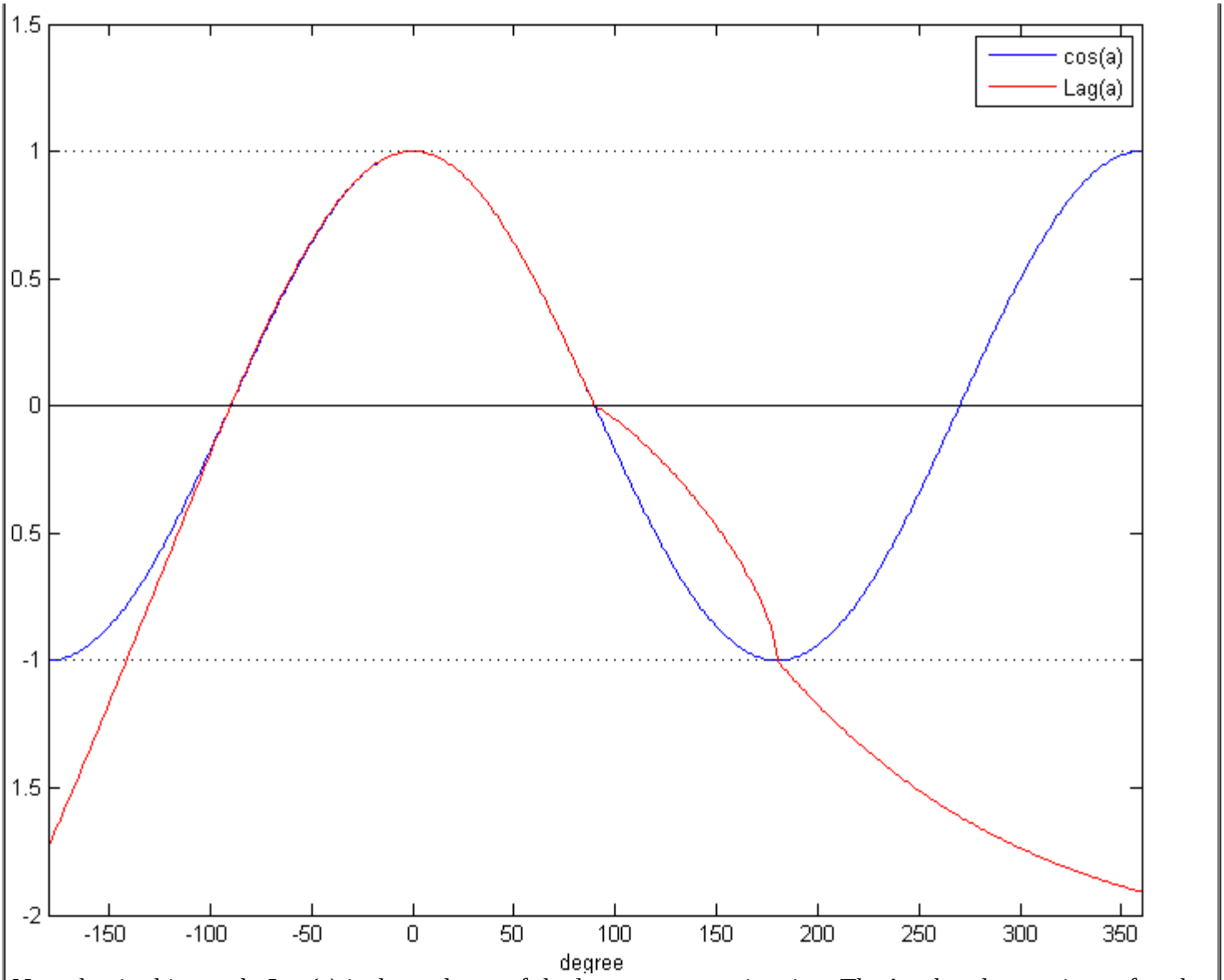
The linear formulea and the RPN instructions are all correct.

Using my HP-41C, I just test a few points to observe error between cosine and the Laguerre approximation (express in the following table as ppm

Angle(°)	m=a/90°	Laguerre(m)	Cos(a)	Error(ppm)	
-90	-1	0.0000000	0.0000000	0	
-45	-0.5	0.7124144	0.7071068	7506	
0	0	1.0000000	1.0000000	0	
10	1/9	0.9848786	0.9848078	72	
20	2/9	0.9398473	0.9396926	165	
30	1/3	0.8661695	0.8660254	166	
40	4/9	0.7660945	0.7660444	65	
45	0.5	0.7071068	0.7071068	0	
50	5/9	0.6427550	0.6427876	-50	
60	2/3	0.5000000	0.5000000	0	
70	7/9	0.3421859	0.3420201	484	
80	8/9	0.1739508	0.1736482	1742	
90	1	0.0000000	0.0000000	0	
120	4/3	-0.1927647	-0.5000000	-614471	!!!!!
135	1.5	-0.3203263	-0.7071068	-546	
145	1.6111	-0.4175237	-0.8191520	-490	
180	2	-1.0000000	-1.0000000	0	
225	2.5	n.a.r.v.	-0.7071068	nan	

As explain, in first quadrant, few error and exact value for same remarkable values are obtained.
No more approximation can be obtained after 180° due to the sign of the polynôme under the square root.

The following figure better illustrate accuracy and region of interest for this cosine approximation:



Note that in this graph, Lag(a) is the real part of the laguerre approximation. That's why plot continue after the 180° limit.

As **Namir** point it out, we can enhance this approximation, but not only in accuracy, other way may be to make it usable on a larger domain.

Edited: 13 Dec 2011, 5:58 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 emulator for PC

*Message #1 Posted by **Bill Lafferty** on 11 Dec 2011, 3:31 p.m.*

Is there a HP41 emulator available for a Windows (XP) PC, where one can (a) save programs and (b) use the printer commands, if even to a text file? Thanks, Bill in Cooma, Australia

Re: HP41 emulator for PC

*Message #2 Posted by **Raymond Del Tondo** on 11 Dec 2011, 5:03 p.m.,*
in response to message #1 by Bill Lafferty

Emu41.

Link should be available in the simulator section;-)

HTH

Re: HP41 emulator for PC

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Dec 2011, 6:14 p.m.,*
in response to message #1 by Bill Lafferty

Look for a website which name is based on your calculator (two letters and two numbers) and with the top-level domain used for organizations. Google may help. Due to complex (legal) issues, it's not possible to post more detailed information here.

Edited: 11 Dec 2011, 6:15 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Programming Tutorial Posted

*Message #1 Posted by **Eddie W. Shore** on 11 Dec 2011, 1:30 p.m.*

The latest installment: Part 14 (Complex Numbers)

Eddie's Calculator Blog

Re: HP 15C Programming Tutorial Posted

*Message #2 Posted by **Geir Isene** on 11 Dec 2011, 4:16 p.m.,*
in response to message #1 by Eddie W. Shore

Now that's a good and useful blog right there. Thanks.

Re: HP 15C Programming Tutorial Posted

*Message #3 Posted by **Thomas Klemm** on 14 Dec 2011, 12:40 p.m.,*
in response to message #1 by Eddie W. Shore

The comparison of the two methods to enter complex numbers confused me slightly because in the first example you start with a stack *[x y z t]*, enter *a* and *b* and end up with *[a+ib x y y]*, while in the second example you start with *[y z t ?]*. Why? I'd start with *[x y z t]* as well and end up with *[a+ib x y z]* instead.

As I always considered the stack as the interface to communicate with the calculator I don't esteem your solution to solve the quadratic equation much. You can do it without storing any numbers into registers. See message 2 in: Short quadratic solver (HP-15C)

To solve your first example you'd just enter the three coefficients of the quadratic equation and run the program:

```
2
ENTER
3
I
3
CHS
ENTER
4
CHS
I
2
Re<>Im
E
```

Both solutions are now on the stack. You can use *x<>y* and *(i)* to display them. Bonus: the same program can also be used for real coefficients.

Kind regards
Thomas

Edited: 14 Dec 2011, 12:44 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP49g+ keyboard replacing

*Message #1 Posted by **AdrianT** on 11 Dec 2011, 4:29 a.m.*

I managed to finally replace parts of the keyboard on my HP49g+ calculator. I took photos during the process and wrote a short description. If anyone is interested, message me. I can upload the PDF file somewhere too..

Re: HP49g+ keyboard replacing

*Message #2 Posted by **Han** on 18 Dec 2011, 12:09 a.m.,*
in response to message #1 by AdrianT

I'd be unterested

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

a bunch of brand new 71b's on Ebay

*Message #1 Posted by **Don Shepherd** on 11 Dec 2011, 10:22 a.m.*

If you're willing to spend $600 for a brand new 71b, this might interest you.

I have no affiliation with this auction. Ebay ID neer_do_well.

Re: a bunch of brand new 71b's on Ebay

*Message #2 Posted by **robertoataulfo** on 11 Dec 2011, 10:51 a.m.,*
in response to message #1 by Don Shepherd

He did not show documentation (manuals)

Re: a bunch of brand new 71b's on Ebay

*Message #3 Posted by **Don Shepherd** on 11 Dec 2011, 11:03 a.m.,*
in response to message #2 by robertoataulfo

Yeah, you're right. From the size and appearance of the boxes, it appears to be like a shipment to a business who is buying a lot of these, rather than a retail package to be sold in a store, so maybe the manuals weren't part of the package. He says it only includes the calculator and the zipper case. Buyer beware.

Re: a bunch of brand new 71b's on Ebay

*Message #4 Posted by **Howard Owen** on 11 Dec 2011, 12:00 p.m.,*
in response to message #3 by Don Shepherd

The main photos show a bare bones 71B, but the photo below shows one with a card reader. Given the disclaimer, I'm betting the first photos are correct. Given that, and IMHO, these aren't worth $599.00, NIB or not.

Re: a bunch of brand new 71b's on Ebay

*Message #5 Posted by **Don Shepherd** on 11 Dec 2011, 12:58 p.m.,*
in response to message #4 by Howard Owen

Yeah, the photo below was obviously stolen from this site, the seller didn't even airbrush MoHPC out. What a jerk. I agree, I wouldn't pay that price for a NIB unit.

Re: a bunch of brand new 71b's on Ebay

*Message #6 Posted by **robertoataulfo** on 12 Dec 2011, 10:06 a.m.,*
in response to message #1 by Don Shepherd

71b with the documentation :-)

Re: a bunch of brand new 71b's on Ebay

*Message #7 Posted by **Howard Owen** on 12 Dec 2011, 1:41 p.m.,*
in response to message #6 by robertoataulfo

The translation Google comes up with contains a description that sounds like he's listing the things you can add to a 71B, particularly a Forth module and an HP-IL interface, but that those aren't actually included. If that's the case, then this is another outrageously priced machine. Even if those items were included, the price is still too high.

Re: a bunch of brand new 71b's on Ebay

*Message #8 Posted by **Thomas Radtke** on 12 Dec 2011, 2:01 p.m.,*
in response to message #7 by Howard Owen

> Quote:
>
> The translation Google comes up with contains a description that sounds like he's listing the things you can add to a 71B, particularly a Forth module and an HP-IL interface, but that those aren't actually included. If that's the case, then this is another outrageously priced machine. Even if those items were included, the price is still too high.

The sentence where he mentions the Forth module isn't correct german. It makes no sense as it is.

The sentence where he mentions the HP-IL leaves it open if he lists something this machine could do (by adding something) or if this particular machine can do it. I think it's deliberately misleading.

I don't trust him.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Math, magic and shuffling cards

*Message #1 Posted by **Randy** on 11 Dec 2011, 9:49 a.m.*

Wall Street Journal book review article

Edited: 11 Dec 2011, 9:51 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL Usage Notes: Clock Mode and Turbo Interaction

*Message #1 Posted by **Craig Ruff** on 10 Dec 2011, 11:08 p.m.*

I noticed that the turbo mode is cleared if you enter clock mode with shift-ON, but not by executing CLOCK. The owner's manual states that shift-ON actually turns the calculator off briefly, but CLOCK does not. Displaying the CLOCK obviously doesn't need turbo mode, but if you don't remember this behavior you might wonder why things are running slowly after exiting the clock display mode.

Re: 41CL Usage Notes: Clock Mode and Turbo Interaction

*Message #2 Posted by **Ángel Martin** on 11 Dec 2011, 5:27 a.m.,*
in response to message #1 by Craig Ruff

Yes, that´s because turning the clock on involves a CALC_OFF event and it´s likely that the TURBO mode resets to default.

This is very easy to go around just by patching YFNS in the CALC_ON event to re-set TURBO50, as per Monte´s instructions in the CL manual.

Edited: 11 Dec 2011, 5:28 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP70 - cosmetic side

*Message #1 Posted by **Alberto Fenini** on 10 Dec 2011, 8:09 a.m.*

DearAll,
I have had my first experience with the Tamiya TS-80 and I wanted to share the results.
At first I wanted to swap the keyboard plate with an old HP45. However, as it had been impossible toremove the lettering as opposite to when you DON'T want to remove the lettering and they fade away by simply cleaning the keyboardplate, I gave up and decided to keep the original plate.
This had been sand paper treated becuase of some badscratches that I wanted to remove, so the original appearance was a little changed.
With a flow of hot air (150 °C) I have removed the plate from the original shell.
This way I can restore the silver trim easier than with the plate installed and also, using the tamiya will require less protection.
I'm wondering is someone else has used the spray before, and if they are using the original can, a micro airbrush or just a brush.
Since I don't have a microairbrush, I have used botha brush (forget it ...) and the orginal can, on some old keyboard plates and plastic pieces.
It must be said it is not very easy, but I think there are two secrets : 1 stay at least at 40 cm away from the object you want to paint and 2 use VERY little spary i.e. push the cap very gently.
It may be obviuos, but to me it was not ....
I', attaching the results and any comment or suggestion to improve the tecnique will be very welcome
anejoy the weekend!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: WebOS

*Message #1 Posted by **Katie Wasserman** on 9 Dec 2011, 10:44 p.m.*

HP plans to turn WebOS into an open-source project

I wonder if this signals a change in heart at HP and the way they will deal with software in the future. I don't know if this would ever affect the calculator group, but there are several computer systems where this policy would be appropriate. I'm thinking mainly of abandoned MPE/iX and some of the 9000 series systems.

Edited: 10 Dec 2011, 12:03 a.m. after one or more responses were posted

Re: OT: WebOS

*Message #2 Posted by **M. Joury** on 9 Dec 2011, 10:58 p.m.,*
in response to message #1 by Katie Wasserman

Thanks Katie,

I have been waiting to see what HP decided to do with WebOS. This might breathe new life into what could be a great OS with just a little bit of polishing.

Cheers,

-Marwan

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

anyone recognize these pics from old HP manuals?

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 9 Dec 2011, 9:10 p.m.*

Don Shepherd introduced this thread back in November. The pictures of attractive young women in high heels working with computers reminded me of the advertisements which appeared for the Osbornes. Those portable machines weighed about as much as a typical concrete block. The advertisements showed the women walking comfortably in high heels while carrying the Osborne in one hand. I always suspected that the pictures were posed with a carrying case with the computer innards removed.

Re: anyone recognize these pics from old HP manuals?

*Message #2 Posted by **Don Shepherd** on 10 Dec 2011, 1:28 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I don't think anyone actually identified which two HP manuals these pictures came from. Hint: they weren't calculator brochures.

Re: anyone recognize these pics from old HP manuals?

*Message #3 Posted by **Eric Smith** on 10 Dec 2011, 3:06 a.m.,*
in response to message #2 by Don Shepherd

I don't know which specific manuals, but I've definitely seen the photos in documentation regarding the 21xx family minicomputers (2114/2115/2116, or 2100, or somewhat less likely, the 21MX M/E/F series). I'm guessing that they're from some of the paperback handbooks.

Re: anyone recognize these pics from old HP manuals?

*Message #4 Posted by **Don Shepherd** on 10 Dec 2011, 8:10 a.m.,*
in response to message #3 by Eric Smith

You're exactly right. Does anyone know which specific manuals?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

On-line collection updated

*Message #1 Posted by **Keith Midson** on 9 Dec 2011, 8:53 p.m.*

I've just had a big update of my on-line collection. General stream here (recent additions come up first):
PHOTOSTREAM
HP collection: HP Collection
Non HP collection: NON-HP
Sharp's: SHARP
Lloyd's Accumatics: LLOYD's
HP 12C set: HP-12C
HP rare stuff: HP RARITIES
Enjoy! Cheers, Keith

Re: On-line collection updated

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 12 Dec 2011, 3:06 a.m.,*
in response to message #1 by Keith Midson

Hi Keith
What a incredible nice collection.
Cheers!
Johnny

Re: On-line collection updated

*Message #3 Posted by **Jose Gonzalez Divasson** on 12 Dec 2011, 5:01 p.m.,*
in response to message #1 by Keith Midson

A fantastic collection. I wish I had half of them!

Re: On-line collection updated

*Message #4 Posted by **Matthias Wehrli** on 12 Dec 2011, 5:11 p.m.,*
in response to message #1 by Keith Midson

Also for me, 2-3 very nice units are in your collection. Keep them save or let me know ;)

Re: On-line collection updated

*Message #5 Posted by **Keith Midson** on 13 Dec 2011, 4:13 a.m.,*
in response to message #4 by Matthias Wehrli

Thank you Johnny, Jose and Matthias. I have two HP rarities on their way to me (thanks Juergen and Bruce!) as well as one unusual HP - so the collection is always expanding and will be continuously updated.
I am also trying to find the right glass display cabinets so that I can display them at the office. At the moment they are mostly hidden in a cabinet (apart from a few items in my glass bookshelf behind my desk

and my favorite HP's that stay on my desk and get daily use).
Cheers, Keith

Edited: 13 Dec 2011, 4:14 a.m.

Re: On-line collection updated

*Message #6 Posted by **Dale Reed** on 13 Dec 2011, 4:57 p.m.,*
in response to message #5 by Keith Midson

Keith,

If you find a nice display case avaiable generally (through Internet or retail purchase and not just a one-off from some store closing), please post here. I'm looking for one as well.

What I'd REALLY like to find is a low-profile wall-mount one (like a picture frame, maybe a tad deeper) that's suitable for, say, a dozen Voyagers and a couple Woodstocks.

Yeah, I know, I should just go buy some Plexiglas and glue and get busy sawing and gluing. But I want it to look good... I've seen pictures of what some of you have built -- and I KNOW my fabrication skills are nowhere near what's needed to do the same!

Dale

Re: On-line collection updated

*Message #7 Posted by **David Ramsey** on 13 Dec 2011, 5:00 p.m.,*
in response to message #6 by Dale Reed

> Quote:
>
> What I'd REALLY like to find is a low-profile wall-mount one (like a picture frame, maybe a tad deeper) that's suitable for, say, a dozen Voyagers and a couple Woodstocks.

Most framing shops should be able to fabricate something like that for you.

Re: On-line collection updated

*Message #8 Posted by **Dave Shaffer (Arizona)** on 13 Dec 2011, 6:15 p.m.,*
in response to message #6 by Dale Reed

Do a google/yahoo search on "acrylic (wall) display cases"

I found this . Prices are around $200 for 5 to 7 shelves.

Re: On-line collection updated

*Message #9 Posted by **Keith Midson** on 13 Dec 2011, 7:05 p.m.,*
in response to message #6 by Dale Reed

Hi Dale,
Yes I will let everyone know when I find something. I've thought about IKEA display cabinets - but i'm really after something solid with some wood. I remember a similar thread a year or so ago - Katie Wasserman showed her collection in some excellent cabinets (and I can't find the thread). I

was after something similar to that.
I do like the acrylic display cabinets in Dave's post - that might be an easier and cheaper solution for now.
Cheers, Keith

Re: On-line collection updated

*Message #10 Posted by **Katie Wasserman** on 13 Dec 2011, 10:43 p.m.,*
in response to message #9 by Keith Midson

Here's a really old thread on this topic.

I should probably post some more up-to-date pictures of my collection but the cases are still the same: 2 small ones and two large ones, two sets of drawers containing manuals and accessories. I use some IKEA shelving for the large desktop machines I have (HP-9810, HP-9815, HP-46, HP-81 and a bunch of non-HP machines.)

Edited: 13 Dec 2011, 10:52 p.m.

Re: On-line collection updated

*Message #11 Posted by **Keith Midson** on 14 Dec 2011, 1:01 a.m.,*
in response to message #10 by Katie Wasserman

Thanks Katie, That's the thread I was looking for. Cheers, Keith

Re: On-line collection updated

*Message #12 Posted by **Keith Midson** on 16 Dec 2011, 3:27 p.m.,*
in response to message #11 by Keith Midson

I have just uploaded some quick photos of a Yokogawa-HP 21 to the collection: YHP21 and YHP21-2

Re: On-line collection updated

*Message #13 Posted by **Juergen Keller** on 16 Dec 2011, 4:43 p.m.,*
in response to message #12 by Keith Midson

You'll find some more YHP calcs on the Dentaku Museum web site; go to the HP section and scroll down a bit.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

15c LEs Replaced

*Message #1 Posted by **Gerry Schultz** on 9 Dec 2011, 1:53 p.m.*

I just received my replacement 15C LEs for the two I had given to HP to evaluate at the last HHC. The original units had bad keys. These new units are S/N 13841 and S/N 13802. Their firmware version is 2011-04-15 which is still current I believe but I'll check with my other units.

Merry Christmas,

Gerry

Re: 15c LEs Replaced

*Message #2 Posted by **Ethan Conner** on 9 Dec 2011, 4:22 p.m.,*
in response to message #1 by Gerry Schultz

It's the same firmware.

Re: 15c LEs Replaced

*Message #3 Posted by **Michael de Estrada** on 9 Dec 2011, 4:56 p.m.,*
in response to message #1 by Gerry Schultz

Glad to hear it. It looks like they scrapped the original production past LE number 03000, and started a new production run with 13000. What are your serial numbers ? That will give an indication of when they were produced. Do the keys feel any different on the new ones ? Are the f (yellow) and g (blue) shift keys loose or do they rattle ?

Re: 15c LEs Replaced

*Message #4 Posted by **Gerry Schultz** on 9 Dec 2011, 6:18 p.m.,*
in response to message #3 by Michael de Estrada

The serial numbers are 13802 and 13841. There's also a second tag on each unit, CNA1410BK0 and CNA1410BK3 in the upper right of the back of the units. If they are part numbers, I would think they should be the same, but they're not. The two units look and act identical. What do these numbers mean?

Gerry

P.S. I forgot to mention that the keys feel the same as the first batch of 15C LEs including the f and g keys which wobble a bit, but that doesn't bother me.

Edited: 9 Dec 2011, 8:56 p.m. after one or more responses were posted

Re: 15c LEs Replaced

*Message #5 Posted by **Michael de Estrada** on 9 Dec 2011, 6:54 p.m.,*

in response to message #4 by Gerry Schultz

Those are the true serial numbers. The CNA is the factory code, the first number is the last digit of the year (2011), the next two digits is the week number (41) in which they were manufactured. So, they were bother manufactued in the 41st week of 2011, which would be mid October. The last four digits are lot codes. The Limited Edition numbers are not serial numbers.

The serial numbers for the original production units that I bought all indicated manufacturing dates in the 31st or 32nd week of 2011, which was in August.

Edited: 9 Dec 2011, 7:08 p.m.

Re: 15c LEs Replaced

*Message #6 Posted by **Jeff Kearns** on 9 Dec 2011, 8:04 p.m.,*
in response to message #5 by Michael de Estrada

My LE Number is 02720 with Manufacturing Part Number (actual serial number...?) of CNA 1310L1B. Therefore, it was made in the 31st week of 2011.

The unit, with the exception of the slightly wonky shift keys, seems fine. What are the chances that it has as yet undiscovered faulty keys or some other problem, being part of the original batch? Would the firmware version of all LE units released to date - old and new - be 2011-04-15? How can I tell? Where is the Checksum indicated? I take it replacement units have the PSE bug also.

My very first HP calculator was a 15C S/N 2237AXXXXX. This new one is very fast - e.g. Valentin's third double integral example in his "Long Live the HP-34C !" article (a must have like all of his other articles), takes some 17 minutes on the 34C and not much faster on an original 15C, but computes to at least 6 significant digits in a mere 6 seconds on the 15C LE.

The HP 15C is, in my humble opinion, the best pure RPN calculator, with all functions readily accessible from the keyboard, ever made.

Jeff Kearns

Re: 15c LEs Replaced

*Message #7 Posted by **Michael de Estrada** on 9 Dec 2011, 8:18 p.m.,*
in response to message #6 by Jeff Kearns

The firmware date and checksum are indicated by running the second self-test, i.e. calc off g ENTER ON then release ON g ENTER, then press 2 followed by any key repeatedly until you return to the main menu, then ON to exit and turn the calc OFF. You can also test the keyboard by pressing 3 in the main menu, and then pressing every key in any order at least once to turn off all segments on the display. If your keyboard works properly, then it's unlikely you'll have any problems. Mine has worked perfectly for 3 months now, and I've used it nearly daily.

Re: 15c LEs Replaced

*Message #8 Posted by **Eddie W. Shore** on 11 Dec 2011, 1:31 p.m.,*
in response to message #1 by Gerry Schultz

Quote:

I just received my replacement 15C LEs for the two I had given to HP to evaluate at the last HHC. The original units had bad keys. These new units are S/N 13841 and S/N 13802. Their firmware

version is 2011-04-15 which is still current I believe but I'll check with my other units.

Merry Christmas,

Gerry

Do the new units have better keyboards?

Merry Christmas, Gerry

Re: 15c LEs Replaced

*Message #9 Posted by **Gerry Schultz** on 11 Dec 2011, 3:10 p.m.,*
in response to message #8 by Eddie W. Shore

Hi Eddie, The keyboards feel the same as the original ones. I didn't notice any difference. The F and G keys still move around a bit but I don't find it to be a problem.

Gerry

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another Red Dot for sale

*Message #1 Posted by **Michael de Estrada** on 8 Dec 2011, 9:57 p.m.*

This is being sold now for $1227.

This one was sold in mid October for $1237.

Same seller, different serial number, neither has ROM bugs.

Re: Another Red Dot for sale

*Message #2 Posted by **gene wright** on 8 Dec 2011, 11:03 p.m.,*
in response to message #1 by Michael de Estrada

You missed this one...same seller as well.

HP 35 red dot for > $1600

Re: Another Red Dot for sale

*Message #3 Posted by **Michael de Estrada** on 8 Dec 2011, 11:41 p.m.,*
in response to message #2 by gene wright

Indeed ! Complete and all original, except for the ac adapter.

Re: Another Red Dot for sale

*Message #4 Posted by **Ignazio Cara (Italy)** on 9 Dec 2011, 2:32 a.m.,*
in response to message #3 by Michael de Estrada

I do not agree with you about the charger. This is an original HP-35002A, that was the first type of charger sold with the 35 RD. Perhaps the skeleton of the battery pack is not an original 35001A but this is very hard to verify by the pictures. Regards

Ignazio

Edited: 9 Dec 2011, 2:36 a.m.

the battery pack is a 03501A

*Message #5 Posted by **Frank Boehm (Germany)** on 9 Dec 2011, 6:32 a.m.,*
in response to message #4 by Ignazio Cara (Italy)

(pictures are large enough, when using the galery view), so everything seems to be fine :)

Re: Another Red Dot for sale

*Message #6 Posted by **Michael de Estrada** on 9 Dec 2011, 9:00 a.m.,*
in response to message #4 by Ignazio Cara (Italy)

Hi Ignazio,

Hate to be picky, but the original ac adapter is a 03502A, not 35002A. Looking at the enlarged photo in the listing, the model number on the ac adapter appears to be 82002A, which was a later model for the ac adapter. In fact, when I bought my HP 35 Version 3 in mid 1973, it came with that charger that looks the same as the earlier model and was made in the USA. I agree that the calculator looks authentic, as do the other accessories including the hard travel case.

Regards,

Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Zebra

*Message #1 Posted by **aj04062** on 8 Dec 2011, 7:19 p.m.*

I have a 1982 HP15C that seems to have a problematic zebra strip. I think I diagnosed this as the problem after powering up the display/cpu module disconnected from the keyboard. The symptoms are the same as when it is assembled in the unit.

I thought I had it solved when I substituted a strip from a similar vintage 12C I have. The 15C came to life, passed the keyboard test, etc. However, after sitting a bit, the same symptoms came back.
Does anyone else have experience curing issues like this? If it helps, I can post pictures.

Edited: 8 Dec 2011, 7:19 p.m.

Re: HP-15C Zebra

*Message #2 Posted by **John Robinson** on 9 Dec 2011, 12:50 a.m.,*
in response to message #1 by aj04062

Did you also clean the contacts on both the circuit board and LCD with a good quality circuit board cleaner ?. It could also come down to pressure, maybe you need a little more pressure to squish the zebra a little more - just a thought!!

Cheers, John

Re: HP-15C Zebra

*Message #3 Posted by **uhmgawa** on 9 Dec 2011, 1:46 a.m.,*
in response to message #1 by aj04062

> Quote:
>
> I thought I had it solved when I substituted a strip from a similar vintage 12C I have. The 15C came to life, passed the keyboard test, etc. However, after sitting a bit, the same symptoms came back.
> Does anyone else have experience curing issues like this?

One of the problems with the legacy voyager lcd glass design is the lack of a vertical zebra retainer/stabilizer which makes (re)assembly a bit of a challenge. Unless the zebras are located near normal to the pcb before compression, they tend to distort and potentially buckle to varying extents which will lead to intermittent or even failed connections. This is aggravated by the fact the stainless compression frame fingers need to be sprung apart to seat into the pcb mounting holes. In the process of doing so the display tends to move around and the zebras along with it.

Eyeball the glass from either extreme side, sighting under the glass along the zebra length. If the zebra is flexed outward where it mates with the pcb, you can push it back normal by carefully pushing under the stainless frame along the length of the zebra, where and as needed. If it flexes inward that is much less fun, but you

could try to pull it outward into alignment with a taut music wire or preferably a thin metallic strip which will have far greater rigidity in the needed direction.

If you need to fish under the display to coax the zebras into position, you'll also need to navigate around the two alignment studs which pass through the pcb.

Re: HP-15C Zebra

*Message #4 Posted by **aj04062** on 9 Dec 2011, 12:53 p.m.,*
in response to message #3 by uhmgawa

When I initially fixed this unit, it was the little short zebra from the keyboard the LCD unit that seemed to be the problem.

I did clean with alcohol, but will look for other contact/pcb cleaner. Do you think a pencil eraser is good enough or should I use something else?

I'll look to see if I can insert something between the flex pcb and the zebra to get better contact.

Edited: 9 Dec 2011, 12:55 p.m.

Re: HP-15C Zebra

*Message #5 Posted by **uhmgawa** on 9 Dec 2011, 6:54 p.m.,*
in response to message #4 by aj04062

> Quote:
>
> When I initially fixed this unit, it was the little short zebra from the keyboard the LCD unit that seemed to be the problem.

Ah, I see. I thought you were referring to the lcd zebras.

You can try buzzing out continuity between the key matrix and the CPU. I haven't done so but I'd expect somewhere in the few k-ohm range for a zebra contact pad-to-pad. The zebra resistance needs to be low enough to overcome the parasitic key matrix capacitance seen by the ~55KHz scan with enough noise margin for reliable operation. A scope on a row input of a pressed key position would confirm this.

It has been a while since I had an early voyager apart but IIRC the flex zebra contacts were gold plated. I'm not sure what type of foreign contamination may exist in your case but I'd avoid losing any of the gold plating as that will remove the copper pad oxidation barrier.

I was always a bit mystified by the construction of the early voyagers given a separate pcb for display and silicon requiring yet another zebra connect to the key matrix pcb. I usually cringe when the cost reduction madmen arrive with hacksaws. But in this case it is an absolute improvement by any measure.

Re: HP-15C Zebra

*Message #6 Posted by **Randy** on 9 Dec 2011, 6:40 p.m.,*
in response to message #1 by aj04062

It would be helpful to know what the actual problem is...

Re: HP-15C Zebra

*Message #7 Posted by **aj04062** on 9 Dec 2011, 7:21 p.m.,*
in response to message #6 by Randy

Completely unresponsive calculator. It will display "c eef c".

Interestingly, I left the batteries out since I started this thread. I just installed to take a picture and it is working fine again. I ran keyboard and self test and they both pass.

I tried shorting the terminals before and that didn't cure it in the past, if you are thinking to discharge the capacitor.

Re: HP-15C Zebra

*Message #8 Posted by **uhmgawa** on 9 Dec 2011, 9:58 p.m.,*
in response to message #7 by aj04062

> Quote:
>
> Completely unresponsive calculator. It will display "c eef c".

Hopefully it wont, but if it does get into that state again you might leave it be to determine if the ~10 minute display timeout occurs as that doesn't require CPU/program intervention.

Yet I'd suspect an intermittent joint on the display/cpu board as a cause of that symptom. Although admittedly I've never actually seen an early vintage 15c of that construction, but only a 16c and 12c. In those cases neither the board nor surrounding frame had provisions for a 15c's additional r2d2.

A picture would be interesting if you have reason to open it up again.

Re: HP-15C Zebra

*Message #9 Posted by **Randy** on 10 Dec 2011, 10:37 a.m.,*
in response to message #8 by uhmgawa

> Quote:
>
> Yet I'd suspect an intermittent joint on the display/cpu board as a cause of that symptom. Although admittedly I've never actually seen an early vintage 15c of that construction, but only a 16c and 12c. In those cases neither the board nor surrounding frame had provisions for a 15c's additional r2d2.

+1 - as I have seen several flex circuit units with fractured soldering, the most recent, a 15C.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #1 Posted by **Egan Ford** on 8 Dec 2011, 5:08 p.m.*

http://www.telegraph.co.uk/science/space/8940350/Nasas-Voyager-1-in-cosmic-purgatory-on-verge-of-entering-Milky-Way.html

At HHC we were told that the Saturn processor was named as such because Voyager was on it's was to Saturn.

> Quote:
>
> The Voyagers have enough power and fuel to operate until at least 2020.

I'll wager that all my Voyagers (10C-16C, sans 11C) will still be going strong by 2020.

It'll be interesting to see which Voyager line lasts longer. The original or the 12C.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #2 Posted by **Valentin Albillo** on 9 Dec 2011, 5:00 a.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> http://www.telegraph.co.uk/science/space/8940350/Nasas-Voyager-1-in-cosmic-purgatory-on-verge-of-entering-Milky-Way.html

About *"entering the Milky Way"*, a couple' observations:

1. Both Voyagers, as well as our whole planet, inhabitants,and machines, already *are* in the Milky Way, i.e., our very own galaxy, so they can hardly be *"entering"* it. As for *"exiting"* it, that would be indeed groundbreaking news.

2. Much has been said about the Voyagers being on the verge of *"leaving the solar system"* and such, and while that's technically correct for a certain definition of the limits of the solar system let's not forget that once they do they will still be about 15 or 20 light-*hours* from the Sun but about 4 light-*years* from the nearest star or solar system, i.e., not that far from home at all. Plotted to scale on a regular sheet of paper their locations would still fall right on top of the Sun's.

Best regards from V.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #3 Posted by **DeboT** on 9 Dec 2011, 5:22 a.m.,*
in response to message #2 by Valentin Albillo

Just a reporter's attempt at a catchy headline ;-)

NASA's Voyager site puts it better: heading for "interstellar space", which I assume translates to "that area of space outside any noticeable influence[1] of stars (e.g. our own sun)"

[1] However "noticeable influence" may be defined ;-).

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #4 Posted by **Valentin Albillo** on 9 Dec 2011, 5:40 a.m.,*
in response to message #3 by DeboT

> Quote:
>
> Just a reporter's attempt at a catchy headline ;-)
>
> NASA's Voyager site puts it better: heading for "interstellar space", which I assume translates to "that area of space outside any noticeable influence[1] of stars (e.g. our own sun)"
>
> [1] However "noticeable influence" may be defined ;-).

Hehe, true.

I wonder if we'll ever retrieve them in the future, to be displayed at the Smithsonian's or some other museum.

That would preclude they eventually being found and examined by aliens, which would actually be positive if only to avoid embarrasment at aliens writhing their gonopods in stupor when finding a large *analog* record which must be physically made to slowly rotate while scratching its surface with a needle (!!) in order to retrieve meager amounts of info stored there, instead of a small non-mechanical chip stuffed with large amounts of electronically-retrievable *digital* data.

How uncannily primitive civilization ! ... XD

Best regards from V.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #5 Posted by **Cristian Arezzini** on 9 Dec 2011, 6:56 a.m.,*
in response to message #4 by Valentin Albillo

> Quote:
>
> How uncannily primitive civilization ! ... XD

Well... I know this is all "tongue-in-cheek" but, there are a few points:
- I would suppose that even the most advanced (for us) digital chip would still be considered way primitive by the aliens;
- Digital would be much more difficult to "extract information" from - though I suppose they would figure out the pinouts and communications protocol of the chip;
- The analog record is MUCH more durable! Ad damage-resistant. What if a the aliens' idea of a

safe, low-voltage battery, is 5000 VDC?
- The more primitive the technology, the more durable and easy to fix it is - consider: an abacus, a Curta, an HP-35, an iPod. Which would last more? Which would be easiest to figure out and eventually to fix?

:)

Cristian

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #6 Posted by **Howard Owen** on 9 Dec 2011, 11:46 a.m.,*
in response to message #5 by Cristian Arezzini

Assuming aliens knew about propagation of sound through a medium, they would probably recognize the grooves in a "vinyl" (It's actually titanium or something) disk as being an analog of said propagation. Once that was understood, "reading" the information wouldn't necessarily have to involve needles or scratching of any sort. Figuring out the function of a digital memory might take them a couple of, um, heartbeats longer.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #7 Posted by **Howard Owen** on 9 Dec 2011, 11:52 a.m.,*
in response to message #5 by Cristian Arezzini

The disk is actually made of gold plated copper with an aluminum cover. The obverse of the disk contains pictographic hints about how to read the contents. More fun facts here.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #8 Posted by **bill platt** on 9 Dec 2011, 9:19 p.m.,*
in response to message #7 by Howard Owen

Let's hope it lands on a salty planet. That way the aliens won't ever be able to use it to find us.

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #9 Posted by **bill platt** on 9 Dec 2011, 3:56 p.m.,*
in response to message #2 by Valentin Albillo

He Valentin:

Don't spoil their fun! ;-)

Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #10 Posted by **Pal G.** on 9 Dec 2011, 2:49 p.m.,*
in response to message #1 by Egan Ford

The Telegraph article:

Quote:

It [Voyager] is about to become the first man-made object to leave the Solar System, although Nasa expects it to take between several months and years before it completely enters interstellar space. Voyager 2 will follow later.

Wikipedia on the Voyager Golden Record:

Quote:

As of 2008, the two Voyager spacecraft became the third and fourth human artifacts to escape entirely from the solar system.

Gotta love the internets..

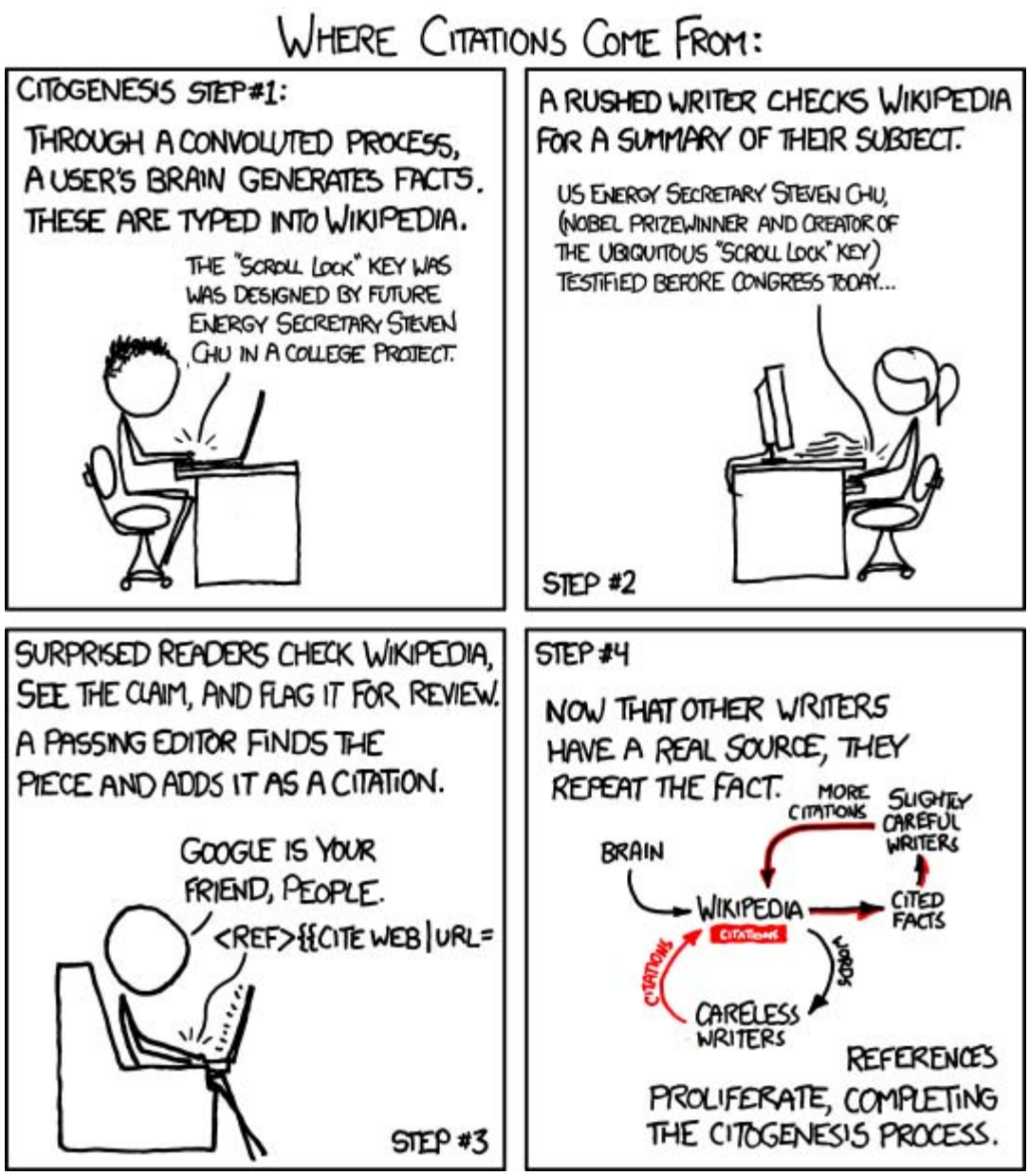
Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

*Message #11 Posted by **Dominic Richens** on 9 Dec 2011, 3:43 p.m.,*
in response to message #10 by Pal G.

Quote:

The Telegraph article:

Gotta love the internets..



Re: OT: Nasa's Voyager 1 in 'cosmic purgatory' on verge of entering Milky Way

Message #12 Posted by ***Howard Owen*** *on 9 Dec 2011, 8:11 p.m.,*
in response to message #10 by Pal G.

Pioneer 10 and 11 are out there too.

Edit: Pioneer 10's distance from the sun was was exceeded by Voyager 1 in 1998. Assuming Pioneer 11 isn't moving faster than its sister, that would mean the Telegraph article is correct.

Edited: 9 Dec 2011, 10:30 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

41CX-MCODE: Digit Sum function

*Message #1 Posted by **Ángel Martin** on 8 Dec 2011, 5:05 p.m.*

So who said the 41 was an outdated platform? Here's a tidbit that may make you think it twice:-

Since I didn´t find any routine to calculate the digit sum I took upon writing one myself - here's the deceptively simple code for a CX environment - may you enjoy it as much as I do !

```
087     "G"
009     "I"
004     "D"
04E     "Sigma"
0F8     READ 3(X)
00E     A=0 ALL
39C     PT= 0
33C     RCR 1
3C6     RSHFC S&X
3C6     RSHFC S&X
146     A=A+C S&X       value to convert in A[S&X]
3DC     PT=PT+1
0D4     ?PT= 10
3D3     JNC -06 [NEXTD]
17D     ?NC GO  CX-only!!
0C6     ->315F  [ATOX20]
```

Best, 'AM

Re: 41CX-MCODE: Digit Sum function

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 8 Dec 2011, 5:16 p.m.,*
in response to message #1 by Ángel Martin

Hi Angel, I have been a FOCAL programmer for a long time; however your solutions and challenges on HP-41 MCODE as well as being a proud owner of a HP-41CL and a NoVRAM-64 got me very interested in getting into HP-41 MCODE, and explore the further potentials of the HP-41 beyond FOCAL. How can I write this code you provided into a HP-41? I would appreciate. Thanks, Kerem

Re: 41CX-MCODE: Digit Sum function

*Message #3 Posted by **gene wright** on 8 Dec 2011, 5:27 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Easiest way is to buy an HP 41CL ! :-)

Re: 41CX-MCODE: Digit Sum function

*Message #4 Posted by **Juergen Keller** on 8 Dec 2011, 5:32 p.m.,*
in response to message #3 by gene wright

He already got one. And a NoVRAM-64, too, which can emulate HEPAX and thus is perfect for getting into MCODE.

Re: 41CX-MCODE: Digit Sum function

*Message #5 Posted by **Juergen Keller** on 8 Dec 2011, 5:30 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

There are many ways to do that. I would recommend to have a look at the famous and exciting HEPAX module. The manuals are available on TOS; the second part contains information about MCODE.

If you don't know what TOS means google for 'HP-41 archive'. Why TOS is used in this forum is another story ...

Re: 41CX-MCODE: Digit Sum function

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 8 Dec 2011, 5:56 p.m.,*
in response to message #5 by Juergen Keller

Thanks for the pointers, and yes I do have a 41CL (thanks to Monte!) and NoVRAM-64(receving soon, thanks to Diego!). I will read the HEPAX module documentation on MCODE and try it first on my HP41 emulator (i41CX) which has the HEPAX module capability, see what will it take to enter Angel's code in my HP-41. I never though I would be going into MCODE, but now with all the available hardware, software and the knowledge base, seems like a great way to explore HP-41 beyond FOCAL and Syntetic.

41CL and NoVRAM...

*Message #7 Posted by **gene wright** on 8 Dec 2011, 6:20 p.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

I believe there are some issues with the NoVRAM 64 and the 41CL.

certain NoVRAMs do not work properly?

Re: 41CL and NoVRAM...

*Message #8 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 8 Dec 2011, 6:40 p.m.,*
in response to message #7 by gene wright

I received heads up that NoVRAM-64 may not work properly on the 41CL which is OK, because I was able to replace the dead CPU board on my HP-41C with the CL to give it a new and improved life while my 41CV will be receiving the NoVRAM-64 module (awaiting delivery). 41CL provides everything I need, memory, speed, modules and much more, while NoVRAM gives me HEPAX and MEMORY and module/program transferability on my HP-41CV. I don’t see the need to use CL and NoVRAM together, except the idea of using NoVRAM with USB programmer to download programs and modules and later transfer them to the 41CL (didn’t get the serial port with this one).

Re: 41CL and NoVRAM...

*Message #9 Posted by **Frido Bohn** on 9 Dec 2011, 3:37 a.m.,*
in response to message #7 by gene wright

> Quote:
>
> I believe there are some issues with the NoVRAM 64 and the 41CL.

My first try to plug in a Nov64 into the 41CL rendered pure chaos. I had "YFNZ" in Page 8 because I wanted to use the HPIL. But somehow the HEPAX system of the Nov64 doesn't like Page 8 to be occupied by somewhat else because it expects to get HEPAX RAM into there. Well, this may be also true for the real HEPAX module, but I have no chance to check this. To make things work in the 41CL, I accommodated YFNZ into Page E (PLUG4L). In the Nov64 Pages E and F have to be free so that there is no conflict with YFNZ of the 41 CL and the HEPAX OS (HEPAX 1D) of the Nov64 gets the chance to instal itself into Page F.

Edited: 9 Dec 2011, 3:41 a.m.

Re: 41CL and NoVRAM...

*Message #10 Posted by **Ángel Martin** on 9 Dec 2011, 8:05 a.m.,*
in response to message #9 by Frido Bohn

The Real HEPAX module re-allocates itself to the lowest available port upon each CALC_ON event. This includes pages 5,6 and 8, - as well of course as the "outside" ports.

Re: 41CL and NoVRAM...

*Message #11 Posted by **Diego Diaz** on 10 Dec 2011, 12:02 a.m.,*
in response to message #7 by gene wright

Here is the mail I sent to "Monte's 20" after I get back home (a few of weeks ago) and tested with my own 41CL:

Hi there,

I just get back home a couple of days ago. Yesterday night finally get my 41CL comfortably installed into a donor CV housing and start some Clonix/NoV's compatibility test.

Good to know that Clonix has been proven useful to move pages to/from 41CL's. Sorry about the serial programmer issue Geoff (they're known not to work with laptops.)

I've tested, Clonix-41 and Clonix-D and they both work as expected. Tested NoV-64 -ver.08r- and it also works as it should. I remember some users reported NoV-64 issues when plugged into 41CL's, please contact me to diagnose the trouble.

Also tested NoVRAM and NoV-32, and they DOES NOT work. Occasionaly, when using an older NoVRAM software version it turns up and seemed to work, but it is not a stable situation whatsoever and trends to crash.

Of course, I'll check the NoVRAM and NoV-32 code in order to find a suitable solution as soon as I can.

Tests have been performed with 41CL "out-of-the-box" (-YFSN 1A) no mods or upgrades.

All the best from the Canary Islands.

When using NoV it assumes port 1 or 2, therefore page 8 *must* be free for proper operation.

I've also tested Real Adv. HEPAX placed into port 2 and another ROM into port 1 and the 41 doesn't turn on or crashes.

As stated above, NoVRAM and NoV-32 are not compatible with CL at the moment, and I'm seeking the causes for this issue.

My best wishes for the upcoming Xmas season.

Diego.

Re: 41CX-MCODE: Digit Sum function

*Message #12 Posted by **Frido Bohn** on 9 Dec 2011, 3:20 a.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> I will read the HEPAX module documentation on MCODE and try it first on my HP41 emulator (i41CX) which has the HEPAX module capability, see what will it take to enter Angel's code in my HP-41.

I recommend to check for Section 12 in Vol. 2 of the HEPAX Module manuals. There, the development of an own ROM is explained step by step. Especially the sub-section "Example of a user-developed ROM" was very helpful for me. If you want to dive deeper into MCODE an ultimate must is Ken Emery's "MCODE for Beginners"!

Re: 41CX-MCODE: Digit Sum function

*Message #13 Posted by **Ángel Martin** on 9 Dec 2011, 2:20 a.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

I´d say the HEPAX is the only thing you need. Its image is available on the CL so you´re all set - can use the NoVO on your other machine if you want, that's what I also do.

Using HEXEDIT it´s just a few keystrokes away, directly on the HEPAX RAM - also available in the CL library.

The CLUTILS ROM (also included) has HEPCL, a function to setup the HEPAX in the CL, it will PLUG the ROM in page B and 4 HEPAX RAM blocks in pages C-F.

For the new revision of CLUTILS I have prepared two versions of HEPCL, one setting up 16k of HRAM, the other only 8k. Also have a mini-HPX routine that sets up only 4k, perfect for testing and quick checking of things. Let me know if you'd need any of these as well.

Make sure your batteries are fresh!

Re: 41CX-MCODE: Digit Sum function

*Message #14 Posted by **Ángel Martin** on 9 Dec 2011, 2:30 a.m.,*
in response to message #13 by Ángel Martin

Here's the mini-HPX routine - it plugs the HPX ROM in page A and the HRAM in page B so the layout takes up port 2, a minimal footprint.

```
Mini-HEPAX:
port #2, id#="C"
```

```
1       LBL "HPX4"
2       TURBO50
3       "0B9>808"
4       AVIEW
5       YMCPY
6       "808000-000C"
7       YPOKE
8       "808-RAM"
9       PLUG2U
10      "HEPX"
11      PLUG2L
12      HEPDIR
13      END
```

Unfortunately neither page 6 or 7 support bank-switching - so the HEPAX ROM must be in the "upper space" - I use page 7 for the AMC/OSX module (my tweak of the CCD/OSX, itself a CCD derivative), an absolute must.

Re: 41CX-MCODE: Digit Sum function

*Message #15 Posted by **Diego Diaz** on 10 Dec 2011, 10:11 a.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

Hi Kerem,

You (and any other interested user) may found this .pdf document easier to handle than the scanned copy.

Hope this helps.

Cheers from Spain.

Diego.

Re: 41CX-MCODE: Digit Sum function

*Message #16 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 11 Dec 2011, 1:42 a.m.,*
in response to message #15 by Diego Diaz

Hi Diego,

Thanks for the file, it is much easier to read and search for keywords. Hopefully by the end of this weekend I will figure out how to input Angel's MCODE in my HP-41 using the NoVRAM-64 and 41CL independently (for the moment). Regards, Kerem

Re: 41CX-MCODE: Digit Sum function

*Message #17 Posted by **C.Ret** on 9 Dec 2011, 4:44 a.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> So who said the 41 was an outdated platform?

Certainly not me!

> Quote:

> Since I didn´t find any routine to calculate the digit sum I took upon writing one myself

By calculating "the digit sum", did you mean computing the sum of all the digits of a decimal number?

For instance, are you expecting that 123.509 return twenty?

> Quote:
>
> here's the deceptively simple code for a CX environment - may you enjoy it as much as I do !

I only own an HP-41C with two memory modules, but no other exotic modules that are in question here. I have no clue at all about what your code is doing and how it is doing it !! But, I really enjoy if I may learn it!

Re: 41CX-MCODE: Digit Sum function

*Message #18 Posted by **Ángel Martin** on 9 Dec 2011, 8:06 a.m.,*
in response to message #17 by C.Ret

> Quote:
>
> For instance, are you expecting that 123.509 return twenty?

indeed.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 CATALOG 2.2

*Message #1 Posted by **robertoataulfo** on 8 Dec 2011, 10:21 a.m.*

```
HP-75 CATALOG 2.2 ( 1162 bytes)


07/12/11  22:09:40


1 DELAY 0 @ B=1 @ I=1 @ A$(1)="1:75" @ A$(2)="2:Xram" @ A$(3)="3:Dr"
2 IF B=1 THEN A$=CAT$(I)
3 IF B=2 THEN A$=XCAT$(I)
4 IF B=3 THEN A$=TCAT$(':dr',I)
5 IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
6 B$=WKEY$ @ IF B$="…" THEN I=I+1
7 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
8 IF B$='u' THEN C$="Purge" @ GOSUB 16 @ PURGE A$ @ GOTO 1
9 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 16 @ EDIT A$ @ END
10 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 16 @ RUN A$
11 IF B$='c' THEN C$="Copy to drive " @ GOSUB 16 @ GOTO 21
12 IF B$="x" THEN B=GETMSG("1:75 2:XRAM 3:dr ?","123") @ I=1 @ GOTO 2
13 IF B$="b" THEN BYE
14 IF B$='p' THEN C$="Print" @ D$=A$ @ GOSUB 16 @ GOTO 18
15 GOTO 2
16 A$=A$[1,POS(A$," ")-1]
17 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
18 PWIDTH INF @ PRINT A$;' (';VAL(D$[13,18]);'bytes)'
19 PRINT @ B$=DATE$ @ PRINT B$[7,8]&B$[3,6]&B$[1,2]&"  "&TIME$ @ PRINT
20 PLIST A$ @ PRINT @ GOTO 2
21 D$=" or " @ IF B=1 THEN B$=A$(2)&D$&A$(3)
22 IF B=2 THEN B$=A$(1)&D$&A$(3)
23 IF B=3 THEN B$=A$(1)&D$&A$(2)
24 DISP C$[1,8]&B$&" ?" @ B=VAL(WKEY$)
25 IF A$="keys" THEN COPY KEYS TO A$&A$[B] ELSE COPY A$ TO A$&A$(B)
26 STOP


u    = Purge File
e    = Edit Basic File
r    = Run Basic File
C    = Copy File to
p    = Print Basic File
b    = Bye (Off)
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


Enjoy :-)
```

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Patricia Dunn (1953-2011)

*Message #1 Posted by **BruceH** on 7 Dec 2011, 10:02 p.m.*

Patricia Dunn died from ovarian cancer on Dec 4th, aged 58. She became an HP director in1998 and took over as Chairman following the ousting of Carly Fiorina before having to resign in 2006 after becoming mired in the phone spying scandal (remember that?) although all charges against her were dropped the following year.

Edited: 7 Dec 2011, 10:03 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Vintage Typewriters

*Message #1 Posted by **Egan Ford** on 7 Dec 2011, 5:42 p.m.*

http://www.youtube.com/watch?v=4pdTz6OPURU&feature=youtu.be

Re: OT: Vintage Typewriters

*Message #2 Posted by **Garth Wilson** on 7 Dec 2011, 6:42 p.m.,*
in response to message #1 by Egan Ford

"forces you to slow down"?? My high-school typing teacher typed 80-90wpm on a manual typewriter in the 1970's! I'm hardly over half that much on the PC keyboard. There's some validity however to the part about not just writing the first thing that comes to mind; because I don't think in a good order to communicate, so it's nice to be able to keep move things around and insert and delete sentences, phrases, and paragraphs.

slowing down

*Message #3 Posted by **Frank Boehm (Germany)** on 8 Dec 2011, 8:16 a.m.,*
in response to message #2 by Garth Wilson

We had to use "vintage" teletyping machines at the army which had a "lockup" function when typing more than 50(?) characters per minute. That was really annoying, as you just couldn't type as fast as you could, instead it was a good idea to just only use one finger to slow you down. (Funny sidenote: We had to do a typing exam to reach at least 100 characters per minute. I made a bet with our instructor, that I'd pass with over 200 characters using only 2 fingers. I came out with 215...<g>)

Re: OT: Vintage Typewriters

*Message #4 Posted by **Jon S Canale** on 8 Dec 2011, 8:58 p.m.,*
in response to message #2 by Garth Wilson

I worked for 4 months in a Smith Corona typwriter plant in NY.

I guess I'm old.

(There were only electric typewriters built in this plant at that time, so maybe I'm not so old!!)

Re: OT: Vintage Typewriters

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 9 Dec 2011, 8:55 p.m.,*
in response to message #2 by Garth Wilson

> Quote:
>
> "forces you to slow down"?? My high-school typing teacher typed 80-90wpm on a manual typewriter in the 1970's! I'm hardly over half that much on the PC keyboard.

I took a year of typing in high school in 1944. The best that I could manage was about fifty wpm, but that was after subtracting five wpm for each error that I made. The girls who were in the secretarial sequence typicaally managed eighty wpm. In typing class we had to touch type as the typewriters did not have letters on the keys.

I still have the Smith Corona portable that I purchased in 1947 at the University of Minnesota. I haven't used it in years. I also have a Coronamatic 2200 that I purchased in about 1980. It's advantages over the older mechanical machine were (1) because it was electric each character appeared with the same intensity (2) it had four keys which cooulod be replaced to provide a limited capability to do scientific symbols.

Others in this thread have addressed longevity. I still have the Simpson Midgettester that was provided by Honeywell to field engineers in the late 1950's. It still works but I have replaced the test leads many times. The test leads screwed into the tester. Thatt was a real advanttage when working on aircraft on the flight line. If you dropped the tester you could rescue it by holding onto the test leads.

Re: OT: Vintage Typewriters

*Message #6 Posted by **SteveH** on 8 Dec 2011, 7:31 a.m.,*
in response to message #1 by Egan Ford

I've not followed the link yet (I can't from this computer) but it's an interesting coicidence as my 10-yo daughter just asked for a mechanical typewriter for her birthday.

I've written a couple of letters with this and it certainly leads to a more considered style of writing. My analogy would be like going back to a film camera from digital. The resulting output isn't necessarily any better or worse but you have to think about it a bit more which may be a good thing.

Re: OT: Vintage Typewriters

*Message #7 Posted by **peacecalc** on 8 Dec 2011, 9:06 a.m.,*
in response to message #6 by SteveH

Hello, vintage technology lovers,

It's not only a personal kind of living or working. It's a kind of society changement. New technologies allow a lot of people doing things, which they were unable to do in former times. It's a kind of going on more democracy. But it seems although become true, the quality of the products become lower and lower.

For example a lot of people can publish with the help of the internet. But the quality of enormous bunch of written articles...

Re: OT: Vintage Typewriters

*Message #8 Posted by **Bill (Smithville, NJ)** on 8 Dec 2011, 9:10 a.m.,*
in response to message #6 by SteveH

> Quote:
>
> but you have to think about it a bit more which may be a good thing.

I can remember working for a large engineering firm that had a floor devoted to a typing pool. For reports and proposals we would hand write a draft and then "submit" it to the typing pool where it would be entered into the typing schedule. Since it might take several days before being typed, we spent a lot of time making sure our first draft was as close to final as possible. There never was enough time to allow for more

than two passes through the typing pool. The result was a very well thought out first draft and final report.

Later on when we switched to local word processing, we saw a lot of sloppy reports due to the fact that the thinking was "just put something on paper - it can always be cleaned up". Of course it's hard to clean something up if the original thought process was bad.

Bill

Re: OT: Vintage Typewriters

*Message #9 Posted by **Don Shepherd** on 8 Dec 2011, 10:21 a.m.,*
in response to message #8 by Bill (Smithville, NJ)

I think it is worth noting that the motto of one of the most successful computer companies in the world, IBM, is "Think".

The original manual on the programming language BASIC, at Dartmouth College in 1964, contains this sentence: "Typing is no substitute for thinking."

As a teacher, "thinking" is what I teach. I introduce principles and concepts and want my students to use their brains to understand these things, and experiment. It is through experimenting and thinking that learning really occurs.

I've been called a Luddite (I wear that badge proudly) regarding programmers who let the compiler catch their errors, and I cringe a bit every time I notice a programmer writing code but not testing it. In my mind, the programmer's job is not done until he or she thoroughly tests their code, and I don't necessarily mean by using an automated testing system either, although I do support those if used in support of other testing.

Re: OT: Vintage Typewriters

*Message #10 Posted by **Bill (Smithville, NJ)** on 8 Dec 2011, 10:38 a.m.,*
in response to message #9 by Don Shepherd

Hi Don,

> Quote:
>
> I think it is worth noting that the motto of one of the most successful computer companies in the world, IBM, is "Think".

Exactly!

During my first summer of college, I worked for the radio shop of the Jefferson Proving Grounds in Madison, IN. This was a army amunition testing base but staffed mainly by civilians. Barney (my Boss) was a great believer in thinking before doing. We had to install radios in various army trucks, cars, jeeps, and tanks. He would have us spend many hours (sometimes days) reviewing how we were going to mount the radio, run the wiring, etc, before we ever started the work. The result was always a beautiful installation with no errors or rework being required.

Barney's work method of thinking it all out first has stayed with me. His favorite expression has also stuck with me: "I cut it off twice, but it's still too short."

Bill

Re: OT: Vintage Typewriters

*Message #11 Posted by **Martin Pinckney** on 8 Dec 2011, 9:04 p.m.,*
in response to message #10 by Bill (Smithville, NJ)

> Quote:
>
> ... my Boss was a great believer in thinking before doing.

Good idea in an ammunition testing base!

Re: OT: Vintage Typewriters

*Message #12 Posted by **bill platt** on 8 Dec 2011, 10:11 p.m.,*
in response to message #11 by Martin Pinckney

LOL

Re: OT: Vintage Typewriters

*Message #13 Posted by **Bill (Smithville, NJ)** on 9 Dec 2011, 8:29 a.m.,*
in response to message #11 by Martin Pinckney

Hi Martin,

It was a very interesting place to work. We'd be working on a transceiver, doing a little bit of soldering, and the warning whistle would sound. We would freeze, wait for the big gun to go off, wait for the lights to stop swinging, and then go back to soldering. This would happen several times a day. Great fun.

Bill

Re: OT: Vintage Typewriters

*Message #14 Posted by **Mike Morrow** on 9 Dec 2011, 1:32 p.m.,*
in response to message #13 by Bill (Smithville, NJ)

> Quote:
>
> ... We'd be working on a transceiver ...

Was it from the AN/VRC-12 (-43 to -49) series (RT-246/VRC, RT-524/VRC, R-442/VRC)? That is a vehicular tactical low-band VHF-FM set (30 to 76 MHz).

The U.S. AN/VRC-12 series is an amazing and likely the best example of extremely long service life for a complex and very widely deployed (with U.S. and allied military forces) set of electronics. It was first issued in 1961, and was not retired in U.S. service until 2008. That's a service life of **47 years**! The only major life-span alteration was introduction in the mid-1960s of silicon transistors in the A-models in place of germanium transistors in the original models. Never was an IC or uP to be found anywhere in it.

I know of nothing electronic anywhere, military or civilian, that equals this record. None of our favorite HP calculators come close.

Edited: 9 Dec 2011, 4:06 p.m. after one or more responses were posted

Re: OT: Vintage Typewriters

*Message #15 Posted by **Bill (Smithville, NJ)** on 9 Dec 2011, 3:46 p.m.,*
in response to message #14 by Mike Morrow

Hi Mike,

We used standard police VHF radios, Motorola Motrac with the remote control head. The tanks were the most fun to try to fit them into.

A funny sidenote: Barney wanted to have air conditioning; so he went on a campagn shutting down the repeaters, wait for the complaints to roll in, and then tell them that the excessive heat was causing them to shutdown. After about three weeks of this, a crew showed up, partitioned off the transmitters from the work space and installed a massive air conditioning unit on the transnmitter side of the partition. It ran full blast - no controls - and could keep the space, with the transmitters running full time, in the 60-65 deg F range. Barney quickly brought in some lawn chairs and we took our work breaks in comfort.

Bill

Re: OT: Vintage Typewriters

*Message #16 Posted by **bill platt** on 9 Dec 2011, 4:17 p.m.,*
in response to message #15 by Bill (Smithville, NJ)

Sparky: 1 HQ: 0

:-)

Re: OT: Vintage Typewriters

*Message #17 Posted by **Martin Pinckney** on 8 Dec 2011, 9:07 p.m.,*
in response to message #6 by SteveH

> Quote:
>
> My analogy would be like going back to a film camera from digital.

They've got digital cameras now?

***Nikon* F2** nut.

Re: OT: Vintage Typewriters

*Message #18 Posted by **Egan Ford** on 8 Dec 2011, 11:54 a.m.,*
in response to message #1 by Egan Ford

That mini-documentary was shot by Jason Scott on his new equipment that he will be using to film three feature-length documentaries: Arcade, Tape, and 6502. I am most excited about 6502 followed by Tape (as in tape backup). You may want to checkout his other two completed documentaries: BBS and Get Lamp. The former needs no introduction. The later is a documentary about interactive fiction and text adventures. Both are very well done and have great interviews.

Re: OT: Vintage Typewriters

*Message #19 Posted by **Ken Shaw** on 8 Dec 2011, 3:47 p.m.,*
in response to message #18 by Egan Ford

Very interesting. For me, there was a subtext of how change is understood differently by those who lived through it compared to those who simply see it in retrospect.

And the mechanical device. No batteries or circuits to corrode. Still working fine after 50 years.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE available in Switzerland

*Message #1 Posted by **Juergen Keller** on 7 Dec 2011, 5:16 p.m.*

Just got the message from a local calculator store that the HP-15 LE will be available in Switzerland around January 2012 for CHF 149.-. Well, I've already got one directly from the US for obvious reason ;-)

Re: HP-15C LE available in Switzerland

*Message #2 Posted by **hpnut** on 8 Dec 2011, 11:35 a.m.,*
in response to message #1 by Juergen Keller

whoa! are goods really more expensive in Switzerland? or do you people earn so much that it's nothing to you?

sorry, just curious.

hpnut in Malaysia

Re: HP-15C LE available in Switzerland

*Message #3 Posted by **Thomas Radtke** on 8 Dec 2011, 11:51 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> [...] do you people earn so much that it's nothing to you?

They actually do. Best politics within Europe is swiss made.

Unfortunately, you'll have similar prices all over the continent.

Re: HP-15C LE available in Switzerland

*Message #4 Posted by **Thomas Radtke** on 8 Dec 2011, 11:47 a.m.,*
in response to message #1 by Juergen Keller

> Quote:
>
> [...] I've already got one directly from the US for obvious reason ;-)

Doing beta tests for HP?

Joking. Of course, even including postage and custom fees, HPs are much cheaper to come by this way. My last three HP calculators were all from the U.S. I wonder when or if european dealers will do a reality check.

Re: HP-15C LE available in Switzerland

*Message #5 Posted by **Christoph Giesselink** on 8 Dec 2011, 2:00 p.m.,*
in response to message #4 by Thomas Radtke

Sorry, I could not confirm that self importing of a HP-15C LE is cheaper than the

149.00 SFR -> ~ 122 EUR

Price at hpcalc.org

HP15C $95 + Shipping per Priority Mail $34 = $129 -> ~ 98 EUR

For the German import you have to pay 19% import sales/purchases tax ->

98 EUR * 1.19 tax = 116.40 EUR

The last time, when got a caluctor from the US over FedEx I had to pay additional 7 EUR fee for the import sales/purchases tax handling.

So total 116.40 EUR + 7.00 EUR = 123.40 EUR !

That's no option, especially not for the case of a warranty problem (all keyboard problems already solved?) here in Germany. A warranty case is IMHO equal to a total financial loss.

Of course you could not compare, but in Germany a HP-50G costs

HP-50G 113.95 EUR + shipping 4.95 EUR = 118.90 EUR !

with no probems in a warranty case.

So I'm glad that I bought a new 15C in 1987 for 250 DM.

Christoph

Re: HP-15C LE available in Switzerland

*Message #6 Posted by **Juergen Keller** on 8 Dec 2011, 2:13 p.m.,*
in response to message #5 by Christoph Giesselink

I bought 5 HP-15C LE calculators from the US, one for me and 4 for colleagues. Price including shipping and custom taxes was around EUR 120.-; not really cheaper than buying it now in Switzerland. However, the reason was that I didn't wanted to wait. Furthermore, I wasn't even sure if the 15C LE find its way to Switzerland.

Re: HP-15C LE available in Switzerland

*Message #7 Posted by **Thomas Radtke** on 8 Dec 2011, 2:16 p.m.,*
in response to message #5 by Christoph Giesselink

> Quote:
>
> Sorry, I could not confirm that self importing of a HP-15C LE is cheaper than the
>
> 149.00 SFR -> ~ 122 EUR
>
> Price at hpcalc.org

SC, $94,99 + $18 p&p. Early & patient bird bonus ;-).

Re: HP-15C LE available in Switzerland

*Message #8 Posted by **Thomas Radtke** on 8 Dec 2011, 2:29 p.m.,*
in response to message #5 by Christoph Giesselink

> Quote:
>
> Of course you could not compare, but in Germany a HP-50G costs
>
> HP-50G 113.95 EUR + shipping 4.95 EUR = 118.90 EUR !

I also noticed this when a coworker got his 50g, and it's quite tempting to get one. However, the 35s in 2007 and later the 20b with help of a kind forum member were also cheaper to get in the U.S., allthough I don't remember the exact figures.

Re: HP-15C LE available in Switzerland

*Message #9 Posted by **Christoph Giesselink** on 8 Dec 2011, 5:29 p.m.,*
in response to message #8 by Thomas Radtke

Sorry for another disagreeing. It may be cheaper when you buy more than one calculator to save money for shipping.

Here's the 35S example:

hpcalc.org:

HP-35S $56 + Priority Mail shipping $31 = $87 -> ~66 EUR

With import sales/purchaches tax 66 EUR * 1.19 = ~79 EUR

In Germany at www.dynatech.de:

HP-35S 44.40 EUR + shipping 4.95 EUR = 49.35 EUR

Next let us compare the calculator price only:

hpcalc.org: $56 -> ~42.50 EUR * 1.19 tax = 50.60 EUR

vs.

www.dynatech.de 44.40 EUR

The calculator only example for the 20B:

hpcalc.org: $35 -> 26.60 EUR * 1.19 tax = 31.60 EUR

vs.

www.dynatech.de 33.30 EUR

The only reason IMHO for buying the 15C LE in the US is: you can get the 15C LE in the US only.

Regards

Christoph

Re: HP-15C LE available in Switzerland

*Message #10 Posted by **Thomas Radtke** on 9 Dec 2011, 2:59 a.m.,*
in response to message #9 by Christoph Giesselink

> Quote:
>
> Sorry for another disagreeing.

You didn't. I was referring to the price I paid in 2007.

If the situation has changed now, that's fine.

Re: HP-15C LE available in Switzerland

*Message #11 Posted by **Artur-Brazil** on 9 Dec 2011, 6:47 a.m.,*
in response to message #5 by Christoph Giesselink

Well, you're very luck guys!

19% of taxes!

Here, in Brazilian lands, it is 100% (over the calculator's price and shipping costs!)

My 15Cle was just from US$114 to US$228!!!

ARTUR

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Totally useless trivia... 41

*Message #1 Posted by **Ángel Martin** on 7 Dec 2011, 7:48 a.m.*

http://primes.utm.edu/curios/page.php/41.html

you've been warned...

Incidentally I came across that while looking for a 41-MCODE routine to calculate the sum of digits of a given number - anybody remembers where that'd be?

Re: Totally useless trivia... 41

*Message #2 Posted by **bill platt** on 7 Dec 2011, 9:26 a.m.,*
in response to message #1 by Ángel Martin

ironically the 41c is not mentioned.

Re: Totally useless trivia... 41

*Message #3 Posted by **Don Shepherd** on 7 Dec 2011, 9:38 a.m.,*
in response to message #1 by Ángel Martin

I don't know about MCODE and the HP-41, but here's a nice little HP-17b solver equation that gives you the sum of digits of a number. It even works on the newer HP-17bii+.

```
SOD=Σ(I:0:LOG(N):1:MOD(IDIV(N:10^I):10))
```

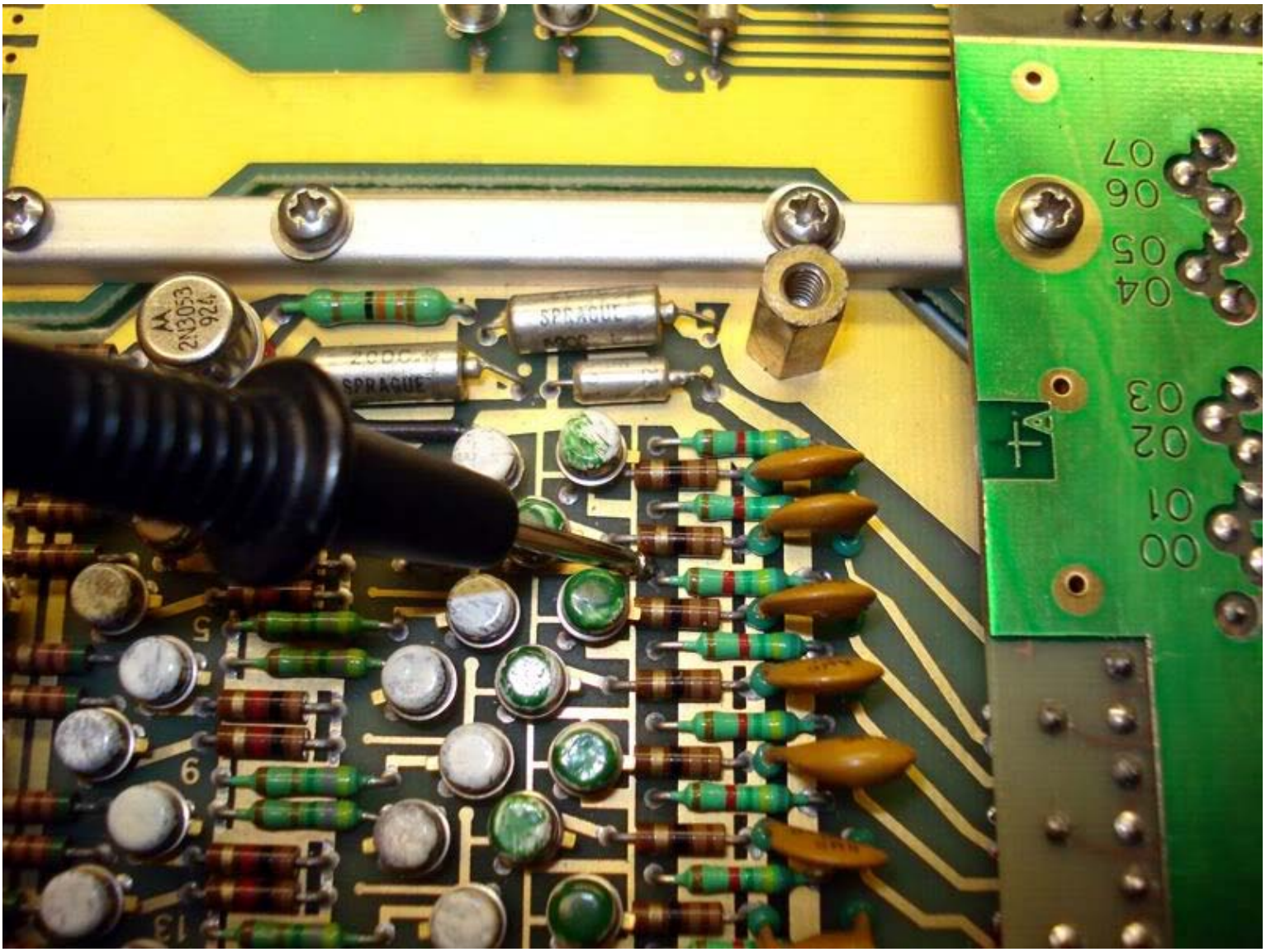
[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

9100A with no display now working!

*Message #1 Posted by **Richard Wilder** on 7 Dec 2011, 12:29 a.m.*

This is the 9100A I posted about about a year ago. It was DOA at the time and I've been working on it on and off ever since. (Katie this is the one my son bought from Aristotle.) To make a long story short I replaced some generic transistors that the previous owner had installed with NOS correct HP parts and eventually traced the problem down to two open resistors in two ROM sense amp circuits - one on the odd side and one on the even side. It would have been impossible to locate the problem without Tony's incredible schematics! Thanks Tony!



The card reader had no issues and reads & writes without error.

The plotter platen surface had de-laminated and stretched. I peeled it off and cleaned off the old adhesive. I was able to find a perfect (imho) replacement piece of material at a car custom graphics shop. After cleaning the contact rails and linear potentiometers with some DeoxIt the plotter is back to 100% functional. The 43 year old pens are dried up but the plotter went through the steps of plotting a sine wave.

My son will be posting these on eBay on Thursday (12/8.)

Re: 9100A with no display now working!
*Message #2 Posted by **hpnut** on 7 Dec 2011, 4:12 a.m.,*
in response to message #1 by Richard Wilder

Congratulations, nice machines. i don't think I will be bidding on ebay.

Re: 9100A with no display now working!
*Message #3 Posted by **Katie Wasserman** on 7 Dec 2011, 5:37 a.m.,*
in response to message #1 by Richard Wilder

Yeah, that looks like my old machine. Congratulations on finding those open resistors! I probably checked everything in that machine except the resistors on that board.

Re: 9100A with no display now working!
*Message #4 Posted by **David Ramsey** on 8 Dec 2011, 11:50 p.m.,*
in response to message #1 by Richard Wilder

And where in the world would one find NOS correct HP transistors?

I suppose that in order to have a complete collection, I should have a 9100A. But I think my investment in two

restored 9100Bs has used up all my discretional calculator money for the next five years...

Re: 9100A with no display now working!

*Message #5 Posted by **Richard Wilder** on 9 Dec 2011, 2:57 a.m.,*
in response to message #4 by David Ramsey

> Quote:
>
> And where in the world would one find NOS correct HP transistors?

Hi Dave, I got the 1854-0354 transistors that were the output transistors on the braided core board from http://www.etestparts.com/. I've also ordered NOS parts from http://www.sphere.bc.ca/test/hpparts.html. BTW Sphere has a nice cross reference list on that link of hundreds of HP transistors & diodes. Turns out there was no x-ref listed for the 1854-0354 parts I needed. Keep in mind the abreviated marking HP used on these parts: These transistors are marked "4-354" which is really part number "1854-0354"

Re: 9100A with no display now working!

*Message #6 Posted by **David Ramsey** on 10 Dec 2011, 1:48 p.m.,*
in response to message #5 by Richard Wilder

I just noticed you're right up the road from me, in Sparks (I'm in Reno).

Sigh. If I hadn't spent all my calculator funds for the next few years, I'd drop by and take a look. But there's little point in tempting myself now!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S version 2.3 (corrected)

*Message #1 Posted by **Eddie W. Shore** on 6 Dec 2011, 11:01 p.m.*

Finally, I get to dive (even if it is for a little bit) to the newest firmware of the WP 34S (build 1984-Who ya gonna call?).

Hopefully new overlays will be available soon.

Edited: 7 Dec 2011, 12:36 a.m. after one or more responses were posted

Re: WP 34S version 3

*Message #2 Posted by **Namir** on 7 Dec 2011, 12:03 a.m.,*
in response to message #1 by Eddie W. Shore

URL for downloading version 3? The URL I have from Max still points to version 2.3.

Namir

Edited: 7 Dec 2011, 12:21 a.m.

Re: WP 34S version 3

*Message #3 Posted by **Eddie W. Shore** on 7 Dec 2011, 12:36 a.m.,*
in response to message #2 by Namir

Build Page

Version 34S 2.3 1984

(Maybe the manual is version 3 and the software is 2.3)

Sorry if I got the version numbers wrong. :(

Edited: 7 Dec 2011, 12:37 a.m.

Re: WP 34S version 3

*Message #4 Posted by **Namir** on 7 Dec 2011, 1:12 a.m.,*
in response to message #3 by Eddie W. Shore

Ok Thanks! I already have access to these pages. I am focusing on the emulator for now, since I am away from home.

Namir

Re: WP 34S version 3

*Message #5 Posted by **Walter B** on 7 Dec 2011, 1:25 a.m.,*
in response to message #3 by Eddie W. Shore

> Quote:
>
> Maybe the manual is version 3 and the software is 2.3

Please allow me qoting the very last sentence of the v3 manual, printed bold red there almost since the beginning of v3:

> Quote:
>
> WARNING: This is just a working document to support discussion of new features. Many of them may be found in the emulator v2.3 in parallel.

Re: WP 34S version 2.3 (corrected)

*Message #6 Posted by **Walter B** on 7 Dec 2011, 1:53 a.m.,*
in response to message #1 by Eddie W. Shore

> Quote:
>
> Hopefully new overlays will be available soon.

Some minor modification is in discussion right now.

WP 34S keyboard update

*Message #7 Posted by **Walter B** on 8 Dec 2011, 1:18 a.m.,*
in response to message #6 by Walter B

Now the modification can be seen in Sourceforge. Manual and overlay files are updated but the software isn't yet - will follow soon. No guarantee for this being the final one. Probability rises, however :-)

Enjoy,
Walter

Re: WP 34S keyboard update

*Message #8 Posted by **fhub** on 8 Dec 2011, 5:22 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> Now the modification can be seen in Sourceforge. Manual and overlay files are updated but the software isn't yet - will follow soon. No guarantee for this being the final one. Probability rises, however :-)

Not a good idea IMO to remove CLalpha from the keyboard and replace it by CLP. :-(
How often will you need a CLP compared with a CLalpha?

But if you really keep this 'improvement' (?), then it would be a good idea if CLalpha would still be

available as [h]CLx at least when being in alpha-mode!

Franz

Re: WP 34S keyboard update

*Message #9 Posted by **Dominic Richens** on 8 Dec 2011, 6:53 a.m.,*
in response to message #8 by fhub

> Quote:
>
> Not a good idea IMO to remove CLalpha from the keyboard and replace it by CLP. :-(How often will you need a CLP compared with a CLalpha?

Yeah, I was a bit puzzled by that too. I have to use CLalpha before pretty much every alpha command when programming. CLP is something that can be in a catalog somewhere.

Re: WP 34S keyboard update

*Message #10 Posted by **Marcus von Cube, Germany** on 8 Dec 2011, 9:24 a.m.,*
in response to message #8 by fhub

In alpha mode you get CLalpha from the same key.

Re: WP 34S keyboard update

*Message #11 Posted by **Dominic Richens** on 8 Dec 2011, 9:50 a.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> In alpha mode you get CLalpha from the same key.

Oh, very nice! Good idea.

Re: WP 34S keyboard update

*Message #12 Posted by **Marcus von Cube, Germany** on 8 Dec 2011, 10:38 a.m.,*
in response to message #11 by Dominic Richens

I mean "You get CLalpha from the CLx key" of course.

Re: WP 34S keyboard update

*Message #13 Posted by **Jeff O.** on 8 Dec 2011, 10:49 a.m.,*
in response to message #12 by Marcus von Cube, Germany

What about in program mode? In my mind, that is where CLalpha gets repeated use as mentioned by Dominic previously. Must you first enter alpha mode (by pressing f ENTER) before entering CLalpha by pressing h <-? My guess is yes, since Clx is also needed frequently. Four keystrokes to enter this command may prove to be an inconvenience to some users.

Re: WP 34S keyboard update

*Message #14 Posted by **Marcus von Cube, Germany** on 8 Dec 2011, 11:02 a.m.,*
in response to message #13 by Jeff O.

Jeff, you will typically do CLalpha just prior to entering some alpha text, so you need to go to alpha mode only once. All the alpha commands are only available from within alpha mode, so this is consistent behavior.

Re: WP 34S keyboard update

*Message #15 Posted by **Jeff O.** on 8 Dec 2011, 12:59 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Yes, I suppose that the majority of the time, a CLalpha will be followed by alpha entry. If not, well, it's just two extra keystrokes. Wait, I think it will be three extra, since you must press ENTER to end alpha mode, but no matter, it will probably not wear out my fingers.

Re: WP 34S keyboard update

*Message #16 Posted by **Dominic Richens** on 8 Dec 2011, 1:38 p.m.,*
in response to message #15 by Jeff O.

Unless I'm mistaken, CLalpha is only really needed in program mode.

It's the same number of keystrokes - you just go into alpha mode to do CLalpha rather than immediately after. When you go to enter your alpha, you are already in alpha mode.

Try it out rev 2000 of wp34sgui.exe

Re: WP 34S keyboard update

*Message #17 Posted by **Paul Dale** on 8 Dec 2011, 5:59 p.m.,*
in response to message #16 by Dominic Richens

> Quote:
>
> Unless I'm mistaken, CLalpha is only really needed in program mode.

All alpha commands are really only useful in program mode.

- Pauli

Re: WP 34S keyboard update

*Message #18 Posted by **Jeff O.** on 10 Dec 2011, 1:17 p.m.,*
in response to message #17 by Paul Dale

I agree that CLalpha is primarily useful in program mode, and that most of the time, it will be executed immediately prior to entering alpha data, so there will not be any extra keystrokes needed. My point is that on the occasion (see below for example) that a CLalpha is used in a program and not immediately followed by alpha entry, it will take

three extra keystrokes as compared to v2.2 build 1950.

```
// Program Listing
001 LBL'Day'
002 FILL
003 EEX
004 2
005 /
006 IP
007 +/-
008 RCL L
009 4
010 /
011 IP
012 +
013 x[<->] Y
014 4
015 /
016 IP
017 +
018 +
019 2
020 +
021 7
022 RMDR
023 CL[alpha]    //Clear alpha not followed by alpha
entry
024 x=0?
025 SKIP 20
026 1
027 x=? Y
028 SKIP 19
029 INC X
030 x=? Y
031 SKIP 18
032 INC X
033 x=? Y
034 SKIP 18
035 INC X
036 x=? Y
037 SKIP 18
038 INC X
039 x=? Y
040 SKIP 18
041 [alpha]'Sat'
042 [alpha]'ur'
043 DROP
044 [alpha]'day'
045 PROMPT
046 [alpha]'Sun'
047 BACK 3
048 [alpha]'Mon'
049 BACK 6
050 [alpha]'Tue'
051 [alpha] s
052 BACK 9
053 [alpha]'Wed'
054 [alpha]'nes'
055 BACK 12
056 [alpha]'Thu'
057 [alpha]'rs'
058 BACK 15
059 [alpha]'Fri'
060 BACK 17
//
```

Re: WP 34S keyboard update

*Message #19 Posted by **Walter B** on 10 Dec 2011, 1:45 p.m.,*
in response to message #18 by Jeff O.

I'd put CLalpha in P.FCN additionally, so it can be accessed always :-)

EDIT: It's in now :-)

Edited: 10 Dec 2011, 6:57 p.m.

Re: WP 34S keyboard update

*Message #20 Posted by **Morten Nygaard Åsnes** on 8 Dec 2011, 5:34 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> Now the modification can be seen in Sourceforge. Manual and overlay files are updated but the software isn't yet - will follow soon. No guarantee for this being the final one. Probability rises, however :-)
>
> Enjoy,
> Walter

I see the <(and)> for scrolling binary numbers are still on the same key (with different modifiers). Would you please consider having them on separate keys? It would be a lot easier to use. I would be willing to sacrifice the base 8 function (which I think is not that much used these days)

Re: WP 34S keyboard update

*Message #21 Posted by **fhub** on 8 Dec 2011, 5:45 a.m.,*
in response to message #20 by Morten Nygaard Åsnes

> Quote:
>
> I see the <(and)> for scrolling binary numbers are still on the same key (with different modifiers). Would you please consider having them on separate keys? It would be a lot easier to use.

I remember having seen this request already many times in the past, but I really don't understand what's the problem with these keys!?

If you have a long binary number you usually scroll in **one** direction to see all digits, and not back and forward all the time. And if you want indeed scroll back in the other direction, then why would it be 'easier' (?) to do it with the same prefix [f] and an other key instead of an other prefix [g] and the same key?
Sorry but I don't get it ...

And BTW I think it's quite logical to put together (on one key) what belongs together.

Edited: 8 Dec 2011, 5:47 a.m.

Re: WP 34S keyboard update

*Message #22 Posted by **Morten Nygaard Åsnes** on 8 Dec 2011, 6:12 a.m.,*
in response to message #21 by fhub

> Quote:
>
> I remember having seen this request already many times in the past, but I really don't understand what's the problem with these keys!?

> If you have a long binary number you usually scroll in **one** direction to see all digits, and not back and forward all the time. And if you want indeed scroll back in the other direction, then why would it be 'easier' (?) to do it with the same prefix [f] and an other key instead of an other prefix [g] and the same key?
> Sorry but I don't get it ...
>
> And BTW I think it's quite logical to put together (on one key) what belongs together.

When it comes to keys for navigation, I think it's not very logical to put these on the same key. I think the only reason they are on the same key is because of a lack of available keys, which is fair enough I guess.

I also think it is common to scroll back and forth when you're looking at a long binary number, at least I do that when I'm looking at some kind of binary protocol that I want to understand. The advantage with having them on different keys is that you can keep the modifier key pressed while you scroll back and forth with the arrow keys.

Another related wish that I think I mentioned before, is to only display 8 bits at a time in base 2 mode to make it easier to know which byte within the whole number you are looking at.

Re: WP 34S keyboard update

*Message #23 Posted by **Marcus von Cube, Germany** on 8 Dec 2011, 9:28 a.m.,*
in response to message #22 by Morten Nygaard Åsnes

> Quote:
>
> Another related wish that I think I mentioned before, is to only display 8 bits at a time in base 2 mode to make it easier to know which byte within the whole number you are looking at.

Or display 12 bits but force a byte align to the right of the display.

Re: WP 34S keyboard update

*Message #24 Posted by **Marcus von Cube, Germany** on 8 Dec 2011, 9:26 a.m.,*
in response to message #20 by Morten Nygaard Åsnes

Swapping 2 and)> was an old suggestion of mine but it wasn't accepted by the other team members.

BASE 8 is in use sometimes.

Re: WP 34S keyboard update

*Message #25 Posted by **Egan Ford** on 8 Dec 2011, 11:47 a.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> Swapping 2 and)> was an old suggestion of mine but it wasn't accepted by the other team members.

I asked for the same. Aesthetics shouldn't trump functionality. The 16C way is better and should be emulated.

Re: WP 34S keyboard update

*Message #26 Posted by **Paul Dale** on 8 Dec 2011, 6:02 p.m.,*
in response to message #25 by Egan Ford

> Quote:
>
> I asked for the same. Aesthetics shouldn't trump functionality. The 16C way is better and should be emulated.

Scrolling one digit at a time?

We can do this, I don't view it as being better however.

- Pauli

Re: WP 34S keyboard update

*Message #27 Posted by **Marcus von Cube, Germany** on 9 Dec 2011, 2:19 a.m.,*
in response to message #26 by Paul Dale

I vote for 8 digits at a time which is two thirds of our display. So you always see half of the previous information. If we add fixed delimiters to give the eyes something to rest on, things improve further.

I've done this just for binary mode to play around with and see if it is helpful or not.

Re: WP 34S keyboard update

*Message #28 Posted by **Cristian Arezzini** on 9 Dec 2011, 6:58 a.m.,*
in response to message #27 by Marcus von Cube, Germany

> Quote:
>
> If we add fixed delimiters to give the eyes something to rest on, things improve further.

Something like a decimal point at every byte delimiter? Or some extra character using the 7-segment?

Re: WP 34S keyboard update

*Message #29 Posted by **Marcus von Cube, Germany** on 9 Dec 2011, 7:14 a.m.,*
in response to message #28 by Cristian Arezzini

We are discussing (and implementing) options. Currently, the display of separators follows the decimal mode settings. Windowing is dependent on this mode setting (12 without separators, 8 or 9 depending on base with separators displayed.)

You can use h dot to toggle the separator display in integer mode. The changed setting carries over to decimal mode which might be a bit unexpected because you need to go to MODE to change it again. I might update the behavior to use a separate setting in integer mode.

EDIT: The two flags are now being kept apart. The command names have changed from E3ON/OFF to SEPON/OFF because the digit grouping is no longer fixed at 3.

ON+dot to change the radix mark is gone for good. It was redundant anyway.

Edited: 9 Dec 2011, 7:47 a.m.

Re: WP 34S keyboard update (2)

*Message #30 Posted by **Walter B** on 11 Dec 2011, 1:33 a.m.,*
in response to message #7 by Walter B

Almost forgot another little modification discussed earlier: h 6 takes a catalogue of statistical sums, while the other statistics is collected in STAT. SW, manual and overlay files are updated. No guarantee for this being the final layout change. Probability rises, however :-)

Enjoy,
Walter

Re: WP 34S keyboard update (2)

*Message #31 Posted by **fhub** on 12 Dec 2011, 6:32 a.m.,*
in response to message #30 by Walter B

> Quote:
>
> Almost forgot another little modification

And also one in the manual: ;-)
In version 3 the parameter for R-COPY is ss.nn**ddd** instead of ss.nn**ddd** as in version 2.
The 3.0 manual shows still the old format.

Edited: 12 Dec 2011, 6:48 a.m.

Re: WP 34S keyboard update (2)

*Message #32 Posted by **Walter B** on 12 Dec 2011, 3:55 p.m.,*
in response to message #31 by fhub

> Quote:
>
> In version 3 the parameter for R-COPY is ss.nnddd instead of ss.nnddd as in version 2.

;-) Anyway, you'll find it repaired in the manual committed next. Thanks!

Re: WP 34S keyboard update (2)

*Message #33 Posted by **Dominic Richens** on 12 Dec 2011, 2:53 p.m.,*
in response to message #30 by Walter B

Nice! I love "live update" menus!

Really liking the new layout and catalog organization. I don't need matrix functionality but I'm already thinking of sourcing an HP-30b to be ready for when I can get a V3.0 overlay.

Have you guys thought about moving BestF, LinF, ExpF, etc.. to the MODE menu since they modify a setting? Or maybe resurrect the CFIT and replace ./, with it?

Re: WP 34S keyboard update (2)

*Message #34 Posted by **Walter B** on 12 Dec 2011, 3:52 p.m.,*
in response to message #33 by Dominic Richens

> Quote:
>
> Have you guys thought about moving BestF, LinF, ExpF, etc.. to the MODE menu since they modify a setting?

Oui, monsieur - you'll find this idea implemented in next build :-) Merci!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Card reader 82104A

*Message #1 Posted by **aj04062** on 6 Dec 2011, 6:55 p.m.*

Can anyone elaborate on the technique to get the I/O cover off the case? The Service Manual on TOS leaves me wondering how to exactly do this.

I am trying to troubleshoot two card readers I have, one does not read cards (Checksum and Card Error messages) and the other appears to have a bad ROM as it is not even recognized with CAT 2.

I hope I can make 1 good from both or does anyone have parts?

Re: HP-41 Card reader 82104A

*Message #2 Posted by **Raymond Wiker** on 7 Dec 2011, 12:52 a.m.,*
in response to message #1 by aj04062

When I repaired my card reader a few months back, I used three different "recipes" for the work:

http://www.hpmuseum.org/guest/hoskins/41crfix.pdf

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=57

http://www.pmgeiser.ch/calc/index.php?id=HP82104A

Re: HP-41 Card reader 82104A

*Message #3 Posted by **aj04062** on 7 Dec 2011, 12:40 p.m.,*
in response to message #2 by Raymond Wiker

Thanks, but none of these demonstrate how to get the I/O Port Cover off.

I need to take all the boards out as there is either a bad ROM or other component that is preventing the card reader from getting power.

Re: HP-41 Card reader 82104A

*Message #4 Posted by **Ignazio Cara (Italy)** on 7 Dec 2011, 1:43 p.m.,*
in response to message #3 by aj04062

Hi Adam, if I have understood well, you need to take apart the cover of the I/O contact in a 82104A card reader. Take a look at these image:

Hope this can help you.

Regards

Ignazio

Re: HP-41 Card reader 82104A

*Message #5 Posted by **aj04062** on 7 Dec 2011, 9:51 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

YES,

That's what I was wondering, where was it attached??

Thanks Ignazio!

Re: HP-41 Card reader 82104A

*Message #6 Posted by **Ignazio Cara (Italy)** on 8 Dec 2011, 4:59 a.m.,*
in response to message #5 by aj04062

Sorry Adam, but I've not understood your question. Can you reformulate the answer? The I/O cover must slide on and off the bottom case until it's locked in its site.

Let me know if my answer is clear enought.

Ignazio

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Not only calculators that need care.

*Message #1 Posted by **robertoataulfo** on 6 Dec 2011, 3:59 p.m.*

How to fix a broken butterfly wing

Re: OT: Not only calculators that need care.

*Message #2 Posted by **Lincoln R.** on 6 Dec 2011, 7:16 p.m.,*
in response to message #1 by robertoataulfo

Interesting. I never knew such a thing could be done, I would have imagined that using cardboard to brace a butterfly's wing would only make matters worse, throwing the butterfly off balance.

Re: OT: Not only calculators that need care.

*Message #3 Posted by **Walter B** on 7 Dec 2011, 1:50 a.m.,*
in response to message #1 by robertoataulfo

Most butterflies I know won't allow even touching their wings without fatal damage - seems to be different for Monarchs.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone have ideas for batteries for these type of calculators? Edmund Scientific?
*Message #1 Posted by **gene wright** on 6 Dec 2011, 12:58 p.m.*

Edmund Scientific small calculators

These used a small battery pack that plugged directly into the wall to recharge. Anyone have an idea of refurbishing these? I plan to take it apart since the link above suggests it ran off coin cells. Perhaps I can simply use some alkalines...?

Ideas?

FYI. The one I have is the Edmund Scientific actual Scientific version that is missing keys in the picture. The one I now have is in great shape, but won't turn on. Batteries? perhaps...

Re: Anyone have ideas for batteries for these type of calculators? Edmund Scientific?
*Message #2 Posted by **Bill (Smithville, NJ)** on 6 Dec 2011, 1:17 p.m.,*
in response to message #1 by gene wright

Hi Gene,

I would think that standard button rechagable cells could be used to recreate the battery pack. Some of the Fujitsu Stylist tablet computers used a strip of 4 button rechargable batteries to maintain the clock and other settings while switching the main batteries. Not sure if Fujitsu directly sells replacement, but I would think they could be obtained from a battery distributer.

The harder part would be re-assembling the battery pack so that it could still be plugged into an outlet without risk of shocking yourself.

Bill

Edited: 6 Dec 2011, 1:18 p.m.

Re: Anyone have ideas for batteries for these type of calculators? Edmund Scientific?
*Message #3 Posted by **Bob Patton** on 6 Dec 2011, 3:57 p.m.,*
in response to message #1 by gene wright

You might look at American Science & Surplus (sciplus.com) item 36404.In the past I have bought several different kinds of such packs from them and disassembled them to get the tiny batteries inside. They won't be the button shape but they might fit in the space.

Re: Anyone have ideas for batteries for these type of calculators? Edmund Scientific?
*Message #4 Posted by **gene wright** on 6 Dec 2011, 4:14 p.m.,*
in response to message #3 by Bob Patton

Thanks guys.

I will gently disassemble the battery pack tonight and see what size "button" cells are in this thing. Be really nice to get this very well preserved tiny scientific calculator up and running.

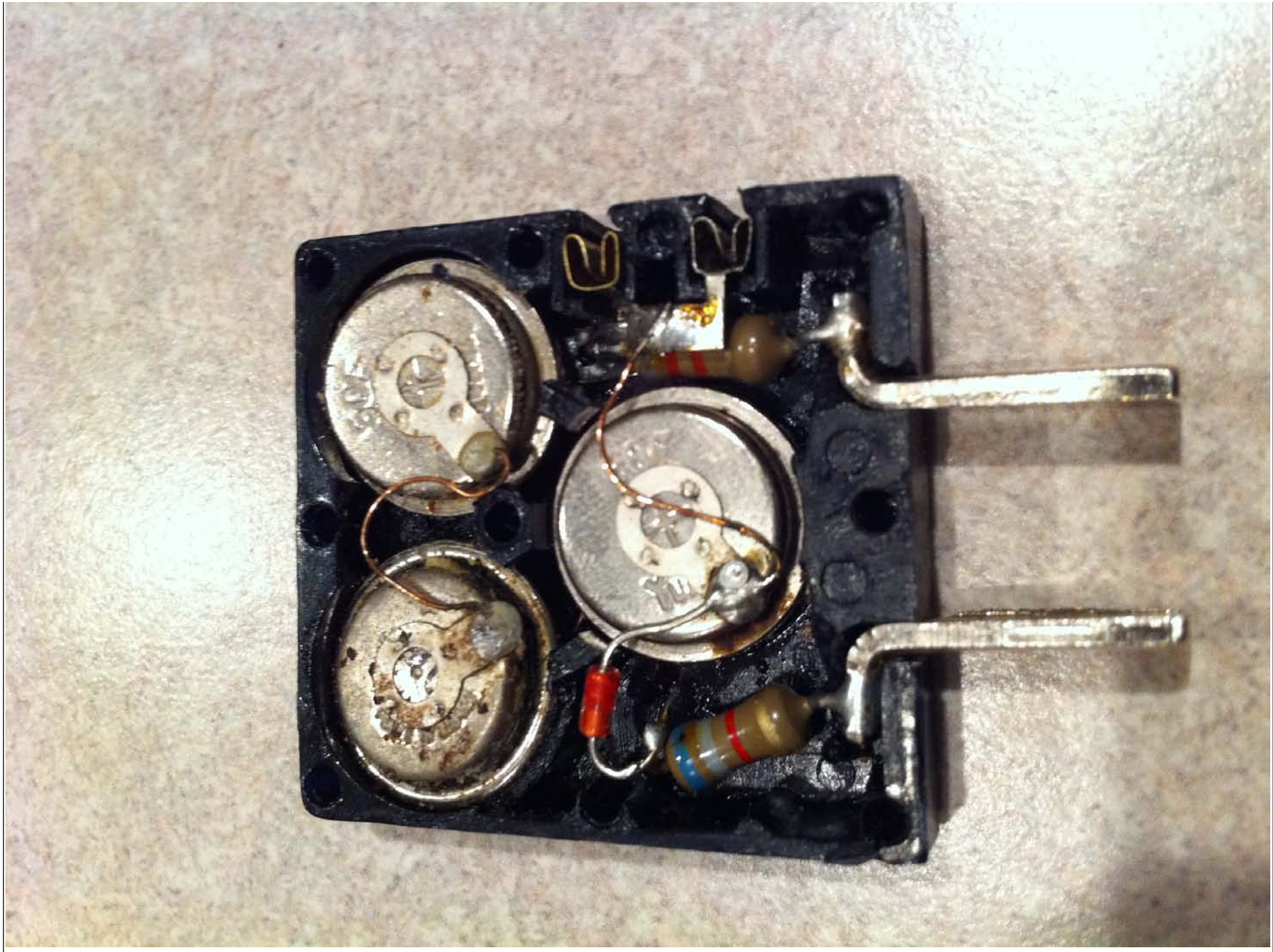
Edmund Scientific? (pictures)
*Message #5 Posted by **gene wright** on 6 Dec 2011, 11:05 p.m.,*
in response to message #4 by gene wright

Ok, who thinks they can repair this battery pack? :-)

The calculator is in such beautiful condition, it would be nice if it worked. Tomorrow, I plan to apply voltage to the calculator contacts to see if it works at all. If so, then battery pack repair is the next step.

Thoughts? Ideas?

MC
CN
sin
cos
tan
MX
sin⁻¹
cos⁻¹
tan⁻¹
MR
M+
M−
√
Ln
eˣ
1/x
π



Edited: 6 Dec 2011, 11:05 p.m.

Re: Edmund Scientific? (pictures)
*Message #6 Posted by **robert rozee** on 6 Dec 2011, 11:15 p.m.,*
in response to message #5 by gene wright

to be honest, i'd seriously consider using three AAA or AAAA sized cells (whichever will fit), along with an external charger - or just make a holder that will take non-rechargables.

i'm afraid the current system employed, just series resistors and a diode, is inherently unsafe and sub-optimal in terms of battery health.

Re: Edmund Scientific? (pictures)
*Message #7 Posted by **Thomas Chrapkiewicz** on 6 Dec 2011, 11:19 p.m.,*
in response to message #5 by gene wright

Gene:

Given the vintage of the machine and the I.C. inside (I believe I saw a TI part in one of the pics), it likely operates on about 5v. It appears that the silver contact is the positive (+), and the gold contact is the negative (-).

The pictures of the batteries (3 button cells in series) and circuitry appears to be some sort of half-wave rectified charging system. I would certainly NOT connect this to the 110VAC under any circumstances!!!!!!!!!

Assuming that it will ultimately operate, it would be interesting to measure the current consumption, then figure out if more modern button cells (LR44 - NOT rechargeable) would be a viable replacement.

TomC

Re: Edmund Scientific? (pictures)
*Message #8 Posted by **gene wright** on 7 Dec 2011, 12:17 p.m.,*
in response to message #7 by Thomas Chrapkiewicz

5V DC did not turn the calculator on here at the lab bench.

Might be dead. :-(

Re: Edmund Scientific? (pictures)
*Message #9 Posted by **Thomas Chrapkiewicz** on 7 Dec 2011, 1:14 p.m.,*
in response to message #8 by gene wright

Darn!

Can you verify that the on/off switch has good continuity?

TomC

Re: Edmund Scientific? (pictures)
*Message #10 Posted by **Katie Wasserman** on 7 Dec 2011, 5:34 a.m.,*
in response to message #5 by gene wright

How about these cells? Do the dimensions match?

Or maybe switch to NiMH and get the V40H cells from The Nicad Lady. Ask her to weld some tabs on for you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Google’s now It’s a Graphing Calculator!

*Message #1 Posted by **robertoataulfo** on 6 Dec 2011, 10:26 a.m.*

Google Graphing Calculator

Re: Google’s now It’s a Graphing Calculator!

*Message #2 Posted by **Thomas Chrapkiewicz** on 6 Dec 2011, 12:55 p.m.,*
in response to message #1 by robertoataulfo

Fascinating, but obviously not quite yet 'ripe'. For the last few minutes it is not working at all. About an hour ago, ln(x) was not working. Presumably it will continue to evolve/work!

TomC

Re: Google’s now It’s a Graphing Calculator!

*Message #3 Posted by **Thomas Chrapkiewicz** on 6 Dec 2011, 12:57 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

Hmmmmm....it seems to be 'web-browser sensitive'! (works in firefox, but not in IE!).

TomC

Re: Google’s now It’s a Graphing Calculator!

*Message #4 Posted by **C.Ret** on 7 Dec 2011, 5:49 a.m.,*
in response to message #3 by Thomas Chrapkiewicz

I just test it on my system.

It works perfectly on IE now.

Re: Google’s now It’s a Graphing Calculator!

*Message #5 Posted by **hpnut** on 7 Dec 2011, 4:52 a.m.,*
in response to message #1 by robertoataulfo

awesome!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp-41 time module options

*Message #1 Posted by **Raymond Wiker** on 5 Dec 2011, 3:01 p.m.*

My HP-41CX has been upgraded with an HP-41CL board, which is absolutely great - the combination of ~50x speed and (for all practical purposes) unlimited flash and RAM is a real vitamin injection :-)

The only problem is that the 41CL does not have anything equivalent to the time module - it has the code, but not the actual timer chip. The obvious solution to this would be to add a time module, but these appear to be scarce. I have the timer chip on the old CPU board from my HP-41CX, but I'd rather keep that intact.

I'm wondering if it might be possible to program the Clonix-41 to emulate the timer chip. If so, then that might be a solution for those of us that have a Clonix (or one of the later designs). Alternatively, it might be possible to use a chip from the TI MSP430 series - these seem quite cheap (you can get development kits for $4.30!), and have been used in watches, so one might assume that they have low power requirements and a means of keeping track of the time.

Any thoughts on this?

Re: Hp-41 time module options

*Message #2 Posted by **Jeff Kearns** on 5 Dec 2011, 3:25 p.m.,*
in response to message #1 by Raymond Wiker

Please see this post...

Geoff Quickfall - Physical Ports

Edited: 5 Dec 2011, 3:26 p.m.

Re: Hp-41 time module options

*Message #3 Posted by **Ángel Martin** on 5 Dec 2011, 4:56 p.m.,*
in response to message #1 by Raymond Wiker

I´m hoping Diego reads this and shares his thoughts on this intriguing idea, which I agree would be cool.

Another thing could be using the real Time Module (assuming you've got one) as physical frame for the serial connector, so as to kill two stones with the same bird (sic.) - but I guess there isn't enough room inside for such a hack.

Edited: 5 Dec 2011, 4:57 p.m.

Re: Hp-41 time module options

*Message #4 Posted by **geoff quickfall** on 5 Dec 2011, 5:43 p.m.,*
in response to message #3 by Ángel Martin

Got to agree, if someone could come up with a time module crystal assembly which can be plugged into a donor ROM module, Fantastic.

Time modules are rare so far.

Don't see the need to free up physical ports though, other then finesse. For example, I am using the:

```
-IR ROM, which is swap when using HPIL to avoid printer/HPIL conflicts
-time module
-serial port connector.
-on occasion I will insert the CLONIX when updating the CLUTILS,
 other ROMS not built in or YFNS.
```

So I have always got one free port or two if I remove the IR module. As far as other modules, my automated UPLUG/PLUG routines with various subroutines will add any number or combo of the built in ROMS.

Cheers, Geoff

Re: Hp-41 time module options

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 5 Dec 2011, 5:59 p.m.,*
in response to message #4 by geoff quickfall

How does the time signal send to the main HP-41 board over the flex PCB, is it digital or analog.

Since serial ports on the 41CL remains attached and If the clock signal is an analog signal, perhaps a time module circuit (Crystal, IC, cap, etc) could fit into the 41CL serial port cover, power from the flex PCB (battery) and send clock the signals via some wire either to the flex PCB or directly to the 41CL core.

Re: Hp-41 time module options

*Message #6 Posted by **Eric Smith** on 5 Dec 2011, 7:21 p.m.,*
in response to message #5 by Kerem Kapkin (Silicon Valley, CA)

It is digital, using the normal HP-41 serial bus signals.

Re: Hp-41 time module options

*Message #7 Posted by **Didier Lachieze** on 6 Dec 2011, 9:33 a.m.,*
in response to message #3 by Ángel Martin

> Quote:
>
> I´m hoping Diego reads this and shares his thoughts on this intriguing idea, which I agree would be cool.

This is something I've already thought about: adding a RTC clock such as the DS1340 into a Clonix module to provide an HP Time Module emulation, but I've not checked in details the specs of both the Time module chip and the RTC to see what would be the effort required to emulate the first one.

Re: Hp-41 time module options

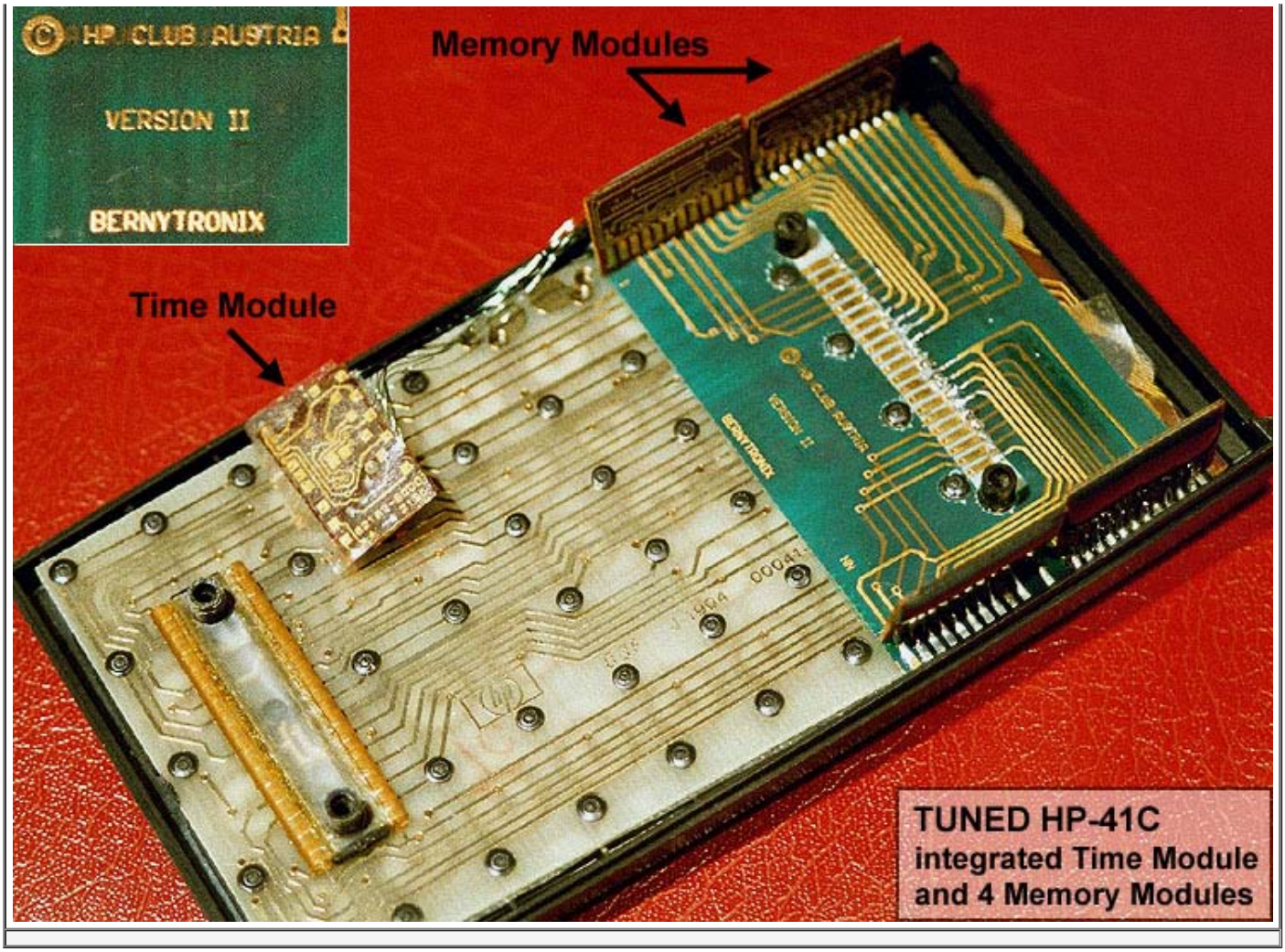
*Message #8 Posted by **Juergen Keller** on 6 Dec 2011, 11:37 a.m.,*
in response to message #3 by Ángel Martin

The serial connector that comes with the 41CL board does not fit into an empty module housing. There might be another place for a serial interface as indicated on the picture below but you would need a connector similar to the ones used in 48 models, and this solution might have other drawbacks ...

Re: Hp-41 time module options

*Message #9 Posted by **Juergen Keller** on 6 Dec 2011, 11:44 a.m.,*
in response to message #8 by Juergen Keller

And as you can see here, you can even have a built-in time module:



Re: Hp-41 time module options

*Message #10 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 6 Dec 2011, 12:35 p.m.,*
in response to message #9 by Juergen Keller

Thanks for sharing, very nicely made! Do you have the schematics on this time module and how it is connected to the HP-41? Regards, Kerem

Re: Hp-41 time module options

*Message #11 Posted by **Geoff Quickfall** on 6 Dec 2011, 12:47 p.m.,*
in response to message #10 by Kerem Kapkin (Silicon Valley, CA)

Unfortunately, that is a TIME MODULE ROM chip, just moved inside to free up a port.

As stated, it is not the physical ports that require freeing as 99% of the ROM modules for the 41C reside in the CL. It is the rarity of a TIME ROM module itself.

The question is, can one be made from scratch and added to the board. With a spare TIME MODULE as an example, I don't see why a time module kluge would not work and attached as in Juergens picture. Just costing it with the limited production run of CLs might preclude its production unless someone comes up with a DIY kit.

Geoff

Re: Hp-41 time module options

*Message #12 Posted by **Gerry Schultz** on 6 Dec 2011, 1:28 p.m.,*

in response to message #11 by Geoff Quickfall

How is the time module built into a 41CX? Is it a separate module or is it a part of a larger sub-board that includes Extended functions and memory?

Gerry

Re: Hp-41 time module options

*Message #13 Posted by **Raymond Wiker** on 6 Dec 2011, 2:02 p.m.,*
in response to message #12 by Gerry Schultz

The time module chip is included on the HP-41CX CPU board.

Re: Hp-41 time module options

*Message #14 Posted by **Juergen Keller** on 6 Dec 2011, 1:55 p.m.,*
in response to message #11 by Geoff Quickfall

> Quote:
>
> Unfortunately, that is a TIME MODULE ROM chip, just moved inside to free up a port.

Exactly. Of course it would be nice to have a replacement solution but I fear there are not enough interested parties to bring back the development cost so it's even harder to find someone who jumps in this project.

> Quote:
>
> It is the rarity of a TIME ROM module itself.

Well, it's not that rare but prices definitely have raised in the last months.

Re: Hp-41 time module options

*Message #15 Posted by **Monte Dalrymple** on 7 Dec 2011, 8:40 p.m.,*
in response to message #14 by Juergen Keller

I always wanted to include the timer function, but it just
isn't practical using programmable logic.

Just the registers in the timer chip require 382 flip-flops,
which immediately dictates the use of the largest available
Xilinx Coolrunner-II CPLD, which is a $40 device. To make
matters worse, that part is most readily available in a 208
PQFP package, which won't even fit on the 41CL circuit board.
The other available packages are all chip-scale, which means
higher assembly costs. These package options also have minimum
order quantities of several hundred.

I am about half done with the reverse-engineering of the chip
in case things change in the future.

Re: Hp-41 time module options

*Message #16 Posted by **Garth Wilson** on 8 Dec 2011, 3:06 a.m.,*
in response to message #15 by Monte Dalrymple

Would a fleapower microcontroller be able to do it? I'm envisioning a crystal oscillator with CMOS logic to divide it down, to interrupt the microcontroller 100 times per second and wake it up for just a few instructions' time to update the registers, see if they match the next alarm time, etc., then go back to sleep. The microcontroller's own clock would be RC type so it doesn't take a lot of cycles to stabilize and be ready to run, assuming it needs to run faster than the time reference crystal when the calculator is talking to it. If the calculator is turned on, then the microcontroller would probably have to be alert enough to perk up its ears when the calculator talks to it.

Re: Hp-41 time module options

*Message #17 Posted by **Monte Dalrymple** on 8 Dec 2011, 10:23 a.m.,*
in response to message #16 by Garth Wilson

Should be able to do it. Keeping the time is only a small part of what is required though. The bigger task is interfacing to the 41C bus, accepting commands, etc. in a compatible fashion.

Perhaps some combination of a small cpld to do the interface stuff and a uC to do the timekeeping/registers would be the best option.

Edited: 8 Dec 2011, 1:25 p.m. after one or more responses were posted

Re: Hp-41 time module options

*Message #18 Posted by **Raymond Wiker** on 8 Dec 2011, 11:56 a.m.,*
in response to message #17 by Monte Dalrymple

This is the reason I mentioned Clonix as a possible host for this functionality - it already has the code for communicating on the bus, and the processor used appears to have timer/counters that could be used to keep track of time.

Re: Hp-41 time module options

*Message #19 Posted by **Diego Diaz** on 10 Dec 2011, 8:21 a.m.,*
in response to message #18 by Raymond Wiker

Hi all,

And again sorry to join this thread so late.

Most of Monte's reasons to discard TIME module into CL logic are applicable for the Clonix approach.

TIME module is *not* a simple ROM pac but a very complex peripheral device wich has a whole set of dedicated commands and can both "request" CPU attention and make its own "decisions" according to events requirements like alarms.

Current Clonix family only handles a few "commands" (or pseudo commands) that is some codes that 41CPU cosiders as NOP's.

Only exception is the emulation of the double X-MEM memory for the Clonix-D or NoV-64 which decodes a few "real" intructions.

All of the above does not means that the project itself is not appealing... on the contrary, it certainly is!! :-)

However, it may well be a little too much for the limited processing abilities of the microcontrollers used into Clonix or NoV; and one thing is for sure: HW desing *must* be very different.

So, the other point would be: are not enough TIME modules out there to fulfill the HP-41CL's users needs?

Cheers!

Re: Hp-41 time module options

*Message #20 Posted by **Raymond Wiker** on 10 Dec 2011, 12:53 p.m.,*
in response to message #19 by Diego Diaz

Ok, I guess that's the definitive answer as regards the suitability of the Clonix for this purpose :-)

I don't know if there's actually a lack of time modules in the marketplace - all I know is that I don't often see them available on eBay, and in general, they seem to be priced quite high (compared to, for example, a complete Hp-41CX, or a 41CL board).

Re: Hp-41 time module options

*Message #21 Posted by **Geir Isene** on 13 Dec 2011, 4:32 p.m.,*
in response to message #20 by Raymond Wiker

Pitching in very late here - but I believe I have a couple of spare Time modules if anyone are interested. I am not interested in money in return, but rather some HP calc stuff.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

You shared my grief...

*Message #1 Posted by **cbuhmann** on 5 Dec 2011, 1:53 p.m.*

...and on Friday my three HP15C LE I ordered in September arrived in Hamburg at the customs (s/n no. 017XX, 018XX).

Wow, this was really a feeling like being a child before christmas.

Played with them on the weekend, and I am really happy about the machines. This is exactly what I was waiting for since my studies (started with an HP48G, then a Sharp PC E500, a TI-82, back to the HP48, HP48G-II (crappy thing), HP49G (7 replacements, then I gave up), HP35S (too big for the pocket) and now.... finally I am there.

Impressed an old collegue who will be retired soon and who is working with a *very* used 11C with my new machine.

The only thing are the loose 'f' and 'g' keys, but ok, as long as they are working I will not complain.

Cheers Christian

Re: You shared my grief...

*Message #2 Posted by **Ethan Conner** on 5 Dec 2011, 4:32 p.m.,*
in response to message #1 by cbuhmann

Glad to hear your story has a happy ending! :)

Re: You shared my grief...

*Message #3 Posted by **Paul Gaster** on 5 Dec 2011, 4:50 p.m.,*
in response to message #1 by cbuhmann

I have 2 on backorder from HP Small Business. I received another email from someone at HP today and here is a cut and paste of part of it:

"The factory has updated the ETS to December due to back log reasons. I will make sure to have you informed through all whole process regarding this unfortunate delay."

Makes no sense to me considering we are almost a week into December already, unless they mean 2012...

Re: You shared my grief...

*Message #4 Posted by **Ángel Martin** on 5 Dec 2011, 5:04 p.m.,*
in response to message #1 by cbuhmann

Just as well you got the calcs, but four months wait!! That's too much even for the notoriously thick bureaucratic red tape going on in customs.

I mean no disrespect to anyone but wouldn't it be great if instead of spending all that money in protectionistic barriers goverments actually invested it in research, technology, promotion of entrepreneurial spirit, etc, etc.... ??

who knows, maybe the same people would be designing the 41 CL++ instead of issuing and filling out forms to clear customs and pay the import duties. That's a nicer (not to mention way much more clever in the long run) scheme in my book.

Dream on grasshopper...

Re: You shared my grief...

*Message #5 Posted by **Eddie W. Shore** on 5 Dec 2011, 9:44 p.m.,*
in response to message #1 by cbuhmann

I am glad you got them, such a shame you ended up waiting so long.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What advantage does Wp34s have ove the HP50g?

*Message #1 Posted by **Bernard Rochlin** on 5 Dec 2011, 5:16 a.m.*

What are benefits of wp34s have over the HP50g in doing CAS calculations?

Re: What advantage does Wp34s have ove the HP50g?

*Message #2 Posted by **Paul Dale** on 5 Dec 2011, 5:39 a.m.,*
in response to message #1 by Bernard Rochlin

None. The 34S has no CAS.

- Pauli

Re: What advantage does Wp34s have ove the HP50g?

*Message #3 Posted by **bluesun08** on 5 Dec 2011, 8:46 a.m.,*
in response to message #2 by Paul Dale

CAS is not the future.

Re: What advantage does Wp34s have ove the HP50g?

*Message #4 Posted by **Crawl** on 5 Dec 2011, 9:05 a.m.,*
in response to message #3 by bluesun08

Sure it is.

Re: What advantage does Wp34s have ove the HP50g?

*Message #5 Posted by **Eddie W. Shore** on 5 Dec 2011, 8:49 a.m.,*
in response to message #1 by Bernard Rochlin

I don't think the WP 34S has CAS calculations.

Re: What advantage does Wp34s have ove the HP50g?

*Message #6 Posted by **Jesse Dodd** on 5 Dec 2011, 12:40 p.m.,*
in response to message #1 by Bernard Rochlin

It fits in your shirt pocket.

Re: What advantage does Wp34s have ove the HP50g?

*Message #7 Posted by **bluesun08** on 5 Dec 2011, 1:05 p.m.,*
in response to message #6 by Jesse Dodd

My HP 15c is already there.

Re: What advantage does Wp34s have ove the HP50g?

*Message #8 Posted by **Walter B** on 5 Dec 2011, 1:34 p.m.,*
in response to message #7 by bluesun08

Seems both the HP-15C and the WP 34S are fermions, and the shirtpocket is a rectangular potential well. Both calculators can't live in ground state of said well simultaneously - one will occupy an metastable excited level tending to leave the well quite soon. Ground state energy of the HP-50G even exceeds the well walls, so it tends to leave said well quasi-instantaneously ;-)

Re: What advantage does Wp34s have ove the HP50g?

*Message #9 Posted by **Dominic Richens** on 5 Dec 2011, 2:13 p.m.,*
in response to message #8 by Walter B

uh...yeah, what he said!

:-)

Re: What advantage does Wp34s have ove the HP50g?

*Message #10 Posted by **Peter Murphy (Livermore)** on 5 Dec 2011, 2:26 p.m.,*
in response to message #8 by Walter B

Credit where due: That's Pauli's Exclusion Principle, more or less.

Re: What advantage does Wp34s have ove the HP50g?

*Message #11 Posted by **Walter B** on 5 Dec 2011, 3:11 p.m.,*
in response to message #10 by Peter Murphy (Livermore)

Exactly - no wonder with the name of our co-founder ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[wp34s] Incomplete Gamma on the wp34s

*Message #1 Posted by **Les Wright** on 5 Dec 2011, 2:48 a.m.*

Thought there would be some interest in this article:

Incomplete Gamma for wp34s

For reasons given at the end of the article, this routine may not be terribly useful to most, but I must say it is a programming job I have been pretty pleased with over the years and I really enjoyed porting it to the wp34s.

Les

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #2 Posted by **Paul Dale** on 5 Dec 2011, 4:06 a.m.,*
in response to message #1 by Les Wright

The 34S already includes a regularised incomplete gamma functions for real arguments. The difference between this and the incomplete gamma function is a scaling by a normal gamma function evaluation.

- Pauli

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #3 Posted by **Les Wright** on 5 Dec 2011, 5:10 a.m.,*
in response to message #2 by Paul Dale

Dang, I missed that one completely...

The stuff you guys have packed in... :D

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #4 Posted by **Les Wright** on 5 Dec 2011, 5:21 a.m.,*
in response to message #2 by Paul Dale

I should point out that the documentation of the I-Gamma function is actually incorrect. It returns I-Gamma(y,x). The arguments are are reversed.

Les

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #5 Posted by **Paul Dale** on 5 Dec 2011, 5:39 a.m.,*
in response to message #4 by Les Wright

The documentation will be updated in due course I suspect :-) I must admit, I never really tested this

function in isolation. It is used by some of the probability distributions and was tested as part of them.

We've also got a regularised incomplete beta function, again for real arguments only. And again, in support of the statistical functions.

- Pauli

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #6 Posted by **Les Wright** on 5 Dec 2011, 5:34 a.m.,*
in response to message #4 by Les Wright

> Quote:
>
> I should point out that the documentation of the I-Gamma function is actually incorrect. It returns I-Gamma(y,x). The arguments are are reversed.

Likewise with the incomplete beta function. It actually returns I-Beta(x,z,y).

Les

Maybe Not Completely Redundant

*Message #7 Posted by **Les Wright** on 5 Dec 2011, 8:47 a.m.,*
in response to message #2 by Paul Dale

Actually, the wp34s provides only the lower regularized incomplete gamma and cdf's (lower -tail) for phi and chi-square.

But what if one wants high precision in the upper tail of the regularized incomplete gamma or its specific relatives? For phi it's easy, since the symmetry of the standard normal distribution means that 1 - phi(x) = phi(-x), so if I want the upper-tail probability associated with the normal statistic x = 3 I would compute phi(-3) instead.

But there is no such reflection relation for chi-square. A high-value of the statistic will give a probability close to one, and digits (and precision) will be lost due to subtraction from 1 to get the complementary upper-tail probability. It is probably better to compute the upper-tail chi-square probability by way of the underlying continued fraction expansion for the right-sided incomplete gamma--IGL in my program. Of course, this only matters if one really cares about the lost digits. In practical applications, most likely wouldn't.

I notice the built-in erfc function gives all or almost all 16 digits accurate for higher values of the argument in cases where subtracting erf from 1 would give zero. I am surmising that erfc has it's own routine and is not derived from the built-in regularized incomplete gamma.

Re: Maybe Not Completely Redundant

*Message #8 Posted by **Walter B** on 5 Dec 2011, 9:46 a.m.,*
in response to message #7 by Les Wright

Anybody doing statistics with more than a few significant digits shall check whether his mathematical model describes the reality observed to this precision - and if true then please check whether it's necessary. Mathematical statistics provides tools for better estimations, nothing more. I've written this earlier already, presumably.

Re: Maybe Not Completely Redundant

*Message #9 Posted by **Les Wright** on 5 Dec 2011, 12:50 p.m.,*
in response to message #8 by Walter B

True dat, as the young people like to say today.

Obviously, my interest in computing the upper-tail functions to high precision has no practical indication at all. It is more of an aesthetic thing :)

That said, the 48-series (48G(X), 49g+, 50g) do return the upper-tail probabilities to full displayed precision--UTPN, UTPC, UTPT, and UTPF.

Les

Re: Maybe Not Completely Redundant

*Message #10 Posted by **Paul Dale** on 5 Dec 2011, 4:35 p.m.,*
in response to message #7 by Les Wright

Rather than guessing you could look at the source code ;-)

Yes, the upper tail probabilities will suffer from cancellation -- we ran out of space to implement both properly.

- Pauli

Re: Maybe Not Completely Redundant

*Message #11 Posted by **Les Wright** on 5 Dec 2011, 6:03 p.m.,*
in response to message #10 by Paul Dale

Still working my way around the files. I must admit I can comprehend much of the code, but the special number types and functions acting on them make for some slow going.

Les

Re: Maybe Not Completely Redundant

*Message #12 Posted by **Paul Dale** on 6 Dec 2011, 3:32 a.m.,*
in response to message #11 by Les Wright

These functions are all implemented in decn.c and stats.c. The code there mostly uses the decNumber type which is a real. The function calls should be self explanatory -> fn(a, b, c) means a = fn(b, c). I've reused variables a lot for stack space reasons which does confuse things a bit.

- Pauli

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #13 Posted by **Namir** on 5 Dec 2011, 11:55 a.m.,*
in response to message #1 by Les Wright

Les,

Can you please provide a link to the algorithms you used to calculate the two versions of the incomplete gamma functions?

Namir

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #14 Posted by **Les Wright** on 5 Dec 2011, 12:55 p.m.,*
in response to message #13 by Namir

Sure, Namir.

I just ported the routines from an older version of Numerical Recipes. The authors of those books have put older versions online for free perusal, and the relevant section can be found here starting at page 216:

Numerical Recipes in C, Second Edition

In my code, the first few steps compute the series, the next several (the bulky middle) compute the continued fraction, and the last few steps where both routines end up compute and multiply in factors common to both.

Les

Edited: 5 Dec 2011, 12:56 p.m.

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #15 Posted by **Paul Dale** on 5 Dec 2011, 4:38 p.m.,*
in response to message #14 by Les Wright

The Numerical Recipes books don't seem to be very well respected in numerical mathematics circles. The code I've used from them had issues which needed to be addressed.

They are easy for a layman to read however. Far more so than any of the other numeric texts I've got.

- Pauli

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #16 Posted by **Ángel Martin** on 6 Dec 2011, 2:14 a.m.,*
in response to message #13 by Namir

I guess you've already seen Jean-Marc Baillard's page:

http://hp41programs.yolasite.com/gamma.php

section 4 within that document.

He uses two approaches, one with continued fractions and another with the Kummer function (a particular form of the Generalized Hypergeometric Function, HGF+) as an accessory to calculate the Incomplete Gamma - and many others BTW. I found that a very clever and efficient scheme, once the HGF+ function is tackeld down in MCODE that provides a slew of many others for the same price of admission.

FWIW, these functions are included in Jean-Marc's own JMB_MATH and in the SandMath modules.

/AM

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #17 Posted by **Namir** on 6 Dec 2011, 10:16 a.m.,*
in response to message #16 by Ángel Martin

The HP Museum HP-41C Software library pages also has an upper incomplete gamma function program ported by Tony Duell from the *HP-67 High Level Math Solution Book*. The code is standalone and is still relatively short.

I am a bit puzzled, because Duell **only** worked with the code for the upper incomplete gamma (whose definition is an integral between one of the function's arguments x and infinity) which seems, to me, to be harder to code than the lower incomplete function (whose definition is an integral from 0 to x) which should be easier to code.

Namir

Edited: 6 Dec 2011, 10:25 a.m.

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #18 Posted by **Les Wright** on 6 Dec 2011, 10:32 a.m.,*
in response to message #17 by Namir

Namir, I am familiar with that code you are noting, and I believe it computes the continued fraction in a very old fashioned way that is costly for steps and prone to overflow. I have always liked the NR routine for its brevity and its use of a more modern algorithm. I am particularly proud of a SysRPL port I did of it for my HP49g+

Angel, I am very familiar with JMB's work, and particularly his approach to the problem with the hypergeometric and Kummer routines. Mine is just one more way to skin that cat :)

Les

Re: [wp34s] Incomplete Gamma on the wp34s

*Message #19 Posted by **Namir** on 6 Dec 2011, 11:07 a.m.,*
in response to message #18 by Les Wright

Thanks for letting know about the vulnerability of the HP-67 program ported to the HP-41C. Nobody likes bad surprises when computing .... especially if you are in a space capsule going to the Moon, or worse yet, to Mars!

Does Baillard implement routines for both the lower AND upper incomplete gamma functions?

PS: I can see a cartoon where two astronauts are traveling to Mars and the display calculating the incomplete gamma function gives a mission critical error message! One astronaut turns to the other one and says, "I told you fifty million times use the Baillard code ... but nooooooooo .. you had to use the code translated from the HP-67 library. We are so dead now!!"

Edited: 6 Dec 2011, 11:15 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C - useless today?

*Message #1 Posted by **Reth** on 5 Dec 2011, 2:08 a.m.*

After playing a bit with the HP-15C LE (keyboard fixed) I'm under the impression, that apart of nostalgic reasons it is no worth getting it at all. Its low internal accuracy makes it hopeless and also makes HP-35S look acceptable. Both can't compare with the BRILLIANT Free 42S by Thomas Okken and more so with Byron Foster's implementation for iPhone. I wander who would use it today for real work?

Re: HP-15C - useless today?

*Message #2 Posted by **Les Wright** on 5 Dec 2011, 3:16 a.m.,*
in response to message #1 by Reth

I am glad I have one as a collector, and I use it more than the near-mint 1985 version I paid too much for and am afraid to look at funny. But since I discovered wp34s and how easy it is to flash a calc and assemble and disassemble programs, I just don't pay much attention to it these days. Indeed, Samson has its back-ordered HP15C LEs marked up 50 %, but the 30b is priced to clear at 30 bucks. I just ordered another of the latter to perpetuate my wp34s fascination :D.

Les

Re: HP-15C - useless today?

*Message #3 Posted by **From Hong Kong** on 5 Dec 2011, 3:46 a.m.,*
in response to message #1 by Reth

> Quote:
>
> After playing a bit with the HP-15C LE (keyboard fixed) I'm under the impression, that apart of nostalgic reasons it is no worth getting it at all. Its low internal accuracy makes it hopeless and also makes HP-35S look acceptable. Both can't compare with the BRILLIANT Free 42S by Thomas Okken and more so with Byron Foster's implementation for iPhone. I wander who would use it today for real work?

It depends on where you use it. I think only rocket science needs a higher internal accuracy. In such case, you might need a sophisticated computer rather than a calculator.

Re: HP-15C - useless today?

*Message #4 Posted by **Reth** on 5 Dec 2011, 5:18 a.m.,*
in response to message #3 by From Hong Kong

> Quote:
>
> ... only rocket science needs a higher internal accuracy...

Not at all.

In the case of a rope looped around the Earth, what clearance would provide 1m extension if the rope were lifted? Try to solve this on 15c or 35s. Piece of cake for the 42s.

Re: HP-15C - useless today?

*Message #5 Posted by **Thomas Radtke** on 5 Dec 2011, 5:42 a.m.,*
in response to message #4 by Reth

> Quote:
>
> In the case of a rope looped around the Earth, what clearance would provide 1m extension if the rope were lifted?

About 15cm ;-).

Re: HP-15C - useless today?

*Message #6 Posted by **Paul Dale** on 5 Dec 2011, 5:49 a.m.,*
in response to message #4 by Reth

Simplicity itself even on a four banger.

The answer doesn't depend on the radius of the circle the loop forms so the big numbers completely disappear. A tiny bit of algebra before hand makes easy work of this :-)

- Pauli

PS: about 0.159154943091895m

Re: HP-15C - useless today?

*Message #7 Posted by **Crawl** on 5 Dec 2011, 9:20 a.m.,*
in response to message #6 by Paul Dale

I think he's asking this question, not if the rope was hovering uniformly in space over the entire earth.

Re: HP-15C - useless today?

*Message #8 Posted by **Crawl** on 5 Dec 2011, 9:36 a.m.,*
in response to message #7 by Crawl

Not that that's something that should be impossible for the HP15c, either.

Taking the Taylor series, you get the answer is

R/8*(12x/R)^(2/3)

This gives 121.6440...

whereas solving the equations exactly (which you can almost certainly also do with the HP15C, though I don't have mine with me now) gives

121.6447...

Re: HP-15C - useless today?

*Message #9 Posted by **Jeff Kearns** on 5 Dec 2011, 1:59 p.m.,*
in response to message #8 by Crawl

Valentin's 'original' answer is as follows.

Quote:

"A little geometry will duly solve this. Let's call the Earth's radius r, the subtended angle between the point of maximum height and the point of tangency we'll call x, and let's say the length of the cable not in contact with the Earth is 2a. The corresponding circular arc length is 2rx. Let d be the extra length added to the cable. Then 2a = 2rx + d. Hence a = rx + d/2, and so a/r = x + d/2r.

We also have, tan(x) = a/r. Therefore the equation to solve for the angle x is:

tan(x) = x + d/2r

Once we've got the angle x by solving it, we then have that the required height h over the ground is:

h = r(sec(x) - 1)

For our particular problem d = 1, r = 6,400,000, so we must solve:

tan(x) = x + d/2r = x + 1/12,800,000

which gives:

x = 0.00616549902401 radians

and from this, the height h is:

```
h = r(sec(x) - 1) = 6,400,000*(sec(0.00616549902401) - 1)
  = 121.644736 m
```

If the man can stretch his arm to a height in excess of 120 m (360 feet) while comfortably sitting at ground level, he must be Mr. Reed Richards, alias "Mr. Fantastic", so his brother-in-law's name should be Johnny Storm, alias "The Human Torch", both members of the well-known Fantastic Four superhero team.

This is my 20-step program for the HP-15C which will return the height for any given extra length. First store the constant 12,800,000 (2r) in R0 and set RAD mode:

```
01 LBL A
02 STO1
03  0
04 SOLVE B
05 COS
06 1/X
07  1
08  -
09 RCL*0
10  2
11  /
12 RTN
13 LBL B
14 TAN
15 LASTX
16  -
17 RCL 1
18 RCL/0
19  -
20 RTN
```

Running it, we can get for instance:

```
For d =   1 m:    1 GSB A  ->  121.6448 m  (h)
    d = 0.1 m:  0.1 GSB A  ->   26.2080 m
    d =  10 m:   10 GSB A  ->  564.6400 m
```

As you may see, even a mere 0.1 meter (some 4 inches) of extra length can raise the highest point to a height of more than 26 meters (nearly 80 feet). Mr Fantastic would still be needed."

The 15C is more than up to the task and is neither useless nor obsolete. It was my 'main' calculation tool in a mechanical engineering program in the 1980s and would still serve as such today.

Jeff Kearns

Edited: 5 Dec 2011, 2:08 p.m.

Re: HP-15C - useless today? Not anymore!

*Message #10 Posted by **Reth** on 5 Dec 2011, 3:19 p.m.,*
in response to message #9 by Jeff Kearns

Thanks a lot, Jeff, that's exactly what I was after. And I found what I did wrong using the solver. I take my words back!

It's not for sale (yet) ;)

Re: HP-15C - useless today?

*Message #11 Posted by **Martin Pinckney** on 5 Dec 2011, 9:34 a.m.,*
in response to message #4 by Reth

> Quote:
>
> Not at all.
>
> In the case of a rope looped around the Earth...

This is a real problem? Or was this offered tongue-in-cheek? While I'm not a 15c nerd, it's nonsense to say that it's 10-digit accuracy is inadequate for practical problems that a hand-held is meant to solve.

Re: HP-15C - useless today?

*Message #12 Posted by **Mark Storkamp** on 5 Dec 2011, 9:39 a.m.,*
in response to message #4 by Reth

And does the 42 take into account thermal expansion and contraction for the sides in sun or shade? What about tension and elasticity? The 15C is just fine for REAL problems, maybe not so much for the made up variety.

Re: HP-15C - useless today?

*Message #13 Posted by **Frido Bohn** on 5 Dec 2011, 4:03 a.m.,*
in response to message #1 by Reth

For real work I would use a computer.
For doing maths I would use then either a CAS software, program routines myself or even take a spreadsheet application.
As long as I have a computer within reach I would prefer it over any calculator.

There may arise situations where the use of a computer is impractical. May be then somewhere in the field or somewhere without electricity.
In such cases a device would be advisable with an optimum between versatility and battery life. This would be not a smartphone, I guess.

For me, the main impulse to be engaged with the nostalgia calculators is that there is easily accessible expert knowledge about them. Nowadays, dozens of years after they were

introduced, there is countless material about them so one can gather in-depth knowledge about their innards on hardware and software basis. A crucial point for me is that those old calculators have a history: they have an accomplished biography documented in countless periodicals or newsletters. A whole generation was deeply involved with them - and of course, still is.
The impact these calculators had on their lives will be barely seen with modern devices which are too transient and interchangeable, although their capacity may be more advanced in some orders of magnitude. I simply can't imagine that we will have such a huge community who cares about TI-Nspire or HP-50g in 30 years.

Re: HP-15C - useless today?

*Message #14 Posted by **Thomas Radtke** on 5 Dec 2011, 5:04 a.m.,*
in response to message #13 by Frido Bohn

> Quote:
>
> For doing maths I would use then either a CAS software [...]

Interesting. In SpaceTime 3 and 4, calculating Eigenvalues fail using built in numerical routines on certain PDAs (s. discussion in the respective ST forum). The pure CAS solution works, however. Trust no one except really proven systems like..? The 15C? ;-)

This calculator is not useless and not obsolete. But there are people who have no use for it or *find* it obsolete. There's a difference.

Re: HP-15C - useless today?

*Message #15 Posted by **Reth** on 5 Dec 2011, 5:23 a.m.,*
in response to message #14 by Thomas Radtke

> Quote:
>
> This calculator is not useless and not obsolete.

Because of: ...??? Or just because you think so.

Re: HP-15C - useless today?

*Message #16 Posted by **Thomas Radtke** on 5 Dec 2011, 5:31 a.m.,*
in response to message #15 by Reth

> Quote:
>
> Because of: ...??? Or just because you think so.

I'm using it, so it's useful (to me). I went back from more 'modern' solutions to the 15C, so it's hardly obsolete (to me).

Re: HP-15C - useless today?

*Message #17 Posted by **Dave** on 5 Dec 2011, 4:02 p.m.,*
in response to message #15 by Reth

The reason why the 15C is neither useless nor obsolete is that in the 30 years it was out of production, HP failed to make any model equal to it in terms of functionality, form factor and price. Like an idiot, I sold my 15C years ago thinking HP's next model would be better. Well, it wasn't, and neither was the next model or the next. So I'm ecstatic to have a brand new 15C which is just as elegant and useful as it was 30 years ago. Because I have no reason to believe HP will ever make another model as good as the 15C, I bought enough spares to last the rest of my life.

Re: HP-15C - useless today?

*Message #18 Posted by **Michael de Estrada** on 5 Dec 2011, 4:22 p.m.,*
in response to message #17 by Dave

Amen.

Re: HP-15C - useless today?

*Message #19 Posted by **Mike Morrow** on 5 Dec 2011, 5:14 p.m.,*
in response to message #17 by Dave

> Quote:
>
> HP failed to make any model equal to it in terms of functionality, form factor and price.

Nonsense! I've got two 15C and two 15C-LE units, and I've used this model since 1985. However, it does **not** compare favorably to the 1988 HP 42S in any detail except that the 15C is visually much more attractive. But visual beauty, IMHO, is not enough to trump all the many other aspects in which the 15C is grossly inferior to the *later* 42S.

Re: HP-15C - useless today?

*Message #20 Posted by **Michael de Estrada** on 5 Dec 2011, 5:36 p.m.,*
in response to message #19 by Mike Morrow

Re: HP-15C - useless today?

*Message #21 Posted by **geoff quickfall** on 5 Dec 2011, 5:44 p.m.,*
in response to message #20 by Michael de Estrada

zing!

Re: HP-15C - useless today?

*Message #22 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 5 Dec 2011, 6:01 p.m.,*
in response to message #20 by Michael de Estrada

LOL !

Re: HP-15C - useless today?

*Message #23 Posted by **Dave** on 5 Dec 2011, 9:27 p.m.,*
in response to message #19 by Mike Morrow

Apples and oranges. The 42S did not replace the 15C. It replaced the 41. The 32S replaced the 15C, and it was less functional, as was the 32Sii, 33S and 35S. There are plenty of HP calcs that do a lot more than the 15C and 42S, but none have the trifecta I posted.

Re: HP-15C - useless today?

*Message #24 Posted by **Bill Platt** on 5 Dec 2011, 10:09 p.m.,*
in response to message #23 by Dave

I disagree with you (on this sort of absurd academic point).

I feel that the 32s replaced the 11c, the 42s replaced the 15c with the ability to use 41 programs.

With no I/O, there was never even the slightest possibility that the 42s could be seen as a replacement for the 41 system. That had to wait for the 28 and then 48 series. In some ways even they didn't do it. Who have you ever heard of using a 48 to do data gathering of multiple HPIL inputs? (Maybe the PC simply came to replace by then...and so I didn't notice?)

Edited: 5 Dec 2011, 10:10 p.m.

Re: HP-15C - useless today?

*Message #25 Posted by **Mike Morrow** on 6 Dec 2011, 7:04 p.m.,*
in response to message #23 by Dave

> Quote:
>
> The 42S did not replace the 15C. It replaced the 41. The 32S replaced the 15C, and it was less functional, as was the 32Sii, 33S and 35S.

One should not just "make up" the history and the development of HP calculators. Those familiar with HP calculators can cite real facts to show that the above statements are baseless in every particular.

In absolutely NO informed appraisal can the HP 42S be considered a replacement for the HP 41C series. It was designed to be program semi-compatible, *but that is all* and that does not the 42S a "replacement" for the 41C make.

Many might consider it a somewhat important detail to recall that the HP-41C is, er, expandable, while the 42S is, er, NOT expandable. It is nonsense to claim the keyboard/LCD/printer-only I/O 42S is "the replacement" for a device that can control multiple diverse devices on an HPIL loop, use input from a bar code reader, use a magnetic card reader, employ various other I/O and time modules, and utilize RAM and ROM memory of very many sorts. Exactly how does that "replacement" HP 42S "replace" any of such capabilities, or is that just some small and negligible and inconvenient detail?

Additionally, the 42S itself has many advantages never found in any configuration of the 41C. Its Saturn processor is faster and produces results that have several orders of magnitude better accuracy and precision. The scope of the 42S mathematical function set is far greater than that of the 41C, including exhaustive complex domain support, matrix manipulation, a numerical solver, and a numerical integrator. The 42S is smaller and lighter than the 41C, and operates almost forever on its three 357 cells.

Compare the 41C to the 15C. The scope of the 15C mathematical function set is far greater than that of the 41C, including exhaustive complex domain support, matrix manipulation, a numerical solver, and a numerical integrator. The 15C is smaller and lighter than the 41C, and operates almost forever on its three 357 cells.

Hmmm...one might just conclude that the 42S was the replacement for the 15C, and not the replacement for the 41C. Or someone like me who has been buying HP calculators for 35 years could tell you that no one, neither HP nor customer, ever considered the HP 42S as the replacement for the HP 41C.

With respect to the 32S and the 15C, the 32S/SII isn't *close* to being a functional replacement for the 15C. Like all Pioneers, there are several improvements over earlier models, such as (1) limited alpha display, (2) greater speed, (3) better accuracy/precision, and (4) portrait rather than landscape keyboard. But anyone who replaced his 15C with the 32S/SII was likely very disappointed after finding that his new calc lacked many of the features and functions of the 15C, not the least being competently-executed complex domain support. I bought a 32SII to replace a 15C in 1997, when the 42S was no longer available from HP. I immediately retired that new but painfully inadequate grade-schooler's calc to storage. Happily, I was shortly thereafter able to obtain three HP 42S units. All of them together are physically incapable of replacing my one 1984 HP-41CX. *But I didn't buy the 42S as a replacement for the 41CX. Nobody did*.

Re: HP-15C - useless today?

*Message #26 Posted by **Dave** on 7 Dec 2011, 3:42 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> One should not just "make up" the history and the development of HP calculators. Those familiar with HP calculators can cite real facts to show that the above statements are baseless in every particular.
>
> In absolutely NO informed appraisal can the HP 42S be considered a replacement for the HP 41C series. It was designed to be program semi-compatible, *but that is all* and that does not the 42S a "replacement" for the 41C make...

You make an interesting argument, but that doesn't make it true. You are the one making up history (HP42S Wiki). I guess Jake Schwartz makes up HP history too when he writes HERE that "Toward the end of 1988, HP introduced the non-expandable HP42S Pioneer model as a successor to the HP41 series." While it's true the 42S wasn't a very good replacement for the 41, it was indeed released as a replacement nonetheless. The 32S wasn't a very good replacement for the 15C either, but that doesn't change the fact that it was. The 15C and 42S have never been in the same class, so it is unfair to compare them.

The 42S belongs in a museum because it has been far surpassed by later models. The 15C has not, and currently fills a niche no other calculator can fill. Its ultimate successor the 33S, or arguably the 35S, can't do matrices and has very limited complex number support.

So history is on my side. And the 15C still has no equal.

Edited: 7 Dec 2011, 3:46 p.m.

Re: HP-15C - useless today?

*Message #27 Posted by **Don Shepherd** on 7 Dec 2011, 4:19 p.m.,*
in response to message #26 by Dave

Not that this will stop World War III about to play out on these very pages, but according to Wlodek's book the 42s was, in many ways, a Pioneer replacement of the HP-41 series, but at some stage it was repositioned as a 15c replacement instead.

So maybe you both are right.....and, remember, it's the season of peace.

Re: HP-15C - useless today?

*Message #28 Posted by **M. Joury** on 7 Dec 2011, 4:40 p.m.,*
in response to message #26 by Dave

> Quote:

> The 42S belongs in a museum because it has been far surpassed by later models. The 15C has not, and currently fills a niche no other calculator can fill. Its ultimate successor the 33S, or arguably the 35S, can't do matrices and has very limited complex number support.

Huh? I am not going to argue whether the 42S replaced the 15C or the 41C (although I personally always thought if it as a 15C replacement since it filled that niche for me but never replaced my 41) but I really don't understand the above argument.

Are you saying that the 42S is outdated because it has been superseded by newer more powerful calculators and at the same time claiming that the less powerful 15C has not been? What niche does the 15C fill that can't be filled by the 42S (setting aside UI preference for menus vs. overloaded keys). And what exactly has replaced the "far surpassed" 42S as a pure scientific programmable calculator? Sorry, maybe I am misunderstanding what you are trying to say.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #29 Posted by **Dave** on 8 Dec 2011, 11:21 a.m.,*
in response to message #28 by M. Joury

> Quote:
>
> > Are you saying that the 42S is outdated because it has been superseded by newer more powerful calculators and at the same time claiming that the less powerful 15C has not been? What niche does the 15C fill that can't be filled by the 42S (setting aside UI preference for menus vs. overloaded keys). And what exactly has replaced the "far surpassed" 42S as a pure scientific programmable calculator? Sorry, maybe I am misunderstanding what you are trying to say.
> >
> > Cheers,
> >
> > -Marwan

The successors to the 42S far surpassed it with the addition of RPL, CAS, I/O, Display, etc.

But none of the successors of the 15C have as much functionality, i.e., matrices and complex numbers, as I said before.

If you want to argue that the 42S is the successor to the 15C, then fine, it's a far better calculator in every way, as are the 28, 48, 49 and 50. But it's not the successor by any stretch of the imagination. If the 42S did replace the 15C, then where does the 32S and it's successors fit in?

Regardless of your opinion of the family tree, what other model has the same combination of simplicity, pocketability and low price as the 15C? The 42S certainly doesn't, and neither does any other model.

Re: HP-15C - useless today?

*Message #30 Posted by **bill platt** on 8 Dec 2011, 11:57 a.m.,*
in response to message #29 by Dave

Dave,

The 32s is the successor to the 11c. Have you ever used an 11c?

If you put the two side by side, if you compare memory, features, etc as well as market position and also what the salespeople were saying in the early 90s, the 32s and 32sii are the 11c replacement--not the 15c.

Also as I said before, the 33s and 35s were developed directly freom the 32sii.

Also as I said before, the feature set in the 42s contains every single feature in the 15c and then some.

Also look at the introduction of the 42s relative to the retirement of the 15c.

If you want to do a detailed look, you can use the museums feature comparison tool (very cool!) and I also recommend perusing Craig's site:

http://www.finseth.com/hpdata/hp42s.php

http://www.finseth.com/hpdata/hp15c.php

http://www.hpmuseum.org/cgi-bin/compare.cgi?calc1=HP-15C&calc2=none&calc3=none&calc4=none&calc5=HP-42S&calc6=none&calc7=none&calc8=none&shade=ON

http://www.hpmuseum.org/cgi-bin/compare.cgi?calc1=HP-11C&calc2=none&calc3=none&calc4=none&calc5=HP-32S&calc6=none&calc7=none&calc8=none&shade=ON

and finally:

http://www.hpmuseum.org/cgi-bin/compare.cgi?calc1=HP-32S&calc2=none&calc3=none&calc4=none&calc5=HP-42S&calc6=none&calc7=none&calc8=none&shade=ON

Edited: 8 Dec 2011, 12:03 p.m.

Re: HP-15C - useless today?

*Message #31 Posted by **M. Joury** on 8 Dec 2011, 1:29 p.m.,*
in response to message #29 by Dave

I see what you are saying but it doesn't fly with me. Even if one accepts that the 42S was not a replacement for the 15C (and I am not arguing that point one way or the other--I do make the opposite case below) the argument that the 42S is obsolete because there are newer machines that were specifically designed to replace it that do more while the 15C is not obsolete because the machine specifically designed to replace it did not do a good job of that (your argument is that the 32S was supposed to replace the 15C) is somewhat disingenuous.

Basically the 42S is a far more capable machine than the 15C. Sure, it is a little bigger and uses menus but it is still a much more capable RPN machine than the 15C is. If the 15C has a place in today's world than the 42S does as well.

Anyhow, what exactly replaced the 42S? You claim that the 42S replacement(s) are the RPL line. Well even if one can make an argument for that (I always saw the RPL line as replacing the 41) it (the 42) still has advantages. it is a small, easily pocketable, scientific calculator using straight RPN (favored over RPL by many). Also, if you look at the dates of production according to the HP Museum web site you will note that the 42S was still being produced after the 28C/S and 48S/X were both discontinued. Sort of shoots down the argument that the 28 and 48 were replacements for the 42. Also note that the 48SX came out in 1990 while production of the 41 ended in 1990 (halfway through the production run of the 28S BTW). So timeline-wise the 48SX was the replacement for the 41.

Here are some of the dates:

```
HP-41C/V/X:  1979-1990
HP-15C:      1982-1989
HP-42S:      1988-1995
HP-28C:      1987-1988
HP-28S:      1988-1992
HP-48SX:     1990-1993
```

Given the above dates and the functionality offered by each of these models the 28C/S are really just a detour they don't replace anything. The 48SX replaces the 41C. And the 42S replaces the 15C. One could read this differently except that no one can realistically make the argument that the 42S was replace by either the 28 or the 48.

And the argument that the 15C was "low price"? Well the 42S was actually introduced at a lower price point. I don't know what the 15C was selling for at that point in time but my guess is that it was pretty close.

-Marwan

Edited: 8 Dec 2011, 1:32 p.m.

Re: HP-15C - useless today?

*Message #32 Posted by **bill platt** on 8 Dec 2011, 2:57 p.m.,*
in response to message #31 by M. Joury

And don't forget that HP even offered a 41 emulation or something for the 48SX--if I remember correctly it was an expansion card that had some sort of routine for running the 41 programs? I can't remember but someone here will :-)

Re: HP-15C - useless today?

*Message #33 Posted by **M. Joury** on 8 Dec 2011, 3:58 p.m.,*
in response to message #32 by bill platt

Yes, indeed. I have one :-). What more can one ask for proof?

It is an expansion card that emulates the HP-41. It can run programs and keyboard calculations, has full support for all HP-41 built-in functions (such as keyboard assignment/user mode) and can also be expanded by calling out to an RPL program (for example you can emulate the time and date functions of the 41 by using the time and date functions of the 48). You do this by writing an RPL routine that gets called in a special manner and assign it to an XROM number. I can't remember the details right now (it has been a while) but I created routines to support a number of the time module functions.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #34 Posted by **Steve Fennell** on 8 Dec 2011, 1:50 p.m.,*
in response to message #29 by Dave

This was an interesting writeup. The first paragraph was enlightening on the 42s development.

Long Live the HP 42s

Re: HP-15C - useless today?

*Message #35 Posted by **M. Joury** on 8 Dec 2011, 1:59 p.m.,*
in response to message #34 by Steve Fennell

Thank you. Very interesting. Seems like the original intent was to replace the 41C and then later when HP decided that their high-end future calc was going to be the 48 they hobbled the device and realigned it as a 15C replacement.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #36 Posted by **M. Joury** on 8 Dec 2011, 2:13 p.m.,*
in response to message #29 by Dave

Here is the issue that I have with your argument. The following two statements appear to be mutually exclusive:

> Quote:
>
> The 42S belongs in a museum because it has been far surpassed by later models. The 15C has not, and currently fills a niche no other calculator can fill.
>
> Quote:
>
> If you want to argue that the 42S is the successor to the 15C, then fine, it's a far better calculator in every way,

Who cares what was supposed to replace what. If it is a "far better calculator in every way" than how can you in the first quote say that it "belongs in a museum". If it is a batter machine it is a better machine and it does not much matter what came before or after it--it is ***still*** a better machine.

This is exactly the argument I was making with my first response. Why are we bothering to argue about what came first and what replaced what--if the 42S is better than the 15C it remains better than the 15C whether it was meant as a replacement for it or as a replacement for the 41.

You really can't have it both ways--claim that the 42S belongs in a museum while the 15C is still a usable machine and in the very next breath state that the 42S is a "far better calculator in every way".

-Marwan

Edited: 8 Dec 2011, 4:02 p.m.

Re: HP-15C - useless today?

*Message #37 Posted by **Dave** on 8 Dec 2011, 6:18 p.m.,*
in response to message #36 by M. Joury

> Quote:
>
> Here is the issue that I have with your argument. The following two statements appear to be mutually exclusive:
>
> Who cares what was supposed to replace what. If it is a "far better calculator in every way" than how can you in the first quote say that it "belongs in a museum". If it is a batter machine it is a better machine and it does not much matter what came before or after it--it is ***still*** a better machine.
>
> This is exactly the argument I was making with my first response. Why are we bothering to argue about what came first and what replaced what--if the 42S is better than the 15C it remains better than the 15C whether it was meant as a replacement for it or as a replacement for the 41.
>
> You really can't have it both ways--claim that the 42S belongs in a museum while the 15C is still a usable machine and in the very next breath state that the 42S is a "far better calculator in every way".
>
> -Marwan

You are confusing my exasperation with logic. I'm letting you have it both ways because I'm tired of arguing these silly semantics. The bottom line is the 42S is ugly and complicated. The 15C is elegant, simple and has no equal (literally).

I can't read HP executives' minds, but it was pretty clear to me as a consumer at the time that the 42S was intended to replace the 41, and that the only model anywhere close to the defunct 15C at the time was the 32S. The 42S was in a completely different class. I accept argument that the 15C was actually never replaced, which is why it's so great to have it back now.

If the 42S was such a perfect replacement, then why is there a much bigger demand for the 15C than the 42S? I think it comes down to styling and a perfect, though much more limited, function set for a pocket calculator.

Re: HP-15C - useless today?

*Message #38 Posted by **M. Joury** on 8 Dec 2011, 6:56 p.m.,*
in response to message #37 by Dave

Excuse me? It was not me that asked to have it both ways. All I said was that the 42S should not be relegated to a museum because if the 15C was such a great calculator than the 42S still has a place in the world.

The 42S is ugly? Personal opinion--don't try to tell me what I should like and that the 42S is (basically what you are saying) worthless because you find it ugly.

I don't care which calculator was meant to replace which. I have repeated that multiple times. Stop trying to fabricate an issue out of what came first and what came next. Simply put the 42S is more powerful than the 15C. That is a fact. Whether you prefer the looks of the 15C (which I like BTW) or not, whether you like the menu system of the 42S or not, etc. the 42 is simply a more powerful calculator.

Actually I would say that the 15C WAS replaced but that the 42S was never replaced.

Complicated? As far as menus go perhaps. As far as coding goes? The 42S is FAR easier to program simply because it has mnemonics and you don't have to rely on key codes. You can separate programs into their own logical entities so that numeric labels can be reused. It is much faster. And a whole slew of other improvements over the 15C (don't bother to tell me again that it wasn't meant as a replacement for the 15C--that does not justify the claim that it is a museum piece).

No one wants the 42S back? Try that one again! There are a LOT of people on this forum that would fall over themselves to buy a new 42S. Why do you think that the WP34S firmware was developed? Because people wanted a replacement for the 42S. If the 42S is a museum piece than so is the WP34S--so why are so many people on this forum interested in it? Maybe you are referring to sales on eBay? I have not tracked it recently but 12 years ago I sold a new-in-box HP-42S for $200+. I wonder what a NIB 42S would fetch now?

I really don't care which machine you like more. I personally think that the 15C is a great little calculator. What I had a problem with is that based on your personal opinion (you have given me no real data other than to argue about which calculator replaced which and to tell me that the 42S is ugly and complicated--I find it to be neither) you relegated the 42S (which I use far more often than my 15C) to an also ran, outdated, museum piece while holding up the 15C (you personal choice) as the only logical choice. That is not logic, that is personal preference which you have every right to. I have shared my opinions often enough on this forum to know that each and every one of us here have our favorites and when I state a preference I always add that "for me" or "for what I use it for" such and such works best. I like RPN, others like Algebraic, they are no more right or wrong than I am. These are all personal choices and all valid. I am very, VERY, careful not to say that such a calculator is better and that this other model is junk because that may not be true for someone else.

-Marwan

Re: Bring Back 42s

*Message #39 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 8 Dec 2011, 9:52 p.m.,*
in response to message #38 by M. Joury

+1 Bring back 42s (nice to have the 15C back, will be even better if get the 42s back, perhaps 42sx or 42s+)

Edited: 8 Dec 2011, 9:56 p.m.

Re: HP-15C - useless today?

*Message #40 Posted by **bill platt** on 8 Dec 2011, 9:14 p.m.,*
in response to message #37 by Dave

Your sarcasm was too obtuse for me (been 35 years since geometry) but now I get it!

Of course! If you were a 41 user back then and saw the 42, you would have been like, "this could have been so awesome!" But damit, what the hell?! No I/O?

And I have goo give you the idea that while the 32s is a very slight incremental improvement to the 11c, the 42s is a pretty big jump from the 15c.

Re: HP-15C - useless today?

*Message #41 Posted by **Jake Schwartz** on 7 Dec 2011, 5:04 p.m.,*
in response to message #26 by Dave

> Quote:
>
> I guess Jake Schwartz makes up HP history too when he writes HERE that "Toward the end of 1988, HP introduced the non-expandable HP42S Pioneer model as a successor to the HP41 series."

I can't remember who that HP R&D guy was who attended a meeting of a local PPC chapter in the Corvallis area, but supposedly he showed to a few folks a prototype of a 42S with I/O. (Wlodek, you probably know who that is - was it Chris Bunsen, by any chance?) Apparently there were two simultaneous internal "camps" working on RPN and RPL and HP chose to go with RPL for the flagship position, relegating the 42S to having "O" without "I" and elevating the work toward the HP48SX, to be released on 3/6/90 (although without anything close to HP-IL).

> Quote:
>
> The 42S belongs in a museum because it has been far surpassed by later models.

If we were to restrict ourselves to RPN programmabbles, I'd say that the 42S was easily the pinnacle, with absolutely nothing more powerful. For those who prefer RPN programming to RPL, it is a shame that the 42S language never was ported to or further improved in a successor to this day.

Jake

Re: HP-15C - useless today?

*Message #42 Posted by **bill platt** on 7 Dec 2011, 6:25 p.m.,*
in response to message #26 by Dave

Having bought an 11c the first year they came out, I can assure you, with absolutely no equivocation whatsoever, that the 32s was never marketed as a replacement for the 15c--it was marketed as an 11c replacement. The 33s and the 35s are 32sii clone/mods.

The 41/42 relationship is interesting, and perhaps Jake and Wlodek can fill us in with behind the scenes stories. But what I remember when I went to replace my lost 11c was that the 32sii was presented as its replacement...

Re: HP-15C - useless today?

*Message #43 Posted by **Mike Morrow** on 9 Dec 2011, 11:08 p.m.,*

in response to message #26 by Dave

I see that you are unable to respond to my statement:

> Quote:
>
> It is nonsense to claim the keyboard/LCD/printer-only I/O 42S is "the replacement" for a device that can control multiple diverse devices on an HPIL loop, use input from a bar code reader, use a magnetic card reader, employ various other I/O and time modules, and utilize RAM and ROM memory of very many sorts. Exactly how does that "replacement" HP 42S "replace" any of such capabilities, or is that just some small and negligible and inconvenient detail?

There are no knowledgeable people who consider the HP 42S the replacement for the HP-41C series, for very obvious reasons...not today, not 23 years ago. Your argument that in the early design phase it was intended to be implemented as a replacement is gratuitous and specious *in toto*. The *only* thing that counts is what appeared on the market that customers could buy.

You obviously are not adequately familiar with the HP 42S and the HP-15C to be able to competently evaluate the relationship of the HP 42S to the HP-15C. Additionally, your statement that many more prefer the HP 15C rather than the HP 42S is demonstrably false, and, once again, completely gratuitous. A substantial part of your argument seems to be based simply on the Pioneer design being uglier than the Voyager design. I agree with that assessment, but within that ugly Pioneer design is a calculator that is orders of magnitude better than the HP-15C or HP 15C-LE. Beauty does not trump capability.

And...to return for the moment to the original thread, I agree that there is no real reason for the existence of the HP 15C-LE, except that it allows a lot of people to spend a fair amount of money on something they can pretend is an HP-15C. It is most definitely *not* the equivalent of the original HP-15C. It has many deficiencies in comparison to the original, and *one and only one* advantage...speed! But a very limited device like the HP-15C was seldom if ever used for calculations for which speed was of any real value. The inferior mechanical design and the significant errors in implementation of the HP-15C design (PSE bug, power management, self-tests, emulation rather than native uP code that wastes 90 percent of battery energy) ensure that the 15C (not LE) remains the machine to own, if its grossly superior HP 42S replacement is out of reach!

Re: HP-15C - useless today?

*Message #44 Posted by **uhmgawa** on 12 Dec 2011, 1:47 a.m.,*
in response to message #43 by Mike Morrow

> Quote:
>
> And...to return for the moment to the original thread, I agree that there is no real reason for the existence of the HP 15C-LE, except that it allows a lot of people to spend a fair amount of money on something they can pretend is an HP-15C. It is most definitely *not* the equivalent of the original HP-15C. It has many deficiencies in comparison to the original, and *one and only one* advantage...speed! But a very limited device like the HP-15C was seldom if ever used for calculations for which speed was of any real value. The inferior mechanical design and the significant errors in implementation of the HP-15C design (PSE bug, power management, self-tests...

Emotionally, I (and I'm sure others) would like to argue with your assessment above. Unfortunately you speak the truth as thus far it primarily is a nostalgic collectable item.

I'm still mystified what HP's motivation was in this effort as I don't see how a return on the development investment would have produced a meaningful profit. So if it was a bow to their loyal following I really hope none of this discussion is received as an attempt to punish a good deed.

> Quote:
>
> emulation rather than native uP code that wastes 90 percent of battery energy)..

I don't think this is a valid claim. In any case we'd need to emulate the decimal ALU operations of the legacy 14 digit NUT processor via a functional reimplementation on the host processor. The fact we're feeding from a legacy voyager rom image vs. a rewrite of such has significant benefit. It is much easier to verify you've produced accurate NUT ALU emulation than verify a complete functional rewrite of the entire firmware. And a functional rewrite of 15c firmware isn't going to fit in 15KB of rom without substantial encoding of the ALU operations. We get that for free by running the native firmware with nearly each operation being encoded into 10 bits. So emulation is arguably the most efficient way to get the job done.

The problem with battery life lies simply with the chosen ARM core clock rate. A legacy NUT voyager draws approximately 1.1ma (15c) 730ua (11c/12c/16c) executing instructions at a target rate of 3947/s. An at91sam7l128 in the configuration used for an encore voyager is capable of a 36Mhz clock rate at a current consumption of ~20ma. Current draw parity with a legacy nut voyager occurs at about a 2Mhz clock rate. Assuming a 100x aggregate performance differential for the sam7 at 36Mhz, running at 2MHz would provide a ~6.7x improvement at the legacy current draw. Add to this the power source has changed from 3x SR44 to 2x CR2032, the latter of which provides over double the mAH capacity of the former. Running at 2Mhz with 2x CR2032 cells we're well in the recommended continuous current draw range for a CR2032 with a worst case continuous user program execution runtime ballpark of 400 hours. Or we could increase current consumption to the system equivalent of a legacy 15c while still remaining in the recommended load range for CR2032 cells, and achieve a throughput of ~14x.

Aside from core clock rate overkill, it is regrettable some firmware-external functionality wasn't provided in the emulator such as a facility to get code in/out of the device -- even if only as a means for wholesale backup of user programs. A bare-bones ubiquitous usb serial interface shouldn't have added more than US$3 manufacturing cost, if that.

Edited: 12 Dec 2011, 11:23 a.m.

Re: HP-15C - useless today?

*Message #45 Posted by **Mike Morrow** on 13 Dec 2011, 1:37 p.m.,*
in response to message #44 by uhmgawa

I wrote:

> Quote:
>
> The inferior mechanical design and the significant errors in implementation of the HP-15C design (PSE bug, power management, self-tests...

John wrote:

> Quote:
>
> Emotionally, I (and I'm sure others) would like to argue with your assessment above. Unfortunately you speak the truth as thus far it primarily is a nostalgic collectable item.

The current HP-12C models share the identical loss of mechanical quality of the HP 15C-LE, so that's just what the market will bear. My assessment does not mention an important ameliorating characteristic of the HP 15C-LE: *It's far less expensive than the original HP-15C.* I bought my first HP-15C new in 1985 for $100, which equates to $210 dollars in 2011. I suspect that if sufficient sales volume could be assured at that price, HP could produce a version that was equal in mechanical quality to the original, while using non-emulated firmware written from scratch for a fast SoC, just as was done recently by HP for the HP 30b and is being done independently for the WP 34S. But, for the $80 I paid for each of my HP 15C-LE units the quality-to-price ratio is still reasonably good, *if one is an HP RPN nut*.

> Quote:
>
> I'm still mystified what HP's motivation was in this effort as I don't see how a return on the development investment would have produced a meaningful profit. So if it was a bow to their loyal following I really hope none of this discussion is received as an attempt to punish a good deed.

I agree...I don't wish to be too critical of this little HP 15C-LE experiment. In a perfect world, the HP 17bii would have survived in the HP product catalog rather than the HP 12C clones. Perhaps then an HP 42S-LE would nave been issued, filling the very huge gap that has existed in RPN programmables since the HP 42S was discontinued 17 years ago. The HP 15C-LE fills no similar gap.

I wrote:

> Quote:
>
> ...emulation rather than native uP code that wastes 90 percent of battery energy)

John wrote:

> Quote:
>
> I don't think this is a valid claim.

I think it's a valid claim. However, I agree that non-emulated firmware was *never a reasonable expectation*.

Emulations can waste an astonishing percentage (about 90 percent) of the battery's energy to accomplish a specific task, compared to a non-emulated machine. For example, here is data from a specific benchmark (2500-iteration Savage, see message 68 in this thread.):

On the 15C, it takes 5840 seconds. (original)
On the 15C-LE, it takes 48 seconds. (emulated SAM7 firmware)
On the 30b, it takes 6 seconds. (non-emulated SAM7 firmware)

The 15C-LE and the 30b use similar hardware and clock speeds. Yet the 30b completes this specific complex task eight times faster than the 15C-LE. It produces a result that has better precision and accuracy, with the error smaller by several orders of magnitude. My conclusion that it requires about nine times more energy for the 15C-LE system to complete the same task (ignoring the loss of precision) as the 30b is likely not far wrong. Emulation is thus responsible for a gross waste of battery energy without benefit to the calculation. Whatever energy is lost due to the pointless high speed of the 15C-LE is *multiplied* by the inefficiency of the emulation process. It causes the 15C-LE to run at least eight times longer than a hypothetical non-emulated version to perform the identical task.

I agree that there could be no other process other than emulation for the introduction of the 15C-LE. Since the 15C-LE is mostly a short-term odd-ball quirky product for "real fans", this doesn't matter much. Where emulation really hurts the HP product line is the HP 50g. At least it's better (except for alarms) than the original Saturn for speed, but only by about a factor of three. In fact, the same benchmark cited above takes 65 seconds on the HP 50g, **35 percent longer than the 15C-LE!**

Edited: 13 Dec 2011, 2:51 p.m.

Re: HP-15C - useless today?

*Message #46 Posted by **uhmgawa** on 14 Dec 2011, 5:18 p.m.,*
in response to message #45 by Mike Morrow

> Quote:
>
> Emulations can waste an astonishing percentage (about 90 percent) of the battery's energy to accomplish a specific task, compared to a non-emulated machine. For example, here is data from a specific benchmark (2500-iteration Savage, see message 68 in this thread.):
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Where a strict emulation approach can fall short are cases where the host processor is capable of a significantly more efficient native operation, from which the guest could benefit, but isn't easily inferred from the guest instruction stream. A good example here is the guest synthesizing a multiply operation via iterated shift/add operations, but the host cpu possesses a native multiply instruction. We really can't take advantage of the host multiply in general as we don't know when the guest is performing a multiply operation. We could decompile the guest code and patch the image, but again this isn't a general solution.

So in this sense, a functional simulator can free us from the programming model to which the emulator is bound. And in doing so if we can now leverage host resources previously unavailable, there is clearly a liability for an emulation approach -- but only necessarily in this case. Perhaps this is semantic hair-splitting but it isn't a limitation of emulation as an approach per se but a limitation of the programming model in use relative to the capability of the host cpu.

> Quote:
>
> Where emulation really hurts the HP product line is the HP 50g. At least it's better (except for alarms) than the original Saturn for speed, but only by about a factor of three. In fact, the same benchmark cited above takes 65 seconds on the HP 50g, **35 percent longer than the 15C-LE!**

Actually I'm not a big fan of emulation either. The only justifiable case IMHO is when attempting to preserve the useful life of a precious bag of bits as in the 15c firmware. The moment we have need to modify those bits functionally (vs. administratively) the return falls off rapidly.

This discussion may soon be moot as I expect binary emulation in the context of pocket calculators will soon be significant only for technical historians.

Re: HP-15C - useless today?

*Message #47 Posted by **Dave Mabry** on 5 Dec 2011, 9:47 a.m.,*
in response to message #1 by Reth

> Quote:
>
> After playing a bit with the HP-15C LE (keyboard fixed) I'm under the impression, that apart of nostalgic reasons it is no worth getting it at all.

Does that mean you have a used one to sell? Seriously.

Re: HP-15C - useless today?

*Message #48 Posted by **Calum Tait** on 6 Dec 2011, 4:50 a.m.,*
in response to message #1 by Reth

I think of old calculators as like old cars. You can use a classic car as your "daily driver" as long as you can get parts for it, has room to transport you and your chattels and it more or less keeps up with the other traffic on the road. It just needs to be able to get you to where you want to travel and be pleasing to the eye or your personal sense of style. An old calculator must be able to do the calculations you need to do for your work or hobbies, must be reasonably reliable and be portable if that is required. I think the 15C, for

many people, will do all the calculations they require reasonably reliably and does so with style and in a small form factor. Obviously there are some applications where it's limitations make it less useful but that can be said for all calculators, old or new. To argue that it doesn't have feature x or y or is slower than a more modern model is missing the point. You wouldn't use a Model T Ford on a motorway but if you never drive on a motorway, that isn't a problem. You can use a modern car for long distance touring or a computer for problems requiring high processing power. If it does what you need, then you don't need something else. I can't see how the 15C can be obsolete.

Re: HP-15C - useless today?

*Message #49 Posted by **Jeff Johnson** on 6 Dec 2011, 9:59 a.m.,*
in response to message #48 by Calum Tait

It's fun listening to this esoteric group bantering back and forth. I enjoy the energy and passion surrounding various models. While I appreciate the "purists" and their discussion of the finer points of various calculators (including "extreme" calculations, which are fun, and sometimes practical), there is indeed a group of us that use real calculators for "grunt" calculations on a daily basis. I do basic Algebra, Trig, Log type problems to calculate phase angle voltages, Line of Sight distances, microwave path losses, etc. I don't want to fire up Excel to do those calculations in the office, and it's even less practical when I'm out in the field. The scientific calculator is an EXTREMELY useful tool for my type of work. And, no, it's not just as easy to do those calculations on the soft HP calc on my Tablet PC. I'll grab a real, physical calculator every time, because it's faster to find and use. I can do my calculations equally well on my HP-45, HP-28c, HP-41c, HP-32sII, HP-25, HP-35s, or HP-50g. Until I retire, I will NEED a real calculator. Others may not, but that doesn't mean calculators are useless, including the venerable HP-15c. I will buy one when they become available at the retail price :o)

Re: HP-15C - useless today?

*Message #50 Posted by **Martin Pinckney** on 6 Dec 2011, 10:10 a.m.,*
in response to message #49 by Jeff Johnson

> Quote:
>
> ... there is indeed a group of us that use real calculators for "grunt" calculations on a daily basis ... I'll grab a real, physical calculator every time, because it's faster to find and use ... Until I retire, I will NEED a real calculator. Others may not, but that doesn't mean calculators are useless, including the venerable HP-15c.

Agreed. I find the 27s (it would be 42s if I were an RPN nut) to be more useful because of the alpha capability. But I can see how the 15c has a lot of appeal because of it's simple interface, everything's right there on the keyboard. If one prefers that type of interface, it would be hard to beat the 15c for an elegant implementation of the essential scientific calculator.

Re: HP-15C - useless today?

*Message #51 Posted by **bill platt** on 6 Dec 2011, 10:51 a.m.,*
in response to message #50 by Martin Pinckney

I left one of my 27s machines on a KLM flight from Schipol to JFK in August :-(. Also a logitech M505 mouse.

I wonder how many great calculators are gathered up each year from the magazine pockets of airliners?

Re: HP-15C - useless today?

*Message #52 Posted by **Martin Pinckney** on 6 Dec 2011, 11:30 a.m.,*
in response to message #51 by bill platt

> Quote:
>
> I wonder how many great calculators are gathered up each year from the magazine pockets of airliners?

Good question. At least they are not confiscated at security - yet.

Ever check out how many Leathermans are offered on eB** per month from airport confiscations? What part of "you cannot bring a sharp object on the plane" do they not understand?

Re: HP-15C - useless today?

*Message #53 Posted by **M. Joury** on 6 Dec 2011, 2:38 p.m.,*
in response to message #52 by Martin Pinckney

Actually you can. It is legal to take a pair of scissors of up to 4 inches onto an aircraft. Or so we have been told. We discovered this when my daughter tried to do exactly this so that she could work on some arts and crafts project she had. When we saw it we figured: A. They were going to give us a hard time and B. They would confiscate it. But no, we were informed that it was perfectly legal.

Do you know that you can take a pair of figure skates onto an aircraft? I am assuming that means that you can also board with speed skates. Have you ever seen how sharp those things are? And you could always sharpen them further.

On the other hand I was in a rush one day and forgot to take a mini Swiss army knife with a tiny little blade off my key-chain. That they of course confiscated.

And of course liquids are not allowed but milk and formula are exempt and can be taken on board.

Like a lot of things, airport security does not make a whole lot of sense.

-Marwan

Edited: 6 Dec 2011, 4:39 p.m. after one or more responses were posted

Re: HP-15C - useless today?

*Message #54 Posted by **bill platt** on 6 Dec 2011, 3:49 p.m.,*
in response to message #53 by M. Joury

It is purposely nonsensical. Its purpose is simply crowd control. Boot on your face. Do as we say.

Obviously if they were serious about the problem, All men would be banned from airplanes ;-)

Re: HP-15C - useless today?

*Message #55 Posted by **M. Joury** on 6 Dec 2011, 4:48 p.m.,*
in response to message #54 by bill platt

One of the "funniest" (as in illogical) experiences I have ever had...

My family flew up to Vermont from Richmond, VA a few years ago. My wife was going up there for an interview but we were scheduled to fly out separately and return together due to my work schedule. As it turned out we flew out together because a snow storm kept me from getting to work that day. At any rate that is not the point. The "funny" part occurred on the return.

We arrived at the airport together and we were going through security together. I am of pretty obvious Middle Eastern descent and my wife is an Italian blonde. At any rate we were going through security and my daughter and I passed through just fine but my wife got stopped and every item in her bags was taken out. When she asked why it was only her she was told that she was traveling alone (she was not on our itinerary since the tickets had been purchased separately) and that since I was traveling with our daughter I was obviously no threat. As it happens my daughter was at that point carrying my wife's carry on and she (my daughter) walked right through with no issues AFTER SECURITY SAW MY WIFE PLACE SOMETHING IN THE CARRY-ON! Gotta love how safe we are with the TSA taking care of us.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #56 Posted by **Bill (Smithville, NJ)** on 6 Dec 2011, 6:12 p.m.,*
in response to message #55 by M. Joury

Hi Marwan,

Well security is a funny business. Part of my job is designing security systems for the various buildings we design. I always meet with the client and ask a variation of the following question " What do you wish to acheive or what is the purpose/goal?" Often, they don't have any clear idea. How they answer this question determines whether they are looking for real security or show security. There may be several departments from the client and they will give conflicting requirements depending on their own viewpoint.

A usual conflict is protecting the building or equipment versus the people in the building and what are you protecting against.

So much of security is for show only. After 9/11, the casino where my wife worked, increased security in the garages - they were afraid someone would sneak a bomb into the garage and then blow up the casino garage (not really sure why they thought this). So my wife goes to work, they stop the cars in front of her and check their trunks and under the cars and then politely greet my wife and wave her thru since they know her. Security is only as good as the people implementing it and following thru on it.

The funny part is that a few years later, her casino was bought, and they blew it up to make way for a new casino (which they never built).

Bill

Edited: 6 Dec 2011, 7:45 p.m. after one or more responses were posted

Re: HP-15C - useless today?

*Message #57 Posted by **bill platt** on 6 Dec 2011, 6:33 p.m.,*
in response to message #56 by Bill (Smithville, NJ)

Haha ironic.

Garages? Bombs? Probably from the 1st attempt at the World Trade Centers. On everyone's mind back then, including mine. I knew people on the top floor of that building who had to go to the roof to escape the smoke--which went up to the top floors and filled them.

I think anyone serious about security must read the chapter "Safecracker Meets Safecracker" in Feynman's autobiographical book.

Re: HP-15C - useless today?

*Message #58 Posted by **Bill (Smithville, NJ)** on 6 Dec 2011, 7:47 p.m.,*
in response to message #57 by bill platt

Hey Bill,

You realize by using the word "Bomb", our messages have probaly been scraped up and someone is now reading them to see if there is a threat. Crazy world.

Bill

Re: HP-15C - useless today?

*Message #59 Posted by **bill platt** on 6 Dec 2011, 8:35 p.m.,*
in response to message #58 by Bill (Smithville, NJ)

yep. J. Edgar looks like a 2-bit small timer compared to the dossiers on all of us today...

Re: HP-15C - useless today?

*Message #60 Posted by **Geoff Quickfall** on 6 Dec 2011, 9:24 p.m.,*
in response to message #59 by bill platt

I think the following story quite represents the idiocy of some aspects of screening. In case some don't realize, I go through security at airports around the world as part of my job (pilot).

Here is a first hand account of a brush with LHR (London Heathrow Security, flight and cabin crew bypass). I mention bypass for flight crew because you would think that these screeners would be looking for a different aspect of prohibited goods:

ME: "what in particular are you searching my flight bag for?"

SCREENER " Pardon me sir."

ME: " I would like to know, so that, if possible, I could leave it at home and preclude an invasive search of my FLIGHT BAG"

SCREENER "Oh, well, anything that will allow you to take control of the aircraft."

Now remember, I am a pilot of the flight, I am at crew bypass screening, I have uniform on, international (including HomeLand security) recognized electronic pass as well as pilot licence. So just WHAT in my flight bag were they looking for???

So now I just go to work, expect the least common denominator of common sense, then laugh about the insanity of it all.

Cheers, Geoff

p.s. the 15C rules, except for the 41CL and WP34S and 71B and 34 and 67 and 65 and 25 and ... personal choice which includes appearance, functionality (dependent on what you do or require it to do).

Cheers, again!

Re: HP-15C - useless today?

*Message #61 Posted by **Ángel Martin** on 7 Dec 2011, 2:01 a.m.,*
in response to message #60 by Geoff Quickfall

LOL - yes, we don't want those dangerous pilots controlling the aircraft!!

Thanks for the early morning (my time) humor Geoff..

Re: HP-15C - useless today?

*Message #62 Posted by **bill platt** on 7 Dec 2011, 7:39 a.m.,*
in response to message #60 by Geoff Quickfall

That is funny but stupid, too!

Here is another one for you:

Until the existence of the "smart phone" I used to use any of my calculators on the plane, with no restrictions. Now, I get told to "turn off your electronic devices:.

So far, they haven't told me to turn off my watch yet. Oh, I forgot. I don't wear a watch anymore.

Re: HP-15C - useless today?

*Message #63 Posted by **Jim Yohe** on 7 Dec 2011, 11:31 a.m.,*
in response to message #62 by bill platt

So if you had on an HP-01 you could still use a "calculator" and they wouldn't know it or couldn't do anything about (I assume).

And I see there are still calculator watches made. Found this site for a more modern one (albeit they all seem to be from Casio):

http://www.calculatorwatchstore.com/

The CMD40B can even act as a remote control. LOL

Edited: 7 Dec 2011, 11:55 a.m.

Re: HP-15C - useless today?

*Message #64 Posted by **Geoff Quickfall** on 7 Dec 2011, 12:26 p.m.,*
in response to message #63 by Jim Yohe

I wear the watch and carry the 41C in the shell through London on purpose:

VS/1220-99-978-3399
COMPUTER
MORTAR
FIRE DATA
MARK 2
CV

Just my humour is all.

In fact, for a pilot, Tel Aviv is easier to get through then London or the US. However in the US the rules may be changing for flight crew, using a bypass instead of lining up with the passengers would shave an hour off our time and not degrade security in the least.

Geoff

Re: HP-15C - useless today?
*Message #65 Posted by **Jim Yohe** on 7 Dec 2011, 1:04 p.m.,*

in response to message #64 by Geoff Quickfall

I remember this from an earlier post by you. Beautiful Nixie watch! I think you said you put that tag around the battery. What battery model number is actually being used in it?

Never mind. I see it's a CR2 750mAh.

Edited: 7 Dec 2011, 2:57 p.m.

Re: HP-15C - useless today?

*Message #66 Posted by **Håkan Thörngren** on 7 Dec 2011, 5:01 p.m.,*
in response to message #64 by Geoff Quickfall

That 41C shell looks way cool, where did you find it?

Re: HP-15C - useless today?

*Message #67 Posted by **Geoff Quickfall** on 7 Dec 2011, 12:29 p.m.,*
in response to message #63 by Jim Yohe

Take it a step further Jim, what happens with a pace maker, heart monitor, blood pressure monitor and etc?

Years ago before the madness started my Capt went through the magnitometer and beeped. Emptied his pockets and beeped again:

SCREENER: "your still beeping."

CAPTAIN: "I have an artificial hip."

SCREENER: "Show me."

cheers ;-)

Re: HP-15C - useless today?

*Message #68 Posted by **Jeff Johnson** on 7 Dec 2011, 11:09 a.m.,*
in response to message #60 by Geoff Quickfall

Pretty funny, Geoff. I work as Tech Support for the FAA's Indianapolis ARTCC. Although I haven't had anything to do with Security since our security people split off and became TSA, I have continued to be amused by the screening of pilot's belongings. Same goes for arming pilots. Can that be *more* dangerous, when you're already trusting your LIFE to that pilot? If a pilot wants to kill everybody on board, he doesn't need ANY carry-ons. Sanity and logic apparently have little say-so in security. Similar things happen at our FAA facilities. They go out of their way to screen, check, limit, train, restrict us as engineers, technicians, controllers, etc, yet I could walk into a cipher-locked room in our basement and in 10 seconds, ground traffic from LA to Boston with nothing but a set of bolt cutters. Aside from my obvious termination, there would also be delays for many, many hours and millions of dollars lost by the airlines. Where does screening stop and trust begin? Tough question.

Re: HP-15C - useless today?

*Message #69 Posted by **bill platt** on 7 Dec 2011, 6:20 p.m.,*
in response to message #68 by Jeff Johnson

It's actually a really easy question. If you can be trusted as an employee, you can be trusted. Period. :-)

Re: HP-15C - useless today?

*Message #70 Posted by **bill platt** on 6 Dec 2011, 6:30 p.m.,*
in response to message #55 by M. Joury

LOL Italian blond. They are knock-out killers, for sure!

Re: HP-15C - useless today?

*Message #71 Posted by **Les Bell** on 7 Dec 2011, 2:07 a.m.,*
in response to message #52 by Martin Pinckney

> Quote:
>
> Ever check out how many Leathermans are offered on eB** per month from airport confiscations? What part of "you cannot bring a sharp object on the plane" do they not understand?

My Leatherman is engraved "Aircraft Owners and Pilots Association" and is *intended* for use on aircraft. I leave it behind when flying commercially, although I did once use it to fix up some loose cabin trim on a Qantas flight.

--- Les
[http://www.lesbell.com.au]

Re: HP-15C - useless today?

*Message #72 Posted by **Michael de Estrada** on 6 Dec 2011, 11:37 a.m.,*
in response to message #51 by bill platt

That's why the Victor V12 is made.

Re: HP-15C - useless today?

*Message #73 Posted by **Thomas Radtke** on 6 Dec 2011, 12:42 p.m.,*
in response to message #50 by Martin Pinckney

> Quote:
>
> Agreed. I find the 27s (it would be 42s if I were an RPN nut) to be more useful because of the alpha capability.

Please correct me if I'm wrong: The 42S is missing the RPL solver, which makes the 27S so incredibly useful. If I'm not completely wrong, there's no RPN scientific offering it. The 32SII and successors come close, but are quite limited due to being fixed to single letter variables.

Re: HP-15C - useless today?

*Message #74 Posted by **Martin Pinckney** on 6 Dec 2011, 12:51 p.m.,*
in response to message #73 by Thomas Radtke

> Quote:
>
> Please correct me if I'm wrong: The 42S is missing the RPL solver, which makes the 27S so incredibly useful. If I'm not completely wrong, there's no RPN scientific offering it. The 32SII and successors come close, but are quite limited due to being fixed to single letter variables.

The 42s has a Solver, but it is not as easy to use, because you first have to write a *program* to solve the equation, instead of just writing the equation. However, once you've written the program, the 42s Solver is just as easy to use.

There was one RPN model with the 27s type of Solver, the 17bii, but you are correct, it's not scientific.

Re: HP-15C - useless today?

*Message #75 Posted by **Thomas Radtke** on 6 Dec 2011, 1:24 p.m.,*
in response to message #74 by Martin Pinckney

> Quote:
>
> The 42s has a Solver, but it is not as easy to use, because you first have to write a *program* to solve the equation, instead of just writing the equation.

That's fine, but the RPL solver, first appeared in the 18C, allows to solve for any variable. This isn't easily possible with the 42S, is it?

Re: HP-15C - useless today?

*Message #76 Posted by **Martin Pinckney** on 6 Dec 2011, 1:45 p.m.,*
in response to message #75 by Thomas Radtke

I'm not sure what you mean by "RPL Solver", but I assume it is the type that is in the 27s/17b. AFAIK the 42s Solver does allow solving for any variable once you have entered a correct program representing the equation.

For some problems you have to enter an initial guess, but this is also true on the 27s as well.

Re: HP-15C - useless today?

*Message #77 Posted by **M. Joury** on 6 Dec 2011, 2:45 p.m.,*
in response to message #75 by Thomas Radtke

Absolutely can. From a user's perspective looks just like the 17bii. Coding the problem is of course different.

Here is a simple example:

Temperature conversion:

```
01 LBL "Temp"
02 MVAR "°F"
03 MVAR "°C"
04 RCL "°C"
05 1.8
06 *
07 32
08 +
09 RCL "°F"
10 -
11 END
```

This would be the equivalent of:

```
°Cx1.8+32=°F
```

on the 17bii.

Cheers,

-Marwan

Edited: 6 Dec 2011, 6:21 p.m. after one or more responses were posted

Re: HP-15C - useless today?

*Message #78 Posted by **Thomas Radtke** on 6 Dec 2011, 3:31 p.m.,*
in response to message #77 by M. Joury

Martin, Marwan, thanks for the explanation. I've never owned a 42S and never heard of this way to code a solver program. Missed this in nearly 20 years of using HP calcs. Amazing.

Edited: 6 Dec 2011, 3:32 p.m.

Solve for any variable

*Message #79 Posted by **Masaki Adachi** on 7 Dec 2011, 10:10 a.m.,*
in response to message #78 by Thomas Radtke

> Quote:
>
> RPL solver, first appeared in the 18C, allows to solve for any variable. This isn't easily possible with the 42S, is it?
>
> Quote:
>
> Absolutely can.

I too, missed this. but then my first HP calculator was 28C. All other HP product calculators I obtained since then had a Equation solver (HP200LX, 48G,33S,35S) where i could just enter a equation. I never thought hp42S solve (in my case free42) could do this.

That "discovery" begs a question. Is it also possible to do this with WP34S? I could not figure this out from reading the manual.

Re: Solve for any variable

*Message #80 Posted by **M. Joury** on 7 Dec 2011, 11:10 a.m.,*
in response to message #79 by Masaki Adachi

I don't believe so.

One issue would be that the HP30b/WP34S display does not support a menu system like that of the 42S/17bii/27S etc. So another approach would have to be devised to support such functionality.

Cheers,

-Marwan

Re: Solve for any variable

*Message #81 Posted by **Masaki Adachi** on 7 Dec 2011, 11:23 a.m.,*
in response to message #80 by M. Joury

> Quote:
>
> One issue would be that the HP30b/WP34S display does not support a menu system like that of the 42S/17bii/27S etc. So another approach would have to be devised to support such functionality.

On HP33S/35S for instance,procedure is as follows.

Key 'EQN'

Scroll and select the equation that you want to solve.

Key 'Solve" then enter 'A'

then the calculator asks for 'B?' and then 'C?' (for equation A+B=C)

so interface-wise, it appears do-able with 20b/30b LCD display.

Edited: 7 Dec 2011, 11:26 a.m.

Re: Solve for any variable

*Message #82 Posted by **M. Joury** on 7 Dec 2011, 12:35 p.m.,*
in response to message #81 by Masaki Adachi

Yes. But much less elegant :-).

Cheers,

-Marwan

Re: Solve for any variable

*Message #83 Posted by **Thomas Radtke** on 7 Dec 2011, 11:31 a.m.,*
in response to message #80 by M. Joury

Quote:

> So another approach would have to be devised to support such functionality.

A solver could ask for a register to solve for instead of using the x-register. The user would then be required to fill in given values into the remaining registers before calling solve. Maybe a useful extension..?

With some luck, it already works this way (don't know the wp34s either :-D).

Re: Solve for any variable

*Message #84 Posted by **Marcus von Cube, Germany** on 7 Dec 2011, 12:34 p.m.,*
in response to message #83 by Thomas Radtke

You enter the label with SLV and the solver always searches for a zero of the program depending on X. I don't see an easy way to change its behavior.

Re: Solve for any variable

*Message #85 Posted by **Thomas Radtke** on 7 Dec 2011, 1:00 p.m.,*
in response to message #84 by Marcus von Cube, Germany

Quote:

> You enter the label with SLV and the solver always searches for a zero of the program depending on X. I don't see an easy way to change its behavior.

(1) enter initial guess into eg. register r0 (or whatever you have)
(2) call the solver
(3) enter program to solve
(4) enter register descriptor for r0

The solver would then feed the current guess into r0 instead of x.

Edited: 7 Dec 2011, 1:01 p.m.

Re: Solve for any variable

*Message #86 Posted by **Marcus von Cube, Germany** on 7 Dec 2011, 2:10 p.m.,*
in response to message #85 by Thomas Radtke

> Quote:
>
> (1) enter initial guess into eg. register r0 (or whatever you have)
> (2) call the solver
> (3) enter program to solve
> (4) enter register descriptor for r0
>
> The solver would then feed the current guess into r0 instead of x.

The solver is not interactive so it has no way of querying any additional parameters beyond what's already part of the command (the label of the routine to solve).

Edited: 7 Dec 2011, 2:13 p.m.

Re: Solve for any variable

*Message #87 Posted by **Marcus von Cube, Germany** on 7 Dec 2011, 3:11 p.m.,*
in response to message #86 by Marcus von Cube, Germany

Thinking a bit further, it's not too complicated to create a routine that can be solved for any of its variables, just by using a pointer register:

```
LBL 00
STO[->]00
RCL 01
RCL 02
RCL 02
[times]
-
RTN
```

You can STO 1 or 2 in r00 and the routine will then solve for this register. STO the parameter in the other register before executing SLV 00.

Re: Solve for any variable

*Message #88 Posted by **Thomas Radtke** on 8 Dec 2011, 2:19 a.m.,*
in response to message #87 by Marcus von Cube, Germany

That's actually how I do it on the 15C, but thought it would be easier to remember a slightly different invocation of the solver. Maybe it's not worth it.

Re: HP-15C - useless today?

*Message #89 Posted by **Don Shepherd** on 6 Dec 2011, 3:34 p.m.,*
in response to message #77 by M. Joury

> Quote:
>
> *Cx1.8+32=*F

On the 17b, 17bii, or 17bii+, instead of * to indicate degrees, I would use the actual degree symbol ^{o} since it is available on the set of symbols and can be part of the variable name.

Re: HP-15C - useless today?

*Message #90 Posted by **M. Joury** on 6 Dec 2011, 4:35 p.m.,*
in response to message #89 by Don Shepherd

Yes. That is what I meant by '*' represents the degree symbol. I actually use the degree symbol on both the 17bii and the 42S. I just didn't bother to find the PC equivalent.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #91 Posted by **Don Shepherd** on 6 Dec 2011, 4:52 p.m.,*
in response to message #90 by M. Joury

In this forum, [super]o[/super] works nicely.

Re: HP-15C - useless today?

*Message #92 Posted by **M. Joury** on 6 Dec 2011, 5:11 p.m.,*
in response to message #91 by Don Shepherd

Thanks. I'll try to remember that :-).

Re: HP-15C - useless today?

*Message #93 Posted by **bill platt** on 6 Dec 2011, 6:36 p.m.,*
in response to message #92 by M. Joury

I love everything about this forum.

Re: HP-15C - useless today?

*Message #94 Posted by **Martin Pinckney** on 6 Dec 2011, 10:24 p.m.,*
in response to message #77 by M. Joury

> Quote:

Here is a simple example:

Temperature conversion:

```
01 LBL "Temp"
02 MVAR "°F"
03 MVAR "°C"
04 RCL "°C"
05 1.8
06 *
07 32
08 +
09 RCL "°F"
10 -
11 END
```

This would be the equivalent of:

```
°Cx1.8+32=°F
```

on the 17bii.

This is an excellent example of the beauty of working with the 17b/27s Solver versus RPN solvers.

Re: HP-15C - useless today?

*Message #95 Posted by **M. Joury** on 7 Dec 2011, 11:17 a.m.,*
in response to message #94 by Martin Pinckney

> Quote:
>
> ---
>
> This is an excellent example of the beauty of working with the 17b/27s Solver versus RPN solvers.
>
> ---

Or the power and versatility of the HP42S solver :-). Don't get me wrong, the 17bii solver is great. But, for me at least, the 42S solver is easier to work with for complex problems.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #96 Posted by **Martin Pinckney** on 7 Dec 2011, 11:34 a.m.,*
in response to message #95 by M. Joury

We really should be comparing the 27s Solver, because it is scientific like the 42s, rather than business.

But I'm curious, how is the 42s solver easier to work with, when you first have to write a program in RPN to solve the equation, debug it, instead of just keying in the equation?

Re: HP-15C - useless today?

*Message #97 Posted by **Jim Yohe** on 7 Dec 2011, 11:40 a.m.,*
in response to message #96 by Martin Pinckney

Exactly!

... though I'll probably be sorry for agreeing so heartily. ;-)

Re: HP-15C - useless today?

*Message #98 Posted by **M. Joury** on 7 Dec 2011, 12:45 p.m.,*
in response to message #96 by Martin Pinckney

For complex problems. The problem I offered above would definitely not fall into that category and is much easier to solve with the 17bii. Remember that with the 42S you have the power of a full programming paradigm to work with. While I have seen a lot of very interesting problems solved with the 17bii there are problems that don't fall easily into the equation paradigm.

Also, I find RPN programming extremely easy so, while I agree that for simple problems the 17bii is easier to work with, for more complex problems I find the 42S easier to work with -- note that I said "for me at least" in my original post.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #99 Posted by **Don Shepherd** on 7 Dec 2011, 1:37 p.m.,*
in response to message #98 by M. Joury

This is an interesting discussion of the types of solvers in HP calculators. I can't help but compare the solvers in the 32s and 32sii. The 32s solver requires you to write an RPN program, I guess much like the 42 (and 30b). The 32sii offers an algebraic solver, similar to the solver in the 17b and 27s but without the power of Σ and IF and menus.

Unless you want to learn some basic tenets of RPN programming, you won't be able to use the 32s solver, but anyone who can type an equation can use the 32sii algebraic solver. I would imagine that is why HP changed the solver approach between the 32s and the 32sii. Although I know RPN, I much prefer the 32sii approach.

I personally am attracted to the the power of the 17b/19b/27s solver, since it contains several features (like loops and decisions) that standard solvers do not.

Re: HP-15C - useless today?

*Message #100 Posted by **Martin Pinckney** on 7 Dec 2011, 2:01 p.m.,*
in response to message #98 by M. Joury

> Quote:
>
> For complex problems. The problem I offered above would definitely not fall into that category and is much easier to solve with the 17bii. Remember that with the 42S you have the power of a full programming paradigm to work with. While I have seen a lot of very interesting problems solved with the 17bii there are problems that don't fall easily into the equation paradigm.

We are talking about solvers here, which AFAIK *implies* using equations. Granted, using straight RPN programming affords more raw problem-solving power, especially with a calculator as robust as the 42s. But you can't just write any RPN program and then solve for any variable with the Solver. You have to have a valid equation to solve first, then write a program to represent it.

So my question still begs an answer, how is the 42s solver easier to work with than the 27s Solver?

Unless I am missing something.

Re: HP-15C - useless today?

*Message #101 Posted by **M. Joury** on 7 Dec 2011, 4:50 p.m.,*
in response to message #100 by Martin Pinckney

For anything that requires branching, particularly nested branching, I prefer the 42S approach. Not that the same thing can not be achieved with the 17bii, it is just my preference.

You could of course argue that at this point (nested branching) we are no longer talking about a solver equation per your definition and I would probably have to give you that.

BTW, for most of my regular equations I do use the 17bii solver rather than that of the 42S. I rarely use the 27S simply because it is not RPN.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #102 Posted by **Martin Pinckney** on 7 Dec 2011, 5:08 p.m.,*
in response to message #101 by M. Joury

It's not my definition, it's HP's. This portion of the thread was about what HP calls "Solver", not "solving problems by the method most preferred by the user". I understand you prefer RPN programming; I was just trying to understand your rationale for stating that using the 42s Solver was easier than the 17b/27s Solver.

Re: HP-15C - useless today?

*Message #103 Posted by **M. Joury** on 7 Dec 2011, 6:22 p.m.,*
in response to message #102 by Martin Pinckney

Maybe I was not clear. I was talking about branching within a solver routine. You asked for an example of something that both the 42S and the 27S/17bii could do within their respective solvers that I found easier to do on the 42S. For me branching is an example of such.

My statement that this maybe outside your original definition was referring to the fact that such a solution is not a straight equation. I was not switching the topic to discuss overall programming capability. Also that is what I was referring to when I originally said that I sometimes find complex solutions easier to code on the 42S--I was not limiting my definition to straight equations.

As stated earlier, for simple (in this case read no branching) solutions the 17bii and the 27s solvers are much more intuitive and easier to use. Even for an RPN fanatic like me.

Sorry for any lack of clarity.

Cheers,

-Marwan

Re: HP-15C - useless today?

*Message #104 Posted by **Martin Pinckney** on 8 Dec 2011, 9:02 a.m.,*
in response to message #103 by M. Joury

Yes, that does clarify it. Now that intrigues me to understand how I might use the 42s Solver for branching equations. I

understand how to do those on the 27s, but never tried it on 42s.

Thanks!

Re: HP-15C - useless today?

*Message #105 Posted by **Martin Pinckney** on 6 Dec 2011, 10:04 a.m.,*
in response to message #48 by Calum Tait

Calum,

For my money this is the best argument presented.

Except your choice of a Model T was unfortunate, IMO. The Model T is more analogous to the old Monroe (Olympia) hand-crank four-banger mechanical calculator of the 1950s/60s.

Re: HP-15C - useless today?

*Message #106 Posted by **Calum Tait** on 6 Dec 2011, 8:20 p.m.,*
in response to message #105 by Martin Pinckney

You are probably right with the analogy. Please feel free to substitute your classic motor of choice for the Model T!

Re: HP-15C - useless today?

*Message #107 Posted by **Dave Mabry** on 11 Dec 2011, 7:45 p.m.,*
in response to message #1 by Reth

> Quote:
>
> After playing a bit with the HP-15C LE (keyboard fixed) I'm under the impression, that apart of nostalgic reasons it is no worth getting it at all. Its low internal accuracy makes it hopeless and also makes HP-35S look acceptable. Both can't compare with the BRILLIANT Free 42S by Thomas Okken and more so with Byron Foster's implementation for iPhone. I wander who would use it today for real work?

I'm seriously waiting for an answer to my question. I'm willing to buy that useless HP-15C LE from you. If it is, indeed, useless you should be willing to sell it. Or am I wrong about you even having one. Did you buy one? Wanna sell it???

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Howard Owen request

*Message #1 Posted by **robertoataulfo** on 4 Dec 2011, 8:18 p.m.*

List 75 Files

Please could you do this for a listing for 41 and 71?

Re: Howard Owen request

*Message #2 Posted by **Howard Owen** on 4 Dec 2011, 10:04 p.m.,*
in response to message #1 by robertoataulfo

Hi, Roberto,

I made a quick list of the different sorts of file, their names and what disk they come from. I zipped them up and made it available here. I didn't include the LIF date or size. I was interested once in organizing those files for use, preservation and study. I had a database up that I called "swapdex." I thought I might get others interested helping to pull out the files and figure out what they did. Unfortunately, I was not energetic enough to get the thing rolling. (One alternative explanation might be that the idea sucks. :) The main problem is that there are nearly 4000 files in the archive.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[wp34s] Romberg Integration on the wp34s

*Message #1 Posted by **Les Wright** on 4 Dec 2011, 7:49 p.m.*

I was asked a few days ago to share my experiences with porting the PPC ROM routine IG to the wp34s.

Here is the Article that resulted: Romberg Integration for the wp34s

I want to emphasize again that nearly none of my original programming is involved here. It is an almost verbatim copy of the original great program.

Hope the quadrature geeks out there like it.

Les

Edited: 5 Dec 2011, 12:33 a.m. after one or more responses were posted

Re: [wp34s] Romberg Integration on the wp34s

*Message #2 Posted by **Paul Dale** on 4 Dec 2011, 10:01 p.m.,*
in response to message #1 by Les Wright

Couldn't lines 73 and 74:

```
073 ISG 12
074 NOP
```

be replaced with just INC 12 ?

Pauli

Re: [wp34s] Romberg Integration on the wp34s

*Message #3 Posted by **Les Wright** on 4 Dec 2011, 10:49 p.m.,*
in response to message #2 by Paul Dale

Exactly! I am sure there are plenty of other step- and register-saving things I'm not seeing.

Keep 'em coming!

Les

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I think it is my HP71B (TAS)

*Message #1 Posted by **Miguel Toro** on 4 Dec 2011, 4:07 p.m.*

Hello,

I well I do not know what to do. I lost my HP 71B and I think it is selling now at ebay, here. I contacted the seller to see if we can verify if it is really my calculator.

I am not sure where I lost it: maybe at the train, going home or I forgot it visible on my office. Either way, it is my bad. Also an error I made (because I have never lost one of my calculators): I did not keep track of the serial number.

There are several other details that can positively identify it but I will keep that from the seller. If was counting looking for it at the lost objects of the train station and after that report it to the police.

Hard way to learn not to take it from home. :-(

Edited: 4 Dec 2011, 7:40 p.m. after one or more responses were posted

Re: I think it is my HP71B (TAS)

*Message #2 Posted by **Lincoln R.** on 4 Dec 2011, 4:26 p.m.,*
in response to message #1 by Miguel Toro

Luckily the only time I lost one of my calculators was at my college. I left it in a lab, and while TI graphing calculators typically disappear rather fast when this happens (When I was a sophomore I inadvertently left a TI-89 Titanium unattended in a lecture hall for 5 minutes, and by the time I noticed it missing someone had already taken it), someone actually had the decency (or lack of interest in pilfering) to return my beat up 32S to the lost and found desk. I checked, not expecting to find it, asking "Hey, did anyone bring in an old and beat up looking calculator? It's a Hewlett-Packard 32S in a brown faux leather case." The lost and found guy digs around a bit, and sure enough the calculator was there.

Re: I think it is my HP71B (TAS)

*Message #3 Posted by **Miguel Toro** on 4 Dec 2011, 5:17 p.m.,*
in response to message #2 by Lincoln R.

Well,

I think I am lucky: the item has been retracted after a discussion with the seller proving that it was indeed my calculator, hopefully I will receive it this week by mail.

Regards,

Miguel

Re: I think it is my HP71B (TAS)

*Message #4 Posted by **Jeff Kearns** on 4 Dec 2011, 6:37 p.m.,*
in response to message #3 by Miguel Toro

This is an interesting post. I just checked the link and the item is still up for auction.

The seller appears to reside in Montreal... Is that where you lost the 71B?

His description and answers to questions indicate his unfamiliarity with the calculator.

Good luck in getting it back and bravo for finding it again in this fashion.

Jeff Kearnss

Edited: 4 Dec 2011, 6:37 p.m.

Re: I think it is my HP71B (TAS)

*Message #5 Posted by **geoff quickfall** on 4 Dec 2011, 8:07 p.m.,*
in response to message #1 by Miguel Toro

keep us posted, so too speak!

Never lost one, but did find one back in 96 in a garbage can right beside the flight planning computer. HP25C, picked it up, cleaned the contacts and modified the battery holder to accept rechargeable nicads. It worked. Still have it.

Cheers, Geoff

...And I got it back!!!

*Message #6 Posted by **Miguel Toro** on 6 Dec 2011, 12:14 p.m.,*
in response to message #1 by Miguel Toro

Well, this finishes this strange story. After a polite but firm discussion with the seller proving him that it was indeed my calculator, he agreed to send my HP 71B back and I received it today! Fortunately, he even did not ask anything in return. So all is well that ends well.

Through the time I had included the Math module, the 64k of RAM and it already had the Hp-il interface and the card reader. So it was a lot I was losing there.

Miguel

Re: ...And I got it back!!!

*Message #7 Posted by **Jim Yohe** on 6 Dec 2011, 12:21 p.m.,*
in response to message #6 by Miguel Toro

So happy for you. Very good ending to this journey.

Re: ...And I got it back!!!

*Message #8 Posted by **Bill (Smithville, NJ)** on 6 Dec 2011, 2:14 p.m.,*
in response to message #6 by Miguel Toro

I'm curious - since you didn't have the serial number, how did you prove to him that it was indeed yours?

Did you describe a program that was stored on it... or ....

It is the holiday season and looks like you got your wish.

Bill

Re: ...And I got it back!!!

*Message #9 Posted by **Miguel Toro** on 6 Dec 2011, 3:10 p.m.,*
in response to message #8 by Bill (Smithville, NJ)

I described enough the machine, but kept for me some other characteristics in case I had to escalate, as the version of the rom, the existence of the math rom on port number 3 with its version, the fact that the card reader is installed and he was not even aware of that. So, too much customisation that was put together for it not to be my calculator.

What I told him: when and where I thought I lost it, the kind and brand of batteries installed (Energizer rechargeable batteries) and some marks he did not mention in the description that I know are there and of course the little threat to escalate, I think.

I did not want to mention any program because, they could have been erased (I had recently entered MAKELEX and RPNLEX), as that was the case.

Miguel

Edited: 6 Dec 2011, 3:13 p.m.

Re: ...And I got it back!!!

*Message #10 Posted by **Ed Look** on 6 Dec 2011, 4:51 p.m.,*
in response to message #9 by Miguel Toro

Perhaps you should also have pressed him on how he got it in the first place, unless you misplaced it or left it behind somewhere.

Re: ...And I got it back!!!

*Message #11 Posted by **Miguel Toro** on 6 Dec 2011, 6:23 p.m.,*
in response to message #10 by Ed Look

I think now that I put in a lateral pocket of my backpack and probalby forgot to close the zipper. The calculator felt, since I see that it has a new mark in on side :-(

Edited: 6 Dec 2011, 6:55 p.m.

Re: ...And I got it back!!!

*Message #12 Posted by **geoff quickfall** on 6 Dec 2011, 2:56 p.m.,*
in response to message #6 by Miguel Toro

Congratulations!

yep, my 71B has the MATH ROM and three 32K RAM modules plus overlay, so your correct, and lot to be replaced.

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-70 erratic behaviour - first results

*Message #1 Posted by **Alberto Fenini** on 4 Dec 2011, 3:49 p.m.*

Dear All,
this is the first follow up on the topic, i had some time and I have worked on the electronic side of the problem.
I had ordered and received the Deox and at first I have cleaned all the contacts, but the erratic behaviour was sitll there.

Then I have then realized than the HP45 and the HP70 are very very close from the chipset point of view, except for a couple of ICs.
Using one of my HP45 boards and one old shell I have transplanted from the HP70 board to the HP45 board the two different chips.

this is the original HP70 board

HP45 board ready to receive the ICs

transplat done !!

weird, but it works !!!!

I have now a working HP70 in the body of an HP45, although the keyboard (keys) are those from the HP70. It's kind of weird but it works !!
Now I'll work on the cosmetic side, I have already removed the scratches from the HP70 faceplate with the sandpaper, I'll later spray it with the Tamiya Flat TS80.
If the results will not be good enough, I will remove the lettering from this faceplate (the one pictured) and I'll dissamble it from the black frame.
What do you think ??
Suggestions as always are very welcome,
take care Alberto

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CL; requirements and thoughts about donor shells

*Message #1 Posted by **geoff quickfall** on 4 Dec 2011, 3:19 p.m.*

I think, with Monte's new release, that a review of appropriate donors would be helpful.

Physical characteristics:

```
* must be a fullnut; squared lcd corners; *NOT* rounded lcd corners.
 (figures 1 and 2)


* separate logic board.


* must have perfect or perfectly repaired screw posts.


* can have elastomere zebra strips but the wire wrapped are best.
  (figure 3)


* display drivers come in two types with respect to the CL design.
 - rounded square caps which require a capacitor modification.
   (figures 3, 4 and 5)
 - epoxy blobs which do not require modification.


* time module, although not required, it does activate the clock.
  the functions are avialable without the module.
```

figure 1: square LCD panel (a donor).

figure 2: rounded LCD panel (not a donor).

figure 3: wire wrapped connector.

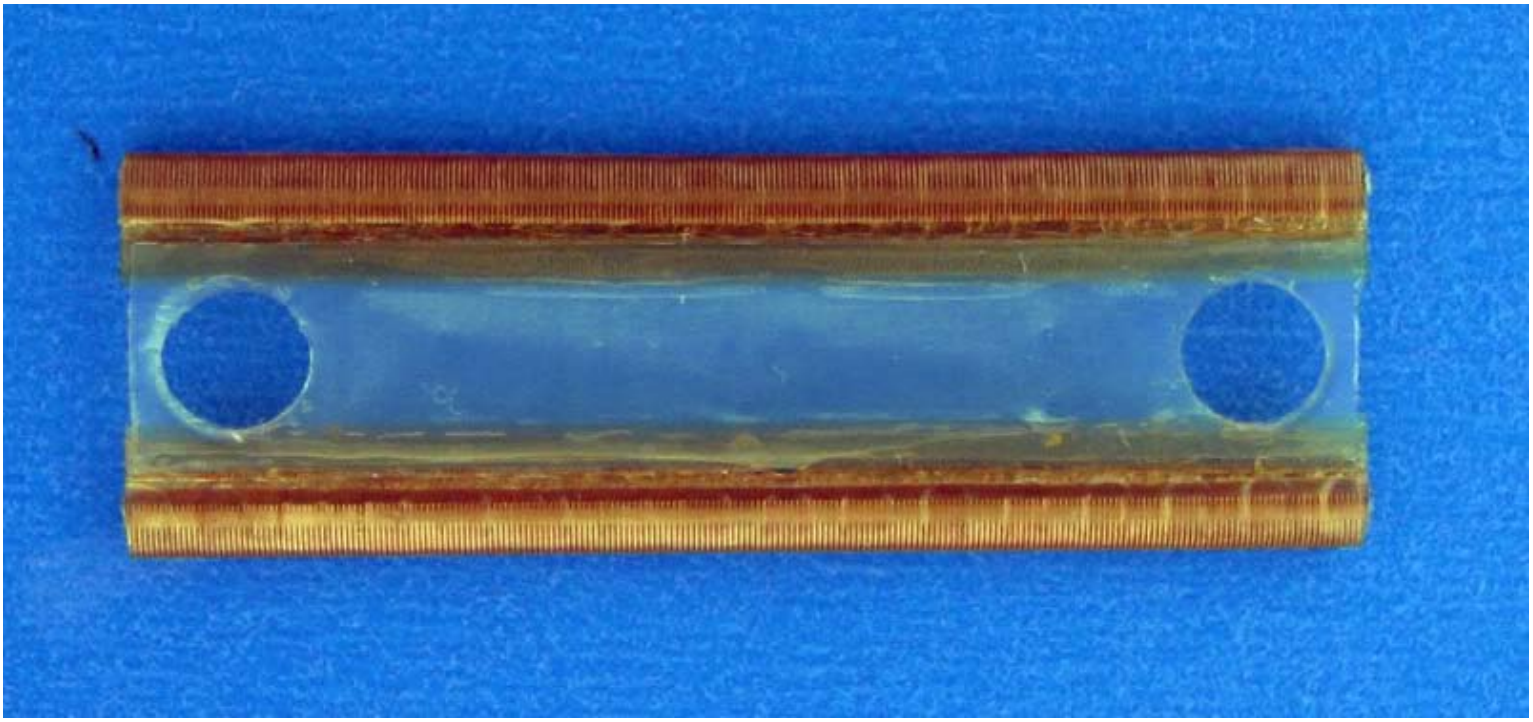


figure 4: example of square capped drivers.

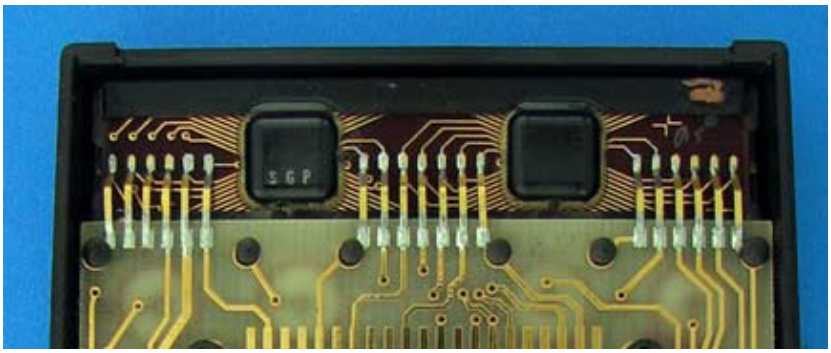
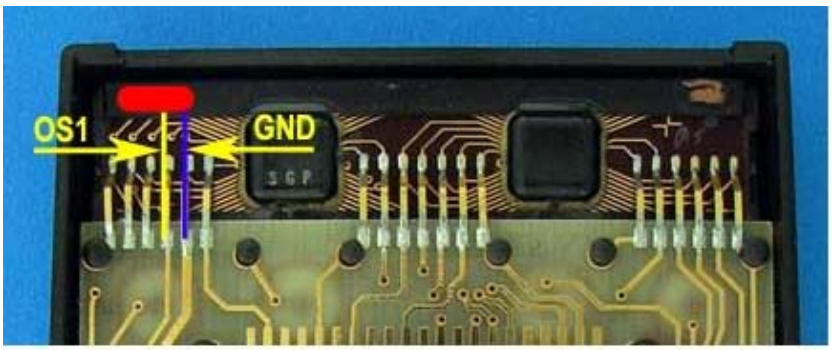


figure 5: wiring diagram for capacitor modification.



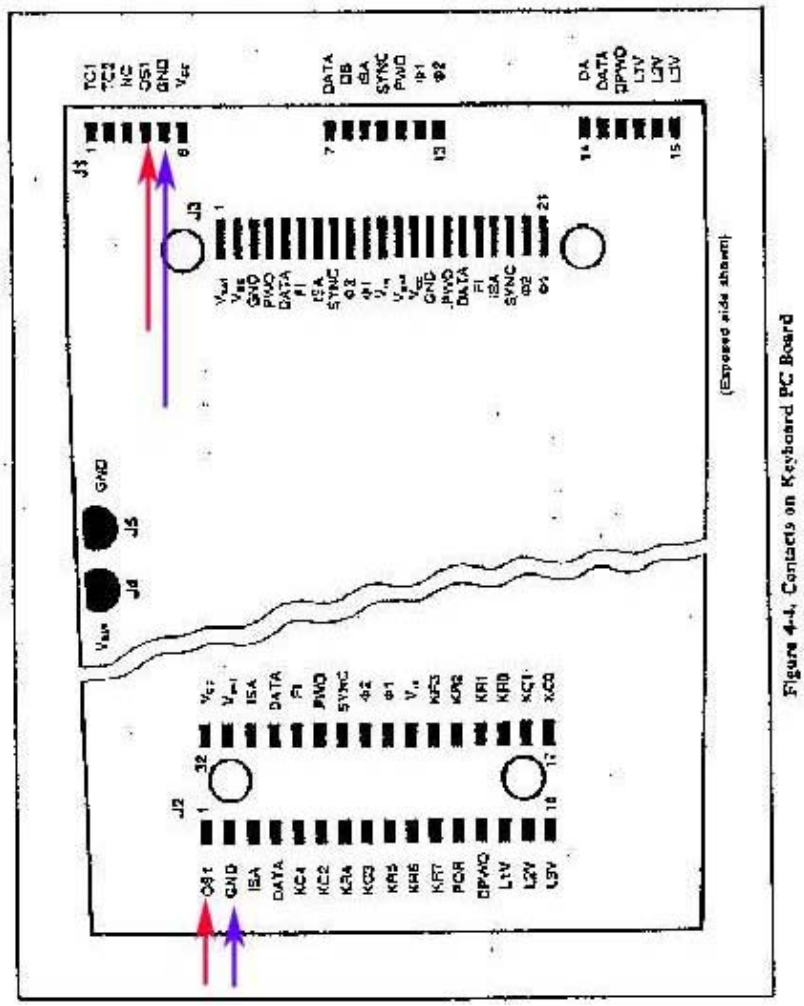
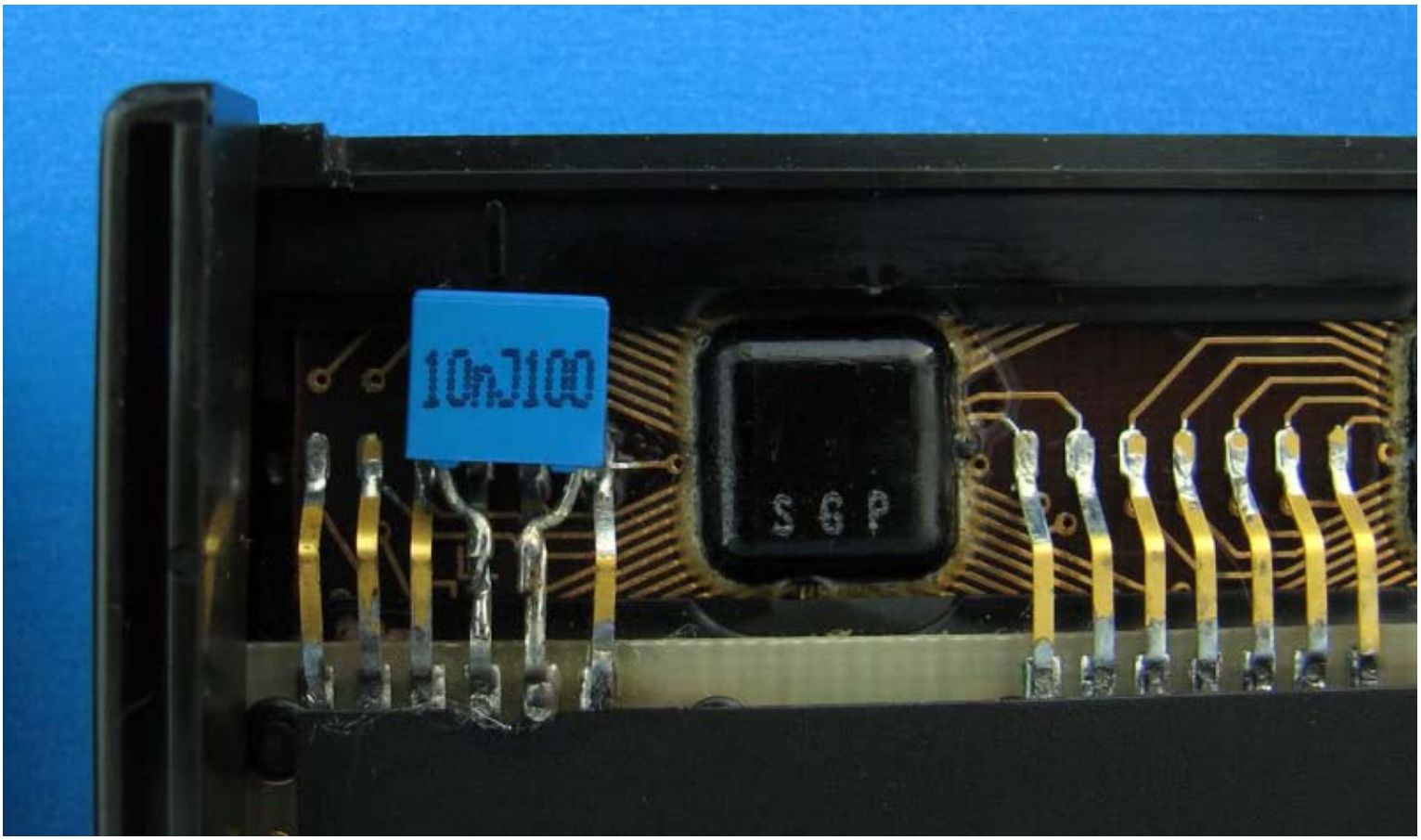


figure 6: example soldered in place.



Personal preferences:

```
*CX's would be a waste of a good (albiet slow machine) although
 the entire process is reversable from a collectors viewpoint
*CV's are a perfect choice depending on condition.
*C's with slanted keys are more readable.
*C's with tall keys are fun because they are the oldest and combined
 with the newest make for a conversation piece.
```

I have a 41C from 79 with tall keys, square lcd drivers and the two gold ac connector balls. I chose the C out of sentimental reasons as it is my first HP 41C purchased way back when.

HP 41CL
ON
USER
PRGM
ALPHA
ENTER
XEQ
STO
RCL
SST
SIN
COS
TAN
LOG
LN
CHS
EEX
R/S

Hope this helps, and thanks Monte, still playing! and using!

Edited: 4 Dec 2011, 7:57 p.m. after one or more responses were posted

Re: HP 41CL; requirements and thoughts about donor shells

*Message #2 Posted by **Garth Wilson** on 4 Dec 2011, 4:08 p.m.,*
in response to message #1 by geoff quickfall

Quote:

* must be a halfnut; squared lcd corners; *NOT* rounded lcd corners. (figures 1 and 2)

Square corners would be the coconut. The halfnut has the rounded ones.

The "ALPHA" annunciator in the display in the picture can be gotten rid of by executing PROMPT to display the alpha register.

Now we need someone to make a time module to to build into the 41c memory modules (the ones that are useless for the cv & cx which already have the main memory capacity filled out) that are cheap on TAS. The time modules are so rare.

Edited: 4 Dec 2011, 4:14 p.m.

thanks Garth, typo fixed.

*Message #3 Posted by **geoff quickfall** on 4 Dec 2011, 7:59 p.m.,*
in response to message #2 by Garth Wilson

nt

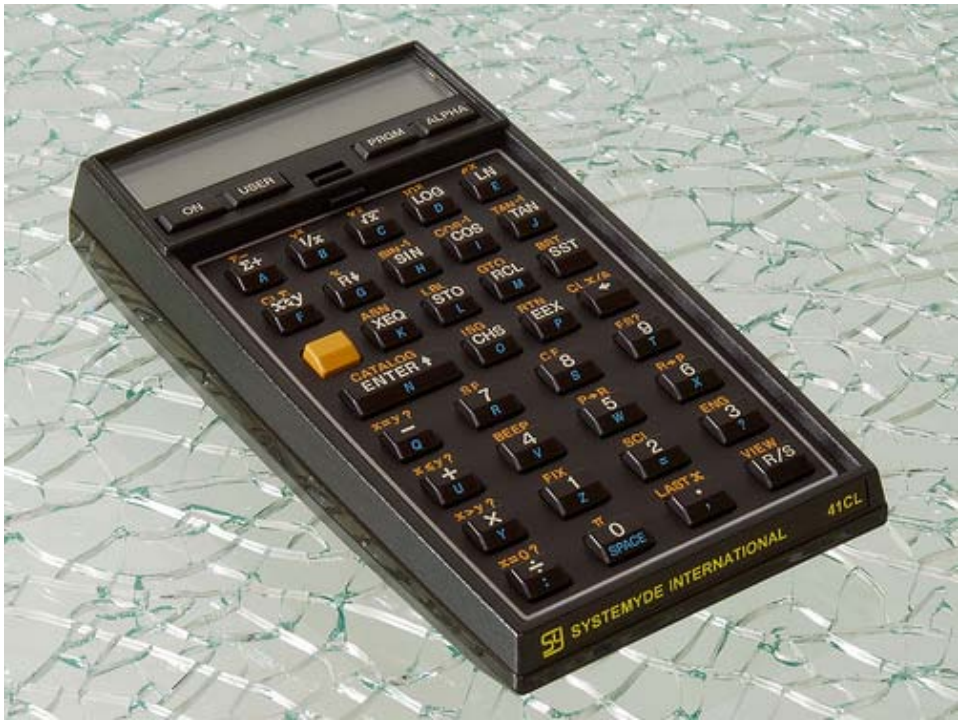
the halfnut display is a Display test routine found in PPC ROM or made with the bytejumper.

Geoff

Re: HP 41CL; requirements and thoughts about donor shells

*Message #4 Posted by **Juergen Keller** on 4 Dec 2011, 4:42 p.m.,*
in response to message #1 by geoff quickfall

Just one more picture where you can see the front label:



Re: HP 41CL; requirements and thoughts about donor shells

*Message #5 Posted by **geoff quickfall** on 4 Dec 2011, 8:03 p.m.,*
in response to message #4 by Juergen Keller

yep, thats it!

Re: HP 41CL; requirements and thoughts about donor shells

*Message #6 Posted by **Thomas Chrapkiewicz** on 6 Dec 2011, 3:22 p.m.,*
in response to message #1 by geoff quickfall

Geoff:

Nice work!

Is there anyway do determine the type of donor by the serial number?

Obviously, the display type is obvious, but the other characteristeics require opening the machine.

Thanks, TomC

Re: HP 41CL; requirements and thoughts about donor shells

*Message #7 Posted by **BobVA** on 6 Dec 2011, 8:45 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

> Quote:
>
> Is there anyway do determine the type of donor by the serial number?

Yep. Check page 6 of the HP-41CL manual for the details which you can find here

You'll have to open it up to check the connector type, though.

Cheers, Bob

Edited: 6 Dec 2011, 8:48 p.m.

Re: HP 41CL; requirements and thoughts about donor shells

*Message #8 Posted by **Geoff Quickfall** on 7 Dec 2011, 3:47 a.m.,*
in response to message #7 by BobVA

Randy is correct and I should have mentioned it.

The repair shop replaced keyboards and LCD panels then reattached the original backs.

So you get a mishmash of fullnut serial numbers with halfnut guts. The EARLY HP41Cs have a different rearshell then the later 41's. These are recognized by the hex nuts used to attach the logic PCA to the keyboard.

Later models used a modified rear shell which pressed all subsequent logic PCA's into the keyboard PCA.

On some occasions, HP did not reassemble with the hex nuts as they are very on forgiving and the screw posts stripped. I have two early HP41Cs which HP converted the hex nuts into thick plastic ringed spacers which fit over the screw posts on the logic pca as it sits on the keyboard pca. This allowed for the reuse of the original rear shell which then pressed down on the spacere which inturn, pressed the logic pca into the keyboard pca.

Wlodek's book mentions that HP actually may have repaired some HP41Cs with the halfnut board creating a halfnut hp41C. They did however make from the production line halfnut 41CV and CX's.

The moral of the story is to pick a squared LCD panel and then open up the machine to find a removable fullnut board.

Cheers, Geoff

Re: HP 41CL; requirements and thoughts about donor shells

*Message #9 Posted by **Randy** on 7 Dec 2011, 10:04 a.m.,*
in response to message #8 by Geoff Quickfall

I have repaired several 41C's that had been "converted" by HP service to halfnut electronics. They were in fact 41CV's with 319 registers.

This brings into question, at least for me, the existence of a halfnut rom that was limited to the 64 registers of the original C. I suspect HP never went to the trouble of making a special version just for service spares but cannot confirm. Really not relevant to this thread and I don't mean to take it of topic but it is one of those things that I hear about but can never confirm...

Re: HP 41CL; requirements and thoughts about donor shells

*Message #10 Posted by **Geoff Quickfall** on 7 Dec 2011, 12:17 p.m.,*
in response to message #9 by Randy

The existance of a Halfnut 41C is hearsay at best. I remember having a conversation with Wlodek that it might exist as a 319 register machine. In other words, the keyboard shell side was replaced while keeping the rear shell.

I think he said, if you find a halfnut 41C you would have a rare bird indeed.

Geoff

Re: HP 41CL; requirements and thoughts about donor shells

*Message #11 Posted by **Didier Lachieze** on 8 Dec 2011, 3:35 a.m.,*
in response to message #10 by Geoff Quickfall

> Quote:
>
> The existance of a Halfnut 41C is hearsay at best.

There are some pictures of one of these rare animals here. One interesting comment is:

> Quote:
>
> I have also pluged a quad module which has been recognized....

which may mean that prior to plugging the quad module there was only 63 registers available as on a standard 41C. But this is only speculative and would need to be confirmed.

Re: HP 41CL; requirements and thoughts about donor shells

*Message #12 Posted by **Randy** on 6 Dec 2011, 11:04 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

In an ideal world, one were your 41 never went back to HP for service, the serial number could be used to determine suitability as a CL.

But, in the real world, HP41 serial numbers alone cannot and should not used to assume what hardware is inside the case. Geoff's list is far better and safer to determine suitability. The only safe way to check is to open the unit and look.

There are many early serial numbers out there that have had the top of the unit replaced with halfnut electronics, this occurred late in the service life of the 41 when HP ran out of coconut parts.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 25 programming issue

*Message #1 Posted by **Fouad M. Kaadou** on 4 Dec 2011, 3:07 p.m.*

Hello,

I have an HP-25 that has a programming problem. When I first received the calculator it did not have this issue.

The issue: when I go to PRGM mode any step I enter reults in a 'GTO 00' command. If I press any of the shift keys the display will show that it is in shift mode but when I click on another key it just puts GTO 00.

Any ideas?

- Fouad

Re: HP 25 programming issue

*Message #2 Posted by **Ignazio Cara (Italy)** on 5 Dec 2011, 2:29 a.m.,*
in response to message #1 by Fouad M. Kaadou

Hi, you have a 25 with a bad RAM chip. The only source of spare parts is another 25 with other issue.

HTH.

Ignazio

Re: HP 25 programming issue

*Message #3 Posted by **Fouad M. Kaadou** on 5 Dec 2011, 10:15 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

Tkanks Ignazio. Do you know which is the RAM chip so I can make the transplant?

-Fouad

Re: HP 25 programming issue

*Message #4 Posted by **Ignazio Cara (Italy)** on 5 Dec 2011, 12:03 p.m.,*
in response to message #3 by Fouad M. Kaadou

It's marked 1820-1564.

Ignazio

Re: HP 25 programming issue

*Message #5 Posted by **Fouad M. Kaadou** on 5 Dec 2011, 12:26 p.m.,*
in response to message #4 by Ignazio Cara (Italy)

Thanks .

I just hope the other one is working.

-Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-IL ftp files

*Message #1 Posted by **robertoataulfo** on 4 Dec 2011, 6:22 a.m.*

```
ftp://ftp.math.jyu.fi/pub/hpil/

I can not access. Anyone have an alternate address?
```

Re: HP-IL ftp files

*Message #2 Posted by **Mark Hardman** on 4 Dec 2011, 12:37 p.m.,*
in response to message #1 by robertoataulfo

Before the original ftp site disappeared, the Museum's Curator had the foresight to archive a copy at:

ftp://ftp.hpmuseum.org/lif/

Mark Hardman

Re: HP-IL ftp files

*Message #3 Posted by **Howard Owen** on 4 Dec 2011, 3:00 p.m.,*
in response to message #2 by Mark Hardman

That archive has all the files broken out of the LIF images, which is quite useful. I seem to recall the nice thing about the original repo was it had LIF images you could use directly with an emulator or a real calc. I'm looking through my files for the original archive, so far with no luck.

Re: HP-IL ftp files

*Message #4 Posted by **Howard Owen** on 4 Dec 2011, 3:29 p.m.,*
in response to message #1 by robertoataulfo

I couldn't find the original archive, but I did find the LIF images themselves. I zipped them up here . If you want individual files, then the museum archive is good. This archive works better if you want to use the images with an emulator or through the PILBox or ISA card to a real calculator.

Re: HP-IL ftp files (New question)

*Message #5 Posted by **robertoataulfo** on 4 Dec 2011, 4:34 p.m.,*
in response to message #4 by Howard Owen

```
how I can get a listing of the files?
Using PILBox
Cat ":DR" is very slow


1000 x thank's
```

Edited: 4 Dec 2011, 4:55 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Meindert's MLDL2000

*Message #1 Posted by **robertoataulfo** on 3 Dec 2011, 8:16 p.m.*

Meindert's MLDL2000 new version ?

Re: Meindert's MLDL2000

*Message #2 Posted by **Meindert Kuipers** on 5 Dec 2011, 7:41 a.m.,*
in response to message #1 by robertoataulfo

Currently I am struggling with available time to finish the design, and with the more than welcome 'competition' of the 41CL (looking forward to receiving my own unit). I seriously doubt if I will have enough potential users to justify a cost effective production run.

With other platforms on the horizon (I sincerely hope that Eric's ARM version of the DIY Calculator will see the light) the MLDL2000 will have very limited added value, apart from offering a nice interface to today's PC world with USB.

Of course I welcome positive feedback that could increase my motivation to finish this project.

Meindert

Re: Meindert's MLDL2000

*Message #3 Posted by **robertoataulfo** on 5 Dec 2011, 12:34 p.m.,*
in response to message #2 by Meindert Kuipers

Whenever you and others will have the opportunity and our motivation to acquire new items. I wait

MLDL2000

Edited: 5 Dec 2011, 4:13 p.m.

Re: Meindert's MLDL2000

*Message #4 Posted by **Gerry Schultz** on 5 Dec 2011, 1:13 p.m.,*
in response to message #2 by Meindert Kuipers

Meindert:

I too am interested in your MLDL2000 as I want an easy and simple interface with a PC to load and use with my 41Cs. I got my 41cl board last week and should receive my refurbished 41CV today (it was handed to me as I was writing this. Thank you Geoff!).

One area you can probably address, since you're getting your own 41cl, is the ability to add and manipulate ROM images on the cl. If your software could talk to both your hardware and a 41cl with a serial port, that would peak my interest even more. Also, I can migrate your hardware to any 41c that I own so I see that

as another advantage.

I've never looked at only one solution for my needs and when I have more than one way to do it, I consider that an advantage. Please consider continuing your development of the MLDL2000. I for one still want one.

Thank you, Gerry

Re: Meindert's MLDL2000

*Message #5 Posted by **Ángel Martin** on 5 Dec 2011, 4:46 p.m.,*
in response to message #4 by Gerry Schultz

> Quote:
>
> the ability to add and manipulate ROM images on the cl

I for one very much appreciate the MLDL2k and sure enough will love to see a new version coming out - but the CL is already capable to manipulate the ROM images, either in RAM or Flash - without any external accessory.

What I'd love to see is a "front end" (for lack of a better word) that could connect the actual 41 to a V41-like program on the PC - on a one-to-one fashion, all through the USB bus.

So it's probably a pipe-dream thing, but wouldn't it be nice to replace the current MLDL2k Manager with an intelligent shell on the PC that actually drove the machine and would be driven by it?

Cheers, 'AM

Re: Meindert's MLDL2000

*Message #6 Posted by **Garth Wilson** on 5 Dec 2011, 2:35 p.m.,*
in response to message #2 by Meindert Kuipers

I am optimistic about these new things for the 41, but the problem of time-module availability puts quite a damper on the CL for me. I've been watching TAS for a long time and not a single time module has come up. When it does, I'm definitely not going to pay $389 like you-know-who likes to charge, trying apparently to prop up the market. I'd also have to buy another 41, since mine is a 41cx halfnut. So I'd say keep going with the MLDL2000 projects.

Edited: 5 Dec 2011, 2:38 p.m.

Re: Meindert's MLDL2000

*Message #7 Posted by **Craig Ruff** on 5 Dec 2011, 3:08 p.m.,*
in response to message #6 by Garth Wilson

I picked up a time module at TAS at the end of September for $85 for use with my 41CL.

Re: Meindert's MLDL2000

*Message #8 Posted by **Ángel Martin** on 5 Dec 2011, 4:39 p.m.,*
in response to message #6 by Garth Wilson

Yes they are scarce but not impossible - last month I got a combo TIME Module + SCHENK Module

+ CV, all together for 155 Euro...

sometimes even a blind squirrel finds a (coco)nut!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[HP-75] Cat$ doubt

*Message #1 Posted by **robertoataulfo** on 3 Dec 2011, 6:32 p.m.*

```
What is the command I use to access the file names from the Digital Tape Drive equal to the
command x$=cat$(n)?
Thank's
```

Re: [HP-75] Cat$ doubt

*Message #2 Posted by **Paul Berger (Canada)** on 3 Dec 2011, 6:55 p.m.,*
in response to message #1 by robertoataulfo

The example in the HPIL manual is F$=CAT$(2,":MASSMEM") which would set F$ equal to the the second file name on the mass storage device MASSMEM.

Re: [HP-75] Cat$ doubt

*Message #3 Posted by **robertoataulfo** on 3 Dec 2011, 7:22 p.m.,*
in response to message #2 by Paul Berger (Canada)

```
It did not work
In which the manual page and I saw this information.


F$=CAT$(2,":MASSMEM") when I run it says that is missing a parentheses after the comma.
:-(
```

Edited: 3 Dec 2011, 7:25 p.m.

Re: [HP-75] Cat$ doubt

*Message #4 Posted by **Paul Berger (Canada)** on 3 Dec 2011, 8:18 p.m.,*
in response to message #3 by robertoataulfo

Yes sorry need to learn how to read, that is the syntax for a 71B, trying to figure out what will work on a 75

Re: [HP-75] Cat$ doubt

*Message #5 Posted by **Howard Owen** on 3 Dec 2011, 8:25 p.m.,*
in response to message #3 by robertoataulfo

This thread has discussions on ways to get the HP-75 more functional as an HP-IL controller.

Edited: 4 Dec 2011, 9:02 a.m. after one or more responses were posted

Re: [HP-75] Cat$ doubt

*Message #6 Posted by **Paul Berger (Canada)** on 3 Dec 2011, 8:45 p.m.,*
in response to message #5 by Howard Owen

Seems a colon got dropped from you link I think you meant http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=77316

Re: [HP-75] Cat$ doubt

*Message #7 Posted by **Howard Owen** on 4 Dec 2011, 9:03 a.m.,*
in response to message #6 by Paul Berger (Canada)

Thanks. I've corrected the link.

Re: [HP-75] Cat$ doubt

*Message #8 Posted by **Paul Berger (Canada)** on 3 Dec 2011, 8:38 p.m.,*
in response to message #3 by robertoataulfo

Ok its seems that you need an IO ROM for this. In the IO ROM there is a function TCAT$. For example my 75C with an IO ROM it auto assigns my diskette drive to be :M1 on the command line I enter F$=TCAT$(':M1',2) @ DISP F$ and it displays the file name of the second file on the diskette in the drive. This should work the same way for a tape drive, I would try it but since getting a diskette drive I don't use my tape drives anymore and have cleared all of my tapes.

If you don't have an IO ROM there may be a LEX file available that provides this function, or you could read and parse the raw directory block from the tape.

Edited: 3 Dec 2011, 8:51 p.m. after one or more responses were posted

Re: [HP-75] Cat$ doubt

*Message #9 Posted by **robertoataulfo** on 3 Dec 2011, 9:10 p.m.,*
in response to message #8 by Paul Berger (Canada)

```
What LEX file ?
```

Re: [HP-75] Cat$ doubt

*Message #10 Posted by **Paul Berger (Canada)** on 3 Dec 2011, 9:31 p.m.,*
in response to message #9 by robertoataulfo

I don't know sorry, I said there MAY be one, not that I knew of one. I would like to catalog all the LEX files on the various exchange diskettes made available on this site, but so far I have not got around to it, it is easy using the HELP LEX to find the keywords, but sometimes figuring out the syntax to go with the keywords is difficult.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is this?

*Message #1 Posted by **robertoataulfo** on 3 Dec 2011, 1:57 p.m.*

What is this?

Re: What is this?

*Message #2 Posted by **Keith Midson** on 3 Dec 2011, 2:18 p.m.,*
in response to message #1 by robertoataulfo

I think it's a Numonics Electronic Graphics Calculator, Model: 1224-113-8042 ...

Re: What is this?

*Message #3 Posted by **Katie Wasserman** on 3 Dec 2011, 2:22 p.m.,*
in response to message #2 by Keith Midson

On a more helpful note, I think it's an early graphics digitizer made by Numinics Corp who now makes white boards. They've been around for 40 years and they used to make digitizers.

Re: What is this?

*Message #4 Posted by **Bill (Smithville, NJ)** on 3 Dec 2011, 3:51 p.m.,*
in response to message #1 by robertoataulfo

From a search on the WEB, there are a lot of medical articles that mention using Numonics Electronic Graphics Calculator. From a 1982 NIH article on Nucleic Acids Research:

> Quote:
>
> The magnified image is then traced, along the top side of the viewing screen, using a digitizer. The digitizer used in this system is a NUMONICS GRAPHICS CALCULATOR which was chosen because it can be used with a back projected image, is of sufficiently high accuracy and of reasonable cost. This digitizer can resolve 0.025 cm over a working range of 59 cm x 59 cm. As the tracing head is moved along the image, a stream of X-Y coordinates is accepted by the computer at a rate of more than 100 coordinate pairs/sec via a BCD interface.

Link to article:

NIH Article

Bill

[Return to Index | Top of Index]

What is this?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 Catalog 2.1

*Message #1 Posted by **robertoataulfo** on 2 Dec 2011, 5:41 p.m.*

```
HP-75 CATALOG 2.1 ( 769 bytes)


1 DELAY 0 @ I=1
2 A$=CAT$(I) @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" AND I-1#0 THEN I=I-1 @ GOTO 2
5 IF B$='u' THEN C$="Purge" @ GOSUB 13 @ PURGE A$ @ GOTO 1
6 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 13 @ EDIT A$ @ END
7 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 13 @ RUN A$
8 IF B$='c' THEN C$="Copy to card" @ GOSUB 13 @ COPY A$ TO CARD @ GOTO 2
9 IF B$='d' THEN C$="Copy to drive" @ GOSUB 13 @ GOTO 18
10 IF B$="b" THEN BYE
11 IF B$='p' THEN C$="Print" @ D$=A$ @ GOSUB 13 @ GOTO 15
12 GOTO 2
13 A$=A$[1,POS(A$," ")-1]
14 A=GETMSG(A$&" "&C$&"? [YN]:","yn") @ IF A=2 THEN GOTO 2 ELSE DISP CHR$(27);"J" @ RETURN
15 PWIDTH INF @ PRINT A$;' (';VAL(D$[13,18]);'bytes)'
16 PRINT @ B$=DATE$ @ PRINT B$[7,8]&B$[3,6]&B$[1,2]&"  "&TIME$ @ PRINT
17 PLIST A$ @ PRINT @ GOTO 2
18 IF A$="keys" THEN COPY KEYS TO A$&":dr" ELSE COPY A$ TO A$&":dr"
19 GOTO 2


u    = Purge File
e    = Edit Basic File
r    = Run Basic File
c    = Copy File to Card
d    = Copy File to Drive ":d1"
p    = Print Basic File
b    = Bye (Off)
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$


Enjoy :-)
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[wp34s] A Short Wish List

*Message #1 Posted by **Les Wright** on 2 Dec 2011, 5:21 p.m.*

Occurred to me I would love to see some capacity to APPEND a program to flash memory, I guess like HSAVEP in the HEPAX module. (HEPAX is a better analogy than HP41 extended memory, because in that case you can't run programs from extended memory, only archive them.)

Also, it would be neat to write up a program listing following some standard syntax in a simple text file that could be compiled to a format readable by the wp34s emulator so that the program could be manipulated back and forth by the serial commands like RECV, SENDA, etc

Just saying :D

Les

Re: [wp34s] A Short Wish List

*Message #2 Posted by **Paul Dale** on 2 Dec 2011, 5:32 p.m.,*
in response to message #1 by Les Wright

> Quote:
>
> Occurred to me I would love to see some capacity to APPEND a program to flash memory, I guess like HSAVEP in the HEPAX module. (HEPAX is a better analogy than HP41 extended memory, because in that case you can't run programs from extended memory, only archive them.)

Something like this is planned and a major driving force for the implementation of the END command.

> Quote:
>
> Also, it would be neat to write up a program listing following some standard syntax in a simple text file that could be compiled to a format readable by the wp34s emulator so that the program could be manipulated back and forth by the serial commands like RECV, SENDA, etc

Isn't this possible already?

The emulator takes the same binary image files as the calculator and things can be transferred between the emulator and the real device via the serial commands or the programming cable.

The assembler works both as an assembler and a disassembler, thus it can be used to produce a canonical text representation of programs.

- Pauli

Re: [wp34s] A Short Wish List

*Message #3 Posted by **Les Wright** on 2 Dec 2011, 6:24 p.m.,*
in response to message #2 by Paul Dale

I have never worked with the assembler!

I feel silly--should've researched that more.

I will explore that and see how I get along. It would be so neat for users to swap programs in text and binary form to get into the calc via the emulator.

Les

Re: [wp34s] A Short Wish List

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 2 Dec 2011, 11:14 p.m.,*
in response to message #3 by Les Wright

Typically text form would be prefered since the binary image will not always be compatible between calculator revisions. The opcodes can change between various revisions of the calculator. Actually this was the original impetus for the assembler/disassembler.

Additionally, the text form allows commenting, etc.

While some mnemonics have changed a occasionally, they have been pretty stable lately.

You will already find a reasonable collection of user programs in the library directory of the SVN load. More are probably welcome.

Re: [wp34s] A Short Wish List

*Message #5 Posted by **Les Wright** on 3 Dec 2011, 2:38 a.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

Okay--I am apprehending this at a pretty novice level right now.

From what I see the assembler takes a text file in the appropriate syntax and spits out a *.dat file which, if given the appropriate name and dropped into the emulator home directory (or, alternately, concatenated with calc.bin via "join" and flashed to the calculator) for running, copying to and from flash on the emulator, moving over to the calc via SEND* and the cable, etc.

This is only slightly more complicated than using hp41uc to create *.raw files from text to get into HP41C and HP42S emulators and or, in my case a lot, may barcode files for laser printing, wanding into the calc, the writing to cards.

I will play with the assembler in the days to come. I broke a pin on the plug of my cable so I am awaiting the replacement from Gene, so I will have to wait to see i things move over to the real calc okay.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

more HP97 card reader followup.

*Message #1 Posted by **Dave F** on 2 Dec 2011, 1:31 a.m.*

I had last posted that my newly acquired HP97 was all working, except the card reader, which was pulling cards slowly with hight current (>300 mA), and producing errors. It was looking like the tubing I had used to repair the gummy wheel was too large diameter.

I ordered the correct O-rings, and received them today. Replacing the tubing with the O-rings, there is slight improvement; the card pulls through slowly, but not as slow and jerky as before, and the current is still high (about 250 mA) regardless of the cam position. I will spend some time next trying to get this resolved, but I would be most grateful for any additional suggestions.

Thanks,

Dave

Re: more HP97 card reader followup.

*Message #2 Posted by **Jean-Michel** on 2 Dec 2011, 4:48 a.m.,*
in response to message #1 by Dave F

Hi Dave,

I have fixed the same issue on my HP-97, with O-rings too. I have currently not in mind the exact size of O-ring I choose (I tested several), but I will keep in mind to check this as soon as I will be back at home. I didn't mesure the current though, but the card reader did read and write correctly, so, no more investigations were needed to my opinion.

Kind regards.

Re: more HP97 card reader followup.

*Message #3 Posted by **Randy** on 2 Dec 2011, 9:56 a.m.,*
in response to message #1 by Dave F

What is the motor current with the gear removed? If it is higher than about 40ma, the screw is bent or not centered on the motor shaft.

Re: more HP97 card reader followup.

*Message #4 Posted by **Randy** on 2 Dec 2011, 10:03 a.m.,*
in response to message #3 by Randy

Duoh. Is the 250ma with or without a card present? If it is card present, is it card stalled (held back) or card moving?

Re: more HP97 card reader followup.

*Message #5 Posted by **Dave F** on 2 Dec 2011, 10:06 p.m.,*
in response to message #4 by Randy

Thanks for all the help!!!

I just checked it--about 20 mA. Interestingly, the reader is now working! I had to put the machine away so I can use my bench for work over the weekend, so I assembled the whole unit, and popped in the battery I bought (from Mark via Ebay), and just for kicks, I slid a card in and it went through smoothly this time, but gave an "ERROR". I wondered if perhaps the card contained garbage data, so I tried the Diagnostic Card from the Standard Pac, and it read both sides, then wrote both sides of that same blank card, then read the card back. I ran the program, and it gave me the -7.777777770-77 as expected, and printed out 1.+07, 10.000+06***, 1.0000+07***.

However, the manual indicates it should leave a -8.888888888-88, and instead I see 1000000.00

I am assuming the last is a display test. Why would the calc not show it?

Also, I notice that the printer paper tends to jam a bit while loading. I had to thread a piece of tape beneath the platic sheild to try to fish the leading edge of the paper up and through. Afterwards, it seems to feed along nicely, although the printer makes a bit of a whining sound.

All the keys work beautifully, and the display is excelent, except that part of the middle segment on the rightmost digit doesn't light.

Best regards,

Dave

Edited: 3 Dec 2011, 12:06 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Latest HP 12C+ F/W Version

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 1 Dec 2011, 3:17 p.m.*

I just acquired a 12C+. Very nice (and fast!) unit. S/N CNA00616171. White key font seems nicer than some of the new ones I have seen online -- a bit skinnier than my '86 era original. The blue and yellow seem identical. Key click is good -- a bit hollow, but quite acceptable.

It has F/W version 2009-07-02. I have seen references to later versions (eg: 2009-11-19).

Does anyone know the differences between the various versions? Are the newer ones available (ie: via special request)? Is it worth bumping the version from the one I have?

Thanks...

Re: Latest HP 12C+ F/W Version

*Message #2 Posted by **Jeff O.** on 1 Dec 2011, 3:33 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Neil,
See this post and the posts it references for more information.

Re: Latest HP 12C+ F/W Version

*Message #3 Posted by **Nicholas Winterer** on 1 Dec 2011, 3:35 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

I have a 12C+ with the SST bug and would also be interested in getting a copy of the latest firmware.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Quote symbol in Alpha mode on 41C?

*Message #1 Posted by **Mojo88** on 1 Dec 2011, 2:45 p.m.*

Hi folks, its been a long time for me since I sat down with 41C. I pulled out my old Time Module Function book and started entering the program listing for the SETALM routine. I cannot remember how to enter the quote (")symbols around the message text prompts. I've looked through the manual and cannot find any mention or sight of a quote (")or double quote (""")symbol entry in Alpha mode. Example: "TIME ?" - as a prompt to the user for an input. I can't figure out how to get the quotes in there.

I've looked on the back of the calc and the symbol isn't there. Could you help me out? Many thanks for your help!

Re: Quote symbol in Alpha mode on 41C?

*Message #2 Posted by **Eric Smith** on 1 Dec 2011, 3:45 p.m.,*
in response to message #1 by Mojo88

There's no way to enter a quotation mark symbol from the keyboard, except maybe with a special ROM module that extends the key parser. You can get a quotation mark symbol into the alpha register using functions like XTOA of the Extended Functions Module (effectively built in on the 41CX).

However, if you're looking at program listings, they are printed with quotes around all alpha string program lines. You don't enter the quotes. If you want to prompt with the string TIME ?, not including the quotes, you just press ALPHA T I M E space ? ALPHA.

Re: Quote symbol in Alpha mode on 41C?

*Message #3 Posted by **Namir** on 1 Dec 2011, 4:53 p.m.,*
in response to message #1 by Mojo88

You are over complicating a very simple issue. The double quotes are a practical abbreviation for the [ALPHA] key. When 41C listings appear, it is smoother on the eye to read "TIME?" than to read [ALPHA]TIME?[ALPHA].

Namir

Re: Quote symbol in Alpha mode on 41C?

*Message #4 Posted by **Geoff Quickfall** on 1 Dec 2011, 7:25 p.m.,*
in response to message #3 by Namir

Actually, are we talking about the Quotes in the manuals, in which case I agree with Namir and Eric.

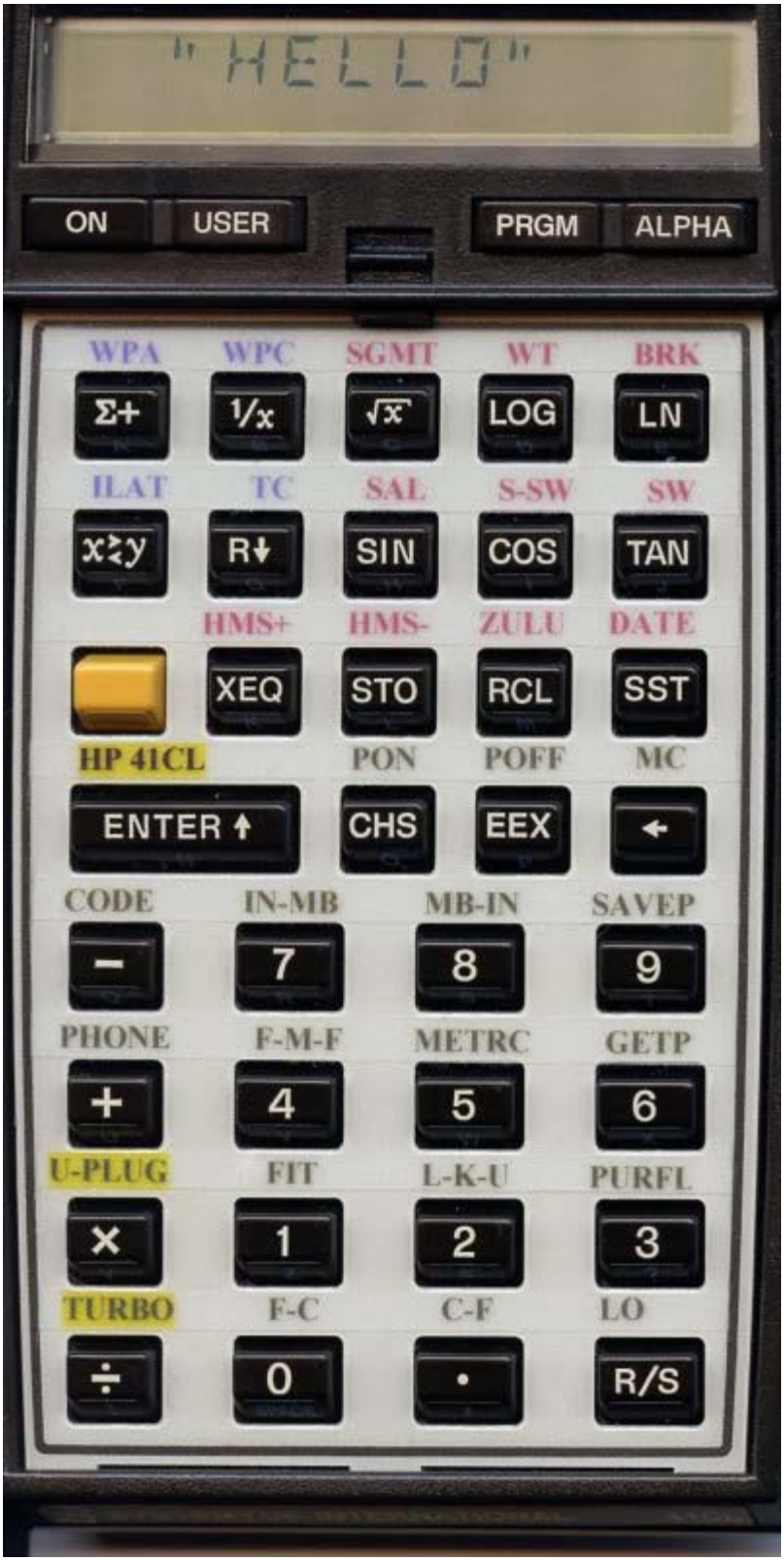
OR

are we talking about quotes on a alpha display, in which case, Synthetics are your answer. You can create it with a simple byte jumper, or CCD or equivalent module or as Eric said "XTOA".

I have labelled many alpha prompts and displays with the " (double quote).

Cheers, Geoff

I used the CCD module in my 41CL (YEHHH MONTE) to produce this display in about 3 seconds.



added later: the title confused me, I thought you wanted quotes in the alpha display. I guess the missive RTFT (read the full text) applies here.

Edited: 1 Dec 2011, 9:10 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

AC Power Adapter for HP 67

*Message #1 Posted by **Phil Hochstetler (Portland, OR, USA)** on 1 Dec 2011, 11:24 a.m.*

I have a mint condition HP 67 that is missing its power supply. Does anyone know where I might find one? I looked on ebay but did not find any for sale. This calculator has not been powered up in 30 years and was only lightly used prior to that time.

Re: AC Power Adapter for HP 67

*Message #2 Posted by **Michael de Estrada** on 1 Dec 2011, 11:40 a.m.,*
in response to message #1 by Phil Hochstetler (Portland, OR, USA)

Just keep in mind that you will also need a good battery pack to operate it safely and that probably the card reader drive wheel will need to be rebuilt.

Edited: 1 Dec 2011, 11:40 a.m.

Re: AC Power Adapter for HP 67

*Message #3 Posted by **Phil Hochstetler (Portland, OR, USA)** on 1 Dec 2011, 7:06 p.m.,*
in response to message #1 by Phil Hochstetler (Portland, OR, USA)

Thanks. I did enough reading on the power supply to realize that if you try to operate it on the AC supply without a working battery, the voltage will rise high enough to damage things. Thanks for the heads up.

Re: AC Power Adapter for HP 67

*Message #4 Posted by **Dan W** on 1 Dec 2011, 7:59 p.m.,*
in response to message #3 by Phil Hochstetler (Portland, OR, USA)

The HP67 uses the same DC power supply as all the Classics. It is the 97 that uses an AC supply.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: The Math That Saved Apollo 13 Just Sold for $388,375

*Message #1 Posted by **Egan Ford** on 1 Dec 2011, 11:08 a.m.*

http://gizmodo.com/5863778/the-math-that-saved-apollo-13

Re: OT: The Math That Saved Apollo 13 Just Sold for $388,375

*Message #2 Posted by **Don Shepherd** on 1 Dec 2011, 12:27 p.m.,*
in response to message #1 by Egan Ford

That's fascinating Egan, thanks. But I wish this would have ended up at the Air and Space Museum instead of some private collection.

Re: OT: The Math That Saved Apollo 13 Just Sold for $388,375

*Message #3 Posted by **Dominic Richens** on 1 Dec 2011, 3:46 p.m.,*
in response to message #1 by Egan Ford

good example of why kids need to stay in school and do well in math - you never know when you are going to be stuck in a crippled space craft hurtling away from earth and a manually calculated course correction is the only thing that can save you :-)

Re: OT: The Math That Saved Apollo 13 Just Sold for $388,375

*Message #4 Posted by **Eric Smith** on 1 Dec 2011, 7:17 p.m.,*
in response to message #3 by Dominic Richens

Alas, I'm reasonably sure that I do know when that's going to happen to me, which is never.

Re: OT: The Math That Saved Apollo 13 Just Sold for $388,375

*Message #5 Posted by **Egan Ford** on 1 Dec 2011, 8:02 p.m.,*
in response to message #4 by Eric Smith

Those that know you, know that you'd be just fine. And those that really know you, know that you'd just hack the ship, land, mine the moon for raw material, fix the craft, and still make it home in time.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[wp34s] Using FAST and SLOW

*Message #1 Posted by **Les Wright** on 1 Dec 2011, 10:53 a.m.*

I was testing out the integration program I mentioned in an earlier thread when I noticed that things were taking almost twice as long to solve as when I began testing them. I thought I broke something in my program, but I when I reverted to an earlier version that I knew tested faster the slowing was still there.

Eventually discovered the FAST and SLOW commands in the manual. I thought FAST might override the calculator's propensity to drop into SLOW mode when battery voltage drops, but apparently not. I ran FAST, then started up the integration problem, saw the low-batt indicator flash for a bit, then go out, so I assumed the calc had adjusted and reverted to SLOW mode again.

Am I right in my observation here that it looks like SLOW can override FAST when batteries are fresh, but FAST can't override SLOW when batteries are lower? Also, where is the cut off point where the calc goes into SLOW mode. BATT told me I was running at 2.9V for a few days, but now it consistently reads 2.8V, so I am guessing that's the magic number?

TIA,

Les

Re: [wp34s] Using FAST and SLOW

*Message #2 Posted by **Walter B** on 1 Dec 2011, 5:10 p.m.,*
in response to message #1 by Les Wright

Making a long story short: Yes, SLOW can override FAST. And yes again, you can't set FAST if the battery voltage is lower than a certain limit.

Re: [wp34s] Using FAST and SLOW

*Message #3 Posted by **Les Wright** on 3 Dec 2011, 3:48 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Making a long story short: Yes, SLOW can override FAST. And yes again, you can't set FAST if the battery voltage is lower than a certain limit.

Thanks, Walter. The short answer is what I needed now. I was wondering why my program was taking almost twice as long to run. The processor is clocked to half the speed, which for simple calculations and fast programs is in itself more than enough.

Les

Re: [wp34s] Using FAST and SLOW

*Message #4 Posted by **Dominic Richens** on 3 Dec 2011, 7:27 a.m.,*
in response to message #3 by Les Wright

if you are up to making Wiki updates as you learn stuff, feel free to update WP-34s Users' Guide. I know that the FAST and SLOW are not yet documented (like most stuff).

Re: [wp34s] Using FAST and SLOW

*Message #5 Posted by **Walter B** on 3 Dec 2011, 10:25 a.m.,*
in response to message #4 by Dominic Richens

> Quote:
>
> I know that the FAST and SLOW are not yet documented (like most stuff).

Hmmh, not quite true: Both are documented in the manual (like almost all stuff) ;-)

Re: [wp34s] Using FAST and SLOW

*Message #6 Posted by **Dominic Richens** on 3 Dec 2011, 11:14 a.m.,*
in response to message #5 by Walter B

yes, quite true - the owner's manual does have everything. I guess what I should say is that it would be good to capture the examples discussed in this forum somewhere - the Owner's Manual is not the appropriate place (otherwise it would be 1000 pages in no time).

I was dry-walling a trapezoidal attic wall in my house and trimming in an arched window. The WP-34s fraction mode was very, very useful, but I had to play with the DEN* modes a bit before I understood what you meant :-)

Hence I took the time to document what I figured out in the wiki..

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(OT) Heathkit and Nixie Tubes

*Message #1 Posted by **Gerry Schultz** on 30 Nov 2011, 4:47 p.m.*

Recently, we've had topic threads on both Heath kits and Nixie tube displays. In digging around the net, I found a kit from KABtronics called the Nixie-Transister Clock Assembly Kit. It uses no IC chips, only transistors, diodes, resistors, capacitors, etc. and the display uses Nixie tubes. It just arrived today and it's very cool. All the parts along with a complete instruction manual are included. Some assembly is required. :^P

Following this forum costs me way too much money...

Gerry

Re: (OT) Heathkit and Nixie Tubes

*Message #2 Posted by **DavidShenk** on 30 Nov 2011, 5:58 p.m.,*
in response to message #1 by Gerry Schultz

Some assembly... Yikes!

Link here.

Re: (OT) Heathkit and Nixie Tubes

*Message #3 Posted by **Katie Wasserman** on 30 Nov 2011, 7:07 p.m.,*
in response to message #2 by DavidShenk

Nice big PCB with lots and lots of soldering to be done. But I don't like those Russian Nixie tubes that use an upside down '2' instead of a real '5'.

Re: (OT) Heathkit and Nixie Tubes

*Message #4 Posted by **Jim Yohe** on 1 Dec 2011, 1:01 a.m.,*
in response to message #3 by Katie Wasserman

Yeah that's what you need ... nixie tubes to keep your place warm. I just like they way they looked. ;-)

Re: (OT) Heathkit and Nixie Tubes

*Message #5 Posted by **Marc Ferrer (France)** on 1 Dec 2011, 1:01 p.m.,*
in response to message #4 by Jim Yohe

Hello to you all,

The link to KABtronics appeared in this forum for the first time, 2 or 3 weeks ago. I jumped on it and ordered the LED Transistor clock kit. It's a real joy for a (real) geek. I'm in the process of building it, by now 400 out of ~1200 components assembled, 950 solders out of ~2800 done and yesterday I saw the first digit displaying seconds from 0 to 9... what a fun.

Just my 2 cents, Marc

Edited: 1 Dec 2011, 1:02 p.m.

Re: (OT) Heathkit and Nixie Tubes

*Message #6 Posted by **Gerson W. Barbosa** on 30 Nov 2011, 6:55 p.m.,*
in response to message #1 by Gerry Schultz

Congratulations! Many hours of fun ahead :-)

Not nearly as fancy, that's kind of a poor man's digital clock kit I assembled years ago:

http://i918.photobucket.com/albums/ad30/gwbarbosa/DIY%20Digital%20Clock/DIYDC_1.jpg

http://i918.photobucket.com/albums/ad30/gwbarbosa/DIY%20Digital%20Clock/DIYDC_2.jpg

http://i918.photobucket.com/albums/ad30/gwbarbosa/DIY%20Digital%20Clock/DIYDC_3.jpg

http://i918.photobucket.com/albums/ad30/gwbarbosa/DIY%20Digital%20Clock/DIYDC_4.jpg

A co-worker gave me two printed circuit boards that had come with an electronics magazine. I gathered the required components and assembled the kit, but I was soon disappointed as there was no backup batteries to keep the correct time when AC went off. So I rebuilt the main board and added a secondary board to provide an alternative 60-Hz clock signal. One transistor switches off the LED displays when power if off, the other one triggers the 555 IC. The tiny board that holds one diode and two resistors switches off the two blinking LEDs (I'd forgotten about them). Still working! :-)

Gerson.

Edited: 30 Nov 2011, 6:59 p.m.

Re: (OT) Heathkit and Nixie Tubes

*Message #7 Posted by **David Ramsey** on 30 Nov 2011, 7:58 p.m.,*
in response to message #6 by Gerson W. Barbosa

A 555 timer! I remember those from the Apple][days...it was used for the joystick input circuit on the][...

Do they still make 555 timers?

Re: (OT) Heathkit and Nixie Tubes

*Message #8 Posted by **Gerson W. Barbosa** on 30 Nov 2011, 8:04 p.m.,*
in response to message #7 by David Ramsey

Yes, "the part is still in widespread use":

http://en.wikipedia.org/wiki/555_timer_IC

Re: (OT) Heathkit and Nixie Tubes

*Message #9 Posted by **Eric Smith** on 30 Nov 2011, 9:38 p.m.,*
in response to message #7 by David Ramsey

The joystick circuit used a 558, which was a quad timer that was vaguely similar to a 555. Some people call it a quad 555, but it isn't really.

On Nixie tubes, HP 41 CL's and hello Gerry

*Message #10 Posted by **geoff quickfall** on 1 Dec 2011, 4:00 a.m.,*
in response to message #1 by Gerry Schultz

My Nixie!

simple 60Hz timing system off the house mains

16S438

and of course the Nixie watch:

Cheers, Geoff

Re: On Nixie tubes, HP 41 CL's and hello Gerry
*Message #11 Posted by **hpnut** on 1 Dec 2011, 4:51 a.m.,*
in response to message #10 by geoff quickfall

Is that radioactive hazmat sign for real?

Re: On Nixie tubes, HP 41 CL's and hello Gerry
*Message #12 Posted by **Jim Horn** on 1 Dec 2011, 11:11 a.m.,*
in response to message #11 by hpnut

Knowing Geoff, the sign is real, the hazard is not. His humor is a near-mathematical constant and an asset.

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #13 Posted by **Geoff Quickfall** on 1 Dec 2011, 12:46 p.m.,*
in response to message #12 by Jim Horn

HEEE HEEE!

Nice way to put it Jim.

As of yet, I have not used the buggy ROMS but fully intend too. Thanks for them, Jim.

Cheers, Geoff

Also the clock above uses Russian tubes. You can tell because the 5 is an inverted 2. Saved steps in the production line.

Edited: 1 Dec 2011, 12:48 p.m.

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #14 Posted by **Jim Yohe** on 1 Dec 2011, 1:07 p.m.,*
in response to message #10 by geoff quickfall

LOVE this watch! Two digits?

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #15 Posted by **Geoff Quickfall** on 1 Dec 2011, 1:12 p.m.,*
in response to message #14 by Jim Yohe

Has a settable tilt setting and a 24 hour setting.

tilt the watch to view and it displays in a series of flashes:

```
- first flash hours
- second flash minutes
- third flash seconds; displaying up to 30 seconds at a time to
  save power.
```

6 volt lithium battery stepped up to 150V to drive the display with a step back to 130V (by memory, should check the site) to continue the display. Well check out the site:

Nixie watch by Cathode Corner

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #16 Posted by **Jim Yohe** on 1 Dec 2011, 1:43 p.m.,*
in response to message #15 by Geoff Quickfall

What is the link for the desk clock or did you design it yourself?

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #17 Posted by **geoff quickfall** on 2 Dec 2011, 3:47 a.m.,*
in response to message #16 by Jim Yohe

You have mail!

also kit or built:

clock link

Cheers, Geoff

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #18 Posted by **Jim Yohe** on 1 Dec 2011, 2:10 p.m.,*
in response to message #15 by Geoff Quickfall

His The Nixie Watch from Cathode Corner site also has a link to his personal site:

Welcome to Cathode Corner

That's where I found a link to a handmade calculator that his friend made:

Homebrew Desk Calculator

That sure takes me back to home projects I was involved in and the self made PCBs to solder parts to.

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #19 Posted by **Dave Shaffer (Arizona)** on 1 Dec 2011, 3:27 p.m.,*
in response to message #15 by Geoff Quickfall

> Quote:
>
> 6 volt lithium battery stepped up to 150V to drive the display

Nothing like 150 V on your wrist to deter muggers! Put a few exposed prods on it, and open up a whole new market.

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #20 Posted by **geoff quickfall** on 2 Dec 2011, 3:48 a.m.,*
in response to message #19 by Dave Shaffer (Arizona)

hard enough getting through airport security without having a Taser label included.

;-)

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #21 Posted by **Gerry Schultz** on 1 Dec 2011, 1:16 p.m.,*
in response to message #10 by geoff quickfall

I like the look of Nixies as I worked with them a lot many moons ago. This clock also runs off of 60hz mains but I recently heard that the power grid is not going to maintain the strict 60hz standard as in the past so clocks dependent upon AC power will not be as accurate. I suppose with WWV and GPS clocks, it's not so critical but that bums me out.

Gerry

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #22 Posted by **Cristian Arezzini** on 1 Dec 2011, 2:44 p.m.,*
in response to message #21 by Gerry Schultz

They will stop the night-time "catch-up" to compensate for lost cycles during daytime. But for what I read, the inaccuracies introduced will be very small, especially considering that you would loose the time setting anyway at every power outage...

Cristian

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #23 Posted by **Gerry Schultz** on 1 Dec 2011, 4:01 p.m.,*
in response to message #22 by Cristian Arezzini

Then I'm plugging it into my PC UPS! With all the winds around here in LA today, I'm lucky to have any power.

Gerry

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #24 Posted by **Cristian Arezzini** on 1 Dec 2011, 5:25 p.m.,*
in response to message #23 by Gerry Schultz

Hehe... I have my power-network-synced clock on an UPS too... but my point was that the UPS's frequency isn't precise at all, surely much less stable and precise than the network, even after the recent "degradation"! :)

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #25 Posted by **Geoff Quickfall** on 1 Dec 2011, 7:10 p.m.,*
in response to message #23 by Gerry Schultz

Gerry,

Doing the math and assuming LA has a really crappy control of there electrical system, lets assume an accuracy factor of only 98% (58.8Hz/60Hz): that is a the system runs at 98% of 60 HZ all day! Of course, the system is described at the LA web site as

"Power Quality refers to the characteristics of the power, or specifically the current and voltage, provided to the customer. The power is to be provided in clean sinusoidal waveforms at a frequency of 60Hz that does not contain sags or spikes, which allows the customer’s equipment, including sensitive electronics, to operate reliably."

```
(1) 60min*24hours=1,440min/day

(2) .98*1,440min/day=1,411.2min/day

yikes at a whopping 30 minutes a day!
```

However, I would suggest from the little research I have done on the LA power grid, the system runs better then that, and that spikes probably serve to cancel drops in the 60Hz as the system does not consistently run 'off' 60Hz.

In anycase, here in Vancouver I am off a minute to two per month during the windy season in November.

Cheers, Geoff

LA power home site

interesting article on waveform and distortion

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #26 Posted by **Gerry Schultz** on 1 Dec 2011, 8:22 p.m.,*
in response to message #25 by Geoff Quickfall

Hey Geoff;

Yes, that's my concern, accumulated error. This kit has a backing plate and I'm planning to put it on my garage wall (The garage has been finished. Sort of my mancave. My wife would never let that clock in the house!) but it will be above my desks and a little hard to reach. So it will accumulate errors over time which will require periodic tweaking. I could find an old HP Cesium standard down at the TRW swapmeet and take the 1PPS output to drive the clock. Is that overkill? :^)

At work, hi-freq harmonics on the AC main's neutral line can be an issue. All of our broadcast equipment use switching power supplies which puts lots-o-crap on the neutral line so there is a special transformer (K-factor? I don't remember.) to filter it out. When we use our Fluke analyzer to look at the AC mains there's always a lot of crap on the hots (that's after the 750 KVA APC UPS down on the first floor) but it all works.

Gerry

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #27 Posted by **Cristian Arezzini** on 2 Dec 2011, 6:14 a.m.,*
in response to message #26 by Gerry Schultz

> Quote:
>
> I could find an old HP Cesium standard down at the TRW swapmeet and take the 1PPS output to drive the clock. Is that overkill? :^)

I've looked into that kit as well... but (also since I have 50Hz here, not 60) I was planning something less dramatic: just the 1pps pulse from a cheap quartz clock would do, I think, and could be easily hidden behind the main board, and powered from the same supply or from a simple AAA battery... Then the only issue would be how to make it keep tracking time during power-outs. I haven't figured that one out yet, besides using another UPS!

Cristian

Re: On Nixie tubes, HP 41 CL's and hello Gerry

*Message #28 Posted by **BobVA** on 2 Dec 2011, 9:49 p.m.,*
in response to message #26 by Gerry Schultz

> Quote:
>
> ...I could find an old HP Cesium standard down at the TRW swapmeet and take the 1PPS output to drive the clock. Is that overkill? :^)

This is overkill :-) Most Accurate Nixie Clock

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

anyone recognize these pics from old HP manuals?

*Message #1 Posted by **Don Shepherd** on 30 Nov 2011, 10:57 a.m.*

The pictures came from two different HP manuals. Notice that the captions are, essentially, the same.

The good old days.

Re: anyone recognize these pics from old HP manuals?

*Message #2 Posted by **Martin Pinckney** on 30 Nov 2011, 11:15 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> The good old days.

Of miniskirts...

Re: anyone recognize these pics from old HP manuals?

*Message #3 Posted by **M. Joury** on 30 Nov 2011, 11:33 a.m.,*
in response to message #2 by Martin Pinckney

Wasn't touching that one :-)

Re: anyone recognize these pics from old HP manuals?

*Message #4 Posted by **bill platt** on 30 Nov 2011, 11:57 a.m.,*
in response to message #3 by M. Joury

She looks like she is putting money into a coffee vending machine--you know, the kind that dates from the same period--the cup drops down, there is a whirring inside the box, and coffee flows down, then cream.

Edited: 30 Nov 2011, 12:00 p.m.

Re: anyone recognize these pics from old HP manuals?

*Message #5 Posted by **Don Shepherd** on 30 Nov 2011, 12:53 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> the cup drops down, there is a whirring inside the box, and coffee flows down, then cream

Or, more likely, the cup does NOT drop down, but the coffee still flows (down the drain), and you are left for nothing to show for your quarter!

Re: anyone recognize these pics from old HP manuals?

*Message #6 Posted by **Mike Morrow** on 30 Nov 2011, 3:57 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> Of miniskirts...

And bleached blondes.

Re: anyone recognize these pics from old HP manuals?

*Message #7 Posted by **megarat** on 30 Nov 2011, 6:35 p.m.,*
in response to message #6 by Mike Morrow

... and beehive hairdos.

Re: anyone recognize these pics from old HP manuals?

*Message #8 Posted by **Jim Yohe** on 1 Dec 2011, 12:51 a.m.,*
in response to message #2 by Martin Pinckney

And four footed/legged chairs that today have five for better stability.

Re: anyone recognize these pics from old HP manuals?

*Message #9 Posted by **Mike Morrow** on 1 Dec 2011, 5:44 p.m.,*
in response to message #8 by Jim Yohe

> Quote:
>
> And four footed/legged chairs...

The five-footed chairs that have become universal have only one main objective...to make it impossible to lean backward and potentially cause a fall when the legs slip out. It's just one of those office funny moments that are now gone, in the interest of safety.

Re: anyone recognize these pics from old HP manuals?

*Message #10 Posted by **bill platt** on 30 Nov 2011, 11:59 a.m.,*
in response to message #1 by Don Shepherd

"Conversational BASIC language" haha

For i=1 to 10...

Re: anyone recognize these pics from old HP manuals?

*Message #11 Posted by **Ethan Conner** on 30 Nov 2011, 12:41 p.m.,*
in response to message #10 by bill platt

BIG hair. lol

Re: anyone recognize these pics from old HP manuals?

*Message #12 Posted by **Paul Berger (Canada)** on 30 Nov 2011, 1:54 p.m.,*
in response to message #1 by Don Shepherd

Nice sophisticated ASR33 teletype I/O devices. In my early days in field service one of my customers had a little HP mini that ran some data entry terminals at a remote location and logged the data on spools of paper tape that they would then use to transfer the data to the mainframe. The console was an ASR33 which would chatter away endlessly. My employer also used them for I/O on a customer terminal system for a large hotel chain, but I never had to service any of them. I did however service lots of terminal equipment that used a modified selectric typewriter as the I/O device.

Re: anyone recognize these pics from old HP manuals?

*Message #13 Posted by **Achim (Germany)** on 1 Dec 2011, 8:38 a.m.,*
in response to message #12 by Paul Berger (Canada)

Has anyone ever seen those female operators? The ops I knew had bald patches instead of beehive hairdos and no miniskirts.

Re: anyone recognize these pics from old HP manuals?

*Message #14 Posted by **bill platt** on 1 Dec 2011, 6:26 p.m.,*
in response to message #13 by Achim (Germany)

Sex Sells :-)

Re: anyone recognize these pics from old HP manuals?

*Message #15 Posted by **Paul Berger (Canada)** on 1 Dec 2011, 9:41 p.m.,*
in response to message #13 by Achim (Germany)

Having spent a few years as a field service tech I assure you that computer rooms with very attractive operators do exist.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Beware of new builds

*Message #1 Posted by **Marcus von Cube, Germany** on 30 Nov 2011, 4:37 a.m.*

Just to be warned: The next few builds will most probably be badly broken because we are working on a proper implementation of END. The latest revision I can recommend is 1940.

Re: WP 34S: Beware of new builds

*Message #2 Posted by **Paul Dale** on 30 Nov 2011, 5:54 a.m.,*
in response to message #1 by Marcus von Cube, Germany

More than the next few I suspect. END is very invasive and requires a lot more changes before it will work suitably.

For those with a morbid fascination, there is a TODO-END file which contains things Marcus and I know we've got to do, address and fix. How often this file is updated remains to be seen :-) Also, ignore the one DONE item -- that is being reimplemented a different way.

- Pauli

Re: WP 34S: Beware of new builds

*Message #3 Posted by **Eddie W. Shore** on 30 Nov 2011, 8:38 a.m.,*
in response to message #2 by Paul Dale

OK. I am currently at 1782 - got to catch up. Thanks for the updates!

Re: WP 34S: Beware of new builds

*Message #4 Posted by **Marcus von Cube, Germany** on 30 Nov 2011, 10:25 a.m.,*
in response to message #2 by Paul Dale

It might work now, at least partially. Testers are welcome.

In program mode, the complete memory is available but as soon as a program is running or single stepped, END serves as a boundary. The detection of labels 00 to 99 and A to D is confined to the program the program counter is currently in.

Try GTO.up and GTO.down to navigate between programs.

Edited: 30 Nov 2011, 10:25 a.m.

WP 34S: Current release starts working :-)

*Message #5 Posted by **Marcus von Cube, Germany** on 2 Dec 2011, 6:58 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I've made some updates to the latest release so that END should now be working (hopefully). END statements define boundaries for local label search. This includes the hot keys A to D. The program counter needs to be in the program that defines the hot keys to make them active.

GTO.. in program mode goes to the last statement in program memory and adds an END if it isn't already there. In run mode, GTO.. simply goes to step 000. As a short cut, you don't need to press h shift. XEQ. is treated the same as GTO.

GTO.down and GTO.up take you to the next or previous program respectively. This is intended for program mode but may work in run mode, too. I tested it in also library space. All libraries are updated to contain END statements where appropriate. I have not tested this thoroughly, though.

Re: WP 34S: Current release starts working :-)

*Message #6 Posted by **Gerry Schultz** on 2 Dec 2011, 2:18 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Hi Marcus. We sat next to each other at the last HHC. In talking about GTO.. how do you handle memory when editing a program? Will GTO.. pack memory like the 41C? Just curious.

Gerry

Re: WP 34S: Current release starts working :-)

*Message #7 Posted by **Marcus von Cube, Germany** on 2 Dec 2011, 3:54 p.m.,*
in response to message #6 by Gerry Schultz

We don't have holes in program space. The 41 does some magic to improve performance in editing and running a program. We just tackle the same issues with brute (processor) force. Moving memory back and forth doesn't cause the same delays it would on a 41 Nut processor. So no packing necessary.

No need to remind me on your HHC presence. I'm still remembering almost every little bit of these few days. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Romberg Integration

*Message #1 Posted by **Les Wright** on 30 Nov 2011, 4:19 a.m.*

Just wanted to advise all fans of the calc that I did a quick and dirty port of the PPC ROM routine IG, and it works beautifully. At this stage I have simply entered it step by step, using where necessary wp34s equivalents (e.g., the 41-series XEQ IND 10 becomes [alpha]XEQ 10). I have yet to streamline it with things like recall register arithmetic and the X~~Y command for comparing rounded interim results. However, it is crazy fast, and with the tough integral discussed by Kahan in his 1980 HP Digest paper, even in ALL 00 the algorithm converges in about a minute or two to a solution that is correct to 14 digits within 1 ULP. In the words of Borat Sagdiyev, high five!

If I am permitted, I will post the entire routine and instructions, but only after I have made enough of my modifications so that it differs enough from the original PPC routine to be openly shared.

Les

Re: [WP34s] Romberg Integration

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Nov 2011, 4:39 a.m.,*
in response to message #1 by Les Wright

Les, write an article in this forum!

Re: [WP34s] Romberg Integration

*Message #3 Posted by **Les Wright** on 30 Nov 2011, 9:17 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I am respectfully boggled that in the months the wp34s has been around no one has mentioned this before. This is not a major task to do a straight port. The wp34s has all of the necessary HP41-style functions and then some. In an initial transfer I had to do next to nothing.

Will look at this more closely as I get to know the wp34s better. I am sure there are efficiencies and whatnot I am missing.

Les

Re: [WP34s] Romberg Integration

*Message #4 Posted by **Paul Dale** on 30 Nov 2011, 9:45 p.m.,*
in response to message #3 by Les Wright

Porting the IG routine has been on my list of things that should be done eventually -- with aim to making this the built in integration routine.

There are definitely efficiencies available and there are other things that would be nice e.g. using the v3 local registers (they can even be resized during the computation if necessary). Then there are the extra fluff required for the built in command -- proper stack on exit and handling infinite values and not

numbers.

So while a straight port is very simple, making it integral [sic] to the calculator isn't quite so easy.

- Pauli

Re: [WP34s] Romberg Integration

*Message #5 Posted by **Paul Dale** on 30 Nov 2011, 5:50 a.m.,*
in response to message #1 by Les Wright

Or better, modify it so it is suitable for XROM and we'll include it :-)

ALL nn modes all round to 12 digits. The nn is for display only not for rounding. FIX/SCI and ENG, however, do use their argument for rounding purposes.

- Pauli

Re: [WP34s] Romberg Integration

*Message #6 Posted by **Les Wright** on 30 Nov 2011, 6:23 p.m.,*
in response to message #5 by Paul Dale

Ah, that explains why SCI 11 and ALL 00 each take as long and give the exact same 16 digit final result.

Re: [WP34s] Romberg Integration

*Message #7 Posted by **Kiyoshi Akima** on 30 Nov 2011, 6:32 p.m.,*
in response to message #6 by Les Wright

Just out of curiosity, what result do you get when you integrate fractional_portion(x) from 0.0 to 6.4? The same from 0.0 to 6.5? (Sorry, I don't know if the WP34s calls it "FRAC" or "FP" or whatever.)

Re: [WP34s] Romberg Integration

*Message #8 Posted by **Les Wright** on 30 Nov 2011, 9:11 p.m.,*
in response to message #7 by Kiyoshi Akima

The integration scheme doesn't like that function at all. Gives 1.28 and 1.625 respectively. Not even close. According to Mathematica, the correct results are 3.08 and 3.125, which is easily seen by inspection (6*1/2 + .4*.4/2 in the first case, and you get the analogy in the second case).

The integral is periodic with discontinuities. The IG Romberg scheme doesn't even seem to get past the first estimate before exiting.

The August 1980 Kahan paper and the advanced integration chapters in the 42s, 15C, 34C, and 35s do at least touch on the "know thy function" theme. In this case, what it easily computed by visual inspection and by hand boggles the calculators. I am sensing that the underlying trapezoidal rule is not fooled by the initial nonlinear distribution of sample points, and the routine gets too successive identical results off the bat and exits. I should note that the algorithm gives exact results quickly within the continuous segments, but not across the discontinuities.

Les

Re: [WP34s] Romberg Integration

*Message #9 Posted by **Walter B** on 1 Dec 2011, 12:49 a.m.,*
in response to message #8 by Les Wright

> Quote:
>
> The August 1980 Kahan paper and the advanced integration chapters in the 42s, 15C, 34C, and 35s do at least touch on the "know thy function" theme.

If this is what you need: that's easily achieved by quoting the respective texts ;-)

> Quote:
>
> In this case, what it easily computed by visual inspection and by hand boggles the calculators.

To me, this problem sounds a bit academic. As known from the vintage calculators you mentioned, discontinuities are a problem. We can't catch every strange case (I doubt any algorithm can), so maybe I have to insert a warning statement in the manual of the kind "Don't use this oven for drying pets!".

Re: [WP34s] Romberg Integration

*Message #10 Posted by **Kiyoshi Akima** on 1 Dec 2011, 3:00 p.m.,*
in response to message #8 by Les Wright

At least your results imply that you have a correct port of the IG routine. To the best of my knowledge, this particular example trips up every HP calculator with a built-in integrator. Because of the nonlinear transform, the first three estimates match and the routine refuses to go any further. In a textbook Romberg integration without the transform, the third estimate differs.

The nonlinear transform also bunches points near the endpoints of the interval. This works great when integrating something with a singularity at or near an endpoint, like sqrt(x) from 0 to 1. However, that backfires when the singularity is in the interior of the interval, like sqrt(abs(x)) from -1 to 1.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Printed copies of HP-15C Advanced Functions Handbook

*Message #1 Posted by **Eric Rechlin** on 30 Nov 2011, 1:13 a.m.*

A bunch of you expressed interest in getting a printed copy of the HP-15C Advanced Functions Handbook, based on Joe Horn's scan.

I am now ready to ship these for anyone who might be interested. They are black and white (sorry, not color) and spiral bound, just like the other manuals I sell. The price is $10 plus shipping. For the US, I will ship in a box by Media Mail for $4. International ranges, but for most countries it will be $10 for First Class Mail. Please send me a private message (or email me at eric@hpcalc.org) if you are interested and I will give payment information.

Eric

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE listing back on Buy.com

*Message #1 Posted by **Dan Grelinger** on 29 Nov 2011, 2:59 p.m.*

I bought an HP-15C LE from Buy.com when they first came out because they had the best price ($90 with free shipping). They sold out quickly of their own stock, and for awhile had a listing from Samson Cables for $200. Eventually, they removed their HP-15C LE listing altogether.

But now, the listing has returned, including a link to be notified when the item is back in stock. I take that as a sign that they have placed another order with HP that was accepted, and that they will have stock in the future. Pure speculation on my part, but it fits my observations of past buy.com behavior.

http://www.buy.com/prod/hp-15c-scientific-calculator-limited-edition/223173356.html

Re: HP-15C LE listing back on Buy.com

*Message #2 Posted by **Nicholas Winterer** on 29 Nov 2011, 3:25 p.m.,*
in response to message #1 by Dan Grelinger

Hopefully in time for Christmas!

Re: HP-15C LE listing back on Buy.com

*Message #3 Posted by **Michael de Estrada** on 29 Nov 2011, 3:44 p.m.,*
in response to message #1 by Dan Grelinger

That listing has been there like that for at least the past month. Nothing new IMO. This listing is a bit more informative.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

XEQ vs GSB - what am I missing?

*Message #1 Posted by **Thomas Radtke** on 29 Nov 2011, 1:22 p.m.*

Spices use GSB, the 41 XEQ, the Voyagers GSB, later models XEQ again. I think both lables can be justified, but why was there a change and why do Voyagers broke with the new convention introduced with the 41?

Does anyone here know?

Thanks,

Thomas

Re: XEQ vs GSB - what am I missing?

*Message #2 Posted by **M. Joury** on 29 Nov 2011, 2:00 p.m.,*
in response to message #1 by Thomas Radtke

The only difference I can see is that with the 41 (and 42) XEQ does more than just execute a subroutine. With most of the other HP calculators GSB does exactly what it says (Go SuBroutine). With the HP41 XEQ is used to execute subroutines as with GSB but it is also used to execute internal commands so GSB would not be an accurate description for what XEQ does on the 41. I can't hazard a guess as to why later models (other than the 42) go back to using XEQ when they really are using it more like a GSB.

Just my $0.02 worth.

-Marwan

Re: XEQ vs GSB - what am I missing?

*Message #3 Posted by **Egan Ford** on 29 Nov 2011, 2:39 p.m.,*
in response to message #2 by M. Joury

> Quote:
>
> I can't hazard a guess as to why later models (other than the 42) go back to using XEQ when they really are using it more like a GSB.

Because XEQ looks totally bad-ass on the keyboard. To the uninitiated it has a certain mystique, like the big red button under the glass. The ultimate power of your calculator is unleashed via XEQ.

And sometimes you can get away with using it as a scrabble word (You know, "zeek", it's a mathematical word, do you really want to challenge a guy with more calculators than first dates?). People think twice about challenging such a powerful word. Keep a straight face and you might pull it off. YMMV. :-)

Re: XEQ vs GSB - what am I missing?

*Message #4 Posted by **M. Joury** on 29 Nov 2011, 2:50 p.m.,*
in response to message #3 by Egan Ford

LOL

Re: XEQ vs GSB - what am I missing?

*Message #5 Posted by **Les Wright** on 29 Nov 2011, 5:47 p.m.,*
in response to message #3 by Egan Ford

I'm gonna paint in the XEQ lettering with red marker on my wp34s overlays to make the calc look seriously badass.

Re: XEQ vs GSB - what am I missing?

*Message #6 Posted by **Eddie W. Shore** on 30 Nov 2011, 8:44 a.m.,*
in response to message #3 by Egan Ford

> Quote:
>
> Because XEQ looks totally bad-ass on the keyboard. To the uninitiated it has a certain mystique, like the big red button under the glass. The ultimate power of your calculator is unleashed via XEQ.
>
> And sometimes you can get away with using it as a scrabble word (You know, "zeek", it's a mathematical word, do you really want to challenge a guy with more calculators than first dates?). People think twice about challenging such a powerful word. Keep a straight face and you might pull it off. YMMV. :-)

XEQ also sounds executive.

Re: XEQ vs GSB - what am I missing?

*Message #7 Posted by **Eddie W. Shore** on 30 Nov 2011, 8:43 a.m.,*
in response to message #1 by Thomas Radtke

In my experience, XEQ and GSB work in the same way. I guess they wanted something different for the Voyagers (?).

Re: XEQ vs GSB - what am I missing?

*Message #8 Posted by **M. Joury** on 30 Nov 2011, 10:05 a.m.,*
in response to message #7 by Eddie W. Shore

Yes and no. XEQ on the 41 and 42 has additional functionality in that it is also responsible for executing any non-keyboard (or for that matter keyboard) function. For example XEQ ALPHA FRC ALPHA. This is NOT a subroutine call and has a distinctly different usage from a GSB on a Voyager. Mind you, the 32S and it's derivatives do use XEQ in exactly the same manner as GSB.

Cheers,

-Marwan

Re: XEQ vs GSB - what am I missing?

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 30 Nov 2011, 9:18 a.m.,*
in response to message #1 by Thomas Radtke

It was a good thing that they don't choose "CALL" as an alternative for "GSB" or "XEQ", otherwise a lot of calculators may be taken as cell phones... :-)

Re: XEQ vs GSB - what am I missing?

*Message #10 Posted by **Gerson W. Barbosa** on 30 Nov 2011, 10:25 a.m.,*
in response to message #9 by Andrés C. Rodríguez (Argentina)

Agreed! This might not avoid this kind of mistake, though:

http://www.youtube.com/watch?v=hShY6xZWVGE

http://www.youtube.com/watch?v=UdROuQHGW80&feature=related (in French)

http://www.youtube.com/watch?v=R5e1vfaST2I (in German)

http://www.youtube.com/watch?v=2BKtUJttqxg (in Italian)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

MoHPC - 15C | 15C LE update?

*Message #1 Posted by **DigiGal** on 29 Nov 2011, 1:08 p.m.*

Curious, are any MoHPC curators planning to update the 15C info page to include the 15C LE?

Edited: 29 Nov 2011, 1:09 p.m.

Re: MoHPC - 15C | 15C LE update?

*Message #2 Posted by **Martin Pinckney** on 29 Nov 2011, 1:58 p.m.,*
in response to message #1 by DigiGal

AFAIK there is only one curator, he put a gargantuan effort into building this wonderful site, then for the last eight years or so he has had an actual life apart from this site.

Re: MoHPC - 15C | 15C LE update?

*Message #3 Posted by **Dave Hicks** on 30 Nov 2011, 1:22 p.m.,*
in response to message #2 by Martin Pinckney

Also, every couple of years or so, I spend 4-8 months round the clock doing a new DVD release. Then after I get that done, I want to take a break - which often does seem to last till the next DVD version. In fact, I'll probably be spinning up another DVD project this winter if people can find enough manuals that aren't already included.

I also need to do some forum updating. It seems there are too many "false positives" lately. ie: too many messages being identified as possible spam and being sent to moderators for approval. Some of these spam detectors date to times before I wrote the user account code and really aren't that necessary anymore.

Re: MoHPC - 15C | 15C LE update?

*Message #4 Posted by **Walter B** on 30 Nov 2011, 1:39 p.m.,*
in response to message #3 by Dave Hicks

Hi Dave, since you show up: Is there anything we can contribute to get that famous "Other" page updated?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: AA Lithium Battery Tests

*Message #1 Posted by **Bill (Smithville, NJ)** on 29 Nov 2011, 11:28 a.m.*

Would like to ask an off topic question about AA Lithium batteries.

This morning, I caught a story on the news that Consumer Reports had tested AA batteries, including the Everyready "Advanced" and "Ultimate" AA batteries. They stated that the testing showed the Advanced did 809 photos and the Ultimate only did 470 photos.

This is exactly reveresed from what I would expect. Everyready claims the Ultimate is about twice as powerful as the Advanced.

Did the News Reporter get the two batterys backwrds, or do the Advanced really out perform the Ultimate.

Unfortnuately, I do not have a subcription to CR, so I can't read the original article.

I'd appreciate if anyone here who subscribes could verify the results.

(The reason I bring this up here is I know some of us use these batteries in the HP-200LX)

Thanks

Bill

Edited: 29 Nov 2011, 11:29 a.m.

Re: OT: AA Lithium Battery Tests

*Message #2 Posted by **Katie Wasserman** on 29 Nov 2011, 12:56 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

I use scores of both of them (they are in almost all my calculators, flashlights, low-end digital camera, etc.) and find very little difference between them in just about every application. I've even done side-by-side lifetime tests with high current draw and found them to be almost identical. It's possible that the Ultimate have a longer shelf life, the expiration dates indicate this. But they haven't been around long enough for me know if this is true or not.

I buy them on TAS when I can get them cheaply and don't really care if they are the Ultimate or the Advanced.

Re: OT: AA Lithium Battery Tests

*Message #3 Posted by **Bill (Smithville, NJ)** on 30 Nov 2011, 7:37 a.m.,*
in response to message #2 by Katie Wasserman

Hi Katie,

Your results are about what I had also found. I usually buy either one depending on what the current sale

is. Not too long ago, our local food store had the ultimates on sale for about 1/3 price, so I stocked up.

I find it hard to believe that Everyread has found a way to double the Lithium capacity in the same size package. Which is what they claim - Advanced are 4X the Everyready Max batteries and the Ultimate are 8X.

As reported by the TV reporter, the Consumer Reports tests (and we can argue forever on what constitutes a valid test) indicated that the reverse is true. I was hoping someone could verify this with the actual Consumer Reports article or whether the reporter had the story wrong.

I guess I could visit my Library this weekend and see if they have the December issure of CR.

Thanks,

Bill

Might depend on type of usage?

*Message #4 Posted by **Frank Boehm (Germany)** on 30 Nov 2011, 9:43 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

I think camera usage needs a battery that can supply a lot of peak current. Regular usage mostly has less peaks and depletes the battery slower and better.
So depending on the camera or gadget, one battery might be superior or inferior, even when claiming the same capacity.
That's probably the reason, why there are two types of Eneloop (IMHO the best rechargable battery on the market), one with less charging cycles but stronger peak current, for camera usage.

Re: OT: AA Lithium Battery Tests

*Message #5 Posted by **Dave Shaffer (Arizona)** on 5 Dec 2011, 10:25 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

I finally found my December copy of Consumer Reports (buried under all the other stuff on my desk) and can verify that the story as quoted by Bill accurately reported the CR findings.

Their table of results shows that the Energizer "Advanced" provided 809 camera shots, compared to the Energizer "Ultimate" at 470 shots. Alkalines ranged from 260 shots (Duracell Ultra Advanced) to 133 shots (Walgreens Supercell), with most of the others giving around 200 shots.

Their test: "We load batteries into identical digital cameras, then mimic everyday camera use (zoom, flash, shoot) until each camera quits."

They also say "use lithiums in high-drain devices such as cameras and alkalines in low-drain devices such as remote controls"

Depends on how hard you use your calc!?!?!

Re: OT: AA Lithium Battery Tests

*Message #6 Posted by **Jim Yohe** on 8 Dec 2011, 10:01 a.m.,*
in response to message #5 by Dave Shaffer (Arizona)

Specifically this article I bet:

http://www.consumerreports.org/cro/magazine-archive/2011/december/electronics-

computers/batteries/overview/index.htm

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 20 series European versions

*Message #1 Posted by **Fouad M. Kaadou** on 29 Nov 2011, 11:08 a.m.*

Hello,

I read on the museum that the Woodstock series had European versions with ','s instead of '.'s. I have never seen these on eBay. Are these rare and desirable?

Rock 'n' Roll,

Fouad

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Which Model HP-41C For the 41CL Transplant?

*Message #1 Posted by **Mark Hardman** on 29 Nov 2011, 10:48 a.m.*

I have nine working HP-41's to choose from. I only have a single HP-41C, so I don't want to use that one.

Of the remaining machines, one is a NIB HP-41CV that has only rarely seen the light of day. I'm tempted to use this calculator as it would likely have the longest useable life span and would be the least likely to have broken posts. However, I would have to sacrifice a port and a time module to make it fully functional as a 41CL. I also run the risk that once opened, I'll find the wrong type of zebra connector.

Would it be better to use one of my HP-41CX's? I know they all have good posts and the correct zebra connector.

Is there any advantage to using a 41CX over a 41CV?

Mark Hardman

Re: Which Model HP-41C For the 41CL Transplant?

*Message #2 Posted by **Ángel Martin** on 29 Nov 2011, 11:35 a.m.,*
in response to message #1 by Mark Hardman

This is a good struggle to find yourself in, better than not having any suitable donor :-)

Because the TIME module needs to be added to get the timer functional, I'd definitely use a CV over a CX - and if you had more then I'd use the (plain) C - my preferred choice, going from the smallest to the biggest.

In that way you'll still have 7 CX's (fully functional) plus the CL and your "token" C.

Good luck with the transplant!

Re: Which Model HP-41C For the 41CL Transplant?

*Message #3 Posted by **Mark Hardman** on 29 Nov 2011, 10:08 p.m.,*
in response to message #2 by Ángel Martin

I appreciate your answer. I had to go back and re-read the 41CL manual--and you are correct. Regardless of the model used, a time module is required. So using a 41CX gains me nothing and really would be overkill.

I just received confirmation from Monte that my board is on its way. The donor 41CV has been opened and inspected.

Christmas is coming about a month early at my house!

Mark Hardman

Re: Which Model HP-41C For the 41CL Transplant?

*Message #4 Posted by **Juergen Keller** on 30 Nov 2011, 3:41 p.m.,*
in response to message #3 by Mark Hardman

> Quote:
>
> Regardless of the model used, a time module is required.

Not true, see Time chip inside 41CL. If you use a CX it's possible to use its timer chip instead of a TIME module.

Re: Which Model HP-41C For the 41CL Transplant?

*Message #5 Posted by **Ángel Martin** on 1 Dec 2011, 10:29 a.m.,*
in response to message #4 by Juergen Keller

Technically I guess that's correct but I'm not inclined to get into that kind of intermediate-surgery and very much prefer using a physical TIME module.

Besides, what else do you need the ports on the CL for? :-)

Re: Which Model HP-41C For the 41CL Transplant?

*Message #6 Posted by **gene wright** on 1 Dec 2011, 12:33 p.m.,*
in response to message #5 by Ángel Martin

What do you need the ports for?

Printer, Card reader

or

HP IL module

or

Clonix to load new roms into the 41CL

One port is gone with the serial connector if installed.

Might start running out of ports!

;-)

But, I do have a physical TIME module installed in my 41CL which is soon on its way back to me.

Re: Which Model HP-41C For the 41CL Transplant?

*Message #7 Posted by **sylvandb** on 29 Nov 2011, 8:18 p.m.,*
in response to message #1 by Mark Hardman

Back in 1979-80 with silver prices soaring, many people sold all the silver they could get their hands on. Most of the silver sold was melted down, refined and poured into ingots.

Common (at the time) silver coins were one of the things sold and melted. After all, those common coins had no collector value, but at those silver prices those old coins were worth a lot just for the metal they contained.

Now coin collectors have discovered that what once was common is now rare since so many were melted, and some of what was once rare is considered common since so many were NOT melted.

(http://www.pcgs.com/Articles/Detail/496)

I wonder what HP-41's will be considered common or rare in another 20 years? Will the 41CL cause a significant loss of 41C or CV models leading to a "glut" of the 41CX?

I don't think there is any way to second guess or predict. I find it simply an interesting thought experiment.

Re: Which Model HP-41C For the 41CL Transplant?

*Message #8 Posted by **Monte Dalrymple** on 29 Nov 2011, 10:11 p.m.,*
in response to message #7 by sylvandb

If you don't attach the 41CL label to the case and keep the old cpu board (guys, PLEASE don't throw them away), it's easy to change a CL back to what it started out as.

Actually, the 41CL will always be rare, given that I'm not really expecting to make a ton of them. That, plus the FPGA and Flash memory are only guaranteed for 20 years.

Re: Which Model HP-41C For the 41CL Transplant?

*Message #9 Posted by **Ángel Martin** on 2 Dec 2011, 9:21 a.m.,*
in response to message #8 by Monte Dalrymple

> Quote:
>
> the FPGA and Flash memory are only guaranteed for 20 years.

you mean to say no more CL fun after 70? :-)

Edited: 2 Dec 2011, 9:22 a.m.

Re: Which Model HP-41C For the 41CL Transplant?

*Message #10 Posted by **Monte Dalrymple** on 2 Dec 2011, 12:59 p.m.,*
in response to message #9 by Ángel Martin

The 20 years is what the Flash manufacturers guarantee. Since as far as I know the failure mechanism is charge loss on the floating gates, reflashing the memory and the fpga should be sufficient to extend the life. Of course there is no guarantee that the tools will still exist or work in that timeframe. But since the design is done in Verilog HDL presumably it could be moved to whatever technology is common in the future.

Monte

Re: Which Model HP-41C For the 41CL Transplant?

Message #11 Posted by ***Kerem Kapkin (Silicon Valley, CA)*** *on 2 Dec 2011, 5:30 p.m.,*
in response to message #8 by Monte Dalrymple

One of the happiest days in my life, Santa came early! just received my HP-41CL today. Monte, thank you so much for this “Beautiful Functional Art”; it is not only an elegant high technology core for the classic HP-41 but also it is beautiful from both design and manufacturing aspects. So much to explore and learn about the new HP- 41CL functions and capabilities… Will keep me busy for a long time for sure…

Thank you and Best Regards,Kerem

Re: Which Model HP-41C For the 41CL Transplant?

Message #12 Posted by ***Mark Hardman*** *on 29 Nov 2011, 10:18 p.m.,*
in response to message #7 by sylvandb

Three paragraphs into your post, I was under the impression that you were suggesting we melt down our surplus HP-41's!

Just as an HP-41CY commands extreme high prices among collectors, I would be certain that a well cared for and operational HP-41CL would sell for a king's ransom.

One thing is certain, I will pass away before I offer any of my collection for sale. So, I've given explicit instructions in my will for the liquidation of my HP calculators.

Mark Hardman

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[HP 15C LE] Prophecy on bug fix?

*Message #1 Posted by **Alexander Oestert** on 29 Nov 2011, 9:55 a.m.*

Anyone wanting to make a prophecy on when the HP 15C LE bug fix firmware will be available? Is there a list to be notified by HP as soon as it comes out?

I would love to be able to use my new and shiny 15C without the PSE bug! Really! ;-)

(deleted post)

*Message #2 Posted by **deleted** on 29 Nov 2011, 9:56 a.m.,*
in response to message #1 by Alexander Oestert

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #3 Posted by **Alexander Oestert** on 29 Nov 2011, 10:15 a.m.,*
in response to message #2 by deleted

I would appreciate just a serious answer. I don't really find it that funny.

Is there a notification list at HP I can subscribe to?

Thanks in advance.

Honestly, had I not bought those two things in the US, being in Europe, I would have already send them back.

Edited: 29 Nov 2011, 10:17 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #4 Posted by **M. Joury** on 29 Nov 2011, 10:34 a.m.,*
in response to message #3 by Alexander Oestert

I may be reading too much into what Tim posted but I think that you got at least one answer. Based on what Tim said (and again this may be wishful thinking and reading too much into a joking comment) I now believe that we will at least get a bug fix at some point.

Cheers,

-Marwan

(deleted post)

*Message #5 Posted by **deleted** on 29 Nov 2011, 10:39 a.m.,*
in response to message #4 by M. Joury

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #6 Posted by **Alexander Oestert** on 29 Nov 2011, 10:54 a.m.,*
in response to message #5 by deleted

> Quote:
>
> I now believe that we will at least get a bug fix at some point.
>
> Quote:
>
> You are reading too much.

Meaning we will never see a bug fix.

HP just lost me as a potential future customer. This is bad.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #7 Posted by **Valentin Albillo** on 29 Nov 2011, 11:00 a.m.,*
in response to message #6 by Alexander Oestert

> Quote:
>
> Meaning we will never see a bug fix.

Nah, you'll eventually see a bug fix, only perhaps not from HP.

> Quote:
>
> HP just lost me as a potential future customer. This is bad.

That's overreacting. If I'd refrained from buying from some company or other on the grounds of a simple disappointment I wouldn't be buying much, if at all.

Best regards from V.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #8 Posted by **Alexander Oestert** on 29 Nov 2011, 11:09 a.m.,*
in response to message #7 by Valentin Albillo

> Quote:

> That's overreacting.

Yeah, for a product marketed as 'Limited Edition' in a fake leather case that is entirely a pure luxury item, for 100 bucks I'm probably expecting too much. What was I thinking...

HP even gave us a nicely printed "Advanced Functions Handbook"...wait..where did I get that one?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #9 Posted by **Tim Wessman** on 29 Nov 2011, 11:33 a.m.,*
in response to message #6 by Alexander Oestert

>Meaning we will never see a bug fix.

Meaning nothing.

Seems like quite a stretch to reach that conclusion from my comment. I suppose the best thing to do is go away and completely not participate in this forum as everything I say gets taken way out of context. Whether there is or is not ever going to be a fix would never be communicated on a forum like this. Modern large companies just don't do that.

If you have displeasure with something HP has or has not done, you need to let them know through the proper channels. I am not an HP employee when I discuss and post here.

TW

Edited: 29 Nov 2011, 11:39 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #10 Posted by **Bruce Bergman** on 29 Nov 2011, 11:43 a.m.,*
in response to message #9 by Tim Wessman

Yeah, this was a total overreaction by others.

Folks, this is NOT a support forum hosted by HP! The museum forums are something completely outside of the HP domain, and shouldn't be construed as part of HP's official (or even unofficial) stance on anything.

If all you're trying to do is drive away GENEROUS and CARING employees from HP who participate here, then keep it up and I'm quite sure they'll leave.

If you want "official" HP responses, go visit their web site or call their Tech Support. I'm betting that you'd be happier with the unofficial responses you get here, than those "official" responses at the other locations.

Or, you can be content with what's here, and realize (whether you believe it or not) that this is a community of interesting and caring individuals, who just want to make things better for all HP users.

Please don't ruin it for the rest of us. If you're pissed at HP and don't want to be a customer, then fine, go away. But don't poke the eye out of those people from within HP who just happen to enjoy HP products and help WHERE THEY CAN.

My $0.02 anyhow. And no, I'm not overreacting. ;-)

Thanks,

Bruce

Re: [HP 15C LE] Prophecy on bug fix?

*Message #11 Posted by **Martin Pinckney** on 29 Nov 2011, 12:12 p.m.,*
in response to message #10 by Bruce Bergman

Some points to keep in mind:

1. Tim has stated several times he participates as an individual, not an HP employee.

2. Despite the above, all regulars here still are aware he *is* an HP employee, and not only that, but the 15c LE was his project.
3. Because of (2), It's only natural that some folks are going to assume that his comments might mean something.
4. In fact, Tim has on occasion given out some real HP information, as when he published photos of the 15c LE and 12c 30th packaging.
5. The forum is a free-form venue, and if a known HP employee makes glib comments, some are bound to be offended, given how seriously some folks are about HP's products.

And that's my $.02.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #12 Posted by **Tim Wessman** on 29 Nov 2011, 12:26 p.m.,*
in response to message #11 by Martin Pinckney

Good points. Which is why I am just going to avoid participating except for very rare occasions. Makes things simpler all around.

TW

Re: [HP 15C LE] Prophecy on bug fix?

*Message #13 Posted by **M. Joury** on 29 Nov 2011, 12:53 p.m.,*
in response to message #12 by Tim Wessman

Sorry I said anything. I certainly didn't mean for this thread to take the direction it did. I am most assuredly not one of those that is unhappy with HP. In fact I am very happy with the 15C LE and will certainly be buying HP calculator products in the future.

I guess I read too much into what you said earlier and should probably have just kept my thoughts to myself.

Cheers,

-Marwan

Re: [HP 15C LE] Prophecy on bug fix?

*Message #14 Posted by **Tim Wessman** on 29 Nov 2011, 12:59 p.m.,*
in response to message #13 by M. Joury

No, definitely not your fault. Mine for saying something that would be misinterpreted. It is just simpler this way.

TW

Re: [HP 15C LE] Prophecy on bug fix?

*Message #15 Posted by **Howard Owen** on 29 Nov 2011, 5:01 p.m.,*
in response to message #14 by Tim Wessman

By "simpler" you mean that a reengineered follow on to the 42S is imminent?

:)

Re: [HP 15C LE] Prophecy on bug fix?

*Message #16 Posted by **Egan Ford** on 29 Nov 2011, 5:26 p.m.,*
in response to message #15 by Howard Owen

> Quote:
>
> By "simpler" you mean that a reengineered follow on to the 42S is imminent?

You missunderstood. "Simpler" means integer. He was clearly talking about the 16C LE. :-)

Edited: 29 Nov 2011, 5:26 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #17 Posted by **Paul Dale** on 29 Nov 2011, 5:44 p.m.,*
in response to message #16 by Egan Ford

No no no. Simpler means older generation. We're going to have the 41 series back ;-)

- Pauli

Re: [HP 15C LE] Prophecy on bug fix?

*Message #18 Posted by **Neil Hamilton (Ottawa)** on 29 Nov 2011, 12:59 p.m.,*
in response to message #12 by Tim Wessman

Well that would be a shame if you were driven away. I, for one, appreciate and enjoy your refreshing sense of humour. The occasional nugget of "inside" information (even if its cryptic) is just a bonus.

The thought "sheesh, chill already!" was going through my mind reading some of this trail...

Re: [HP 15C LE] Prophecy on bug fix?

*Message #19 Posted by **Jeff O.** on 30 Nov 2011, 12:54 p.m.,*
in response to message #9 by Tim Wessman

> Quote:
>
> If you have displeasure with something HP has or has not done, you need to let them know through the proper channels.

Tim,
I'm not sure what the best "proper channel" would be, so I just sent a message to HP Scientific Calculator Support. I described the issues and told them that I was certain that you and Cyrille could easily fix the problems, if directed to do so.

If that does not work, I guess I will have to try to contact Ms. Whitman.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #20 Posted by **Walter B** on 30 Nov 2011, 1:46 p.m.,*
in response to message #19 by Jeff O.

:-D Good luck!

Re: [HP 15C LE] Prophecy on bug fix?

*Message #21 Posted by **Jeff O.** on 30 Nov 2011, 3:46 p.m.,*
in response to message #20 by Walter B

Hey, I already got a reply back stating that "One of our Technical Support Specialists will be responding to your inquiry. It is our pleasure to be of service to you..."

Or were you referring to a potential future attempt to contact Ms. Whitman? I don't really think that would be possible, but beside Tim and Cyrille, I don't know how or who else I might try to contact to officially request a new 15c rom. It's not like there is a phone or e-mail directory of the company available so that I might try to contact someone in the calculator division who has the power to get the problems solved.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #22 Posted by **Thomas Radtke** on 1 Dec 2011, 11:38 a.m.,*
in response to message #19 by Jeff O.

> Quote:
>
> I described the issues and told them that I was certain that you and Cyrille could easily fix the problems, if directed to do so.

We should all do so, maybe even using the same text.

Would you mind sharing it with us?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #23 Posted by **Alexander Oestert** on 1 Dec 2011, 12:08 p.m.,*
in response to message #22 by Thomas Radtke

I second that: same text to the same email address.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #24 Posted by **Jeff O.** on 1 Dec 2011, 12:35 p.m.,*
in response to message #22 by Thomas Radtke

Here is the text of the message:

> Quote:
>
> This in reference to the new HP 15c scientific calculator. The firmware for the new calculator has several bugs as follows:
> 1) PSE used more than once in a program blanks the display after the first occurrence. The display blanks out until the program finishes, subsequent PSE instructions do not properly display the interim results.
> 2) the display will flash inappropriately in a number of circumstances, for example, running Cy,x or Py,x three times in a program, or in complex mode, press f - (i) to temporarily display the imaginary component. While the temporary display is up, press a single digit key, as if you were starting to key in a number. As soon as the temporary display of the imaginary component goes away, the digit you pressed will be displayed, and the display will be flashing.
> 3) executing the ON plus x self-test described in the manual which came with the calculator corrupts program memory. This key combination, as well as the other key combinations which execute the self-tests of the original 15C should either be disabled or made to work as they did originally.
> 4) Current draw is over 20mA when holding down a key, which will lead to rapid battery depletion.
> 5) Current draw is also over 20 mA during program execution. While the high speed that such current draw allows is appreciated, this is actually well in excess of the capability of the CR2032 cells used to power the calculator. It might be advisable to implement a power management scheme which would allow high speed operation some of the time, but throttle back the speed under certain circumstances, for example after the first few seconds of a running program, or when battery voltage drops to a certain level.
> 6) The low battery indicator does not appear to work, i.e., it never indicates a low-battery condition regardless of battery voltage. More seriously, when the battery voltage gets low enough or the batteries can't supply enough current, memory is lost. Graceful low-battery detection and shut-down should be implemented in association with the power vs. speed management discussed in item 5 above.
> All in all, the new 15c is a wonderful, much appreciated device. It would make a nice Christmas present to the HP calculator enthusiast community if HP could create a new rom file and make it available in the near future.

> Thank you for your support.

Thanks and credit given to Katie Wasserman, I took much of the above from her HP-15C LE (Limted Edition) Bug Reports article.

I sent the above to HP via this contact form.

I did receive a follow-up reply:

> Quote:
>
> Thank you for contacting Hewlett-Packard.
>
> This is in response to your e-mail regarding the HP 15c Scientific Calculator.
>
> Thank you for your feedback. I will pass this message along.
>
> Sincerely,
>
> HP Email Support

HP 15c bug list article.

Edited: 10 Dec 2011, 12:54 p.m. after one or more responses were posted

Re: [HP 15C LE] Prophecy on bug fix?

*Message #25 Posted by **Thomas Radtke** on 1 Dec 2011, 1:03 p.m.,*
in response to message #24 by Jeff O.

Thanks!

Did it, and hopefully the majority of listening 15c LE users will do so also.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #26 Posted by **Lincoln R.** on 1 Dec 2011, 1:27 p.m.,*
in response to message #25 by Thomas Radtke

Yes. This is a great idea. Posting here probably isn't the right way to get results, but if enough people complain through official channels that may make HP decide that fixing the bugs is a worthwhile endeavor.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #27 Posted by **Jeff O.** on 1 Dec 2011, 3:47 p.m.,*
in response to message #25 by Thomas Radtke

Do we need a new separate "Pester HP for a new 15c rom" thread to encourage and track the campaign?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #28 Posted by **Katie Wasserman** on 1 Dec 2011, 5:25 p.m.,*
in response to message #27 by Jeff O.

How about "re-purposing" Bring Back the HP-15C into a Fix the HP 15C LE petition.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #29 Posted by **Walter B** on 1 Dec 2011, 5:46 p.m.,*
in response to message #28 by Katie Wasserman

If it will take as long as the old petition to succeed ...

Re: [HP 15C LE] Prophecy on bug fix?

*Message #30 Posted by **Reth** on 2 Dec 2011, 4:31 a.m.,*
in response to message #28 by Katie Wasserman

Brilliant!

Re: [HP 15C LE] Prophecy on bug fix?

*Message #31 Posted by **Thomas Radtke** on 2 Dec 2011, 1:11 a.m.,*
in response to message #27 by Jeff O.

It wouldn't hurt. I'd call it 'Kindly pointing HP to the right direction', however ;-).

Re: [HP 15C LE] Prophecy on bug fix?

*Message #32 Posted by **Alexander Oestert** on 2 Dec 2011, 3:50 a.m.,*
in response to message #24 by Jeff O.

Did it!

Re: [HP 15C LE] Prophecy on bug fix?

*Message #33 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 2 Dec 2011, 2:42 p.m.,*
in response to message #24 by Jeff O.

This is the response I received from HP customer service for the bug fix request above.

> Quote:
>
> Thank you for contacting Hewlett-Packard.
>
> This is in response to your e-mail regarding the HP 15c Scientific Calculator.
>
> Hi,
>
> I just received 3 letters with identical wording from other people and one additional one just like this one, is this a form letter?

We are aware of the PSE issue and have it on our fix list but I do not have an ETA. I will forward your information on the other issues but to document it you would need to phone us between 9 am and 9 pm eastern at 1800 474 6836 and troubleshoot the issues with us, and we could escalate the case if necessary.

Thanks,

Saleh

Sincerely, HP Email Support

Re: [HP 15C LE] Prophecy on bug fix?

*Message #34 Posted by **Ethan Conner** on 2 Dec 2011, 3:31 p.m.,*
in response to message #33 by Kerem Kapkin (Silicon Valley, CA)

Imagine that.....they were already aware of the problem. So before Tim was driven away from the forum he notified HP of the problem. Of course some people have nothing better to do than beat a dead horse.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #35 Posted by **Alexander Oestert** on 3 Dec 2011, 5:07 a.m.,*
in response to message #34 by Ethan Conner

Quote:

Tim was driven away from the forum

Insinuating Tim was "driven away" for what was written in this thread means accusing him of a rather childish behavior. If anything, he was directed by his superiors to not participate anymore.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #36 Posted by **Jeff O.** on 2 Dec 2011, 4:14 p.m.,*
in response to message #33 by Kerem Kapkin (Silicon Valley, CA)

I guess it is good that it is on their fix list, and that they even have a fix list.

Are you going to respond and tell Saleh that it is not so much a form letter as an effort by concerned users that the message get through? How about calling and troubleshooting to get the problems escalated?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #37 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 2 Dec 2011, 4:55 p.m.,*
in response to message #36 by Jeff O.

I already send a follow up message to Saleh in the same regard, also

letting him know that I and many others do appreciate HP and the HP Calculator product development team for bringing back the HP-15C.

When I can put a side 30-45 minutes from work, I will call the customer service and try to walk them through on reproducing the issues we have seen regularly. Also I will recommend that they would expedite a solution for these issues.

More people e-mail them expressing their concern and call them to demonstrate the issues to get in the fix list; perhaps customer service would have enough data points to justify to the management for requesting an expedited solution.

Edited: 2 Dec 2011, 5:15 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #38 Posted by **Jeff O.** on 5 Dec 2011, 8:12 a.m.,*
in response to message #37 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> HP Support -
> "We are aware of the PSE issue and have it on our fix list but I do not have an ETA. I will forward your information on the other issues but to document it you would need to phone us between 9 am and 9 pm eastern at 1800 474 6836 and troubleshoot the issues with us, and we could escalate the case if necessary."
>
> Quote:
>
> Kerem Kaplin -
> "When I can put a side 30-45 minutes from work, I will call the customer service and try to walk them through on reproducing the issues we have seen regularly. Also I will recommend that they would expedite a solution for these issues."

I hope you find time to call and get the problems escalated. They already know about the PSE bug, and it should be easy to walk them through some flashing display examples and also show them how the ON / x self test corrupts memory. Unfortunately, it won't be possible to walk them through the power management issues, which are arguably the most serious. But of course the people who can fix the problems are already well aware of them, so hopefully the escalation process is just a formality to inform HP of the problems through proper channels.

Edited: 10 Dec 2011, 12:57 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #39 Posted by **Thomas Radtke** on 2 Dec 2011, 4:32 p.m.,*

in response to message #33 by Kerem Kapkin (Silicon Valley, CA)

Excellent, thanks for reporting. Calling him might be a good idea, especially to again point out that *distributing* the fix is as important as the fix itself to the existing customer base.

Some more mails might be helpfull also.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #40 Posted by **Bart (UK)** on 29 Nov 2011, 12:06 p.m.,*
in response to message #1 by Alexander Oestert

Prerequisite: they'd actually have to start shipping units again.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #41 Posted by **Thomas Radtke** on 29 Nov 2011, 12:20 p.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> Anyone wanting to make a prophecy on when the HP 15C LE bug fix firmware will be available?

Never. If it were of any importance to HP, they would have fixed it along with the keyboard problem. Reports have shown that HP didn't do that.

Dream on, Alexander. I did so when the 35s came out, and I did it for quite a long time.

(unfortunately, I didn't catch the removed messages)

Re: [HP 15C LE] Prophecy on bug fix?

*Message #42 Posted by **Lincoln R.** on 29 Nov 2011, 5:37 p.m.,*
in response to message #41 by Thomas Radtke

The keyboard problem seems like it was probably trivial to fix, since certain forum members disassembled units and discovered foreign matter inside keyswitches and/or bad heatstaking. That's a simple matter of getting the manufacturing plant to be more careful. A software bug requires man-hours to trace the source of the bug, find a fix, and then do a lot of testing to make sure it didn't break more stuff (Like the fixes that led to this PSE bug in the first place). I'd imagine HP is working on a fix, but wants to make sure it is properly tested before sending it out because people will complain even louder if a PSE fix that results in math functions giving wrong answers or insanely bad battery life is released.

Anyhow, they replaced the units with bad keyboards on essentially a no-questions-asked basis. Making more units and then FedExing them to people wasn't cheap, so they obviously *do* care about this product. It would be easy to just say "some variation in keyboard feel is normal and is due to slight variation in the manufacturing process" and only replace units with totally dead keys, and furthermore require customers to ship them to HP at the customer's expense and pay shipping on the replacement unit too. But they didn't do that. They found out there was a problem, took in units to disassemble, corrected the manufacturing defects, and replaced people's calculators.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #43 Posted by **Reth** on 30 Nov 2011, 2:03 a.m.,*

in response to message #42 by Lincoln R.

> Quote:
>
> ... Anyhow, they replaced the units with bad keyboards on essentially a no-questions-asked basis...

Really? How come I haven't heard of it? I for one did not get a replacement.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #44 Posted by **Ethan Conner** on 30 Nov 2011, 3:00 a.m.,*
in response to message #43 by Reth

Tim put out a contact e-mail just for people with keyboard issues. This may have been easily missed by someone who doesn't view the forum daily. It was back when the le's were getting to people in the US and the forum was turning over fairly rapidly.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #45 Posted by **Alexander Oestert** on 30 Nov 2011, 3:40 a.m.,*
in response to message #44 by Ethan Conner

> Quote:
>
> Tim put out a contact e-mail just for people with keyboard issues.

Sounds like an official HP reaction to me...

Re: [HP 15C LE] Prophecy on bug fix?

*Message #46 Posted by **Lincoln R.** on 30 Nov 2011, 7:03 a.m.,*
in response to message #44 by Ethan Conner

I'm pretty sure there were some people that called the phone number and went through the regular HP support chain of command to get their replacement. And I don't think it was entirely US-only, IIRC at least one guy from Canada was able to get his replacement, but it may have taken some extra work. The phone number to call is: (800)474-6836

Initially Tim was asking people to email him or someone else at HP because they were collecting the defective units to disassemble and analyze. Once they had enough, I believe he made a post here asking people to go through the normal HP support channels.

Edited: 30 Nov 2011, 7:04 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #47 Posted by **Marcus von Cube, Germany** on 29 Nov 2011, 12:25 p.m.,*
in response to message #1 by Alexander Oestert

Alexander, the whole discussion is fruitless. I'm pretty sure the bugs and manufacturing glitches nag those who made the 15C LE a reality more than anybody else. So just be patient and hope for a fix. Or, complain to HP and they will offer you to return the faulty items. Guess what my option in this case is!

Re: [HP 15C LE] Prophecy on bug fix?

*Message #48 Posted by **Alexander Oestert** on 29 Nov 2011, 2:09 p.m.,*
in response to message #47 by Marcus von Cube, Germany

> Quote:
>
> Or, complain to HP and they will offer you to return the faulty items.

If I were based in the US I would do exactly that, but that is not an option after having paid international postage and custom fees.

Maybe some here tend to forget that HP is not making the 15C LE as a charity to make us nerds happy but to make money with it. Customers can expect their money's worth in service.

True, I'm pissed that there is no information nor even a hint as to if, how or when this will be resolved.

And yes, I know this is not an official HP support forum. But I also think you can't have both: get praised for all the good things you've done as an HP official but only be a private person when it comes to taking some heat.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #49 Posted by **Thomas Radtke** on 29 Nov 2011, 2:28 p.m.,*
in response to message #48 by Alexander Oestert

> Quote:
>
> And yes, I know this is not an official HP support forum. But I also think you can't have both: get praised for all the good things you've done as an HP official but only be a private person when it comes to taking some heat.

I think there's no doubt Tim would do & distribute a fix if he were allowed to spend his time on it. It doesn't pay, however. Sales figures likely indicate that people buy and praise buggy calculators and that fixes do not change the situation for the better. It's our fault. Wer're the customers making the figures look like they do.

And honestly, I believe that most good things come from the dedicated HP people participating here, and most problems arise from the mechanics of a large company.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #50 Posted by **M. Joury** on 29 Nov 2011, 3:01 p.m.,*
in response to message #49 by Thomas Radtke

The problem with that logic is that if we don't buy them then the response will be: "There is no interest in these sort of machines so we'll just stop making them." And if we do buy them the response is: "They are buying them anyway so no need to fix them."

Fortunately I am not quite that cynical (second bit above), and will continue to support the HP calculator folks by buying their products. Remember that there were firmware fixes for the 12C+ and that gives me some small degree of hope.

Either way, while the HP15C LE does have a few issues I still think that it is a great little machine and that those at HP that pushed it through should be appreciated for the effort. Also note that it

would appear that HP took the keyboard issue seriously and did something about it so one can't say that they are not listening.

Cheers,

-Marwan

Re: [HP 15C LE] Prophecy on bug fix?

*Message #51 Posted by **sylvandb** on 29 Nov 2011, 8:34 p.m.,*
in response to message #48 by Alexander Oestert

> Quote:
>
> Maybe some here tend to forget that HP is not making the 15C LE as a charity to make us nerds happy but to make money with it.

Get real.

HP is not some podunk little company where a $1,000,000 sales is a project considered seriously "to make money with it."

I sat in many meetings at HP where even $10,000,000 potential revenue projects were discarded without a second thought. It wasn't until potential revenues were 3-4x that amount that cost estimates entered into the "do we investigate this idea further" decision.

Now granted the calculator operation is a lot smaller than where I was. But something like the 15c has to be understand as somebody's pet project where I'm sure the discussion included something much like "development is almost free so hopefully we won't lose too much money."

> Quote:
>
> I also think you can't have both: get praised for all the good things you've done as an HP official but only be a private person when it comes to taking some heat.

And that is just rude and unkind and totally backwards and wrong headed. What you describe is exactly how employees MUST be treated when they participate as individuals rather than as company representatives. Do you not understand even in the slightest the difficulty of working for HP balanced with trying to participate here and the advantage that was for us?

Bah.

I'd like to think it was cultural. :(

Re: [HP 15C LE] Prophecy on bug fix?

*Message #52 Posted by **Martin Pinckney** on 30 Nov 2011, 9:05 a.m.,*
in response to message #51 by sylvandb

> Quote:
>
> HP is not some podunk little company where a $1,000,000 sales is a project considered seriously "to make money with it."

> I sat in many meetings at HP where even $10,000,000 potential revenue projects were discarded without a second thought. It wasn't until potential revenues were 3-4x that amount that cost estimates entered into the "do we investigate this idea further" decision.

Throwing large numbers out fails to impress. What does that have to do with product quality issues and company integrity in fixing them?

> Quote:
>
> And that is just rude and unkind and totally backwards and wrong headed. What you describe is exactly how employees MUST be treated when they participate as individuals rather than as company representatives. Do you not understand even in the slightest the difficulty of working for HP balanced with trying to participate here and the advantage that was for us?

Who's being rude?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #53 Posted by **sylvandb** on 30 Nov 2011, 7:29 p.m.,*
in response to message #52 by Martin Pinckney

Read it again until you have no further question.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #54 Posted by **Kiyoshi Akima** on 29 Nov 2011, 3:05 p.m.,*
in response to message #1 by Alexander Oestert

Is it possible to suck the firmware out of a pre-PSE-bug 15C+ and run that on the LE? I don't have a serial port at this time so I don't know if this is possible. From everything I've read here, the PSE bug is worse than all the bugs they may have quashed in its unintentional introduction.

I know it wouldn't be an official fix even if some kind soul with a serial port were to post such firmware. Still...

Re: [HP 15C LE] Prophecy on bug fix?

*Message #55 Posted by **Nicholas Winterer** on 29 Nov 2011, 3:23 p.m.,*
in response to message #54 by Kiyoshi Akima

The bug is in the emulation layer, not the original 15c firmware.

Edit: Oops, misread this post. Disregard this comment.

Edited: 29 Nov 2011, 3:24 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #56 Posted by **Marcus von Cube, Germany** on 29 Nov 2011, 3:27 p.m.,*
in response to message #54 by Kiyoshi Akima

If at all (the feature can be shut off by the manufacturer) it would be through a JTAG interface, not the

serial port. Adding a JTAG connector would require serious surgery which I doubt anybody is willing to do. There may be old firmware images floating around but access would only be possible if they would either be officially released of unofficially leaked (which would violate any NDA signed.)

Edited: 29 Nov 2011, 3:28 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #57 Posted by **Walter B** on 29 Nov 2011, 4:28 p.m.,*
in response to message #56 by Marcus von Cube, Germany

> Quote:
>
> There may be old firmware images floating around but access would only be possible if they would either be officially released of unofficially leaked (which would violate any NDA signed.)

Hear, hear! May I read between the lines? ;-)

Re: [HP 15C LE] Prophecy on bug fix?

*Message #58 Posted by **Kiyoshi Akima** on 29 Nov 2011, 4:32 p.m.,*
in response to message #56 by Marcus von Cube, Germany

Sorry. When I said "serial port" I meant a RS-232 port on a computer. The computer I'm writing this on only has USB ports so I can't connect to my 15C+ without using an adapter (which I don't have).

Re: [HP 15C LE] Prophecy on bug fix?

*Message #59 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 29 Nov 2011, 4:05 p.m.,*
in response to message #54 by Kiyoshi Akima

I am more concerned about the brown out bug and power consumption issues since many of us will be running long programs. I hate to lose all the programs and data while running some long program.

Edited: 29 Nov 2011, 4:05 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #60 Posted by **Ethan Conner** on 29 Nov 2011, 4:43 p.m.,*
in response to message #59 by Kerem Kapkin (Silicon Valley, CA)

I would like to say that i hope Tim always feels like he can come to the forum and "be one of the guys". Even if it involves HP or our beloved 15c LE. It amazes me that they were able to convince HP to do the LE in the first place and have Tim offer here to help people with keyboard issues. In another thread someone has already offered a workaround for the PSE situation if i remember correctly. The LE was advertised as being 100 times faster and we all knew this ahead of time. Hopefully we are all capable of knowing what that means for battery consumption. Having Tim on here is an asset and i don't see what is to be gained by driving him away. To me him being here is like seeing your boss at the company picnic. Yeah we may talk a little work but good grief let the man relax and be a normal human being who can make humor and vent just like anyone else.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #61 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 29 Nov 2011, 9:45 p.m.,*
in response to message #60 by Ethan Conner

Continuing the discussion completely technical:

Increased battery consumption due to the increased speed was expected. What I am referring is the "brown out" threshold settings. IMHO this is more concerning than the "PSE" bug which is just an annoyance. There were many testing done on the standby and running power drains, brown out threshold by the members of this forum and were published here.

You can find more at this link.

Edited: 29 Nov 2011, 9:46 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #62 Posted by **Ethan Conner** on 29 Nov 2011, 10:40 p.m.,*
in response to message #61 by Kerem Kapkin (Silicon Valley, CA)

I remember that thread. I have not heard of another occurrrence. Just a suggestion maybe enter the long or power hungry program in the emulator. If portability is an issue then using a smartphone emulator would be a good backup. I realise not everyone uses a smartphone so that may not be much help. :)

Re: [HP 15C LE] Prophecy on bug fix?

*Message #63 Posted by **Reth** on 30 Nov 2011, 2:15 a.m.,*
in response to message #59 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> I am more concerned about the brown out bug and power consumption issues since many of us will be running long programs. I hate to lose all the programs and data while running some long program.

That on HP-15C? Are you serious?

I can't imagine a program run on a calculator is worth waiting more than a couple seconds.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #64 Posted by **db (martinez, ca.)** on 29 Nov 2011, 10:25 p.m.,*
in response to message #1 by Alexander Oestert

Alexander;
You should be patient and polite. I bought one more than you did and i'm doing what i recommended to you. If you really don't like them then you can sell them for a profit on European ebay.

Tim;
For any fix in the works; the brown-out problem is important to me, the PSE bug will be an easy fix but isn't important to me because i've never liked PSE on any calculator, and lastly- memory is a wonderful thing. If there is room for 2 or 2000 more bytes than the original 448 then please let it address them in the fixed version. thanks, db

Re: [HP 15C LE] Prophecy on bug fix?

*Message #65 Posted by **Alexander Oestert** on 30 Nov 2011, 1:33 a.m.,*
in response to message #64 by db (martinez, ca.)

> Quote:
>
> Alexander; You should be patient and polite.

My initial question wasn't rude. Answers, that were inapropriate and are deleted now, triggered my subsequent reaction. And it was not 'cultural' - I fully knew what I was writing, but I seem to have a completely diffrent view on this issue than the majority here.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #66 Posted by **Reth** on 30 Nov 2011, 2:28 a.m.,*
in response to message #65 by Alexander Oestert

I'm with you all the way. Some sort of "political correctness" is been tested here. HP employees are treated like the "lion society" in ancient Rome.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #67 Posted by **Howard Owen** on 30 Nov 2011, 8:50 a.m.,*
in response to message #66 by Reth

> Quote:
>
> HP employees are treated like the "lion society" in ancient Rome.

I think it's more a case of some folks treating Tim as a representative of an evil multinational corporation that has committed the crime of releasing a defective product, whereas many here know Tim as someone who was a member of this community before going to work for HP. Some of us have met Tim personally at the HHC conferences and know first hand that he's one of us. We know for a fact that his disappointment over the firmware bugs exceeds our own. We know that if we ever see a fix for those bugs, it will be because Tim and others will have struggled against all odds to make it happen. If he doesn't overcome those odds it won't be for lack of trying everything humanly possible for someone in his situation.

Most people haven't met Tim personally. Many people didn't sign the petition to bring back the 15C years ago. Those of us who did remember how absurd it seemed that HP would ever release a resurrected 15C, and have some appreciation of what a miracle Tim and others pulled off. If others lack that perspective and only see the flaws, it's to be expected. Tim could probably have a thicker skin in the face of that sort of criticism. But his critics could also pause and consider the other side of the coin.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #68 Posted by **Tim Wessman** on 30 Nov 2011, 9:50 a.m.,*
in response to message #67 by Howard Owen

This will be my last post on the issue and for quite a long time.

This has nothing to do with not having a "thick skin" or me over-reacting or anything. Rather, I agreed that should my participation ever cause problems on this forum I would cease to do so.

You may notice that all other employees that previously were participating are no longer doing so. There was concern expressed about this forum and the way some were reacting.

Since I am an HP employee and this forum is directly related to what I work on, it is natural that some may treat things I post as gospel. This has obviously caused at least a few people to respond negatively and so I simply can't continue to post here. HP has policies regarding participation in forums.

While true that I occasionally posted something semi-official (such as asking to collect some 15c units for examination), this was at the request of the support team since it was deemed to best way to get the information as quickly as possible.

TW

Edited: 30 Nov 2011, 9:51 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #69 Posted by **Howard Owen** on 30 Nov 2011, 10:13 a.m.,*
in response to message #68 by Tim Wessman

Well, that's a crying shame. But I totally understand.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #70 Posted by **Gerry Schultz** on 30 Nov 2011, 2:10 p.m.,*
in response to message #69 by Howard Owen

All I can think to say is that I'm so sorry. I've always thought it isn't as important what Tim said in his posts but was an indication that someone in HP's calculator division was slipping in and seeing what we had to say. His infrequent posts was a reminder that said yes, I am listening to you.

For Tim and all those HP employees that no longer post, I hope you continue to come here and see what we have to say. If you stop coming then it's diminishes what the rest of us share here.

Gerry

I just had a thought: Do HP employees stand around the water cooler chatting, during a break, about some comment made on the HP Museum's forum from last night? Oh, to be a fly on the wall...

Edited: 30 Nov 2011, 2:39 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #71 Posted by **uhmgawa** on 30 Nov 2011, 4:36 p.m.,*
in response to message #68 by Tim Wessman

> Quote:
>
> This will be my last post on the issue and for quite a long time.. You may notice that all other employees that previously were participating are no longer doing so.

That's quite unfortunate and I'd encourage all of you to reconsider, otherwise both sides suffer a loss. While I don't claim to know HP's strategy in this market, in absolute terms I can't imagine cultivation of this forum isn't of significant value to you all. Understood dealing with occasional irate users isn't pleasant, but it seems a trivial price to pay for sustaining the following here.

> Quote:
>
> While true that I occasionally posted something semi-official (such as asking to collect some 15c units for examination), this was at the request of the support team since it was deemed to best way to get the information as quickly as possible.

Case in point of the value to HP for expending cycles here. I'd hazard the above was available and leveragable to HP due to the presence you've personally developed in this forum.

> Quote:
>
> Since I am an HP employee and this forum is directly related to what I work on, it is natural that some may treat things I post as gospel. This has obviously caused at least a few people to respond negatively and so I simply can't continue to post here.

Frankly as an observer, I'd say you've done well to address/deflect the tirades as appropriate. So this decision seems a little surprising, if not somewhat extreme.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #72 Posted by **Lincoln R.** on 1 Dec 2011, 1:30 a.m.,*
in response to message #71 by uhmgawa

Asking the HP employees to reconsider may not be possible. It's entirely possible that their boss told them not to post on this forum anymore. I agree it's a big loss, it was a cool thing to have their presence in the community (I can't think of too many other products where this is the case), but American businesses see everything as a lawsuit waiting to happen (understandably so in a country where you can get sued by a guy whose hand you ran over while he was stealing your hubcaps.)

Edited: 1 Dec 2011, 1:53 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #73 Posted by **uhmgawa** on 30 Nov 2011, 7:46 p.m.,*
in response to message #68 by Tim Wessman

Incidentally having even an unofficial HP presence here likely has an overall moderating influence. Most level headed users aware HP folks are present will likely keep their comments constructive and avoid resorting to offensive bashing. Losing even a semi-active HP presence isn't going to improve matters in this respect.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #74 Posted by **Olivier De Smet** on 30 Nov 2011, 5:43 p.m.,*
in response to message #64 by db (martinez, ca.)

The way the rom addresses ram can only allow a maximum of 224 registers with some 'minor' patches (I have them on a private HP15 emulator ...) instead of the 64 original registers.

To allow more, a rather complete rom rewriting should be necessary.

Edited: 30 Nov 2011, 5:43 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #75 Posted by **db (martinez, ca.)** on 30 Nov 2011, 8:50 p.m.,*
in response to message #74 by Olivier De Smet

a "rather complete rom rewriting" might be worth it for the extra memory, but i know the reason for all this was to re-animate the original 15c.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #76 Posted by **Patrice** on 30 Nov 2011, 7:19 p.m.,*
in response to message #1 by Alexander Oestert

Dear Alexander,

What answer did you expect with your question ?
Even if if packed in a nice sentence, you are asking for a trade secret.
The saying "The ones how know don't talk, the ones how talk don't know" perfectly apply here. It is a trade secret and every one how know have no right to answer (at least seriously).

In France we have a saying "Question idiote, réponse idiote" which translate in something like "Dumb question, dumb answer". It is just the answer you got.

Patrice

Edited: 30 Nov 2011, 7:23 p.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #77 Posted by **Alexander Oestert** on 1 Dec 2011, 2:12 a.m.,*
in response to message #76 by Patrice

> Quote:
>
> you are asking for a trade secret

Considering the answer to a mere support question ("When will my defective product get fixed?") as a trade secret is absurd. That would render all support hotlines completely useless.

Calling any of my postings in this thread 'rude', 'bashing', 'idiotic' or 'impolite' is - well - rude, bashing and impolite.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #78 Posted by **Martin Pinckney** on 1 Dec 2011, 10:55 a.m.,*

in response to message #77 by Alexander Oestert

Agreed.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #79 Posted by **Ethan Conner** on 1 Dec 2011, 1:29 p.m.,*
in response to message #77 by Alexander Oestert

Are we there yet? Are we there yet? Are we there yet? Are we there yet? Are we there yet? Are we there yet?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #80 Posted by **Patrice** on 1 Dec 2011, 2:10 p.m.,*
in response to message #77 by Alexander Oestert

Obviously, Tim have not the right to give you the real answer, For me, it is enough to call it a secret.

In case they are doing something to solve the problem, we will never know it before HP make the answer official.

Patrice

PS: A secret is something that can be repeated to only one person at a time :)

Re: [HP 15C LE] Prophecy on bug fix?

*Message #81 Posted by **sylvandb** on 2 Dec 2011, 1:11 p.m.,*
in response to message #77 by Alexander Oestert

> Quote:
>
> Calling any of my postings in this thread 'rude', 'bashing', 'idiotic' or 'impolite' is - well - rude, bashing and impolite.

Is it impolite for ones inappropriate behavior to make a public spectacle at another's party? Obviously.

Is it impolite to escort previous derelict from said party even if it temporarily contributes to said spectacle? Obviously not.

And because it is equally obvious that subtlety of behavior is lost, you are the one who is causing said public spectacle with your inappropriate behavior and it would be better for all if you were escorted from the party.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #82 Posted by **Alexander Oestert** on 2 Dec 2011, 1:32 p.m.,*
in response to message #81 by sylvandb

I refuse to believe that you really meant what you wrote in the above statement. None of my statements in this thread warrants such a judgement.

Maybe it IS cultural after all...

Re: [HP 15C LE] Prophecy on bug fix?

*Message #83 Posted by **Lincoln R.** on 2 Dec 2011, 5:27 p.m.,*
in response to message #82 by Alexander Oestert

At least in my opinion, your initial post was polite and reasonable. Tim's response, while certainly not rude, was a bit sarcastic and teasing, given Tim's position within HP, however this would appear to be the norm for Tim's posts regarding official HP matters. Your response to Tim still seemed perfectly polite, essentially "Cut the jokes, do you have any real info to give us?" Unfortunately, the answer to that was no, likely due to non-disclosure agreements, a violation of which could cost Tim his job (and likely further delay/ruin hope of a 15C bugfix).

However, interpreting "You're reading too much" as "there will never be a bug fix" seems to be jumping to conclusions. Tim's response of "If you want official answers, go through official channels" is probably the *only* answer he could give you without putting his job on the line. The guy has a wife and kids, he's not going to risk his job to appease some guy on an internet forum. Neither would I, and I sincerely doubt that you would do that if you were in Tim's position.

And anyhow, the e-mail that Kerem posted indicates that HP obviously knows about this problem, and is on their "fix list," which while I don't want to do excessive speculation, would seem to indicate that a fix is forthcoming. As for distribution to us, I'm not certain. Hopefully distribution of the fix can at least be handled in the same way as the 12C+ fix, and maybe there will even be some kind of reflashing program for those who don't have access to cables and serial ports.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #84 Posted by **Patrice** on 2 Dec 2011, 11:55 p.m.,*
in response to message #83 by Lincoln R.

Agreed, but for one detail.
My sentence :

> Quote:
>
> Even if if packed in a nice sentence, you are asking for a trade secret.

would be writen as:

> Quote:
>
> At least in my opinion, your initial post was polite but not reasonable.

If you rewrite the first message without the polite part, it ends as something like that:
Tim, tell us what HP will do this the HP15C problems.
Which is not reasonable to me;

Patrice

Re: [HP 15C LE] Prophecy on bug fix?

*Message #85 Posted by **Lincoln R.** on 3 Dec 2011, 12:22 a.m.,*
in response to message #84 by Patrice

His initial post was not directed at Tim. Maybe it was surreptitiously directed at him, but it just happened that Tim was the first to respond with his typical breed of humor.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #86 Posted by **Alexander Oestert** on 3 Dec 2011, 3:08 a.m.,*
in response to message #85 by Lincoln R.

> Quote:
>
> His initial post was not directed at Tim.

Thanks for pointing that out.

If the answer to my initial question had contained this

> Quote:
>
> We are aware of the PSE issue and have it on our fix list but I do not have an ETA.

the whole thread had ended there.

I received the same mail from HP support after filing my issue and I have a hard time imagining that some support people are allowed to state this but any calculator division employee is not. And it seems to clearly not be a 'trade secret'!

Edited: 3 Dec 2011, 3:18 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #87 Posted by **Patrice** on 3 Dec 2011, 6:37 a.m.,*
in response to message #85 by Lincoln R.

> Quote:
>
> His initial post was not directed at Tim.

Agreed, it was not explicit. But it was implicit, Tim is the only guy on this forum to have any knowledge on this question. Any other to answer is just guessing.

Patrice

Re: [HP 15C LE] Prophecy on bug fix?

*Message #88 Posted by **Thomas Radtke** on 3 Dec 2011, 7:08 a.m.,*
in response to message #87 by Patrice

> Quote:
>
> Any other to answer is just guessing.

Prophecy was explicitly invited ;-).

Re: [HP 15C LE] Prophecy on bug fix?

*Message #89 Posted by **Alexander Oestert** on 3 Dec 2011, 3:25 a.m.,*
in response to message #83 by Lincoln R.

> Quote:
>
> However, interpreting "You're reading too much" as "there will never be a bug fix" seems to be jumping to conclusions.

Quote: I now believe that we will at least get a bug fix at some point. Quote: You are reading too much.

What else could this possibly mean than 'no bug fix'?

Re: [HP 15C LE] Prophecy on bug fix?

*Message #90 Posted by **Thomas Radtke** on 3 Dec 2011, 7:16 a.m.,*
in response to message #89 by Alexander Oestert

> Quote:
>
> What else could this possibly mean than 'no bug fix'?

Likely this: 'I haven't said anything.'

Why? Because Tim has already shown not to talk about company secrets(, but having a strange kind of humor sometimes).

Re: [HP 15C LE] Prophecy on bug fix?

*Message #91 Posted by **Alexander Oestert** on 3 Dec 2011, 7:51 a.m.,*
in response to message #90 by Thomas Radtke

Thanks for this interpretation, I would never have come up with this myself.

I still beg to differ on the subject of calling a 'support answer' a secret. I'm imagining asking my car mechanic when he will have repaired my ride answering: 'Can't tell you, that's my secret!' Would anybody bring in his car to that guy again? I very much doubt it!

Edited: 3 Dec 2011, 7:57 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #92 Posted by **Lincoln R.** on 3 Dec 2011, 9:13 a.m.,*
in response to message #91 by Alexander Oestert

Your car mechanic isn't an employee of GM or Toyota or whoever who needs their proprietary information to replace a worn out brake pad. You're paying the mechanic to fix your car using parts and service procedures which are available to the public. HP is paying Tim, Cyrille, or whoever it is who is tasked with fixing this bug to fix their calculator firmware using HP intellectual property.

In the US, companies are *very* paranoid about IP, and understandably so: For many American companies, IP is the only thing of any value they have, and this is almost certainly the case with the HP calculator division. They own no manufacturing facilities, choosing to contract out all manufacturing. As such, the most valuable asset (other than people) they have is the design of their calculators, whether that be firmware code, PCB schematics, industrial design (Although the 15C's layout and look probably aren't covered under any design patents anymore if they ever were, an HP 15C looks like an HP 15C, and has HP badging on it that someone else can't just knock off), mechanical design of things like keyswitches, etc.

I agree that a timeframe would be nice to know, however if HP's employee agreements are anything like the ones I've had to sign to get a job in the past, Tim could easily be fired for sharing that information because it's a liability to a company to have anyone other than official PR types release that kind of information (For instance, if Tim said "Oh, yeah, we'll have a fix for that by January 1" and no fix came out, there's a slight chance that people could actually sue HP for making false statements.) This is the reason that nobody would admit to the existence of the 15C LE until they were actually rolling off assembly lines, because until that pint, it's entirely possible HP could have cut the project.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #93 Posted by **Alexander Oestert** on 3 Dec 2011, 9:58 a.m.,*
in response to message #92 by Lincoln R.

Make it the carpenter who designed your new kitchen table or the photographer who took your wedding pictures: would you let him tell you the date were a secret when he finally delivers the product or when he fixes it? I didn't ask to tell me how to do it myself.

Edited: 3 Dec 2011, 10:00 a.m.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #94 Posted by **Thomas Radtke** on 3 Dec 2011, 10:23 a.m.,*
in response to message #93 by Alexander Oestert

There's an important thing you miss: While HP admitted a fix is on their list, it is an open question if they find that their customers can claim this fix and if it is done. We always have the choice to return the 15C LE.

I still think we won't get a new firmware through official channels, but that's entirely my oberservation and experience with HP, not derived by anything an HP employee said.

Re: [HP 15C LE] Prophecy on bug fix?

*Message #95 Posted by **Walter B** on 3 Dec 2011, 10:57 a.m.,*
in response to message #92 by Lincoln R.

> Quote:
>
> Your car mechanic isn't an employee of GM or Toyota or whoever who needs their proprietary information to replace a

> worn out brake pad.

Slight difference: In Germany, the major fraction of car mechanics IS employed by the respective motor companies ;-) And indeed, if any of those won't be able to tell me when an obvious product failure will be fixed, I'll certainly not recommend this car brand anymore. Some years ago, there were examples of luxury cars showing problems in their control electronics, and the response of the company was poor (presumably not having a real solution at that time) - this supported the rise of other brands. But that's totally off topic, of course d;-)

Edited: 3 Dec 2011, 10:58 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Turing Complete?

*Message #1 Posted by **Marcel Samek** on 29 Nov 2011, 1:28 a.m.*

Searching around the web, you can find many sites that repeat the identical quote that the 15C's "programming model is not turing complete."

However, I have not been able to find any information to back up that assertion, and I can't see why the 15C would not be considered turing complete.

Does anyone have more information?

Re: HP-15C Turing Complete?

*Message #2 Posted by **Eric Smith** on 29 Nov 2011, 1:37 a.m.,*
in response to message #1 by Marcel Samek

This is a typical case of someone adding incorrect information to Wikipedia, which then gets copied to a zillion other web sites. Even if the Wikipedia article gets fixed (which it hasn't), it's just about impossible to get any of the copies fixed.

The worst part is that once misinformation in a Wikipedia article is corrected, people "correct" it back, citing the other web pages that were copied from Wikipedia as references.

I've been through this several times, for instance, fixing the articles on the Viking and Voyager space missions, which incorrectly claimed that those spacecraft used the RCA CDP1802 "COSMAC" microprocessor.

Re: HP-15C Turing Complete?

*Message #3 Posted by **SteveH** on 29 Nov 2011, 7:29 a.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> The worst part is that once misinformation in a Wikipedia article is corrected, people "correct" it back, citing the other web pages that were copied from Wikipedia as references.
>
> I've been through this several times, for instance, fixing the articles on the Viking and Voyager space missions, which incorrectly claimed that those spacecraft used the RCA CDP1802 "COSMAC" microprocessor.

It sounds like the process described here in xkcd.

Re: HP-15C Turing Complete?

*Message #4 Posted by **bill platt** on 30 Nov 2011, 7:14 p.m.,*

in response to message #2 by Eric Smith

Like I've said before:

$#$@#$ wikipedia

Re: HP-15C Turing Complete?

*Message #5 Posted by **Eric Smith** on 2 Dec 2011, 4:22 p.m.,*
in response to message #4 by bill platt

I think Wikipedia is a great, but it is not an authoritative source, and neither are web sites that just host outdated copies of it. Wikipedia is sometimes good for finding authoritative sources, though, as many articles do contain good references.

Re: HP-15C Turing Complete?

*Message #6 Posted by **Eric Smith** on 29 Nov 2011, 1:40 a.m.,*
in response to message #1 by Marcel Samek

It appears that the Wikipedia article (as of this writing) is only claiming that the HP-10C and HP-12C are not Turing Complete, as they lack any form of indirect addressing. That does not extend to the HP-11C, 15C, and 16C, though I wouldn't be surprised if other web sites misinterpret it.

Re: HP-15C Turing Complete?

*Message #7 Posted by **pascal_meheut** on 29 Nov 2011, 2:00 a.m.,*
in response to message #6 by Eric Smith

HP-10C supports conditional branching which can be used to emulate indirect addressing as far as I know.

Can someone explain why an HP-10C (<with more memory preferably) would not be able to run the same programs as an HP-11C?

Re: HP-15C Turing Complete?

*Message #8 Posted by **Namir** on 29 Nov 2011, 7:38 a.m.,*
in response to message #7 by pascal_meheut

Can you give an example of how the HP-10C can emulate indirect addressing?

To answer your question, the HP-10C lacks subroutines, labels, and flags, to name a few features.

Namir

Re: HP-15C Turing Complete?

*Message #9 Posted by **Eric Smith** on 29 Nov 2011, 10:49 a.m.,*
in response to message #8 by Namir

Everywhere you want to do an indirect RCL, you would have to have a chain of comparisons, GTOs, and direct RCLs, to get the equivalent effect (from a limited number of possible data registers). Similarly for STO. It's obviously not going to work for any real problem-solving, due to the very limited amount of program memory available. It's only a theoretical argument for Turing Completeness, and not about any practical capability.

Re: HP-15C Turing Complete?

*Message #10 Posted by **Eric Smith** on 29 Nov 2011, 10:47 a.m.,*
in response to message #7 by pascal_meheut

Although "Turing Complete" generally disregards the amount of memory available, by the time you use conditional branching in a program to emulate even just a few registers of indirect addressing, you're out of memory. But I guess technically it probably does qualify as being Turing Complete.

Re: HP-15C Turing Complete?

*Message #11 Posted by **Howard Owen** on 29 Nov 2011, 11:53 a.m.,*
in response to message #10 by Eric Smith

I'm confused. If the ability to address over 20 registers is the problem, then my Mac is Turing incomplete too. Turing machines need infinite memory. All real machines have architectural limits on the amount of addressable memory. For the 10C, it's 20 locations. For my Mac it's 2^{64} locations. Am I missing something?

Re: HP-15C Turing Complete?

*Message #12 Posted by **pascal_meheut** on 29 Nov 2011, 12:17 p.m.,*
in response to message #11 by Howard Owen

This is not the problem. No real machine has indeed infinite memory but they (or any language) are considered Turing complete if they had so.

Another way is to look at the question is this: let's consider a problem which can be implemented by a Turing machine using N "memories" (or tape spaces). Can a give machine, given sufficient memory solves this problem for any value of N? If so, it is equivalent to a Turing machine.

Now, let's suppose an HP10C with more memory and more registers and let's check if we can implement an NxN Game Of Life.

We store the status of Cell x/y in register x*N+y obviously and then for each cell, we write the code which computes its next state (and stores it in register N*N+x*N+y). Basically, we write N*N times the same code adressing different registers.

Then we write the code to copy the new state over the old one. Once again, N*N instructions but nothing complicated.

Basically, we unroll the loops we would have written if we had indirect register adressing.

Finally, we test for a counter or a condition and we exit or go back to instruction 0.

This implements the Game of Life on a HP-10C with a lot of memory.

As the Game of Life is proved to be a Turing machine, the HP-10C is too...

Unless I'm wrong of course.

Re: HP-15C Turing Complete?

*Message #13 Posted by **Katie Wasserman** on 29 Nov 2011, 1:05 p.m.,*
in response to message #10 by Eric Smith

It's absolutely Turing Complete. Have you ever wrote programs for a hypothetical machine as described by Turing himself? There's no indirect addressing, subroutines, mathematical operations, or anything else. The only thing that there is is conditional branching --- with unlimited memory, of course!

Re: HP-15C Turing Complete?

*Message #14 Posted by **Eric Smith** on 30 Nov 2011, 2:10 a.m.,*
in response to message #13 by Katie Wasserman

Of course a Turing Machine has indirect addressing. That's the **ONLY** form of addressing it has for the data memory (tape); there is no "direct" addressing. The tape location pointed to by the head (which is equivalent to the indirect register) is the only accessible location. The only changes that can be made to that "indirect register" are to increment or decrement it.

Edited: 30 Nov 2011, 2:11 a.m.

Re: HP-15C Turing Complete?

*Message #15 Posted by **Katie Wasserman** on 30 Nov 2011, 2:49 a.m.,*
in response to message #14 by Eric Smith

I was thinking of more conventional indirect addressing. Calling a Turing machine's addressing "relative" would be a better term, however.

Going back to the 12C, it has both relative addressing (via STO/RCL CFj) and conventional indirect addressing (via STO N followed by STO/RCL CFj).

Edited: 30 Nov 2011, 2:55 a.m.

Re: HP-15C Turing Complete?

*Message #16 Posted by **pascal_meheut** on 30 Nov 2011, 3:12 a.m.,*
in response to message #14 by Eric Smith

> Quote:
>
> Of course a Turing Machine has indirect addressing. That's the **ONLY** form of addressing it has for the data memory (tape); there is no "direct" addressing. The tape location pointed to by the head (which is equivalent to the indirect register) is the only accessible location. The only changes that can be made to that "indirect register" are to increment or decrement it.

What is the point? We are not talking about the Turing machine itself but about being "Turing complete", i.e. being able to compute the same set of functions as a Turing machine. And it can be done without "indirect adressing", i.e. RCL i/STO i for instance.

In fact, it can be done in many ways (see above about the Game of Life).

Re: HP-15C Turing Complete?

*Message #17 Posted by **Eric Smith** on 30 Nov 2011, 12:41 p.m.,*
in response to message #16 by pascal_meheut

Quote:

What is the point?

The point of describing characteristics of the Turing Machine is that it defines Turing Completeness.

Re: HP-15C Turing Complete?

*Message #18 Posted by **pascal_meheut** on 30 Nov 2011, 3:25 p.m.,*
in response to message #17 by Eric Smith

Quote:

The point of describing characteristics of the Turing Machine is that it defines Turing Completeness.

No. You repeat the same thing but you are making a confusion between the construction of the Turing machine and the set of functions it can compute.

The 2nd is a consequence of the first but the inverse is not true. Fortunately.

So indirect addressing is not necessary to be Turing complete.

Re: HP-15C Turing Complete?

*Message #19 Posted by **Eric Smith** on 30 Nov 2011, 10:17 p.m.,*
in response to message #18 by pascal_meheut

According to Wikipedia:

Quote:

In computability theory, a system of data-manipulation rules (such as an instruction set, a programming language, or a cellular automaton) is said to be Turing complete or computationally universal if and only if it can be used to simulate any single-taped Turing machine and thus in principle any computer.

It is thus relevant to discuss the characteristics of a Turing Machine. There are other Turing Complete machines that have the same computational ability as a Turing Machine, and thus these machines can, like a Turing Machine compute all partial recursive functions. If the Church-Turing Thesis holds, this is the set of all computable functions.

One way to show that a machine is Turing Complete is to show that the set of functions it can compute is identical to the set of partial recursive functions. For example, a Post tag machine with at least two tags is Turing Complete. It is in some cases easier to show that a machine can both simulate and be simulated by a Turing machine than to directly show that it can compute exactly the set of partial recursive functions.

Certainly there are machines that can be shown to be Turing Complete yet lack a

direct equivalent to the type of indirect addressing found in some HP RPN calculators.

Showing that an HP-10C is Turing Complete by the method you suggest seems to have some difficulties. There is some lower bound to the universe size required for Conway's Life cellular automata to be universal, and the HP-10C is not likely to be capable of simulating that. A more promising approach would be to show that it can simulate Wolfram's Rule 110, which is the simplest known universal CA.

Re: HP-15C Turing Complete?

*Message #20 Posted by **pascal_meheut** on 1 Dec 2011, 12:38 a.m.,*
in response to message #19 by Eric Smith

The subject is not the space required to simulate a Turing machine using a Life Game. Because if we go this way, no computer and of course no HP calculator is even close of doing so.

The point was that indirect addressing is not necessary to be Turing Complete and if your only objection to my demonstration is the memory size, then thanks for your validation.

Re: HP-15C Turing Complete?

*Message #21 Posted by **Eric Smith** on 1 Dec 2011, 11:17 a.m.,*
in response to message #20 by pascal_meheut

While memory size is not normally considered for Turing Equivalence, since no real computer has an infinite tape, it is required for Turing Equivalence that the candidate computer has to be able to simulate at least one single-tape Turing machine that uses only a finite amount of tape storage.

If I built a piece of hardware that could perform the Life CA with a 3x3 universe, no one would consider it Turing Complete, even though the Life CA is universal, because that size universe doesn't make it capable of simulating a Turing machine with even a two state program that uses only two tape locations, the smallest possible non-trivial Turing machine program.

Re: HP-15C Turing Complete?

*Message #22 Posted by **Eric Smith** on 1 Dec 2011, 3:54 p.m.,*
in response to message #20 by pascal_meheut

For another example, Wolfram's Rule 110 CA is proven to be universal. I can implement one cell of Rule 110 with seven NAND gates and one flip-flop. However, no one would claim that the circuit with seven NAND gates and one flip-flop is Turing Complete. Some larger collection of such circuits would be.

It's a matter of a lower bound. Turing Complete systems are not required to match the upper bound of what a Turing Machine can do, because that's obviously impossible, but they have to at least reach a lower bound

of doing *something* non-trivial that a Turing machine can do.

If you don't have any lower bound, then you can say that *any* system is Turing Complete, because it can simulate a trivial Turing Machine, for instance, a Turing Machine that ignores its input, writes a single bit to the tape, and halts.

Re: HP-15C Turing Complete?

*Message #23 Posted by **pascal_meheut** on 1 Dec 2011, 4:29 p.m.,*
in response to message #22 by Eric Smith

Once again, you are changing the subject which was about indirect indexing, not the amount of memory needed...

Have fun by yourself, you probably think you can be right by talking about something else...

Re: HP-15C Turing Complete?

*Message #24 Posted by **Eric Smith** on 1 Dec 2011, 5:23 p.m.,*
in response to message #23 by pascal_meheut

I didn't say indexed addressing is necessary. However, if you don't have it, you'll have to use some other mechanism that provides the equivalent. On an HP calculator like the 10C, there is no indirect addressing, and doing the equivalent as a series of tests, branches, and RCL/STO uses up so much of the limited program memory that I don't think it is possible to make a credible claim that the 10C is Turing Complete.

For example, to have programmatic RCL access to just *three* selectable memory locations requires 14 program steps out of the 80 available. A programmatic STO access would also require 14 program steps. Since there are no subroutines, those RCL and STO sequences would need to occur multiple times.

Re: HP-15C Turing Complete?

*Message #25 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 29 Nov 2011, 12:52 p.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> ...HP-12C are not Turing Complete, as they lack any form of indirect addressing

Could this behaviour of HP-12c be considered as Indirect addressing? Addressing an indirect register through n and Cfj. RCL(CFj) increases "n" value by one before calling the corresponding Register.

for an example

n=-1

RCL(CFj) returns R(0)

n=4

RCL(CFj) returns R(5)

n=1

CFj stores x value in R(2)

n=2

CFj stores x value in R(3)

and so on...

Also you can use additional 21 registers besides R(x)for values that are positive, integer and less than 100: n for location (0-20) "Nj" to store x, RCL(Nj) to recall that register in to x.

Regards, Kerem

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Opening a 100LX

*Message #1 Posted by **David Ramsey** on 28 Nov 2011, 7:42 p.m.*

Just received an HP-100LC from Australia. Overall nice condition except several keys don't work: the vertical row of Esc, Tab, Q, A, and Z, and, oddly, the "Memo" key.

This should be a simple fix but I cannot figure out how to take the thing apart. Removing the four T6 screws under the rubber feet was easy, and this site:

http://www.hermocom.com/knowledgebase/hplx/dismantle

...shows how to do it, but the description is unclear and the photos are small and taken from a poor angle. The "Slide the credit card until it's at the position shown below" photo is especially useless.

I'm assuming the credit card is supposed to push back a catch molded into one half of the shell, but I can't make it work, and I don't want to apply any more force for fear of breaking the unit's case. Any suggestions?

Edited: 28 Nov 2011, 7:42 p.m.

Re: Opening a 100LX

*Message #2 Posted by **db (martinez, ca.)** on 28 Nov 2011, 8:46 p.m.,*
in response to message #1 by David Ramsey

one important thing: BE CAREFUL WITH THE HINGES!!

Re: Opening a 100LX

*Message #3 Posted by **robert rozee** on 29 Nov 2011, 7:59 a.m.,*
in response to message #1 by David Ramsey

look at the exploded photos, and figure out where the strip of contacts between the PCB and keyboard membrane is. basically, sitting behind and just below the menu, right shift, "0", "." keys. found that location? on each side is a plastic pin that extends between the two halves of the case (mounded into the front of the case). these pins are very fragile.

the below photo shows the PCB from a 1000lx (identical), with the keyboard contacts at the bottom of the image. the pins pass through the holes at each end of the set of contacts:

when the case is together the two pins are a friction fit into 'sockets' in the back half, and somewhat vital to the connection to the keyboard. the purpose of the credit card is to help pull the two halves of the case apart parallel to each other, without twisting or bending the two pins - if they break off, you have major problems.

does this make things clearer?

you should be able to remove the base of the case with the screen closed. the only other thing holding the two parts together are the battery connections.

Re: Opening a 100LX

*Message #4 Posted by **David Ramsey** on 29 Nov 2011, 6:04 p.m.,*
in response to message #3 by robert rozee

Thanks Robert. I guess basically I just have to apply more pressure than I initially felt comfortable applying! Crossing my fingers...

Re: Opening a 100LX

*Message #5 Posted by **Hubert Weikert** on 29 Nov 2011, 12:34 p.m.,*
in response to message #1 by David Ramsey

Daniel Hertrich, the owner of the hermocom site, is very supportive and is keen to help. At least this is my experience.

Probably it is worth to ask him.

Hubert

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just got my HP41CL board!

*Message #1 Posted by **M. Joury** on 28 Nov 2011, 11:07 a.m.*

The subject line says it all. I am looking forward to getting the time to install it and to start playing.

Thanks Monte!

Cheers,

-Marwan

Re: Just got my HP41CL board!

*Message #2 Posted by **DavidShenk** on 28 Nov 2011, 11:23 a.m.,*
in response to message #1 by M. Joury

Mine comes today!!!

Re: Just got my HP41CL board!

*Message #3 Posted by **Ángel Martin** on 28 Nov 2011, 12:02 p.m.,*
in response to message #1 by M. Joury

A journey of fun and discovery awaits you, buckle up!!! :-)

Re: Just got my HP41CL board Too!

*Message #4 Posted by **Gerry Schultz** on 28 Nov 2011, 7:59 p.m.,*
in response to message #3 by Ángel Martin

Man, when it rains, it pours! I not only got my 41CL board today (yahoo!), but my new iPhone 4s just showed up. And Geoff is sending my 41CV donor machine back to me this week with his unique TLC ready for an upgrade to a 41CL. It will be interesting to compare the speed of the 41CL to the i41CX+ RPN Calculator app for the iPhone.

Thank you Monte and Geoff!

Gerry

Re: Just got my HP41CL board!

*Message #5 Posted by **Craig Ruff** on 28 Nov 2011, 8:32 p.m.,*
in response to message #1 by M. Joury

Mine arrived today also. The donor case needs a post repair, so I can't play with it much yet. :-(

[Return to Index | Top of Index]

Go back to the main exhibit hall

[WP34S] Cheap Overlay Solution Courtesy of Kinkos

*Message #1 Posted by **Les Wright** on 28 Nov 2011, 5:02 a.m.*

I am still working with 2.2, will commit to Eric's overlays once we have a version 3 release, or at least a beta where the key-mapping is set. In the meantime, I really am enjoying this solution:

The quality of the colour laser printing is excellent so far and doesn't seem to smudge. The paper is sturdy but not too thick to adversely affect key click. Overlay secured with thin strips of double-sided cellotape around the edges and between rows 2 and 3. I could make flaps and poke the keys through, but the touch is accurate enough to I don't need to.

Kinko's did the job for just over seven bucks--8 pages with 4 overlays on each. Great temp supply.

Me likey!

Les

Re: [WP34S] Cheap Overlay Solution Courtesy of Kinkos

*Message #2 Posted by **hpnut** on 28 Nov 2011, 7:53 a.m.,*
in response to message #1 by Les Wright

urrgghhhh....it's cheap, and it shows :-(

Re: [WP34S] Cheap Overlay Solution Courtesy of Kinkos

*Message #3 Posted by **Alexander Oestert** on 28 Nov 2011, 8:17 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> urrgghhhh....it's cheap, and it shows :-(

It's an interim solution and thus it's really ok.

What I don't understand is: it is the old V2 version and you could have bought Eric's beautiful overlay for even less money. He is still offering them as far as I know.

Re: [WP34S] Throw-away Overlay Solution Courtesy of Kinkos

*Message #4 Posted by **Dominic Richens** on 28 Nov 2011, 10:57 a.m.,*
in response to message #3 by Alexander Oestert

Right, I wouldn't call it "cheap" either as Eric's overlays, with shipping, are next to nothing already. I'd call it "throw away".

I understand Les not wanting to attach one of Eric's overlays only to have to try to remove it in a few weeks time! Them things are really really sticky!!!

When I finally decide I need V3.0 I'm just going to upgrade to an HP-30b. Although I don't need the extra functions, I'm liking the new keyboard layout - it's cleaner and more logically grouped.

Re: [WP34S] Cheap Overlay Solution Courtesy of Kinkos

*Message #5 Posted by **Les Wright** on 28 Nov 2011, 1:50 p.m.,*
in response to message #3 by Alexander Oestert

hpnut, I went for function rather than form as an interim measure. I am actually amazed at how good it actually works--the printing is clear and the keys move fine under the paper. Just fine for now. I appreciate the aesthetics of a beautiful HP as much as anyone here, and I know this arrangement is not a looker.

Alexander, I do admit I went a little into overkill with the Kinko's print order. I had them print up 8 at under 90 cents a page with 4 overlay images per 8.5x11 page. I will likely not use all of them. I could've done fine with two or three pages to tide me over. But, c'est la vie--I have wasted nickels and dimes on far dumber things.

That said, Eric's overlays are not really going to be a saving for me. I understand that it can be challenging to get them on just so without mucking them up, so I plan to order three--one to use, one in case I spoil the first one, one for backup if the first gets stained or worn or whatever. That's $15, not $6. Still worth it. That's a week's coffee money for me.

As far as, the various expenditures regarding the wp34s, I have not hesitated to throw a few extra bucks at it. I got the 30b for the nicer key touch. I gave Gene 20 bucks for the cable to support the cause even though he wants only 10. I spent a little extra, 25 bucks, on the FTDI USB-serial controller recommended by Eric, since I wanted something proven to work and I didn't want to waste time on cheaper options. I haven't donated yet to the wp34s project per se, but should get on that. All told, I have spent far less on this excellent device and the accoutrement than I have on some vintage collectables that I just had to have at the time but now don't use much. In this context, a few bucks at Kinko pending Eric's release of a v. 3 overlay is peanuts in comparison.

Edited: 28 Nov 2011, 1:52 p.m.

Re: [WP34S] Cheap Overlay Solution Courtesy of Kinkos

*Message #6 Posted by **Walter B** on 28 Nov 2011, 2:38 p.m.,*
in response to message #1 by Les Wright

Hmmh, that's a very quick and easy method. Obviously workable ;-) Using double-sided tape also in the center cries for cutting flaps, however, taking half an hour of dedicated precise work now since the cutting marks are in the file. If you don't want to invest this, use single sided tape along the edges - easier and may even look better, too :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 Catalog

*Message #1 Posted by **robertoataulfo** on 27 Nov 2011, 10:22 p.m.*

```
HP-75 Catalog v2


1 DELAY 0 @ I=1
2 A$=CAT$(I) @ IF A$="" THEN I=I-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="…" THEN I=I+1
4 IF B$="„" THEN I=I-1 @ GOTO 13
5 IF B$='p' THEN C$="Purge" @ GOSUB 15 @ GOTO 16
6 IF B$='e' AND A$[12,12]="B" THEN C$="Edit" @ GOSUB 15 @ GOTO 21
7 IF B$='r' AND A$[12,12]="B" THEN C$="Run" @ GOSUB 15 @ GOTO 22
8 IF B$='c' THEN C$="Copy to card" @ GOSUB 15 @ GOTO 17
9 IF B$='d' THEN C$="Copy to drive" @ GOSUB 15 @ GOTO 19
10 IF B$="b" THEN BYE
11 IF B$='i' THEN C$="Print" @ GOSUB 15 @ GOTO 23
12 GOTO 2
13 IF I=0 THEN I=1
14 GOTO 2
15 A=GETMSG(A$[1,11]&C$&"? [YN]:","yn") @ RETURN
16 IF A=1 THEN PURGE A$ @ GOTO 1 ELSE GOTO 2
17 IF A=1 THEN COPY A$ TO CARD
18 GOTO 2
19 IF A=1 THEN A$=A$[1,POS(A$," ")-1] @ GOTO 30
20 GOTO 2
21 IF A=1 THEN EDIT A$ @ END ELSE GOTO 2
22 IF A=1 THEN RUN A$ ELSE GOTO 2
23 IF A=2 THEN GOTO 2 ELSE B$=CH
R$(27)&"&k" @ A$=A$[1,POS(A$," ")-1]
24 PRINT B$&"1S";TAB((13-LEN(A$))/2);A$;B$&"0S"
25 FOR I=0 TO 99 @ C$=CAT$(I)
26 IF POS(C$,A$)>0 THEN PRINT TAB(6);C$[13,18]&'bytes' @ GOTO 28
27 NEXT I
28 PRINT @ B$=DATE$ @ PRINT TAB(3);B$[7,8]&B$[3,6]&B$[1,2]&"  "&
TIME$ @ PRINT
29 PLIST A$ @ PRINT @ GOTO 2
30 IF A$="keys" THEN COPY KEYS TO A$&":d1" ELSE COPY A$ TO A$&":d1"
31 GOTO 2


p    = Purge File
e    = Edit Basic File
r    = Run Basic File
c    = Copy File to Card
d    = Copy File to Drive ":d1"
i    = Print Basic File
b    = Bye (Off)
Up   = Next File
Down = Previous File


KEYLEX75 - UNLOCK
         - SHLOCK
         - CTLOCK
         - GETMSG($,$)
         - GETKEY$($)
         - WKEY$



Enjoy :-)
```

Edited: 28 Nov 2011, 6:50 p.m. after one or more responses were posted

Re: HP-75 Catalog

*Message #2 Posted by **Paul Berger (Canada)** on 28 Nov 2011, 10:43 a.m.,*
in response to message #1 by robertoataulfo

What lex file or ROM do I need for the GETMSG function? I tried to enter your program and my 75 does not seem to like that function.

Re: HP-75 Catalog

*Message #3 Posted by **robertoataulfo** on 28 Nov 2011, 12:15 p.m.,*
in response to message #2 by Paul Berger (Canada)

KEYLEX75

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-01 "bargain"

*Message #1 Posted by **Joerg Woerner** on 27 Nov 2011, 8:36 p.m.*

And you thought a HP-01 is expensive?

Look here.

Oops...

Regards, Joerg

Re: HP-01 "bargain"

*Message #2 Posted by **db (martinez, ca.)** on 27 Nov 2011, 11:28 p.m.,*
in response to message #1 by Joerg Woerner

Joerg; point taken. but since it's not RPN i don't want an 01 either.

i think that if someone paid me 40,000 bones for an old watch; i'd throw in free shipping. hell. i might even go in halvsies on the insurance.

wait a minute. was that big number in lira?

Re: HP-01 "bargain"

*Message #3 Posted by **Marcus von Cube, Germany** on 28 Nov 2011, 1:56 a.m.,*
in response to message #2 by db (martinez, ca.)

Since it's now at $305 instead of $40K this was obviously some biding mistake (dropped decimal point) and has been retracted.

Re: HP-01 "bargain"

*Message #4 Posted by **Paul Dale** on 28 Nov 2011, 2:00 a.m.,*
in response to message #3 by Marcus von Cube, Germany

There are a pile of cancelled bids tagged as "molesting the auction" or similar. Not just these insanely high ones either.

- Pauli

Re: HP-01 "bargain"

*Message #5 Posted by **Namir** on 28 Nov 2011, 1:02 a.m.,*
in response to message #1 by Joerg Woerner

Something is *fishy*. Either the top two bidders know each other (how can one outbid the other one going from

$300 to $40k in one swoop?) or this is a way to pay the mafia.

Re: HP-01 "bargain"

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 28 Nov 2011, 12:55 p.m.,*
in response to message #5 by Namir

db: no more Liras since 1/1/2002 But never say never: let's wait and see; a couple more downgrades from S&P e co. and we will be back there.

> Quote:
>
> or this is a way to pay the mafia

WOW Namir! Other words of wisdom? o.O

Massimo

Edited: 28 Nov 2011, 12:56 p.m.

Re: HP-01 "bargain"

*Message #7 Posted by **db (martinez, ca.)** on 28 Nov 2011, 8:44 p.m.,*
in response to message #6 by Massimo Gnerucci (Italy)

Massimo; A couple more shenanigans from the financial sector and the owner class and we may **all** be there.

It's rare.

*Message #8 Posted by **Frank Boehm (Germany)** on 28 Nov 2011, 7:51 a.m.,*
in response to message #1 by Joerg Woerner

The last time I've seen one, it ended up with AFAIR 650 USD.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 71B : How to input RPNLEX in EMU71 for Windows?

*Message #1 Posted by **Miguel Toro** on 27 Nov 2011, 3:21 p.m.*

Hi,

I just discovered that there is a RPNLEX file allowing using RPN in a 71B. Because I cannot use EMU71/DOS in Windows 7, I wanted to use EMU71/WIN, but I do not know how to do some things that apply to the DOS version as for example, the use of emu71.ini to declare the HDRIVE2 device with the lexfl1.lif file.

Does EMU71/WIN recognizes emu71.ini? if not, how can I have access to the lexfl1.lif file?

I appreciate any help

Thanks and regards,

Miguel

Edited: 27 Nov 2011, 3:22 p.m.

Re: HP 71B : How to input RPNLEX in EMU71 for Windows?

*Message #2 Posted by **Mike (Stgt)** on 28 Nov 2011, 9:20 a.m.,*
in response to message #1 by Miguel Toro

Emu71/Win does not use the INI file of Emu71/DOS. You have to use the settings menu to add a simulated IL module to Emu71/Win. Next connect ILPer Christoph offers here to add a simulated peripheral mass storage.

Ciao.....Mike

Re: HP 71B : How to input RPNLEX in EMU71 for Windows?

*Message #3 Posted by **Miguel Toro** on 28 Nov 2011, 12:43 p.m.,*
in response to message #2 by Mike (Stgt)

Hi Mike,

it really works! Thanks for the help.

Regards,

Miguel

Re: HP 71B : How to input RPNLEX in EMU71 for Windows?

*Message #4 Posted by **Mike (Stgt)** on 4 Dec 2011, 2:57 p.m.,*
in response to message #3 by Miguel Toro

Of cause it works. Glad my hint was sufficent.

Ciao.....Mike

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPL Tutorial Uploaded

*Message #1 Posted by **Eddie W. Shore** on 27 Nov 2011, 2:32 p.m.*

A PDF file of the HP 50G (and 49g+) RPL tutorial has been uploaded to Ultrashare (for at least 21 days).

You can also email me at ews773@earthlink.net for a copy.

HP 50g/49g+ RPL Tutorial

Re: RPL Tutorial Uploaded

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 3:47 p.m.,*
in response to message #1 by Eddie W. Shore

The link contains invalid characters (translated by the forum software to) and does not point to any valid file.

Re: RPL Tutorial Uploaded

*Message #3 Posted by **peacecalc** on 27 Nov 2011, 3:51 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hello Marcus,

what a pity, but many thanks for your information, because I begun to call myself a complete idiot for being unable downloading the file.

Sincerely peacecalc

Re: RPL Tutorial Uploaded

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 27 Nov 2011, 4:06 p.m.,*
in response to message #2 by Marcus von Cube, Germany

It's a zero width space... try this link

Massimo

Re: RPL Tutorial Uploaded

*Message #5 Posted by **peacecalc** on 27 Nov 2011, 4:11 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

Hello Massimo,

thank you for fixing the problem intime.

Sincerely

peacecalc

Re: RPL Tutorial Uploaded

*Message #6 Posted by **Eddie W. Shore** on 28 Nov 2011, 10:18 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

Thank you Massimo!

I didn't realize the original link caused problems. (dumb me)

Eddie

Re: RPL Tutorial Uploaded

*Message #7 Posted by **Namir** on 27 Nov 2011, 8:26 p.m.,*
in response to message #1 by Eddie W. Shore

Thank you Edie for the tutorial. It is a labor of love that many, like myself, will appreciate. I will be reading it in the coming weeks, starting tomorrow.

Namir

Re: RPL Tutorial Uploaded

*Message #8 Posted by **Hal Bitton in Boise** on 27 Nov 2011, 10:52 p.m.,*
in response to message #1 by Eddie W. Shore

Fantastic!
Very well written as well.

Thanks for doing this.
Hal

Re: RPL Tutorial Uploaded

*Message #9 Posted by **Eddie W. Shore** on 28 Nov 2011, 10:19 p.m.,*
in response to message #8 by Hal Bitton in Boise

Thank you Hal and Namir! It was a labor of love (of calculators). I am happy you are enjoying it.

Eddie

Re: RPL Tutorial Uploaded

*Message #10 Posted by **Michael Lopez** on 29 Nov 2011, 4:29 a.m.,*
in response to message #9 by Eddie W. Shore

Thanks Eddie for a clear & simple to follow tutorial.

Cheers,

Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Execution Speed of Early HP Programmables

*Message #1 Posted by **Nigel Fraser Ker** on 27 Nov 2011, 10:13 a.m.*

I tried writing a program on my HP67 which simply counts from 1 upwards. I timed this process and it runs at almost exactly half the speed I can quite easily achieve doing the equivalent thing with my Curta mechanical calculator. I timed my HP41CX and it runs at approximately the same speed as the Curta.

This is by no means meant to be a criticism but it does seem remarkably slow and I'd like to know what limits the speed. Is it because 1970s memory runs very slowly? I am using 2011 electrons ;-)

Re: Execution Speed of Early HP Programmables

*Message #2 Posted by **Dieter** on 27 Nov 2011, 10:35 a.m.,*
in response to message #1 by Nigel Fraser Ker

I don't think it's memory or "the 70s". Here are some results from various benchmarks: the first one here on hpmuseum.org and another one with much more data in the articles section.

Look at the figures and draw your own conclusions. ;-)

Dieter

Edited: 27 Nov 2011, 10:36 a.m.

Re: Execution Speed of Early HP Programmables

*Message #3 Posted by **Katie Wasserman** on 27 Nov 2011, 11:20 a.m.,*
in response to message #1 by Nigel Fraser Ker

The early calculator chips were mostly PMOS (or NMOS) not CMOS, they used a lot of current and switched slowly. To minimize the current draw and extend battery life they kept to clock rate low.

Re: Execution Speed of Early HP Programmables

*Message #4 Posted by **Nigel Fraser Ker** on 27 Nov 2011, 11:45 a.m.,*
in response to message #3 by Katie Wasserman

Ah, I see...many thanks!

Re: Execution Speed of Early HP Programmables

*Message #5 Posted by **Jim Horn** on 27 Nov 2011, 12:55 p.m.,*
in response to message #3 by Katie Wasserman

Early calculators used a bit serial architecture - i.e. the addresses and data were shuffled around only one bit at a time. That's how the '41's RAM and ROM could fit into 8 pin DIPs. So, combine a sub-megahertz clock with having to shuffle 56 bits per register around and then use a lot of internal programming opcodes

to do a simple add, combined with having to do GOTOs by searching entirely through memory on the '67, and the slow speed is no surprise.

Of course, a simple counting loop is easy on the Curta. Transcedental math is another thing!

Still, the fastest factoring program on the HP-67 found 10^10-33 prime in about 3 hours 45 minutes, as I recall. The HP-41 was blazingly 3 times faster. Glacial by current standards, but that was over 30 years ago (i.e. the answers arrived 30 years before today's machines can deliver them). And far faster than the personal calculators of 30 years before that...

(An old saying - you can tell the pioneers as they're the ones with the arrows sticking out of their backs).

Re: Execution Speed of Early HP Programmables

*Message #6 Posted by **Nigel Fraser Ker** on 27 Nov 2011, 2:26 p.m.,*
in response to message #5 by Jim Horn

Thanks, that's very interesting and certainly explains a lot.

(I don't want to sound like I'm knocking these lovely old machines - my 67 is currently my favourite calculator and I have several to choose from!)

Re: Execution Speed of Early HP Programmables

*Message #7 Posted by **db (martinez, ca.)** on 27 Nov 2011, 3:07 p.m.,*
in response to message #5 by Jim Horn

Jim; 4 things.

Yes. True. The Curta was slowed way down when you had to look up a number in your peters tables to throw into it.

So as you said; the hp 67 was faster in reality - but it couldn't grind coffee.

If there are arrows in the backs of Pioneers, what's sticking out of Voyagers?

I'll use that line of yours "the answers arrived 30 years before today's (faster) machines can deliver them" someday, but i'll take credit.

Re: Execution Speed of Early HP Programmables

*Message #8 Posted by **Jim Horn** on 27 Nov 2011, 5:26 p.m.,*
in response to message #7 by db (martinez, ca.)

I didn't consider anything here as a knock on the older machines - and certainly appreciate the tremendous changes since then!

The '67 will always have a fond place in my memories. I used mine so much I could program it by feel, and did one night in the wee hours while driving my VW Scirocco back to the SF Bay Area from LA to try out some math ideas I had. Of course, the LEDs were easy to see in the dark when I occasionally glanced at their results.

Martinez, CA? I moved up to the Columbia River Gorge from Santa Rosa - and my '67 is still in Rohnert Park with a great friend...

Re: Execution Speed of Early HP Programmables

*Message #9 Posted by **Hal Bitton in Boise** on 27 Nov 2011, 10:42 p.m.,*
in response to message #8 by Jim Horn

The LED light show while a program is running on a 67 is priceless. Next best is the flying goose on the 41's, followed by the flashing "running" on the 15c. All of the above give unambiguous indication that your program is running.
The little hourglass annunciator on current machines is very non-discript and boring by comparison...so, it's a good thing programs run faster! :)

Re: Execution Speed of Early HP Programmables

*Message #10 Posted by **Olivier De Smet** on 29 Nov 2011, 8:30 a.m.,*
in response to message #9 by Hal Bitton in Boise

Just to give some hints, classic were built with a base clock from 185 up to 235 KHz.

Which gives around 3000 instructions per second (56 cycles for an instruction)

(btw the flickering on an HP67 is around 220 Hz)

Edited: 29 Nov 2011, 8:30 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9120 printer paper

*Message #1 Posted by **Dave Brown Christchurch NZ** on 27 Nov 2011, 6:45 a.m.*

Had a direct email requesting info re this based on a post of mine here,back in 2005. I replied directly but email bounced. I DO still have some of this paper and I'm more than happy to supply it to those in need. DaveB

Re: 9120 printer paper

*Message #2 Posted by **David Ramsey** on 27 Nov 2011, 9:51 a.m.,*
in response to message #1 by Dave Brown Christchurch NZ

Ah, that would have been from me. I run my own mail server (since 2001) and after a couple of years of increasing spam I bought my own Barracuda Spam and Virus Filter, a dedicated box that filters all e-mail coming into any "neko.com" (and a few other) domains.

It blocked your message because of the "reputation" of ihug.co.nz. This is understandable since another message I see from that domain consists of the text:

"Please response to my Deal of 45.5 Million U!S!D funds transfer as i urgently need your help "

Anyway, I've whitelisted your address so further communications will get through.

Re: 9120 printer paper

*Message #3 Posted by **David Ramsey** on 28 Nov 2011, 7:32 p.m.,*
in response to message #1 by Dave Brown Christchurch NZ

I would like to buy a few rolls (or even a case; your 2005 message mentions "many cases") of paper. The zinc oxide electrosensitive paper is unique to this machine, as far as I can determine, and is quite different from the still-available aluminized paper.

(In case anyone's interested: a printer "prints" on the more common aluminized paper by actually vaporizing the thin layer of aluminum, exposing the black polyvinyl alcohol layer underneath. The 9120 printer is designed for zinc oxide paper, which has the advantage of being white(ish) rather than silver. The zinc oxide layer is not vaporized but is reduced back to zinc by the electric current, resulting in dark brown print on a white background. NOBODY makes this kind of paper any more, although there are "premium" copy papers that use zinc oxide coatings for its bright white appearance. These won't work in the 9120 since they lack a conductive layer underneath the oxide coating.)

Edited: 28 Nov 2011, 7:33 p.m.

Re: 9120 printer paper

*Message #4 Posted by **Juergen Keller** on 29 Nov 2011, 3:43 p.m.,*
in response to message #1 by Dave Brown Christchurch NZ

I would be interested to buy some rolls, too, provided that you consider international shipping.

Re: 9120 printer paper

*Message #5 Posted by **Dave Brown Christchurch NZ** on 29 Nov 2011, 11:01 p.m.,*
in response to message #4 by Juergen Keller

I need to get some idea of cost to send internationally - no problems in that regard, other than the cost. The paper comes in boxes of three but can split if necessary.

Agreed - this paper is unlike any other electrosensitive paper which will explain why the correct paper is necessary in the 9120 printer.

Dave- I'm still blocked- replied to your second direct email but yet another bounce. FYI Ihug is one of the main ISPs here so no worries re that aspect- I've never had an issue with them in 12 years or so. They all have their issues at times but ihug is one of the original ones and was bought out by vodafone some years ago- fortunately we old timers have been able to keep our original email addresses.

Re: 9120 printer paper

*Message #6 Posted by **David Ramsey** on 30 Nov 2011, 1:02 a.m.,*
in response to message #5 by Dave Brown Christchurch NZ

A Barracuda spam filter uses a descending series of strategies to filter spam. One of the first things it does is check the source IP against a list maintained on Barracuda Networks' servers. This list is built (partially) from return addresses of emails other Barracuda users have reported as spam. For whatever reason ihug.co.nz is on that list, so anything from that domain is blocked due to "Barracuda reputation."

I can't unblock the entire domain, but I whitelisted your original address ("tractorb"). Unfortunately your second attempt used a different address so it got blocked again! Both addresses are whitelisted now, so please try just one more time...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #1 Posted by **Les Wright** on 27 Nov 2011, 6:36 a.m.*

The subject line says it all.

I have encountered a weird situation where the Solver tells me it has failed, but the root returned (once I clear the error message) is more than accurate for the precision specified via, ALL, SCI, or FIX.

I am using 2.2 and this reproducible on the emulator and on the calc.

The very simple equation I am dealing with is x^3 -36 = 0, and the routine solved is

```
LBL 55
3
y^x
3
6
-
RTN
```

The real root of this equation is about 3.3. I enter 3 ENTER 3.5 f SLV 55 and I get "Solve Failed", but underneath is a root that is more than acceptable for the precision desired.

Is this a bug? Is the underlying code much more sensitive around the desired error issue than it has to be?

If this issue has already been reported, please forgive my repetition. It is just odd to get a failure message when there has been no failure at all.

Les

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 8:47 a.m.,*
in response to message #1 by Les Wright

This is Pauli's territory, I'm afraid. There are some issues with the solver pretending not to find a root while the results are perfectly fine.

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #3 Posted by **Dieter** on 27 Nov 2011, 9:20 a.m.,*
in response to message #1 by Les Wright

There is or was a problem with the solver in that it checks whether the function result of the final approximation is close to zero, as far as I know using the x~~0 test. In SCI, ENG or ALL mode this is equivalent to a test whether x is *exactly* zero. However, in many cases even the best possible 16-digit result does not return a plain zero. And the solver will throw an error.

This is also true in this case. The correct solution is the cuberoot of 36, i.e. 3,301 9272 4889 4627 for which

the function result is 1E-14. Rounded in ALL mode, this still remains 1E-14 and not zero, making the solver think it has failed. However, the root SLV has found so far is 3,301 9272 4889 4673 in X and Y, which is not the exact 16-digit value.

Now try the same in FIX 11 mode and the solver returns a result that is correct in all 11 displayed decimals: 3,301 9272 4889. The final function result in Z is 1,51E-12 which in FIX 11 nicely rounds to zero, thus confiming that the solver has found a valid result.

As long as this has not been corrected, the well-known workaround from the olden days may be used: round small function results to zero. In this case, changing x by 1 ULP (1E-15) will change f(x) by more than 3E-14, so anything below 1E-13 may be considered zero. So simply add "EEX 4 + RCL—L" to the function routine and the solver will find a result even in ALL mode.

By the way, there is no need for "3 y^x" since there is a dedicated CUBE function, as well as CUBERT and another one for the xth root of y. These functions also provide better precision.

Dieter

Edited: 27 Nov 2011, 9:51 a.m.

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #4 Posted by **Les Wright** on 27 Nov 2011, 9:50 a.m.,*
in response to message #3 by Dieter

Yep, Dieter, that is the thing.

One needs to use FIX n so that the function result in register z rounds to zero for the purposes of the x~~0 test. This won't happen with SCI n or ALL n. For example 2.934654E-12 will round to 0 in FIX 11, but not in SCI or ALL display modes.

So, that's the thing. Thank you!

Les

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #5 Posted by **Howard Owen** on 27 Nov 2011, 10:22 a.m.,*
in response to message #3 by Dieter

> Quote:
>
> ... since there is a dedicated CUBE function, as well as CUBERT ...

What, no Q*bert function?

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #6 Posted by **Les Wright** on 27 Nov 2011, 2:10 p.m.,*
in response to message #5 by Howard Owen

What about CUTEBERT, the adorable function!

Re: [WP34S] SLV returns "Failed" when it finds a root just fine.

*Message #7 Posted by **Paul Dale** on 27 Nov 2011, 4:31 p.m.,*
in response to message #3 by Dieter

Dieter hit the nail on the head. The approximately zero test is failing and the solver thinks it hasn't solved successfully.

This errant check has been removed in the latest firmware and it is up to the user to determine if a zero or a discontinuity was found.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-18C User's Manual in German

*Message #1 Posted by **Karl-Ludwig Butte** on 27 Nov 2011, 6:09 a.m.*

Dear All,

I was lucky to get the German edition of an HP-18C in quite good condition. Alas, the user's manual is missing. I read in Prisma 10/1986 (the magazine of the German CCD User's Club long time ago) that the American and German editions diver significantly in some calculations due to different usages. I found the english version of the user's manual on the museum CD but not the German version.

Does anyone know, where the German user's manual can be download or has anyone a PDF version of it ?

Every hint will be very much appreciated. Thank you very much in advance.

Kind regards

Karl

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

serial numbers of international HP-17b's

*Message #1 Posted by **Don Shepherd** on 26 Nov 2011, 9:15 p.m.*

I have two 17-b's made in the US in consecutive weeks during 1988:

```
Serial # 2816A06305  -  no language choice in MODES, self-test OK-17B-E
Serial # 2815A91640  -  choice of languages in MODES, self-test OK-17B-I
```

So I'm thinking that if the first digit of the serial number (after the YYWWC portion) is 0, that corresponds to a unit sold in the US, and if the digit is 9, that corresponds to a unit sold outside the US (and so it has the language selections).

Can anyone confirm this?

Edited: 26 Nov 2011, 10:36 p.m. after one or more responses were posted

Re: serial numbers of international HP-17b's

*Message #2 Posted by **db (martinez, ca.)** on 26 Nov 2011, 9:36 p.m.,*
in response to message #1 by Don Shepherd

19**88**?

Re: serial numbers of international HP-17b's

*Message #3 Posted by **Don Shepherd** on 26 Nov 2011, 10:37 p.m.,*
in response to message #2 by db (martinez, ca.)

Yeah, you're right db, I keep goofing that. Thanks, I changed the original post to reflect this.

Re: serial numbers of international HP-17b's

*Message #4 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 6:22 a.m.,*
in response to message #1 by Don Shepherd

I've an international 17bii with serial # 3112**S0**4389

Re: serial numbers of international HP-17b's

*Message #5 Posted by **Don Shepherd** on 27 Nov 2011, 10:40 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Thanks Marcus.

I've got 3 non-language-selection Singapore units that begin (the serial # part) with S3, so maybe the Singapore factory uses 3 for English-only units and 0 for international units.

Or maybe not. I guess only HP knows (or knew).

Re: serial numbers of international HP-17b's

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 10:51 a.m.,*
in response to message #5 by Don Shepherd

Maybe the 17Bii and the 17B are different in this respect. Does there exist an English only 17Bii?

Re: serial numbers of international HP-17b's

*Message #7 Posted by **Don Shepherd** on 27 Nov 2011, 11:33 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Does there exist an English only 17Bii?

Oh yeah. I have about 4 17bii's and they are all English-only (that is, no language selection from the MODES key). They are from Singapore and Indonesia, and the serial # (after YYWWC) starts with 0.

Re: serial numbers of international HP-17b's

*Message #8 Posted by **Ken Shaw** on 28 Nov 2011, 8:17 a.m.,*
in response to message #5 by Don Shepherd

The 17BII that I have handy is 3015**S0**1247.

Singapore, but not international, if "international" means it has the language option in the Modes menu.

Re: serial numbers of international HP-17b's

*Message #9 Posted by **Don Shepherd** on 28 Nov 2011, 12:45 p.m.,*
in response to message #8 by Ken Shaw

Thanks Ken. So yours is S0 and without language selection, and Marcus' is S0 with language selection. Marcus, can you verify that when you do the self-test, you get OK-17B-I?

Re: serial numbers of international HP-17b's

*Message #10 Posted by **Marcus von Cube, Germany** on 28 Nov 2011, 3:32 p.m.,*
in response to message #9 by Don Shepherd

I get OK-17B-II-I? The language selection pops up after a power failure (the batteries were flat so I saw it.)

Re: serial numbers of international HP-17b's

*Message #11 Posted by **Don Shepherd** on 28 Nov 2011, 4:38 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Thanks Marcus. I'm thinking that the "I" at the end of the message means "international unit", as opposed to the usual "E" for English-only units. So you should have the language selection options from the MODE key, correct?

Re: serial numbers of international HP-17b's

*Message #12 Posted by **Marcus von Cube, Germany** on 29 Nov 2011, 3:45 a.m.,*
in response to message #11 by Don Shepherd

Yes, MODE offers INTL.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B Rom Stuck in Port

*Message #1 Posted by **Jeff Davis** on 26 Nov 2011, 7:00 p.m.*

I have a 64K EPROM that is stuck in the port so tight I cannot get it out. What is the best method to remove the EPROM from the 71B.

Re: HP-71B Rom Stuck in Port

*Message #2 Posted by **Raymond Del Tondo** on 26 Nov 2011, 9:14 p.m.,*
in response to message #1 by Jeff Davis

If the module sits in port 1 or 2 (near the ON key) ,
you can try to push it out from behind, by removing the IL module (or the cover).
You'll have to use a suitable tool, like an screw driver with isolated shaft.
Be CAREFUL not to damage the PCB or any electronic parts on it!

If the module sits in port 3 or 4, you may have to open the 71B,
by removing the screws under the rubber feet and in the batt and card reader compartments.

HTH

Ray

Re: HP-71B Rom Stuck in Port

*Message #3 Posted by **Patrice** on 26 Nov 2011, 10:24 p.m.,*
in response to message #1 by Jeff Davis

I have a 71B with a very tight module.
I am used to remove it by alternating moves to left and right while pulling and repeat tens of times.

Patrice

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Manual for Casio FX-3900P needed

*Message #1 Posted by **Matti Övermark** on 26 Nov 2011, 12:15 p.m.*

I have a dozen HPs and I like them. I was given a Casio FX-3900P by a friend at work, but I lack the manual (obviously). * Would like to know how to enter a data pair. * How to program it.

Thanks, Matti Sweden

Re: OT: Manual for Casio FX-3900P needed

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 1:37 p.m.,*
in response to message #1 by Matti Övermark

Look here: http://silrun.de/casio/fx3900/fx3900.htm

Re: OT: Manual for Casio FX-3900P needed

*Message #3 Posted by **Matti Övermark** on 26 Nov 2011, 3:03 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Marcus, but the manual I need is the one for the fx-3900P. The link points to a fx-3900P**V**. The search goes on... Regards, Matti

Re: OT: Manual for Casio FX-3900P needed

*Message #4 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 3:08 p.m.,*
in response to message #3 by Matti Övermark

I thought they are (almost) the same.

Edit: A short look at casio.ledudu.com reveals they're not.

Edited: 26 Nov 2011, 3:17 p.m.

Re: OT: Manual for Casio FX-3900P needed

*Message #5 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 4:07 p.m.,*
in response to message #1 by Matti Övermark

The Casios work all in a similar fashion. A sample program can be found on rskey.org. You need to go into MODE 2 (WRT) (or 3 (PCL) to make room first). In MODE 2 you can input your program. You run it in MODE 1 (RUN). Prog N (1 to 4) will start a program. For paired statistics you go into MODE LR (divide). Data points are entered with DT (on the root key). A pair is entered with a comma if I remember correctly.

Re: OT: Manual for Casio FX-3900P needed

*Message #6 Posted by **Matti Övermark** on 27 Nov 2011, 6:10 a.m.,*

in response to message #5 by Marcus von Cube, Germany

Thanks a lot Marcus! I found the data insert key - its labelled DT. As you said the data pairs are separated by a comma.

Regards Matti

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting AT&T hp-15C

*Message #1 Posted by **Gerardo Rincon** on 26 Nov 2011, 12:15 p.m.*

Interesting AT&T hp-15C Here

Re: Interesting AT&T hp-15C

*Message #2 Posted by **robert rozee** on 27 Nov 2011, 7:42 a.m.,*
in response to message #1 by Gerardo Rincon

no it ain't... just presented with a facebook login page :-(

Re: Interesting AT&T hp-15C

*Message #3 Posted by **Ethan Conner** on 27 Nov 2011, 12:49 p.m.,*
in response to message #2 by robert rozee

Yes it is if you login. It is a FB posting which requires a FB account to view. :)

Re: Interesting AT&T hp-15C

*Message #4 Posted by **Don Shepherd** on 27 Nov 2011, 1:38 p.m.,*
in response to message #3 by Ethan Conner

There are many of us who despise Facebook and refuse to have anything to do with something that requires a Facebook ID.

Re: Interesting AT&T hp-15C

*Message #5 Posted by **Ethan Conner** on 27 Nov 2011, 2:04 p.m.,*
in response to message #4 by Don Shepherd

I think my grumpy old man meter just pegged out. lol For me it's advantages just ever so slightly outweigh it's disadvantages.

Re: Interesting AT&T hp-15C

*Message #6 Posted by **Thomas Radtke** on 27 Nov 2011, 2:51 p.m.,*
in response to message #5 by Ethan Conner

> Quote:
>
> For me it's advantages just ever so slightly outweigh it's disadvantages.

What advantages? Last time I asked I was answered that I could let my friends know when I'm out for dinner or going to the toilet. I found that this wouldn't compensate for being tracked by a company. But that's probably only me.

Re: Interesting AT&T hp-15C

*Message #7 Posted by **Ethan Conner** on 27 Nov 2011, 3:29 p.m.,*
in response to message #6 by Thomas Radtke

Now the meter is broken....sigh. For those who don't FB that is fine.

Re: Interesting AT&T hp-15C

*Message #8 Posted by **robert rozee** on 27 Nov 2011, 8:49 p.m.,*
in response to message #6 by Thomas Radtke

> Quote:
>
> [...] let my friends know when I'm out for dinner or going to the toilet [...]

neither are things i really want to advertise!!

any chance someone could post the content of the facebook link somewhere that us non-facebook'ists can view it?

Re: Interesting AT&T hp-15C

*Message #9 Posted by **Howard Owen** on 27 Nov 2011, 9:00 p.m.,*
in response to message #8 by robert rozee

> Quote:
>
> any chance someone could post the content of the facebook link somewhere that us non-facebook'ists can view it?

Here and here.

Edit: added obverse photo.

Edited: 27 Nov 2011, 9:04 p.m.

Re: Interesting AT&T hp-15C

*Message #10 Posted by **Egan Ford** on 27 Nov 2011, 9:01 p.m.,*
in response to message #8 by robert rozee

> Quote:
>
> any chance someone could post the content of the facebook link somewhere that us non-facebook'ists can view it?

I logged in to Facebook to see it (then I logged off and removed all FB tracking cookies). It's just a 15C *case* with an AT&T Death Star logo. Nothing to write home (or here) about.

An *interesting* AT&T 15C would play DTMF tones--it's a 15C *and* a blue box.

Edited: 27 Nov 2011, 9:02 p.m.

Re: Interesting AT&T hp-15C

*Message #11 Posted by **Howard Owen** on 27 Nov 2011, 9:06 p.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> An *interesting* AT&T 15C would play DTMF tones--it's a 15C *and* a blue box.

Hah! I haven't heard that Woz (or John Draper) owned a 15C, but he could certainly afforded it. :)

Re: Interesting AT&T hp-15C

*Message #12 Posted by **sylvandb** on 27 Nov 2011, 8:45 p.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> There are many of us who despise Facebook and refuse to have anything to do with something that requires a Facebook ID.

And the great thing is, if you refuse to have a Facebook account and login, Facebook will auto-assemble and post a profile page for you based on whatever it can find from wherever. Especially if a lot of people who know you have facebook accounts. :(

Re: Interesting AT&T hp-15C

*Message #13 Posted by **Dominic Richens** on 28 Nov 2011, 11:07 a.m.,*
in response to message #4 by Don Shepherd

Meh. I only login to Facebook with an incognito window (Chrome) - take care of the tracking problem.

FB gets the bad rap because it is the most popular site to do this. Almost all online retailers do this. I see ads all the time on web sites advertising stuff I was just looking at from the retailer I was just looking at! Tigerdirect, newegg, dealextreme, even the place I buy car parts from! It always seems a little ridiculous to buy a ECU for my van and then to see ads for ECU on every web site I go to! I mean how many times in ones life does one need to buy a replacement ECU!!?

Re: Interesting AT&T hp-15C

*Message #14 Posted by **Lincoln R.** on 28 Nov 2011, 11:11 a.m.,*
in response to message #13 by Dominic Richens

Yeah, it's irritating. I once bought a set of fuel injectors for my Chevrolet and started seeing ads for all kinds of random car parts. "You might be interested in: A manual transmission rebuild kit for a Honda Accord" or "500 blank Ford ignition keys." Clearly their ad-targeting software isn't that bright.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE in Washington?

*Message #1 Posted by **marais** on 26 Nov 2011, 8:22 a.m.*

Folks, I'll be in Washington DC next month for a few days and was wondering if anybody knew about a shop selling the 15C LE? Since it is still not available in Europe, I thought I should use that opportunity. Any help appreciated!

Re: HP-15C LE in Washington?

*Message #2 Posted by **Katie Wasserman** on 26 Nov 2011, 10:59 a.m.,*
in response to message #1 by marais

I don't think that anyone has reported seeing a 15C LE in a brick and motor store. I've only heard of people buying them online. Furthermore I don't know of any online store that has them in stock now.

Re: HP-15C LE in Washington?

*Message #3 Posted by **marais** on 26 Nov 2011, 12:59 p.m.,*
in response to message #2 by Katie Wasserman

Katie, there goes my hope of ever having a 15C LE. Now I know why it's called "limited edition".

Re: HP-15C LE in Washington?

*Message #4 Posted by **Katie Wasserman** on 26 Nov 2011, 1:05 p.m.,*
in response to message #3 by marais

Give it time. I think that there will be more available not too long from now and maybe even a "regular" 15C. It would be dumb for HP to walk away from a successful product.

Re: HP-15C LE in Washington?

*Message #5 Posted by **Namir** on 26 Nov 2011, 1:24 p.m.,*
in response to message #3 by marais

Nothing at the FNAC Montparnasse???

Re: HP-15C LE in Washington?

*Message #6 Posted by **marais** on 27 Nov 2011, 3:53 a.m.,*
in response to message #5 by Namir

Neither at Fnac Les Halles.

Re: HP-15C LE in Washington?

*Message #7 Posted by **Walter B** on 27 Nov 2011, 5:12 a.m.,*

in response to message #6 by marais

FYI in the USA: The presence of HP's scientific calculators in Europe is neglegible :-(HP, are you listening?

Re: HP-15C LE in Washington?

*Message #8 Posted by **Namir** on 27 Nov 2011, 5:32 a.m.,*
in response to message #6 by marais

In the good old days, all these FNAC stores carried the HP and TI calculators.

Re: HP-15C LE in Washington?

*Message #9 Posted by **Walter B** on 27 Nov 2011, 6:56 a.m.,*
in response to message #8 by Namir

Those were the days, my friend, we hoped would never end ...

Re: HP-15C LE in Washington?

*Message #10 Posted by **Namir** on 27 Nov 2011, 12:22 p.m.,*
in response to message #9 by Walter B

I recall when I lived in Paris in 1978, I'd visit the FNAC stores each Saturday ad marvel and the HP ad TI calculators. I had an HP-67 then, but that did not prevent me from browsing. The added taxes were high on these machines. I recall when I arrived in Michigan in December 78 and went to Ulrich's book store in Ann Arbor, I was stunned to see how cheap the TI-59 was (compared to prices in France). My reaction was asking the salesperson to buy a TI-59. A few days later I went back and bought the printer that goes with it.

Edited: 27 Nov 2011, 12:23 p.m.

Re: HP-15C LE in Washington?

*Message #11 Posted by **Michael de Estrada** on 27 Nov 2011, 12:40 p.m.,*
in response to message #10 by Namir

Where did you work in Michigan ? In 1978 I lived in Jackson, and worked at Gilbert-Commonwealth. I bought my 32E in 1978, 34C in 1979 and 15C in 1982 at the Ann Arbor Ulrich's. By 1982 I was commuting to Ann Arbor to work at Bechtel. The 32E and 34C both died after a couple of years and were scrapped, but the 15C survives in perfect working condition to this day with only one change of batteries.

Re: HP-15C LE in Washington?

*Message #12 Posted by **Dominic Richens** on 27 Nov 2011, 2:07 p.m.,*
in response to message #8 by Namir

> Quote:
>
> In the good old days, all these FNAC stores carried the HP and TI calculators.

I once told my French roommate that I "had to" go to the FNAC to buy some photo paper to

which he jokingly responded that it was an incorrect use of the verb "devoir" as the FNAC does not have any thing that one _needs_, only what one _wants_ (vouloir). :-)

Re: HP-15C LE in Washington?

*Message #13 Posted by **Jose Gonzalez Divasson** on 26 Nov 2011, 6:40 p.m.,*
in response to message #3 by marais

According to HP, it will be available in Europe on the 2nd half of January. Have hope!

Re: HP-15C LE in Washington?

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 26 Nov 2011, 6:57 p.m.,*
in response to message #13 by Jose Gonzalez Divasson

I do ;-)

Re: HP-15C LE in Washington?

*Message #15 Posted by **Paulo MO** on 26 Nov 2011, 7:19 p.m.,*
in response to message #13 by Jose Gonzalez Divasson

Is that January emission carrying the same firmware edition of the first LEs? Do we need to wait a little longer than January for a bug free series? Do you have any info on this?

Paulo

Re: HP-15C LE in Washington?

*Message #16 Posted by **sjthomas** on 26 Nov 2011, 9:41 p.m.,*
in response to message #15 by Paulo MO

No such thing as "bug-free."

Re: HP-15C LE in Washington?

*Message #17 Posted by **Paulo MO** on 27 Nov 2011, 1:59 a.m.,*
in response to message #16 by sjthomas

Please. Don't let facts kill my dream... :-)

Re: HP-15C LE in Washington?

*Message #18 Posted by **Thomas Radtke** on 27 Nov 2011, 4:19 a.m.,*
in response to message #15 by Paulo MO

You can be sure about exactly two things in this matter:

(1) Those who know won't talk

(2) It's on sale when it's on sale

HP employees following this forum seem to not always have all information about what's going on at HP. I remember one of them insisted the 15C LE wasn't even shipped from China one or two days before they arrived in the US. Could have been a strange sense of humor also, don't know.

Re: HP-15C LE in Washington?

*Message #19 Posted by **Paulo MO** on 27 Nov 2011, 6:32 a.m.,*
in response to message #18 by Thomas Radtke

That is very Zen and very deep. Unfortunately, it is also very true. ;-)

P

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[wp34S] PSTO Won't Write to 6 thru 9

*Message #1 Posted by **Les Wright** on 26 Nov 2011, 4:56 a.m.*

Hi guys,

In my 30b-based wp34s, I have been fiddling with flashing and internal storage, etc.

I am chagrined to note that I same to only get access to libraries 0 thru 5 with the PSTO command. On my calc, the function won't accept 6 thru 9 as a parameter for the function.

All is well with the emulator, and I can PSTO to all ten libraries, just like the manual says I should.

Do I possible have a bad calc with bummed flash memory? It would be a shame to miss out on those extra 2000 program steps.

I am still using 2.2

Les

Re: [wp34S] PSTO Won't Write to 6 thru 9

*Message #2 Posted by **pascal_meheut** on 26 Nov 2011, 5:13 a.m.,*
in response to message #1 by Les Wright

Some of the flash regions have been used to implement new functions such as matrix support. This restriction does not apply to the emulator.

Re: [wp34S] PSTO Won't Write to 6 thru 9

*Message #3 Posted by **Paul Dale** on 26 Nov 2011, 5:13 a.m.,*
in response to message #1 by Les Wright

The number of flash regions had to be reduced. The cost of the matrix functions primarily.

The emulator has no such restrictions since it isn't really limited by memory or disc space.

- Pauli

Re: [wp34S] PSTO Won't Write to 6 thru 9

*Message #4 Posted by **Les Wright** on 26 Nov 2011, 5:20 a.m.,*
in response to message #3 by Paul Dale

Whew! My 30b was a new but open box TAS sale. The price was right, but I was worried I had a hardware issue.

This issue does apply to 2.2, right? So all is normal with my calc?

Thanks,

Les

P.S. Another little glitch in this is that an askew insertion damaged a pin in my cable! Just ordered a fresh one from Gene. Dang, those little pins are delicate and I thought I was taking care. Take caution, guys!

Re: [wp34S] PSTO Won't Write to 6 thru 9

*Message #5 Posted by **Paul Dale** on 26 Nov 2011, 5:24 a.m.,*
in response to message #4 by Les Wright

Yes this applies to 2.2. Matrix functions are present -- they aren't small.

Thus far, all the 3.x functionality has been done in a flash neutral manner -- in fact we've (Marcus predominately) saved enough to regain one flash region in addition to providing the extra functionality.

- Pauli

Re: [wp34S] PSTO Won't Write to 6 thru 9

*Message #6 Posted by **Walter B** on 26 Nov 2011, 9:45 a.m.,*
in response to message #4 by Les Wright

Took the opportunity to update not only the v3.0 manual but v2.2 as well. Your calculator is perfectly alright :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - casio fx-750p manual

*Message #1 Posted by **Giancarlo** on 26 Nov 2011, 2:07 a.m.*

Hello, Sorry to use this forum for other machines. I was given a Casio fx750p with a 4k memory module. I don't really know how to use it, i missed all these products because already in love with HPs at that time.

I don't have the manual; is there an electronic source for downloading such manuals?

Thanks

Giancarlo

Re: OT - casio fx-750p manual

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 5:53 a.m.,*
in response to message #1 by Giancarlo

I don't know where I got mine from, but here you are: http://www.mvcsys.de/download/fx-750p_e.pdf

Re: OT - casio fx-750p manual

*Message #3 Posted by **Giancarlo** on 26 Nov 2011, 7:50 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hello Marcus. Thank you very much,

Thanks

Giancarlo from italy

Re: OT - casio fx-750p manual

*Message #4 Posted by **From Hong Kong** on 26 Nov 2011, 9:38 a.m.,*
in response to message #1 by Giancarlo

FYI, at least two commands are undocumented:

MEANX, MEANY

I discovered them 27 years ago!

Edited: 26 Nov 2011, 9:40 a.m.

Re: OT - casio fx-750p manual

*Message #5 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 9:56 a.m.,*
in response to message #4 by From Hong Kong

The FX-750P is internally very close to the PB-700 and its successor PB-770. It shares the statistical functions with the latter. There is a strange caveat: If you have the cassette interfaces for both you can exchange programs but the FX-750P lacks the lower case characters. That wouldn't be a problem if they were mapped to their upper case equivalents but they simply vanish. More info about this can be found here:

http://www.mvcsys.de/doc/casioutil.html
http://www.mvcsys.de/doc/basic-compare.html

Re: OT - casio fx-750p manual

*Message #6 Posted by **From Hong Kong** on 26 Nov 2011, 10:18 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Strangely, the official manual of FX-750P does not mention these two commands.

Edited: 26 Nov 2011, 10:19 a.m. after one or more responses were posted

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[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34] Poor Person's Overlay

*Message #1 Posted by **Les Wright** on 25 Nov 2011, 4:31 p.m.*

I just wanted to report my satisfaction with a temporary overlay that finally makes my newly flashed calc fully useful to me, until such time as version 3 bugs are worked thru and Eric resumes making his vinyl overlays for the new version.

Though I am still on 2.2, the version 3 manual briefly includes instructions on how to size and print the overlay provided with the Sourceforge download. I happen to be be most comfortable with Photoshop, and setting the overlay width to 68 mm provides a ppi of just under 595 without resampling the image. In Photoshop, I create a new 8.5x11 doc with that ppi, and cut and paste the resized overlay image four times onto the new document. I make sure there is a wide margin all around as when I tried to fit six overlays on one sheet forcing printing at 100% cut off the edges due to the intrinsic printable area for my printer. (In printing on my Mac, it seems the default is to shrink things slightly to fit, so I must force 100% in order to maintain the correct 68 mm width.)

I then print on pretty good quality paper, cut out, and just stick over the keypad with double-sided tape. I don't bother with flaps because the key feel is just fine through the paper. I use a monochrome laser printer and find B&W works fine for me since the correct shift key can be quickly discerned from placement on or under the key. If I like this arrangement for a more than temporary fix I may splurge a few dollars and get colour laser printing done.

This a great calculator and I love it more each day, so I just wanted to share how delighted I am that I found such a simple way to make it easy to use. It isn't cosmetically perfect, but it is functionally just great. I have a 15C LE, but it goes neglected as I become fascinated with this wonderful gizmo.

Les

Edited: 25 Nov 2011, 4:32 p.m.

Re: [WP34] Poor Person's Overlay

*Message #2 Posted by **Walter B** on 25 Nov 2011, 6:19 p.m.,*
in response to message #1 by Les Wright

Les,

Glad you like it :-)

I've read about Photoshop in this context more than once now. IMHO, the following is even easier on a PC: Just create a blank MS Word file and <insert> <graphics> <from file>, specifying the overlay file of your choice. Then format the inserted picture to the given size (in mm), and you're done. If you want to, you may copy this formatted picture as often as you like and print.

The v3 overlay gives optimal results with a height of 104mm.

Enjoy,
Walter

Re: [WP34] Poor Person's Overlay

*Message #3 Posted by **Eric Rechlin** on 26 Nov 2011, 12:23 a.m.,*
in response to message #1 by Les Wright

Just to clear any misconceptions, I am still making v2.2 overlays for anyone who requests them.

Eric

Re: [WP34] Poor Person's Overlay

*Message #4 Posted by **Les Wright** on 26 Nov 2011, 3:31 a.m.,*
in response to message #3 by Eric Rechlin

Eric, I most definitely am, since so far I am very pleased with 2.2.

I am in Canada. How much?

Les

Re: [WP34] Poor Person's Overlay

*Message #5 Posted by **Paul Dale** on 26 Nov 2011, 3:41 a.m.,*
in response to message #4 by Les Wright

Give 3.x a chance, it will be better :-)

Better still, buy an extra 30b and have both :D

- Pauli

Re: [WP34] Poor Person's Overlay

*Message #6 Posted by **Eric Rechlin** on 26 Nov 2011, 11:00 a.m.,*
in response to message #4 by Les Wright

A quick Google search turns this up.

Eric

Re: [WP34] Poor Person's Overlay

*Message #7 Posted by **Les Wright** on 26 Nov 2011, 4:37 p.m.,*
in response to message #6 by Eric Rechlin

Thank you, oh mighty googler! Pricing very reasonable!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 97 Card Reader issues

*Message #1 Posted by **Fouad M. Kaadou** on 25 Nov 2011, 1:17 p.m.*

Hello,

I have an HP97 with some card reader issues. -can not read or write on cards. -the reader pulls the cards very slowly

I have bypassed the write protect by connecting the necessary pins on the card reader chip so i will be able to write and it worked. Also when i first received the calculator i attempted to fix the gummy wheel issue (which i did) , but the ribbon cable was totally destroyed so i had to solder the card reader the main PCB myself.

Any ideas?

TIA

-Fouad

Re: Hp 97 Card Reader issues

*Message #2 Posted by **Randy** on 25 Nov 2011, 5:18 p.m.,*
in response to message #1 by Fouad M. Kaadou

> Quote:
>
> I have bypassed the write protect by connecting the necessary pins on the card reader chip so i will be able to write and it worked

Preceded by

> Quote:
>
> can not read or write on cards. -the reader pulls the cards very slowly

Frankly, your post makes no sense. First you say the reader cannot read or write then you say it writes.

If the unit does not pull the card through correctly, why not start there? Perhaps the worm screw is loose on the shaft or the wheel repair is not correct?

Re: Hp 97 Card Reader issues

*Message #3 Posted by **Fouad M. Kaadou** on 26 Nov 2011, 4:28 a.m.,*
in response to message #2 by Randy

Randy,

the card reader writes only because I have bypassed the write protect, without that the reader does not read. and it **should** be able to read without the bypass.

-Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Lambert W functions on WP 34s

*Message #1 Posted by **Hans Milton** on 25 Nov 2011, 9:00 a.m.*

It is impressive to see the Lambert W functions included in WP 34s.
However, the W_{-1} function give incorrect results. Example:

x e^x = -0.2 has two solutions
-0.259171
-2.542641

On the emulator W(-0.2) correctly returns the first solution.
But W_{-1}(-0.2), which is expected to give the second solution,
instead returns -0.163746

Re: Lambert W functions on WP 34s

*Message #2 Posted by **Walter B** on 25 Nov 2011, 9:26 a.m.,*
in response to message #1 by Hans Milton

FYI, W^-1 represents the inverse of W in the WP 34S.

Re: Lambert W functions on WP 34s

*Message #3 Posted by **Hans Milton** on 25 Nov 2011, 10:10 a.m.,*
in response to message #2 by Walter B

I see. What I thought was the Lambert W_{-1} function is
actually the inverse of the Lambert W_0 function. Which
could also be easily calculated as x e^x.

W_{-1} is not so easily calculated. So would be more useful
to have on the calc.

Re: Lambert W functions on WP 34s

*Message #4 Posted by **Walter B** on 26 Nov 2011, 4:57 a.m.,*
in response to message #3 by Hans Milton

With the next software build, you'll find both branches on the WP 34S: W_p for the principal branch and W_m=W_{-1} for the lower branch. The latter is calculated by an XROM routine, so it may not be as accurate as W_p.

Re: Lambert W functions on WP 34s

*Message #5 Posted by **Hans Milton** on 26 Nov 2011, 8:14 a.m.,*

in response to message #4 by Walter B

Great!

Re: Lambert W functions on WP 34s

*Message #6 Posted by **Gerson W. Barbosa** on 25 Nov 2011, 10:15 a.m.,*
in response to message #1 by Hans Milton

Easily done on the HP-12C:

```
01 CHS
02 1/x
03 STO 0
04 STO 1
05 LN
06 RCL 0
07 *
08 RCL 1
09 x<>y
10 -
11 x=0
12 GTO 15
13 LST x
14 GTO 04
15 LST x
16 RCL 0
17 /
18 CHS
19 GTO 00


-0.2  R/S ->   -2.542641358
```

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=159032

Edited: 25 Nov 2011, 10:54 a.m.

Re: Lambert W functions on WP 34s

*Message #7 Posted by **Paul Dale** on 25 Nov 2011, 6:52 p.m.,*
in response to message #6 by Gerson W. Barbosa

It would be easy enough to include a user code programme to calculate this branch of the W function in the device -- for real arguments only. I'd guess 100 or so bytes of precious flash.

Alternatively, use this program:

```
01  LBL'W[sub-1]'
02  LocR 02
03  STO .02
04  +/-
05  1/x
06  STO .00
07  STO .01
08  LN
09  RCL[times] .00
10  RCL .01
11  x[<->] Y
12  -
13  x=0?
14  SKIP 03
15  DROP
16  RCL L
17  BACK 10
18  DROP
19  RCL L
20  RCL/ .00
```

```
21  +/-
22  x[<->] .02
23  STO L
24  x[<->] .02
25  RTN
```

Store it in one of the flash segments and you've got the W_{-1} function. It behaves like a keyboard command in that Last X is set properly and the stack is not damaged. The argument range is not correctly validated however.

- Pauli

Re: Lambert W functions on WP 34s

*Message #8 Posted by **Walter B** on 25 Nov 2011, 6:59 p.m.,*
in response to message #7 by Paul Dale

Pauli, [sub-1] ??

Re: Lambert W functions on WP 34s

*Message #9 Posted by **Paul Dale** on 25 Nov 2011, 7:30 p.m.,*
in response to message #8 by Walter B

Yeah, [sub-1] which displays as $_1$. We don't have a subscript minus or minus 1. All our codes for subscripts are [sub-X].

The other convention I've seen is W_m and W_p for w_{-1} and W_0 respectively.

- Pauli

Re: Lambert W functions on WP 34s

*Message #10 Posted by **Walter B** on 26 Nov 2011, 3:20 a.m.,*
in response to message #9 by Paul Dale

Exactly. And we feature [sub-m] and [sub-p] ... :-)

Re: Lambert W functions on WP 34s

*Message #11 Posted by **Paul Dale** on 26 Nov 2011, 3:27 a.m.,*
in response to message #10 by Walter B

I know that was why I mentioned them ;-)

- Pauli

Re: Lambert W functions on WP 34s

*Message #12 Posted by **Ángel Martin** on 25 Nov 2011, 10:49 a.m.,*
in response to message #1 by Hans Milton

Just in case it's useful, functions WL1 and WL0 are available in the SandMath-II module for the HP-41, both implemented in MCODE.

The module is available at TOS for V41 and i41CX usage - also possible to burn into Clonix, MLDL2k, etc. of course.

Cheers, ÁM

Edited: 25 Nov 2011, 10:49 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Keyboard Layout Change

*Message #1 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 5:52 a.m.*

We're coming closer to a final keyboard mapping. Check out the most recent emulator and tell us what you think about it! At least SF and CF are on the keyboard now. :-)

I've updated the other skins (compact and LED) and renamed everything to contain a version tag V2 or V3.

Re: WP 34S: Keyboard Layout Change

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 25 Nov 2011, 7:12 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi Marcus,

I updated to SVN 1917 a few minutes ago and am getting "Error while loading skin (27)" message when starting the emulator under wine. I haven't tried it under Windows (don't have one handy at the moment).

Is there a state file I need to clear?

I have tried launching it from several directories with the same result.

Cheers...

Re: WP 34S: Keyboard Layout Change

*Message #3 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 8:46 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Normally this should not stop the emulator but revert to the first skin in the list. You can clear the registry entry for the program and try again. If that fails, I need to check what happens if no skin is found.

Re: WP 34S: Keyboard Layout Change

*Message #4 Posted by **Didier Lachieze** on 25 Nov 2011, 8:58 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

I've had the same issue until I downloaded the wp34s_V3_* skins files from the artwork directory and put them together with the .skin files and with the emulator files under the same directory.

Re: WP 34S: Keyboard Layout Change

*Message #5 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 9:49 a.m.,*
in response to message #4 by Didier Lachieze

Quote:

> I've had the same issue until I downloaded the wp34s_V3_* skins files from the artwork directory and put them together with the .skin files and with the emulator files under the same directory.

That was it. I had forgotten to add the BMPs to SVN.

I'm sorry.

Re: WP 34S: Keyboard Layout Change

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 25 Nov 2011, 9:54 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Perfekt!

Thanks...

Re: WP 34S: Keyboard Layout Change

*Message #7 Posted by **gene wright** on 25 Nov 2011, 10:43 a.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

The only "disappointment" (and that is too strong a word, but ...) I have with the V3 keyboard is the movement of PI off the 3 key.

I'm not sure I see a solution without moving around a couple of other things, but I do wish PI could be back at 3.

If... X.FCN moved to . and the ./, function went to a catalog (since it really won't be used all that often), then you would end up with a spare key location at EEX.

But, I know that opens up several things (again).

IMO (and that's all it is) PI on 3 is more important than ./, on ..

Re: WP 34S: Keyboard Layout Change

*Message #8 Posted by **fhub** on 25 Nov 2011, 11:02 a.m.,*
in response to message #7 by gene wright

> Quote:
>
> If... X.FCN moved to .

Not a good idea IMO:
TEST, P.FCN and X.FCN in one row is quite comfortable and logical, and all 6 digits 1-6 having a menu on it, too.

Re: WP 34S: Keyboard Layout Change

*Message #9 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 11:17 a.m.,*
in response to message #7 by gene wright

Have a look at your beloved 15C.

Re: WP 34S: Keyboard Layout Change

*Message #10 Posted by **gene wright** on 25 Nov 2011, 12:19 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Fhub, I understand. No good solution. However, it would simply form an L if they were moved. Not that bad.

Marcus, I know where PI is on the 15c :-) but Walter's "3" argument convinced me some time ago that this was "the" place for the PI function. Eh...

Just 2 cents.

The Odyssey of PI

*Message #11 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 12:58 p.m.,*
in response to message #10 by gene wright

I've checked where HP has put PI on some of its scientific calculators. It was a real odyssey.

```
Primary  : 35
0        : 41C/95C
2        : 65/67
3        : 38G/39G/...
.        : 25/27/20/33C/28C/45/55
EEX      : 15C/21/34C
CHS      : 10C/11C
Divide   : 97
y^x      : 31
1/x      : 32E
P->R     : 91
Space    : 48G/49G/50G
)        : 27S
STO      : 22S
RCL      : 32S
R-Down   : 42S
SIN      : 32SII
COS      : 33S/35S
```

TI is only slightly less inventive on this.

Re: The Odyssey of PI

*Message #12 Posted by **Egan Ford** on 25 Nov 2011, 1:57 p.m.,*
in response to message #11 by Marcus von Cube, Germany

That would make a great coffee table book. I love the title.

Re: WP 34S: Keyboard Layout Change

*Message #13 Posted by **Walter B** on 26 Nov 2011, 5:12 a.m.,*
in response to message #10 by gene wright

> Quote:
>
> ... but Walter's "3" argument convinced me some time ago that this was "the" place for the PI function.

When you need contiguous space even good arguments won't work ;-)

And BTW, ./, must stay where it is since it's employed in alpha mode as well.

Edited: 26 Nov 2011, 5:15 a.m.

Re: WP 34S: Keyboard Layout Change

*Message #14 Posted by **Javier Goizueta** on 25 Nov 2011, 5:39 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I'm unable to update to the latest revision with subversion on Mac OSX.

```
svn: Failed to add file 'trunk/windows/bin/wp34s_V3_medium.bmp': an unversioned file of the
same name already exists
```

The problem seems to be there are two files in the same directory with names differing only in the capitalization: wp34s_v3_medium.bmp and wp34s_V3_medium.bmp

OSX doesn't allow this.

If both files are really needed, can you please alter the name of one of them a little more? (or remove it from SVN otherwise).

Edited: 25 Nov 2011, 5:40 p.m.

Re: WP 34S: Keyboard Layout Change

*Message #15 Posted by **pascal_meheut** on 25 Nov 2011, 5:45 p.m.,*
in response to message #14 by Javier Goizueta

There is indeed something wrong. Just tried a checkout under MacOS X and got the message:

svn: In directory 'trunk/windows/bin' svn: Can't open file 'trunk/windows/bin/.svn/tmp/text-base/wp34s_v3_medium.bmp.svn-base': No such file or directory

Re: WP 34S: Keyboard Layout Change

*Message #16 Posted by **Paul Dale** on 25 Nov 2011, 5:52 p.m.,*
in response to message #15 by pascal_meheut

I just ran into this too :-(

Looks like someone decided to change the case of the the file name and the case insensitive Mac filesystem is confusing subversion.

A work around is to cd to trunk/windows/bin, delete wp34s_v3_medium.bmp and then svn update wp34s_V3_medium.bmp and then do a full update from the top level. I'm still getting svn warnings about the file wp34s_v3_medium.bmp however so I don't know the long term implications of this change.

I'm sure a proper fix will come in due course.

- Pauli

Re: WP 34S: Keyboard Layout Change

*Message #17 Posted by **pascal_meheut** on 25 Nov 2011, 5:55 p.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> the case insensitive Mac filesystem is confusing subversion.

Subversion is easily confused. We are using it at work too and I noticed it (too) many times :-<

Re: WP 34S: Keyboard Layout Change

*Message #18 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 2:10 a.m.,*
in response to message #17 by pascal_meheut

The bogus file should be removed now.

Re: WP 34S: Keyboard Layout Change

*Message #19 Posted by **Javier Goizueta** on 26 Nov 2011, 4:55 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Yes, updates smoothly now on Mac, thanks!

Re: WP 34S: Keyboard Layout Change / SVN

*Message #20 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 5:56 a.m.,*
in response to message #19 by Javier Goizueta

If any problems persist, delete the windows/bin directory and do an SVN update.

Re: WP 34S: Keyboard Layout Change / SVN

*Message #21 Posted by **Walter B** on 26 Nov 2011, 6:05 a.m.,*
in response to message #20 by Marcus von Cube, Germany

... which was the way I finally fixed the problem here as well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Bad Button >>> easy fix

*Message #1 Posted by **Reth** on 24 Nov 2011, 5:30 p.m.*

In a previous thread we saw HP-15C LE fixed, but I found that fix too complicated. So I decided to sacrifice my calculator and do it myself and I'm no good with such repairs.

I used only my Swiss army knife, a small screwdriver and two component epoxy glue.

Heat stakes are very easy to cut off flashing with the PCB - the plastic the are made of is somewhat soft, jelly like.

The offending key had a little white plastic ball - about 0.1mm diameter - stuck at the dead center of the metal dome - and I had to apply some force to remove it.

I can't tell more about the material of the "ball", it got lost somewhere in the cotton bud I used to take it off...

Reassembling was easy - PCB stood quite firmly even without heat stakes heads being glued - I tested it like that for a day. Eventually I put a little drop of the glue on top of the heat stakes and that way sealed them. I believe this is enough to keep it firmly in place.

A tricky bit is there are 3 little spiral springs abt 20mm long that are very easy to loose when opening the calculator.

It's working perfectly now - will see for how long ;)

Cheers,

Edited: 24 Nov 2011, 8:14 p.m. after one or more responses were posted

Re: HP-15C LE Bad Button -> easy fix

*Message #2 Posted by **Raymond Del Tondo** on 24 Nov 2011, 6:21 p.m.,*
in response to message #1 by Reth

Many thank for the info:-)

did you take pictures of the work?

Could the plastic ball be a residue from manufacturing, or in other words: Is it of one of the materials used in the hardware?

Did you mail it (the info, not the piece) to Tim? This may be of interest for him;-)

Cheers

Ray

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Translator Pac for the HP-71 (HP 82490A)

*Message #1 Posted by **robertoataulfo** on 24 Nov 2011, 4:10 p.m.*

```
Someone a high definition picture of the overlay?
Thank's
```

Re: HP-41 Translator Pac for the HP-71 (HP 82490A)

*Message #2 Posted by **Jose Gonzalez Divasson** on 24 Nov 2011, 4:29 p.m.,*
in response to message #1 by robertoataulfo

If you see the pictures of this item, you will find a picture of the overlay of the translator module:

HP71b

Re: HP-41 Translator Pac for the HP-71 (HP 82490A)

*Message #3 Posted by **Allen** on 26 Nov 2011, 11:57 p.m.,*
in response to message #1 by robertoataulfo

See the articles section of this website.

Re: HP-41 Translator Pac for the HP-71 (HP 82490A)

*Message #4 Posted by **robertoataulfo** on 27 Nov 2011, 7:43 a.m.,*
in response to message #3 by Allen

Thank's :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A new record price for an HP 15c LE

*Message #1 Posted by **Michael de Estrada** on 24 Nov 2011, 9:15 a.m.*

I think this must be a new record price for an HP 15c LE. IIRC, the previous record was $447. This is pretty close to high price for a mint vintage HP 15c, which I find to be mind-boggling. Note that the seller resides in the UK, not the USA, so again it appears that the big money collectors are Europeans.

Re: A new record price for an HP 15c LE

*Message #2 Posted by **Timo** on 24 Nov 2011, 9:57 a.m.,*
in response to message #1 by Michael de Estrada

Yeah, I stumbled upon this auction some day ago and even back then the highest bid was already well above 200 Euro.

About 1,5 years ago I won an auction for a completely mint HP-15C (still in its plastic wrapping, handbook untouched and almost pristine box) for approx. 250€ - and even that did hurt quite a bit.

And honestly, I'm much happier with the original in such a super state...

Re: A new record price for an HP 15c LE

*Message #3 Posted by **Derek Walker (UK)** on 24 Nov 2011, 10:39 a.m.,*
in response to message #1 by Michael de Estrada

If the buyer is also in the UK, it does mean that the trans-Atlantic shipping, and UK import taxes and charges, have already been paid. For my 15cLE these almost doubled SC's US selling price.
Still a high price in comparison, though.

Re: A new record price for an HP 15c LE

*Message #4 Posted by **Rob Willett** on 24 Nov 2011, 12:12 p.m.,*
in response to message #3 by Derek Walker (UK)

Well I have the exact same model, brought in the US, taxes paid in the UK. I forget all the details, but I recall taxes were £45, shipping was £30 or so. These all add up.

Whilst I was going to keep it, for £336 I am very happy to sell it to anybody who wishes to buy it, I am also happy to swap it for an entire set of Spice range calculators :) I only wish I had brought a thousand of them.

Whilst we may bitch at the prices people pay, supply and demand allows this to happen. If people want to pay it then fine, the only impact on me is the insurance premiums I have to pay go up as I revalue my collection.

Edited: 24 Nov 2011, 12:14 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

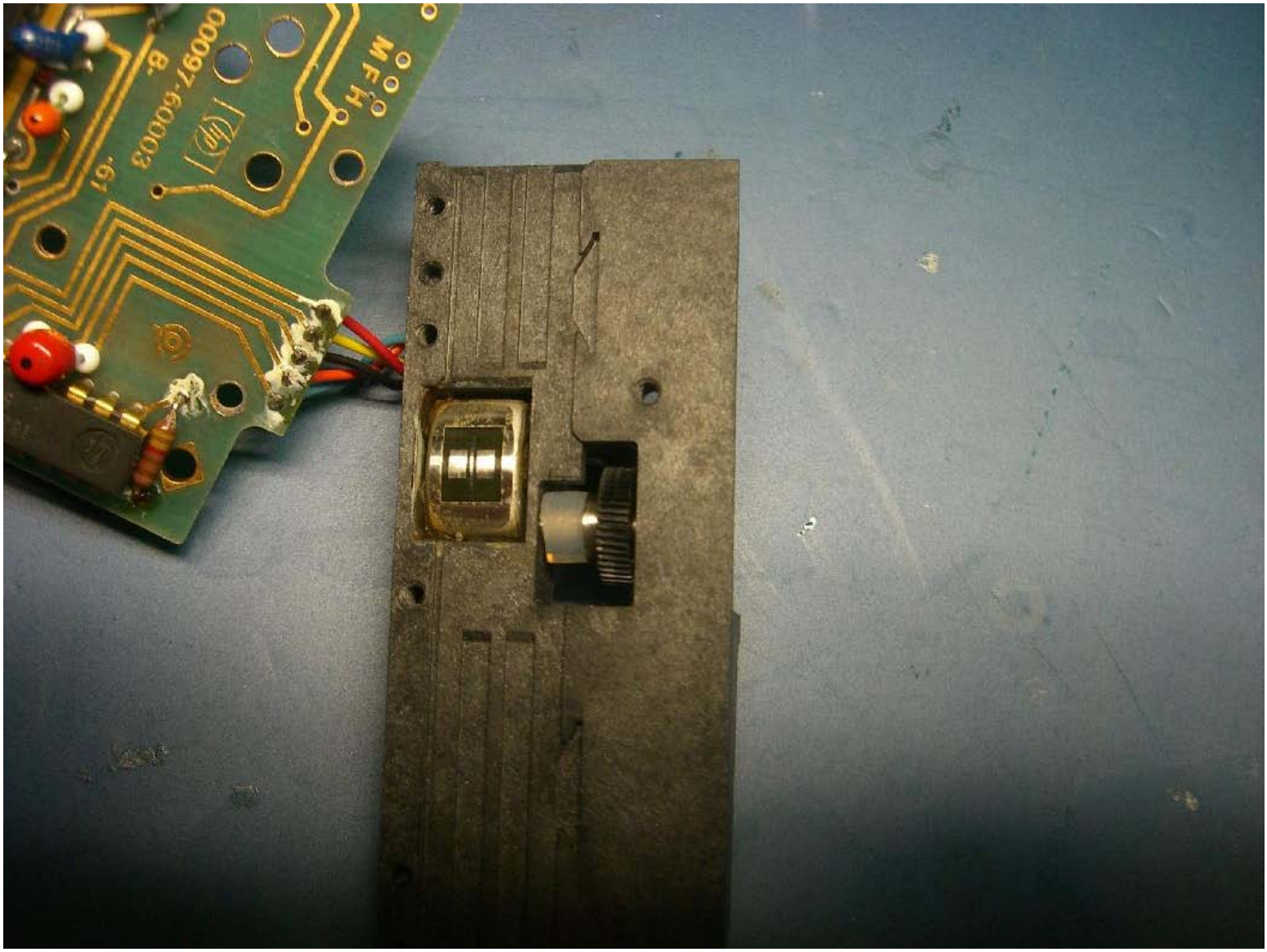
HP97 card reader followup

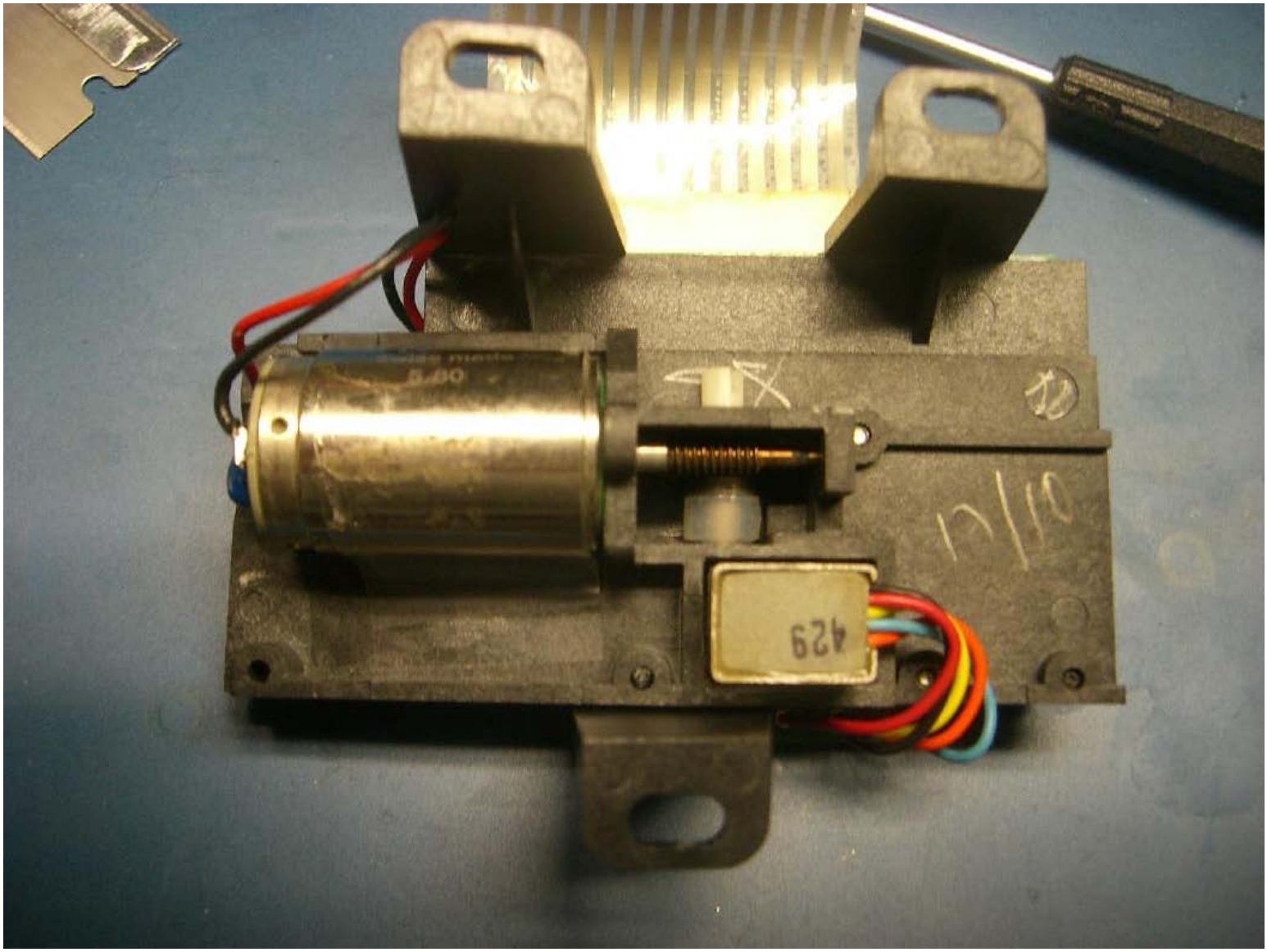
*Message #1 Posted by **Davd F** on 23 Nov 2011, 8:30 p.m.*

Some progress with the card reader.

For the non-rolling nylor roller, I carefully cut away some material circumferentially from the thicker spinel using a razor blade and magnifier glasses, until it dropped in place without difficulty, and rolled freely.

For the disintegrated coupler, I used the insulation from an 18G wire, surrounded by silicone within the aluminum tube. With this, the motor would move the card through slowly, reaching 180 mA current without any resistance, but there was lots of slippage. I ended up gluing the couple/worm gear assembly to the motor shaft with a drop of super glue. Now there's no slippage, but the motor is taking over 300 mA and moving slowly, and the calculator is detecting the error and shutting down the motor. Here are a couple of pictures, taken before re-assembling the reader:





It seems the motor control is working properly, but somehow there is too much resistance.

Does the roller look too thick? It is almost exactly flush with the metal disc base.

Thanks for any additonal suggestions.

Happy Thanksgiving!

Dave

Re: HP97 card reader followup

*Message #2 Posted by **aj04062** on 23 Nov 2011, 8:40 p.m.,*
in response to message #1 by Davd F

I'd try adjusting the eccentric shaft that supports the gear. If it is all the way "up", the resistance will be high. Backing this off (by rotating) will reduce the drag/friction.

Eccentric Cam

*Message #3 Posted by **Dave F** on 24 Nov 2011, 4:49 p.m.,*
in response to message #2 by aj04062

I've finally located my copy of the museum CD, and, as you mentioned, it suggests rotating the pin until the motor resistance is 180 +/-20 mA when trying to roll a card against resistance. However, I'm getting over 300 mA regardless of the position.

Can someone explain how this works? The manual refers to this as an eccentric cam, but it doesn't look very eccentric to me--it looks fairly symmetrical about the axis. I measure a diameter of 0.91", uniformly about the cam. Perhaps that's part of the problem. Is it supposed to be curved?

I took some pictures. Please forgive the fuzzy focus. Here is what it looks like:

If this is supposed to be able to be curved or ellipsoid, then that may explain the high resistance to the card. Can someone post (or email) a picture of the cam if it's supposed to look different?

Thanks!

Dave

Re: Eccentric Cam

*Message #4 Posted by **Michael de Estrada** on 24 Nov 2011, 5:01 p.m.,*
in response to message #3 by Dave F

Look very closely at the end of the shaft where it is reduced to fit in the frame. That smaller very short section is slightly eccentric to the long shaft that supports the roller. The shaft of the pin itself is round. Problem is that if the diameter of the roller is too large, then the drag force will be too large regardless of how you adjust the cam.

Edited: 24 Nov 2011, 5:03 p.m.

Re: HP97 card reader followup

*Message #5 Posted by **Wanderley Navarro** on 23 Nov 2011, 9:59 p.m.,*
in response to message #1 by Davd F

Quote:

Does the roller look too thick? It is almost exactly flush with the metal disc base.

The diameter of the metal disc base is 0.62mm. A roller with an outer diameter with no more than 0.65mm is ok.

Re: HP97 card reader followup

*Message #6 Posted by **Dave F** on 24 Nov 2011, 5:45 p.m.,*
in response to message #5 by Wanderley Navarro

Would that be 6.2mm?

Re: HP97 card reader followup

*Message #7 Posted by **Wanderley Navarro** on 24 Nov 2011, 9:52 p.m.,*
in response to message #6 by Dave F

Correct. Sorry my mistake.

More progress

*Message #8 Posted by **Dave F** on 24 Nov 2011, 6:55 p.m.,*
in response to message #1 by Davd F

Getting closer. I hadn't realized the peg at the end is slighly eccentric. It is almost imperceptible, but I believe it is slightly eccentric. It is possible that I didn't push the cam in far enough to engage the eccentric peg at the end.

After pushing in the cam all the way to ensure engaging the motor, the motion of the card through the reader is slow and slightly jerky, but the card goes all the way through. The calc can at least attempt to write to the card, sending it through the reader, but when I attempt to read back (for example, writing a program to the card, then switching back to run mode), the card passes through, but generates an error.

When I say the card goes all the way through, I mean that a tiny tug is required to pull the card out at the end. However, my HP65 reader appears to work this way as well. The HP97 speed is about 1/2 to 2/3 that of the 65.

When I insert the card and hold it rather than let it go freely through, the motor current is about 350 mA. I suspect that this is because I superglued the motor shaft to the coupling, so that there is truly no slippage. Can anyone who has done this coupler/"clutch" repair comment on this?

Thanks,

Dave

Re: More progress

*Message #9 Posted by **Michael de Estrada** on 24 Nov 2011, 7:38 p.m.,*
in response to message #8 by Dave F

There is not supposed to be any slippage, period. It is not a clutch. Please stop this line of reasoning lest you incur the wrath of the great Randy.

Edited: 24 Nov 2011, 10:10 p.m. after one or more responses were posted

Re: More progress

*Message #10 Posted by **Dave F** on 24 Nov 2011, 9:08 p.m.,*
in response to message #9 by Michael de Estrada

Hi Michael,

I'm glad to hear that since, as I mentioned, I super-glued the shaft of the motor into the vinyl insulation sleeve. I will say that I was not comfortable with having the shaft slip in the sleeve, since it seemed a very unreliable setup. I only repeated it because I have seen it here, but the manual (which I have now that I found my CD copy) certainly doesn't mention a clutch. However, there is an article in the articles forum that may need to be corrected.

Then, would it be correct that the roller is supposed to slip over a restrained or jammed card, at the right cam setting? That would explain how adjusting the eccentric cam could affect the motor current when holding the card so it can't roll through.

If the current is too high, and the card is going through slowly and slightly jerkily, then I am guessing there's too much friction in the system, and too much torque on the motor. Although I had believed my tubing on the roller is not too thick, perhaps I need to find a smaller caliber solution.

Does that line of reasoning sound reasonable? Does anybody have suggestion of a specific size of silicone tubing or O-ring that is known to work reliably?

Thanks,

Dave

Edited: 24 Nov 2011, 9:11 p.m.

Re: More progress

*Message #11 Posted by **Michael de Estrada** on 24 Nov 2011, 10:07 p.m.,*

in response to message #10 by Dave F

Yes, a card jam should not cause the motor to stall, which could damage it. To that extent, the slipping roller could be considered a clutch of sorts. As to the O-rings, that is the method that I've always used, and have bought them from sources like this. I've found that the best way to secure them on the wheel is to use a bit of superglue. I'm not sure what size they are nor the durometer value. I believe they are Viton. There are some people on this forun who do know and might chime in.

Re: HP97 card reader followup

*Message #12 Posted by **Randy** on 25 Nov 2011, 9:01 a.m.,*
in response to message #1 by Davd F

> Quote:
>
> Does the roller look too thick? It is almost exactly flush with the metal disc base.

Yes, it is too large and is the reason for the over-current. It should be *exactly* flush with the metal part of the wheel - which is 0.250 inches in diameter.

The correct o-ring size is 005. I have rebuilt many card readers that had high current and did not read reliably, the problem was incorrect o-rings. I know at one time, one of the eBay sellers was selling rings that were too large. Here is a link to my source: http://www.mcmaster.com/#o-rings/=f35yqm Part number is 9452K13, cost is $1.93 for 100 pieces.

Edited: 25 Nov 2011, 9:25 a.m.

Re: HP97 card reader followup

*Message #13 Posted by **Michael de Estrada** on 25 Nov 2011, 10:10 a.m.,*
in response to message #12 by Randy

What O-ring material do you recommend. I see from your source that they offer Viton with A75 durometer hardness. Also, the OD of the #005 size is 0.241", not 0.250" that you recommend. Does the O-ring expand to 0.250" when it's installed ?

Re: HP97 card reader followup

*Message #14 Posted by **Randy** on 25 Nov 2011, 11:07 a.m.,*
in response to message #13 by Michael de Estrada

In this application, I don't think you'll find a difference between A70 and A75 hardness... and yes, they expand when stretched over the hub. IIRC, they end up a few thousandths over .250 inches - but certainly not as large in diameter like the tubing shown in the OP.

IMO, while tubing *appears* to provide more surface area and is likely to last longer, rings provide a far more consistent result than tubing. If you're lucky enough to find a piece of tubing that is of the correct size and is concentric enough to work, have at it.

Re: HP97 card reader followup

*Message #15 Posted by **Dave F** on 25 Nov 2011, 2:06 p.m.,*
in response to message #12 by Randy

Thanks! I have followed the link and placed the order. I will report the result once I have placed these o-rings.

Best regards,

Dave

Edited: 25 Nov 2011, 2:08 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT Wang Calculator 360 SE

*Message #1 Posted by **aj04062** on 23 Nov 2011, 2:16 p.m.*

I got a system a bit ago. Something has gone awry with it. When you plug in any of the keyboards that came with it, all that happens is the Nixie tubes light up with either all 2's or 0's. The keyboards are unresponsive.

Has anyone toyed with these? Any suggestions on where to start?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100B restoration progress

*Message #1 Posted by **David Ramsey** on 23 Nov 2011, 12:31 p.m.*

Larry Atherton's work on my 9100Bs continues apace. The biggest problem we've had is that the earlier of the two units would fail to run a program (the standard diagnostic) until it had been turned on for 5-10 minutes, after which it would work perfectly.

Board-swapping with the other 9100B isolated the problem to the "left" board of the two-board "C Core set", which controls access to the core memory.

Selectively heating individual components on the board revealed two problems: first, a set of 3.01 Ohm (yes, that's correct: 3.01 Ohms!) resistors were out of spec. Second, one specific transistor would cause the problem when cooled and fix it when heated.

Since the transistors HP used in the 9100 have odd part numbers that don't correspond directly to any modern parts, the only way to find a replacement that works is to experiment. First, Larry removed the problem transistor and measured its characteristics when warm, then installed Tektronix sockets so he could swap in new parts without having to solder and unsolder each time. The image above shows the new transistor installed.

The new part reduced the "warm up time until proper operation" to about 45 seconds, but the machine would still fail if you turned it on and immediately tried to run a program in memory.

Looking at the -15V supply, Larry noticed noise on the line. Not a lot, but still. So he added the large blue filtering capacitor you can see in the first image...and the problem went away completely! You can now bring the first 9100B in from an overnight cool down in an unheated garage, turn it on, immediately press END, CONTINUE, and it works!

Now onto cosmetics. The backlights for the register labels had failed years ago, and heat from the bulbs had, over time, slightly warped and scorched the piece of photographic film that comprises the actual label. Larry cleaned the film as best he could and used LEDs for the backlights. Clear plastic tubes added act as light pipes to make the illumination more even, and a thin gold film at the bottom colors reflected light to more closely match the original orange color.

While the final appearance is not identical to the original, it's still amazingly good.

As you may recall from a previous posting, the black plastic socket at the neck of the CRT was cracking. Larry fabricated an extra support from perforated aluminum, visible here at the very back of the CRT, to support it. The front of the CRT is supported on new rubber buffers for shock protection.

OK, everything works. Now it's time to do something about the beat-up chassis. This machine was bought in 1969 by a trucking company and obviously used heavily for many years. Time to paint!

The first 9100B is now complete. The only sign of age is the slightly-dimmer-in-the-center CRT. With a fully functioning card reader, adjusted CRT, completely rebuilt keyboard, and other repairs, this represents several weeks of work on Larry's part...

Edited: 23 Nov 2011, 7:32 p.m. after one or more responses were posted

Re: 9100B restoration progress

*Message #2 Posted by **BobVA** on 23 Nov 2011, 12:49 p.m.,*
in response to message #1 by David Ramsey

Bravo!

Re: 9100B restoration progress

*Message #3 Posted by **Davd F** on 23 Nov 2011, 1:43 p.m.,*
in response to message #1 by David Ramsey

Stunning.

Re: 9100B restoration progress

*Message #4 Posted by **Juergen Keller** on 23 Nov 2011, 3:16 p.m.,*
in response to message #1 by David Ramsey

I like it! :-)

Re: 9100B restoration progress

*Message #5 Posted by **Etienne Victoria** on 24 Nov 2011, 10:04 a.m.,*
in response to message #1 by David Ramsey

David,

I'm awed by your restoration and also great pictures and descriptions.

I'll use them as a guide when I get my own 9100...one day.

Thank you!

Etienne

Re: 9100B restoration progress

*Message #6 Posted by **David Ramsey** on 24 Nov 2011, 11:28 a.m.,*
in response to message #5 by Etienne Victoria

I plan on putting up a web site completely documenting the restoration of both 9100Bs as well as the 9120 printer, which will gather the photos I've been posting here over the past few weeks with additional images and commentary.

BTW, thanks again for the 9100 mag cards!

Re: 9100B restoration progress

*Message #7 Posted by **Etienne Victoria** on 27 Nov 2011, 10:33 a.m.,*
in response to message #6 by David Ramsey

You're welcome!

Happy to see them reunited to the machine that wrote them once :-)

Etienne

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some Sharp brochures in PDF - enjoy

*Message #1 Posted by **gene wright** on 23 Nov 2011, 11:25 a.m.*

Sharp EL5100 brochure:

EL 5100

Sharp PC 1211 brochure:

PC 1211

Sharp CE-122 brochure:

CE-122

Re: Some Sharp brochures in PDF - enjoy

*Message #2 Posted by **Katie Wasserman** on 23 Nov 2011, 12:07 p.m.,*
in response to message #1 by gene wright

Thanks! I really loved my Tandy PC-1 (Sharp PC 1211) way back when. Although its BASIC was slow and did not have full string processing it had a really useful feature of overlapping arrays much like the HP-32s series does. That is A(x+1) = B(x) = C(x-1), etc.

Re: Some Sharp brochures in PDF - enjoy

*Message #3 Posted by **Namir** on 24 Nov 2011, 7:26 a.m.,*
in response to message #2 by Katie Wasserman

Katie,

I share your love for the Sharp PC-1211. I remember the first time I saw it was at the home of Jack Stout in a PPC conference in Chicago. Over the years I bought and sold a few units. Recently, I got a few units from TAS.

I posted on a separate message a request for the pdf file for the manual. I DO have a printed manual, but would like to find a pdf version.

Namir

Re: Some Sharp brochures in PDF - enjoy

*Message #4 Posted by **Valentin Albillo** on 29 Nov 2011, 4:05 p.m.,*
in response to message #2 by Katie Wasserman

Quote:

> Thanks! I really loved my Tandy PC-1 (Sharp PC 1211) way back when. Although its BASIC was slow and did not have full string processing it had a really useful feature of overlapping arrays much like the HP-32s series does. That is A(x+1) = B(x) = C(x-1), etc.

I also loved my Sharp PC-1211 and wrote more than a hundred novel, quality programs for it in its time.

I guess you've already seen it but for those people who don't and might be interested, here is the link to a full-fledged 12-page article I wrote a few years ago extensively reviewing the Sharp PC-1211, including five of my own programs, photographs, and also a detailed comparison vs. its great contemporary, the HP-41C, featuring several equivalent sample programs in both RPN and Sharp-1211's own BASIC programming language:

Know Thy Foe: A New Contender.

Best regards from V.

Re: Some Sharp brochures in PDF - enjoy

*Message #5 Posted by **From Hong Kong** on 23 Nov 2011, 12:46 p.m.,*
in response to message #1 by gene wright

Sharp produced a number of remarkable models. Later models such as PC-1251 and PC-1500 can be programmed in machine language. They were very popular in Hong Kong.

Re: Some Sharp brochures in PDF - enjoy

*Message #6 Posted by **Bill (Smithville, NJ)** on 23 Nov 2011, 3:21 p.m.,*
in response to message #5 by From Hong Kong

And don't forget the last of the series, PC-1600, had dual processors (the pc-1500 processor and a Z-80 processor), had two memory slots, RS-232 interface, and an analog port.

The one I have on my desk is fully fitted with a 32K and 256K memory cards giving 77K for programs and 220K ram disk file space. Pretty amazing for a handheld computer of that day.

Bill

Re: Some Sharp brochures in PDF - enjoy

*Message #7 Posted by **Peter Geiser** on 23 Nov 2011, 4:20 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Hi Bill

Do you know if it is possible to use both processors at the same time?

This would make the PC1600 probably the first dual-processor handheld.

Regards
Peter

Sharp PC-1600 Technical data

*Message #8 Posted by **robertoataulfo** on 23 Nov 2011, 5:30 p.m.,*
in response to message #7 by Peter Geiser

PC-1600 Technical data

Re: Sharp PC-1600 Technical data

*Message #9 Posted by **Eric Smith** on 23 Nov 2011, 7:33 p.m.,*
in response to message #8 by robertoataulfo

That's the first I've heard of it having a third processor. I wonder what the LU57813P does? Assuming that it's really a processor, maybe it manages the display or something.

Re: Some Sharp brochures in PDF - enjoy

*Message #10 Posted by **Bill (Smithville, NJ)** on 23 Nov 2011, 6:26 p.m.,*
in response to message #7 by Peter Geiser

Hi Peter,

I don't think you can use both processors at the same time. You can switch back and forth between them.

Bill

Re: Some Sharp brochures in PDF - enjoy

*Message #11 Posted by **From Hong Kong** on 23 Nov 2011, 11:32 p.m.,*
in response to message #10 by Bill (Smithville, NJ)

One of the CPUs is supposed to provide backward compatibility with PC-1500. Both CPUs don't work in tandem with each other.

Re: Some Sharp brochures in PDF - enjoy

*Message #12 Posted by **Peter Geiser** on 24 Nov 2011, 1:52 a.m.,*
in response to message #10 by Bill (Smithville, NJ)

Thanks.

It would have been interesting to use both at the same time, placing a worker thread in the background for one processor and the other still being available for foreground processing.

The third processor is - as far as I know - only there to manage the other two.

Regards
Peter

Re: Some Sharp brochures in PDF - PC-1600 Brochure- enjoy

*Message #13 Posted by **Bill (Smithville, NJ)** on 23 Nov 2011, 6:28 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Following is the PC-1600 Brochure:

PC-1600

Bill

Re: Some Sharp brochures in PDF - enjoy

*Message #14 Posted by **From Hong Kong** on 23 Nov 2011, 11:28 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Yes, PC-1600 is a great machine in terms of functionality and expandability. Unfortunately, it never arrived in Hong Kong. I had to buy one from TAS!

Another nice model that was once available in Hong Kong is PC-E500S. It has a lot of built-in BASIC programs categorised as "engineering software". I think it's still available somewhere (except auction sites) on earth.

Of course, machine language programming is possible on PC-E500S. You can easily find related information on the web.

Re: Some Sharp brochures in PDF - enjoy

*Message #15 Posted by **robertoataulfo** on 24 Nov 2011, 7:26 a.m.,*
in response to message #14 by From Hong Kong

Sharp PC-1600 Sale Brazil

Sharp PC-1211 PDF Documentation?

*Message #16 Posted by **Namir** on 24 Nov 2011, 7:23 a.m.,*
in response to message #1 by gene wright

Does anyone have a pdf file for the Sharp PC-1211 manual?

Namir

Re: Sharp PC-1211 PDF Documentation?

*Message #17 Posted by **robertoataulfo** on 24 Nov 2011, 7:24 a.m.,*
in response to message #16 by Namir

Docs PC-1211

Re: Sharp PC-1211 PDF Documentation?

*Message #18 Posted by **Namir** on 24 Nov 2011, 11:07 a.m.,*
in response to message #17 by robertoataulfo

The link to the 1211's manual is broken!!!

I tried the site for Sharp manual , but they did not have documentation for the PC-1211.

:-(

Re: Sharp PC-1211 PDF Documentation?

*Message #19 Posted by **Katie Wasserman** on 24 Nov 2011, 11:25 a.m.,*
in response to message #18 by Namir

How about here.

Re: Sharp PC-1211 PDF Documentation?

*Message #20 Posted by **Namir** on 24 Nov 2011, 1:45 p.m.,*
in response to message #19 by Katie Wasserman

Very impressive Katie! I sent them a request for a permission to download the file via FaceBook.

happy Thanksgiving!

Namir

Re: Some Sharp brochures in PDF - enjoy

*Message #21 Posted by **Bill (Smithville, NJ)** on 24 Nov 2011, 10:30 a.m.,*
in response to message #1 by gene wright

For everyone here that likes these sharp pocket computers, there is a nice emulator for a lot of the models:

POCKEMUL

The latest version 0.93 includes a Beta version of the PC-1600 plus you can emulate a lot of the accessories such as printers, tape recorders, memory modules. Please note that it's not a 1.0 product level, so be prepared for some quirks along the way. But still fun to play with.

Bill

Re: Some Sharp brochures in PDF - enjoy

*Message #22 Posted by **Namir** on 24 Nov 2011, 4:00 p.m.,*
in response to message #21 by Bill (Smithville, NJ)

Thanks for the link Bill. It's nice to have access to newer versions of these emulators.

Re: Some Sharp brochures in PDF - enjoy

*Message #23 Posted by **Miguel Toro** on 25 Nov 2011, 10:57 p.m.,*
in response to message #1 by gene wright

And what about these models:

Sharp PC-G850 Sharp PC-G830

Does someone have information (brochure, manual) about this C pocket computers?

Thanks,

Miguel

Re: Some Sharp brochures in PDF - enjoy

*Message #24 Posted by **From Hong Kong** on 26 Nov 2011, 9:47 a.m.,*
in response to message #23 by Miguel Toro

Quote:

> And what about these models:
>
> Sharp PC-G850 Sharp PC-G830
>
> Does someone have information (brochure, manual) about this C pocket computers?
>
> Thanks,
>
> Miguel

All information about these two models is only available in Japanese only.

Re: Some Sharp brochures in PDF - enjoy

*Message #25 Posted by **Didier Lachieze** on 28 Nov 2011, 2:11 a.m.,*
in response to message #1 by gene wright

Another one, whose original comes from the same source ;-)

Sharp EL-5103 brochure:

EL-5103

Re: Some Sharp brochures in PDF - enjoy

*Message #26 Posted by **Valentin Albillo** on 29 Nov 2011, 3:54 p.m.,*
in response to message #25 by Didier Lachieze

> Quote:
>
> Another one, whose original comes from the same source ;-)
>
> Sharp EL-5103 brochure:
>
> EL-5103

Thanks a lot, Didier.

Best regards from V.

Re: Some Sharp brochures in PDF - enjoy

*Message #27 Posted by **Valentin Albillo** on 29 Nov 2011, 3:47 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> Sharp EL5100 brochure:
>
> EL 5100
>
> Sharp PC 1211 brochure:
>
> PC 1211

> Sharp CE-122 brochure:
>
> CE-122

Thanks a lot, Gene, much appreciated. I own all three items in mint condition, as well as the PC-1211 brochure in Spanish language.

Great to see them, if you've got more please share.

Best regards from V.

Re: Some Sharp brochures in PDF - enjoy

*Message #28 Posted by **gene wright** on 29 Nov 2011, 3:57 p.m.,*
in response to message #27 by Valentin Albillo

That was all, sad to say.

But, what do you think of the EL-5100 ?

I know it is special based upon its age / position, but function wise, it has seemed a bit lacking in capabilities to me ?

Re: Some Sharp brochures in PDF - enjoy

*Message #29 Posted by **Valentin Albillo** on 29 Nov 2011, 4:14 p.m.,*
in response to message #28 by gene wright

> Quote:
>
> That was all, sad to say.
>
> But, what do you think of the EL-5100 ?
>
> I know it is special based upon its age / position, but function wise, it has seemed a bit lacking in capabilities to me ?

Well, I didn't get it at the time it was released but actually a few years ago as a birthday present from a friend so I haven't used it at all, I'm just collecting it. That said, I think it's absolutely awesome for its time and further I'll state that from a purely aesthetic point of view it's one of the most beautiful calculators in history.

No pictures can make it justice no matter how good, you just have to hold it in your hands to be enthralled by its sheer beauty and luxury feel. Absolutely gorgeous !

Best regards from V.

Re: Some Sharp brochures in PDF - enjoy

*Message #30 Posted by **Keith Midson** on 30 Nov 2011, 9:38 p.m.,*
in response to message #1 by gene wright

These were beautiful designs - in an age before plastic was king ... IMAGES HERE Keith

Re: Some Sharp brochures in PDF - enjoy

*Message #31 Posted by **Juergen Keller** on 1 Dec 2011, 4:50 p.m.,*
in response to message #30 by Keith Midson

Indeed, timeless beauties, and they even had an ENTER key! :-)

Re: Some Sharp brochures in PDF - enjoy

*Message #32 Posted by **Keith Midson** on 2 Dec 2011, 5:34 p.m.,*
in response to message #31 by Juergen Keller

I've just added a Sharp set to my museum: SHARPs I have quite a few more - will have to upload them. Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Google's Lem doodle

*Message #1 Posted by **Valentin Albillo** on 23 Nov 2011, 8:24 a.m.*

Hi, all:

I guess many of you, if not all, have seen and tried today's Google doodle, dedicated to **Stanislaw Lem**, one the very best science-fiction writers ever and my very own personal favorite among them all.

The Lem doodle is utterly **awesome**, it must have taken lots and lots of effort and savvy to concoct !

... and I'm pretty happy and amazed that Google values Lem's work so much as to produce such a magnificent and expensive work of art to celebrate him.

Opinions ?

P.S: you can see Lem's doodle being played out in its entirety here: http://www.youtube.com/watch?v=09YagnJ1urE, though I'd recommend you don't see this video but actually play it out yourself, extremely funny and rewarding.

Best regards from V.

Edited: 23 Nov 2011, 8:34 a.m.

Re: [OT] Google's Lem doodle

*Message #2 Posted by **Randy** on 23 Nov 2011, 10:11 a.m.,*
in response to message #1 by Valentin Albillo

Thank you for posting - as his doodle does not appear in the US, it is an animated turkey for the thanksgiving holiday.

Re: [OT] Google's Lem doodle

*Message #3 Posted by **Howard Owen** on 23 Nov 2011, 11:06 a.m.,*
in response to message #2 by Randy

You can see the doodle in the US by going to google.de. I'm pretty sure other international domains would work too.

It's pretty cute. :)

Re: [OT] Google's Lem doodle

*Message #4 Posted by **Howard Owen** on 23 Nov 2011, 11:13 a.m.,*
in response to message #1 by Valentin Albillo

That is cool!, If you hadn't mentioned it was dedicated to Stanislaw Lem I never would got the connection. The only thing I've read by him is Solaris, and the alien in that novel is a bit shapeless. :) Since the Google Doodle in the US is dedicated to our Thanksgiving holiday, I never would have seen this at all if you hadn't posted. Thanks!

Re: [OT] Google's Lem doodle

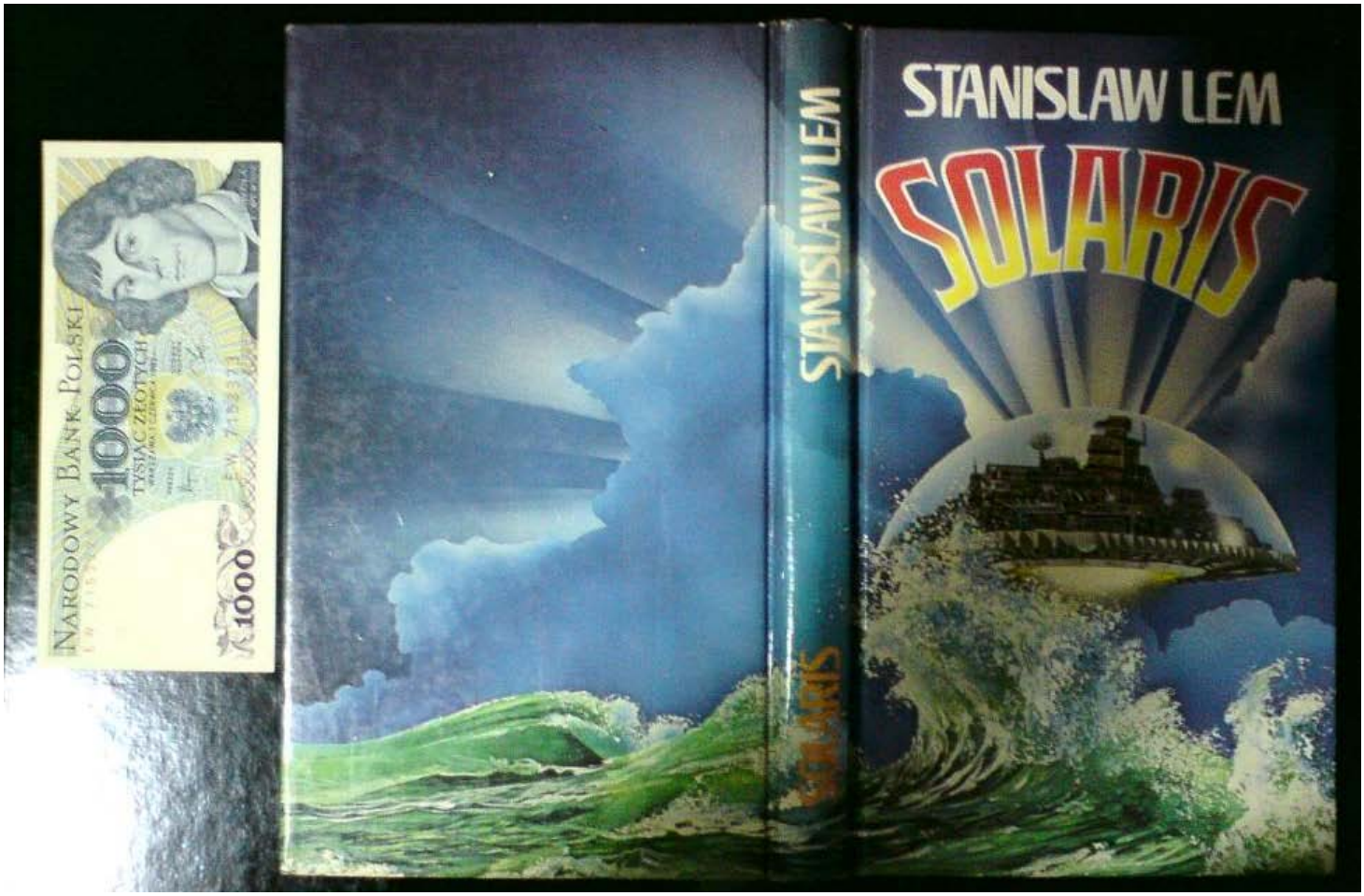
*Message #5 Posted by **db (martinez, ca.)** on 23 Nov 2011, 10:15 p.m.,*
in response to message #4 by Howard Owen

Howard; Solaris was a good strange, haunting choice. If you read another; you might try At the Futurological Congress.

Re: [OT] Google's Lem doodle

*Message #6 Posted by **Gerson W. Barbosa** on 24 Nov 2011, 1:17 a.m.,*
in response to message #4 by Howard Owen

From my bookshelf:



That's the only Lem's novel I read. Time to read more from him.

Also from Poland:

Nicolaus Copernicus

Joseph Conrad

Jan Lukasievicz

Last but not least, my great-grandparents (mother's side) :-)

Re: [OT] Google's Lem doodle

*Message #7 Posted by **George Litauszky** on 24 Nov 2011, 1:30 p.m.,*
in response to message #6 by Gerson W. Barbosa

I found the "Cyberiad" from Stanislaw Lem in English. It's a nice book too.
Lem: Cyberiad

Re: [OT] Google's Lem doodle

*Message #8 Posted by **Gerson W. Barbosa** on 24 Nov 2011, 5:08 p.m.,*
in response to message #7 by George Litauszky

Thanks! Thanks also Valentin for the post and the recommendations below. According to Portuguese Wikipedia, only Solaris was available in Brazil, which appears to be true, and only a few other Lem's works have been translated into Iberian Portuguese.

Re: [OT] Google's Lem doodle

*Message #9 Posted by **Valentin Albillo** on 24 Nov 2011, 1:24 p.m.,*
in response to message #1 by Valentin Albillo

Hi, all:

I didn't know that the Lem Google doodle wasn't visible in the US, I had mistakenly assumed that it was available worldwide ... :(

Anyway, thanks to those of you who replied, much appreciated. I love most all of Lem's books, articles, and novels, but for those of you interested in reading more of it (as Solaris, IMHO, is too much overrated and isn't neither typical nor the best of his production), may I suggest you try these:

- **Fiasco**

  Full-fledged novel, the most amazing, visionary technology and new scientific theories used throughout effortlessly, as if it were completely real and well-known to the reader. A real treat for the technologically-, scientifically-oriented mind, with an awesome final. A must.

- **More Tales Of Pirx The Pilot**

  A collection of short tales, absolutely enthralling in their uncanny mix of futuristic setups and deep philosophical themes. Another must.

- **The Star Diaries**

  The exact opposite of the previous one, this is also a collection of short tales but instead of realistic setups and philosophy what you get here is sheer humour, lots of it, of the decidedly surrealistic kind. It may seem a bit strange at first but once used to it you'll be laughing all the time, from the very first short tale to the last.

There are many, many others (**"His Master's Voice"**, the short tale **"Non Serviam"** in the short-tale collection "A perfect vacuum", etc, etc) but if you would check the above three references, which are completely varied and unlike one another, I would be more than satisfied.

Best regards from V.

Re: [OT] Google's Lem doodle

*Message #10 Posted by **Walter B** on 24 Nov 2011, 6:17 p.m.,*
in response to message #9 by Valentin Albillo

I remember having read most of what was available of Stanislaw Lem some 40 years ago (translated in my mother tongue, of course). Great science fiction author in the very best sense :-)

Re: [OT] Google's Lem doodle

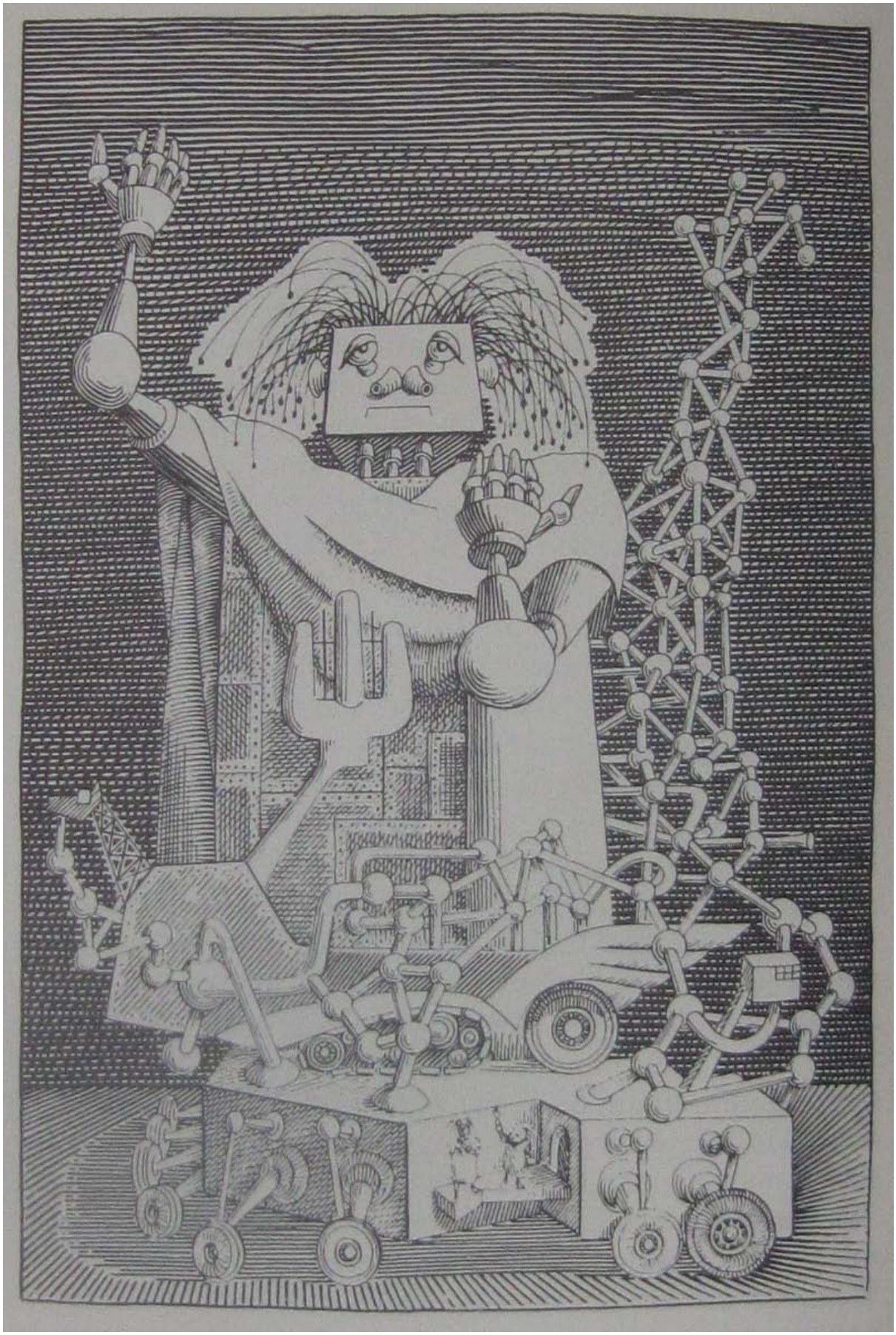
*Message #11 Posted by **Thomas Radtke** on 25 Nov 2011, 10:37 a.m.,*
in response to message #9 by Valentin Albillo

I've already read The Star Diaries (Sterntagebu"cher) and now have ordered Fiasco (the german translation Fiasko actually). Thanks for the recommendations.

Re: [OT] Google's Lem doodle

*Message #12 Posted by **wiebel** on 24 Nov 2011, 5:30 p.m.,*
in response to message #1 by Valentin Albillo

It was really touching to see some of my favorite characters come to live like that. To give you an impression of how close it is to the original illustrations by Daniel Mroz, I made some photos from Trurl and Klapauzius (from an german edition published by insel).



[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CX for $2K !! - he must be dreaming !!

*Message #1 Posted by **John Robinson** on 23 Nov 2011, 5:23 a.m.*

$2K 41CX

Cheers, John

Re: 41CX for $2K !! - he must be dreaming !!

*Message #2 Posted by **M. Joury** on 23 Nov 2011, 7:38 a.m.,*
in response to message #1 by John Robinson

Starting bid is $1200 and you do get a card reader (he doesn't specifically mention if the card reader works). But yes, he does seem to be asking a little much.

Cheers,

-Marwan

Re: 41CX for $2K !! - he must be dreaming !!

*Message #3 Posted by **Paul Gaster** on 23 Nov 2011, 9:21 a.m.,*
in response to message #1 by John Robinson

If you are looking for deals, here are a few: (sarcasm on)

How about a 35s zipper case for $199? see item 330287541548

The same seller also has the 25th anniversary 12C case for the same low price of $199.

Or how about a 10bII, broken and for parts only, for just the low starting price of $449.99? see item 280777390109

Re: 41CX for $2K !! - he must be dreaming !!

*Message #4 Posted by **M. Joury** on 23 Nov 2011, 9:26 a.m.,*
in response to message #3 by Paul Gaster

> Quote:
>
> Or how about a 10bII, broken and for parts only, for just the low starting price of $449.99? see item 280777390109

You forgot to mention the $100.00 Economy Shipping.

I guess a working 41CX with card reader is really a steal at $1,200.00 when you compare it to these other "deals"!

Cheers,

-Marwan

10bii for $449 !! - he must be dreaming !!

*Message #5 Posted by **Martin Pinckney** on 23 Nov 2011, 9:34 a.m.,*
in response to message #3 by Paul Gaster

> Quote:
>
> Or how about a 10bII, broken and for parts only, for just the low starting price of $449.99? see item 280777390109

You forgot to mention $100 shipping charge for said broken calculator.

Obviously a joke; look at his eB** handle. His feedback so far is 12; mostly a few inexpensive DVD's.

Re: 10bii for $449 !! - he must be dreaming !!

*Message #6 Posted by **Patrice** on 23 Nov 2011, 1:21 p.m.,*
in response to message #5 by Martin Pinckney

Colurbin new account ? :)

Re: 41CX for $2K !! - he must be dreaming !!

*Message #7 Posted by **M. Joury** on 23 Nov 2011, 9:38 a.m.,*
in response to message #3 by Paul Gaster

> Quote:
>
> How about a 35s zipper case for $199? see item 330287541548
>
> The same seller also has the 25th anniversary 12C case for the same low price of $199.

I think that this is because the items are out of stock and he does not want you bidding on them. He specifically states that the 12C case is not available. Most of his other items are mostly reasonably priced.

Cheers,

-Marwan

Re: 41CX for $2K !! - he must be dreaming !!

*Message #8 Posted by **Iqbal** on 23 Nov 2011, 12:03 p.m.,*
in response to message #1 by John Robinson

Hi John, How are things down under? Even the NIB 41CX I bought a few years ago costed just $250. Maybe it's Jamaican dollars he's talking about :)

Re: 41CX for $2K !! - he must be dreaming !!

*Message #9 Posted by **Giancarlo** on 24 Nov 2011, 2:04 a.m.,*
in response to message #8 by Iqbal

There is also an 'easy course programming book for hp11c and hp15c' on tas for 282,98$.

Since financial markets are doing crazy, do you think that old hewlett packard items are a new kind of investment?

Is it a message to me that i cannot afford this hobby anymore?

Based on these prices, the value of my collection is around 15k$...

i am rich :-)

Giancarlo from Italy

Re: 41CX for $2K !! - he must be dreaming !!

*Message #10 Posted by **robertoataulfo** on 25 Nov 2011, 7:58 a.m.,*
in response to message #1 by John Robinson

HP-71B High Price too

Re: 41CX for $2K !! - he must be dreaming !!

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 25 Nov 2011, 8:43 a.m.,*
in response to message #10 by robertoataulfo

Man, these Hungarians are everywhere! :-)

... err, or was that Americans, or was that...

Ain't capitalism a [female dog].

Re: 41CX for $2K !! - he must be dreaming !!

*Message #12 Posted by **aj04062** on 25 Nov 2011, 4:24 p.m.,*
in response to message #1 by John Robinson

Here's a good one.

Don't bid, $1,000 shipping charge. OOF

Listing

Re: 41CX for $2K !! - he must be dreaming !!

*Message #13 Posted by **Lincoln R.** on 25 Nov 2011, 7:32 p.m.,*
in response to message #12 by aj04062

I think this guy just made a mistake because he said in the listing that shipping was $10.

Re: 41CX for $2K !! - he must be dreaming !!

*Message #14 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 1:54 a.m.,*
in response to message #13 by Lincoln R.

The offer is already fixed to show $10 (U.S.A. only).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] Numeric Integrator Has Max Iterations Set?

*Message #1 Posted by **Les Wright** on 23 Nov 2011, 3:58 a.m.*

The subject-line query says it all.

I was fiddling around with numeric integration, and the first integral I usually attempt is the one discussed in Kahan's 1980 paper on the 34C integration (on the MoHPC DVD). Namely, we are talking the integral of the following between w=0 and w=1:

```
2*w^2/((w-1)*(w+1)) - w/ln(w)
```

The WP34S emulator is fast but it seems to top out at 7 accurate significant digits even if one sets the display to the max possible (i.e., ALL 11, FIX 11, or SCI 11).

My HP15C LE is pretty fast and gets more like 8 or 9 digits even if I use something as low as SCI 6 or SCI 7. My 35S is much slower but, still, does better than the best attainable with the 34s.

This is admittedly a challenging integral (Kahan presents it as a potentially pathological example in the aforementioned paper), but I was wondering if the programmers here limited the number of function computations in the Romberg Integration or whatever other algorithm was used.

I note that Thomas Okken, via Hugh Steers, uses Romberg Integration in Free42. Free42 gets all 12 displayed digits correct for this integral, and quickly at that.

I am very interested in numerical integration and wondering if anyone could tell me about the innards of the algorithm.

Les

P.S. I am working with 2.2, not the version 3 beta. Indeed, I don't know where to get the latter.

Edited: 23 Nov 2011, 4:01 a.m.

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #2 Posted by **Paul Dale** on 23 Nov 2011, 5:32 a.m.,*
in response to message #1 by Les Wright

The 34S does **not** use an adaptive integration method. It doesn't deal with the *difficult* cases at all well.

There is a wrapper somewhere to provide some degree of adaption over the top and I've thought about implementing Romberg but haven't done it yet and might never get to it.

- Pauli

Edited: 23 Nov 2011, 5:33 a.m.

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #3 Posted by **Les Wright** on 23 Nov 2011, 5:48 a.m.,*
in response to message #2 by Paul Dale

Well, Pauli, that explains perfectly the speed and the fact that the accuracy stays put irrespective of how many digits I choose to display. The algorithm only samples 31 points no matter what.

The 90 step Romberg Integration routine in the PPC module I am sure is easily adapted to the 34s, since it looks like 34s has all of the functions of the 41C series and then some. I could work on that eventually.

BTW, I recall that the TI-83 and TI-84 actually use Gauss-Kronrod but may sample more points according to desired accuracy? I can't remember--haven't touched my Tis forever.

Les

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #4 Posted by **Paul Dale** on 23 Nov 2011, 5:57 a.m.,*
in response to message #3 by Les Wright

It only performs 21 function evaluations. Gauss/Kronrod quadratures share the points between the two methods. A major aspect of their appeal.

The PPC Romberg routine would port easily -- when I wrote the integration code several years ago, I had exactly five registers to work with. Romberg was simply not possible in so few. This is a limitation of the internal keystroke programming model. Thus, the 2.x firmware will *never* get an adaptive built in integrator. However, check out Miguel Toro's integration wrapper for a way to use the internal integration somewhat adaptively.

With the 3.x firmware, we have dynamically allocated local registers and it would be possible to use the PPC routine as the basis of the internal integration function. It will still need quite some reworking to make it behave *exactly* like the built in command must (near enough isn't acceptable for this unfortunately).

Time is my issue :-(The current integrator works okay mostly, I've better things to do at the moment than recode it. Maybe eventually.

- Pauli

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #5 Posted by **Miguel Toro** on 23 Nov 2011, 6:27 a.m.,*
in response to message #2 by Paul Dale

Hi,

The wrapper is in the Article section.

Regards,

Miguel

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #6 Posted by **Les Wright** on 23 Nov 2011, 9:00 p.m.,*

in response to message #5 by Miguel Toro

> Quote:
>
> Hi,
>
> The wrapper is in the Article section.
>
> Regards,
>
> Miguel

Miguel, this is a great routine. I may tweak it a bit so that the desired accuracy can be entered directly, like we do with the 42s or Free42, rather than inferred from the number of digits in SCI, FIX, ALL, etc.

It isn't an adaptive routine like Richardson extrapolation, but it still is quite fast on what is a very fast calculator. I like it just fine. Thank you!

Les

Re: [WP34S] Numeric Integrator Has Max Iterations Set?

*Message #7 Posted by **Paul Dale** on 23 Nov 2011, 5:35 a.m.,*
in response to message #1 by Les Wright

> Quote:
>
> I am very interested in numerical integration and wondering if anyone could tell me about the innards of the algorithm.

The 34S uses a 10/21 point Gauss/Kronrod quadrature. The source code is in xrom.wp34s in trunk in the source tree.

Also see pages 99 and 100 of the 2.2 manual.

- Pauli

Edited: 23 Nov 2011, 5:48 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 67 and 97 odd behavior- HELP

*Message #1 Posted by **Fouad M. Kaadou** on 22 Nov 2011, 4:25 p.m.*

Hello,

I have a problem with both my hp67 and hp97 both bought off auction sites. They both sometimes stop responding and when I press certain* buttons (not all have this problem) one of the numeric LEDs shuts off and turns back on when unpressed. The buttons always correspond to the same LED. Does this mean that both have fried circuits?

*On the hp67 only the last column (E, SST, h, CLX, 9, 6, 3, R/S)

*On the hp97 only the right set of buttons.

Help

-Fouad

Re: HP 67 and 97 odd behavior- HELP

*Message #2 Posted by **Katie Wasserman** on 22 Nov 2011, 4:42 p.m.,*
in response to message #1 by Fouad M. Kaadou

The keys on the 67 correspond to all the keys on the one column scan line. If the problem is intermittent you likely have a poor contact going to the keyboard on that line. Open up the calculator and clean the contacts to the keyboard.

On the 97, is the problem also intermittent and are all keys on the right half of the keyboard problematic?

Edited: 22 Nov 2011, 4:42 p.m.

Re: HP 67 and 97 odd behavior- HELP

*Message #3 Posted by **Fouad M. Kaadou** on 23 Nov 2011, 9:48 a.m.,*
in response to message #2 by Katie Wasserman

Hello Katie,

Yes all the keys on the right hand side of the hp97 have this issue.

I will clean the keys on the hp67 and tell you what happens.

Thanks,

-Fouad

Re: HP 67 and 97 odd behavior- HELP

*Message #4 Posted by **Katie Wasserman** on 23 Nov 2011, 11:59 a.m.,*

in response to message #3 by Fouad M. Kaadou

Don't clean the keys on the 67, just the contacts between the keyboard and the main board.

On the 97, the only thing that distinguishes the right half of the keyboard form the left half is the contact sheet sandwich. It must be that the right half sandwich is misaligned. You need to take the keyboard apart and check the alignment. This is actually pretty easy to do, no keys need to be remove just unscrew the keyboard PCB from the keyboard and you should see the problem immediately.

Re: HP 67 and 97 odd behavior- HELP

Message #5 Posted by ***Fouad M. Kaadou*** *on 23 Nov 2011, 12:30 p.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie...

Cheers,

-Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cursed Card Reader

*Message #1 Posted by **Fouad M. Kaadou** on 22 Nov 2011, 4:11 p.m.*

Hello,

I seem to have a cursed hp41c card reader...please help.

The card reader works perfectly on my hp41c but when plugged into my hp41cx the calculator would either not recognize it or would go crazy and not respond until I unplug the card reader. The port 4 of the hp41cx works properly with modules and other peripherals but somehow rejects the card reader. Could the card reader be cursed by the previous owner?

Thanks in Advance

-Fouad

Re: Cursed Card Reader

*Message #2 Posted by **Raymond Del Tondo** on 22 Nov 2011, 4:41 p.m.,*
in response to message #1 by Fouad M. Kaadou

Hello,

the first things that come into mind are contact foil/spring problems, and/or battery/energy problems.

Maybe one or more of the contact springs of your card reader has a slightly different (out of line) resting position,
which may still make good contact to the foil of your 41C, but not necessarily in other HP-41 units.

Or the energy side: Did you try with the same battery pack in both calcs when using the card reader?

HTH

Ray

Re: Cursed Card Reader

*Message #3 Posted by **Dirk Mehldau** on 23 Nov 2011, 2:00 a.m.,*
in response to message #1 by Fouad M. Kaadou

Hi Fouad,

even though port 4 works properly with modules, the card reader uses a unique address not used by modules. So there may be contact problems around port 4.

Hope this helps.

Dirk

Re: Cursed Card Reader

*Message #4 Posted by **Fouad M. Kaadou** on 23 Nov 2011, 9:58 a.m.,*
in response to message #3 by Dirk Mehldau

I have tried changing the battery pack but still to no avail. I forgot to mention that even though the calculator does not recognize the card reader but when I plug a card in the reader the display shows weird things and freezes.

I will attempt to clean the contacts inside the calculator and get back to you.

cheers,

Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s Development under Linux?

*Message #1 Posted by **Nobby K.** on 22 Nov 2011, 11:05 a.m.*

Hi, all.

I'm trying to modify WP34 based on V2.2 using Linux enviorment.

Q1. If based on V2.2 firmware, which SVN revision shoud be checked out?

I tried to build with CodeSourcery G++ Lite(4.5.2) on Linux and build SVN1782 source. Download the firmware to HP30b hardware. Almost of commands work correct, but [h][CONST] is hanged up.

Anyone has seen that?

Q2. Which compiler should be used on linux? Q3. Who tests the firmware with linux compiler?

regards,

Re: WP34s Development under Linux?

*Message #2 Posted by **Eric Smith** on 22 Nov 2011, 12:31 p.m.,*
in response to message #1 by Nobby K.

> Quote:
>
> Which compiler should be used on linux

I was told that there were problems using CodeSourcery.

> Quote:
>
> Who tests the firmware with linux compiler?

You! :-)

Re: WP34s Development under Linux?

*Message #3 Posted by **Walter B** on 22 Nov 2011, 12:59 p.m.,*
in response to message #1 by Nobby K.

> Quote:
>
> Q1. If based on V2.2 firmware, which SVN revision shoud be checked out?

Build 1797 was a good v2.2 build IIRC. Generally, just read the comments submitted with each build - and a few of the following ones - and you'll get a feeling what was (and is) going on. But be aware you branch on

work in progress! We let you follow the development process closely, giving you a lot of insight and OTOH a lot of responsibility for your deeds. If you want a probably more stable package, take the latest zipped build.

For the other questions, I concur with Eric.

Re: WP34s Development under Linux?

*Message #4 Posted by **Marcus von Cube, Germany** on 22 Nov 2011, 1:34 p.m.,*
in response to message #1 by Nobby K.

As Eric already told you, CodeSourcery and WP 34S are a close mismatch. :-(

If you really want to participate in development, do it on the latest SVN revision. Pascal is just adding a Qt GUI to the project which makes it possible to run the GUI version on MacOS, Linux and whatever operating system supports Qt. Compiling this on a Linux system should be easy. In order to build the ARM binary, get a generic GCC 4.6.2 ARM cross compiler. Yagarto.de is supplying one for Windows and MacOS which I'm running both with success: They produce the same binaries.

Re: WP34s Development under Linux?

*Message #5 Posted by **pascal_meheut** on 22 Nov 2011, 2:19 p.m.,*
in response to message #4 by Marcus von Cube, Germany

The project compiles under Linux indeed. But it is better to use GCC.

I second Marcus: you should base your work on the last version. If you checkout it, you'll find a README in the QtGui subdirectory explaining how to build the whole project and the new emulator under Linux.

Then you can indeed build the calc.bin if you have a compiler. Just configure the paths in the main Makefile (search for CROSS_COMPILE) and launch "make REALBUILD=1".

If you really want to work on 2.2, it must be possible to merge the old source code with the emulator and the changes in the Makefile but you'll be on your own.

Re: WP34s Development under Linux?

*Message #6 Posted by **Nobby K.** on 23 Nov 2011, 8:29 a.m.,*
in response to message #5 by pascal_meheut

Thanks All!

I will uninstall CodeSourcery and try YAGARTO on windows or generic GCC on linux.

I only want to add sum functions to every day using stable calculator. So if V3.0 overlay is released, I will change the base revision from V2.2 to trunk. V3.0 is very interesting such as Qt emulator, new functions(including solver) and bug fix. I'm hoping and waiting new overlay.

Re: WP34s Development under Linux?

*Message #7 Posted by **Marcus von Cube, Germany** on 23 Nov 2011, 8:38 a.m.,*
in response to message #6 by Nobby K.

> Quote:
>
> I only want to add sum functions to every day using stable calculator.

Are you sure this is a missing functionality? There are functions for time and date and calculations therewith.

Re: WP34s Development under Linux?

*Message #8 Posted by **Nobby K.** on 24 Nov 2011, 10:42 a.m.,*
in response to message #7 by Marcus von Cube, Germany

I want to add 'SETJPN' and money exchange rate convertor.

OK,OK! I will follow trunk, but now building GCC toolchain.

SETJPN

*Message #9 Posted by **Paul Dale** on 24 Nov 2011, 4:41 p.m.,*
in response to message #8 by Nobby K.

What should SETJPN do?

- Radix indicator (dot or comma) ?
- Time (12 or 24 hour) ?
- Thousands separate present or not ?
- Julian/Gregorian change over date (1582 or 1752) ?
- Date format (d.my, m.dy or y.md) ?

I think adding this command will consume 10 - 12 bytes of flash.

If you want to do it yourself, you'll need to make changes to (at least):

- xeq.c
- xeq.h
- commands.c
- compile_cats.c

- Pauli

Edited: 24 Nov 2011, 10:31 p.m.

Re: SETJPN

*Message #10 Posted by **Nobby K.** on 25 Nov 2011, 12:38 p.m.,*
in response to message #9 by Paul Dale

So, I am Japanese. Anyone is there?

> Quote:
>
> What should SETJPN do?
>
> - Radix indicator (dot or comma) ?
> - Time (12 or 24 hour) ?
> - Thousands separate present or not ?
> - Julian/Gregorian change over date (1582 or 1752) ?
> - Date format (d.my, m.dy or y.md) ?

Radix indicator is dot. Time is 24h Thousands separate present(comma). J -> G: 1873 Date format is y.md

> Quote:
>
> I think adding this command will consume 10 - 12 bytes of flash.

J -> G year is not important for me.

I should try that. But if you do that, it is very welcome. I'm building tool chain now.

Re: SETJPN

*Message #11 Posted by **Paul Dale** on 25 Nov 2011, 5:55 p.m.,*
in response to message #10 by Nobby K.

> Quote:
>
> J -> G year is not important for me.

Good, we only allow two choices :-) The history of the changeover is bizarre to say the least.

A SETJPN command is now present.

We errantly thought that the Chinese settings were suitable in Japan too :-(Live and learn.

- Pauli

Re: SETJPN

*Message #12 Posted by **Nobby K.** on 26 Nov 2011, 12:15 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> Good, we only allow two choices :-) The history of the changeover is bizarre to say the least.
>
> A SETJPN command is now present.
>
> We errantly thought that the Chinese settings were suitable in Japan too :-(Live and learn.

Thanks! WP34s is open source, so the user liveing that country can add and modify.

Re: SETJPN

*Message #13 Posted by **Nobby K.** on 26 Nov 2011, 8:00 a.m.,*
in response to message #11 by Paul Dale

I can't build rev 1924. Some modify is needed.

```
--- decn.h      (revision 1924)
+++ decn.h      (working copy)
@@ -252,6 +252,7 @@
 extern decNumber *decNumberPolyLnAlpha(decNumber *r, const
decNumber *z, const decNumber *y, const decNumber *x);
 extern decNumber *decNumberPolyHEn(decNumber *res, const decNumber
*y, const decNumber *x);
 extern decNumber *decNumberPolyHn(decNumber *res, const decNumber
*y, const decNumber *x);
+extern decNumber *decNumberPolyCommon(decNumber *res, const
decNumber *y, const decNumber *x);


 extern decNumber *decNumberBernBn(decNumber *res, const decNumber
*n);
 extern decNumber *decNumberBernBnS(decNumber *res, const decNumber
*n);
```

Re: SETJPN

*Message #14 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 9:48 a.m.,*
in response to message #13 by Nobby K.

Nobby, Pauli has made some changes to the code in this area. What is the exact error message the compiler produces?

Re: SETJPN

*Message #15 Posted by **Nobby K.** on 26 Nov 2011, 10:46 a.m.,*
in response to message #14 by Marcus von Cube, Germany

Sorry. I mistake. I had refered old revision.

Re: SETJPN

*Message #16 Posted by **pascal_meheut** on 25 Nov 2011, 5:28 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I think adding this command will consume 10 - 12 bytes of flash.

If we want to add some personalization in the firmware without consuming flash, it is relatively easy: we can simply change a value in calc.bin itself.

I've tried this to calibrate the STOPWATCH function and it works perfectly. My WP34s are now very accurate without a quartz.

I plan on implementing this kind of function, starting by calibration, in the new emulator. Editing a bitfield to select a few options from an already compiled calc.bin should be very easy too.

Re: WP34s Development under Linux?

*Message #17 Posted by **Dominic Richens** on 25 Nov 2011, 6:35 a.m.,*
in response to message #5 by pascal_meheut

> Quote:
>
> If you checkout it, you'll find a README in the QtGui subdirectory explaining how to build the whole project and the new emulator under Linux.

Wow good job Pascal!

I'm posting the latest version of the emulator in a public share at work - I know there are a few RPN oriented people at my work.

Any plans to make a "compact" skin?

Re: WP34s Development under Linux?

*Message #18 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 6:59 a.m.,*
in response to message #17 by Dominic Richens

I've just updated the layout(s) again for Windows. Pascal, some work ahead! :-)

Edited: 25 Nov 2011, 7:00 a.m.

Re: WP34s Development under Linux?

*Message #19 Posted by **pascal_meheut** on 25 Nov 2011, 8:03 a.m.,*
in response to message #17 by Dominic Richens

Yes, the new emulator will support the same set of skins. It is just a matter of converting them to the new XML format which can be partially automated.

And the emulator must also be improved to detect the set of skins, create the menu, remember the last one selected...

Nothing major but I'm working on the .dat files load&save right now.

Anyway, a first "full" version of the new emulator should be ready in 2 to 4 weeks I guess. Maybe sooner if my real work stop bothering me :-)

Re: WP34s Development under Linux?

*Message #20 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 8:48 a.m.,*
in response to message #19 by pascal_meheut

> Quote:
>
> Nothing major but I'm working on the .dat files load&save right now.

The routines are all there (storage.c). What makes this difficult?

Re: WP34s Development under Linux?

*Message #21 Posted by **pascal_meheut** on 25 Nov 2011, 9:37 a.m.,*
in response to message #20 by Marcus von Cube, Germany

Nothing difficult but if we want the emulator to be a real application, packaged for several OS, it is better to use the .dat files as default values and to store the user's modifications as

"preferences", i.e as a copy in its home directory.

It allows the application to be installed for several users (in Program Files, /usr/local, /opt, /Applications...), avoids trying to write to the directory where the application is installed (which can be read-only...)

Supporting the current behavior will still be possible of course.

Re: WP34s Development under Linux?

*Message #22 Posted by **Marcus von Cube, Germany** on 25 Nov 2011, 9:52 a.m.,*
in response to message #21 by pascal_meheut

I understand. You want to look at the current directory (or a preferences directory) first for any file, then in the emulator directory. Writing shall always go to the current or user's directory.

Re: WP34s Development under Linux?

*Message #23 Posted by **pascal_meheut** on 25 Nov 2011, 10:01 a.m.,*
in response to message #22 by Marcus von Cube, Germany

Exactly.

Re: WP34s Development under Linux?

*Message #24 Posted by **Nobby K.** on 26 Nov 2011, 9:20 a.m.,*
in response to message #19 by pascal_meheut

Hi, Pascal.

I try to build QtGui, but can not. If define INCLUDE_STOPWATCH, compiler reports the following error.

QtEmulatorAdapter.c:66: undefined reference to `KeyCallback'

Sorry, I have few experience in Qt. I'd like to fix this.

Thank you.

Re: WP34s Development under Linux?

*Message #25 Posted by **pascal_meheut** on 26 Nov 2011, 10:53 a.m.,*
in response to message #24 by Nobby K.

Strange, work fine here.

Can you check that you have the last version and that QtEmulatorAdapter.c has the #include "stopwatch.h" at the beginning ?

Edited: 26 Nov 2011, 10:54 a.m.

Re: WP34s Development under Linux?

*Message #26 Posted by **Nobby K.** on 26 Nov 2011, 9:10 p.m.,*
in response to message #25 by pascal_meheut

> Quote:
>
> Strange, work fine here.
>
> Can you check that you have the last version and that QtEmulatorAdapter.c has the #include "stopwatch.h" at the beginning ?

Yes.

```
% head -n 30 QtEmulatorAdapter.c | tail -n 15


// #include <string.h>
#include "xeq.h"
#include "stopwatch.h"
#include "display.h"
#include "data.h"
#include "storage.h"


extern int is_key_pressed_adapter();
extern int put_key_adapter(int);
extern void add_heartbeat_adapter(int);


void init_calculator()
{
        DispMsg = NULL;
```

Current SVN information is

```
% LANG=C svn info
Path: .
URL: https://wp34s.svn.sourceforge.net/svnroot/wp34s/trunk/QtGui
Repository Root: https://wp34s.svn.sourceforge.net/svnroot/wp34s
Repository UUID: b7f7c86c-e032-4ad3-b847-6de2c591762e
Revision: 1935
Node Kind: directory
Schedule: normal
Last Changed Author: pmeheut
Last Changed Rev: 1932
Last Changed Date: 2011-11-27 04:50:51 +0900 (Sun, 27 Nov 2011)
```

The error messages is

```
g++ -Wl,-O1 -o Linux/QtGui Linux/QtGuiMain.o Linux/QtEmulator.o
Linux/QtBackgroundImage.o Linux/QtKey.o Linux/QtSkin.o
Linux/QtScreenPainter.o Linux/QtKeyboard.o Linux/QtSerialPort.o
Linux/QtScreen.o Linux/QtCalculatorThread.o Linux/QtHeartBeatThread.o
Linux/moc_QtEmulator.o Linux/moc_QtBackgroundImage.o  -L../Linux_qt/obj -
lCalculator -ldecNum34s -lconsts  -L/usr/lib/qt-4.6.1/lib -LLinux -
lAdapter -L../Linux_qt/obj -lCalculator -ldecNum34s -lconsts -lQtXml -
lQtGui -lQtCore -lpthread
Linux/libAdapter.a(QtEmulatorAdapter.o): In function `forward_keycode':
/home/nkon-v51/doc/hpcalc/wp34s/trunk/QtGui/QtEmulatorAdapter.c:67:
undefined reference to `KeyCallback'
/home/nkon-v51/doc/hpcalc/wp34s/trunk/QtGui/QtEmulatorAdapter.c:69:
undefined reference to `KeyCallback'
```

Re: WP34s Development under Linux?

*Message #27 Posted by **pascal_meheut** on 27 Nov 2011, 1:25 a.m.,*
in response to message #26 by Nobby K.

Ok, this is a link problem, not a compilation one. And something is wrong on your link command: you are missing both the calculator libraries (-L../Darwin_qt/obj -lCalculator -ldecNum34s -lconsts) and the Qt libraries.

Are you using the provided Makefile? Because I tried under Ubuntu yesterday and everything went smoothly with gcc & Qt installed, PATH & QMAKESPEC defined. All I had to do was "make".

Re: WP34s Development under Linux?

*Message #28 Posted by **Nobby K.** on 27 Nov 2011, 8:22 a.m.,*
in response to message #27 by pascal_meheut

> Quote:
>
> Ok, this is a link problem, not a compilation one. And something is wrong on your link command: you are missing both the calculator libraries (-L../Darwin_qt/obj -lCalculator -ldecNum34s -lconsts) and the Qt libraries.
>
> Are you using the provided Makefile? Because I tried under Ubuntu yesterday and everything went smoothly with gcc & Qt installed, PATH & QMAKESPEC defined. All I had to do was "make".

QtGui is builded successfully. The cause is that the linux console emulator and library does not builded correctry. I have only builded the firmware.

Thanks.

Re: WP34s Development under Linux?

*Message #29 Posted by **pascal_meheut** on 27 Nov 2011, 8:32 a.m.,*
in response to message #28 by Nobby K.

Fine. Do not hesitate to report any problem, QtGui is still a work in progress.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Rehabilitating mushy keys

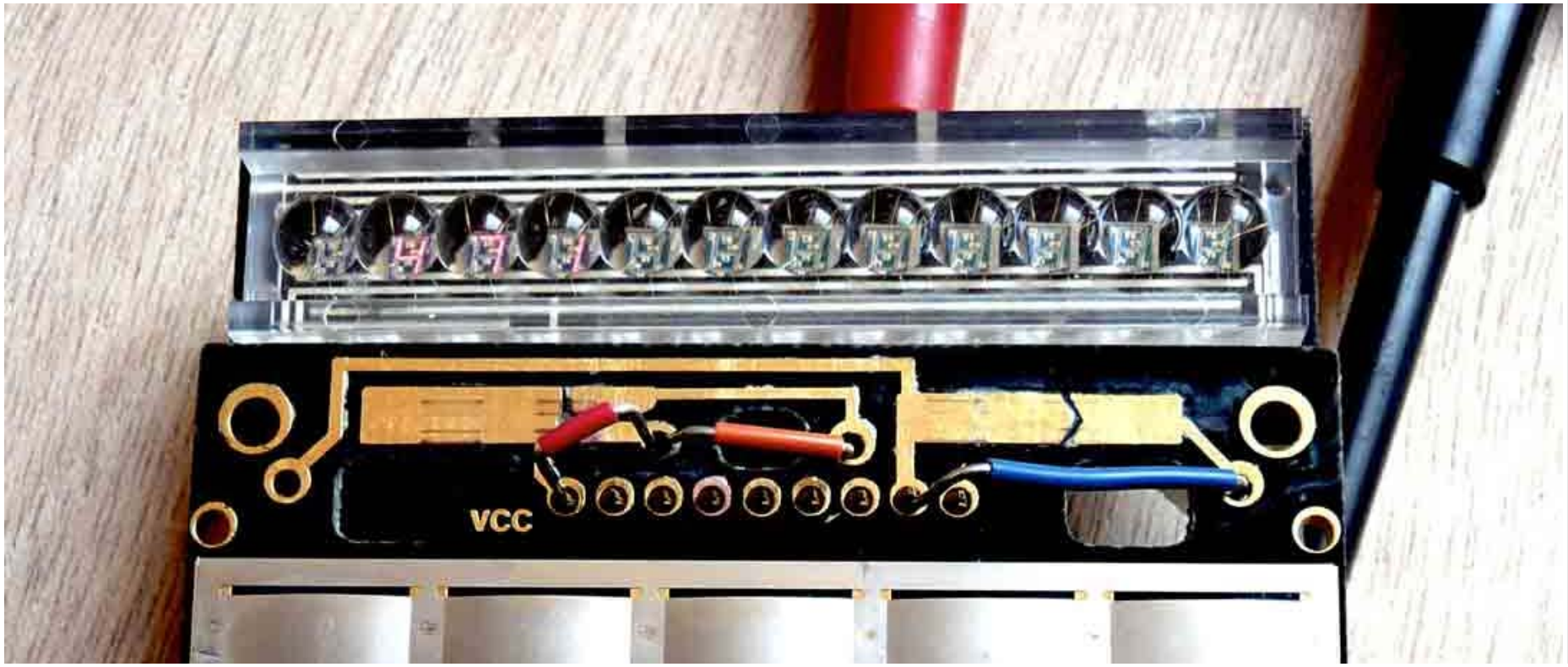
*Message #1 Posted by **David Griffith** on 22 Nov 2011, 2:10 a.m.*

According to Randy of fixthatcalc.com, mushy keys on an HP calculator are often caused by exposure to high heat for an extended period of time. What happens is that the plastic flexing part gets weak. That's why he says it's generally not possible to fix mushy keys. I don't know exactly what the keys look like underneath, but here's how I fixed mushy keys on something else, I forget what. The keyboard had tilting keys much like an HP calculator. I applied a thin layer of epoxy resin to the bar of plastic leading from the frame that held the buttons together to the button itself. This stiffened the bar enough such that it would spring back when pressed. The result was a complete rehabilitation and the keys were snappy again. Are HP calculator keys constructed such that this trick would work?

Re: Rehabilitating mushy keys

*Message #2 Posted by **David Ramsey** on 24 Nov 2011, 12:53 a.m.,*
in response to message #1 by David Griffith

I don't know what he means by "the plastic flexing part". Classic HP calculators have individual keys held in place by a plastic frame; the "key click" action is provided by arced metal "bridges" under each key position. It's hard to describe them but a photo will help (image found via Google Images):



Re: Rehabilitating mushy keys

*Message #3 Posted by **David Griffith** on 24 Nov 2011, 5:18 a.m.,*
in response to message #2 by David Ramsey

I see now that my idea would not work on HP calculators and my idea of why keys go mushy. So, just what is it that happens when a key goes mushy?

Re: Rehabilitating mushy keys

*Message #4 Posted by **David Ramsey** on 24 Nov 2011, 2:25 p.m.,*
in response to message #3 by David Griffith

> Quote:
>
> I see now that my idea would not work on HP calculators and my idea of why keys go mushy. So, just what is it that happens when a key goes mushy?

Two possibilities:

1. The metal arcs that provide the key snap feel have fatigued or cracked. The only repair possible is to replace the keyboard assembly.

2. Depending on the calculator, screws holding the keyboard assembly together have loosened, or in the case of heat-staked keyboards, the heat stakes have started to fail, although this is rare.

What calculator do you have with a mushy keyboard?

Re: Rehabilitating mushy keys

*Message #5 Posted by **David Griffith** on 24 Nov 2011, 6:22 p.m.,*
in response to message #4 by David Ramsey

I have two 32siis with mushy 8 keys. The rest of the keys are fine though one of them has keys distinctly less responsive than the other. I understand that some units were like this brand new.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 34S] MySamBa

*Message #1 Posted by **robertoataulfo** on 21 Nov 2011, 7:13 p.m.*

```
I'm trying to stop using the SAM-BA v2.10.
I would like to use MySamBa.
Had an explanatory document (pdf) on how to use Step by Step?
```

Re: [WP 34S] MySamBa

*Message #2 Posted by **Eric Rechlin** on 22 Nov 2011, 12:32 a.m.,*
in response to message #1 by robertoataulfo

WP 34S information.

Eric

Re: [WP 34S] MySamBa

*Message #3 Posted by **Walter B** on 22 Nov 2011, 1:20 a.m.,*
in response to message #2 by Eric Rechlin

Thank you for documenting, Eric :-) If you agree, I'll put that in the manual in due course.

Re: [WP 34S] MySamBa

*Message #4 Posted by **Marcus von Cube, Germany** on 22 Nov 2011, 2:18 a.m.,*
in response to message #3 by Walter B

Just a hint: Once WP 34S runs on the calculator and you want to upgrade it, it's not necessary to use the erase button (and lose all your data saved in flash.) The sequence ON+D, ON+6 (twice) will go into SAM-BA boot mode. See doc/flash.txt or the respective manual chapter for details.

Re: [WP 34S] MySamBa

*Message #5 Posted by **Eric Rechlin** on 22 Nov 2011, 12:47 p.m.,*
in response to message #3 by Walter B

Sure, do whatever you want with it.

Eric

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Flashing Success

*Message #1 Posted by **Les Wright** on 21 Nov 2011, 4:04 p.m.*

Just wanted to report that flashing my erased 30b took 23 seconds with MySamBA under under an XP virtual machine on my Mac. I used the FTDI USB-Serial adapter sold by Eric Rechlin, which worked like a charm after the headaches with my older Prolific-based adapter. The calculator didn't turn on at first, but I recall reading someplace that removing and reinserting the batteries solved that problem, as it did here.

I wanted to thank Gene, of course, for the cable, as well as the specific direction I got from Eric, Egan, Marcus, and anyone else I am forgetting.

Now I wanted to ask what people are doing about overlays and key labels. Are folks simply printing off and cutting out their own on adhesive backed labels? What sort of label stock and printing methods would you recommend?

Thanks again,

Les

Re: WP34S Flashing Success

*Message #2 Posted by **Marcus von Cube, Germany** on 21 Nov 2011, 4:08 p.m.,*
in response to message #1 by Les Wright

Les, you can't beat the precut vinyl overlays from Eric Rechlin.

Re: WP34S Flashing Success

*Message #3 Posted by **Les Wright** on 21 Nov 2011, 4:31 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks, Marcus. I will wait until the bugs get hammered out of the most recent version before I commit to the version 3 overlays. I should mention that I flashed with the most recent of version 2 since that is the firmware I just happened to have on the computer.

Thanks for the tip about Eric. I didn't know if anyone was providing these.

Les

Re: WP34S Flashing Success

*Message #4 Posted by **Les Wright** on 22 Nov 2011, 9:22 p.m.,*
in response to message #3 by Les Wright

I think I will start off with getting several copies of the "no keys" version of the overlay colour laser printed at Kinko's to get me started. It is a little crowded, I know, and the existed key labels will be a tad distracting, but it will get me used to the calculator without having to look over at the emulator all the time. It's just a matter of getting the measurements correct to be sure that I get the ppi set correctly

for finally printing.

Les

Re: WP34S Flashing Success

*Message #5 Posted by **Walter B** on 23 Nov 2011, 1:18 a.m.,*
in response to message #4 by Les Wright

The "flap method" may be an alternative then. Uses the normal overlay file and saves you 37 exacto knife cuts :-)

Re: WP34S Flashing Success

*Message #6 Posted by **Les Wright** on 23 Nov 2011, 3:41 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> The "flap method" may be an alternative then. Uses the normal overlay file and saves you 37 exacto knife cuts :-)

Yeah, Walter, that will work too. I will be sure to use either heavy paper or light card stock so that the little flaps over the keys will resist too much creasing or tearing. I think a thin laminate may help too. This is just a cheap transitional solution until Version 3 is dewormed and Eric starts selling the standard overlays again.

Les

Re: WP34S Flashing Success

*Message #7 Posted by **Eric Rechlin** on 23 Nov 2011, 9:29 a.m.,*
in response to message #6 by Les Wright

I'm still selling the standard overlays -- I have been for almost 2 months.

Eric

Re: WP34S Flashing Success

*Message #8 Posted by **Walter B** on 21 Nov 2011, 4:35 p.m.,*
in response to message #2 by Marcus von Cube, Germany

... but AFAIK you can't get them right now - and we are not definitively settled about the new layout yet. So, for the time being, use the method as described on page 97 of the most recent manual.

Re: WP34S Flashing Success

*Message #9 Posted by **Andreas Grund** on 21 Nov 2011, 8:38 p.m.,*
in response to message #8 by Walter B

I just received my (flashed by Jose of the TheCalculatorStore) WP 34s with the overlays. My question is how to attach best the overlays? First the keys, or the entire overlay without the keys? Is it wise to remove the protective sheet completely or only little by little? Any need to clean the keys first.....

I simply do not want to spoil the precious overlay.

Andreas

Re: WP34S Flashing Success

*Message #10 Posted by **Jeff O.** on 21 Nov 2011, 10:23 p.m.,*
in response to message #9 by Andreas Grund

I applied mine, with good results, as follows:

1. First do the keyboard plane overlay. Peel it entirely off of the backing sheet, making sure to leave the key labels and the thin border which surrounds each key behind. Stick the overlay down, starting above and below the row with the ENTER key. Then work your way up and down from there. You can gently pull and stretch the overlay to get it aligned properly as you go.

2. Then do the keys. I lifted each key label off of the backing sheet with a small flat blade screwdriver, by the upper left corner. Then I held it over the key and poked down the lower right corner when the reveal looked right. If necessary, I found I could remove and re-stick the stuck corner, or rotate the sticker slightly using the screwdriver before fully adhering the sticker and removing the screwdriver. I started at the top left and worked left to right and then down to the next row, but you can probably go in any order.

As far as cleaning, follow Neil's advice in the post below.

It seems a little scary at first, but just jump in and it will probably look fine.

Good luck!

Edited: 22 Nov 2011, 7:35 a.m. after one or more responses were posted

Re: WP34S Flashing Success

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 22 Nov 2011, 7:21 a.m.,*
in response to message #10 by Jeff O.

Having installed 4+ of these things I'll make a couple of comments: one regarding the key stickers, and another about cleaning.

Eric tries very hard to cut partially through the stackup so as to not cut all the way through the glossy backing sheet. Unfortunately, this can result in the cut through the top vinyl sheet being incomplete occasionally.

I have found that it is easier than you would image to delaminate the vinyl top layer from its sticky backing than you would image. If this happens, the key sticker is essentially destroyed.

Therefore, the trick I have adopted is to remove the concentric ring around each key sticker prior to the sticker itself. That way, if there is not a complete cut, it is the disposable ring that gets the damage, not the key sticker. I also have a razor blade or other suitably sharp knife handy to complete any cuts that are partial.

(I was lucky enough that Eric had graciously given me a dud sticker sheet at HHC2011 and I used one of these to replace the one I inadvertently destroyed by pealing the sticker away from its incompletely cut sticky substrate. **THANKS** Eric!!! :-)

As far as cleaning, I have found that if you use the calculator to any extent prior to installing

the overlay, then any residue finger oils will cause the keys to lift eventually. I have this problem with my first batch of overlays (the very first runs Eric made), and to a much lesser extent with the HHC2011 vintage. I would definitely use some kind of solvent to make sure the keyboard is pristine before installing the overlay. As to what the solvent is, someone else might have to pitch in there.

That being said, I had seen a lot of whiny complaints about overlays in the beginning but other than the aforementioned preventative steps, these are absolutely great! Eric has done a marvelous job in producing these things.

Les, I hope you like the calculator. The Triumphant Trio has done a marvelous job on this thing. The more I use it, the more I like it.

Re: WP34S Flashing Success

*Message #12 Posted by **Andreas Grund** on 23 Nov 2011, 2:34 a.m.,*
in response to message #11 by Neil Hamilton (Ottawa)

Jeff & Neil,

Thanks for sharing your experience, it helped a lot, especially the removal of the concentric rings is useful. First I cleaned the keys with a few drops of dishwasher soap in water with a soft cloth and after careful drying I attaches the overlay, beginning at the "Enter" row and the the keys, step by step.

The concentric rings I lifted with a needle in a corner and pulled them off by hand. No need to recut the labels. Now my WP-34s is fully functioning, indeed, a great calculator! Thanks to all who made it happen!

Andreas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C emulator display bug

*Message #1 Posted by **Thomas Radtke** on 21 Nov 2011, 2:59 p.m.*

When pressing 'f', I get a part of the skin copied to the display. It even persists when closing and restarting the emulator. The strange display returns to normal state when pressing another button.

Is this only me? I'm running the original HP emulator under Win7 64Bit on a recent Acer laptop, still with the original drivers (except scratchpad).

Re: 15C emulator display bug

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Nov 2011, 3:11 p.m.,*
in response to message #1 by Thomas Radtke

No problem with emulator display running on XP V3 32bit.

Re: 15C emulator display bug

*Message #3 Posted by **Marcus von Cube, Germany** on 21 Nov 2011, 4:06 p.m.,*
in response to message #1 by Thomas Radtke

Thomas, maybe your skin file is corrupted. If the 15C emulator works the same as the 20b SDK (the base for the WP 34S emulator GUI) then I understand well what is happening. Some "segments" of the emulated LCD are drawn as vectors while others (mainly the annunciators) are drawn by copying part of the skin graphic to the screen area. In the latter case the source area is a polygon that encircles the annunciator graphic in the underlying bitmap. Look for the display definitions in the skin file.

Re: 15C emulator display bug

*Message #4 Posted by **Jeroen Van Nieuwenhove** on 22 Nov 2011, 6:37 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I have the same problems as Thomas (Windows Vista x64, Nvidia GEForce 8500) and I don't quite understand what the remedy should be. Should I reinstall the emulator in order to restore the skin file? Thanks in advance.

Re: 15C emulator display bug

*Message #5 Posted by **Thomas Radtke** on 23 Nov 2011, 2:15 a.m.,*
in response to message #4 by Jeroen Van Nieuwenhove

In order to save one license, try updating your display drivers first.

(deleted post)

*Message #6 Posted by **deleted** on 23 Nov 2011, 8:33 a.m.,*
in response to message #5 by Thomas Radtke

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 15C emulator display bug

*Message #7 Posted by **Thomas Radtke** on 23 Nov 2011, 11:34 a.m.,*
in response to message #6 by deleted

Good news, thank you.

Re: 15C emulator display bug

*Message #8 Posted by **sjthomas** on 21 Nov 2011, 8:25 p.m.,*
in response to message #1 by Thomas Radtke

Thomas, you are not alone.

Re: 15C emulator display bug

*Message #9 Posted by **Jose Gonzalez Divasson** on 22 Nov 2011, 4:55 p.m.,*
in response to message #8 by sjthomas

Same with me - same problem

Re: 15C emulator display bug

*Message #10 Posted by **Thomas Radtke** on 22 Nov 2011, 11:48 a.m.,*
in response to message #1 by Thomas Radtke

Thank you very much for your answers!

Updating the driver for the ATI Mobility 5650 solved the problem :-).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Numerical Integration

*Message #1 Posted by **Namir** on 21 Nov 2011, 2:38 p.m.*

Hi All,

I posted an article (as a pdf file) on my web site. You can download it if you click here.

The article is a result of some basic investigation to enhance the Trapezoidal method by using additional points inside each integration interval. My new approach produces some improvements over the basic Trapezoidal rule using weights with points inside the interval. Interestingly, the new method does very well when these weights match those of Simpson's rule, Simpson's 3/8 rule, and other similar methods. The article explains how you can mix the Trapezoidal method with better methods when the scheme of the latter are applied to each integration interval in an isolated or compartmentalized manner. The article shows the source code for VBA functions that implement the various algorithms covered by the article.

Namir

Re: Numerical Integration

*Message #2 Posted by **Allen** on 22 Nov 2011, 7:56 a.m.,*
in response to message #1 by Namir

Thank you for the interesting article! You are the quintessential quadrature expert.

Re: Numerical Integration

*Message #3 Posted by **Namir** on 22 Nov 2011, 8:07 a.m.,*
in response to message #2 by Allen

Glad you enjoyed the article. I was just asking some basic questions about numerical integration.

Namir

Re: Numerical Integration

*Message #4 Posted by **Namir** on 22 Nov 2011, 9:27 a.m.,*
in response to message #2 by Allen

I updated the article to correct a mistake and clarify a few things.

Namir

Re: Numerical Integration

*Message #5 Posted by **Mike Morrow** on 22 Nov 2011, 7:37 p.m.,*
in response to message #1 by Namir

How does it compare to Gauss-Kronrod quadrature? The implementation of G-K quadrature on the fx-115/991ES seems to give much better and faster results than the quadrature methods of the various HP calculators, including the HP 50g and my beloved HP 42S.

Re: Numerical Integration

*Message #6 Posted by **Namir** on 22 Nov 2011, 10:59 p.m.,*
in response to message #5 by Mike Morrow

The Gauss-Kronrod quadrature is a better method.

Re: Numerical Integration

*Message #7 Posted by **Allen** on 22 Nov 2011, 9:57 p.m.,*
in response to message #1 by Namir

I wonder if you have considered using something other than the monomial basis for your objective function for your numeric integration??

For example, whether using uniform weighting or individual weights, you can use the method of undetermined coefficients to solve the abscissa locations. For example to find a three point, equal-weighted solution on the following range:

$$\int_{-1}^{1} f(x)dx = w(f(x_1) + f(x_2) + f(x_3)) = C_3(x)$$

With 4 unknowns, you can just use this equation:

$$w\begin{bmatrix} 1 & 1 & 1 \\ x_1 & x_2 & x_3 \\ x_1^2 & x_2^2 & x_3^2 \\ x_1^3 & x_2^3 & x_3^3 \end{bmatrix}\begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} \int_{-1}^{1} 1dx = 2 \\ \int_{-1}^{1} xdx = 0 \\ \int_{-1}^{1} x^2dx = \frac{2}{3} \\ \int_{-1}^{1} x^3dx = 0 \end{bmatrix}$$

to find +/-inv(sqrt(2)), and 0 are the nodes, with the weight w=2/3.

Any number of weights or points can be calculated this way, but this only uses the monomial basis. With a different (perhaps higher-order?) basis function, Could it be more accurate??

Edited: 22 Nov 2011, 10:07 p.m.

Re: Numerical Integration

*Message #8 Posted by **Namir** on 23 Nov 2011, 9:14 a.m.,*
in response to message #7 by Allen

I really have not seen any numerical integration algorithm with a single weight. Being a pragmatic person, if you can find a method with a constant weight and it works well, that is fine.

Namir

Re: Numerical Integration

*Message #9 Posted by **Allen** on 23 Nov 2011, 8:37 p.m.,*
in response to message #8 by Namir

I was just reading about this method last week. The key is using the monomial basis to actually move the nodes around to compensate for the equal weight. I first heard about Chebyshev Quadrature in the book I am reading. It's simpler numerically than Simpson and a few other methods because you save n-multiplications by factoring out the weighting function from the summation. It's interesting to solve, too.

I hope you all have a Merry Thanksgiving!!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 97 card reader

*Message #1 Posted by **Davd F** on 21 Nov 2011, 11:07 a.m.*

Hi all,

I picked up an "untested" HP97 on Ebay, and have just finished cleaning it up. It had an "old electronics" smell, and was loaded with insect droppings and some insect parts. I disassembled it down to the last screw and thoroughly cleaned it. I am powering it via a 5V supply to the terminals (thanks Dave for including the polarity in your pics on the battery page!)

So far, The calculator works beautifully, and I can advance paper, but have to buy some calc paper to test the printer out. During the cleaning, I repaired the gummy card reader wheel, and removed all the gunk (mixed with bug parts and droppings--ugh.) Now, when I insert a card, there is no response, but when I push the card far enough, I get an ERROR message on the display. I am unfamiliar with the apparatus, but would guess it's either a motor or card sensor problem. I did remove the little foil spring contact on the reader, which I am guessing is the sensor for card progress through the slot. It has four little balls and 5 screws, three of which are accessible with the assembly cover in place. Am I right in guessing that there is a proper process for setting the tension on the foil via those screws, and that I probably messed it up when I disassembled it? Any suggestions on what might be happening?

I have read the prior posts, and understand that sometimes some of the caps on the assembly cause problems. However, I hate to just start replacing parts without knowing for sure what is wrong. I used to have the DVD with all the manuals, but can't find it anywhere. I just ordered a new set, but it looks like I won't have this before the holidays:-(So anything that might point me in the right direction would be most appreciated!

For those celebrating Thanksgiving, have a great holiday!

Dave

Re: HP 97 card reader

*Message #2 Posted by **Davd F** on 21 Nov 2011, 12:50 p.m.,*
in response to message #1 by Davd F

Also, can I work with the unit with the keyboard off? In otherwords, suppose I wanted to try adjusting the tension on the card sensor foil. Can the processor operate and respond without the keyboard attached? My idea was to start gently adjusting the tension, and see if the card gets detected at some point (hopefully the processor would activate the motor); otherwise, I will try to open up the unit, trace out the circuit, and then check the voltage at the switch, and turn the screw until the switch trips on card insertion.

Am I thinking in the right direction? These parts seem pretty delicate, and I'd hate to needlessly damage something. I'm fine with electrical stuff, but as someone who can't build a square picture frame, if I break a mechanical part, I'll be looking for another "untested" HP on Ebay. . .

Dave

Re: HP 97 card reader

*Message #3 Posted by **Michael de Estrada** on 21 Nov 2011, 1:27 p.m.,*
in response to message #2 by Davd F

First, those are leaf switches, not springs, and they are not tensioned. They work by the card depressing the balls, which press on the tips of the switches, causing them to close the circuits by pressing them against the circuit board. One of the switches causes the motor to start when it is closed. They can be adjusted, but it's tricky, and generally not necessary. According to the HP 97 service manual: "If any of the switch contacts are bent, replace the leaf switch contacts rather than attempting to bend them into position."

Second, are you sure you got all the little parts in place when you reassembled the card reader ? You mentioned the 4 nylon balls, but there should also be a nylon pinch roller and two curved brass spring guides as well.

Third, the easiest way to check out the card reader is to remove the entire assembly including the ribbon connector from the calculator, and apply power directly to its terminals. This way you can isolate the issue to the motor or switches. If the reader checks out outside the calculator, then the problem is in the calculator itself.

Edited: 21 Nov 2011, 1:37 p.m.

Re: HP 97 card reader

*Message #4 Posted by **Davd F** on 21 Nov 2011, 7:13 p.m.,*
in response to message #3 by Michael de Estrada

Thanks for the reply.

I was able to get the machine to detect a card; I can hear the motor running but the card isn't being pulled through. There's a lot of resistance.

Regarding the little parts, they are all there, but the roller did not turn particularly freely. I'm wondering if that's not part of the problem. Should that be turning pretty freely? If so, does it need to be lubed somehow?

Best regards,

Dave.

Re: HP 97 card reader

*Message #5 Posted by **Wanderley Navarro** on 21 Nov 2011, 8:05 p.m.,*
in response to message #4 by Davd F

The resistance is usually related to a larger than necessary roller tubing or O-Rings. Try to decrease the diameter a bit with the help of a Dremel tool and a nail file.

A more fearless approuch:

- cut a piece of a nail file large enough to fit freely inside the roller chamber

- connect some alkaline batteries to the motor terminals

- file the roller

- clean

If the problem remains, verify if the clutch is working good. The cause may be there...

Re: HP 97 card reader

*Message #6 Posted by **Davd F** on 21 Nov 2011, 8:34 p.m.,*
in response to message #5 by Wanderley Navarro

Thanks for the suggestions. I think the roller is OK. I had some silicone tubing that was almost the exact diameter of the metal part of the roller when placed. With power off and motor removed, I can slid a card through.

However, I had not been aware of a clutch mechanism (although I see there is an article about it.) I just looked at the clutch as you suggested, and the plastic stuff fell out, so perhaps that is a part of the problem. I will review the article about repairing the clutch, and see if that helps.

Best regards,

Dave

Re: HP 97 card reader

*Message #7 Posted by **Michael de Estrada** on 21 Nov 2011, 8:46 p.m.,*
in response to message #6 by Davd F

It's actually not a "clutch", but just a flexible connector between the motor and worm gear that is not supposed to slip. However, the "clutch" term has been used a lot, so many people call it that. Remove it and save the metal collar, then find some wire insulation that is a tight fit inside it. The ID of the insulation must be a tight fit on the motor shaft that can be secured with a drop of superglue. The other end must be bored out sufficiently to fit the end of the worm gear inside it until it bottoms out on the end of the motor shaft. I've used a heated nail to bore it by melting the insulation. So far I've succeeded with this method on 3 card readers.

Re: HP 97 card reader

*Message #8 Posted by **Michael de Estrada** on 21 Nov 2011, 8:11 p.m.,*
in response to message #4 by Davd F

One possibility is that the motor shaft is slipping in the elastomeric coupling (aka clutch) and the worm gear is not turning. The coupling is made of a material similar to the drive wheel that deteriorates over time. If that's the case, you will need to rebuild the coupling. I have succeeded in making this repair using wire insulation. Again, you can see this if you remove the reader assembly from the calculator.

Also, you may not have the drive wheel adjusted properly. The shaft is eccentric, and can be adjusted to provide more or less pressure on the card. The recommended method in the service manual is to measure motor current at 180 +/- 20 mA when it attempts to pull a card through but is not allowed to.

Re: HP 97 card reader

*Message #9 Posted by **Davd F** on 21 Nov 2011, 8:24 p.m.,*
in response to message #4 by Davd F

On further examination, one of the spindles of the pinch roller is thicker than the other. The smaller side drops easily into either slot. The thicker side needs to be pushed to fit, in either orientation. This is preventing the roller from moving. I am guessing that the spindles should be small enough on both sides to drop in and roll freely.

Any suggestions on how to fix this? I am thinking emery board, but I'm going to wait a bit, because when it comes to mechanical fixes, I always end up wishing I'd waited and gotten some advice :-)

Dave

Re: HP 97 card reader

*Message #10 Posted by **Michael de Estrada** on 21 Nov 2011, 8:29 p.m.,*
in response to message #9 by Davd F

A normal pinch roller fits easily into the slots, and is the same on both sides. You may have a home-made substitute of some kind.

Re: HP 97 card reader

*Message #11 Posted by **Davd F** on 22 Nov 2011, 12:02 a.m.,*
in response to message #10 by Michael de Estrada

It doesn't look homemade. The thicker spindle is slightly bulbous at the end, almost as if it has melted.

Examining the clutch on my unit, the aluminum sleeve is very firmly attached to the worm gear, extending in about 1/2 the length of the sleeve. There is a hole at the end of the worm gear into which the motor shaft fits without any friction, so the gear/sleeve assembly fits over the motor shaft. So this appears as if it was designed to slip above a certain torque.

So, the plan is, based on advice here, and the various articles,

1) file down that spindle until is falls easily into the slot)

2) Replace the "clutch" material, which has dried and crumbled away. Insulation for 18 Ga wire fits well over the motor shaft, so I'll dip the insulation in silicone compound, and place it in the aluminum sleeve, using an 18G wire to center the insulation relative to the worm gear. Then I'll remove the wire, cut off the excess insulation, and slip the whole gear/tube/insulation assembly on the motor.

Re: HP 97 card reader

*Message #12 Posted by **Michael de Estrada** on 22 Nov 2011, 12:11 a.m.,*
in response to message #11 by Davd F

> Quote:
>
> So this appears as if it was designed to slip above a certain torque.

That was what I thought, too, but in fact this is not the case. The motor / coupling / wormgear was supplied as an assembly by HP as p/n 00067-60904 and no slippage was intended. The remaining coupling material will continue to deteriorate and the slippage problem will return unless you remove all of it and replace it with new material.

Re: HP 97 card reader

*Message #13 Posted by **BobVA** on 21 Nov 2011, 7:55 p.m.,*
in response to message #2 by Davd F

> Quote:
>
> Also, can I work with the unit with the keyboard off? In otherwords, suppose I wanted to try adjusting the tension on the card sensor foil. Can the processor operate and respond without the keyboard attached?

Nope - but this thread shows another approach, and gives some excellent guidance on repair and adjustment.

Cheers, Bob

Re: HP 97 card reader

*Message #14 Posted by **Davd F** on 21 Nov 2011, 8:26 p.m.,*
in response to message #13 by BobVA

Thanks Bob,

That's a great article. I'll flip the reader over as shown so I can test it in circuit. It will probably be the holidays before I can spend more time with it, though.

Dave

Edited: 21 Nov 2011, 8:26 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48gii on USB???

*Message #1 Posted by **William Graves** on 20 Nov 2011, 12:32 p.m.*

I see the 48gii comes with a USB cable (HPCalc sales site). I thought the 48gii was serial only. I have 2 units and neither work with the Kenpo usb driver (Windows cannot id the device) - my 50g works fine.

The same two 48gii works fine in serial mode. Does the same connector really support USB and serial?

I worked on this thing when it first was developed and I sure don't remember the USB capability on the 48gii. Am I just getting old and forgetful?

I got into this thread because a user emailed me about Conn4x

Re: 48gii on USB???

*Message #2 Posted by **Thomas Chrapkiewicz** on 20 Nov 2011, 1:53 p.m.,*
in response to message #1 by William Graves

As I understand it, there are two versions of the 48Gii.

Older model has serial only (using a mini usb connector on the calc!) and uses 3AAA batteries.

Newer model has both serial and USB (I assume using the same connectors as the HP50G) ans uses 4AAA batteries.

I would like to know in more detail how one can distinguish between these two models if one cannot hold the physical unit (like when shopping on the auction site).

TomC

Re: 48gii on USB???

*Message #3 Posted by **Ron Ross** on 20 Nov 2011, 2:12 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

The original Hp 48Gii has only a small micro? RS-232 port (not the same plug as a mini USB). The new 48Gii has both plugs on top.

The original had 128K of RAM of which 80K was available and no eq. library. The new one has 256K of RAM.

The old 48Gii came with an open slip case, the new 48Gii comes with a plastic (ti like) slide on cover.

The old 48Gii came with 3 batteries, the new one with 4 AAAs.

The old 48Gii keyboard is often comparable to the Hp 49G+ keyboard (BAD!), the new 48Gii is the same as the Hp 50G.

Re: 48gii on USB???

*Message #4 Posted by **Thomas Chrapkiewicz** on 20 Nov 2011, 2:19 p.m.,*
in response to message #3 by Ron Ross

I have a 48gii (in my hand - CNA60501...) that has a mini USB (the odd shaped type that many cell phones and bluetooth headsets use) and the cable that came with it. One end of the cable has the mating USB connector and a DB9f on the other end.

If you would like serial number info and pics, email me.

TomC

Re: 48gii on USB???

*Message #5 Posted by **Howard Owen** on 20 Nov 2011, 4:50 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

How many batteries?

The second version of the 48gII was introduced concurrently with the 50g. Like the 50g, the 48gII has four batteries, a (much) better keyboard and both a serial and USB port. The USB connector is type Mini B. I believe the serial connector is a custom job, but it any event is odd looking. The cable that comes with the newer package is definitely a USB cable.

Re: 48gii on USB???

*Message #6 Posted by **Howard Owen** on 20 Nov 2011, 4:52 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

> Quote:
>
> One end of the cable has the mating USB connector and a DB9f on the other end.

I'm guessing that's the older type. The new one has two ports.

Re: 48gii on USB???

*Message #7 Posted by **David Hayden** on 21 Nov 2011, 5:01 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

There are a few ways to distinguish the two versions.

If they are in the retail package, check the writing on the front of the package to see if it says it supports USB. You can also check to see if there are 3 batteries or 4 in the package.

If the unit is out of the package, just look at the top of the calculator to see if there is one connector (serial, old version) or two (serial and USB, new version).

The old versions are sometimes available new on TAS for around $60 (or they used to be several months ago). To me, it's a very inexpensive way to get a really first class calculator.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Deep Drawn Aluminum Sources

*Message #1 Posted by **Hugh Evans** on 19 Nov 2011, 7:29 p.m.*

The first physical prototype OpenRPN enclosure design is in progress, but I've hit an annoying snag. Sourcing samples of deep drawn shells, which are planned for the back of the case design, has proven difficult. It may be a simple matter of actually registering a business to be taken seriously, but some vendors fail to reply and others are sending back some ugly looking quotes. The most recent quote I received for a design that supposedly requires no tooling costs the wholesale price per unit at quantities of 500+ was nearly $20. If need be, I will have the part machined for the prototype.

Does anyone have a good source for such parts?

Most of the work right now is revolving around negotiating with component manufacturers. Realistically, what started as a crazy idea appears to turning into a business. We have definite needs for a hardware designer, potentially a few dedicated programmers, and someone familiar with production logistics. If anyone is interested in getting involved please contact me. I have a strong preference for bringing people into this small group who are truly passionate about making a new breed of high end calculators. Crowd sourcing hardware doesn't seem to be a great approach. The goal is to create a great platform, and build great calculators on to of it.

Re: Deep Drawn Aluminum Sources

*Message #2 Posted by **Garth Wilson** on 19 Nov 2011, 8:39 p.m.,*
in response to message #1 by Hugh Evans

One we've used with good results is Lynx in northern California, at (209)833-3400. I have here that Vance Anderson is the sales mgr, that Mike Archer is in sales also, and the foreman who also does quoting is Steve Macredy (sp?). I can't find a website for them. Another one is Omega Tool in San Bernardino, CA. Their website address is http://www.omegatool-usa.com/ . They have molds for a lot of box sizes. The depth is custom but does not require special tooling. Same goes for things like nutplates. IOW, you should be able to get very close to what you want without having to pay tooling.

Re: Deep Drawn Aluminum Sources

*Message #3 Posted by **aj04062** on 19 Nov 2011, 8:51 p.m.,*
in response to message #1 by Hugh Evans

I would check out Zero Manufacturing

They have many to choose from.

Re: Deep Drawn Aluminum Sources

*Message #4 Posted by **Ethan Conner** on 19 Nov 2011, 8:55 p.m.,*
in response to message #3 by aj04062

FWIW.....having a registered business name with a tax id has worked very well for me. Just to add another option check out MFG"dot"com. Hope this helps.

Re: Deep Drawn Aluminum Sources

*Message #5 Posted by **David Griffith** on 20 Nov 2011, 6:44 a.m.,*
in response to message #1 by Hugh Evans

Where can I see renderings of what OpenRPN hopes to produce? I can't seem to find any recent info on OpenRPN newer than a couple years ago. Help?

Re: Deep Drawn Aluminum Sources

*Message #6 Posted by **Hugh Evans** on 21 Nov 2011, 3:20 a.m.,*
in response to message #5 by David Griffith

This is not the most current design but it is more recent:

I'm focusing on a portrait layout that fits in the same 3x5 form factor. The back shell is deep drawn, and the keyboard overlay and display are being approached as a single e-ink display (dynamic overlays sound cool enough?) That will be covered with aluminosilicate glass. Finally, a rubber boot will provide a gripping surface and impart some impact resistance.

I have no plans to post further CAD renderings around here until I have a picture of a physical prototype in the palm of my hand.

Re: Deep Drawn Aluminum Sources

*Message #7 Posted by **Eric Smith** on 21 Nov 2011, 9:58 p.m.,*
in response to message #6 by Hugh Evans

Are you expecting to get a dot-matrix E-Ink display that has holes in it for the keys? I very much doubt that you're going to be able to get that.

Re: Deep Drawn Aluminum Sources

*Message #8 Posted by **uhmgawa** on 22 Nov 2011, 12:55 a.m.,*
in response to message #7 by Eric Smith

> Quote:
>
> Are you expecting to get a dot-matrix E-Ink display that has holes in it for the keys? I very much doubt that you're going to be able to get that.

The interconnect/drive technology doesn't currently exist, assuming it ever will be commercially feasible or even justifiable. But I suppose if you have sufficient financial resources you can certainly try. A more available alternative might be replicated individual panels situated in the horizontal key row spacing with perhaps matrix displays, but far more likely segment icons. Still that's a rather extreme undertaking for the limited benefit.

The other consideration being the actual key-resident legends will be static. So what really is the benefit of such a partial solution?

A less glamorous but perhaps more complete approach might be mechanical where a keyboard keycap matrix along with integral legend plate can snap in/out of the switch matrix, or slide into

retainer channels adjacent to the matrix. This would allow a 100% reconfigurable keyboard but frankly the notion of carrying around "extra" key cap plates and needing to swap them is quite unappealing.

Re: Deep Drawn Aluminum Sources

*Message #9 Posted by **David Griffith** on 22 Nov 2011, 3:46 a.m.,*
in response to message #8 by uhmgawa

I would probably have one or two sets of keys, but once I got it the way I liked (like a supercharged 32sii 35s combo) I'd leave it alone. The sheer thought of having my dream calculator done right would be enough for me.

Re: Deep Drawn Aluminum Sources

*Message #10 Posted by **Howard Owen** on 22 Nov 2011, 12:54 p.m.,*
in response to message #8 by uhmgawa

The way I see it, swapping keyboards wouldn't be a normal activity. The benefit would be that new calculators could be implemented on the same hardware. An enthusiast might reconfigure the calculator in various ways, but most users would stick with the machine as shipped.

As a business proposition, that would mean you'd primarily selling software and perhaps services. Does that sound familiar?

Re: Deep Drawn Aluminum Sources

*Message #11 Posted by **uhmgawa** on 22 Nov 2011, 5:32 p.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> The way I see it, swapping keyboards wouldn't be a normal activity. The benefit would be that new calculators could be implemented on the same hardware. An enthusiast might reconfigure the calculator in various ways, but most users would stick with the machine as shipped.

That's a realistic simplification, yet it does obviate the need for dynamic reconfiguration.

However as a means to facilitate reconfiguration as a manufacturing option I'd cast my vote for the demountable, integral keypad matrix and legend plate approach. But only if the resulting ergonomics were at least equal to a legacy HP benchmark.

> Quote:
>
> As a business proposition, that would mean you'd primarily selling software and perhaps services. Does that sound familiar?

The above seems reasonable for a platform of sufficient computation power and generality. But I don't believe I see a contemporary business case for it built around an essentially non-reconfigurable calculator.

That said, in the above scenario it is possible to offer a custom keyboard manufacturing service targeted at the enthusiast or calculator firmware projects in need of a bootstrap

vehicle (perhaps to limited scale production). I'd thought about doing so a few years ago but didn't see a compelling business case. I'm doubtful one exists but OTOH a technology labor of love doesn't really need one.

Re: Deep Drawn Aluminum Sources

*Message #12 Posted by **David Griffith** on 22 Nov 2011, 2:24 a.m.,*
in response to message #6 by Hugh Evans

A portrait layout? Do you mean the kind of raw layout that is found on the 32sii, 20b, and 30b? It shouldn't be too hard to find an appropriate LCD dot matrix in small quantities. I'm not sure about thicknesses. The only ones I've played with have been around half an inch thick. I didn't have much luck sourcing e-ink displays in small quantities. They seem to want you to buy a thousand-dollar development kit.

How hard would it be to get physical buttons?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Under WINE

*Message #1 Posted by **SteveH** on 19 Nov 2011, 11:37 a.m.*

I was trying to flash an HP 40 to WP34S today and no great success (and limited time) using a Windows PC at work. As I only have a Mac at home I was going to try again using WINE (Codeweavers version) as I've read here that this has been successful.

The problem I was having starting SAM-BA were all about communication errors. I was using both a direct COM port and a USB converter and SAM-BA 2.11.

The ATMEL SAM-BA software crashed with a runtime error whenever I stated it. Does it need any additional software to run under WINE?

I also looked at Bossa and wondered if this might work.

> Quote:
>
> The motivation behind BOSSA is to create a simple, easy-to-use, open source utility to replace Atmel's SAM-BA software

Has anyone tried this?

Re: WP34S Under WINE

*Message #2 Posted by **Marcus von Cube, Germany** on 19 Nov 2011, 12:12 p.m.,*
in response to message #1 by SteveH

Get the MySamba application from SourceForge (http://sourceforge.net/projects/wp34s/files/FlashTool/) and try again.

You certainly did not try to reflash an HP 40, did you?

Edited: 19 Nov 2011, 12:12 p.m.

Re: WP34S Under WINE

*Message #3 Posted by **SteveH** on 19 Nov 2011, 12:20 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> You certainly did not try to reflash an HP 40, did you?

Whoops, no! Sorry about the typo.

Re: WP34S Under WINE

*Message #4 Posted by **SteveH** on 19 Nov 2011, 12:36 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Get the MySamba application from SourceForge (http://sourceforge.net/projects/wp34s/files/FlashTool/) and try again.

Is the MySamba application in place of the ATMEL software that's referred to in the quick start guide?

Re: WP34S Under WINE

*Message #5 Posted by **Marcus von Cube, Germany** on 19 Nov 2011, 12:46 p.m.,*
in response to message #4 by SteveH

Yes, it's a replacement originally written by Cyrille from IBM and only slightly modified to make it compatible with the less than 128KB flash files for WP 34S. The software is much faster than Atmel's offering.

BTW, you will need fresh batteries because the SAMBA boot loader, once activated by erasing the flash with the cable, will have drained them already. Use a multimeter to verify this! If the batteries are still fine, chances are good that you did not successfully erase the calculator. Try to turn it on.

Re: WP34S Under WINE

*Message #6 Posted by **SteveH** on 19 Nov 2011, 2:03 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> BTW, you will need fresh batteries because the SAMBA boot loader, once activated by erasing the flash with the cable, will have drained them already. Use a multimeter to verify this! If the batteries are still fine, chances are good that you did not successfully erase the calculator. Try to turn it on.

Thanks for the tips, they're welcome. The batteries seem okay - still reading about 2.78V.

Re: WP34S Under WINE

*Message #7 Posted by **Howard Owen** on 19 Nov 2011, 4:00 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Yes, it's a replacement originally written by Cyrille from IBM ..

Careful there. You'll start a rumor. :)

Re: WP34S Under WINE

*Message #8 Posted by **SteveH** on 21 Nov 2011, 7:51 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks, that suggestion worked well and the calculator is now up and running.

Is there a self-test mode? I couldn't see a reference to it in the manual - everythings aseems to work well though.

It might be worth updating the Quick Start guide to remove the reference to the Atmal software?

Re: WP34S Under WINE

*Message #9 Posted by **Marcus von Cube, Germany** on 21 Nov 2011, 8:50 a.m.,*
in response to message #8 by SteveH

> Quote:
>
> Is there a self-test mode?

Do you really believe we implement a test to reveal the many bugs and shortcomings of our design? ;-)

No, if you want to test the hardware you'll need HP's original firmware. On the other hand, hardware failures aren't very common on this platform. So we decided to use the flash space for our own purposes.

Have fun!

Re: WP34S Under WINE

*Message #10 Posted by **SteveH** on 21 Nov 2011, 2:53 p.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> Have fun!

I have had fun! Thanks for your help.

I've written up a few thoughts about this as I went along on my Tumblr Blog. I thought I'd link to it here in case it's of use to anyone.

Re: WP34S Under WINE

*Message #11 Posted by **Marcus von Cube, Germany** on 21 Nov 2011, 3:57 p.m.,*
in response to message #10 by SteveH

Steve, thanks for spreading the news. :-)

A remark:

> Quote:
>
> A JTAG serial programming cable. I got mine from Gene Wright.

This is not JTAG but a custom HP part. JTAG is the name of the connector that can be soldered to the board for hardware debugging.

Re: WP34S Under WINE

*Message #12 Posted by **SteveH** on 21 Nov 2011, 4:01 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Thanks for that. I'll update it accordingly.

I think I assumed it was JTAG from the Atmel documentation and also from my own experience of working with FPGAs.

Re: WP34S Under WINE

*Message #13 Posted by **Hubert Weikert** on 19 Nov 2011, 4:00 p.m.,*
in response to message #1 by SteveH

> Quote:
>
> The ATMEL SAM-BA software crashed with a runtime error whenever I stated it. Does it need any additional software to run under WINE?

I had initially also crashes of SAM-BA under CrossOver. After I got the serial port configuration right everything worked.

Serial ports are defined in the dosdevices directory of ~/.wine or in the respective bottle of CrossOver.

Use 'com1' but not 'com1:' as the serial port name, the name with the colon does not work.

Hubert

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #1 Posted by **gene wright** on 19 Nov 2011, 10:28 a.m.*

HP 15c Adv Function Handbook

Thanks Joe!

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #2 Posted by **Nick_S** on 19 Nov 2011, 11:03 a.m.,*
in response to message #1 by gene wright

Very nice, and timely, as I just worked through the HP15c LE manual.

Nick

Edited: 19 Nov 2011, 11:03 a.m.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #3 Posted by **uhmgawa** on 19 Nov 2011, 12:53 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> HP 15c Adv Function Handbook

Looks pretty good, at least the resolution of the museum CD version if not better. It may well replace that version after cropping out the edge shadows and coil binding holes.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #4 Posted by **Valentin Albillo** on 19 Nov 2011, 3:54 p.m.,*
in response to message #1 by gene wright

Thanks for the link, Gene, it's a very nice scan and much appreciated.

Actually, I really love those old HP manuals and Owner's Handbooks of the golden age, and this particular one is really among the very best and most interesting of them all and really lives up to its title, being full to the brim with quality advanced info and examples.

However, all isn't perfect and there's the odd suboptimal programming in there as well, which is particularly rare in such a state-of-the-art handbook. One such instance is the routine found in page 119 for *"Constructing an Identity Matrix"*, which ineffciently needs 12 steps and 3 registers to do the task and it's quite slow to boot.

Actually, I asked for such a routine in one of my very first HP-15C mini-challenges posted to this forum many years ago, with my own solution being:

```
            LBL A
            CLX
            STO MATRIX A
            MATRIX 1
            X<> 0
            LBL 0
            STO+ 0
        "u" STO A
            GTO 0
            RTN
```

which is just 10 steps long (including LBL and RTN), and only takes a maximum of 3 seconds for a 7x7 matrix, which is the largest possible size the HP-15C's memory allows. You can substitute MATRIX A and STO A for whatever desired matrix, A to E.

Best regards from V.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #5 Posted by **Bill (Smithville, NJ)** on 19 Nov 2011, 7:17 p.m.,*
in response to message #1 by gene wright

Gene,

I've taken the file and Cropped it so the sprial holes are gone and the bottom no longer has the artifact. Prints really nice.

I've also added Bookmarks to the file that match the Table of Contents.

I don't have any way to host the file. I could email it to you and maybe your could post it for those that want it.

Bill

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #6 Posted by **Eric Rechlin** on 19 Nov 2011, 11:12 p.m.,*
in response to message #5 by Bill (Smithville, NJ)

You could share it with DropBox, which gives you 2GB for free. If you want to set up an account, you can use my referral link which gives us each another 250MB for free.

Eric

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #7 Posted by **Bill (Smithville, NJ)** on 23 Nov 2011, 6:32 p.m.,*
in response to message #6 by Eric Rechlin

Hi Eric,

Just signed up. You should have more space & I ended up with 250MB more space also.

Following is link to HP-15C Adv Functions with cropped edges and full bookmarks.

HP-15C Adv Functions Book

Bill

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #8 Posted by **Eric Rechlin** on 23 Nov 2011, 11:07 p.m.,*
in response to message #7 by Bill (Smithville, NJ)

Thanks for the referral, and thanks for uploading that. That will make it a lot more pleasing to read on the computer.

If there's any interest, I could probably produce printed and spiral-bound copies for $10 or so plus shipping.

Eric

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #9 Posted by **Peter Murphy (Livermore)** on 24 Nov 2011, 12:00 a.m.,*
in response to message #8 by Eric Rechlin

Eric,

You've got my interest at roughly that price. If you're starting a list, put my name on it, and thanks for the generous offer.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #10 Posted by **hpnut** on 24 Nov 2011, 12:09 a.m.,*
in response to message #8 by Eric Rechlin

Hi Eric,

I am interested to get a hardcopy too.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #11 Posted by **Walter B** on 24 Nov 2011, 1:19 a.m.,*
in response to message #8 by Eric Rechlin

+ 1 if you tell me what "plus shipping" means in figures :-)

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #12 Posted by **Gerson W. Barbosa** on 24 Nov 2011, 1:42 a.m.,*
in response to message #8 by Eric Rechlin

I'd be interested in one hardcopy when the wp34s definitive overlay is available (to save on shipping).

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #13 Posted by **Walter B** on 24 Nov 2011, 2:40 a.m.,*
in response to message #12 by Gerson W. Barbosa

Olá Gerson, we've just changed it again :-)

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #14 Posted by **Alexander Oestert** on 24 Nov 2011, 5:43 a.m.,*
in response to message #13 by Walter B

Walter,

www.internetdrucker.de

might be a lot cheaper for us here in Germany.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #15 Posted by **Walter B** on 24 Nov 2011, 12:45 p.m.,*
in response to message #14 by Alexander Oestert

Alexander,

ich nehme an, deine Nachricht bezieht sich auf das AFH. Wenn wir über Schwarzweißdruck reden, hast du wahrscheinlich recht. Farbig stellt sich die Sache anders dar. Allerdings zeigt das AFH nur sehr wenige Stellen, an denen die Farbe für den Informationstransport wichtig ist - schöner sieht es trotzdem aus.

Gruß,
Walter

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #16 Posted by **Alexander Oestert** on 25 Nov 2011, 1:22 a.m.,*
in response to message #15 by Walter B

Will Eric's prints be in color? And don't forget postage and custom fees that will apply as soon as the sum reaches 22€. I haven't checked but maybe it is an option to have only the relevant pages printed in color and the rest in b/w.

Edited: 25 Nov 2011, 2:10 a.m.

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #17 Posted by **Didier Lachieze** on 24 Nov 2011, 3:11 a.m.,*
in response to message #12 by Gerson W. Barbosa

> Quote:
>
> I'd be interested in one hardcopy when the wp34s definitive overlay is available (to save on shipping).

+1

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #18 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 24 Nov 2011, 3:15 a.m.,*
in response to message #8 by Eric Rechlin

Eric,

> Quote:
>
> If there's any interest, I could probably produce printed and spiral-bound copies for $10 or so plus shipping.

+1 Thanks, Kerem

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #19 Posted by **Namir** on 24 Nov 2011, 4:39 a.m.,*
in response to message #8 by Eric Rechlin

+1 here too!

Re: HP 15c searchable Adv Fun Handbook (link) - done by Joe Horn

*Message #20 Posted by **Joel Setton (France)** on 24 Nov 2011, 4:59 a.m.,*
in response to message #8 by Eric Rechlin

Another +1 here!
Joel Setton

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Strange HP41CX Problem - HELP!

*Message #1 Posted by **Fouad M. Kaadou** on 19 Nov 2011, 5:41 a.m.*

Hello Hp museum,

I have recently opened up my Hp41cx to repair what I suspected was a broken screw posts problem but it was only broken posts on the back side of the calculator and by placing them correctly it is now firmly held together.

Now the real problem: After I reassembled the Hp41cx I was plugging in some modules and noticed that if I plugged any modules or card reader or printer or anything into the right ports (ports 2 and 4) the calculator will go crazy and not respond to anything unless I unplug the modules on the right side. The calculator works great if the right ports are empty. The left ports function properly.

Any Ideas? HELP!

Thanks in advance,

Fouad

Re: Strange HP41CX Problem - HELP!

*Message #2 Posted by **Randy** on 19 Nov 2011, 3:03 p.m.,*
in response to message #1 by Fouad M. Kaadou

Disassemble and check for foreign matter under/on the i/o port block connector.

Re: Strange HP41CX Problem - HELP!

*Message #3 Posted by **Fouad M. Kaadou** on 20 Nov 2011, 5:12 a.m.,*
in response to message #2 by Randy

Thanks Randy. I found the problem, but I also have another problem:

I have a card reader that works on my other HP41C but when connected to the HP41CX the calculator would not even recognize that it is plugged in when I run CAT 2. although the port used by the card reader works properly with other modules.

Any thoughts?

-Fouad

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

An interesting challenge

*Message #1 Posted by **Don Shepherd** on 19 Nov 2011, 2:30 a.m.*

How many 9-digit numbers containing all the digits 1,2,3,4,5,6,7,8,9 are prime numbers?

Edited: 19 Nov 2011, 2:39 a.m.

Re: An interesting challenge -- spoiler?

*Message #2 Posted by **Tony Duell** on 19 Nov 2011, 3:50 a.m.,*
in response to message #1 by Don Shepherd

Off the top of my head... Zero.

The sum of 1..9 = 45, which is a multiple of 9. Therefore any 9 digit number formed from a permuation of those 9 digits is also a multiple of 9 and thus not prime.

Re: An interesting challenge -- spoiler?

*Message #3 Posted by **Don Shepherd** on 19 Nov 2011, 7:05 a.m.,*
in response to message #2 by Tony Duell

Yes, what I had in mind actually was divisibility by 3. What a great way to teach the divisibility by 3 rule, which students can never seem to remember.

Edited: 19 Nov 2011, 7:07 a.m.

Re: An interesting challenge -- spoiler?

*Message #4 Posted by **Marcus von Cube, Germany** on 19 Nov 2011, 8:09 a.m.,*
in response to message #3 by Don Shepherd

Don, do you have an easy proof for this rule (there are two: one for 3 and one for 9 and a similar one for 11)?

Re: An interesting challenge -- spoiler?

*Message #5 Posted by **Dieter** on 19 Nov 2011, 8:38 a.m.,*
in response to message #4 by Marcus von Cube, Germany

You will easily get the idea if you look at the example of a, say, four-digit number.
This number will consist of the four digits abcd. It can be divided by 9 if abcd mod 9 = 0.

A number abcd can be written as

```
    1000 a  +  100 b +  10 c  +  d
```

We now want to evaluate

```
   (1000 a   +  100 b   +  10 c   +  d) mod 9
=  (999a + a +  99b + b +  9c + c +  d) mod 9
```

Since 999, 99, 9 etc. are all integer multiples of 9, this simplifies to

```
   (a  +  b  +  c  +  d) mod 9
```

In other words: in order to test whether a number can be divided by 9, simply check the sum of its digits. So if the remainder of the digit sum divided by 9 is zero, the number itself can be divided by 9 as well. This also means: if the remainder is 3 or 6, i.e. it can be divided by 3, the number itself is divisible by 3.

In other words:
If the digit sum is divisible by 9 resp. 3, so is the number itself.

Example:

```
  n = 12345
  sum of digits = 15
```

15 is not divisible by 9, but the remainder (6) is. Or: 15 can be divided by 3. So 12345 is divisible by 3 as well.
BTW, you can also continue with the digit sum of 15 which is 6 and judge the divisibility from this result. ;-)

Dieter

Edited: 19 Nov 2011, 8:43 a.m.

Re: An interesting challenge -- spoiler?

*Message #6 Posted by **Patrice** on 19 Nov 2011, 9:11 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Search for 'divisibility' in Wikipedia

Patrice

Re: An interesting challenge -- spoiler?

*Message #7 Posted by **Don Shepherd** on 19 Nov 2011, 9:53 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Well, I don't have a proof, just the fact that every middle school math textbook I've seen that discusses factoring and divisibility lists the test for divisibility for selected numbers. I generally teach the easy ones: 2 (even number), 3 (sum of digits divisible by 3), 5 (ends in 0 or 5), and 10 (ends in 0). There are tests for divisibility for other numbers, as Wikipedia shows, but in middle school we usually limit it to those 4.

Re: An interesting challenge -- spoiler?

*Message #8 Posted by **Marcus von Cube, Germany** on 19 Nov 2011, 10:08 a.m.,*
in response to message #7 by Don Shepherd

4 is easy: the last two digits (read as a two digit number) need to be divisible by 4.

There is another rule for 11: It deals with the pairwise digit sum. Example 121: The pairwise sum is 01 + 21 = 22. This is divisible by 11 and hence 121 is. The proof must be similar to what

Dieter has shown.

Re: An interesting challenge -- spoiler?

*Message #9 Posted by **Dieter** on 19 Nov 2011, 1:49 p.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> The proof must be similar to what Dieter has shown.

You bet. :-)

The method is based on the fact that 99, 9999, 999999 etc. are all divisible by 11 (which can be easily proven as well). The approach is basically the same as before. Here, the number consists of groups with two digits aa, bb, cc etc., so an eight-digit value can be written as aabbccdd.

```
   aabbccdd mod 11
=  (1000000 aa       + 10000 bb      + 100 cc      +  dd) mod 11
=  ( 999999 aa + aa  +  9999 bb + bb +  99 cc + cc +  dd) mod 11
```

Since 99, 9999, 999999 etc. are divisible by 11, this simplifies to

```
   (aa + bb + cc + dd) mod 11
```

q.e.d.

Dieter

Re: An interesting challenge -- spoiler?

*Message #10 Posted by **Crawl** on 19 Nov 2011, 2:17 p.m.,*
in response to message #3 by Don Shepherd

I'd be stunned if this problem would make the rule easier to remember. It seems like the rule is pretty easy to remember as is.

Actually, it seems like an easier rule to help remember this (as well as the times tables for 9) is that 9 times any single digit number results in a number whose digits not only add to a multiple of 9, but 9 itself.

Re: An interesting challenge

*Message #11 Posted by **Oliver Unter Ecker** on 19 Nov 2011, 5:04 a.m.,*
in response to message #1 by Don Shepherd

I guess app calculators are out of competition.

RPL+:

```
\<< 123456789 permutate isPrime total \>>
```

EDIT: he who doesn't know math, needs a calculator...

Edited: 19 Nov 2011, 7:52 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41C PCB Repair Question.

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Nov 2011, 2:00 a.m.*

My long time trusty HP-41C has begun giving MEMORY LOSS errors this morning when it was left off for more than 10 minutes. Each time became more difficult to turn it on, no response. While it was on, I was able to run the MEMTEST program to makesure everything was ok, worked fine, until I turned it off.

I had to pull the calculator aprat to check the curcuit. I was first suspecting from the C1 470uF capacitor which holds the memory when power is turned off. However all capacitors seems to be fine. I am not measuring any significant leakage. My next suspect is the Q3 Transistor (the most lower right in the photo), it is a 1854-0092 which is part of the Memory Reset circuit.

Is there anyone know where can I find 1854-0092 (NPN Transistor) or an equivelant?

Thanks in Advance. Kerem

Photo

Edited: 19 Nov 2011, 2:07 a.m.

Re: HP-41C PCB Repair Question.

*Message #2 Posted by **Alexander Oestert** on 19 Nov 2011, 2:20 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Are the batteries ok?

Are the screw posts, especially the two lower ones, ok? If these screws aren't screwed in tight, the small PCB makes no good and permanent contact with the keyboard PCB, through which it gets its power.

Re: HP-41C PCB Repair Question.

*Message #3 Posted by **hpnut** on 19 Nov 2011, 2:22 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Is this alright?

http://www.talonix.com/shop/item.aspx?itemid=4386

Re: HP-41C PCB Repair Question.

*Message #4 Posted by **BobVA** on 19 Nov 2011, 12:06 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

I had a similar problem - if your calculator has the "zebra strip" elastomeric connector between the CPU and the keyboard PCB that may be the problem, or it might be the connections to the LCD/switch board. Having another HP41 to swap the CPU board with is pretty handy for trouble-shooting.

This link might be of use.

Edited: 19 Nov 2011, 12:10 p.m.

Re: HP-41C PCB Repair Question.

*Message #5 Posted by **Randy** on 19 Nov 2011, 3:20 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

To assume the transistor is the problem just because it controls mem reset is a good way to waste lots of time looking for a part you don't need.

FWIW, the problem is almost always caused by a bad D/S integrated circuit. Could be a power supply IC issue but a bad memory IC is the far more common cause. Realistically, without a HP41 service rom, you're lost in the wildness at night without a compass or torch.

Re: HP-41C PCB Repair Question.

*Message #6 Posted by **Garth Wilson** on 19 Nov 2011, 4:12 p.m.,*
in response to message #5 by Randy

+1. I'd give it nearly zero chance that it's the transistor. Silicon bipolar transistors that are run within their design parameters and aren't run hot last indefinitely. If it is bad, it's almost for sure because something else went south and took the transistor with it, meaning that if the first cause isn't fixed, you can replace the transistor and the replacement will blow right away too.

Re: HP-41C PCB Repair Question.

*Message #7 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Nov 2011, 11:02 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Thank You All for your valuable comments and suggestions! Very much appreciated.

I have taken your suggestions and comments spend several hours today, troubleshooting as much as with what I had available.

- Verified Batteries are OK, contacts are fine and clean. Cleaned all gold contacts with a pink eraser very gently, and removed the entire residue.

- Zebra strip looks ok, I think the round plastic in the zebra strips is supposed to be round, but with many years of pressure on it, it is somewhat square, however I traced the lines with PCB in place and verified the electrical connectivity.

- Another reason I was suspecting the transistor, because I found a repair sticker in the back of the calculator dating 1990. Also that transistor had relatively new solder contacts and unlike other two transistors, had a non-HP part number 53-0482-952. I had this calculator since 1992 and was working OK until recently, except every key stroke resulted in display blinking with several segments turning on across the display since I owned it. I contributed this problem to the early 41C's bugs and issues. Especially how the CAT command operated... Never had to open it until now. However I understand the argument about the transistor and how unlikely it could be the cause.

- Posts are fine, no cracks, or issues.

Final Result: It no longer turns on. No response at all.

I agree with Randy that it seems like a bad D/S circuit. I will stop wasting more time with it, perhaps I can use the original board which will become available after upgrading my 41CV to CL in the future.

Thanks and Best Regards, Kerem

Re: HP-41C PCB Repair Question.

*Message #8 Posted by **Garth Wilson** on 19 Nov 2011, 11:31 p.m.,*
in response to message #7 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> Zebra strip looks ok, I think the round plastic in the zebra strips is supposed to be round, but with many years of pressure on it, it is somewhat square

I've only seen them rectangular, as shown at http://www.fujipoly.com/products/zebra-elastomeric-connectors.html .

Re: HP-41C PCB Repair Question.

*Message #9 Posted by **BobVA** on 20 Nov 2011, 8:04 p.m.,*
in response to message #7 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> - Zebra strip looks ok, I think the round plastic in the zebra strips is supposed to be round, but with many years of pressure on it, it is somewhat square, however I traced the lines with PCB in place and verified the electrical connectivity.

That sounds like the older (and more reliable) printed wiring connector - looks like two clear tubes with a flat section between them? The zebra connector is a rectangular blob of pink elastomer with alternating black carbon conductive imbeds.

Complete shot in the dark: I have a 41C that had the same turn on problem (but not the memory loss) which was fixed by resoldering the interconnect cable between the LCD and the main board. Bear in mind this is an "Easter Egg" approach to trouble-shooting. Randy's advice above is the bottom line if you want to get to the bottom of the problem systematically.

You might want to sort this out before trying a 41CL transplant - if the problem you're having is not due to a bad CPU board you might be in for quite a confusing time.

Edited: 20 Nov 2011, 8:06 p.m.

Re: HP-41C PCB Repair Question.

*Message #10 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Nov 2011, 1:05 p.m.,*
in response to message #9 by BobVA

> Quote:
>
> That sounds like the older (and more reliable) printed wiring connector - looks like two clear tubes with a flat section between them?

It is the older type printed wiring connecter. Two clear printed wiring tubes (with an elastomeric clear tube in each)with a flat section between them. It has good contact to both board and CPU.

More I read the comments and more I think about how the problem started, It seems more to do with CPU D/S or RAM problem than connectors. Because the calculator was working fine and started giving "MEMORY LOST" errors upon turn on. It took a few presses on the ON button to get it working (getting worst each time), then it worked fine. I was able to write several MEMTEST problems to check the memory, registers, etc. If it was turned on immediately after it was turned off, no problem, came right back up. However more time it was shutdown, more difficult it got to wake up and resulted in MEMORY LOST error. Then never turned back on again... That's when I decided to open it up, began troubleshooting

Re: HP-41C PCB Repair Question.

*Message #11 Posted by **BobVA** on 21 Nov 2011, 7:45 p.m.,*
in response to message #10 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> If it was turned on immediately after it was turned off, no problem, came right back up. However more time it was shutdown, more difficult it got to wake up and resulted in MEMORY LOST error.

Except for the MEMORY LOST (which is obviously a big difference) that's exactly what mine was doing - it would have to sit for a couple of days before it became difficult to turn on, but once it started working I could turn it on/off repeatedly with no issues.

Regards, Bob

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Idler gear used in HP-97 printer

*Message #1 Posted by **Gary Robert Bosworth** on 19 Nov 2011, 1:19 a.m.*

For years I have tried to track down a source of the white plastic idler gear used in the HP-97 calculator printer. I am certain that HP did not have it fabricated special. Does anyone know who molded this polyurethane or nylon gear for HP? I have 3 HP-97 calculators, and this idler gear is stripped in all of them. The plastic reacted with the atmosphere and disintegrated. I have miked out all of the dimensional data.

Re: Idler gear used in HP-97 printer

*Message #2 Posted by **Hans Brueggemann** on 19 Nov 2011, 7:25 a.m.,*
in response to message #1 by Gary Robert Bosworth

gary,
you might want to give this site a try:
http://www.smallparts.com/s?
savedSearchKeyword=&keywords=&page=1&size=20&searchNodeID=16412081&ref_=sp_sc_3_1&x=0&y=0

hth,
hans

Re: Idler gear used in HP-97 printer

*Message #3 Posted by **Etienne Victoria** on 19 Nov 2011, 8:28 a.m.,*
in response to message #2 by Hans Brueggemann

And/or the one from www.modellbauershop.de and drill it to correct diameter.

I, for myself, prefer the metal one and replaced it this way.

Etienne

Re: Idler gear used in HP-97 printer

*Message #4 Posted by **Wanderley Navarro** on 21 Nov 2011, 9:00 p.m.,*
in response to message #3 by Etienne Victoria

> Quote:
>
> And/or the one from www.modellbauershop.de and drill it to correct diameter. I, for myself, prefer the metal one and replaced it this way.

Very interesting and would like to try.

But could not find the correct part using the reference number you gave (maybe due to my "excellent" German... :-)). Could you supply us with the link that points directly to the right one?

Re: Idler gear used in HP-97 printer

*Message #5 Posted by **Randy** on 19 Nov 2011, 3:39 p.m.,*
in response to message #1 by Gary Robert Bosworth

> Quote:
>
> I am certain that HP did not have it fabricated special

Really?

Did you first consider that every other part in the 97 that was molded from plastic was molded in an HP facility in mold made by HP? Right down to the two pin power connector.

I think you seriously under-estimate the level of vertical integration that existed within HP in the seventies...

Edited: 19 Nov 2011, 3:41 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Immediate algebraic expressions in RPL+

*Message #1 Posted by **Oliver Unter Ecker** on 18 Nov 2011, 7:49 p.m.*

In RPN/RPL, you work from the "inside out" or from the "bottom up". In algebraic notation, you take a "top down" approach.

Whether you write

```
Algebraic: total(squared(divs(x)))
```

or

```
RPL+: x divs squared total (RPL: x DIVIS SQ SIGMALIST)
```

comes arguably down to preference.

Algebraic has in its favor, that it matches natural language:

```
English: "Sum of squares of the divisors of a number."
```

RPN has in its favor, that it matches recipe-style step-by-step processing:

```
English: "Compute divisors for x. Square them. Sum them up."
```

Let's suggest, that no one is better or worse than the other.

When it comes to algebraic expressions involving operators, RPL doesn't look so good, though, I'd say.

Can you comprehend

```
1 3 a * 4 b * + 5 c * +
```

or

```
1 3 a * 4 b * 5 c * + +
```

at a glance?

How about the algebraic equivalent of

```
3*a+4*b+5*c
```

?

The situation becomes worse when expressions are consumed by a function or construct that takes multiple arguments.
Consider

```
1 b 4 + x - FOR i ...
```

You can't glance where start and end value computations begin and end, without backtracking.

Consider these variations of using a comparison operator:

```
IF x SQ y == THEN
x SQ y == IF THEN
x SQ y IF == THEN
x SQ IF y == THEN
```

It's not hard to argue that, in these cases, the RP notation comes at the expense of readability.

Now. RPL calcs support algebraic expressions via a data type. You could write

```
IF 'SQ(x)==y' EVAL THEN ...
```

to increase readability.

What if you could type

```
IF SQ(x)==y THEN ...
```

?

I'm working on supporting "immediate algebraic expressions" in RPL+, which permit just that.

You may write

expr

instead of

'*expr*' EVAL

This pulls all of algebraic notation into RPL, and (gasp!) merges them.

An example:

```
1: 1 size(arr)-n FOR i
2:   arr[i-n/2] divs squared total =x
3:   IF SQ(x)==y THEN BREAK END
4: NEXT
```

This is not a particularly instructive example, but here're some notes:

Line 1: The algebraic expression *size(arr)-n* segments what comes before *FOR* into two blocks, and makes the calculation more readable
Line 2: pure RPL+ with an algebraic in the array-access operator (*=x* is equivalent to *'x' STO*)
You could write this line also entirely in algebraic notation:

```
x=total(squared(divs(arr[i-n/2])))
```

Line 3: Algebraic makes the comparison more readable

As with every other RPL+ feature, you may use it, or not.

Am I instigating a forbidden love here, that should better remain unconsummated? Your opinions are welcome.

Re: Immediate algebraic expressions in RPL+

*Message #2 Posted by **David Hayden** on 18 Nov 2011, 8:34 p.m.,*
in response to message #1 by Oliver Unter Ecker

Hi Oliver,

I'd say do it. To me, RPN is good for keying in the solution to problems, but when it comes to *reading* expressions, I'd much rather see algebraic since that's how they always appear in books. To me, the ability to read a program is just as important as the ability to have the program produce the correct answer. After all, if you can't understand the code, then bugs are highly likely. So I think algebraic expressions in the programming language are a good thing.

Dave

Re: Immediate algebraic expressions in RPL+

*Message #3 Posted by **Oliver Unter Ecker** on 19 Nov 2011, 4:12 a.m.,*
in response to message #2 by David Hayden

David, thanks for the encouragement!

Re: Immediate algebraic expressions in RPL+

*Message #4 Posted by **Garth Wilson** on 18 Nov 2011, 10:35 p.m.,*
in response to message #1 by Oliver Unter Ecker

> Quote:
>
> In RPN/RPL, you work from the "inside out" or from the "bottom up". In algebraic notation, you take a "top down" approach.

The comparison I made to a co-worker was that algebraic tells what you get, whereas RPN tells how you get there. That little piece of info got him interested in the HP-50g. He bought one and now he's absolutely nuts about it. He can't say enough good about it.

> Quote:
>
> Can you comprehend
>
> 1 3 a * 4 b * + 5 c * +
>
> or
>
> 1 3 a * 4 b * 5 c * + +
>
> at a glance?

Instead of separating them all with the same one space, group the parts of it, separating groups with, say, three spaces instead of one, to make it more readable. I would even use spaces to group your algebraic version of the same, again to make it more readable since the stars have to be there so you can't just say 3A+4B+5C+1. You can also put the algebraic in the comments if you want, to have both.

> Quote:
>
> What if you could type
>
> IF SQ(x)==y THEN ...

?

I speak RPN but not RPL, but I use Forth which has a lot in common with RPL. I definitely like the way it does:
<test this expression, argument, flag, whatever>
<IF true, do the following>
<ELSE do this>
<THEN, when you're done with either of those, continue on here.>

Quote:

You could write this line also entirely in algebraic notation:

x=total(squared(divs(arr[i-n/2])))

Line 3: Algebraic makes the comparison more readable

Uh, yeah, whatever. To each his own I suppose. I sure don't find that readable.

Re: Immediate algebraic expressions in RPL+

*Message #5 Posted by **Oliver Unter Ecker** on 19 Nov 2011, 4:15 a.m.,*
in response to message #4 by Garth Wilson

Thanks for your feedback, Garth.

Quote:

---

x=total(squared(divs(arr[i-n/2])))

---

was not meant to be the readable version of line 2. This is where I, too, prefer RPN. Just wanted to illustrate how far you can push this, and that it allows you to go fully algebraic, if you must.

(Except, I should add, for control structures. You cannot say "FOR(0, 100, ...)".)

Edited: 19 Nov 2011, 4:31 a.m.

Re: Immediate algebraic expressions in RPL+

*Message #6 Posted by **Crawl** on 19 Nov 2011, 12:10 a.m.,*
in response to message #1 by Oliver Unter Ecker

Quote:

You may write

expr

instead of

'expr' EVAL

The only thing I would suggest is that if you take this route, you may want to have an "unEVAL" command, so, for example, if you had

UNEVAL expr

it would work just like expr alone does now.

The reason is that sometimes you do NOT want an expression to be evaluated (eg., evaluating it might be time consuming); you just want to push it onto the stack. It would be good to retain that ability (in contrast, the TI89 does not have that ability; it tries to evaluate every entered expression)

But switching the default to automatically evaluate expressions seems fine to me.

Re: Immediate algebraic expressions in RPL+

*Message #7 Posted by **Marcus von Cube, Germany** on 19 Nov 2011, 4:15 a.m.,*
in response to message #6 by Crawl

Just leave the expression in 'quotes'. Omitting the quotes will trigger evaluation.

Re: Immediate algebraic expressions in RPL+

*Message #8 Posted by **Oliver Unter Ecker** on 19 Nov 2011, 4:16 a.m.,*
in response to message #6 by Crawl

Hi Crawl.

Yes, just as Marcus says. Everything remains the same in respect to handling of expressions when quoted.

Re: Immediate algebraic expressions in RPL+

*Message #9 Posted by **Oliver Unter Ecker** on 19 Nov 2011, 4:29 a.m.,*
in response to message #6 by Crawl

I don't really know the TI-89, but I suspect this would allow the calc to be used very similarly. (Again, except for CONTROL structures, which could be addressed, too.)

With one interesting side-effect:

Consider

```
a=4; 3+4; b=3+a;
```

in C-like languages.

The middle statement is valid. It's just "dead", inconsequential code.

In this merged world, "unconsumed" expression results, such as this one, are pushed onto a FIFO stack. And they're pulled from it when you specify a function or operator without arguments.

So, these are the two mods you need to transform an algebraic environment into a RPL environment. Not that weird sounding, perhaps.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

NEW!!! HP Calc FAN Page On Facebook!!!

*Message #1 Posted by **Kristine** on 18 Nov 2011, 11:49 a.m.*

Looks like there is a new HP Calculator Fan page on Facebook!!! I gave it my thumbs!!! Will you???

Hewlett Packard Calculators

Re: NEW!!! HP Calc FAN Page On Facebook!!!

*Message #2 Posted by **Jim Yohe** on 18 Nov 2011, 12:37 p.m.,*
in response to message #1 by Kristine

I thought that:

https://www.facebook.com/groups/11852313084/

was pretty active and already had a large number members. How many HP calculator fan clubs in Facebook do we need?

Re: NEW!!! HP Calc FAN Page On Facebook!!!

*Message #3 Posted by **Marcus von Cube, Germany** on 18 Nov 2011, 1:03 p.m.,*
in response to message #2 by Jim Yohe

> Quote:
>
> How many HP calculator fan clubs in Facebook do we need?

Not a single one.

Re: NEW!!! HP Calc FAN Page On Facebook!!!

*Message #4 Posted by **Martin Pinckney** on 18 Nov 2011, 1:08 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Q: How many Facebooks do we need?

A:

> Quote:
>
> Not a single one.

Re: NEW!!! HP Calc FAN Page On Facebook!!!

*Message #5 Posted by **Dominic Richens** on 18 Nov 2011, 2:37 p.m.,*
in response to message #1 by Kristine

no, because like a lot of people, I created my own :))

okay, it's only part HP, part us...

Re: NEW!!! HP Calc FAN Page On Facebook!!!

*Message #6 Posted by **Calum Tait** on 18 Nov 2011, 7:51 p.m.,*
in response to message #1 by Kristine

Now all we need is a page on Diaspora - anyone?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s Ready to Flash My 30b, but no cable.

*Message #1 Posted by **Barry Reeves** on 17 Nov 2011, 4:12 p.m.*

I've got a new HP30b, the firmware for the WP34s, and a brand new set of overlays. My computer has a serial card installed. I'm basically ready to go, but I don't have the programming cable. I see everyone here referring to Gene's cable. How to I go about ordering one of these cables?

The WP 34s is the most exciting calculator that I've heard about in a long time. I'm looking forward to playing around with it.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #2 Posted by **Walter B** on 17 Nov 2011, 4:34 p.m.,*
in response to message #1 by Barry Reeves

Please just contact Gene Wright, e.g. via museum mail :-)

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #3 Posted by **Barry Reeves** on 17 Nov 2011, 5:06 p.m.,*
in response to message #2 by Walter B

I've sent some e-mail. But if he responded, I must have missed it. I don't want to pester him.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #4 Posted by **gene wright** on 17 Nov 2011, 5:55 p.m.,*
in response to message #3 by Barry Reeves

No pestering! :-)

just send it to my first and last name with no spaces at a very HOT form of MAIL but put 143 before the @.

It will make an email address that is 13 letters/numbers long before an @ symbol.

I would prefer not to just post it here. I don't need any herbal remedy emails. Have enough of those already. :-)

For some reason, the forum does not properly send me emails about 1/10th of the time.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #5 Posted by **Barry Reeves** on 17 Nov 2011, 6:15 p.m.,*
in response to message #4 by gene wright

Thanks! Gene.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #6 Posted by **Marcus von Cube, Germany** on 18 Nov 2011, 4:02 a.m.,*
in response to message #4 by gene wright

> Quote:
>
> For some reason, the forum does not properly send me emails about 1/10th of the time.

Maybe it ends up in the spam folder? Or it is rejected but the forum system does not forward this info to the original sender.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #7 Posted by **gene wright** on 18 Nov 2011, 7:35 a.m.,*
in response to message #6 by Marcus von Cube, Germany

No, the spam folder has never had any museum-related emails in it.

all very weird.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #8 Posted by **Raymond Del Tondo** on 20 Nov 2011, 6:09 a.m.,*
in response to message #7 by gene wright

Did you receive my mail from two days ago?

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #9 Posted by **gene wright** on 20 Nov 2011, 7:17 a.m.,*
in response to message #8 by Raymond Del Tondo

Hi Raymond.

Sadly, no email. No spam either.

Re: WP34s Ready to Flash My 30b, but no cable.

*Message #10 Posted by **Alexander Oestert** on 20 Nov 2011, 8:18 a.m.,*
in response to message #9 by gene wright

IIRC, there are some mail providers that put some of the SPAM in a dedicated folder and some mails are deleted altogether before the recipient has even a chance to see them. Maybe this is the case here?

Just got email from Raymond...

*Message #11 Posted by **gene wright** on 20 Nov 2011, 3:46 p.m.,*
in response to message #9 by gene wright

Not the original, but another one sent just arrived. Odd.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Multivariable Interpolation

*Message #1 Posted by **Namir** on 17 Nov 2011, 2:11 p.m.*

After starting a thread with the same subject, I wrote a short article about a method to preform multi-variable interpolation that can use custom interpolation models. You can find the pdf for the article on my website here.

Namir

Edited: 17 Nov 2011, 2:11 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE - Another Flashing Display Issue

*Message #1 Posted by **Jeff O.** on 17 Nov 2011, 1:09 p.m.*

As has been documented (here and here for example), the 15c LE display will flash oddly in various situations. I discovered *three* more which I do not believe have been reported:

1. in complex mode, press f - (i) to temporarily display the imaginary component. While the temporary display is up, press a single digit key, as if you were starting to key in a number. As soon as the temporary display of the imaginary component goes away, the digit you pressed will be displayed, and the display will be flashing. Pressing another digit key will continue entry of a multi-digit number beginning with the one that was already entered, and stop the flashing display. Pressing any function key will execute the function on the flashing number and stop the flashing display. If you press more than one digit key while the temporary display is up, the flashing will not occur. On my 15C Classic, key presses during the temporary display are simply ignored.

2. in any mode, press f - PREFIX to temporarily display the full mantissa. While the temporary display is up, press a single digit key, and you will get the same behavior as above.

3. in any mode, press g - MEM to temporarily display the memory allocation. While the temporary display is up, press a single digit key, and you will get the same behavior as above.

I tried to think of other temporary display modes which might exhibit the above behavior and could not think of any. You can of course execute PSE from the keyboard which is a temporary mode of sorts. On the 15C Classic, keyboard input during the pause is ignored. On the 15c LE, input will be accepted as in the above examples and displayed after the Pause ends, but the display does not flash.

I point out the above to hopefully aid in producing a new bug-free rom by documenting all inconsistencies found with the current one.

edit - found another instance, changes in italics above.

Edited: 18 Nov 2011, 12:23 p.m. after one or more responses were posted

Re: 15c LE - Another Flashing Display Issue

*Message #2 Posted by **uhmgawa** on 17 Nov 2011, 4:31 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> 1. in complex mode...
>
> 2. in any mode, press f - PREFIX...

Sounds like another manifestation of the display controller winding up in buffer swap mode as was speculated here.

Quote:

I point out the above to hopefully aid in producing a new bug-free rom by documenting all inconsistencies found with the current one.

Just curious if an ETA was yet mentioned for a revised Owners Handbook?

Re: 15c LE - Another Flashing Display Issue

*Message #3 Posted by **Kiyoshi Akima** on 17 Nov 2011, 4:42 p.m.,*
in response to message #1 by Jeff O.

Apparently more differences between the 15C LE and the HHC2010 15C+. My HHC 15C+ exhibits neither of these behaviors. However, an overflowing operation leaves the display blank instead of blinking.

Interesting behavior I just came across: press EEX 2 g 10^x to cause an overflow and the display blanks. Press a digit key as if entering a new number and hold the key down. The display showing the new number blinks while the key is held down. Press and hold another digit key and the two-digit entry blinks while the key is held down.

Can someone else with the HHC 15C+ verify or dispute my results?

Re: 15c LE - Another Flashing Display Issue

*Message #4 Posted by **Jeff O.** on 17 Nov 2011, 8:17 p.m.,*
in response to message #3 by Kiyoshi Akima

Kiyoshi,
I think you are describing normal behavior (i.e. behavior exhibited by the original 15C), see this post.

Update - my 15C Classic behaves the same way, so not a new bug, just successful emulation of odd original behavior.

Edited: 18 Nov 2011, 3:08 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP34S: Valentin Albillo's Polynomial Root Finder

*Message #1 Posted by **Miguel Toro** on 17 Nov 2011, 12:56 p.m.*

Hi,

Here is a version for the WP 34s of Albillo's original program for the HP 41. I would like to thank Ángel Martin for helping me with lot of information, documentation and his own version for the 41z. Porting the program was very straightforward. The only real difference I found between commands was with the SIGN function that behaves like it does in the 3Xs family rather than it does in the 41 and 42 calculators, so I have to replace it in my code.

The program has been tested with version 2.2 rev. 1782. Just copy it in a file and assemble it to try in the emulator and the calculator

Testing the examples from the article on the calculator, I obtained the same results, with the following time:

Example 1) 5 seconds – original on HP 41: 8 minutes :

(2+8i)z^6 + (3+0i)z^5 + (-1+2i)z^4 + (0+2i)z^3 + (-3-3i)z^2 + (1+2i)z + (-2+3i) =0

Example 2) 3,5 seconds – original on HP 41: 5 minutes :

5x^6 – 4x^5 – 3x^4 + 8x^3 + 8x^2 – 2x + 7 = 0

Note: You can delete the STOP in line 34. It is there just for testing.

Enjoy!

Miguel

```
001 LBL'PRT'
002 SSIZE4
003 FIX 00
004 CL[alpha]
005 [alpha]'N?'
006 PROMPT
007 STO 00
008 STO 03
009 STO+ X
010 9
011 .
012 0
013 0
014 8
015 0
016 2
017 +
018 STO 01
019 STO 05
020 CLx


021 LBL 05
022 CL[alpha]
023 [alpha]'IM'
024 [alpha] [^]
025 [alpha]'RE[space]'
```

```
026 [alpha]IP 03
027 [alpha] ?
028 PROMPT
029 [cmplx]STO[->]05
030 DEC 03
031 DSE 05
032 GTO 05
033 RCL 03
034 STOP


035 LBL 06
036 CF A
037 +/-
038 STO 04
039 FIX 02
040 ROUND
041 FIX 06
042 x[!=]0?
043 GTO 01
044 EEX
045 STO 04


046 LBL 01
047 RCL 00
048 STO 08
049 SF 01
050 XEQ 11
051 [->]POL
052 1/x
053 STO 07
054 x[<->] Y
055 +/-
056 STO 08
057 CF 01
058 XEQ 11
059 [cmplx]ENTER
060 [cmplx]RCL 07
061 [->]REC
062 [cmplx][times]
063 [cmplx]STO- 03
064 [cmplx]ROUND
065 [cmplx]x[!=]0?
066 GTO 01
067 SF A
068 XEQ 11
069 2
070 STO+ 05
071 EEX
072 3
073 +/-
074 [times]
075 STO+ 01
076 RCL 04
077 RCL 03
078 [cmplx]STO[->]05
079 x[<->] Y
080 DSE 00
081 GTO 06
082 RCL 01
083 IP
084 1
085 0
086 -
087 EEX
088 3
089 /
090 STO- 05
091 FIX 07


092 LBL 10
093 INC 00
094 CL[alpha]
095 [alpha]'RT[space]'
096 [alpha]IP 00
097 [alpha]VIEW
098 PSE 15
099 CL[alpha]
```

```
100 [alpha]'RE'
101 [cmplx]RCL[->]05
102 PROMPT
103 CL[alpha]
104 [alpha]'IM'
105 x[<->] Y
106 PROMPT
107 DSE 05
108 GTO 10
109 CLx
110 CF A
111 RTN


112 LBL 11
113 RCL 01
114 STO 05
115 FC? 01
116 GTO 13
117 EEX
118 3
119 +/-
120 ENTER[^]
121 2
122 [times]
123 STO+ 05
124 LBL 13
125 [cmplx]RCL[->]05
126 FC? 01
127 GTO 02
128 RCL 08
129 STO[times] Z
130 [times]
131 DSE 08
132 GTO 02
133 RTN


134 LBL 00
135 [cmplx]ENTER
136 [cmplx]RCL 03
137 [cmplx][times]
138 RCL[->]05
139 FS? 01
140 RCL 08
141 FS? 01
142 [times]
143 +
144 FS? A
145 STO[->]05
146 x[<->] Y
147 INC 05
148 RCL[->]05
149 FS? 01
150 RCL 08
151 FS? 01
152 [times]
153 +
154 FS? A
155 STO[->]05
156 DEC 05
157 x[<->] Y
158 FS? 01
159 DSE 08


160 LBL 02
161 DSE 05
162 GTO 00
163 RTN
```

Edited: 17 Nov 2011, 1:06 p.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #2 Posted by **Ángel Martin** on 18 Nov 2011, 2:10 a.m.,*
in response to message #1 by Miguel Toro

Bravo Miguel! This contributes to create a 34S library :-) The next should be the Bessel functions - Complex of course - sure the 41Z programs can also help!

Looking at the 34S code I can recognize a couple of tricks I used to adapt the program to the 41Z - nice to see the design similarities, which on the other hand are pretty logical choices.

I'm thinking about Valentin's examples in the other thread - would be good to test the port with those and see how it fares, sort of "turning the creature against the creator" :-)

the first one was:

```
x^20+10 x^19+55 x^18+210 x^17+615 x^16+1452 x^15+2850 x^14+
4740 x^13+6765 x^12+8350 x^11+8953 x^10+8350 x^9+6765 x^8+
4740 x^7+2850 x^6+1452 x^5+615 x^4+210 x^3+55 x^2+10 x+1 = 0
```

which Wolfram Alpha reports (Thanks Gerson!) having coincident roots at:

```
x = -1/2 - sqrt(3)/2*i
x = -1/2 + sqrt(3)/2*i
```

Not quite the same as what this program did when I tried it on V41/ w/41Z - I may have made some data entry error so I'll repeat it this week-end.

Best, 'AM

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #3 Posted by **Paul Dale** on 18 Nov 2011, 2:13 a.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> Looking at the 34S code I can recognize a couple of tricks I used to adapt the program to the 41Z - nice to see the design similarities, which on the other hand are pretty logical choices.

What in particular?

- Pauli

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #4 Posted by **Ángel Martin** on 18 Nov 2011, 2:19 a.m.,*
in response to message #3 by Paul Dale

The way to push the complex argument into the complex stack with independence from the real one, and also checking on the complex round as opposed to on each real and imaginary parts - as it was done in the original program.

Trivialities when seen in retrospective but it was different when you also had to write the MCODE underneath all the functions to play well in that scheme.

ÁM

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #5 Posted by **Paul Dale** on 18 Nov 2011, 2:36 a.m.,*

in response to message #4 by Ángel Martin

> Quote:
>
> The way to push the complex argument into the complex stack with independence from the real one ...

We don't separate the stack into a complex and real sections -- everything lives on the single stack. X + iY, Z + iT, A + iB and C + iD. The latter two being optional. I did add complex STO and RCL commands to make life easier.

- Pauli

Edited: 18 Nov 2011, 2:36 a.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #6 Posted by **fhub** on 20 Nov 2011, 5:38 a.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> I'm thinking about Valentin's examples in the other thread - would be good to test the port with those and see how it fares, sort of "turning the creature against the creator" :-)
>
> the first one was:
>
> ```
> x^20+10 x^19+55 x^18+210 x^17+615 x^16+1452 x^15+2850 x^14+
> 4740 x^13+6765 x^12+8350 x^11+8953 x^10+8350 x^9+6765 x^8+
> 4740 x^7+2850 x^6+1452 x^5+615 x^4+210 x^3+55 x^2+10 x+1 = 0
> ```
>
> which Wolfram Alpha reports (Thanks Gerson!) having coincident roots at:
>
> ```
> x = -1/2 - sqrt(3)/2*i
> x = -1/2 + sqrt(3)/2*i
> ```
>
> Not quite the same as what this program did when I tried it on V41/ w/41Z - I may have made some data entry error so I'll repeat it this week-end.
>
> Best, 'AM

Hi Angel,

either you have mistyped any coefficient(s), or Miguel's translation is not correct, or Valentin's program does indeed not solve this polynomial at all!?

I've entered this polynomial now 3 or 4 times and waited about 2 minutes (on the PC emulator of WP34s), but no solution - it just didn't stop running.

So I guess I'll stay with my own new polynomial solver (with Laguerre method), which solves all those polynomials without any problems (even the 2 'hard' ones that Valentin has posted), and is in fact much faster and gives more accurate solutions. :-)

Franz

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #7 Posted by **Miguel Toro** on 22 Nov 2011, 8:57 a.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> the first one was:
>
> x^20+10 x^19+55 x^18+210 x^17+615 x^16+1452 x^15+2850 x^14+ 4740 x^13+6765 x^12+8350 x^11+8953 x^10+8350 x^9+6765 x^8+ 4740 x^7+2850 x^6+1452 x^5+615 x^4+210 x^3+55 x^2+10 x+1 = 0
>
> which Wolfram Alpha reports (Thanks Gerson!) having coincident roots at:
>
> x = -1/2 - sqrt(3)/2*i x = -1/2 + sqrt(3)/2*i

I tried this example with the original 41 program entered in the V41 emulator and it does not converge either. I did it several times in case I made any mistake entering the data. So I think that my translation is as faithful as it can be but one never knows...

With both versions in FIX 6, results are really similar; and putting simply FIX 11 in line 041 or the wp34s version, accuracy is very much improved for many other cases I tested, but this one in particular, seems to be really tough :-).

As disclaimed by Valentin in his article : "convergence is not guaranteed".

What I am going to do:

1.- let the program as simple and near the original as possible,

2.- include some of the improvements suggested by Dieter,

3.- add an iteration limit so the program may stop with a “no zero found” message,

4.- put it in the Article section, so there is at least a solver available until some improved version is made by one of the many knowledgeable peoples of this community (someone please give a WP 34S to Valentin! I am sure he will enjoy).

Thanks and regards,

Miguel

Edited: 22 Nov 2011, 10:35 a.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #8 Posted by **Werner** on 23 Nov 2011, 2:20 a.m.,*
in response to message #7 by Miguel Toro

I'd like to see Valentin's original program. I searched through PPC Journals in vain for it. BTW since his 20-degree polynomial is simply

```
(x^2 + x + 1)^10
```

it's no wonder all polynomial solvers choke on it - well at least those that do not check for multiple

roots up front (which can only really be done when you have exact coefficients, as is the case here). For a root with multiplicity n, (n-1)/n of the digits of the result will be inaccurate.

Cheers, Werner

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #9 Posted by **Ángel Martin** on 23 Nov 2011, 2:51 a.m.,*
in response to message #8 by Werner

Hi Werner, the reference is:

PPC TECHNICAL NOTES (the Australian Chapter if I´m not mistaken)
V1 N3 October 1980

Hope this helps, I can mail it to you if you still can't locate it - let me know.

Best, 'AM

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #10 Posted by **Werner** on 23 Nov 2011, 4:03 a.m.,*
in response to message #9 by Ángel Martin

Can't locate it.. it's not on TOS, and not on the Museum's DVD..

Werner

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #11 Posted by **Werner** on 25 Nov 2011, 8:14 a.m.,*
in response to message #9 by Ángel Martin

Thanks for the file, Angel.
I am, however, slightly disappointed as it is a simple Newton-Rhapson scheme, not an implementation of the Laguerre method, which I had expected.

Cheers, Werner

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #12 Posted by **Dieter** on 18 Nov 2011, 7:04 a.m.,*
in response to message #1 by Miguel Toro

Looking at the code, I would like to add a few comments:

- I would prefer the input routine to prompt for the coefficients with a zero in X. This way real coefficents can be entered much easier, without the need of typing [0] [ENTER] first.
- Is there a reason why line 117-122ff do not simply contain a straightforward constant ". 0 0 2" or "2 EEX +/- 3" ?-)
  Also, line 071ff. muliplies by 1E-3. Why not simply divide by 1E3 ?
- Unlike the 41-series, the 34s can do RCL-Arithmetics. So step 150 - 154 can be replaced by a simple FS?01 RCLx 08.
- Is the complex ENTER in line 059 and 135 really required?
- The program switches between four different display formats (FIX 00, 02, 06 and 07). Why is this neccessary? I see some ROUND statements here and there. What exactly do they do? The ROUND in

step 064 has no preceding display setting so it's unclear how many digits are rounded. BTW, there also is a "X~~0" test that does not require rounding at all.
I assume the algorithm iterates as long as a certain precision is not yet achieved, and the test in step 064 checks this. In FIX 06 mode this means the absolute error is less than 5E-7. This is fine for small and moderate values, but then think of a root near 1E-6. Or another one near 1E9. So there might be a better way: a root is found if the latest and the previous value agree in 12 significant digits. Which should be fine since the 34s works with 16 digits.

- The EEX in step 044 probably is a leftover from an earlier 41-implemenation where it was a few milliseconds faster than a usual "1" (one). I don't think this is required on the 34s. ;-)

You see there is some nitpicking in these comments. Please consider this a compliment since there obviously are no major bugs. ;-)

Dieter

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #13 Posted by **Miguel Toro** on 18 Nov 2011, 10:06 a.m.,*
in response to message #12 by Dieter

Hi Dieter,

Excellent and pertinent remarks! There is a lot of heritage from the original code that is not required with the WP 34s. In this version I just made the more obvious changes and improvements, thanks to the excellent complex instruction set of the 34S, just to test how easily was to port code from the 41.

I will modify the program based on your comments.

Thanks and regards,

Miguel

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #14 Posted by **Dieter** on 18 Nov 2011, 3:19 p.m.,*
in response to message #13 by Miguel Toro

Here's a first attempt of a modified version for the 34s. I'm sure there's room for improvements, maybe there are even some errors. The algorithm is the same, basically the following details have been changed:

- The various rounding steps have been removed. Instead, a tolerance is stored in register A, here with a value of 1E-6. From this, three individual "deltas" are derived: The original test if abs(R04) < 0,005 was replaced by R04^2 < 1E-6. In the output routine, roots with imaginary parts less than 1E-12 are neglected, i.e. the root is considered real. And finally there is a more sophisticated convergence check: First, the real parts are compared. If they agree in all displayed digits (i.e. all 12, since we're in ALL mode), the imaginary parts are compared as well. If they do *not* agree the program finally tests whether both imaginary parts are smaller than approx. 1E-12. In this case the root is virtually real and no further iteration is required.
- The input routine now prompts for the coefficients with a cleared stack. So real values can be entered without pressing any additional keys.
- The output routine has been rewritten. Every root is now labelled as "Real" or "Compl". In the latter case the result is x+iy and both parts can be viewed with x<>y, as usual.
- Finally, various minor improvements have been applied.

```
001 LBL'PRT'
002 SSIZE4
003 CLSTK
004 CF 01
005 CF A
006 CL[alpha]
007 [alpha]'N=?'
008 PROMPT
009 x>0?
010 FP?
011 BACK 03
012 STO 00
013 STO 03
014 STO+ X
015 9
016 .
017 0
018 0
019 8
020 0
021 2
022 +
023 STO 01
024 STO 05
025 LBL 05
026 CL[alpha]
027 [alpha]'Im'
028 [alpha] [^]
029 [alpha]'Re[space]'
030 [alpha]IP 03
031 [alpha] ?
032 CLSTK
033 PROMPT
034 [cmplx]STO[->]05
035 DEC 03
036 DSE 05
037 GTO 05
038 EEX
039 +/-
040 6
041 STO A          // tolerance = 1E-6
042 ALL 03
043 RCL 03
044 LBL 06
045 CF A
046 +/-
047 STO 04
048 x[^2]
049 x[>=]? A      // i.e. |R04| >= 1E-3?
050 GTO 01
051 1
052 STO 04
053 LBL 01
054 RCL 00
055 STO 08
056 SF 01
057 XEQ 11
058 [->]POL
059 1/x
060 STO 07
061 x[<->] Y
062 +/-
063 STO 08
064 CF 01
065 XEQ 11
066 [cmplx]RCL 07
067 [->]REC
068 [cmplx][times]
069 [cmplx]+/-
070 [cmplx]RCL+ 03
071 [cmplx]ENTER
072 [cmplx]x[<->] 03
073 x[approx]? Z
074 SKIP 01
075 GTO 01
076 x[<->] T
077 x[approx]? Y
078 GTO 04
079 [cmplx]ABS
080 [sqrt]
081 x>? A        // both imaginary parts < 1E-12?
```

```
082 GTO 01
083 LBL 04
084 SF A
085 XEQ 11
086 2
087 STO+ 05
088 EEX
089 3
090 /
091 STO+ 01
092 RCL 04
093 RCL 03
094 [cmplx]STO[->]05
095 x[<->] Y
096 DSE 00
097 GTO 06
098 LBL'RES'
099 SF A
100 RCL 01
101 FP
102 9
103 +
104 STO 05
105 CLx
106 STO 00
107 LBL 10
108 INC 00
109 CL[alpha]
110 [alpha]'Rea'
111 [alpha]'l[space]'
112 [cmplx]RCL[->]05
113 x[<->] Y
114 ABS
115 x<? A
116 SKIP 03
117 CL[alpha]
118 [alpha]'Com'
119 [alpha]'pl[space]'
120 [alpha]IP 00
121 [cmplx]RCL[->]05
122 PROMPT
123 ISG 05
124 GTO 10
125 CLSTK
126 CF A
127 RTN
128 LBL 11
129 .
130 0
131 0
132 2
133 RCL 01
134 FS? 01
135 +
136 STO 05
137 [cmplx]RCL[->]05
138 FC? 01
139 GTO 02
140 RCL 08
141 STO[times] Z
142 [times]
143 DSE 08
144 GTO 02
145 RTN
146 LBL 00
147 [cmplx]RCL[times] 03
148 RCL[->]05
149 FS? 01
150 RCL[times] 08
151 +
152 FS? A
153 STO[->]05
154 x[<->] Y
155 INC 05
156 RCL[->]05
157 FS? 01
158 RCL[times] 08
159 +
160 FS? A
161 STO[->]05
162 DEC 05
```

```
163 x[<->] Y
164 FS? 01
165 DSE 08
166 LBL 02
167 DSE 05
168 GTO 00
169 RTN
```

Here's an example: x^4 - 4 x^3 - 3 x^2 + x + 1

```
XEQ"PRT"
              N=?
 4 [R/S]      Im^Re 4?
 1 [R/S]      Im^Re 3?
-4 [R/S]      Im^Re 2?
-3 [R/S]      Im^Re 1?
 1 [R/S]      Im^Re 0?
 1 [R/S]
              Compl 1   =
             -0,57898166378
   [x<>y]    0,22687379984
   [R/S]
              Compl 2   =
             -0,57898166378
   [x<>y]   -0,22687379984
   [R/S]
              Real 3    =
              0,56277097739
   [R/S]
              Real 4    =
              4,59519235018
   [R/S]
              0
```

Once calculated, the results can be recalled by XEQ"RES".

By the way: Walter, I miss a directly accessible "=" on the alpha keyboard. As far as I can see, common prompts like the "N=?" in line 007 cannot be entered from the keyboard. However, there are several unassigned keys on the alpha keyboard: Just as h [4] enters a question mark, h [5] could be used for the missing "=".

Dieter

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #15 Posted by **Walter B** on 18 Nov 2011, 5:51 p.m.,*
in response to message #14 by Dieter

Dieter, thanks for pointing this out. I'd put '=' on h-shifted ENTER in alpha mode - the location CONST lives.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #16 Posted by **Marcus von Cube, Germany** on 18 Nov 2011, 6:30 p.m.,*
in response to message #15 by Walter B

'=' is in the test catalog of course. In multi alpha mode I've put it on the same key (no catalogs available then) in the most recent build. h ENTER^ produces an up arrow.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #17 Posted by **Walter B** on 19 Nov 2011, 5:05 a.m.,*
in response to message #16 by Marcus von Cube, Germany

As often before, this is not finally discussed nor agreed on yet. Some procedures seem quite

difficult to teach ;-)

And a catalogue access is not a direct access 8-)

Edit: Meanwhile, we agreed on putting '=' on h-shifted R/S in alpha mode, the key it lives nearly everywhere ;-)

Edited: 19 Nov 2011, 5:15 p.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #18 Posted by **fhub** on 20 Nov 2011, 4:55 a.m.,*
in response to message #14 by Dieter

> Quote:
>
> Here's a first attempt of a modified version for the 34s. I'm sure there's room for improvements, maybe there are even some errors.

Hi Dieter,

it seems you have indeed changed it a bit too much - your version doesn't even solve the simple polynomial x^10+1=0.
No error messages, no wrong solution(s), just runs forever ...

Franz

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #19 Posted by **Dieter** on 20 Nov 2011, 9:11 a.m.,*
in response to message #18 by fhub

Yes, the more sophisticated convergence test was a bit too ...sophisticated. ;-) It does not work if a root is very close to zero and decides that two consecutive approximations do not agree even if their real parts are 1E-24 and 1E-25. In your example the problem arises at the fifth and sixth root (i and -i). Their real part is exactly zero while the program actually has determined a value near 1E-16.

Here's an improved version. It checks whether the real and complex parts either agree in all displayed digits *or* if they both are virtually zero.

```
... ...
058 [->]POL
059 1/x
060 [cmplx]CONJ       // shorter than
061 [cmplx]STO 07     // previous code
062 STO 07
063 CF 01
064 XEQ 11
065 [cmplx]RCL 07
066 [->]REC
067 [cmplx][times]
068 [cmplx]+/-
069 [cmplx]RCL+ 03
070 [cmplx]ENTER
071 [cmplx]x[<->] 03
072 x[<->] Y
073 R[v]               // x=re_old  y=re_new  z=im_new  z=im_old
074 x[approx]? Y       // do both real parts agree?
075 SKIP 04            // then continue checking
076 [cmplx]ABS         // both real parts do not agree
077 [sqrt]             // so check whether they are both near zero
```

```
078 x>? A               // are both real parts < 1E-12?
079 GTO 01              // if not, do next iteration
080 R[v]                // real parts agree or both are near zero
081 R[v]                // now check imaginary parts
082 x[approx]? Y        // do both imaginary parts agree as well?
083 SKIP 04             // then we're done
084 [cmplx]ABS          // at this point both real parts agree
085 [sqrt]              // but the imaginary parts don't
086 x>? A               // now check if they are at least < 1E-12
087 GTO 01              // if not, do another iteration
088 SF A                // otherwise we're done, continue here
089 XEQ 11
... ...
```

Dieter

Edited: 20 Nov 2011, 9:12 a.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #20 Posted by **fhub** on 20 Nov 2011, 10:19 a.m.,*
in response to message #19 by Dieter

> Quote:
>
> Yes, the more sophisticated convergence test was a bit too ...sophisticated. ;-)

Have you tried Valentin's 20-degree polynomial which Angel has re-posted above?

Let's see if your new version is now sophisticated enough for this one ... ;-)

Or you could even try the 30-degree polynomial Valentin has posted as test for my first (Bairstow) solver. It has the only solution x=-1 (but with multiplicity 30), and my new Laguerre solver gives the exact solution 30-times! :-)

Franz

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #21 Posted by **Ángel Martin** on 20 Nov 2011, 10:51 a.m.,*
in response to message #20 by fhub

My questions exactly :-)

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #22 Posted by **fhub** on 20 Nov 2011, 10:58 a.m.,*
in response to message #21 by Ángel Martin

> Quote:
>
> My questions exactly :-)

Well, I've tried at least the 20-degree poly (with Miguel's translated program),but got no solution at all. So I didn't try the 30-degree one.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #23 Posted by **Dieter** on 20 Nov 2011, 2:06 p.m.,*

in response to message #20 by fhub

Franz,

> Quote:
>
> Let's see if your new version is now sophisticated enough for this one ... ;-)

there obviously is a misunderstanding here. This is not "my" solution of a polynomial root solver. Honestly, I do not plan on writing something like this - my knowledge on this topic is very limited. What you see is simply Miguel's original PRT version with some minor improvements (input/output, convergence test, special 34s features). The whole algorithm is exactly the same as before. So if the original version does not handle the 20-degree-polynomial, the modified version will not do so either.

So it's about time for you to show your latest Laguerre solver. ;-)

Dieter

Edited: 20 Nov 2011, 2:08 p.m.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #24 Posted by **fhub** on 20 Nov 2011, 3:57 p.m.,*
in response to message #23 by Dieter

> Quote:
>
> So it's about time for you to show your latest Laguerre solver. ;-)

No Dieter, not after these attacks a week ago!

Since this time my programs are only private.

Franz

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #25 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Nov 2011, 7:21 a.m.,*
in response to message #24 by fhub

Franz,

Of course, it's your choice to share your knowledge with the community or not; but it's puzzling that such a decision is made upon the result of a single event or exchange with one or two persons. Many contributors, even very bright ones, received some unexpected, unfair or out-of-style feedback from time to time; I recall some cases and I'm sure there are more. And sometimes the language differences, personal styles, local/country jargon, sense of irony, and translations add up to make a supossedly friendly message look more aggressive than intended. Sometimes any of us may be on the receiving side of such messages and sometimes, even by accident, may be at the originator side. But the decision to share or not is up to each one of us.

Many people come here just to learn from others' creations and discoveries, and an implicit thank you is available for all contributors each time they post interesting and useful material.

Please see that I'm not trying to analyze, explain, or otherwise support or condemn the opinions and postings of any other member of this community.

Best regards.

(I apologize in advance if my imperfect command of the English language prevents this message to convey its friendly and positive intentions)

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #26 Posted by **Walter B** on 21 Nov 2011, 8:01 a.m.,*
in response to message #25 by Andrés C. Rodríguez (Argentina)

Just crossed my mind whether we need a general disclaimer all of us writing in English as a foreign language should append to our postings in this forum. This won't, however, cover the numerous spelling or even wording errors by authors with "English" as their mother tongue observed here. Anyway, since it won't take care of all cases I remember having seen here, forget it **;-)**

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #27 Posted by **Ángel Martin** on 21 Nov 2011, 4:13 p.m.,*
in response to message #26 by Walter B

what about this for a disclaimer:

"get a grip"

:-)

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #28 Posted by **Peter Murphy (Livermore)** on 22 Nov 2011, 11:12 a.m.,*
in response to message #26 by Walter B

Walter, you are correct: there are so many Forum participants who write excellent English despite its not being their mother tongue that it is easy for native speakers of English to assume that everyone here can communicate with perfect clarity.

You are also correct that some cases seen here do not result from imperfect English: perfect clarity is sometimes the problem.

My suggestion: if we treat our communications here as if they were delivered face to face, we might be less likely to speak in ways that give offense. And in cases of seeming offense, we might do well to let a matter rest overnight before responding, if we respond at all.

In cases of offense, sincere and humble apology does wonders.

Finally, remembering our purpose in participating in the Forum, namely to increase the enjoyment and utility we and others get from HP calculators, might do a lot to reduce the number of cases arising.

Re: WP34S: Valentin Albillo's Polynomial Root Finder

*Message #29 Posted by **Miguel Toro** on 23 Nov 2011, 7:39 p.m.,*
in response to message #1 by Miguel Toro

Hi,

You can find the program here in the article section. There is now an iteration limit in case there is no zero found.

Regards,

Miguel

Edited: 23 Nov 2011, 7:40 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How to register new HP 15C LE?

*Message #1 Posted by **hpnut** on 17 Nov 2011, 10:44 a.m.*

Hi all,

I am having difficulty registering my newly acquired HP 15C LE at hp.com

when i put HP 15C calculator in the product registration form, i get "search results - O products"

funny, I could register my HP 12C 30AE earlier.

btw my HP 15C is LE 00118. is this a record of sorts, excluding Tim (or Cyrille's?) LE 00000? :-)

hpnut in Malaysia

Re: How to register new HP 15C LE?

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Nov 2011, 3:41 p.m.,*
in response to message #1 by hpnut

Mine is #00052. :-)

Re: How to register new HP 15C LE?

*Message #3 Posted by **hpnut** on 18 Nov 2011, 2:42 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Do I hear a lower bid? like a Dutch auction (no offence to our friends from the Netherlands ;-)

Re: How to register new HP 15C LE?

*Message #4 Posted by **Ljad** on 18 Nov 2011, 3:51 a.m.,*
in response to message #3 by hpnut

It's a pity the emulator software does not work under Mac OS!

Re: How to register new HP 15C LE?

*Message #5 Posted by **Mark Storkamp** on 18 Nov 2011, 10:33 a.m.,*
in response to message #4 by Ljad

It works fine with wine, I'm using http://winebottler.kronenberg.org/

Re: How to register new HP 15C LE?

*Message #6 Posted by **hpnut** on 18 Nov 2011, 10:36 a.m.,*
in response to message #5 by Mark Storkamp

Guys and gals,

appreciate it if we can keep to the topic ;-)

tqvm

Re: How to register new HP 15C LE?

*Message #7 Posted by **Bart (UK)** on 18 Nov 2011, 10:46 a.m.,*
in response to message #6 by hpnut

Chill out, and have some Dutch cheese with that wine ;-)

Re: How to register new HP 15C LE?

*Message #8 Posted by **Norman Dziedzic** on 18 Nov 2011, 11:21 a.m.,*
in response to message #7 by Bart (UK)

Best cheese I ever had was smoked gouda from a farm in The Netherlands!

I'm way up at 2157 on me 15C LE number.

Re: How to register new HP 15C LE?

*Message #9 Posted by **Martin Pinckney** on 18 Nov 2011, 1:09 p.m.,*
in response to message #8 by Norman Dziedzic

Was it gouda than other smoked varieties?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

calculator nspired students

*Message #1 Posted by **Don Shepherd** on 17 Nov 2011, 9:21 a.m.*

Some students are as crazy as we are about calculators.

Re: calculator nspired students

*Message #2 Posted by **Martin Pinckney** on 17 Nov 2011, 9:47 a.m.,*
in response to message #1 by Don Shepherd

It's alpha-capable, but alas, only one letter in the alphabet!

Re: calculator nspired students

*Message #3 Posted by **Thomas Radtke** on 17 Nov 2011, 10:13 a.m.,*
in response to message #1 by Don Shepherd

Sweet.

Re: calculator nspired students

*Message #4 Posted by **Don Shepherd** on 17 Nov 2011, 10:29 a.m.,*
in response to message #3 by Thomas Radtke

> Quote:
>
> sweet

Now THAT is an appropriate use of that adjective. I hate how the current younger generation uses that word for virtually anything that is deemed "good".

Re: calculator nspired students

*Message #5 Posted by **Martin Pinckney** on 17 Nov 2011, 1:02 p.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> I hate how the current younger generation uses that word for virtually anything that is deemed "good".

Kinda like our generation's use of the adjective "sexy."

At least the male half uses it. Generally, I've found the women can't comprehend that usage.

way OT

*Message #6 Posted by **Don Shepherd** on 17 Nov 2011, 2:37 p.m.,*
in response to message #5 by Martin Pinckney

Martin, in my college English class (1969), I read the short story "Tomorrow and Tomorrow and So Forth" written by John Updike in 1955. In the story, a high school teacher intercepts a note in which a girl student says "I just love (the teacher)". I've always remembered this story because of the following excerpt, where the teacher lectures the girl after class about note passing:

> Quote:
>
> "And about love. 'Love' is one of those words that illustrate what happens to an old, overworked language. These days, with movie stars and crooners and preachers and psychiatrists all pronouncing the word, it's come to mean nothing but a vague fondness for something. In this sense, I love the rain, this blackboard, these desks, you. It means nothing, you see, whereas once the word signified a quite explicit thing--a desire to share all you own and are with someone else. It is time we coined a new word to mean that, and when you think up the word *you* want to use, I suggest that you be economical with it. Treat it as something you can spend only once--if not for your own sake, for the good of the language"

Some things you learn in college stay with you.

Re: way OT

*Message #7 Posted by **Martin Pinckney** on 17 Nov 2011, 3:17 p.m.,*
in response to message #6 by Don Shepherd

> Quote:
>
> "And about love. 'Love' is one of those words that illustrate what happens to an old, overworked language. These days ... it's come to mean nothing but a vague fondness for something ... It means nothing, you see, whereas once the word signified a quite explicit thing--a desire to share all you own and are with someone else. It is time we coined a new word to mean that ... for the good of the language" [edited only for the sake of brevity]

Don, thanks for that quote.

As I am sure you know, the ancient Greeks had four words for "love", each with decidedly different connotations.

As rich a language as English is, I still don't understand how it "missed the boat" on such an important word as love.

Re: way OT

*Message #8 Posted by **Massimo Gnerucci (Italy)** on 17 Nov 2011, 3:30 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> As rich a language as English is, I still don't understand how it "missed the boat" on such an important word as love.

'cause it was "The Love Boat", of course... ;-)

Massimo

Re: way OT

*Message #9 Posted by **Gerson W. Barbosa** on 17 Nov 2011, 3:53 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> As rich a language as English is, I still don't understand how it "missed the boat" on such an important word as love.

English is a rich language because the British were given free Latin lessons and free French lessons in different moments in History. It's a pity Greek was never so widely taught in the island :-)

Edited: 17 Nov 2011, 3:57 p.m.

Re: way OT

*Message #10 Posted by **Martin Pinckney** on 17 Nov 2011, 3:59 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> English is a rich language because the British were given free Latin lessons and free French lessons in different moments in History. It's a pity Greek was never so widely taught in the island :-)

Good point! (LOL!)

Re: way OT

*Message #11 Posted by **Walter B** on 17 Nov 2011, 4:48 p.m.,*
in response to message #6 by Don Shepherd

> Quote:
>
> It is time we coined a new word to mean that, ...

Assuming you quoted literally, I'm just wondering about "coin**ed**" above. Simply looks the wrong time for me :-? Seems neither the Romans nor the Normans stayed long enough to teach grammar :-/

Re: way OT

*Message #12 Posted by **Gerson W. Barbosa** on 17 Nov 2011, 5:25 p.m.,*
in response to message #11 by Walter B

it is time + past subjunctive (unreal past)

That's a particularity of English Grammar. See point #293 here:

http://www.wattpad.com/23056-a-practical-english-grammar-by-thomas-%26-martinet?p=107

Edited: 17 Nov 2011, 5:39 p.m.

Re: way OT

*Message #13 Posted by **Oliver Unter Ecker** on 17 Nov 2011, 5:39 p.m.,*
in response to message #11 by Walter B

It's correct grammar. Read up on "conditional sentences" in English.
http://en.wikipedia.org/wiki/Conditional_sentence

So, for example, you wanna say "it's time we talked about WP34S" and not "it's time we talk about WP34S", to give a completely hypothetical example.

I find the given definition of "love" very weak, though. The first attribute of "that what you sink your heart into" is the sharing of material goods?! C'mon!

Interestingly, the "old world", and, for sure, many other locales, have not embraced (or succumbed, if you will) to the inflationary use of this word, and others like it ("great" comes to mind), that should (or used to) carry some weight--for better, or worse.

Re: way OT

*Message #14 Posted by **Gerson W. Barbosa** on 17 Nov 2011, 5:53 p.m.,*
in response to message #13 by Oliver Unter Ecker

> Quote:
>
> Interestingly, the "old world", and, for sure, many other locales, have not embraced (or succumbed, if you will) to the inflationary use of this word

Except perhaps in France (*j'**aime** du vin*). Here (in Brazil) the verb "amar" is not used in these situations. Well, now that MacDonald's "I'm lovin' it!" has been translated as "**Amo** muito tudo isso!" I am not so sure of that anymore...

Re: way OT

*Message #15 Posted by **Oliver Unter Ecker** on 17 Nov 2011, 6:14 p.m.,*
in response to message #14 by Gerson W. Barbosa

No. The French really *do* love their wine.
(And the Germans, sausages. The Italian, women (note, plural!). The British, probably, Marmite. Etc.)

“There is no sincerer love than the love of food.”
George Bernard Shaw

Edited: 17 Nov 2011, 6:20 p.m.

Re: way OT

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 17 Nov 2011, 10:07 p.m.,*
in response to message #15 by Oliver Unter Ecker

> Quote:
>
> The Italian, women (note, plural!).

Dunno at your latitudes but, well, yes; we usually do. :)
Not everybody at our former prime minister's pace though...

Greetings,
Massimo

Edited: 17 Nov 2011, 10:08 p.m.

Re: way OT

*Message #17 Posted by **Don Shepherd** on 17 Nov 2011, 6:22 p.m.,*
in response to message #13 by Oliver Unter Ecker

> Quote:
>
> the sharing of material goods

I doubt that Mr. Updike used the word "own" in the sense of owning and sharing a washing machine or a coping saw, etc. Perhaps he meant something like owning a compassionate spirit or owning a belief in helping others who are needy, things like that. At least that's how I'd interpret it.

I think John Updike died a few years ago, so we can't ask him, unfortunately.

Re: way OT

*Message #18 Posted by **Oliver Unter Ecker** on 17 Nov 2011, 7:03 p.m.,*
in response to message #17 by Don Shepherd

Ok, I'd buy that, if it weren't for what comes before and after:

"once the word signified a quite explicit thing"
This suggests that the word was once well-defined, and, to a lesser extent, universally so. I must doubt both very much, and would resent the authoritative tone.

"a desire to..."
No matter what comes after the "to", "a desire" is something that hasn't run its course, whereas more common beginnings "a feeling", "a state of mind", etc. certainly have. Love already "is"; it's not merely something anticipated, as "desire" would imply. Its weighty version is "final", too, which is certainly not something you'd associate with "desire". It feels very tentative, and reduces the complexity of that feeling (called love) unduly, I think.

"someone else"
Here the scope of love is narrowed to humans. What about causes, religions & other ideas, books, animals, and other common, non-trivialized objects of love.

But, hey, let's not forget this is a *character* of Mr. Updike's. It's not Mr. Updike's shot at explaining what love is.

Edited: 17 Nov 2011, 7:37 p.m. after one or more responses were posted

Re: way OT

*Message #19 Posted by **Don Shepherd** on 17 Nov 2011, 7:24 p.m.,*
in response to message #18 by Oliver Unter Ecker

> Quote:
>
> explaining what love is

On this forum, it's how you feel about your favorite HP calculator!

Re: way OT

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 17 Nov 2011, 9:57 p.m.,*
in response to message #19 by Don Shepherd

> Quote:
>
> On this forum, it's how you feel about your favorite HP calculator!

Very sad, but very true.

Re: way OT

*Message #21 Posted by **JDonley** on 17 Nov 2011, 10:09 p.m.,*
in response to message #18 by Oliver Unter Ecker

Love is not limited to humans. google "shep Ft. Benton Montana dog" and you will read about a dog that waited at the railroad station for over 5 years awaiting his master [who would never return] meeting every train every day hoping his sheep herder companion would return. If you can read Shep's story without tearing up, check to see if you have a pulse, and the obituaries for your name. Learned of this first hand while in FB many years ago.

Re: way OT

*Message #22 Posted by **Eric Smith** on 18 Nov 2011, 4:07 a.m.,*
in response to message #21 by JDonley

Similarly HachikÅ waited at Shibuya Station in Japan every day for nine years for his master to return.

Re: calculator nspired students

*Message #23 Posted by **Johnny Bjoern Rasmussen** on 18 Nov 2011, 3:02 a.m.,*
in response to message #1 by Don Shepherd

Some like HP-35 cake ;-)

Edited: 18 Nov 2011, 3:12 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP-34] New Overlay Version 3.0 Eric Please !

*Message #1 Posted by **robertoataulfo** on 17 Nov 2011, 5:44 a.m.*

```
I sent an email to Eric but he did not respond (2 weeks)
Does anyone have any news about the new version 3.0 overley?
Thank's
```

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #2 Posted by **Paul Dale** on 17 Nov 2011, 5:49 a.m.,*
in response to message #1 by robertoataulfo

We haven't *fixed* the layout yet, so no overlay is possible.

- Pauli

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #3 Posted by **Marcus von Cube, Germany** on 17 Nov 2011, 7:46 a.m.,*
in response to message #2 by Paul Dale

With a little effort you can patch your overlay to match the present layout. It can be viewed by starting the latest emulator or looking at the V3 bitmap in the trunk/windows/bin directory.

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #4 Posted by **pascal_meheut** on 17 Nov 2011, 10:07 a.m.,*
in response to message #1 by robertoataulfo

Eric told me a few weeks ago that he was waiting for the new keyboard to be fixed as Paul already pointed out.

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #5 Posted by **Walter B** on 17 Nov 2011, 1:46 p.m.,*
in response to message #1 by robertoataulfo

Please let me point you to an older answer and solution. I'll update the artwork shortly - stay tuned.

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #6 Posted by **Eric Rechlin** on 17 Nov 2011, 3:21 p.m.,*
in response to message #5 by Walter B

If you just need to update the artwork, I can do that myself.

I'm just waiting for confirmation that the 3.0 keyboard arrangement has been finalized, because I don't want to be printing overlays that end up being a weird 2.2/3.0 hybrid.

Eric

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #7 Posted by **Walter B** on 17 Nov 2011, 4:30 p.m.,*
in response to message #6 by Eric Rechlin

Eric, I'm well aware of you waiting for said confirmation. But you got me wrong. When I update the artwork, people can print it and create *temporary* paper overlays as explained in the old thread I pointed to. Those will do easily (and ease life) until we are ready for *releasing* the new layout d:-)

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #8 Posted by **Howard Owen** on 17 Nov 2011, 5:56 p.m.,*
in response to message #7 by Walter B

Walter, perhaps you could comment on remaining areas of uncertainty?

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #9 Posted by **Walter B** on 17 Nov 2011, 7:08 p.m.,*
in response to message #8 by Howard Owen

@ All: You find the new overlay here now:
http://wp34s.svn.sourceforge.net/viewvc/wp34s/artwork/wp34s_overlay_v3.png

@ Howard: Nothing in particular, we're just not sure enough yet that's the optimum. Personally, I don't really see an advantage in y<> and z<> though they look good there :-/

Re: [WP-34] New Overlay Version 3.0 Eric Please !

*Message #10 Posted by **Marcus von Cube, Germany** on 18 Nov 2011, 2:20 a.m.,*
in response to message #9 by Walter B

We are still inventing new features and one of them may finally end up on the keyboard. Just wait and see.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 42s soft keys

*Message #1 Posted by **Paulo MO** on 16 Nov 2011, 8:35 p.m.*

Hi guys

Even though being a die-hard 15c fan (first love is forever), the 42s arouse my curiosity, mainly to to the better complex and matrix integration. I don't have one (a TAS solvable problem), nor do I have a manual (a forum solvable problem). But I have a question for the 42s users/fans (the user set and the fan set are a single set, from what I hear :-)): Not having dedicated soft keys is not a deal breaker? Or, put in another way: When you have a menu on screen (say the Stat menu), don't you miss the overloaded algebraic and transcendental keys? It seems to me that one will frequently need to use these while using many of the menus, and having the keys transformed into soft keys will become a major pain.

Sorry if this a stupid question. But curiosity is killing me.

Paulo

Edited: 16 Nov 2011, 8:50 p.m.

Re: Hp 42s soft keys

*Message #2 Posted by **Gerson W. Barbosa** on 16 Nov 2011, 9:15 p.m.,*
in response to message #1 by Paulo MO

Espero que isto ajude, por enquanto:

http://s918.photobucket.com/albums/ad30/gwbarbosa/HP-42S/

Este manual alternativo também pode ser útil:

http://thomasokken.com/free42/42s.pdf

Edited: 16 Nov 2011, 9:31 p.m.

Re: Hp 42s soft keys

*Message #3 Posted by **Paulo MO** on 17 Nov 2011, 4:27 a.m.,*
in response to message #2 by Gerson W. Barbosa

Muito obrigado (and thank you ;-)) Gerson. It was most helpful.

Abraço Paulo

Re: Hp 42s soft keys

*Message #4 Posted by **Ron Ross** on 16 Nov 2011, 9:15 p.m.,*
in response to message #1 by Paulo MO

The soft keys can roll over or be frozen on. As Mike Morrow has often stated, once you have a 42s, you dump the Hp 15c and don't look back. But my 15c was my first Hp and it is only a bit smaller, but that bit is the critical difference that fits perfectly in my pocket and one of my two gripse about the Hp 42s. The other is the lack of I/O. The 42s still has no equal from Hp in their calculators.

I actually think Hp should abandon the Hp 50g platform and release an Hp 42s like calculator with an HDMI and USB port (with power ie NOT a Micro or mini usb port) plus a micro SD card slot, and Blutooth. Basically have a pocket calcualtor with the built in ability to function as a portable computer with an excel and word compatable software with a high end math package when hooked up to these goodies (ie an Andriod type OS in the background). On the surface a simple calculator. Thats why everyone loved the HP 41c series. Very few people added any or all the goodies,....But they could!

Re: Hp 42s soft keys

*Message #5 Posted by **Walter B** on 17 Nov 2011, 2:10 a.m.,*
in response to message #4 by Ron Ross

> Quote:
>
> As Mike Morrow has often stated, once you have a 42s, you dump the Hp 15c and don't look back.

:-)

> Quote:
>
> But ... it is only a bit smaller, but that bit is the critical difference that fits perfectly in my pocket and one of my two gripse about the Hp 42s. The other is the lack of I/O.

After all, the last RPN model with (and the only one with real) I/O was the 41C. The 42S wasn't allowed to have it for not interfering with the 48 series. But that's an old story often told here already.

> Quote:
>
> I actually think Hp should abandon the Hp 50g platform ...

Hehe, what's about all the students (both kinds ;-)) competing with their calculating battleships?

> Quote:
>
> ... and release an Hp 42s like calculator with an HDMI and USB port ... plus a micro SD card slot, and Blutooth. Basically have a pocket calcualtor with the built in ability to function as a portable computer with an excel and word compatable software with a high end math package when hooked up to these goodies (ie an Andriod type OS in the background). On the surface a simple calculator. Thats why everyone loved the HP 41c series.

Ooops, I knew the 41CX could do a lot, but work "as a portable computer" as described above? I must have missed something ;-/

And regarding your wishlist: two full size ports, one slot, Bluetooth, smaller footprint than a Pioneer - the only feature I missed is eternal battery life - sounds pretty much like what we call an "eierlegende Wollmilchsau" here (i.e. one animal for everything). Will be difficult to have it sitting on the table with all those ports connected ;-) Personally I'd be satisfied with a micro SD port and a proper display, as you may

know.

Ceterum censeo: HP, launch a 43S.

Walter

Re: Hp 42s soft keys

*Message #6 Posted by **Paulo MO** on 17 Nov 2011, 4:41 a.m.,*
in response to message #4 by Ron Ross

Thanks, Ron.

> "...once you have a 42s, you dump the Hp 15c and don't look back."

That settles it. I will *never* buy a 42s. I wouldn't know what to do then with my two 15c's. Betrayal is not an option! ;-)

Seriously, now: if you 42s fans can survive and live happily with the TOP.FCN mitigating feature, so can I. I guess I'm now officially a 42s prospective buyer.

Cheers Paulo

Re: Hp 42s soft keys

*Message #7 Posted by **Valentin Albillo** on 17 Nov 2011, 7:06 a.m.,*
in response to message #4 by Ron Ross

> Quote:
>
> As Mike Morrow has often stated, once you have a 42s, you dump the Hp 15c and don't look back.

In Mike Morrow's dreams ...

And yes, I do own a 42s and I perfectly know how to make the most of it yet any of my four HP-15C get much more actual use than it.

So much for the "15C dumping" ... :P

Best regards from V.

Re: Hp 42s soft keys

*Message #8 Posted by **Egan Ford** on 17 Nov 2011, 12:20 p.m.,*
in response to message #4 by Ron Ross

> Quote:
>
> As Mike Morrow has often stated, once you have a 42s, you dump the Hp 15c and don't look back.

I disagree. I got a 42S years ago because it was hyped as the end-all-be-all RPN calculator. And in 1984, when I got my 15C, if the 42S were an option, I would have picked it, just on the specs.

But after years of using the 15C, I've come to appreciate the simplicity of the overloaded keyboard and no menus. I'll admit that I do not use the 42S enough to have mastered every sequence to get the results that I want, and perhaps that would change my mind.

I must also admit, that I cannot be completely logical about the 15C. It is beautiful.

I tried to switch from the 15C to the 34S recently, you know, try something different. My goal was to take my 15C and 16C off my desk (I still use the 16C for assembly programming) and replace with the more functional 34S, but the 34S still has to use menus because of the volume of functions. Now I have 3 calculators on my desk.

Lastly, I must admit that 42s is my default iPhone calculator. The vertical layout is better optimized for single hand, single thumb use.

Long story short. You do not have to choose, you can have both. In my entire lifetime I have logged more time on the 15C, followed by the 48GX, and I do not think that will change.

> Quote:
>
> I actually think Hp should abandon the Hp 50g platform and release an Hp 42s like calculator with an HDMI and USB port (with power ie NOT a Micro or mini usb port) plus a micro SD card slot, and Blutooth. Basically have a pocket calcualtor with the built in ability to function as a portable computer with an excel and word compatable software with a high end math package when hooked up to these goodies (ie an Andriod type OS in the background). On the surface a simple calculator. Thats why everyone loved the HP 41c series. Very few people added any or all the goodies,....But they could!

Sounds like a smartphone. You can do all of that on an iPhone (or Android).

Edited: 17 Nov 2011, 12:21 p.m.

Re: Hp 42s soft keys

*Message #9 Posted by **Paulo MO** on 17 Nov 2011, 1:04 p.m.,*
in response to message #8 by Egan Ford

Hi Egan

Time spent with the 48GX doesn´t count, since most of it is either waiting time for the thing to compute an answer and/or update the screen, or in my case, eye and mind straining to try to understand what cryptic low-resolution 4letter action is that menu entry all about :-). It is a super great machine, other than that.

On behalf of the 15c: one of the things that I don´t see referred, and that I'm very thankful for, is: calculation reliability. I logged many, many hours of midterms and final exams, in the middle stages of my academic path, with the inevitable i) stress ii) not time enough to be redoing calculations iii) getting stuck if the numerical path took me to the wrong place. It was great to be able to do calculations *once*, without even looking at the screen, and still know that, with very high probability, there were no mistakes of any kind. You could (and can) rely on a 15c (RPN helped a lot, too. And so did Stokes theorem :-)).

What I could never do, was to be able to explain that feeling to my kids. They grew up on TI83s, and I could never really make them realize what they missed. :P

Paulo

Re: Hp 42s soft keys

*Message #10 Posted by **bluesun08** on 17 Nov 2011, 3:39 p.m.,*
in response to message #9 by Paulo MO

Thank HP.

Re: Hp 42s soft keys

*Message #11 Posted by **spb** on 17 Nov 2011, 9:37 p.m.,*
in response to message #4 by Ron Ross

> Quote:
>
> As Mike Morrow has often stated, once you have a 42s, you dump the Hp 15c and don't look back.

I'm another long-time owner of both a 15C and 42S that still uses the 15C much more frequently than the 42S.

I feel like a handheld calculator is something that I turn to mostly for short, one-off calculations. I went from using a 11C to a 15C to a 28S. I ended up getting a 48GX and a 42S around the same time, but by that point I was already doing more of my `real' number crunching on a computer rather than a calculator. Nowadays, I pick up new HP calculators more or less out of curiosity, but seldom find myself using them for `real' work. And for `casual'/one-off calculations, I find that the simpler design is a plus and the reduced feature set isn't really a limitation.

Really, whenever I find myself wanting something beefier than the 15C, I find myself reaching for my 41CX more than my 42S, just because I like the keys better, and I prefer the use-assignable keys on the 41 to the menus on the 42.

And this is all apart from my preference for the landscape layout, which I've always found easier and faster to key than any of the portrait layout calculators I've tried.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41-MCODE Vector Calculator (3D)

*Message #1 Posted by **Ángel Martin** on 16 Nov 2011, 8:15 a.m.*

I've taken the opportunity to add some extensions to the ROMS containing some of the HP_Solution_Books. In particular the Geometry ROM had more than 2/3rds. of empty space, a waste that needed correction - So I added a few triangle solvers and a coordinate tranformations FOCAL programs.

As there was still more available room, I went ahead and wrote a handy set of MCODE functions to handle 3D-Vector operations - you know, the usual suspects. They use the stack for the first operand and Alpha for the second, leaving the results in the stack - so nothing fancy like a Vector-stack or similar, just plain and simple.

A couple of interesting remakrs :

- V<>, VVIEW, VRCL and VSTO are programmable prompting functions that work on three-register blocks at once
- VVIEW and VIEWV sequentially display the three vector components using the display (not Alpha obviously)
- using the new functions the "VC" program from the HP-41 Advantage module shrinks down to barely 45 lines ;-)

The functions are listed below:- you can download it from TOS, just use the usual procedure.

```
-VECTORS        Header Section
A+V             Vector Addition
A-V             Vector Subtraction
A*V             Vector Dot Product
AXV             Vector Cross Product
V<> _ _         Vector Exchange
V<>A            Vector Swap
VADST           Distance between Vectors
VANG            Angle Between Vectors
VCHS            Vector negative
VENTER^         Vector ENTER^
VIEWV           Vector View
VINV            Vector Inverse
VMOD            Vector Magnitude
VNORM           Vector Norm
VRCL _ _        RCL Vector
VSTO _ _        STO Vector
VUNIT           Unit Vector
VVIEW _ _       View Vector
```

Best, ÁM

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just got my Museum DVD Set...

*Message #1 Posted by **Raymond Wiker** on 15 Nov 2011, 2:17 p.m.*

... and I'm kicking myself for not buying it earlier. There's a huge amount of information on the two DVDs, and the quality of the scans I've looked at is absolutely top-notch.

Re: Just got my Museum DVD Set...

*Message #2 Posted by **Jim Yohe** on 15 Nov 2011, 5:31 p.m.,*
in response to message #1 by Raymond Wiker

So can't you still order them?

Re: Just got my Museum DVD Set...

*Message #3 Posted by **David Hayden** on 15 Nov 2011, 9:08 p.m.,*
in response to message #1 by Raymond Wiker

I agree, the DVD's are really great. I copied them to my hard drive and use them regularly. I encourage anyone who hasn't bought a set to do so, both for the wonderful information included, and also to support this site.

Dave

Re: Just got my Museum DVD Set...

*Message #4 Posted by **Jeff Johnson** on 16 Nov 2011, 9:58 a.m.,*
in response to message #1 by Raymond Wiker

Agree. Should have gotten mine sooner than I did. Someone went to a lot of trouble to make a really nice set of documentation that is enjoyable and immensely helpful.

Re: Just got my Museum DVD Set...

*Message #5 Posted by **DigiGal** on 16 Nov 2011, 11:12 a.m.,*
in response to message #4 by Jeff Johnson

Got my DVD Set a few years back it's Version 6.00.

Excellent reference!!! Don't hesitate if you are interested.

Link to HP Museum DVD's

Edited: 16 Nov 2011, 1:08 p.m.

[Return to Index | Top of Index]

Just got my Museum DVD Set...

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

use rpl for deriving rpl functions

*Message #1 Posted by **peacecalc** on 15 Nov 2011, 2:07 p.m.*

Hi folks,

I try something well-known in an old style. I want to give you an explanation for that little project.

I tried this in another hp-forum, but there I got there the message: Say clearly what you want or show a solution of a problem. Project with unconcrete aim or solution are not desirable.

Please, understand me right, I don't want fora-bashing, I accept that opinion about the forum-style, so I decided to try here a new attempt.

It's a forum in "old calculators", I have a hp 50g, a new one. But I think, may be it's a theme for this forum, too.

Shortly: RPL/RPN versus algebraic style.

I think a lot of members here are very fond of RPN/PRL (of course). But the CAS on the HP 50g (and former models) works with the algebraic form of mathematical terms for simplifiying or transforming these terms. Indeed even most fans of RPN/RPL think in algebraic patterns, when they do symbolic algebra (with paper and pencil or even with the hp calculators).

So my project is an effort to use only RPN (programmed in RPL), even in that symbolic algebraic calculations. By the way that is my justification to bring this theme in that forum: we old fashioned boys (and some girls of course, too) like to use RPN everywhere in mathematics (maybe it's not possible).

Please don't discuss wether it is useful or not. It is not serious, it's a game!

What is the beginning: I want to derive an rpn-function without any way through the classical algebraic patterns (which is the normal use on hp calculators, 39/40 and 50g).

What I have: I can transform every (of course not every, but a lot of) algebraic term into a RPN/RPL function.

So I found an article in the web (ten years old), which shows a very clear way to implement the derive-rules (a look-up table has to be nessary,too) in an recursive function.

Other projects can be: integration or the whole bunch of instruments (factorizing, collecting and so on...

When I (or some of you (may be) did this before) succeed in doing this, then HP has an new challenge for a new calculator for the old purists.

sincerely peacecalc

Re: use rpl for deriving rpl functions

*Message #2 Posted by **designnut** on 15 Nov 2011, 5:09 p.m.,*
in response to message #1 by peacecalc

I abandoned book formulas when I got my original HP35. I changed to keystroke routines with easy to remember "formulas" all rearranged from the book versions. I squared equations to remove the root sign and moved all terms to the left side = 1. Thus I could multiply terms and invert to find the missing term. I found relations not shown in books as I could play with numbers easily. It may not be higher math but engineering shortcuts to answers. RPL programming is too steep a hurdle for me now. Sam

Re: use rpl for deriving rpl functions

*Message #3 Posted by **Crawl** on 15 Nov 2011, 7:25 p.m.,*
in response to message #1 by peacecalc

I have no idea what you're asking for.

Re: use rpl for deriving rpl functions

*Message #4 Posted by **Martin Pinckney** on 15 Nov 2011, 8:23 p.m.,*
in response to message #3 by Crawl

It's a bit hard to follow (perhaps lost in translation), but I think Sam gets it. Maybe Peacecalc wants to re-write algebraic expressions in RPN format (as Sam says he did many years ago), but use the 50g to manipulate them in programs. He wants to know if Forum members are interested in this.

Re: use rpl for deriving rpl functions

*Message #5 Posted by **Crawl** on 15 Nov 2011, 9:38 p.m.,*
in response to message #4 by Martin Pinckney

So, for example, a physics text that lists the equation

E Enter m Enter c 2 ^ * =

I guess I don't get it, or see the point. When you see an equation written the normal way, you instantly can "translate" it to how you'd enter it in RPN (maybe the reverse isn't true). It's not a truly new way of thinking about things (which his post seems to imply); you wouldn't "derive" things any differently than you otherwise would; it's just a different notation.

Re: use rpl for deriving rpl functions

*Message #6 Posted by **David Hayden** on 15 Nov 2011, 9:24 p.m.,*
in response to message #1 by peacecalc

I"m having some trouble understanding what you're trying to do also. It looks like you aren't a native English speaker. You may want to post in your native language and then maybe someone more familiar with English can translate. Alternatively, post an example of what your input and output should be.

Are you asking about doing symbolic derivatives? The 50g already does this, but I agree it would be a fun project anyway.

By the way, internally, algebraic expressions are stored in RPN form if I recall. So '3+3*5' is stored as 3 3 5 * +, so applying the symbolic rules for derivatives is pretty easy. But I'm not sure if you could do this in User RPL because I don't know if there's a way to extract the components of the algebraic expression.

You'll find that this is a friendly and helpful group here.

Dave

Re: use rpl for deriving rpl functions

*Message #7 Posted by **Bart (UK)** on 16 Nov 2011, 5:17 a.m.,*
in response to message #1 by peacecalc

So, do I understand that you want to develop a CAS that uses formulas in RPN format?

e.g. intead of:
INTVX(X^2*LN(X)) = 1/3*X^3*LN(X)+(-1/9)*X^3
you want:
INTVX(X 2 ^ X LN *) = X 3 ^ 3 / X LN * X 3 ^ 9 / NEG +

is that correct?

Re: use rpl for deriving rpl functions

*Message #8 Posted by **peacecalc** on 16 Nov 2011, 5:42 a.m.,*
in response to message #7 by Bart (UK)

Hello folks,

thank you for your replies.

First of all: I have to observe that my english abilities are more low-grade, then I thought (that's right: I'm not a native speaker).

I've learned that the book format is the same as what I call: algebraic terms. Book format is better, because f. e.: x y z ^ * is also an algebraic term (in RPN format).

With derives i meant "symbolic derivatives".

I try it a second time to explain what I want. Maybe some observations are helpful: The HP 50g needs relativly a long time for the function SUBST on a formular in book format compared with the formular transformed in a function in RPN format and the substituting variable is the variable of the function.

For example: 2: (x + 3*y)/(x^2 - 17)

1: x = 6 SUBST

takes more time for calculating then:

A function f is defined as:

<< -> x << x y 3 * + x 2 ^ 17 - / >> >>

1: 6 f

Of course the SUBST command is more general acting like the other way (for y you have to build a new function). The conversion of a formular from book format in a rpn function is no problem: You need the little program "->RPN" in the Advanced User Reference for the HP 50g on page 2-27. Then it's easy to build a function f (with USER RPL) mentioned above.

But the point is: You always get a result in book format:

(6 + 3*y)/19

My assumption is/was that the transformation between book and RPN format is an overhead which makes the symbolic calculations slow. I also assumed that the hp 50g works internally with "trees" which represent the algebraic terms. I thought this was necessary doing symbolic algebra and showing the book format.

If you have a list of an algebraic term in RPN format you needn't such a "tree", only a stack for storing the results in between. That is a good condition for calcs with an infinit large stack. You use the serial order and the type of operators which are given in RPN format. And you can do this also for symbolic algebra directly f. e.: symbolic derivatives.

The information of David Hayden is interesting: the book format is stored in RPN format. If it is possible to get an access (with user rpl) to that storage places, than it is not necessary to make that conversion from book to RPN format.

for example: Input: { x 3 ^ 5 x 2 ^ * + } recursive function output: { 3 x 2 ^ * 5 2 x * * +}

One more assumption: some sophistcated functions, like "SERIES" could run faster (now may be, is sys rpl necessary).

Please tell me wether things become clear/clearer or not. I thank you for the time you've invested understanding my post(s).

Yes Bart that's what I want with a little correction:

1: X 2 ^ X LN * INTVX

1: X 3 ^ 3 / X LN * X 3 ^ 9 / NEG +

sincerely peacecalc

Re: use rpl for deriving rpl functions

*Message #9 Posted by **Crawl** on 16 Nov 2011, 7:03 p.m.,*
in response to message #8 by peacecalc

So, it's just about speed?

I don't think the speed issue is due to it being RPN versus textbook. When you try 6x+1, x=2, SUBST, I'm guessing what happens is the interpreter goes through each bit at a time

6? No, that's not x. x? Yup, that's x, replace it with 2. +? Not x 1? Not x, either.

And you get 6*2+1

Well, maybe you could argue that it is in fact an RPN versus textbook issue, because in RPN mode, it knows 6 automatically means "pop 6 onto the stack" and x means "pop whatever value x has onto the stack". It doesn't need to scan and compare.

However, it seems to me that in this case, you could just optimize your programs for speed; you don't need to change the way the calculator deals with every expression it's given (which is what it sounds like you want). I've dealt with that in the past. The first time I solved the general quartic equation on the 50g, I found it was fastest to deal with stack commands. That was able to solve the general quartic, symbolically (though it also worked with numerical input) in about 3 minutes, which I thought was impressive.

Even at the time, though, I knew something unintuitive: It is MUCH faster to take the squareroot of x

with squareroot(variable) variable=x SUBST, than it was to simply enter x squareroot in RPN. The reason is that taking a squareroot directly on the stack causes an EVAL, and if the squareroot is of a complicated algebraic equation, the EVAL can take some time. On the other hand, the SUBST just plugs the expression into the squareroot symbol.

I later got it down to about 10 seconds I didn't use any algebraic expressions, but I still used SUBST.

Re: use rpl for deriving rpl functions

*Message #10 Posted by **peacecalc** on 18 Nov 2011, 9:53 a.m.,*
in response to message #9 by Crawl

Hello crawl,

thank you for post, I haven't ignored it, but I followed your links, and I need some time understanding them. I will implement your programs in my hp 50g, too. Thank you very much.

It's not only efficiency, but I'm interested in understanding how the things work (or if they are possible or not). Even I know now, that the hp 50g works internally in RPN format. I like to program in RPL how it works to differentiate from an RPN input to an RPN output.

The HP guys were faster again with that topic.

Sincerely peacecalc

Re: use rpl for deriving rpl functions

*Message #11 Posted by **Eric Smith** on 17 Nov 2011, 12:54 p.m.,*
in response to message #8 by peacecalc

The HP RPL calculators store algebraic expressions in RPN internally. They are converted from algebraic to RPN on input, and from RPN to algebraic on output (display). All computations are done with them in RPN form internally.

Re: use rpl for deriving rpl functions

*Message #12 Posted by **peacecalc** on 17 Nov 2011, 2:17 p.m.,*
in response to message #11 by Eric Smith

Hello Eric,

if that is true what you wrote (I have no reason for disbelieving this fact), then the "internal workflow" of the hp 50g is really optimized. The overhead then is only given by transforming book to rpn format and vice versa. Is a function with a book term also stored as an rpn formula by DEF or DEFINE?

Edited: 17 Nov 2011, 2:22 p.m.

Re: use rpl for deriving rpl functions

*Message #13 Posted by **Eric Smith** on 18 Nov 2011, 4:17 a.m.,*
in response to message #12 by peacecalc

User-defined functions created by DEF or DEFINE with an algebraic store the algebraic object wrapped in a program into a variable, but the actual algebraic object is internally stored in RPN.

Re: use rpl for deriving rpl functions

*Message #14 Posted by **Bart (UK)** on 18 Nov 2011, 10:37 a.m.,*
in response to message #11 by Eric Smith

So would it be possible to bypass the algebraic->RPN conversion and call the functions (with and RPN expression as input) using SysRPL?

Re: use rpl for deriving rpl functions

*Message #15 Posted by **Eric Smith** on 18 Nov 2011, 3:16 p.m.,*
in response to message #14 by Bart (UK)

Yes, you can call a DEFINEd function from SysRPL, the same way that you would call any RPL program. A DEFINEd function *is* an RPL program.

The conversion to/from algebraic notation ONLY happens when the user is entering the algebraic expression, or it is being displayed to the user. Internally everything, including "algebraic objects", are stored in postfix (RPN) form. There's nothing special you need to do to bypass any conversion.

Edited: 18 Nov 2011, 3:17 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interpolations for Two and Three Independent Variables

*Message #1 Posted by **Namir** on 15 Nov 2011, 12:21 p.m.*

Recently I was looking for information about multivariable interpolation. I was curious about interpolation with two and three independent variables. My first stop was Wikipedia. The algorithm presented there dealt with interpolation based on the coordinates of the independent variables forming a square. That is, the bilinear interpolation used points (x1,y1), (x1,y2), (x2,y1), and (x2,y2).

Further search on the Internet located a paper that dealt with bilinear and trilinear interpolation. The paper showed more elegant equations for square-shaped coordinates for the bilinear interpolation. The paper also included equations for the cube-shaped trilinear interpolation. Implementing these algorithms in BASIC, RPN, or RPL should be easy.

After implementing the bilinear and trilinear interpolations, I asked myself the question, “What if the anchor coordinates for the bilinear interpolation do not form a square? Likewise, what if the anchor coordinates for the trilinear interpolation do not form a cube?”

I proceeded to calculate the coefficients for the multi-variable polynomials used for the bilinear and trilinear interpolations. After a little bit of math wrangling, I realized that my best bet was to use Vandermonde types of matrices. Such matrices would allow me to calculate the coefficients of the interpolating polynomials. In addition, you need fewer anchor points than the square or cube approaches. One advantage of calculating the interpolating polynomial coefficients is that you can reuse the coefficients for additional interpolations that use the same anchor points. This is an advantage that is not available when using interpolation equations that simply yield the final answer.

Using the Vandermonde types of matrices allowed me to easily implement quadratic interpolations for two and three independent variables. If the implementation uses a language that works with matrices, then the calculations are greatly simplified! Such is the case with Matlab, RPL and the HP-71B that has the MATH ROM.

Namir

Re: Interpolations for Two and Three Independent Variables

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Nov 2011, 12:42 p.m.,*
in response to message #1 by Namir

Namir, do you think the matrix support in WP 34S is strong enough to support your algorithms? Can you post some background and a solution to look at?

Re: Interpolations for Two and Three Independent Variables

*Message #3 Posted by **Namir** on 15 Nov 2011, 3:01 p.m.,*
in response to message #2 by Marcus von Cube, Germany

```
In the case of a bilinear interpolation, one can build the Vandermonde matrix A as

+-          -+
```

```
|  1  x1  y1 |
|  1  x2  y2 |
|  1  x3  y3 |
+-          -+
```

and the B vector as:

```
+-          -+
|  f(x1,y1)  |
|            |
|  f(x2,y2)  |
|            |
|  f(x3,y3)  |
+-          -+
```

The coefficients in array C as obtained by:

```
C = inverse(A) * B
```

To interpolate at point (Xint,Yint) use:

```
y = C(1) + C(2) * Xint + C(3) * Yint
```

In the case of a trilinear interpolation, one can build the Vandermonde matrix A as

```
+-               -+
|  1  x1  y1  z1  |
|  1  x2  y2  z2  |
|  1  x3  y3  z3  |
|  1  x4  y4  z4  |
+-               -+
```

and the B vector as:

```
+-            -+
|  f(x1,y1,z1)  |
|               |
|  f(x2,y2,z1)  |
|               |
|  f(x3,y3,z3)  |
|               |
|  f(x4,y4,z4)  |
+-            -+
```

The coefficients in array C as obtained by:

```
C = inverse(A) * B
```

To interpolate at point (Xint,Yint,Zint) use:

```
y = C(1) + C(2) * Xint + C(3) * Yint + C(4) * Zint
```

Re: Interpolations for Two and Three Independent Variables

*Message #4 Posted by **Marcus von Cube, Germany** on 15 Nov 2011, 4:12 p.m.,*
in response to message #3 by Namir

Namir, thanks. It doesn't look impossible to implement on the 34S. Do you have a benchmark example?

Instead of multiplying with the inverse of the matrix, a linear solve should do as well.

Re: Interpolations for Two and Three Independent Variables

*Message #5 Posted by **Namir** on 15 Nov 2011, 4:17 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Here are benchmarks for the bilinear and trilinear interpolation:

```
X         Y        FX              Interpolation Data
3         2         5                X           4
3         4        -1                Y           3
5         2         9                Z Calc      4
5         4         3                Z Act       4


X        Y        Z        FX              X       1.5
1        1        1        16              Y       1.5
1        1        2        21              Z       1.5
1        2        1        19              FX Calc 19
1        2        2        24              FX Act  19
2        1        1        14
2        1        2        19
2        2        1        17
2        2        2        22
```

Speed is not a real issue here because there are no iterations.

Namir

Re: Interpolations for Two and Three Independent Variables

*Message #6 Posted by **Namir** on 15 Nov 2011, 4:18 p.m.,*
in response to message #3 by Namir

```
In the case of a biquadratic interolation, one can build the Vandermonde matrix A as


+-                                  -+
|  1  x1  y1 x1^2  y1^2  x1*y1      |
|  1  x2  y2 x2^2  y2^2  x2*y2      |
|  1  x3  y3 x3^2  y3^2  x3*y3      |
|  1  x4  y4 x4^2  y4^2  x4*y4      |
|  1  x5  y5 x5^2  y5^2  x5*y5      |
|  1  x6  y6 x6^2  y6^2  x6*y6      |
+-                                  -+


and the B vector as:


+-          -+
|  f(x1,y1)  |
|            |
|  f(x2,y2)  |
|            |
|  f(x3,y3)  |
|            |
|  f(x4,y4)  |
|            |
```

```
|  f(x5,y5)  |
|            |
|  f(x6,y6)  |
+-          -+
```

The coefficents in array C as obtaied by:

C = inverse(A) * B

To interpolate at point (Xint,Yint) use:

y = C(1) + C(2) * Xint + C(3) * Yint + C(4)*Xint^2 + C(5) * Yint^2 + C(6) * Xint * Yint

In the case of a triquadratic interolation, one can build the Vandermonde matrix A as

```
+-                                                                                -+
|  1  x1   y1   z1   x1^2   y1^2   z1^2   x1*y1    x1*z1    y1*z1    x1*y1*z1    |
|  1  x2   y2   z2   x2^2   y2^2   z2^2   x2*y2    x2*z2    y2*z2    x2*y2*z2    |
|  1  x3   y3   z3   x3^2   y3^2   z3^2   x3*y3    x3*z3    y3*z3    x3*y3*z3    |
|  1  x4   y4   z4   x4^2   y4^2   z4^2   x4*y4    x4*z4    y4*z4    x4*y4*z4    |
|  1  x5   y5   z5   x5^2   y5^2   z5^2   x5*y5    x5*z5    y5*z5    x5*y5*z5    |
|  1  x6   y6   z6   x6^2   y6^2   z6^2   x6*y6    x6*z6    y6*z6    x6*y6*z6    |
|  1  x7   y7   z7   x7^2   y7^2   z7^2   x7*y7    x7*z7    y7*z7    x7*y7*z7    |
|  1  x8   y8   z8   x8^2   y8^2   z8^2   x8*y8    x8*z8    y8*z8    x8*y8*z8    |
|  1  x9   y9   z9   x9^2   y9^2   z9^2   x9*y9    x9*z9    y9*z9    x9*y9*z9    |
|  1  x10  y10  z10  x10^2  y10^2  z10^2  x10*y10  x10*z10  y10*z10  x10*y10*z10 |
|  1  x11  y11  z11  x11^2  y11^2  z11^2  x11*y11  x11*z11  y11*z11  x11*y11*z11 |
+-                                                                                -+
```

and the B vector as:

```
+-                -+
|  f(x1,y1,z1)     |
|                  |
|  f(x2,y2,z1)     |
|                  |
|  f(x3,y3,z3)     |
|                  |
|  f(x4,y4,z4)     |
|                  |
|  f(x5,y5,z5)     |
|                  |
|  f(x6,y6,z6)     |
|                  |
|  f(x7,y7,z7)     |
|                  |
|  f(x8,y8,z8)     |
|                  |
|  f(x9,y9,z9)     |
|                  |
|  f(x10,y10,z10)  |
|                  |
|  f(x11,y11,z11)  |
+-                -+
```

The coefficents in array C as obtaied by:

C = inverse(A) * B

```
To interpolate at point (Xint,Yint,Zint) use:

y = C(1) + C(2) * Xint + C(3) * Yint + C(4) * Zint +
           C(5) * Xint^2 + C(6) * Yint^2 + C(7) * Zint^2 +
           C(8) * Xint * Yint + C(9) * Xint * Zint + C(10) * Yint * Zint +
           C(11) * Xint + Yint + Zint
```

Re: Interpolations for Two and Three Independent Variables

*Message #7 Posted by **Namir** on 15 Nov 2011, 4:24 p.m.,*
in response to message #1 by Namir

The advantage of using the Vandermonde type of matrices is that you can use it to define your custom interpolation function. For example, if I want to interpolate using:

Z = a + b/X + c/Y + d*X*Y

Then the Vandermonde matrix will have a matrix with the following columns:

```
Column 1: is full of ones.
Column 2: column of 1/X values
Column 3: column of 1/Y values
Column 4: column of X*Y values.
```

Since we have 4 coefficients we need four rows in the Vandermonde matrix.

Another example is using the following model that involves three independent variables X, Y and T:

Z = a + b sin(X) + c sin(2*X) + d ln(Y/T) + e X*T

Then the Vandermonde matrix will have a matrix with the following columns:

```
Column 1: is full of ones.
Column 2: column of sin(X) values
Column 3: column of s(2*X) values
Column 4: column of ln(Y/T) values.
Column 5: column of X*T values
```

Since we have 5 coefficients we need five rows in the Vandermonde matrix.

Thus the Vandermonde matrix approach gives us the power to choose to work with any number of variables that suites our application and also choose from wide variety of (thousands if not millions) models for interpolation. This conclusion answer an old question of mine about pushing new limits for interpolation.

Another way to look at this approach is basically we are using Vandermonde-style matrices to do a curve fit with a minimum required number of data points (meaning R-square of the fitted model is always 1).

Namir

Edited: 15 Nov 2011, 5:45 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Best new 12C flavor?

*Message #1 Posted by **Peter Murphy (Livermore)** on 14 Nov 2011, 9:07 p.m.*

I'm thinking of getting a newer 12C to keep company with my 2614BXXXX. What new-model 12C is most favored, and why? Thanks for comments.

Re: Best new 12C flavor?

*Message #2 Posted by **M. Joury** on 14 Nov 2011, 9:23 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I personally prefer the 12C+ over the platinum. Primarily better speed and on a personal note I prefer the more muted colors compared to those on the platinum. The drawback is of course less memory but that is not an issue in my use.

There is also a weird implementation of stack lift in conjunction with the use of CHS on the platinum. 3 ENTER CHS 4 - on any relatively modern RPN machine including the 12C and 12C+ returns -7. On the Platinum it returns -1. Some on this forum have argued that this is incorrect usage and perhaps they are right. Be that as it may, it does not return what I expect and so I avoid it.

Just a very quick $0.02 tour of the main differences as I see them.

Of course if you want algebraic support then the Platinum is your only choice. and the backspace and undo features on the Platinum are nice.

Cheers,

-Marwan

Re: Best new 12C flavor?

*Message #3 Posted by **Michael de Estrada** on 14 Nov 2011, 9:45 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I bought 3 of these for under $15 apiece to keep my beautiful immaculate 12C 2732AXXXXX company:

As for the modern HP financial calcs, my choice was the 10bII+. It's better than any of the retro-Voyagers for a fraction of the price.

Re: Best new 12C flavor?

*Message #4 Posted by **M. Joury** on 14 Nov 2011, 10:15 p.m.,*
in response to message #3 by Michael de Estrada

I have to say that the 10bii+ us a very nice machine. Only problem for me is no RPN.

As for he Victor V12, I have been meaning to give my $0.02 tour of that machine since I have now had mine for a couple of weeks.

All in all a decent calculator. Maybe even great for the price. But therein lies the rub... For the price...

Dislikes:

```
1.  I don't like the small decimal point.
2.  I don't like the larger size.  It is not quite pocketable.
3.  I don't like the keyboard feel.
4.  Not as fast as the 12C+.
5.  No backspace or undo as on the newer 12C Platinums.
6.  No parens (just like the older 12CP's) so if you really do want to use algebraic
entry you might be a little hobbled.
```

Likes:

```
1.  I do like the large display
2.  Inexpensive
3.  It does *NOT* have the CHS behavior of the 12CP that I consider odd
4.  Inexpensive
5.  Uses 2 x AAA batteries instead of the 2032's that the 12C+ and the 12CP use
6.  Did I mention inexpensive?
7.  No keyboard issues once you get past the feel (which I really don't like).  But
then I have had no keyboard issues with any of my voyagers and that includes the 12C+'s
and 12C 30th AE's and the 15C LE's.
```

In conclusion: I *make* myself use the Victor V12 every now and then but it has not come close to replacing the 12C that sits on my desk.

As always, just my $0.02.

Cheers,

-Marwan

Re: Best new 12C flavor?

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Nov 2011, 10:05 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

If you decide to go with 12C instead of Platinum, I would recommend 12C 30th AE or try to find an older type 12C with serial number starting with CNx xxxxxx instead of newer CYxxxxx.

Personally, I noticed that the newer models, (also you can tell from the character set of the keys-see photo-), seem to have the worst keyboards with more frequent non-responding keys. Photo Old/New

Re: Best new 12C flavor?

*Message #6 Posted by **Jose Gonzalez Divasson** on 15 Nov 2011, 5:42 p.m.,*
in response to message #5 by Kerem Kapkin (Silicon Valley, CA)

I concur with your appreciation - the ones starting with CN in the serial number seem to be slightly better in key feel than the ones starting with CY. Apparently, the former ones come from the Kinpo factory while the others from Invertec. The Kinpo ones sure look better. The key feel might be a little better as well, but now we're talking about the last 1-2% !! And the clicky response feels better to me than my original 1985 units (Brazil and USA)

As for reliability, none of both has ever missed a keystroke.

See pictures and discussion here

The last batches of "plain" HP12c+ received in Europe all come from Invertec - at least this was the return from the European distributors that I know.

The good thing is, the HP12c anniversary comes from the "right" source and sports the "right" keyboard!!

Re: Best new 12C flavor?

*Message #7 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 15 Nov 2011, 6:16 p.m.,*
in response to message #6 by Jose Gonzalez Divasson

Three weeks ago I was shopping at a local electronics store called Fr**s, both at Sunnyvale and San Jose. Sunnyvale had about 7 units of HP-12C in stock, San Jose 5. ALL of the 12 HP-12C's had keyboard problems, 2 of them had NO response with ENTER key at all, 2 with NO response CLx key, 1 with PV + PMT keys that didn't click and unless you pushed really hard didn't register, rest of them had one of multiple keys that didn't register and missed regularly. The store is going to return them all back to HP. All had serial numbers starting with CY xxxxxxx with the new looking type set. Luckly they had a "very old" return almost at regular price that no one wanted, all scratch up display, low battery etc, serial number CNA XXXX, keys worked perfect despite the significant cosmetic wear. So I replaced my first defective unit with that one. Also contacted TW at HP three weeks ago, who said forwarded my message to customer support, but haven't received any response from HP yet.

Re: Best new 12C flavor?

*Message #8 Posted by **Egan Ford** on 15 Nov 2011, 12:01 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

> Quote:
>
> I'm thinking of getting a newer 12C to keep company with my 2614BXXXX.

I'd recommend a 2615BXXXX. Keyboard is great, no known bugs or funny issues with increased speed, etc...

Re: Best new 12C flavor?

*Message #9 Posted by **Eddie W. Shore** on 15 Nov 2011, 8:05 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

> Quote:
>
> I'm thinking of getting a newer 12C to keep company with my 2614BXXXX. What new-model 12C is most favored, and why? Thanks for comments.

Even though the Victor 12C clone is nice and inexpensive - I find myself using the 12C+ (99-step upgrade) the most. I like the 12C+ the most because it is most like the classic 12C with speed improvements.

Re: Best new 12C flavor?

*Message #10 Posted by **Peter Murphy (Livermore)** on 17 Nov 2011, 2:04 p.m.,*
in response to message #9 by Eddie W. Shore

Thanks to everyone for helpful replies. Consensus seems to be for the 12C+.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Talking to HP

*Message #1 Posted by **David Griffith** on 14 Nov 2011, 8:20 p.m.*

Does anyone here know who to talk to at HP about what's being discussed or done regarding the HP35s bugs? I tried the "ask HP" thingy from the website and haven't received an answer.

Re: Talking to HP

*Message #2 Posted by **Howard Owen** on 14 Nov 2011, 9:03 p.m.,*
in response to message #1 by David Griffith

I don't think they'll ever fix the existing 35s machines. The only way they could do that would be to replace those units, and they have apparently sold a **lot** of them.

I don't have any idea why they haven't fixed the firmware in newer units.

Re: Talking to HP

*Message #3 Posted by **David Griffith** on 14 Nov 2011, 9:22 p.m.,*
in response to message #2 by Howard Owen

This is irritating. I'd be willing to spend twice as much as the 35s typically goes for as long as the bugs are fixed. I'm hoping that they have something like a 35sii waiting in the wings that would address the objections many of us have.

No idea who to talk to?

Re: Talking to HP

*Message #4 Posted by **Howard Owen** on 14 Nov 2011, 10:30 p.m.,*
in response to message #3 by David Griffith

HP's calculator engineers, cyrille de Brébisson and Tim Wessman, both occasionally post to this forum. It seems certain to me that neither had much say in whether the problems would be fixed or not. Tim gives some hints about how things went wrong at the beginning of this thread. Given those conditions, you might be able to make a reasonable guess as to why they haven't fixed it.

Bashing the 35s is an ever green topic here, and that's what the referenced thread devolves into. It's interesting if you haven't heard it all before. :)

Re: Talking to HP

*Message #5 Posted by **David Griffith** on 15 Nov 2011, 9:14 p.m.,*
in response to message #4 by Howard Owen

I posted to the HP Communities calculator forum and got the attention of Miguel Angel Caporalini, the guy who runs it. He replied to my post with this:

Quote:

If you have existing warranty for your HP35S, you must contact, with the HP Technical Service near, at you home. Is important see, the inform, from ... http://www.hpcc.org/datafile/V26Special/the35s.pdf

Re: Talking to HP

*Message #6 Posted by **Ron Ross** on 15 Nov 2011, 10:07 p.m.,*
in response to message #5 by David Griffith

No, Miguel Angel Caporalini does not run the site, he is just an enthusistic supporter of Hp calculators and helps as many posters as He possibly can.

I posted a response to your concerns about the Hp35s on the comp.sys site and won't bother to boar other here. Mike Morrow has consistantly given you Hp's unofficial reasons for their lack of action. Does Mike speak directly for Hp? No, but his comment is on point and I would bet, accurate.

Tim and Cryille cannot give you any official words due to legal commitments infirred due to comments ie legal BS or being subjected to a corporate whipping or other such punishment. American corporate policies are often JUST LIKE THAT, for better or worse.

I do notice you have become an avid Hp calculator user and have selected a well loved model in the Hp 32sii.

Welcome.

Re: Talking to HP

*Message #7 Posted by **David Griffith** on 16 Nov 2011, 12:31 a.m.,*
in response to message #6 by Ron Ross

I understand Tim and Cryille not being able to talk <shrug>. I'm just chomping at the bit at the thought of a new scientific calculator using the chassis of the 20b. I'm very pleased with my new (old) 32sii. In the meantime I'll keep my eye on things.

It seems to me that sometime after the 35s came out, subsequent calculators were designed internally instead of contracted out. Am I correct?

Re: Talking to HP

*Message #8 Posted by **Howard Owen** on 16 Nov 2011, 12:42 a.m.,*
in response to message #7 by David Griffith

I believe that's true. Tim said as much in the referenced thread.

Re: Talking to HP

*Message #9 Posted by **David Griffith** on 16 Nov 2011, 12:48 a.m.,*
in response to message #8 by Howard Owen

That's reassuring.

Re: Talking to HP

*Message #10 Posted by **Jeff O.** on 16 Nov 2011, 7:48 a.m.,*
in response to message #7 by David Griffith

> Quote:
>
> I'm just chomping at the bit at the thought of a new scientific calculator using the chassis of the 20b.

Are you aware of wp34s? I don't see how hp could top what Walter, Pauli and Marcus have created for the 30b/20b hardware platform. (The 30b is so far superior to the 20b that the 20b should not even be considered.) Get a 30b, a cable from Gene, an overlay from Eric, and the v2.2 rev 1797 version of wp34s and have fun. If you don't want to go to the hassle of getting the cable and learning how to download the rom, I'm sure someone here would do it for you.

Re: Talking to HP

*Message #11 Posted by **David Griffith** on 16 Nov 2011, 2:43 p.m.,*
in response to message #10 by Jeff O.

I've been vaguely aware of that project. I'll carefully consider doing it. Let me clarify what I meant by using the chassis of the 20b or 30b. The keyboard is essentially identical to the 32sii. Only the legends need to be changed. The WP34s project seems to have taken care of that problem in the best way practically available. Also, I'd like to see in it the LCD from the 35s. That's something that can only be changed by a complete rework of the mainboard. I've settled into really liking the entirely dot-matrixy (save for annunciators) way of doing things presented by the 32sii and the 35s.

Some other things for my fantasy calculator, hoping HP is reading: Use screws instead of plastic rivets. Include a means for updating the firmware. USB and IR ports. Even more memory than the 35s.

Re: Talking to HP

*Message #12 Posted by **Walter B** on 16 Nov 2011, 3:56 p.m.,*
in response to message #11 by David Griffith

> Quote:
>
> Let me clarify what I meant by using the chassis of the 20b or 30b. The keyboard is essentially identical to the 32sii. Only the legends need to be changed. The WP34s project seems to have taken care of that problem in the best way practically available.

Thanks. See my post below.

> Quote:
>
> Also, I'd like to see in it the LCD from the 35s. That's something that can only be changed by a complete rework of the mainboard. I've settled into really liking the entirely dot-matrixy (save for

annunciators) way of doing things presented by the 32sii and the 35s.

Some other things for my fantasy calculator, hoping HP is reading: Use screws instead of plastic rivets. Include a means for updating the firmware. USB and IR ports. Even more memory than the 35s.

Santa's coming soon ;-) If you search the archives a little, you'll find that many people here share your wishes and will most happily sign your wishlist. Alas ... life is different :-/

Re: Talking to HP

*Message #13 Posted by **Walter B** on 16 Nov 2011, 1:38 p.m.,*
in response to message #7 by David Griffith

I second Jeff for obvious reasons. Here's what you'll get:

from us :-) There are emulators for Windows, Linux, and Mac OS available as well :-) And you'll also get a documentation of some 100 pages.

Enjoy,
Walter

Re: Talking to HP

*Message #14 Posted by **Mike Morrow** on 14 Nov 2011, 9:25 p.m.,*
in response to message #2 by Howard Owen

Quote:

I don't have any idea why they haven't fixed the firmware in newer units.

That's probably hard to correct, so that becomes the justification. What I really don't understand is why an obsolete version of HP 12C+ firmware is being used on the most recent HP 12C 30th Anniversary Edition. That doesn't indicate much value is being attached to "attention to detail"!

Re: Talking to HP

*Message #15 Posted by **Gerry Schultz** on 14 Nov 2011, 9:40 p.m.,*
in response to message #14 by Mike Morrow

Please correct me if I'm wrong, but I thought one of the reasons the 35s doesn't have R-P or P-R is that they were deleted to make room for 'improved' functionality over the 33s. To me, that indicates the firmware ROM is full and to fix these issues would require more ROM space that what is left. So, it would require re-engineering the calculator with more space to make it work as we would like. Hmmm, what would HP do in this case?

Gerry (I must be in a bad mood today.)

Re: Talking to HP

*Message #16 Posted by **Paul Dale** on 14 Nov 2011, 10:25 p.m.,*
in response to message #15 by Gerry Schultz

I thought the 35s has the same amount of ROM as the 20b has flash. Look at the 34S for what can be done in that amount of space :-)

Okay, not a completely fair comparison since they have completely different CPUs. My suspicion would also be that the 35s's CPU is capable of having denser code...

- Pauli

Re: Talking to HP

*Message #17 Posted by **Lincoln R.** on 14 Nov 2011, 10:09 p.m.,*
in response to message #14 by Mike Morrow

I'd honestly call the firmware issue a screwup on the part of the manufacturing contractor. More recent 12Cs appear to have been made by Inventec, the 12C AE appears to have been made by Kinpo, it's entirely possible their assembly line workers just flashed the image they were used to using the last time they built 12Cs (which could also explain the poor guy who got a 15C LE with 12C+ firmware).

Re: Talking to HP

*Message #18 Posted by **Stuart Sprott** on 15 Nov 2011, 6:00 a.m.,*
in response to message #1 by David Griffith

It seems strange that the HP35s was ever brought out. I have only recently acquired a HP32Sii. It does all that a HP35s does, without any bugs, great layout, the keys have a great feel and it is easy to write simple programs. My main calculator is a HP50. I like it for its power, versatility and its ability to transfer data to USB sticks and computers.

But when I am in the office doing simple calcs (I am a Surveyor), I find that I nearly always reach for the 32sii. Its size is also a great positive. It reminds me of the HP 42s. Another great calculator.

Why did HP ditch a perfectly good calculator that was popular? I guess that this question has been asked by many before on this forum. But it is still frustrating. The bean counters have a lot to answer for.

Re: Talking to HP

*Message #19 Posted by **M. Joury** on 15 Nov 2011, 6:48 a.m.,*
in response to message #18 by Stuart Sprott

> Quote:
>
> HP32Sii. It does all that a HP35s does,

It doesn't.

Yes the 35S has bugs but there are at least a few improvements over the 32Sii starting with much more memory. This has been rehashed so often here that I am not going to go into details again but to say that there were no improvements is disingenuous. It might be true to say that the bugs, lack of R-P / P-R and some badly implemented features such as the binary mode ended up overshadowing the upgrades and ruined what might otherwise have been a very nice machine.

Cheers,

-Marwan

Re: Talking to HP

*Message #20 Posted by **Eddie W. Shore** on 15 Nov 2011, 8:11 a.m.,*
in response to message #19 by M. Joury

I think the biggest improvement of the 35S over the 33S (I don't have a 32Sii - yet) is the ability to branch to program lines within labels (i.e. GTO A025). I love the carrying case.

My biggest beefs with it are (1) the lack of >Polar and >Rect functions - thankfully a work around has been presented and (2) the limited complex number support (despite that it has more than most of all the current non-graphing calculators on the market today).

Re: Talking to HP

*Message #21 Posted by **M. Joury** on 15 Nov 2011, 8:56 a.m.,*
in response to message #20 by Eddie W. Shore

Agreed. That branch to line number feature is great and makes the huge memory usable (whereas the 33S with the same memory is hobbled in this regard). However, while the 32Sii does not have this feature it can be argued that it is not needed because it has much less memory and it is unlikely that you will ever need to use all the available labels to write a program that will fit in available memory. I would respond that even with a bunch of small programs it is a nice feature to have since each main label is a separate program and you don't have to figure out what goes with what. E.g. anything that has a line number starting with A... belongs to program A. Not true for either the 32Sii or the 33S.

This is one of the improvements that I was referring to above.

Cheers,

-Marwan

Re: Talking to HP

*Message #22 Posted by **Martin Pinckney** on 15 Nov 2011, 2:49 p.m.,*
in response to message #18 by Stuart Sprott

> Quote:
>
> It seems strange that the HP35s was ever brought out. I have only recently acquired a HP32Sii.

The 32sii has been out of production since 2003, I think. So there is no relationship between them, as far as marketing is concerned. rather the 35s was meant to supersede the 33s, as Tim seems to point out in the thread Howard Owen referenced.

The 35s is never going to be fixed, because it was entirely outsourced under independent contract; WYSIWYG.

However, note in the same referenced thread there was a tiny hint about future scientific models(s).

Re: Talking to HP

*Message #23 Posted by **Paul Dale** on 15 Nov 2011, 6:01 p.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> However, note in the same referenced thread there was a tiny hint about future scientific models(s).

Yes, I noticed this. Let's hope it is far and away better than the 34S.

- Pauli

Re: Talking to HP

*Message #24 Posted by **M. Joury** on 15 Nov 2011, 6:32 p.m.,*
in response to message #23 by Paul Dale

34S? <g>. Do you have something on the brain? <bg>

Re: Talking to HP

*Message #25 Posted by **Paul Dale** on 15 Nov 2011, 6:37 p.m.,*
in response to message #24 by M. Joury

Perhaps :-)

The 34S is keeping me from playing with the 41CL :-(

- Pauli

Re: Talking to HP

*Message #26 Posted by **David Hayden** on 15 Nov 2011, 9:31 p.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> However, note in the same referenced thread there was a tiny hint about future scientific models(s).

I think Tim was hinting at the 15C LE.

Re: Talking to HP

*Message #27 Posted by **Martin Pinckney** on 16 Nov 2011, 10:20 a.m.,*
in response to message #26 by David Hayden

> Quote:
>
> I think Tim was hinting at the 15C LE.

Possibly, but the 15c LE had already been "outed" when that thread appeared.

Re: Talking to HP

*Message #28 Posted by **Thomas Radtke** on 16 Nov 2011, 1:09 p.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> The 35s is never going to be fixed, because it was entirely outsourced under independent contract; WYSIWYG.

Why haven't bug fixes been outsourced? This other company apparently did the 33S, too (both calculators even share the same bugs where applicable), so there's some relationship. And the 33S actually underwent a bugfix.

The explanation is a different one, imo. The 35s sells, and so is bug free from the business point of view :-(.

Re: Talking to HP

*Message #29 Posted by **Paul Gaster** on 16 Nov 2011, 2:01 p.m.,*
in response to message #28 by Thomas Radtke

I wonder if the 35S being on the NCEES calculator list has something to do with the lack of changes/updates. The 33S is also on the list, so both calculators would need at least some of the same changes so that the results would be consistent between them. I was thinking about the cos bug specifically. So, HP would have to change both calculators, then try go get them both to pass NCEES testing again. I can see why HP would be hesitant to do this. It is a slippery slope with the risk of getting banned by NCEES for the short term if all doesn't go well. I think we would all like to see some of these things changed, but probably won't happen.

Also just noticed that the NCEES calculator policy page got an update today: NCEES

I think TI added a calculator, but I might be wrong on that.

Re: Talking to HP

*Message #30 Posted by **Jim Yohe** on 15 Nov 2011, 5:46 p.m.,*
in response to message #18 by Stuart Sprott

I love my 32sii no matter the minimal bugs in it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP70 project - cosmetc and electronic issues

*Message #1 Posted by **Alberto Fenini** on 13 Nov 2011, 3:47 p.m.*

Dear All,
I'm back on the calcs ...
I have been collecting watches for a while, mostly LED and LCD and kept an eye on the forum, but I had stopped working on calcs.
If anyone is interested in watches, just email me and will gladly share some of the things thst I have learned there.
By the way, working on small items like the LED and LCD modules makes our beloved calcs really HUGE stuff.
I have recently purchased this HP70, mostly because I needed the case for one onmy two units, which has a thin crack in the body.
However, as always, when the unit arrived I couldn't believe it was gone for good...
I cleaned most of the battery leakage and washed the keys and body and cleaned the battery contacts.
I have put a battery pack and plugged the AC power supply, but nothing happened.
Since the unit was without the back cover, I could giggle with the logic board and by
moving it, the unit came back to life.
However, the behaviuor is erratic, it may lights up four times in a row, or may not light up for a while.
One thing I have notices is that when is on, the two transistors in the upper left corner, the coil and
the capacitor get really hot.

There are two issues where I would liketo receive your help and your ides :
on the cosmetic issues : the are thin scratches on the keyboard frame, what could I do to erase them ?
I was thinking about using some sandpapervery thin (like 2000) but I'm afraid I will loose the typical
aspect of an HP keyboard.
On the electronic side : would it be a good idea to re-solder all the connections ?
could this behaviour due to a bad connection ?
I was also thinking about replacing the power supply components, does anyone know
a good replacement for the transistors, the capacitor and anything else that could be needed ??
I'm attaching some pics, any comment and any idea will be, as always, greatly appreciated.

One last word about this forum. Entering the watch collector's world has been a nice experience.
Looking for resources I have come across different forums. Let me tell you that no other forum
by any mean is as friendly and as rich of nice people like this one, so let's keep up the good work !!!

Re: HP70 project - cosmetc and electronic issues

*Message #2 Posted by **David Ramsey** on 13 Nov 2011, 5:45 p.m.,*
in response to message #1 by Alberto Fenini

I have disassembled and cleaned some dozens of these "Classic" HP calculators, and I don't know any refinishing technique that would eliminate the scratches without radically changing the appearance of the keyboard. Frankly given the HP-70's well deserved status as the ugliest single calculator ever made in the entire history of the world (I gave my much nicer example away as a door prize at HHC 2006. Nelson got it.), I wouldn't sweat it.

I'll leave any electronics comments for someone else. After all, I don't even know a full wave rectifier from a bridge rectifier!

Re: HP70 project - cosmetc and electronic issues

*Message #3 Posted by **John Robinson** on 13 Nov 2011, 7:38 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

I think you're lucky that the 70 has no lettering on the keyboard surround. I have had some success with this kind of issue by light sanding fine emery paper, then spray painting with Tamiya flat lacquer. The good thing is that I can sand and respray multiple times without issues. Just may sure you use to appropriate lacquer type, I use the "TS" lacquer. I have done this with a 65 which does have lettering on keyboard surround.

On the electronics, I would try re-soldering, but there is always the risk they it will be worse after wards. I's start with by re-soldering all the pins on the bottom edge connector. Also make sure all the holes for the pins in the logic board are free from corrosion.

Cheers, John

Re: HP70 project - cosmetc and electronic issues

*Message #4 Posted by **Eric Smith** on 14 Nov 2011, 3:37 a.m.,*
in response to message #1 by Alberto Fenini

Tony or Randy would probably be better sources of advice on the power supply circuitry, but if the transistors are getting hot to the touch, something is definitely very wrong. I doubt that it's just a bad solder joint. If it were my calculator, I wouldn't power it up again until I had come up with a theory explaining why the components are getting hot, and had attempted to repair it.

Re: HP70 project - cosmetc and electronic issues

*Message #5 Posted by **Randy** on 14 Nov 2011, 10:08 a.m.,*
in response to message #1 by Alberto Fenini

> Quote:
>
> On the electronic side : would it be a good idea to re-solder all the connections ? could this behaviour due to a bad connection ?

I would not recommend re-soldering. You would be heat stressing almost forty year old components for no good reason. A good visual inspection should identify any possible bad solder connections and re-solder only those necessary.

> Quote:
>
> I was also thinking about replacing the power supply components, does anyone know a good

> replacement for the transistors, the capacitor and anything else that could be needed ??

If they work, why would you replace them? You achieve nothing, other than to say you replaced perfectly good components.

As for the transistor and transformer getting hot - is this when the unit is functioning or when it is on the fritz?

The intermittent behavior - Corrosion on the board or on the pins - is obviously the most common cause of trouble but if you find none:

Remove the logic board and carefully inspect the 25 gold pins on the keyboard side - insure that the smaller, lower side extends outward enough to engage and make good contact with plate-through hole of the logic board. It only takes one compressed pin to cause major grief. When the pins look good, with magnification, inspect the plate-through holes of the logic board.

FWIW, I have seen boards (especially on 65's) with missing/worn plating that caused intermittent contact. I recently had a 65 that so much wear inside the holes that I ended up rotating most of the connector pins 90 degrees so it would not go crazy when the low end was lifted up three inches off the desk and dropped. This is a good test for all HP's as it was part of final repair QC.

Re: HP70 project - cosmetic and electronic issues

*Message #6 Posted by **Alberto Fenini** on 14 Nov 2011, 2:38 p.m.,*
in response to message #5 by Randy

Thank you very much for all the replies I've got so far.
On the cosmetic side, I'll definetely try some sandpaper (the finest I have is 2000 grade and I'll go with that first).
On the electronic side, I have already fixed the obviuos, like the switch contacts and the battery contacts
PSU components may get hot because the unit was half opened and surely this is the worst way to test a unit.
Visual inspection of the gold pins revealed no corrosion but definitely not shining over there ....
I was thinking about it and I don't want to use sandpaper on the pins, neither in the corresponding holes in the logic board.
What could be a good idea to make them shine again ? Isopropolic Alcohol would do the trick ? Or should I go for the water and vinegar solution ?
Again, thanks everyone for help, take care Alberto

Re: HP70 project - cosmetic and electronic issues

*Message #7 Posted by **Randy** on 14 Nov 2011, 3:32 p.m.,*
in response to message #6 by Alberto Fenini

> Quote:
>
> Or should I go for the water and vinegar solution ?

Yes, that is best for corrosion/battery leakage. Caig DeoxIT is also highly recommended for clean up and protection.

> Quote:
>
> I was thinking about it and I don't want to use sandpaper on the pins, neither in the corresponding holes in the logic board.

Sandpaper? One word: *NEVER*

A clean "pink pearl" pencil eraser is most abrasive thing I'd every take to gold plated contacts. This is the best way to restore "shine" if there is any shine left to restore...

Re: HP70 project - cosmetic and electronic issues

*Message #8 Posted by **Alberto Fenini** on 14 Nov 2011, 6:01 p.m.,*
in response to message #7 by Randy

Thanks Randy,
any specific model of Caig DeoxIT ?
I have browsed a little and looks like there are different versions,
some of which available in italy as well.
thx for help, Alberto

Re: HP70 project - cosmetic and electronic issues

*Message #9 Posted by **Randy** on 14 Nov 2011, 6:58 p.m.,*
in response to message #8 by Alberto Fenini

D5 Aerosol is good for cleaning corrosion and over-all use on the classics.

Re: HP70 project - cosmetic and electronic issues

*Message #10 Posted by **aurelio** on 23 Nov 2011, 7:03 p.m.,*
in response to message #8 by Alberto Fenini

> Quote:
>
> Thanks Randy,
> any specific model of Caig DeoxIT ?
> I have browsed a little and looks like there are different versions,
> some of which available in italy as well.
> thx for help, Alberto

Hello Alberto and compliments for your HP70 I read that it's not so easy to find that kind of calculator..... expecially for a human price!

I'm curious to know where have you found the Caig DeoxIT here in Italy... If I've not well understood, may you suggest another equivalent product, I'll appreciate it, thank-you

Re: HP70 project - cosmetic and electronic issues

*Message #11 Posted by **John Robinson** on 14 Nov 2011, 8:16 p.m.,*
in response to message #6 by Alberto Fenini

Alberto, I am not totally familiar with the DC-DC converter on the 70, but assuming it's the same as the 65 which I am familiar with, then the heating up of those components sounds like the calc is drawing too much current. which would indicate a short or near short on one of the three power lines, Vcc, Vss or Vgg. Unfortunately in the articles forum, Tony Duell's "inside the HPxx" doesn't cover the HP70, only the other classics, so I can't tell you where to measure Vcc, Vss and Vgg.

The only other possibility for a hot transistor would be the 2nF capacitor (large capacitor next to coil) is on the way out. If that's the case, then the oscillator might be oscillating too fast. However, that would really only apply if one transistor is hot, not both.

One transistor forms the oscillator, the other forms a kind of regulator via Vss line (I think !). On a HP65 the oscillator oscillates at around 670 Khz, do you may want to check that if you have access to an oscilloscope - try pin 1 of the "coil". The coil itself is extremely unlikely to be the problem.

Personally, I'd replace the 2nF capacitor, and both transistors, and the diode in the feedback (connected to the zener diode). All other diodes are for rectification of the three output voltages.

Cheers, John

Re: HP70 project - cosmetic and electronic issues

*Message #12 Posted by **Joel Setton (France)** on 24 Nov 2011, 3:49 p.m.,*
in response to message #11 by John Robinson

Alberto,
you may want to start by checking the two transistors and the diodes in the DC-DC converter. With the board removed from the calculator (and no power), a simple ohmmeter check will let you know if these parts are OK. Simply check for "good" junctions in the transistors and the diodes (the ones with the black-black-orange-yellow colour bands).
I hope this helps!
Joel

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Public apology to Valentin Albillo

*Message #1 Posted by **fhub** on 13 Nov 2011, 2:52 p.m.*

Hi Valentin!

First to our differences about the Laguerre method:
I now have to agree that you were right, the Laguerre algorithm is indeed a very powerful method and definitely better than the Bairstow algorithm!

What changed my mind? Well, today I've slightly modified my WP34s Laguerre program, and suddenly I got an error message which I couldn't explain. Analyzing this problem I found that there was a misunderstanding between me and the WP34s about the absolute value of a complex number: I assumed that [cpx]ABS would of course return just a single real value, but the WP34s implementation returns a complex value with the ABS-value in X and 0 in Y!
Since you have to compare 2 ABS-values of complex numbers in the Laguerre method (to find the larger denominator), I simply used a x>=y? after having calculated both absolute values, and so in fact I compared the 2nd abs-value with 0 (instead of the 1st abs-value), and this caused the program to always use the wrong denominator and so the iteration was so bad.
After having now corrected this program step (x>=z? instead of x>=y? to comply with this unexpected behaviour of the WP34s [cpx]ABS function), my Laguerre program now is working excellent and - as you said - indeed better than the Bairstow program (in average it needs only 1/3 of the iterations).
So in short words: you were right with Laguerre and I was wrong (due to my misunderstanding of this [cpx]ABS function in WP34s)!

Now about the 'style' of our communication:
Usually I'm a very friendly person and never use 'bad' words, but I was really angry about your answers to my postings with those numerous "Nope, ... is your lack of relevant theoretical knowledge", "Nope, ... it's your lack of understanding", etc. etc. ...
You really treated me as if I would have "no clue about anything" (in other words, like being an idiot), and this may explain my reaction that I also answered in a quite unfriendly way.
So - although it was not only my fault - I nevertheless apology for my unfriendly and harsh words!

I hope you accept my apology,
Franz.

Re: Public apology to Valentin Albillo

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Nov 2011, 3:18 p.m.,*
in response to message #1 by fhub

I'm of course not Valentin, but as a person who has followed this dispute with some personal involvement (WP 34S is our baby, isn't it?) I very much appreciate your statement. I hope, Valentin will see it similarly.

Marcus

"I's not the errors we make, it's how we deal with them."

Re: Public apology to Valentin Albillo

*Message #3 Posted by **Alexander Oestert** on 13 Nov 2011, 3:36 p.m.,*
in response to message #1 by fhub

:-)

Re: Public apology to Valentin Albillo

*Message #4 Posted by **Paul Dale** on 13 Nov 2011, 4:55 p.m.,*
in response to message #1 by fhub

I was sure I'd implemented a HYPOT command that calculated sqrt(x^2 + y^2). Must have been removed somewhere along the line :-(

- Pauli

Re: Public apology to Valentin Albillo

*Message #5 Posted by **Marcus von Cube, Germany** on 13 Nov 2011, 5:01 p.m.,*
in response to message #4 by Paul Dale

Most probably superseded by cABS and R->P. But the function may be replaced by: cABS (or R->P) x<>y DROP.

Re: Public apology to Valentin Albillo

*Message #6 Posted by **Paul Dale** on 13 Nov 2011, 5:16 p.m.,*
in response to message #5 by Marcus von Cube, Germany

"cABS +" is one step shorter :-)

Alas, DROPY went away a long time ago.

- Pauli

Re: HYPOT and complex ABS

*Message #7 Posted by **Dieter** on 13 Nov 2011, 5:46 p.m.,*
in response to message #4 by Paul Dale

Well, I remember some person suggesting a HYPOT command and another person saying this was not required since CPX ABS would do the same. ;-)

In fact, the complex ABS command evaluates sqrt(x^2 + y^2) exactly - it's done with 39 digits while only 32 are required. There is just one thing that looks a bit strange for me: consider a function that uses a complex argument while it always returns a real result. Do you think the result should still be returned as a complex number with a zero imaginary part? In other words: is it a good idea if the complex ABS function finishes with the C indicator set and a result in X *and* Y where Y = 0 ? I think it should simply return the (real) result in X and drop Y.

Dieter

Edited: 13 Nov 2011, 5:49 p.m.

Re: HYPOT and complex ABS

*Message #8 Posted by **Bart (UK)** on 14 Nov 2011, 5:05 a.m.,*
in response to message #7 by Dieter

> Quote:
>
> I think it should simply return the (real) result in X and drop Y.

I disagree, I'd rather stay in complex mode because if I was to use the result as an argument for another function, it would likely be complex too (and thus save me putting 0 in Y).

Re: Public apology to Valentin Albillo

*Message #9 Posted by **Walter B** on 13 Nov 2011, 5:47 p.m.,*
in response to message #1 by fhub

> Quote:
>
> I assumed that [cpx]ABS would of course return just a single real value, but the WP34s implementation returns a complex value with the ABS-value in X and 0 in Y!

All complex functions of the WP 34S deal with pairs of registers in input and output. So does ^{C}ABS. Simply consistent :-)

Re: Public apology to Valentin Albillo

*Message #10 Posted by **Dieter** on 13 Nov 2011, 5:48 p.m.,*
in response to message #9 by Walter B

Please see my other post in reply to Pauli's.

Dieter

Re: Public apology to Valentin Albillo

*Message #11 Posted by **Walter B** on 13 Nov 2011, 5:57 p.m.,*
in response to message #10 by Dieter

Well, the basic assumption is anybody calculating complex functions wants to continue this way - so we better return a complex result. If, OTOH, some complex functions would return just a single number in a single stack level, a continuation in complex realm would become quite difficult.

Re: Public apology to Valentin Albillo

*Message #12 Posted by **Ángel Martin** on 14 Nov 2011, 2:06 a.m.,*
in response to message #11 by Walter B

Excellent logic - I used the same convention in the 41Z with functions like ZABS, ZARG, etc. returning zero as imaginary part.

Re: Public apology to Valentin Albillo

*Message #13 Posted by **Walter B** on 14 Nov 2011, 1:06 p.m.,*
in response to message #12 by Ángel Martin

Muchas grazias :-)

WP 34S complex mode

*Message #14 Posted by **Marcus von Cube, Germany** on 14 Nov 2011, 2:09 a.m.,*
in response to message #11 by Walter B

Which leads me to the conclusion that CPX should be renamed i. We have dynamic register allocation so it's time for a complex stack and a complex mode going with it. We will save a lot of flash space in the keyboard, display and catalog handlers which we can spend better on a proper complex mode. No need to recode the subroutine behind label E to use cLN instead of LN. Let's do it the same way as the 15C!

Re: WP 34S complex mode

*Message #15 Posted by **Paul Dale** on 14 Nov 2011, 2:36 a.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> We will save a lot of flash space in the...

- keyboard: yes.
- display: where?
- catalog handlers: no?

Doing a 15C style complex stack will be very invasive. Better will be real types (including complex) for the 43S.

- Pauli

Re: WP 34S complex mode

*Message #16 Posted by **Walter B** on 14 Nov 2011, 1:08 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Doing a 15C style complex stack will be very invasive. Better will be real types (including complex) for the 43S.

I fullheartedly concur :-) Surprise?

Re: Public apology to Valentin Albillo

*Message #17 Posted by **Valentin Albillo** on 14 Nov 2011, 9:53 a.m.,*
in response to message #1 by fhub

> Quote:
>
> So - although it was not only my fault - I nevertheless apology for my unfriendly and harsh words!
>
> I hope you accept my apology,

Of course, why not, thanks and let bygones be bygones.

Best regards from V.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Static and HPs

*Message #1 Posted by **Fouad M. Kaadou** on 13 Nov 2011, 10:53 a.m.*

Hi guys,

I was just wondering if its important to take precautions against static electricity when working with the inside of the older HP calculators(HP-25,67,97,41C...)?

I heard that its not necessary to worry about static with older devices without EPROMS, Flash Drives and newer technology. Is that true?

Thanks in Advance,

-Fouad

Re: Static and HPs

*Message #2 Posted by **Lincoln R.** on 13 Nov 2011, 11:33 a.m.,*
in response to message #1 by Fouad M. Kaadou

Many older ICs are actually more susceptible to static damage. Modern ICs are typically designed with some amount of ESD protection. However, you shouldn't have to be ridiculous about it: Don't wear a wool sweater, don't go walking around carpet, etc. and it might not hurt to touch something metal before working on a calculator.

Re: Static and HPs

*Message #3 Posted by **Fouad M. Kaadou** on 13 Nov 2011, 3:13 p.m.,*
in response to message #2 by Lincoln R.

Thanks for reassuring me .... I was really worried.

-Fouad

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 34s: Three financial routines

*Message #1 Posted by **Miguel Toro** on 12 Nov 2011, 7:42 p.m.*

Hi,

I posted three financial routines for the HP 34s on the Articles section, to complement the existing TVM application :

- Cash flow analysis (corrected and improved by Dieter)

- Amortization

- Nominal / Effective interest rate conversion

As always, any suggestion is very welcome.

Regards,

Miguel

Edited: 12 Nov 2011, 7:43 p.m.

Re: HP 34s: Three financial routines

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 13 Nov 2011, 1:55 p.m.,*
in response to message #1 by Miguel Toro

Hi Miguel,

I am really glad to see you using the preprocessor extension to the WP 34S assembler! That is gratifying. Your code is an excellent example of usage of the extension.

A couple of points that will help in certain cases:

1) Most importantly, if you are using this tool (wp34s_pp or the -pp switch in wp34s_asm), it is better to let the tool assign the local label names (eg: LBL 01) and use a symbolic label for the target of your SLV or XEQ statement. (Just as a reminder, and **not** that you violated this, but the preprocessor cannot handle duplicate local labels [ie: LBL 01]. It is usually (always?!) better to let the tool choose local labels to use itself.)

2) For ease of input you can recode most of the text strings by using double quotes. The tool will parse it and figure out the most efficient coding required. Several things, like spaces, are automatically recoded as the '[space]' equivalent. In some cases, the double quote technique will produce fewer steps than you would have gotten otherwise. Regardless of whether the output steps are identical or not, it is certainly easier to code the strings using double quotes.

3) You have a few cases where your use *stretched* to the tool to places it was not intended to go :-) In at least one case, you made use of a GTO with a 'soft' label (step 16 of 'CFE', for example) where it had been my

intention that this technique designed for use with the pseudo JMP instruction. In a way I am glad that the GTO actually worked in this case but I don't think it was never tested (at least not extensively)! In this example, if you had used a JMP instead GTO, the tool would have decided that this could have been coded with a SKIP instruction. These JMP->SKIP promotions will save a few steps here and there because the tool would not be forced to inject a LBL for the soft-targetted GTO.

I have attached a 'diff' output between your code and a slightly modified version to show you what I mean. The first line of each diff pair is the original line(s) from your code and the second line(s) are how I modified it. I can send you the modified code as a whole if you'd like. Just let me know.

Not that the resulting compression make too much difference, but your code assembled to 317 words in total (228 steps) and my variation assembled to 314 words (again, in 228 steps). This is mostly the loss of the additional LBLs (I think).

Keep up the fine work!

```
280c280
<     [alpha]'CF'
---
>                 "CF"
282,283c282
<     [alpha] [^]
<     [alpha] n
---
>                 "[^]n"
287c286
<     GTO endloop
---
>                 JMP endloop
311,312c310
<     [alpha]'CF'
<     [alpha] =
---
>                 "CF="
346c344
<     [alpha]'CF'
---
>                 "CF"
348c346
<     [alpha] =
---
>                 "="
396c394
<     XEQ 00
---
>                 XEQ calcNPV_IRR
399,400c397
<     [alpha]'NPV'
<     [alpha] =
---
>                 "NPV="
435c432
<     SLV 00
---
>                 SLV calcNPV_IRR
447,448c444
<     [alpha]'IRR'
<     [alpha] =
---
>                 "IRR="
454,455c450
<     LBL 00          // Calculates NPV and solves for IRR
<     1
---
> calcNPV_IRR::   1 // Calculates NPV and solves for IRR
468c463
<           GTO intzero
---
>                 JMP intzero
527,528c522
<     [alpha]'Cap'
<     [alpha] ?
---
```

```
>                  "Cap?"
533,534c527
<      [alpha]'Pmt'
<      [alpha] ?
---
>                  "Pmt?"
539,540c532
<      [alpha]'Tpr'
<      [alpha]'ds?'
---
>                  "Tprds?"
548,549c540
<      [alpha]'I/P'
<      [alpha]'%?'
---
>                  "I/P%?"
588,589c579
<      [alpha]'Prd'
<      [alpha]'-I?'
---
>                  "Prd-I?"
595,596c585
<      [alpha]'Prd'
<      [alpha]'-F?'
---
>                  "Prd-F?"
611c600
<      [alpha]'Pri'
---
>                  "Pri"
616c605
<      [alpha]'Int'
---
>                  "Int"
621c610
<      [alpha]'Bal'
---
>                  "Bal"
701,702c690
<      [alpha]'P-Y'
<      [alpha] ?
---
>                  "P-Y?"
733c721
<      XEQ 01
---
>                  XEQ calcEFF_NOM
739,740c727
<      LBL 01          // Calculates EFF and solves for NOM
<      RCL D
---
> calcEFF_NOM::   RCL D          // Calculates EFF and solves for NOM
```

Re: HP 34s: Three financial routines

*Message #3 Posted by **Miguel Toro** on 13 Nov 2011, 3:11 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Thank you Neil for your comments, I will make the necessary changes to incorporate them in my code and post an edited version.

Have a nice evening,

Miguel

Re: HP 34s: Three financial routines

*Message #4 Posted by **Miguel Toro** on 13 Nov 2011, 3:56 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

...And done!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15LE: Anybody else see double key registrations?

*Message #1 Posted by **BobVA** on 12 Nov 2011, 5:43 p.m.*

Just curious. Poked around a bit and didn't see this particular failure discussed (as opposed to the "clicks but didn't register" problem).

On mine (about a month old) I'll sporadically get two "divide" inputs for one press of the divide key. Happens about one in 15 times on average.

Calling HP tomorrow to see if I can get a replacement.

(I seem to be facing down a general technology revolt - everything from my valve cover gaskets to computer RAM decided to pack up at once!)

Bob

Re: HP-15LE: Anybody else see double key registrations?

*Message #2 Posted by **Michael de Estrada** on 12 Nov 2011, 6:05 p.m.,*
in response to message #1 by BobVA

What you are describing is commonly referred to as "repeating", and yes, I've noticed this behavior sporadically on my 15C LE. On mine it seems to affect all the keys, not just a particular one. It seems to occur only when I press the keys slowly, or use my thumbs. I doubt any replacement will solve this, as it's probably a software issue with debouncing.

Edited: 12 Nov 2011, 6:06 p.m.

Re: HP-15LE: Anybody else see double key registrations?

*Message #3 Posted by **Thomas Radtke** on 12 Nov 2011, 6:47 p.m.,*
in response to message #2 by Michael de Estrada

Tried hard to provoke bouncing on my 15C LE but fortunately to no avail.

Re: HP-15LE: Anybody else see double key registrations?

*Message #4 Posted by **Paulo MO** on 12 Nov 2011, 7:16 p.m.,*
in response to message #2 by Michael de Estrada

It can not be a software debouncing problem. It must be HW related. None of my two LE's does multiple key registers. The sofware debouncing algorithm seems to be doing the job. Ergo...

Re: HP-15LE: Anybody else see double key registrations?

*Message #5 Posted by **BobVA** on 12 Nov 2011, 10:37 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> I doubt any replacement will solve this, as it's probably a software issue with debouncing.

That's what I was thinking, too. But it only seems to happen on one key (divide) and my other LE doesn't exhibit the problem. It's very repeatable on one and non-existent on the other.

Which isn't to say that perhaps it couldn't be FIXED in software. It might be a case of some keys / keyboards needing a touch longer debounce than nominal and I've got one that's on the outer edge.

Bob

Edited: 12 Nov 2011, 10:39 p.m.

Re: HP-15LE: Anybody else see double key registrations?

*Message #6 Posted by **Jan** on 13 Nov 2011, 6:48 a.m.,*
in response to message #1 by BobVA

Here we go again. HP35S revisited.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Bench Power Supply

*Message #1 Posted by **aj04062** on 12 Nov 2011, 1:30 p.m.*

I just purchased a 6216A power supply to work on calculators (and other stuff).

What should I set the max current rate at? Should it be different for different series HP's given their different battery configurations? (FYI the 6216A max output is 500mA)

Edited: 12 Nov 2011, 1:31 p.m.

Re: Bench Power Supply

*Message #2 Posted by **Eric Smith** on 12 Nov 2011, 1:59 p.m.,*
in response to message #1 by aj04062

Although the 6216A has a meter with a 500 mA scale, I believe it is only rated to provide a maximum of 400 mA. It should be able to provide 500 mA as long as the line voltage isn't low, but it may not meet the specifications.

250 mA is probably enough for any of the calculators that did not have a printer or card reader.

400 or even 500 mA is not enough for the printing calculators or the ones with card readers. They draw more than an amp when printing or reading/writing cards.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41: a documentation odyssey

*Message #1 Posted by **Miguel Toro** on 12 Nov 2011, 11:04 a.m.*

I have zero knowledge on the legendary HP 41 series of calculators and derivatives (C, CV, CX, CL … even Z?). From times to times I have been tempted to acquire one, but prices have always been too high to really justify the disbursement, thus I never really felt any urgency to read the extensive documentation available.

Guided by my “everything 34s” infatuation, I followed with interest but at the same time with increased distress this post about a polynomial solver for the 34s. Apart from the, IMHO, unfair treatment towards Valentín Albillo, there is what I consider the real jewel : Ángel Martin’s post of Albillo’s solver for the HP 41. Could I, even with my infinite ignorance on the subject, port this to the 34s as a programming exercise? Naively as always, I said yes and began trying to decipher the code... and this is when things became interesting :-)

So, here I am with my first obstacle: two instructions [SIZE?] and [PSIZE]. “Very well, this should be somewhere in the user handbook” - I said to myself. I decided to search on what is here called TOS... and found no reference whatsoever on the entire manual. What the heck??? I googled them and I got the same fruitless result. Is this some kind of arcane, undocumented and obscure code only accessible to the initiated? I began to wonder. Back to TOS, I found a manual written by Ángel. Ah ha! And I see a program using the dreaded codes, both of them! And also my next significant clue: XROM 25, A6:6C. So, this is an extended rom thing and I had to look for the number 25!

Back to the museum, I look for this rom on the software>xrom section, finding several rom extensions implementing these two instructions, including an extended functions module identified with number 25! But there is no description of these instructions and even if I already had a little idea of what they do, I wanted to know how they really work. The next step was to look into the HP41 section of the museum and see that this module has a product number: the 82180A, and therefore there should be a user manual. So back again to TOS and voilà, finally the Holy Grail and reward of this embarrassing quest: the 82180A extended function/memory module manual, somewhat buried in the standard peripheral section of the library with the descriptions I was longing for.

So, I can finally advance to line 11 :-)

Conclusions

- After finishing writing these lines I will buy the museum DVD. It is really a must. Until now, I was satisfied with CDs I and II which contains the majority of manuals for my collection.

- It was a really fun Saturday morning activity ...

- But, I will never post a so shameful confession again!

Have a nice weekend!

Miguel

Edited: 12 Nov 2011, 11:26 a.m.

Re: HP 41: a documentation odyssey

*Message #2 Posted by **gene wright** on 12 Nov 2011, 11:36 a.m.,*
in response to message #1 by Miguel Toro

A better place to start if you can is the 41CX Owners manual, which included those extended functions in the original documentation.

But, how were you to know? :-)

Enjoy the journey!

Re: HP 41: a documentation odyssey

*Message #3 Posted by **Ángel Martin** on 12 Nov 2011, 12:32 p.m.,*
in response to message #1 by Miguel Toro

Miguel, you're at the beginning of a wonderful ride! :-) Here's a link thak can help a lot, provides the User Manuals on-line for the main 41 and the Extended functions:

http://www.greendyk.nl/hp41c-manual/index.php

The program in question has a few functions from the 41Z - another extension to the system that I wrote to handle complex numbers in a "decent" way, no FOCAL programs pls. If you're interested in Valentin's original listing I think it's available in one of the PPC TN, I should be able to dig out the reference.

Yes I think it should be easy to port to the 34S, but that may be just my ignorance since I'm not familiar with it.

Si tienes alguna pregunta me puedes escribir a: "ovolacteoarrobaonlinepuntode"

Saludos, 'AM.

Re: HP 41: a documentation odyssey

*Message #4 Posted by **Miguel Toro** on 12 Nov 2011, 1:54 p.m.,*
in response to message #3 by Ángel Martin

Thank you very much Ángel. I will read the manual (it is much easier in pdf format) and certainly I will take advantage of your kind offer for help.

Saludos,

Miguel

Re: HP 41: a documentation odyssey

*Message #5 Posted by **Valentin Albillo** on 12 Nov 2011, 3:16 p.m.,*
in response to message #1 by Miguel Toro

> Quote:
>
> Guided by my “everything 34s” infatuation, I followed with interest but at the same time with increased distress this post about a polynomial solver for the 34s. Apart from the, IMHO, unfair treatment towards Valentín Albillo, there is what I consider the real jewel : Ángel Martin’s post of Albillo’s solver for the HP 41.

Thanks for your appreciation of my effort of 30+ years past. As for the *"unfait treatment"* towards me, don't worry, I'm more than used to it by now and doesn't upset me in the least. From Wikipedia:

> *"The Dunning-Kruger effect is a cognitive bias in which unskilled people make poor decisions and reach erroneous conclusions, but their incompetence denies them the metacognitive ability to recognize their mistakes. The unskilled therefore suffer from illusory superiority, rating their ability as above average, much higher than it actually is, [...] Kruger and Dunning proposed that, for a given skill, incompetent people will:*
>
> - *tend to overestimate their own level of skill;*
> - *fail to recognize genuine skill in others;*
> - *fail to recognize the extremity of their inadequacy;*
> - *recognize and acknowledge their own previous lack of skill, if they can be trained to substantially improve."*

I'm sure you can think of a number of people who should wear this shoe, as it fits exactly, isn't it ? ... :D

Thanks again, Miguel, have a nice weekend, and

Best regards from V.

Re: HP 41: a documentation odyssey

*Message #6 Posted by **fhub** on 12 Nov 2011, 4:45 p.m.,*
in response to message #5 by Valentin Albillo

> Quote:
>
> From Wikipedia:
>
> > *"The Dunning-Kruger effect is a cognitive bias in which unskilled people make poor decisions and reach erroneous conclusions, but their incompetence denies them the metacognitive ability to recognize their mistakes. The unskilled therefore suffer from illusory superiority, rating their ability as above average, much higher than it actually is, [...] Kruger and Dunning proposed that, for a given skill, incompetent people will:*
> >
> > - *tend to overestimate their own level of skill;*
> > - *fail to recognize genuine skill in others;*
> > - *fail to recognize the extremity of their inadequacy;*
> > - *recognize and acknowledge their own previous lack of skill, if they can be trained to substantially improve."*

LOL, many thanks for this quote - I won't have been able to describe **you** better! ;-)

Franz

Re: HP 41: a documentation odyssey

*Message #7 Posted by **Walter B** on 13 Nov 2011, 12:30 a.m.,*

in response to message #6 by fhub

Franz, now you're going too far! I'd prefer you stick to your frequently repeated announciation and quit.

Re: HP 41: a documentation odyssey

*Message #8 Posted by **fhub** on 13 Nov 2011, 5:19 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> Franz, now you're going too far! I'd prefer you stick to your frequently repeated announciation and quit.

Don't worry Walter, I already did quit!

I just had to defend myself after this posting of Mr.V.A., who continued to attack me and tried to make an idiot out of me, and this only because he didn't like my statements about some mathematical issue (although I even have the proof for it).

So you won't read here anything from me anymore -
well, at least unless these offences against me continue.

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: [finally here!] Problems with International shipping of HP15c LE

*Message #1 Posted by **Nick_S** on 12 Nov 2011, 10:02 a.m.*

My three HP15c LE calculators have arrived at long last :-)

Here is a summary of the path taken (reminds me of the travelling salesman problem):

Departure USA, Sept 26, 2011, via New Caledonia, detour to France, stay 1 week in French customs, return to USA, arrival in Greece, 3-weeks in Greek customs, delivered to me in Athens on November 10, 2011.

Chris at Samson cables was helpful in contacting USPS to find out what was happening and for informing me of contact telephone numbers once the package had arrived at Greek customs.

I still need to do a full keyboard check and self test of each unit, but the one I am using has a nice reliable keyboard somewhere between my stiffer-clicking HP48GX and the softer-clicking HP28S. The HP15c LE is a much better quality calculator than the HP20b which I purchased a few months ago. My only criticism is that the x! , y^.r and Py,x key legends could do with being printed in a heavier yellow type to increase their clarity.

Nick

Edited: 12 Nov 2011, 12:16 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The HP12c Anniversary edition has finally arrived to Europe

*Message #1 Posted by **Jose Gonzalez Divasson** on 12 Nov 2011, 5:26 a.m.*

Yesterday afternoon the first batch of HP12c Anniversary edition entered the stock. Shipments will begin on Moday.

It sure took some time!

HP12c Anniversary Edition

Re: The HP12c Anniversary edition has finally arrived to Europe

*Message #2 Posted by **hpnut** on 12 Nov 2011, 8:16 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Hi Jose,

that's exactly 46 days after the HP 12c AE was released in Malaysia. I wish you all the best with your sales.

hpnut in Malaysia

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Best documentation for different features?

*Message #1 Posted by **David Hayden** on 12 Nov 2011, 3:14 a.m.*

I've been reading through the 48G manual and I was really impressed with the section on Units. Double-checking with the 50G User's Guide, I found that it really does do a much more thorough job of explaining how units work.

That got me thinking about other documentation. The 15C manuals do a great job describing SOLVE. I really liked the RPN primer in the 41C manual. So here's a question:

Which documentation do you think does the best job of describing which features of HP calculators?

Also, I wonder if the documentation becomes more and more brief as a feature gets older and older. It seems like RPN is glossed over in the newer manuals.

Dave

Re: Best documentation for different features?

*Message #2 Posted by **Allen** on 12 Nov 2011, 7:55 p.m.,*
in response to message #1 by David Hayden

The 15C and 41C manuals are hard to beat in many respects. I also like several of the older ones esp the HP67 manual, it's pretty thorough.

The 42S manual is also a very good example of a concise technical reference, though I would not put it in the same class as the manuals above. I do believe as the calculators become more feature rich, some of the discussion on theory is traded to keep the length and printing costs down.

Edited: 12 Nov 2011, 7:55 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE replacement shipped

*Message #1 Posted by **Dale Reed** on 11 Nov 2011, 8:52 p.m.*

I had logged a support case with HP (per instructions I read here some weeks ago) because my HP-15C LE (CNA1310KBQ, #02198) had a divide key that took extra pressure to register.

Today I received an e-mail from Paul L. at HP support stating that my replacement unit just shipped 'Priority Overnight' and I should receive it by Tuesday latest -- although he did not have a tracking number to provide.

Perhaps they've reworked some of the stock and will soon be selling and shipping again?

But the 15C LE still shows "Out of Stock" on the HP Home and Small Office shop site. And it's not listed at all on the other business and enterprise sites, at least that I can find.

I'll believe it shipped when I have it in my hands. I'll let you know if they include packing and postage to ship the defective one back. Maybe it's a good thing I hadn't gotten around to opening it up and trying to fix it myself!

Dale

Re: HP-15C LE replacement shipped

*Message #2 Posted by **Lincoln R.** on 11 Nov 2011, 9:28 p.m.,*
in response to message #1 by Dale Reed

I also got e-mail from Paul L. in regards to this. I asked him where to send the broken 15C to and was told: "As far as the defective calculator, at this time we will not be ask you to return it to us. You may dispose of it once you receive your replacement. "

Re: HP-15C LE replacement shipped

*Message #3 Posted by **Dale Reed** on 11 Nov 2011, 10:08 p.m.,*
in response to message #2 by Lincoln R.

Ah. So, if I take my flaky-divide-key one and open it up and fix it (per recently posted procedures and pictures by others, and I don't hack it up too badly), what does that do to the "Limited Edition"? Do I just end up with two (#02198 and some other number)? They wouldn't send another marked #02198, would they? Can't have two with the same LE number, right?

Did I just hose someone else out of an otherwise available "Limited Edition" calculator? Then I absolutely have to apologize to anyone who couldn't get one. I'm sorry.

I guess I'll end up with a good one to keep and one to open up and dink with and maybe fix or otherwise experiment around with. I sure can't complain, getting another. Just hate feeling like someone missed out because of this.

But before you all ask: No, I won't give the one with the flaky divide key away ;-) (Nor will I "dispose of it", nor will I put it up on TAS for a ridiculous price. Someone will get usefulness out of it.)

Re: HP-15C LE replacement shipped

*Message #4 Posted by **Thomas Radtke** on 12 Nov 2011, 2:32 a.m.,*
in response to message #3 by Dale Reed

It seems all calculators sold were in the LE-No. range of up to 3000. With about 10% defective units, that would make just 300 units for the bin, probably a sufficiently small number to be ignored.

The remaining number of 15C LE hopefully comes from a replacement production batch or hasn't been produced before the bug were encountered and fixed.

It's great to see a generous acting HP again and hope it works out for the overseas people as well. Now one last thing remains - the firmware update.

Re: HP-15C LE replacement shipped

*Message #5 Posted by **Namir** on 12 Nov 2011, 8:12 a.m.,*
in response to message #3 by Dale Reed

Dale,

I read you comment about duplicate serial numbers. I became both curious and excited about the prospect.

Sooooooooooo, I programmed by Super Cray computer (which I have secretly assembled in my basement so that my calculator-monitoring wife would not know about it). I applied combination of Markov Chain Monte Carlo Methods (I had to actually call prince Albert II of Monaco to tweak the algorithm ... the guy is a math genius) with Quasi-deterministic Bayesian algorithms, and the spherical Bessel function of the ludicrous kind used in the Fermi-model for Uranium 238 nucleus. That was not as easy as it sounds to program.

In the output, my own beloved and most cherished Super Cray told me that I was a moron and demanded I take it back to the dealer. It printed, and I quote, "I'd rather be a stupid mp3 player than work for you!!" Harsh words, I must say. I was shocked that the machine did not take my question well!!

:-)

Edited: 12 Nov 2011, 8:16 a.m.

Re: HP-15C LE replacement shipped

*Message #6 Posted by **hpnut** on 12 Nov 2011, 8:22 a.m.,*
in response to message #2 by Lincoln R.

> Quote:
>
> I also got e-mail from Paul L. in regards to this. I asked him where to send the broken 15C to and was told: "As far as the defective calculator, at this time we will not be ask you to return it to us. You may dispose of it once you receive your replacement. "

This is classic HP customer delighting service, Bill & Dave would have approved of it.

Re: HP-15C LE replacement shipped

*Message #7 Posted by **Howard Owen** on 12 Nov 2011, 4:11 p.m.,*
in response to message #1 by Dale Reed

I'll be interested to hear whether the PSE bug and the others have been fixed.

Re: HP-15C LE replacement shipped

*Message #8 Posted by **Michael de Estrada** on 12 Nov 2011, 6:40 p.m.,*
in response to message #7 by Howard Owen

When pigs fly.

Re: HP-15C LE replacement shipped

*Message #9 Posted by **Jeff O.** on 12 Nov 2011, 7:22 p.m.,*
in response to message #8 by Michael de Estrada

I doubt that the replacements which are hopefully on their way will have a new rom. Is it your opinion that no new rom will ever be released? I do not agree or disagree, just wondering if you feel that way, and if so, why. I guess I am still hopeful, but becoming less optimistic.

Re: HP-15C LE replacement shipped

*Message #10 Posted by **Michael de Estrada** on 12 Nov 2011, 7:35 p.m.,*
in response to message #9 by Jeff O.

Has a new ROM ever been released for the buggy 35s ? And its sales volume is much higher than the 15C LE. I doubt the majority of 15C LE owners really care. I certainly don't.

Re: HP-15C LE replacement shipped

*Message #11 Posted by **Martin Pinckney** on 12 Nov 2011, 10:35 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> Has a new ROM ever been released for the buggy 35s?

A while back I was lambasted for pointing this out, because, if I recall, the 35s is different, because it does not have an upgradable ROM. However, my point was, and may also be yours, that HP seemingly has no interest in fixing bad ROMs, with the exceptions of the 12c+ and 50g.

Re: HP-15C LE replacement shipped

*Message #12 Posted by **Michael de Estrada** on 12 Nov 2011, 10:49 p.m.,*
in response to message #11 by Martin Pinckney

Well, I don't own a 12C+, so I don't know about updates for it, but I did reflash my 50g EPROM when an update was offered. Of course, this is easily done with either the supplied USB cable and software or an SD card. The 12C+ and 15C LE require purchase of a cable and software not offered or supported by HP. For the average user this is an unacceptable hassle.

Re: HP-15C LE replacement shipped

*Message #13 Posted by **Martin Pinckney** on 13 Nov 2011, 4:06 p.m.,*
in response to message #12 by Michael de Estrada

> Quote:
>
> The 12C+ and 15C LE require purchase of a cable and software not offered or supported by HP. For the average user this is an unacceptable hassle.

Excellent point.

Re: HP-15C LE replacement shipped

*Message #14 Posted by **Thomas Radtke** on 14 Nov 2011, 11:47 a.m.,*
in response to message #9 by Jeff O.

Jeff,

there was an update for the 12C+ - same bug, AFAIK. It's hopefully not rocket science to correct the 15C LE firmware for the units still to be sold, and I hope it has been done already (I guess we will know soon).

Unfortunately, the 12C+ update hasn't been made available, but then, I haven't heard of any requests for it. Different story now. Someone should leak the 15C LE update firmware to the community if HP didn't do it themselfs. That might violate the law, but is ethically as clean as a newborn.

And for those w/o cable, I'm sure we can arrange to find users do this for them. I for one would be willing to update calculators for german forum members.

Thomas

Re: HP-15C LE replacement shipped

*Message #15 Posted by **Marcus von Cube, Germany** on 14 Nov 2011, 12:06 p.m.,*
in response to message #14 by Thomas Radtke

> Quote:
>
> And for those w/o cable, I'm sure we can arrange to find users do this for them. I for one would be willing to update calculators for german forum members.

Same here (Rhein/Main Region). But as already stated, there isn't any new firmware to burn yet.

Re: HP-15C LE replacement shipped

*Message #16 Posted by **Jeff O.** on 14 Nov 2011, 12:30 p.m.,*
in response to message #14 by Thomas Radtke

> Quote:
>
> Someone should leak the 15C LE update firmware to the community if HP didn't do it...

I presume you mean that if the replacement units come with an updated rom, that one of those receiving such a unit should "share" the rom. From what I understand, there is no way to extract the rom from the calculator itself, so HP would have to release it to someone in electronic form.

> Quote:
>
> And for those w/o cable, I'm sure we can arrange to find users do this for them. I for one would be willing to update calculators for german forum members

I thought about suggesting that as an option HP could use to distribute a new rom. But I doubt they could actually formally support or encourage such program due to liability reasons. I.e., if they tell people to send their calculators to me to re-flash, and I decide to keep them for myself, HP would be liable. (I am not a lawyer, just applying common sense.)

Re: HP-15C LE replacement shipped

*Message #17 Posted by **Thomas Radtke** on 14 Nov 2011, 12:38 p.m.,*
in response to message #16 by Jeff O.

> Quote:
>
> I presume you mean that if the replacement units come with an updated rom, that one of those receiving such a unit should "share" the rom.

I was thinking of someone working for HP and having access to the firmware file.

Re: HP-15C LE replacement shipped

*Message #18 Posted by **Jeff O.** on 14 Nov 2011, 12:43 p.m.,*
in response to message #17 by Thomas Radtke

That person would be risking his or her job - I would not ask such a thing.

Re: HP-15C LE replacement shipped

*Message #19 Posted by **Thomas Radtke** on 14 Nov 2011, 12:57 p.m.,*
in response to message #18 by Jeff O.

I wouldn't, too. Such things leak all the time out of conviction, not because they have been requested. Well, it's just a chance.

Having an update and keep it from users spending $100+ for a certain product would be an incredibly stupid thing to do, taking into account that the 15C ROM can be found easily on the net anyway. I can't see any additional value in the emulating stuff around it, so HP likely will release it.

Edit: ... as they did with the 20b firmware.

Edited: 14 Nov 2011, 12:59 p.m. after one or more responses were posted

Re: HP-15C LE replacement shipped

*Message #20 Posted by **Michael de Estrada** on 14 Nov 2011, 1:12 p.m.,*
in response to message #19 by Thomas Radtke

I'm waiting for the Victor V15.

Re: HP-15C LE replacement shipped

*Message #21 Posted by **Thomas Radtke** on 14 Nov 2011, 3:29 p.m.,*
in response to message #20 by Michael de Estrada

I took a chance and contacted them about exactly that. Of course, I didn't get any further than getting the usual nonsense response.

Now that the 15C LE apparently sells well, someone might notice it and produce a V15, an Aurora 1000S or something similar. But ... the 15C *is* actually back and we'll see how things develop. I see no reason why HP doesn't want to make some money from this success and does a few things unexpectedly right. It's about time.

Re: HP-15C LE replacement shipped

*Message #22 Posted by **uhmgawa** on 14 Nov 2011, 5:44 p.m.,*
in response to message #19 by Thomas Radtke

> Quote:
>
> Having an update and keep it from users spending $100+ for a certain product would be an incredibly stupid thing to do, taking into account that the 15C ROM can be found easily on the net anyway. I can't see any additional value in the emulating stuff around it, so HP likely will release it.

I'm obviously biased, but IMHO the emulation implementation is precisely where the value lies for either ARM based voyager. Legacy voyager firmware images are largely an opaque bag of bits into which you can drill just enough to accurately emulate their execution. It is the emulation engine which gives the legacy rom images application beyond execution via a 30 year old 0.0039 MIPS NUT processor.

Concerning a firmware upgrade, on one hand as HP released an update for the 12c+ it would seem there is precedent for doing so. Unsure whether they will be more concerned with the prospect of letting a 15c le image loose in the wild nor does that service approach seem to scale very well in general.

Re: HP-15C LE replacement shipped

*Message #23 Posted by **Jeff O.** on 14 Nov 2011, 7:57 p.m.,*
in response to message #22 by uhmgawa

> Quote:
>
> Concerning a firmware upgrade, on one hand as HP released an update for the 12c+

Well, an update was provided to a few people, but they never actually formally released it. It's not like you can go to the HP we site and download it. I think current new models are still shipping with an earlier version.

Re: HP-15C LE replacement shipped

*Message #24 Posted by **Lincoln R.** on 14 Nov 2011, 8:29 p.m.,*
in response to message #23 by Jeff O.

Would posting the update on HP's website be that useful? They would also have to set up a distribution channel for the cables, official documentation for the flash tools and/or a more user-friendly tool than SAM-BA.

I just can't see the current procedure for this (get flash cable by sending money to a guy on the internet <no offense to Gene, we all know him as a great guy but random HP customers don't know him from Adam>, fill out big form to download Atmel's programming software, hold down crazy sequence of buttons to enter programming mode, etc.) being something HP would officially post. I find it more likely that if they do anything other than quietly give the update to us like they did with the 12C+ code they would probably have people mail in their calculators to be reflashed.

Re: HP-15C LE replacement shipped

*Message #25 Posted by **Gerry Schultz** on 14 Nov 2011, 9:17 p.m.,*
in response to message #24 by Lincoln R.

I hate to say it but the only practical solution for HP is to institute a replacement program. If you've registered your 15C LE (or not) and you contact them with a complaint about it (either software or hardware), they will send you a replacement and not even bother with your old unit. They might request that you exchange your bad unit for a new one, but all they will do is dispose of it. It's just too expensive for them to do anything else and they already have customers who are angry about a brand new calculator that has problems. I own 4 of these 15c LEs and I left two of them with Tim back in September. I'm sure when new calculators are issued that have the excessive current solved, the bad keys replaced and the firmware upgraded, he will send me replacements. I should send him an email asking how it's going.

The real question here is HP going to provide a path for us die-hard owners to upgrade the firmware for the LEs we already own? They can but I would think the concern HP would have is a third-party using the firmware upgrade to build near perfect clones of the 15C LE at a 10th of the price (though I'm sure the keyboard and display will suck).

Also, remember, HP has made these programming cables available to allow us to re-program the 20b and 30b calculators with WP34s firmware, not perform firmware upgrades to existing units. There is no liability for HP to have a customer reprogram a perfectly good 20b/30b. I know the original 20b firmware is available but the 30b firmware isn't available as far as I know. If HP releases a firmware upgrade to the 15C LE and the average customer has no idea how to do this (How do I hook a D9 connector to my Win7/Mac PC? What is FTDI?), who will the customer become angry with?

I hope HP surprises me and does both, but I'm not holding my breath.

Gerry

Edited: 14 Nov 2011, 9:20 p.m.

Re: HP-15C LE replacement shipped

*Message #26 Posted by **Lincoln R.** on 14 Nov 2011, 10:07 p.m.,*
in response to message #25 by Gerry Schultz

Meh. Plugging a programming cable in isn't that expensive. Unless these things are stupidly cheap to make, which I doubt because they're being turned out in small batches, and look like an HP 15C, which means brushed metal, custom painted faceplate/backplate, a chrome 15C logo, and other things not seen on your average $15 Casio. Even compared to a 30b, I'm almost certain the 15C costs more to make.

I can understand HP telling us to pitch the ones with bad keyboards, those would be far too labor-intensive to fix (and fixing it correctly would involve either screws or replacing the front case).

As for a third party snarfing the 15C firmware, I don't know how much of a concern that really is, or how much of a deterrent the 'no firmware image' thing is. A sufficiently motivated copycat could get it out of the chip one way or another even if it took decapping the IC or something (even easier than a 12C+ since the 15Cs have plastic packaged CPUs instead of chip on board). And I just don't know if a 15C copycat would be economical. 12Cs sure, but the 15C has a very limited market, and that market wants it to say "Hewlett Packard" on the front.

Re: HP-15C LE replacement shipped

*Message #27 Posted by **Eddie W. Shore** on 15 Nov 2011, 8:15 a.m.,*
in response to message #26 by Lincoln R.

I can't imagine why someone would not want to produce a 15C clone. There are several companies that produces clones on the iPhone and Andriod market.

As far as replacement - it would make sense for HP to have a swap and replace program for updated 15C for those who purchased calculators from the first batch. Of course, there will be a at least a week's time between the shipments - which presents big time problems for those who had to wait months for their order to arrive.

Re: HP-15C LE replacement shipped

*Message #28 Posted by **Lincoln R.** on 15 Nov 2011, 11:02 a.m.,*
in response to message #1 by Dale Reed

My replacement arrived today. CNA14400SH, LE#13047. Keyboard seems perfect, firmware is the same version (Checksum FFFFh, date 2011-04-15). Came in a FedEx box shipped from Fort Collins, CO, just the calculator, no accessories/documentation (which makes sense, people getting these already have boxes and cases and manuals).

Re: HP-15C LE replacement shipped

*Message #29 Posted by **Jeff O.** on 15 Nov 2011, 1:27 p.m.,*
in response to message #28 by Lincoln R.

Although there is no new firmware, there is perhaps some good news in your report. The serial number implies that it was manufactured in week 44 of this year, which by my calculations was the last week of October. The CNA implies that it was made in the same factory as the earlier units. So hopefully this means they sorted out the manufacturing difficulties that were causing the keyboard problems and have restarted production. In other words, they have not just sorted through and tested all units produced in the first production run to find those with good keyboards to send out to replace faulty units. The LE number implies that at least 13,047 units have been made, so maybe the "10,000 unit limited production run" rumor was unfounded.

Or perhaps I read too much into the available information.

Re: HP-15C LE replacement shipped

*Message #30 Posted by **Lincoln R.** on 15 Nov 2011, 3:25 p.m.,*
in response to message #29 by Jeff O.

The LE number may not mean that, but it does mean that at least 13,047 back plates were made, since it would seem that backplate LE numbers and serial numbers have no relationship. Since the 'manufacturing difficulties' seemed to be sloppy heatstaking and/or debris getting into the keyboards, I'd imagine resolving those was simply a matter of disassembling a few 15Cs, discovering these problems, and yelling at the factory to be more careful.

Re: HP-15C LE replacement shipped

*Message #31 Posted by **Thomas Radtke** on 15 Nov 2011, 1:47 p.m.,*
in response to message #28 by Lincoln R.

> Quote:
>
> [...] firmware is the same version [...]

So, debugging it in time for the replacement units was obviously not possible or worthwhile. That's really bad news and a first indication that it will never happen :-(.

Re: HP-15C LE replacement shipped

*Message #32 Posted by **Marcus von Cube, Germany** on 15 Nov 2011, 4:25 p.m.,*
in response to message #31 by Thomas Radtke

Two developers and certainly other projects in the pipeline... What do you expect?

Re: HP-15C LE replacement shipped

*Message #33 Posted by **Thomas Radtke** on 16 Nov 2011, 1:20 a.m.,*

in response to message #32 by Marcus von Cube, Germany

> Quote:
>
> Two developers and certainly other projects in the pipeline... What do you expect?

Cleaning up the workbench before doing the next job ;-).

Re: HP-15C LE replacement shipped

*Message #34 Posted by **Walter B** on 16 Nov 2011, 1:53 a.m.,*
in response to message #33 by Thomas Radtke

> Quote:
>
> Cleaning up the workbench before doing the next job ;-).

Second that. But work culture may be different there ;-)

Re: HP-15C LE replacement shipped

*Message #35 Posted by **uhmgawa** on 16 Nov 2011, 7:55 a.m.,*
in response to message #34 by Walter B

> Quote:
>
> Second that.

Agree completely.

> Quote:
>
> But work culture may be different there ;-)

I'm not sure it is a work culture/ethic at the choice of an engineer but perhaps a difference of competitive business philosophy. Eg, resources are expended to the extent of producing a product which is marginally (but not excessively) superior to the competition. Doing so finite resources are conserved and redirected to another competitive front.

All else being equal this is one reason opensource development routinely produces a superior polished product as work continues to an engineer's passionate lunatic fringe vs. halting when the development budget has been deemed exhausted.

Of course old HP was an infamous exception in this respect.

[edited for clarity]

Edited: 16 Nov 2011, 1:23 p.m.

Re: HP-15C LE replacement shipped

*Message #36 Posted by **uhmgawa** on 16 Nov 2011, 1:34 p.m.,*
in response to message #33 by Thomas Radtke

> Quote:
>
> Cleaning up the workbench before doing the next job ;-).

Speaking of which, I'd hope the promised rewrite of the 15c Advanced Functions Handbook accompanying the 15c le release is still cluttering up the bench and hasn't fallen victim to the broom..

Re: HP-15C LE replacement shipped

*Message #37 Posted by **Howard Owen** on 15 Nov 2011, 4:25 p.m.,*
in response to message #28 by Lincoln R.

Despite my disappointment over lack of fixed firmware, I have to say this replacement program pleases me. Kudos to HP for making this right! (Or trying to. There may be problems with the solution, though I hope not.)

Re: HP-15C LE replacement shipped

*Message #38 Posted by **Dan Grelinger** on 15 Nov 2011, 7:58 p.m.,*
in response to message #28 by Lincoln R.

I received my replacement today as well. I sent in my original to Fort Collins for 'failure analysis'.

CNA14400SG LEN 13520

Re: HP-15C LE replacement shipped

*Message #39 Posted by **CAD_Jockey** on 16 Nov 2011, 6:23 a.m.,*
in response to message #38 by Dan Grelinger

My replacement arrived yesterday. CNA14400NL LE#: 13060

Keys seem to work fine, and best of all it has the correct firmware!!

Thanks HP!

Re: HP-15C LE replacement shipped

*Message #40 Posted by **Didier Lachieze** on 16 Nov 2011, 6:55 a.m.,*
in response to message #39 by CAD_Jockey

> Quote:
>
> and best of all it has the correct firmware!!

Do you mean that the PSE bug has been solved? Which firmware version do you have on your new 15C LE?

Re: HP-15C LE replacement shipped

*Message #41 Posted by **Thomas Radtke** on 16 Nov 2011, 7:08 a.m.,*
in response to message #40 by Didier Lachieze

Wild guess: It's a 15C, not a 12C firmware ;-).

Re: HP-15C LE replacement shipped

*Message #42 Posted by **Marcus von Cube, Germany** on 16 Nov 2011, 8:13 a.m.,*
in response to message #40 by Didier Lachieze

Didier, Thomas is right. Read the original story here.

Re: HP-15C LE replacement shipped

*Message #43 Posted by **Didier Lachieze** on 16 Nov 2011, 8:33 a.m.,*
in response to message #40 by Didier Lachieze

Ok, I forgot it. I was just hoping to see an updated 15C LE firmware ;)

Re: HP-15C LE replacement shipped

*Message #44 Posted by **CAD_Jockey** on 16 Nov 2011, 11:16 a.m.,*
in response to message #43 by Didier Lachieze

Yeah, sorry to disappoint. I was just glad this one functions at a 15c, and not a 12c in 15c clothing.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New TI-PPP discovered!

*Message #1 Posted by **Joerg Woerner** on 11 Nov 2011, 6:35 p.m.*

It is not from HP but might be from interest for you, too.

Texas Instruments is in the process of moving the Educational Department and the employees started some house cleaning. One employee discovered a never released prototype - and it arrived less than 10 minutes ago here at the Datamath Calculator Museum.

It is a real triple-P:

One P for Programmable

One P for Printing

One P for Prototype

I would guess that it was developed about 20 years ago, later than e.g. the HP-41C.

It will be featured in December in the Museum - today just a small teaser:

Have a great weekend.

Regards, Joerg

Re: New TI-PPP discovered!

*Message #2 Posted by **db (martinez, ca.)** on 11 Nov 2011, 8:57 p.m.,*
in response to message #1 by Joerg Woerner

"P" on it. It's not **P**olish!
One interesting thing about being the TI historian; there's a lot more models for you to find than for Dave.
See you this spring. - db

Re: New TI-PPP discovered!

*Message #3 Posted by **Joerg Woerner** on 11 Nov 2011, 9:36 p.m.,*
in response to message #2 by db (martinez, ca.)

Yet has it a nice [ENTER] key ;-))

See you in Spring.

Have a great weekend,

Joerg

Re: New TI-PPP discovered!

*Message #4 Posted by **Lincoln R.** on 11 Nov 2011, 9:36 p.m.,*
in response to message #1 by Joerg Woerner

Cool. Always interesting to see something new (or something old, as the case may be.)

Re: New TI-PPP discovered!

*Message #5 Posted by **hpnut** on 12 Nov 2011, 8:37 a.m.,*
in response to message #1 by Joerg Woerner

Joerg,

this is fantastic, an undocumented prototype?

Re: New TI-PPP discovered!

*Message #6 Posted by **Joerg Woerner** on 12 Nov 2011, 12:47 p.m.,*
in response to message #5 by hpnut

Not a single word about it on WWW...

Serial number in handwriting: T02

Joerg

Re: New TI-PPP discovered!

*Message #7 Posted by **db (martinez, ca.)** on 12 Nov 2011, 8:12 p.m.,*
in response to message #6 by Joerg Woerner

i won't rest till i have T01 in my hands. even if the enter key doesn't work.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #1 Posted by **Valentin Albillo** on 11 Nov 2011, 2:30 p.m.*

Hi all:

The recent release of the **HP-15C LE** is a momentous event which truly deserves a *great celebration* on my part, being as I am a life-long sworn fan of this wonderful model (most especially today which is the one-and-only **11-11-11** date you'll get to see for the next 100 years or so).

However, as I'm currently not in the mood for any great efforts and I'm feeling a little lazy today, methinks you'll have to make do with this *two-bit*

HP-15C (& LE!) 11-11-11 Mini-Challenge

We all know that *numerical integration* is all the rage these days in the forum with plenty of good algorithms being discussed and offered for consideration to the WP34S team and such. The best of those integration algorithms are powerful and complex, a many-byte affair.

However, on the other hand, the ugly duckling would be **numerical derivation** which, unlike integration, can usually be done by numerically evaluating a symbolically-obtained derived function y'(x) at any specified X ordinate. Regrettably, that requires some advanced symbolic manipulation which is simply unavailable in the HP-15C (&LE!) and thus numerical approximations is the only way to go.

So the challenge is:

You're asked to write a program for the **HP-15C (& LE!)** which must be as short as possible, and which can evaluate the **derivative** at a given ordinate X of a user-supplied function **y(x)**, subject to the following *mandatory* requirements.

The exact requirements your program must meet are:

1. first and foremost, it must be *as short as possible*, anything more than a dozen steps or two means back to the drawing board for you. The program must begin with **LBL A** and end with **RTN**.

2. it must accept a given real ordinate X in the display and produce the value of the *derivative* of **y(x)** at that ordinate, where **y(x)** is a user-supplied function which must be accessible under **LBL E**.

3. it must *not* depend on or require any particular setting or any particular memory allocation to be previously stablished.

4. it must *not* require any pre-stored constants in the registers or stack contents except for the ordinate X being initially in the display at runtime.

5. and last but not least, it must strive to produce *full 10-digit accuracy* (except for the usual cases of particular troublesome points or ranges, etc, of course).

Sample of use:

1. given **y(x) = e^x/Sqrt(sin(x)^3+cos(x)^3)**, find **y'(1.5)**

```
define y(x) -> LBL E, e^X, LAST X, LAST X, SIN, 3, y^x, X<>Y, COS, 3, y^x,
+, SQR, /, RTN

1.5, GOSUB A ->  4.053427894, which is the correct result to all 10 digits
```

2. given **y(x) = 7*$e^{(2.1*X)}$**, find **y'(15)**

```
define y(x) -> LBL E, 2.1, *, e^X, 7, *, RTN

15, GOSUB A -> 7.040338081 E14, which is the correct result to all 12 digits
```

3. given **y(x) = sin(x)/e^x**, find **y'(1)**

```
define y(x) -> LBL E, SIN, LAST X, e^X, /, RTN

1, GOSUB A -> -0.1107937653, whis is correct to all 10 digits
```

Within a few days I'll post my solution, which is just **11 steps** long, meets all five conditions above, and produces the sample results above correct to all digits shown. Relaxing a condition or two could shorten it even further, to just 6 steps or even just 5, but let's first keep all five requirements above and see what **YOU** can produce ... :)

Enjoy !

Best regards from V.

.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #2 Posted by **Gerson W. Barbosa** on 11 Nov 2011, 5:11 p.m.,*
in response to message #1 by Valentin Albillo

Hello Valentin,

I think the following meets all your requirements:

```
001- f LBL A
002-   9
003-   CHS
004-   10^x
005-   STO 0
006-   Re<>Im
007-   +
008-   GSB E
009-   Re<>Im
010-   RCL/ 0
011- g RTN
```

Best regards,

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #3 Posted by **peacecalc** on 12 Nov 2011, 2:44 a.m.,*
in response to message #2 by Gerson W. Barbosa

Hello Gerson,

I'm sorry but I think your code doesn't function in the way you want.

I miss the "-" operation, which is nessecary for calculating: "f(x+h)/h - f(x)/h"

But your idea is genial, **parallel computing** with the hp 15c!

sincerely peacecalc

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #4 Posted by **Thomas Radtke** on 12 Nov 2011, 6:09 a.m.,*
in response to message #3 by peacecalc

Looks like Gerson ingeniously implemented this.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #5 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 8:17 a.m.,*
in response to message #4 by Thomas Radtke

My source, actually. That's what Wikipedia and Google are for :-) Technically we should get rid of the imaginary part in the end, either by setting the complex mode off or by clearing the register X before the second Re<>Im instruction. This takes one extra step, however.

Here is an HP-42S solution:

```
00 { 27-Byte Prgm }
01 LBL "DRV"
02 1E-9
03 RCL* ST Y
04 STO 00
05 COMPLEX
06 XEQ "FN"
07 COMPLEX
08 RCL/ 00
09 END
```

Example:

```
00 { 8-Byte Program }
01 LBL "FN"
02 LN
03 RTN


1E-490 XEQ DRV -> 1.E490
       XEQ DRV -> 1.E-490
```

You might want to insert X<>Y and Rv between the steps 08 and 09. The answer will be valid only if FN returns a real result for the given X. A few more steps might handle this.

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #6 Posted by **Werner** on 12 Nov 2011, 10:13 a.m.,*
in response to message #5 by Gerson W. Barbosa

Or,

```
00 { 25-Byte Prgm }
01 LBL"DER"
02 1E-9
03 COMPLEX
04 ASTO L
05 XEQ IND ST L
06 COMPLEX
07 1E9
08 *
09 END
```

It does not need a predefined alpha label for the function
It does not use registers, numbered or other. Just the alpha register to pass the function name

Cheers, Werner

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #7 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 10:44 a.m.,*
in response to message #6 by Werner

Thanks for the tip, Werner. It doesn't give correct results when |x| >= 1e4 for my example (LN), unless a slight modification is made:

```
00 { 27-Byte Prgm }
01 LBL "DER"
02 1E-9
03 RCL* ST Y
04 STO 00
05 COMPLEX
06 ASTO ST L
07 XEQ IND ST L
08 COMPLEX
09 RCL/ 00
10 END
```

Cheers,

Gerson.

Edited: 12 Nov 2011, 10:48 a.m.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #8 Posted by **Dieter** on 12 Nov 2011, 12:13 p.m.,*
in response to message #7 by Gerson W. Barbosa

What about x = 0? This currently means that h = 0 as well, throwing a division by zero error. Setting h = 1E-9 in this case is not really an option. ;-)

Dieter

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #9 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 12:29 p.m.,*
in response to message #8 by Dieter

Ooops!

```
00 { 28-Byte Prgm }
01 LBL "DER"
02 1E-9
03 X<Y?
04 RCL* ST Y
...
```

This should handle practical cases. Of course the result is not valid for LN(x) because LN(0) is not defined.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #10 Posted by **Dieter** on 12 Nov 2011, 12:48 p.m.,*
in response to message #9 by Gerson W. Barbosa

Are negative values no practical cases ?-)
What about x = -1 000 000? This would set h = 1E-9 as well.

Dieter

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #11 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 1:45 p.m.,*
in response to message #10 by Dieter

Back from a nap... which might explain it (don't program when you're sleepy :-)

Back to the drawing board:

```
00 { 29-Byte Prgm }
01 LBL "DER"
02 1E-9
03 RCL* ST Y
04 X=0?
05 LASTX
06 STO 00
...
```

Or on the HP-15C:

```
001- f LBL B
002-   ENTER
003-   ENTER
004-   EEX
005-   CHS
006-   9
007-   *
008- g x=0
009- g LSTx
010-   STO 0
011- f Re<>Im
012-   +
013-   GSB E
014- f Re<>Im
015-   RCL/ 0
016- g CF 8       ; leave complex mode
```

```
017- g RTN


018- f LBL E
019- g LN
020- g RTN


 keystrokes       display


EEX 90 GSB B -> 1.000000-90
       GSB B -> 1.000000 90
```

Any idea to save a step or two?

Edited: 12 Nov 2011, 7:57 p.m.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #12 Posted by **Dieter** on 13 Nov 2011, 8:00 a.m.,*
in response to message #11 by Gerson W. Barbosa

Gerson,
I think we are discussing a problem that actually does not exist. ;-) There is no need to make sure that h is a certain fraction of x. And x=0 does not require any special handling either. The method should work for essentially any h, regardless of the magnitude of x. Consider your ln(x) example. It doesn't matter if x is 1 or 50000 or 10^9 - in all cases h = 1E-9 will do. Remember, h is *not* added to x, it's just used for its imaginary part.

Example:

```
   x = 1234567890
   h = 1E-9
   ln (1234567890 + 1E-9 i)
     = 2,9339868592 + 8,10000007371E-19 i
So
  f' = 8,10000007371E-19 / 1E-9
     = 8,10000007371E-10
     = 1/x
```

It even works down to h = x * 1E-99 resp. x * 1E-499.
Or, in other words: your very first solution was fine already. ;-)

Dieter

Edited: 13 Nov 2011, 8:09 a.m.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #13 Posted by **Gerson W. Barbosa** on 13 Nov 2011, 8:44 a.m.,*
in response to message #12 by Dieter

Dieter,

I am just trying to avoid the results below. The second program gets them all right.

```
   keystrokes           display
```

```
.1 GSB A              10.00000000
.01 GSB A             100.0000000
.001 GSB A            1000.000000
.00001 GSB A          10000.00000
EEX CHS 5 GSB A       99999.99967
EEX CHS 6 GSB A       999999.9967
EEX CHS 7 GSB A       9999999.987
EEX CHS 8 GSB A       99668652.49
EEX CHS 9 GSB A       785398163.4
EEX CHS 10 GSB A      1471127674.
EEX CHS 20 GSB A      1570796327.
EEX CHS 30 GSB A      1570796327.
EEX CHS 40 GSB A      1570796327.
...
```

Regards,

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #14 Posted by **Dieter** on 13 Nov 2011, 9:06 a.m.,*
in response to message #13 by Gerson W. Barbosa

I see, so the problem arises for values close to zero. On the other hand you previously said *"...it doesn't give correct results when |x| >= 1e4 for my example (LN)"*, so I took a closer look at *large* values. #-)

This leads to the question if there is a clever way to determine a suitable h that's small enough to ensure sufficient precision as well as large enough to prevent underflow. But I fear this cannot be done in 11 steps or less. ;-)

Dieter

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #15 Posted by **Gerson W. Barbosa** on 13 Nov 2011, 9:44 a.m.,*
in response to message #14 by Dieter

> Quote:
>
> But I fear this cannot be done in 11 steps or less. ;-)

Agreed! The steps 11 and 12 in the program above can be replaced by [f] [I] per Thomas Klemm's suggestion. Now it's only 16 steps long and decounting :-)

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #16 Posted by **Thomas Klemm** on 13 Nov 2011, 10:47 a.m.,*
in response to message #14 by Dieter

From The Complex-Step Derivative Approximation:

> Quote:
>
> Taking the imaginary parts of both sides of this Taylor series expansion (7) and dividing it by h yields:
>
> $$f'(x) = \frac{Im[f(x+ih)]}{h} + h^2\frac{f'''(x)}{3!} + \cdots$$
>
> Similarly, for the truncation error of the derivative estimate to vanish, we require that:
>
> $$h^2\left|\frac{f'''(x)}{3!}\right| < \varepsilon|f'(x)|$$

For this example we have:

$$f(x) = \log(x)$$

The third derivative is:

$$\frac{d^3}{dx^3}\log(x) = \frac{2}{x^3}$$

This leads us to:

$$h^2 < \varepsilon|3x^2|$$

or

$$h < \sqrt{3\varepsilon}|x|$$

So with a relative working precision of 1e-10 we should be happy with h = 1e-5 |x|. It turns out this isn't exactly enough but it seems h = 1e-6 |x| is.

> Quote:
>
> This leads to the question if there is a clever way to determine a suitable h that's small enough to ensure sufficient precision as well as large enough to prevent underflow.

I doubt that this can be achieved in general. OTOH we probably run only into problems in the neighborhood of singularities but Valentin stated in requirement 5:

> Quote:
>
> (except for the usual cases of particular troublesome points or ranges, etc, of course)

Therefore I guess we can live with h = 1e-9 in most of the cases.

Cheers
Thomas

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #17 Posted by **Werner** on 13 Nov 2011, 9:17 a.m.,*
in response to message #12 by Dieter

I thought so too, at first, but: take f(x)= LN(x) and x = 1e-10 then (with h=1e-9):

```
f(1e-10,1e-9) = (-20.7182906715,1.4711276743)
```

and the calculated derivative is 1471127674.3 instead of 1e10.
Making h smaller will work, so you might think, let's take the smallest possible h=1e-499. But then,
Taking h=1e-499 returns f'(1e499)=0, as underflow occurs in the calculation of LN(x,h).
Scaling h by x, as Gerson did, works for the whole range.

Cheers, Werner

OT: Google et al. [Re: HP-15C (& LE!) 11-11-11 Mini-Challenge]

*Message #18 Posted by **Thomas Radtke** on 12 Nov 2011, 11:16 a.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> That's what Wikipedia and Google are for :-)

I still smile about it, too, but while I think wikipedia will serve us well now and in the long run, I'm waiting for the day Google renders itself useless for anything off mainstream. It already act at its own authority too much.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #19 Posted by **Marcus von Cube, Germany** on 12 Nov 2011, 10:33 a.m.,*
in response to message #4 by Thomas Radtke

This may help to shorten the f' function in WP 34S which is implemented in user code. Pauli?

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #20 Posted by **Paul Dale** on 13 Nov 2011, 2:01 a.m.,*
in response to message #19 by Marcus von Cube, Germany

This method isn't really suitable for the 34s. It requires a complex evaluation of the user supplied function which isn't seamless unfortunately.

The 34s differentiation routine uses 4, 6 and 10 point estimates and returns the 10 point one if

all evaluations succeed.

I've not attempted this challenge on the 34S but the code is nice and short:

```
LBL A
f'(x) D
RTN
```

Using label D instead of E. Shorter again to not bother coding this and just enter f'(x) D :-)

- Pauli

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #21 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 8:25 a.m.,*
in response to message #3 by peacecalc

It does work. That was Valentin's idea, though. I've only figured out which it was, I think.

Regards,

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #22 Posted by **peacecalc** on 12 Nov 2011, 9:36 a.m.,*
in response to message #21 by Gerson W. Barbosa

Hello Gerson,

I beg your pardon Gerson, my lessons in complex functional analysis are 30 years left. I forgot them.

Now, it's a good reason for me repeating that stuff, because it's new for me to use result from this for numerical purposes.

sincerely peacecalc

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #23 Posted by **Gerson W. Barbosa** on 12 Nov 2011, 9:48 a.m.,*
in response to message #22 by peacecalc

Hello,

Same here. As I said, I've only implemented the formula in the Wikipedia article above. The following paper provides a detailed explanation of the method:

The Complex-Step Derivative Approximation

Regards,

Gerson.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #24 Posted by **Thomas Klemm** on 13 Nov 2011, 8:00 a.m.,*

in response to message #23 by Gerson W. Barbosa

It appears that Valentin took the first example from this paper:

2.2 A Simple Numerical Example

Since the complex-step approximation does not involve a difference operation, we can choose extremely small step sizes with no loss of accuracy.

To illustrate this point, consider the following analytic function:

$$f(x) = \frac{e^x}{\sqrt{\sin^3 x + \cos^3 x}}. \qquad (12)$$

The exact derivative at $x = 1.5$ is computed analytically to 16 digits and then compared to the results given by the complex-step formula (6) and the forward and central finite-difference approximations.

Kind regards
Thomas

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #25 Posted by **Thomas Klemm** on 13 Nov 2011, 7:35 a.m.,*
in response to message #2 by Gerson W. Barbosa

Saved one step:

```
001 - 42,21,11   LBL A
002 -        26   EEX
003 -         9   9
004 -        16   CHS
005 -     44  0   STO 0
006 -    42  25   I
007 -    32  15   GSB E
008 -    42  30   Re<>Im
009 - 45,10,  0   RCL ÷ 0
010 -    43  32   RTN
```

Nice solution!

Cheers
Thomas

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #26 Posted by **Gerson W. Barbosa** on 13 Nov 2011, 9:24 a.m.,*
in response to message #25 by Thomas Klemm

> Quote:
>
> Saved one step

Great!

This should be closer to Valentin's original solution. I guess his solution includes

```
10- 53, 5, 8  CF 8
```

This is required to get rid of the imaginary part. Try, for instance, squaring f'(pi/6) when f(x) = sin(x).

The correct result is 3/4 not 1/2 + sqrt(3)/2*i. When I saw your listing, I imagined it would not work if the complex mode had not been previously set. I had tried a similar program, except that I included SF 8 in the beginning (I didn't remember [f] [I] activates the complex mode, like Re<>Im does).

Cheers,

Gerson.

Edited: 13 Nov 2011, 9:32 a.m.

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #27 Posted by **J-F Garnier** on 13 Nov 2011, 1:36 p.m.,*
in response to message #25 by Thomas Klemm

I learnt something today, thanks to Valentin.

For the fun, here is a solution of the last two problems for the HP32SII. At least I found a use of the HP32SII complex mode!

```
LBL A
1E-9
x<>y
XEQ E
x<>y
1E-9
/
RTN


LBL E  ( 2nd problem )
0
2.1
CMPLX*
CMPLXe^x
0
7
CMPLX*
RTN


LBL E  ( 3rd problem )
0
ENTER
CMPLX+
CMPLXSIN
Rv
Rv
CMPLXe^x
CMPLX/
RTN
```

I didn't succeed to write it on the HP35s...

Re: HP-15C (& LE!) 11-11-11 Mini-Challenge

*Message #28 Posted by **Gerson W. Barbosa** on 13 Nov 2011, 6:17 p.m.,*
in response to message #27 by J-F Garnier

The first problem is possible as well:

```
A01 LBL A
A02 1E-9
A03 STO B
A04 x<>y
A05 XEQ E
```

```
A06 x<>y
A07 RCL/ B
A08 RTN


E01 LBL E
E02 STO A
E03 RCL B
E04 x<>y
E05 CMPLXCOS
E06 RCL B
E07 RCL A
E08 CMPLXSIN
E09 CMPLX+
E10 0
E11 3
E12 CMPLX*
E13 3
E14 RCL* B
E15 3
E16 RCL* A
E17 CMPLXCOS
E18 CMPLX+
E19 3
E20 RCL* B
E21 3
E22 RCL* A
E23 CMPLXSIN
E24 CMPLX-
E25 0
E26 4
E27 CMPLX/
E28 2
E29 RCL* B
E30 2
E31 RCL* A
E32 CMPLXe^x
E33 CMPLX/
E34 CMPLX1/x
E35 0
E36 ENTER
E37 0.5
E38 CMPLXy^x
E39 RTN


1.5 XEQ A -> 4.05342789391
```

Better use the original expression and save the intermediate results to registers. Or use the HP-28S symbolic differentiator instead :-)

Regards,

Gerson.

HP-15C (& LE!) 11-11-11 Mini-Challenge ORIGINAL SOLUTION & COMMENTS

*Message #29 Posted by **Valentin Albillo** on 14 Nov 2011, 8:12 a.m.,*
in response to message #1 by Valentin Albillo

Hi, all:

Thanks for your interest in my HP-15C (&LE!) Mini-challenge, I'm glad many of you enjoyed it and produced a number of correct solutions, some of which virtually duplicated my original one, as well as producing solutions for other models. That's the spirit of these challenges and mini-challenges and I thank you for joining in.

As for my original solution, this is it:

```
01  LBL A
02  EEX
```

```
03   6
04  CHS
05  STO I
06   I
07  GSB E
08  Re<>Im
09  CF 8
10  RCL/ I
11  RTN
```

which is 11 steps and meets all 5 requirements. I prefer to use h=1E-6 instead of smaller values and I think that CF 8 must be included lest you'll leave the machine in complex mode, which would be utterly unexpected to the user as both the input and the output are assumed and expected to be real.

Partially relaxing condition (1), i.e., supressing LBL and RTN, would save two steps, while relaxing condition (4), i.e., pre-storing 1E-6 in a register, would save three additional steps, leaving the grand total at a mere 6 steps or so. An additional step could be saved by supressing CF 8 but as stated above, I think this would seriously detract from the usability.

As for the register used to store the constant, I prefer using permanent register RI instead of R0 or R1 (also permanent) though, as the constant is less than one, the best solution is using register RAN#, which frees RI for indexing purposes and R0-R1 for general use or matrix operations. However, as there's no RCL\ RAN# instruction this means an additional step to perform the division.

Finally, I knew that for X arguments near 0 accuracy would get worse and so require extra steps to cater for that case, thus this is why I included the exception at condition (5) in order to keep it short and sweet. After all, this was intended as a Mini-challenge, not a full-fledged article on numerical derivation complete with industrial-strength code ! ... :D

When I was busy concocting this mini-challenge, I first implemented it for the HP-71B, where the code is as simple as

```
IMPT(FNF((X,H)))/H
```

where FNF is the user-defined function f(x) and H is a suitably small constat (1E-7, say). I conducted some experiments to see which H would be best, for instance:

```
10 DEF FNF(X)=5*COS(10*X)+((X-2)*X-6)*X+10
20 DEF FND(X)=-50*SIN(10*X)+3*X*X-4*X-6
30 FOR I=1 TO 9 @ H=10^(-I) @ DISP I;IMPT(FNF((1,H)))/H,FND(1) @ NEXT I


>RUN


 1  24.9567129442     20.2010555444
 2  20.24631331       20.2010555444
 3  20.2015078976     20.2010555444
 4  20.201060068      20.2010555444
 5  20.2010555897     20.2010555444
 6  20.2010555449     20.2010555444
 7  20.2010555444     20.2010555444  << H=1E-7 first nails the exact derivative
 8  20.2010555444     20.2010555444
 9  20.2010555444     20.2010555444
```

and in virtually all cases H = 1E-7 was optimal (except for X near 0, of course, where a smaller H is needed). For the HP-15C, which only carries 10 (13) digits instead of 12 (15), H=1E-6 does the trick.

That's all. I've got (hopefully) interesting ideas for some dozen challenges and mini-challenges as well as for another dozen full-fledged articles but regrettably next to no or very little time to write them down & post them hera, and actually no suitable place to publish the long articles so it might be a while till I make another lengthy contribution ... :(

Thanks again for your interest and best regards from V.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My HP 33S came in yesterday

*Message #1 Posted by **Eddie W. Shore** on 11 Nov 2011, 12:58 p.m.*

I wonder if the display has been improved like it has been reported. This was to replace my broken 33S.

I think I now have almost at least one of all the calculators made since 2003 (39gs, 40gs, 50g, 49g+, 10bII, 10bII+, 35s, 33s, 12C, 12C 30th Ann, 15C LE).

Re: My HP 33S came in yesterday

*Message #2 Posted by **M. Joury** on 11 Nov 2011, 1:48 p.m.,*
in response to message #1 by Eddie W. Shore

12C Plat? Or does that not qualify? When did they start making it?

Re: My HP 33S came in yesterday

*Message #3 Posted by **Eddie W. Shore** on 12 Nov 2011, 12:58 a.m.,*
in response to message #2 by M. Joury

Forgot about that, yes, both the silver 12C Platninum (which I never use) and the 25th Ann. Edition, the latter which I gave to my dad.

Re: My HP 33S came in yesterday

*Message #4 Posted by **bill platt** on 11 Nov 2011, 6:54 p.m.,*
in response to message #1 by Eddie W. Shore

wow, that's a lot of new Kinpo stuff.

I've bought a number of 33s and one 35s the latter being lost and a number of teh former being lost or broken. At least they are chump change comapred to the friggin lpatops which get borken all the time (TG I insure tehm)...

I hear that I really aught to get a 50g but I already have 2 48gx so not so motivated

Re: My HP 33S came in yesterday

*Message #5 Posted by **Eddie W. Shore** on 12 Nov 2011, 1:00 a.m.,*
in response to message #4 by bill platt

I started collecting HP calculators around 2000.

Quick review of the 33S: it is probably the closest I'll get to the 32s/32s ii ($250+ for a 32s). IHMO the decimal point is clearer but not bigger. The keyboard is much better than the 2003 version. CNA141000C

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Algorithm for fitting a logistic curve?

*Message #1 Posted by **Tim Wessman** on 11 Nov 2011, 12:05 p.m.*

Hello,

Working on the math library here, and I have had an immensely difficult time finding how to efficiently implement a logistic curve fit. Note, this isn't a full fledged binary logistic regression (which I can find lots of information on), but rather the fitting of a curve to a set of data with the form L/(1+a*^(-b*x)).

The fitting method in the math library right now linearizes the equation and it doesn't give a very good fit at all so I am trying to replace it.

Does anyone have any helpful pointers to any algorithms for this type of problem?

I have posted the Charlie Patton's code comments below from the 48 math library for those interested (he wrote this originally). I am not 100% certain if the issue is the linearization and a completely different method is needed, or just the L esitmator routine needs replacing/improvement.

```
*       Name: fitlogist
* Algorithm: The basic model is:
*              y=L/(1+A*e^(B*x))
*            which is equivalent to:
*              Ae^(B*x)=(L-y)/y
*            so that
*              ln(A)+B*x=ln(L/y-1).
*
*            Fit a linear model to the transformed data
*               ( x(i), ln(L/y(i)-1)) to obtain y=a+bx
*            then A=e^a and B=b
*
*            Note B normally would be negative
*


**Name: Lestimate
**
**Category: Logistic Fit Utility
**
**Entry:
**
**       Stack:  [XY] (sorted)
**
**
**       Temp. Env.
**
**
**Exit:
**
**       Stack:  L% (or %0 if there's a problem with zero divisors)
**
**
**       Temp. Env.
**
**Errors:
**
**
**Description/Algorithm:
**
** This utility attempts to estimate the saturation value for a logistic
** equation from sorted statistical samples.
```

```
**
** It is assuming that the data Y(X) (stored in pair form X[i],Y[i]) corresponds
** to samples from a differential equation dY(X)/dX = Y(X)*k*(L-Y(X))
**
** Note that this is an autonomous ODE with nodes at Y=0 and Y=L.
** If we plot (1/Y)*(dY(X)/dX) as a function of Y (note that it doesn't really depend
** on X) we will get a straight line with a zero at Y=L. It is this fact we will use
** to approximate L from the data. Namely, replacing dY(X)/dX by it sampled version
**      dY(X)/dX ~ Y'[i]=(Y[i+1]-Y[i])/(X[i+1]-X[i])
** we do linear regression on the pair Y[i],Z[i] with Z[i]=Y'[i]/Y[i] and
** find the zero of the corresponding line.
**

**Author:        C.M.Patton
**Date Written:  April 10, 1995
```

TW

--

Although I work for the HP calculator department, the comments and opinions I express here are my own.

Edited: 11 Nov 2011, 12:18 p.m.

Re: Algorithm for fitting a logistic curve?

*Message #2 Posted by **Eric Smith** on 11 Nov 2011, 1:47 p.m.,*
in response to message #1 by Tim Wessman

In my experience, fitting either the logistic function or the tanh function tends to get poor results. I suspect that this is due to how rapidly they go asymptotic, but that's really only a guess on my part. Hopefully someone knowledgeable about numerical analysis can explain how to do it properly.

Re: Algorithm for fitting a logistic curve?

*Message #3 Posted by **Dieter** on 11 Nov 2011, 4:15 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> The fitting method in the math library right now linearizes the equation and it doesn't give a very good fit at all so I am trying to replace it

Linearizing the equation, followed by a simple linear regression, is a classic method that usually gives decent results. However, it does not minimize the sum of the residuals' squares. How did you determine the quality of the fit here?

> Quote:
>
> I have posted the Charlie Patton's code comments below from the 48 math library for those interested (he wrote this originally). I am not 100% certain if the issue is the linearization and a completely different method is needed, or just the L esitmator routine needs replacing/improvement.

As far as I can see the comments simply refer to the common linearization, which here leads to the transformation ln(A)+B*x = ln(L/y-1). The goal of the algorithm however seems to be a different one: implement a method to estimate the saturation parameter L: *"This utility attempts to estimate the saturation value for a logistic equation from sorted statistical samples"*.

A true least-square regression, i.e. one that exactly minimizes the sum of the residuals' squares, is not trivial. I came across the following document and think it's an interesting read on this subject:
http://home2.fvcc.edu/~dhicketh/DiffEqns/Activities/logistic.pdf

Dieter

Re: Algorithm for fitting a logistic curve?

*Message #4 Posted by **MacDonald Phillips** on 11 Nov 2011, 5:42 p.m.,*
in response to message #1 by Tim Wessman

Tim, Unfortunately, if you linearize an equation to fit it to your data, you do not minimize the SSE. And, not all equations can be linearized. What is needed is a non-linear fitting routine. But this requires a calculator with a CAS system so you can compute the derivatives of the equation with respect to the parameters. I have done this for the TI-89 and the NSpire CX CAS. If you want, I can send the routines to you. My email is don.phillips@gmail.com.

Don

Re: Algorithm for fitting a logistic curve?

*Message #5 Posted by **Crawl** on 11 Nov 2011, 7:27 p.m.,*
in response to message #4 by MacDonald Phillips

I can't believe I'm saying this (being a big fan of CAS calculators), but you don't NEED to use a CAS. I use Excel's Solver routine all the time to do least squares fitting to arbitrary function forms.

Re: Algorithm for fitting a logistic curve?

*Message #6 Posted by **Wes Loewer** on 13 Nov 2011, 1:22 a.m.,*
in response to message #1 by Tim Wessman

Tim,

> Quote:
>
> Does anyone have any helpful pointers to any algorithms for this type of problem?

How critical is speed?

Perhaps you've already been down this road, but using a brute-force approach I took the equivalent equation:

```
y = L/(1+a*exp(-k*x))
```

and applied least-mean-square principles:

```
Let E = sum i=1 to n of (L/(1+A*EXP(-K*X_i)) - Y_i)^2
```

then minimized E by taking the partial derivatives of E with respect to L, a, and k and setting them to zero.

```
E 'L' DERIV 0 =
E 'A' DERIV 0 =
E 'K' DERIV 0 =
```

This gives three non-linear equations which can then be solved numerically for L, a, k.

I tried this with a few sample data points on the 50g (using the SOLVESYS lib to solve) and in Maxima (using

MNEWTON to solve) and got matching results which also matched the FitLogistic command in the computer software GeoGebra. I don't know if you're allowed to use GPL code for your project, but GeoGebra is a GPL program with source code available from http://www.geogebra.org/source/program/. Perhaps you could look and see how they handle it.

You don't need the CAS since the derivatives can be hard coded, but numerically solving the equations is of course the bottleneck. It might even be faster to use the linearized results as the initial values in the iterative solving process.

~wes

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100B progress

*Message #1 Posted by **David Ramsey** on 11 Nov 2011, 11:37 a.m.*

Since both units are now completely functional, it's time to rip 'em apart, rebuild the power supplies, clean, and paint...

But opening things this old up always reveals more work to be done that you didn't plan on. For example, the plastic socket at the neck of this CRT was (very) loose and starting to crack. We can't source a new socket, so liberal use of High Tech Adhesive™ will fix it in place permanently.

The underside of the main board has even more components on it. They all look OK.

Here are the (burned out) incandescent display stack label backlights. Decades of heat from these bulbs has warped the plastic film with the actual labels on it, and burned away or faded some of the black backing. This has been repaired and replacing these bulbs with LEDs will remove the heat issue. Care has been taken to preserve the original bulb sockets so that future collectors could replace the LEDs with bulbs again, although it's likely that even micro-incandescents like this will be illegal in our dystopian future.

The power supply has what appears to be a half-wave rectifier with capacitor-smoothed output. These two dinky diodes tested OK, but you know? They just look weeny and unsuitable for a Real Man's Calculator, which the 9100 definitely is. (And what? Couldn't HP afford two more diodes for full wave rectification? But so much of the 9100's operation seems to depend on electrical things we'd call "side effects" these days that it's probably unwise to functionally revise anything...)

There! Much better. To those who might complain that this was *completely unnecessary*, I simply retort that Art is always misunderstood by the hoi-polloi...

Re: 9100B progress

*Message #2 Posted by **Bart (UK)** on 11 Nov 2011, 11:58 a.m.,*
in response to message #1 by David Ramsey

My motto: "if it ain't broke don't fix it"

So except for the fix of the register names backlight, I would just leave the rest alone.

Did you measure the Vf of the original diodes? For all we know you may have replaced low Vf grmanium diodes with higher Vf silicon parts. (OK, just pure speculation. But again, why replace something that works.)

Each to his own, hope it still works when you put it all back together

And... have fun :-)

Re: 9100B progress

*Message #3 Posted by **David Ramsey** on 11 Nov 2011, 4:38 p.m.,*
in response to message #2 by Bart (UK)

> Quote:
>
> But again, why replace something that works.)

Because it *looks better.*

Granted, nobody will ever see it. But still. Think of it as the bevelled and polished gears in an expensive mechanical watch that nobody but the watchmaker will ever see...

Re: 9100B progress

*Message #4 Posted by **Adam Vaughn** on 11 Nov 2011, 2:22 p.m.,*
in response to message #1 by David Ramsey

Very nice!

By the way, the stock rectifier *is* full-wave. A half-wave rectifier uses only one diode. Two more would make for a bridge rectifier. Just an FYI. -Adam

Re: 9100B progress

*Message #5 Posted by **David Ramsey** on 11 Nov 2011, 4:36 p.m.,*
in response to message #4 by Adam Vaughn

> Quote:
>
> By the way, the stock rectifier *is* full-wave. A half-wave rectifier uses only one diode. Two more would make for a bridge rectifier. Just an FYI.

Duh! Of course you're right. Just goes to show I should stick to programming rather than trying to explain what Atherton's doing to my machines...because I can solder largish parts I shouldn't think I'm a hardware guy!

Re: 9100B progress

*Message #6 Posted by **Jim Horn** on 11 Nov 2011, 4:01 p.m.,*
in response to message #1 by David Ramsey

Great writeup, Dave! After seeing your old TI at HHC2011 and having the delightful experience of meeting you and your wife, your postings are appreciated even more.

"Our dystopian future" indeed!

Re: 9100B progress

*Message #7 Posted by **David Ramsey** on 12 Nov 2011, 12:41 a.m.,*
in response to message #6 by Jim Horn

Thanks Jim...

Re: 9100B progress

*Message #8 Posted by **Dave F** on 15 Nov 2011, 9:06 p.m.,*
in response to message #1 by David Ramsey

Beautiful pics. Are you planning on making a website documenting the restoration?

Dave

Re: 9100B progress

*Message #9 Posted by **David Ramsey** on 16 Nov 2011, 8:50 p.m.,*
in response to message #8 by Dave F

My wife keeps telling me I should do a web site for my whole collection. That would take weeks. On the other hand she's probably right...and a section on the 9100 restoration would make for interesting reading...

Since I host and run my own servers it wouldn't be hard, just tedious.

Re: 9100B progress

*Message #10 Posted by **Walter B** on 17 Nov 2011, 1:35 a.m.,*
in response to message #1 by David Ramsey

Really very nice and clean work. They must be happy to have found a home like yours :-)

BTW and FYI, I know "the hoi-polloi" (a bit redundant, isn't it?) as ho-ochlos ;-)

Re: 9100B progress

*Message #11 Posted by **uhmgawa** on 17 Nov 2011, 6:42 a.m.,*
in response to message #1 by David Ramsey

> Quote:
>
> There! Much better. To those who might complain that this was *completely unnecessary*, I simply retort that Art is always misunderstood by the hoi-polloi...

I suppose the rest of the world has eventually caught up with the electronic manufacturing finesse of HP (and to be fair perhaps others such as Tektronics, etc..). Yet it did take several decades to close that gap.

I recall on the occasions I've needed to prod internals of HP equipment in the mid 80s, I simply didn't want to close it back up. It was by any measure manufacturing elevated to an art form far more worthy for display as a wall hanging rather than suffocating in ABS.

Looks like a fun project BTW. ;)

Re: 9100B progress

*Message #12 Posted by **Joel Setton (France)** on 17 Nov 2011, 8:30 a.m.,*
in response to message #11 by uhmgawa

That's the only design flaw in the 9100: it should have had a transparent package.
Joel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

200LX Ram cards compatible with 48GX?

*Message #1 Posted by **mr-scorpio** on 11 Nov 2011, 8:03 a.m.*

Does anyone know whether the Ram cards that go in the 200LX (palmtop) are compatible with 48GX ? They appear to be similar?

Hope someone has the answer Best Al

Re: 200LX Ram cards compatible with 48GX?

*Message #2 Posted by **Bart (UK)** on 11 Nov 2011, 8:11 a.m.,*
in response to message #1 by mr-scorpio

No, the 200LX uses PCMCIA cards and the 48GX uses cards that are specifically designed.

Re: 200LX Ram cards compatible with 48GX?

*Message #3 Posted by **mr-scorpio** on 11 Nov 2011, 8:59 a.m.,*
in response to message #2 by Bart (UK)

Ah, That is a shame. Many thanks for clarifying

Re: 200LX Ram cards compatible with 48GX?

*Message #4 Posted by **Thomas Chrapkiewicz** on 11 Nov 2011, 1:10 p.m.,*
in response to message #2 by Bart (UK)

...and, fwiw, those '48GX' style cards were also used in some IBM laserjet printers. I believe the original mechanical/electrical design was done by Epson (which HP modified slightly), although I have not been able to find an official specification.

TomC

Re: 200LX Ram cards compatible with 48GX?

*Message #5 Posted by **Raymond Del Tondo** on 11 Nov 2011, 1:31 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

Look for JEIDA, and maybe PCMCIA 1.0 ;-)

Actually there were 8bit and 16bit cards of this mechanical layout, the 16bit cards having more slide-on contacts...

HTH

Ray

Re: 200LX Ram cards compatible with 48GX?

*Message #6 Posted by **Thomas Chrapkiewicz** on 11 Nov 2011, 2:18 p.m.,*
in response to message #5 by Raymond Del Tondo

48GX cards?

Re: 200LX Ram cards compatible with 48GX?

*Message #7 Posted by **Raymond Del Tondo** on 11 Nov 2011, 7:40 p.m.,*
in response to message #6 by Thomas Chrapkiewicz

The cards for the HP-48 (S/G) are 8bit, but there were 16bit cards for other devices.

Slightly OT: Back then at W&W we used a Sprint Plus full size ISA card and software to burn OTPs and EPROMs for the HP-48,
and I still have my Needham's Electronics PB10 EPROM burner with a special dual socket for these 8 and 16 bit JEIDA cards.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Flashing 34s via USB--Prolific ruled out entirely?

*Message #1 Posted by **Les Wright** on 10 Nov 2011, 8:36 p.m.*

Hi folks,

I have the 30b, the cable from Gene, and a USB-Serial adapter that I have had for years and claims to have the Prolific chipset. I have updated the drivers accordingly. I am trying to flash under XP with MySamBA.

On my XP setup, Device Manager tells me the USB-Serial adapter is mapped to COM3. I pick that out in MySamBA, find the calc.bin file, and press Send File. The thing hangs for a few minutes and gives a little dialog box with an Unable to Connect error.

I am assuming I have the dreaded Prolific issue and really need to get the other type of adapter (FTDA or something like that?)

I guess my question is whether anyone has got this to work with a Prolific adapter. If there is any way to make this cable work, I would love to know. If not, I would like some direction as to the kind of USB-Serial adapter that people who have flashed over USB under XP have used successfully.

Many thanks,

Les

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #2 Posted by **Eric Rechlin** on 10 Nov 2011, 10:53 p.m.,*
in response to message #1 by Les Wright

I have used this cable with success.

Eric

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #3 Posted by **Les Wright** on 10 Nov 2011, 11:31 p.m.,*
in response to message #2 by Eric Rechlin

Thank you, Eric.

It is a little more expensive than I was hoping to pay, but if it works I can scarcely complain. To be frank, that Prolific cable was cheap and I don't think ever got it to work with any serial device. Good money after bad...

The cable will also get use when there is a firmware to the HP15C LE and I need to reflash that calc.

Many thanks for that--I ordered it post haste.

Les

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #4 Posted by **Marcus von Cube, Germany** on 11 Nov 2011, 2:11 a.m.,*
in response to message #3 by Les Wright

I've opened the little case on the cable, stripped the board off all electronics and soldered an FTDI 3.3V TTL cable directly to it instead of the cable end with the D connector. This has the added benefit that the cable no longer draws any current from the calculator to feed the level shifter. There is no level shifting involved at all.

BTW, without a voltage regulator you can't use the USB supply lines to feed the calculator because they are 5V, not 3V. I've added a plug so I can connect an external power supply to feed my development calculator.

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #5 Posted by **Bart (UK)** on 11 Nov 2011, 5:32 a.m.,*
in response to message #3 by Les Wright

I can vouch for the FTDI converters. I have a standalone module and it works for other applications too. It is a bit more costly, but worth it. Searching through previous posts on the subject also will confirm many 20b/30b flashing probems were solved when an FTDI based converter was used.

regards
Bart

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #6 Posted by **Egan Ford** on 11 Nov 2011, 7:01 a.m.,*
in response to message #1 by Les Wright

> Quote:
>
> On my XP setup, Device Manager tells me the USB-Serial adapter is mapped to COM3. I pick that out in MySamBA, find the calc.bin file, and press Send File. The thing hangs for a few minutes and gives a little dialog box with an Unable to Connect error.

Can you still turn the calculator on? If so, then it was not ready to be flashed.

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #7 Posted by **Les Wright** on 11 Nov 2011, 3:28 p.m.,*
in response to message #6 by Egan Ford

Yup. With the calc connected, it turns on and off just fine. The reset button on the cable does exactly that. A cautious press of the Erase button does nothing.

What should I be seeing on the calc if I have achieve a proper connection?

Les

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #8 Posted by **Marcus von Cube, Germany** on 11 Nov 2011, 3:58 p.m.,*
in response to message #7 by Les Wright

Press and hold erase, then press ON to make the processor run and it will properly erase.

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #9 Posted by **Les Wright** on 12 Nov 2011, 6:15 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Thanks Marcus, erasing obviously worked because I now have a calc that won't turn on :)

Still getting the "unable to connect" error.

Will try again with the proper adapter I ordered from Eric. If that doesn't work I guess I have bigger problems!

Cheers,

Les

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #10 Posted by **Marcus von Cube, Germany** on 13 Nov 2011, 3:27 a.m.,*
in response to message #9 by Les Wright

Remove the batteries while you wait!

Re: Flashing 34s via USB--Prolific ruled out entirely?

*Message #11 Posted by **Les Wright** on 14 Nov 2011, 7:55 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Thanks Marcus. I bought a whole bunch of CR2032 batteries in bulk a while ago. I swapped out the once fresh pair from the 30b into my 17bii+, and sure enough the low batt indicator flashed momentarily when I turned the latter on.

I understand the flashing procedure puts a high drain on the cells if it doesn't go well. I am glad I have quite a few spares around just in case. I am surmising from your warning that an erased 30b puts a higher draw on the cells.

Les

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Question about Numerical Integration

*Message #1 Posted by **Namir** on 10 Nov 2011, 5:53 p.m.*

The Integrate function in several HP calculators calculates the integral between two values, say A and B. Are there any tricks to use the same method when integrating between A and infinity, minus infinity and A, and minus infinity and plus infinity?

I know there are special types of Gaussian quadrature methods that can handle the above cases. My question is directed at working with the algorithms for finite integrals.

Namir

Re: Question about Numerical Integration

*Message #2 Posted by **Valentin Albillo** on 10 Nov 2011, 6:10 p.m.,*
in response to message #1 by Namir

> Quote:
>
> The Integrate function in several HP calculators calculates the integral between two values, say A and B. Are there any tricks to use the same method when integrating between A and infinity, minus infinity and A, and minus infinity and plus infinity?
>
> I know there are special types of Gaussian quadrature methods that can handle the above cases. My question is directed at working with the algorithms for finite integrals.
>
> Namir

The usual trick is to first perform a simple change of variable which will reduce any interval, including infinities at one or both extremes, to any finite interval you care for such as [0,1] or [-1,1].

Best regards from V.

Re: Question about Numerical Integration

*Message #3 Posted by **Lyuka** on 10 Nov 2011, 6:41 p.m.,*
in response to message #2 by Valentin Albillo

Many RF engineers would like the conversion below,

s = (z - 1) / (z + 1)

that is used to plot various impedance in a Smith chart.

Lyuka

Re: Question about Numerical Integration

*Message #4 Posted by **Namir** on 10 Nov 2011, 11:31 p.m.,*
in response to message #3 by Lyuka

looks like:

s = (x^2 - 1) / (x^2 + 1)

is a better transformation, since it is valid for all real values of x.

Namir

Re: Question about Numerical Integration

*Message #5 Posted by **peacecalc** on 10 Nov 2011, 11:58 p.m.,*
in response to message #1 by Namir

Hallo namir,

when you need only numerical results, you can also use instead of infinities great/small numbers like +/- 10^6.

That's sometimes tricky, shown in the advanced handbook for the 15c.

sincerely peacecalc

Edited: 10 Nov 2011, 11:59 p.m.

Re: Question about Numerical Integration

*Message #6 Posted by **Namir** on 11 Nov 2011, 3:15 a.m.,*
in response to message #5 by peacecalc

That's the kind of tricks I was looking for.

Putting it in pseudo-code form in the case of integrating from A to infinity:

```
Given f(x), A, SmallValue, RelTolerance, and DiffTolerance
InfVal=10^6
IntegralVal1 = Integral of f(x) from A to InfVal
Do
  InfVal = 10 * InfVal
  IntegralVal2 = Integral of f(x) from A to InfVal
  if |IntegralVa2| < SmallValue then
    RelativeErr = 0
    DiffErr = IntegralVa2 - IntegralVal1
  else
    RelativeErr = (IntegralVal2 - IntegralVal1) / IntegralVal1
    DiffErr = 0
  end
  IntegralVal1 = IntegralVal2
Until |RelativeErr| < RelTolerance OR |DiffErr| < DiffTolerance
Integral = IntegralVal1
```

Here is a perhaps more efficient version that uses integration by parts:

```
Given f(x), A, SmallValue, RelTolerance, and DiffTolerance
B = 10^6 // or any other different high value (10^3, 10^4, 10^5, 10^6, 10^7, etc
IntegralVal0 = Integral of f(x) from A to B // should calculate most of the final
answer
InfVal= 10 * B
IntegralVal1 = Integral of f(x) from B to InfVal
Do
  InfVal = 10 * InfVal
  IntegralVal2 = Integral of f(x) from A to InfVal
```

```
  if |IntegralVa2| < SmallValue then
    RelativeErr = 0
    DiffErr = IntegralVa2 - IntegralVal1
  else
    RelativeErr = (IntegralVal2 - IntegralVal1) / IntegralVal1
    DiffErr = 0
  end
  IntegralVal1 = IntegralVal2
Until |RelativeErr| < RelTolerance OR |DiffErr| < DiffTolerance
Integral = IntegralVal0 + IntegralVal1
```

Edited: 11 Nov 2011, 5:47 a.m.

Re: Question about Numerical Integration

*Message #7 Posted by **Mike (Stgt)** on 11 Nov 2011, 7:04 a.m.,*
in response to message #6 by Namir

IIRC, there is a discussion worth to read in the PPC-ROM manual.

Hope this hepls

Ciao.....Mike

Re: Question about Numerical Integration

*Message #8 Posted by **Gjermund Skailand** on 11 Nov 2011, 7:11 a.m.,*
in response to message #6 by Namir

Tanh-Sinh transformation or "Double exponential method" may also be efficient, especially when the function is oscillating. There is a fast implementation in C (hpgcc2) for HP50G in my package INT1D at www.hpcalc.org.

Re: Question about Numerical Integration

*Message #9 Posted by **Dieter** on 11 Nov 2011, 7:53 a.m.,*
in response to message #1 by Namir

As already pointed out, there are basically two approaches for handling improper integrals:

- Use a large (finite) value where the integrand becomes negligible compared to the final result.

  Example: for an 8-digit result of the left tail Normal CDF a lower limit of -6 usually is sufficient as the PDF here is merely 6E-9 and the whole integral from -infinity to -6 is less than 1E-9.

- Apply a variable transformation to make infinity "less infinite". ;-) This is the preferred method suggested in most of the other posts in this thread.

  Example: Take a look at the 15C Advanced Functions Handbook, p. 54 ff. There, this topic is discussed with several examples on how to use the 15C's Integrate function for improper integrals. On p. 60-64 you will find a very nice and illustrative application of these ideas, evaluating the Normal CDF as well as the error function, with both plus or minus infinity as the limits, giving exact results even far out in the tails. This is accomplished by using the transformation $u = \exp(t^2)$ as soon as the integration limit exceeds a certain value (here: 1,6).

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 67, 97, 97+ emulator

*Message #1 Posted by **Olivier De Smet** on 10 Nov 2011, 9:31 a.m.*

new HP97 model : HP97+ fully loaded HP97

896 program steps

106 registers (A to I are regs 100 to 105)

HD magnetic cards : one side is enough for either:
- whole program memory
- whole register set

Be careful not to mix your cards sets. (a tool to convert cards set will be done soon)

5 new instructions: one more indirect register E

RCL (e) keyed as 'RCL' 'e^x', printed as 'RCLe'
STO (e) keyed as 'STO' 'e^x', printed as 'STOe'
GTO (e) keyed as 'GTO' 'e^x', printed as 'GT->e'
GSB (e) keyed as 'GSB' 'e^x', printed as 'GS->e'
use the E register as a new indirect one, same functionnalities as I register

BACK x keyed as 'LBL' 'e^x', printed as 'Bc^x'
go back 'stack X' steps (stack X doesn't need to be negative)
This one was needed as there are still only 20 labels :(

A full rom source is given for the curious reader (patched and non patched)

As usual it's here : http://sites.google.com/site/olivier2smet2/hp_projects/hp97

Olivier

Edited: 10 Nov 2011, 9:33 a.m.

Re: HP 67, 97, 97+ emulator

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 10 Nov 2011, 5:29 p.m.,*
in response to message #1 by Olivier De Smet

Very nice windows emulator of HP 67 and 97, works fine and excellent graphics, thanks for sharing.

One question: What is the difference between HP97P and HP97? HP97P seems to work fine, however HP97, number entry on my Windows 7 machine doesn't seem to work.

Edited: 10 Nov 2011, 5:34 p.m.

Re: HP 67, 97, 97+ emulator

*Message #3 Posted by **Olivier De Smet** on 10 Nov 2011, 5:40 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

HP97p use a patched rom to use the full range of ram addressing of the woodstock family.

The HP97 use 4*16 registers ram chips to have 224 steps and 26 memory.

HP97p use the full 16*16 registers address space to give 896 steps and 106 memory

For the shorcuts in the kml files they are made for a french keymap. You can change it yourself if you like. On a full size keybord, all emulator key are mapped somewhere on the pc-keyboard (to have an efficient us)

Btw, I just put a 1.7.1 release which correct some bugs and gives more speed.

Edited: 10 Nov 2011, 5:41 p.m.

Re: HP 67, 97, 97+ emulator

*Message #4 Posted by **Namir** on 10 Nov 2011, 6:06 p.m.,*
in response to message #1 by Olivier De Smet

Hi Olivier,

Thank you for the HP97+ emulator.

I have been trying to run either version of the HP-67 but it does not seem to load right. I get to see the windows for the calculator image and the mag cards, but the HP-67 calculator freezes.

Namir

Re: HP 67, 97, 97+ emulator

*Message #5 Posted by **Duane Hess** on 10 Nov 2011, 6:25 p.m.,*
in response to message #4 by Namir

Namir: I had a situation, which may be different.

When I 1st got it to run, it wouldn't freeze entirely, just each keypress would take 60 (or more) seconds.

re-installed & found when I first run it or after a FILE/NEW clicking the "choose KML" button and specifying OK (didn't change any parameters, they were already correct) the emulator then runs A-OK.

Maybe not the same as your situation. Also, I run VISTA home premium, for whatever that's worth.

Re: HP 67, 97, 97+ emulator

*Message #6 Posted by **Namir** on 10 Nov 2011, 10:32 p.m.,*
in response to message #5 by Duane Hess

Duane,

I am running Windows 7. I was able to lunch the HP-67 emulator. I had to click the Cancel button on the first three dialog boxes that appear. Then I start working with the remaining dialog boxes. The emulator then runs correctly (from the little testing that I did).

I hope Olivier corrects this problem which occurred in a previous version, so that the emulator will run in a straightforward manner and without the need of *mouse acrobatics*.

Namir

Edited: 10 Nov 2011, 11:29 p.m.

Re: HP 67, 97, 97+ emulator

*Message #7 Posted by **Israel Otero** on 10 Nov 2011, 8:36 p.m.,*
in response to message #1 by Olivier De Smet

Thank you, Olivier,
The display emulation works much better and this version runs even better, very kind of you to share this, as the continuation of my most beloved calculators after the HP-41.

Edited: 10 Nov 2011, 8:38 p.m.

Re: HP 67, 97, 97+ emulator

*Message #8 Posted by **Olivier De Smet** on 11 Nov 2011, 6:00 a.m.,*
in response to message #7 by Israel Otero

new 1.7.2 version

When installing a new release clean the registry : HKCU/Software/ remove HP67, HP97, HP97p

Then launch the program, use 'kml' to choose a config, and then save a document to re-create the registry. The next launch will be a direct reload.

Some bugs on hp97 rom load, PSE duration, ... CORRECTED :)

Edited: 11 Nov 2011, 10:07 a.m. after one or more responses were posted

Re: HP 67, 97, 97+ emulator

*Message #9 Posted by **Israel Otero** on 11 Nov 2011, 9:57 a.m.,*
in response to message #8 by Olivier De Smet

After testing different options, I noticed that, thank you. In Ubuntu Linux using Wine it works ok. Let's hope you get the bugs out soon.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

30b Probability Bug? Or Feature?

*Message #1 Posted by **Les Wright** on 9 Nov 2011, 10:22 p.m.*

Hi folks, just got a 30b which I hope to flash as a 34s once I get the cable from Gene.

In the meantime, I have been fooling with the native calculator. I just happen to be interested in probability distributions, so I fiddle with that.

In RPN mode, I try this: I want to compute the upper-tail probability associated with 2 and 3 df at F = 5. The 30b gives lower-tail probabilities, so instead I have to compute the lower-tail probability associated with 3 and 2 df at F = 1/5.

If I just put the three arguments directly on the stack (3 INPUT 2 INPUT .2 Math -> Probability -> F-Dist) a correct answer is put in the display register. (It's approximately 0.17117.)

But if I COMPUTE the final argument, it doesn't work: 3 INPUT 2 INPUT 5 1/x Math -> Probability -> F-Dist, nothing happens to the contents of the display.

I think the same problem exists with other probability distributions, but I haven't experimented extensively.

Anyone have a clue? These functions aren't terribly useful if they only accept entered and not recalled or computed arguments.

TIA,

Les

Re: 30b Probability Bug? Or Feature?

*Message #2 Posted by **gene wright** on 9 Nov 2011, 10:39 p.m.,*
in response to message #1 by Les Wright

The functions in the math menu were intended to function as an extension of the keyboard. That's why if you key a value and walk through the trig functions the display changes - it is showing you the result IF you press INPUT / = to choose the displayed function.

I don't have a 30b handy (they are all 34S units now) :-) but does it give the correct answer for the distribution if you press INPUT or = ?

If not, there could be a problem with this 3 argument function which is admittedly a tough one for this paradigm.

(and your cable should arrive any day now...I mailed 3 more to people today too).

Re: 30b Probability Bug? Or Feature?

*Message #3 Posted by **Mark Storkamp** on 10 Nov 2011, 8:18 a.m.,*

in response to message #2 by gene wright

I'll answer for him since I've got my 30b handy. No it doesn't, it returns with the .2 still in x. It also doesn't seem to work when you press INPUT after typing in the .2 (the INPUT doesn't, on this model, push the .2 into Y). Otherwise mine works just as he described.

Re: 30b Probability Bug? Or Feature?

*Message #4 Posted by **Thomas Radtke** on 10 Nov 2011, 8:46 a.m.,*
in response to message #3 by Mark Storkamp

The 20b, using the firmware from the SDK, returns an error. OTOH, I have no clue what I'm doing here since F-Distribution is completely unmentioned in my manual, it's not even shown in the menu scheme.

Maybe a straight RPN implementation instead of the RPN/RPL approach given would have been less prone to errors like these. Just speculating ...

Re: 30b Probability Bug? Or Feature?

*Message #5 Posted by **gene wright** on 10 Nov 2011, 10:10 a.m.,*
in response to message #4 by Thomas Radtke

Not mentioned in the small printed guide? It should be mentioned in the PDF manual at least, and I know it is in the learning modules. ;-)

Will it work if you compute the 0.2 then enter the other arguments, rearrange the stack, etc. then go to the F-dist?

It should work as you have tried, but now it is a matter of trying to figure out under what circumstances it works vs. not.

Re: 30b Probability Bug? Or Feature?

*Message #6 Posted by **Thomas Radtke** on 10 Nov 2011, 11:03 a.m.,*
in response to message #5 by gene wright

> Quote:
>
> Will it work if you compute the 0.2 then enter the other arguments, rearrange the stack, etc. then go to the F-dist?

No. But it's not a bug: The manual you've pointed me to explicitly requires the user to *type in* the value for the probability. Either it has been deliberately designed that way or the manual was done to reflect that glitch. You can probably tell which way it was, Gene :-D.

Re: 30b Probability Bug? Or Feature?

*Message #7 Posted by **gene wright** on 10 Nov 2011, 12:26 p.m.,*
in response to message #6 by Thomas Radtke

Suspicions are not proof! lol

I am not aware of any changing of the manual because of a bug. I do agree computing the argument would be best, but ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Memory Allocation - New Document / Testing

*Message #1 Posted by **Marcus von Cube, Germany** on 9 Nov 2011, 11:48 a.m.*

I've written a new document describing how memory management works on the most recent release of WP 34S.

I'm currently working on the software and therefore expect that it is still buggy. It would be nice if whoever finds the time, install the new emulator and report back your findings. I've reworked the cumulative statistic functions and would appreciate any feedback from you.

Edited: 9 Nov 2011, 11:48 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Somewhat OT: Casio calculator reccomendation

*Message #1 Posted by **M. Joury** on 9 Nov 2011, 10:24 a.m.*

Hi All,

In the past I have seen postings that praised the Casio 9860Gii and the Casio FX-CG10 on this forum. I have also been led to believe that they have a very nice software development kit but that it is only available after you have registered your calculator (so I can't get a look at it's capabilities before purchase). I have searched a little online but have been able to find very little information on the SDK but I also believe that there is not much difference between these two machines SDK wise other than support for the newer screen on the FX-CG10.

So here is my question: If you were going to buy one of these to play around with which would it be? Any information or links to additional info on these two machines and their SDK(s) would be much appreciated.

Thanks,

-Marwan

Re: Somewhat OT: Casio calculator reccomendation

*Message #2 Posted by **Don Shepherd** on 9 Nov 2011, 11:02 a.m.,*
in response to message #1 by M. Joury

I think Katie knows about the SDK for these, I'm sure she will reply. I've used the fx-9860g Slim for a few years now. It is a compact speedy machine with the best backlight I've ever seen on a calculator. I also evaluated the Casio color Prizm for a month, and its graphics were out of this world. It also had a very good way to write programs (in Casio BASIC) on the PC and easily download them to the calc.

If I was going to do some serious work, I would choose the Prizm, although the few programs I wrote ran significantly slower on the Prizm than on the slim. Katie said that is probably due to the Prizm OS being larger and more complex than that of the slim.

Re: Somewhat OT: Casio calculator reccomendation

*Message #3 Posted by **M. Joury** on 9 Nov 2011, 11:14 a.m.,*
in response to message #2 by Don Shepherd

Hi Don,

Thanks you for your feedback. Yes, I have seen comments by Katie on these units in the past. I am hoping that she will step in with some advice <g>.

Cheers,

-Marwan

Re: Somewhat OT: Casio calculator reccomendation

*Message #4 Posted by **Katie Wasserman** on 9 Nov 2011, 11:23 a.m.,*
in response to message #1 by M. Joury

You can download the SDK for the 9860g starting here. After you click Accept you'll get to a page that you can check off all the documentation and software that you want. The SDK is listed under the 9860g section and you can download it after you clock Next. However I don't see a separate SDK for the CG series.

If you follow this thread you discover a group of Prizm uses that have developed their own "mini-SDK" using a different tool chain.

I have a 9860G and have read the manual for the CG10/20 and found very little difference other than support for the color display. We've discussed the differences in a bit more here but the various Casio forums have more detail.

Re: Somewhat OT: Casio calculator reccomendation

*Message #5 Posted by **M. Joury** on 9 Nov 2011, 11:25 a.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie,

I'll try the links you suggested.

Cheers,

-Marwan

Re: Somewhat OT: Casio calculator reccomendation

*Message #6 Posted by **M. Joury** on 9 Nov 2011, 12:12 p.m.,*
in response to message #4 by Katie Wasserman

I tried the Casio SDK link and while I can download the manuals the SDK needs registration info that I don't have. Some codes that come off the calculator. However, the manuals will provide a good start.

Thanks,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c LE Out of Stock

*Message #1 Posted by **Jeff Johnson** on 8 Nov 2011, 1:43 p.m.*

Still waiting to order one (or two)... Anyone heard anything through the grapevine? I'm assuming this is another Kinpo product, so hopefully they'll get the bugs worked out and have a solid, useful product and a steady supply stream. They managed to do it with the 50g and 35s. The yearning masses are waiting ...

Re: HP-15c LE Out of Stock

*Message #2 Posted by **Lincoln R.** on 8 Nov 2011, 3:22 p.m.,*
in response to message #1 by Jeff Johnson

It is an HP design, but probably manufactured by Kinpo. They've had some early manufacturing slip-ups and some firmware bugs, but this time the firmware was developed by HP themselves, so we will probably see a fix.

Re: HP-15c LE Out of Stock

*Message #3 Posted by **Mike Morrow** on 8 Nov 2011, 8:50 p.m.,*
in response to message #1 by Jeff Johnson

> Quote:
>
> ...hopefully they'll get the bugs worked out and have a solid, useful product and a steady supply stream. They managed to do it with the 50g and 35s.

The 35S?!?! Not in any universe I know about. HP has done nothing to correct the many many bugs in that sorry piece of work. But...they've only had six years. :-)

Re: HP-15c LE Out of Stock

*Message #4 Posted by **Jeff Johnson** on 10 Nov 2011, 8:44 a.m.,*
in response to message #3 by Mike Morrow

Point taken! Let me clarify. There was initially a keyboard problem with the 35s, that appears to have been corrected. Yes, there's also some software bugs, but they really don't affect my day-to-day use of the 35s (it's my "daily driver"). I'm quite attached to both of my 35s calcs (work and home), and I'm calling it a "good" product, even though I find the keyboard layout rather disorganized. In my spare time, I photo-shopped my ideal "35s Pro" that has (in my little mind) the optimized keyboard and screen layout. Nice to dream about ... :o)

Re: HP-15c LE Out of Stock

*Message #5 Posted by **Thomas Radtke** on 10 Nov 2011, 8:50 a.m.,*
in response to message #4 by Jeff Johnson

> Quote:
>
> [...] even though I find the keyboard layout rather disorganized.

May I ask why? It's a 'giant leap' ahead of the layout of the otherwise amazing 32SII in terms of organization, imo.

Re: HP-15c LE Out of Stock

*Message #6 Posted by **Jeff Johnson** on 10 Nov 2011, 9:13 a.m.,*
in response to message #5 by Thomas Radtke

Sure thing. The 5 algebra keys are laid out as a sideways "T", the 7 trig functions are laid out as a sideways "L", and the 4 log functions are laid out as a sideways "H". The human brain tends to search in straight lines, and follow patterns, but here we have neither, making the function search inefficient. Same for the alphanumerics. If you erase all the legends on the keyboard except the A-Z, it becomes immediately obvious why it's hard to find the letters when you're looking for them. Lastly, the conversion functions and menu buttons appear to be randomly mixed together in the bottom half of the calculator.

Re: HP-15c LE Out of Stock

*Message #7 Posted by **Paul Gaster** on 10 Nov 2011, 9:24 a.m.,*
in response to message #4 by Jeff Johnson

> Quote:
>
> There was initially a keyboard problem with the 35s, that appears to have been corrected.

Why do you think this? As far as I know there never has been any change or improvement to the 35S. A month or two ago a guy claimed his 35s, made in 2010, was just fine and never missed keystrokes. A few days later he posted that he finally noticed his missing keystrokes sometimes.

Re: HP-15c LE Out of Stock

*Message #8 Posted by **Hal Bitton in Boise** on 8 Nov 2011, 11:21 p.m.,*
in response to message #1 by Jeff Johnson

I ordered one the first part of October, which I have not recieved. HP support tells me the "warehouse" is out of stock untill December.
So maybe I'll get it as a Christmas present (to myself). :) Best regards, Hal

Re: HP-15c LE Out of Stock

*Message #9 Posted by **Paul Gaster** on 8 Nov 2011, 11:48 p.m.,*
in response to message #1 by Jeff Johnson

I ordered two back in September sometime. This morning I got some email about how they charged my card and the order is being processed. When I log into the site I see no progress or anything different so I need to call them tomorrow. I have no idea what is going on.

Re: HP-15c LE Out of Stock

*Message #10 Posted by **Eddie W. Shore** on 9 Nov 2011, 9:17 a.m.,*

in response to message #1 by Jeff Johnson

> Quote:
>
> Still waiting to order one (or two)... Anyone heard anything through the grapevine? I'm assuming this is another Kinpo product, so hopefully they'll get the bugs worked out and have a solid, useful product and a steady supply stream. They managed to do it with the 50g and 35s. The yearning masses are waiting ...

They have got to get shipping problem corrected soon. HP has got to have the hint: "We want the 15C!"

Re: HP-15c LE Out of Stock

*Message #11 Posted by **Katie Wasserman** on 9 Nov 2011, 11:27 a.m.,*
in response to message #10 by Eddie W. Shore

> Quote:
>
> HP has got to have the hint: "We want the 15C!"

How about "We want the bug-fixed 15C!"

Edited: 9 Nov 2011, 11:27 a.m.

Re: HP-15c LE Out of Stock

*Message #12 Posted by **Paulo MO** on 9 Nov 2011, 12:50 p.m.,*
in response to message #11 by Katie Wasserman

Hear, hear...

Re: HP-15c LE Out of Stock

*Message #13 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 9 Nov 2011, 1:27 p.m.,*
in response to message #11 by Katie Wasserman

Please correct me if I am incorrect, HP-15C was popular and loved by many, because of:

1- Form factor

2- Advanced scientific capabilities like no other at the time (not even now, in most cases)

3- Robustness and Reliability: Keyboard, Screen, Hardware, Firmware, Battery Life.

4- Simplicity and Elegance.

If HP-15C LE will live up to the legacy of this great product, and not just a classic look alike, then at least should meet these criteria and (plus more without compromises, faster speed, etc). Then we have a winner.

Edit: I really want to give credit to the HP product and development team who did a great job with bringing this calculator back. It is almost there. It is unfair that they are getting blamed for the poor quality of the chinese manufacturer. However they did the right thing and addressing the quality issues in a timely manner. Hard to know what else is going on behind the scenes. But I am confident that HP product team will resolve the quality issues and the HP-15C LE will live up to the legacy of the

original 15C and more. What is next?, a hybrid 15C/12C with in the same package with customer keyboard layout? HP-42S LE? WP-34s -> ???? It has been awhile since 35s, perhaps it is time for the next big thing coming up??. Make Meg proud and fans happy!

Edited: 9 Nov 2011, 6:55 p.m. after one or more responses were posted

Re: HP-15c LE Out of Stock

*Message #14 Posted by **Thomas Radtke** on 9 Nov 2011, 2:23 p.m.,*
in response to message #13 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> [...] Battery Life.

Uh-oh.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Question about MROOT function

*Message #1 Posted by **Namir** on 8 Nov 2011, 12:17 p.m.*

Hi All RPL experts!

I am trying to see how an HP-50G can find the roots at least two simultaneous nonlinear equations. Does the function MROOT do the job. If so, how does one use it?

Namir

Re: Question about MROOT function

*Message #2 Posted by **Crawl** on 8 Nov 2011, 1:42 p.m.,*
in response to message #1 by Namir

Use MSLV.

The manual is here:

http://www.ele.uri.edu/faculty/vetter/Other-stuff/HP-calculators/HP-50g/HP_50g_advanced_users_reference_manual.pdf

Re: Question about MROOT function

*Message #3 Posted by **Bart (UK)** on 8 Nov 2011, 2:17 p.m.,*
in response to message #2 by Crawl

See here for the AUR with linked contents, index and bookmarks:
Bookmarked version of the HP-50G AUR PDF

Re: Question about MROOT function

*Message #4 Posted by **Marcus von Cube, Germany** on 8 Nov 2011, 2:31 p.m.,*
in response to message #3 by Bart (UK)

> Quote:
>
> Multiple Roots Command: Uses the multiple-equation solver to solve for one or more variables using the equations in EQ. Given a variable name, MROOT returns the found value; with "ALL" MROOT stores a found value for each variable but returns nothing.

Does this answer your question, Namir?

Re: Question about MROOT function

*Message #5 Posted by **Hal Bitton in Boise** on 8 Nov 2011, 11:15 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Hi Namir,
After trying (unsuccessfully) to make this function work, I'd be very interested in finding out how it's done as well.

The (skimpy) AUR documentation makes no reference as to how the equations are to be stored in the EQ variable...(as a list, a vector, or what?). I tried both of the above to no avail. I got either "bad argument type", "bad argument value", or just my 2 equations regurgitated onto the stack, as results.

Can somebody post an example using this function?
Best regards, Hal

Re: Question about MROOT function

*Message #6 Posted by **Namir** on 9 Nov 2011, 12:01 a.m.,*
in response to message #5 by Hal Bitton in Boise

My attempts to use MSLV have failed!!!

I must say that TI does a MUCH BETTER job with the TI NSpire CX CAS. The machine makes it soooo easy to define how many equations, declare the variable names, and then enter the equations. You can optionally assign initial guesses AND specify the range for the solutions. My guess is that this is the work of an ex-HP employee.

Namir

Edited: 9 Nov 2011, 7:22 a.m.

Re: Question about MROOT function

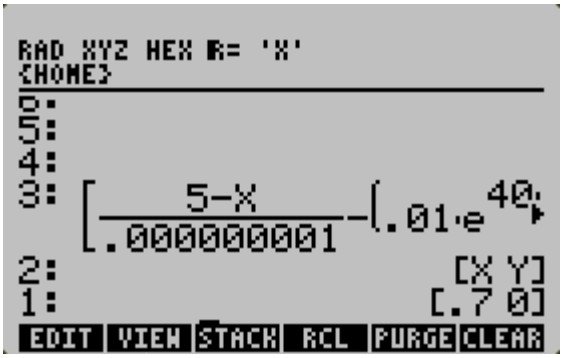
*Message #7 Posted by **Crawl** on 9 Nov 2011, 7:26 a.m.,*
in response to message #6 by Namir

What's the problem?

Re: Question about MROOT function

*Message #8 Posted by **Crawl** on 9 Nov 2011, 7:52 a.m.,*
in response to message #7 by Crawl

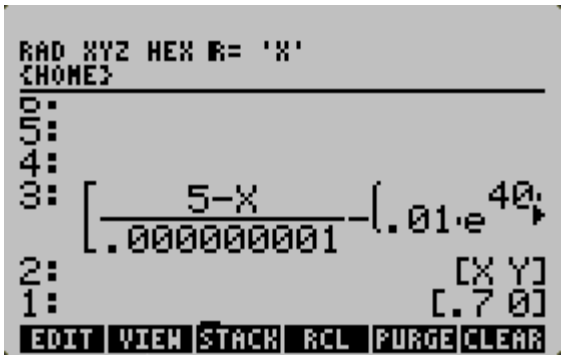
Anyway, I made an animated GIF of me using MSLV once:



First enter the equations, then the variables, then the initial guess. Those are all entered as row vectors.

Re: Question about MROOT function

*Message #9 Posted by **Eddie W. Shore** on 9 Nov 2011, 9:21 a.m.,*
in response to message #8 by Crawl

> Quote:
>
> Anyway, I made an animated GIF of me using MSLV once:
>
> 
>
>
> First enter the equations, then the variables, then the initial guess. Those are all entered as row vectors.

So the syntax is: 3: [vector of equations] 2: [vector of variables] 1: [vector of guesses]

Re: Question about MROOT function

*Message #10 Posted by **Namir** on 9 Nov 2011, 10:29 a.m.,*
in response to message #8 by Crawl

Very nice!! I will try again!! I know the HP-50G is a very capable machine. It should be easy to solve the multiple roots for two or three nonlinear equations.

Namir

PS: It worked. I realized my mistaked. Here is the example:

```
x*y-4=0
x^2+y^3-31=0
```

I entered the following:

```
['X*Y-6','X^2+Y^3-31']
['X','Y']
[5 5]
```

Originally I was leaving out the single quotes and getting syntax error messages from the machine. When I made the correct input and then executed MSLV, I watched the machine update the guesses for the roots (at the top of the LCD) as they converged to the solutions x=2 and y=3.

Thanks!!

Edited: 10 Nov 2011, 5:02 a.m. after one or more responses were posted

Re: Question about MROOT function

*Message #11 Posted by **Crawl** on 9 Nov 2011, 12:09 p.m.,*
in response to message #10 by Namir

I don't have my HP50g here to test this with, but I don't think I do it with the "entering quotes" method. I'll probably go to Matrix Writer to enter the vectors, and from there Equation Writer to enter the equations (or if you prefer RPN, build up the equations on the stack, then copy and past them into Matrix Writer). I think the Matrix Writer defaults to Vectors (if it's 1xn or nx1), so if you enter them on a row, the syntax should work itself out for you.

Also, (2,3) doesn't solve x*y-4=0...

Re: Question about MROOT function

*Message #12 Posted by **Namir** on 10 Nov 2011, 5:03 a.m.,*
in response to message #11 by Crawl

Ooops! That was a typo. I meant:

X*Y-6=0

I corrected that in my original message.

Namir

Re: Question about MROOT function

*Message #13 Posted by **Eddie W. Shore** on 9 Nov 2011, 9:18 a.m.,*
in response to message #5 by Hal Bitton in Boise

Quote:

Hi Namir,
After trying (unsuccessfully) to make this function work, I'd be very interested in finding out how it's done as well.

The (skimpy) AUR documentation makes no reference as to how the equations are to be stored in the EQ variable...(as a list, a vector, or what?). I tried both of the above to no avail. I got either "bad argument type", "bad argument value", or just my 2 equations regurgitated onto the stack, as results.

Can somebody post an example using this function?
Best regards, Hal

Use STEQ to store the equation. It is in the catalog or it can be typed.

Re: Question about MROOT function

*Message #14 Posted by **Namir** on 9 Nov 2011, 12:02 a.m.,*
in response to message #3 by Bart (UK)

Bart,

Thanks for the bookmarked version of the AUR manual. I know it is a lot of work to add the bookmarks.

Namir

Edited: 9 Nov 2011, 7:23 a.m.

Re: Question about MROOT function

*Message #15 Posted by **Hal Bitton in Boise** on 9 Nov 2011, 11:12 a.m.,*
in response to message #1 by Namir

Well, certainly MSLV has been de-cloaked and shown to work very well.
The function that remains shrouded in mystery, however, (at least in my mind) is MROOT.
What's the difference between MSLV and MROOT? I have a feeling they do the same
thing, but accept inputs differently. Has anybody gotten MROOT to work?
HB

Re: Question about MROOT function

*Message #16 Posted by **Software49g** on 9 Nov 2011, 2:16 p.m.,*
in response to message #15 by Hal Bitton in Boise

Hello,

> Has anybody gotten MROOT to work?

MROOT is used in HP's EQNLIB and in mine through GUIMES.

It is explained in the original documentation of HP's EQNLIB and in my documentation to GUIMES.

HTH,
Andreas
http://www.software49g.gmxhome.de

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100 Keyboard Rebuild (with pics!)

*Message #1 Posted by **David Ramsey** on 8 Nov 2011, 11:31 a.m.*

When you pull your 9100 keyboard and flip it over, you'll see that Cherry and Alps probably weren't making standard key switches in the 60s:

Each key switch is an apparently custom-made set of contacts with integrated springs. Since they're just hanging out in the air they can get dirty/dusty, which can make for marginal connections. Fortunately they're easy (if tedious) to clean individually. HP abandoned simple mechanical contacts in their subsequent machines (9810/9820) for fantastically complex contact-less switches that were extremely reliable but hell to fix when they malfunction due to the complex electronics involved.

BTW, see those two black cylindrical things at the bottom of the image? Those are high precision (fraction of a % tolerance) resistors. If they're bad your keyboard won't work, and you can't get 'em at Radio Shack. You can, however, get them at Mouser.

While you're waiting for the resistors to come in, you might as well pull each key, remove its crumbling black rubber O-ring, and replace it with a nice orange silicone O-ring that will last pretty much forever.

At this point both 9100s are fully functional: they can record, read, and execute the test program from the 9100 manual; and the digit spacing problem on the first unit (where the floating point display was not grouping digits by threes, the fault of a bum transistor in the horizontal deflection board) has been repaired. This had the beneficial side effect of brightening the display somewhat so that now it's only slightly dimmer than the display on the other machine.

(Actually only one keyboard works, since we're still waiting for the replacement resistor for the other; the working keyboard was plugged into the other 9100 to verify its operation.)

At this point it's mostly cleanup: once the parts arrive and the units are burned in for a few days, they'll be disassembled, thoroughly cleaned, and the upper and lower cases REPAINTED. Fortunately the plastic fascias of the keyboard and display/card reader area look great after a simple cleaning. The result should be two new-looking and new-operating calculators.

Re: 9100 Keyboard Rebuild (with pics!)

*Message #2 Posted by **Thomas Chrapkiewicz** on 8 Nov 2011, 12:08 p.m.,*
in response to message #1 by David Ramsey

A most interesting keyboard (electrical) design. I did not realize that it used this analog sensing of keypresses (hence the 0.1% tolerance resistors). This is the technology used in automobile steering wheel (infotainment system) switches and home (Sony) CD (mega)changers.

Is there a documented schematic of the 9100 keyboard available?

TomC

Re: 9100 Keyboard Rebuild (with pics!)

*Message #3 Posted by **David Ramsey** on 8 Nov 2011, 12:24 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

I would hope that Tony Duell's hand-drawn 182-page schematic for the 9100B would contain the keyboard schematics...but I haven't looked.

Re: 9100 Keyboard Rebuild (with pics!)

*Message #4 Posted by **Randy** on 8 Nov 2011, 5:09 p.m.,*
in response to message #1 by David Ramsey

0.1% tolerance isn't exactly precision in the resistor world when it comes to analog circuits. The resistors are in the key strobe circuit and form a voltage divider so it is the ratio between the two values that is more important than the absolute value. Low TCR wire-wound or film resistors will work fine.

It is odd that a wire-wound device of that age would simply fail. Just out of curiosity, what is wrong with it/them?

BTW, yes, the schematics are in Tony's set.

Re: 9100 Keyboard Rebuild (with pics!)

*Message #5 Posted by **David Ramsey** on 8 Nov 2011, 5:48 p.m.,*
in response to message #4 by Randy

I don't know *why* it failed; but it's a 2K Ohm resistor and measures over 3K.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any expert for polynomial roots here?

*Message #1 Posted by **fhub** on 8 Nov 2011, 7:40 a.m.*

For my WP34s Polynomial RootSolver I've used the Bairstow method, but I also checked many other algorithms that I've found. One of these is the Laguerre method - here's a short WikiPedia article about it:
http://en.wikipedia.org/wiki/Laguerre%27s_method

It's stated there that this Laguerre method should be VERY powerful in 2 ways: it converges almost always (independent of the initial guesses), and it converges very quickly (usually 3rd order convergence).

Now I made a 2nd version of my PolyRoots where I replaced the Bairstow method by this Laguerre method, and I'm absolutely disappointed: although it works correctly (i.e. finds the correct roots), it is damned slow - in average it needs about 3-5 times as many iterations as the Bairstow method (although it SHOULD be much better)! :-(

Has anyone here experiences with polynomial rootsolving methods?
Maybe someone could tell me what might be wrong with this Laguerre method?
(I'm talking about polynomials with real coefficients - maybe this is the reason why Laguerre works so badly?).

Franz

Edited: 8 Nov 2011, 7:58 a.m. after one or more responses were posted

Re: Any expert for polynomial roots here?

*Message #2 Posted by **Valentin Albillo** on 8 Nov 2011, 7:52 a.m.,*
in response to message #1 by fhub

In case you haven't already, have a look at this, page 33 and beyond:

PDF document.

Best regards from V.

Re: Any expert for polynomial roots here?

*Message #3 Posted by **fhub** on 8 Nov 2011, 8:02 a.m.,*
in response to message #2 by Valentin Albillo

> Quote:
>
> In case you haven't already, have a look at this, page 33 and beyond:
>
> PDF document.

Oh my god, a 11MB PDF document! ;-)

Thanks, I'll have a look at it,
Franz

Re: Any expert for polynomial roots here?

*Message #4 Posted by **Alexander Oestert** on 8 Nov 2011, 9:13 a.m.,*
in response to message #3 by fhub

> Quote:
>
> Oh my god, a 11MB PDF document! ;-)

Don't tell me you're still using a 14.4 modem... ;o

Re: Any expert for polynomial roots here?

*Message #5 Posted by **fhub** on 8 Nov 2011, 9:59 a.m.,*
in response to message #4 by Alexander Oestert

> Quote:
>
> Don't tell me you're still using a 14.4 modem... ;o

No, I didn't mean the download time but my old (and very weak) Win98 notebook that I'm using here: with about 70MB free RAM it even uses the Windows swapfile when I scroll through a 11MB PDF document! :-(

But I just saw that I have already exactly the same HP-Journal (found it when I made my HP-71 emulator package), but my file is only 1MB compared to the version above with 11MB (nevertheless it has the same content).

Re: Any expert for polynomial roots here?

*Message #6 Posted by **Namir** on 8 Nov 2011, 7:57 a.m.,*
in response to message #1 by fhub

Hello Franz,

I use Bairstow's method when dealing with polynomials with real coefficients, because you should get all the roots--real or complex. HP seems to favor the Laguerre method. As far as speed is concerned, I never thought that Bairstow is slow. Maybe you need to double check you source of equations and your implementation.

Namir

Re: Any expert for polynomial roots here?

*Message #7 Posted by **fhub** on 8 Nov 2011, 8:18 a.m.,*
in response to message #6 by Namir

Ho Namir,

> Quote:

> I use Bairstow's method when dealing with polynomials with real coefficients, because you should get all the roots--real or complex. HP seems to favor the Laguerre method.

Well, if I don't misunderstand what I've read then also Laguerre should give all (real+complex) roots!?
The only problem could be that with real coefficients you always have pairs of complex conjugate solutions, and Laguerre doesn't seem to work very well if there are solutions with equal or similar absolute values (which is of course true for conjugates).

> Quote:
>
> As far as speed is concerned, I never thought that Bairstow is slow. Maybe you need to double check you source of equations and your implementation.

I guess you're talking about PC implementations!? Well, for a PC program the speed (of Bairstow) is of course no big deal - even a few 1000 iterations don't need much time - but on slow hardware like 20/30b the speed is indeed a very important factor. And this is the reason why I was searching for eventually better (=faster) methods than Bairstow (although less than 5 sec for a 10th-degree polynomial is acceptable IMO).

I don't think that something in my implementation is wrong (or inefficient), both algorithms are so simple that it's almost impossible to do anything more complicated than necessary.
Laguerre requires to do all calculations complex (which makes it a bit slower), but this should be compensated by what is stated in this WikiPedia article: "is only very rarely required to compute more than a few iterations to get high accuracy".
Well, with Laguerre I get about 200-300 iterations for completely solving a 10-degree polynomial, compared to 60-70 with Bairstow. (?)

Franz

Re: Any expert for polynomial roots here?

*Message #8 Posted by **Artur-Brazil** on 9 Nov 2011, 5:39 a.m.,*
in response to message #7 by fhub

Great algorithms for implementing in HP-15C !!!

Re: Any expert for polynomial roots here?

*Message #9 Posted by **hugh steers** on 9 Nov 2011, 8:48 p.m.,*
in response to message #1 by fhub

i can report that i use matrix methods for polynomial roots. essentially, i translate it into an eigenvalue problem. also i get complex results this way.

results are usually stable and quite fast. im using a 14Mhz calculator for this. with this method, you dont have to extract pairs of roots at a time and reduce. so you dont have a forward error problem.

however, Namir has done an in-depth study of polynomial root problems. you might want to try his examples. my method also has problems with multiple roots, where i get imprecise results. so my approach is not foolproof.

Re: Any expert for polynomial roots here?

*Message #10 Posted by **fhub** on 10 Nov 2011, 5:29 a.m.,*

in response to message #9 by hugh steers

> Quote:
>
> i can report that i use matrix methods for polynomial roots. essentially, i translate it into an eigenvalue problem. also i get complex results this way.

Yes, I know this method, but there are 2 problems (on the WP34s):
First this would limit the polynomial solver to degree 10 (max. 10x10 matrices possible) and then the WP34s has no eigenvalues function, so _this_ would have to be written instead of a direct polyroots. And when I look at the method(s) for calculating eigenvalues (e.g. QR decompossition), I'm not sure if this would even fit into one flash region.

> Quote:
>
> my method also has problems with multiple roots, where i get imprecise results. so my approach is not foolproof.

Well, multiple roots are of course no principle problem because they can always be removed by reducing the polynomial P to P/gcd(P,P'), but that would also need many additional program steps for getting the gcd(P,P').

After having read through all the infos about the Laguerre method, now I know what makes this polynomial solver on the HP-71 (which is based on the good old ZERPOL Fortran routine) so powerful: it's not the Laguerre method in the first, but the clever chosing and changing of initial values and/or iteration steps!
This method calculates 4 different boundary values where one of them even needs the calculation of the roots of a slightly modified polynomial of the same degree (again with an iterative method: Newton-Raphson)!
That means: just to get a good initial guess (or iteration step), you first have to solve almost the same polynomial with a different method, and then you can use one of these found roots (the minimum of 4 boundaries) for the Laguerre iteration!
Well, that may be no problem for a PC (or a calculator with enough RAM), but it's definitely not suited for a programmable calculator.

So in fact this Laguerre method isn't that good at all, it works only well if you have VERY good initial values in every iteration step. This is probably the explanation for my bad experiences with my Laguerre program on the WP34s compared to the Bairstow method.

Franz

Edited: 10 Nov 2011, 5:32 a.m.

Re: Any expert for polynomial roots here?

*Message #11 Posted by **Valentin Albillo** on 10 Nov 2011, 6:42 a.m.,*
in response to message #10 by fhub

> Quote:
>
> Well, multiple roots are of course no principle problem because they can always be removed by reducing the polynomial P to P/gcd(P,P'), but that would also need many additional program steps for getting the gcd(P,P').

Nope. Computing the gcd of two polynomials is pretty straightforward and fast, so it can be done if deemed useful.

> Quote:
>
> This method calculates 4 different boundary values where one of them even needs the calculation of the roots of a slightly modified polynomial of the same degree (again with an iterative method: Newton-Raphson)!

Nope. You misunderstood Fig. 4 in page 35 in the HP Journal issue I referred you to. It doesn't say "roots", plural, but "root", singular, i.e., you need just one root of the modified polynomial, which the Newton-Raphson method gets you in a flash using the very good initial estimate provided.

So it isn't that hard at all.

> Quote:
>
> Well, that may be no problem for a PC (or a calculator with enough RAM), but it's definitely not suited for a programmable calculator.

Nope. It is perfectly suitable, if correctly and efficiently implemented.

> Quote:
>
> So in fact this Laguerre method isn't that good at all, it works only well if you have VERY good initial values in every iteration step. This is probably the explanation for my bad experiences with my Laguerre program on the WP34s compared to the Bairstow method.

Nope on both counts. The Laguerre method is very good, that's why it was selected as the basis for the PROOT keyword in the HP-71 Math ROM, and I think the explanation for your bad experiences lies somewhere else.

Best regards from V.

Re: Any expert for polynomial roots here?

*Message #12 Posted by **fhub** on 10 Nov 2011, 7:09 a.m.,*
in response to message #11 by Valentin Albillo

> Quote:
>
> Nope. Computing the gcd of two polynomials is pretty straightforward and fast, so it can be done if deemed useful.

Yes, straightforward and fast, but you need 3 routines for P', for gcd and polynomial division, and that's not done in a few bytes.

> Quote:
>
> Nope. It is perfectly suitable, if correctly and efficiently implemented.

Well, then why don't **you** make such a WP34s implementation? ;-)

> Quote:
>
> Nope on both counts. The Laguerre method is very good, that's why it was selected as the basis for the PROOT keyword in the HP-71 Math ROM, and I think the explanation for your bad experiences lies somewhere else.

And what should this reason be? It can't be any error in my code because else I won't get correct results. The reason is probably that I just use the origin (0/0) as initial guess and then random guesses in the interval [-1,1] after every 25 unsuccessful iterations, but if the Laguerre method would really be as good as stated everywhere, than it would also work with _these_ guesses (and not require complicated calculations for 'good' initial values).

Franz

Re: Any expert for polynomial roots here?

*Message #13 Posted by **Valentin Albillo** on 10 Nov 2011, 12:05 p.m.,*
in response to message #12 by fhub

> Quote:
>
> Yes, straightforward and fast, but you need 3 routines for P', for gcd and polynomial division, and that's not done in a few bytes.

Nope. It can be done in a few bytes if correctly and efficiently implemented.

> Quote:
>
> Well, then why don't you make such a WP34s implementation? ;-)

Got much better things to do with my time, and besides *"been there, done that, bought the T-shirt"*. I already implemented a full-fledged, efficient polynomial solver for the HP-41C back then in the golden days some 30 years ago so no need to repeat myself, see the relevant PPC issue if interested.

> Quote:
>
> And what should this reason be? It can't be any error in my code because else I won't get correct results.

Nope, I haven't inspected your code but I'd hazard that the reason is your lack of relevant theoretical knowledge about the task you've set yourself up to.

> Quote:
>
> [...] but if the Laguerre method would really be as good as stated everywhere, than it would also work with _these_ guesses (and not require complicated calculations for 'good' initial values).

Nope, they aren't complicated at all, it's your lack of understanding that makes them seem complicated to your eyes, thus resulting in you unfairly critizicing something which you simply fail to understand.

> Quote:
>
> I've read again this part, but I'm still not sure who of us is right!?

I'll give you a hint: you're wrong.

> Quote:
>
> [...] so IMO to be sure to really get the minimum you would have to calculate all roots.

Nope, you don't need all roots at all, you only need a very specific one. It's just your lack of relevant theoretical understanding getting in the way, may I suggest you get and study any of the many good books on the subject, **"Higher Algebra"** by **Kurosh** is one of the best.

> Quote:
>
> So as I already stated: the 'power' of this PROOT routine is not the Laguerre method, but the big effort that is put into finding a good initial guess. But with such a good initial guess almost every other polynomial rootfinding algorithm would work just as well.

Nope, you're wrong in all counts but I won't push the matter further, I've already suggested that you learn the theory of what you're trying to accomplish lest you'll waste tons of effort to get a mediocre implementation at best.

Best regards from V.

Re: Any expert for polynomial roots here?

*Message #14 Posted by **fhub** on 10 Nov 2011, 12:30 p.m.,*
in response to message #13 by Valentin Albillo

It seems "nope" is the only word in your quite limited vocabulary!

And I'm really tired of discussing with such an arrogant and unfriendly guy. Unfortunately you're not the only one of this kind here in this forum, and so I'm now finally leaving this place full of all-knowing 'gods'.

Bye,
Franz.

Re: Any expert for polynomial roots here?

*Message #15 Posted by **Walter B** on 11 Nov 2011, 2:56 a.m.,*
in response to message #14 by fhub

> Quote:
>
> ... so I'm now finally leaving this place full of all-knowing 'gods'.

17 and counting [;-)

Re: Any expert for polynomial roots here?

*Message #16 Posted by **Bart (UK)** on 11 Nov 2011, 5:02 a.m.,*
in response to message #14 by fhub

> Quote:
>
> this place full of all-knowing 'gods'.

Of which you are one as well. I probably am too at times :-)

Re: Any expert for polynomial roots here?

*Message #17 Posted by **Ángel Martin** on 10 Nov 2011, 3:26 p.m.,*
in response to message #13 by Valentin Albillo

Here´s Valentin´s program from PPC TN - slightly changed for the 41Z consumption (very obvious places and easy to undo)

```
1       LBL "ZPROOT"    87      E-3
2       SIZE?           88      ST+ 01
3       "DEGREE=?"      89      RCL 03
4       PROMPT          90      STO IND 05
5       STO Z           91      RCL 04
6       ST+X            92      STO IND 06
7       11              93      DSE 00
8       +               94      GTO 06
9       X>Y?            95      TONE 5
10      PSIZE           96      RCL 01
11      RCL Z           97      INT
12      STO 00          98      E1
13      STO 03          99      -
14      9,008           100     E3
15      +               101     /
16      STO 01          102     ST- 05
17      STO 05          103     FIX 3
18      X<>Y            104     SF 21
19      E               105     LBL 10
20      -               106     ISG 00
21      STO 02          107     NOP
22      STO 06          108     RCL IND 06
23      FIX 0           109     RCL IND 05
24      CF 29           110     ZAVIEW
25      LBL 05          111     DSE 06
26      "IM^RE("        112     DSE 05
27      ARCL 03         113     GTO 10
28      "@)=?"          114     CF 21
29      PROMPT          115     SF 29
30      STO IND 05      116     RTN
31      X<>Y            117     LBL 11
32      STO IND 06      118     RCL 01
33      DSE 03          119     STO 05
34      X<>Y            120     RCL 02
35      DSE 06          121     STO 06
36      DSE 05          122     FC? 01
37      GTO 05          123     GTO 13
38      RCL 03          124     E-3
39      LBL 06          125     ST+ 05
40      "SOLVING..."    126     LBL 13
41      AVIEW           127     RCL IND 06
42      SF 25           128     RCL IND 05
43      SF 99           129     FC? 01
44      CF 00           130     GTO 02
45      CHS             131     RCL 08
46      STO 04          132     ST* Z
47      FIX 2           133     *
48      RND             134     DSE 08
49      FIX 6           135     GTO 02
50      X#0?            136     RTN
51      GTO 01          137     LBL 00
52      SIGN            138     ZENTER^
```

```
53      STO 04          139     RCL 04
54      LBL 01          140     RCL 03
55      RCL 00          141     Z*
56      STO 08          142     RCL IND 05
57      SF 01           143     FS? 01
58      XEQ 11          144     RCL 08
59      R-P             145     FS? 01
60      1/X             146     *
61      STO 07          147     +
62      X<>Y            148     FS? 00
63      CHS             149     STO IND 05
64      STO 08          150     X<>Y
65      CF 01           151     RCL IND 06
66      XEQ 11          152     FS? 01
67      ZENTER^         153     RCL 08
68      RCL 08          154     FS? 01
69      RCL 07          155     *
70      P-R             156     +
71      Z*              157     FS? 00
72      ST- 03          158     STO IND 06
73      X<>Y            159     X<>Y
74      ST- 04          160     FS? 01
75      ZRND            161     DSE 08
76      Z#0?            162     LBL 02
77      GTO 01          163     DSE 06
78      FIX 0           164     DSE 05
79      "FOUND ROOT#"   165     GTO 00
80      ARCL 00         166     END
81      AVIEW
82      SF 00
83      XEQ 11
84      E
85      ST+ 05
86      ST+ 06
```

Re: Any expert for polynomial roots here?

*Message #18 Posted by **Ángel Martin** on 11 Nov 2011, 2:12 a.m.,*
in response to message #17 by Ángel Martin

and here are the roots found by the program for Valentin´s second example:

```
x^20+10 x^19+55 x^18+210 x^17+615 x^16+1452 x^15+2850 x^14+
4740 x^13+6765 x^12+8350 x^11+8953 x^10+8350 x^9+6765 x^8+
4740 x^7+2850 x^6+1452 x^5+615 x^4+210 x^3+55 x^2+10 x+1 = 0
```

1,473-J7,264
1,473+J7,264
0,476-J1,533
0,476+J1,533
-0,769-J0,180
-0,769+J0,180
-0,593-J0,367
-0,593+J0,367
0,138-J1,013
0,138+J1,013
-0,028-J0,805
-0,028+J0,805
-0,146-J0,684
-0,146+J0,684
-0,247-J0,599
-0,247+J0,599
-0,346-J0,528
-0,346+J0,528
-0,456-J0,458

-0,456+J0,458

execution time on V41: about 8 seconds (TURBO mode of course). It´s included in the 41Z module, so just load the image MOD file and turn it loose.

Write or wrong? Easy enough to check ...

Edited: 11 Nov 2011, 2:13 a.m.

Re: Any expert for polynomial roots here?

*Message #19 Posted by **Gerson W. Barbosa** on 11 Nov 2011, 10:20 a.m.,*
in response to message #18 by Ángel Martin

According to Wolfram|Alpha there are the following coincident roots:

```
x = -1/2 - sqrt(3)/2*i

x = -1/2 + sqrt(3)/2*i
```

Cheers,

Gerson.

Re: Any expert for polynomial roots here?

*Message #20 Posted by **fhub** on 10 Nov 2011, 10:26 a.m.,*
in response to message #11 by Valentin Albillo

> Quote:
>
> Nope. You misunderstood Fig. 4 in page 35 in the HP Journal issue I referred you to. It doesn't say "roots", plural, but "root", singular, i.e., you need just one root of the modified polynomial, which the Newton-Raphson method gets you in a flash using the very good initial estimate provided.
>
> So it isn't that hard at all.

I've read again this part, but I'm still not sure who of us is right!?

This Cauchy lower bound RA is defined there as "**minimum** positive zero" of this modified polynomial, so IMO to be sure to really get the **minimum** you would have to calculate **all** roots. Ok, with the given (small) initial guess you'll rather get the minimum root first, but it's not absolutely sure. And furthermore I wonder why I would need this Cauchy bound as a 4th guess, when the 3 previous guesses are already so good!?

So as I already stated: the 'power' of this PROOT routine is not the Laguerre method, but the big effort that is put into finding a good initial guess. But with such a good initial guess almost every other polynomial rootfinding algorithm would work just as well.

Franz.

Edited: 10 Nov 2011, 10:27 a.m.

Re: Any expert for polynomial roots here?

*Message #21 Posted by **Peter Murphy (Livermore)** on 10 Nov 2011, 1:52 p.m.,*
in response to message #1 by fhub

I am shocked.

[Return to Index | Top of Index]

Go back to the main exhibit hall

I'll be without my 41CL :-(

*Message #1 Posted by **robertoataulfo** on 8 Nov 2011, 7:33 a.m.*

```
I feel like crying :-(


41CL   $ 235
Send   $  38 ?!?!?!
       -------
Total  $ 273
Tax    $ 191.10 (70%) fee charged on the import Customs (Brazil)
       --------
total  $464.10


I'm already crying. :-(


Bye 41CL. I will continue with you in my thoughts. Snif! Snif!
```

Edited: 8 Nov 2011, 7:37 a.m.

Re: I'll be without my 41CL :-(

*Message #2 Posted by **Eddie W. Shore** on 8 Nov 2011, 9:23 a.m.,*
in response to message #1 by robertoataulfo

Sorry. :(

Re: I'll be without my 41CL :-(

*Message #3 Posted by **Frido Bohn** on 8 Nov 2011, 9:53 a.m.,*
in response to message #1 by robertoataulfo

Is there any means to reduce the "shipping price" to, let's say, 25$. In consequence, the customs would treat the device at that rate.
Of course, the actual price may be still 235$ + X$. A sum which will be payed in advance anyway, and which, of cource would not be disclosed to the delivery service.

Would that be fraud? Would this have any consequence for the sender if discovered?

Re: I'll be without my 41CL :-(

*Message #4 Posted by **robertoataulfo** on 8 Nov 2011, 10:16 a.m.,*
in response to message #3 by Frido Bohn

```
Mount Dalrymple sent an explanation and a form to fill me


                        41CL Order For
.
```

```
.
.
We use Priority Mail and insure every package for the full value.

:-(
```

Re: I'll be without my 41CL :-(

*Message #5 Posted by **Monte Dalrymple** on 8 Nov 2011, 12:06 p.m.,*
in response to message #4 by robertoataulfo

70% import duty explains why HP built calculators in Brazil.

As far as declaring a lower value, yes, that is fraud. It is also an easily uncovered fraud, since the Systemyde website lists the price. (Although based on my experience with customs, discovering that information is probably beyond what they are capable of.) But it would also be obvious if the package was fully insured.

The shipping/handling is expensive because I don't use the small flat-rate box because then the package can't be insured. A catch-22 that is expensive. The small flat-rate box is 13.25 to Brazil, while an 8 oz package is 24.23 plus another 5.40 for insurance. The box and packing material is another 3.00, and I tack on another 5.00 because it's a PITA to fill out customs forms and deal with the Post Office.

Re: I'll be without my 41CL :-(

*Message #6 Posted by **Gerson W. Barbosa** on 8 Nov 2011, 2:38 p.m.,*
in response to message #5 by Monte Dalrymple

> Quote:
>
> 70% import duty explains why HP built calculators in Brazil.

It's actually 60%, extortive nevertheless. Even when HP built (assembled) calculators here they were very expensive. My first HP-28S came from UTAH, not from Samson's but aboard a Cessna Caravan (thanks to a coworker, a flight mechanic). It cost me $211.00 then (here the price tag was well over $500). Not illegal as it fitted in the duty-free import quota.

Re: I'll be without my 41CL :-(

*Message #7 Posted by **Ethan Conner** on 8 Nov 2011, 4:39 p.m.,*
in response to message #6 by Gerson W. Barbosa

You just reminded me of something. Back in the 90's i worked at a place that performed a service for a group from Venezuala. When they were ready to go home they would hit Wal Mart and buy as much electronics as they could possibly carry. Us Americans were puzzled by this. Since being on this forum i understand why. I still smile thinking about them making several attempts at lifting off till they had burned just enough fuel to get airborne.

Re: I'll be without my 41CL :-(

*Message #8 Posted by **Thomas Radtke** on 8 Nov 2011, 12:01 p.m.,*
in response to message #3 by Frido Bohn

Another interesting question is wether your incitement would inflict a penalty, and if so, judged by which country.

Re: I'll be without my 41CL :-(

*Message #9 Posted by **Alexander Oestert** on 8 Nov 2011, 12:13 p.m.,*
in response to message #8 by Thomas Radtke

Import tax fraud is a crime prosecuted by the country that you import the item to.

Re: I'll be without my 41CL :-(

*Message #10 Posted by **Lincoln R.** on 8 Nov 2011, 11:37 a.m.,*
in response to message #1 by robertoataulfo

Ouch. At that point I think it would be cheaper to get a plane ticket to the US to buy one, install it in your 41, and if asked at customs declare it as "1980s Electronic Calculator - Value $10"

Re: I'll be without my 41CL :-(

*Message #11 Posted by **Lincoln R.** on 8 Nov 2011, 12:55 p.m.,*
in response to message #10 by Lincoln R.

Note: I don't condone tax fraud (even if Brazil's import tax is ridiculous...), however the claim could be made that the 41CL board is "repair parts" or "upgrades" for a non-working 41C. If I put an $3000 new engine in a 20 year old car with a blue book value of $300, the car's still 'worth' $300 for tax purposes.

Re: I'll be without my 41CL :-(

*Message #12 Posted by **Frido Bohn** on 8 Nov 2011, 1:49 p.m.,*
in response to message #11 by Lincoln R.

The idea to declare the 41CL as a repair part of a system brings me to the idea of "divide et impera".
Pricing is all of the manufacturer (or intermediate) and the policy might be
adjusted for foreign customers in a way that the actually sent hardware makes
only a fraction of the system. The other part, the software, would then be the
major part. The software will be traded via a download page and is therefore
inherently customs-free.
For the 41CL the circuit board would constitute the hardware and the flash ROM/RAM
the software. Would there be a means of customs to check for a pre-installed RAM/ROM
on the board?

This are only free thoughts. I don't want to incite nobody.

Re: I'll be without my 41CL :-(

*Message #13 Posted by **Gerson W. Barbosa** on 8 Nov 2011, 3:08 p.m.,*
in response to message #1 by robertoataulfo

Cheer up!

http://www.youtube.com/watch?v=qMaF2QmfTRQ

I'll be without my 41CL :-(

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Share my grief....

*Message #1 Posted by **cbuhmann** on 8 Nov 2011, 2:01 a.m.*

Hi guys, I ordered three 15C LE from SE to be sent to Germany in middle of September. They were shipped immediately after my order with USPS and handed over some days later to the customs here and further to DHL. So far so good, when the deliverer came to our office I was in a meeting so I could not take it personally. Unfortunately the deliverer had to take the additional taxes (~60,- EUR) cash. The receptionist did not know what to do, couldn't reach me and..... refused to take the parcel... !!! After one hour I tried to call DHL to redeliver it. After long discussions with the hotline I could convince them to try it. Tracking the parcel I saw the way it went. Back to the parcel center in Hamburg (I tried to call again). Nothing happened again. Then it was one week in the center, lying around. I called again daily. Nothing happened. It went back to the airport in Frankfurt. I called again.... And there the story is now. It is still in the export center (five weeks after the one and only delivery try), waiting to be sent to the States back.

Now tell me guys, what can I do...? I really want these three pieces of hardware back.

Rgds Chris

Re: Share my grief....

*Message #2 Posted by **Frido Bohn** on 8 Nov 2011, 3:28 a.m.,*
in response to message #1 by cbuhmann

Sounds like a piece of Kafka...

So, there is no way to let the parcel be sent to a central delivery station where you could pick it up? Parcels which cannot be delivered directly, usually are stored somewhere but not sent back to the sender. Maybe, that the way your receptionist managed this let the DHL deliverer assume that you refused the acceptance. Consequently, the parcel is going back to sender. Interesting is that there appears no way to intervene - a really weird situation.

This frankly is the problem when you get private mail to a company. In my company, the mail central generally refused to receive private mail a few years ago. Possibly, just because of such kind of problems. So, it would be better to have a notice in your mailbox at home and go to the central to pick up things personally.

I got my HP-15 LE few weeks ago and had to pick it up from the customs in Berlin. It took about 2 hours to get it. But in summary this is much less than the time and annoyance you are experiencing now.

Re: Share my grief....

*Message #3 Posted by **Alexander Oestert** on 8 Nov 2011, 3:58 a.m.,*
in response to message #1 by cbuhmann

File a "Schadensmeldung" or "Verlustmeldung" or "Nachforschungsauftrag" immediately at your nearest DHL office. Feed them all the known information where you assume your package is, maybe that will keep the items from being send back.

I'm also in Hamburg and I find it very interesting that DHL even tried to deliver the package to you and wanted to collect customs fees. I was never that lucky, I had always to go to the central customs office which is now based in Hafencity and 'bail out' my deliveries all by myself!

I've read about Samson Cables being very customer friendly and trying everything to get your items to you. If all fails, I have two and would be willing to part from one of them...

Re: Share my grief....

*Message #4 Posted by **Thomas Radtke** on 8 Nov 2011, 7:25 a.m.,*
in response to message #3 by Alexander Oestert

> Quote:
>
> I'm also in Hamburg and I find it very interesting that DHL even tried to deliver the package to you and wanted to collect customs fees. I was never that lucky, I had always to go to the central customs office which is now based in Hafencity and 'bail out' my deliveries all by myself!

If declaration and bill are visibly accessible from the outside, then DHL may cash the custom fees. I was lucky enough to have it delivered to me on a Saturday, which was a big surprise since I already considered it lost.

I underline your idea with the 'Verlustmeldung'. It's worth a try.

Re: Share my grief....

*Message #5 Posted by **Alexander Oestert** on 8 Nov 2011, 7:39 a.m.,*
in response to message #4 by Thomas Radtke

> Quote:
>
> If declaration and bill are visibly accessible from the outside

My last one was my 15c LE delivery from Samson Cables which must have looked just the same as Chris', I suppose. But I'm not complaining: I safely got mine!

Re: Share my grief....

*Message #6 Posted by **John B. Smitherman** on 8 Nov 2011, 7:17 a.m.,*
in response to message #1 by cbuhmann

If you can find the name of a high level manager in DHL's organization I would write and call them to request that they intervene to try to solve your problem.

Good luck,

John

Office delivery

*Message #7 Posted by **Frank Boehm (Germany)** on 8 Nov 2011, 9:55 a.m.,*
in response to message #1 by cbuhmann

Just a silly advice: If there is a risk of customs handling *never* use your office address as a delivery address. In most cases, you need to pick up the package at local customs and they will issue an invoice to your company (requiring ZOLL ATLAS number, Warentarifgruppe and so on) which could lead to all kind of taxing troubles. You might be able to talk them out of a company invoice when an invoice sheet with your home address is included - but that rarely seems to be the case.

Honestly, I don't think there is a way to reroute the package back into delivery, but you should simply call DHL to find out.
I have this number on file, not sure if it still works:
DHL Gold: 01803-221122
Otherwise, the DHL web site should have a more "public" number available.

Re: Office delivery

*Message #8 Posted by **cbuhmann** on 8 Nov 2011, 11:42 a.m.,*
in response to message #7 by Frank Boehm (Germany)

Hi all, I tried it now with a "Verlustmeldung" (=declaration the parcel is lost). Let's see if I have success.

I tried in the beginning nearly every day to call DHL, also at the hotline they could not understand.

Seems that many others from Germany ordered their machines.

Rgds Christian

Btw: Here is the tracking ;)

> Quote:
>
> Mi, 21.09.11 15:33 Uhr DE Die Sendung ist im Start-Paketzentrum eingetroffen.
>
> Do, 22.09.11 06:36 Uhr DE Die Sendung ist im Export-Paketzentrum eingetroffen.
>
> Do, 22.09.11 06:38 Uhr DE Die Sendung wird ins Zielland transportiert.
>
> Mo, 26.09.11 09:57 Uhr IPZ-Ffm, DE Die Sendung ist im Zielland eingetroffen.
>
> Mi, 28.09.11 10:19 Uhr IPZ-Ffm, DE Die Sendung aus dem Ausland ist im Import-Paketzentrum eingetroffen. Mi, 28.09.11 16:20 Uhr Saulheim, DE Die Sendung wurde im Start-Paketzentrum bearbeitet.
>
> Do, 29.09.11 03:32 Uhr Hamburg, DE
>
> Die Sendung wurde im Ziel-Paketzentrum bearbeitet.
>
> Do, 29.09.11 07:42 Uhr Hamburg-Allermöhe, DE Die Sendung wurde in das Zustellfahrzeug geladen.
>
> Do, 29.09.11 10:54 Uhr Rücksendung eingeleitet Der Empfänger hat die Annahme der Sendung verweigert.

Fr, 07.10.11 18:12 Uhr Hamburg, DE Die Sendung wurde im Paketzentrum bearbeitet.

Fr, 07.10.11 18:15 Uhr Hamburg, DE Die Auslands-Sendung wurde im Start-Paketzentrum bearbeitet.

Sa, 08.10.11 04:41 Uhr Saulheim, DE Die Auslandssendung wurde im Export-Paketzentrum bearbeitet

---

Re: Office delivery

*Message #9 Posted by **Alexander Oestert** on 8 Nov 2011, 12:25 p.m.,*
in response to message #8 by cbuhmann

Are you sure the parcel is still in Germany? Judging from your last tracking date I would guess it is back at Samson Cables. Have you contacted them about it?

Re: Office delivery

*Message #10 Posted by **Borja** on 8 Nov 2011, 1:05 p.m.,*
in response to message #9 by Alexander Oestert

Samson Cables people are very friendly, so I would contact them.

They made a mistake with my order. I had ordered two units and they sent just one.

I emailed them and within hours there was a second package on its way. Of course it's frustrating to open the package and find out thay despite having paid for two units you get only one, but they really did their best to amend the problem.

In the worst case, if the package has gotten back to them, I assume they will accept to ship it back, with you paying just the shipping cost again, which is fair solution, after all they didn't refuse the package ;)

most likely back to the US already

*Message #11 Posted by **Frank Boehm (Germany)** on 9 Nov 2011, 4:18 a.m.,*
in response to message #8 by cbuhmann

DHL tracking is nice and fun, but often misleading. Usually, foreign tracking numbers are not "compatible", so once the package is handed over, a new tracking number is attached (of course there is no way to find out that number) and the package status will not change (at least not until the end of the world).
I would assume the package has long been returned.
But then there is another possibility: when doing international shipping, you have to chose between two options in case the package cannot be delivered: "return to sender using the cheapest shipping option" or "give up". The second option would be %&$&$&$

Re: Share my grief....

*Message #12 Posted by **Thomas Radtke** on 9 Nov 2011, 5:29 a.m.,*
in response to message #1 by cbuhmann

One thing I don't understand: How could a different person initiate a RTS? If the addressee is not available,

usually a notice is left and the parcel goes back to the depot, waiting for you for a week or two.

The postman must have had a really bad day to not propose that option to the receptionist :-(.

Re: Share my grief....

*Message #13 Posted by **Maximilian Hohmann** on 9 Nov 2011, 9:41 a.m.,*
in response to message #12 by Thomas Radtke

Hello!

> Quote:
>
> One thing I don't understand: How could a different person initiate a RTS?

The postman can check one of several boxes on his mobile terminal: like "Nicht angetroffen" (adressee not present) or "Annahme verweigert" (acceptance refused). In the first case, a message will be left in the post box (or at the receptionists desk in this case) and the parcel will be stored at the nearest post office for a week. In the second case, it will go straight back to the sender. Oviously, the postman took the receptionists „I will not pay for this“ as a refusal.

As others already said: Private stuff -> private address!

But grief for a modern LCD calculator? Or even share this grief? Certainly not. Had it been a red-dot 35 in an unopened box, I might have shared some of your grief though...

Regards, max

Edited: 9 Nov 2011, 9:42 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Bugs in V3.0

*Message #1 Posted by **fhub** on 7 Nov 2011, 5:56 p.m.*

It's better to start a new thread, because the buglist in V3.0 seems to be endless ... :-(

Next bug: the register browser (with [f][EXIT]) doesn't work correctly anymore - first it shows RgX, but with arrow-up/down it immeadiately switches to R00 or R99 and you can't get back to the stack registers anymore.

Edit: and now I found another thing, but this is the same in ALL previous versions I have (back to SVN 1294): when I'm in the register browser and switch to the flag browser (with [->]), then I just see "not numeric" for every flag number I chose!?
Maybe I misunderstand something here, but what's the purpose of this flag browser when I don't see which flag is set or cleared?
(but as I already said, it seems this feature has never worked)

Edited: 7 Nov 2011, 7:25 p.m. after one or more responses were posted

Re: [WP34s] Bugs in V3.0

*Message #2 Posted by **Dominic Richens** on 7 Nov 2011, 7:07 p.m.,*
in response to message #1 by fhub

Might be good to have this kind of detailed testing discussion on the sourceforge forum:

https://sourceforge.net/projects/wp34s/forums/forum/1342471

You can create a new "V3.0 bugs" topic under "Open Discussion".

P.S. I'm enjoying these discussions between Franz, Marcus, Walter and Pauli and will follow them wherever they happen I'm just concerned that: a) not everyone feels the same b) it'll be easier to search the discussion if it's stored in sourceforge's forum.

Edited: 7 Nov 2011, 7:13 p.m.

Re: [WP34s] Bugs in V3.0

*Message #3 Posted by **fhub** on 7 Nov 2011, 7:17 p.m.,*
in response to message #2 by Dominic Richens

> Quote:
>
> Might be good to have this kind of detailed testing discussion on the sourceforge forum:
>
> https://sourceforge.net/projects/wp34s/forums/forum/1342471

Yes, in principle you are right, but there's only one big problem: with my old internet notebook (Win98 + IE6) I can't create an account on sourceforge - I've already tried it many times. :-(

Franz

Re: [WP34s] Bugs in V3.0

*Message #4 Posted by **Marcus von Cube, Germany** on 8 Nov 2011, 2:21 a.m.,*
in response to message #1 by fhub

Do you remember the old Beatles tune "Fixing a Hole?". Seems to be the right soundtrack here.

I already found some of your bugs. Maybe I was too tired yesterday to check them in or recompile the binaries. I'll report back when they are fixed.

Yes, WP 34S is a **huge** construction site at the moment. Taking the elevator may make you drop down its shaft instead of taking you to the desired floor. Your bug reports are very welcome at the moment. You know my email. If it's getting too detailed, contact me directly.

Re: [WP34s] Bugs in V3.0

*Message #5 Posted by **Marcus von Cube, Germany** on 8 Nov 2011, 3:40 a.m.,*
in response to message #1 by fhub

> Quote:
>
> Next bug: the register browser (with [f][EXIT]) doesn't work correctly anymore - first it shows RgX, but with arrow-up/down it immeadiately switches to R00 or R99 and you can't get back to the stack registers anymore.

This one was fixed last night but not committed. Typing a '.' toggles between X and the local registers if there are any defined at the moment.

> Quote:
>
> Edit: and now I found another thing, but this is the same in ALL previous versions I have (back to SVN 1294): when I'm in the register browser and switch to the flag browser (with [->]), then I just see "not numeric" for every flag number I chose!?
> Maybe I misunderstand something here, but what's the purpose of this flag browser when I don't see which flag is set or cleared?
> (but as I already said, it seems this feature has never worked)

This is a misconception. The register browser does not show any **Fl**ags but accesses the **Fl**ash backup instead. On the hardware the backup area is always valid but on the emulator you need(ed) to have a valid wp43s-R.dat file for this. I've automated the process: If no backup exists, the backup area and the RAM contain the same data when the program starts.

I changed the display in the browser to "Bkup" to make this clearer. Revision 1847 contains the changes.

Re: [WP34s] Bugs in V3.0

*Message #6 Posted by **fhub** on 8 Nov 2011, 4:57 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> This is a misconception. The register browser does not show any **Fl**ags but accesses the **Fl**ash backup instead.

Ahhh, so my "Maybe I misunderstand something here" was the right guess. :-)

Re: [WP34s] Bugs in V3.0

*Message #7 Posted by **fhub** on 18 Nov 2011, 7:25 a.m.,*
in response to message #6 by fhub

Since yesterdays release SVN1879 there's a serious new bug.
Suddenly my polynomial solver stopped to work correctly, and I could track it down to the SLVQ command, which now seems to clear the return stack and immediately stops the program with the program counter at 000.

The only difference for SLVQ in xrom.wp34s that I can see is this new XLOCAL command (instead of the previous LocR 04), so I guess the problem is anywhere in these new "private XROM local registers" introduced in SVN1879.
And I find this XLOCAL also in a few other routines in xrom.wp34s, so I guess these commands will also make problems!?

Franz

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #8 Posted by **Marcus von Cube, Germany** on 18 Nov 2011, 10:46 a.m.,*
in response to message #7 by fhub

Thanks for the pointer. I need to check this out.

Edit: Should be fixed now (was a bad one!)

Edited: 18 Nov 2011, 11:06 a.m.

Re: [WP34s] Bugs in V3.0

*Message #9 Posted by **fhub** on 23 Nov 2011, 2:02 p.m.,*
in response to message #7 by fhub

Has there anything changed wrt. the shortcut-keys [A]-[D]?

Suddenly (with todays SVN) [A] doesn't execute LBL A anymore, but just executes Sigma+. :-(

Franz

Re: [WP34s] Bugs in V3.0 - I'm sorry

*Message #10 Posted by **Marcus von Cube, Germany** on 23 Nov 2011, 2:47 p.m.,*
in response to message #9 by fhub

Franz, I'm working on this and may have broken it. I'll check it tonight.

Edit: should be fixed.

Edited: 23 Nov 2011, 3:14 p.m.

Re: [WP34s] Bugs in V3.0 - I'm sorry

*Message #11 Posted by **fhub** on 23 Nov 2011, 4:01 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> Edit: should be fixed.

Yep, working again, thanks! :-)

Re: [WP34s] Bugs in V3.0

*Message #12 Posted by **fhub** on 26 Nov 2011, 5:03 p.m.,*
in response to message #7 by fhub

Next bug:

CPX RCL * doesn't work anymore (the * is just not accepted after CPX RCL)

CPX RCL + doesn't work, it gives C RCL K

I guess I should better just ignore all new SVNs ... :-(

Franz

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #13 Posted by **Marcus von Cube, Germany** on 26 Nov 2011, 5:20 p.m.,*
in response to message #12 by fhub

You are one of our most valuable testers. Keep going!

I have to check this out.

EDIT: This was a stupid attempt at an optimization which didn't save a single byte but broke things. :-(

Edited: 26 Nov 2011, 5:43 p.m.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #14 Posted by **fhub** on 26 Nov 2011, 5:49 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> This was a stupid attempt at an optimization which didn't save a single byte but broke things. :-(

Well, too much 'optimization' isn't always a good idea. ;-)

Re: [WP34s] Bugs in V3.0

*Message #15 Posted by **fhub** on 27 Nov 2011, 6:55 a.m.,*
in response to message #7 by fhub

And the next one:

The stack is: X:1 Y:2 Z:3 T:4

After executing CPX RCL X the stack is: X:1 Y:1 Z:1 T:2

After executing CPX RCL Z the stack is: X:1 Y:2 Z:1 T:2

Slowly I'm wondering what is still working at all, the current SVN version is in fact absolutely unreliable and thus unusable. :-(

Franz

Re: [WP34s] Bugs in V3.0

*Message #16 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 8:44 a.m.,*
in response to message #15 by fhub

I don't think these are any new bugs. I assume this has ever been the way you found out.

The problem with cRCL Z seems to be that the stack lift is performed before the command is carried out which leads to the result you see. In the case of cRCL X, there seems to be an additional issue with the direction of the memory copy. This seems all to be a little bogus to me and I'll check with Pauli what can be done about it. It's certainly not a new problem.

Re: [WP34s] Bugs in V3.0

*Message #17 Posted by **fhub** on 27 Nov 2011, 9:00 a.m.,*
in response to message #16 by Marcus von Cube, Germany

> Quote:
>
> I don't think these are any new bugs. I assume this has ever been the way you found out.

Well, it's at least new since 2.3 (or 3.0).
I've tried it with the last stable 2.2 version (SVN 1797), and both commands work correctly as they should, and not like in the new 3.0 SVNs. But even my last 3.0 SVN 1865 (which I thought would be a correct release) shows this new buggy behaviour, so it would be needed to go back even before 1865 to find where this bug (and it definitely is one!) has been introduced.

> Quote:
>
> The problem with cRCL Z seems to be that the stack lift is performed before the command is carried out which leads to the result you see. In the case of cRCL X, there seems to be an additional issue with the direction of the memory copy. This seems all to be a little bogus to me and I'll check with Pauli what can be done about it. It's certainly not a new problem.

Well, I don't really care about stack lifting or not - a cRCL Z should put Z and T in X and Y, and a cRCL X should do the same (and so move X and Y to Z and T). I think there's no discussion about this.

Edited: 27 Nov 2011, 9:01 a.m.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #18 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 9:29 a.m.,*
in response to message #17 by fhub

I agree that the behaviour is wrong. We have to investigate the reasons. It's most certainly not a change in the keyboard engine but some other code change. Thanks again for finding this out.

Edit: On my V2.2 (1782) 30b, cRCL Z returns the same (bogus) values you are reporting.

Edit 2: The code wasn't using intermediate variables which caused the stack lift and the recall

to interfere if the source register pair lived on the stack. Should be fixed now.

Edited: 27 Nov 2011, 10:19 a.m. after one or more responses were posted

Re: [WP34s] Bugs in V3.0

*Message #19 Posted by **Walter B** on 27 Nov 2011, 10:17 a.m.,*
in response to message #18 by Marcus von Cube, Germany

That's a real old one: even on my v2.0 build 1108 complex RCL Z returns these wrong values. It does a proper stack lift, however, so there are 1 2 1 2 3 4 in levels X through B (guess what stack size I use ;-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #20 Posted by **fhub** on 27 Nov 2011, 10:27 a.m.,*
in response to message #18 by Marcus von Cube, Germany

> Quote:
>
> Edit: On my V2.2 (1782) 30b, cRCL Z returns the same (bogus) values you are reporting.

Yes, you're right, now I've tried it again with all my older versions and the bug indeed is in all versions.
Don't know what I've done wrong in my first trial!? :(

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #21 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 10:33 a.m.,*
in response to message #20 by fhub

I've just checked in my bugfix.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #22 Posted by **fhub** on 27 Nov 2011, 10:40 a.m.,*
in response to message #21 by Marcus von Cube, Germany

Are now both bugs fixed, also cRCL X ?

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #23 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 10:49 a.m.,*
in response to message #22 by fhub

It was all the same bug. The code was using pointers to the source registers and then doing a stack lift which moved the data away before it was accessed. "Shift happens." :-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #24 Posted by **fhub** on 27 Nov 2011, 11:00 a.m.,*
in response to message #23 by Marcus von Cube, Germany

Ok, then until the next one ... ;-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #25 Posted by **Alexander Oestert** on 27 Nov 2011, 1:39 p.m.,*
in response to message #23 by Marcus von Cube, Germany

If there is going to be a bug fixed V2 (old keyboard layout), I would be pleased to be pointed to it.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #26 Posted by **Marcus von Cube, Germany** on 27 Nov 2011, 2:08 p.m.,*
in response to message #25 by Alexander Oestert

Alexander, I don't have a problem if you take care of this. Here is the code I changed:

xeq.c:

```
static void do_crcl(const decimal64 *t1, const decimal64
*t2, enum rarg op) {
        decNumber r1, r2;


        if (op == RARG_CRCL) {
                decimal64 x = *t1;
                decimal64 y = *t2;
                lift2_if_enabled();
                regX = x;
                regY = y;
        } else {
                ... // no changes in this part
        }
        set_was_complex();
}
```

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #27 Posted by **fhub** on 27 Nov 2011, 2:14 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> Alexander, I don't have a problem if you take care of this. Here is the code I changed:

Well, I doubt that many here (including me) have the environment to change and compile the WP34s project themselves.
So it would indeed be a good idea to release an updated/bigfixed V2.2 version (maybe the last stable SVN 1797 would be a good candidate).

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #28 Posted by **Alexander Oestert** on 27 Nov 2011, 2:18 p.m.,*
in response to message #26 by Marcus von Cube, Germany

Thanks for the honor but I have absolutely NO idea how to do this. And frankly, even in my wildest dreams I don't picture myself learning to read and write code or install IDEs and compilers on my

netbook or iPhone... ;-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #29 Posted by **Alexander Oestert** on 28 Nov 2011, 1:41 a.m.,*
in response to message #28 by Alexander Oestert

I just wanted to add that I'm perfectly happy with my V2 version as it is. I will most probably never ever encounter this bug while using it - or any other, for that matter. So only if one fine day you definitely have no better things to do, only then you may consider working on V2. It is in no way urgent to me and I will live happily ever after praising the WP34s in the state it is in right now! :-)

Thanks to you and the whole team for making it and for putting so much time and effort in it!

Edited: 28 Nov 2011, 10:56 a.m.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #30 Posted by **Dominic Richens** on 28 Nov 2011, 11:17 a.m.,*
in response to message #26 by Marcus von Cube, Germany

sound like time to create a V2.2 branch (I know, I sound like a broken record :-)

What Revision should be used: 1797?

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #31 Posted by **Walter B** on 28 Nov 2011, 2:47 p.m.,*
in response to message #30 by Dominic Richens

Build 1797 is a good start. Then read SVN, especially the short release notes accompanying each build.

We will proceed with what's going to be v3.0, however, as Pauli posted here earlier already. Sorry, but we simply don't have the resources to follow two development lines at the same time - may lead to losing both tracks shortly.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #32 Posted by **Dominic Richens** on 28 Nov 2011, 5:57 p.m.,*
in response to message #31 by Walter B

> Quote:
>
> Build 1797 is a good start. Then read SVN, especially the short release notes accompanying each build.

1800 was labelled "safety checking" and appears to be the

beginning of the local register code so I would start with 1798.

> Quote:
>
> Sorry, but we simply don't have the resources to follow two development lines at the same time - may lead to losing both tracks shortly.

Agreed, there should be another (group of) volunteer(s) that takes care of back-props to V2.2. I'll see if I can get around to creating the V2.2 branch this week. Then I have to re-install the ARM cross compile environment.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #33 Posted by **fhub** on 28 Nov 2011, 6:04 p.m.,*
in response to message #32 by Dominic Richens

> Quote:
>
> 1800 was labelled "safety checking" and appears to be the beginning of the local register code so I would start with 1798.

1798 was no build, it was just a source change with a macro removed.
The last 2.2 build version was indeed 1797.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #34 Posted by **Dominic Richens** on 28 Nov 2011, 8:53 p.m.,*
in response to message #33 by fhub

My rationale is that 1798 was a zero-risk change (removed code that was #ifdef'd out) that will make merging fixes easier.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #35 Posted by **Dominic Richens** on 3 Dec 2011, 7:38 a.m.,*
in response to message #34 by Dominic Richens

I have created wp34s/branches/V2.2 and submitted the fixed xeq.c along with an updated wp34sgui.exe.

When I'm back at work Monday (where my serial cable is) and I can test the calc.bin I'll commit that too, along with another wp34sgui.exe with the correct VERS.

We have to figure out what will be in the V2.2.zip file now. The equivalent would be everything under wp34s *except* trunk. Perhaps we should do

something more paired down? Just the V2.2. manual, the library, DLLs and binaries?

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #36 Posted by **Marcus von Cube, Germany** on 3 Dec 2011, 2:05 p.m.,*
in response to message #35 by Dominic Richens

You may need to branch the library, too.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #37 Posted by **Dominic Richens** on 4 Dec 2011, 1:32 a.m.,*
in response to message #36 by Marcus von Cube, Germany

Technically that means library needs to move under trunk. I could just make a copy under branches/V2.2 I guess it really depends on whether we think we'll have a V4.0 one day with new command mnemonics.

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #38 Posted by **Paul Dale** on 4 Dec 2011, 1:34 a.m.,*
in response to message #37 by Dominic Richens

V4 is very unlikely :-) At least on this hardware platform.

- Pauli

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #39 Posted by **Walter B** on 4 Dec 2011, 2:29 p.m.,*
in response to message #38 by Paul Dale

> Quote:
>
> V4 is very unlikely :-) At least on this hardware platform.

I concur :-) The display, you know ...

Walter

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #40 Posted by **Marcus von Cube, Germany** on 4 Dec 2011, 3:01 p.m.,*
in response to message #39 by Walter B

If you take it seriously, the platform is inappropriate for all versions we have created

so far. ;-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #41 Posted by **Walter B** on 4 Dec 2011, 5:09 p.m.,*
in response to message #40 by Marcus von Cube, Germany

> Quote:
>
> the platform is inappropriate for all versions we have created so far. ;-)

Don't exaggerate! Sitting in the corner moaning about the reality isn't the way we chose. We started with a platform featuring a mushy keyboard - now we've got a far better one. Maybe we'll even see a better display once - hope dies last ;-)

Re: [WP34s] Bugs in V3.0 - Fixed!

*Message #42 Posted by **Marcus von Cube, Germany** on 4 Dec 2011, 5:17 p.m.,*
in response to message #41 by Walter B

Read my comment the other way round: We've achieved results we ourselves had never envisioned before we actually implemented them.

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #43 Posted by **Dominic Richens** on 5 Dec 2011, 1:50 p.m.,*
in response to message #34 by Dominic Richens

I've patched, built and tested the V2.2 version of calc.bin. You can download it and install it with MySamba.

The revision number is 1990, which is a sub-version-ism, but it still says V2.2

I have also uploaded a new version of the V2.2 zip file, called wp34s-V22-1990.zip.

Going forward I'm open to suggestions as to what fixes should be ported over. I'd be open to doing a monthly update to the V2.2 load.

dominic

Edited: 7 Dec 2011, 12:50 p.m. after one or more responses were posted

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #44 Posted by **Marcus von Cube, Germany** on 5 Dec 2011, 2:36 p.m.,*
in response to message #43 by Dominic Richens

> Quote:
>
> I haven't updated the V2.2 zip file, coz I haven't quite figured out how, other than taking, replacing the relevant files and re-uploading it as is.

That's how it goes.

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #45 Posted by **Jeff O.** on 5 Dec 2011, 2:59 p.m.,*

in response to message #43 by Dominic Richens

I find reference to cRCL X and cRCL Z in this thread. Are those the bugs in 1797 that have been fixed with 1990? Any others?

Edited: 5 Dec 2011, 3:08 p.m.

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #46 Posted by **Dominic Richens** on 5 Dec 2011, 4:02 p.m.,*
in response to message #45 by Jeff O.

yes, that was the only bug fixed in 1990.

are there other?

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #47 Posted by **Jeff O.** on 6 Dec 2011, 8:09 a.m.,*
in response to message #46 by Dominic Richens

Seems like there must be some. The only thing I have noticed recently (which may or may not be considered a bug), is that when single-stepping through a program, if an alpha prompt is encountered which would normally be displayable in large font, it will instead be displayed in small font.

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #48 Posted by **Dominic Richens** on 6 Dec 2011, 12:16 p.m.,*
in response to message #47 by Jeff O.

> Quote:
>
> Seems like there must be some.

Jeff, be nice :D :D

I dumped the commit comments into a wiki4hp page - if you see anything there that looks like a fix to a bug in V2.2, please let me know. It think there maybe some fixes to some of the probability functions.

> Quote:
>
> The only thing I have noticed recently (which may or may not

> be considered a bug), is that when single-stepping through a program, if an alpha prompt is encountered which would normally be displayable in large font, it will instead be displayed in small font.

I won't be propagating cosmetic fixes.

Re: [WP34s] Bugs in V2.2 - fixed too!

*Message #49 Posted by **Jeff O.** on 6 Dec 2011, 1:55 p.m.,*
in response to message #48 by Dominic Richens

> Quote:
>
> > Quote:
> >
> > Seems like there must be some.
>
> Jeff, be nice :D :D

I intended no disparagement. If there are no other bugs, that means perfection has been reached, which seems a tall claim to make, that's all :-)

> Quote:
>
> I won't be propagating cosmetic fixes.

Understood. If I discover a defect in operation, I shall inform you.

Edited: 10 Dec 2011, 12:58 p.m.

Re: [WP34s] Bugs in V3.0

*Message #50 Posted by **fhub** on 1 Dec 2011, 8:04 a.m.,*
in response to message #15 by fhub

And again something broken in the latest build SVN 1967: the quadratic solver SLVQ doesn't work anymore!

If I run it without any program loaded (i.e. after a fresh install with "Erased") it just does nothing.
And if I've loaded a program and I'm within this program (i.e. have previously switched to program mode and moved down a few steps), then SLVQ (back in manual mode) seems to execute **any** step of this program and thus ends up in any error message.
The same if SLVQ is used in a program: in this case SLVQ just seems to jump to any program step.

And a different problem: when I load a flash region with PRCL n, then a simple R/S doesn't start the

loaded program - it works only if I first switch to program mode, make at least a SST, go back to manual mode and R/S again.

Edit1: also scrolling with [h][CAT] doesn't work with [up] when at the beginning of the list ([down] at the end works)

Edit2: all mentioned problems did not happen with SVN 1950/51 from 29.Nov.

Franz

Edited: 1 Dec 2011, 10:18 a.m.

Re: [WP34s] Bugs in V3.0

*Message #51 Posted by **Marcus von Cube, Germany** on 1 Dec 2011, 11:45 a.m.,*
in response to message #50 by fhub

Thanks for the report. There is certainly more broken than you have found because we did a major rewrite of label search and such to support END. This affects all programs, not only those actually containing an END statement.

Until we have ironed out this all, you should better revert to an earlier release for actual work.

Re: [WP34s] Bugs in V3.0

*Message #52 Posted by **fhub** on 1 Dec 2011, 12:01 p.m.,*
in response to message #51 by Marcus von Cube, Germany

> Quote:
>
> This affects all programs, not only those actually containing an END statement.

I've not yet included and END to my Laguerre solver which I'm still working on.

> Quote:
>
> Until we have ironed out this all, you should better revert to an earlier release for actual work.

Well, if I'd stay with an older stable release I couldn't find and report any errors in your new code ... ;-)

Re: [WP34s] Bugs in V3.0

*Message #53 Posted by **Marcus von Cube, Germany** on 1 Dec 2011, 12:54 p.m.,*
in response to message #52 by fhub

> Quote:
>
> Well, if I'd stay with an older stable release I couldn't find and report any errors in your new code ... ;-)

This is very much appreciated. I found a bug in the XROM calling code (the label in XROM wasn't found and no error thrown). I don't know if that has an effect on the other bugs found but SLVQ should work again. PRCL needed an update, too.

I won't have time to do much work on the project in the next few days but I'll try to fix the

bad bugs at least.

Re: [WP34s] Bugs in V3.0

*Message #54 Posted by **fhub** on 1 Dec 2011, 6:30 p.m.,*
in response to message #53 by Marcus von Cube, Germany

> Quote:
>
> I won't have time to do much work on the project in the next few days but I'll try to fix the bad bugs at least.

Well, your last 'bugfix' makes the emulator now completely unusable. :-(

Starting the emulator, clicking on R/S ---> Crash!
New start, trying to do PRCL n ---> Crash!
New start, trying to solve a quadr. equ. with SLVQ ---> Crash!

Good night ---> Crash! ;-)

Re: [WP34s] Bugs in V3.0

*Message #55 Posted by **Marcus von Cube, Germany** on 1 Dec 2011, 7:04 p.m.,*
in response to message #54 by fhub

> Quote:
>
> Good night ---> Crash! ;-)

No crash here. I assume SVN must have messed it up somehow. :-(

I did a recompile and checked it in again. The version is 1970.

Edited: 1 Dec 2011, 7:06 p.m.

Re: [WP34s] Bugs in V3.0

*Message #56 Posted by **fhub** on 2 Dec 2011, 11:00 a.m.,*
in response to message #55 by Marcus von Cube, Germany

> Quote:
>
> I did a recompile and checked it in again. The version is 1970.

Well Marcus, also this new compile 1970 crashes exactly the same way as 1969, so there was definitely something "kaputt" in it. ;-)

Fortunately in the current SVN 1974 these problems have disappeared again - they are working (almost) fine.

But there's one small bug in SVN 1974 I've just found, and it's about scrolling through the catalog ([h][CAT]):

If there is no program loaded in memory, then everything works fine - scrolling [down] and [up] is working correctly and is wrapping around at the bottom and top of the list.
But if you have (loaded) any program in RAM, then going [up] in the list

makes problems as soon as you reach the top of the list, i.e. your program in RAM. If you continue to press [up], then suddenly strange commands (instead of labels) appear in the list (and even 'exotic' characters), and finally the program crashes again.
These commands or strange characters look as if the catalog code would jump anywhere into the XROM code when pressing [up] beyond the top RAM program!?

So I guess I've finally found a way of 'Synthetic Programming' on the WP34s ... ;-)

Franz

Re: [WP34s] Bugs in V3.0

*Message #57 Posted by **Marcus von Cube, Germany** on 2 Dec 2011, 12:19 p.m.,*
in response to message #56 by fhub

> Quote:
>
> But if you have (loaded) any program in RAM, then going [up] in the list makes problems as soon as you reach the top of the list, i.e. your program in RAM. If you continue to press [up], then suddenly strange commands (instead of labels) appear in the list (and even 'exotic' characters), and finally the program crashes again. These commands or strange characters look as if the catalog code would jump anywhere into the XROM code when pressing [up] beyond the top RAM program!?

Here everything is working as expected. I may have to test it with the exact set of .dat files you are using. You know my e-mail address. Please zip it up for me! (I need everything ending on .dat in your working directory).

Re: [WP34s] Bugs in V3.0

*Message #58 Posted by **fhub** on 2 Dec 2011, 12:38 p.m.,*
in response to message #57 by Marcus von Cube, Germany

> Quote:
>
> Here everything is working as expected. I may have to test it with the exact set of .dat files you are using. You know my e-mail address. Please zip it up for me! (I need everything ending on .dat in your working directory).

Ok, sent!

But I've tried it and it works (or better: crashes) with any dat-files.

Re: [WP34s] Bugs in V3.0

*Message #59 Posted by **Marcus von Cube, Germany** on 2 Dec 2011, 1:08 p.m.,*
in response to message #58 by fhub

> Quote:

> But I've tried it and it works (or better: crashes) with any dat-files.

Should be "crashed" now.

Re: [WP34s] Bugs in V3.0

*Message #60 Posted by **fhub** on 2 Dec 2011, 1:31 p.m.,*
in response to message #59 by Marcus von Cube, Germany

> Quote:
>
> Should be "crashed" now.

Yes, it's working now!
But the bad thing is, that now there's no chance anymore for synthetic programming. :-(
(and I was already looking forward to a 'flying goose' on the display ... ;-))

BTW, is it normal (intended) that immediately after loading a program/flash with 'PRCL n', a simple [R/S] doesn't work, ie. doesn't start the program?
Only after switching to program mode and going one step down (to the program label) R/S starts the program.
I guess the program counter isn't set automatically INTO the first program when you load a flash dat-file!?

Franz

Re: [WP34s] Bugs in V3.0

*Message #61 Posted by **Marcus von Cube, Germany** on 2 Dec 2011, 1:43 p.m.,*
in response to message #60 by fhub

> Quote:
>
> BTW, is it normal (intended) that immediately after loading a program/flash with 'PRCL n', a simple [R/S] doesn't work, ie. doesn't start the program? Only after switching to program mode and going one step down (to the program label) R/S starts the program. I guess the program counter isn't set automatically INTO the first program when you load a flash dat-file!?

Definitely not! I've no time to work on this now (my table tennis team is waiting). It's a bug and must be related to the new handling of program bounds.

Re: [WP34s] Bugs in V3.0

*Message #62 Posted by **fhub** on 4 Dec 2011, 6:50 a.m.,*

in response to message #15 by fhub

No end in buglist ... ;-)

Today I wanted to enter a "cpx x~~0?" (in SVN1977) just to see that this command is not accepted.

After clicking [CPX][h][TEST] the command "Cx~~_?" appears, but when I now enter 0 or 1 then I get "undefined op-code" (or ??? in programming mode), and when I enter 2 (or any higher number) I get a "SKIP 2_" instead of the complex-compare.

Happy bugfixing, :-)
Franz

Edited: 4 Dec 2011, 6:51 a.m.

Re: [WP34s] Bugs in V3.0

*Message #63 Posted by **Marcus von Cube, Germany** on 4 Dec 2011, 11:43 a.m.,*
in response to message #62 by fhub

The complex approximate compares never worked correctly and were removed sometime ago. Leftovers of the code were still present in the keyboard handler which made it possible to enter unimplemented commands. Thanks again for you detective work!

Re: [WP34s] Bugs in V3.0

*Message #64 Posted by **fhub** on 4 Dec 2011, 12:02 p.m.,*
in response to message #63 by Marcus von Cube, Germany

> Quote:
>
> The complex approximate compares never worked correctly and were removed sometime ago.

Well, that's also a method for bugfixing: simply removing the buggy code. ;-)

But I don't really understand the/your problem with complex approx compares? Shouldn't e.g. a "cpx x~~0?" be just equivalent to real compares "x~~0?" AND "y~~0?" ?
And the same for register Rn: "cpx x~~? nn" is equivalent to "x~~? nn" AND "y~~? nn+1".
Or does it mean that also real approx compares aren't working realiably or correctly?

Franz

[WP34s] Aprroximate compares.

*Message #65 Posted by **Marcus von Cube, Germany** on 4 Dec 2011, 12:26 p.m.,*
in response to message #64 by fhub

We had an internal discussion about it and an approximate compare of a complex number to zero only makes sense if you define a small circle around the origin of the complex plane and check if the number falls within the bounds of this circle. (The comparison between arbitrary numbers can be reduced to comparing the difference against zero). But what is the correct size of the circle? If you have a workable idea, we can rethink it.

From a math standpoint, the whole business of approximate compares is a bit flaky. The present implementation uses the display setting to round the number(s) and compare the rounded results. It would be better to define some system value epsilon and check if the difference of the compared values is smaller then epsilon. This doesn't scale very well. A

relative measure would be more appropriate.

Re: [WP34s] Aprroximate compares.

*Message #66 Posted by **fhub** on 4 Dec 2011, 12:52 p.m.,*
in response to message #65 by Marcus von Cube, Germany

I understand your considerations about these approximate compares in general, but I don't see any difference between real and complex numbers.
If you use the current display setting for real compares, then why not do the same for complex? And whether you test separately the real and imaginary part for being ~0, or you do it with the cABS value (which would mean your 'circle') is just a matter of taste.

Your idea with a system value 'eps' is indeed not that bad - and if one wants relative compares, well, then he has to do code it himself. ;-)

Re: [WP34s] Aprroximate compares.

*Message #67 Posted by **Marcus von Cube, Germany** on 5 Dec 2011, 2:14 a.m.,*
in response to message #66 by fhub

I did some research in my mail archive and found out that we didn't remove the code for approximate complex compares. *It had never bin in!*

Re: [WP34s] Aprroximate compares.

*Message #68 Posted by **Walter B** on 5 Dec 2011, 2:30 a.m.,*
in response to message #67 by Marcus von Cube, Germany

> Quote:
>
> *It had never bin in!*

A textbook example of binary overreacting ;-D

[Return to Index | Top of Index]

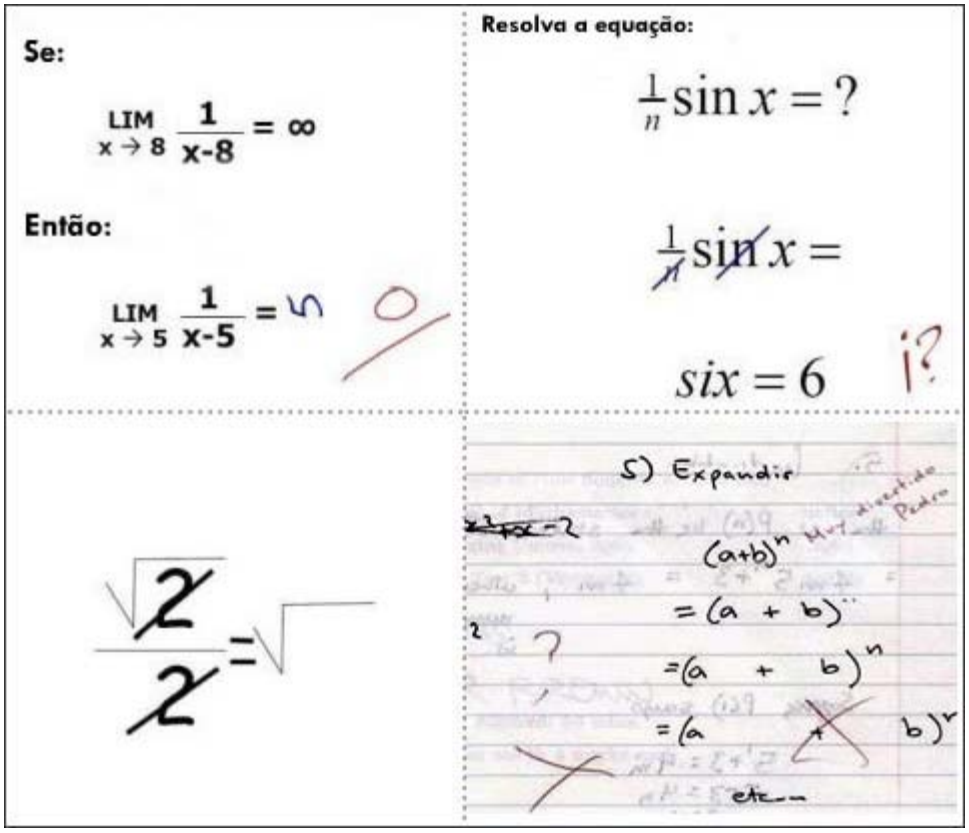
Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(O.T.) Calculators with CAS not allowed during examinations :-)

*Message #1 Posted by **Gerson W. Barbosa** on 7 Nov 2011, 1:39 p.m.*



Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #2 Posted by **Silvio A. Bensi** on 7 Nov 2011, 2:58 p.m.,*
in response to message #1 by Gerson W. Barbosa

Aonde você achou essas pérolas? (Where did you find these pearls?)

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #3 Posted by **Gerson W. Barbosa** on 7 Nov 2011, 3:09 p.m.,*
in response to message #2 by Silvio A. Bensi

Use "gênios da matemática" como chave de busca no Google Imagens. É uma das primeiras a aparecer.
(Use "gênios da matemática" as the search key in Google images)

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #4 Posted by **Lode** on 7 Nov 2011, 3:11 p.m.,*
in response to message #1 by Gerson W. Barbosa

This is strange, they have Portuguese (I think?) text on them, while I'm very sure I've seen the exact same pictures in English!

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

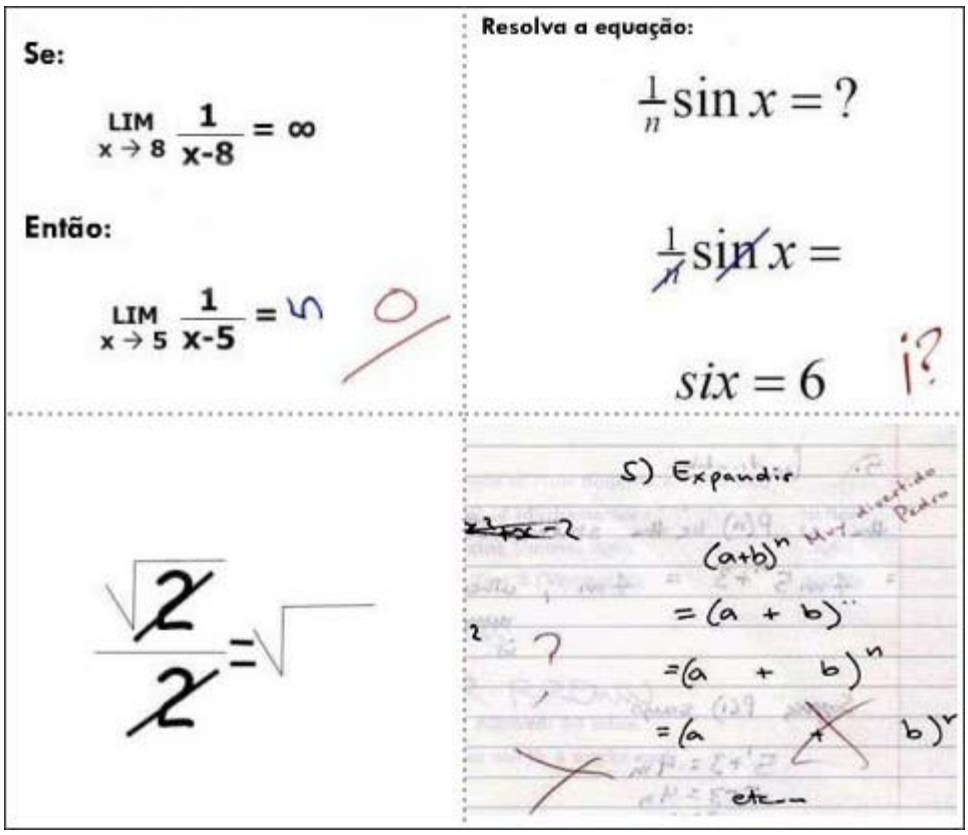
*Message #5 Posted by **Gerson W. Barbosa** on 7 Nov 2011, 3:22 p.m.,*
in response to message #4 by Lode

And the teacher's correction in the right is Spanish. Looks like these have been translated from Spanish, which in turn have been translated from English. None of them is real, I think.

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #6 Posted by **Eddie W. Shore** on 7 Nov 2011, 3:13 p.m.,*
in response to message #1 by Gerson W. Barbosa

Quote:

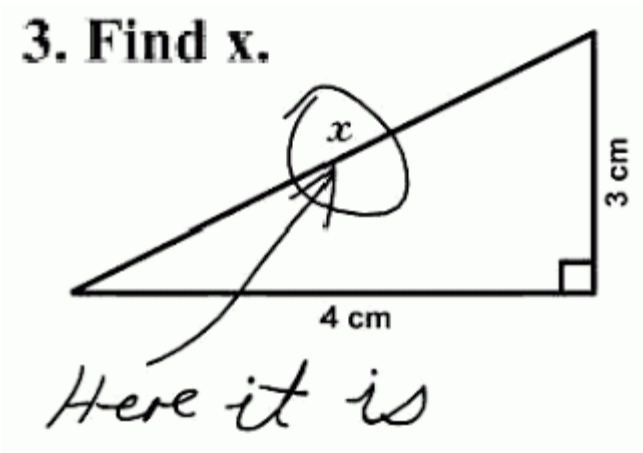


Too funny

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #7 Posted by **Valentin Albillo** on 7 Nov 2011, 3:35 p.m.,*
in response to message #1 by Gerson W. Barbosa

In the same vein ...



Best regards from V.

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #8 Posted by **Gerson W. Barbosa** on 7 Nov 2011, 4:07 p.m.,*
in response to message #7 by Valentin Albillo

This is one of my favorites. I remember I first saw it in this old thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=108630

The first link in Don's post is appears to be the original "Expand" joke.

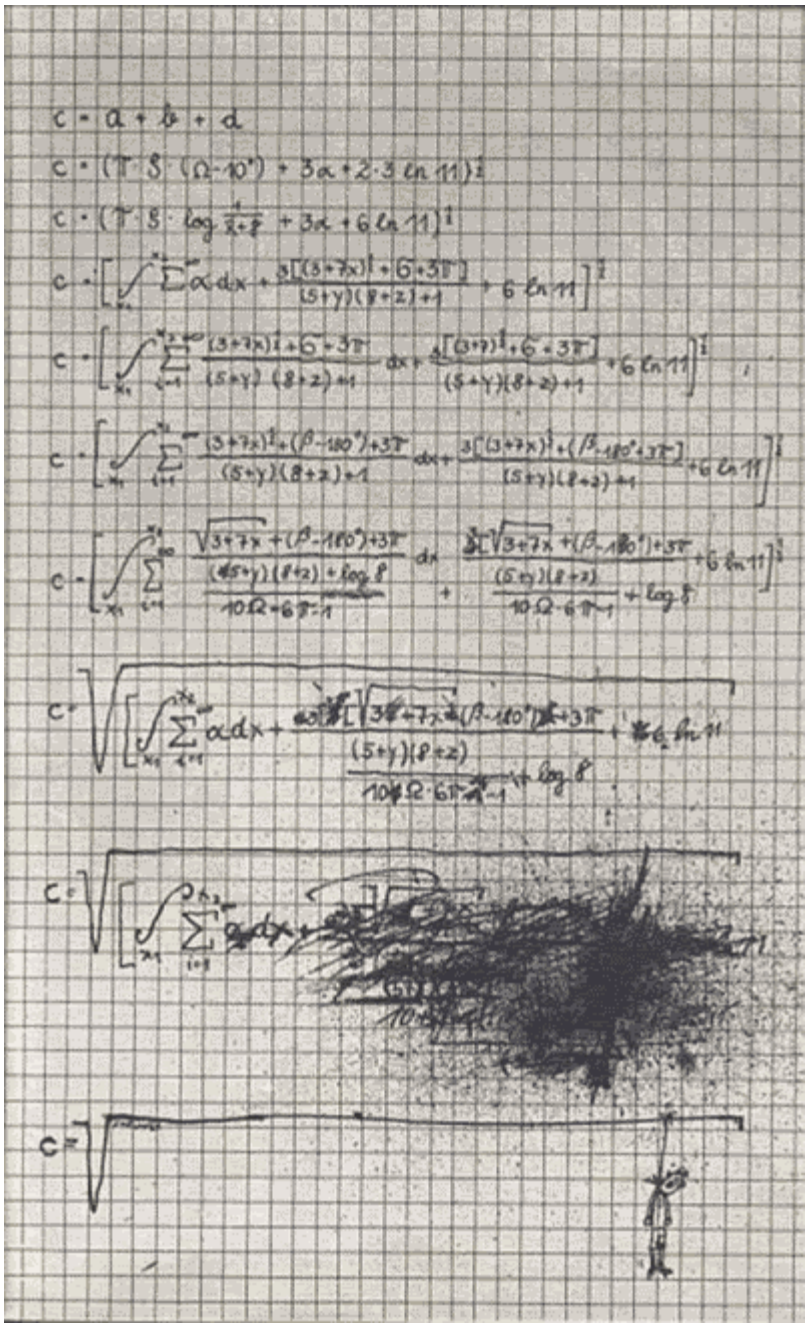
Best regards,

Gerson.

Re: (O.T.) Calculators with CAS not allowed during examinations :-)

*Message #9 Posted by **BruceH** on 7 Nov 2011, 4:35 p.m.,*
in response to message #1 by Gerson W. Barbosa

(O.T.) Calculators with CAS not allowed during examinations :-)



[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100 printer paper

*Message #1 Posted by **David Ramsey** on 7 Nov 2011, 11:01 a.m.*

The 9120a printer that sits on top of a 9100 calculator seems to be the electrostatic type: that is, the printhead electrically vaporizes a thin coating on the paper's surface to expose a black layer underneath.

I recall these printers from the 70s, but it's been decades since I've seen one or the special paper they use.

Are there still any sources for this paper?

Edited: 7 Nov 2011, 11:01 a.m.

Re: 9100 printer paper

*Message #2 Posted by **Katie Wasserman** on 7 Nov 2011, 12:04 p.m.,*
in response to message #1 by David Ramsey

I've never had any luck finding a supply of this other than on ebay and only very rarely. While I no longer have a 9100 and printer, I do have a couple of other calculators (Olivetti Divisumma 18 and a Sharp El-8151) that use electrosensitive paper (that's the proper name for it) and they are equally hard to find paper for.

Re: 9100 printer paper

*Message #3 Posted by **David Ramsey** on 7 Nov 2011, 6:08 p.m.,*
in response to message #2 by Katie Wasserman

Electrosensitive paper still seems to be used in the medical industry (makes sense, give that the printouts will never fade), but it all seems to be 2 5/16" width rather than the 2.5" width HP specs. Wonder if that would be a problem?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Please, let this forum be free of religion and politics

*Message #1 Posted by **Alexander Oestert** on 7 Nov 2011, 9:52 a.m.*

We have seen some incidents of discussions about religion here recently. I confess I have participated in some. I've already started to feel odd about some of the things that were said and about the people that said them. This is not a good thing. I'd rather not know at all about other forum participants' believes (and politics, for that matter) but enjoy talks about math, calculators and science in general.

In real life I very much enjoy all things philosophical, but they should never be mixed with other topics and are best discussed face to face .

Please join me to keep our believes and politics to ourselves!

Edited: 7 Nov 2011, 12:27 p.m. after one or more responses were posted

Re: Please, let this forum be free of religion and politics

*Message #2 Posted by **pascal_meheut** on 7 Nov 2011, 10:57 a.m.,*
in response to message #1 by Alexander Oestert

+1

Re: Please, let this forum be free of religion and politics

*Message #3 Posted by **Israel Otero** on 7 Nov 2011, 11:34 a.m.,*
in response to message #1 by Alexander Oestert

I like this site the way it is and be kept as such. Let the love for calculators unites us for a better world.

Edited: 7 Nov 2011, 7:23 p.m.

Re: Please, let this forum be free of religion and politics

*Message #4 Posted by **John B. Smitherman** on 7 Nov 2011, 12:01 p.m.,*
in response to message #1 by Alexander Oestert

Agreed. I've learned that there are three topics to avoid at work: religion, politics and gun control.

I think it's best to stick to calculators in this forum.

John

Re: Please, let this forum be free of religion and politics

*Message #5 Posted by **Jeff Kearns** on 7 Nov 2011, 12:53 p.m.,*
in response to message #4 by John B. Smitherman

Amen...

Re: Please, let this forum be free of religion and politics

*Message #6 Posted by **Kiyoshi Akima** on 7 Nov 2011, 1:42 p.m.,*
in response to message #1 by Alexander Oestert

Well, there go all discussions of RPN versus algebraic, or RPN versus RPL :-)

(Just kiddin'...)

Re: Please, let this forum be free of religion and politics

*Message #7 Posted by **Howard Owen** on 7 Nov 2011, 6:37 p.m.,*
in response to message #6 by Kiyoshi Akima

LOL!

Re: Please, let this forum be free of religion and politics

*Message #8 Posted by **Eddie W. Shore** on 7 Nov 2011, 3:15 p.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> We have seen some incidents of discussions about religion here recently. I confess I have participated in some. I've already started to feel odd about some of the things that were said and about the people that said them. This is not a good thing. I'd rather not know at all about other forum participants' believes (and politics, for that matter) but enjoy talks about math, calculators and science in general.
>
> In real life I very much enjoy all things philosophical, but they should never be mixed with other topics and are best discussed face to face .
>
> Please join me to keep our believes and politics to ourselves!

I'll do my best Alexander, I am NOT a fan either politics or religion.

Re: Please, let this forum be free of religion and politics

*Message #9 Posted by **Howard Owen** on 7 Nov 2011, 6:40 p.m.,*
in response to message #1 by Alexander Oestert

Definitely mod up.

But what's the difficulty? As I noted in one of those threads, we can settle it all on a calculator, right?

"My 41C says your belief system is invalid." :)

Re: Please, let this forum be free of religion and politics

*Message #10 Posted by **Israel Otero** on 7 Nov 2011, 7:24 p.m.,*
in response to message #9 by Howard Owen

Fixed!

Re: Please, let this forum be free of religion and politics

*Message #11 Posted by **Howard Owen** on 8 Nov 2011, 1:58 a.m.,*
in response to message #10 by Israel Otero

The power of open source!

Now if those Zoroastrians would just stop sending me patches ..

Re: Please, let this forum be free of religion and politics

*Message #12 Posted by **Walter B** on 8 Nov 2011, 6:26 p.m.,*
in response to message #11 by Howard Owen

Don't blame them, they are just forwarding the packages of Amun Re.

Re: Please, let this forum be free of religion and politics

*Message #13 Posted by **Egan Ford** on 8 Nov 2011, 8:48 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> packages of Amun Re.

http://boardgamegeek.com/boardgame/5404/amun-re

One of our family favorite German boardgames.

Re: Please, let this forum be free of religion and politics

*Message #14 Posted by **Paul Dale** on 9 Nov 2011, 2:20 a.m.,*
in response to message #13 by Egan Ford

Another board gamer lives here. Interesting.

- Pauli

Re: Please, let this forum be free of religion and politics

*Message #15 Posted by **Calum Tait** on 8 Nov 2011, 6:43 a.m.,*
in response to message #9 by Howard Owen

My 11C says your religion is power hungry and won't last whereas mine will still be going strong in 15 years! I would export that answer for posterity but we don't believe in IO.

Re: Please, let this forum be free of religion and politics

*Message #16 Posted by **Howard Owen** on 8 Nov 2011, 1:03 p.m.,*
in response to message #15 by Calum Tait

> Quote:
>
> .. but we don't believe in IO.

My 41C smiles serenely as it sends the Good News to the entire world.

Re: Please, let this forum be free of religion and politics

*Message #17 Posted by **Dan W** on 8 Nov 2011, 8:44 p.m.,*
in response to message #16 by Howard Owen

My 42s is without sin.

Can't say the same for myself. ;)

Re: Please, let this forum be free of religion and politics

*Message #18 Posted by **Eric Smith** on 8 Nov 2011, 10:13 p.m.,*
in response to message #17 by Dan W

> Quote:
>
> My 42s is without sin.

That's odd! My 42s came with sin as a standard feature, right next to the roll down key. I use it frequently; apparently I am quite a sinner.

Re: Please, let this forum be free of religion and politics

*Message #19 Posted by **Howard Owen** on 8 Nov 2011, 11:44 p.m.,*
in response to message #18 by Eric Smith

LOL!

Re: Please, let this forum be free of religion and politics

*Message #20 Posted by **Egan Ford** on 9 Nov 2011, 12:10 a.m.,*
in response to message #18 by Eric Smith

> Quote:
>
> apparently I am quite a sinner.

There is a special place in 7734 for sinners such as yourself.

Re: Please, let this forum be free of religion and politics

*Message #21 Posted by **Ethan Conner** on 9 Nov 2011, 12:59 a.m.,*
in response to message #20 by Egan Ford

ROFL!!!!

Re: Please, let this forum be free of religion and politics

*Message #22 Posted by **Walter B** on 9 Nov 2011, 1:43 a.m.,*
in response to message #21 by Ethan Conner

Those who continue taunting are condemned to continued rolling like C2H6 until eternity!

Re: Please, let this forum be free of religion and politics

*Message #23 Posted by **Eddie W. Shore** on 9 Nov 2011, 9:24 a.m.,*
in response to message #22 by Walter B

I heard in 7734, you are forced to divide by zero

Re: Please, let this forum be free of religion and politics

*Message #24 Posted by **Peter Murphy (Livermore)** on 9 Nov 2011, 10:06 a.m.,*
in response to message #17 by Dan W

My 12C is free of sin, cos, and tan.

Re: Please, let this forum be free of religion and politics

*Message #25 Posted by **Egan Ford** on 9 Nov 2011, 11:11 a.m.,*
in response to message #24 by Peter Murphy (Livermore)

Ah, but it does have root. And isn't money the root of all evil? :-)

Re: Please, let this forum be free of religion and politics

*Message #26 Posted by **Walter B** on 9 Nov 2011, 12:09 p.m.,*
in response to message #25 by Egan Ford

According to what financial people have done to the world, this root without sin must be far worse than root with sin.

Re: Please, let this forum be free of religion and politics

*Message #27 Posted by **Ángel Martin** on 9 Nov 2011, 8:58 a.m.,*
in response to message #1 by Alexander Oestert

what if we swapped the word "forum" in this thread's title with "world"? Imagine...

Re: Please, let this forum be free of religion and politics

*Message #28 Posted by **Mark Storkamp** on 9 Nov 2011, 10:08 a.m.,*
in response to message #27 by Ángel Martin

> Quote:
>
> what if we swapped the word "forum" in this thread's title with "world"? Imagine...

Then you would be injecting religion an politics right back into this forum, which you were asked not to do.

Re: Please, let this forum be free of religion and politics

*Message #29 Posted by **Ángel Martin** on 9 Nov 2011, 4:16 p.m.,*
in response to message #28 by Mark Storkamp

oh gosh, just as well it's just a hypothetical...

Re: Please, let this forum be free of religion and politics

*Message #30 Posted by **Walter B** on 9 Nov 2011, 12:06 p.m.,*
in response to message #27 by Ángel Martin

Life would be a lot easier. But it was the free will of mankind do invent both :-/

Re: Please, let this forum be free of religion and politics

*Message #31 Posted by **Alexander Oestert** on 9 Nov 2011, 12:15 p.m.,*
in response to message #27 by Ángel Martin

> Quote:
>
> Imagine...

It's easy if you try...

Re: Please, let this forum be free of religion and politics

*Message #32 Posted by **db (martinez, ca.)** on 9 Nov 2011, 9:05 p.m.,*
in response to message #31 by Alexander Oestert

Alexander; thanks for that.

Re: Please, let this forum be free of religion and politics

*Message #33 Posted by **DigiGal** on 10 Nov 2011, 2:54 p.m.,*
in response to message #32 by db (martinez, ca.)

Politics = Left Right Out

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emerson E12 (rebranded Corvus 500) pics

*Message #1 Posted by **Cristian Arezzini** on 7 Nov 2011, 8:40 a.m.*

A few days ago I posted about this calculator, now I managed to take some photos and upload them online (took me too long, I know...) but that thread is in the archives now so I have to start a new one. Anyway, for those interested, here are the pictures, showing the front and the insides of the calculator - you can clearly see the Corvus mark on the motherboard, and the HP display...

Cristian

Photo 1

Photo 2

Re: Emerson E12 (rebranded Corvus 500) pics

*Message #2 Posted by **Cristian Arezzini** on 7 Nov 2011, 8:52 a.m.,*
in response to message #1 by Cristian Arezzini

So, does anyone know: 1) where to find that high-density foam that is between the keys and the metal domes in many keyboards; 2) where to find the HP display shown in the pic (I have little hope...) 3) What material to use to rebuild the battery contacts when they're too corroded to be just cleaned?

Cristian

Re: Emerson E12 (rebranded Corvus 500) pics

*Message #3 Posted by **Michael de Estrada** on 7 Nov 2011, 8:59 a.m.,*
in response to message #1 by Cristian Arezzini

Thank you, Cristian. You are correct that it looks identical to a Corvus 500, except for the logo. Have you succeded in repairing the battery contacts ?

Edit: I see you still have the battery contact problem.

Edited: 7 Nov 2011, 9:00 a.m.

Re: Emerson E12 (rebranded Corvus 500) pics

*Message #4 Posted by **Dan W** on 7 Nov 2011, 7:19 p.m.,*
in response to message #1 by Cristian Arezzini

Which Emerson is this? There's an Emerson Electronics out of Canada, but they use a G Clef as a symbol. Is this the same one?

There's another Emerson in the US but they make mainly industrial controls and telecom equipment.

Re: Emerson E12 (rebranded Corvus 500) pics

*Message #5 Posted by **Cristian Arezzini** on 8 Nov 2011, 3:40 a.m.,*
in response to message #4 by Dan W

I don't know... It's "Emerson Electronics", made in Hong Kong. I bought it on eBay a few weeks ago from an Italian seller, so I suppose it was bought in Italy (the seller was not a collector)...

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 battery pack

*Message #1 Posted by **Cristian Arezzini** on 7 Nov 2011, 5:52 a.m.*

A few months ago I bought a 41CX. It came with the rechargeable battery pack (the one with short batteries and an electronic circuit inside). The battery pack looks "like new" externally, but the two inner batteries have some corrosion right where the metal tab connects them. The tabs that connect to the calculator are clean and shiny like new, as are the charger contacts. I don't know how the "bottom" of the cells looks like because I didn't open the pack (I don't know how to) but looking through the openings on the back, where you can "sort of" see the bottoms of the batteries, everything seems clean.

Now, my question... I don't have a charger and I usually prefer alkalines, so, would it be reasonable to ask an "exchange" with a battery pack that holds alkalines? Is there a big difference in value?

In case... is there someone in Europe interested in an exchange? :)

Cristian

Re: HP41 battery pack

*Message #2 Posted by **Ignazio Cara (Italy)** on 7 Nov 2011, 6:36 a.m.,*
in response to message #1 by Cristian Arezzini

Cristian, IMHO, it's seems reasonable to swap an exaust battery pack 82120A for a battery holder without/with alcaline battery. You have mail.

Regards

Ignazio

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP classic calculator battery cover tabs

*Message #1 Posted by **Fouad M. Kaadou** on 7 Nov 2011, 4:54 a.m.*

Hello,

I have a few hp classic calculators and some of them have broken battery cover tabs. Has anyone ever found a replacement for the tabs? specifically for the HP-35 and HP-67.

Thanks in advance,

Fouad

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

a tad pricy thermal paper source

*Message #1 Posted by **Duane Hess** on 6 Nov 2011, 9:30 p.m.*

Must admit this is a self-serving post (but not of a monetary nature). Wanted to e-mail someone, but it wouldn't let me until I posted. So decided to copy a document I put on the HP Calculator Fan Club on FB concerning a possible paper source for HP-91/92/97 & HP-9810 printers.

received a question concerning how long the print will last before fading. I don't know. The PMC paper I've had only about 12 months. Things printed a year ago are still plenty dark and have been kept in a home environment in a folder. Tried to find some genuine 82045 listings, sure I have some somewhere that should be about 3 years old, but can't find them. hmmm.. IDK.

Saw a post on hpmuseum.org about HP-97 printer paper. As many of you know PMC-05233 is an equivalent. I called their tech support and verified it actually is an OEM equivalent to HP-82045A (other than paper width, length & color). Spoke to PMC's tech support as most Google-located thermal paper supply companies I called simply wanted to know the roll width/length and then declared it "OEM compatible". I specifically quizzed those reps & they didn't know if it was equivalent to HP-82045A, but assured me if it was the same width/length, then it would be OK. Maybe now-a-days all thermal paper is suitable with most everything as opposed to earlier days when 82175A paper shouldn't be used in a calc designed for 82045A.

I buy PMC05233 directly from a local office supply store, who has it in stock. Don't recall the price, but it was under $3 for a 3-roll pack and (obviously) there are no shipping charges as with Internet orders. i.e. don't forget your local suppliers.

Other info, which I've never taken advantage of, is Graphics Controls, Buffalo NY, 800/669-1535. Talked with their technical support and they claimed to be an OEM paper manufacturer; i.e. they are/were a supplier of HP labelled papers for many years. Last August they had part number 9281-0401 available in their catalog which is the HP part number for the paper used in the HP-9810/9820 built-in printer. Its a tad expensive at $8.14/roll, minimum order is 12 rolls, lead-time is approx 6(?) weeks. Their part number was 00595090. HP-82045A (blue) paper for the HP-91/92/97 was $4.99/roll minimum 12, same 6-8 week lead time; GC P/N 10149780. HP82175A (GC P/N 10134081) $5.50/roll, 6 roll minimum, forget lead time.

I am no way associated with Graphics Controls or any paper manufacturer/distributor, simply passing along information I learned. Due to health reasons and subsequent monitary diminishment, never persued the issue. I noticed the HP-9810A printer paper is no longer listed on their website, which is what originally lead me to them. The GC tech rep didn't know if they were an OEM supplier directly to HP for the 9281-0401 paper, but insisted it is equivalent with all specifications HP originally gave for the paper and GC is itself a paper manufacturer. Don't recall the shipping charges on any of the minimum orders listed above, but they were reasonable. about $5-$7 per minimum order. Never checked groups of orders.

Granted the per roll price may seem high, but compared with "TAS" they're cheaper than some sales I've seen.

www.graphiccontrols.com takes you directly to their web page, in the upper right simply enter:

82045A

and you'll see the HP-82045A paper. You'll have to call them for a price quote/lead-time info.

I used PMC-05233 paper in my HP-9810 and holy crap, it printed but black fuzz came off all over the place (presume from higher heat of print head compared to HP-97) The paper was also a bit thin to feed well. The HP-82045A worked well in the 9810, but only tried it just to see. Tried to find a direct equivalent to the HP-9810 paper (9281-0401) as I didn't want paper issues hurting the printhead. That's what originally lead me to Graphics Controls.

The above information was as of August 2010.

Re: a tad pricy thermal paper source

*Message #2 Posted by **David Ramsey** on 7 Nov 2011, 10:57 a.m.,*
in response to message #1 by Duane Hess

2.25" thermal paper doesn't seem to be hard to find; I bought a 12-pack of it at my loco OfficeMax and it works fine in my 97s, 82240 IR printers, and whatnot. I can't speak to its longevity, though.

Now, finding paper for an SR-60 printer is a bit harder...

Re: a tad pricy thermal paper source

*Message #3 Posted by **Thomas Chrapkiewicz** on 7 Nov 2011, 12:07 p.m.,*
in response to message #2 by David Ramsey

Do any of the available thermal rolls produce black print (like the old HP material)? The local office supply stuff I've used is all blue print.

TomC

Re: a tad pricy thermal paper source

*Message #4 Posted by **Duane Hess** on 7 Nov 2011, 12:36 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

TomC:

The PMC-05233 paper produces black, not quite as dark as the HP-82175A paper, but close. I have several HP-82143A (HP-41C type) printers; both produce the same black intensity difference between the two papers. I'd say about 20% less dark with the PMC; at least using the equipment I have. The printers I have produce nearly jet-black using the original 82175A paper. PMC is not faint, just lighter.

Originally obtained the PMC part number from earlier threads on here. Those threads indicated a number of people use it and feel comfortable using it. After talking with their tech support I feel comfortable about using it in my 97.

I'm intrigued you have a blue paper source. Those always seemed difficult for me to find. Just plain don't like black myself. Do you have a brand/part number for it? Or where you buy it? Always interested in furthering my "paper search".

Re: a tad pricy thermal paper source

*Message #5 Posted by **Thomas Chrapkiewicz** on 7 Nov 2011, 12:59 p.m.,*
in response to message #4 by Duane Hess

Duane:

Here are some paper(s) I have: (I have not yet tested them - perhaps at a later date. I have had these a while and not certain if they are all still available)

- Staples brand 226290 - 2.25"w, 165' roll - Sears MY58005 - 2.25"w, 165' roll - PM (Paper Manufacturers Company, Indianapolis, Ill, USA)5233 - 2.25"w, 85' roll (found this at a Rite-Aid Pharmacy)

Note that the Staples and Sears products are very large rolls and my not fit in HP applications.

Also, I've noticed on a HP82175A box, it says specifically to NOT use it in Hp97/91/92.

TomC

Re: a tad pricy thermal paper source

*Message #6 Posted by **Duane Hess** on 7 Nov 2011, 1:19 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

Thanks for the blue info!

I've seen the 82175 warning for the 97. The PMC 05233 paper is allegedly an OEM equivalent for the 82045A paper (other than color & paper weight). The 82045A paper should work anywhere 82175 is used, but not the other way around. I sure hope PMC wasn't feeding me a line about 82045A equivalence. Granted I might die before wearing out the printhead, but why take a chance? I like to feel I'll outlive my 97. (however, find that concept annoying as I'd need to get another one)

Re: a tad pricy thermal paper source

*Message #7 Posted by **Thomas Chrapkiewicz** on 7 Nov 2011, 2:00 p.m.,*
in response to message #6 by Duane Hess

Hi Duane:

Some of these may be black; I'll try to test them all out soon (weeks/months), and I'll report back. My testing will likely be in a HP82240B.

TomC

Re: a tad pricy thermal paper source

*Message #8 Posted by **Duane Hess** on 7 Nov 2011, 12:17 p.m.,*
in response to message #2 by David Ramsey

Glad you responded, it was a reminder my usual verbosity buries the point.

My concern was the issue of whether incorrect paper actually does damage printheads. Or whether modern paper is compatible with everything. There have been several threads on that here, not sure there was ever an answer other than a generic "the paper I use hasn't hurt anything so far."

Which was the point of my post, if there are other users as neurotic about the issue as me, GC might be a paper source.

a tad pricy thermal paper source

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thanks Tim for blue HP50g's keyboard colors

*Message #1 Posted by **Carey** on 6 Nov 2011, 10:03 a.m.*

When I read Tim's Sept 18 post that he had checked the blue HP50g against color blindness (Protanopia and Deuteranopia) I ordered one as I have the milder and more common (5% of males) form (Deuteranomaly). I am finding the blue HP50g's keyboard to be the clearest and easiest to read (for me) of any calculator and much easier to read than the standard HP50g keyboard. Some web photos don't do it justice. Many thanks Tim for your colorblind-friendly color choices on the blue HP50g's keyboard.

Carey

Edited: 6 Nov 2011, 10:22 a.m.

Re: Thanks Tim for blue HP50g's keyboard colors

*Message #2 Posted by **Eddie W. Shore** on 6 Nov 2011, 11:47 a.m.,*
in response to message #1 by Carey

> Quote:
>
> When I read Tim's Sept 18 post that he had checked the blue HP50g against color blindness (Protanopia and Deuteranopia) I ordered one as I have the milder and more common (5% of males) form (Deuteranomaly). I am finding the blue HP50g's keyboard to be the clearest and easiest to read (for me) of any calculator and much easier to read than the standard HP50g keyboard. Some web photos don't do it justice. Many thanks Tim for your colorblind-friendly color choices on the blue HP50g's keyboard.
>
> Carey

I wish the blue keyboards were available in the United States.

Re: Thanks Tim for blue HP50g's keyboard colors

*Message #3 Posted by **David Ramsey** on 6 Nov 2011, 1:00 p.m.,*
in response to message #2 by Eddie W. Shore

They are, in the sense that you can order one from overseas. I believe I ordered mine from Spain.

Re: Thanks Tim for blue HP50g's keyboard colors

*Message #4 Posted by **Tim Wessman** on 6 Nov 2011, 10:24 p.m.,*
in response to message #1 by Carey

Glad to hear it! :-)

TW

Re: Thanks Tim for blue HP50g's keyboard colors

*Message #5 Posted by **Jan** on 7 Nov 2011, 2:33 p.m.,*
in response to message #1 by Carey

I am not sure for what market the new colour scheme was intended but my advise would be to keep the old black colourscheme available for the professional market. The new blue colours may be nice for schoolkids but in my view they are just horrible. They give the calculator an aura of cheepness unmatching its pricetag and its capabilities.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wang 360 RPN calculator

*Message #1 Posted by **aj04062** on 5 Nov 2011, 10:45 p.m.*

Does anyone in this forum have experience with these units?

I have a system on its way to me that needs work to get operational.

Re: Wang 360 RPN calculator

*Message #2 Posted by **Juergen Keller** on 6 Nov 2011, 2:14 a.m.,*
in response to message #1 by aj04062

According to Wang Model 360SE Calculator System these are not RPN calculators as they do not have a stack. Not all calculators having and ENTER key are providing RPN.

Re: Wang 360 RPN calculator

*Message #3 Posted by **aj04062** on 6 Nov 2011, 6:51 a.m.,*
in response to message #2 by Juergen Keller

I thought it was RPN after watching this video

Re: Wang 360 RPN calculator

*Message #4 Posted by **Thomas Radtke** on 6 Nov 2011, 7:06 a.m.,*
in response to message #2 by Juergen Keller

It should have at least two registers if I correctly understood the examples given, and the entry method appears to be RPN.

Re: Wang 360 RPN calculator

*Message #5 Posted by **Katie Wasserman** on 6 Nov 2011, 10:12 a.m.,*
in response to message #4 by Thomas Radtke

I have a Wang 520 that works the same way only with a lot more functions and stuff. I would not call it RPN any more than I'd call a Commodore Minuteman 6 RPN. There's no stack, no swap, no roll.

Re: Wang 360 RPN calculator

*Message #6 Posted by **aj04062** on 6 Nov 2011, 10:37 a.m.,*
in response to message #5 by Katie Wasserman

Okay,

Not RPN, but has Nixie Tubes! It will be interesting to play with. will soon have:

1 - CPU - model 360 SE
7 - 360K / 362K keyboards
1 - 320K keyboard
3 - CP-1 Card reader
1 - IBM Porta-punch for punching cards

If any of these extra pieces are of interest, let me know. I know I will not want all of them as I envision they will take up too much space.

Edited: 6 Nov 2011, 10:37 a.m.

Re: Wang 360 RPN calculator

*Message #7 Posted by **Katie Wasserman** on 6 Nov 2011, 10:45 a.m.,*
in response to message #6 by aj04062

Some might call it RPN, but not me.

However it will definitely be fun to play with! I love the Nixie display and Wang signature huge square buttons with nice click feedback.

Re: Wang 360 RPN calculator

*Message #8 Posted by **megarat** on 7 Nov 2011, 8:01 p.m.,*
in response to message #6 by aj04062

> Quote:
>
> Not RPN, but has Nixie Tubes! It will be interesting to play with.

Are you announcing to the world that you can't wait to play with your Wang?

YEAH Baby! Wang 360 RPN calculator

*Message #9 Posted by **aj04062** on 7 Nov 2011, 8:20 p.m.,*
in response to message #8 by megarat

Edited: 7 Nov 2011, 8:21 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Question about Hungarian Sellers on TAS

*Message #1 Posted by **Namir** on 5 Nov 2011, 5:50 p.m.*

Hi All,

Can anyone tell me (especially our European friends on this site) why do Hungarian sellers on TAS attempt to sell calculators and pocket computers at very high prices?????

A Confused American!!!

Edited: 5 Nov 2011, 5:51 p.m.

Re: Question about Hungarian Sellers on TAS

*Message #2 Posted by **Michael de Estrada** on 5 Nov 2011, 5:52 p.m.,*
in response to message #1 by Namir

Because they are hungry.

Re: Question about Hungarian Sellers on TAS

*Message #3 Posted by **Walter B** on 5 Nov 2011, 6:23 p.m.,*
in response to message #1 by Namir

Why shouldn't they? Teacher, they've learned their lesson well, they are trying to maximize profit.

Re: Question about Hungarian Sellers on TAS

*Message #4 Posted by **Nick Taylor** on 5 Nov 2011, 7:23 p.m.,*
in response to message #1 by Namir

Can I ask what "TAS" stands for?

Re: Question about Hungarian Sellers on TAS

*Message #5 Posted by **Roger Blake** on 5 Nov 2011, 7:28 p.m.,*
in response to message #4 by Nick Taylor

Apparently it's this forum's nickname for Ebay - stands for "That Auction Site". Being in the UK, I initially thought it must be some other US auction site until I ventured to ask here. So you're not the only one to have been puzzled !

Re: Question about Hungarian Sellers on TAS

*Message #6 Posted by **Walter B** on 5 Nov 2011, 7:44 p.m.,*
in response to message #5 by Roger Blake

Search for TAS and TOS in the museum archives and you'll find out more ;-)

Re: Question about Hungarian Sellers on TAS

*Message #7 Posted by **Nick Taylor** on 5 Nov 2011, 10:21 p.m.,*
in response to message #6 by Walter B

Does "TOS" mean "The Other Site"?

Re: Question about Hungarian Sellers on TAS

*Message #8 Posted by **Martin Pinckney** on 5 Nov 2011, 10:29 p.m.,*
in response to message #7 by Nick Taylor

Yes, and you dast not mention it by name, or your posts will be moderated for a few days.

Re: Question about Hungarian Sellers on TAS

*Message #9 Posted by **Raymond Del Tondo** on 5 Nov 2011, 10:35 p.m.,*
in response to message #7 by Nick Taylor

"The Other Site" or "That Other Site" . Mainly related to HP41 topics. Maintained by Warren Furlow. Four-letter ORG domain;-)

Re: Question about Hungarian Sellers on TAS

*Message #10 Posted by **Gerson W. Barbosa** on 5 Nov 2011, 7:44 p.m.,*
in response to message #5 by Roger Blake

This recurring question about TAS meaning surely belongs in the FAQ. I won't bother our host about that, however, as he's apparently very busy lately.

Re: Question about Hungarian Sellers on TAS

*Message #11 Posted by **Don Shepherd** on 6 Nov 2011, 12:54 a.m.,*
in response to message #10 by Gerson W. Barbosa

Maybe we should just refer to Ebay as Ebay and not confuse people.

Re: Question about Hungarian Sellers on TAS

*Message #12 Posted by **Eric Rechlin** on 6 Nov 2011, 9:19 a.m.,*
in response to message #11 by Don Shepherd

I agree. I feel it is incredibly irresponsible to new people here when others refer to things in code. Given the history, I can understand the whole "TOS" debacle, but everyone, please stop using "TAS" to refer to eBay. There is no reason this should be a FAQ, because everyone should just stop this immaturity.

Eric

Re: Question about Hungarian Sellers on TAS

*Message #13 Posted by **Gerson W. Barbosa** on 6 Nov 2011, 11:22 a.m.,*
in response to message #12 by Eric Rechlin

This is not a taboo word to me, but it is to some. Well, perhaps a poll might be held to check if it is an ominous word to **some** or to **most** of us here.

Gerson.

Re: Question about Hungarian Sellers on TAS

*Message #14 Posted by **Donald Williams** on 6 Nov 2011, 2:29 p.m.,*
in response to message #13 by Gerson W. Barbosa

I suggest all forum members go back and carefully read the curators "Terms of Use" agreement. Dave clearly wants to discourage ebay discussions on this forum. If you have been around very long then you know how disruptive these discussions have become in the past.

Still some members insist on ignoring this simple request and attempt to conceal their disrespect by making reference to TAS rather than ebay.

Sad.

Re: Question about Hungarian Sellers on TAS

*Message #15 Posted by **Don Shepherd** on 6 Nov 2011, 3:00 p.m.,*
in response to message #14 by Donald Williams

Donald, I read the Terms of Use and don't see any prohibition about discussing Ebay and auction sites. Indeed, Dave says discussions about them may come up from time to time. What Dave does say is that if you refer to a specific Ebay auction, you need to list your Ebay ID in your post; it seems that that frequently doesn't happen, so that would be a violation. This thread is not about a specific auction, it is just a general question that Namir has and I believe it is appropriate and not in violation of the Terms of Use.

Re: Question about Hungarian Sellers on TAS

*Message #16 Posted by **Donald Williams** on 6 Nov 2011, 4:16 p.m.,*
in response to message #15 by Don Shepherd

I don't think I used the term prohibited. I used the term discouraged. Otherwise, I agree with all points of your response. I do not believe this particular thread violates those terms. No offense intended.

IIRC the term "TAS" came into existence following the the additional paragraph added to the terms of use concerning ebay discussions. I think forum members originally used this term in jest, and it has persisted since.

I do confess however, IMOHO if all ebay discussions were prohibited it would be no great loss.

Re: Question about Hungarian Sellers on TAS

*Message #17 Posted by **Maximilian Hohmann** on 6 Nov 2011, 4:49 p.m.,*
in response to message #16 by Donald Williams

Hello!

> Quote:
>
> I do confess however, IMOHO if all ebay discussions were prohibited it would be no great loss.

For me, eBay is about the only remaining source for finding collectible calculators. HP and others. The have disappeared from flea markets and second hand stores long ago, at least in my part of the world. And I doubt that it is much different elsewhere.

So where would be a better place for discussions about this main source of historic calculators if not in the discussion forum of a calculator museum?

And everybody who read "1984" knows that it doesn't help to avoid certain terms or even to rename them. Therefore I will call eBay eBay as long as it calls itself eBay. Anywhere.

Regards, max

Edited: 6 Nov 2011, 4:50 p.m.

Re: Question about Hungarian Sellers on TAS

*Message #18 Posted by **Donald Williams** on 6 Nov 2011, 5:26 p.m.,*
in response to message #17 by Maximilian Hohmann

"So where would be a better place for discussions about this main source of historic calculators if not in the discussion forum of a calculator museum?"

I think it is discouraged because this forum is so "ripe" for commercial abuse. In the past eBay sellers have focused on this "primo" site to show case their auctions, and then later, began a "flame war" campaign to discredit one another. It became so contentious and ridiculous that Dave was forced to step in and personally censor posts and eventually instigate some changes to the forum.

Hence the long running taboo over mentioning eBay and the use of the pseudonym "TAS".

I think the abuse still exists at a much lower level,and those individuals will be more than willing to ramp it back up given the opportunity.

Re: Question about Hungarian Sellers on TAS

*Message #19 Posted by **Duane Hess** on 6 Nov 2011, 9:00 p.m.,*
in response to message #17 by Maximilian Hohmann

I can sympathize with that. Still finding units at garage sales, flea markets, 2nd hand would be wonderful.

Re: Question about Hungarian Sellers on TAS

*Message #20 Posted by **Don Shepherd** on 6 Nov 2011, 6:53 p.m.,*

in response to message #16 by Donald Williams

No offense taken, Donald. I personally don't find the Ebay discussions in this forum very useful either. I buy things on Ebay now and then, and I've never had a bad experience, but I'm aware there are crooks out there so you have to be careful.

Dave is a very good moderator and he will not ban discussions here unless they are extremely offensive to a large number of people--and I don't think I've ever seen that happen. There are some discussions I don't find very interesting, but I'm learning just to pass them over in the list.

Re: Question about Hungarian Sellers on TAS

*Message #21 Posted by **Marcus von Cube, Germany** on 6 Nov 2011, 1:51 a.m.,*
in response to message #1 by Namir

You might ask Viktor Toth from rskey.org. Is is a native Hungarian if I'm not mistaken.

Re: Question about Hungarian Sellers on TAS

*Message #22 Posted by **George Litauszky** on 6 Nov 2011, 3:01 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Hi All,
>
> Can anyone tell me (especially our European friends on this site) why do Hungarian sellers on TAS attempt to sell calculators and pocket computers at very high prices?????
>
> A Confused American!!!

Hello,
IMHO because the 400 USD HP 15C American prices.

An angry Hungarian buyer. ;)

Re: Question about Hungarian Sellers on TAS

*Message #23 Posted by **Bart (UK)** on 7 Nov 2011, 5:28 a.m.,*
in response to message #1 by Namir

There is a Hungarian equivalent to Cobubba that is to Sharp as Cobubba is to HP. There is the occasional low starting price auction, but admittedly few. I generally ignore auctions if I see Country is Hungary, Italy or any from the far east. Personaly I think they see the rest of Europe & US as "people to make lots of money from". Harsh? maybe, but the result of my observation that most of them list calculators with high starting prices/BIN (I don't mind bidding on items with reasonable starting prices, but not several times what it normally sells for).

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

(deleted post)

*Message #1 Posted by **deleted** on 5 Nov 2011, 1:36 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [WP34s] Polynomial RootSolver

*Message #2 Posted by **Valentin Albillo** on 5 Nov 2011, 7:25 p.m.,*
in response to message #1 by deleted

> Quote:
>
> I've made lots of tests with random polynomials (of degree 10 and 20, and with coefficients -100..100) and calculated the optimal parameters for the iteration process. With the current (internal) setting of these parameters there was not one single failure for a few thousand polynomials, so I would say the program is now working quite well.

Tests using random polynomials are no good to check polynomial root finders, on the contrary you should check very specific, difficult cases which actually test the limitations and weak points of your particular implementation.

For instance, try this one and see how it fares:

x^30+30 x^29+435 x^28+4060 x^27+27405 x^26+142506 x^25+593775 x^24+2035800 x^23+5852925 x^22+14307150 x^21+30045015 x^20+54627300 x^19+86493225 x^18+119759850 x^17+145422675 x^16+155117520 x^15+145422675 x^14+119759850 x^13+86493225 x^12+54627300 x^11+30045015 x^10+14307150 x^9+5852925 x^8+2035800 x^7+593775 x^6+142506 x^5+27405 x^4+4060 x^3+435 x^2+30 x+1 = 0

then, you might consider to try this one as well:

x^20+10 x^19+55 x^18+210 x^17+615 x^16+1452 x^15+2850 x^14+4740 x^13+6765 x^12+8350 x^11+8953 x^10+8350 x^9+6765 x^8+4740 x^7+2850 x^6+1452 x^5+615 x^4+210 x^3+55 x^2+10 x+1 = 0

Best regards from V.

Edited: 5 Nov 2011, 7:36 p.m.

Re: [WP34s] Polynomial RootSolver

*Message #3 Posted by **fhub** on 5 Nov 2011, 8:44 p.m.,*
in response to message #2 by Valentin Albillo

> Quote:
>
> For instance, try this one and see how it fares:

> x^30+30 x^29+435 x^28+4060 x^27+27405 x^26+142506 x^25+593775 x^24+2035800 x^23+5852925 x^22+14307150 x^21+30045015 x^20+54627300 x^19+86493225 x^18+119759850 x^17+145422675 x^16+155117520 x^15+145422675 x^14+119759850 x^13+86493225 x^12+54627300 x^11+30045015 x^10+14307150 x^9+5852925 x^8+2035800 x^7+593775 x^6+142506 x^5+27405 x^4+4060 x^3+435 x^2+30 x+1 = 0

Hi Valentin,

I must say: really very useful and 'realistic' examples! :-(

I've tried this 30-degree polynomial with 4 different 'professional' polynomial solvers on the web and all 4 programs give completely different results.
One of these programs has even several (7) different methods and each method gives also different results!
This last mentioned program can be found here:
http://www.hvks.com/Numerical/websolver.php

BTW, my program is even better than all others that I've tested: it just give NO solution (which is indeed better than wrong solutions). ;-)

So what do you really expect from a small polynomial solver made for a simple calculator???

And one other point: for EVERY program which solves any problem with approximate methods you can always find input values which make the program fail (I know from your AMx matrices that you're an expert in this) - however the question is: how useful (or realistic) are such 'strange' and 'artificial' conditions?

So what to do if EVERY approximate algorithm fails for SOME conditions? Should you avoid writing such a program at all, just because it doesn't work 100% perfectly?

Well, maybe it would be the best to remove my program again ... :-(

Franz

Re: [WP34s] Polynomial RootSolver

*Message #4 Posted by **Ángel Martin** on 6 Nov 2011, 2:29 a.m.,*
in response to message #3 by fhub

> Quote:
>
> Well, maybe it would be the best to remove my program again ..

Please don´t ¡ Valentin's counter-examples don't signify a lack of merit from your program's part but only that the topics addressed are deeper than it appears on first (or second, or third) inspection.

As you say they are a stretch for the typical daily use of the system at hand, yet they are a wonderful challenge to the algorithms - and that's what we're also delighted to have in this forum :-)

I don't have a 34S (imagine, the 41 system quenches my thrist, how's that for (su)real-life systems :-) but otherwise I'd've saved and tried your program, thanks for sharing it.

Best, 'AM

(deleted post)

Re: [WP34s] Polynomial RootSolver

*Message #5 Posted by **Marcus von Cube, Germany** on 6 Nov 2011, 11:00 a.m.,*
in response to message #4 by Ángel Martin

Ángel, why not try the Windows emulator?

Re: [WP34s] Polynomial RootSolver

*Message #6 Posted by **Dieter** on 6 Nov 2011, 9:11 a.m.,*
in response to message #1 by deleted

Let me add a few remarks.

- I had to re-assemble the code to make it run on the emulator v 2.2.1789. The documentation does not mention the version required by the .dat file.
- The documentation also says that only the numbered registers are used. This is not correct - the program uses J and K as well.
- I do not like the way complex roots are displayed. They real part is labelled x_n while for the imaginary part x_n+1 is used. That's why I modified the program the following way:

```
   current         improved
   ----------------------
   x1              x1
   -1,4918         -1,4918
[R/S]
   Re x2           Re x2,3
   -0,8058          -0,8058
[R/S]
   Im x3           Im x2,3
   1,2229          1,2229
[R/S]
   Re x4           Re x4,5
   0,5517          0,5517
[R/S]
   Im x5           Im x4,5
   1,2533          1,2533
```

- There are some hard-coded constants like 1E-12 and 1E-16. At Lbl 85 a value less than 1E-12 is rounded to zero. Why is this done? Step 241 tests if the current value is less than 1E-16. I wonder if this will work for any order of magnitude a solution may have. What if x is > 10^6 and 1 ULP equals 1E-9?

Dieter

Re: [WP34s] Polynomial RootSolver

*Message #7 Posted by **fhub** on 6 Nov 2011, 9:39 a.m.,*
in response to message #6 by Dieter

> Quote:
>
> Let me add a few remarks.

Fine - and let me add a few remarks to the remarks, too. ;-)

> Quote:
>
> I had to re-assemble the code to make it run on the emulator v 2.2.1789. The documentation does not mention the version required by the .dat file.

You're right - I didn't mention it because I always use the latest SVN build. And of course everyone could (or should) recompile it for their own WP34s version.

> Quote:
>
> The documentation also says that only the numbered registers are used. This is not correct - the program uses J and K as well.

No, I didn't write anywhere that ONLY the mentioned numbered registers are used, I just listed only the NUMBERED registers.
And BTW, not even your list is complete, because despite of J and K the program even uses X,Y,Z and T. ;-)

> Quote:
>
> I do not like the way complex roots are displayed. They real part is labelled x_n while for the imaginary part x_n+1 is used. That's why I modified the program the following way:

Well, I had a few different version of displaying complex solutions, and one of them was exactly the way you do it now (with n,n+1). But this needed a few more instructions, and since space is 'expensive' on the WP34s I did it the easier way.

> Quote:
>
> There are some hard-coded constants like 1E-12 and 1E-16. At Lbl 85 a value less than 1E-12 is rounded to zero. Why is this done?

Well, this 1e-12 is the precision of the calculated roots (and can be changed by the user while running the program), and thus I round solutions to zero if their absolute value is less then this calculated accuracy. This makes results look much nicer, especially if the imaginary part is 'almost' 0 (within the calculation accuracy).

> Quote:
>
> Step 241 tests if the current value is less than 1E-16. I wonder if this will work for any order of magnitude a solution may have. What if x is > 10^6 and 1 ULP equals 1E-9?

This 1e-16 is in fact not very important and I doubt that this value is reached at all during any calculations - it's just to avoid division by zero (or overflows by VERY small denominators). In different implementations of the Bairstow method I've even seen values for this from 1e-10 to 1e-99.

Franz

Re: [WP34s] Polynomial RootSolver

*Message #8 Posted by **Dieter** on 6 Nov 2011, 1:34 p.m.,*
in response to message #7 by fhub

> Quote:
>
> No, I didn't write anywhere that ONLY the mentioned numbered registers are used, I just

(deleted post)

> listed only the NUMBERED registers.

Let's see:

```
Used Flags/Registers/Labels:
----------------------------
Flags:     00
Registers: R0-Rn ... Polynomial coefficients a(n) - a(0)
           R(n+1)-R(2n+1) ... Polynomial backup copy
           R80-R94 ... internal usage
           R95 ... maxdeg (30)
           R96 ... eps (1e-12)
           R97 ... randfact (3)
           R98 ... newinit (25)
           R99 ... maxiter (500)
Labels:    11,12,13 & 80-89
```

This does not leave much room for interpretation. ;-) It's a simple documentation error. No big deal, but it should get fixed. Simply add J and K to the "internal usage" line. And while we're at it: the backup of the polynomial coefficents uses the registers up to R(2n+2).

> Quote:
>
> Well, I had a few different version of displaying complex solutions, and one of them was exactly the way you do it now (with n,n+1). But this needed a few more instructions, and since space is 'expensive' on the WP34s I did it the easier way.

I do not think that 10 or 15 steps will prevent the program from fitting into the available memory. If everything else fails lines 002-007 may be removed.

Finally, I am not sure if rounding everything less than 1E-12 to zero is a good idea. But I have to think harder before I can comment on this. B-)

It's a nice piece of software. Why not make it perfect?

Dieter

Re: [WP34s] Polynomial RootSolver

*Message #9 Posted by **fhub** on 6 Nov 2011, 2:19 p.m.,*
in response to message #8 by Dieter

> Quote:
>
> It's a simple documentation error.

Well, not mentioning something (or everything) isn't what I would call a 'documentation error'.

> Quote:
>
> And while we're at it: the backup of the polynomial coefficents uses the registers up to R(2n+2).

For even degrees my R(2n+1) is correct - for odd degrees (where I add one additional degree) it would even be R(2n+3). But I guess it would even confuse most users if I would describe so many internal details. ;-)

> Quote:
>
> Finally, I am not sure if rounding everything less than 1E-12 to zero is a good idea. But I have to think harder before I can comment on this. B-)

What sense would a result of x0=1e-14 make when the calculation accuracy is only 1e-12???
And I hate 'pseudo-complex' results with imaginary parts of 1e-13,14,15 ...

> Quote:
>
> It's a nice piece of software. Why not make it perfect?

Well, if you tell me what 'perfect' is, I'll think about it ... :-)

Franz.

(deleted post)

*Message #10 Posted by **deleted** on 6 Nov 2011, 4:43 p.m.,*
in response to message #8 by Dieter

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: [WP34s] Polynomial RootSolver

*Message #11 Posted by **Marcus von Cube, Germany** on 6 Nov 2011, 5:51 p.m.,*
in response to message #10 by deleted

> Quote:
>
> an error in line 134: the SKIP 16 was one step too far,

I know I'm asking too much. ;-) This type of error can be easily avoided by using either a label (will cost a step) or the preprocessor with its symbolic labels. Both approaches would make it easier to maintain the software, especially for others.

As you might have noticed, I'm working on local registers and on a REGS command that will reduce the number of available global registers in favour of more local registers (for deeper nesting). In such a scenario it's probably better to work with lower numbered or local registers instead of the fixed high numbered ones. Data interactively entered by a user is better stored in global registers but all temporary data that is only used while the program is busy may well be put in locals.

Just a few remarks for future developments.

Re: [WP34s] Polynomial RootSolver

*Message #12 Posted by **fhub** on 6 Nov 2011, 6:09 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:

(deleted post)

> Just a few remarks for future developments.

Yes Marcus, you're of course right, but: ;-)

1) you know why I don't/can't use the preprocessor

2) I would really like to try all those new features like LOCL etc., but unfortunately I don't even see any of them mentioned in the new manual 3.0, so I have no clue WHAT can be done or HOW it has to be done. :-(

Franz

Re: [WP34s] Polynomial RootSolver

*Message #13 Posted by **Walter B** on 6 Nov 2011, 6:25 p.m.,*
in response to message #12 by fhub

> Quote:
>
> I don't even see any of them mentioned in the new manual 3.0, so I have no clue WHAT can be done or HOW it has to be done

Just you wait. Like many other people I've to work for a living. So I deal with the WP 34S in my spare time, where this project competes with some other activities. Be assured the documentation update is in progress and will probably be published before your Polynomial Root Solver is perfect ;-)

Edited: 6 Nov 2011, 6:26 p.m.

Re: [WP34s] Polynomial RootSolver

*Message #14 Posted by **fhub** on 6 Nov 2011, 7:00 p.m.,*
in response to message #13 by Walter B

> Quote:
>
> Just you wait. Like many other people I've to work for a living. So I deal with the WP 34S in my spare time, where this project competes with some other activities. Be assured the documentation update is in progress and will probably be published before your Polynomial Root Solver is perfect ;-)

Well, it was no complaint but just a (true) statement.

And my PolyRoots IS already perfect. ;-)

[WP34s] Local variables

*Message #15 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 4:59 a.m.,*
in response to message #14 by fhub

When the new features become usable and stable enough I will discuss them here. If you want to play around with them, here is a short guide:

- In a subroutine, issue LOCL nn where nn denotes the highest numbered local register you want to use. Newly created registers are zeroed.

- In the same or any nested subroutine you can now address the newly created registers with a dot in the name: .00 to .nn. For direct addressing, .nn is limited to .15 (these are restrictions in the internal coding of commands.) but indirect addresses may go higher, starting at 112 for .00.

- Another call to LOCL in the same subroutine just changes the size of the local register space. LOCL in any nested subroutine will establish a new frame which hides the local registers one level up.

- Use MEM? to find out about the number of levels left. Each frame needs 2 levels + 4 for every local register. The space is taken from the return stack which extends downwards into program space. If you need many local variables, run your program off flash memory and clear the program in RAM.

- Be aware that any action that clears the return stack will remove all local variables: Manual RTN, editing your program and some more keyboard actions. This is the reason why data that is input manually by a user is better held in the normal register space.

- Each frame establishes 16 local flags .00 to .15 in addition to the registers. They can be used like any other flag.

- Use RTN from the same subroutine that has issued LOCL to get rid of the most recently allocated frame and return to the caller. Use LPOP to just delete the variables without returning.

For examples, just look at xrom.wp34s.

Re: [WP34s] Local variables

*Message #16 Posted by **fhub** on 7 Nov 2011, 9:14 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Thanks for this explanation, Marcus!

At a first look all this seems to be a bit complicated, so I'll stay away from these new features for a while.

But now I have an other problem with the current SVN 1241: I guess it should be back-compatible to V2.2 if you don't use any of these 'local' features at all, but now with SVN 1241 almost nothing seems to work anymore. :-(

I've recompiled my yesterdays PRS (PolyRoots) program with SVN 1241, but all I get are all kinds of error messages:
1) for example a R-COPY with 0.1111 in X gives "out of range"
2) if I run my program with degree n=5, I get "domain error" after the input, and when I check the registers (00-06 should hold the coefficients) after this error stop, each of these 7 registers contain "nonnumeric".
No chance to get the program working at all.

There is something seriously broken in the latest build ...

Franz

Re: [WP34s] Local variables

*Message #17 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 11:11 a.m.,*
in response to message #16 by fhub

I'm in the middle of something... Thanks for your reports on errors.

Can you 'reset' the emulator from the menu and try again?

EDIT: I just did some tests.

You need to change the argument to R-COPY from .1111 to .11011. The reason is that register index values now are 3 digits in length to allow for the local registers to be addressed. The R-COPY syntax is hence: sss.ccddd for source/count/destination. The count is still limited to 2 digits. Sorry for any inconvenience.

What statement throws the "domain error"?

Edited: 7 Nov 2011, 11:19 a.m. after one or more responses were posted

Re: [WP34s] Local variables

*Message #18 Posted by **fhub** on 7 Nov 2011, 11:17 a.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> Can you 'reset' the emulator from the menu and try again?

Reset? Whenever I use a new SVN I delete the file wp34s.dat before, so it automatically does a 'Reset'.
Or do you mean I should try it with the newest SVN 1842? But from what I see in the 'changes' I can't imagine that this new build would solve the problems I've mentioned above.

You must know that I can't try it here one my old internet notebook (because of Win98), so I always have to go to my other computer and copy the new version from the USB stick ...

Re: [WP34s] Local variables

*Message #19 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 11:20 a.m.,*
in response to message #18 by fhub

Please see my edited post above, the syntax of R-COPY has changed.

Re: [WP34s] Local variables

*Message #20 Posted by **fhub** on 7 Nov 2011, 11:25 a.m.,*

(deleted post)

in response to message #19 by Marcus von Cube, Germany

> Quote:
>
> Please see my edited post above, the syntax of R-COPY has changed.

Ok, that's not nice - requires a lot of changes in almost every program! :-(

And about "Domain error": well, IIRC it was just any arithmetic operation which used one of those registers containing 'nonnumeric'.

Edited: 7 Nov 2011, 11:25 a.m.

Re: [WP34s] Local variables

*Message #21 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 11:50 a.m.,*
in response to message #20 by fhub

> Quote:
>
> And about "Domain error": well, IIRC it was just any arithmetic operation which used one of those registers containing 'nonnumeric'.

I have no idea where the 'nonnumeric' data might come from.

I see that your trick in line 199 no longer works. It's the art of magic digit juggling that fails here. I know that you are swapping source and destination here, but in fact you assign the count to the destination and the former source to the count, then setting the destination to zero. This makes a lot of assumptions about the values and their grouping and works only if two of the values are equal and the other is zero. This makes it almost impossible to use other index values are adopt the new alignment. A more classical approach (get the values on the stack in the proper ordering and then build the descriptor for R-COPY) would be more flexible and better to read.

```
<compute src>
RCL X       because SRC=CNT
CLx         destination
FS?C 00
x[<->] Z    swap source and destination
SDR 03      move destination beyond decimal point
+           add count
SDR 02      move both count and destination to
the right
+           add source
R-COPY
```

I know this is a bit longer but it's much more readable (and should work in the new version.)

(deleted post)

Edited: 7 Nov 2011, 11:53 a.m.

Re: [WP34s] Local variables

*Message #22 Posted by **fhub** on 7 Nov 2011, 12:11 p.m.,*
in response to message #21 by Marcus von Cube, Germany

> Quote:
>
> I have no idea where the 'nonnumeric' data might come from.
>
> I see that your trick in line 199 no longer works. It's the art of magic digit juggling that fails here.

Sorry, but what 'trick' do I use there??? It's just shifting the decimal and using LastX register.
Ok, my 2-digit shifting may not be correct anymore with the new SVN (and it's no problem for me to change this), but I don't see any reason to completely change this subroutine to your way.
And the (currently) wrong shifting should only give an error for wrong R-COPY parameters, but this does still not explain why any registers contain 'nonnumeric'.

Edit: now I see why you have problems with my R-COPY parameter calculation! I didn't write this subroutine for 'general' usage but only for this program, and here the original polynomial always starts at R00 (and both have of course the same number of elements).

Edited: 7 Nov 2011, 12:15 p.m.

Re: [WP34s] Local variables

*Message #23 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 12:18 p.m.,*
in response to message #22 by fhub

> Quote:
>
> Ok, my 2-digit shifting may not be correct anymore with the new SVN (and it's no problem for me to change this), but I don't see any reason to completely change this subroutine to your way.

To copy 07~13 into 00~06 you need 7.07000 in X.
To copy 00~06 into 07~13 you need 0.07007 in X.

I see no way to transform the former into the latter with a single shift operation.

> Quote:
>
> but this does still not explain why any registers contain 'nonnumeric'.

I wanted to test the situation here and was unable to do so. I need to fix the R-COPY problem first.

Re: [WP34s] Local variables

*Message #24 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 12:26 p.m.,*
in response to message #23 by Marcus von Cube, Germany

There is a shorthand: You can leave out the count if it can be determined automatically which is the case here because source and destination are adjacent.

This should work:

```
RCL 94
INC X
FS?C 00
SDR 05
```

Re: [WP34s] Local variables

*Message #25 Posted by **fhub** on 7 Nov 2011, 12:44 p.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> There is a shorthand: You can leave out the count if it can be determined automatically which is the case here because source and destination are adjacent.

LOL, so far about **me** using tricks! ;-)

But your method seems quite suspicious to me!? For example if X=15 (without any decimals) how should R-COPY determine how many registers to copy? And the same after SDR 05, i.e. X=0.00015.
The only thing I can imagine is that the 34s then uses 15 also for the count, but that's nowhere described in the manual (and also

(deleted post)

not really obvious).

Re: [WP34s] Local variables

*Message #26 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 12:48 p.m.,*
in response to message #25 by fhub

I can't speak for the manual but from what I read in the sources, R-COPY tries to determine the count from the largest non overlapping area between source and destination. This will work nicely here. :-)

I've just committed a new bugfix and ran your program. I didn't check the solutions but it returned some. :-)

Re: [WP34s] Local variables

*Message #27 Posted by **fhub** on 7 Nov 2011, 1:36 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> I've just committed a new bugfix and ran your program. I didn't check the solutions but it returned some. :-)

Well, but here's already the next problem:
Just tried the new SVN 1843 with the changed R-COPY code, and now I see that also R-CLR doesn't work anymore. Examples: 80.2 with R-CLR clears only R80-R89, and 80.03 clears only R80.

This change of ss.ddnn to ss.dddnn was no good idea, it has broken some other things, too.

Re: [WP34s] Local variables

*Message #28 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 3:55 p.m.,*
in response to message #27 by fhub

(deleted post)

> Quote:
>
> Examples: 80.2 with R-CLR clears only R80-R89, and 80.03 clears only R80.
>
> This change of ss.ddnn to ss.dddnn was no good idea, it has broken some other things, too.

I didn't change the parameters to R-CLR. If 80.2 does not clear 80 to 99 than that's my fault. I'll check it later. The ddd parameter is at the end of the fractional part. The length change was inevitable to support addresses 100 and above.

EDIT: It was a programming error and should be fixed now. One of the many optimizations to save precious code space.

Edited: 7 Nov 2011, 4:00 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Programming Cable (UK)

*Message #1 Posted by **SteveH** on 5 Nov 2011, 12:05 p.m.*

Does anyone know if it's possible to obtain WP 34S programming cables in the UK?

Cheers,

Steve

Re: WP 34S Programming Cable (UK)

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 1:32 p.m.,*
in response to message #1 by SteveH

The only source is HP through Gene Wright in th e U.S. He will ship worldwide at the actual expenses he has in doing so.

Edit: Misspelled name.

Edited: 5 Nov 2011, 2:35 p.m. after one or more responses were posted

Re: WP 34S Programming Cable (UK)

*Message #3 Posted by **Alexander Oestert** on 5 Nov 2011, 2:08 p.m.,*
in response to message #2 by Marcus von Cube, Germany

It's almost a rite: Write to Gene Wright, right?!

:-)

Edited: 5 Nov 2011, 2:09 p.m.

Re: WP 34S Programming Cable (UK)

*Message #4 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 2:36 p.m.,*
in response to message #3 by Alexander Oestert

That was 'Lautschrift'. Edited, of course. :-)

Re: WP 34S Programming Cable (UK)

*Message #5 Posted by **Nigel J Dowrick** on 5 Nov 2011, 4:23 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Just to confirm: I'm in the UK and I got my cable from Gene (thank you!). He's happy (or at any rate willing) to ship internationally; I had no problems whatever.

Nigel (UK)

Re: WP 34S Programming Cable (UK)

*Message #6 Posted by **Walter B** on 5 Nov 2011, 4:04 p.m.,*
in response to message #1 by SteveH

Sometimes, reading the manual really helps. On its *very first* text page (p. 4) in the *very first* sentence, a link is provided beaming you to the answer to your question. What more can I do?

Re: WP 34S Programming Cable (UK)

*Message #7 Posted by **SteveH** on 5 Nov 2011, 7:19 p.m.,*
in response to message #6 by Walter B

> Quote:
>
> What more can I do?

I always think jumping to conclusions is a good plan :)

I'd already emailed Gene and, while waiting for a response, was curious to find out whether there are other options available.

Edited: 5 Nov 2011, 7:19 p.m.

Re: WP 34S Programming Cable (UK)

*Message #8 Posted by **gene wright** on 5 Nov 2011, 10:26 p.m.,*
in response to message #7 by SteveH

Have you? :-)

Don't think I see anything in my inbox!

Re: WP 34S Programming Cable (UK)

*Message #9 Posted by **Raymond Del Tondo** on 5 Nov 2011, 10:37 p.m.,*
in response to message #8 by gene wright

Sorry for jumping in...

Did you receive my mail?

Thanks

Re: WP 34S Programming Cable (UK)

*Message #10 Posted by **gene wright** on 6 Nov 2011, 12:39 a.m.,*
in response to message #9 by Raymond Del Tondo

Hey Raymond!

Not if you sent anything recently. Nothing in my inbox from you since last March... ?

Re: WP 34S Programming Cable (UK)

*Message #11 Posted by **Christoph Giesselink** on 6 Nov 2011, 4:07 p.m.,*
in response to message #10 by gene wright

> Quote:
>
> Did you receive my mail?

Hi Gene,

me too. I tried to contact you over the Museum Mail on Sep. 11th and a 2nd time on Sep. 19th, than I gave up.

TNX

Christoph

Re: WP 34S Programming Cable (UK)

*Message #12 Posted by **Nick_S** on 7 Nov 2011, 8:00 a.m.,*
in response to message #10 by gene wright

Hi Gene

I also sent an email message to you regarding an HP programming cable, through the MoHPC forum email system (a few days ago).

Nick

Re: WP 34S Programming Cable (UK)

*Message #13 Posted by **SteveH** on 6 Nov 2011, 4:52 a.m.,*
in response to message #8 by gene wright

> Quote:
>
> Have you? :-)

Twice in the last couple of weeks. This was using the link on the WP 34S stsrtup page.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 9100A/B Transistors

*Message #1 Posted by **Richard Wilder** on 5 Nov 2011, 11:12 a.m.*

Anyone know the significance of the colored paint dabs on many of the transistors in these calculators? Maybe they were hand selected for parameters to work in the particular circuit(?)

Re: HP 9100A/B Transistors

*Message #2 Posted by **Joel Setton (France)** on 11 Nov 2011, 9:08 a.m.,*
in response to message #1 by Richard Wilder

Richard,
The HP Journal article on the 9100 mentioned that the transistors were burned-in, to detect early failures and improve reliability. As far as I know, this is not related to select a particular parameter.
I hope this helps!
Joel

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: CAT on version 3.0

*Message #1 Posted by **Miguel Toro** on 5 Nov 2011, 10:22 a.m.*

Hi,

A little request, in case it is possible to do, of course: it would be nice if CAT worked as the other catalogs in the calculator, at least keeping the last called label and second, having a quick access to a label by using the first characters of the item.

Thanks and regards,

Miguel

Re: WP 34S: CAT on version 3.0

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 1:21 p.m.,*
in response to message #1 by Miguel Toro

Both requests aren't easy to implement. The list of labels isn't at all a list, each label is searched for in its respective region. Moreover, the labels aren't in any particular order so that typing a letter will not find the next label starting with the letter(s) typed so far in alphabetical sequence. Saving the position might be possible but any update to the program will make it invalid. Today, you can select the region by typing its digit but the search will always start at the beginning.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: NO IC's :-)

*Message #1 Posted by **robertoataulfo** on 5 Nov 2011, 9:08 a.m.*

Build An Insanely Complicated Transistor Clock

Re: OT: NO IC's :-) nor Oscillator !

*Message #2 Posted by **hugh steers** on 5 Nov 2011, 10:20 a.m.,*
in response to message #1 by robertoataulfo

can i have one with its own oscillator. i dont like the idea of sync to mains 60Hz.

and could that be less components.

:-)

Re: OT: NO IC's :-) nor Oscillator !

*Message #3 Posted by **Gerson W. Barbosa** on 5 Nov 2011, 10:47 a.m.,*
in response to message #2 by hugh steers

A 50-Hz mod is available:

http://www.transistorclock.com/50Hzmod.pdf

Re: OT: NO IC's :-) nor Oscillator !

*Message #4 Posted by **Thomas Chrapkiewicz** on 5 Nov 2011, 10:51 a.m.,*
in response to message #2 by hugh steers

The curious specification on the 60Hz main is that the frequency may vary slightly throughout the day, but the long term stability is very accurate.

TomC

Re: OT: NO IC's :-) nor Oscillator !

*Message #5 Posted by **Katie Wasserman** on 5 Nov 2011, 11:25 a.m.,*
in response to message #4 by Thomas Chrapkiewicz

While it's been true for decades that 60Hz power in the US has a very high low-term accuracy that may no longer be the case in the future. I've see this story referenced several times in the past few months. It's very disturbing to me as I've designed and built a few clocks that depend on accurate 60Hz.

OTOH, you can buy TCXO (temperature compensated crystal oscillators) for a few dollars that have infinitely better short term accuracy (1 ppm over a huge temperature range) with low aging rates and initial accuracies to rival the long-term accuracy of the 60Hz power grid.

Still, there's nothing like an old-fashion 60Hz motor-based clock that you can refer to when trying to figure out how long the power has been out in your house.

Edited: 5 Nov 2011, 11:26 a.m.

Re: OT: NO IC's :-) nor Oscillator !

*Message #6 Posted by **Lincoln R.** on 5 Nov 2011, 1:21 p.m.,*
in response to message #5 by Katie Wasserman

Historically, those synchronous-motor clocks were the reason for accurate 60Hz. The inventor, a guy named Henry Warren, had this great idea on how to make an accurate electric clock but then realized that the 60Hz from the power company wasn't always 60Hz. Rather than give up, Warren sold the power companies fancy clocks combining one of his electric motors and an accurate mechanical movement to help them regulate frequency: Telechron Master Clock

Re: OT: NO IC's :-) nor Oscillator !

*Message #7 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 1:30 p.m.,*
in response to message #6 by Lincoln R.

There is a good reason to have the 50 or 60 Hz accurate: Power systems are networked and need to in sync when this shall be without any programs: Imagine a power plant of a few megawatts working with just the wrong frequency or phase compared to the power line it is feeding!

Re: OT: NO IC's :-) nor Oscillator !

*Message #8 Posted by **Katie Wasserman** on 5 Nov 2011, 1:45 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Sure, power plants need to sync to the 50Hz or 60Hz grid before feeding power into it, so they need short term accuracy of maybe 0.01%. However, other than time keeping there's no reason that they need to have good long-term accuracy.

Getting rid of long-term accuracy on the power grid will instantly obsolete millions of clocks and devices with embedded clocks that rely on the 50Hz/60Hz line.

Re: OT: NO IC's :-) nor Oscillator !

*Message #9 Posted by **Katie Wasserman** on 5 Nov 2011, 1:50 p.m.,*
in response to message #6 by Lincoln R.

Thanks for pointing that out and the link, it's interesting history.

Re: OT: NO IC's :-) nor Oscillator !

*Message #10 Posted by **Frank Boehm (Germany)** on 5 Nov 2011, 5:32 p.m.,*
in response to message #5 by Katie Wasserman

With the shutdown of several nuclear plants in Germany, the frequency of the electrical grid has become rather unstable - in fact the drift is that huge, most older wind and solar power stations will do an emergency shutdown once in a while. They all have to be upgraded to a modern (more forgiving, working on a wider frequency range) DC/AC converter. The 50Hz based clock is probably dead as of now.

Re: OT: NO IC's :-) nor Oscillator !

*Message #11 Posted by **Martin Pinckney** on 5 Nov 2011, 10:27 p.m.,*
in response to message #5 by Katie Wasserman

The 60 hz. frequency is maintained simply by the rotational speed of the generators. (3600 RPM => 60 hz.) The RPN varies slightly as load varies during the day. The power company has devices that simply count revolutions, and during the wee hours of the morning when load is low they either speed up or slow down the generators enough to correct the clocks once every 24 hours.

Re: OT: NO IC's :-) nor Oscillator !

*Message #12 Posted by **Bart (UK)** on 5 Nov 2011, 11:03 a.m.,*
in response to message #2 by hugh steers

I recall in my parent's house several clocks sync'd to (our mains frequency of) 50Hz.

Re: OT: NO IC's :-) nor Oscillator !

*Message #13 Posted by **designnut** on 5 Nov 2011, 4:41 p.m.,*
in response to message #12 by Bart (UK)

Most of my watchees and clocks recrive the NIST (US) time signal. One even makes several readings and digitally adjusts it's rate. Sam

Re: OT: NO IC's :-)

*Message #14 Posted by **Paul Berger (Canada)** on 5 Nov 2011, 5:16 p.m.,*
in response to message #1 by robertoataulfo

Nice that it is sold as a kit, I am a big fan of nixie clocks, my last nixie clock used a very early clock chip that I demultiplexed and converted the 7 seg code to BCD for the nixie drivers. I wanted to build a electromechanical one using stepping relays but, stepping relays seem very hard to come by now. I saw a web site for one built from vacuum tubes. The most unusal one I have seen using neon tube ring counters to keep track of time.

Remember Heathkit

*Message #15 Posted by **Joerg Woerner** on 6 Nov 2011, 5:11 p.m.,*
in response to message #14 by Paul Berger (Canada)

I just had to dig out my Heathkit GC-1005 - still works like a charm. It is centered around the famous Mostek MK5017 chip and was a wonderful, yet affordable kit sold between 1973 and probably 1975 or 1976.

I guess this is the HP 35 for clocks:

Have a great weekend,

Joerg

Re: Remember Heathkit

*Message #16 Posted by **Paul Berger (Canada)** on 6 Nov 2011, 7:10 p.m.,*

in response to message #15 by Joerg Woerner

I have a brand new MK5017 sitting here on my desk just waiting for my next clock project, maybe I will use some of my 7 segment nixies with it. I built my first digital clock in 1975 it used LED displays,and it still operates fine. It was built on a project board sold by Radio Shack, and the parts to build it cost be about the equivalent of a weeks salary.

Re: Remember Heathkit

*Message #17 Posted by **Joerg Woerner** on 6 Nov 2011, 7:57 p.m.,*
in response to message #16 by Paul Berger (Canada)

What is the date code of the "brand new" chip?

Joerg

Re: Remember Heathkit

*Message #18 Posted by **Paul Berger (Canada)** on 6 Nov 2011, 8:21 p.m.,*
in response to message #17 by Joerg Woerner

7318 it still in the original Mostek package, I only removed the paper label off the top to look at the chip, I have not taken it out of the package yet. Chip is a white ceramic, side brazed 28 pin dip with gold plated pins and lid over the chip well info off top of chip

```
MOSTEK
MK5017AN P
7318  A
```

Re: Remember Heathkit

*Message #19 Posted by **bill platt** on 6 Nov 2011, 9:00 p.m.,*
in response to message #15 by Joerg Woerner

Aw, that is great! And in perfect shape!

I wanted to build a Heathkit transceiver soooo badly--and I wanted to build a Heathkit oscilloscope, too. But alas, they went out of business before I could get to that point.

I had a strong Ham radio interest as a kid in the late 70s. It seemed as if *every* elmer ham had built a digital clock--not unlike the Heathkit you have--and set it to "UTC".

Good memories. Maybe someday I'll buy an SB-101 just because...(god, I remembered the model name! Just checked google! Youthful memories are so strong...)

Edited: 6 Nov 2011, 9:02 p.m.

Re: Remember Heathkit

*Message #20 Posted by **Garth Wilson** on 6 Nov 2011, 9:58 p.m.,*
in response to message #19 by bill platt

They never totally went out of business (see http://heatkit.com) but they quit making kits in '92. (They are starting back into the kit business now.)

I have to disagree with their reasons for quitting. They said kitbuilding was no longer possible for the hobbyist because of SMT, while the truth, especially back then, was that most things could still

be done in thru-hole, and there are plenty of areas of electronics that can still be carried out that way today. As for compactness, many of the products were, as I used to like to say, packed tight with empty space. For those, whether TVs, stereos, non-mobile amateur-radio equipment, etc., making it really small was irrelevant.

Heathkit also said the kit builder could no longer save money by assembling it themselves; but saving money was not the issue with most of the kit builders in my observation. If the same thing could be gotten in a non-kit form from another company, they were frequently paying more to get the same thing in a kit version, and they knew it; but they wanted the experience that went with it. Although I had about 20 Heathkit products at one time, I never thought of Heathkit as being the way to save money. They did however have some rather unique products I didn't know any other way to get. They could have taken advantage of that niche-market situation.

The most complex Heathkit product I ever assembled was a compact portable 20MHz dual-trace triggered oscilloscope which could run on an internal battery. It really was too much. I got 80% or more of the way done and basically gave up and let it collect dust for a few years before I got it back out and decided to finish it.

There are some amateur radio kits today from other companies, and it looks like Heathkit has decided to get back into it. It will be interesting to see what happens, since a company is basically the people, and all the ones who were there in the 70's are undoubtedly gone.

Edited: 6 Nov 2011, 9:59 p.m.

Re: Remember Heathkit

*Message #21 Posted by **Katie Wasserman** on 6 Nov 2011, 11:26 p.m.,*
in response to message #20 by Garth Wilson

They were a great company, I can't imagine that the reinvention of it will be nearly as good. I had a part-time job in college working in a neurophysics lab run by a professor who loved Heathkit. Some of the work I did there was to build these kits for the lab.

They also came up with the incredible OC-1401 5-level RPN navigation calculator that is one of the most creative machines I know of from several standpoints: functionally (full scientific calculator and navigation and clock/stopwatch), electronically (3 communicating microprocessors and an interesting mix of power options) and a colorful, cool looking design with clicky keys too!

Edited: 6 Nov 2011, 11:48 p.m.

Re: Remember Heathkit

*Message #22 Posted by **Jim Yohe** on 6 Nov 2011, 11:43 p.m.,*
in response to message #20 by Garth Wilson

That's suppose to be http://www.heathkit.com/ not http://heatkit.com

Re: Remember Heathkit

*Message #23 Posted by **Garth Wilson** on 7 Nov 2011, 4:07 a.m.,*
in response to message #22 by Jim Yohe

Woops, my apologies. That comes from being too tired when I wrote.

Silly story about a Heathkit from my last place of work, in the late 1980's: The Heathkit AD-1309 noise generator looked like the perfect fit for a need we had, and it was cheap too-- maybe around $40 IIRC. I think it was even on sale. We were going through a temporary financially tight period, so we had to write up a justification for every piece of equipment we wanted. I wrote up something short for this, not wanting to take much time since it was so cheap anyway, and it was so simple that the labor to put it together would be minimal. The general manager came back to our office and said he needed me to write up a little more detail about <bla bla bla...> There was yet another iteration of this, such that the company cost for my time spent justifying it and the general manager's time spent trying to over-analyze because of the tight finances was considerably more than the cost of the noise generator itself.

Edited: 7 Nov 2011, 4:18 a.m.

Re: Remember Heathkit

*Message #24 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 8:37 a.m.,*
in response to message #23 by Garth Wilson

So the real 'noise' was generated in-house. ;-)

Re: Remember Heathkit

*Message #25 Posted by **Steve Leibson** on 7 Nov 2011, 9:39 a.m.,*
in response to message #20 by Garth Wilson

I built a lot of Heathkits in the 1970s: scopes, meters, generators, the transistor tester, power supplies, clocks, stereos, the microwave oven, and even a Heathkit all-metal power strip, which I still have. The kit business has evolved and the heir to the Heathkit throne (in my mind) is Sparkfun (www.sparkfun.com) in Boulder, Colorado. They offer a bunch of great kits, parts, and are very youth-oriented. At this year's Maker Faire in Silicon Valley, they had a booth with about 30 soldering stations where kids sat intensely building their kits, with and without parents' help.

The Maker ethos is this century's version of the electronic kitbuilder. Check out Sparkfun's every-Friday new-product videos. These guys know how to market on the newfangled "Internets." They set the bar for the new Heathkit as far as kitbuilding is concerned.

Edited: 7 Nov 2011, 9:41 a.m.

Re: Remember Heathkit

*Message #26 Posted by **Katie Wasserman** on 7 Nov 2011, 10:00 a.m.,*
in response to message #25 by Steve Leibson

I agree that Make, Sparkfun, Adafruit and the like do a good job at generating enthusiasm. I've been to a Maker Faire (in NY) and seen people soldering at the Sparkfun booth and subscribed to Make magazine for a while too.

What I find different from the Heathkit of old is the near total lack of theory behind the projects. Make magazine, for example, ncourages you build stuff without explaining really anything in the way of theory. Heathkit always had a good description of the theory and circuits in their kits they were very focused on education and became just an education company.

I suggest that Parallax and Revolution Education (PICAXE) are more the heirs to the Heathkit throne. They do a great job of teaching, especially Parallax.

-Katie

Edited: 7 Nov 2011, 3:06 p.m. after one or more responses were posted

Re: Remember Heathkit

*Message #27 Posted by **Jim Yohe** on 7 Nov 2011, 12:56 p.m.,*
in response to message #26 by Katie Wasserman

Thanks for the other ideas Katie! This should be fun sharing the excitement with my grandchildren.

Re: Remember Heathkit

*Message #28 Posted by **Garth Wilson** on 7 Nov 2011, 3:51 p.m.,*
in response to message #26 by Katie Wasserman

I kept a few Heathkit catalogs over the years, the earliest being from when they actually published the schematics in the catalog. Later of course they got too complex. Imagine putting an oscilloscope schematic there in the catalog. Mine was 24"x36" with rather small print IIRC, printed on both sides.

Re: Remember Heathkit

*Message #29 Posted by **Mike Morrow** on 7 Nov 2011, 10:30 a.m.,*
in response to message #20 by Garth Wilson

Quote:

> They never totally went out of business (see http://heathkit.com) but they quit making kits in '92.

Yes, and they sold ham equipment to the end. One would need to be younger than about 35 to have missed the Heathkit ham era. I had an order for a low power ham kit in to them when they dropped out of the market, cancelling my order.

Quote:

> Heathkit also said the kit builder could no longer save money by assembling it themselves; but saving money was not the issue with most of the kit builders in my observation.

Saving money was certainly **the most important advantage** to a Heathkit purchase for me. There was never anything particularly clever or innovative about Heathkit gear, except the associated construction manuals. Plus, whatever resulted from the built-by-customer process was extremely variable in quality, which makes purchase of used Heathkit gear a big gamble.

I would have liked (even today) the Heath H-11 (their version of the PDP-11) computer system. Now that *was* expensive!

Quote:

> There are some amateur radio kits today from other companies, and it looks like Heathkit has decided to get back into it.

I wouldn't bet on anything substantive coming from a Heath re-start. The majority of Heath's real corporate direction was toward the amateur radio market. I always questioned the appeal their other *junk* had for their customer base. Today's heir-apparent for **amateur radio** gear in fact, *not just potential*, is Elecraft Company in California, which has been marketing several sophisticated amateur radio transceiver kits using through-hole construction (K1, K2, KX1), a world-class performance semi-kit (K3), along with various accessories. A new portable transceiver (KX3) is expected soon that is, IMHO, the most interesting electronic device I've seen in 45 years as an amateur radio operator. Construction and operation manuals are available for free download and are generally superior to the excellent and legendary output from Heath in its best days.

Edited: 7 Nov 2011, 10:54 a.m.

Re: Remember Heathkit

*Message #30 Posted by **Seth Morabito** on 8 Nov 2011, 3:22 a.m.,*
in response to message #29 by Mike Morrow

Always happy to meet another HP calculator loving ham. I'm still a complete newbie myself, but I've taken to the hobby like a fish takes to water!

And yes, I want a KX3 like nobody's business :)

73 de NF6Q

Re: Remember Heathkit

*Message #31 Posted by **Mike Morrow** on 8 Nov 2011, 11:49 a.m.,*
in response to message #30 by Seth Morabito

> Quote:
>
> Always happy to meet another HP calculator loving ham.

I'd been a ham for quite a few years by the time I used *six weeks* (!!!) of take-home pay as a Navy lieutenant(j.g.) to purchase my first HP in 1977...the newly-introduced HP-67 (which is today out for card reader repair). That was a great machine to start my 35-year collection!

It was one of my two "major" purchases made while in military service. The other was a new 1976 Heathkit HW-101 ham transceiver kit that took me four months to build due to my having almost non-existent free time. The money-saving aspect of Heathkit ham gear was its *most important advantage* to me, at a time when Navy junior officers got paid less than unskilled civilian laborers performing welding-spark fire-watches in a shipyard.

It's really odd today to recall the purchase of a handheld calculator qualifying as the major purchase made during a period of five years service. :-)

> Quote:

> And yes, I want a KX3 like nobody's business :)

I'll wait about six months after introduction just to let any hardware issues settle out. Until then, there's my 11-year-old K1.

> Quote:
>
> 73 de NF6Q

I've seen you on the Elecraft List.

73 de KK5F

Edited: 8 Nov 2011, 12:02 p.m.

Re: Remember Heathkit

*Message #32 Posted by **Dave Shaffer (Arizona)** on 9 Nov 2011, 6:55 p.m.,*
in response to message #15 by Joerg Woerner

My Heathkit clock like this, built in the mid-60s, sits by my bed to this day.

Re: Remember Heathkit

*Message #33 Posted by **Randy** on 10 Nov 2011, 5:17 p.m.,*
in response to message #32 by Dave Shaffer (Arizona)

> Quote:
>
> My Heathkit clock like this, built in the mid-60s, sits by my bed to this day.

Don't you mean the 70's... as the GC-1005 was introduced, IIRC, in 1972. I was a tech in HEC #42 during the 70's and remember when it came out - the first kit to have the crazy Molex staggered pin IC socket strips. Oh, brother, the hours I spent resoldering those monsters.

Re: Remember Heathkit

*Message #34 Posted by **Katie Wasserman** on 10 Nov 2011, 5:29 p.m.,*
in response to message #33 by Randy

I built one of their darkroom timers sometime in the late 60's/early 70's. It was the first time I ever soldered anything and it used point to point connections on terminal strips, it even had a vacuum tube in there for voltage regulation. It didn't work right after I finished of course and I sent it to Heathkit for repair. I'm not sure if it came back with a label telling me which tech did the work but I'll bet it was lucky #42! :)

I've built many Heathkits since then and never had to bother #42 again, but it was good to know that he was there if I needed him!

Randy, How long did you work there?

-Katie

Edited: 10 Nov 2011, 5:30 p.m.

Re: Remember Heathkit

*Message #35 Posted by **Randy** on 11 Nov 2011, 8:07 a.m.,*
in response to message #34 by Katie Wasserman

#42 was the store number in suburban Philadelphia, not a tech at Benton Harbor. I worked there from 72 to the summer of 1977, when I got my first job in engineering. I was the RF (ham,CB,R/C) and general kit guy, another did just stereos, another just televisions.

It was was a great place and after '77, I did weekend work for a while fixing the "dogs" the new guys couldn't or did not want to get working. It really did build great trouble-shooting skills because just about anything could be wrong. Swapped resistor values was always my favorite... had one that I remember that had every 1k and 10k resistor swapped.

After Zenith acquired them, I remember seeing for the first time the H89 terminal - with the factory assembled processor board. When I asked why it was already built, I was told it was because Heath felt it could not be assembled reliably by customers due to the density. I thought to myself "the goose is dead". As in the goose that laid the golden egg of kits. What's the point of a kit that's not a kit?

Fast forward a few years later, I stopped by the store one day only to learn that everybody I knew was gone, as in fired. They shipped the inventory back to the factory and that was it for #42. Today, the building is a local family pizzeria.

Edited: 11 Nov 2011, 8:09 a.m.

Re: Remember Heathkit

*Message #36 Posted by **Dave Shaffer (Arizona)** on 10 Nov 2011, 7:19 p.m.,*
in response to message #33 by Randy

Could have been the 70s, I guess. I thought I remembered that clock by my bed when I was a summer student at a particular place in the 60s. I worked there full time in the 70s, so maybe that is what the rememberance SHOULD be!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My two latest HP calculators

*Message #1 Posted by **Michael de Estrada** on 4 Nov 2011, 8:53 p.m.*

Today I purchased 2 new calculators from HP Home & Home Office, an HP 33s and an HP 10bII+. The HP 33s replaces one I bought 6 years ago and I couldn't stand the invisible decimal point that has been corrected in newer displays. Although I don't like it's keyboard, it's much more comfortable as a hand-held than the 35s, due to its rounded sides and soft grips. Also, it has separate STO and RCL keys.

I needed to add another calculator to the order so I could use a discount coupon and qualify for free shipping, so in the end the 10bII+ ended up costing only about $15. What is noteworthy here is that the 10bII+ is the first non-RPN HP calculator I've ever owned, other than a $4.99 HP Quick calc 4-banger that is stuck by its magnet to my refrigerator door. Although the 10bII+ is touted as an entry-level financial calculator, it is an amazingly capable scientific / statistical calculator as well. It also has nice data entry features such as a backspace key. Finally, it has chain data entry mode to eliminate the need for those pesky parentheses. Hopefully the keyboard won't be too mushy, given its low price. I've already downloaded the User's Guide from the HP website so I can read up and hit the ground running when it arrives.

Edited: 4 Nov 2011, 9:26 p.m. after one or more responses were posted

Re: My two latest HP calculators

*Message #2 Posted by **Tim Wessman** on 4 Nov 2011, 9:51 p.m.,*
in response to message #1 by Michael de Estrada

It is a very good keyboard design. You don't need to worry about it. I personally feel the reliability is higher than the keyboard we've been using on the high end calculators for the past few years.

TW

Edited: 4 Nov 2011, 9:54 p.m.

Re: My two latest HP calculators

*Message #3 Posted by **Jim Yohe** on 5 Nov 2011, 8:14 p.m.,*
in response to message #2 by Tim Wessman

I've been using the HP 10bII+ extensively for the past several months and can say that I've been happy with it, mostly. There have been several instances where it missed number entries and caused me to calculate erroneous results. That's forced me to have to watch the display, now, to verify that it caught/captured what I intended to enter. This is contrary to how my favorite calculator, the HP 32sii, reacts to number entries.

Edited: 5 Nov 2011, 8:15 p.m.

Re: My two latest HP calculators

*Message #4 Posted by **Martin Pinckney** on 4 Nov 2011, 10:23 p.m.,*

in response to message #1 by Michael de Estrada

> Quote:
>
> Finally, it has chain data entry mode to eliminate the need for those pesky parentheses.

?? And get wrong answers?

Re: My two latest HP calculators

*Message #5 Posted by **hpnut** on 4 Nov 2011, 10:52 p.m.,*
in response to message #4 by Martin Pinckney

RPN gets rid of those pesky parentheses for good :-)

Re: My two latest HP calculators

*Message #6 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 7:39 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Finally, it has chain data entry mode to eliminate the need for those pesky parentheses.

This statement is beyond me. Chain entry mode will require more parentheses than algebraic entry with operator priority. It's mainly invented for those who don't have a clue about math rules, the 'typical' business people? For me it's as useless as it can be. If you want to forcibly end a calculation, use '=' when needed, not chain mode!

Re: My two latest HP calculators

*Message #7 Posted by **Lode** on 5 Nov 2011, 9:09 a.m.,*
in response to message #6 by Marcus von Cube, Germany

In chain mode, 5 + 3 * 2 gives 16 while 2 * 3 + 5 gives 11.

In algebraic mode, 5 + 3 * 2 and 2 * 3 + 5 both give 11. You need to use parentheses to get the "16" result.

More parentheses are needed, because you can't affect the result by changing the order in which you enter numbers.

So the statement makes sense to me.

Re: My two latest HP calculators

*Message #8 Posted by **Marcus von Cube, Germany** on 5 Nov 2011, 9:29 a.m.,*
in response to message #7 by Lode

No parentheses, just press '=' after you have done the addition. I wouldn't even think of rearranging the formula.

Most simple (household) calculations consist of additions, sometimes together with a multiplication (number of units x unit price). This is almost always better handled by not using chain mode. Chain mode would either require parentheses, or if they are lacking (4 banger) a memory.

Re: My two latest HP calculators

*Message #9 Posted by **Eddie W. Shore** on 5 Nov 2011, 1:41 p.m.,*
in response to message #1 by Michael de Estrada

HP still sells the 33S? Maybe I will get a replacement. I just got a second 10bii that now lives at my office.

Another thing the 33S has over the 35S is the >P and >R functions are available.

The number of labels are similar to the HP 15C.

Edited: 5 Nov 2011, 1:50 p.m.

Re: My two latest HP calculators

*Message #10 Posted by **Michael de Estrada** on 5 Nov 2011, 2:24 p.m.,*
in response to message #9 by Eddie W. Shore

> Quote:
>
> Another thing the 33S has over the 35S is the >P and >R functions are available.

Yes ! I forgot to mention that as well. You have to go through all sorts of contortions with complex mode to do it on the 35s.

Also, the 33s sells for $20 less than the 35s, and is the cheapest RPN programmable calculator that HP sells.

Re: My two latest HP calculators

*Message #11 Posted by **Eddie W. Shore** on 5 Nov 2011, 2:28 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> Yes ! I forgot to mention that as well. You have to go through all sorts of contortions with complex mode to do it on the 35s.
>
> Also, the 33s sells for $20 less than the 35s, and is the cheapest RPN programmable calculator that HP sells.

I just ordered another 33S - thanks, Michael.

Re: My two latest HP calculators

*Message #12 Posted by **Michael de Estrada** on 8 Nov 2011, 9:53 p.m.,*
in response to message #11 by Eddie W. Shore

Mine arrived today, and what a revelation.

The HP 33s is much improved over the early model that I used to own. The display has fixed the invisible decimal point problem and the keyboard button action is a lot smoother as well. My serial number of CNA 141000X suggests that it was manufactured a scant 2 months ago (41st week of 2011), so the batteries should be fresh. They are still supplying it with a full-sized printed User's

Guide and a very nice slip case. It's a joy to hold in my hand with its rounded edges and soft gripper material. And then there's separate STO and RCL buttons, P<->R conversions direct from the keyboard and a big primary DISPLAY button. Only the weird ENTER key location spoils the fun. And it offers virtually all the functionality of the 35s for $20 less, without all the bugs and missed keystrokes. I'm glad HP continues to make it.

The HP 10bII+ was a very pleasant surprise with a very nice keyboard and display, and a solid quality feel. The keyboard layout is very logical and uncluttered with the down-shifted operations on the bottoms of the keys ala 12C, 15C and 35s. It's a stealth scientific calculator listed under financial calculators.

I'm very happy to have bought these two calculators, and for any of you who may be interested, HP Home & Home Office is currently offering both of them with free domestic shipping.

Re: My two latest HP calculators

*Message #13 Posted by **bill platt** on 8 Nov 2011, 10:29 p.m.,*
in response to message #12 by Michael de Estrada

I like the algebraic mode on the 33s, too. It is pretty cool.

what makes the 10bii a scientific? It doesn't have trigs,--or does it?

Re: My two latest HP calculators

*Message #14 Posted by **Jim Yohe** on 8 Nov 2011, 10:46 p.m.,*
in response to message #13 by bill platt

> Quote:
>
> It doesn't have trigs,--or does it?

Why ... yes it does. Though not purely a scientific it definitely will let you do, "Trigonometric/inverses, Hyperbolics/inverses, Square root"

Re: My two latest HP calculators

*Message #15 Posted by **Mike Morrow** on 9 Nov 2011, 12:13 a.m.,*
in response to message #13 by bill platt

> Quote:
>
> what makes the 10bii a scientific? It doesn't have trigs,--or does it?

The 10bii+ is a rather different machine than the 10bii.

Re: My two latest HP calculators

*Message #16 Posted by **John B. Smitherman** on 9 Nov 2011, 12:20 a.m.,*
in response to message #13 by bill platt

Here's a link to the user manual...

10bii+ User Manual

John

Re: My two latest HP calculators

*Message #17 Posted by **Derek Walker (UK)** on 9 Nov 2011, 3:09 a.m.,*
in response to message #12 by Michael de Estrada

> Quote:
>
> I'm glad HP continues to make it.
>
> I'm very happy to have bought these two calculators, and for any of you who may be interested, HP Home & Home Office is currently offering both of them with free domestic shipping.

I'm surprised the 33s still available, IIRC it was discontinued in UK when the 35s came out. Certainly it's not been listed on HP's UK website or any local reseller I know of for several years. I spent an afternoon trying to buy one (and a 30b) over the counter in New York last year, but without success. I found plenty of 12C's, a few 35s's and 50G's but that was all. At least the 30b has finally now appeared in the UK, long after the US launch.

Re: My two latest HP calculators

*Message #18 Posted by **Bart (UK)** on 9 Nov 2011, 5:02 a.m.,*
in response to message #17 by Derek Walker (UK)

> Quote:
>
> IIRC it was discontinued in UK when the 35s came out.

Yes, I have not seen any available at UK shops or websites. Fortunately I managed to get a NIBP (new in blister pack) on eBay for about £20 about 3 years ago.
I must say I think it looks better in real life than pictures. I find the keyboard a bit cramped and have to search for functions sometimes, but the enter key is at least in almost the same position as the 50G. I use it at work and leave it in my desk drawer without too much worry.

> Quote:
>
> At least the 30b has finally now appeared in the UK, long after the US launch.

I griped about the long delay between HP calculator launch and UK availability when the 300s was released.

Re: My two latest HP calculators

*Message #19 Posted by **Derek Walker (UK)** on 9 Nov 2011, 7:17 a.m.,*
in response to message #18 by Bart (UK)

I bought a 20b as a (relatively) cheap and pocketable RPN calculator, but its mushy keyboard was so bad for missed keystrokes I gave up using it.
As mentioned on here recently, it's a pity that RPN never appeared on the cheapie scientifics (10s, 300s) but presumably they are supplied as a package with non-HP firmware. The 10s still has a problem with memory recall not updating the ANS register

that I remember fromn old Casio calc's around 10 years ago.

Re: My two latest HP calculators

*Message #20 Posted by **Ed Look** on 9 Nov 2011, 11:13 a.m.,*
in response to message #12 by Michael de Estrada

Michael, I was one of the loudmouths that mocked the 33s when it debuted, and only because of its unusually arranged keyboard. However, I surprised myself by quickly getting used to looking at it, never mind using it, and also found it a joy to use, and in fact, it's still my main "go-to" calculator when I just want to do quick calculations or short, easy programs and don't need something with a Core-i7 chip, like the 50g (just kidding about the chip).

I truly enjoy using the 33S, now the original with the infinitesimal decimal point that was really hard on my eyes (missed it, actually, once or twice) was pretty good, too, except for that tiny LCD element. But the one with the larger dot, well, that one's great. In addition to the facility of use and familiarity of keys and functions due to similarity to older models (that I love), it's got a fair amount of power, for a physically lightweight and small footprint handheld device. And I agree that it feels good in my hand because of the rounded "soft-feel" polymeric stuff on the edges. Nice calculator... no, a good calculator!

> Quote:
>
> Mine arrived today, and what a revelation.
>
> The HP 33s is much improved over the early model that I used to own. The display has fixed the invisible decimal point problem and the keyboard button action is a lot smoother as well. My serial number of CNA 141000X suggests that it was manufactured a scant 2 months ago (41st week of 2011), so the batteries should be fresh. They are still supplying it with a full-sized printed User's Guide and a very nice slip case. It's a joy to hold in my hand with its rounded edges and soft gripper material. And then there's separate STO and RCL buttons, P<->R conversions direct from the keyboard and a big primary DISPLAY button. Only the weird ENTER key location spoils the fun. And it offers virtually all the functionality of the 35s for $20 less, without all the bugs and missed keystrokes. I'm glad HP continues to make it.
>
> The HP 10bII+ was a very pleasant surprise with a very nice keyboard and display, and a solid quality feel. The keyboard layout is very logical and uncluttered with the down-shifted operations on the bottoms of the keys ala 12C, 15C and 35s. It's a stealth scientific calculator listed under financial calculators.
>
> I'm very happy to have bought these two calculators, and for any of you who may be interested, HP Home & Home Office is currently offering both of them with free domestic shipping.

Re: My two latest HP calculators

*Message #21 Posted by **Dominic Richens** on 9 Nov 2011, 11:28 a.m.,*
in response to message #12 by Michael de Estrada

> Quote:

> The HP 33s is much improved over the early model that I used to own.

What is the keyboard like? Are they keys Can you compare it to the HP-15c, HP-48SX or HP-20b - the only HP calculators I've owned. I'm guessing they don't "click", but is there any kind of physical feedback?

Re: My two latest HP calculators

*Message #22 Posted by **Michael de Estrada** on 9 Nov 2011, 12:43 p.m.,*
in response to message #21 by Dominic Richens

The keys definitely do click and have a similar feel to those on the 35s. The feel is not quite as smooth and sophisticated as a 15c or 48SX, but it definitely offers good tactile and audible feedback, and the effort to depress a key is just about perfect. It is certainly on a par with the new 15c LE. No complaints.

Re: My two latest HP calculators

*Message #23 Posted by **M. Joury** on 9 Nov 2011, 1:14 p.m.,*
in response to message #21 by Dominic Richens

The 33S keyboard is quite nice in terms of feel. I don't particularly like the chevron shape or the size and position of the enter key but other than that I don't have any real complaints. It has the same trig bugs that the 35 has but it has primary placement for both the STO and RCL keys which is a big deal for me.

Other drawbacks include the limited number of labels without a workaround similar to that offered by the 35S which can make do with a single label per program since you can jump to line numbers, a more limited set of storage registers, a single looping / indirect register whereas the 35S has 2, and not quite as good complex number support. Among the advantages are the ones mentioned in earlier posts: R-P and P-R functions, much better base arithmetic handling, the primary placement of STO as mentioned above, faster speed, and (not really a big deal) single key cube and cube root functions.

Well, there you have my 10 second tour <g>.

Cheers,

-Marwan

Re: My two latest HP calculators

*Message #24 Posted by **Dominic Richens** on 9 Nov 2011, 3:42 p.m.,*
in response to message #23 by M. Joury

thanks Marwan, Michael!

Looks like I should pick one up next time I see one for the "calculator" drawer. I'm hoping that if I overwhelm the cheap infix calculators with RPN calculators so my kids will get hooked on RPN.

Well, maybe not

*Message #25 Posted by **Michael de Estrada** on 10 Nov 2011, 11:15 a.m.,*

in response to message #12 by Michael de Estrada

> Quote:
>
> My serial number of CNA 141000X suggests that it was manufactured a scant 2 months ago (41st week of 2011), so the batteries should be fresh.

Today I was running a program on my new 33s that pauses for two seconds, and noticed that the low battery power icon was turning on. So then I ran a benchmark program that lasts about 11 seconds on this machine, and about halfway through the display went blank and did not return. So I removed the batteries and they showed only 2.57 vdc and 2.50 vdc on my voltmeter. I replaced the batteries with fresh new ones and ran the benchmark w/o the low battery icon appearing or the display blanking out. Hopefully, the original batteries were simply old and weak, and that this is not an indication of some power drain problem with this unit. I guess I'll find out soon enough.

FWIW, the 33s appears to run a bit faster than the 35s.

Re: Well, maybe not

*Message #26 Posted by **Ed Look** on 10 Nov 2011, 11:40 a.m.,*
in response to message #25 by Michael de Estrada

Oh yeah... ... I forgot that once a few years back I had a surprising loss of battery power after testing a longish program that ran for a while. I suspect that if a long or long-executing program is run, that'll tax the batteries more than just making calculations by using the keys.

Re: Well, maybe not

*Message #27 Posted by **M. Joury** on 10 Nov 2011, 1:57 p.m.,*
in response to message #25 by Michael de Estrada

Hi Michael,

> Quote:
>
> FWIW, the 33s appears to run a bit faster than the 35s.

Yup, that is one of the advantages. In some calculations it is quite a bit faster. I have a program that calculates sunrise / sunset times and it is over twice as fast on the 33S as compared to the 35S. 35S: ~8.5 seconds. 33S 3.1 seconds. As an additional reference point the same program on the 42S takes 6.7 seconds.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

As far as I am aware, nobody has done this before

*Message #1 Posted by **Dusan Zivkovic** on 4 Nov 2011, 6:37 p.m.*

Here we have a music video featuring HP-41CV, HP-15C (LE, 1:0, 00927, obviously :), then TI-59, a bunch of Sharps, a bunch of Casios... Can you identify them all?

Go to Pandovisia/Songs and then look for "Girl From Facebook". The video is posted on a popular site - and here is a direct link for convenience Pandovisia - Girl From Facebook

Now, a challenge for the members of this forum: which calculator's display is at the bottom of the screen from about 3:05, and which function is it executing?

Also, a mini challenge for Sharp fans: which simple command causes Sharp pen plotter CE-150 to draw four squares on its own, one in each colour?

Enjoy

PS Best regards to Hrast Programmer! Maybe we can collaborate on a single one day :)

Re: As far as I am aware, nobody has done this before

*Message #2 Posted by **Dan W** on 4 Nov 2011, 7:40 p.m.,*
in response to message #1 by Dusan Zivkovic

> Quote:
>
> Now, a challenge for the members of this forum: which calculator's display is at the bottom of the screen from about 3:05, and which function is it executing?

Probably a 65 or 67 running a user program. No way to tell what the program is, probably just an arbitrary loop for filming.

Re: As far as I am aware, nobody has done this before

*Message #3 Posted by **Katie Wasserman** on 4 Nov 2011, 8:38 p.m.,*
in response to message #1 by Dusan Zivkovic

My guess:

Right after the 15C flashing "running" is a Spice machine (probably a 34c) running some program, possibly an integration or solver equation.

Re: As far as I am aware, nobody has done this before

*Message #4 Posted by **Dusan Zivkovic** on 5 Nov 2011, 6:35 a.m.,*
in response to message #3 by Katie Wasserman

Well done! Spice. It indeed is a 32E, running the rarely seen and implemented inverse normal distribution Q^-1 function, producing a "mysterious" display dance, just right for that scene. Maybe I'll post a picture of the whole calculator crew behind this video one day - I first have to think how to put them all in a single frame...

Re: As far as I am aware, nobody has done this before

*Message #5 Posted by **Bart (UK)** on 5 Nov 2011, 5:52 a.m.,*
in response to message #1 by Dusan Zivkovic

I'll take the easy one:

> Quote:
>
> Also, a mini challenge for Sharp fans: which simple command causes Sharp pen plotter CE-150 to draw four squares on its own, one in each colour?

TEST

Re: As far as I am aware, nobody has done this before

*Message #6 Posted by **Dusan Zivkovic** on 5 Nov 2011, 6:40 a.m.,*
in response to message #5 by Bart (UK)

Easy :) I didn't have enough time to write a program to draw a flower or a star or something, so I "cheated" with TEST. How many viewers of that video will know what a pen plotter is, that's another question.

Re: As far as I am aware, nobody has done this before

*Message #7 Posted by **Thomas Chrapkiewicz** on 5 Nov 2011, 10:06 a.m.,*
in response to message #1 by Dusan Zivkovic

Very Clever!

Atari made a small 4 pen plotter for use with the 8bit (400/800) series. I wonder if the Sharp plotter is the same mechanism.

Some people still use pen plotters quite regularily.

TomC

Re: As far as I am aware, nobody has done this before

*Message #8 Posted by **BobVA** on 5 Nov 2011, 12:53 p.m.,*
in response to message #7 by Thomas Chrapkiewicz

> Quote:
>
> ...Atari made a small 4 pen plotter for use with the 8bit (400/800) series. I wonder if the Sharp plotter is the same mechanism.

I think a number of companies used the basic plotter mechanics, which I believe were made by Alps, and

added their own controller/electronics. The Radio Shack CGP-115 and a Panasonic printer for their HHC's both used the Alps mechanism's.

The CGP-115's usually succumbed to "split drive gear syndrome" - the nylon drive gear on one of the motors (pen drive, I think) would split lengthwise and that was that. Great little gadget though, and extremely easy to control. Using a small program I found in BYTE as starting point, I wrote a translator that let it emulate a Tektronix graphics terminal, which was pretty handy in school.

Cheers, Bob

Re: As far as I am aware, nobody has done this before

*Message #9 Posted by **HrastProgrammer** on 6 Nov 2011, 1:57 p.m.,*
in response to message #1 by Dusan Zivkovic

Great and interesting video, with great collection of calculators! I really enjoyed it ...

I am always open to collaboration :-)

Keep up the good work!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 34S] New Overlay Version 3.0 ?

*Message #1 Posted by **robertoataulfo** on 4 Nov 2011, 11:49 a.m.*

```
Any news on the WP-34S Overlay?

Eric Rechlin any news :-)
```

Edited: 4 Nov 2011, 1:24 p.m. after one or more responses were posted

Re: [WP 34S] New Overlay Version 3.0 ?

*Message #2 Posted by **Walter B** on 4 Nov 2011, 12:22 p.m.,*
in response to message #1 by robertoataulfo

No ;-)

Re: [WP 34S] New Overlay Version 3.0 ?

*Message #3 Posted by **Marcus von Cube, Germany** on 4 Nov 2011, 1:20 p.m.,*
in response to message #2 by Walter B

Just look into SF in the artwork directory.

Re: [WP 34S] New Overlay Version 3.0 ?

*Message #4 Posted by **pascal_meheut** on 4 Nov 2011, 2:30 p.m.,*
in response to message #1 by robertoataulfo

I asked him yesterday and he told me he would produce it as soon as the design is finalized.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9100B progress

*Message #1 Posted by **David Ramsey** on 3 Nov 2011, 7:47 p.m.*

Larry received the second, non-functional eBay 9100B. Since the first unit worked (aside from the display anomaly), a few board swaps isolated the problem to the A1 ROM board. A little poking around isolated the problem to a single bad transistor:

HP uses weird part numbers and cross-references are rare, so Larry replaced it with a modern transistor that seemed electrically similar. It's working fine so far.

The "comet tail" display anomaly on the first 9100B was caused by the intensity being turned up too high, probably because the display is slightly dim. Here's the "fixed" display:

And here's the brighter display from the second unit:

Both units measure about 3200VDC on the display. Note that the second unit breaks numbers up into convenient groups of three...was this a feature that was rolled into production? It's a later serial number than the first unit.

9100s together!

Re: 9100B progress

*Message #2 Posted by **Israel Otero** on 4 Nov 2011, 12:35 a.m.,*
in response to message #1 by David Ramsey

My HP9100A also breaks numbers in groups of three. Is amazing that this problem was caused by a single bad transistor. Wonderful machines they are indeed. ;-)

Re: 9100B progress

*Message #3 Posted by **David Ramsey** on 4 Nov 2011, 1:03 a.m.,*
in response to message #2 by Israel Otero

Wait, your 9100 _A_ breaks digits in groups of three? Why would they do this originally, take it away in early 9100Bs, and then put it back?

Re: 9100B progress

*Message #4 Posted by **Israel Otero** on 4 Nov 2011, 1:52 a.m.,*

in response to message #3 by David Ramsey

I just don't know, David, but it seems your machine is different, as the first brochure I have about the operation of the HP9100 "A" show it with a display with group of digits of three.

The Hewlett-Packard Journal of September of 1968 dedicated to the 9100 also showed the original calculator with that feature.

Re: 9100B progress

*Message #5 Posted by **Eric Smith** on 4 Nov 2011, 2:44 a.m.,*
in response to message #3 by David Ramsey

I suspect that there is a specific circuit that causes the grouping. Perhaps a component in that circuit has gone bad?

Re: 9100B progress

*Message #6 Posted by **Katie Wasserman** on 4 Nov 2011, 10:38 a.m.,*
in response to message #5 by Eric Smith

3 digit spacing is normal behavior for floating point displays. The service manual for the 9100A/9100B discusses this and shows a waveform that drives the X deflection circuit to the CRT:

> Quote:
>
> Also, at times during A15C2's charging, (assuming a floating display presentation) ZDSL will pulse negative. When it does, both A15Q4 and Q3 will saturate, charging A15C2 rapidly. This creates a spacing of the alphanumerics seen on the CRT when FLOATING is selected. When the register has been displayed, ZDRL will discharge A15C2 and the cycle starts again.

Re: 9100B progress

*Message #7 Posted by **David Ramsey** on 4 Nov 2011, 11:32 a.m.,*
in response to message #6 by Katie Wasserman

In the images you can see that both calculator are set to floating point via the appropriate paddle switch. Perhaps it's just a failure in this switch, but I'll send the information to Larry.

The keyboard on the earlier unit (the one with the dim screen) failed yesterday due to a defective 2.2K resistor (probably) on the keyboard PCB. Replacements ordered from Mouser.

Edited: 4 Nov 2011, 11:38 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Design for a simple, entry-level RPN calculator

*Message #1 Posted by **Eddie W. Shore** on 3 Nov 2011, 3:53 p.m.*

A simple scientific, 4-register stack calculator with statistics but no programming. 10 memory registers with storage and recall arithmetic.

```
ES RPN 10


_x^2 _______ ø^-1_____ HYP____ R(up)_____FIX____ STD_
[SQRT_ ]__[__ ø_ ]__ [x<>y]__ [ROLL ]__ [_EEX]__ [_ Pi_ ]


Sigma-      XROOT       ASIN    ACOS      ATAN    e^x
[Sigma+]   [ y^x ]   [ SIN ]  [ COS ]  [ TAN ]  [ LN ]


                10^x       >H        >HMS    >P          >R
[Shift]        [ LOG ]   [  7  ]    [  8  ]   [  9  ]  [  ÷  ]


CLStat       x!       >DEG          >RAD       %     %CHG
[ CLx ]   [ STO ]   [  4  ]      [  5  ]    [  6  ]    [  x  ]


OFF          CLReg          DEG     RAD         PDEV         r/Sxy
[ ON ]        [ RCL ]   [  1   ]     [  2  ]     [  3  ]     [  -  ]


        Lst x             MEAN       SDEV       SUMS       L.R.
   [   ENTER    ]        [  0  ]      [  .  ]    [ +/- ]    [  +  ]



Notes:
ø = Lower tail Normal Distribution with mean = 0, variance = 1
ø^-1 = Inverse lower tail Normal Distribution with mean = 0, variance = 1
PDEV = Population Deviation of x and y
SDEV = Standard Deviation of x and y
SUMS = Sigma(x) and Sigma(y)
Sxy = Sigma(xy)
L.R. = returns a and b in y = ax + b
```

(Sorry that keys don't align perfectly - I don't know how to get things to "line up" and I used the "pre" tags)

Re: Design for a simple, entry-level RPN calculator

*Message #2 Posted by **Paul Dale** on 3 Nov 2011, 5:10 p.m.,*
in response to message #1 by Eddie W. Shore

Why not use the 30b keyboard layout for this? Your suggestion has 35 keys, the 30b has 37 so there isn't a huge difference there. The big advantage is the 30b hardware is available and more than capable of such a device and most of the firmware is written already :)

Why no GRAD mode?

- Pauli

Re: Design for a simple, entry-level RPN calculator

*Message #3 Posted by **Dave Shaffer (Arizona)** on 3 Nov 2011, 5:42 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Why no GRAD mode?

Does anybody besides artillery gunners use that?

Re: Design for a simple, entry-level RPN calculator

*Message #4 Posted by **Walter B** on 3 Nov 2011, 5:45 p.m.,*
in response to message #3 by Dave Shaffer (Arizona)

IIRC, we had this discussion about GRAD here many months ago already. Perhaps I'll succeed in excavating.

Re: Design for a simple, entry-level RPN calculator

*Message #5 Posted by **Frank Rottgardt** on 4 Nov 2011, 11:36 a.m.,*
in response to message #3 by Dave Shaffer (Arizona)

at least every german surveyor needs GRAD because they calculate with 400 GON instead of with 360 DEG. Funny enough GRAD is the german word for degree. Can be confusing.

Re: Design for a simple, entry-level RPN calculator

*Message #6 Posted by **Eddie W. Shore** on 4 Nov 2011, 9:27 a.m.,*
in response to message #2 by Paul Dale

I was going for a 15C layout at first.

We could switch out >DEG/>RAD for GRAD mode and RAN# (random numbers). It is a challenge to fit everything you want on a limited amount of keys.

Re: Design for a simple, entry-level RPN calculator

*Message #7 Posted by **Eddie W. Shore** on 5 Nov 2011, 2:26 p.m.,*
in response to message #2 by Paul Dale

```
This is an attempt to redo the design based on the 30b calculator (still no programming):

-------------------------------------

ES RPN 10II

XROOT  x^2    Phi^-1 >HMS   >Polar DATE+
y^x    Sqrt   Phi    >H     >Rect  DAYS

ASIN   ACOS   ATAN   10^x   e^x    1/x
SIN    COS    TAN    LOG    LN     Pi

Last X        R-Up   FIX    STD    Cl Regs
ENTER         R-Down x<>y   EEX    < --

Sigma+ DEG    RAD    GRAD   x!
STO    7      8      9      ÷

Sigma- %      %Chg   %T     RAN#
RCL    4      5      6      x

       COMB   PERM   Clr St r/Sxy
Shift  1      2      3      -

OFF    Mean   SDev   PDev   L.R.
ON/C   0      .      +/-    +
```

```
-------------------------------------


Phi = Normal Distribution Lower Tail
Phi^-1 = Inverse Normal Distribution Lower Tail
DATE+ = Add days to date code mm.ddyyyy (or dd.mmyyyy international editions)
DAYS = Days in between dates
(** These four functions are personal favorites of mine!)


Added: Gradian mode, Combination, Permutation, DATE+, DAYS
```

Re: Design for a simple, entry-level RPN calculator

*Message #8 Posted by **Walter B** on 3 Nov 2011, 6:19 p.m.,*
in response to message #1 by Eddie W. Shore

I guess that's the way it should have looked:

```
  x^2       Phi^-1       HYP       R(up)       FIX        STD
[ SQRT ]   [ Phi  ]   [ x<>y ]   [ ROLL ]   [ EEX  ]   [  Pi  ]


 Sigma-     XROOT       ASIN       ACOS       ATAN       e^x
[Sigma+]   [ y^x  ]   [ SIN  ]   [ COS  ]   [ TAN  ]   [  LN  ]


             10^x        >H        >HMS        >P         >R
[Shift ]   [ LOG  ]   [  7   ]   [  8   ]   [  9   ]   [  ÷   ]


 CLStat       x!        >DEG       >RAD        %         %CHG
[ CLx  ]   [ STO  ]   [  4   ]   [  5   ]   [  6   ]   [  x   ]


  OFF        CLReg      DEG        RAD       sigma      r/Sxy
[  ON  ]   [ RCL  ]   [  1   ]   [  2   ]   [  3   ]   [  -   ]


       Lst x            MEAN        s         SUMS       L.R.
[      ENTER      ]   [  0   ]   [  .   ]   [ +/-  ]   [  +   ]


Notes:
Phi    = Lower tail Normal Distribution with mean = 0, variance = 1
Phi^-1 = Inverse lower tail Normal Distribution with mean = 0, variance = 1
sigma  = Population Deviation of x and y
SUMS = Sigma(x) and Sigma(y)
Sxy  = Sigma(xy)
L.R. = returns a and b in y = ax + b
```

If true, the distribution of various functions looks a bit arbitrary to me. Of course, personal preferences vary. Anyway, however, I second Pauli's vote for using the HW of a 30b for your design.

FWIW,
Walter

P.S.: Remember also while designing calculators: Counting is the fundament of math ;-)

Edited: 3 Nov 2011, 6:23 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #9 Posted by **Michael de Estrada** on 3 Nov 2011, 7:03 p.m.,*
in response to message #8 by Walter B

To me "entry level" means a cheap MSRP, i.e. $19.99 or less. Anything more, and you might as well just buy a 33s and not use the programability. Also, I could care less if a calculator has a Grads mode or the Normal Distribution.

Re: Design for a simple, entry-level RPN calculator

*Message #10 Posted by **Bart (UK)** on 4 Nov 2011, 6:17 a.m.,*
in response to message #9 by Michael de Estrada

I agree. Since obtaining an HP-45 some time ago, I've thought a "cheap & cheerful" calculator with HP-45 functionality would be good, i.e. a "quick access scientific banger" - more complex stuff gets done on a computer anyway. And it could be in the hardware of the current HP-10s.

If HP had kept a basic RPN scientific in their line-up priced to compete with the entry level Sharps and Casios, then RPN might have been more popular today.

Re: Design for a simple, entry-level RPN calculator
*Message #11 Posted by **Eddie W. Shore** on 4 Nov 2011, 9:24 a.m.,*
in response to message #8 by Walter B

Wow - that looks very nice Walter! Thanks! ;)

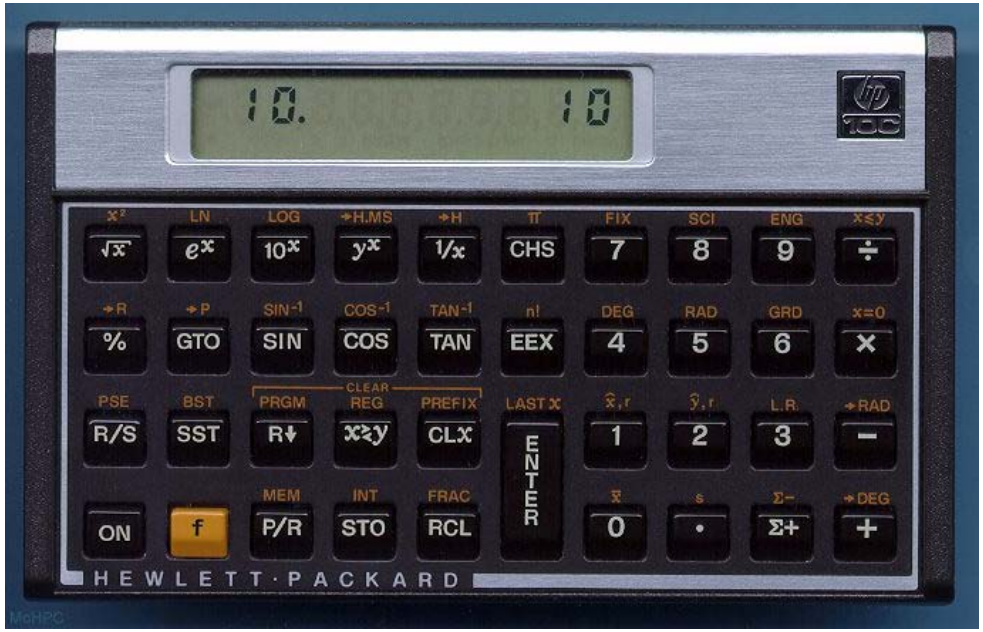
Yes, a 30b design can work. We could swap out the >DEG/>RAD for GRAD mode and RAN# .

Since it is not programmable, it should not be hard to make the simple RPN calculator a solar-powered one. So instead of HP SmartCalc 300, which I think is really a clone of the Casio fx-300S(?) - they could have gone with something like a solar-powered 10C.

And yes, Phi and Phi^-1 are personal choices because I would like to have the calculator to have normal distribution functions.

Re: Design for a simple, entry-level RPN calculator
*Message #12 Posted by **Egan Ford** on 3 Nov 2011, 6:55 p.m.,*
in response to message #1 by Eddie W. Shore

Here's a design:



Re: Design for a simple, entry-level RPN calculator
*Message #13 Posted by **Michael de Estrada** on 3 Nov 2011, 7:06 p.m.,*
in response to message #12 by Egan Ford

Sell it to me for $19.99 or less, or I'm not interested. It's just as easy to use my 15C / 15C LE.

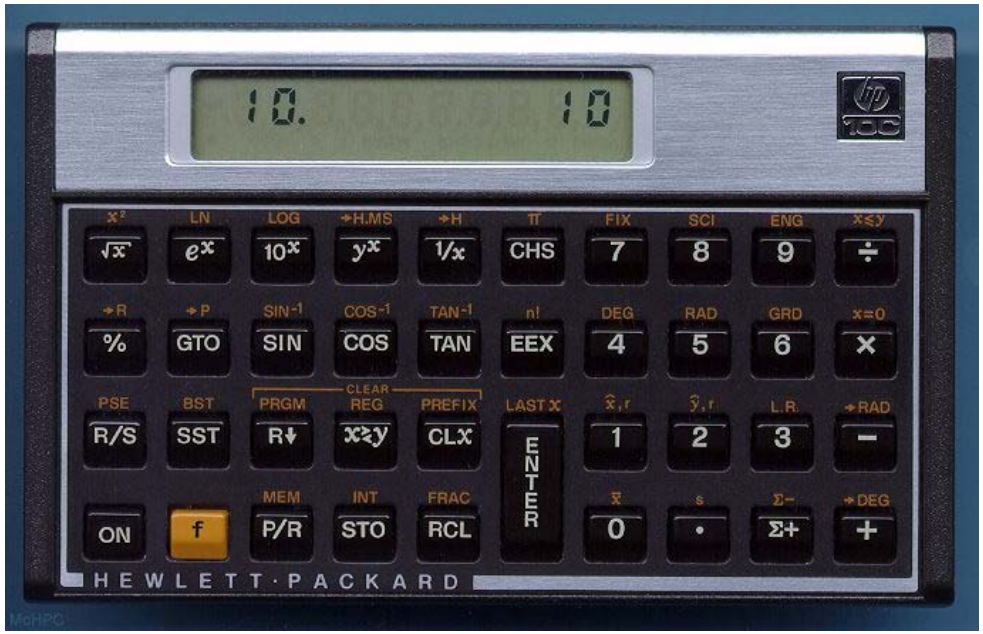
Re: Design for a simple, entry-level RPN calculator
*Message #14 Posted by **Walter B** on 3 Nov 2011, 7:07 p.m.,*
in response to message #12 by Egan Ford

Get the shifted labels on the slanted key fronts and I'm with you ;-)

Re: Design for a simple, entry-level RPN calculator

*Message #15 Posted by **uhmgawa** on 3 Nov 2011, 7:34 p.m.,*
in response to message #12 by Egan Ford

> Quote:
>
> Here's a design:



No matter how many times we reinvent the wheel it invariably comes out round.

I'd expect at the present a 10c vs. 15c manufacturing materials cost differential is likely US$1~2 at best. And most of that would probably be the additional process step of laying down the 15c's blue "g" key legends. IOW from the practical perspective of today's commodity technology, a 15c arguably *is* the entry-level RPN calculator.

Re: Design for a simple, entry-level RPN calculator

*Message #16 Posted by **Egan Ford** on 3 Nov 2011, 7:46 p.m.,*
in response to message #15 by uhmgawa

> Quote:
>
> No matter how many times we reinvent the wheel it invariably comes out round.

Yep. That is why I posted that pic.

> Quote:
>
> a 15c arguably *is* the entry-level RPN calculator.

I completely agree.

Re: Design for a simple, entry-level RPN calculator

*Message #17 Posted by **Michael de Estrada** on 3 Nov 2011, 8:07 p.m.,*
in response to message #15 by uhmgawa

To me the term "entry-level" means it must be the least expensive of the genre. IOW, unless the MSRP of the 15C is lowered below the 33s, it cannot be termed entry-level. That was the idea behind the 21, 31E and 10C. Each time HP found out that it wasn't worth the effort to dumb-down a model to artificially lower its price. I think most RPNers expect higher quality clicky keyboards that cost more, such that the best bet would be to mass produce the new 15C and package it similarly to the basic 12C, so the price could at least be halved to no more than $49.99.

Re: Design for a simple, entry-level RPN calculator

*Message #18 Posted by **uhmgawa** on 3 Nov 2011, 9:30 p.m.,*
in response to message #17 by Michael de Estrada

> Quote:
>
> To me the term "entry-level" means it must be the least expensive of the genre. IOW, unless the MSRP of the 15C is lowered below the 33s, it cannot be termed entry-level.

The problem with the 15c is somewhat of a market quirk in that it became a cult following. While arguably it has earned that status, it does tend to push it into the collectible space and distort its price. We'll see to what degree HP is actually leveraging that distortion by what becomes of the 15c le marketing strategy. Seems too early to tell at this point what the actual product motivation may have been.

My point was rather, not much is needed to implement a voyager given contemporary technology. And no significant overall cost savings will result by sizing a SoC for minimal support of a 10c vs 15c.

> Quote:
>
> That was the idea behind the 21, 31E and 10C. Each time HP found out that it wasn't worth the effort to dumb-down a model to artificially lower its price. I think most RPNers expect higher quality clicky keyboards that cost more, such that the best bet would be to mass produce the new 15C and package it similarly to the basic 12C, so the price could at least be halved to no more than $49.99.

I don't pretend to be a marketing pundit, but there does appear to be some fine tuned balance in such captive market, popular appeal cases. Eg, the availability is regulated to slightly under feed the market in order to maximize price, sales volume, and sustained consumer demand. Mass producing the 15c and selling at a less inflated end user price I suspect will jostle the above marketing optimization.

Re: Design for a simple, entry-level RPN calculator

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 3 Nov 2011, 9:43 p.m.,*
in response to message #17 by Michael de Estrada

> Quote:
>
> I think most RPNers expect higher quality clicky keyboards that cost more, ...

What is true is that most *current* RPNers expect ... . Sooner or later H-P has to understand that the current RPNers aren't the ones who will buy an entry level RPN machine so that they might as well be ignored when talking about one.

Re: Design for a simple, entry-level RPN calculator

*Message #20 Posted by **bill platt** on 3 Nov 2011, 10:59 p.m.,*
in response to message #19 by Palmer O. Hanson, Jr.

RPN is a legacy interface. It has no future.

exception: finance users.

Edited: 3 Nov 2011, 11:00 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #21 Posted by **Michael de Estrada** on 3 Nov 2011, 11:11 p.m.,*

in response to message #20 by bill platt

So I guess all those students and young people who are buying the 33s and 35s are running them in algebraic mode ?

Re: Design for a simple, entry-level RPN calculator
*Message #22 Posted by **bill platt** on 3 Nov 2011, 11:59 p.m.,*
in response to message #21 by Michael de Estrada

Both my kids are, and they have an RPN dad...who is always switching it on them, with no success.

Of course I prefer my 27s over the 15c and all the others, hands-down, for most things. Having been exclusively RPN forever, the discovery of the 17bii and later 27s was an epiphany. And I remembered having seen that 27s in the shop a long time ago, in the 90s, and turning my nose up at it then. What a fool I was! Live and learn--never too late to come to the Dark Side :-)

Edited: 4 Nov 2011, 12:01 a.m.

Re: Design for a simple, entry-level RPN calculator
*Message #23 Posted by **M. Joury** on 4 Nov 2011, 11:09 a.m.,*
in response to message #22 by bill platt

I own both the 27S as well as the 17bii as well as the 19bii. I simply have never been able to switch to algebraic mode and therefore I rarely, if ever, use the 27S. Now if that machine only had RPN <g>...

Maybe we on this forum are the odd ones out but I still feel that RPN is the better user interface. I *KNOW* what the machine is doing and I don't have to remember the differences between the different ways that algebraic can be implemented. Also I don't have to keep track of all those darn parens.

Cheers,

-Marwan

Re: Design for a simple, entry-level RPN calculator
*Message #24 Posted by **bill platt** on 4 Nov 2011, 12:09 p.m.,*
in response to message #23 by M. Joury

I agree with you about the directness of RPN, and the potential screw-ups of varying implementations of algebraic.

Once a few years ago I started working on an article about the various algebraics but lost motivation--I didn't have anyone paying me to do it...

Unlike many algebraics, the 27s shows intermediate results as they develop. And it is the traditional semi-algebraic, so only the 2 number functions and the arithmetic operators are infix. Other than that, it is still rpn, and has a stack, too (I wish it had a swap function though!).

The one potential screwup in rpn is the stack depth. With singe line, you will from time to time run out...which means that aspect is not transparent--you have to keep track of it in the same way as keeping track of parenthesis on an old Ti...

Re: Design for a simple, entry-level RPN calculator
*Message #25 Posted by **Walter B** on 4 Nov 2011, 12:57 p.m.,*
in response to message #24 by bill platt

> Quote:
>
> The one potential screwup in rpn is the stack depth. With singe line, you will from time to time run out...which means that aspect is not transparent--you have to keep track of it in the same way as keeping track of parenthesis on an old Ti...

May I recommend a WP 34S? Select SSIZE8 and this "problem" is solved :->

Re: Design for a simple, entry-level RPN calculator
*Message #26 Posted by **Martin Pinckney** on 4 Nov 2011, 12:08 p.m.,*

in response to message #23 by M. Joury

> Quote:
>
> Maybe we on this forum are the odd ones...

That's important to know. The majority of calculator users think algebraic is "normal".

> Quote:
>
> I *KNOW* what the machine is doing...

A misunderstanding that some RPN users seem to have. For someone brought up on algebraic, it is easier for me to "know" what it is doing compared to keeping up with what I have pushed onto the stack.

> Quote:
>
> ... and I don't have to remember the differences between the different ways that algebraic can be implemented.

Don't forget there are different ways the stack is implemented on different RPN machines!

> Quote:
>
> Also I don't have to keep track of all those darn parens.

Another misconception! While this can be an issue on older algebraic machines, the newer ones display the parentheses so you can see them.

Re: Design for a simple, entry-level RPN calculator

*Message #27 Posted by **Marcus von Cube, Germany** on 4 Nov 2011, 1:43 p.m.,*
in response to message #26 by Martin Pinckney

It's not the tool that makes the mistakes, it's always the one who uses it. But a tool that fits well in your hands or your mind is less prone to being used for making mistakes.

Re: Design for a simple, entry-level RPN calculator

*Message #28 Posted by **M. Joury** on 4 Nov 2011, 2:28 p.m.,*
in response to message #26 by Martin Pinckney

> Quote:
>
> Don't forget there are different ways the stack is implemented on different RPN machines!

Outside of RPL I don't see any real differences in the machines I use. All the RPN calculators I use today work identically other than the 20b and 30b which really aren't RPN and which I converted to WP34S firmware as soon as I could for that reason (among others). There is that CHS weirdness in the 12CP and some other early RPN machines but I don't tend to use those either. As for RPL, save the 20b and 30b implementations (which are a mix of RPN and RPL perhaps leaning to RPL a little), the differences hardly matter because like you point out for modern algebraics one can see exactly what is happening on the stack.

> Quote:
>
> A misunderstanding that some RPN users seem to have. For someone brought up on algebraic, it is easier for me to "know" what it is doing compared to keeping up with what I have pushed onto the stack.
>
> Another misconception! While this can be an issue on older algebraic machines, the newer ones display the parentheses so you can see them.

I have never had a problem with keeping track of things on the stack. I started with algebraic calculators and yet from very early on (with RPN) I could just look at a problem and break it down into it's component pieces to attack it with RPN. Parens, on the other hand, would always screw me up. Back then there were no multi-line

displays that showed parens or intermediate answers. I would find myself doing every problem twice to verify it and then a third time if the answers came back differently to figure out which of the two was correct. And I'll be darned if I didn't sometimes end up with a third answer. It was either that or write down all the intermediate answers or save them in memory until I could assimilate all the results. I never had this problem with RPN. Now it's true that modern algebraic machines don't generally have this problem due to larger displays and ability to show parens and intermediate results but now I find them impossible to use simply because my fingers are used to a particular order of input--it's what one is used to.

So, not a misconception at all since it is true for me (and I would suspect others). Instead I would say that we see the problem differently and so while you are more comfortable with algebraic I am far more comfortable with RPN. Neither viewpoint invalidates the other.

Marcus is right when he points out that the tool that works best for an individual is one s/he should use.

Cheers,

-Marwan

Re: Design for a simple, entry-level RPN calculator

*Message #29 Posted by **Martin Pinckney** on 4 Nov 2011, 5:59 p.m.,*
in response to message #28 by M. Joury

> Quote:
>
> Outside of RPL I don't see any real differences in the machines I use.

I include RPL machines as part of the RPN/postfix world.

> Quote:
>
> So, not a misconception at all since it is true for me (and I would suspect others). Instead I would say that we see the problem differently and so while you are more comfortable with algebraic I am far more comfortable with RPN. Neither viewpoint invalidates the other.

You are right, both viewpoints are valid. I used the term "misconception" because some RPN boosters keep saying the same thing about not being able to keep track of parentheses or not seeing intermediate results as if this were still true today. Meanwhile, algebraic calculators have changed and most of the calculating world has moved on, too.

My point being, that the advantages RPN once had compared to algebraics has mostly disappeared as algebraics (now with "textbook" entry) have advanced.

So RPN is not "dead", but just not relevant to most calculator users.

Re: Design for a simple, entry-level RPN calculator

*Message #30 Posted by **bill platt** on 4 Nov 2011, 8:57 p.m.,*
in response to message #29 by Martin Pinckney

I actually like the semi-infix of old algebraics much more than the formula entry systems--unless I am doing a solving operation. That is what I love about the 27s and even the 33s--because you get both systems, each with their strengths for particular aspects.

I also do not consider RPL to be RPN. very closely related, but not the same, but of course I have noticed that some people who have only used rpl d get confused when using rpn and so I suppose it is a perfectly valid observation--because most rpl people assume rpn willbe the same. But we old timer rpn guys never make that mistake;-)

Re: Design for a simple, entry-level RPN calculator

*Message #31 Posted by **Martin Pinckney** on 4 Nov 2011, 10:14 p.m.,*
in response to message #30 by bill platt

> Quote:
>
> I actually like the semi-infix of old algebraics much more than the formula entry systems--unless I am doing a solving operation. That is what I love about the 27s and even the 33s--because you get both systems, each with their strengths for particular aspects.

I agree, but it's because it's what I am used to.

Interesting thing about the 17b/27s, you can enter several functions two different ways in the Solver. For example, pressing the squared function key gets you SQ(, but you can also use the alpha menu and put in ^2. Similarly, you can hit the SIN key, or spell it out using alpha, either works!

The part infix, part postfix works well for me, and I like getting intermediate results, for instance every time you close a parenthesis or otherwise complete a partial result due to math hierarchy.

I really did not like the "true algebraic" way of the 35s, which uses infix for *everything*. SQ( ) is somewhat tolerable, but MILE( )?

Re: Design for a simple, entry-level RPN calculator

Message #32 Posted by ***hpnut*** *on 3 Nov 2011, 11:16 p.m.,*
in response to message #20 by bill platt

> Quote:
>
> RPN is a legacy interface. It has no future.
>
> exception: finance users.

I disagree.

I am an engineer. if RPN is good enough for bean counters, it ought to be good for engineers too ;-)

Re: Design for a simple, entry-level RPN calculator

Message #33 Posted by ***Eddie W. Shore*** *on 4 Nov 2011, 9:17 a.m.,*
in response to message #32 by hpnut

And there are so many RPN calculator apps on Andriod, Apple, and Windows today - and most are more simple than the 15C.

I don't believe RPN is dead.

Re: Design for a simple, entry-level RPN calculator

Message #34 Posted by ***Martin Pinckney*** *on 4 Nov 2011, 9:34 a.m.,*
in response to message #32 by hpnut

> Quote:
>
> I am an engineer. if RPN is good enough for bean counters, it ought to be good for engineers too ;-)

The real question is, do financial types use the 12c because it's RPN, or do they use RPN because that's what the 12c is?

i.e, the 12c has been for so long the de facto standard financial calculator, has its popularity simply become self-sustaining regardless of interface?

Re: Design for a simple, entry-level RPN calculator

Message #35 Posted by ***Katie Wasserman*** *on 4 Nov 2011, 11:00 a.m.,*
in response to message #34 by Martin Pinckney

> Quote:
>
> The real question is, do financial types use the 12c because it's RPN, or do they use RPN because that's what the 12c is?

They are conditioned to use RPN now, they still don't understand it nor even make use of a 4-level stack. They are hooked, having used it for so many years, they can't switch to algebraic. Find me any 12CP user that sets it to algebraic mode, and I'll show you someone that has never used RPN.

Re: Design for a simple, entry-level RPN calculator

*Message #36 Posted by **db (martinez, ca.)** on 4 Nov 2011, 9:02 p.m.,*
in response to message #35 by Katie Wasserman

Dave Hicks once told me that RPN was a good but slight upgrade from the adding machine logic that bean counters were accustomed to in the last generation of, well, adding machines. It also has the advantage of being consistently postfix and consistent in everything else. So: adding machine > hp80 (or 70) > hp22 > hp37,38.38c > hp12c for the old guys and first monkey suit, first calculator (12c) for today's crop of trump-a-bees.

Re: Design for a simple, entry-level RPN calculator

*Message #37 Posted by **Jeff Johnson** on 4 Nov 2011, 10:44 a.m.,*
in response to message #32 by hpnut

I'm sympathetic with Bill. My first son turned his nose up at RPN. He's in the business world and uses TI business calcs. Second son is a college junior in Engineering, uses a TI-89 grapher, because that's the "standard" calculator for engineers at the school. Third son is also an engineering major, and is in love with the TI Inspire grapher. 4th son is in high school, has an HP-35s, but uses it only in algebraic mode. I can't win...

Re: Design for a simple, entry-level RPN calculator

*Message #38 Posted by **Kevin Colville (S. Africa)** on 4 Nov 2011, 5:53 a.m.,*
in response to message #17 by Michael de Estrada

I'd love to see (and buy) a scientific calculator using the 10bII hardware. It doesn't have to be programmable, but should include everything the 20S & 21S had. RPN, of course, so maybe it would be called the 30S.

Fortunately for us, the new 10bII+ is repurposable so it's up to us, I guess. Any plans for a WP-30S...?

Re: Design for a simple, entry-level RPN calculator

*Message #39 Posted by **Paul Dale** on 4 Nov 2011, 5:58 a.m.,*
in response to message #38 by Kevin Colville (S. Africa)

No plans by us. We're aiming higher.

The 42S will lose it position as the best RPN calculator if we have our way :)

- Pauli

Re: Design for a simple, entry-level RPN calculator

*Message #40 Posted by **svisvanatha** on 4 Nov 2011, 9:18 a.m.,*
in response to message #39 by Paul Dale

Interesting - any comments on the hardware?

Re: Design for a simple, entry-level RPN calculator

*Message #41 Posted by **Walter B** on 4 Nov 2011, 1:02 p.m.,*
in response to message #40 by svisvanatha

No ;-)

Re: Design for a simple, entry-level RPN calculator

*Message #42 Posted by **Jeff O.** on 4 Nov 2011, 1:30 p.m.,*
in response to message #38 by Kevin Colville (S. Africa)

I had been pondering proposal of a repurposing of the 10bii+ as a simple RPN. It is light, relatively cheap, has a decent keyboard, and perhaps most importantly, a large, legible numeric display with **big, bold decimal points and commas** that can be easily seen. If we are talking simple, nothing would be more simple than one function per key, no shift key, no programming, no statistics. I tried to determine if I could fit enough functions on the 10bii+'s 40 keys, and came up with the following:

```
SIN     COS     TAN     LOG     LN
```

```
ASIN    ACOS    ATAN    10^x        e^x

sqrt(x) y^x       1/x     %       pi

Rv      x<>y    +/-     EEX     <-

LASTx   7       8       9       ÷

STO     4       5       6       x

RCL     1       2       3       -

ON/OFF  0       .       ENTER   +
```

The position of the ENTER key might be argued, or perhaps the need for Last x, but in general, the above is about as basic as can be had without deleting transcendental functions. (It actually compares pretty well with the original HP-35.) It would be nice to have a few more functions, like x^2 or delta-% or x^{th} root of y. Adding functions would require a shift key, which opens a lot of possibilities. But it also tends to lead to feature creep, and before you know it, you might as well go with wp34s. Trying to find the right place to stop, I present the layout below as a basic programmable RPN. It is loosely based on the 10C, but I dispensed with all statistics functions in favor of better programming. Programming could be artificially limited to a couple hundred steps. If you need more than that, time to graduate to wp34s (or maybe wp43s someday.)

```
ASIN    ACOS    ATAN    10^x        e^x
SIN     COS     TAN     LOG     LN

x^2       y^1/x       HYP     delta%
sqrt(x) y^x       1/x     %       SHIFT

n!      FIX     SCI     ENG     ->P
STO     RCL     LAST x  pi      ->R

R^     DEG     RAD     GRD     Clx
Rv      x<>y    +/-     EEX     <-

GTO     x=0?    x<0?    x>0?    DSE
XEQ     7       8       9       ÷

LABEL   x=y?    x<y?    x>y?    ISG
P/R     4       5       6       x

PSE     ->H     ->H.MS  INT     FRAC
R/S     1       2       3       -

OFF     ->DEG   ->RAD   LAST x  CLEAR
ON/EXIT 0       .       ENTER   +
```

Re: Design for a simple, entry-level RPN calculator

*Message #43 Posted by **Eddie W. Shore** on 5 Nov 2011, 2:31 p.m.,*
in response to message #42 by Jeff O.

That looks good, Jeff.

Re: Design for a simple, entry-level RPN calculator

*Message #44 Posted by **Walter B** on 5 Nov 2011, 5:12 p.m.,*
in response to message #42 by Jeff O.

Both your designs look very nice and consistent IMHO, though I clearly prefer a big ENTER for obvious reasons. Just in the second design I can't find RTN - where do you hide it? And CLEAR on shifted + looks a bit ... strange to me ;-)

Just my 20m€ as usual,

Walter

Re: Design for a simple, entry-level RPN calculator

*Message #45 Posted by **Jeff O.** on 6 Nov 2011, 12:22 p.m.,*
in response to message #44 by Walter B

Thanks for the positive comments. I would of course prefer a large ENTER key, but one is not available on the 10bii+.

I might have missed including RTN. Maybe no subroutines are allowed. Yeah, that's the ticket. It is a simple RPN, so no subroutines allowed. (Or perhaps we could do without Pause.)

The CLEAR above the + was intended as a master clear that would not be used often. In program mode, it would clear all programs. In run mode, it would clear the stack and all registers.

Re: Design for a simple, entry-level RPN calculator

*Message #46 Posted by **Dieter** on 6 Nov 2011, 1:12 p.m.,*
in response to message #42 by Jeff O.

Obviously you clearly see the importance of a dedicated LastX key - that's great. On the other hand even the most passionate RPN user probably will not insist on having two of them. ;-)

You say there will be no subroutines. So what is the use of the XEQ key? It could run individual routines starting at Label 0..9, just as earlier HPs did with their GSB key.

Finally, there are six tests, but none for X#0 and X#Y. These are essential since a combination of these and the others can easily replace the missing X>= and X<= tests. On the other hand, do you think such a basic device requires DSE and ISG?

Dieter

Re: Design for a simple, entry-level RPN calculator

*Message #47 Posted by **Jeff O.** on 6 Nov 2011, 4:19 p.m.,*
in response to message #46 by Dieter

> Quote:
>
> Obviously you clearly see the importance of a dedicated LastX key - that's great. On the other hand even the most passionate RPN user probably will not insist on having two of them. ;-)

Ah, I see you found my Easter egg. Good job! Or perhaps I made an error.

With no subroutines, XEQ would be used just as you say. But I think I would actually include a RTN function and allow subroutines. As for DSE and ISG, pehaps a basic device needs only DSE.

Based on the above, here is a revised layout:

```
ASIN    ACOS    ATAN    10^x        e^x
SIN     COS     TAN     LOG     LN

x^2       y^1/x       HYP     delta%
sqrt(x) y^x         1/x     %       SHIFT

n!      FIX     SCI     ENG     ->P
STO     RCL     LAST x  pi      ->R

R^     DEG     RAD     GRD     Clx
Rv      x<>y    +/-     EEX     <-

GTO     x=0?    x=/=0?  x<0?    x>0?
XEQ     7       8       9       ÷
```

```
LABEL    x=y?    x=/=y?  x<y?    x>y?
P/R      4       5       6       x


RTN      ->H     ->H.MS  DSE     INT
R/S      1       2       3       -


OFF      ->DEG   ->RAD   CLEAR   FRAC
ON/EXIT  0       .       ENTER   +
```

Re: Design for a simple, entry-level RPN calculator

*Message #48 Posted by **Eddie W. Shore** on 5 Nov 2011, 3:33 p.m.,*
in response to message #38 by Kevin Colville (S. Africa)

> Quote:
>
> I'd love to see (and buy) a scientific calculator using the 10bII hardware. It doesn't have to be programmable, but should include everything the 20S & 21S had. RPN, of course, so maybe it would be called the 30S.
>
> Fortunately for us, the new 10bII+ is repurposable so it's up to us, I guess. Any plans for a WP-30S...?

> Quote:
>
> I'd love to see (and buy) a scientific calculator using the 10bII hardware. It doesn't have to be programmable, but should include everything the 20S & 21S had. RPN, of course, so maybe it would be called the 30S.
>
> Fortunately for us, the new 10bII+ is repurposable so it's up to us, I guess. Any plans for a WP-30S...?

Maybe something like this:

```
This is an attempt to redo the design based on the 30b calculator (still no programming):

-------------------------------------


ES RPN 10-Solver


XROOT  x^2    Phi^-1 >HMS   >Polar FUNC
y^x    Sqrt   Phi    >H     >Rect  APPS


ASIN   ACOS   ATAN   10^x   e^x    1/x
SIN    COS    TAN    LOG    LN     Pi


Last X        R-Up   FIX    Spec   Cl Regs
ENTER         R-Down x<>y   EEX    < --


Sigma+ DEG    RAD    Mode   x!
STO    7      8      9      ÷


Sigma- %      %Chg   Base   RAN#
RCL    4      5      6      x


       COMB   PERM   Clr St r/Sxy
Shift  1      2      3      -


OFF    Mean   SDev   PDev   L.R.
ON/C   0      .      +/-    +


-------------------------------------


FUNC: Enters a function f(x), use the registers as variables - up to 10 equations (0-9), 100 steps each
```

```
APPS = cycle through the steps
FUNC = when you are complete


APPS:
1.  2 x 2 or 3 x 3  Simulatenous Equations - prompted
2.  Quadratic Equation - prompted
3.  Cubic Equation - prompted
4.  Evaluate Function X, variables are prompted
5.  Root of Fucntion X for Register #
6.  Integral of Function X in terms of Register #
7.  Derivative of Function X in terms of Register #
8.  Sum of Function (Sigma) of Function X in terms of Register #
9.  Turn TVM Solver On/Off
0.  Solver for TVM variable:


R0 = P/Y (not solvable)
R1 = N
R2 = I/YR%
R3 = PV
R4 = PMT
R5 = FV


Mode:
1.  GRAD  (DEG and RAD are on the keyboard)
2.  ALL (FIX is on the keyboard)
3.  ENG
4.  SCI
5.  Complex Roots Allowed = ON/OFF  (Toggle)
6.  Time Value of Money Mode = BGN/DUE  (Toggle)
7.  Rectangular/Polar Complex Mode (Toggle)


Spec (Special):
1.  Complex Number Entry (i  or angle)
2.  ABS
3.  ARG
4.  INT
5.  FRAC
6.  REAL
7.  IMAG
8.  CONJ
9.  DATE+
0.  DAYS


Base:
1.  DEC Mode
2.  BIN Mode
3.  OCT Mode
4.  HEX Mode**
5.  AND
6.  OR
7.  XOR
8.  NOT
9.  1's Complement
0.  2's Complement


HEX Mode:


RCL RCL 0 = A
RCL RCL 1 = B
RCL RCL 2 = C
RCL RCL 3 = D
RCL RCL 4 = E
RCL RCL 5 = F



Phi = Normal Distribution Lower Tail
Phi^-1 = Inverse Normal Distribution Lower Tail


Added: Gradian mode, Combination, Permutation
```

Edited: 5 Nov 2011, 11:51 p.m. after one or more responses were posted

Re: Design for a simple, entry-level RPN calculator

*Message #49 Posted by **Walter B** on 5 Nov 2011, 5:02 p.m.,*
in response to message #48 by Eddie W. Shore

Looks a lot better than your first draft :-) Some remarks in random order:

- I'd put FIX into Mode, too. Since the display mode previously set will be kept it looks like a waste of keyboard space else. Then, I'd put Mode on shifted x<>y instead.
- x! should be placed in a line with COMB and PERM.
- ClrSt is a bit isolated - I'd put it either on shifted / (next to the other clearing commands) or somewhere next to Sigma+ and Sigma-. Looks more logical IMHO.
- Same applies for RAN# ...
- You may deserve compliments for your design, but not for the two last items of Base. Oh, why can't the English learn to spell? ;-)
- Regarding hexadecimal numeric input: Please note you can't use the functions in row 2 in hex mode, so you can easily put A ... F there for free.
- What shall r/Sxy do?

Just my 20m€, as usual.

Walter

Re: Design for a simple, entry-level RPN calculator

*Message #50 Posted by **Eddie W. Shore** on 6 Nov 2011, 12:19 a.m.,*
in response to message #49 by Walter B

Quote:

Looks a lot better than your first draft :-) Some remarks in random order:

- I'd put FIX into Mode, too. Since the display mode previously set will be kept it looks like a waste of keyboard space else. Then, I'd put Mode on shifted x<>y instead.
- x! should be placed in a line with COMB and PERM.
- ClrSt is a bit isolated - I'd put it either on shifted / (next to the other clearing commands) or somewhere next to Sigma+ and Sigma-. Looks more logical IMHO.
- Same applies for RAN# ...
- You may deserve compliments for your design, but not for the two last items of Base. Oh, why can't the English learn to spell? ;-)
- Regarding hexadecimal numeric input: Please note you can't use the functions in row 2 in hex mode, so you can easily put A ... F there for free.
- What shall r/Sxy do?

Just my 20m€, as usual.

Walter

My spelling should be corrected now. (bangs head against the table - LOL).

Here is Edition 2:

```
This is an attempt to redo the design based on the 30b calculator (still no programming - yet):

-------------------------------------


ES RPN 10-Solver  (Edition 2)


XROOT  x^2    Phi^-1 >HMS   >Polar FUNC
y^x    Sqrt   Phi    >H     >Rect  APPS


ASIN   ACOS   ATAN   10^x   e^x    1/x
SIN    COS    TAN    LOG    LN     Pi
(A)    (B)    (C)    (D)    (E)    (F)


Last X        R-Up   Mode     Spec   Clr Reg
ENTER         R-Down x<>y     EEX    < --


Sigma+ COMB   PERM   x!     ClStat
STO    7      8      9      ÷


Sigma- %      i/Ang   Base   RAN#
RCL    4      5      6      x
```

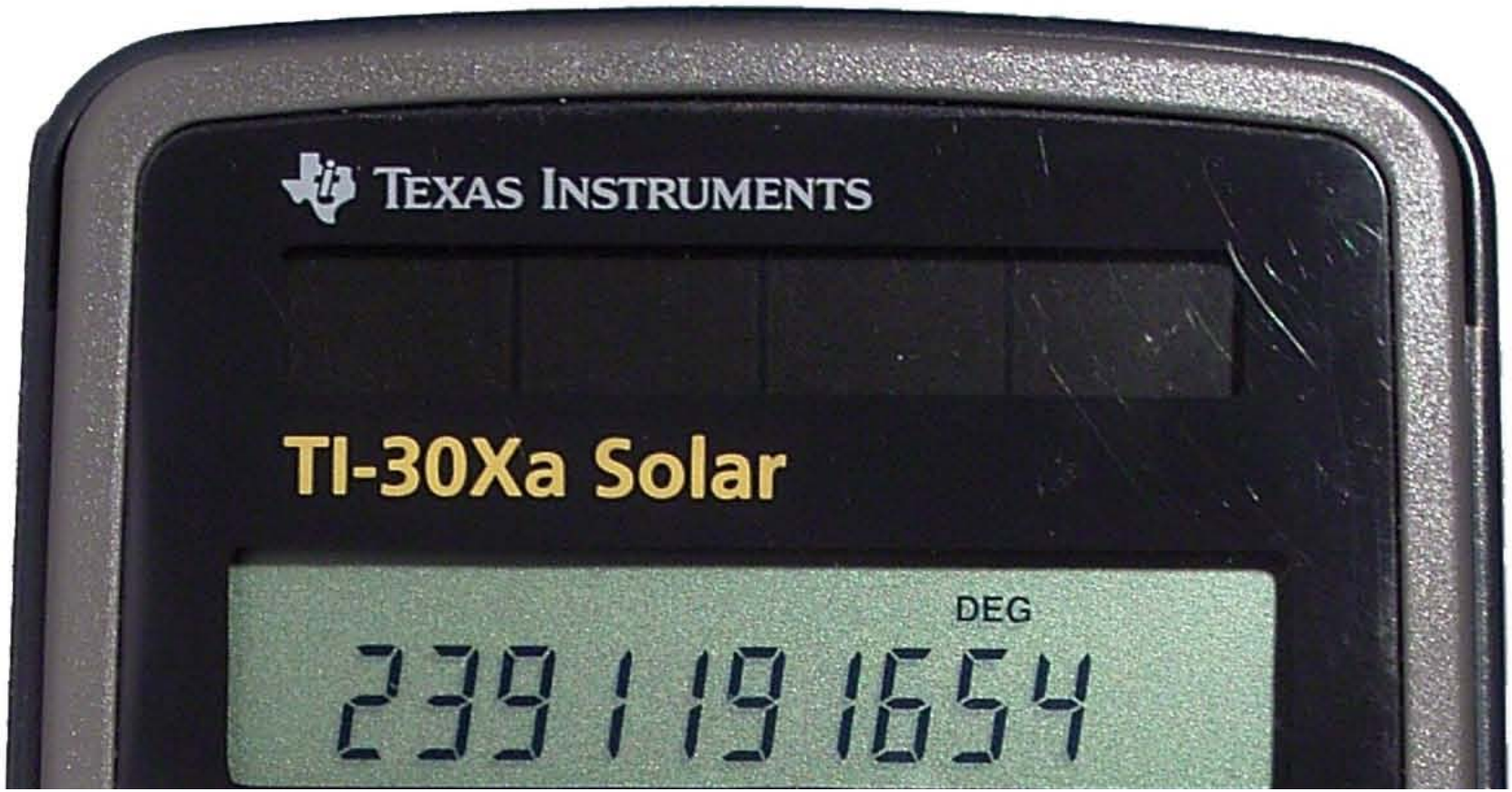
```
       Sums   Regr   r      PRED
Shift  1      2      3      -


OFF    Mean   SDev   PDev   a/b
ON/C   0      .      +/-    +


--------------------------------------


In menus, scroll with Roll Down and Roll Up.  Use ENTER to choose an option.


FUNC: Enters a function f(x), use the registers as variables - up to 10 equations (0-9), 100 steps each


APPS = cycle through the steps
FUNC = when you are complete


APPS:
1.  2 x 2 or 3 x 3  Simultaneous Equations - prompted
2.  Quadratic Equation - prompted
3.  Cubic Equation - prompted
4.  Evaluate Function X, variables are prompted
5.  Root of Function X for Register #
6.  Integral of Function X in terms of Register #
7.  Derivative of Function X in terms of Register #
8.  Sum of Function (Sigma) of Function X in terms of Register #
9.  Turn TVM Solver On/Off
0.  Solver for TVM variable:


R0 = P/Y (not solvable)
R1 = N
R2 = I/YR%
R3 = PV
R4 = PMT
R5 = FV


Mode:
1.  DEG (moved into this menu)
2.  RAD (moved into this menu)
3.  GRAD
4.  ALL
5.  FIX
6.  ENG
7.  SCI
8.  Fraction Mark:  Decimal or Comma
9.  Complex Display Mode:  Rectangular or Polar


Base:
1.  DEC Mode
2.  BIN Mode
3.  OCT Mode
4.  HEX Mode
5.  AND
6.  OR
7.  NOT
8.  XOR
9.  1's Complement
0.  2's Complement


A-F has been moved to the second row as Walter suggested.


Regression:
1.  Linear (y = a*x + b)
2.  Power (y = b * x^a)
3.  Logarithmic  (y = a ln x + b)
4.  Exponential  (y = b * e^(a*x))
5.  Inverse (y = a/x + b)


Sums:  (Sigma(vars))
1.  x
2.  y
3.  x^2
4.  y^2
5.  x*y
6.  x^2*y
7.  x^3
8.  x^4
```

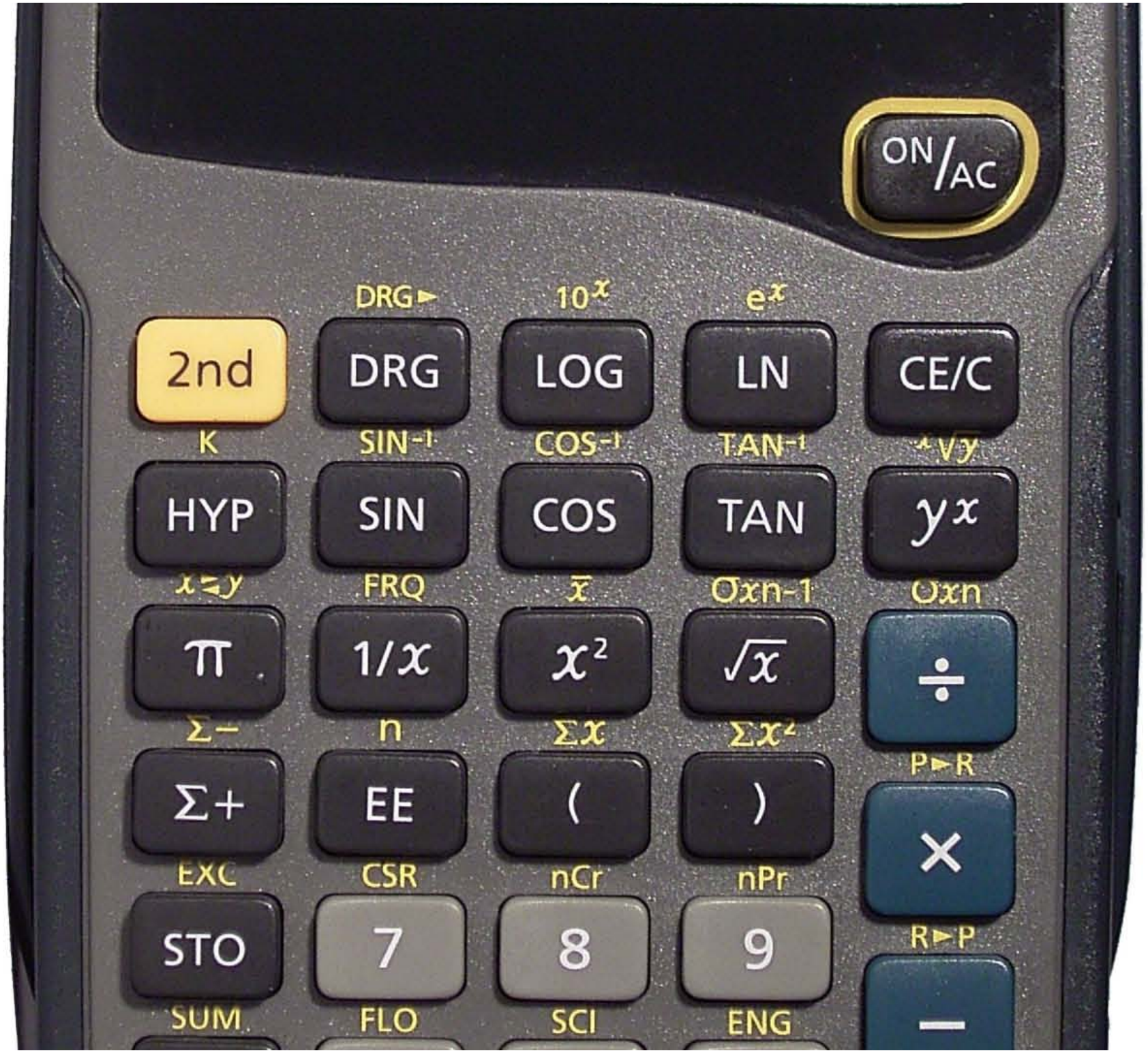
```
a/b returns a on the x stack, b on the y stack


PRED returns x-hat on the x stack, y-hat on the y stack


Spec (Special):
(I moved the complex number i/angle to the shifted funtion of the 5 key)
1.  %CHG
2.  ABS
3.  ARG
4.  REAL
5.  IMAG
6.  DATE+
7.  DAYS
```

Re: Design for a simple, entry-level RPN calculator
*Message #51 Posted by **Bart (UK)** on 4 Nov 2011, 6:19 a.m.,*
in response to message #12 by Egan Ford

Too expensive to manufacture. Something more like the current HP-10s, but RPN.

Re: Design for a simple, entry-level RPN calculator
*Message #52 Posted by **nick lidakis** on 8 Nov 2011, 6:24 a.m.,*
in response to message #12 by Egan Ford




ON/AC
DRG►
10^x
e^x
2nd
DRG
LOG
LN
CE/C
K
SIN-1
COS-1
TAN-1
x√y
HYP
SIN
COS
TAN
y^x
x≷y
FRQ
x̄
Σxn-1
Σxn
π
1/x
x²
√x
÷
Σ−
n
Σx
Σx²
P►R
Σ+
EE
(
)
×
EXC
CSR
nCr
nPr
R►P
STO
7
8
9
−
SUM
FLO
SCI
ENG

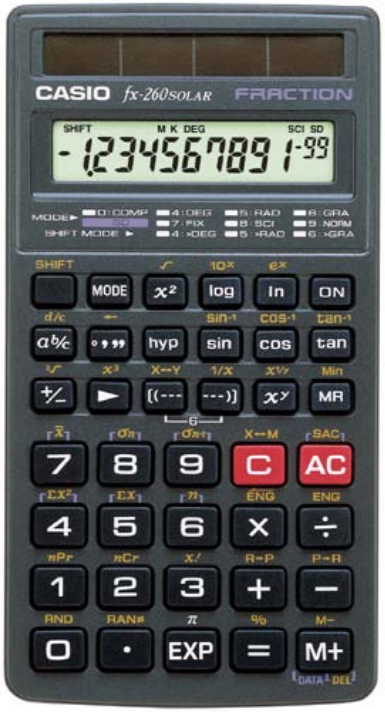
Here's a better one. $12 USD at Amazon.

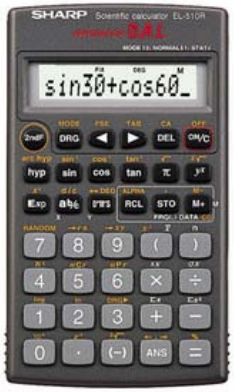
And another:

$16 at calculatorsinc.com

$16 at calculatorsinc.com

Or another that is available in every Staples for $10.





Or this, which seems tiny:

They tout they're Direct Algebraic Logic (D.A.L.): http://sharp-world.com/products/calculators/sc_calculator/el-510r/index.html

Simple, inexpensive, non-programmable, introductory (to RPN), scientific RPN calc that can be a stepping stone to higher end calcs like the 15c.

Re: Design for a simple, entry-level RPN calculator
*Message #53 Posted by **bill platt** on 9 Nov 2011, 10:18 a.m.,*
in response to message #52 by nick lidakis

Where is the RPN in these machines?

Re: Design for a simple, entry-level RPN calculator

*Message #54 Posted by **nick lidakis** on 9 Nov 2011, 12:45 p.m.,*
in response to message #53 by bill platt

> Quote:
>
> Where is the RPN in these machines?

There isn't any RPN in those machines. That was the point. No non-programmable, entry level, value-priced RPN calc from HP. No stepping stone, (or gateway drug, judging by the denizens here) to higher end HP calcs.

It need not be a hp-10c. It need not be landscape mode. It need not have 15c style buttons. It just needs to be RPN and have a nice wide enter key on it. It needs to be priced (as others here suggested) at $20USD or under.

No high school or college student will ever consider a $99 15cLE (as another person here mistakenly suggested) an "entry level" scientific calculator.

Edited: 9 Nov 2011, 9:23 p.m. after one or more responses were posted

Re: Design for a simple, entry-level RPN calculator

*Message #55 Posted by **Don Shepherd** on 9 Nov 2011, 1:32 p.m.,*
in response to message #54 by nick lidakis

> Quote:
>
> No non-programmable, entry level, value-priced RPN calc from HP

That's true, and for a very good reason: there is no market for such a thing. TI owns the high school and college market. HP owns part of the financial market. HP would be foolish to make something they could not sell.

RPN is fun to play with for old fossils like us, but tomorrow's engineers and scientists will be ipad-equipped with all the calculating power they need. I'd say that is the principal reason HP is not making RPN scientific calculators anymore.

Re: Design for a simple, entry-level RPN calculator

*Message #56 Posted by **bill platt** on 9 Nov 2011, 2:02 p.m.,*
in response to message #55 by Don Shepherd

no, they'll skip the ipad entirely...

mathematica implants...

Re: Design for a simple, entry-level RPN calculator

*Message #57 Posted by **nick lidakis** on 9 Nov 2011, 9:18 p.m.,*
in response to message #55 by Don Shepherd

> Quote:
>
> That's true, and for a very good reason: there is no market for such a thing. TI owns the high school and college market. HP owns part of the financial market. HP would be foolish to make something they could not sell.
>
> RPN is fun to play with for old fossils like us, but tomorrow's engineers and scientists will be ipad-equipped with all the calculating power they need. I'd say that is the principal reason HP is not making RPN scientific calculators anymore.

They don't know that. They screwed the pooch with the 10c. Look at the response of the 15cLE. How can they _not_ have an entry level RPN calc for high school students? One that

is non-programmable and allowed on state tests. How do they expect to keep replenishing the "fossils"?

And you don't get to be an old RPN fossil if the barrier to RPN is set very high. And all of tomorrow's engineers will still have to take exams in settings where iPad, iPhones, Androids and other gadgets will not be permitted. Thus, the need for an RPN version of the Casio fx-260 or similar. Or, their only introduction to a basic scientific is a Casio, TI, or Sharp...

Edited: 9 Nov 2011, 9:21 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #58 Posted by **Don Shepherd** on 9 Nov 2011, 10:10 p.m.,*
in response to message #57 by nick lidakis

> Quote:
>
> How can they _not_ have an entry level RPN calc for high school students?

Well, for one thing, high school math teachers don't teach RPN because (a) they don't know RPN, (b) kids don't want or need to know RPN, and (c) I seriously doubt that RPN is in the math standards of any state, standards that dictate what will be taught in the classroom and tested on standardized tests.

Just as the HP-35 effectively made slide rules obsolete and the PC made typewriters obsolete, I think devices like the Ipad will ultimately make handheld calculators obsolete.

IBM doesn't make Selectric typewriters anymore. I don't know that anyone makes typewriters anymore. I think there will come a day when HP won't make calculators anymore as well. And I think the testing organizations will ultimately allow students to use Ipads during tests.

RPN is for hobbyists, just like programmers who still code with zeroes and ones. It's a very tiny market.

Re: Design for a simple, entry-level RPN calculator

*Message #59 Posted by **Eddie W. Shore** on 11 Nov 2011, 12:41 p.m.,*
in response to message #57 by nick lidakis

> Quote:
>
> They don't know that. They screwed the pooch with the 10c. Look at the response of the 15cLE. How can they _not_ have an entry level RPN calc for high school students? One that is non-programmable and allowed on state tests. How do they expect to keep replenishing the "fossils"?
>
> And you don't get to be an old RPN fossil if the barrier to RPN is set very high. And all of tomorrow's engineers will still have to take exams in settings where iPad, iPhones, Androids and other gadgets will not be permitted. Thus, the need for an RPN version of the Casio fx-260 or similar. Or, their only introduction to a basic scientific is a Casio, TI, or Sharp...

I agree with you Nick.

If RPN is such a dead thing - then how come RPN calculator apps keep appearing on the market?

IHMO, HP missed the boat with the 10S, or the Smart Calc 300, both would have been the **perfect** opportunity to introduce an entry-level RPN calculator.

Edited: 11 Nov 2011, 12:42 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #60 Posted by **uhmgawa** on 9 Nov 2011, 5:48 p.m.,*
in response to message #54 by nick lidakis

> Quote:
>
> No high school or college student..

That's probably true.

Quote:

..will ever consider a $99 15cLE (as another person here mistakenly suggested) an "entry level" scientific calculator.

That comment may not have been clear. It was not directed at HP's 15c le productization but rather the functionality of a 15c relative to the cost of contemporary silicon required to implement it. IOW stripping resources down to minimally satisfy a less capable device is unlikely to produce a justifiable cost savings.

Perhaps a moot point as I suspect RPN devices vanish along with those who still recall its long since dwindled market justification.

Re: Design for a simple, entry-level RPN calculator

*Message #61 Posted by **Bart (UK)** on 10 Nov 2011, 5:32 a.m.,*
in response to message #54 by nick lidakis

Quote:

It needs to be priced (as others here suggested) at $20USD or under.

Casio programmable graphing calculator for under £10 (<$17 at current exchange rates).

Note of warning: I got two of these and both had some liquid around the batteries (which were totally depleted - they do date from the early '90s). I don't know what the liquid was, but there was no corrosion and after dismantling and a thorough cleanup all was well.

Re: Design for a simple, entry-level RPN calculator

*Message #62 Posted by **uhmgawa** on 9 Nov 2011, 10:53 a.m.,*
in response to message #52 by nick lidakis

The Casio fx-260 isn't a bad utility calc for the glove box and I've picked up several in recent years at MalWart for about US$7. Actually at the risk of near blasphemy in this forum I'd admit Casio calculators IME have held up surprisingly well for an econo caclulator. In the general use scientific market I'd imagine they are the leader in features*reliability/price.

OTOH most Sharp and every TI I've had the misfortune to own have consistently and reliably failed primarily due to lcd zebras or heat seal deterioration and of course TI's infamous keeeeeepppppaadd debouncing algorithms.

BTW I've never seen a TI-34 before but I wouldn't want to be seen in public with anything so hideous.

Re: Design for a simple, entry-level RPN calculator

*Message #63 Posted by **Katie Wasserman** on 9 Nov 2011, 11:32 a.m.,*
in response to message #62 by uhmgawa

The HP-6S solar holds up well in the glove box as well. It's nearly identical to the Casio fx-260 in function.

Re: Design for a simple, entry-level RPN calculator

*Message #64 Posted by **Mike Morrow** on 10 Nov 2011, 12:06 p.m.,*
in response to message #63 by Katie Wasserman

Quote:

The HP-6S solar holds up well in the glove box as well.

The HP 6S is a pretty good item to have in the glove box, because it has a hard plastic rim along the sides that makes it a serviceable windshield ice or mud scraper. Other than that, IMHO the 6S is without contest the poorest excuse for a scientific calculator ever made by (or for) anyone. Even though it uses solar and battery power there's no power OFF key, the keys are abominable in feel, and my 2001 batch CN10015 started loosing display segments six years ago just sitting in a drawer. But it *is* kind of pretty (after I wash the mud off). :-)

Quote:

It's nearly identical to the Casio fx-260 in function.

The fx-260 is a nice low-end $10 unit. I've still got every Casio I ever purchased new. One from 1978, the credit-card scientific fx-48, was carried in my pockets at work for years. *All* still work as well as when new, keys respond just as when new, and all LCD segments are still clear a third of a century after manufacture. Even HP's 1979 HP-41C series can't claim similar long-endurance display quality...the HP's 48S and 48G series couldn't claim that even when new!

The current Casio fx-115ES (a.k.a. 991ES) is one of the most amazingly capable devices in my 35-year collection. Yet it costs only $13 to $18 retail in the USA. There's a very slightly improved 991ES Plus, but I've never seen it for sale here. It's the only non-RPN calculator that is worth the adjustment effort to use. The 115ES is my take-everywhere calculator. I've got one at my desk, one in the truck, and even one in my day-hike backpack. Really. :-)

Re: Design for a simple, entry-level RPN calculator

*Message #65 Posted by **bill platt** on 10 Nov 2011, 12:43 p.m.,*
in response to message #64 by Mike Morrow

Never know when you might need to compute the great circle bearing from Mt Mitchell to Mount Washington for an impromptu mountaintop to mountaintop QSO.

Re: Design for a simple, entry-level RPN calculator

*Message #66 Posted by **Calum Tait** on 10 Nov 2011, 8:40 p.m.,*
in response to message #64 by Mike Morrow

> Quote:
>
> The fx-260 is a nice low-end $10 unit. I've still got every Casio I ever purchased new. One from 1978, the credit-card scientific fx-48, was carried in my pockets at work for years. *All* still work as well as when new, keys respond just as when new, and all LCD segments are still clear a third of a century after manufacture. Even HP's 1979 HP-41C series can't claim similar long-endurance display quality...the HP's 48S and 48G series couldn't claim that even when new!

You are right about the displays and keys of the older Casios (heresy I know). I have an FX-350 which I was given when I started high school around 1981 and the keys and display are still fine. It's very light and thin and not overly endowed with functions but I did get about 10 years out of the first battery. In contrast all the recent Casios I've used have been utterly poor quality. I went through two FX-991ESs in three years at work due to key problems and odd errors and started to take a 33S of my own in with me as the key bounce on them was truly infuriating. I did eventually manage to get my my employer to replace the Casios with a 35S which is a definite improvement. I think the FX-991s only cost about £19 which kind of says it all as regard to the quality you can expect though. I suspect the old FX-350 cost substantially more.

I do think a basic feature set RPN calculator is needed as an introductory (or harsh environment) machine. I also think it should be decent quality though and reliable. Twenty Dollars sounds too cheap for that and I think quality can help sell even a basic device if it's marketed properly. What it needs to be is small and tough. It needs an easily read display (an illumination button would be a great selling point) and enough basic functionality to make it useful for simple engineering or scientific calculations. It also needs to be just cheap enough so you won't worry unduly about taking it where it might get dirty, damaged or stolen. For me that price point sits at about £25 (c.$40) though I'm sure others will think differently.

Re: Design for a simple, entry-level RPN calculator

*Message #67 Posted by **bill platt** on 10 Nov 2011, 10:19 p.m.,*
in response to message #66 by Calum Tait

In the states, the 33s costs $39.95

Re: Design for a simple, entry-level RPN calculator

*Message #68 Posted by **Eddie W. Shore** on 11 Nov 2011, 12:46 p.m.,*
in response to message #67 by bill platt

I think a $15-$20 RPN calcualtor would be good - the price would be in the line with most entry-level scientific calculators. Even the size of the fx-260 would work.

No comment on the TI -34.

Edited: 11 Nov 2011, 12:47 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #69 Posted by **Michael de Estrada** on 11 Nov 2011, 12:53 p.m.,*
in response to message #68 by Eddie W. Shore

I just bought an HP 10bII+ for $29.99, and am extremely impressed with the overall quality of the product, keyboard and display. If HP could use it as a platform for a basic non-programmable RPN scientific calculator, and lower the price to $19.99, I'd call it a sure winner. I'm not sure how profitable it would be at that price point, though.

Re: Design for a simple, entry-level RPN calculator

*Message #70 Posted by **bill platt** on 4 Nov 2011, 12:04 a.m.,*
in response to message #1 by Eddie W. Shore

But really, what't the point? Even the old 65 was no more difficult to use for simple stuff, than the 21. Back then, there really was a price difference based on hardware differences.

Today, the hardware is so overpowered to begin with that it is foolish to underdesign the capabilities, since you can have all that extra power without detracting from the simple stuff.

Or in other words, it ain't any cheaper anyway.

Re: Design for a simple, entry-level RPN calculator

*Message #71 Posted by **Bart (UK)** on 4 Nov 2011, 6:47 a.m.,*
in response to message #70 by bill platt

> Quote:
>
> But really, what't the point? Even the old 65 was no more difficult to use for simple stuff, than the 21. Back then, there really was a price difference based on hardware differences.
>
> Today, the hardware is so overpowered to begin with that it is foolish to underdesign the capabilities, since you can have all that extra power without detracting from the simple stuff.
>
> Or in other words, it ain't any cheaper anyway.

It's more about perception these days (more functions = more value = more money) and manufacturers exploit this to try and maximise sales and profit. As I said in an earlier post, if HP had kept a cheaper basic RPN scientific in their line-up to compete with entry level Casios and Sharps, the RPN might have been more popular today.

Re: Design for a simple, entry-level RPN calculator

*Message #72 Posted by **Kevin Colville (S. Africa)** on 4 Nov 2011, 12:01 p.m.,*
in response to message #71 by Bart (UK)

> Quote:
>
> It's more about perception these days (more functions = more value = more money) and manufacturers exploit this to try and maximise sales and profit. As I said in an earlier post, if HP had kept a cheaper basic RPN scientific in their line-up to compete with entry level Casios and Sharps, the RPN might have been more popular today.

The obvious difference in the hardware between models is the display. (Ironically, seven-segment displays have the best contrast and look the clearest.) Though I wonder how much the cost difference is between a 12 digit 7-segment, 12x 5x7 dot matrix and two line 16x144 dot matrix?

The 10bII+ is half the selling price of the 30B ... how much of that is the display or is it just functionality: it does more so it must cost more?

Another reason calculators with larger function sets cost more: you have to write a larger manual. It's not the cost of thicker printed manuals (they are all PDF now) it's the labour for writing the documentation.

I agree with you last comment: a non-programmable RPN calc aimed at college students who had to do just the basic math+stats courses (and not the engineering, maths, physics majors) would have spread the gospel.

Kevin

Re: Design for a simple, entry-level RPN calculator

*Message #73 Posted by **bill platt** on 4 Nov 2011, 12:18 p.m.,*
in response to message #71 by Bart (UK)

Ahh, but I am not clear enough. They problem is that they *can't* go cheaper. The 33s is already as cheap as they can go...lowering the performance would still cost $40, instaed of the $15 for the Casio.

Re: Design for a simple, entry-level RPN calculator

*Message #74 Posted by **Bart (UK)** on 4 Nov 2011, 12:29 p.m.,*
in response to message #73 by bill platt

Put it in the hardware of the current HP-10s, at $15 who cares if you have to buy a new one every 2 years?

Edit: or a 300s if you want a touch fancier.

Edited: 4 Nov 2011, 12:32 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #75 Posted by **bill platt** on 4 Nov 2011, 12:33 p.m.,*
in response to message #74 by Bart (UK)

is that hardware that bad?

Re: Design for a simple, entry-level RPN calculator

*Message #76 Posted by **Bart (UK)** on 4 Nov 2011, 12:50 p.m.,*
in response to message #75 by bill platt

Don't know, I don't have a 10s, but was just postulating :-)

Re: Design for a simple, entry-level RPN calculator

*Message #77 Posted by **Jeff O.** on 4 Nov 2011, 1:43 p.m.,*
in response to message #75 by bill platt

The 300s keyboard has mushy keys. The 10bii+ keys are nice and clicky.

Re: Design for a simple, entry-level RPN calculator

*Message #78 Posted by **Palmer O. Hanson, Jr.** on 4 Nov 2011, 11:17 p.m.,*
in response to message #71 by Bart (UK)

> Quote:
>
> As I said in an earlier post, if HP had kept a cheaper basic RPN scientific in their line-up to compete with entry level Casios and Sharps, the RPN might have been more popular today.

It isn't so much a matter of the calculators in the lineup as it is the calculator availability in the mass market. I was in both a Target and a Wal-Mart this past weekend. There were too many TI models to count, several Casios and some Sharps. Not a single HP. How can that lead to popularity of HP or of RPN?

Re: Design for a simple, entry-level RPN calculator

*Message #79 Posted by **Eddie W. Shore** on 5 Nov 2011, 2:50 p.m.,*
in response to message #78 by Palmer O. Hanson, Jr.

> Quote:
>
> It isn't so much a matter of the calculators in the lineup as it is the calculator availability in the mass market. I was in both a Target and a Wal-Mart this past weekend. There were too many TI models to count, several Casios and some Sharps. Not a single HP. How can that lead to popularity of HP or of RPN?

I never see HP at Target. Staples only has the HP 12C. Office Depot carries the HP business line (10BII+, 12C, 30b).

Edited: 5 Nov 2011, 2:50 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #80 Posted by **Michael de Estrada** on 5 Nov 2011, 3:07 p.m.,*
in response to message #79 by Eddie W. Shore

You have to go to an electronics store like Frys to find them. They sell them for MSRP, same as the HP online store.

Re: Design for a simple, entry-level RPN calculator

*Message #81 Posted by **Håkan Thörngren** on 4 Nov 2011, 9:17 a.m.,*
in response to message #70 by bill platt

It all boils down to that different customers are prepared to pay a different amount of money for a given (same or similar) product. Those who wants a lot and are not cost sensitive will buy high end. Then there are those that want to pay less. You want to sell to them too (as long as you are making decent money), without affecting the price and sales of the high end product. Making a cheaper alternative with less capabilities is the answer to this.

Hardware cost is the same today, but I think the manufacturing cost for the original 10C compared to a 15C were similar back then. HP even invested the money in another code base variant (10C) in order to sell to other customers.

For some reason, the plot failed with the 10C. If it was because the 10C sold too little to make any point, or if it affected the sales of the 11C in a negative way, I do not know.

Re: Design for a simple, entry-level RPN calculator

*Message #82 Posted by **Jeff Johnson** on 4 Nov 2011, 11:03 a.m.,*
in response to message #81 by Håkan Thörngren

It is interesting to note how manufacturers have competed by cramming more features into the calculators, as opposed to making them cheaper. I'd bet that only a small percentage of that advanced capability is used by the average buyer. Case in point - Even though I have multiple high-end calculators, on a daily basis I typically use no more than the functionality available on my HP-45. My daily driver is a 35s, and my "high-end" calculations are usually basic algebra, trig, and logs. Only a few handy programs (closer to macros, actually) are programmed in either my 35s or 50g. So I see the logic in making an "Entry Level" calculator.

Re: Design for a simple, entry-level RPN calculator

*Message #83 Posted by **bill platt** on 4 Nov 2011, 12:23 p.m.,*
in response to message #82 by Jeff Johnson

If I have to do any sums, for any purpose, I go as fast as I can to a spreadsheet or failing having a machine on, to a 48G, using a list. I have to be dragged kicking and screaming to do sums on *any* calculator (the 48G isn't a calculator, is it;-)

The 32s, the 33s, any non-I/O machine is great for the trigs,logs, and very short ad-hoc programs when you are on the run and don't need to document with a spreadsheet or mathcad. Or perhaps you are working by hand step by step and validating a spreadsheet. That might be my most important use of RPN. I even skip the 27s if I can in this and grab RPN, probably for the very same reasons Marwan mentioned.

Edited: 4 Nov 2011, 12:23 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #84 Posted by **bill platt** on 4 Nov 2011, 12:29 p.m.,*
in response to message #81 by Håkan Thörngren

I posit that if failed for exactly my hypothesis previously mentioned: that the savings, which were minimal, weren't enough to justify buying one. The market proved this. They are the hardest to find. As I remember it, they came out at $80 when the 11c was $100. And I bet they had almost no profit margin. If I remember correctly, my 11c cost $120 in 1982. Man, was that a fantastic machine at that time! I think I must have had the same sort of joy the iphone users have now :-D

Edited: 4 Nov 2011, 12:31 p.m.

Re: Design for a simple, entry-level RPN calculator

*Message #85 Posted by **Bart (UK)** on 4 Nov 2011, 12:48 p.m.,*
in response to message #81 by Håkan Thörngren

> Quote:
>
> For some reason, the plot failed with the 10C. If it was because the 10C sold too little to make any point, or if it affected the sales of the 11C in a negative way, I do not know.

I think HP created too much choice, or the price difference was too small. It would have been better to stick with the 11C, maybe at a slightly cheaper price they would have sold more than the 10C & 11C together. Of course retrospect is easy, but HP seemed to have learnt the lesson and with the Pioneers released 2 RPN versions, the 32S (followed by the 32SII) and the 42S. Both have quite a following.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C in Wikipedia: Update, anyone?

*Message #1 Posted by **Peter Murphy (Livermore)** on 3 Nov 2011, 2:14 p.m.*

Would anyone like to update (and perhaps expand) this short Wikipedia item on the 15C?

"The HP-15C is a high-end scientific programmable with a root-solver and numerical integration. It is able to handle complex numbers and matrix operations. Although out of production, its popularity has led to high prices of US$200–400 on the used market[5] and a petition asking HP to restart production. The HP-15C was a replacement for the (LED Display based) HP-34C. On September 1, 2011, HP announced that a limited edition 15C based on the ARM hardware used in the modern 12C would be released.[6]"

http://en.wikipedia.org/wiki/HP-10C_series

Re: 15C in Wikipedia: Update, anyone?

*Message #2 Posted by **bill platt** on 4 Nov 2011, 1:57 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Why waste your time on shamopedia?

Re: 15C in Wikipedia: Update, anyone?

*Message #3 Posted by **Jim Johnson** on 4 Nov 2011, 8:45 a.m.,*
in response to message #2 by bill platt

Because, for better or worse, a large number of people use Wikipedia as a reference.

Re: 15C in Wikipedia: Update, anyone?

*Message #4 Posted by **bill platt** on 4 Nov 2011, 2:26 p.m.,*
in response to message #3 by Jim Johnson

Right. So why enable it? Why enable it to become a "facebook" or a "google"? I say help keep good information decentralized. Also, I don't want to waste my time on volunteer stuff that just gets written over by a bunch of porno editors. Ever looked at what the big barnstar" editors actually do? They provide "content" for porn stars!

Re: 15C in Wikipedia: Update, anyone?

*Message #5 Posted by **Lincoln R.** on 4 Nov 2011, 4:08 p.m.,*
in response to message #4 by bill platt

It is a useful resource for a lot of things. Is there a lot of info on porn, sex, drugs, crime, and other things that a 'reputable paper encyclopedia' wouldn't provide? Sure. But there is useful info. Admittedly, it's not the best place to look for unbiased information about big-ticket issues like religion and politics, but I can't see there being too much controversy over the history of HP calculators.

Re: 15C in Wikipedia: Update, anyone?

*Message #6 Posted by **bill platt** on 4 Nov 2011, 9:09 p.m.,*
in response to message #5 by Lincoln R.

But we already have a fantastichistorical resource right here! Write an article instead!

And there is Craig Finseth's HP DATABAE at finseth.com

Why "migrate" to wikipedia? WE have a beautiful thing going here. Why spoil it by putting energy into that dastardly bunch of thugs? Seriously, if you have ever crossed the self-appointed masters of wikipedia, you haven't seen how nasty a bunch of fascist porno freaks can be.

Re: 15C in Wikipedia: Update, anyone?

*Message #7 Posted by **Lincoln R.** on 5 Nov 2011, 1:17 a.m.,*
in response to message #6 by bill platt

Wow, you really hate Wikipedia... I'm definitely not suggesting "Let's move all the info off the forum and close up shop." However, info there could be useful for drawing more people here. IIRC, several articles on vintage HP calculators have links to hpmuseum.org.

Really, I agree that this site is probably one of the best (if not the best) resources for HP calculators out there. If there isn't an article or museum page here that can answer your question, there's someone lurking around the forums who can. However, people have to *find* this site first. Google works well for that. Wikipedia can also work well for that.

Re: 15C in Wikipedia: Update, anyone?

*Message #8 Posted by **bill platt** on 5 Nov 2011, 11:24 a.m.,*
in response to message #7 by Lincoln R.

Obviously I can't enforce my opinions, but I don't see any value in Wikipedia drawing people here. People find hpmuseum easily enough using a search engine.

And the most obnoxious thing is that the google "wizards" have programmed their search order to maximize wikipedia exposure. It always comes up ahead of real information--for instance the Mayo Clinic and the CDC are below wikipedia if you look up a health or medical topic. 10,000 monkeys write it, and 10,000 chimpanzees read it.

To me, wikipedia, facebook, google, amazon are "centralizers" or "monoplizers." They are one size fits all but fit nothing solutions. To me, Wikipedia is an experiment gone wrong.

Edited: 5 Nov 2011, 11:28 a.m.

Re: 15C in Wikipedia: Update, anyone?

*Message #9 Posted by **Don Shepherd** on 5 Nov 2011, 11:36 a.m.,*
in response to message #8 by bill platt

> Quote:
>
> 10,000 monkeys write it, and 10,000 chimpanzees read it.

Bill, a little strong it seems to me. I have found Wikipedia a good source of general information for most topics I have searched for. Occasionally I have found errors, and corrected them. I guess that makes me both a monkey and a chimpanzee at the same time! :)

If I want to go beyond what Wikipedia does (and I usually do), it's easy to follow the other links returned by google.

Re: 15C in Wikipedia: Update, anyone?

*Message #10 Posted by **Michael Kussmaul** on 5 Nov 2011, 6:07 p.m.,*
in response to message #8 by bill platt

To be honest, I found this site when I was searching for 15c calculators on Wikipedia, so at least they seem to have included *one* great site related to HP calcs.. :-)

Re: 15C in Wikipedia: Update, anyone?

*Message #11 Posted by **bill platt** on 5 Nov 2011, 10:30 p.m.,*
in response to message #10 by Michael Kussmaul

HAhaha :-)

Welcome!

Re: 15C in Wikipedia: Update, anyone?

*Message #12 Posted by **Tim Wessman** on 4 Nov 2011, 10:28 a.m.,*
in response to message #2 by bill platt

I think you have it confused with that other site.

TW

Re: 15C in Wikipedia: Update, anyone?

*Message #13 Posted by **Martin Pinckney** on 4 Nov 2011, 10:44 a.m.,*
in response to message #12 by Tim Wessman

Wikipedia is useful for information on non-controversial topics. For controversial topics, it has a demonstrable bias.

Re: 15C in Wikipedia: Update, anyone?

*Message #14 Posted by **pascal_meheut** on 4 Nov 2011, 11:51 a.m.,*
in response to message #12 by Tim Wessman

Quote:

I think you have it confused with that other site.

TW

This one is excellent. Thanks for it, I had a good laugh.

Re: 15C in Wikipedia: Update, anyone?

*Message #15 Posted by **bill platt** on 4 Nov 2011, 9:10 p.m.,*
in response to message #12 by Tim Wessman

I LoVE it!

Re: 15C in Wikipedia: Update, anyone?

*Message #16 Posted by **Walter B** on 5 Nov 2011, 4:34 a.m.,*
in response to message #12 by Tim Wessman

> Quote:
>
> I think you have it confused with that other site.

Oh dear, that's the dark side really :-/ Like Europe before the age of enlightenment :-(

Re: 15C in Wikipedia: Update, anyone?

*Message #17 Posted by **Katie Wasserman** on 5 Nov 2011, 11:36 a.m.,*
in response to message #16 by Walter B

> Quote:
>
> Like Europe before the age of enlightenment

Much worse, I think. Back then they really didn't know, these people are choosing to be ignorant.

Re: 15C in Wikipedia: Update, anyone?

*Message #18 Posted by **Martin Pinckney** on 5 Nov 2011, 10:14 p.m.,*
in response to message #17 by Katie Wasserman

> Quote:
>
> Much worse, I think. Back then they really didn't know, these people are choosing to be ignorant.

You cannot choose to be ignorant. Ignorance is by definition lack of knowledge or awareness.

This is elitism - defining someone you disagree with as ignorant because they have a different point of view.

Re: 15C in Wikipedia: Update, anyone?

*Message #19 Posted by **Marcus von Cube, Germany** on 6 Nov 2011, 1:54 a.m.,*
in response to message #18 by Martin Pinckney

In German, 'ignore' has the specific meaning of being unwilling to know or learn. This fits perfectly.

To know or to believe

*Message #20 Posted by **Walter B** on 6 Nov 2011, 7:15 a.m.,*
in response to message #18 by Martin Pinckney

You can agree or disagree about topics being disputable. Creationism today, however, is a mere (bad) joke - or call it religion. That was and is the reason for my statement above, where I tried to refer to the great historical achievement of separating science and religion some 300 (!) years ago.

Religion, per definition, is what you can rely (sic!) on but cannot dispute (believe it or not). Science, OTOH, is what you can **know** (Lat. "scientia" from "scire" = to know), meaning science explains (or elucidates) reproducible observations the easiest possible logically consistent way (which did and will change with the progress of knowledge, also as a result of many hard disputations, thus science can never be as comfortable as religion). Of course, you may introduce GODS (i.e. the Great Old Divine Spaghettimonster) for having buried all the fossiles all over the world in correct depths, but that's not the easiest explanation IMHO ;-)

"But what is truth? / Is truth unchanging law? / I have my truth - / is it the same as yours?" (IIRC the words of Pontius Pilatus in the musical Jesus Christ Superstar)

HTH but doubt it,

Walter

Re: To know or to believe

*Message #21 Posted by **Thomas Radtke** on 6 Nov 2011, 9:34 a.m.,*
in response to message #20 by Walter B

> Quote:
>
> Religion, per definition, is what you can rely (sic!) on but cannot dispute (believe it or not).

You can, and as a result, religions split sometimes. Creationists did so, too. You can even qeuestion the existence of god (that's what you probably meant), but that would make religion unfounded in your view and you'd have to ask yourself why to deal with it anymore ;-).

> Quote:
>
> Science [...]

I agree with this paragraph, of course. Unfortunately, science too has a problem in that by neccessity law of natures have to exist (I'm not talking about how they may look like) as the foundation of any scientific theory. If everything you observe happens just by chance in a way you expect (or is explainable off), scientists are out of luck. Again, if this is anyones religion, he may just wait for the universe to vanish, not discuss this with a physicist.

IMO the only problem with having a religion is to abridge the natural common sense (like cooperation between individuals helps the species to survive) and replace it with

arbitrarily interpretable tradition. But this is also true with secular law *g*.

Re: To know or to believe

*Message #22 Posted by **Walter B** on 6 Nov 2011, 10:05 a.m.,*
in response to message #21 by Thomas Radtke

> Quote:
>
> Unfortunately, science too has a problem in that by neccessity law of natures have to exist (...) as the foundation of any scientific theory. If everything you observe happens just by chance in a way you expect (or is explainable off), scientists are out of luck.

If it's "just by chance" but complies with the present scientific model of the world, then both descriptions (the present scientific and the chance model (CM)) are equally valid - until an experiment or observation falsifies one of them, which will never be possible for the CM. Not being falsifiable rules it out from being scientific - additionally the CM has a damn low probability (think of multiple chance coincidences), so I wouldn't pick this as the "easiest possible ... way" explaining the world. YMMV ;-)

Edited: 6 Nov 2011, 10:13 a.m.

Re: To know or to believe

*Message #23 Posted by **Thomas Radtke** on 6 Nov 2011, 11:01 a.m.,*
in response to message #22 by Walter B

> Quote:
>
> [...] the present scientific and the chance model (CM)) are equally valid - until an experiment or observation falsifies one of them, which will never be possible for the CM. [...]

How would you falsify the current model of having natural laws? If one stops working, you can always devise another one replacing it. We did this all the time in physics history ;-).

> Quote:
>
> [...] additionally the CM has a damn low probability [...]

Arguing with probabilities is very weak, imo.

Re: To know or to believe

*Message #24 Posted by **Walter B** on 6 Nov 2011, 12:12 p.m.,*
in response to message #23 by Thomas Radtke

> Quote:
>
> How would you falsify the current model of having natural laws? If one stops working, you can always devise another one

> replacing it. We did this all the time in physics history ;-).

Well, usually it didn't turn out we had to adopt the opposite ;-) So e.g. apples on this planet fall down anyway, just the law we think governing this fall has seen some states of refinement. Natural laws at all are a matter of millennia of experience - and the present scientific set of laws complies with what we see in a timeframe of some 1.4e10 years, which is quite astounding IMO. If GODS, being able to switch off the sun today, would have done all that, it would have been very busy 1.4e10 years. But I may be terribly wrong - I feel very well, however, based on our collective experience that natural laws seem to exist. Nevertheless I'm willing to accept that they don't, if reasonable proof is presented ;-)

> Quote:
>
> Arguing with probabilities is very weak, imo.

You're right, I shouldn't have done that - the CM is not scientific anyway.

Edited to correct a factor of 10 - shame on me, but at least nobody else found it earlier ;-)

Edited: 6 Nov 2011, 4:53 p.m. after one or more responses were posted

Re: To know or to believe

*Message #25 Posted by **Thomas Radtke** on 6 Nov 2011, 1:12 p.m.,*
in response to message #24 by Walter B

> Quote:
>
> You're right, I shouldn't have done that - the CM is not scientific anyway.

Running against open doors, is that an idiom in english, too? Reread my initial text about it and you'll find the word 'religion'. But it doesn't matter really, we can always only argue in the realm of what we defend, otherwise we wouldn't defend it at all. Some people have faith in the existence of god, others in the existence of natural laws, and a whole lot of people have just both, likely due to being open minded.

BTW., if all apples 'fall up' (rise?), you still can make quantum mechanics responsible for it. How unlikely is that? Not enough to make it entirely impossible!

Re: To know or to believe

*Message #26 Posted by **Walter B** on 6 Nov 2011, 5:05 p.m.,*
in response to message #25 by Thomas Radtke

> Quote:
>
> Running against open doors, is that an idiom in english, too?

Corresponds to "preaching to the choir" in English acc. to Leo.

> Quote:
>
> BTW., if all apples 'fall up' (rise?), you still can make quantum mechanics responsible for it. How unlikely is that? Not enough to make it entirely impossible!

Q: How does a physicist enter his home without opening the door?
A: Stands directly in front of it and waits 10^9 years :-)

Edited: 7 Nov 2011, 12:05 p.m.

OT: To know or to believe

*Message #27 Posted by **Howard Owen** on 6 Nov 2011, 12:11 p.m.,*
in response to message #20 by Walter B

OK, but we can settle it all with a calculator, right? :)

Re: OT: To know or to believe

*Message #28 Posted by **Walter B** on 6 Nov 2011, 12:17 p.m.,*
in response to message #27 by Howard Owen

Following the experience of the Apollo program, we'll need three ;-)

Re: OT: To know or to believe

*Message #29 Posted by **Howard Owen** on 6 Nov 2011, 3:21 p.m.,*
in response to message #28 by Walter B

Given time, I have no doubt some calculator fiend will retrofit the 41C with a quantum CPU. Then you'd only need one.

BTW: What allowance have you made for quantum computing in your current project? It's good to look forward. :)

Re: OT: To know or to believe

*Message #30 Posted by **Walter B** on 6 Nov 2011, 5:16 p.m.,*
in response to message #29 by Howard Owen

> Quote:
>
> What allowance have you made for quantum computing in your current project? It's good to look forward. :)

I have to admit I'm hopelessly old fashioned in this matter: I clearly prefer precisely repeatable results over probability amplitudes ;-)

Re: OT: To know or to believe

*Message #31 Posted by **Paul Guertin** on 6 Nov 2011, 6:53 p.m.,*

in response to message #29 by Howard Owen

> Quote:
>
> Given time, I have no doubt some calculator fiend will retrofit the 41C with a quantum CPU. Then you'd only need one.

According to this piece of news, there is a chance some of us will see a quantum-powered HP41 in a few decades. I can't wait.

Re: To know or to believe

*Message #32 Posted by **Martin Pinckney** on 6 Nov 2011, 9:34 p.m.,*
in response to message #20 by Walter B

> Quote:
>
> Creationism today, however, is a mere (bad) joke - or call it religion. That was and is the reason for my statement above, where I tried to refer to the great historical achievement of separating science and religion some 300 (!) years ago.

Good science and good religion go hand-in-hand. Bad science and bad religion are an anathema to each other.

If you have read much on Creationism , you know there is at least two schools - Young Earth and Old Earth. Both acknowledge that all of creation was, well, created. Old Earth creationism acknowledges the findings of science regarding the age of the universe.

> Quote:
>
> Religion, per definition, is what you can rely (sic!) on but cannot dispute (believe it or not).

Cannot dispute?! Where have you been, Walter?

> Quote:
>
> Science, OTOH, is what you can **know** (Lat. "scientia" from "scire" = to know), meaning science explains (or elucidates) reproducible observations the easiest possible logically consistent way (which did and will change with the progress of knowledge, also as a result of many hard disputations, thus science can never be as comfortable as religion).

Yet I am often surprised at how some make such rigid statements about how such-and-such is "settled science" or in some way indicate that a particular scientific "fact" cannot be disputed - forever.

> Quote:
>
> Of course, you may introduce GODS (i.e. the Great Old Divine Spaghettimonster) for having buried all the fossils all over the world in correct depths, but that's not the easiest explanation IMHO ;-)

Would it surprise you to learn that many, probably a majority, of Christians accept evolutionary theory as far as explaining natural selection? It does not, at least as presently constituted, explain the origin, nor the complexity of life.

> Quote:
>
> *"But what is truth? / Is truth unchanging law? / I have my truth - / is it the same as yours?"* (IIRC the words of Pontius Pilatus in the musical Jesus Christ Superstar)

FYI, the original can be found in John 18:38.

> Quote:
>
> HTH but doubt it,

See my remark to Katie on elitism.

Re: To know or to believe

*Message #33 Posted by **Walter B** on 7 Nov 2011, 2:06 a.m.,*
in response to message #32 by Martin Pinckney

> Quote:
>
> > Quote:
> >
> > Creationism today, however, is a mere (bad) joke - or call it religion. That was and is the reason for my statement above, where I tried to refer to the great historical achievement of separating science and religion some 300 (!) years ago.
>
> ... If you have read much on ((about)) Creationism , you know there is ((are)) at least two schools ... Both acknowledge ((assume, claim)) that all of creation was, well, created.

Just some remarks in (()).

> Quote:
>
> > Quote:
> >
> > Religion, per definition, is what you can rely (sic!) on but cannot dispute (believe it or not).
>
> Cannot dispute?! Where have you been, Walter?

In a part of Europe which was utterly devastated in a religious war some 380 years ago, killing a quarter of its population. I don't want to see that repeated. De gustibus

non est disputandum. That's the realm of religion. Of course you may dispute, but it's no use. Thus my statement above.

> Quote:
>
> Would it surprise you to learn that many, probably a majority, of Christians accept evolutionary theory as far as explaining natural selection? It does not, at least as presently constituted, explain the origin, nor the complexity of life.

That's another step in the great retreat of religion as a whole over the last 4000 years. Way back, people had made gods responsible for sunrise and sunset ...

> Quote:
>
> > Quote:
> >
> > *"But what is truth? / Is truth unchanging law? / I have my truth - / is it the same as yours?"* (IIRC the words of Pontius Pilatus in the musical Jesus Christ Superstar)
>
> FYI, the original can be found in John 18:38.

FYI, the original reads (transcribed, since on this forum I can't print Greek characters): *ti estin alätheia* only. The questions following above illustrate the point very well IMHO. YMMV

Re: 15C in Wikipedia: Update, anyone?

*Message #34 Posted by **Katie Wasserman** on 7 Nov 2011, 1:56 a.m.,*
in response to message #18 by Martin Pinckney

I'm not being elitist, did you read the stuff on this site? They argue that the Earth is 6 to 10 thousand years old and similar craziness.

Here's their statement:

> Quote:
>
> The subject is still debated today, particularly between young-Earth scientists, who believe that the Earth is only approximately 10-6,000 years old, and Old Earth creationists and scientists who argue that Earth is approximately 4.5 billion years old.[1] **The scientific evidence points to a young age of the earth and the universe.**

Why not claim that the world is flat and that the Sun orbits us? Just becasue no one has witnessed 10,000+ years of history that doens't mean it didn't happen. How many people have witnessed the structure of the solar system? Yet no one doubts that it's heliocentric.

Edited: 7 Nov 2011, 2:37 a.m.

Re: 15C in Wikipedia: Update, anyone?

*Message #35 Posted by **Marcus von Cube, Germany** on 7 Nov 2011, 8:29 a.m.,*
in response to message #34 by Katie Wasserman

Religion has always been of some value in *explaining* and *controlling* the world. You see fog? Must have been the Goddess of Fog! The sun rises? Helios is busy moving it around the sky. Want people to follow you blindly? Tell them otherwise Helios might change jobs and the sun will stay below the horizon for some time. But if people obey the rules you've set up you'll talk Helios into not neglecting his duties...

People have always felt the need to explain what's around them and in absence of a better understanding, Gods and Fairies have proven to be the best explanations. Whenever some social group has managed to reclaim the whole truth about the world by proclaiming a tight bond to the 'responsible' beings, things have gone awry. Not only in the past, I fear. Just remember 9/11!

Re: 15C in Wikipedia: Update, anyone?

*Message #36 Posted by **Dominic Richens** on 4 Nov 2011, 1:24 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

The best person to update it is yourself. I won't because I have little interest in it.

I updated both the HP-20b and HP-30b because I have an interest in promoting these are platforms for the WP-34s.

Re: 15C in Wikipedia: Update, anyone?

*Message #37 Posted by **Peter Murphy (Livermore)** on 7 Nov 2011, 1:40 p.m.,*
in response to message #36 by Dominic Richens

Dominic, thanks for your response. I'd like to see an update to the Wikipedia entry on the 15C done by an experienced 15C user who has worked with the 15C-LE and can give a good account of the similarities and differences between the two. Perhaps, in addition, that person could tell something of the troubles with the LE, and how they're being addressed. That's not me, in either case.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP48 open/repair guides back online

*Message #1 Posted by **Han** on 3 Nov 2011, 11:42 a.m.*

They have now been moved to:

http://users.ju.edu/hduong/open/

and

http://users.ju.edu/hduong/repair/

Re: HP48 open/repair guides back online

*Message #2 Posted by **Bart (UK)** on 4 Nov 2011, 6:51 a.m.,*
in response to message #1 by Han

Looks good, thank you. Thanks to your work and others on this forum, I have been able to successfully repair an HP-48SX and other calculators.

Re: HP48 open/repair guides back online

*Message #3 Posted by **hpnut** on 4 Nov 2011, 11:15 p.m.,*
in response to message #1 by Han

thank you, these are useful reference.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Aristo M85 -- What charger?

*Message #1 Posted by **gene wright** on 3 Nov 2011, 11:17 a.m.*

What charger does this model take? Assume I need it spelled out for a 1st grader. ;-)

Isn't it beautiful? I think so!

Re: Aristo M85 -- What charger?

*Message #2 Posted by **Katie Wasserman** on 3 Nov 2011, 11:39 a.m.,*
in response to message #1 by gene wright

Very pretty!

All you need to know about charging these old calculators is the shape and polarity of the plug and the number/size of the nicad cells. Almost all of them use AA, so figure that back then they were around 700mAH per cell and charge at a 1/10 rate. Voltage isn't important, just enough to give you current needed, 70mA in this case. Of course almost no vendor used a regulated charger back then so the 70mA should be the average during the charging cycle -- it will be more at the start and less at the end.

Back when I used to charge my rechargeable calculators, I would experimentally pick a charger from a box of junk ones and measure the current when connected to the numbers of cells in the calculator. When I found the right one I'd solder on a plug and that was my custom-built charger. This worked great until I tired of charging them every few months. That's when a moved to primary AAA cells in plastic battery holders to replace AA nicads. Additionally, I use Energizer lithium AAA cells since they have near zero self discharge and never seem to leak.

Re: Aristo M85 -- What charger?

*Message #3 Posted by **Walter B** on 3 Nov 2011, 2:34 p.m.,*
in response to message #1 by gene wright

There is a special ARISTO charger on the market - well, I should say it was, but you find it on a German auction site every once and a while. And yes, ARISTO got awards for "good industrial design" quite regularily those days. You know why :-)

Re: Aristo M85 -- What charger?

*Message #4 Posted by **Joerg Woerner** on 3 Nov 2011, 2:53 p.m.,*
in response to message #1 by gene wright

Gene,

I received last week an M85S from Germany including a 230V charger.

Two choices: You wait three weeks and bid on my auctions OR you wait a few hours and I measure the voltage on its tip.

I have a few 220V outlets in my home (sewing machine, calculators, fondue set, raclette etc).

Cheers, Joerg

PS: Glad you like German design.

Re: Aristo M85 -- What charger?

*Message #5 Posted by **Joerg Woerner** on 3 Nov 2011, 2:56 p.m.,*
in response to message #4 by Joerg Woerner

M85: 3x AA (accu pack or normal batteries), external AC power supply 7.5V, minus on center

(Thimet.de)

Re: Aristo M85 -- What charger?

*Message #6 Posted by **gene wright** on 3 Nov 2011, 3:05 p.m.,*
in response to message #5 by Joerg Woerner

Ah, so I can get a universal adapter with 7.5V, minus on center, and output of around 70 mill-amps and it ought to work.

Or, try Katie's approach of yanking all these rechargables out for alkalines!

Re: Aristo M85 -- What charger?

*Message #7 Posted by **robertoataulfo** on 3 Nov 2011, 3:35 p.m.,*
in response to message #6 by gene wright

Aristo M-85

```
Why do not use ordinary batteries 3 x 1.5 AA?
Specs:4.5v DC using 3 x AA size batteries.
It accepts an adaptor (type 6795) through a socket on the top side to the far
left.
You have to take the whole back off to access the three (2 plus 1 separated)
battery slots, one of which is not used.
```

Edited: 3 Nov 2011, 3:43 p.m.

Re: Aristo M85 -- What charger?

*Message #8 Posted by **gene wright** on 3 Nov 2011, 3:45 p.m.,*
in response to message #7 by robertoataulfo

Actually, it has new rechargeables inside.

I just need to know what exact type of charger to use, which I think is the one Joerg specified!

Re: Aristo M85 -- What charger?

*Message #9 Posted by **Katie Wasserman** on 3 Nov 2011, 3:53 p.m.,*
in response to message #6 by gene wright

The old AC nicad chargers were usually not regulated, most new universal ones are. So a 7.5 volt setting will be 7.5 volts all the time, that's almost certainly going to pump way too much current into the 3 x AA nicads and they will get hot and be damaged.

The old AC chargers were essentially current limited devices due to their small transformer size, that's what kept the nicads from overheating and being damaged. The voltage rating on them was just a nominal value for "voltage at the rated load" if they had a rated load. If they had no rated load the voltage was pretty much meaningless, open circuit these would often be twice the stated value. There's no substitute for actually measuring the current draw when trying to fit a charger to a calculator.

The ideal solution is to get an external power supply that let's you limit the current and monitor it. Then you'll really know what's going on and have a single charger for all your calculators. For not much money you can find ones that are perfect for almost any battery powered calculator:

here's an example

here's one with a big more range

I wouldn't use these for anything other than battery charging, but they should be great for that.

Aristo M85 -- no charger.

*Message #10 Posted by **Mike (Austria)** on 3 Nov 2011, 4:56 p.m.,*
in response to message #9 by Katie Wasserman

The LED version of the Aristo M85 is designed to be operated with 3xAA Alkaline or NiCd cells or with a 7.5V= max.200mA voltage supply (Aristo #6790) to save batteries. I have just verified that minus is on center.

The M85 is NOT designed to recharge batteries inside the calculator, so please do NOT try to connect it to a current source. Aristo sold an external recharger (#6795) for NiCd cells. Actually, the M85 runs quite long on a single set of Alkalines, so you'd be best off just using these.

The "M85 S" model has a builtin NiCd battery. There was a later version of the M85 with a green fluorescent display operating on 2xAA cells.

This is one of the most beautiful and mechanically best calculators ever built. The keys have no click, but excellent response. They precisely register at approx. 1/3 of their 2mm travel without bouncing ever, even after 40 years of (initially intense, later occasional) use.

IIRC, its LEDs were manufactured by HP. Arithmetic is chain logic (i.e. no precedence, two levels of parentheses). Log, exponential and trigonometric functions are computed to six digits.

Kind regards and enjoy, Mike

Edited: 3 Nov 2011, 5:02 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] Version

*Message #1 Posted by **robertoataulfo** on 3 Nov 2011, 9:53 a.m.*

```
From the 1826 Revision is already for the new layout (Version 3.0)?
```

Re: [WP34S] Version

*Message #2 Posted by **fhub** on 3 Nov 2011, 10:01 a.m.,*
in response to message #1 by robertoataulfo

> Quote:
>
> From the 1826 Revision is already for the new layout (Version 3.0)?

Yes, the lastest (stable) release for V2.2 with the old layout (except y<> and z<>) is SVN1797.

Franz

Re: [WP34S] Version

*Message #3 Posted by **Paul Dale** on 3 Nov 2011, 12:53 p.m.,*
in response to message #1 by robertoataulfo

Apart from us still having to agree on some final portions of the layout.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Integration

*Message #1 Posted by **Paul Dale** on 3 Nov 2011, 7:52 a.m.*

As a result of providing local registers for subroutines and programs in the 34S, I'm looking at redoing the internal integration routine. The current Gauss-Kronrod quadrature was chosen primarily because it would fit into the available five registers. With locals this can be relaxed and something more sophisticated is possible.

I'm eyeing off the PPC IG routine as a possibility, but would like to know if anyone here has a pet keystroke integration routine of some kind of another.

The current integrator consumes flash equivalent to about 230 program steps (this includes both the program and the tables of constants required) so something of similar magnitude (or smaller) would be perfect.

Any suggestions anyone? Better still, any keystroke programs :-)

- Pauli

Re: Integration

*Message #2 Posted by **Marcus von Cube, Germany** on 3 Nov 2011, 9:09 a.m.,*
in response to message #1 by Paul Dale

Just to add some info about the current development:

Local registers, local flags, recursion, nested solve/integrate/sum/prod, ...

And a new keyboard layout is active now.

Re: Integration

*Message #3 Posted by **Kevin Colville (S. Africa)** on 3 Nov 2011, 11:50 a.m.,*
in response to message #1 by Paul Dale

My pet routine is a modified midpoint rule coupled with Richardson acceleration, ie, Romberg's method.

This code is similar to the method devised for the HP-34C by W.H. Kahan as described in HP Journal, Aug 1980. (This integration routine was later used in the 15c, 42s, ...)

I adapted Peter Henrici's version (from his book Computational Analysis with the HP-25 Pocket Calculator) to the 21s. It's about 70 steps, uses all ten registers of the 21s and was quite challenging because the 21s lacks an index register and only has x==0? and x<=y? tests. I'm sure there are better versions of Romberg for more advanced models without the limitations of the 21s (and the HP-25).

Kevin

Re: Integration

*Message #4 Posted by **Paul Dale** on 3 Nov 2011, 5:39 p.m.,*
in response to message #3 by Kevin Colville (S. Africa)

I've got that book and will check it out.

- Pauli

Re: Integration

*Message #5 Posted by **Kiyoshi Akima** on 3 Nov 2011, 4:14 p.m.,*
in response to message #1 by Paul Dale

My personal preference would be for some kind of locally-adaptive routine. I've always considered the lack of local adaptivity one of the most serious flaws in the Romberg-based routine used from the HP 34C to the HP 50g (and the 15C LE, if I'm going to mention the most chronologically recent).

There are plenty of locally adaptive algorithms based on Newton-Cotes and Maclaurian methods, as well as Gaussian.

As an alternative to the Gauss-Kronrod I'd suggest considering Gauss-Bond instead:
http://www.crbond.com/integration.htm

G-B requires no more work than G-K and attains a higher-order for the same number of function evaluations.

Also, if you include the nonlinear argument transformation as done in the HP and PPC-ROM routines, please consider a flag to turn it off.

Re: Integration

*Message #6 Posted by **Paul Dale** on 3 Nov 2011, 5:40 p.m.,*
in response to message #5 by Kiyoshi Akima

I didn't know about G-B quadrature. I don't think I'll implement it however. I think some kind of adaptive method is better value for bytes.

Any specific suggestions (or code) for a locally-adaptive routine?

- Pauli

Re: Integration

*Message #7 Posted by **Kiyoshi Akima** on 3 Nov 2011, 6:31 p.m.,*
in response to message #6 by Paul Dale

If you've already got a G-K routine then it shouldn't take much effort to change it to a G-B. Mostly changing the constants.

I've got a bunch of locally-adaptive routines I'm playing with, but they're all in SysRPL for the 50g. They rely on recursion so I don't think they'll port well to the 34S. I've got G-B, Newton-Cotes, and Maclaurian. If you'd like, I can send you the documented SysRPL sources.

IIRC there's a FORTRAN routine in Conte & de Boor's "Elementary Numerical Analysis: An Algorithmic Approach". It's an oldie which I used as a textbook back in my student days and I remember programming my 41C to do it, but that program used synthetics to expand the return stack.

Re: Integration

*Message #8 Posted by **Paul Dale** on 3 Nov 2011, 6:50 p.m.,*
in response to message #7 by Kiyoshi Akima

I understand that G-B will be a switch the constants exercise, but it will still be static. I.e. small gain for effort.

The 34S will handle recursion reasonably in version 3. Not as well as in RPL but okay.

- Pauli

Re: Integration

*Message #9 Posted by **Kiyoshi Akima** on 7 Nov 2011, 2:31 p.m.,*
in response to message #6 by Paul Dale

Below is the UserRPL code for a crude non-recursive globally convergent adaptive quadrature routine on a 50g. It uses a second-order open Newton-Cotes formula (25.4.22 in Abramowitz & Stegun).

It's globally convergent in that it only requires that the total error satisfies the criteria, instead of requiring that each subinterval meet its "quota" of error. Thus, if 90% of the error occurs in 10% of the interval but the other 90% of the interval only contributes 10% of the error, then the routine is satisfied. A locally convergent routine would require the first 10% of the interval contribute no more than 10% of the error tolerance.

I slapped the code together in an evening, so I'm sure it's far from optimal. It also doesn't do any error- or limit-checking.

```
lower_limit upper-limit Function error_tolerance -> sum


<<
 -15. * ROT 4. PICK - { }
 <<
  NOVAL DUP DUP2
  -> a h y2 y4 y6 y1 y3 y5 y7
  <<
   IF 10 FS? THEN
    a     1. DISP
    a h + 2. DISP
   END
   a h .125 * + <-f EVAL DUP 'y1' STO
   a h .375 * + <-f EVAL DUP 'y3' STO
   a h .625 * + <-f EVAL DUP 'y5' STO
   a h .875 * + <-f EVAL DUP 'y7' STO
   + + +   DUP + y2 - y6 - h * 6. /
   y2 y6 + DUP + y4 -      h * 3. /
   OVER - ABS NEG SWAP a h y1 y2 y3 y5 y6 y7 10. ->LIST 1. ->LIST
  >>
 >>
 -> a <-f e h d r
 <<
  a h DUP2 .25 * + <-f EVAL
  a h      .5  * + <-f EVAL
  a h      .75 * + <-f EVAL
  r EVAL 'd' STO+
  WHILE
   0.
   1. d SIZE FOR i
    d i GET HEAD +
   NEXT
   e <
  REPEAT
   d SORT DUP TAIL SWAP HEAD
   LIST-> DROP 8. ROLL 8. ROLL
   .5 * 'h' STO 'a' STO
   h a OVER + SWAP 5. ROLLD 5. ROLLD r EVAL
   6. ROLLD a h    5. ROLLD 5. ROLLD r EVAL
```

```
   UNROT DROP2 + + 'd' STO
  END
  0.
  1. d SIZE FOR i
   d i GET 2. GET +
  NEXT
 >>
>>
```

Re: Integration

*Message #10 Posted by **Kevin Colville (S. Africa)** on 4 Nov 2011, 4:56 a.m.,*
in response to message #5 by Kiyoshi Akima

Romberg has the advantage that it doesn't need a table of weights and abscissae like the Gauss-* methods. At least the 34s has more space for that then earlier calculators. On the other hand Romberg can require a *lot* of function evaluations.

Adaptive methods require a trade-off between using a large enough table (can be held in ROM) for the base G-* method and enough return levels (in RAM) for the recursion. So it depends very much on the resources available in the 34s.

Quadrature is hard: everyone has their zoo of pathological examples that numerical methods trip over. Whether wildly fluctuating or steep singularities. Kahan's HP-34c article, the advice in several HP manuals and, of course, the 15C Advanced Functions manual all address these.

Good luck.

Re: Integration

*Message #11 Posted by **Paul Dale** on 4 Nov 2011, 5:20 a.m.,*
in response to message #10 by Kevin Colville (S. Africa)

Space use is easy. The current integration uses the equivalent of 230 steps of program. Any constant is equivalent to four steps.

The PPC IG routine is well under half of this for a Romberg implementation.

- Pauli

Re: Integration

*Message #12 Posted by **Wes Loewer** on 4 Nov 2011, 3:34 p.m.,*
in response to message #5 by Kiyoshi Akima

> Quote:
>
> My personal preference would be for some kind of locally-adaptive routine. I've always considered the lack of local adaptivity one of the most serious flaws in the Romberg-based routine used from the HP 34C to the HP 50g (and the 15C LE, if I'm going to mention the most chronologically recent).

I agree. The Romberg method made perfect sense for the 34C with its limited memory. In the article, Kahan states: "For example, consider Gaussian quadrature. This method is widely regarded as 'best' in the sense that it very often requires fewer samples than most other methods to achieve an average A that approximates the desired A to within some preassigned tolerance." He goes on to explain why Gauss was not used as it would have taken all the calculator's memory to store the necessary nodes and weights.

Now that calculators have more memory, the widely used Gauss-Kronrod method seems well suited. I don't know how tight memory is on the 34S, but if you can fit something like Gauss-Kronrod onto it, it would be worth it. Romberg works fine for well-behaved functions, but it really bogs down on functions with cusps or corners. It reiterates deeper and deeper on the entire function intead of just where the problem is.

Functions with corners from absolute values are common when calculating the distance traveled given the velocity function: d = integral abs(v(x)) dx.

I came across such an integral on a standardized exam that would have taken over 30 minutes on the 50g in the default STD mode. (Students had 50 minutes to answer 17 calculator based questions on that section of the exam.) Setting the mode to FIX 5 reduces the time to about 30 seconds, but for comparison, the slower ti-84+, which uses the 15 node GK method, takes about 6 seconds.

The recursive 15 node Gauss-Kronrod method is commonly used, but if memory is tight, fewer nodes could be used. Because of symmetry, the 15 node GK requires storage of 8 node values and 12 weight values for a total of 20 values. A 7 node version would require 4 node values and 6 weights for a total of 10 values.

~wes

Re: Integration

*Message #13 Posted by **Paul Dale** on 4 Nov 2011, 6:18 p.m.,*
in response to message #12 by Wes Loewer

The 34S currently uses a 10/21 point Guass-Kronrod quadrature. The weights and nodes are just under half the space occupied by the routine. The big advantage of this integrator is the forty bytes of RAM it requires.

G-K is very good for well behaved functions but an adaptive method is preferable I feel. A recursive G-K method could be used but this will increase memory requirements & we're really tight on both RAM and flash. Romberg would consume less flash but more RAM.

All said, a wrapper has been written for the built in integrator to act more adaptively.

- Pauli

Re: Integration

*Message #14 Posted by **Kiyoshi Akima** on 7 Nov 2011, 2:16 p.m.,*
in response to message #13 by Paul Dale

A 10/21 G-K, eh? That's exact for order-32 polynomials. A 9/19 G-B would be exact for order-37 polynomials, with two fewer function evaluations. Admittedly, it would cost two additional constants and eight additional multiplications and sixteen additional additions, though the extra operations should just be a matter of changing loop limits and not additional code.

A 10/21 G-K starts with a 10-point Gauss-Legendre (G-L) quadrature, which is "optimal" for 10 function evaluations. An additional 11 points are then selected so that, in combination with the original 10, we have an optimal 21-point expansion (note that this is NOT an optimal 21-point quadrature, just optimal using the 10 original points). The two quadratures then provide an error estimate. If the estimate is "good enough" then the 21-point result is accepted. Otherwise the interval is subdivided and the process repeated on each subinterval.

G-B goes the other way. If we're going to evaluate the function 21 times anyway, let's do the best job of it we can, which is a 21-point G-L. We then pick an appropriate subset of those 21 points to evaluate another result so we can estimate the error. Alternatively, we can use fewer points, such as a 9/19 G-B and still get a "better" result.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B Forth Module

*Message #1 Posted by **Nick Taylor** on 3 Nov 2011, 7:17 a.m.*

I've been searching with Google to try to find out as much information about Forth on the HP-71B.

I keep stumbling across the following two Module part numbers:

82478a 82441a

Both of which seem to be linked with the Forth module.

Given how unlikely I am to find one, and then afford it (!), can anyone enlighten me as to which of these I should try to find in order to use Forth on the HP-71B?

Thanks

Nick

Re: HP-71B Forth Module

*Message #2 Posted by **Egan Ford** on 3 Nov 2011, 10:14 a.m.,*
in response to message #1 by Nick Taylor

You want to get HP-41 Translator Pac for the HP-71 (HP 82490A) or HP-71B Forth/Assembler ROM (HP 82441A). Both can be run under EMU71 emulation and the docs can be had on the MoHPC DVDs. I cannot tell you if the FORTH is exactly the same or not on both. I think it is.

I use the HP-41 Translator Pac for the HP-71 (HP 82490A) on my 71B as well as in EMU71.

Some of my 71B FORTH Pi Programs (if you are interested):

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=147662

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=148399

Re: HP-71B Forth Module

*Message #3 Posted by **Valentin Albillo** on 3 Nov 2011, 1:35 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> You want to get HP-41 Translator Pac for the HP-71 (HP 82490A) or HP-71B Forth/Assembler ROM (HP 82441A). Both can be run under EMU71 emulation and the docs can be had on the MoHPC DVDs. I cannot tell you if the FORTH is exactly the same or not on both. I think it is.

You're wrong, Egan, the FORTHs are distinct and what's worse, incompatible.

All in all, I'd rather have the FORTH/Assembler ROM than the HP-41 Translator Pac because I see no real use nowadays for HP-41 programs translated to run in the HP-71B while using the Assembler to create and compile your own binary subprograms, FORTH primitives, and custom LEX keywords still holds some magic.

Best regards from V.

Re: HP-71B Forth Module

*Message #4 Posted by **Egan Ford** on 3 Nov 2011, 4:20 p.m.,*
in response to message #3 by Valentin Albillo

> Quote:
>
> the FORTHs are distinct and what's worse, incompatible.

Thanks for the clarification. As far as I could tell from the documentation the FORTHs are the same. All I could find:

Relation to the HP-71 FORTH/Assembler ROM

The FORTH system contained in the HP-41 Translator Pac is very similar to that in the HP 82441A FORTH/Assembler ROM. The HP-41 Translator Pac does not contain an assembler, but its built-in word set contains additional floating-point words and other HP-41 words not found in the FORTH/Assembler ROM.

The floating point words in the HP-41 Translator Pac differ from their FORTH/Assembler ROM counterparts in two respects:

- The HP-41 Translator Pac words will error if any of their arguments are alpha data.
- The HP-41 Translator Pac words perform a stack lift only after computation is finished, so that the stack is unaffected if a word terminates due to an error. In the FORTH/Assembler ROM, the stack lift is performed before the computation.

FORTH words defined from words common to both modules can be compiled into either system from a text file containing the definitions. However, because the addresses of built-in words and user variables are not the same in the two systems, you should not attempt to exchange files of type FORTH between the systems. That is, a file originally created as `FORTHRAM` by the FORTH/Assembler module should not be renamed as `FTH41RAM` for use with the HP-41 Translator Pac, and vice-versa. The most likely result of such an exchange is the `Memory Lost` error.

So the FORTHs are source compatible and the same in that sense.

Edited: 3 Nov 2011, 4:22 p.m.

Re: HP-71B Forth Module

*Message #5 Posted by **Frido Bohn** on 3 Nov 2011, 10:29 a.m.,*
in response to message #1 by Nick Taylor

HP 82478A - Debugger for the HP-71: Simulator of assembly language
Provided as LEX files to be copied into RAM from mass media.

HP 82441A - Forth/Assmbler ROM: Development environment in Forth/Assembler. Provided as (hardware) ROM.

The debugger may work as a kind of expansion of the Forth/Assembler ROM, but the ROM is what you are seeking for.

If you want to play with it you should use Emu71 and the emulator-based ROM. Visit Christoph Gießelink's and Jean-François Garnier's pages.

Re: HP-71B Forth Module

*Message #6 Posted by **Garth Wilson** on 3 Nov 2011, 11:24 a.m.,*
in response to message #1 by Nick Taylor

I can't tell you the differences between the two, but I have the 82441A Forth/Assembler module, and I will comment that it is

a really lousy implementation of Forth. I can't believe how slow many of the Forth words are. But, being Forth, it allows you to raplace words with your own definitions and speed them up. Re-writing many of them in Forth as secondaries, ie, without even using assembly and writing primitives, I was able to improve their speed by a factor of anywhere from two to fourteen! (CHR$ was the one I made 14x as fast.)

Edited: 3 Nov 2011, 11:27 a.m.

Re: HP-71B Forth Module

*Message #7 Posted by **Pete Wilson** on 3 Nov 2011, 4:36 p.m.,*
in response to message #6 by Garth Wilson

The FORTH/Assembler ROM is definitely great - especially the SATURN manual that was included.

I used it to disassemble the 48SX ROM initially.

Re: HP-71B Forth Module

*Message #8 Posted by **Christoph Giesselink** on 3 Nov 2011, 5:29 p.m.,*
in response to message #1 by Nick Taylor

Some month ago I also gone through the Internet searching for HP71B ROM module numbers. That's what I found about this:

HP 82441A was the number of the first Forth/Assembler ROM. This package did not contain the Debugger LEX files. Later the Forth/Assembler ROM was republished with the Debugger LEX files and new package got the number HP 82478A.

At this time I made a cross reference list with all HP ROM module numbers and labels I found:

```
Number cross reference list


HP 82441A                       HP-71 FORTH ASSEMBLER (without Debugger)
HP 82478A       5061-7234       HP-71 FORTH ASSEMBLER
HP 82479A       5061-7290       DATA ACQ
HP 82480A       5061-7226       HP-71 MATH
HP 82481A       5061-7237       AC CIRCUIT
HP 82482A       5061-7239       FINANCE
HP 82483A       5061-7238       SURVEYING
HP 82484A       5061-7241       CURVE FIT
HP 82485A       5061-7240       TEXT EDITOR
HP 82488A       5061-7271       DATA COMM
HP 82489A       5061-7270       AMPI STATISTICS
HP 82490A       5061-7269       HP-71 41 TRANSLATOR
```

If somebody may recognize a mistake in the list above, don't hesitate to correct me.

Christoph

Re: HP-71B Forth Module

*Message #9 Posted by **Paul Berger (Canada)** on 3 Nov 2011, 9:36 p.m.,*
in response to message #8 by Christoph Giesselink

Hmmm that means I got the second version of the Forth/Assembler ROM but unfortunately I did not get the debugger LEX files.

Re: HP-71B Forth Module

*Message #10 Posted by **Didier Lachieze** on 4 Nov 2011, 3:32 a.m.,*
in response to message #9 by Paul Berger (Canada)

With the magic of Google Newsgroup archive, the original announcement of the Forth/assembler debugger on net.micro.hp is still available on-line 25 years later:
HP-71 FORTH/Assembler Debugger .

Edited: 4 Nov 2011, 3:33 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

No more Cobubba?

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 2 Nov 2011, 6:42 p.m.*

A new ID for an old "friend"? :-)
a well known eBay item
Caveat emptor

Massimo

I think not - maybe cobubba jr.

*Message #2 Posted by **Michael de Estrada** on 2 Nov 2011, 7:05 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Cobubba lives!

Edited: 2 Nov 2011, 7:15 p.m. after one or more responses were posted

Re: I think not - maybe cobbuba jr.

*Message #3 Posted by **Namir** on 2 Nov 2011, 7:12 p.m.,*
in response to message #2 by Michael de Estrada

I think Cobuba has opened a second account!

Re: No more Cobubba?

*Message #4 Posted by **Namir** on 2 Nov 2011, 7:11 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

gaboco sounds like an abbrevation for "Garbage of Colorado"

like IBM used to say:

Garbage in ... garbage out!

Mir

Re: No more Cobubba?

*Message #5 Posted by **Lincoln R.** on 2 Nov 2011, 10:08 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Looks like the same guy to me. Photographs look too similar (backgrounds, lighting, etc.)

Compare these two listings:

15C #1

15C #2

Re: No more Cobubba?

*Message #6 Posted by **Michael de Estrada** on 2 Nov 2011, 10:12 p.m.,*
in response to message #5 by Lincoln R.

Do you believe in parallel universes and doppelgängers ?

Re: No more Cobubba?

*Message #7 Posted by **Namir** on 3 Nov 2011, 12:03 a.m.,*
in response to message #6 by Michael de Estrada

No ... the dude may simply have two accounts.

The new eBay handle might suggest that his first (or last) name is Gabriel. He seems to have an attachment to Colorado since "co" has shown up in his handles and he lived in CO when he had the "burlin" handle way back. Has anyone bought anything from Cobuba and might know his name?

Namir

Re: No more Cobubba?

*Message #8 Posted by **Paul Gaster** on 3 Nov 2011, 12:00 a.m.,*
in response to message #5 by Lincoln R.

It has to be the same guy. Look at the Completed listings for coburlin. There is a 10C with Serial No. 2237A00058 that never sold.

Now the new guy, garboco, is selling a 10C with the same serial, same picture, same description, everything. If coburlin never sold it, how could a new person sell it?

item numbers: 260860868285 and 220885617880

Re: No more Cobubba?

*Message #9 Posted by **Namir** on 3 Nov 2011, 12:05 a.m.,*
in response to message #8 by Paul Gaster

Makes perfect sense!

Re: No more Cobubba?

*Message #10 Posted by **Bruce Bergman** on 3 Nov 2011, 11:38 a.m.,*
in response to message #8 by Paul Gaster

It's the same guy. No question. Same type of name, same serial numbers in the listings, same exact $5.95 charge for shipping, same origination location, etc.

I poked him via email and asked about the new name. He hasn't responded. ;-)

I'm sure he reads these forums, to keep up on what's hot and in demand, or to see if anyone has any units for sale that he can mark up 4,976%. It's a shame there are people like him out there.

Thanks,

Bruce

Re: No more Cobubba?

*Message #11 Posted by **Namir** on 3 Nov 2011, 12:39 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Cobuba can have not two accounts but a hundred account. Unless he changes his approach to selling, he is going to get the same reaction from eBay buyers regardless of what he calls himself. If he wants to move items and have more sales, he needs to lower his prices. He can do that without reinventing new aliases.

Stupid is as stupid does!!

Namir

Edited: 3 Nov 2011, 1:49 a.m. after one or more responses were posted

Re: No more Cobubba?

*Message #12 Posted by **Lincoln R.** on 3 Nov 2011, 1:16 a.m.,*
in response to message #11 by Namir

The thing is, he makes an occasional sale at his ridiculous prices (usually to someone overseas). A lot of eBay sellers aren't willing to ship calculators overseas, but for what he's charging he can afford to insure the thing to make sure he doesn't take a loss if the post office loses it or uses it as a hockey puck. I agree that what he's doing is shady (buying up calculators in decent condition cheaply and pairing them up with assorted manuals and cases, then selling them for ridiculous prices), but unfortunately it is neither illegal nor an eBay TOS violation.

Re: No more Cobubba?

*Message #13 Posted by **robert rozee** on 3 Nov 2011, 8:31 a.m.,*
in response to message #12 by Lincoln R.

> Quote:
>
> [...] A lot of eBay sellers aren't willing to ship calculators overseas [...]

not quite true. a lot of AMERICAN eBay sellers aren't willing to... pretty much everyone else in the world is more than happy to ship anything almost anywhere, and do so without disaster or personal risk to their health.

in terms of the world population america is quite small and insignificant. it just happens to have a bigger pile of functional bombs than anyone else (note the word "functional", so russia doesn't count!!)

Re: No more Cobubba?

*Message #14 Posted by **David Ramsey** on 3 Nov 2011, 12:33 p.m.,*
in response to message #13 by robert rozee

> Quote:

> in terms of the world population america is quite small and insignificant. it just happens to have a bigger pile of functional bombs than anyone else (note the word "functional", so russia doesn't count!!)

Well, and a functional economy (until recently at least). And lots of innovative companies like HP.

Re: No more Cobubba?

*Message #15 Posted by **bill platt** on 3 Nov 2011, 10:41 p.m.,*
in response to message #13 by robert rozee

310 million gas hogging americans are worth at least 5 billion bicycling chinese people, and at least 600 million Europeans, in terms of market. That's changing, but isn't there yet. Maybe if the new class of World Rich can get their act together, they can eviscerate the U.S. economy in the next 5 years so that the Chinese can become the top consumers. That is the goal. New and growing consumer markets are much more exciting to businesspeople than are established, saturated and shrinking ones.

Countries such as N.Z. and Au. are nice and tiny. You guys can be more nimble during these massive adjustments :-)

Edited: 3 Nov 2011, 10:42 p.m.

Re: No more Cobubba?

*Message #16 Posted by **Martin Pinckney** on 4 Nov 2011, 9:19 a.m.,*
in response to message #13 by robert rozee

> Quote:
>
> not quite true. a lot of AMERICAN eBay sellers aren't willing to...

Since the majority of eB** sellers are American, isn't that the same thing?

> Quote:
>
> in terms of the world population America is quite small and insignificant. it just happens to have a bigger pile of functional bombs than anyone else...

A rather narrow perspective, I must say.

Re: No more Cobubba?

*Message #17 Posted by **Katie Wasserman** on 4 Nov 2011, 11:13 a.m.,*
in response to message #13 by robert rozee

> Quote:
>
> not quite true. a lot of AMERICAN eBay sellers aren't willing to... pretty much everyone else in the world is more than happy to ship anything almost anywhere, and do so without disaster or personal risk to their health.

I admit to not like to ship outside the US, the reason is multi-part: (1) The buyer ends up paying a

lot for shipping, often more than what the item is worth. If you use a good carrier, like UPS, this is almost always the case. (2) I often get requests to not put the full value of the item on the shipping forms so that duty is low on the buyers end, this is fraud and I don't want to take part in that. (3) In general, the US Post Office people are not at all helpful in shipping items overseas and it can take a lot of time hanging out and the PO (30 minutes on a couple of occasions) to get the shipping forms correct.

Re: No more Cobubba?

*Message #18 Posted by **Paul Berger (Canada)** on 4 Nov 2011, 11:33 a.m.,*
in response to message #17 by Katie Wasserman

I do all my shipping using the Canada Post for 99% of it I can buy my postage online and even fill out the customs information, print a label and then drop it in a mail box or take it to one of the many convenient postal outlets. When I buy from an eBay seller in the US, which is quite often, I always ask for shipping via USPS as mail flows smoothly to Canada Post and most often I am not even billed for taxes or duty. I will not bid on anything if the seller will only ship via UPS because UPS always collects taxes and charges very high customs brokerage fees. My experience has also been that a lot of sellers that advertise that they will not ship to Canada when I ask if they will make an exception most often they are willing to do so.

Re: No more Cobubba?

*Message #19 Posted by **Michael de Estrada** on 4 Nov 2011, 12:18 p.m.,*
in response to message #18 by Paul Berger (Canada)

I ship all my items via USPS Priority Mail to international destinations. I have yet to have anything lost or damaged, although sometimes the delivery time can be very long and there is no way to actively track a shipment. I always insure it and buy a return receipt so I can verify delivery if the recipient does not notify me. Paperwork is a very simple 1 page customs form, and many entries are not required for non-commercial shippers and items valued at under $2500. I fill everything out in advance, so the wait at the post office is typically very short. Shipping to Canada costs about 1/2 the rate for the rest of the world and I believe that NAFTA reduces or eliminates tariffs that apply elsewhere. I never use UPS or FEDEX.

As far as TAS is concerned, they now include shipping costs in their fees, such that it is not profitable for sellers to ship overseas. So, you can thank TAS for discouraging US sellers from shipping internationally.

Re: No more Cobubba?

*Message #20 Posted by **Francis Pierot** on 4 Nov 2011, 11:59 a.m.,*
in response to message #17 by Katie Wasserman

I live in France and have buyed a lot of items from US sellers on *bay, never had any problem since one year.

Delays were about 10 or 15 days for boxed items and sometimes, customs asks for 19,6% VAT which I must admit, can make the item a little expensive in the end. But the euro/dollar exchange rate makes things smoothier, seen from the european side. Also, for manuals, lonely calculators with no boxes or accessories, items less than about $100, I frequently had no custom taxes at all, and even had short delays.

Still, I understand your point 3:

> Quote:
>
> In general, the US Post Office people are not at all helpful in shipping items overseas

You can probably pull the "US" mention out of this sentence.

Re: No more Cobubba?

*Message #21 Posted by **Bart (UK)** on 4 Nov 2011, 12:22 p.m.,*
in response to message #20 by Francis Pierot

> Quote:
>
> Still, I understand your point 3:
>
> > Quote:
> >
> > In general, the US Post Office people are not at all helpful in shipping items overseas
>
> You can probably pull the "US" mention out of this sentence.

I don't know why. I'm done in 5 min., 10 if there's a queue. I have some CN22 forms at home and fill it in beforehand (my local postmaster gives me about 5 at a time). The Royal Mail has good description of how to write addresses for different countries (no lost/returned items so far). So all is ready when I get to the post office and I tell him what services I want (air/surface, insurance, signed/tracked etc.) and he gives the best price option (I have double checked this sometimes, again on the Royal Mail website). All done in a few minutes on my way to work, which fades into insignificance with the traffic queues...

Re: No more Cobubba?

*Message #22 Posted by **Francis Pierot** on 4 Nov 2011, 12:38 p.m.,*
in response to message #21 by Bart (UK)

Oh yeah but your have ROYAL Mail man!

Re: No more Cobubba?

*Message #23 Posted by **Bart (UK)** on 4 Nov 2011, 12:52 p.m.,*
in response to message #22 by Francis Pierot

They can sometimes be a ROYAL pain in the .... ;-)

Edit: Of course, the place and person I deal with belong to the "Post Office", "Royal Mail" carries the mail and is a separate entity - they are a ROYAL pain in the .... .

Edited: 4 Nov 2011, 5:11 p.m.

Re: No more Cobubba?

*Message #24 Posted by **Francis Pierot** on 4 Nov 2011, 12:21 p.m.,*
in response to message #13 by robert rozee

Maybe we could set a flag for troll alert.

I ain't american but "small and insignificant" is not what comes to my mind when I think about the US, specially on a forum of people devoted to HP calculators which, in my opinion, are on the top of US engineering glorious inventions.

And I'd rather be afraid of Russian "non-functional" bombs than of American functional ones ...

Re: No more Cobubba?

*Message #25 Posted by **Cristian Arezzini** on 4 Nov 2011, 5:23 p.m.,*
in response to message #24 by Francis Pierot

> Quote:
>
> Maybe we could set a flag for troll alert.

Maybe we should cool down a little. Reading his post again, he said "in terms of the world population america is quite small and insignificant". I think the American population is less than 1/20th of the world population... in my book 1/20th *is* small. Everyone likes to think that their country isn't insignificant, but "in terms of world population" most are... except maybe for China and India! :)

Cristian

Re: No more Cobubba?

*Message #26 Posted by **Martin Pinckney** on 4 Nov 2011, 6:13 p.m.,*
in response to message #25 by Cristian Arezzini

> Quote:
>
> Maybe we should cool down a little. Reading his post again, he said "in terms of the world population america is quite small and insignificant". I think the American population is less than 1/20th of the world population... in my book 1/20th *is* small.

You left out this part: "it just happens to have a bigger pile of functional bombs than anyone else." This implied to me that America's importance is *only* tied to its military might.

Re: No more Cobubba?

*Message #27 Posted by **M. Joury** on 4 Nov 2011, 6:27 p.m.,*
in response to message #26 by Martin Pinckney

[rant on] Unfortunately, today, that is to some small extent true. Our economic might, once supreme, is waning and we are using our quickly draining treasury (like sand in an hour glass) to garrison the world. Isn't this what happened to the Soviet Union when they decided to go into Afghanistan? Why exactly do we think that we are immune to the same sort of financial stresses that broke the USSR? I would love to see us become, once again, that old force in technology, innovation, and industry. I don't say it is all

gone, that is surely not the case, but we are certainly weaker than we once were and economically far less important. [/rant off]

Sorry, just my $0.02.

Cheers,

-Marwan

Re: No more Cobubba?

*Message #28 Posted by **Don Shepherd** on 4 Nov 2011, 7:40 p.m.,*
in response to message #27 by M. Joury

Marwan, I wouldn't be too quick to write off the economic influence of the United States. We've been through some tough times during the last few years, like many countries, and our government is certainly dysfunctional at times, again, like many countries, but it seems that many people still want to come here, some legally some not.

And I certainly wouldn't write off the United States as a military power. Just ask Saddam Hussein, Osama bin Laden, or Moammar Ghadafi (a US-built drone ratted him out I think). Oh, I guess you can't ask them after all.

Gee, it was more fun discussing Coburlin.

Re: No more Cobubba?

*Message #29 Posted by **M. Joury** on 4 Nov 2011, 10:57 p.m.,*
in response to message #28 by Don Shepherd

Oh, I am certainly not willing to write us off quite yet. In fact I am rather more optimistic than many. It just sometimes seems that we keep shooting ourselves in the foot. And no fear, I am not writing off our military might. On the other hand our pockets are not infinitely deep and with our military expenditure being something like 40% of the total world military expenditure (2009 figures) and something like 6 times that of China I just don't see how we can realistically maintain that.

As for people coming to the US, we are still the land of hope for most of the world. And dysfunctional? Not even close to some other countries. None of that means we can't do better.

Ok. Back to coburlin <g>. Sorry I went off on this side trip.

Cheers,

-Marwan

Edited: 5 Nov 2011, 7:09 a.m. after one or more responses were posted

Re: No more Cobubba?

*Message #30 Posted by **Don Shepherd** on 5 Nov 2011, 2:54 a.m.,*
in response to message #29 by M. Joury

I agree with all of your points. We certainly can do better, and with the right leadership I'm optimistic that we will. We developed the technology and know-how to get to the moon 42 years ago, and with brilliant people like Steve Jobs giving us technology that truly revolutionizes lives, I don't fear for our future too much.

I might even buy an ipad one day!

Back to the original topic, Coburlin, he's just trying to make a buck by tapping into some folks fanaticism over HP calculators. I don't know how successful he is, and I don't really care. I have noticed the same HP-65 he's been trying to sell for like 3 years now.

Re: No more Cobubba?

*Message #31 Posted by **M. Joury** on 5 Nov 2011, 9:29 a.m.,*
in response to message #30 by Don Shepherd

> Quote:
>
> I have noticed the same HP-65 he's been trying to sell for like 3 years now.

Insanity: doing the same thing over and over again and expecting different results. *Einstein*

Re: No more Cobubba?

*Message #32 Posted by **Martin Pinckney** on 4 Nov 2011, 8:39 p.m.,*
in response to message #27 by M. Joury

> Quote:
>
> Why exactly do we think that we are immune to the same sort of financial stresses that broke the USSR?

You certainly raise a good point. The USSR was a centralized socialist regime, with no effective market to fuel growth economic growth. With "universal health care", "stimulus plans" and "jobs bills", ever increasing government spending and government control, we seem to be heading in that same direction.

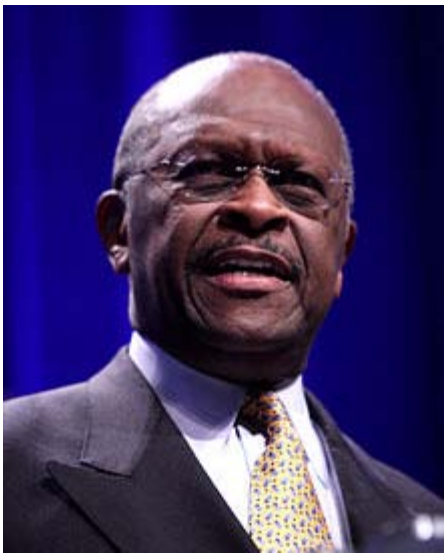
Re: No more Cobubba?

*Message #33 Posted by **Michael de Estrada** on 4 Nov 2011, 9:37 p.m.,*
in response to message #32 by Martin Pinckney

> Quote:
>
> With "universal health care", "stimulus plans" and "jobs bills", ever increasing government spending and government control, we seem to be heading in that same direction.

Only for one more year. After that, President Cain will get us back on the right

track.



Re: No more Cobubba?

*Message #34 Posted by **Cristian Arezzini** on 4 Nov 2011, 9:33 p.m.,*
in response to message #27 by M. Joury

> Quote:
>
> I would love to see us become, once again, that old force in technology, innovation, and industry.

I'm a little pessimistic, not just about the US, but about the world. 40 years ago we (meaning "we mankind") could go to the moon, now the only way to go even to low Earth orbit is the Russian Soyuz. 30 years ago we had great new calculators almost every year, and people who wanted/knew how to use them; now we have mostly cheap-ish gadgets, and if we want something more we have to rely on community efforts. A few decades ago we were willing to take risks, experiment, push the frontiers beyond: now everything has to be "politically correct", risk is evil and so on.

This is stagnation, or worse. I think the human creativity and enthusiasm are atrophising, slowly but constantly. :(

Cristian

Re: No more Cobubba?

*Message #35 Posted by **Walter B** on 4 Nov 2011, 6:41 p.m.,*
in response to message #26 by Martin Pinckney

> Quote:
>
> You left out this part: "it just happens to have a bigger pile of functional bombs than anyone else." This implied to me that America's importance is *only* tied to its military might.

> Well, IMHO statement one is true, while sentence two is not. Said pile exceeds 1/20 by far. OTOH, I don't read anything like you detected up there. AFAIK, the effective overall power of the USA ("America" is larger than the USA) is a multiplication of its economic and military powers, times the amount of missionary zeal of the acting individuals.
>
> FWIW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting find: HP 9875A dual cassette drive

*Message #1 Posted by **David Ramsey** on 2 Nov 2011, 5:56 p.m.*

I took a chance and bought this HP 9875 Cartridge Tape Unit from a recycled equipment company recently.

It's an HPIB device designed to be used with the 9820, 9825, 9830, etc. with the appropriate interface, so the back panel will look familiar to those of us who've used HPIB devices before.

The 9875A is an "intelligent" peripheral with its own processor and memory. This explains the giant circuit board inside. In fact according to HP it could be connected directly to HPIB measuring equipment and accumulate data on its own without a host computer. Flipping a "Self test" switch on the back will cause the unit to perform write and read tests on cassettes in both drives and blink a drive light if any errors occur.

Inside are two 9825A-era cassette drives that use DC100 tapes. Fortunately I have one good DC100 tape! Both tape wheels were goopy, but the good 'ol "heat shrink tubing" fix, inelegant though it may be, fixed that.

Being expensive, 70s-era HP equipment, it's built like a tank, with a thick aluminum frame supporting all components.

A clever feature: angled mirrors and clear ports above the tape drives allow you to see the label on the tape, if any, or the spinning tape reels if not.

Although the device predates the HP-85, it's a lot easier to play with on an 85 (with the optional HPIB interface) or HP-87 than on earlier machines, because these let you do BASIC things from the command line, like dimension string variables to hold status results, which can only be accomplished inside a program on earlier machines.

Although "intelligent", the 9875A doesn't have anything in the way of file system smarts, nor is it supported by "mass storage" ROMs. When you insert a tape, the first thing you need to do is send a "rewind" command, because otherwise the unit doesn't know where the tape is. You create files, specifying the number of records and bytes per record, and can write to and read from files or records programmatically. Various operations let you select optional read-after-write verification, select drive 0 or drive 1, and retrieve error codes, which are typically delivered as a single long string consisting of comma-separated numbers you must then parse yourself.

You can't (easily) save or load programs from the unit; and using data files is quite tedious: for example, you must

programmatically position the tape to the start of a file with the "find file" command before reading or writing to the file; and files have no names and there's no concept of a "directory", so you'd better make notes.

Still, it's an interesting little bit of HP history, and the only one I've ever seen. $150 well spent.

Edited: 2 Nov 2011, 5:58 p.m.

Re: Interesting find: HP 9875A dual cassette drive

*Message #2 Posted by **Eric Smith** on 2 Nov 2011, 8:32 p.m.,*
in response to message #1 by David Ramsey

Nice find!

What is the part number of the white ceramic chip? It is probably a HP proprietary microprocessor, and it is in the "SLAM" (Single Layer Alumina Metallized) package. This package was mostly used by HP, but Motorola used it for a short while for their DSP56000/DSP56001 DSP processors.

In the mid-1970s when this product was designed, there weren't any commonly available IC packages with more than 42 contacts. The SLAM package was developed to provide a larger number of contacts, as well as to package chips with higher power dissipation than could be accommodated by the more common plastic packages. By using a single metallization layer etched on the alumina substrate, it was a fairly inexpensive package to produce, compared to other high-contact-count ceramic packages of that time.

The industry generally went a different direction, with the JEDEC CLCC (Ceramic Leadless Chip Carrier) packages and ceramic pin grid arrays. Today ceramic packages are rarely seen in commercial products, with the notable exception of microprocessors for general purpose computing, where they are used due to power dissipation requirements of 50 to 145 watts.

The Motorola 56K DSP parts used a 100-contact SLAM package, but this one might have fewer contacts.

Edited: 2 Nov 2011, 8:33 p.m.

Re: Interesting find: HP 9875A dual cassette drive

*Message #3 Posted by **David Ramsey** on 2 Nov 2011, 10:05 p.m.,*
in response to message #2 by Eric Smith

Here ya go (in passing, the iPhone 4s camera is really quite good...)

Re: Interesting find: HP 9875A dual cassette drive

*Message #4 Posted by **Eric Smith** on 3 Nov 2011, 2:08 a.m.,*
in response to message #3 by David Ramsey

I was wrong, that isn't a microprocessor. I've seen that one before in other HP gear. It is a "CHI" HP-IB (IEEE-488) interface chip. Possibly a 48-contact SLAM package. It is probably NMOS. Given that it doesn't even include the bus buffers, it seems unlikely that it would draw more than 150mA at 5V, so the reason for use of the SLAM package must be the contact count rather than power dissipation.

Re: Interesting find: HP 9875A dual cassette drive

*Message #5 Posted by **Steve Leibson** on 5 Nov 2011, 7:22 p.m.,*
in response to message #4 by Eric Smith

You're sure that's a CHI chip? Given the vintage, I would have thought it was a PHI (Processor-to-HPIB Interface) chip made with HP's proprietary silicon-on-sapphire process technology for high speed and low power.

That package was first used in the HP 9835A/B for the language-ROM drawer and to expand the capacity of the front option-ROM drawers. In those days, the option ROMs were high-margin products so finding a way of putting four different option ROMs in each ROM drawer was akin to printing money.

I used the same package, but with a pc-board substrate for the laser-trimmed precision-resistor networks in the never-produced HP 98037A Analog I/O card (http://www.hp9825.com/html/analog_i_o.html) for the HP 98x5A/B desktop computers. It was a good way to get a high-density, pluggable component in those days.

Re: Interesting find: HP 9875A dual cassette drive

*Message #6 Posted by **Eric Smith** on 5 Nov 2011, 11:32 p.m.,*
in response to message #5 by Steve Leibson

The service manual for another HP product (I forget which one), referred to that part number as a CHI. It didn't give the expansion of the abbreviation. Maybe "Computer to HPIB Interface"?

Certainly functionally it is a processor to HPIB interface.

I thought HP started using SOS in the late 1970s. Were they really using it around 1975?

Regarding the ROM package, I imagine that you must be talking about the rectangular package with holes for the contacts? I've never seen ROMs packaged in the square SLAM package like the HPIB interface chip.

Re: Interesting find: HP 9875A dual cassette drive

*Message #7 Posted by **Steve Leibson** on 6 Nov 2011, 9:00 p.m.,*
in response to message #6 by Eric Smith

The first HP Journal mentioning silicon on sapphire at HP is the July 1978 issue. (http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1978-07.pdf) That article references another HP article about silicon on sapphire dating back to April, 1977. There's also an HP ad you can Google up from November, 1977 that talks about the PHI chip and silicon on sapphire. That article says that the HP silicon-on-sapphire program dates back five years from the end of November 1977 or some time in 1972.

The HP 9875A tape drive doesn't date back to 1975. It came later, as evidenced by the use of the Tape Controller chip (TACO) that was designed for the HP 9845A. (http://www.hp9845.net/9845/hardware/processors/ and scroll down) I'm pretty darn sure that The HP 9825A (introduced in 1976) used discrete electronics and TTL chips for its tape controller. The NMOS TACO came later. According to the HP Computer Museum, the intro date for the HP 9875A was 1978, so that is the same time period as the HP Journal article. Also, the HP 98034A HPIB interface card for the HP 9825A was based on HP's NMOS Nanoprocessor (as was the 98035A Real Time Clock card and the 9885A floppy drive) because there was no HPIB chip available during development of that I/O card.

All of which doesn't prove that the chip in the HP 9875A is a PHI. It does prove that HP's silicon-on-sapphire chips existed in the proper time period to go into the HP 9875A. My

hazy memory recalls hearing a lot about the PHI chip and nothing about the CHI chip at the Desktop Computer Division. I didn't use any of the HPIB chips for my design work at HP. Didn't need to.

As for the ROM in the HP 9875A, indeed I was referring to the ceramic package with the holes. The other ceramic package in the clips which you call SLAM (never heard that term, but sounds good) is clearly the HPIB chip. That's how the PHI was packaged. I don't know about the CHI chip.

Edited: 6 Nov 2011, 9:15 p.m.

Re: Interesting find: HP 9875A dual cassette drive

*Message #8 Posted by **Eric Smith** on 7 Nov 2011, 3:44 p.m.,*
in response to message #7 by Steve Leibson

Is there any published information on the Nanoprocessor?

Nanoprocessor

*Message #9 Posted by **Steve Leibson** on 7 Nov 2011, 5:43 p.m.,*
in response to message #8 by Eric Smith

As far as I know Eric, details of the Nanoprocessor were never published. There was no external development system available for it, so there was little reason to publish that info.

Re: Interesting find: HP 9875A dual cassette drive

*Message #10 Posted by **Jim Horn** on 7 Nov 2011, 5:51 p.m.,*
in response to message #8 by Eric Smith

Eric, I don't know if he actually did but I was told while I worked at HP's Santa Rosa Instrument Division with Larry Bower and Dyke Shaffer that Larry was responsible for the Nanoprocessor. He's long since left HP and now has Larry Bower Engineering in Santa Rosa. Details are via Google. He may have more info on it. Dyke may be a good source as well, having done much of the work on the 9825 and its peripherals (as well as the serialized HP-IB known as RIB: Redwood Interface Bus, but that's another story). Dyke can be found on LinkedIn. Both are tremendous engineers!

A tiny version of the nanoprocessor was used in the Logic Pulser probe back then, too...

Re: Interesting find: HP 9875A dual cassette drive

*Message #11 Posted by **Craig Ruff** on 7 Nov 2011, 11:46 p.m.,*
in response to message #10 by Jim Horn

The HP9825.COM web site has some pages that talk about using the nanoprocessor in the interface cards for the HP98x5 desktops.

Nanoprocessor

*Message #12 Posted by **Steve Leibson** on 8 Nov 2011, 9:48 a.m.,*

in response to message #11 by Craig Ruff

Uh, the HP9825.com site is mine. There's a discussion of the use of the Nanoprocessor in HP 9825A I/O cards on the site but not the internals of the chip. It's more of a sequencer than an actual microprocessor (hence the name). The page I referenced on HP9845.net (http://www.hp9845.net/9845/hardware/processors/) has a pinout for the processor about four-fifths of the way down the page, derived I think from the complete product-level schematic in the back of the HP 98034A HPIB I/O card manual. Oh for the simple days when we could actually include schematics in the back of a manual and they'd be useful.

OT: 9825 Memories

*Message #13 Posted by **Craig Ruff** on 8 Nov 2011, 6:39 p.m.,*
in response to message #12 by Steve Leibson

Steve, thanks for your great site about the 9825, which I found after a nostalgic search a while back. I have very fond memories of using a 9825T at my college work study job in a chemistry lab to manage experiments, perform data collection and post analysis from various analytical instruments, as well as other non-work related tasks. We produced crude hidden line 3D plots of geometric shapes for fun, and even on topic for this forum, plotting 41C barcode on a 9872C. I also used it as a dial up terminal for CS class assignments with a 9871 printer. Those memories prompted me to acquire two each of the 9825T and 9872C to play with in the future. Now all I need is to find a 9895 ROM so I can have some real storage!

Edited: 8 Nov 2011, 6:40 p.m.

Re: Interesting find: HP 9875A dual cassette drive

*Message #14 Posted by **Eric Smith** on 3 Nov 2011, 2:26 a.m.,*
in response to message #3 by David Ramsey

I just found the service manual on hpmuseum.net. It lists the HP-IB interface chip as a 1AA7-6001, so apparently some revision was made to the chip during the production life of the product.

Could you also post a closeup of the 40-pin chip with the heat sink on and the funny rectangular chip near it? They are near the edge connector. The service manual lists the processor as an 1818-2500 "Binary Processor Chip" in a ceramic DIP, but doesn't show a heat sink on it. The BPC is one of the chips used in the processor hybrid of the 9825/35/45, and does draw a lot of current, so I'm not surprised that they decided to heat-sink it.

The funny rectangular part is the ROM, which the service manual lists as P/N 1818-2814. It's a 64K ROM, probably 4K*16 of the same type used in the 98x5.

There's another HP custom chip with a heat sink on the "tape control and power" board, the 5061-3012 "Tape Control Chip". I expect this is probably the same chip used for tape control in the 98x5.

Thanks! Eric

Re: Interesting find: HP 9875A dual cassette drive

*Message #15 Posted by **David Ramsey** on 3 Nov 2011, 12:34 p.m.,*
in response to message #14 by Eric Smith

Here you go:

I gotta admit, I've never seen anything quite like that white chip!

Re: Interesting find: HP 9875A dual cassette drive

*Message #16 Posted by **Rik Bos** on 3 Nov 2011, 3:41 p.m.,*
in response to message #15 by David Ramsey

It's a ROM chip, HP also used those for the firmware chips of the HP 9835A/B.

-Rik

Re: Interesting find: HP 9875A dual cassette drive

*Message #17 Posted by **Eric Smith** on 3 Nov 2011, 6:59 p.m.,*
in response to message #16 by Rik Bos

In the 98x5 computers, the ROMs were packaged that way both because the 28-pin DIP wasn't yet an established standard, and for compactness. Essentially the same reason as for the SLAM package for the CHI part.

In the 9875A, there would have been enough room for a 28-pin DIP if it had existed, but I'm sure it was easier to stick with packaging all of their ROMs in the same way.

If I remember correctly, though, the 9872 series plotters did not use ROMs in that same package, even though it used the same processor.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happy Birthday HP9810A

*Message #1 Posted by **Achim (Germany)** on 2 Nov 2011, 4:38 p.m.*

The day is near to celebrate the 40th birthday of the HP9810A. The first machines where produced in late 1971. One of my 9810s (I have 3 working and one waiting fo repair) may be one of the oldest produced in Boeblingen, Germany. It has the serial 1147G00560 which qualifies it as one of the first series. The ICs inside have datecodes between 7045 and 7144. The seal on the memory cage has a hand written date 7.2.72 (7th of feb. 1972), obviously written by a HP service man (the famous KG., whoever that may have been) when the machine was delivered to the customer, my school. So the machine must have been assembled somewhen between November 1971 and January 1972. I'm curious if someone has an older 9810. I was able to buy that machine some years ago from my old school.

On that very machine I wrote my first program ever in 1973, which solves a highly complex mathematical problem: calculating the binomial products of two numbers entered by the user. The program was coded with a pencil on marked cards and could be entered into the calc by the 9860A card reader.

My contribution to the birthday is the latest release 1.50 of my HP9800 emulator, which may be found on www.sourceforge.net/projects/hp9800e. It will propably be the final release since after nearly five years I finished the family of series 9800 calculators with the HP9821A. After a long quest I came by the original 9821 system ROMs and read them out for use in the emulator.

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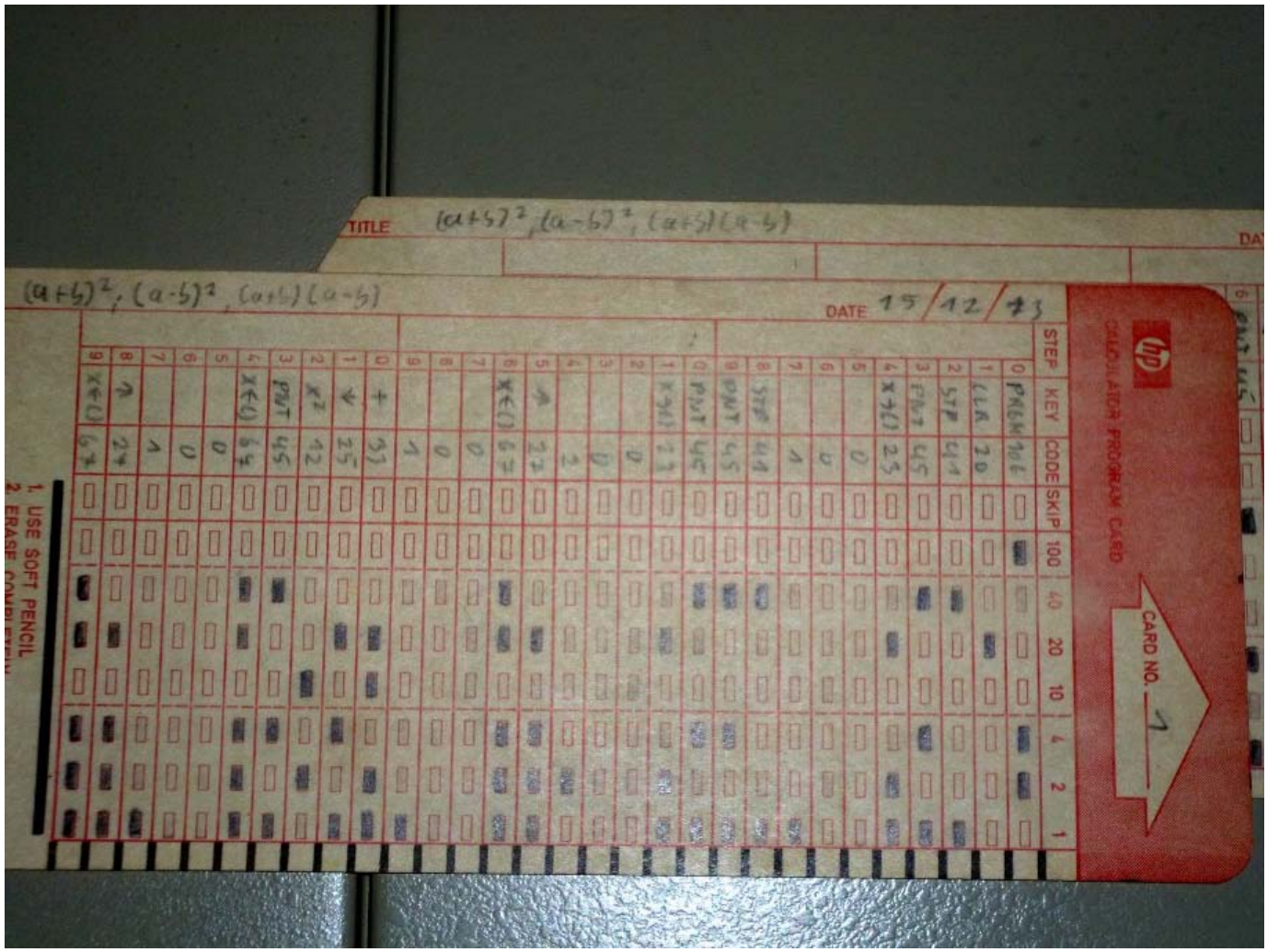


Re: Happy Birthday HP9810A
*Message #2 Posted by **hpnut** on 2 Nov 2011, 6:13 p.m.,*
in response to message #1 by Achim (Germany)

thanks for sharing this beautiful machine. I didn't know HP desktop calculators were made in Germany.

hpnut in Malaysia

Re: Happy Birthday HP9810A
*Message #3 Posted by **Lincoln R.** on 2 Nov 2011, 10:04 p.m.,*
in response to message #2 by hpnut

HP once did some test equipment manufacturing in Germany. I suspect a lot of it had to do with not shipping heavy things like metal casework and transformers (Although Carnegie Mellon has a lot of 80s HP function generators that were "Made in the Federal Republic of Germany").

Re: Happy Birthday HP9810A
*Message #4 Posted by **Katie Wasserman** on 2 Nov 2011, 8:00 p.m.,*
in response to message #1 by Achim (Germany)

Very nice.

The 9810A that I have was also made in Germany, with a serial number of: 1410G02081. So HP was producing the 9810 in Germany for at least a couple of years. I bought it from someone in the Netherlands about 10 years ago and paid to ship it to the US. It needed work to rebuild the card reader and printer and a new power switch but it's still working.

-Katie

Re: Happy Birthday HP9810A
*Message #5 Posted by **qgrdne** on 3 Nov 2011, 9:42 a.m.,*
in response to message #4 by Katie Wasserman

The emulators are very impressive. But it is very difficult to read the key-labels. The images are just too small. For example I've start the 'HP9820A.cmd' and I cannot read the keys's and labels on and above the keys on the part with 1, 2 and 3 (left side of the emulator). Is it possible to use bigger images for the calculators so that it's easier to sea what's on and above the labels? J.Groenendijk

Re: Happy Birthday HP9810A

*Message #6 Posted by **Achim (Germany)** on 3 Nov 2011, 3:24 p.m.,*
in response to message #5 by qgrdne

Yes, I know of this issue. The image resolution is a compromise to all possible display sizes down to 1024x768. If I would rise the resolution the window would'n fit on such a display. On the other hand the resolution is optimized to match with the size of the LED display and printer output. Printer dots are 1x1 pixel and the 9810 LED segments are 1 px wide. Here the next possible step would be to double the dot size (from 1x1 to 2x2). Consequently the keyboard would have to be 2000px wide, which fits on neary no display.

Re: Happy Birthday HP9810A

*Message #7 Posted by **Achim (Germany)** on 3 Nov 2011, 3:12 p.m.,*
in response to message #4 by Katie Wasserman

My 9810 with highest serial has 1410G02889. The IC date codes range from 7335 to 7648, so it was propably manufactured in late 1976.

The HP factory in Boeblingen exists since 1959 and they produced besides the desktop calculators HP workstions (series 9000) and unix servers.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s: UP and Down key in program mode

*Message #1 Posted by **Miguel Toro** on 2 Nov 2011, 10:21 a.m.*

Hi,

Using version 2.2 rev. 1782, I see that in program mode, when I keep the up key pressed, the calculator does a fast up-scroll through the steps of a program, but if do the same with the Down key, I just get a NULL and nothing else happens, so think is a little inconsistent. Is that the intended behaviour?

Thanks,

Miguel

Re: WP 34s: UP and Down key in program mode

*Message #2 Posted by **Dominic Richens** on 2 Nov 2011, 12:29 p.m.,*
in response to message #1 by Miguel Toro

the keys.c code to handle SST versus BST is different:

```
                case STATE_SST:
                        xeq_sst_bst(0);
                        OpCode = c;
                        OpCodeDisplayPending = 0;
                        break;
                case STATE_BST:
                        xeq_sst_bst(-1);
                        break;
```

stepping works properly if those OpCode* lines are removed, or at least if OpCode is set to 0 on STATE_SST - not sure why those lines are there, though.

Edited: 2 Nov 2011, 12:29 p.m.

Re: WP 34s: UP and Down key in program mode

*Message #3 Posted by **Marcus von Cube, Germany** on 2 Nov 2011, 4:12 p.m.,*
in response to message #2 by Dominic Richens

I changed this because I think it's a good idea to be able to NULL a command that is selected via SST. You see the command before it is executed and holding the key longer cancels it. This is, of course, incompatible with the autorepeat feature. The latter is therefore disabled for SST.

EDIT: In program mode, autorepeat should work. I've to check this.

Edited: 2 Nov 2011, 4:16 p.m.

Re: WP 34s: UP and Down key in program mode

*Message #4 Posted by **Walter B** on 2 Nov 2011, 4:35 p.m.,*

in response to message #3 by Marcus von Cube, Germany

Please look here.

Re: WP 34s: UP and Down key in program mode

*Message #5 Posted by **Walter B** on 2 Nov 2011, 4:06 p.m.,*
in response to message #1 by Miguel Toro

Both directions should work symmetrically. What you observed is *not* the intended behaviour.

Re: WP 34s: UP and Down key in program mode

*Message #6 Posted by **Marcus von Cube, Germany** on 2 Nov 2011, 4:41 p.m.,*
in response to message #5 by Walter B

Yes, but only in program mode. I found the error. It's not in the keyboard handler but in xeq_bst_sst(). It will be fixed in an upcoming release.

In run mode, SST and BST are not symmetrical by design: A SST executes the instruction while BST only displays it. So autorepeat is fine for BST but for SST, NULLing makes more sense.

Edit: Fixed and committed but the present release is unstable so please be patient!

Edited: 2 Nov 2011, 4:58 p.m.

Re: WP 34s: UP and Down key in program mode

*Message #7 Posted by **Cristian Arezzini** on 3 Nov 2011, 12:41 a.m.,*
in response to message #6 by Marcus von Cube, Germany

I used to be able to reflash the calc without losing data - a "Backup to flash" would leave me with a calc displaying "Restored" after flash. Now it's very common that after flashing I get "Erased" and I have to transfer my programs again. Should I stop updating for a while until things "settle down" a little?

Cristian

Re: WP 34s: UP and Down key in program mode

*Message #8 Posted by **Walter B** on 3 Nov 2011, 3:18 a.m.,*
in response to message #7 by Cristian Arezzini

v2.3 is pretty much a playground (or construction site) for new stuff to come with v3.0. Thus we closed v2.2.

Re: WP 34s: UP and Down key in program mode

*Message #9 Posted by **Jeff O.** on 3 Nov 2011, 8:47 a.m.,*
in response to message #8 by Walter B

Which revision number is the final 2.2? Is it considered stable?

Re: WP 34s: UP and Down key in program mode

*Message #10 Posted by **Marcus von Cube, Germany** on 3 Nov 2011, 9:05 a.m.,*

in response to message #9 by Jeff O.

I've put up a V2.2 earlier as a release package. This should work even with some minor problems left.

Re: WP 34s: UP and Down key in program mode

*Message #11 Posted by **fhub** on 3 Nov 2011, 9:58 a.m.,*
in response to message #9 by Jeff O.

> Quote:
>
> Which revision number is the final 2.2? Is it considered stable?

I have SVN1797 as lastest (stable) 2.2 version.
After that Marcus introduced these new feature like LOCL, adresses with ".nnn" etc...

Franz

Re: WP 34s: UP and Down key in program mode

*Message #12 Posted by **Jeff O.** on 3 Nov 2011, 12:31 p.m.,*
in response to message #11 by fhub

Thanks.
The version in the release package is "only" 1790. I'd hate to miss out on any improvements.

For what it is worth, through trial and error I determined that rev. 1805 is the last one identified as 2.2, with rev. 1806 and later being 2.3.

Re: WP 34s: UP and Down key in program mode

*Message #13 Posted by **fhub** on 3 Nov 2011, 12:43 p.m.,*
in response to message #12 by Jeff O.

> Quote:
>
> For what it is worth, through trial and error I determined that rev. 1805 is the last one identified as 2.2, with rev. 1806 and later being 2.3.

Yes, but a few versions after 1797 (where some new features were implemented) didn't work correctly here - I couldn't even load flash files compiled with the assembler. So I don't think it's a good idea to use these SVNs.

Re: WP 34s: UP and Down key in program mode

*Message #14 Posted by **Marcus von Cube, Germany** on 3 Nov 2011, 2:34 p.m.,*
in response to message #12 by Jeff O.

1805 isn't very stable. Stick to an older release!

The current build is starting to get stable with all the new bells and whistles but with a slightly modified layout. The medium emulator skin is adapted (select option 4).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emu42 for IoS / Android

*Message #1 Posted by **Vincent Weber** on 2 Nov 2011, 8:45 a.m.*

Hi all, (and especially Christoph, if you are reading ;))

Emu42 is a wonderful program, but as far as pocketability is concerned it only runs on an outdated platform (Windows Mobile). Today, most PDAs/Phones you can buy are either Android or Ios-based...

Would you consider porting Emu42 to one of or both these platforms ? Both support C++ programming (unlike Windows Phone 7 which is supposed to be a Windows Mobile successor but only supports F# or C# !). So My guess is that the porting effort, while non trivial, would ne require a complete rewrite.

Of course you could not include the ROMS. On Android it is pretty easy to transfer them (if you own them) from your PC to your mobile device; on IoS it is more complicated, you need to fetch them from within the application, but it is not impossible to do - Marcus has done it for m48+ ! :)

That would be sooo nice to enjoy this accurate emulator on a "modern" portable device... please.... :)

Thanks and regards,

Vincent

Re: Emu42 for IoS / Android

*Message #2 Posted by **NateB** on 2 Nov 2011, 9:12 a.m.,*
in response to message #1 by Vincent Weber

While waiting for the port you can use Free42.

Edited: 2 Nov 2011, 9:12 a.m.

Re: Emu42 for IoS / Android

*Message #3 Posted by **Vincent Weber** on 2 Nov 2011, 9:15 a.m.,*
in response to message #2 by NateB

I have been a faithful user of Free42 since 2004, on PalmOs, Windows Mobile, Iphone and Android :) While I really love it, it is not a replacement for the 27S/17BII/28S that Emu42 emulates. Also, there are some situations where it is nice to have the real emulator, to compare tricky behaviour for instance.

Re: Emu42 for IoS / Android

*Message #4 Posted by **Egan Ford** on 2 Nov 2011, 10:52 a.m.,*
in response to message #1 by Vincent Weber

EMU48 was ported to iOS and the source per the GPL is available. So the hard bits (UI) are done and can be used for EMU42, (and 71 :-).

Another thought is to use Javascript. Javascript emulators are very impressive. I can boot x86 Linux on my iOS devices in Safari.

Javascript versions of EMU* could run on any platform. Tools like Enscripten can take LLVM C binaries and convert to JS. This may speed up development.

Re: Emu42 for IoS / Android

*Message #5 Posted by **Christoph Giesselink** on 2 Nov 2011, 4:42 p.m.,*
in response to message #1 by Vincent Weber

As you know my Emu development is a non commercial business, so I have no income from the published software. Everything I need for the development I have to pay for.

In past I developt programs and features I want to have and published these to the public. So I bought a Windows Mobile device in 2004 for personal use, and found Emu48CE unuseable. So it was my decision to make a new port base on the actual Emu48 Win32 sources. Because it was easier to do, in fact Emu42 PPC was my first Mobile port.

2nd I have carefully watch about my free time. The last two years were extremly stressing: ILPer port, Virtual HP-IL, Emu71/Win, HP82240B printer simulation and integration into the Emu's. Especially this point is responsible that I ignore most feature wishes on the emulators.

I recently got another request about a "Single Instance" option, I decided now it's time to do it. Forthcoming versions will have this feature, but yesterday I spent about 3 hours to make a new Settings dialog design on Emu48. The current one growed massive in height, so I had to make sure that the dialog still fit on a 800x600 (netbook) screen.

Especially the iOS port m48 which base on Emu48PPC brought me to some sleepless nights. Apple's strong restrictions in regards to redistribution breaking the GPL! So I was asked why I, as one of the copyright owners, don't deny further distribution?

There are other copyright holders which also can deny further distribution.

I'm also not glad about that you only get the sources of m48 from the author when you "buy" the App over iTunes.

In respect to the users who are looking for such a program on iOS I decided to hold the Status Quo.

In fact the emulators Emu28, Emu42, Emu48, Emu71 and also m48 (!!!) are published under the GPL. So you have the rights to use the sources to make an own application also published under the GPL.

Maybe there will a time that I buy a new Mobile device and that I'm interested to run some of my emulators on this device, maybe than I think about porting. But be sure, at the moment it will definitely not be an iOS or Win Mobile >= 7 device. It must be a system where the manufacturer accept that I'm the owner of the device and want to run every software I want.

Regards

Christoph

Re: Emu42 for IoS / Android

*Message #6 Posted by **Vincent Weber** on 2 Nov 2011, 5:02 p.m.,*
in response to message #5 by Christoph Giesselink

Hi Christoph,

I fully understand your view on ios.

Could Android qualify as the open system you are looking for ?

Thanks and regards,

Vincent

Re: Emu42 for IoS / Android

*Message #7 Posted by **Christoph Giesselink** on 3 Nov 2011, 5:43 p.m.,*
in response to message #6 by Vincent Weber

Let me say it like a politician: "If a closer look into licence details satisfy, Android maybe a system which is worth to think about it." ;-)

Christoph

Re: Emu42 for IoS / Android

*Message #8 Posted by **Nick_S** on 4 Nov 2011, 3:33 a.m.,*
in response to message #7 by Christoph Giesselink

Well, running Emu42 with an HP28S ROM on Android, would be my ideal mobile platform (no more floppy hinges or fragile battery doors to worry about). The Android application model certainly seems more oriented to open software standards. I gather that the Android operating system is itself open-source.

Nick

Edited: 4 Nov 2011, 3:39 a.m.

Re: Emu42 for IoS / Android

*Message #9 Posted by **Egan Ford** on 2 Nov 2011, 5:10 p.m.,*
in response to message #5 by Christoph Giesselink

Personally I'd rather you continue to work on the emulators. You made them open source and I thank you for that. If others want other platform support then they can contribute that back to you.

Thanks again.

Re: Emu42 for IoS / Android

*Message #10 Posted by **Howard Owen** on 2 Nov 2011, 8:52 p.m.,*
in response to message #9 by Egan Ford

Ditto what Egan said.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s - Maybe dumb question

*Message #1 Posted by **John Abbott (S. Africa)** on 2 Nov 2011, 6:13 a.m.*

I am writing a program for the 34s, and registers I, J and K store Matrix descriptors.
Within the program I call the vector routine V.V, which then overwrites I & J and the stack, as explained.
So, prior to calling the vector routine, I do a SAVE and later a RCF.RG to restore registers (I, J & K)and stack.
The problem is I need the result from V.V on the stack but the RCF.RG overwrites this, and I can't seem to find a solution to retrieve this value.
Is there a possible way which I am overlooking. Any comments will be appreciated.
Thanks John

Re: wp34s - Maybe dumb question

*Message #2 Posted by **Paul Dale** on 2 Nov 2011, 6:19 a.m.,*
in response to message #1 by John Abbott (S. Africa)

Don't don't don't don't don't call SAVE from a program that is frequently executed. You will destroy the flash in the device :-(Flash has a limited number of write cycles and one is used each time SAVE is executed.

That said, RCF can be used to recall the individual registers you want. Better would be to not use I & J in your code.

Even beter would be to take the V.V routine and remove the stores to I and J:

```
001 ***LBL'V.V'
002 [cmplx]R[v]
003 RCL[times] T
004 R[^]
005 RCL[times] T
006 +
007 R[^]
008 ENTER[^]
009 RCL[times] T
010 RCL+ Z
011 STO Z
012 DROP
013 STO L
014 DROP
015 RTN
```

- Pauli

Edited: 2 Nov 2011, 6:19 a.m.

Re: wp34s - Maybe dumb question

*Message #3 Posted by **John Abbott (S. Africa)** on 2 Nov 2011, 6:41 a.m.,*
in response to message #2 by Paul Dale

Arrrgh... Thanks Pauli, sometimes one can't see the wood for the trees.
I never even thought about removing the stores to I & J - Thanks. Also never gave the multiple writing to flash a thought(that's dumb..)

Something I haven't got figured out yet, - is RCF used to call registers in flash after a save or is there another use?
Thanks again Pauli

Re: wp34s - Maybe dumb question

*Message #4 Posted by **Paul Dale** on 2 Nov 2011, 6:46 a.m.,*
in response to message #3 by John Abbott (S. Africa)

RCF and the arithmetic versions allow you to directly access the saved registers in the backup flash region. No other use.

- Pauli

Re: wp34s - Maybe dumb question

*Message #5 Posted by **Marcus von Cube, Germany** on 2 Nov 2011, 9:59 a.m.,*
in response to message #4 by Paul Dale

If we run out of space we may even get rid of those. I'm working on a scheme that allows to have more data in RAM and it should then be easy to just copy the backup registers over to temporary storage for easy access.

Re: wp34s - Maybe dumb question

*Message #6 Posted by **John Abbott (S. Africa)** on 2 Nov 2011, 10:31 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Thanks Marcus, that would be really useful.
John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Auction Disaster

*Message #1 Posted by **Nick Taylor** on 2 Nov 2011, 5:11 a.m.*

I've been after a HP-71B for quite some time. One appeared on EBay here in the UK recently and I managed to win it.

I paid the money immediately via PayPal and began to get excited. Soon, I would have one!

After about 5 minutes, I received an email from PayPal stating that my money had been refunded. A feeling of dread began in the pit of my stomach.

A few minutes later, I received an email from the seller saying that he had managed to tread on the calculator in the dark, and had smashed it!

Is it safe to assume that this hasn't happened to anyone else?!

My search for a HP-71B continues. Hopefully from a less clumsy seller in future.

My girlfriend doesn't really understand why I'm so disappointed, but I know you all will.

Regards

Nick

Re: Auction Disaster

*Message #2 Posted by **Paul Dale** on 2 Nov 2011, 5:39 a.m.,*
in response to message #1 by Nick Taylor

I've got a spare if you are interested....

- Pauli

Re: Auction Disaster

*Message #3 Posted by **Dave Shaffer (Arizona)** on 2 Nov 2011, 1:28 p.m.,*
in response to message #2 by Paul Dale

Girl friend or calculator?!

Re: Auction Disaster

*Message #4 Posted by **Nick Taylor** on 3 Nov 2011, 7:19 a.m.,*
in response to message #2 by Paul Dale

Quote:

> I've got a spare if you are interested....
>
> - Pauli

Pauli has kindly sold me one of his! The calculator, I think...

Edited: 3 Nov 2011, 7:21 a.m.

Re: Auction Disaster

*Message #5 Posted by **Bart (UK)** on 2 Nov 2011, 6:02 a.m.,*
in response to message #1 by Nick Taylor

I have had similar incidents with several calculators (at least 3 that I recall off the top of my head). One I think was genuine - he sent the manuals for no charge. Others I think are just an excuse as they wanted a higher price.

Re: Auction Disaster

*Message #6 Posted by **Paul Gaster** on 2 Nov 2011, 12:53 p.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Others I think are just an excuse as they wanted a higher price.

You are probably correct.

Nick, if I were you I would watch the seller's items for sale for a while. Of course if this person puts it up for sale again I doubt even a complaint to ebay would make the guy sell it to you at the previous final auction price.

Re: Auction Disaster

*Message #7 Posted by **Maximilian Hohmann** on 2 Nov 2011, 2:44 p.m.,*
in response to message #6 by Paul Gaster

Hello!

> Quote:
>
> Of course if this person puts it up for sale again I doubt even a complaint to ebay would make the guy sell it to you at the previous final auction price.

He will certainly come up with some kind of excuse like "I was able to repair it, the damage was not as bad as I initially thought". Almost impossible to prove the contrary, eBay won't help either as you already got your money back.

But don't worry, 71s are not really rare. With a little patience you will soon find another one. I have three or four (I buy them mainly for the modules) and will sell you one if nothing else helps!

Good luck, max

Re: Auction Disaster

*Message #8 Posted by **Nick Taylor** on 3 Nov 2011, 12:26 p.m.,*
in response to message #7 by Maximilian Hohmann

Well, you were right - it has been relisted:

Relisted Item

However, it's marked as not working, so maybe he was telling the truth?

That said, he did tell me it was "smashed" rather than it won't turn on.

He had offered it to me for £5. Should I have accepted?

Edited: 3 Nov 2011, 12:28 p.m.

Re: Auction Disaster

*Message #9 Posted by **robert rozee** on 3 Nov 2011, 12:45 p.m.,*
in response to message #8 by Nick Taylor

> Quote:
>
> He had offered it to me for £5. Should I have accepted?

ummm... YES!! even for just the plastic components (port covers, etc) that was a very reasonable price - assuming postage to get it to where you are isn't too high.

Re: Auction Disaster

*Message #10 Posted by **Bart (UK)** on 3 Nov 2011, 4:36 p.m.,*
in response to message #8 by Nick Taylor

> Quote:
>
> He had offered it to me for £5.

Something you hadn't mentioned in your first post ;-) (maybe because you hadn't received the offer yet).

He's used the same photo. Maybe he hadn't actually tested it before the first listing, and was too embarassed to admit it when he tried to test it before posting it off to you.

And yes, always good idea to get cheap spares when you can.

Re: Auction Disaster

*Message #11 Posted by **Nick Taylor** on 3 Nov 2011, 5:19 p.m.,*
in response to message #10 by Bart (UK)

To be honest, it was in his email, but his English was so garbled that I missed it!

I'll try and get it for £5 as the general consensus is that it would be a good idea.

Sorry for all the questions - I'm very new at this, and clearly have a lot to learn!

Thanks for all the patient advice. This is a fascinating forum, and it's good to know that I'm not the only one who thinks these old machines have an almost magical charm about them.

Re: Auction Disaster

*Message #12 Posted by **Johnny Bjoern Rasmussen** on 3 Nov 2011, 7:29 a.m.,*
in response to message #1 by Nick Taylor

Hi Nick
I think I can dust up a spare HP-71B. It is not mint at all but will satisfy your need for the calculator for a while. I will like to trade for some other vintage electronics.

Cheers!
Johnny

Re: Auction Disaster

*Message #13 Posted by **Nick Taylor** on 3 Nov 2011, 8:57 a.m.,*
in response to message #12 by Johnny Bjoern Rasmussen

Many thanks Maximillian and Johnny, but Pauli has very kindly agreed to sell me one of his.

I'm still looking for that Forth/Assembler Module though if you have one going spare?

Johnny - I don't have much of a collection really. Certainly nothing in comparison to yours. The only spares I have are: HP-12C (USA), HP-12C (Singapore) and an HP-97 for parts, which I use to keep my favourite desk-calculator working.

Re: Auction Disaster

*Message #14 Posted by **Maximilian Hohmann** on 3 Nov 2011, 4:37 p.m.,*
in response to message #13 by Nick Taylor

Hi!

> Quote:
>
> I'm still looking for that Forth/Assembler Module though if you have one going spare?

Unfortunately, I have only one of those... But if you ever come across a 71 that "won't turn on" it is always worth buying (if cheap enough), as some of them require a couple of seconds of pressing the ON key to come alive!

Regards, max

Re: Auction Disaster

*Message #15 Posted by **Bart (UK)** on 4 Nov 2011, 6:57 a.m.,*
in response to message #14 by Maximilian Hohmann

> Quote:

... as some of them require a couple of seconds of pressing the ON key to come alive!

Ah, that happens more often then? That did puzzle me when I first got mine a few months ago. I had been meaning to ask this forum, but hadn't gotten around to it yet. Thanks for mentioning it :-)

Re: Auction Disaster

*Message #16 Posted by **Paul Dale** on 4 Nov 2011, 7:40 a.m.,*
in response to message #15 by Bart (UK)

Is it having an HP IL module without cables?

- Pauli

Re: Auction Disaster

*Message #17 Posted by **Bart (UK)** on 4 Nov 2011, 8:14 a.m.,*
in response to message #16 by Paul Dale

Yes, is it looking for something to communicate with?

Re: Auction Disaster

*Message #18 Posted by **Nick Taylor** on 4 Nov 2011, 8:44 a.m.,*
in response to message #17 by Bart (UK)

Well I took your advice and have bought it for £5.

I don't think it has an IL module in it though, so maybe the reason that it's not turning on is that it is broken.

Still, at least I have some spare parts now if Pauli's one ever fails me!

Re: Auction Disaster

*Message #19 Posted by **Bart (UK)** on 4 Nov 2011, 8:50 a.m.,*
in response to message #18 by Nick Taylor

I noticed he had ended the auction. I think £5 is well worth it, even for parts.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41-CX with 'Creeping LCD Disease'

*Message #1 Posted by **Tim C** on 2 Nov 2011, 1:43 a.m.*

After 20+ years of flawless service, my 41CX is fading fast on me.

The top portion of the LCD is turning black, like as if someone spilled ink inside.

I see many 41C and 41CV's with Fullnut LCD's available with corroded battery terminals and such for parts but working LCDs and my question is, is there anyway to transplant my in-perfect-health 41CX guts into one of those Fullnut housings and use its LCD?

I've already contacted the HP repair houses and been told the Halfnuts are not repairable, but what about a transplant? Everything on my CX is in fine condition (battery terminals, module sockets, keyboard etc) and my Memory and Advantage modules work 100%, just the display is toast.

I'd hate to lose my trusted partner over this tragic 'Creeping LCD Disease'...

Re: 41-CX with 'Creeping LCD Disease'

*Message #2 Posted by **Paul Dale** on 2 Nov 2011, 3:12 a.m.,*
in response to message #1 by Tim C

The screen is dead :-(

RIP.

- Pauli

Re: 41-CX with 'Creeping LCD Disease'

*Message #3 Posted by **Raymond Del Tondo** on 2 Nov 2011, 4:12 a.m.,*
in response to message #1 by Tim C

The cheapest (and least effort) way is to get a replacement 41CX.
Due to the higher chip integration, halfnut displays are not replaceable as easy as the ones in the non-halfnuts.

HTH

Ray

Re: 41-CX with 'Creeping LCD Disease'

*Message #4 Posted by **Alexander Oestert** on 2 Nov 2011, 12:51 p.m.,*
in response to message #3 by Raymond Del Tondo

Unless the experts say otherwise, you may try to canibalize a C instead of a CX, because it should be cheaper and easier to obtain. I have exchanged keyboards between a C and a CV without problems.

Re: 41-CX with 'Creeping LCD Disease'

*Message #5 Posted by **Cristian Arezzini** on 2 Nov 2011, 7:08 a.m.,*
in response to message #1 by Tim C

Ouch. But what is that "disease" exactly? Are the two glass plates "separating" too much, or on the contrary, touching? A LCD screen is a relatively simple device, I've never understood why that thing happens. I've had a couple of nice watches and a calculator ruined by it...

Cristian

Re: 41-CX with 'Creeping LCD Disease'

*Message #6 Posted by **sylvandb** on 2 Nov 2011, 2:48 p.m.,*
in response to message #5 by Cristian Arezzini

> Quote:
>
> But what is that "disease" exactly?

Maybe an LCD expert can answer the question with some real details, but from my understanding the seal of the LCD has broken and either air is getting in or the 'liquid' is getting out.

In my experience it is most frequently caused by physical shock, but can also happen if the seal ages and either shrinks or becomes permeable. Sometimes it seems as if the seal might become less flexible and a shock that would have been no problem when new will 'break' an older LCD.

I have a CV with the same problem on the right end of the display after a drop onto that corner. The blackness is just touching the top of the 9th digit and are large part of both the bottom and top of the 10th and exponent digits. The unit also shuts off in about 10 seconds and has other problems as I've been swapping in 'worse' parts. But it still works and sits on my desk as my 'daily driver' scientific calculator. (contesting that position right now with the 15C LE).

Re: 41-CX with 'Creeping LCD Disease'

*Message #7 Posted by **Lyuka** on 2 Nov 2011, 2:54 p.m.,*
in response to message #5 by Cristian Arezzini

That problem may occur when the LCD had been kept under strong direct sunlight.

The heat from the sun can physically damage LCD unit.
The plastic polarize film absorb the heat ray effectively,
and the LCD unit can be deformed by heat.
The sealing of the liquid crystal can break down to cause leakage.

UV rays in direct sunlight can also cause the chemicals in the LCD to deteriorate.

Lyuka

Re: 41-CX with 'Creeping LCD Disease'

*Message #8 Posted by **Garth Wilson** on 2 Nov 2011, 5:37 p.m.,*
in response to message #5 by Cristian Arezzini

What I read 25 years ago is that UV will damage it like that (but I don't imagine that would be so localized), and that moisture and heat are enemies but especially the combination of the two. I had a cheap $2 stick-on LCD clock in a car from 1985 to 1992 though since the car's mechanical clock on the dashboard didn't work anymore, and although the car was always parked outdoors (including in the summer), the heat did not seem to affect it at all in those seven years. I seem to remember that on the hottest days it would turn dark, but then come back to normal after I got in and started to drive, cooling it off. There are wide-temperature LCDs that are made to operate at up to 70 degrees C and be stored at up to 85C. (Maybe they go further than that now-- I don't know.) I had a couple here in the office in the 1990's that I was testing for a product that got cancelled, and was testing it at the temperature extremes (including -55C which also did no damage).

Re: 41-CX with 'Creeping LCD Disease'

*Message #9 Posted by **Tim C** on 3 Nov 2011, 12:09 a.m.,*
in response to message #1 by Tim C

```
Well if I can't revive this one, is it possible to use the battery terminals from mine in
one of the units I see being sold with corroded ones?
I have a hard time buying a "working" 41-CX for well over $350.00
If fact I saw on E-Bay some person selling a CX plus a printer/card reader for Two Grand!!
Yikes, I hope no one buys it for that price...


This is sad, those people over-pricing us for old equipment we want/need and HP starving
us with unrealistically small releases of the 15-C
All the small release of the 15C did was create a market for people on EBay to jack up the
price on.


There's no love for us people that actually use these things to make a living...
```

Re: 41-CX with 'Creeping LCD Disease'

*Message #10 Posted by **Garth Wilson** on 3 Nov 2011, 12:41 a.m.,*
in response to message #9 by Tim C

> Quote:
>
> Well if I can't revive this one, is it possible to use the battery terminals from mine in one of the units I see being sold with corroded ones?

You can get a new flex circuit for the battery and module terminals at http://www.clonix41.org/Maintenance/IO_Block/IO_Block.htm

Re: 41-CX with 'Creeping LCD Disease'

*Message #11 Posted by **Lyuka** on 3 Nov 2011, 5:16 a.m.,*
in response to message #9 by Tim C

Hi Tim C,

I found a front panel of an HP-41C in my junk box yesterday, and its LCD seems OK.

If you have a chance to stop at Tokyo or Yokohama JAPAN, I can give it to you for free since I have no plan to use it forever (so far ;-).

Lyuka

Edited: 4 Nov 2011, 1:32 p.m.

Re: 41-CX with 'Creeping LCD Disease'

*Message #12 Posted by **Paul Berger (Canada)** on 3 Nov 2011, 7:32 a.m.,*
in response to message #9 by Tim C

Yes you could use the I/O and battery connector block in another 41 they are all the same. While damage to the battery connectors due to battery leaks seems to be a very common problem, my experience is that there is often other things wrong like broken posts.
To swap the display module in a halfnut you would need to remove the keyboard circuit board which is held in by about 40 heat stakes. The display module in the half nuts also contains ROMs, I looked inside my halfnut CV and compared the part number on the display with a picture of the inside of a halfnut CX on Diego Diaz's website http://www.clonix41.org/Maintenance/hp-41_PCBs.htm and the part number on the display module is different, this may indicate that the ROMs in the CV and CX versions are different. In the halfnut CX not all of the ROMs are in the display module, the CX has a sub board that contains the clock and possibly some of the extra ROMs. It may be possible to swap the glass part of the display if it is connected to the electronics by elastomer connectors like the connection between the electronics and the glass in a full nut, but this can be tricky and just getting to the display in a halfnut is already a big job.

Re: 41-CX with 'Creeping LCD Disease'

*Message #13 Posted by **Randy** on 3 Nov 2011, 1:55 p.m.,*
in response to message #12 by Paul Berger (Canada)

> Quote:
>
> Yes you could use the I/O and battery connector block in another 41 they are all the same. While damage to the battery connectors due to battery leaks seems to be a very common problem, my experience is that there is often other things wrong like broken posts...

Agreed. The simplest swap-out would be to find another halfnut CX with a damaged i/o block. With a halfnut, you'll avoid the more common post issues that can occur with fullnuts. IMO, circuitry of the halfnut is more robust due to lower parts count.

FWIW, the LCD failure mode is usually a failure of the glass to glass seal resulting in the loss of the liquid.

Edited: 4 Nov 2011, 7:46 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-01 Band and Crystal Questions

*Message #1 Posted by **Ron G.** on 1 Nov 2011, 9:49 p.m.*

I just got an 01 with a damaged band/bracelet. The uppermost link with a slot for removing lower links, is missing the spring and pin. Is there a way to remove this damaged, permanent link. The link above it doesn't have a slot for removal of this link.

Also, the crystal does not say Hewlett Packard on it, but all the pictures on the Museum (and TAS) do. This is a gold watch with dark keys, S/N 1707. Any ideas about this?

Many thanks.

Re: HP-01 Band and Crystal Questions

*Message #2 Posted by **Lincoln R.** on 2 Nov 2011, 1:39 a.m.,*
in response to message #1 by Ron G.

I think the Hewlett Packard lettering was printed on the crystal, I just saw one on TAS the other day that had the lettering wearing off. As for the band, I'd ask a reputable jeweler, they might be able to repair the link.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #1 Posted by **Christoph Giesselink** on 1 Nov 2011, 7:30 p.m.*

I just published an update of the ILPilbox (HP-IL Interface - PIL-Box Bridge) software to version 1.1 on my homepage at http://hp.giesselink.com.

It now should solve the problems with Emu71/Win as controller communicating with real devices over JFG's PIL-Box.

Christoph

Re: ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #2 Posted by **Frido Bohn** on 2 Nov 2011, 11:39 a.m.,*
in response to message #1 by Christoph Giesselink

Just tried it out in a setting with a HP71B/Emu - PilBox - 82162A Printer - HP71B/Flesh&Blood.
It works perfectly when the HP71B/Emu works as a controller while the HP71B/Flesh&Blood works as a device.
I was able to address the printer as well as the real HP71B as different devices in the loop.
Tried to do it the other way round with the HP71B/Emu as device and the real HP71B as controller, but unfortunately, it did not work. This was all in a Windows 7 /64 bit environment.

However, Christoph, thank you for your efforts and for sharing!
I will try to let the HP-IL loop work across different computers. Any suggestions with respect to the firewall? Should I drill some holes in the address space of interest?

Re: ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #3 Posted by **Christoph Giesselink** on 2 Nov 2011, 3:29 p.m.,*
in response to message #2 by Frido Bohn

> Quote:
>
> Tried to do it the other way round with the HP71B/Emu as device and the real HP71B as controller, but unfortunately, it did not work. This was all in a Windows 7 /64 bit environment.

In the HP71 IL-Module is a separate HP-IL processor which is only simulated. The IL processor simulation was written by JFG for his Emu71/DOS. JFG gave me the permission to use his HP-IL processor simulation sources inside Emu71/Win. So the HP-IL command capabilities between Emu71/DOS and Emu71/Win are identical. But not all commands are implemented, such command are everything around CONTROL OFF. At Emu71/DOS you can access the virtual devices inside, at Emu71/Win it's implemented as bridge to avoid breaking the virtual IL loop. You may read the Emu71/DOS manual about the HP-IL limitations (4.3 Support for various modules, section "HP-IL module").

> Quote:
>
> I will try to let the HP-IL loop work across different computers. Any suggestions with respect to the firewall? Should I drill some holes in the address space of interest?

Normally you must drill holes into your firewall. The holes you already made for the "localhost" transfers by accepting the application with the OK button depends on the firewall, the OS version and the used user for the permission. A user with Admin privileges normally enabled the software for the Internet, so you have already the (too) big hole. If you made the same thing on WinXP with a non-privilege user, you have only the rights for the local machine. I personally use always the Windows internal firewall and then modify the permissions of the program by Change area on WinXP to "Only own network (Subnet)" and on Win7 to "Home/Work(Private)".

If you get no connection and you're not sure if it's a firewall problem then temporary disable the firewall to be sure that you have a firewall permission problem.

I recently had a problem on Win7/x86 with Emu71/Win. As Admin everything worked fine, as normal user I was able to send over port 60001 but received nothing over port 60000. First a thought about a user privilege problem, in fact as normal user port 60000 was already in use.

To check the port usage you may call:

netstat /a

Hope this helps

Christoph

Re: ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #4 Posted by **Frido Bohn** on 3 Nov 2011, 9:29 a.m.,*
in response to message #3 by Christoph Giesselink

> Quote:
>
> You may read the Emu71/DOS manual about the HP-IL limitations (4.3 Support for various modules, section "HP-IL module").

Well, should have done that beforehand, sorry.

Regarding HP-IL across computers: Ever managed to put a world-spanning HP-IL into working condition?
For example, the controller in the US, a multimeter in Asia and the printer in Europe?

Re: ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #5 Posted by **Mike (Stgt)** on 3 Nov 2011, 5:30 p.m.,*
in response to message #4 by Frido Bohn

I would join with the printer in old Europe, simulated of cause - the printer, not Europe :)

Ciao.....Mike

Re: ILPilbox (HP-IL Interface - PIL-Box Bridge) v1.1

*Message #6 Posted by **Frido Bohn** on 4 Nov 2011, 10:30 a.m.,*
in response to message #5 by Mike (Stgt)

> Quote:
>
> I would join with the printer in old Europe, simulated of cause - the printer, not Europe :)

Would be too easy. It should be real hardware.
I believe there is enough HP-IL related equipment around the world. The problem will be the interface to an internet-connected computer. The best choice would be of course JFG's PilBox. At least it should be some kind of HP-IL/computer interface that offers serial connectivity, I assume.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another Red Dot on TAS. Is it or is it not ?

*Message #1 Posted by **Michael de Estrada** on 1 Nov 2011, 2:06 p.m.*

There's another HP 35 Red Dot listing on TAS. From the front it looks legitimate, but from the rear it does not. It sure would be interesting to see the insides. I've asked the seller to test for "The Bug."

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #2 Posted by **Katie Wasserman** on 1 Nov 2011, 2:16 p.m.,*
in response to message #1 by Michael de Estrada

The serial number alone makes this bogus. While it could have been an original red dot, it's clearly been worked on and has at least had the labels replaced.

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #3 Posted by **Michael de Estrada** on 1 Nov 2011, 2:26 p.m.,*
in response to message #2 by Katie Wasserman

Either that, or it's the case back from a Version 3 with all its labels and serial number, grafted onto a Version 1 Red Dot. Even the bridge contact appears to be from a Red Dot. The real question is whether the guts are Version 1 or Version 3.

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #4 Posted by **robertoataulfo** on 1 Nov 2011, 2:29 p.m.,*
in response to message #3 by Michael de Estrada

It has already been opened. Lost Originality

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #5 Posted by **Michael de Estrada** on 1 Nov 2011, 2:43 p.m.,*
in response to message #4 by robertoataulfo

That didn't prevent the last one on TAS selling for well over $1000.

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #6 Posted by **Michael Eckstein** on 1 Nov 2011, 6:14 p.m.,*
in response to message #3 by Michael de Estrada

It looks that almost all is from a newer version, inside included. But the front case might be from some Red Dot.

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #7 Posted by **aj04062** on 1 Nov 2011, 7:20 p.m.,*
in response to message #6 by Michael Eckstein

In your estimation, is the lack of a split battery tray an indication that it is later?

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #8 Posted by **Michael de Estrada** on 1 Nov 2011, 7:41 p.m.,*
in response to message #7 by aj04062

I have a Version 4 with the wider upper keys with the legends on them that has a "split" battery tray, so I don't think this is definitive evidence of the version of an HP 35. I think if you look really closely at the middle section of the case that forms the battery tray and connects the battery contacts, it is actually always two pieces, however, sometimes there is no visible gap. This gives the false impression that it has been molded as a single piece. More telling is the serial number which is affixed to the middle section and appears to be original.

Re: Another Red Dot on TAS. Is it or is it not ?

*Message #9 Posted by **Michael Eckstein** on 2 Nov 2011, 3:44 a.m.,*
in response to message #8 by Michael de Estrada

There are more signs besides the gap, the serial number or the back label. This calculator is definitely a later version, where the front cover might be replaced by a Red Dot version in a HP service or elsewhere.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

32Sii mushy keys

*Message #1 Posted by **David Griffith** on 31 Oct 2011, 10:51 p.m.*

Short of sending my 32Sii to a place like fixthatcalc.com, how would I go about fixing some slightly mushy keys?

Re: 32Sii mushy keys

*Message #2 Posted by **Tim Wessman** on 31 Oct 2011, 10:54 p.m.,*
in response to message #1 by David Griffith

Add flour.

TW

Re: 32Sii mushy keys

*Message #3 Posted by **Lincoln R.** on 31 Oct 2011, 11:52 p.m.,*
in response to message #2 by Tim Wessman

So *that's* what the guy who disassembled his 15C LE found in the keyboard...

Re: 32Sii mushy keys

*Message #4 Posted by **Reth** on 1 Nov 2011, 1:21 a.m.,*
in response to message #3 by Lincoln R.

I doubt it, must have been some top secret extra terrestrial substance which would destroy the planet Earth if disclosed. Which explains the silence and the tasteless jokes.

Re: 32Sii mushy keys

*Message #5 Posted by **Martin Pinckney** on 1 Nov 2011, 8:33 a.m.,*
in response to message #4 by Reth

Rather, the silence is probably explained by corporate policy.

As for the jokes, someone described it as gallows humor.

Think of it this way. You work hard for years against all odds to bring to market a seemingly unlikely product: a remake of a 30-year old classic, only to have the rug pulled out from under you by sloppy Chinese quality control. Not to mention snide comments from the group that should most appreciate your efforts.

Re: 32Sii mushy keys

*Message #6 Posted by **Steve Simpkin** on 1 Nov 2011, 6:18 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Think of it this way. You work hard for years against all odds to bring to market a seemingly unlikely product: a remake of a 30-year old classic, only to have the rug pulled out from under you by sloppy Chinese quality control. Not to mention snide comments from the group that should most appreciate your efforts.

What is the old saying? No good deed goes unpunished.

Re: 32Sii mushy keys

*Message #7 Posted by **Reth** on 1 Nov 2011, 8:52 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Rather, the silence is probably explained by corporate policy.
>
> ...
>
> Think of it this way. You work hard for years against all odds to bring to market a seemingly unlikely product: a remake of a 30-year old classic, only to have the rug pulled out from under you by sloppy Chinese quality control. Not to mention snide comments from the group that should most appreciate your efforts.

I did not buy anything from China but from HP. I payed them for goods that turned out to be defective. I can't care less who did not do their job right.

And all want to hear is what went wrong and how this gets fixed. Am I wrong to expect that?

Re: 32Sii mushy keys

*Message #8 Posted by **Martin Pinckney** on 2 Nov 2011, 11:29 p.m.,*
in response to message #7 by Reth

> Quote:
>
> I did not buy anything from China but from HP. I payed them for goods that turned out to be defective. I can't care less who did not do their job right.
>
> And all want to hear is what went wrong and how this gets fixed. Am I wrong to expect that?

You are not wrong. My only point was to argue for understanding of the behavior of one individual, not a company.

Re: 32Sii mushy keys

*Message #9 Posted by **Lincoln R.** on 1 Nov 2011, 12:37 p.m.,*
in response to message #1 by David Griffith

Sorry for the lack of serious replies (including my own)... Anyhow, have the keys always been mushy, or did

this happen over time? Is it most/all of the keys or only a few?

If they've always been mushy/it was like this when you got it, that may just be the way it is, I've seen a lot of variance in Pioneer keyboards, ranging from very firm and snappy to almost impossible to feel when the button has been pushed.

If it's just a few/this happened over time, it's probably the mylar sheets wearing out. I'm not sure if much can be done for this short of painstakingly disassembling the calculator and replacing the sheets with ones from another calculator (You might be able to get spare parts relatively cheaply by buying a 10B, those frequently sell for $15 or less on TAS).

Re: 32Sii mushy keys

*Message #10 Posted by **Thomas Radtke** on 1 Nov 2011, 1:15 p.m.,*
in response to message #9 by Lincoln R.

Indeed, there's quite some variance, and my 32SII is a good example - 'mushy' from day one. But ... it is actually reliable and I immediately loved the soft feedback after having had the 20S with very stiff keys. Don't repair what's not broken.

Re: 32Sii mushy keys

*Message #11 Posted by **David Griffith** on 1 Nov 2011, 3:01 p.m.,*
in response to message #9 by Lincoln R.

I bought this calculator off ebay a few days ago. All the keys are good except the '8' key. That's the mushy one.

Re: 32Sii mushy keys

*Message #12 Posted by **Lincoln R.** on 1 Nov 2011, 4:15 p.m.,*
in response to message #11 by David Griffith

Does it feel "sticky" or just soft? If it's sticky, someone may have gotten food, glue, coffee, etc. into it, in which case it could carefully be cleaned with high-purity (91% or better, no coloring/perfume added) rubbing alcohol.

Re: 32Sii mushy keys

*Message #13 Posted by **Bart (UK)** on 2 Nov 2011, 6:13 a.m.,*
in response to message #12 by Lincoln R.

I had a similar problem with an older 12C that I bought off ebay. One of the keys seemed permanently depressed, but still registered. I carefully brushed around the keys with a toothbrush, holding the calculator upside-down to reduce the risk of the loosened debris going into the keyboard. Fortunately this solved the problem for me as I was reluctant to clean with liquids.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TFF update; Ángel's on a roll

*Message #1 Posted by **Geir Isene** on 31 Oct 2011, 6:50 p.m.*

Three more modules are up: Antennas, Optometry and Physics...

at the UC-41 page

Re: TFF update; Ángel's on a roll

*Message #2 Posted by **Monte Dalrymple** on 31 Oct 2011, 7:05 p.m.,*
in response to message #1 by Geir Isene

Arghh... I'll be ready to do the Flash updates to the next 50
41CL boards in a few days. I'll include everything up to when
I start the process, although they will not have mnemonics
for the PLUG functions due to space restrictions. Or should I
wait until all the solution books are done?

I'd really like to start shipping ASAP.

Monte

Re: TFF update; Ángel's on a roll

*Message #3 Posted by **robertoataulfo** on 31 Oct 2011, 7:37 p.m.,*
in response to message #2 by Monte Dalrymple

Please wait !!!

Re: TFF update; Ángel's on a roll

*Message #4 Posted by **M. Joury** on 31 Oct 2011, 10:49 p.m.,*
in response to message #2 by Monte Dalrymple

I agree. Please wait.

Re: TFF update; Ángel's on a roll

*Message #5 Posted by **Howard Owen** on 1 Nov 2011, 1:19 a.m.,*
in response to message #2 by Monte Dalrymple

> Quote:
>
> Or should I wait until all the solution books are done?

How long will that take?

> Quote:
>
> I'd really like to start shipping ASAP.

Since I didn't make it onto the list for this batch, I'm hoping you sell out quickly and move on to the next run. :)

Re: TFF update; Ángel's on a roll

*Message #6 Posted by **Ángel Martin** on 1 Nov 2011, 3:08 a.m.,*
in response to message #2 by Monte Dalrymple

But I thought the Flash was already full?? Anyway I cannot commit to getting many more of these done in the next weeks, so I would NOT wait beyond perhaps a couple of days (it's a long week-end here :-).

Besides, these are just the Solution Books, people! - not new-fangled developments.- Let me remind you: first generation 41 code, no X-functions, no sytnthetics, no new functions, ... and all that.

You could always burn them to flash/RAM later own, on an individual basis - MHO.

Re: TFF update; Ángel's on a roll

*Message #7 Posted by **gene wright** on 1 Nov 2011, 7:49 a.m.,*
in response to message #6 by Ángel Martin

Flash is not full. There were about 50 pages free (or thereabouts as I remember).

Re: TFF update; Ángel's on a roll

*Message #8 Posted by **Geir Isene** on 1 Nov 2011, 5:28 p.m.,*
in response to message #1 by Geir Isene

Two new modules: Geometry and High Level Math.

I will be doing a few more in the weekend.

Re: TFF update; Ángel's on a roll

*Message #9 Posted by **Ángel Martin** on 2 Nov 2011, 2:20 p.m.,*
in response to message #8 by Geir Isene

One more: "Interchangeable Solutions", UPLE program(s) #01475C, by Humbert Hans Suarez. (is he still around, does anyone know?)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-65 card motor screws

*Message #1 Posted by **Kees Bouw** on 31 Oct 2011, 4:17 p.m.*

Hi All,

Last week I could hear a small object rolling around in my HP-65... it turned out to be one of the two screws of the card motor. I think this may have been caused by vibrations from the running motor. However, if I fasten the screw too tight, reading and writing is no longer reliable. Can anyone confirm that the position of the screws can be critical, and has anyone found a way to fix the screw (some kind of lacquer perhaps) so it does not come loose? I am quite new to restoring HP calculators, so any help will be appreciated. Another question: does a HP-65 Service Manual exist and where can I find a PDF version?

Many thanks in advance,

Kees.

Re: HP-65 card motor screws

*Message #2 Posted by **aj04062** on 31 Oct 2011, 5:31 p.m.,*
in response to message #1 by Kees Bouw

Use a very small drop of BLUE (not RED) Loctite on the screws and they will NOT get loose.

Re: HP-65 card motor screws

*Message #3 Posted by **Kees Bouw** on 1 Nov 2011, 3:03 p.m.,*
in response to message #2 by aj04062

> Quote:
>
> Use a very small drop of BLUE (not RED) Loctite on the screws and they will NOT get loose.

Thank you for your response! Can you be a little bit more specific about which type of Loctite to use? On amazon.co.uk there are 649 Loctite products in the DIY department :-) The "*Loctite 243 Lock 'n' Seal Fast Acting Thread Lock and Sealant 3ml*" seems to be appropriate, but that's RED. The BLUE ones are mostly some form of superglue, is that what you mean?

Re: HP-65 card motor screws

*Message #4 Posted by **Ethan Conner** on 1 Nov 2011, 4:31 p.m.,*
in response to message #3 by Kees Bouw

Loctite "blue 242" threadlocker.

Re: HP-65 card motor screws

*Message #5 Posted by **Kees Bouw** on 1 Nov 2011, 5:04 p.m.,*
in response to message #4 by Ethan Conner

> Quote:
>
> Loctite "blue 242" threadlocker.

Loctite 242 and 243 appear to be the same stuff, judging by the specifications. The confusion about the colours is probably caused by the fact that (both 242 and 243) are in a RED bottle while the substance itself is BLUE.

Re: HP-65 card motor screws

*Message #6 Posted by **Ethan Conner** on 1 Nov 2011, 5:59 p.m.,*
in response to message #5 by Kees Bouw

I'll agree with you the packaging color is a mistake. I actually have a tube of 242 and the packaging is blue, of course i bought it five years ago. Trust me on this they may appear to be close in the spec but the red doesn't have near the holding power of the blue. I highly recommend the blue for your application unless you just like tinkering and want to go in often and reset hardware. :)

Re: HP-65 card motor screws

*Message #7 Posted by **Kees Bouw** on 2 Nov 2011, 5:14 a.m.,*
in response to message #6 by Ethan Conner

This is the one, right? I can't find it on amazon.co.uk but it is on amazon.com.

Re: HP-65 card motor screws

*Message #8 Posted by **Ethan Conner** on 2 Nov 2011, 12:36 p.m.,*
in response to message #7 by Kees Bouw

Yes that is what you want. I use it on places where there is something rotating or a pivot point and it works very good.

Re: HP-65 card motor screws

*Message #9 Posted by **Kees Bouw** on 2 Nov 2011, 8:19 a.m.,*
in response to message #6 by Ethan Conner

Additional info received from Henkel Ltd., UK:

"*The product is just called Loctite 242, the blue refers to the products colour. In America they often refer to the colours of the product as the numbers are a bit tricky. Loctite 243 is an improved version of 242 so you might find this easier to find.*"

Re: HP-65 card motor screws

*Message #10 Posted by **Raymond Del Tondo** on 31 Oct 2011, 6:35 p.m.,*
in response to message #1 by Kees Bouw

It's Not the Position of the screw as such, but the movement space at the ends of the motor axis. If the screws are too tight, the pressure against the ball bearing on the external side of the axis may be too high, and thus the motor movement is out of tolerance.

Ray

Re: HP-65 card motor screws

*Message #11 Posted by **Kees Bouw** on 1 Nov 2011, 3:09 p.m.,*
in response to message #10 by Raymond Del Tondo

> Quote:
>
> It's Not the Position of the screw as such, but the movement space at the ends of the motor axis. If the screws are too tight, the pressure against the ball bearing on the external side of the axis may be too high, and thus the motor movement is out of tolerance.

Thank you for your response. That really helps to understand the problem. I wonder how it was done in the factory, and in repair shops at the time. There must be people still around who worked there and know exactly how it is supposed to be done! What also puzzles me is that no-one has ever seen a HP-65 Service Manual. Did it not exist, is it very rare, was it impossible to scan into a pdf document, what is going on with this. For most other calculators there is a Service Manual, so why not for the HP-65?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need a US proxy for a battery for an HP Portable Plus

*Message #1 Posted by **Geir Isene** on 31 Oct 2011, 4:15 p.m.*

I need to buy one of these:

HP Portable Plus Battery

... but they only ship in the US.

Anybody wants to act as a proxy?

Re: Need a US proxy for a battery for an HP Portable Plus

*Message #2 Posted by **M. Joury** on 31 Oct 2011, 4:22 p.m.,*
in response to message #1 by Geir Isene

Hi Geir,

If I am not mistaken these are D cell sized Lead Acid cells such as these. I built my own pack out of three of the above for considerably less. Are these or something like them available where you are?

Cheers,

-Marwan

Re: Need a US proxy for a battery for an HP Portable Plus

*Message #3 Posted by **Ángel Martin** on 31 Oct 2011, 5:43 p.m.,*
in response to message #1 by Geir Isene

It's the same one used in the 9114 disk drive, just with some connectors added to change the leads.

I ordered at "www.accu-ecke.de", model number: MP2, 8-6P Multipower Batterit 6V/2,8Ah (C20).

Re: Need a US proxy for a battery for an HP Portable Plus

*Message #4 Posted by **M. Joury** on 31 Oct 2011, 6:22 p.m.,*
in response to message #3 by Ángel Martin

I don't think so. The battery used in the 9114 looks completely different. Unless, of course, the image on the web page is not correct. Here is a link to the 9114 battery: battery.

Cheers,

-Marwan

Re: Need a US proxy for a battery for an HP Portable Plus

*Message #5 Posted by **robert rozee** on 31 Oct 2011, 7:00 p.m.,*
in response to message #1 by Geir Isene

the page you point to lists the capacity as 2.5 amp-hours. that is pathetically low compared to modern cells. you'd be better off using five AA sized Ni-Mh cells (close to 3 amp-hours), then charge them externally.

in the same space you could fit 10 AA cells wired parallel/series to get over twice the original capacity (and hence twice the run time).

Re: Need a US proxy for a battery for an HP Portable Plus

*Message #6 Posted by **John Pierce** on 31 Oct 2011, 7:56 p.m.,*
in response to message #1 by Geir Isene

```
I'll act as your proxy.  This can be taken care several ways; I can buy the assembled
battery locally or receive one that you order and have shipped to me and remail it to you.
Regards John Pierce
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s -- not turning on after flash

*Message #1 Posted by **David Persinger (US)** on 31 Oct 2011, 4:08 p.m.*

I have flashed the 30b several times, but now it will not turn on after a flash. I got all the correct messages, set boot from flash, execute, cable reset, on button : blank screen.

I also went through the entire erase procedure from scratch and same thing happens.

Any suggestions?

Re: WP34s -- not turning on after flash

*Message #2 Posted by **Dominic Richens** on 31 Oct 2011, 4:42 p.m.,*
in response to message #1 by David Persinger (US)

did you try popping the batteries out and back in again?

Last time I tried to flash, I got the same thing. I remembered something Neil had told me that sometimes the calculator will appear to be dead but actually still be on at full power. So the recommendation was to pop the batteries out if I was going leave the calculator for a while.

Anyhow, I did this, and when I put the batteries back in it turned on properly!

Re: WP34s -- not turning on after flash

*Message #3 Posted by **David Persinger (US)** on 31 Oct 2011, 4:43 p.m.,*
in response to message #2 by Dominic Richens

Yeah, tried that.. will try again...

Re: WP34s -- not turning on after flash

*Message #4 Posted by **Dominic Richens** on 31 Oct 2011, 6:54 p.m.,*
in response to message #3 by David Persinger (US)

the corollary to that is that if you didn't pop the batteries out immediately they may be dead.

Re: WP34s -- not turning on after flash

*Message #5 Posted by **Marcus von Cube, Germany** on 31 Oct 2011, 8:04 p.m.,*
in response to message #4 by Dominic Richens

Maybe I've uploaded a binary that does not work so try the V21 install if in doubt.

Re: WP34s -- not turning on after flash

*Message #6 Posted by **David Persinger (US)** on 31 Oct 2011, 9:02 p.m.,*

in response to message #5 by Marcus von Cube, Germany

Still no go. Everything appears normal in the flash process. It just won't turn on.

Re: WP34s -- not turning on after flash

*Message #7 Posted by **Marcus von Cube, Germany** on 1 Nov 2011, 3:03 a.m.,*
in response to message #6 by David Persinger (US)

David, try MySamba.exe, please! Can yo reflash your calculator with the original 20b firmware?

Re: WP34s -- not turning on after flash

*Message #8 Posted by **David Persinger (US)** on 1 Nov 2011, 1:06 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Can you provide a link to the MySamba.exe program?

I don't have the original 30b firmware to try.

David

Re: WP34s -- not turning on after flash

*Message #9 Posted by **Jeff O.** on 1 Nov 2011, 1:38 p.m.,*
in response to message #8 by David Persinger (US)

http://sourceforge.net/projects/wp34s/files/FlashTool/

Re: WP34s -- not turning on after flash

*Message #10 Posted by **David Persinger (US)** on 1 Nov 2011, 8:30 p.m.,*
in response to message #9 by Jeff O.

Problem resolved!

Thank you Marcus, Gene, Dominic, and Jeff!

The problem was that when I downloaded calc.bin I right clicked and "save link as" on the calc.bin file. The resulting file was only 8k in size. The correct file would be ~121k. This 8k file would give the appearance of flashing but obviously would not work.

The proper method of downloading from the SVN page is to double-click the calc.bin file then select the download link.

It is interesting that even flashing the correct file did not solve the problem. I had to flash the original 30b rom back into the unit and then reflash with the WP34s rom. The unit worked just fine after that.

Also the lead to use MySamba.exe was very helpful, it is much easier to use and very fast.

Wonderful support from all you guys. What a joy. Thank you!

David

Re: WP34s -- not turning on after flash

*Message #11 Posted by **Dominic Richens** on 1 Nov 2011, 8:53 p.m.,*
in response to message #10 by David Persinger (US)

oh yeah, I had forgotten that I had done that too once. The clue for me was that SAM-BA wasn't doing 14 or 15 segments, only 1.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

phoenix 35sx happenings?

*Message #1 Posted by **David Griffith** on 31 Oct 2011, 12:27 p.m.*

Has there been any more development towards a "phoenix 35sx" replacement board for the hp35s?

Re: phoenix 35sx happenings?

*Message #2 Posted by **Walter B** on 31 Oct 2011, 1:59 p.m.,*
in response to message #1 by David Griffith

Any *more* ??

Re: phoenix 35sx happenings?

*Message #3 Posted by **Martin Pinckney** on 31 Oct 2011, 2:06 p.m.,*
in response to message #2 by Walter B

I completely missed this. And maybe this.

Re: phoenix 35sx happenings?

*Message #4 Posted by **Walter B** on 31 Oct 2011, 2:20 p.m.,*
in response to message #3 by Martin Pinckney

Long time no see. All quiet at the western front AFAIK.

Re: phoenix 35sx happenings?

*Message #5 Posted by **Matt Fegenbush** on 31 Oct 2011, 2:48 p.m.,*
in response to message #1 by David Griffith

This raises an interesting question. *If* such a kit were to be created to, say, add IR or a hard connection port (at minimum), would NCEES still allow the calculator on the FE and PE exams?

It seems that if you get a bunch of engineers together with a common goal of removing the entire set of test questions, it would be a practice that would surely get the calculator banned. It is my understanding that is the sole reason there does not exist such a port on this model.

Re: phoenix 35sx happenings?

*Message #6 Posted by **Martin Pinckney** on 31 Oct 2011, 3:01 p.m.,*
in response to message #5 by Matt Fegenbush

> Quote:
>
> This raises an interesting question. *If* such a kit were to be created to, say, add IR or a hard connection port (at minimum), would NCEES still allow the calculator on the FE and PE

exams?

Only if the proctors did not notice the calculator had been modified.

Re: phoenix 35sx happenings?

*Message #7 Posted by **Jeff O.** on 31 Oct 2011, 9:11 p.m.,*
in response to message #5 by Matt Fegenbush

Such a calculator would already be banned, i.e., the 35s is allowed, not some modified device. Attempting to use such a device would violate their rules and subject you to their penalties.

I don't really agree with the NCEES calculator policy. Someone could do just as you postulate, and get away with it, but I could not use a real 15c (or 15c LE) because it is not on their list.

Re: phoenix 35sx happenings?

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 31 Oct 2011, 5:15 p.m.,*
in response to message #1 by David Griffith

You made me just recall my proposal for the PHOENIX name, which, written backwards, is "XI neo HP"; meaning "new generation HP 11".

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Images of my 9100B
*Message #1 Posted by **David Ramsey** on 31 Oct 2011, 1:37 p.m.*

Picked up on TAS a few weeks ago...

Man, they knew how to make ROMs in those days. Check each individual bit with a Radio Shack multimeter!

The beauty of discrete components...

CRT deflection boards. Note how they're screwed directly into the cast aluminum case body.

Nothing seems to be leaking, but we're gonna replace those caps anyway. In England, Tony Duell cringes.

The keyboard fascia and labels are in excellent condition.

Board closeup...pretty!

The unit was advertised as "working", and aside from the doubtless gummy card reader wheel, the only problem we've noticed so far is this "comet" artifact in the display. It grows shorter, reducing to a tiny dot, as the digits in the first line extend farther to the left. Hopefully this will be an easy fix, but even if it remains, it doesn't affect the usability of the machine.

Re: Images of my 9100B
*Message #2 Posted by **Marcus von Cube, Germany** on 1 Nov 2011, 3:22 a.m.,*
in response to message #1 by David Ramsey

Looking at your pictures I can imagine the puzzled faces of the engineers when Dave Packard told them to pack the functionality into a shirt pocket sized device. :-)

"It's impossible!"
"I know, just do your best!"
...
"We've done it!" (Very big grin!)

Re: Images of my 9100B
*Message #3 Posted by **David Ramsey** on 1 Nov 2011, 11:35 a.m.,*
in response to message #2 by Marcus von Cube, Germany

You'd think those integrated circuits would make all the difference! But I have the 9100's successor, the 9810, stuffed full of ICs and it's even larger! Of course it does a lot more, too...

Re: Images of my 9100B
*Message #4 Posted by **Tony Duell** on 2 Nov 2011, 5:46 a.m.,*
in response to message #3 by David Ramsey

Actually, the base model of the 9810 does less than the 9100. The trig and log functions are an optional module for the 9810, admittedly one that fits entirely within the machine.

That big board of diodes in the 9100 is not a ROM. It's often thought to be one, but it's the AND gates and OR gates that interconnect the flip-flops and the other parts of the machine. One odd feature is that none of the power lines are used on this board (they are routed through it between the plug-in boards, but none of the resistors or diodes are connected to any power line or ground).

The ROMs are the 'core on a rope' microcode on the leftmost plug-in board (visible in one of your photos) and the inductively-coupled PCB ROM that is under the gating board (the board of diodes). For the latter, the ROM itself is the PCB in the middle of the assembly, the 2 boards down the left and right sides are the sense amplifiers (32 bits each), the board across the back is the address decoder.

Re: Images of my 9100B
*Message #5 Posted by **Frido Bohn** on 2 Nov 2011, 12:40 p.m.,*
in response to message #3 by David Ramsey

Very nice sample you got there, Ramsey.
The close up pictures are amazing and no IC anywhere. Would like to have one but I have no place on my desktop.
I was very amused by the desciption of the development of the 9100 where Bill Hewlett demanded a machine which would fit on his writing desk. The engineers tried to place the final calculator there but the result was sobering as it was a little bit too big. Wisely, they did this secretely while Bill Hewlett has been off and engaged a carpenter who managed to enlarge the opening in the desk so that the specifications were met.

I wonder if something similar happened with the proverbial shirt pocket-size calculator years later. Maybe someone changed secretely Bill Hewlett's shirts with pockets beeing able to fit the HP35.

Re: Images of my 9100B
*Message #6 Posted by **Eric Smith** on 2 Nov 2011, 12:55 p.m.,*
in response to message #5 by Frido Bohn

> Quote:
>
> and no IC anywhere.

The 9100 actually does contain one IC.

Re: Images of my 9100B
*Message #7 Posted by **Tony Duell** on 3 Nov 2011, 5:03 a.m.,*
in response to message #6 by Eric Smith

Are you thinking of the main ROM PCB (which is, I suppose an integrated circuit of inductively coupled tracks), the resistor/capacitor modules used to couple transistors in the flip-flops, or the op-amp ICs (8 in total, all the same type) used on the card reader PCB?

Or something else that I've forgotten?

Re: Images of my 9100B
*Message #8 Posted by **Eric Smith** on 3 Nov 2011, 11:26 a.m.,*
in response to message #7 by Tony Duell

I was thinking about the op-amps, but had forgotten that there are eight of them.

Re: Images of my 9100B
*Message #9 Posted by **Israel Otero** on 1 Nov 2011, 8:45 a.m.,*
in response to message #1 by David Ramsey

(From Puerto Rico)

Your machine is very clean and in good shape cosmetically, mines is somewhat neglected condition as appears that it got hard use. Yesterday as per your posting, I powered it up and the display comes on in 3 minutes. It is a bit dim, the 2 right digits position (exponent) are with less contrast than the others, but it worked fine. For a machine that old, the HP9100s are really robust. I am very happy about your wonderful example, enjoy.

Israel.

Re: Images of my 9100B
*Message #10 Posted by **David Ramsey** on 1 Nov 2011, 11:33 a.m.,*
in response to message #9 by Israel Otero

Some friends and I have been discussing the feasibility of building a micro controller-based LCD replacement display for the 9100. The consensus is that it probably would not be that hard. Wonder how many we could sell?

Re: Images of my 9100B
*Message #11 Posted by **Katie Wasserman** on 1 Nov 2011, 11:56 a.m.,*
in response to message #10 by David Ramsey

> Quote:
>
> Wonder how many we could sell?

Probably none. The major cool feature about the 9100a/b is the CRT. However it would be a fun project to read the X-Y analog values and map them to pixels on the LCD. I agree that this should be pretty straightforward using a micro with ACD inputs and a serial LCD with a decent enough (64 x 128?) number of pixels.

Re: Images of my 9100B
*Message #12 Posted by **David Ramsey** on 1 Nov 2011, 12:19 p.m.,*
in response to message #11 by Katie Wasserman

Of course, some of those CRTs don't work any more, and replacements are unavailable. And you wouldn't have to wait 30 seconds or more for the CRT to warm up every time, either.

Nothin' worse than a bored engineer or programmer!

Re: Images of my 9100B
*Message #13 Posted by **Juergen Keller** on 1 Nov 2011, 12:48 p.m.,*
in response to message #12 by David Ramsey

> Quote:
>
> And you wouldn't have to wait 30 seconds or more for the CRT to warm up every time, either.

But it resumes where it left off when power was turned off (even when this was done in the middle of a running program). My PC takes several minutes until it is ready for use. In that respect the 9100 was way ahead of time.

BTW, I'm still seeking for a 9102A Buffer Box for my 9100B, just for the case someone has a spare one :-)

Re: Images of my 9100B
*Message #14 Posted by **Israel Otero** on 1 Nov 2011, 2:53 p.m.,*
in response to message #13 by Juergen Keller

> Quote:
>
> But it resumes where it left off when power was turned off (even when this was done in the middle of a running program)

I was amazed when I discovered for the first time, that one could turn the HP9100A off in the middle of a running program and be resumed when the unit is turned on.

Re: Images of my 9100B
*Message #15 Posted by **Tony Duell** on 2 Nov 2011, 5:51 a.m.,*
in response to message #12 by David Ramsey

If you want a fast modern machine, buy one :-). For me, the warm-up time is part of the charm of the 9100.

That said, yes, the CRT is a custom part and is unavailable. It's odd in that it's an electrostatically-deflected CRT with a fairly wide deflection angle (this would lead to non-linearity of the display which would matter in a 'scope but not in a numeric display).

I think if either of my CRTs ever failed, I'd find some other CRT that could be driven by the 9100's deflection boards and hack the PSUs and z modulation to get it to work. I've got plenty of calculators with LCD displays after all...

Re: Images of my 9100B
*Message #16 Posted by **Gerry Schultz** on 2 Nov 2011, 3:16 p.m.,*
in response to message #15 by Tony Duell

Hi Tony. Your comments triggered an old memory for me. I'm presently in the broadcasting industry and back in the mid-70s all the test gear we used had electrostatic deflection for their CRT displays. As I remember, electrostatic deflection was much more precise and could hold a calibration better. Also it was easier to draw discrete characters directly on the display since it's basically vector graphics. Displays with electromagnetic deflection (like home TVs) were less precise and used for raster-style displays.

We used Tektronix test equipment back then and they built oscilloscopes that would actually display the time-base and vertical sensitivity directly on the screen. You could also separately adjust the character display brightness from the waveform brightness. When I first saw that I was blown away, it was so neat for the time.

I am assuming, that since HP built o'scope based test gear as well, they had a lot of electrostatic CRTs around and could build vector-based characters directly on the CRT that were bright, easy to read and stable (they didn't wobble around on the display). It was probably the most cost effective way to have a bright, clear display that was easy to refresh with parts used in other equipment.

Also, when I looked at the pictures on inside the 9100, it reminded me of how equipment was built back then. A lot of this stuff had to meet military specifications (I was in the Air Force at the time) and they could be difficult to repair given all the circuits needed to maintain temperature stability for calibration. I had to troubleshoot and repair this equipment down to the component level but it was such a pain. I'm so glad it's now done to the board level; it's a lot less time consuming but you have to be more proficient in system troubleshooting with individual parts being so small.

Gerry

Edited: 2 Nov 2011, 3:17 p.m.

Re: Images of my 9100B
*Message #17 Posted by **Paul Berger (Canada)** on 2 Nov 2011, 4:27 p.m.,*
in response to message #16 by Gerry Schultz

Electrostatic deflection is more precise because there there is a liner relationship between the charge on the deflection plates and the amount of deflection, because of this the electronics to drive electrostatic deflection are also simpler. The down side is that the angle of deflection for electrostatic tubes is quite low so the length of the tube is quite high relative to the size of the screen. Electromagnetic deflection on the other hand has a non-linear relationship between field strength and deflection of the electron beam so the electronics driving it has to be designed to compensate for this to get a constant sweep rate, making the electronics driving it more complicated. Magnetic deflection likely won out because much sharper deflection angles could be obtained making large screens practical.

Re: Images of my 9100B
*Message #18 Posted by **Tony Duell** on 3 Nov 2011, 5:17 a.m.,*
in response to message #17 by Paul Berger (Canada)

One of the main advantatges of electrostatic deflection over electromagnetic deflection is that it's a lot easier to change the voltage on a small capacitor (the CRT deflection plates) quickly than to change the current through a sizeable inductor (a deflection coil) quickly.

To generate a steady ramp, as is needed for a raster display, is quite easy in an elecrtomagnetic display, you make use of the inductance. But to move the beam around 'at random' requires a current source with enough voltaeg compliance to overcome the back EMF of the deflection coil. It can be done, but it means a big PSU, particularly if you want much bandwidth from it.

Re: Images of my 9100B
*Message #19 Posted by **Tony Duell** on 3 Nov 2011, 5:14 a.m.,*
in response to message #16 by Gerry Schultz

Oh don't get me started on board-swapping. There is absolutely nothing sensible (IMHO) about replacing parts essentially at random until the device seems to work again. Note I said 'seems to work again' -- if you don't really know what the fault is, you can't know you've fixed it.

And yes I've seen plenty of examples where board-swapping has appeared to cure the problem only for it to come back a little later. Either because the problem was actually a bad connection and replacing a part -- any part -- disturbed it enough for it to work again, or because the part that was replaced wasn't the real problem in the first place, but the new one will just about work with another part that really is failing.

And of course board-swapping makes no sense at all if you don't have a known-perfect set of boards _of the right revisions_ to swap in.

It's odd, but every one of the books I have on electrical and electronic faultfinding stresses that the only way to find a fault is to make measurements, think about what those measurements mean, and then (and only then) replace the faulty component. I do that on all my computers, calculators, instruments, etc, which may be why they work :-)

Getting back to the HP9100 CRT display, certainly HP had a lot of experience with electrostatically-deflected CRTs in 'scopes, etc. I don't think they had as much experience of magneticallly-deflected CRTs, but I am darn sure the engineers could have made such a device if they had wanted to. But for a numeric display as on the 9100, the vector approach saves a lot of electronics (the beam essentially scans a '7 segment raster' and is unblanked as appropriate), and it's a lot easier to make an electrostatically-deflected vector display than an electromagnetic one.

Incidentally, one reason the HP9100 display is stable is that the 'display task' is synchronised to the mains. So a bit of ripple on the power lines may cause digits to be displaced slightly from where they should be, but they will be in the same position each time, so they don't wobble.

Re: Images of my 9100B
*Message #20 Posted by **Gerry Schultz** on 3 Nov 2011, 1:40 p.m.,*
in response to message #19 by Tony Duell

If someone is randomly swapping boards in a piece of equipment to try to fix it, they are asking for trouble and will probably get it. Having an understanding of how a piece of equipment works as well as technical documentation is critical to finding a problem quickly and safely. In my case, I have qualified engineers on staff to troubleshoot and repair our equipment and keep the facility functioning. The reason we are doing more board-swapping is based upon how OEMs have designed their equipment and the economics of repair.

First, at a systems level, broadcasters are consolidating their facilities to take advantage of the economics of scale by doing more with what they have. That means adding more revenue streams by having more cable channels that are little more than another automated playlist and a simple master control(M/C)switcher added to an existing facility and expanding the infrastructure.

Second, facilities like these have large items like a router that can be expanded (in our case) to 1024 x 1024 (that's the chassis limit) and we add I/O cards as necessary to handle more sources and destinations. Some manufactures have added extras into simple routers like M/C switchers on an output card, multiviewers (allows one large LCD display to show many router sources at once with a browser-based software application for configuration) and shufflers (which allow reconfiguring of embedded audio in A/V sources among other things)to add more 'flexibility' to their product. It works fine when it works but when it breaks it's usually not at a convenient time. So, spare boards and maintenance agreements are used to reduce downtime. In our case downtime can literally translate into millions of dollars. A Super Bowl spot can cost up to $2 million but that's an extreme, if often quoted example.

This brings me to my point (finally!). My staff will troubleshoot a problem and if necessary call the OEM to narrow down where the problem is and then they send us a replacement part. (For critical systems we do maintain a set of spare cards but that can be a quite expensive way to tie up capital money that's not doing anything until that one critical failure occurs that was anticipated.) 90% to 95% of the time that fixes the issue. But if not, then Engineering management will step in to expedite the issue and, if necessary, and OEM rep will arrive to figure out what's going on.

What I'm saying in a long-winded way is that boarding swapping is a compromise between keeping a facility running and keeping costs down. It's great fun to sit down and spend the time troubleshooting an piece of analog gear with a scope and multimeter, but in this day an age board-swapping is the only economic way to go. And that's why OEMs build their equipment that way, it's what broadcasters want to save on costs.

When commodity items like LCD displays or PCs act up for any reason, we just replace them and dispose of the broken stuff, it's just not economically feasible to repair them; though it does break our hearts. We all hate to see repairable equipment go to waste.

Anyway I've blabbed on long enough. I haven't even mentioned trying to replace surface-mounted parts that you need a magnifying glass to read or the desoldering station needed to replace ICs on a bad board. The horror stories I could tell about boards being butchered when someone thought they could just fix it. BTW, if we damage a board trying to fix it, the OEM won't accept it for repair and we have to buy a NEW board. It's no fun going to the VP of Engineering and explaining why we have to spend $20,000 for a new board. I happen to like my job so being conservative about repairs helps to keep me employed.

On a personal note, no matter the challenges when trying to repair an item, there is no greater sense of satisfaction when you fix something that was broken by replacing a some small part. My wife has the mindset of if it's broken it has to be replaced and she sees dollar signs. So when I say I fixed it by replacing a $1 part, she is always amazed and grateful for a husband that can fix stuff (usually). It helps to make up for other stuff I can't do, like dance.

Gerry

Re: Images of my 9100B
*Message #21 Posted by **Tony Duell** on 2 Nov 2011, 5:49 a.m.,*
in response to message #11 by Katie Wasserman

IIRC you can grab the digits in BCD (+ a few other codes) from the expansion connector. There are 2 other signals which indicate which register is being displayed, basically yopu wait for those to change to a different state, then start grabbing digits (Least significant first IIRC). Look at the HP9125A plotter

schematics (which does this to get the X and Y values to plot).

Of course the expansion bus levels are totally non-standard...

Re: Images of my 9100B
*Message #22 Posted by **Mike Morrow** on 1 Nov 2011, 1:16 p.m.,*
in response to message #1 by David Ramsey

Very nice unit, and very nice photos. Thanks!

It's prettier than my non-working HP 9820A. I never saw a 9100 anywhere at Georgia Tech from 1970 to 1974, but I did see and use a 9820A. There were some WANG 360SE units around, whose nixie-tube digital displays were almost as neat as the 9100's CRT display.

What's the first few characters of the serial number? It's amazing that 40 year old units like this still work, especially since a rather high voltage power supply was needed for the CRT. I can understand wanting to replace electrolytic capacitors in the CRT HV supply, but unless an exact replacement can be obtained, I personally would be reluctant to alter the original and now almost historic condition of such units.

Re: Images of my 9100B
*Message #23 Posted by **Tony Duell** on 3 Nov 2011, 5:23 a.m.,*
in response to message #22 by Mike Morrow

What's wrong with your 9820? I would assume a totally blank display at power-on, which means a fault just about anywhere in the unit :-(. However, if you want to have a go at fixing it, I can talk you through it. In many ways the 9800 machines are easier to work on than the 9100, in that it's mostly TTL logic using voltage levels you can handle, but being a bit-serial machine, a logic analyser is very useful....

As regards replacing old electrolytics (in 40 year old computer/calculator) : I must have 20 or 30 machines of that date (certainly not all HP desktop calculators!), and, yes, I've had to replace the odd electrolytic capacitor. But certainly not all of them. Quite a few of my old machines are still running on all their original capacitors. I feel that this 'witch hunt' on old electrolytics is totally unjustified.

There is, of course, the issue of what will happen if the capacitor fails. If the only effect is that, say, the machine stops working, or the display goes unstable, then I'd leave it. Replace the capacitor when it fails. If, as in one much more recent HP I repaired, the result of a bulging capacitor actually 'blowing its top' would be that it would hit the neck of the CRT and probably let the vacuum out, then I'd replace it (as, indeed, I did).

Re: Images of my 9100B
*Message #24 Posted by **hpnut** on 1 Nov 2011, 5:15 p.m.,*
in response to message #1 by David Ramsey

Hi David,

why check with a Radio Shack multimeter when I see a Fluke on your bench ;-)

nice find!

hpnut in Malaysia

Re: Images of my 9100B
*Message #25 Posted by **David Ramsey** on 1 Nov 2011, 10:50 p.m.,*
in response to message #24 by hpnut

Because that's not my bench; it's Larry Atherton's bench.

Re: Images of my 9100B
*Message #26 Posted by **paolo** on 1 Nov 2011, 5:31 p.m.,*
in response to message #1 by David Ramsey

And here is an image from the HP9100A I still power-on some time. The original magnetic card protruding from the card reader has been kindly provided by a forum member (I leave him to disclose himself if he like to). I also tried to reproduce DIY magnetic cards with some success using VCR tape and carboard. These were useful e.g. to store a complete diagnostic program (see list in appendix A of the 9100A/B service manual).

Regards

Paolo

Re: Images of my 9100B

*Message #27 Posted by **David Ramsey** on 2 Nov 2011, 11:13 a.m.,*
in response to message #26 by paolo

Your register labels to the right of the display seem to be lit from above. I thought they were backlit...(bear in mind that as I write this I have never seen a 9100 "in person")

Re: Images of my 9100B
*Message #28 Posted by **paolo** on 2 Nov 2011, 6:28 p.m.,*
in response to message #27 by David Ramsey

Yes, there is a filament bulb behind the upper portion of the registers display. It is a little too bright though, and the silkwork mask is also a bit weared out so that it is overshining.

I suspect originally there were two bulbs, one on the lower portion now missing or blown, but I didn't checked it yet.

Regards

Paolo

Re: Images of my 9100B
*Message #29 Posted by **Juergen Keller** on 3 Nov 2011, 9:09 a.m.,*
in response to message #28 by paolo

Those bulbs can still be bought, e.g. on TAS.

Re: Images of my 9100B
*Message #30 Posted by **Katie Wasserman** on 3 Nov 2011, 11:46 a.m.,*
in response to message #29 by Juergen Keller

No need for TAS, here they are from Mouser.

I no longer have my 9100a, but used these bulbs and they are perfect!

Re: Images of my 9100B
*Message #31 Posted by **Juergen Keller** on 3 Nov 2011, 5:21 p.m.,*
in response to message #30 by Katie Wasserman

Thanks for pointing to an alternative source. But, for heaven's sake, why did you give away your 9100A? I would sell my mother-in-law (even on TAS) to get one ;-)

Re: Images of my 9100B
*Message #32 Posted by **Katie Wasserman** on 3 Nov 2011, 10:35 p.m.,*
in response to message #31 by Juergen Keller

> Quote:
>
> why did you give away your 9100A?

I didn't "give" it away, I sold it to someone that thought he could repair it. I bought it broken and I had made some progress is repairing it myself, at one point getting the X and Y registers working along with basic arithmetic. I never got past that point however. It was very frustrating since I didn't have a full schematic and nothing to test against -- just Tony's hand drawn 9100B schematic.

I did learn a lot about it in the process of doing some repairs (I needed the bulbs too).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 34] keyboard overlay ?

*Message #1 Posted by **robertoataulfo** on 31 Oct 2011, 1:10 p.m.*

Any news on the new definition of the keys (keyboard overlay)?

Re: [WP 34] keyboard overlay ?

*Message #2 Posted by **Walter B** on 31 Oct 2011, 1:24 p.m.,*
in response to message #1 by robertoataulfo

There's a discussion paper to be found here:
wp34s.svn.sourceforge.net/viewvc/wp34s/doc/Manual_wp_34s_3_0.pdf

You'll see the state of the art (pun intended) there. Be aware this paper is neither discussed to an end nor even agreed on yet, but the keyboard layout shown therein is almost identical with what was agreed on after the last poll.

Walter

Re: [WP 34] keyboard overlay ?

*Message #3 Posted by **pascal_meheut** on 31 Oct 2011, 3:35 p.m.,*
in response to message #2 by Walter B

I for one would prefer the layout to stay the same because removing/reattaching an overlay is not something I like to do.

Or at least, I would like the option to keep the old one...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Modular exponentiation with a noninteger base

*Message #1 Posted by **Oliver Unter Ecker** on 30 Oct 2011, 8:05 p.m.*

I'd like to compute "floor(3.8^98) mod 100" for the latest Project Euler problem (#356). Does someone know how to do this?

Fast modular exponentiation using the binary method doesn't seem to work for noninteger bases (I may well be overlooking the clever modification that will make it work), and I'm finding nothing that can do the job. I tried replacing the power function with exp(exponent * ln base) and a Taylor series for exp(), using modular aggregation. This converges a million times too slowly, and just can't be the way to do this.

WolframAlpha will gladly do the calculation (the result is "20"), but it fails for greater exponents.

For exponent 9876543 and modulus 100000000 it still produces output. For exponent 98765432, it appears to bring down a server (!); for exponent 987654321, it switches its input interpretation over to stocks...

Any ideas or keywords that would help to research this? Thanks!

EDIT: Here's the link to PE problem 356. Warning: enormous time sink. Largest root for n=2 is '1/3*(4+16/(37+3*i*sqrt(303))^(1/3)+(37+3*i*sqrt(303))^(1/3))'.

Edited: 30 Oct 2011, 10:20 p.m.

Re: Modular exponentiation with a noninteger base

*Message #2 Posted by **Eric Smith** on 30 Oct 2011, 10:36 p.m.,*
in response to message #1 by Oliver Unter Ecker

Use the "Russian Peasant" method of exponentiation. Iterate to compute b^2, b^4, b^8, b^16, etc. Then b^98 = b^64 * b^32 * b^2. Even for the problem 356 exponent like 987654321, this takes only 29 squarings (log2 of 987654321), so no more than 58 multiplications in total for each exponential.

Re: Modular exponentiation with a noninteger base

*Message #3 Posted by **Oliver Unter Ecker** on 31 Oct 2011, 7:50 a.m.,*
in response to message #2 by Eric Smith

Thanks, Eric. "Russian Peasant" == "binary method". So, that's what I tried.

Re: Modular exponentiation with a noninteger base

*Message #4 Posted by **Crawl** on 31 Oct 2011, 8:40 a.m.,*
in response to message #2 by Eric Smith

This by itself doesn't solve the problem -- even with this approach, even with a CAS, you need to figure out how to truncate the results so you still get the correct result and so the computer doesn't have to handle billion-digit arithmetic.

Re: Modular exponentiation with a noninteger base

*Message #5 Posted by **Crawl** on 30 Oct 2011, 11:52 p.m.,*
in response to message #1 by Oliver Unter Ecker

I'm getting 60, not 20, for that problem, with both the HP50g and TI89.

Basic idea: You can calculate 3.8^98 exactly as (38/10)^98.

You can also get the approximate value of that.

And then convert that approximate value to an exact value (eg., 6.558e50 becomes 6 followed by 50 zeroes), and subtract.

Repeat until you get a value that's small enough (less than a billion, say) that you can read all the values down to the decimal point exactly.

And then you read the last two digits.

In fact, Wolfram Alpha seems to give the same thing (...160.982...)

So why is it giving 20?

Re: Modular exponentiation with a noninteger base

*Message #6 Posted by **Crawl** on 30 Oct 2011, 11:59 p.m.,*
in response to message #5 by Crawl

Utterly bizarre.

```
658858978275742440319523292513429252482438987872804536320
658858978275745389910397903226911721462945575230733045160
```

The top is what Wolfram Alpha gives for floor of 3.8^98.

The bottom is what Wolfram Alpha gives for 3.8^98 (truncated at the same number of digits)

This seems like a bug in Wolfram Alpha.

Edited: 31 Oct 2011, 12:01 a.m.

Re: Modular exponentiation with a noninteger base

*Message #7 Posted by **Paul Dale** on 31 Oct 2011, 2:15 a.m.,*
in response to message #6 by Crawl

Using bc I get:

```
scale=150
3.8^98
658858978275745389910397903226911721462945575230733045160.9820465028\
701584006286291203833598415510120846714322251374676495536116745410 77\
38631648377416187904
```

- Pauli

Re: Modular exponentiation with a noninteger base

*Message #8 Posted by **Paul Dale** on 31 Oct 2011, 2:21 a.m.,*
in response to message #6 by Crawl

Might it be the floating point number (3.8) confusing things?

Calculate it as floor((19/5)^98) mod 100 and it gets the correct answer.

- Pauli

Re: Modular exponentiation with a noninteger base

*Message #9 Posted by **Oliver Unter Ecker** on 31 Oct 2011, 7:50 a.m.,*
in response to message #5 by Crawl

Thanks, Crawl and Pauli!

I never thought for a minute that WolframAlpha could be wrong. The query "floor((38/10)^98) mod 100" computes the correct value.

EDIT: Interestingly, while I now have floor-result harmony between WolframAlpha, bc (thanks, Pauli, for the steps!), and a BigFloat result in my calculator, they each (!) go their own way when it comes to 987 as a power. Shared digits in the beginning and divergence further on.

The 50g, following the steps by Crawl (thanks!), actually accepts to EVAL '(19/5)^987', but didn't finish after a long time, so won't be providing a result to compare. (The resulting number has 500+ digits.)

Edited: 31 Oct 2011, 9:15 a.m.

Re: Modular exponentiation with a noninteger base

*Message #10 Posted by **Paul Dale** on 31 Oct 2011, 5:56 p.m.,*
in response to message #9 by Oliver Unter Ecker

For the larger exponent, you'll need to increase the scale parameter significantly in bc. 1000 or 1500 ought to be enough but err cautiously and go for e.g. 2500

- Pauli

Re: Modular exponentiation with a noninteger base

*Message #11 Posted by **Oliver Unter Ecker** on 31 Oct 2011, 9:58 a.m.,*
in response to message #1 by Oliver Unter Ecker

Ok. Notwithstanding the WolframAlpha bug, the problem remains how to calculate the modular result, without calculating the whole number.

When I hear "exponentiation" and "8 digits", I hear modpow with 10^8.

A 50g will easily tell you the result for 4^98 mod 100:

```
<< 100 MODSTO 4 98 POWMOD >>
```

If I try this with '19/5' instead of 4, "No solution in ring" is returned. (3.8 yields "Bad Argument Type".)

It returns a negative number (?) for "4^987654321 mod 100000000" (i.e. 100000000 MODSTO 4 987654321 POWMOD) but WolframAlpha and my other calc return the correct result, in no time.

If I do modpow(3.8, 98, 100), with a standard implementation for modpow

```
        // credit: book "Applied Cryptography" by Bruce Schneier
        result = 1;
        while (exponent > 0) {
                if ((exponent & 1))
                        result = (result * base) % modulus;
                exponent >>= 1;
                base = (base * base) % modulus;
        }
        return result;
```

an incorrect result is returned. (Note, for floats, "%" becomes an "fmod" and that may be the catch here.)

This works correctly for integer bases.

It also works for a small power (such as 9), suggesting that precision issues could be the problem. (123.456 mod 100 == 23.456000000000003 in IEEE 754.)

For solving this PE problem, this is likely a wrong attack angle altogether. Brute-force hardly suffices with these problems, and the roots will likely not do, expressed as reals. Purely symbolic solutions are rare in PE, but I'm not optimistic that the task is as straightforward as it may look at first glance.

At any rate, I'd still like to know how to compute the last few digits of a fraction, or real, raised to a large power.

To spell out the PE problem, the complete calculation becomes:

```
floor(1/3*(4+16/(37+3*i*sqrt(303))^(1/3)+(37+3*i*sqrt(303))^(1/3)) ^ 987654321) mod
100000000
```

That's for the second(-simplest) root. The last term in full:

```
floor(1/3 * (1073741824+115292150460684697 6/(123794003928538027 4899123819+
9*i*sqrt(123794003928538027 48991240215))^(1/3)+(123794003928538027 4899123819+
9*i*sqrt(123794003928538027 48991240215))^(1/3)) ^ 987654321) mod 100000000
```

WolframAlpha will not compute the results for these.

I'd like to do this on my calculator...

[EDIT: On reflection, as a noninteger float is multiplied the digits are spreading in both direction. So, a large exponent would cause an enormous amount of spread, and all digits needed to be retained to not cause wildly different results in the output. So... inaccurate representation reasons aside, I think it's safe to say this cannot be solved with floats. A fraction would require huge numbers, too, for the result to be accurate. The solution will be a different method, and I guess properties of those roots may well come into play.
Too bad PE doesn't let you "give up" and look at the solution thread to learn from it.]

Edited: 31 Oct 2011, 8:48 p.m.

Re: Modular exponentiation with a noninteger base

*Message #12 Posted by **Crawl** on 31 Oct 2011, 8:35 p.m.,*
in response to message #1 by Oliver Unter Ecker

I wonder if the multinomial expansion could help here. If the term is greater than 100000000*, it can be dismissed immediately. You still have to figure out how many terms to start with.

*-that is, the power of ten that multiplies the integers is greater than that.

Re: Modular exponentiation with a noninteger base

*Message #13 Posted by **Oliver Unter Ecker** on 31 Oct 2011, 8:51 p.m.,*
in response to message #12 by Crawl

I don't know what that is, but will read up on it. Thanks, Crawl. (Learning new stuff sure is a fun part of PE.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

{WP34S] Minor stats bug

*Message #1 Posted by **Nigel J Dowrick** on 30 Oct 2011, 11:22 a.m.*

I'm running Build 1784 (on the actual calculator, not the emulator.)

The function NORML returns the cumulative normal probability distribution from negative infinity up to its argument, for a distribution with mean stored in register J and spread in register K.

When J contains 1 and K contains 10^-40, NORML returns 0 for an argument less than 1, 0.5 for an argument of 1, and 1 for an argument greater than 1. This is correct behaviour.

However, when J contains 1 and K contains 0, NORML simply returns its argument, whatever that argument is.

This is unlikely to be a problem, but I think it's a bug!

Nigel (UK)

Re: {WP34S] Minor stats bug

*Message #2 Posted by **Dieter** on 30 Oct 2011, 11:40 a.m.,*
in response to message #1 by Nigel J Dowrick

Sounds like an error in the routine that checks for valid inputs: a zero standard deviation should throw an error here. BTW the same happens in the student case with an illegal parameter (d.o.f. =< 0) - in this case simply X is returned as well, while the routine is supposed to return an error message. Also, $Norml^{-1}$ behaves the same way for illegal parameters, e.g. sdev in K =< 0.

So there seems to be a general problem with the initial tests in the statistical distributions. Which should not be too difficult to fix. ;-)

Dieter

Re: {WP34S] Minor stats bug - fixed

*Message #3 Posted by **Marcus von Cube, Germany** on 30 Oct 2011, 12:46 p.m.,*
in response to message #2 by Dieter

Since I did some updates to the error handler it's probably my fault. Does 0 1/x still throw an error?

EDIT: It **was** my fault (sort of) and should be ok now.

Edited: 30 Oct 2011, 1:28 p.m. after one or more responses were posted

Re: {WP34S] Minor stats bug

*Message #4 Posted by **Dieter** on 30 Oct 2011, 1:20 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Yes, at least in 2.2. 1782 this returns an error ("+infinity").

Dieter

Re: {WP34S] Minor stats bug

*Message #5 Posted by **Marcus von Cube, Germany** on 30 Oct 2011, 1:28 p.m.,*
in response to message #4 by Dieter

Should be fixed now.

Re: {WP34S] Minor stats bug

*Message #6 Posted by **Dieter** on 30 Oct 2011, 4:23 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Fine. I use the emulator and downloaded v. 1791 of wp34s.exe and wp34sgui.exe to replace the existing files in v. 1782. Now there is an error message, as expected.

However, I saw that the student distribution t(x) accepts non-integer degrees of freedom (which is a thing that may be discussed), and even values between 0 and 1. Is this the way the function is supposed to work?

BTW - the manual lists Norml (pdf) first, then Norml_p (cdf), while the corresponding explanation states the cdf first, then the pdf (i.e. the other way round). This should be corrected. And finally: please do not compare these functions with the ones used in Excel (cf. footnotes). The 34s does not return hilariously incorrect results like the ones Excel may come up with. ;-)

Dieter

Re: {WP34S] Minor stats bug

*Message #7 Posted by **Walter B** on 30 Oct 2011, 5:15 p.m.,*
in response to message #6 by Dieter

FYI, within the Index of Operations, the manual generally lists the command names in alphabetical order since they appear in the catalogues in that order as well (see page 33 for more). Distributions share a common remark, wherein the general order is pdf/pmf, cdf, inverse cdf.

And I know Excel is far from excellent. It's just a tool most people have access to on their PCs.

Walter

Re: {WP34S] Minor stats bug

*Message #8 Posted by **Dieter** on 30 Oct 2011, 6:14 p.m.,*
in response to message #7 by Walter B

I don't think it's a good idea if understanding a non-obvious explanation on page 49 (Norml, Norml_p and Norml^{-1}) requires an additional information somewhere else in the manual. Especially in this case where things can be improved so easily for the reader: in the remarks column, simply mention the cdf first, then the pdf, then the quantile

function. Simply use the same order as in the function column. Not only for the normal distribution, but for all others as well.

I also would suggest omitting the term "pmf" completely. But maybe there is a native speaker with mathematical/statistical background here to say a bite more on this. As far as footnote 4 on p. 15 is concerned: cdf is "(Wahrscheinlichkeits-)Verteilungsfunktion" and pdf is "(Wahrscheinlichkeits-)Dichtefunktion". It's really that simple. ;-)

Dieter

Edited: 31 Oct 2011, 3:41 p.m. after one or more responses were posted

Re: {WP34S] Minor stats bug

*Message #9 Posted by **Paul Dale** on 30 Oct 2011, 6:22 p.m.,*
in response to message #8 by Dieter

I'm a native speaker and completed undergraduate and postgraduate degrees in statistics at university many years ago. That ought to count as sufficient background :-) My understanding is that *pdf* is the term for continuous probability functions and *pmf* is the term for discrete ones. They are not interchangeable (although I tend to do so more than I should).

- Pauli

Re: {WP34S] Minor stats bug

*Message #10 Posted by **Dieter** on 30 Oct 2011, 6:30 p.m.,*
in response to message #9 by Paul Dale

Ah, okay, in this case "pmf" of course has to stay where it is. However, to the best of my knowledge in German "Dichtefunktion" is used for both continuous as well as discrete probability functions. So the final sentence in footnote 4 should still get rewritten.

Dieter

Re: {WP34S] Minor stats bug

*Message #11 Posted by **Walter B** on 31 Oct 2011, 3:41 a.m.,*
in response to message #8 by Dieter

> Quote:
>
> I don't think it's a good idea if understanding a non-obvious explanation on page 49 (Norml, Norml_p and Norml^{-1}) requires an additional information somewhere else in the manual.

I disagree. I don't think it's a good idea to pick an arbitrary location in the index without taking the slightest care of what was said before. Especially in this case where it's so easy to look up the table of contents for "Statistical ...", jump there, and find all explanations in a **very** concise text. Even the difference between *pmf* and *pdf*. While I can't change the alphabet ;-) the *logical* sequence IMHO is to start with the pdf/pmf, then sum up or integrate to get the cdf, then invert to get its inverse. Please

try to find an easier alternative sequence ;-)

Walter

Re: {WP34S] Minor stats bug

*Message #12 Posted by **Alexander Oestert** on 31 Oct 2011, 4:19 a.m.,*
in response to message #11 by Walter B

I agree with Dieter. When I first wanted to use those functions to follow my son's homework, I found the one I needed by the explanation on the right side of the table and used the calc function that corresponded to it on the left side - which was the wrong one.

Re: {WP34S] Minor stats bug

*Message #13 Posted by **Walter B** on 31 Oct 2011, 11:30 a.m.,*
in response to message #12 by Alexander Oestert

Ok ok, I modified the statistical texts a bit to make them even more - ummh, shall I say? - fool proof ;-) Please check the most recent manuals.

Re: {WP34S] Minor stats bug

*Message #14 Posted by **Alexander Oestert** on 31 Oct 2011, 12:10 p.m.,*
in response to message #13 by Walter B

> Quote:
>
> fool proof ;-)

Thank you, Walter, that's exactly what I (!) need! :-)

And thanks again for all the hard work you've put into the manual.

Re: [WP34S] Minor stats bug

*Message #15 Posted by **Alexander Oestert** on 31 Oct 2011, 3:20 p.m.,*
in response to message #13 by Walter B

Just read the updated manual: very elegantly done, indeed, without changing the sequence inside the table!

Re: {WP34S] Minor stats bug

*Message #16 Posted by **Dominic Richens** on 31 Oct 2011, 4:50 p.m.,*
in response to message #13 by Walter B

Could you do something similar for Poisson? I believe that if you only want to specify the mean, it should go in K with 1 stored in J, since J needs to be less than or equal to 1.0

cheers!

Re: {WP34S] Minor stats bug

*Message #17 Posted by **Dieter** on 1 Nov 2011, 9:25 a.m.,*
in response to message #11 by Walter B

> Quote:
>
> Please try to find an easier alternative sequence

Obviously you found a solution yourself - great. :-)

This leads to the question whether it's time for a general naming convention for the statistical distributions. Currently the binomial and normal cdfs are called Binom and Norml while the student and Fisher cdf are t(x) and F(x). The pdf has a subscript p suffix that on the calculator display is hard to identify as such. So what about a general and consistent naming convention. Assuming a maximum of six characters the pdf/pmf, cdf and quantile functions could be named like this:

```
normpd   binopd   studpd   poispd   fishpd   geompd  ...
normcd   binocd   studcd   poiscd   fishcd   geomcd  ...
normqt   binoqt   studqt   poisqt   fishqt   geomqt  ...
```

This would also improve the legibility of 34s programs and the usability in manual calculations: the user knows what he will get ...even without the manual.

Dieter

Re: {WP34S] Minor stats bug

*Message #18 Posted by **Walter B** on 1 Nov 2011, 9:54 a.m.,*
in response to message #17 by Dieter

> Quote:
>
> > Quote:
> >
> > Please try to find an easier alternative sequence
>
> Obviously you found a solution yourself - great. :-)

I didn't change the sequence at all :-)

With respect to names, your suggestion reads well as long as all such functions are seen in one block as you put them. But if an arbitrary such function crosses your way without its companions you won't know it has to be read as four letters for its name and two letters for its type. That's the reason why I prefer a notation using indices and exponents: it allows for easy differentiation of function name and suffix. YMMV

Walter

Re: {WP34S] Minor stats bug

*Message #19 Posted by **Dieter** on 1 Nov 2011, 12:57 p.m.,*

in response to message #18 by Walter B

> Quote:
>
> With respect to names, your suggestion reads well as long as all such functions are seen in one block as you put them. But if an arbitrary such function crosses your way without its companions you won't know it has to be read as four letters for its name and two letters for its type

I see. If the user comes across a function named "t(x)" it is completely obvious what it does while "studcd" will stay a miracle forever ?-) Come on...

I would like to ask you - and the whole community of course - to consider the following aspects:

- You say that the suggested names look fine as long as they are seen side by side. That's exactly what they are. They will appear in the PROB menu one after the other: studcd, studpd, studqt. Or for the Normal case normcd, normpd and normqt.
- If you really think the function type does not stand out, simply use mixed case names: NormPD, NormCD, NormQu or StudPD, StudCD and StudQu.
- The current designation especially of the Student and Fisher distibution (t(x) resp. F(x)) is unintuitive, maybe even wrong. Suppose you want to determine the Student CDF for a certain value. You enter the PROB menu and you see a function named StudCD. Hmm... what may this function do ?-)
- On the other hand, the current names t(x) and F(x) will leave the user clueless unless they have been looked up in the manual. I even feel they are wrong since t(x) does *not* determine a t-value from x. On the contrary, it *takes* a t-value *from* x and returns its value of the Student CDF.

That's why I think the proposed function names are a significant improvement over the current implementation.

Dieter

Re: {WP34S] Minor stats bug

*Message #20 Posted by **Alexander Oestert** on 1 Nov 2011, 1:10 p.m.,*
in response to message #19 by Dieter

I very much second Dieter's proposal.

Re: {WP34S] Minor stats bug

*Message #21 Posted by **Walter B** on 2 Nov 2011, 2:52 a.m.,*
in response to message #19 by Dieter

> Quote:

> You say that the suggested names look fine as long as they are seen side by side. That's exactly what they are.

If you read a program and see a function named StudCD among good old RPN commands. Hmm... what may this function do ?-)

> Quote:
>
> If you really think the function type does not stand out, simply use mixed case names

Which student needs a command to find a CD?? :-?

> Quote:
>
> The current designation especially of the Student and Fisher distibution (t(x) resp. F(x)) is unintuitive, maybe even wrong

... but common in statistics textbooks. Please turn to their authors ;-)

FYI, in the beginning, I wanted to call all those functions like BINOM(n), BINOM^{-1}(p), WEIBL(x), etc. but that exceeds six characters.

Walter

Edited: 2 Nov 2011, 3:06 a.m.

Re: {WP34S] Minor stats bug

*Message #22 Posted by **Paul Dale** on 30 Oct 2011, 5:22 p.m.,*
in response to message #6 by Dieter

> Quote:
>
> However, I saw that the student distribution t(x) accepts non-integer degrees of freedom (which is a thing that may be discussed), and even values between 0 and 1. Is this the way the function is supposed to work?

This was by design. I have no idea anymore why I did it :-(Adding a check for integer DoF isn't hard, is it warranted?

- Pauli

Re: {WP34S] Minor stats bug

*Message #23 Posted by **Dieter** on 30 Oct 2011, 6:20 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> This was by design. I have no idea anymore why I did it :-(Adding a check

for integer DoF isn't hard, is it warranted?

Well, I can say that the intial guesses for the student and F-quantile were designed for integer d.o.f. values. I would say that at least values less than 1 should throw an error. Let's see what the community says on this. On the other hand, if you don't remember a good reason for the current implementation... ;-)

Dieter

Re: {WP34S] Minor stats bug

*Message #24 Posted by **Paul Dale** on 30 Oct 2011, 6:27 p.m.,*
in response to message #23 by Dieter

I've changed the T and F distributions so that they require an integer for their degrees of freedom parameters.

I vaguely remember seeing F distributions with fractional parameters but can't remember what for or why.

Changing back is trivial if it is warranted.

- Pauli

Re: {WP34S] Minor stats bug

*Message #25 Posted by **Walter B** on 31 Oct 2011, 2:58 a.m.,*
in response to message #24 by Paul Dale

I'd suggest to use the IP of J and K for computing those statistical functions. That's what some popular statistical tests do as well.

Walter

Re: {WP34S] Minor stats bug

*Message #26 Posted by **Paul Dale** on 31 Oct 2011, 6:01 p.m.,*
in response to message #25 by Walter B

I'd suggest not. We don't truncate the *n* parameter for the binomial. Why should we truncate the DoF parameters here?

In all cases it is possible to extend the definition of the distribution to have real parameters but we've not done so. Thus accepting a real parameter and truncating it is wrong anyway.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP80 doesn't work without the battery charger

*Message #1 Posted by **aurelio** on 30 Oct 2011, 5:21 a.m.*

Hello! I got a HP80 which is cosmetically very pretty, but doesn't work if the battery charger is unplugged. The batteries are new and tested. I've opened the calculator and found a little corrosion on the batteries' compartment terminals, expecially on the - connector. I've checked inside to see if the connection were damaged or not by this corrosion, but it seems that everything should be ok. I checked the continuity of the power supply circuit with a tester (I mean the cable connections and I can say that the calculator doesn't work even if I shorcut the two connectors on the plug (I read the article on the main board of the Hp museum) ..... the spring is clean and quite free of corrosion, so that I don't understand what is going on: the pcb is free from corrosion (I've removed with a vinegar washing the little green dirty I've found) So that I ask you please for any advice which can help me to find the reason of this fault. Thanks

Edited: 31 Oct 2011, 11:53 a.m. after one or more responses were posted

Re: HP80 doesn't work without battery charger

*Message #2 Posted by **Michael de Estrada** on 30 Oct 2011, 10:04 a.m.,*
in response to message #1 by aurelio

Check that you measure battery voltage at the ac adapter receptacle contact pins on the calculator. Even with the calculator switch in the OFF position, you should measure battery voltage at either of the positive (+) outer pins with the negative voltmeter probe on the center negative (-) pin. If not, you have an open circuit somewhere inside the calculator. It could be a broken wire solder connection, a broken circuit board trace or broken wire. Also, you may have poor contact between the battery and the spring contacts.

Edited: 30 Oct 2011, 10:05 a.m.

(deleted post)

*Message #3 Posted by **deleted** on 30 Oct 2011, 10:13 a.m.,*
in response to message #2 by Michael de Estrada

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: HP80 doesn't work without battery charger

*Message #4 Posted by **Michael de Estrada** on 30 Oct 2011, 10:21 a.m.,*
in response to message #3 by deleted

IDK. The OP says he already tried shorting the two outer pins w/o success.

Re: HP80 doesn't work without battery charger

*Message #5 Posted by **aurelio** on 30 Oct 2011, 10:17 a.m.,*

in response to message #2 by Michael de Estrada

> Quote:
>
> Check that you measure battery voltage at the ac adapter receptacle contact pins on the calculator. Even with the calculator switch in the OFF position, you should measure battery voltage at either of the positive (+) outer pins with the negative voltmeter probe on the center negative (-) pin. If not, you have an open circuit somewhere inside the calculator. It could be a broken wire solder connection, a broken circuit board trace or broken wire. Also, you may have poor contact between the battery and the spring contacts.

Thank-you Michael, I'm measuring 3,11 V only between the (-) and the lef pin I don't measure anything between the central pin and the third pin on the right!

Re: HP80 doesn't work without battery charger

*Message #6 Posted by **Michael de Estrada** on 30 Oct 2011, 10:34 a.m.,*
in response to message #5 by aurelio

Well, in that case I agree with aj that you are not getting a good connection between the spring contact and the pins. Try shorting the 2 outer pins. Also, if the battery voltage is only 3.11 vdc, it is discharged and will not power the calculator.

Re: HP80 doesn't work without battery charger

*Message #7 Posted by **aurelio** on 30 Oct 2011, 11:00 a.m.,*
in response to message #6 by Michael de Estrada

Michael excuse me but I don't understand, I must measure voltage on both the outer pins, toward the inner pin or just on the (+) one? Notice that when I test the voltage of course I do it without the cover (it means without the spring)

well, only 3,11V but the battery is the same I use now with a 67 calculator and even the card reader works!!

Re: HP80 doesn't work without battery charger

*Message #8 Posted by **Michael de Estrada** on 30 Oct 2011, 11:39 a.m.,*
in response to message #7 by aurelio

The bridge contact must be installed and making contact with the 2 outer (+) pins with the ac adapter not connected. The two outer pins are positive (+) and the center pin is common negative (-). If the bridge contact is working properly, the two outer pins will be common positive (+). Place the voltmeter negative probe on the center pin and the positive probe on either outer pins. If your battery is measuring only 3.11 vdc, then I don't understand how it can power the calculator.

Edited: 1 Nov 2011, 10:47 p.m. after one or more responses were posted

Re: HP80 doesn't work without battery charger

*Message #9 Posted by **aurelio** on 30 Oct 2011, 12:03 p.m.,*
in response to message #8 by Michael de Estrada

with the bridge contact installed and making contact with the 2 outer (+) pins with the ac adapter not connected, the voltmeter negative probe on the center pin and the positive probe on either outer pins I got a value near to 2.50 vdc, but when measuring the battery directly I have 3.49 vdc! I drop that battery inside my hp 67 calculator and it can power the calculator. I have not another teste to check if my meter is calibrated or not. Anyhow, if I measure these values it means that there's a drop of 1 vdc in the circuit, is that right?

Edited: 30 Oct 2011, 12:09 p.m.

Re: HP80 doesn't work without battery charger

*Message #10 Posted by **Michael de Estrada** on 30 Oct 2011, 12:23 p.m.,*
in response to message #9 by aurelio

If the calculator is OFF, then there should be no voltage drop. Something may be wrong with your voltmeter or its leads.

Edited: 30 Oct 2011, 12:26 p.m.

Re: HP80 doesn't work without battery charger

*Message #11 Posted by **aurelio** on 30 Oct 2011, 12:40 p.m.,*
in response to message #10 by Michael de Estrada

Michael, if there is a problem with the meter (we assume it as uncalibrated) we can trust, I suppose, in the relative measures. There'a fact: with the calculator turned off the voltage is 2.50 vdc, with the calculator turned on the voltage is 0.17 vdc. The voltage of the battery out of the calculator , retested now, is 3.97 vdc. What do you think about?

Edited: 30 Oct 2011, 12:46 p.m.

Re: HP80 doesn't work without battery charger

*Message #12 Posted by **Michael de Estrada** on 30 Oct 2011, 12:50 p.m.,*
in response to message #11 by aurelio

It almost sounds like you have an internal short somewhere inside the calculator. You should only see about a 0.2 vdc voltage drop between the calculator in the OFF and ON states. For example, I just checked an HP 55, and the voltages at the pins are OFF = 3.94 vdc and ON = 3.75 vdc.

Re: HP80 doesn't work without battery charger

*Message #13 Posted by **aurelio** on 30 Oct 2011, 1:26 p.m.,*
in response to message #12 by Michael de Estrada

Do you have a schematic of this calculator, and test points just to try to find this shortcut?

Re: HP80 doesn't work without battery charger

*Message #14 Posted by **Dave Shaffer (Arizona)** on 30 Oct 2011, 4:50 p.m.,*
in response to message #9 by aurelio

Quote:

> I have not another teste to check if my meter is calibrated or not.

You can check your meter with a good battery or two (or three or ...).

Do you have a fresh, unused AA, C, or D alkaline battery available? They should give you almost 1.60 V. I measure around 1.56 - 1.59 V on brand new batteries. You can put 2 or more in series to check your meter at higher voltages.

A fresh-from-the-charger NiMH AA should give you between 1.30 and 1.35 V.

Re: HP80 doesn't work without battery charger

*Message #15 Posted by **aurelio** on 31 Oct 2011, 6:07 a.m.,*
in response to message #14 by Dave Shaffer (Arizona)

> Quote:
>
> You can check your meter with a good battery or two (or three or ...).
>
> Do you have a fresh, unused AA, C, or D alkaline battery available? They should give you almost 1.60 V. I measure around 1.56 - 1.59 V on brand new batteries. You can put 2 or more in series to check your meter at higher voltages.
>
> A fresh-from-the-charger NiMH AA should give you between 1.30 and 1.35 V.

Thank-you Dave, I charghed a NiMH AA and got 1.34 V. It means maybe I can trust in my meter.....

Edited: 31 Oct 2011, 7:19 a.m.

Re: HP80 doesn't work without battery charger

*Message #16 Posted by **Wanderley Navarro** on 1 Nov 2011, 10:12 p.m.,*
in response to message #15 by aurelio

> Quote:
>
> with the bridge contact installed and making contact with the 2 outer (+) pins with the ac adapter not connected,

Are you VERY SURE that the bridge spring IS making contact? Did you check for continuity between the two outer pins?

I had a similar problem in the past with an HP-67 that after some days of search finally found that the culprit was a bridge spring that "seemed" to be making contact but in fact was not.

Re: HP80 doesn't work without battery charger

*Message #17 Posted by **aurelio** on 2 Nov 2011, 1:50 a.m.,*

in response to message #16 by Wanderley Navarro

> Quote:
>
> Are you VERY SURE that the bridge spring IS making contact? Did you check for continuity between the two outer pins?
>
> I had a similar problem in the past with an HP-67 that after some days of search finally found that the culprit was a bridge spring that "seemed" to be making contact but in fact was not.

I tested the continuity at first between the two outer pins, when I read this advice on the forum here, I tested it elecctrically with a digital multimeter, then with a analogic one that I found out last sunday, so that I'm pretty sure that there's continuty What do you mean, please, with "that "seemed" to be making contact but in fact was not" ?

Edited: 2 Nov 2011, 1:56 a.m.

Re: HP80 doesn't work without battery charger

*Message #18 Posted by **Tony Duell** on 2 Nov 2011, 5:56 a.m.,*
in response to message #17 by aurelio

Have you checked the wires from the battery spring contacts to the plug pins with your ohmmeter? It's not unhead-of for battery electrolyte (from a leaking battery pack) to creep inside the insulation and corrode the wire itself.

Re: HP80 doesn't work without battery charger

*Message #19 Posted by **aurelio** on 2 Nov 2011, 10:11 a.m.,*
in response to message #18 by Tony Duell

Hello Tony, thank for your interest! I checked the continuity at first with the digital multimeter (buzzer) and even if I test it now, I get sound, but actually, when I test it with the analogic ohmeter, the result is quite different: the continuty is not "continuous" (excuse me the words) between the spring on the negative pin (the central one). I think that the problem should be not due to the wire but to the corrosion on the surface of the spring; infact if I test it between the pin and the lower part of the spring (the one which goes into the chassy) there are no problems, but if I move the probe along the upper surface of the spring, the resistance change and somewhere there is no contact!. At the end (the top) of the spring, the contact is good, but I don't know what happens when I pus the battery into my calculator and lies in the compartment..I mean if the contact between the pack and the spring is good or not. I can imagine that at least the upper part should get in contact, but in that case, the calculator should be powered, what do you think about? I've tried at the beginnig to apply a drop of soldering wire, on the corroded spring, but I was not able to pristine the surface (the corrosion doesn't allow the the soldering wire to attach-on). Maybe it need to be cleaned or prepared somehow. I

confess to have not geat experience in soldering.....

EDIT: just edit now, I placed a piece of metal on the spring, then I drop the battery pack, I got this way a better contact and the calculator works!! It means that the problem is on the spring, I must get a better contact, what can I do?

Edited: 2 Nov 2011, 11:33 a.m.

Re: HP80 doesn't work without battery charger

*Message #20 Posted by **Katie Wasserman** on 2 Nov 2011, 11:45 a.m.,*
in response to message #19 by aurelio

Remove the spring and re-tension it by bending it back, then replace it. There's also likely a thick oxide coating on the contacts. Use some DeoxIT on them, it works wonders.

Edited: 2 Nov 2011, 11:46 a.m.

Re: HP80 doesn't work without battery charger

*Message #21 Posted by **aurelio** on 2 Nov 2011, 12:57 p.m.,*
in response to message #20 by Katie Wasserman

Thank-you Katie, thank-you all, my friends, thank you for your help! HURRA!!! The machine now works and let's go now to test whole its functionality.... The spring was bent just to get more strenght, scraping it with a good knife I removed the "dust" and now it looks working great! without any charger.....THANK YOU AGAIN

Re: HP80 doesn't work without battery charger

*Message #22 Posted by **Katie Wasserman** on 2 Nov 2011, 2:48 p.m.,*
in response to message #21 by aurelio

I'm glad you got it working!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Mini challenge. CEIL / FLOOR in RPN

*Message #1 Posted by **M. Joury** on 29 Oct 2011, 7:42 p.m.*

Hi All,

Recently I needed a FLOOR function on my HP41. Easy enough, but I decided to generalize the solution. I wanted FLOOR and CEILING functions that did not effect the stack (Y, Z, and T are preserved) and that did not use any registers. LASTX does not have to be correct.

My solution uses 44 bytes on an HP41 including 19 bytes for the LBL FLOOR, LBL CEIL and the END instructions. My solution does not update LASTX correctly but it could if I were willing to use more memory. I use no SP tricks but they are not disallowed. Off the top of my head I can't see how SP would help but I am going to look into it in more detail to see if I am missing something.

I worked on this for longer than I expected when I started the exercise and would love to see other solutions. I just can't shake the feeling that I am missing something obvious--some trick that will shave the code to half the size and twice the speed. At one point I thought that I had a very elegant truly tiny solution but it did not work for certain cases. I'll share later.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #2 Posted by **Allen** on 29 Oct 2011, 7:45 p.m.,*
in response to message #1 by M. Joury

How do you define FLOOR and CEIL for negative numbers?

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #3 Posted by **M. Joury** on 29 Oct 2011, 8:05 p.m.,*
in response to message #2 by Allen

```
FLOOR(-2.3) = -3.0
CEIL(-2.3) = -2.0
```

Therein lies the trick because otherwise (for a positive number) FLOOR is just INT or IP. INTG on the 33S or 35S is a FLOOR function but as far as I can tell there is no CEILING on those machines.

Cheers,

-Marwan

Edited: 29 Oct 2011, 8:10 p.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #4 Posted by **Marcus von Cube, Germany** on 30 Oct 2011, 4:51 a.m.,*
in response to message #3 by M. Joury

FLOOR(x) = -CEIL(-x) and vice versa. This should help on the 33/35S.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #5 Posted by **PeterP** on 29 Oct 2011, 8:44 p.m.,*
in response to message #1 by M. Joury

can we use alpha?

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #6 Posted by **M. Joury** on 29 Oct 2011, 10:19 p.m.,*
in response to message #5 by PeterP

No.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #7 Posted by **Egan Ford** on 29 Oct 2011, 8:48 p.m.,*
in response to message #1 by M. Joury

41 RPN:

```
  1 LBL FLOOR
  2 INT
  3 x<0?
  4 x<>0?
  5 RTN
  6 X<>L
  7 FRC
  8 x<>0?
  9 ST- L
 10 X<>L
 11 INT
 12 RTN
```

Q&D. CEIL shouldn't be much different. Correct me if wrong, but LastX preserved.

Edited: 29 Oct 2011, 9:05 p.m. after one or more responses were posted

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #8 Posted by **Paul Dale** on 29 Oct 2011, 9:04 p.m.,*
in response to message #7 by Egan Ford

Extending Egan's code using CEIL(x) = -FLOOR(-x):

```
  1 LBL CEIL
  2 CHS
  3 XEQ 00
  4 CHS
  5 RTN
  6 LBL 00
  7 LBL FLOOR
  8 INT
  9 x<0?
 10 x<>0?
 11 RTN
 12 X<> L
 13 FRC
```

```
 14 x<>0?
 15 ST- L
 16 X<> L
 17 INT
 18 END
```

Is this 38 bytes all up?

- Pauli

Edit: merged in Egan's improvements

Edited: 29 Oct 2011, 9:12 p.m. after one or more responses were posted

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #9 Posted by **Egan Ford** on 29 Oct 2011, 9:06 p.m.,*
in response to message #8 by Paul Dale

Doh! Concurrent updates. I changed it, shorter now.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #10 Posted by **Paul Dale** on 29 Oct 2011, 9:12 p.m.,*
in response to message #9 by Egan Ford

Easily fixed :-)

- Pauli

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #11 Posted by **M. Joury** on 29 Oct 2011, 10:32 p.m.,*
in response to message #8 by Paul Dale

-2.3 return -2.0 not -3.0. INT would give you the same results. Solution not working correctly for negatives. Also, your solution to CEIL is exactly what I used in my solution. That is why LASTX does not work for CEIL in my solution.

Cheers,

-Marwan

Edited: 29 Oct 2011, 10:35 p.m. after one or more responses were posted

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #12 Posted by **Paul Dale** on 29 Oct 2011, 10:34 p.m.,*
in response to message #11 by M. Joury

Blame Egan for the floor -- I just copied his code :-)

I checked the one byte longer version and I'm pretty sure floor(-2.3) was correct then.

- Pauli

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #13 Posted by **M. Joury** on 29 Oct 2011, 10:41 p.m.,*
in response to message #12 by Paul Dale

I never got to see the 1 byte longer version. I count 39 bytes in the current version (?). If the original version was 1 byte longer and works it is 4 bytes shorter than mine (I think).

Cheers,

-Marwan

Edited: 29 Oct 2011, 10:41 p.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #14 Posted by **M. Joury** on 29 Oct 2011, 10:27 p.m.,*
in response to message #7 by Egan Ford

Don't think that this is right. For FLOOR(-2.3) it returns -2. FLOOR(-2.3) should be -3.00.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #15 Posted by **Dieter** on 30 Oct 2011, 10:08 a.m.,*
in response to message #7 by Egan Ford

This will not work. First, the inital test makes no sense. It uses a well-known technique from the good old days: use two consecutive tests, and you will get a "composite test" for (NOT condition1) OR condition2.

So x<0? followed by x<>0? logically equals "X>=0 OR X<>0?", or in other words: "is x greater than zero, or equal to zero, or not equal to zero". Which is the case for *any* number. So the program will always stop after this test, simply returning INT(x). #-)

There also is not much sense in the sequence "X<>0? ST-L" as the test for non-zero X is obsolete: if X actually *is* zero subtracting it from L will not change anything.

Here's my (also Q&D) first idea for the '41:

```
01 LBL"FLOOR"
02 INT
03 X<> L
04 X<0?
05 DSE L
06 LBL 00
07 X<> L
08 END
```

It even sets LastX correctly. But it will not work for negative integers, so I'll keep trying. ;-)

Dieter

Edited: 30 Oct 2011, 10:12 a.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #16 Posted by **Werner** on 30 Oct 2011, 5:26 a.m.,*
in response to message #1 by M. Joury

43 bytes, perfect function (YZT preserved, LASTX contains last X):

```
01*LBL"CEIL"
02 INT
```

```
03 X<>Y
04 X<> L
05 X>Y?
06 ISG Y
07 LBL 00      (NOP)
08 X<> L
09 X<>Y
10 RTN
11*LBL"FLOOR"
12 INT
13 X<>Y
14 X<> L
15 X<Y?
16 DSE Y
17 LBL 00      (NOP)
18 X<> L
19 X<>Y
20 END
```

it won't win the elegance prize, though ;-)
Cheers, Werner

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #17 Posted by **M. Joury** on 30 Oct 2011, 8:38 a.m.,*
in response to message #16 by Werner

Nice. Actually I think it is pretty elegant--a single test, a single exit point (RTN), shorter, and you don't use a flag. Better than mine. But see Pauli's and Marcus's solution and comments above. If you are willing to give up LASTX (as I was) you can use:

```
LBL CEIL
CHS
XEQ 00
CHS
RTN
LBL FLOOR
LBL 00
...
```

This is what I did in my original solution and why I said that LAST X is correct for FLOOR but not for CEIL. It shortens the code considerably.

Cheers,

-Marwan

Edited: 30 Oct 2011, 8:47 a.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #18 Posted by **Dieter** on 30 Oct 2011, 10:19 a.m.,*
in response to message #16 by Werner

clap *clap*
I see the idea with DSE/ISG is quite obvious. And it's sufficiently elegant as well. ;-)

Dieter

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #19 Posted by **Namir** on 30 Oct 2011, 10:53 a.m.,*
in response to message #16 by Werner

I regard the STO X command is the best NOP for the HP-41C and HP-42s.

Namir

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #20 Posted by **Dieter** on 30 Oct 2011, 10:57 a.m.,*
in response to message #19 by Namir

But STO X requires two bytes, while LBL 00 only takes one. ;-)

Dieter

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #21 Posted by **M. Joury** on 30 Oct 2011, 11:00 a.m.,*
in response to message #19 by Namir

The Zenrom module offers a NOP instruction that is basically a text byte (I think) but I am not sure of the length. Also X <> X works well but is also two bytes as is STO X.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #22 Posted by **M. Joury** on 30 Oct 2011, 11:56 p.m.,*
in response to message #16 by Werner

Hi Werner,

Did you see Alan's solution below? It does not work for integer values but he uses a trick that can shorten your version by 3 bytes.

Instead of:

```
ISG Y
LBL 00
X<> L
X<>Y
RTN
```

You can use:

```
ISG Y
LBL 00
GTO 00
```

A savings of 3 bytes.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #23 Posted by **Werner** on 31 Oct 2011, 3:40 a.m.,*
in response to message #22 by M. Joury

Only two bytes ;-)

Werner

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #24 Posted by **M. Joury** on 31 Oct 2011, 6:58 a.m.,*
in response to message #23 by Werner

Right, sorry, GTO 00 is 2 bytes not 1 byte.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #25 Posted by **M. Joury** on 30 Oct 2011, 11:05 a.m.,*
in response to message #1 by M. Joury

Here is my original solution. But as noted elsewhere Werner's is better (which was partially what drove the challenge--find a better solution).

```
LBL CEIL
CHS
XEQ 00
CHS
RTN
LBL FLOOR
LBL 00
CF 20
FRC
X=0?
SF 20
CLX          These two instruction could also be X <> L
LAST X       which is the same number of bytes
INT
FS?C 20
RTN
X>0?
RTN
DSE X
RTN
END
```

44 bytes total preserves Y, Z, and T. Preserves LASTX for FLOOR but not for CEIL.

I don't see any way to do this without using a DSE instruction so I would love to see Egan's original solution it works. The later solution does not.

Cheers,

-Marwan

Edited: 30 Oct 2011, 11:06 a.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #26 Posted by **Gerson W. Barbosa** on 30 Oct 2011, 12:06 p.m.,*
in response to message #25 by M. Joury

Quote:

```
LBL CEIL
CHS
XEQ 00
CHS
RTN
```

I found this relationship yesterday, at Wikipedia:

$$\lfloor x \rfloor + \lceil -x \rceil = 0,$$

FLOOR(x) can be defined in terms of INT(x) and FRC(x), but I don't see this being mentioned there:

```
FLOOR(x) = INT(x) + INT(FRC(x) + 1) - 1
```

On the HP-15C, the following avoids any test, but preserves Y only. Perhaps it can be optimized on the HP-41.

```
001- f LBL C      ; CEIL
002-   CHS
003-   GSB A
004-   CHS
005- g RTN
006- f LBL A      ; FLOOR
007- g INT
008- g LSTx
009- f FRAC
010-   1
011-   +
012- g INT
013-   1
014-   -
015-   +
016- g RTN
```

Regards,

Gerson.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #27 Posted by **M. Joury** on 30 Oct 2011, 12:23 p.m.,*
in response to message #26 by Gerson W. Barbosa

Hi Gerson,

I found the same relationship. The fly in the ointment in my original challenge, so to speak, was the requirement that the stack be preserved. I am trying to think of ways to optimize your solution on the 41 to meet that requirement.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #28 Posted by **Gerson W. Barbosa** on 30 Oct 2011, 12:45 p.m.,*
in response to message #27 by M. Joury

> Quote:
>
> The fly in the ointment in my original challenge, so to speak, was the requirement that

> the stack be preserved.

Yes, I am aware of it. That's not an easy task, congratulations for your and other's accomplishments!

Cheers,

Gerson.

Edited: 30 Oct 2011, 12:55 p.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #29 Posted by **M. Joury** on 30 Oct 2011, 1:24 p.m.,*
in response to message #28 by Gerson W. Barbosa

Thanks. I have to say that it took me longer than Werner to come up with a less elegant solution <g>.

Cheers,

-Marwan

Edited: 30 Oct 2011, 1:24 p.m.

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #30 Posted by **Werner** on 30 Oct 2011, 1:42 p.m.,*
in response to message #29 by M. Joury

Hi Marwan,
I didn't come up with this on the fly, it's been in my files for quite a while now ;-)

cheers, Werner

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #31 Posted by **M. Joury** on 30 Oct 2011, 5:11 p.m.,*
in response to message #30 by Werner

You know, you guys are all too damn honest! :)

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #32 Posted by **Werner** on 30 Oct 2011, 2:28 p.m.,*
in response to message #26 by Gerson W. Barbosa

Equivalent formulas:

```
CEIL(x)  = x - FRC(FRC(x) - 1)
FLOOR(x) = x - FRC(FRC(x) + 1)
```

However, as Dieter pointed out in a previous post a few weeks ago, these do not work for very small x.

eg for x = -1e-50 your FLOOR function will return the wrong result

Cheers, Werner

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #33 Posted by **M. Joury** on 30 Oct 2011, 5:17 p.m.,*
in response to message #1 by M. Joury

Well, I continued to think about this while out cycling today and I think I have a 37 byte solution. There are a couple of caveats:

```
1.  LASTX is not preserved and
2.  The solution is NOT symmetrical.  That is you can't write a solution for FLOOR on it's
own it has to be done through a call to CEIL because
the HP41 does not have symmetrical tests (that is there is an X<=0? but no X>=0? on the
41.  It is symetrical on the 42S which has both tests.
```

Here is my latest effort:

```
LBL FLOOR
CHS
XEQ 00
CHS
RTN
LBL CEIL
LBL 00
FRC
X<=0?
GTO 00
CLX
1
ST+ L
LBL 00  This is *NOT* a NO-OP
X<>L
INT
END
```

Cheers,

-Marwan

EDIT: Fixes issue with longer fraction (ss.eeeii) as pointed out by Werner but adds 2 bytes. 39 bytes now.

Edited: 31 Oct 2011, 7:49 a.m. after one or more responses were posted

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #34 Posted by **Werner** on 31 Oct 2011, 3:55 a.m.,*
in response to message #33 by M. Joury

Perhaps we can use a 'test' suite to guarantee that a program returns the correct solution in all cases.

So, how about (just for CEIL):

```
CEIL(0)      :   0
CEIL(1e-50)  :   1
CEIL(-1e-50) :   0
CEIL(2e-5)   :   1
CEIL(-2e-5)  :   0
CEIL(1)      :   1
CEIL(-1)     :  -1
CEIL(PI)     :   4
CEIL(-PI)    :  -3
CEIL(10)     :  10
CEIL(-10)    : -10
CEIL(1e50)   : 1e50
```

That will do, I think ;-)

Cheers, Werner

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #35 Posted by **M. Joury** on 31 Oct 2011, 7:09 a.m.,*
in response to message #34 by Werner

Good idea. There are so many cases where true decrement / increment operators would have been useful.

Cheers,

-Marwan

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #36 Posted by **Paul Dale** on 31 Oct 2011, 7:15 a.m.,*
in response to message #35 by M. Joury

That's why the 34S has them :-)

I was also tempted to do the equivalent of ISG and DSE but without the skips.

- Pauli

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #37 Posted by **M. Joury** on 31 Oct 2011, 8:04 a.m.,*
in response to message #36 by Paul Dale

It always seemed to me that they should have been able to squeeze them into the 41.

28 bytes with alpha lables

*Message #38 Posted by **Allen** on 30 Oct 2011, 11:06 p.m.,*
in response to message #1 by M. Joury

Here's a 28 byte version, including 17 bytes for the alpha labels: Using D. Knuth's definitions (Concrete Mathemetics, Ch. 3, p.67

```
FLOOR(x)="the greatest integer less than or equal to x."
CEIL(x) ="the least integer greater than or equal to x."
```

For CIEL, we increment 1 for negative input, for FLOOR we decrement 1 for positive input, then return the IP of the result in all 4 cases (pos,neg input and CIEL,FLOOR selection).

```
00 { 28-Byte Prgm }
01>LBL "CIEL"
02 X>0?
03 ISG ST X
04 IP
05 GTO 00
06>LBL "FLOOR"
07 X<0?
08 DSE ST X
09>LBL 00
10 IP
11 .END.
```

Note: Does not account for integer inputs when ciel(x>0) or floor(x<0).

Edited: 30 Oct 2011, 11:29 p.m. after one or more responses were posted

Re: 28 bytes with alpha lables

*Message #39 Posted by **M. Joury** on 30 Oct 2011, 11:26 p.m.,*
in response to message #38 by Allen

I came up with this solution very early on in my efforts but it doesn't work. CEIL(2.0) is 2.0 not 3.0 as returned by this algorithm. Similarly FLOOR(-2.0) should return -2.0 and not -3.0.

Cheers,

-Marwan

Edited: 30 Oct 2011, 11:33 p.m. after one or more responses were posted

Re: 28 bytes with alpha lables

*Message #40 Posted by **Allen** on 30 Oct 2011, 11:29 p.m.,*
in response to message #39 by M. Joury

yep, just noted that in the comments.

Re: 28 bytes with alpha lables

*Message #41 Posted by **M. Joury** on 30 Oct 2011, 11:34 p.m.,*
in response to message #40 by Allen

Yes. So does not work as a generalized solution.

Re: 28 bytes with alpha lables

*Message #42 Posted by **M. Joury** on 30 Oct 2011, 11:49 p.m.,*
in response to message #38 by Allen

I like the trick you use to save a byte by:

```
ISG X
IP
GTO 00
```

Saves a byte over:

```
ISG X
LBL 00      NOP
IP
RTN
```

Very clever. Can be used to save 3 bytes in Werner's solution (which is, IMHO, the best so far).

Cheers,

-Marwan

Edited: 30 Oct 2011, 11:52 p.m.

Re: 28 bytes with alpha lables

*Message #43 Posted by **Allen** on 31 Oct 2011, 1:43 a.m.,*
in response to message #42 by M. Joury

Ok, last try for the night. Does NOT use synthetic programming or flags.

It works by hard-coding a 3-variable K-map for POS/NEG, INT/Non-INT, inputs and CIEL/FLOOR function. (8 cases)

```
1) If NEG CEIL then return IP(X)          (2 cases)
2) Else If POS FLOOR then return IP(X)    (2 cases)
3) Else If FP(X)=0 then return IP(X)      (2 cases)
4) Else If X>0 return IP(X+1)             (1 case)
5) Else If X<0 return IP(X-1)             (1 case)

00 { 43-Byte Prgm }
01>LBL "CIEL"
02 X<0?
03 GTO 02
04 GTO 00
05>LBL "FLOOR"
06 X>0?
07 GTO 02
08>LBL 00
09 STO ST L
10 FP
11 X=0?
12 GTO 01
13 X>0?
14 ISG ST L
15 X<0?
16 DSE ST L
17>LBL 01
18 X<> ST L
19>LBL 02
20 IP
21 .END.
```

Edited: 31 Oct 2011, 2:04 a.m.

Re: 28 bytes with alpha lables

*Message #44 Posted by **Marcus von Cube, Germany** on 31 Oct 2011, 2:55 a.m.,*
in response to message #43 by Allen

Allen, all your solutions have something 'heavenly' ;-)

Re: 28 bytes with alpha lables

*Message #45 Posted by **M. Joury** on 31 Oct 2011, 7:56 a.m.,*
in response to message #43 by Allen

This looks like a 42S solution. I count 44 bytes for a 41. Also see Werner's comment below. That got me as well in my second solution (now fixed but 2 bytes longer).

Cheers,

-Marwan

Re: 28 bytes with alpha lables

*Message #46 Posted by **Werner** on 31 Oct 2011, 3:16 a.m.,*
in response to message #42 by M. Joury

But that doesn't work.. ISG and DSE work on numbers in sss.eeeii format, and will thus add/subtract ii, or 1 when ii=0.
Try your example with PI for instance ...

Cheers, Werner

Re: 28 bytes with alpha lables

*Message #47 Posted by **Allen** on 31 Oct 2011, 8:09 a.m.,*
in response to message #46 by Werner

Wow- you're right, I get so used to using ISG/DSE on integers and forget there is a seldom-used increment value on the right!

Re: Mini challenge. CEIL / FLOOR in RPN

*Message #48 Posted by **M. Joury** on 31 Oct 2011, 10:11 a.m.,*
in response to message #1 by M. Joury

Following is a test driver based on Werner's test scenarios. It is not small but it does test all the suggested cases automatically. Since I currently have a number of FLOOR solutions in memory I have set it up so that the user enters the name of the CEIL and FLOOR functions. Run it by "XEQ FLTST" or if from within the program area "XEQ A" or simply A in user mode and then follow the prompts. You will be asked first for the CEIL FN name and then the FLOOR FN name. The calculator is already in ALPHA mode so enter the name and press R/S. Total size: 270 bytes.

```
LBL FLTST
LBL A
SF 21
CEIL FN
AON
AVIEW
AOFF
CLD
ASTO 01
0
ENTER^
XEQ IND 01
X<>Y?
GTO 01
1
ENTER^
1E-50
XEQ IND 01
X<>Y?
GTO 01
0
-1E-50
XEQ IND 01
X<>Y?
GTO 01
1
2E-5
XEQ IND 01
X<>Y?
GTO 01
1
ENTER^
XEQ IND 01
X<>Y?
GTO 01
-1
ENTER^
XEQ IND 01
X<>Y?
GTO 01
4
PI
XEQ IND 01
```

```
X<>Y?
GTO 01
-3
PI
CHS
XEQ IND 01
X<>Y?
GTO 01
10
ENTER^
XEQ IND 01
X<>Y?
GTO 01
-10
ENTER^
XEQ IND 01
X<>Y?
GTO 01
1E50
ENTER^
XEQ IND 01
X<>Y?
GTO 01
FLOOR FN
AON
AVIEW
AOFF
CLD
ASTO 01
0
ENTER^
XEQ IND 01
X<>Y?
GTO 01
0
1E-50
XEQ IND 01
X<>Y?
GTO 01
-1
-1E-50
XEQ IND 01
X<>Y?
GTO 01
0
2E-5
XEQ IND 01
X<>Y?
GTO 01
-1
-2E-5
XEQ IND 01
X<>Y?
GTO 01
1
ENTER^
XEQ IND 01
X<>Y?
GTO 01
-1
ENTER^
XEQ IND 01
X<>Y?
GTO 01
3
PI
XEQ IND 01
X<>Y?
GTO 01
-4
PI
CHS
XEQ IND 01
X<>Y?
GTO 01
10
ENTER^
XEQ IND 01
X<>Y?
GTO 01
-10
```

```
ENTER^
XEQ IND 01
X<>Y?
GTO 01
1E50
ENTER^
XEQ IND 01
X<>Y?
GTO 01
SUCCESS
AVIEW
RTN
LBL 01
FAIL
AVIEW
STOP
END
```

I hope this helps a little with testing these routines.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cleaning keys on a Woodstock (HP-27)

*Message #1 Posted by **Geir Isene** on 29 Oct 2011, 6:27 p.m.*

I just acquired an HP-27. Looks very nice, but the "4"-key is semi-responsive (need to press hard). Is this something I can easily fix myself or should I send it to a pro?

If easily fixable (and I do not want to run the risk of ruining the calc... at all), then please point me to some babystep procedure.

Thanks.

Re: Cleaning keys on a Woodstock (HP-27)

*Message #2 Posted by **Michael de Estrada** on 30 Oct 2011, 10:43 a.m.,*
in response to message #1 by Geir Isene

Working on Woodstock keyboards is not easy, because the circuit board is heatstaked to the front of the calculator. It is easy to separate the keyboard assembly from the case and electrical circuits, but about the only thing you can do is blow air into the sides or soak it in white winegar, which sometimes helps. Perhaps you can find another cheap dead HP 27 with a good keyboard to replace it.

Re: Cleaning keys on a Woodstock (HP-27)

*Message #3 Posted by **Geir Isene** on 30 Oct 2011, 3:53 p.m.,*
in response to message #1 by Geir Isene

I took out the battery to check it for leakage. It looks pristine also inside. When putting it back in, the calc wouldn't turn on. Charging it. Still won't turn on. I am guessing bad contacts from battery to calc. Sooo.... sending it to someone who can give it lots of hugs, kisses and love. Tried contacting fixthatcalc, awaiting an answer. Alternative fixers out there feeling competent with the HP-27?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Changing battery in 42S

*Message #1 Posted by **Keith Beyer** on 29 Oct 2011, 4:23 p.m.*

Changed the batteries in my 42S last week. I did so as quickly as possible, but the memory was still reset. Is there a way to change the batteries in a 42S without loosing the memory? Just would like to know for the next time.

Thanks!

Re: Changing battery in 42S

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 29 Oct 2011, 6:47 p.m.,*
in response to message #1 by Keith Beyer

If the old batteries are not exhausted, internal capacitors / capacitance will keep some charge and thus the contents of the calculator will be preserved for about one minute, which should be enough. It is important not to short the terminals when inserting the batteries.

Re: Changing battery in 42S

*Message #3 Posted by **Gerson W. Barbosa** on 29 Oct 2011, 8:01 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> It is important not to short the terminals when inserting the batteries.

Yes! Furthermore, this is likely to happen when one tries to replace them as quickly as possible.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=102675

Re: Changing battery in 42S

*Message #4 Posted by **Martin Pinckney** on 29 Oct 2011, 11:35 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> If the old batteries are not exhausted, internal capacitors / capacitance will keep some charge and thus the contents of the calculator will be preserved for about one minute

Recently I needed three LR44/357 cells for a small UV light, and had none in the house. I had two Pioneers, a 17b and a 22s. Since I thought I could more afford to lose the Solver routines in the 22s than the 17b, the former became the donor.

Much to my surprise, even after being out of the calculator several minutes, when put back in the 22s had retained all memory.

Re: Changing battery in 42S

*Message #5 Posted by **Mike Morrow** on 30 Oct 2011, 12:02 a.m.,*
in response to message #1 by Keith Beyer

The HP 42S has been my main work calculator for 14 years, and I've replaced the batteries at least three times. I've never has a "memory lost" condition during battery change occur on the 42S, or any other of my six Pioneers and four (old) Voyagers.

I have the three new cells lined up, ready to go. Then I slap the 42S down in hand to make the old cells slip out, then I carefully insert the new ones, avoiding shorting of the battery clips.

Re: Changing battery in 42S

*Message #6 Posted by **uhmgawa** on 30 Oct 2011, 1:25 a.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> I have the three new cells lined up, ready to go. Then I slap the 42S down in hand to make the old cells slip out, then I carefully insert the new ones, avoiding shorting of the battery clips.

I routinely use stacks of three cells bound with a single wrap of thin (eg: 2mil) tape, which incidentally works better in a 42s/17b than a voyager due to more generous access to the battery well.

In any case the unified stack prevents inter-cell shorting and the tape excess can be folded over the edge of the negative-most cell to prevent accidental shorting to its case when the stack is inserted.

[s/14s/42s]

Edited: 4 Nov 2011, 5:28 p.m.

Re: Changing battery in 42S

*Message #7 Posted by **Lyuka** on 30 Oct 2011, 8:24 p.m.,*
in response to message #1 by Keith Beyer

Hi Keith,

The standby current of the HP 42S when power off is around 9uA by my measurement.
It's quite large to hold the memory without batteries i.e. the internal solid tantalum capacitor of 100uF lose its charge within several seconds.
It's because the internal clock oscillator is active and keeping oscillation (for the un-implemented real time clock functions) in that state.

On the other hands, in the sleep mode, it'll goes down to less than 100nA at nominal temperature.
In this case it will hold the memory for a minute or more.

So it's recommended to put the 42S into the sleep mode by pressing

[EXIT], [+] and [XEQ]

simultaneously before battery replacement.

The other option is to connect an external power supply of +3.6~5V with series protection resistor of 1K Ohm

before battery removal.

Good luck
Lyuka

Re: Changing battery in 42S

*Message #8 Posted by **Julián Miranda (Spain)** on 31 Oct 2011, 6:01 a.m.,*
in response to message #7 by Lyuka

I did a light search and didn't find a thread about, sorry if it has been discussed before. Talking about current draw, has someone measured the Pioneer series?, from my experience, time between battery change, 20S batteries seems to last forever, 22S and 32SII I will say it's OK, 4-5 years even if my usual choice is the 32SII, but 27S and 42S (upgraded to 32K memory) are around 1-1.5 years. Any measurements that can back up my experience?

Re: Changing battery in 42S

*Message #9 Posted by **Lyuka** on 31 Oct 2011, 6:33 a.m.,*
in response to message #8 by Julián Miranda (Spain)

Hi Julian,

Please take a look at,

HP 27S : Irun ~= 6~11mA, Iidle ~= 340uA, Istandby ~= 8.2uA, Isleep ~= 170nA
HP 32sII : Irun ~= 1.0mA, Iidle ~= 120uA, Istandby <= 100nA
HP 42S : Irun ~= 3.3mA, Iidle ~= 380uA, Istandby ~= 8.9uA, Isleep <= 100 nA

Regards,
Lyuka

Edit to use 'u' instead of using Greek mu character.

Edited: 5 Nov 2011, 3:43 a.m. after one or more responses were posted

Re: Changing battery in 42S

*Message #10 Posted by **Sören Nilsson** on 4 Nov 2011, 3:36 p.m.,*
in response to message #9 by Lyuka

How can I enter sleep mode on my HP 32sII?

/Sören

Re: Changing battery in 42S

*Message #11 Posted by **Lyuka** on 5 Nov 2011, 4:01 a.m.,*
in response to message #10 by Sören Nilsson

Since the 32sII has no real time clock nor crystal oscillator,
there is no need to keep partial circuit active when power-off.
In other words, it's already in sleep mode with quiescent current of as low as 100nA.

Lyuka

Re: Changing battery in 42S

*Message #12 Posted by **Katie Wasserman** on 5 Nov 2011, 2:10 p.m.,*
in response to message #11 by Lyuka

> Quote:
>
> HP 27S : Irun ~= 6~11mA, Iidle ~= 340uA, Istandby ~= 8.2uA, Isleep ~= 170nA

How do you put a 27S into sleep mode?

Re: Changing battery in 42S

*Message #13 Posted by **Lyuka** on 5 Nov 2011, 7:39 p.m.,*
in response to message #12 by Katie Wasserman

Just same as 42s. Press [ON] [+] [1/x] simultaneously.

Lyuka

Re: Changing battery in 42S

*Message #14 Posted by **Katie Wasserman** on 5 Nov 2011, 9:31 p.m.,*
in response to message #13 by Lyuka

Thanks!

BTW you wrote:

> Quote:
>
> [EXIT], [+] and [XEQ]

for the 42s, it should be [ON] not [EXIT], correct?

Re: Changing battery in 42S

*Message #15 Posted by **Lyuka** on 5 Nov 2011, 10:31 p.m.,*
in response to message #14 by Katie Wasserman

Hi Katie,

If you mean [ON] as the key that activate the calculator, either way will do. Pressing that key combination will bring the 42s to the sleep mode regardless of its ON/OFF state.

Regards,
Lyuka

Re: Changing battery in 42S

*Message #16 Posted by **Jim Yohe** on 5 Nov 2011, 10:16 p.m.,*
in response to message #13 by Lyuka

Where is this documented? I must not be looking in the right place.

Re: Changing battery in 42S

*Message #17 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 6 Nov 2011, 1:07 p.m.,*
in response to message #13 by Lyuka

Pressing that combination [ON/EXIT][+][1/x] or [ON/EXIT][+][XEQ] on my 42S does not do anything while it is in "ON" state, while it is in "OFF" state no visible change either it remains off. Edit:[EXIT][+][XEQ] works only when the unit is off. When turned on following this key squence for deep sleep, gives Machine Reset message.

Edited: 6 Nov 2011, 5:40 p.m.

Re: Changing battery in 42S

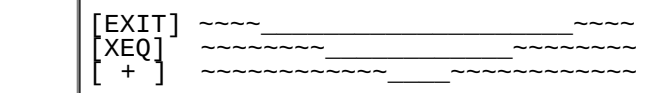
*Message #18 Posted by **Lyuka** on 6 Nov 2011, 5:48 p.m.,*
in response to message #17 by Kerem Kapkin (Silicon Valley, CA)

Hi,

Just try the key sequence below,

Press and hold [EXIT], press and hold [XEQ], press [+] and release, release [XEQ], release [EXIT].

Key sequence (timing chart) to put an HP 42S into sleep mode.



You'll see "Machine Reset" message at power on after sleep mode.

Lyuka

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-25C Repairing

*Message #1 Posted by **aj04062** on 28 Oct 2011, 10:09 p.m.*

Hi, Just picked up a non-working 25C. When unit is switched on and off, different LED's light up with a 0. Occasionally 2 O's will appear.

Fearing fried memory & ACT, I opened and cleaned a fair bit of corrosion. I reassembled to test and no change.

While apart, I noticed the large resistor looks to have severely overheated in the past. Does all of this evidence point towards this thing getting fried from plugging in without a battery?

Edited: 28 Oct 2011, 10:09 p.m.

Re: HP-25C Repairing

*Message #2 Posted by **Eric Smith** on 28 Oct 2011, 10:38 p.m.,*
in response to message #1 by aj04062

No. The resistor limits the charging current to the NiCd pack, and does tend to heat up quite a bit, but use of the charger without the batteries won't damage the resistor, only the chips.

Re: HP-25C Repairing

*Message #3 Posted by **aj04062** on 28 Oct 2011, 11:01 p.m.,*
in response to message #2 by Eric Smith

Still sound like fried chips? The AM radio "test" indicates some acknowledgement to the pushing of some keys, but no key combination makes the display change.

Re: HP-25C Repairing

*Message #4 Posted by **Walter B** on 29 Oct 2011, 4:00 a.m.,*
in response to message #3 by aj04062

AFAIK this looks like the usual fried ACT. Sorry.

Woodstock troubleshooting

*Message #5 Posted by **Randy** on 29 Oct 2011, 9:08 a.m.,*
in response to message #1 by aj04062

Assuming the power supply is okay, remove the rom (1818-0154) and the ram (different numbers, depends on version). Power it up. If you get a 0.00 display, the ACT is okay, basic math should work. If not, check for oscillations at the tank circuit, pins 13/14. If it is dead there, the ACT is dead. If it good, have a look at the display driver components. Not very likely they are at fault but it happens, especially with the 27.

If the ACT is okay, re-install the rom and check transcendental functions. Add the ram and check program

storage.

While the ACT is a common failure, so is the rom in the 25. With ram or rom blown, it usually kills the clock and makes it look like a bad ACT.

Re: Woodstock troubleshooting

*Message #6 Posted by **aj04062** on 29 Oct 2011, 9:15 a.m.,*
in response to message #5 by Randy

Awesome,

Thanks for the nice step by step.

Could I follow similar steps on a malfunctioning 67 (minus RAM of course)?

Re: Woodstock troubleshooting

*Message #7 Posted by **Randy** on 29 Oct 2011, 10:37 a.m.,*
in response to message #6 by aj04062

The 67 isn't so cooperative. I isolate to the logic board, as the display/keyboard can cause non-intuitive problems.

Once I know it is the logic board, I strip all roms and test in a good board equipped with sockets. I've found it too painful to approach any other way as rom failures are more common on the 67/97 than ACT's since they don't get over-voltaged the way Woodstocks do.

Re: Woodstock troubleshooting

*Message #8 Posted by **Dieter** on 30 Oct 2011, 11:11 a.m.,*
in response to message #5 by Randy

While we are on this topic of malfunctioning woodstocks: may I kindly ask for your jugdement regarding the 29C I acquired a few months ago? It worked fine for several days with a set of two NiMH batteries that were used in the original battery holder (and charged externally of course - I do not have the AC adapter). Then suddenly, while running a program, the device crashed and since then it will display nothing but twelve zeroes: 000000000000 is all it says.

Do you think it can be brought back to life? It's such a cutie... *sniff*...

Dieter

Re: Woodstock troubleshooting

*Message #9 Posted by **aj04062** on 30 Oct 2011, 11:44 a.m.,*
in response to message #8 by Dieter

Randy probably is the definitive word on this, but I saw that as a symptom of a bad ACT chip when researching my 25C issues.

Re: Woodstock troubleshooting

*Message #10 Posted by **Randy** on 30 Oct 2011, 12:08 p.m.,*
in response to message #8 by Dieter

I would first test with a 3 volt bench supply using clip connections to the battery terminals - as consumer AA cells (non-flat top design) do not play well with the Woodstock contact design. Also, relying on the spring to make the connection between cells can be problematic since the plating on the spring ends has usually been destroyed by cell out-gassing. FWIW, low supply voltage will cause strange behaviors, many times similar to an ACT failure.

If still no joy with the above, the troubleshooting is the same but you have 5 IC's to remove, not 2. That leaves two IC's on the board, the ACT and the power on reset IC (1820-1983).

Re: Woodstock troubleshooting

*Message #11 Posted by **Dieter** on 30 Oct 2011, 1:33 p.m.,*
in response to message #10 by Randy

Randy, thank you for your reply. Sorry if I'm asking, but I assume you are Randy from fixthatcalc, right? While I think I will manage to connect the 29C to a 3V power supply there are five left thumbs on each of my hands when it comes to replacing ICs and other delicate stuff. ;-) If nothing else helps, do you think there is a chance to get my little marvel back to life at fixthatcalc even if 30+ years old parts are required?

Dieter

Re: Woodstock troubleshooting

*Message #12 Posted by **Randy** on 31 Oct 2011, 1:11 p.m.,*
in response to message #11 by Dieter

Yes, that's me... and FWIW, I gave up trying to repair Woodstocks years ago.

Over the years, I have purchased quite a few 20 series units, some working and most not working. What I have found was the number of units that yielded usable parts was so low, I could not possibly charge what it really cost to do repairs.

IMO, the economics of repair don't work when it comes to Woodstocks and Spices.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thank god for Leo Apotheker ...

*Message #1 Posted by **bluesun08** on 28 Oct 2011, 12:48 p.m.*

... he saved the PSG and finally the HP calcs.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE will there be more?

*Message #1 Posted by **Keith Beyer** on 28 Oct 2011, 12:28 p.m.*

I have not been paying attention to what HP is doing in calculators lately, and missed the HP 15C LE. Does anyone know (other than e-bay) where one can buy one at the list price, or if they will be available for purchase on the HP website again?

Thanks!

Re: HP 15C LE will there be more?

*Message #2 Posted by **Katie Wasserman** on 28 Oct 2011, 12:46 p.m.,*
in response to message #1 by Keith Beyer

Someone posted that they have been recalled from dealer stock to fix the key click problem (I think that they heard this from The Bach Company). But we have not heard directly from HP on this issue. TW, care to comment?

-Katie

Re: HP 15C LE will there be more?

*Message #3 Posted by **John Kono** on 28 Oct 2011, 8:01 p.m.,*
in response to message #2 by Katie Wasserman

That's what I've heard as well, with an expected arrival of mid-November and also from the Bach Company. It looks like they're taking email addresses for a waiting list.

Re: HP 15C LE will there be more?

*Message #4 Posted by **Brandon Poindexter** on 29 Oct 2011, 12:12 a.m.,*
in response to message #3 by John Kono

I called HP Business a couple days ago, and they told me that my delivery was pushed back to December. . . .

Re: HP 15C LE will there be more?

*Message #5 Posted by **Keith Beyer** on 29 Oct 2011, 3:49 p.m.,*
in response to message #4 by Brandon Poindexter

OK, I'd prefer to just order through HP if they are still going to be available at some point. The price on their website is $100. Not familiar with The Bach Company, but looks like they want $129. Has anyone had success at ordering them from HP at this point? Or do I need to wait until they are "in stock" again on the website?

Thanks!

Re: HP 15C LE will there be more?

*Message #6 Posted by **Jeff O.** on 30 Oct 2011, 12:41 p.m.,*
in response to message #5 by Keith Beyer

At this point, I don't think that anybody outside of hp knows if or when the 15c LE will be available again. Hopefully they are checking all the units that were produced in the first batch to weed out any with bad keyboards and will at some point put the rest up for sale. As far as ordering from hp, I don't think you have any other choice than to wait until they are "in stock" again.

Get 7 of these instead

*Message #7 Posted by **Michael de Estrada** on 28 Oct 2011, 1:16 p.m.,*
in response to message #1 by Keith Beyer

1) You can buy 7 of these for the price of one HP 15C LE @ MSRP

2) No keyboard problems

3) No battery current drain problem and uses cheaper AAA batteries

4) Pause function works properly

5) Much nicer case

6) Reset button on back (no need to remove batteries and short contacts to reset)

Re: Get 7 of these instead

*Message #8 Posted by **Lode** on 28 Oct 2011, 1:25 p.m.,*
in response to message #7 by Michael de Estrada

But that's a financial calculator... The thread title says "15C".

I don't understand the point of this 12C anniversary edition. There were already two types of 12C available (regular and platinum). The AE is a third one. The 15C, that's what it's all about!

Edited: 28 Oct 2011, 1:28 p.m.

Re: Get 7 of these instead

*Message #9 Posted by **Martin Pinckney** on 28 Oct 2011, 2:38 p.m.,*
in response to message #8 by Lode

> Quote:
>
> I don't understand the point of this 12C anniversary edition. There were already two types of 12C available (regular and platinum).

If they can sell more calculators that way, why not?

There will probably be a regular 15c w/o the fake snake-skin box, and with no printed manual, sold in a blister pack, once thy get the production problems ironed out.

Re: Get 7 of these instead

*Message #10 Posted by **M. Joury** on 28 Oct 2011, 3:07 p.m.,*
in response to message #9 by Martin Pinckney

I have to wonder what the truth to the recall rumor is. After all, most seem to agree that the 12C+ was not having keyboard problems and hardware-wise they are essentially the same machine. So what exactly are they going to "fix" on/with the 15C LE?

Cheers,

-Marwan

Re: Get 7 of these instead

*Message #11 Posted by **Martin Pinckney** on 28 Oct 2011, 3:44 p.m.,*
in response to message #10 by M. Joury

> Quote:
>
> So what exactly are they going to "fix" on/with the 15C LE?

Someone did a tear-down and found some foreign material under the key snap dome, or whatever they call it, on a non-registering key.

Perhaps indicating some basic industrial clean-room assembly issues?

Re: Get 7 of these instead

*Message #12 Posted by **Gerson W. Barbosa** on 28 Oct 2011, 3:49 p.m.,*
in response to message #7 by Michael de Estrada

7) No Solve

8) No Integrate

9) No trigs

10) No complex mode

11) No matrices

12) ...

Re: Get 7 of these instead

*Message #13 Posted by **uhmgawa** on 28 Oct 2011, 3:58 p.m.,*
in response to message #12 by Gerson W. Barbosa

> Quote:

> 7) No Solve
>
> 8) No Integrate
>
> 9) No trigs
>
> 10) No complex mode
>
> 11) No matrices
>
> 12) ...

0) No reprogrammable SoC

Re: Get 7 of these instead

*Message #14 Posted by **Jeff O.** on 29 Oct 2011, 9:26 a.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> 6) Reset button on back (no need to remove batteries and short contacts to reset)

The 15c LE has a reset "hole" under the battery cover. Should be no need to remove the batteries and short the contacts.

Re: Get 7 of these instead

*Message #15 Posted by **Michael de Estrada** on 29 Oct 2011, 10:45 a.m.,*
in response to message #14 by Jeff O.

Another important detail missing from the HP 15c LE Owner's Handbook. I wonder if the soft reset mentioned on page 63 (ON / -) actually works on the 15c LE.

Edited: 29 Oct 2011, 1:51 p.m. after one or more responses were posted

Re: Get 7 of these instead

*Message #16 Posted by **Jeff O.** on 29 Oct 2011, 12:14 p.m.,*
in response to message #15 by Michael de Estrada

I am pretty sure it does. I don't want to clear the memmory of the one I have with me at the moment, I will try it on my second unit on Monday.

Re: Get 7 of these instead

*Message #17 Posted by **Katie Wasserman** on 29 Oct 2011, 1:05 p.m.,*
in response to message #16 by Jeff O.

It does work.

Re: Get 7 of these instead

*Message #18 Posted by **uhmgawa** on 30 Oct 2011, 10:19 p.m.,*

in response to message #17 by Katie Wasserman

> Quote:
>
> It does work.

"ON" in conjunction with all of "/", "x", "-", "+", and "." are decoded by the 15c firmware upon a power-on transition. Any difference relative to a legacy 15c is likely just an oversight in the emulation scheme.

Re: HP 15C LE will there be more?

*Message #19 Posted by **Eddie H.** on 30 Oct 2011, 9:55 p.m.,*
in response to message #1 by Keith Beyer

I had placed an order via the HP SMB (Small & Medium Business) site in mid-October (18th), which has been in backorder status, since. Last week, I called the SMB customer service number to inquire on the availability and/or possible re-stock of the 15C LE. I was transferred to someone else who stated that the entire inventory had been pulled from the warehouse and sent back to the manufacturer (Kinpo?) due to a "quality control issue" (this is how he stated it). I asked if there was an estimate for when they'd sort this "quality control issue" and begin to fulfill backorders, and I was told 4 to 6 weeks (end of November, beginning of December).

At the time I assumed this only applied to the HP SMB stock, but from what I'm reading here it seems they must've pulled the inventory from all resellers.

Edited: 30 Oct 2011, 9:57 p.m.

Re: HP 15C LE will there be more?

*Message #20 Posted by **Egan Ford** on 30 Oct 2011, 10:05 p.m.,*
in response to message #19 by Eddie H.

I wonder, if in 20 or so years, if buggy, sticky key 15C LEs will fetch for more than the 2nd or repeated run with all the fixes. :-)

"1st ed. 15C LE!!! With hard to press CHS, ENTER, and +!!! And buggy PSE and self-check firmware!!! HP recalled and fixed most of them, but not this one!!! Serious collectors only!!!"

Re: HP 15C LE will there be more?

*Message #21 Posted by **Thomas Radtke** on 31 Oct 2011, 4:25 a.m.,*
in response to message #20 by Egan Ford

20 years after the 32SII, no one asks for an early model with the fraction bug. Prove me wrong by swapping your perfect Singapore sample with my buggy sample (also Singapore), anyone ;-).

Re: HP 15C LE will there be more?

*Message #22 Posted by **Michael de Estrada** on 31 Oct 2011, 10:24 a.m.,*
in response to message #21 by Thomas Radtke

My 32SII was made in Indonesia in 1991. What is the fraction bug ?

Re: HP 15C LE will there be more?

*Message #23 Posted by **Miguel Toro** on 31 Oct 2011, 12:09 p.m.,*
in response to message #22 by Michael de Estrada

From HPDATAbase :

```
"1) The "Factors of Denominator" mode sometimes produces denominators
which are not factors.  In these cases, the 32SII seems to display
the "Most Precise Mode" fraction, so this is a minor bug. Example:


        SF 8
        CF 9
        8 /c
        3
        1/x


You see 0 1/3, but 3 isn't a factor of 8.


2) The "Fixed Denominator" mode (SF 8, SF 9) sometimes produces
denominators other than the specified one, along with incorrect
numerators.  The amount of the error can be about +/- 1.  HP is  now
sending a manual addendum recommending that Flag 9 not be used at
all. Example:


        SF8
        SF 9
        1
        ENTER
        ENTER
        ENTER
        8 /c
        32
        1/x     (which is 0.03125)


You see v 0 7/8 (which is 0.875) but should see ^ 0 0/8.  (Recall that
^ and v are the up- and down-arrows.)


Now press + repeatedly.  You'll see:


        v 1 7/8
        v 2 1/2
        v 4
        v 4 3/4
        v 5 3/5
        v 6 1/2
        v 7 3/7


etc...  all of which are WAY off, and very few of which have a "fixed"
denominator of 8.


3) The "Most Precise" mode (CF 8, CF 9) and the "Factors of
Denominator" mode (SF 8, CF 9) sometimes violate the commutativity of
addition, and produce incorrect results.  This only occurs when the x
value is close to 1/8 of the /c value, and the last two digits of the
LASTx register's exponent are nonzero.  The worst error this can
produce is approximately +/- 0.125, which makes this a substantial
bug. Example:


        CF 8
        CF 9
        8 /c
        32
        1/x


See v 1/8, but it should be ^ 0 0/8. Pressing:
```

```
        0
        +


gives ^ 0, but:


        32
        1/x
        0
        x<>y
        +


gives  v 0 1/8 . Addition should be commutative. The LASTx value is
causing the problems.


In late March, I called HP's Technical Support department about
problems with the fraction system (actually, at that time, I only knew
about bug 1).  The HP employee stated that the 32SII can give
incorrect answers when using fractions (although she would not go into
any details about what problems were known), and that HP would likely
be instituting some type of exchange program this summer.  She
suggested I call back after April 1 for details.  I did call back,
left a message, and haven't heard back from them yet.  "
```

Re: HP 15C LE will there be more?

*Message #24 Posted by **CAD_Jockey** on 31 Oct 2011, 10:11 a.m.,*
in response to message #20 by Egan Ford

> Quote:
>
> I wonder, if in 20 or so years, if buggy, sticky key 15C LEs will fetch for more than the 2nd or repeated run with all the fixes. :-)
>
> "1st ed. 15C LE!!! With hard to press CHS, ENTER, and +!!! And buggy PSE and self-check firmware!!! HP recalled and fixed most of them, but not this one!!! Serious collectors only!!!"

My 15c LE with 12c firmware should really pull in the big bucks then!!

Re: HP 15C LE will there be more?

*Message #25 Posted by **Lincoln R.** on 31 Oct 2011, 11:48 a.m.,*
in response to message #24 by CAD_Jockey

I doubt this would happen. It would be too trivial to simply flash a 15C LE with 12C firmware and claim it came that way. There might be someone crazy enough to pay for a buggy early model 15C LE, although faking those might not be that hard either (print a plausible serial number sticker and flash an old firmware revision).

Re: HP 15C LE will there be more?

*Message #26 Posted by **Michael de Estrada** on 30 Oct 2011, 10:29 p.m.,*
in response to message #19 by Eddie H.

> Quote:
>
> At the time I assumed this only applied to the HP SMB stock, but from what I'm reading here

it seems they must've pulled the inventory from all resellers.

I don't think either the official HP eStores or any of the resellers have their own stock. I bought mine from Buy.com, CostCentral (Erie Computer) and HP Home and Home Office. However, all of mine shipped directly from "Distribution Center" in either Memphis, TN or Olive Branch, MS. Those are the true warehouses with physical stock that have apparently been returned to the manufacturer in China. About the only place you will find any at the present time are from a few individuals selling them on TAS at inflated prices.

Re: HP 15C LE will there be more?

*Message #27 Posted by **bill platt** on 30 Oct 2011, 10:44 p.m.,*
in response to message #26 by Michael de Estrada

I am so glad I didn't buy any yet.

P

Re: HP 15C LE will there be more?

*Message #28 Posted by **Ethan Conner** on 30 Oct 2011, 11:24 p.m.,*
in response to message #27 by bill platt

I am so glad i'm the owner of three original unrepaired 15c LE's. :p

Re: HP 15C LE will there be more?

*Message #29 Posted by **Jeff Johnson** on 31 Oct 2011, 2:09 p.m.,*
in response to message #28 by Ethan Conner

I doubt HP is selling them at a loss, so if the demand remains high (which it has), they will likely be making/selling more. Doubt they would be crying over having to sell 100,000 "Limited Edition" calculators in order to satisfy consumer demand, right? I'm still waiting to order mine ...

Re: HP 15C LE will there be more?

*Message #30 Posted by **bill platt** on 1 Nov 2011, 7:32 a.m.,*
in response to message #28 by Ethan Conner

haha!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bII+ vs. 10bII first impressions

*Message #1 Posted by **Kevin Colville (S. Africa)** on 28 Oct 2011, 11:35 a.m.*

My new HP 10bII+ arrived yesterday and, of course, I had to pull out my three year old 10bII for comparison.

The 10bII+ keyboard: not as good as the 10bII. The new machine has noisier keys with a more hollow click sound. This suggests the keys are sitting loosely in the case and, sure enough, shaking the 10bII+ produces a definite rattle. In contrast the 10bII has a solid firm click and no rattle. Just made a short video to demonstrate the differences: video clip.

There is also noticeable bending of the 10bII+ top case when pressing down on the top three rows of keys.

Display is clear with a greenish tint, but I prefer the yellowish 10bII with its better contrast.

Speed: the 10bII+ is much faster. Tried the usual 253! factorial calculation which responded instantaneously. No "running" message for the 10bII+!

Current state is now fully preserved at power off: even in the midst of entering a number.

The new colours of the key legends are a mixed bag: the orange is slightly darker and slightly reddish while the blue (more cyan) is easier to read than the dark blue of the 10bII, but I prefer the orange of the older model.

Lots of new functions! I am really happy to see trigs and hyperbolics and especially the normal and t distributions. A real pity HP couldn't include F and chi-squared then I would have a replacement in case my 21s dies.

Overall, the keyboard of the older model is much superior (in fact it's the best keyboard HP have made in the last decade) but the 10bII+ gives us faster electronics and more functions. Sigh, HP: always two steps forward, one step back...

Kevin

PS. Long time lurker on these forums and mild HP collector (er, fanatic?). Thought it was about time I contributed something ;)

Re: HP 10bII+ vs. 10bII first impressions

*Message #2 Posted by **Katie Wasserman** on 28 Oct 2011, 12:42 p.m.,*
in response to message #1 by Kevin Colville (S. Africa)

Kevin,

Welcome! Thanks for the video.

My 10bii and 10bii+ feel and sound exactly the same as far as the key clicks go but only when hand held. On a smooth, hard surface desk I hear (but don't feel) the difference. I believe that this is caused by: (1) the 10bii is heavier than the 10bii+, (2) the battery door doens't fit as well on the 10bii+ and rattles a little when the keys are pressed. Both of these could be fixed with a little creative user engineering, I think. Perhaps HP could

tweak the production line on these aspects.

I do like the speed and potential to repurpose the 10bii+. It also has a nice bunch of functions including the Gamma function -- try 253.119!

-Katie

Re: HP 10bII+ vs. 10bII first impressions

*Message #3 Posted by **Bruce Bergman** on 29 Oct 2011, 12:58 a.m.,*
in response to message #2 by Katie Wasserman

Yeah, same here. No keyboard issues at all, so I'm kind of puzzled by that comment...

Re: HP 10bII+ vs. 10bII first impressions

*Message #4 Posted by **Kevin Colville (S. Africa)** on 31 Oct 2011, 4:18 a.m.,*
in response to message #2 by Katie Wasserman

Katie,

You are right: testing on the flat hard surface of my desk is probably worst case scenario for keyboard noise. When held the two models are quieter. The 10bii+ is still noticeably louder though: I think the extra noise and the keyboard flex is because the upper case is thinner than on the 10bII. Perhaps that is one tweak HP could look into...

Now that I've played around with the 10bII+ more I must say the feel of the keyboard is quite good. Perhaps better than the 10bII: the 10bII+ needs less force to press each key and I can type faster on the new model. I think I was too distracted by the noise to notice at first ;)

Kevin

Re: HP 10bII+ vs. 10bII first impressions

*Message #5 Posted by **Tim Wessman** on 28 Oct 2011, 12:56 p.m.,*
in response to message #1 by Kevin Colville (S. Africa)

The keyboard is identical between models, except for very very early 10bII units, so that is kind of surprising to me.

Glad you like it! I'm the one the wrote most of the software. :-)

TW

Re: HP 10bII+ vs. 10bII first impressions

*Message #6 Posted by **Bruce Bergman** on 29 Oct 2011, 12:59 a.m.,*
in response to message #5 by Tim Wessman

Yes! And by the way, one of the nicest collection of statistical functions around in such a calculator -- great job Tim!

Thanks, bruce

Re: HP 10bII+ vs. 10bII first impressions

*Message #7 Posted by **Kevin Colville (S. Africa)** on 31 Oct 2011, 4:38 a.m.,*
in response to message #5 by Tim Wessman

Tim,

After experimenting further with the 10bII+ I think my initial impressions were misleading: it's probably not the keyboard but the case that has changed. The extra noise and flex are more likely because the upper case is thinner, the keys are now held less tightly (hence the rattle) and the click echoes.

I am in awe at the work done on the software. I worked through some of the manual this weekend and especially love the new stats editor. It's very impressive how easy it is to use and how the 7-segment display is not limiting at all! Thank you.

Kevin.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Questions about extended precision

*Message #1 Posted by **fhub** on 28 Oct 2011, 8:13 a.m.*

In my Polynomial RootSolver there are a few expressions in an iteration loop of the form r = s - a*b -c*d.

I see 3 possibilities to calculate this expression:
1) without any tricks in the given form s - a*b -c*d
2) using complex multiplication (cpx*) in the following way: first a*b + c*d (complex) and then subtract from s
3) using cpx* twice: 1*(1*s-a*b) - c*d, i.e. first calculate 1*s-a*b and then 1*result-c*d

Currently I'm using method 2), i.e. (a*b+c*d) complex and then s - (result).
Now I would like to know if method 3) would give a higher precision than 2), or if even none of both complex tricks is better than the standard way 1) ?
Method 1) of course needs less (internal) calculations (no real+imaginary part!), so if there's no difference than I would switch back to 1).

And then one more (principle) question: is there any difference between the precision (i.e. used/stored digits of a number) of the stack and the registers?
I guess there's none (?), but then I don't really see the advantage of using cpx* : what is an internal precision of 34 digits worth, when I only have 16 digit numbers on the stack?

Franz

Edited: 28 Oct 2011, 8:15 a.m.

Re: [WP34s] Questions about extended precision

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 8:49 a.m.,*
in response to message #1 by fhub

Franz, we have two types of number inside the machine: registers and internal decimals. The former is of type decimal64 (or a variant thereof) which packs 16 significant digits into 8 bytes of storage. The internal format is decNumber which we normally use at 39 digits but sometimes to an even higher precision. Whenever an internal result is moved to a register, it is rounded according to the current rounding mode.

All registers are alike, 00 to 99 and all the lettered registers.

The accuracy of your proposed methods depends on whether cancellation can occur or not. This is always the case when a subtraction of numbers of similar magnitude is done. The most accurate way would be to do all calculations with the internal precision. Your proposal does this at least for one of the two subtractions but it may still be that this is less accurate then desired due to cancellation in the second step. At least one intermediate result is always stored with 'just' 16 digits. You can, of course, define two matrices of dimension 3x1 and 1x3 and multiply these. This will be performed to the internal precision. It's only worth the effort when you know that the result will always be close to zero so that cancellation is an issue.

Re: [WP34s] Questions about extended precision

*Message #3 Posted by **fhub** on 28 Oct 2011, 9:17 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks Marcus, that was quite detailled! :-)

The problem is that I don't know the values of all those variables in these formulas, so I have no idea if such critical cancellations may occur or not. And I'm not keen on testing also these values, after I've already made hundreds of tests with random polynomials.

So I guess I should indeed rather remove these cpx* and use the usual calculation method instead, because these iterations are done quite often and cpx* needs twice as many operations.

Franz.

Re: [WP34s] Questions about extended precision

*Message #4 Posted by **Paul Dale** on 28 Oct 2011, 6:29 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Nice wrap up. I saw this come in just as I was heading to bed last night and decided I was too tired to answer it properly :-) Anyway, Marcus said pretty much what I was going to.

One thing that wasn't bought up is that the matrix multiply option is worth further consideration (i.e. multiply $[\ s\ a\ c\ ]^T$ by [-1 b d]. This is probably the most accurate way to perform the calculation since everything is done in internal precision. It also doesn't incur as much overhead as the complex multiplies will. It does, however, require the values in numbered registers and the matrix descriptors loaded -- store the descriptors in registers and RCL them or better RCLS them.

The matrix multiply might even be faster than doing the computations on the stack -- you'll be trading a multiply by -1 for the stack operations and lots of conversions from register to internal format and back. The actual arithmetic is all carried out in internal precision either way (although the long results could be a fraction slower for this). At least, it is seems to be worth a test or three to be sure.

- Pauli

Re: [WP34s] Questions about extended precision

*Message #5 Posted by **fhub** on 29 Oct 2011, 6:21 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> At least, it is seems to be worth a test or three to be sure.

From the viewpoint of accuracy you're right of course, but using this matrix multiplication would require storing these variables in a special register order, and then all the other calculations (and there are many!) won't work anymore (because they also need a special order for complex multiplications). And it would dramatically increase the program size (and I'm already at more than 300 steps).

The main problem of my polynomial solver is not accuracy, the problem is that the used method (Bairstow) doesn't converge fast enough (or even not at all) for (some) higher degree polynomials - at least not on slow hardware like the 20b/30b. (1000 iterations on the PC emulation are no problem, but on the 20b even 100 already need about 10 seconds).
The program is already working (almost) perfectly for polynomials with degree upto 10, but with increasing degree (20-30) it happens quite often that the iteration doesn't converge, no matter what

methods for initial guesses I use (and I've tried lots of them!).

So I'll continue to find better ideas for polynomial degrees higher than 10 or 15 ...

Franz

Re: [WP34s] Questions about extended precision

*Message #6 Posted by **Paul Dale** on 29 Oct 2011, 6:46 a.m.,*
in response to message #5 by fhub

Hmmm, sorry I can't think of anything to suggest here :-(

- Pauli

Re: [WP34s] Questions about extended precision

*Message #7 Posted by **fhub** on 28 Oct 2011, 4:41 p.m.,*
in response to message #1 by fhub

Marcus, one other question:

Do you have any idea how a WP34s program could find out whether it is running on a real HP-20b/30b or in the PC emulator?

The only thing that I could imagine would be using a short loop of any commands and measure the time with TICKS. But what commands to use and how often to repeat the loop, so that at least 1-2 TICKS are over on a real 20b (whereas on the emulator it would be of course 0 TICKS)?

With this method I could use different default values in the program for a 20b and the emulator.

Or is there any other trick I could use for this purpose?

Franz

Edited: 28 Oct 2011, 4:42 p.m.

Re: [WP34s] Questions about extended precision

*Message #8 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 5:20 p.m.,*
in response to message #7 by fhub

Just measure the ticks consumed by your program and terminate the loop depending on the elapsed number of ticks instead of a fixed counter. We don't have a command to identify the emulator and even if we had, you never know how fast the underlying system is.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Stopwatch function implemented on WP34s

*Message #1 Posted by **pascal_meheut** on 28 Oct 2011, 2:36 a.m.*

Hi,

Just for fun, I've implemented a Stopwatch function like the one on the HP-55 and the HP-41C TimeModule.

Of course, it would need a quartz to be precise but I'll see later if I can implement a calibration function.

It is a simple addon to the last firmware version and if someone is interested, I can give the calc.bin and/or the source code.

How it works:

- there is now a TIMER function in the P.FCNS menu, under TIME - Pressing F then H then EXIT quickly enters the TIMER mode too - once in TIMER mode, R/S starts & stops the stopwatch - EEX toggles the 10th secs display - ENTER stores the current value in memory. 0 to start and the increments - arrows increment/decrement the memory used - one can also enter the memory number directly - the memory used is displayed in the exponent zone and -> toggles it

I plan on implementing a delta mode later, like the TimeModule one but maybe simpler.

Here is what it looks like:

Cheers

Re: Stopwatch function implemented on WP34s

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:42 a.m.,*
in response to message #1 by pascal_meheut

Congrats, new master of convoluted C code! It took me a while before I was able to implement anything in WP 34S.

We'd like to see your sources and would also like to know the memory footprint of your additions. Maybe we can add you to the list of developers on SF. :-)

Re: Stopwatch function implemented on WP34s

*Message #3 Posted by **pascal_meheut** on 28 Oct 2011, 5:14 a.m.,*
in response to message #2 by Marcus von Cube, Germany

No luck sending you an email so I did it through silicium.

Re: Stopwatch function implemented on WP34s

*Message #4 Posted by **pascal_meheut** on 28 Oct 2011, 5:32 a.m.,*
in response to message #3 by pascal_meheut

And received your email. Cannot respond still.

Re: Stopwatch function implemented on WP34s

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Oct 2011, 10:27 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Very nice, the TIMER function is very convenient indeed! Just a question: Given the current (pun intended) worries about CR 2032 batteries being not the best ones to cope with extended activity on these calculators, how feasible is to have the timer running for significant periods of time? Are you deliberately choosing a super-slow CPU clock mode to run the timer?

TIA

Re: Stopwatch function implemented on WP34s

*Message #6 Posted by **pascal_meheut** on 28 Oct 2011, 10:54 a.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

This is a first implementation and I've not measured battery drain yet. I plan to do so. Right now, running the TIMER should be the same as running a program but I guess I can try to slow down the CPU clock.

Edited: 28 Oct 2011, 10:55 a.m.

Re: Stopwatch function implemented on WP34s

*Message #7 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 11:26 a.m.,*
in response to message #6 by pascal_meheut

Pascal, you can wire the timer to the heartbeat interrupt. This will run at 2MHz and idle again after return. Just look into keys.c and search for K_HEARTBEAT. You will need a global variable which selects timer mode and disables all other functionality.

Re: Stopwatch function implemented on WP34s

*Message #8 Posted by **pascal_meheut** on 28 Oct 2011, 12:10 p.m.,*
in response to message #7 by Marcus von Cube, Germany

This is exactly what I've done. In the main loop, there is a global variable containing a function pointer. If it is not null, it is called on every key pressed including HEARTBEAT instead of the normal processing.

The TIMER function simply sets this variable and exiting it resets its to NULL. This mechanism could be used for any other interactive function which needs full control of the keyboard if we had more space :-(

Re: Stopwatch function implemented on WP34s

*Message #9 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 12:27 p.m.,*
in response to message #8 by pascal_meheut

Well done! :-)

Re: Stopwatch function implemented on WP34s

*Message #10 Posted by **pascal_meheut** on 28 Oct 2011, 5:13 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

BTW, I ran it for 2 hours straight on brand new batteries and the voltage went from 3.0V to 2.9V. The WP34s slows down at 2.5V and shutdowns at 2.2V. So timer's power consumption is not that bad.

Re: Stopwatch function implemented on WP34s

*Message #11 Posted by **Dominic Richens** on 28 Oct 2011, 9:46 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I'd like to see your code as well (or diffs).

Too bad the hp20b/30b doesn't have a tone generator, I'd like to have a count down timer.

I wonder what the simplest circuit is to use one of the GPIO pins?

Re: Stopwatch function implemented on WP34s

*Message #12 Posted by **pascal_meheut** on 30 Oct 2011, 2:54 a.m.,*
in response to message #11 by Dominic Richens

Code is in SVN.

Re: Stopwatch function implemented on WP34s

*Message #13 Posted by **robertoataulfo** on 28 Oct 2011, 12:43 p.m.,*
in response to message #1 by pascal_meheut

```
We can not take some factors of conversion?
I believe it is very easy to save some factor in a memory (STO) of him to leave the system
fixed.
We could gain a few bytes for further improvements.
```

Re: Stopwatch function implemented on WP34s

*Message #14 Posted by **pascal_meheut** on 28 Oct 2011, 3:31 p.m.,*
in response to message #13 by robertoataulfo

Initialized constants are 272 bytes whilst executable code is 122 Kb according to the linker. So this not where room can be found I guess.

Re: Stopwatch function implemented on WP34s

*Message #15 Posted by **robertoataulfo** on 28 Oct 2011, 3:33 p.m.,*
in response to message #14 by pascal_meheut

```
But these 272 bytes could not be used for something more important?
I think that any user can use some memories (STO and RCL) to save your constants.
```

Edited: 28 Oct 2011, 3:36 p.m.

Re: Stopwatch function implemented on WP34s

*Message #16 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 5:24 p.m.,*
in response to message #15 by robertoataulfo

But then you need to know them. We have a few areas where we might save code such as the integer code which deserves a rewrite in ARM assembly.

Re: Stopwatch function implemented on WP34s

*Message #17 Posted by **Walter B** on 29 Oct 2011, 4:30 a.m.,*
in response to message #15 by robertoataulfo

Using general purpose registers for constants would cost more *and* have the disadvantage of not knowing the names. We won't do that.

Walter

Re: Stopwatch function implemented on WP34s

*Message #18 Posted by **Paul Dale** on 28 Oct 2011, 9:58 p.m.,*
in response to message #14 by pascal_meheut

I suspect the conversion constants aren't in the initialised data segment. They definitely take more than 272 bytes.

They are still incredibly compact as commands go. I'd guess eight to ten conversions or constants occupy the same space as the most trivial of commands (think the single bit setting mode commands) and this is including the catalogue overheads.

- Pauli

Re: Stopwatch function implemented on WP34s

*Message #19 Posted by **Marcus von Cube, Germany** on 29 Oct 2011, 6:37 a.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> I suspect the conversion constants aren't in the initialised data segment.

There is no such thing as an initialized data segment, just ROM data. All data in RAM is just zero. I got rid of the 'copy ROM to RAM' sequence all together.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Simple RPN

*Message #1 Posted by **JDonley** on 27 Oct 2011, 10:14 p.m.*

I downloaded [from the App store] a very nice basic RPN calculator app for new IPad 11. It is called "Simple RPN". 99 cents and worth it. Hard to believe IPad 11 comes with no basic calculator.

Don't know if this an appropriate topic for this site but am sure there are alot of folks on this site with IPads.

Re: Simple RPN

*Message #2 Posted by **bill platt** on 27 Oct 2011, 10:23 p.m.,*
in response to message #1 by JDonley

Apple: spend more for the device so that you can spend even more for the basic stuff :-)

Microsoft: spend less, and get what you pay for :-(

Re: Simple RPN

*Message #3 Posted by **Ethan Conner** on 27 Oct 2011, 10:35 p.m.,*
in response to message #2 by bill platt

They both "back end" you just for different things. One for increased functionality and one for protection. :)

Re: Simple RPN

*Message #4 Posted by **Eric Smith** on 28 Oct 2011, 1:27 a.m.,*
in response to message #1 by JDonley

There's an iPad 11?

Re: Simple RPN

*Message #5 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:51 a.m.,*
in response to message #4 by Eric Smith

It depends on the font used. :-)

Re: Simple RPN

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Oct 2011, 5:20 p.m.,*
in response to message #4 by Eric Smith

Current iPad is 10, next year model will be 11 :-)

Re: Simple RPN

*Message #7 Posted by **Jean-Michel** on 28 Oct 2011, 1:17 p.m.,*
in response to message #1 by JDonley

Hello

Do the shifted functions appear on the keys only once one has pushed the blue "f" key? I guess this is the role of this key! By the way, which shifted functions does it offer? Many thanks advanced for your answer.

Kind regards.

Re: Simple RPN

*Message #8 Posted by **JDonley** on 28 Oct 2011, 4:30 p.m.,*
in response to message #7 by Jean-Michel

Yes, the functions do appear on the keys. This is a very simple calc with the blue shift key shifting between "RCL"/ "STO". "CLa" shifts to "CLx". A third key "X-Y" [exchange] shifts to a function key that enables a change in the background color/style. Something I won't use.

This isn't meant to compete with the various HP calc emulators [HP41 is available]. For .99 it is totally adequate for someone who prefers RPN and doesn't need something that will handle a space launch.

Re: Simple RPN

*Message #9 Posted by **Jean-Michel** on 28 Oct 2011, 4:39 p.m.,*
in response to message #8 by JDonley

Thanks for your fast and accurate explanations. You may also like two other apps: AccessRPN and Pcalc lite. More to say, they are free! Give them a try... Access RPN has a funny feature that enables you to see the stack operating.

Re: Simple RPN

*Message #10 Posted by **JDonley** on 28 Oct 2011, 5:53 p.m.,*
in response to message #9 by Jean-Michel

thanks, I just downloaded both. Am ready for that space launch now!

Re: Simple RPN

*Message #11 Posted by **Michael Kussmaul** on 28 Oct 2011, 4:41 p.m.,*
in response to message #1 by JDonley

I use PCalc on my iPhone and iPad. It has a normal RPN mode and a HP 48 style RPN (RPL) mode. Works great and has a very nice UI.

The only thing missing is some kind of solver or programmability, but it has all trigonometry and even base conversion and calculation functionality.

Re: Simple RPN

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Oct 2011, 6:42 p.m.,*
in response to message #1 by JDonley

You may like Free42 or a derivative from it, named 42S. They are great on the iPod Touch, I don't know if there are differences on the iPad due to screen size, etc.

Re: Simple RPN

*Message #13 Posted by **Eddie W. Shore** on 31 Oct 2011, 3:24 p.m.,*
in response to message #1 by JDonley

Anyone try ActiveRPN for the iPhone/iPad? The basic version is free. The scientific version with macros is $.99. Each macro can hold up to 80 steps.

Re: Simple RPN

*Message #14 Posted by **JDonley** on 31 Oct 2011, 10:27 p.m.,*
in response to message #13 by Eddie W. Shore

there are a couple of utube videos that illustrate active RPN....interesting program.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Local variables in RPN programmable?

*Message #1 Posted by **David Hayden** on 27 Oct 2011, 5:50 p.m.*

I've been thinking of a way to add local variables to an RPN programmable calculator. Does anyone know if this has been done before, or discussed and ruled out as a bad idea? If not then I'll write it up in a Datafile article, and maybe use it as an excuse to try playing with the 34S source code.

Thanks, Dave

Re: Local variables in RPN programmable?

*Message #2 Posted by **Paul Dale** on 27 Oct 2011, 6:06 p.m.,*
in response to message #1 by David Hayden

This is something I've been thinking about for the successor to the 34S. I'd be interested in see what you've come up with.

I'm not aware of it being done before but it is an essential step towards coding built in functions as keystroke programs.

- Pauli

Re: Local variables in RPN programmable?

*Message #3 Posted by **Egan Ford** on 27 Oct 2011, 6:57 p.m.,*
in response to message #2 by Paul Dale

It'd be nice to push the stack on a stack and pop the entire stack back. Could be automatic on RTN.

```
LBL FOO
...
...
...
GSB BAR
...
...
...
LBL BAR
CLONE STACK, COPY STACK, SAVE STACK, etc...
...
...
...
RTN x (or RTN xy, etc...)
```

If we had an infinite stack I'd just need a 4DUP, 2DUP, etc... Perhaps just a FORTH-like stack setup.

Re: Local variables in RPN programmable?

*Message #4 Posted by **Paul Dale** on 27 Oct 2011, 7:07 p.m.,*
in response to message #3 by Egan Ford

I'm definitely thinking about an unlimited depth stack. The big issue with cloning the stack is you want

to take arguments from it and return results to it -- these aren't suitable to using a clone.

I'm also thinking about tagging commands as to the number of input and output arguments and setting/disabling stack lift etc. This allows automatic last X, undo etc to occur which in turn means commands don't need to worry about any of this themselves. It just happens.

- Pauli

Re: Local variables in RPN programmable?

*Message #5 Posted by **Garth Wilson** on 27 Oct 2011, 10:06 p.m.,*
in response to message #4 by Paul Dale

How about a separate unlimited stack for environments. It could hold a lot of things besides local variables, and the position of something in the stack does not depend on what you're doing on the data stack.

Re: Local variables in RPN programmable?

*Message #6 Posted by **Eric Smith** on 28 Oct 2011, 1:28 a.m.,*
in response to message #5 by Garth Wilson

Gee, sounds like RPL is being reinvented.

Re: Local variables in RPN programmable?

*Message #7 Posted by **Garth Wilson** on 28 Oct 2011, 2:44 a.m.,*
in response to message #6 by Eric Smith

I'll take your word for it. I don't speak RPL, but I do speak Forth, and I know they have a lot in common.

Re: Local variables in RPN programmable?

*Message #8 Posted by **Howard Owen** on 28 Oct 2011, 11:32 a.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> Gee, sounds like RPL is being reinvented.

Sounds that way to me too. IMO, one of the evils of RPL is the large amount of anonymous data that an unlimited stack can carry. RPN uses addressable registers. Local variables in an RPN calculator should use the same approach.

Re: Local variables in RPN programmable?

*Message #9 Posted by **Paul Dale** on 28 Oct 2011, 6:38 p.m.,*
in response to message #6 by Eric Smith

I'm not planning anything like RPL. Commands will still have arguments after them e.g. The looping and branching constructs of RPL will be absent.

- Pauli

Re: Local variables in RPN programmable?

*Message #10 Posted by **Howard Owen** on 28 Oct 2011, 8:12 p.m.,*
in response to message #9 by Paul Dale

"Reinventing RPL" is probably over the top. It's just that this discussion triggered one of my RPN/RPL pet peeves. Anonymous data that moves is a Bad Thing, I believe. Four or even eight levels deep in a stack is manageable, more or less. More levels, especially with a rich bestiary of object types, overflows the mental list I maintain mapping stack levels to values. Register addresses, though limited in their ability to convey their contents at any given time, at least can be statically mapped to meaningful names.

Regardless of my personal hobby horse, I do believe that relying on the stack for local variables is an approach associated with RPL, and not RPN. That doesn't tie anyone's hands in terms of implementing it in an RPN machine, but it might muddy the water a little.

Re: Local variables in RPN programmable?

*Message #11 Posted by **Marcus von Cube, Germany** on 29 Oct 2011, 6:27 a.m.,*
in response to message #10 by Howard Owen

We will be coming up with a sensitive solution, I'm sure. All fully RPN, just a 'few' more data registers to play with as long as the program space isn't full or the program runs out of flash memory.

Re: Local variables in RPN programmable?

*Message #12 Posted by **Howard Owen** on 28 Oct 2011, 11:22 a.m.,*
in response to message #3 by Egan Ford

New stack semantics would be one way to implement locals, but there's another approach that would be consistent with classic RPN semantics. Like all programmable HP calculators, the 34S has addressable registers. Why not dynamically allocate space for a local register in a subroutine whenever the user uses a particular naming style. So register -10, for example, would be local to the current scope and all child scopes, if not overridden, and would go away when out of scope.

edit: I imagine this might be impossible to implement on the WP-34S, with its already full memory, This suggestion would be applicable to a follow-on machine with more resources.

Edited: 28 Oct 2011, 11:36 a.m. after one or more responses were posted

Re: Local variables in RPN programmable?

*Message #13 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 11:35 a.m.,*
in response to message #12 by Howard Owen

In WP 34S all data is global. Increasing the size of the return stack was a piece of cake (not yet committed, still testing) but we don't have any local data. An idea could be to treat the memory between and of program space and current return stack pointer as addressable memory, probably indirect only with negative indexes. There you need a thorough checking of the available space and corresponding pointers.

Re: Local variables in RPN programmable?

*Message #14 Posted by **Howard Owen** on 28 Oct 2011, 11:38 a.m.,*

in response to message #13 by Marcus von Cube, Germany

I didn't see your post before editing the parent, Marcus. Would it be possible to add the required bounds checking given current memory constraints on the WP 34S?

Re: Local variables in RPN programmable?

*Message #15 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 11:44 a.m.,*
in response to message #14 by Howard Owen

I'm thinking about it. We might add a command LOCAL n which reserves n registers on the return stack. It needs to place a special marker on the return stack so that a RTN can pop the data. This will be a non trivial modification.

Re: Local variables in RPN programmable?

*Message #16 Posted by **David Hayden** on 27 Oct 2011, 10:32 p.m.,*
in response to message #2 by Paul Dale

Pauli,

You've got email.

Dave

Re: Local variables in RPN programmable?

*Message #17 Posted by **Namir** on 27 Oct 2011, 6:08 p.m.,*
in response to message #1 by David Hayden

I few years ago, I presented an RPN2 emulator at HHC2009. This Excel-based emulator supported modular code that used RPN. The variables and labels of each module lived in their own namespace (defined by the name of the host module). Thus it was possible to write libraries of modules, each with a distinct name, that used the same "local" variables without conflict with similarly named variables that live in other modules.

Namir

Re: Local variables in RPN programmable?

*Message #18 Posted by **David Hayden** on 27 Oct 2011, 10:31 p.m.,*
in response to message #17 by Namir

Namir,

I wasn't at HHC2009 but I think I saw your presentation on the DVDs. It sounds familiar.

If the local variables are stored with the library then doesn't that mean they take up space even when the program isn't running? Also, how does it handle recursion? I suppose recursive calls in an RPN calculator are pretty rare since the return stack is so limited, but it would be nice to allow it.

Dave

Re: Local variables in RPN programmable?

*Message #19 Posted by **Namir** on 27 Oct 2011, 11:37 p.m.,*
in response to message #18 by David Hayden

The life of local variables depends on the implementation. In the Excel-based RPN2 emulator the variables come into scope when you store data in them. They remain for the rest of the program life (and beyond in the Excel-based implementation allowing you to inspect the last values in the variables).

As for recursion. I did not support it.

Namir

Re: Local variables in RPN programmable?

*Message #20 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:57 a.m.,*
in response to message #18 by David Hayden

> Quote:
>
> I suppose recursive calls in an RPN calculator are pretty rare since the return stack is so limited, but it would be nice to allow it.

I've an idea how to implement this on WP 34S, maybe my next venture into the sources. The idea is to share the return stack with program memory. If you need a large return stack, put your program in flash and clear program memory: This will give you more then 500 levels. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP anounces keeping PSG....

*Message #1 Posted by **Ethan Conner** on 27 Oct 2011, 4:37 p.m.*

Meg says they "objectively evaluated" the situation and it was.....gasp! Right for the customers too!

Re: HP anounces keeping PSG....

*Message #2 Posted by **Tim Wessman** on 27 Oct 2011, 4:41 p.m.,*
in response to message #1 by Ethan Conner

TW

Re: HP anounces keeping PSG....

*Message #3 Posted by **Ethan Conner** on 27 Oct 2011, 4:42 p.m.,*
in response to message #2 by Tim Wessman

Lol

Re: HP anounces keeping PSG....

*Message #4 Posted by **Namir** on 27 Oct 2011, 6:10 p.m.,*
in response to message #2 by Tim Wessman

Good one Tim!

Re: HP anounces keeping PSG....

*Message #5 Posted by **BruceH** on 28 Oct 2011, 3:02 p.m.,*

in response to message #2 by Tim Wessman

or...

Re: HP anounces keeping PSG....

*Message #6 Posted by **Tom Mathes** on 27 Oct 2011, 6:04 p.m.,*
in response to message #1 by Ethan Conner

> Quote:
>
> Meg says they "objectively evaluated" the situation and it was.....gasp! Right for the customers too!

Amazing thing is they get paid millions at the top to do this stuff.

Re: HP anounces keeping PSG....

*Message #7 Posted by **hpnut** on 27 Oct 2011, 10:02 p.m.,*
in response to message #6 by Tom Mathes

Where is Meg's announcement? interesting to analyse her words and see if they matches actions in future :-)

Re: HP anounces keeping PSG....

*Message #8 Posted by **Ethan Conner** on 27 Oct 2011, 10:31 p.m.,*
in response to message #7 by hpnut

I found it on engadget.

Re: HP anounces keeping PSG....

*Message #9 Posted by **Jake Schwartz** on 28 Oct 2011, 11:46 a.m.,*
in response to message #7 by hpnut

> Quote:
>
> Where is Meg's announcement?

here you go: http://www.hp.com/hpinfo/newsroom/press/2011/111027xa.html?mtxs=rss-corp-news

Re: HP anounces keeping PSG....

*Message #10 Posted by **Dieter** on 28 Oct 2011, 5:42 a.m.,*
in response to message #1 by Ethan Conner

Obviously I am too less an insider to understand what this is all about, so please excuse my dumb questions:

Who or what is "PSG"? Who is Meg? Which situation was evalutated, and what was the result? Why is this "right for the customers too"? In which way is all this related to Tim's cartoon?

Dieter

Re: HP anounces keeping PSG....

*Message #11 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 6:05 a.m.,*
in response to message #10 by Dieter

HP had announced to sell their Personal Systems Group to which the calculator division belongs. Meg Whitman is the new CEO who seems to have decided to go in a different direction.

Re: HP anounces keeping PSG....

*Message #12 Posted by **David Hayden** on 28 Oct 2011, 7:14 a.m.,*
in response to message #1 by Ethan Conner

Anyone who watches the National Geographic channel could have predicted this:

"The new alpha lioness chases the old one away from the pride and asserts her dominance by peeing on her predecessor's favorite places."

I've observed this behavior "in the wild" with all sorts of high level managers. As soon as they take over, they have to do **something** to show that they're, you know, all *managerial* and stuff. :)

Dave

Re: HP anounces keeping PSG....

*Message #13 Posted by **Tom Mathes** on 28 Oct 2011, 3:32 p.m.,*
in response to message #12 by David Hayden

> Quote:
>
> Anyone who watches the National Geographic channel could have predicted this:

> "The new alpha lioness chases the old one away from the pride and asserts her dominance by peeing on her predecessor's favorite places."
>
> I've observed this behavior "in the wild" with all sorts of high level managers. As soon as they take over, they have to do **something** to show that they're, you know, all *managerial* and stuff. :)
>
> Dave
>
> ---

Proving in the end we're not much different than any other animal on the planet.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] Crystal

*Message #1 Posted by **robertoataulfo** on 27 Oct 2011, 4:22 p.m.*

```
I need crystal to maintain the accuracy of the clock.
Anyone know where I can get?
```

Re: [WP34S] Crystal

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 4:29 p.m.,*
in response to message #1 by robertoataulfo

Any electronic parts shop should carry these. It's a 32768KHz watch crystal together with two **15pF** capacitors in 0603 SMD format.

Edit: Correction to the capacitor specification (was nF instead of pF).

Edited: 28 Oct 2011, 3:45 a.m. after one or more responses were posted

Re: [WP34S] Crystal

*Message #3 Posted by **Walter B** on 27 Oct 2011, 4:33 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Be warned the latter are damn small !

Re: [WP34S] Crystal

*Message #4 Posted by **Tim Wessman** on 27 Oct 2011, 4:57 p.m.,*
in response to message #3 by Walter B

Not really. It is a whole 590% larger than a 0201! Seems pretty big to me.

TW

Re: [WP34S] Crystal

*Message #5 Posted by **Jim Horn** on 27 Oct 2011, 5:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Note that the two capacitors are 15pF each, not 15nF.

Re: [WP34S] Crystal

*Message #6 Posted by **Eric Rechlin** on 27 Oct 2011, 5:41 p.m.,*
in response to message #5 by Jim Horn

And you do have a little flexibility, too. Basically as long as it's the right order of magnitude it should be fine.

My kit (which I will bring back for sale soon) uses 18 pF capacitors.

Re: [WP34S] Crystal

*Message #7 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Oct 2011, 7:09 p.m.,*
in response to message #6 by Eric Rechlin

I noticed one can get several different type capacitors ie ceramic, thin film, etc in 0603 SMD with different tolerances 5%, 3% or 2%. Would anything work, or one better than the other for this application? Any suggestions.

Re: [WP34S] Crystal

*Message #8 Posted by **Katie Wasserman** on 27 Oct 2011, 7:52 p.m.,*
in response to message #7 by Kerem Kapkin (Silicon Valley, CA)

They should all work fine. The tolerance and temperature coefficient will be factors in determining the price but not the frequency of oscillation, the tolerance of the crystal will be much more of a factor (not to mention luck in picking a good one). A while back I suggested trying to fit a tiny trimmer cap in place of one of the fixed caps to allow you to adjust the frequency, but I haven't gotten around to experimenting with that.

Re: [WP34S] Crystal

*Message #9 Posted by **Paul Dale** on 27 Oct 2011, 8:55 p.m.,*
in response to message #8 by Katie Wasserman

When I had job of calibrating real time clocks half a dozen years back, I got the joy of determining crystal tolerances. It very much seemed that you got the tolerance you paid for. Buy a 30ppm crystal and it will be very close to that. Not once did we see a crystal performing a lot better than its specified tolerance.

Our conclusion was that crystals are likely measured at the time of manufacture and graded accordingly.

- Pauli

Re: [WP34S] Crystal

*Message #10 Posted by **Katie Wasserman** on 28 Oct 2011, 4:00 a.m.,*
in response to message #9 by Paul Dale

I make some small electronic timers and stuff to give as gifts and have done some similar crystal testing. I think that you're right about that in general, but I found that the 30ppm ones were typically off by 20ppm. But being off about the same amount and (within a batch) almost always the same direction is a good thing. You can compensate for that by choosing load capacitors to pull the crystal to its stated frequency.

Re: [WP34S] Crystal

*Message #11 Posted by **uhmgawa** on 27 Oct 2011, 8:50 p.m.,*
in response to message #7 by Kerem Kapkin (Silicon Valley, CA)

Quote:

> I noticed one can get several different type capacitors ie ceramic, thin film, etc in 0603 SMD with different tolerances 5%, 3% or 2%. Would anything work, or one better than the other for this application? Any suggestions.

From a temperature/environmental stability perspective: polystyrene dielectric if you can still find them. Outside of military/esoteric capacitors they were the choice for timing critical applications. Unfortunately they are only available in leaded packages, though quite minuscule and inexpensive at the values required here. Failing that an NPO/COG ceramic.

But yes, this will address drift only and you'll need to compensate the xtal to the intended frequency if that's needed. Another thought is to forego absolute accuracy of the xtal oscillator in favor of stability, and compensate for whatever off-target frequency exists numerically.

Re: [WP34S] Crystal

*Message #12 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:49 a.m.,*
in response to message #11 by uhmgawa

We had the latter idea earlier. It would imply keeping an adjustment factor and adding this whenever the RTC is read. If the correction warrants it, adjust the RTC and start over. I'm not very keen at implementing this.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 Barcode generation

*Message #1 Posted by **Raymond Wiker** on 27 Oct 2011, 4:17 p.m.*

I have put an on-line barcode generator up at http://rwiker.github.com/hp41barcode. This is still a work in progress, it does not work with Internet Explorer, and may contain bugs.

It should be able to take a program with line numbers in front of each statement (e.g, the "Catch the Goufers" game. It is also possible to to type several statements on one line, optionally separated with ";", as in the small example program.

PCs do not generally have the not-equals and Sigma characters easily available, so these should be entered as "!=" and "~", respectively. That means that "Sigma+" becomes "~+", and "X not-equals 0?" becomes "X!=0?".

To use, simply copy & paste the program into the text box in the "Input" tab, select the modules needed by the program, click the big button labelled "Do it!". If the bar codes look ok, simply print the page with the "Barcodes" tab selected.

Re: HP41 Barcode generation

*Message #2 Posted by **Geir Isene** on 27 Oct 2011, 4:31 p.m.,*
in response to message #1 by Raymond Wiker

The FOCAL Factory Board of Directors loudly applaud this excellent effort to bring more User Code programs to 'da peple'!

With this and the HEPAX+41CL, we can make FOCAL ROM modules in our sleep.

Cudos!

Re: HP41 Barcode generation

*Message #3 Posted by **Geir Isene** on 27 Oct 2011, 4:46 p.m.,*
in response to message #1 by Raymond Wiker

BTW; What's the significance behind the list of checkboxes/modules on the right?

Re: HP41 Barcode generation

*Message #4 Posted by **Raymond Wiker** on 28 Oct 2011, 12:32 a.m.,*
in response to message #3 by Geir Isene

> Quote:
>
> BTW; What's the significance behind the list of checkboxes/modules on the right?

The checkboxes correspond to a (small) number of common extension modules - by ticking a box, you can use names of functions provides by that module, instead of specifying the XROM codes directly.

As an example, if you uncheck the box next to "wand" and convert the sample program (the default text when the barcode generator is loaded), you'll get an error message that the "WNDDTA" function is unknown.

Note that some of the extension modules have conflicting function names, and so you shouldn't use them at the same time (like the "math" and "advantage" modules.)

Edited: 28 Oct 2011, 12:34 a.m.

Re: HP41 Barcode generation

*Message #5 Posted by **Geir Isene** on 28 Oct 2011, 6:24 a.m.,*
in response to message #1 by Raymond Wiker

Make the paste-in box bigger?

Edited: 28 Oct 2011, 6:25 a.m.

Re: HP41 Barcode generation

*Message #6 Posted by **Ángel Martin** on 28 Oct 2011, 10:05 a.m.,*
in response to message #5 by Geir Isene

It's resizable :-)

Re: HP41 Barcode generation

*Message #7 Posted by **Geir Isene** on 28 Oct 2011, 11:30 a.m.,*
in response to message #6 by Ángel Martin

I saw it... to late :)

Re: HP41 Barcode generation

*Message #8 Posted by **Ángel Martin** on 28 Oct 2011, 10:08 a.m.,*
in response to message #1 by Raymond Wiker

A beauty! Great job indeed, the Wand lives on :-)

I didn't try it yet but does it cope with "XROM AA,BB" statements? I'm saying it because there's a few programs I'd love to BC involving the 41Z and SandMath (but of course...)

Re: HP41 Barcode generation

*Message #9 Posted by **Raymond Wiker** on 28 Oct 2011, 11:25 a.m.,*
in response to message #8 by Ángel Martin

There was a bug in the handling of XROM, which I have now fixed. I've also added some simple instructions, cunningly reusing text that I had already written.

Re: HP41 Barcode generation

*Message #10 Posted by **Geir Isene** on 28 Oct 2011, 11:34 a.m.,*
in response to message #9 by Raymond Wiker

Knit-picking feature request: Add a title on the Barcode page (the main program label would be fine) so that it is easy to know which barcode was printed.

Re: HP41 Barcode generation

*Message #11 Posted by **Geir Isene** on 28 Oct 2011, 11:40 a.m.,*
in response to message #1 by Raymond Wiker

Added link on the UC-41 page.

Re: HP41 Barcode generation

*Message #12 Posted by **gene wright** on 28 Oct 2011, 1:43 p.m.,*
in response to message #1 by Raymond Wiker

Hey Raymond! Great job.

Can the text parsing be adjusted to handle other relatively common ways of entering things like X not equal Y etc., such as shown in my Goufer's game?

Things like X NE 0? and X <> 0?

Re: HP41 Barcode generation

*Message #13 Posted by **Raymond Wiker** on 28 Oct 2011, 2:10 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> Hey Raymond! Great job.
>
> Can the text parsing be adjusted to handle other relatively common ways of entering things like X not equal Y etc., such as shown in my Goufer's game?
>
> Things like X NE 0? and X <> 0?

I think the program handles those cases, as well as a few others (I know that it did earlier, at least).

If you have other mappings, or examples of programs that it does not handle correctly, please let me know.

Also, if you have mappings between function names and XROM codes for particular modules, I'd be happy to add those, too.

Re: HP41 Barcode generation

*Message #14 Posted by **Geir Isene** on 28 Oct 2011, 3:15 p.m.,*
in response to message #13 by Raymond Wiker

Synthetics? Like RCL M?

Re: HP41 Barcode generation

*Message #15 Posted by **Raymond Wiker** on 28 Oct 2011, 3:28 p.m.,*
in response to message #14 by Geir Isene

Can be added, given a little information... May be time for me to order the museum DVD :-)

Re: HP41 Barcode generation

*Message #16 Posted by **Geir Isene** on 28 Oct 2011, 3:36 p.m.,*
in response to message #1 by Raymond Wiker

This is getting awesomer by the hour. You're fast, man!

Feature request: Ability to upload ROM images that shows up in the list on the right.

Re: HP41 Barcode generation

*Message #17 Posted by **Raymond Wiker** on 28 Oct 2011, 5:21 p.m.,*
in response to message #16 by Geir Isene

Note that the checkboxes only affect the mapping from function names used in extension rome to the actual XROM codes. That said, if you have any particular roms that you want added, please let me know - I'll need either a binary dump of the rom, or a text file of some sort that specifies the mapping.

Re: HP41 Barcode generation

*Message #18 Posted by **Geir Isene** on 28 Oct 2011, 5:34 p.m.,*
in response to message #17 by Raymond Wiker

That is understood - but would it be easily feasible to let the user be able to upload a rom in order to make use of its labels?

Re: HP41 Barcode generation

*Message #19 Posted by **Raymond Wiker** on 29 Oct 2011, 2:14 p.m.,*
in response to message #18 by Geir Isene

Not the way it is currently implemented - the barcode generator consists of only HTML and Javascript, and has *no* active server side component that could accept and process modules from the user.

On the other hand, anybody can download the generator and make whatever changes they want to it - including adding information about whatever modules that they want to use.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Future I/O capabilities in WP-34S v3.x

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Oct 2011, 3:59 p.m.*

IIRC, there are printed circuit pads connected to analog input pins of the Atmel processor in the 20B/30B. Granted, such pads are not easy to reach, but it may be interesting to consider a couple of extra functions for future development (perhaps as a separate evolutive branch, because not all users will be interested). I guess some of the code is already there, supporting the BATT function. Perhaps we just need a function to select the active analog input channel, and another function to read the A/D value.

Given that internal wiring of the serial port, or installing a crystal are seen as "acceptable surgery", enabling analog input may also be.

Of course, users of such inputs should be warned about electrostatic discharge risks and also about acceptable signal levels. Eventually, some resistors and zener diodes may be added for some protection.

Just my 0.02 mV DC

Re: Future I/O capabilities in WP-34S v3.x

*Message #2 Posted by **Walter B** on 27 Oct 2011, 4:17 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Please be aware the capacity and will of the design team to support "separate evolutive branches" is **very** limited.

Re: Future I/O capabilities in WP-34S v3.x

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Oct 2011, 4:32 p.m.,*
in response to message #2 by Walter B

Accepted, but...

:-)

Re: Future I/O capabilities in WP-34S v3.x

*Message #4 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 4:23 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

If we support more hardware we need to drop some other functionality so it will be a WP 34X instead of 34S. BTW, the voltage detection is done via the brownout detector: You program a threshold, wait some time, and check it the brownout detector has set a bit in a register. If not, try another threshold. No analog/digital converter involved here.

Re: Future I/O capabilities in WP-34S v3.x

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Oct 2011, 4:31 p.m.,*

in response to message #4 by Marcus von Cube, Germany

Thank you for the clarification... but "BATT" gives a voltage as answer, doesn't it? So you are doing A/D via brownout and timing?

Re: Future I/O capabilities in WP-34S v3.x

*Message #6 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:36 a.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Not timing, more trial and error. If the detector triggers at 2.4V but not at 2.3V I assume that the battery voltage must be between these two limits and take the lower for BATT.

Re: Future I/O capabilities in WP-34S v3.x

*Message #7 Posted by **Paul Dale** on 27 Oct 2011, 5:52 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Flash is full. Very very full. I can't see such a change coming from us.

If we were to add some additional hardware, it would have to be a serial RAM or flash device to increase the available memory -- ideally both.

- Pauli

A less ambitious idea for WP-34S v3.x

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Oct 2011, 11:40 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Something on the line of classic BASIC commads PEEK and POKE, allowing to access arbitrary memory locations. Then, the user code may (perhaps) access I/O ports or devices via these commands.

Again, this is just an idea without any supporting, specific research.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE -- endless loop in SOLVER

*Message #1 Posted by **Gerson W. Barbosa** on 27 Oct 2011, 12:45 p.m.*

The HP-15C LE will alternate forever between "running" and "Error 0" in this example:

```
001- f LBL A
002- g LN
003-   /
004- g pi
005-   -
006- g RTN


1 ENTER f SOLVE A    ->  running
                         Error  0
                         running
                         Error  0
                            .
                            .
                            .
```

Re: HP-15C LE -- endless loop in SOLVER

*Message #2 Posted by **Jeroen Van Nieuwenhove** on 27 Oct 2011, 1:29 p.m.,*
in response to message #1 by Gerson W. Barbosa

Interesting. The 15C emulator in Nonpareil gets stuck at the first error message, as would be expected. I suppose the original 15C behaves the same. This is strange, since the 15C LE is based on the same firmware. The error handling seems to be influenced in some way.

Re: HP-15C LE -- endless loop in SOLVER

*Message #3 Posted by **uhmgawa** on 27 Oct 2011, 3:33 p.m.,*
in response to message #2 by Jeroen Van Nieuwenhove

> Quote:
>
> Interesting. The 15C emulator in Nonpareil gets stuck at the first error message, as would be expected. I suppose the original 15C behaves the same. This is strange, since the 15C LE is based on the same firmware. The error handling seems to be influenced in some way.

I'd be quite surprised if this was due to a change in the firmware error handling behaviour peculiar to the 15c le.

Gerson, is the alternating between "running" and "Error 0" occurring at the same rate of the display blink frequency? [I don't have a 15c le handy ATM.] If so I'd make a wild guess this is somehow due to the display update minimization logic along with an interaction of exiting the emulator driven display blink mode. Although I can't really think of a reason a shadow of the prior display contents would be needed.

Running this on KEMU I find the expected behaviour. The display update sequence preceding this point looks quite vanilla as well so I don't have a better guess.

Re: HP-15C LE -- endless loop in SOLVER

*Message #4 Posted by **Gerson W. Barbosa** on 27 Oct 2011, 3:44 p.m.,*
in response to message #3 by uhmgawa

Yes, exactly the same rate of the display blinking frequency (according to my measurement).

Re: HP-15C LE -- endless loop in SOLVER

*Message #5 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 4:16 p.m.,*
in response to message #4 by Gerson W. Barbosa

You can stop it with any key. It looks like a display problem.

Re: HP-15C LE -- endless loop in SOLVER

*Message #6 Posted by **Gerson W. Barbosa** on 27 Oct 2011, 7:29 p.m.,*
in response to message #5 by Marcus von Cube, Germany

No big issue like the PSE bug, I agree, but worth taking into account in a future firmware upgrade.

Re: HP-15C LE -- endless loop in SOLVER

*Message #7 Posted by **uhmgawa** on 28 Oct 2011, 1:07 a.m.,*
in response to message #3 by uhmgawa

> Quote:
>
> Although I can't really think of a reason a shadow of the prior display contents would be needed.

Ah, I suspected it may be rooted in the lcd controller as it does provide a hardware timed blink. See section 34.5.6 Buffer Swap Mode (pg 502) here for details. There is a two level data buffering scheme allowing update to a yet-to-be-displayed buffer which is subsequently transferred to the lcd display (multiplex scan) buffer. If the lcd controller is placed in "Buffer Swap Mode" the data driven to the display will alternate between both buffers at the hardware blink frequency. Seems like the controller is unintentionally winding up in this mode vs. (presumably) Normal Mode.

Re: HP-15C LE -- endless loop in SOLVER

*Message #8 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:32 a.m.,*
in response to message #7 by uhmgawa

You need to wait long enough after you have written to display memory before you can safely change the mode. The docs say it takes 2 refresh cycles but my experience is that waiting even longer is a good idea. WP 34S does not do a busy wait, the display refresh triggers an interrupt (at roughly 50 Hz) and the number of interrupts is counted. The logic is in the sources in main.c under LCD_interrupt():

```
        /*
         *  Wait for LCD controller to copy the user buffer to the display
buffer.
         *  Then turn off the automatic update.
         *  WaitForLcd is set to 1 by finish_display()
         */
```

```
        if ( WaitForLcd ) {
                if ( ++WaitForLcd == 3 ) {
                        SLCDC_SetDisplayMode( AT91C_SLCDC_DISPMODE_LOAD_ONLY );
                }
                else if ( WaitForLcd == 4 ) {
                        WaitForLcd = 0;
                }
        }
```

I'm not using the blink option but I need the display memory for storing intermediate data. If I remove the 'else' part and clear the variable directly after mode switching, display memory gets corrupted. The trick is to wait for another cycle after switching to 'load only' mode.

Re: HP-15C LE -- endless loop in SOLVER

*Message #9 Posted by **Thomas Radtke** on 27 Oct 2011, 1:51 p.m.,*
in response to message #1 by Gerson W. Barbosa

The emulator just blinks w/o showing 'running'.

Why does it blink in the first place?

Re: HP-15C LE -- endless loop in SOLVER

*Message #10 Posted by **Kiyoshi Akima** on 27 Oct 2011, 2:20 p.m.,*
in response to message #1 by Gerson W. Barbosa

The HHC2010 15C+ just stops with Error 0.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12c won't turn on --- options?

*Message #1 Posted by **gene wright** on 27 Oct 2011, 12:21 p.m.*

It has good batteries. What are the resurrection steps to try?

This is a single 2032 battery non-12c+ made in China a few years ago.

Not worth major surgery :-) but thought it would be good to try a couple of things.

So, batteries are NOT the problem.

Next? :-)

Re: 12c won't turn on --- options?

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Oct 2011, 12:27 p.m.,*
in response to message #1 by gene wright

Gene,

Can you check the current drain, idle (no power), button pressed, etc? It may give an indication of any anomaly and narrow down possible fixes.

-Kerem

Re: 12c won't turn on --- options?

*Message #3 Posted by **Thomas Radtke** on 27 Oct 2011, 12:39 p.m.,*
in response to message #1 by gene wright

All keys 'click'? If one makes permanent contact, it wouldn't turn on.

Re: 12c won't turn on --- options?

*Message #4 Posted by **Egan Ford** on 27 Oct 2011, 1:00 p.m.,*
in response to message #1 by gene wright

Perhaps contrast is down. Stuck key?

Edited: 27 Oct 2011, 1:00 p.m.

Re: 12c won't turn on --- options?

*Message #5 Posted by **Katie Wasserman** on 27 Oct 2011, 3:52 p.m.,*
in response to message #1 by gene wright

Did you remove the battery and short the contacts inside the calculator together for a few seconds?

Re: 12c won't turn on --- options?

*Message #6 Posted by **gene wright** on 27 Oct 2011, 4:00 p.m.,*
in response to message #5 by Katie Wasserman

-- No stuck keys

-- yes, shorted the internal contacts with a coin and then with a paper clip.

Might just be dead, but thought I would hunt for magic tricks.

Re: 12c won't turn on --- options?

*Message #7 Posted by **db (martinez, ca.)** on 27 Oct 2011, 8:18 p.m.,*
in response to message #1 by gene wright

are the feet and battery door in good shape? use it for parts.

Re: 12c won't turn on --- options?

*Message #8 Posted by **Randy** on 27 Oct 2011, 11:08 p.m.,*
in response to message #1 by gene wright

Not sure the age of the unit you have but a very common problem with early one cell 2032 units was a really *bad* design in the battery contacts.

The + contact on the left side gets bent out of position, failing to make contact. Remove the cell and look for the contact to protrude into the circular area taken up by the cell. If you don't see the contact while looking straight down into the cell area, that's the problem.

FWIW, the design was later modified.

Re: 12c won't turn on --- options?

*Message #9 Posted by **gene wright** on 28 Oct 2011, 10:45 p.m.,*
in response to message #8 by Randy

For the record, the problem suggested by Randy was the reason it would not turn on.

The small contact that touches the side of the single 2032 battery cell was not bending out enough into the cell receptacle to make contact with the battery.

A slight amount of bending and it made contact.

Voila. A working 12c.

Thanks all.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

SAM-BA protocols and operating principles

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Oct 2011, 10:57 a.m.*

I would like to know if there are available documents describing the protocol implemented by SAM-BA when flashing devices like 20B / 30B. Details about messages and its answers, message sizes, acknowledgement of messages, command sequences, retries, timeouts, checksums, etc. should appear on such documents; along with a description of typical interchanges between SAM-BA and the devices.

Best regards, and thanks in advance.

Edited: 27 Oct 2011, 10:57 a.m.

Re: SAM-BA protocols and operating principles

*Message #2 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 11:25 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

I don't know what goes on once SAM-BA has downloaded a small program to the chip to which it then talks for flashing. The basic set-up commands are described in the Atmel AT91SAM7L128 Manual. I found it on the Atmel site for free download. The basic protocol allows reading and writing memory on the chip.

MySamba implements X modem if I recall correctly. It downloads a small ARM assembly language program which I present here in disassembled form:

```
200B40 47784770 Undefined instruction  ; [undefined instr]
200B44 E3A00601 MOV     r0, #1<<20
200B48 E3A01C02 MOV     r1, #1<<9
200B4C E3E030EB MVN     r3, #&EB
200B50 E3C33C0D BIC     r3, r3, #&D00
200B54 E3E0709B MVN     r7, #&9B
200B58 E3A02043 MOV     r2, #67
200B5C E5934000 LDR     r4, [r3, #0]
200B60 E3140002 TST     r4, #2
200B64 0AFFFFFC BEQ     &00200B5C
200B68 E5832008 STR     r2, [r3, #8]
200B6C E3A04000 MOV     r4, #0
200B70 E3A02040 MOV     r2, #64
200B74 E5936000 LDR     r6, [r3, #0]
200B78 E3160001 TST     r6, #1
200B7C 0AFFFFFC BEQ     &00200B74
200B80 E5935004 LDR     r5, [r3, #4]
200B84 E0244005 EOR     r4, r4, r5
200B88 E5936000 LDR     r6, [r3, #0]
200B8C E3160001 TST     r6, #1
200B90 0AFFFFFC BEQ     &00200B88
200B94 E5936004 LDR     r6, [r3, #4]
200B98 E0244006 EOR     r4, r4, r6
200B9C E0855406 ADD     r5, r5, r6, LSL #8
200BA0 E5936000 LDR     r6, [r3, #0]
200BA4 E3160001 TST     r6, #1
200BA8 0AFFFFFC BEQ     &00200BA0
200BAC E5936004 LDR     r6, [r3, #4]
200BB0 E0244006 EOR     r4, r4, r6
200BB4 E0855806 ADD     r5, r5, r6, LSL #16
200BB8 E5936000 LDR     r6, [r3, #0]
200BBC E3160001 TST     r6, #1
200BC0 0AFFFFFC BEQ     &00200BB8
200BC4 E5936004 LDR     r6, [r3, #4]
```

```
200BC8 E0244006 EOR     r4, r4, r6
200BCC E0855C06 ADD     r5, r5, r6, LSL #24
200BD0 E4805004 STR     r5, [r0], #4
200BD4 E2522001 SUBS    r2, r2, #1
200BD8 1AFFFFE5 BNE     &00200B74
200BDC E5932000 LDR     r2, [r3, #0]
200BE0 E3120001 TST     r2, #1
200BE4 0AFFFFFC BEQ     &00200BDC
200BE8 E5932004 LDR     r2, [r3, #4]
200BEC E1520004 CMP     r2, r4
200BF0 12400C01 SUBNE   r0, r0, #&100
200BF4 13A02058 MOVNE   r2, #88
200BF8 1AFFFFD7 BNE     &00200B5C
200BFC E3A02CFF MOV     r2, #&FF00
200C00 E382280F ORR     r2, r2, #&F0000
200C04 E0022000 AND     r2, r2, r0
200C08 E2422C01 SUB     r2, r2, #&100
200C0C E2822001 ADD     r2, r2, #1
200C10 E382245A ORR     r2, r2, #&5A000000
200C14 E5872000 STR     r2, [r7, #0]
200C18 E5972004 LDR     r2, [r7, #4]
200C1C E3120001 TST     r2, #1
200C20 0AFFFFFC BEQ     &00200C18
200C24 E3A02059 MOV     r2, #89
200C28 E2511001 SUBS    r1, r1, #1
200C2C 1AFFFFCA BNE     &00200B5C
200C30 E3A0045A MOV     r0, #&5A000000
200C34 E2800C01 ADD     r0, r0, #&100
200C38 E280000B ADD     r0, r0, #11
200C3C E5870000 STR     r0, [r7, #0]
200C40 E5972004 LDR     r2, [r7, #4]
200C44 E3120001 TST     r2, #1
200C48 0AFFFFFC BEQ     &00200C40
200C4C E5972004 LDR     r2, [r7, #4]
200C50 E3120001 TST     r2, #1
200C54 0AFFFFFC BEQ     &00200C4C
200C58 E3E000FF MVN     r0, #&FF
200C5C E3C00C02 BIC     r0, r0, #1<<9
200C60 E3A0100D MOV     r1, #13
200C64 E38114A5 ORR     r1, r1, #&A5000000
200C68 E5801000 STR     r1, [r0, #0]
200C6C EAFFFFFE B       &00200C6C
```

This program receives the data in 256 byte chunks and does the actual flashing. It assumes a 128KB size download before it toggles the boot bit and resets the calculator. This should be modified for shorter files. My MySamba modification is a work-around: It toggles the bit before the download. That is the reason why you need to do a reset after flashing.

Re: SAM-BA protocols and operating principles

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Oct 2011, 11:43 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus, thank you. I'll take a look at all this and will comment later (I hope).

Re: SAM-BA protocols and operating principles

*Message #4 Posted by **sylvandb** on 28 Oct 2011, 10:35 p.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Marcus, thank you. I'll take a look at all this and will comment later (I hope).

I know I have no standing to make a request, so I'll make some observations...

MySamba is written in Delphi (a Pascal variant). The code was offered and (as far as I know) Marcus

was the only one to do anything with it.

C/C++ is far more popular and so is supported on more platforms. Python is another choice, one often possible to write true cross-platform code and where performance is surprisingly good. With popular languages like C and Python the pool of potential contributors is much larger.

I really like the *ix philosophy of a small commandline program that does one thing well, and provides a way for a GUI to wrap it later if desired.

That's my thoughts. :)

Re: SAM-BA protocols and operating principles

*Message #5 Posted by **Marcus von Cube, Germany** on 29 Oct 2011, 6:30 a.m.,*
in response to message #4 by sylvandb

It was easier for me to just extend on the capabilities of Cyrille's work than to reinvent it. Otherwise I'm with you. Something that could be started from the Makefile would be great.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

MySamba and Linux: (easy) success!

*Message #1 Posted by **Cristian Arezzini** on 27 Oct 2011, 6:58 a.m.*

I use Linux Ubuntu, and I've been using SamBa on a virtualized Windows XP for all my wp-34s flashing needs. But I decided I should try mySamba.exe too. And I can report that it worked very easily, directly with Wine under Linux.

As others reported, it didn't enumerate the Com ports; but I just had to write "com1:" in the com port field, and it worked on first try. Of course I had Wine setup to map the USB-Serial adapter to Com1:. No more virtualized Windows for me!

Well, almost: I couldn't find a way to transfer the flash regions with mySamba. But for the main flashing it works great.

Cristian

Re: MySamba and Linux: (easy) success!

*Message #2 Posted by **Egan Ford** on 27 Oct 2011, 8:33 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> Well, almost: I couldn't find a way to transfer the flash regions with mySamba. But for the main flashing it works great.

You can:

1. cat calc.bin *.dat >fullcalc.bin and flash fullcalc.bin, OR
2. wine wp34sgui.exe and use SENDL, and other SEND* functions to send from virtual to physical and vv.

Re: MySamba and Linux: (easy) success!

*Message #3 Posted by **Cristian Arezzini** on 27 Oct 2011, 8:44 a.m.,*
in response to message #2 by Egan Ford

Thanks. I remember trying the cat command in the past, but SamBa crashed for some reason. I suppose it works with mySamba, I'll try as soon as possible!

And I had totally forgotten that the emulator can talk to the real calc. That might be the most fun way! :)

Cristian

Re: MySamba and Linux: (easy) success!

*Message #4 Posted by **Egan Ford** on 27 Oct 2011, 9:05 a.m.,*
in response to message #3 by Cristian Arezzini

This may help:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=201295#201295

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

non-HP RPN knockoffs - the good, bad and ugly

*Message #1 Posted by **Michael de Estrada** on 26 Oct 2011, 11:40 p.m.*

The Compucessory CCS28956 and Victor V12 have been discussed before on this forum. They are basically knockoffs of the HP 12C Platinum, the Victor V12 is a copy of the original version and the CCS28956 is a copy of the newest version, that also adds a cost/sell/margin feature as well. Both calculators can be easily found for less than $15 shipped, although the CCS28956 has to be bought in quantity greater than one to get a unit price under $15. Compare this to a MSRP of $80 for the HP 12CP, and it's clear that the good of these knockoffs is their bargain basement price. Even if they didn't offer RPN, they are still about the cheapest programmable calculators on the market.

The Victor has a decent keyboard with large semi-clicky keys that are laid out exactly the same as the HP 12CP and are spread farther apart for easy desktop use. The bad thing is the choice of red for the color of the shifted functions on the bottom of the black keys, which makes them almost illegible under anything but the brightest ambient lighting. The display is angled up for easy viewing, has large crisp digits with contrast adjustment, but a small decimal point. It's size and bulky case make it non-pocketable and requires two-handed handheld operation. Processing speed is much faster than the original HP 12C and probably comparable to a modern HP 12CP, although

I can't make a comparison, since the only HP 12C I own is an original Voyager one from the 1980s. Finally, the Victor has a hard reset button on the back, so there's no need to remove the batteries (2 x AAA) if a reset becomes necessary. It's unfortunate that the Victor lacks the features added to the newer HP 12CP, such as backspace and undo. I don't miss the parentheses, because I never use algebraic mode. Overall, the Victor is mostly good, some bad and no ugly, and offers a good cheap alternative RPN calculator for non-critical situations, where a true HP RPN calculator is not required.

The Compucessory CCS28956 has an absolutely awful tiny mushy keyboard that has the key locations radically changed from the HP 12C as well as the key legends, such as STO changed to x->M, and critical keys such as ENTER are tiny buttons spaced so closely to other buttons that it is near impossible to depress it without hitting other nearby buttons. Also, the different key locations means that the program key codes are meaningless. This is all very unfortunate, because this is otherwise a very good calculator with a clear large display and a small size that makes it easy to use as a handheld device or carry in a pocket. I has a nice built-in plastic cover that makes it no thicker than a Voyager in its slip case, while actually being smaller in width and height. Processing speed is comparable to the Victor. Build quality is not as good as the Victor and it lacks a reset button. Overall, the Compucessory CCS28956 is some good in its compact size and a lot of bad and ugly in the crappy keyboard layout and button size/action. I can really only see using it in situations where I want to carry it around in a pocket and use in my hand.

Edited: 27 Oct 2011, 12:55 a.m.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #2 Posted by **Katie Wasserman** on 27 Oct 2011, 2:04 a.m.,*
in response to message #1 by Michael de Estrada

Nice summary/review, but you left out the first of the 12C/CP clones, the Aurora FN1000. I think it was first discussed here in 2003.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #3 Posted by **Cristian Arezzini** on 27 Oct 2011, 5:36 a.m.,*
in response to message #1 by Michael de Estrada

I have a 12C+ which has two CR2032 batteries... They are 3V batteries, connected in parallel, so when you change the batteries if you only remove one at a time, the program memory isn't erased. If the Victor has 2xAAA batteries, which are 1.5V each, does this mean they're connected in series? If so, this should mean that when changing batteries, the memory is lost, right?

Cristian

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #4 Posted by **Don Shepherd** on 27 Oct 2011, 7:05 a.m.,*
in response to message #3 by Cristian Arezzini

> Quote:
>
> when changing batteries, the memory is lost, right

For the Victor, if you change the batteries quickly you may be able to preserve program memory, but I wouldn't count on it. The manual says memory is preserved "for a short amount of time" while changing batteries, but I think I removed the batteries for only a couple of seconds and memory was lost. But that was yesterday, when it arrived and I first put the batteries in. Today it seems to keep continuous memory a

bit better.

The manual, by the way, is excellent. It is 72 pages and the font size is very large, making it a very easy read. It is a pleasant surprize considering most printed documentation for cheap products, if there is any at all, is a single multi-fold sheet with a font size of about .001. It doesn't have all the detail of the original HP-12c manual (notably absent are formulas used), but I was surprized by the quality of the manual for a $14 calculator.

Oh, regarding speed, the Victor is much faster at program execution than the 12cp 25th Anniversary edition. But it is nowhere near as fast as the ARM-based 12c+

Edited: 27 Oct 2011, 7:12 a.m.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #5 Posted by **Michael de Estrada** on 27 Oct 2011, 10:51 a.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> The manual says memory is preserved "for a short amount of time" while changing batteries...

Where in the manual did you find this ?

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #6 Posted by **Don Shepherd** on 27 Oct 2011, 11:07 a.m.,*
in response to message #5 by Michael de Estrada

Page 34, first paragraph.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #7 Posted by **Don Shepherd** on 27 Oct 2011, 11:47 a.m.,*
in response to message #5 by Michael de Estrada

The manual, while good overall, does have a few peculiarities. A table on page 7 refers to the word "block" registers, which I think they use in place of "stack." I'm not sure why they would do that unless they just hate the word "stack" for some reason. On the following page they say that "blocks" will be discussed later in the manual, but if it's there I don't see it. They do refer to "x register" and "y register", so I don't know why they just don't call it stack.

At the top of page 36 I expected to see a picture of Dolly Parton.

:)

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #8 Posted by **Thomas Chrapkiewicz** on 27 Oct 2011, 11:13 a.m.,*
in response to message #1 by Michael de Estrada

Is anything known of the hardware internals of any of these machines? Are pictures or schematics around?

TomC

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #9 Posted by **megarat** on 27 Oct 2011, 12:17 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> It's size and bulky case make it non-pocketable and requires two-handed handheld operation.

Interesting. Exactly how big is this calculator? Bigger than an actual 12c, I presume?

Something about the design of the calculator itself, and the lack of scale in the marketing images, gives me the impression that it's small, say the size of an iPhone.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #10 Posted by **gene wright** on 27 Oct 2011, 12:37 p.m.,*
in response to message #9 by megarat

No, it's big and rather ugly!

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #11 Posted by **Michael de Estrada** on 27 Oct 2011, 12:44 p.m.,*
in response to message #9 by megarat

The calculator itself measures 138.4mm x 88.2mm x 22.8mm, with the thickness measurement taken at the top of the display area. Compare this to a Voyager at 128.6mm x 80.0mm x 15.1mm. Inside its carry case it is approximately 147mm x 94mm x 35mm.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #12 Posted by **Don Shepherd** on 27 Oct 2011, 12:45 p.m.,*
in response to message #9 by megarat

Approximately 3.5" by 5.5". The display area is a lot thicker than a normal 12c, presumably to accomodate the AAA batteries. I don't find the angled display to be very legible, certainly not as legible as a real 12c.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #13 Posted by **Michael de Estrada** on 27 Oct 2011, 12:49 p.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> I don't find the angled display to be very legible, certainly not as legible as a real 12c.

Did you try adjusting the contrast ? I did on mine and it helped.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #14 Posted by **Don Shepherd** on 27 Oct 2011, 12:58 p.m.,*
in response to message #13 by Michael de Estrada

I think I fooled with it yesterday for a while and it didn't seem to help too much, but I'll try it again.

Here is a side-by-side pic of the Victor and the HP12c+.

Re: non-HP RPN knockoffs - the good, bad and ugly

*Message #15 Posted by **Michael de Estrada** on 27 Oct 2011, 1:11 p.m.,*
in response to message #14 by Don Shepherd

Actually, I find there to be more difference between the display on the original Voyagers (12C and 15C) and the new HP 15C LE, than I do between the Victor V12 and the 15C LE. About the only thing I find annoying about the Victor V12 display is the tiny decimal point.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[wp 34s] wp 34s picture and scan

*Message #1 Posted by **Jeroen Van Nieuwenhove** on 26 Oct 2011, 6:27 p.m.*

For those interested, here is a link to a high-res picture and scan of a wp 34s. As it is a repurposed 30b, it doesn't look as nice as a nice black 20b, but the keys make up for it.

Re: [wp 34s] wp 34s picture and scan

*Message #2 Posted by **Bruce Bergman** on 27 Oct 2011, 8:28 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

Actually, I think it looks BETTER that way. The contrast between the silver and the black give it a really nice look.

Great pictures!

Thanks, bruce

Re: [wp 34s] wp 34s picture and scan

*Message #3 Posted by **Les Wright** on 27 Oct 2011, 9:02 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

I have just ordered my 30b and am on the hunt for the hardware so I will be ready to flash when it arrives.

I chose the 30b because it is still cheap but reportedly a better keyboard. Your photo shows that the cosmetics are just fine too.

Thanks for sharing.

Les

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41: TFF update

*Message #1 Posted by **Geir Isene** on 26 Oct 2011, 5:57 p.m.*

The Focal Factory has released yet another User Library Rom. The complete list now includes:

- Business Sales/Marketing/Stats
- Control Systems
- Electrical Engineering
- Lend, Lease Savings
- Mechanical Engineering
- Test Statistics

...at the UC-41 page.

Re: HP-41: TFF update

*Message #2 Posted by **Ángel Martin** on 27 Oct 2011, 1:49 a.m.,*
in response to message #1 by Geir Isene

six down, twenty to go!! So much fun, hope the Wand survives all this scanning - 30-year old technology still reliable like the first day, amazing.

Looking forward to other contributors - Gene, you there? :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need An Intro to WP34S

*Message #1 Posted by **Les Wright** on 26 Oct 2011, 5:34 p.m.*

Hi all,

I have been relatively inactive for sometime but am back more now.

I am interested in learning about the WP34S but feel I am coming way to late to the party. I was wondering if someone can point me in the direction of how to get started--the hardware requirements, where to get the cable, how to flash the memory, keyboard overlays, etc.

I don't want to pester the group with a lot of newb questions that would have been already answered for me had I been more regular here for the past two or three years.

TIA,

Les

Re: Need An Intro to WP34S

*Message #2 Posted by **robertoataulfo** on 26 Oct 2011, 5:44 p.m.,*
in response to message #1 by Les Wright

WP34S Start

Re: Need An Intro to WP34S

*Message #3 Posted by **Les Wright** on 26 Oct 2011, 6:02 p.m.,*
in response to message #2 by robertoataulfo

Thank you! That is easier than I thought.

Assuming I can get a programming cable (I will contact Gene on FB and ask him), is it a serial port connection only? I have one of those USB-serial converters, supposedly one of the better ones, but I could never get it to work. Failing that, I think I have an old laptop around with XP and an RS232 port. I do prefer the simplicity of USB, though.

I also see that The Calculator Store in Europe seems to sell pre flashed kits without the cable. Looks expensive (especially with shipping and duty to Canada), but they do reflash for free, even though the return shipping costs add up. Is it worth it?

Thanks,

Les

Re: Need An Intro to WP34S

*Message #4 Posted by **robertoataulfo** on 26 Oct 2011, 6:13 p.m.,*
in response to message #3 by Les Wright

Serial Questions

Re: Need An Intro to WP34S

*Message #5 Posted by **Les Wright** on 26 Oct 2011, 6:33 p.m.,*
in response to message #4 by robertoataulfo

Thanks! But I must admit the nuances of the USB-Serial conversion just sail over my head. I know that as one actually interested in wp34s I should be more tech savvy, but I am not.

Looks like I was wise to keep that old laptop with the RS-232 port. Otherwise, if I am serious I will look at buying one pre-flashed. That said, I really would like a cable so that I can reflash my 15C LE once the PSE and other bugs are fixed in firmware...

Re: Need An Intro to WP34S

*Message #6 Posted by **Jeff O.** on 26 Oct 2011, 9:17 p.m.,*
in response to message #5 by Les Wright

See here too for info.

I recommend at least trying to flash it yourself. Should be doable with your XP machine with a real serial port. Wp34s will probably get pretty stable at some point, but there will likely still be occasional updates.

...

Re: Need An Intro to WP34S

*Message #7 Posted by **Les Wright** on 27 Oct 2011, 12:30 p.m.,*
in response to message #6 by Jeff O.

Alas, I just took a closer look at that old XP machine, and it doesn't have a female RS-232, only a male parallel port (old printer port, basically).

Anyone have success with a parallel-to-serial converter?

Les

Re: Need An Intro to WP34S

*Message #8 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 12:43 p.m.,*
in response to message #7 by Les Wright

Forget it! If you can find a PCMCIA card with a COM port you are fine. Why not just buy an FTDI equipped USB/serial converter?

Re: Need An Intro to WP34S

*Message #9 Posted by **Egan Ford** on 27 Oct 2011, 1:19 p.m.,*
in response to message #8 by Marcus von Cube, Germany

You're assuming that old XP machine has USB ports. :-)

Les, what is your current modern machine? If Mac, you do not need XP. You can flash from the Mac via a USB-to-Serial device from FTDI. And they can be had for ~$14 US.

Re: Need An Intro to WP34S

*Message #10 Posted by **Les Wright** on 27 Oct 2011, 1:29 p.m.,*
in response to message #9 by Egan Ford

Is this the sort of thing you are talking about?:

FTDI Cable On TAS

And, Egan, thank you for remembering, even though I haven't been regular here for awhile. I do indeed use Macs. I am glad to hear that the flashing is doable and the converter cables are cheap, available, and seem to work.

Now, to write Gene about the programming cable...

Les

Re: Need An Intro to WP34S

*Message #11 Posted by **Egan Ford** on 27 Oct 2011, 3:19 p.m.,*
in response to message #10 by Les Wright

That should work. If you really want to play it safe then get this one http://www.amazon.com/gp/product/B004ETE9GO. That is what I purchased and used with my MacBook Air with OS/X 10.6.8. I have been able to flash via OS/X (and Wine, you'll have to install Wine) and to also use the Emulator (also with Wine).

I should probably write a 34S for Mac users page on one of the Wiki's.

Re: Need An Intro to WP34S

*Message #12 Posted by **Michael Kussmaul** on 27 Oct 2011, 5:27 p.m.,*
in response to message #11 by Egan Ford

Yes please!

Re: Need An Intro to WP34S

*Message #13 Posted by **Les Wright** on 27 Oct 2011, 8:45 p.m.,*
in response to message #11 by Egan Ford

I just wanted to share that I do have a USB-Serial converter cable with the Prolific chip-set. On installing the most recent driver from Prolific the cable is recognized fine in XP in a VMWare Fusion VM on my Mac. Regrettably, I don't have any old serial port hardware, not even a mouse, with which to test.

Could this work, or has the general experience been that it has to be FTDI? Indeed, for all I know the technology can be similar or identical, albeit under a different brand.

Les

Re: Need An Intro to WP34S

*Message #14 Posted by **Les Wright** on 27 Oct 2011, 10:54 p.m.,*
in response to message #13 by Les Wright

Disregard this. I just read in another thread that it won't work. "Anything but Prolific" seems to be the advice.

If anyone has different experience, please let me know.

Les

Re: Need An Intro to WP34S

*Message #15 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:22 a.m.,*
in response to message #14 by Les Wright

Les, you can try the serial commands between the calculator on the emulator? It may well be that only the original SAM-BA software from Atmel has problems with the (probably counterfeit) Prolific chip sets. MySamba could be much more robust in this respect.

Re: Need An Intro to WP34S

*Message #16 Posted by **Les Wright** on 28 Oct 2011, 10:01 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Thanks Marcus, I will look into how to do that. At the moment, there is no huge rush. The calculator won't be here for awhile and I haven't heard back from Gene yet about getting a cable. That gives me lots of time to experiment with the port commands in the emulator. I will look at the documentation and see how that is done, and will return with any questions.

Thanks,

Les

Re: Need An Intro to WP34S

*Message #17 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 12:07 p.m.,*
in response to message #16 by Les Wright

If you want to learn the I/O commands you can run the emulator from two different directories: Just create two icons and change the working directory. Then install com0com to emulate a pair of com ports which are

internally tied together. Now edit wp34s.ini in both directories to reflect the virtual com ports.

Re: Need An Intro to WP34S

*Message #18 Posted by **Neil Hamilton (Ottawa)** on 28 Oct 2011, 1:22 p.m.,*
in response to message #17 by Marcus von Cube, Germany

What a cool trick!

Re: Need An Intro to WP34S

*Message #19 Posted by **Egan Ford** on 26 Oct 2011, 9:49 p.m.,*
in response to message #1 by Les Wright

The info above is a good start, but I'll add:

1. MySamba.exe has been easier for me to use for flashing and it works from Linux and OS/X via Wine.
2. I have been able to flash using USB to Serial (FTDI-based) without issue from Windows/XP in a VM on OS/X. Based on others feedback any FTDI-based USB to Serial should work.
3. I'd hold off until after the fork. 3.0 is about to be released and it will have a different overlay. Unless you want the older overlay then 2.2 is feature complete.
4. Reflashing after initial flash is much easier. Esp. with MySamba.exe. It takes me about 30 seconds to update to a newer version.
5. 20b looks better, 30b feels better.
6. There is a Windows emulator for the 34S if you want to test drive first. It also runs with Wine.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking to borrow an HP 9100a/b for a technology gallery in NYC

*Message #1 Posted by **Keenen Thompson** on 26 Oct 2011, 4:45 p.m.*

My company is working on a biannual technology event happening in December this year, in New York City. We have an exhibit called Past Perfect and are looking to feature a HP 9100a/b in display perfect condition. A bit of Google searching led me here, and I hope to hear from some members who may be in the area with one of the calculators. If you're out of the area and interested, please still contact me and we can chat about shipping the device back and forth.

My email address is keenen [at] gawker [dot] com

Thanks.

Edited: 26 Oct 2011, 4:47 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

MySamba/Samba does NOT work with Vista - Problems again

*Message #1 Posted by **Eddie W. Shore** on 25 Oct 2011, 10:29 p.m.*

Today I tried to install build 1797 (or whatever it is) that was released today and first of all Samba-BA v2.10 once again failed to recognize my calculator and MySamba recognizes the COM but I keep getting "Failed to Connect" screen - no matter what COM I choose. I used another computer and that computer didn't even recognize the calculator even AFTER I installed the driver.

I am using EasySync ES-U-1001-R10 (US232R-10) - because that cord worked the last time. However it doesn't now and I'm back to having a dead 20b.

I am using Windows Vista. It doesn't matter how many times I download the driver.

I am putting a request for a cord that goes straight to USB cord without any need for a serial adapter because I can't imagine that I'm the only one with these problems.

---------- I should have enough saved up to buy an updated 15CE if HP gets the PSE thing fixed.

Marcus, when you have version 2 stabilized and officially released, I aim to buy an updated WP 34S from you.

Update: I downloaded the MySamba that was just released. Sadly, no success. I keep getting the Unable to Connect error.

Edited: 25 Oct 2011, 11:05 p.m.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Oct 2011, 2:34 a.m.,*
in response to message #1 by Eddie W. Shore

Ed. The dead 20b is most probably no longer listening to the serial port due to flat batteries.

1. Only connect the cable while flashing!
2. Once in SAM-BA mode, remove the batteries if you do not succeed on the first try. SAM-BA will eat them quickly.

As for the USB cable you mentioned: Yesterday I built my own from an FTDI 3.3V-TTL cable and the original HP cable. I stripped the level shifter off the board inside the cable case and connected RX/TX/GND directly. In order to power the calculator from the cable, I added an external connector for a wall wart. Using the USB supply would need a 3V voltage regulator which I don't have. Maybe some kind soul redesigns the tiny board to contain a mini USB socket, an FTDI chip, and a voltage regulator, besides the two buttons, to make this a viable option for all of us.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #3 Posted by **Jeff O.** on 26 Oct 2011, 7:50 a.m.,*

in response to message #1 by Eddie W. Shore

Eddie,
I can tell you that I have gotten MySamBa (Marcus' version of the program available at Sourceforge) to work with Vista and the same USB-to-serial converter that you have, as described here. Did you right click on the MySamBa.exe file and tell it to run in XP compatibility mode?

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #4 Posted by **Eddie W. Shore** on 26 Oct 2011, 8:11 a.m.,*
in response to message #3 by Jeff O.

I may have forgot to do that. I'll check. Thanks.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #5 Posted by **Eddie W. Shore** on 26 Oct 2011, 10:40 p.m.,*
in response to message #4 by Eddie W. Shore

So I checked the Compatibility Mode, put new batteries, connected the calculator when the cord was flashing (which was all but a millisecond it seems) - STILL THE SAME RESULT: NO CONNECTION.

So I am back to the Samba CDC program - I click on COM 7 - and the program disappears! Then when I unplug the adapter I get this long error message:

```
error reading "file2d0e110": I/O error
  while executing
"read $fd 4"
  (procedure "TCL_Read_Int" line 6)
  invoked from within
"TCL_Read_Int $target(handle) $cidr_addr err_code"
  ("foreach" body line 10)
  invoked from within
"foreach cidr_addr $addresses {
  #Check the processor ID
  set err_code 0
  set version_mask 0x0FF0..."
 invoked from within
"if {$target(board) != "no_board"} {
 set srcDevld [file join $libPath(extLib) "devices" "devices.tcl"]
 if {[catch {source "$srcDevld"} errMsg]}..."
 (file "C:/Program Files/AMTEL Corporation/SAM-BA
v2.10/sam-ba_cdc.exe/lib/tkcon.tcl" line 4950)
  invoked from within
"source [file join $starkit::topdir lib/tkcon.tcl]"
  (file "C:/Program Files/ATMEL Corporation/SAM-BA
v2.10/sam-ba_cdc.exe/main.tcl" line 7)
```

This is the in the window "Error in startup script". Hopefully someone knows what is file is missing (if I am understanding this message correctly).

If I click on COM 3, Samba v2.10 will give me that "Old communication error".

I will seek help to get my 20b back to working (if it is possible) but as far as me using the cord to flash calculators is concerned - I'm done. It is too frustrating a process.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 2:45 a.m.,*
in response to message #5 by Eddie W. Shore

> Quote:
>
> So I checked the Compatibility Mode, put new batteries, connected the calculator when the cord was flashing (which was all but a millisecond it seems) - STILL THE SAME RESULT: NO CONNECTION.

The sequence of events should be:

1. Start MySamba and fill in the fields.
2. Connect the cable.
3. Reset the calculator.
4. Turn on the calculator (you will not see anything). Hold down ON for a second or so.
5. Click "Send File" in MySmBa.

If MySamba errors out immediately (no noticeable delay) you have a problem between MySamba and the Windows driver of your serial port. If it takes a second or longer to error out, the problem is between the communication endpoints such as a calculator not answering the packets from the PC.

Download and install "Free Serial Port Monitor". It will show you what is going on on the serial port. I used it to debug the communication between the emulator and the device but it should equally well tell you what is going on (or not) while flashing.

> Quote:
>
> ... as far as me using the cord to flash calculators is concerned - I'm done. It is too frustrating a process.

That's bad news. :-(

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #7 Posted by **Eddie W. Shore** on 27 Oct 2011, 8:50 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> The sequence of events should be: 1. Start MySamba and fill in the fields. 2. Connect the cable. 3. Reset the calculator. 4. Turn on the calculator (you will not see anything). Hold down ON for a second or so. 5. Click "Send File" in MySmBa.
>
> If MySamba errors out immediately (no noticeable delay) you have a problem between MySamba and the Windows driver of your serial port. If it takes a second or longer to error out, the problem is between the communication endpoints such as a calculator not answering the packets from the PC.
>
> Download and install "Free Serial Port Monitor". It will show you what is going on on the serial port. I used it to debug the communication between the emulator and the device but it should equally well tell you what is going on (or not) while flashing.

You are a miracle worker! I achieved success this morning and Version 2.2.1782 is on my 20b.

Thanks everyone for your help and your patience with me.

Eddie

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #8 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 9:48 a.m.,*
in response to message #7 by Eddie W. Shore

You make me curious: What did you change?

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #9 Posted by **Eddie W. Shore** on 31 Oct 2011, 3:26 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Holding down the ON button before clicking on download.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #10 Posted by **Bart (UK)** on 28 Oct 2011, 6:56 a.m.,*
in response to message #5 by Eddie W. Shore

> Quote:
>
> So I am back to the Samba CDC program...

I have SAMBA 2.10 with my Vista (32 bit) machine. It installed 2 versions. The one with a "_cdc" tag indeed does NOT work. The one *without* the "_cdc" works fine with my FTDI USB-to-serial converter.

Re: MySamba/Samba does NOT work with Vista - Problems again

*Message #11 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 8:28 a.m.,*
in response to message #10 by Bart (UK)

CDC assumes a working USB device implementation on the target. This is obviously not the case with an HP 20b or 30b.

SAM-BA is awfully slow compared to MySamba. Either Atmel has done a horrible job or Cyrille an extraordinary good one. I assume both is true. Think of 3 minutes versus 20 seconds to reflash the device. Why SAM-BA is so slow and why it is so picky with the execution mode or the serial port driver is beyond me.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-97S

*Message #1 Posted by **aj04062** on 25 Oct 2011, 8:58 p.m.*

Rebuild time!

Just obtained this 97S (minus the front plate, Help?) from an old doctor friend who also let me take an old 9810 too!

It's connected to a digital caliper with RED LEDs (Digit-Cal)

All seem to work, except the printer and card reader. I have the software with the unit too. Hopefully with a card reader rebuild, I can measure catheters like it was 1982!

Can anyone answer how accurate the "rarity scale is" on HPmuseum?

Edited: 25 Oct 2011, 9:24 p.m.

Re: HP-97S

*Message #2 Posted by **hpnut** on 25 Oct 2011, 10:10 p.m.,*
in response to message #1 by aj04062

Interesting. is this a medical device or a physics lab measuring instrument?

Re: HP-97S

*Message #3 Posted by **aj04062** on 25 Oct 2011, 10:44 p.m.,*
in response to message #2 by hpnut

Medical Device. No blood, thank goodness. Really doesn't look used much.

Re: HP-97S

*Message #4 Posted by **bill platt** on 25 Oct 2011, 11:14 p.m.,*
in response to message #1 by aj04062

The 97 was the iphone of its day: a universal platform for implementation of all sorts of cool stuff :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Release Planning

*Message #1 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 4:35 p.m.*

We are planning to spit out a 'final' V2.2 release of WP 34S as a ZIP file. I have made a few crucial modifications to the power saving scheme (finding more bugs in the process than I'd like to admit). Chances are high that I screwed something up so I kindly ask you to update your 20b or 30b and use it to tell me what needs to be fixed. Please no ideas what should be added because new functions are exclusively planned for the next release! I'm talking about bug fixing here.

At present, the overlay works fine with one exception: x<>y in the f and g shifted planes. In normal mode, they generate y<> and z<>. But don't cry out too loud too early! ;-) The functions a->x and x->a are still on the keyboard: Just switch to alpha mode and the functions are mapped to their positions marked on the overlay. I would like to leave this in as a compromise and not change the mapping back to what it was in V2.1.

Re: WP 34S: Release Planning

*Message #2 Posted by **Alexander Oestert** on 26 Oct 2011, 1:35 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I'm ready for testing! Is it up already?

> Quote:
>
> I would like to leave this in as a compromise and not change the mapping back to what it was in V2.1.

:-(

Re: WP 34S: Release Planning

*Message #3 Posted by **Marcus von Cube, Germany** on 26 Oct 2011, 2:21 a.m.,*
in response to message #2 by Alexander Oestert

> Quote:
>
> I'm ready for testing! Is it up already?

As usual in SVN. I don't think it's ripe for being zipped.

Re: WP 34S: Release Planning

*Message #4 Posted by **Alexander Oestert** on 27 Oct 2011, 2:24 a.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:

> At present, the overlay works fine with one exception: x<>y in the f and g shifted planes. In normal mode, they generate y<> and z<>. But don't cry out too loud too early! ;-) The functions a->x and x->a are still on the keyboard: Just switch to alpha mode and the functions are mapped to their positions marked on the overlay. I would like to leave this in as a compromise and not change the mapping back to what it was in V2.1.

In the beginning I didn't like this idea. Now, after having played with it a bit, I think this is how it always should have been! It's the most intuitive solution I can think of!

To make the keyboard appropriately reflect this function switch I am thinking of printing a tiny [y<> and z<>] label on a paper sticker and putting it above the key beneath the [GRAD]. Is the artwork already updated with this?

Edited: 27 Oct 2011, 2:25 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emulator updates & HP82240B printer simulation

*Message #1 Posted by **Christoph Giesselink** on 25 Oct 2011, 2:11 p.m.*

In the last weeks I updated Emu48 Classic to v1.51, Emu28 to v1.23 and Emu42 to v1.14. All three emulators for Win32 now contain an interface for a Redeye printer simulation.

Normally the calculator send infrared pulses in the Redeye format to a HP82240 printer. These pulses are decoded inside the HP82240 to a data byte stream. Because I have no real chance to transfer the infrared pulses over an interface inside a PC, I decided to integrate the Redeye format decoder inside the emulator listening at the STL bit of the LED control register at Emu28 and Emu42 and at the half bit frame generator bit at Emu48.

This beginning of this project go back to the year 2002 or 2003. Cyrille send me a decoder sample for Emu48 at this time. I know the Redeye format since I wrote a decoder for it in the early 90'ties, so I find it a good idea. But I also knew that an implementation for Emu42 is much more difficult. So I decided to integrate the Redeye decoder inside Emu42 first. Because I already wrote such an decoder in 8052 assembler, an implementation in C was rapidly done. But in not "Authentic Speed" mode weather a HP28S nor the HP42S was able to print 10 or 20 characters successfully. In "Authentic Speed" mode printing with a HP42S was working, but not with the HP28S. The reason for the HP28S in "Authentic Speed" mode is a timing issue, which base on the timer integration concept inside the Emu42 emulator. So I decided to use a workaround which you normally don't recognize. But the problem in non "Authentic Speed" mode (full running) was still left. I knew that the reason for this misbehaviour was inside the CPU cycle clock measurement (see also my MoHPC article Inside Saturn Emulator Timing, but I had no idea how to solve it. So I cancelled further working on this project for over 7 years. In spring 2011 I restarted the printing project and solved the timing problem. All three emulators now got the Redeye decoder.

But still a printer simulation was missing. IMHO it makes no sense to add a printer simulation to each emulator, so I decided to write a separate HP82240B printer simulation. After my experiences with TCP/IP in Emu71 I decided to use UDP for the inter-process communication between the calculator emulator and the printer simulator. So all emulators send their decoded bytes over IPv4 to the address "localhost" port 5025 by default. The address and port can be changed in the "Settings" dialog.

My new HP82240B printer simulator, available on my homepage at http://hp.giesselink.com/, set the main focus on text input. So the main window is a text mode window only. To support most of the Roman8 and ECMA94 character set, I decided writing an Unicode application with translation tables from the printer fonts to Unicode. So be aware to use a Unicode font which support most of the used characters and when you are doing Copy&Paste to a non Unicode editor, you will get conversation losses. This is a limitation, but after more than 10 years after introducing Unicode to a Windows OS, when should we begin using Unicode? But there's also an optional windows in the printer simulation showing the printer output in the original HP82240B printer font.

As input interface the HP82240B simulator support the native IPv4 UDP interface of the Emu28, Emu42 and Emu48 emulators, a serial COM port interface for the HP48 series wire interface and finally USB over the original HP USB driver used by Conn4x for supporting the HP48GII, HP49G+ and HP50G calculators. The display dump capture over a key isn't supported for the HP49G and later. Since the HP49G calculator the display dump over a key use a HP82240B incompatible format. Use Conn4x for a display dump instead please.

I hope you enjoy using the new printing capability of the emulators. For those which want to add the UDP interface to their own HP82240 emulator or simulator, just integrate a normal UDP server listening for the data byte stream

on the given port.

Caution: On slow PC's especially NET books with Intel Atom CPU the printing may not work properly with loosing transferred data or with decoding errors inside the Emu28 and Emu42 emulator.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #2 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 4:22 p.m.,*
in response to message #1 by Christoph Giesselink

> Quote:
>
> Caution: On slow PC's especially NET books with Intel Atom CPU the printing may not work properly with loosing transferred data or with decoding errors inside the Emu28 and Emu42 emulator.

You can remedy this by making the printer a multi threaded process with a buffer that reads the UDP packets and feeds them to the printer window at a suitable pace. I'm wondering why the IP stack doesn't take care of this, it should buffer the packets until they are fetched by the server.

Re: Emulator updates & HP82240B printer simulation

*Message #3 Posted by **Christoph Giesselink** on 25 Oct 2011, 5:03 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> You can remedy this by making the printer a multi threaded process with a buffer that reads the UDP packets and feeds them to the printer window at a suitable pace. I'm wondering why the IP stack doesn't take care of this, it should buffer the packets until they are fetched by the server.

The receivers are implemented in a separate thread. Since USB support there's also a 64K print buffer between the receiver and the printing thread. Loosing characters happend very early in development on an Atom Net-book. With this last version the Net-book got defect characters from time to time. We recognized a heavy CPU usage at printing caused by Emu42 and the printer simulation. I have the suspicion that the redeye decoder inside Emu42 don't work properly at high CPU usage on slow machines.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #4 Posted by **sylvandb** on 25 Oct 2011, 8:36 p.m.,*
in response to message #3 by Christoph Giesselink

The redeye decoder addition sounds like a nice project. :)

> Quote:
>
> I have the suspicion that the redeye decoder inside Emu42 don't work properly at high CPU usage on slow machines.

I haven't looked at the code yet, but I assume that the redeye decode is native code (not calculator code emulated by the emulator).

As the redeye decoder is checking the output bit, is it operating independently of the emulated machine (polling the emulated register)? Or is it in lock-step with the emulator (being triggered by changes to the emulated register and delaying the emulator until the decoder has finished)?

It seems if it were operating in lock-step with the emulator, it would be impossible to miss bits but that might affect emulator timing.

If it is operating independently of the emulated machine, it has to poll the emulated register very frequently and might miss a bit transition if the CPU is under heavy load. If that is the case, it probably needs to be multi-threaded such that the polling thread is high-priority and stores transitions in a ring buffer, while the decoder thread pulls transitions out of the ring buffer and decodes them to send out via UDP.

Using a ring buffer would allow the polling thread to detect overflow if the decoder was not keeping up. That overflow condition could possibly be used to pause the emulator (again affecting emulator timing).

Re: Emulator updates & HP82240B printer simulation

*Message #5 Posted by **Christoph Giesselink** on 27 Oct 2011, 4:08 p.m.,*
in response to message #4 by sylvandb

> Quote:
>
> Or is it in lock-step with the emulator (being triggered by changes to the emulated register and delaying the emulator until the decoder has finished)?

Yes, it's done by this way. I watch for the rising edge of the STL bit and count the CPU cycles between them. So the decoding is independent from the real CPU speed during emulation.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #6 Posted by **sylvandb** on 25 Oct 2011, 8:22 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> reads the UDP packets and feeds them to the printer window at a suitable pace. I'm wondering why the IP stack doesn't take care of this, it should buffer the packets until they are fetched by the server.

UDP is allowed to lose packets.

Re: Emulator updates & HP82240B printer simulation

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Oct 2011, 2:19 a.m.,*
in response to message #6 by sylvandb

> Quote:

> UDP is allowed to lose packets.

I know, but I assume that is more relevant on a physical line than inside the stack. It's IP in general that allows packets being dropped, split and/or delivered out of order. UDP doesn't add any error recovery logic and leaves it to the application while TCP is designed to just do all the error handling transparently for the application.

Re: Emulator updates & HP82240B printer simulation

*Message #8 Posted by **sylvandb** on 26 Oct 2011, 5:02 p.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> > I know, but I assume that is more relevant on a physical line than inside the stack. It's IP in general that allows packets being dropped, split and/or delivered out of order. UDP doesn't add any error recovery logic and leaves it to the application while TCP is designed to just do all the error handling transparently for the application.

Almost all IP loss is in the stack on one end or the other. You can see this if you use a network sniffer. In the old days network hardware had very small buffers (memory was expensive and wire speeds were slow) and if the stack didn't get the packet out of the hardware in time it would be overwritten by the next packet coming in. Even then loss on the wire essentially never occurred unless the equipment or install was faulty.

Speaking as someone who has implemented such stacks, usually today the loss is because there is little or no buffer in the receiving stack. Being stateless, there is no way to know if the layer for whom the packet is intended is still expecting it, so if for some reason it cannot be delivered before the limited buffer is full and the next packet comes in, something will be lost. Sometimes the sender will also throw away a packet for a similar reason -- if the line send queue is full a packet will be dropped instead of added to the queue.

The physical line essentially never loses packets. The hardware on both ends tries very hard not to lose packets with sender retransmit when it detects a problem and large direct to memory ring buffers in modern receivers. Of course, there was and is nothing in the ethernet physical layer for the recipient to request a resend so loss can still occur, but it is rare unless you have faulty hardware. (With WiFi physical layer there is ACK/NAK, so loss is almost never in the physical layer.)

Re: Emulator updates & HP82240B printer simulation

*Message #9 Posted by **Marcus von Cube, Germany** on 27 Oct 2011, 2:30 a.m.,*
in response to message #8 by sylvandb

Thanks for the insight. When IP was invented, things were different, of course: Wide area connections were unreliable and slow and CSMA/CD as the underlying Ethernet technology (shared media) for local networks is prone to data loss, too.

Either way, losing packets is part of IP and must be handled somewhere. I was thinking that modern implementations would have large memory buffers and only drop a packet when its TTL (time to live) field indicates it, but with the high speed networks of our days, this might not be the case.

The case of the printer emulation is special: with localhost being the destination there isn't a physical line involved at all so packet loss must occur in the software. I see two possible causes: The sender (low level IP driver) blocks because of a buffer full situation and this makes the timing critical decoder of the IR bit stream loss synchronization, or, if the sender does not block, packets are simply dropped if they don't fit in the available buffers. To get out of this situation, a lock-step method between the encoder and the decoder together with a large enough buffer in the printer emulator would be the only safe option.

Re: Emulator updates & HP82240B printer simulation

*Message #10 Posted by **Christoph Giesselink** on 27 Oct 2011, 4:44 p.m.,*
in response to message #9 by Marcus von Cube, Germany

TNX for the discussion above. I liked it very much forcing me to rethink about some implementation details. But I still think my implementation is ok.

The net-book (Win7 starter) I'm speaking about made trouble several times before. On almost all emulators on fast key input it loose keys, furthermore playing a keyboard macro works only with a very large delay between keystrokes.

The UDP packet loss on this machine happened with the two thread solution: 1st thread Main Windows and message loop, 2nd data receiver, converting and printing. An earlier proof of concept program with UDP server and text output only, worked without packet/byte loss.

The actual printer simulator is a three thread solution: 1st thread Main Windows and message loop, 2nd receiver thread putting the data into a 64K ring buffer, 3rd thread fetching the data from the ring buffer converting and printing. With this version we recognized no packet loss with UDP, but characters with code 127, which I use when I detected a decoding error in the emulator.

The ring buffer was primarily added for the USB receiver, because I also had CPU usage dependent character losses. It not really fixed the entire problem at USB, I had to do some additional work in the USB receiver thread to get rid of the problem, but it improved the software design and made some things easier.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #11 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 3:19 a.m.,*
in response to message #10 by Christoph Giesselink

> Quote:
>
> With this version we recognized no packet loss with UDP, but characters with code 127, which I use when I detected a decoding error in the emulator.

I'm still wondering how this can happen with a fully synchronized (lock-step) decoder. A slow computer should slow down everything but not introduce such artifacts. Is there any timing involved in the decoder? Does it in fact poll the output triggered by the firmware in an independent thread or do you trap the toggle of the output when it's done? How do you determine the number of emulated clock cycles between state

changes?

Re: Emulator updates & HP82240B printer simulation

*Message #12 Posted by **Christoph Giesselink** on 28 Oct 2011, 1:04 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> Is there any timing involved in the decoder?

Not in the decoder itself. I had to slow down emulation speed during CPU speed measurement of the firmware which I described in MoHPC articel 1113. With the result of the speed measurement, the firmware generates the IR timing for the STL bit.

> Quote:
>
> How do you determine the number of emulated clock cycles between state changes?

The clock cycles are part of the CPU opcode emulation and are the basic for the "Authentic Speed" mode. In the case of the Redeye decoder I know that the first three IR data frames of each data byte are sync frames with half bit length, so I can combine the measured CPU cycles to the half bit length.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #13 Posted by **Nick_S** on 27 Oct 2011, 10:31 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph

Thanks for this work. Emu42 running an HP28S ROM, and EMU48, are in constant use on my computer desktops. I look forward to trying the latest versions.

Lately I noticed that Emu42.1.13 running the HP28S ROM sometimes has the empty battery annunciator active at times, which is unexpected.

Nick

Re: Emulator updates & HP82240B printer simulation

*Message #14 Posted by **Christoph Giesselink** on 27 Oct 2011, 1:11 p.m.,*
in response to message #13 by Nick_S

> Quote:
>
> Lately I noticed that Emu42.1.13 running the HP28S ROM sometimes has the empty battery annunciator active at times, which is unexpected.

You run Emu42 on a battery powered computer. The Win OS know three battery states: OK, Low Bat,

Critical. You see these states also in the Bat annunciator of the emulated calculator. This is a wanted emulated feature.

Christoph

Re: Emulator updates & HP82240B printer simulation

*Message #15 Posted by **Nick_S** on 28 Oct 2011, 5:26 a.m.,*
in response to message #14 by Christoph Giesselink

Christoph

In that case, it is a clever feature :-)

Nick

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

R.I.P. John McCarthy

*Message #1 Posted by **Howard Owen** on 25 Oct 2011, 9:50 a.m.*

Another seminal figure in the computer revolution has died.

http://mashable.com/2011/10/25/john-mccarthy-dies/

Re: R.I.P. John McCarthy

*Message #2 Posted by **MK-52** on 25 Oct 2011, 11:34 a.m.,*
in response to message #1 by Howard Owen

(format t "I'm sorry to hear that...")

Edited: 25 Oct 2011, 11:44 a.m.

Re: R.I.P. John McCarthy

*Message #3 Posted by **Norman Dziedzic** on 26 Oct 2011, 10:39 a.m.,*
in response to message #2 by MK-52

Strangely for a mechanical engineer, I have had exposure to LISP. We used to call it, "**L**ots of **I**rritating **S**illy **P**arenthesis".

It was used as the scripting language for AutoCAD software.

RIP John McCarthy

Re: R.I.P. John McCarthy

*Message #4 Posted by **Nick_S** on 28 Oct 2011, 5:36 a.m.,*
in response to message #3 by Norman Dziedzic

That is shame. His LISP language seems to have been an important influence on HP's RPL, where HP removed the need for parentheses by making theirs a post-fix functional language drawing on their own RPN and Forth. I still get a buzz out of passing named and anonymous functions around as parameters, e.g, when using the R language or one of my HP calculators, rather than just manipulating data.

Nick

Edited: 28 Oct 2011, 5:39 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

R.I.P. John McCarthy

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s - Possible bug??

*Message #1 Posted by **John Abbott (S. Africa)** on 25 Oct 2011, 8:46 a.m.*

Hi folks
I am running Ver 1777 on a HP30b. Inputting any number with more than 12 digits I receive the following error: "Too long" ie Error 10.
No strange settings from my side, so possible bug?
John

Re: wp34s - Possible bug??

*Message #2 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 9:11 a.m.,*
in response to message #1 by John Abbott (S. Africa)

I've activated some warnings which were already in the code but didn't output a message so far. You can backspace or just continue to type and the message will disappear.

BTW, I've updated the power saving code again. Time to update your calculators!

Re: wp34s - Possible bug??

*Message #3 Posted by **John Abbott (S. Africa)** on 25 Oct 2011, 9:20 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I'll try this. Thanks Marcus, will be updating tonight.
John

Re: wp34s - Possible bug??

*Message #4 Posted by **Paul Dale** on 25 Oct 2011, 4:56 p.m.,*
in response to message #1 by John Abbott (S. Africa)

This was an error that used to be raised and then got lost in one of the reworkings/bug fixes in the input handler. We didn't deem it a high priority to get back when we eventually noticed it (much later).

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 39gII spécification

*Message #1 Posted by **Gilles Carpentier** on 25 Oct 2011, 6:07 a.m.*

HP39Gii

Nota : Grayscale 256 x 127 pixels :

" * Plot graphs with greater precision than competing calculators.

* Plus, the HP 39gII offers a programming language that's modern and complete with user-defined variables and functions.

* This graphing calculator is loaded with 15 applications to help students learn. For example, manipulate a graph and see the associated equation change instantly using the HP explorer app.

* The HP 39gII boasts more than 600 built-in functions, powerful HP solvers and unit conversions."

Edited: 25 Oct 2011, 6:08 a.m.

Re: HP 39gII spécification

*Message #2 Posted by **Paul Dale** on 25 Oct 2011, 6:24 a.m.,*
in response to message #1 by Gilles Carpentier

> Quote:
>
> * The HP 39gII boasts more than 600 built-in functions, powerful HP solvers and unit conversions."

Get a 34S, it has more functions :-)

- Pauli

Re: HP 39gII spécification

*Message #3 Posted by **Martin Pinckney** on 25 Oct 2011, 10:20 a.m.,*
in response to message #1 by Gilles Carpentier

This is a very interesting offering, perhaps foreshadowing an updated 50g with the higher resolution display.

However still not listed for sale on any HP website I can find. Sort of like the premature listings of the 15c LE.

Re: HP 39gII spécification

*Message #4 Posted by **Gilles Carpentier** on 25 Oct 2011, 11:26 a.m.,*
in response to message #3 by Martin Pinckney

looks like a 39gs but with a far better screen (256 x 128 gray scale) and 80 MB flash memory...

Re: HP 39gII spécification

*Message #5 Posted by **Patrice** on 25 Oct 2011, 3:58 p.m.,*
in response to message #4 by Gilles Carpentier

> Quote:
>
> 80 MB flash memory

I fear it is a wrong value, even the 50G is 2MB, or does it MP3 ?

Re: HP 39gII spécification

*Message #6 Posted by **bluesun08** on 25 Oct 2011, 1:44 p.m.,*
in response to message #3 by Martin Pinckney

I hope the successor of the HP 50g have more advancements apart from the display resolution.

Re: HP 39gII spécification

*Message #7 Posted by **Don Shepherd** on 25 Oct 2011, 2:17 p.m.,*
in response to message #1 by Gilles Carpentier

Where is its programming language described in detail? I don't see much at that web site.

Re: HP 39gII spécification

*Message #8 Posted by **Martin Pinckney** on 25 Oct 2011, 2:36 p.m.,*
in response to message #7 by Don Shepherd

Curious that the picture of the 39gii on the web-page Gilles referenced seems to be the same photo posted here a couple months ago, which has Chinese characters on the soft menus. There is a link on the page to HP's USA web store, but no inkling at all that this calculator even exists. I wish someone who actually knows could explain this.

Re: HP 39gII spécification

*Message #9 Posted by **M. Joury** on 25 Oct 2011, 3:05 p.m.,*
in response to message #7 by Don Shepherd

The information still appears to be pretty sketchy. I would love to hear more. I quite like the 39gs and would love to see that calculator expanded with a more powerful language and even better aplet programming support.

One of my complaints is the need for a one-to-one correspondence between the entries in the VIEWS menu and programs to support those menu entries. A much nicer solution would be passing a parameter to a program and then using an IF statement or a CASE statement to decide what to do next. It would leave the program "folder" much less cluttered. As far as I can tell there is no way to do this with the 39gs.

Some other issues I have they appear to be addressing if we can believe what we are reading: Lack of proper variables names and function calls are two of the current shortcomings of the 39gs.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Canon Pocketronic - Power Supply

*Message #1 Posted by **Joerg Woerner** on 24 Oct 2011, 6:49 p.m.*

Hi Folks,

Just received a very nice Canon Pocketronic with the famous 13 batteries inside. The cells look nice, I charged with a Bench Supply the 7 small ones at the lower end of the calculator.They still seem to hold a charge.

Unfortunately is the power supply missing, should be 16V DC. The connector had 3 pins, somebody out in the World who knows the voltages of the pins?

Thanks and Regards,

Joerg

Re: Canon Pocketronic - Power Supply

*Message #2 Posted by **Katie Wasserman** on 24 Oct 2011, 7:08 p.m.,*
in response to message #1 by Joerg Woerner

Joerg,

It's a split supply with -10.5 volts and +9 volts. Only the row of 3 pins on the power connector are used, the center one is ground (I don't recall which of the two is + vs -).

While you could use a single supply of 19.5 volts I would not recommend it. The -10.5 volt supply charges the 7 x 2/3AA cells while the +9 volt supply charges the 6 x AA cells. Since they have different capacities you'll either under or over charge one set of cells. However, if these are old cells that need to be replaced anyway, go right ahead.

It's possible to replace all the cells with AAA cells in plastic holders. Somewhere on this forum I described how I did this.

-Katie

Re: Canon Pocketronic - Power Supply

*Message #3 Posted by **Joerg Woerner** on 26 Oct 2011, 8:31 a.m.,*
in response to message #2 by Katie Wasserman

Katie,

Short question: Do you have by chance an orginal power supply that you could borrow me for a few days starting this Saturday?

Regards,

Joerg

Re: Canon Pocketronic - Power Supply

*Message #4 Posted by **Katie Wasserman** on 26 Oct 2011, 9:48 a.m.,*
in response to message #3 by Joerg Woerner

Check your PM.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

FOCAL old factory ...

*Message #1 Posted by **Olivier De Smet** on 24 Oct 2011, 5:04 p.m.*

New emulator, this one is for HP97

http://sites.google.com/site/olivier2smet2/hp_projects/hp97

Feel free to test and report bugs

Olivier

Re: FOCAL old factory ...

*Message #2 Posted by **Geir Isene** on 24 Oct 2011, 5:08 p.m.,*
in response to message #1 by Olivier De Smet

Very Nice :)

... and... me... want... l i n u x...

Re: FOCAL old factory ...

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 24 Oct 2011, 5:32 p.m.,*
in response to message #2 by Geir Isene

> Quote:
>
> ... and... me... want... l i n u x...

So... just do it! ;-)

Re: FOCAL old factory ...

*Message #4 Posted by **Geir Isene** on 25 Oct 2011, 2:12 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

I could. But it has to come a few hundred yards down my priority list. Just raising the wish in case it gets someones attention - someone who would have this higher on their priority list.

Re: FOCAL old factory ...

*Message #5 Posted by **Thomas Chrapkiewicz** on 24 Oct 2011, 5:32 p.m.,*
in response to message #1 by Olivier De Smet

Very nice; however, the 'paper' window does not fit on my laptop screen - I cannot see the bottom of it and cannot size it.

TomC

Re: FOCAL old factory ...

*Message #6 Posted by **Olivier De Smet** on 25 Oct 2011, 6:58 a.m.,*
in response to message #5 by Thomas Chrapkiewicz

Corrected, the printer window is shorter by default and resizable.

MERGE is now working as the speed select

Download the file again (same name & all)

Re: FOCAL old factory ...

*Message #7 Posted by **Namir** on 25 Oct 2011, 7:04 a.m.,*
in response to message #1 by Olivier De Smet

Olivier

Is an HP-67 emulator not too far behind in the works?

Namir

Re: FOCAL old factory ...

*Message #8 Posted by **Olivier De Smet** on 25 Oct 2011, 7:18 a.m.,*
in response to message #7 by Namir

I just need to test the keyboard with no pik and it should be ok. But the drawing part for card isn't already done.

Could be done this week :)

Re: FOCAL old factory ...

*Message #9 Posted by **Namir** on 25 Oct 2011, 10:23 a.m.,*
in response to message #8 by Olivier De Smet

Way cool!! I look forward to it!

namir

And now an HP 67 emulator with the HP 97 one

*Message #10 Posted by **Olivier De Smet** on 25 Oct 2011, 4:00 p.m.,*
in response to message #9 by Namir

Finaly it was faster :)

Only the toggle for normal and label key was somewhat difficult ... (non documented opcodes, need some luck to find the function)

I added an auto checksum to make playing with card by hand easier :)

Feel free to comments ...

(I know the height of 67 picture is too much, i'll try to make a smaller one)

Link

Olivier

Re: And now an HP 67 emulator with the HP 97 one

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 25 Oct 2011, 4:03 p.m.,*
in response to message #10 by Olivier De Smet

Thank you Olivier, nice job!

Massimo

Re: And now an HP 67 emulator with the HP 97 one

*Message #12 Posted by **gene wright** on 25 Oct 2011, 4:55 p.m.,*
in response to message #10 by Olivier De Smet

1) I started a program on the HP 67 but could not stop it running.

2) When I right click on a card, I get a context menu to insert side 2 but cannot seem to get a context menu for side 1.

Re: And now an HP 67 emulator with the HP 97 one

*Message #13 Posted by **Olivier De Smet** on 26 Oct 2011, 3:45 a.m.,*
in response to message #12 by gene wright

1) to insert side 1, right-click on the left part of the card (side 1 mark) to insert side 2, right-click on the right part of the card (side 2 mark)

2) the keyboard of the 67 isn't mapped as the 97, it seems that the F2 line of the card reader is wired somewhere on the keyboard matrix for the R/S key behaviour, but I didn't find where actually (I don't have a 67, only a 97) (opcode 00400 and opcode 00500)

The opcodes 00760, 00160, 00060 are still unknow for me :(

Some other opcode are ok, other are working, but I'm not sure of their behaviour

I don't have the wiring of the F0, F2, F3 and F4 lines of the card reader.

F1 is for prgm/run switch

F2 ?? for some keys ?

F3 not used

F4 used externally for the A to E behaviour

I need to use a F0 internal flag for merge pending

The 67 emulator isn't as mature as the 97 one, sorry.

I made a quick hack, and now it's working, get version 1.1 on my site

Edited: 26 Oct 2011, 4:26 a.m.

Re: And now an HP 67 emulator with the HP 97 one

*Message #14 Posted by **gene wright** on 26 Oct 2011, 7:29 a.m.,*
in response to message #13 by Olivier De Smet

No problem, just wanted to let you know. :-)

Great job!

Re: And now an HP 67 emulator with the HP 97 one

*Message #15 Posted by **Namir** on 25 Oct 2011, 5:14 p.m.,*
in response to message #10 by Olivier De Smet

Wonderful job Olivier!!

Re: FOCAL old factory ...

*Message #16 Posted by **Israel Otero** on 26 Oct 2011, 2:07 p.m.,*
in response to message #1 by Olivier De Smet

Thank you very much for the programme, Olivier, it works perfectly!

I badly needed an HP-97 emulator but the ones I tried did not worked with wine. I use Ubuntu Linux and both run okay, I agree that the HP-67 image is too big, but as a fix, I rotated the screen to the left and operate the keys and switches using my mouse, my PC is a netbook.

I wish you a happy and wonderful life. ;-)

Version 1.2 Runtime errors

*Message #17 Posted by **Namir** on 26 Oct 2011, 5:06 p.m.,*
in response to message #1 by Olivier De Smet

Olivier,

I just downloaded the emulators version 1.2. The HP-67 emulator (both debug and release versions) are experiencing run-time errors and do not run properly. I am running Windows 7.

Namir

Edited: 26 Oct 2011, 5:07 p.m.

Re: Version 1.2 Runtime errors

*Message #18 Posted by **Olivier De Smet** on 27 Oct 2011, 9:57 a.m.,*
in response to message #17 by Namir

Partially corrected by version 1.4 (97-release still buggy)

The 1.5 should be ok

Edited: 27 Oct 2011, 10:32 a.m.

Re: Version 1.2 Runtime errors

*Message #19 Posted by **Namir** on 27 Oct 2011, 2:44 p.m.,*
in response to message #18 by Olivier De Smet

Olivier,

Yes the HP-67 emulator works much smoother. Many thanks!

Namir

HP67 97 emulator

*Message #20 Posted by **Olivier De Smet** on 2 Nov 2011, 3:10 p.m.,*
in response to message #19 by Namir

New version 1.6

At speed greater than x1, ALL PAUSE, -x- & all for HP67 are at the right speed (better than a HP15C LE)

CPU is used at 100% only at max speed and when computing.

For the curious I'm curently dis-assembling the ROM of the HP97. I have currently 50% of code commented :) And I can re-assemble a good rom (same as the original bit-per-bit) with an home made assembler. Now it's time to patch it

Edited: 2 Nov 2011, 3:10 p.m.

Re: HP67 97 emulator

*Message #21 Posted by **Mike (Stgt)** on 3 Nov 2011, 5:23 p.m.,*
in response to message #20 by Olivier De Smet

Where may I find it?

Ciao.....Mike

Re: HP67 97 emulator

*Message #22 Posted by **robertoataulfo** on 3 Nov 2011, 5:51 p.m.,*
in response to message #21 by Mike (Stgt)

HP 67 and 97 Emulator

Re: HP67 97 emulator

*Message #23 Posted by **Israel Otero** on 4 Nov 2011, 1:44 a.m.,*
in response to message #20 by Olivier De Smet

Hi Olivier, I am curious about the bitmap images you include in the 1.6 version files, with a photo of the actual display of the HP-97, do you will make the emulator more realistic with digits of the same separation between them and proportional size of the actual 97? That could be wonderful. I love both this display and the classic series, when the ones and fours are as tall as the other digits.

FOCAL old factory ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Does anyone have 15C LE dissection pics?

*Message #1 Posted by **uhmgawa** on 24 Oct 2011, 2:42 p.m.*

```
..in response to message #26 Posted by Eric Smith on 22 Sept 2011, 5:45 p.m.,
..in response to message #25 by uhmgawa
```

> Quote:
>
> This is what makes it particularly bizarre that the 15C LE has moved to SMT assembly.

I still boggle why following up directly to a thread merely a month old in this forum is verboten, but anyway..

I finally heard back from Atmel (through their 3rd party die reseller) who declined to quote our bid on the at91sam7l128 citing the device in die form was either in, or will soon be EOL. I speculate that was the primary motivation for the board layout change to accommodate the 128 lqfp in the new ARM voyagers.

Not too surprising as the sam7 is getting rather long in the tooth and there hasn't been any follow on AFAICT to either l64/l128 version. Also other more recent vendor designs exist with improved performance/power capability. Yet despite its age the sam7l appears to still have some competitive differential particularly given its price point.

Re: Does anyone have 15C LE dissection pics?

*Message #2 Posted by **DigiGal** on 24 Oct 2011, 10:23 p.m.,*
in response to message #1 by uhmgawa

Check this archived thread, Djj posted some great pics to photobucket from his keyboard modification.

Katie posted some dissection pictures too further back in the archive.

Re: Does anyone have 15C LE dissection pics?

*Message #3 Posted by **uhmgawa** on 25 Oct 2011, 12:29 a.m.,*
in response to message #2 by DigiGal

> Quote:
>
> Check this archived thread, Djj posted some great pics to photobucket from his keyboard modification.

M1.4 x 4mm (or perhaps x 5mm depending on washer thickness) is just about ideal. I'd initially tried M1.2 x 5mm screws however due to the thread major diameter routinely running undersize for such a fine pitch, an M1.2 screw doesn't have much (if any) penetration into the stake void walls. I also expect substantial variation exists relative to screws and enclosure molding run.

However the M1.4 thread needed to be formed with a tap in my case as the fit was too snug. Machine screws will wedge vs. cutting threads and unless tapped there is a risk of randomly splitting the heat stake.

Another possibility is to intentionally slice the stakes in half lengthwise allowing a controlled expansion/wedging within the pcb. But use of a plug tap is probably an overall simpler approach.

Re: Does anyone have 15C LE dissection pics?

*Message #4 Posted by **DigiGal** on 25 Oct 2011, 10:55 a.m.,*
in response to message #3 by uhmgawa

Read the whole thread. . . He posted the picture link further down the thread.

Re: Does anyone have 15C LE dissection pics?

*Message #5 Posted by **uhmgawa** on 25 Oct 2011, 8:39 p.m.,*
in response to message #4 by DigiGal

> Quote:
>
> Read the whole thread. . .

Yes, I had.

My point rather was I'd originally suggested use of M1.2 screws after casually gauging the stake voids and neglecting to compensate for the typical clearance-reduced major diameter. So M1.4 is a better standard size for the task.

Still the use of a machine screw in ABS is unorthodox. The no-holds-barred approach would be to (slightly) drill out each stake void and heat-press in a threaded section of 1.6mm (1/16") brass tubing tapped in advance for a M1.4x0.3mm thread.

While the above admittedly is extreme for an ARM voyager, true hardship cases exist begging for similar treatment such as the 42s "write once" enclosure.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Create empy list on 38g/39g/40g

*Message #1 Posted by **Kiyoshi Akima** on 24 Oct 2011, 2:30 p.m.*

This is such a simple question, but I can't find an answer in the manual.

How do I, under program control, create an empty list, or else initialize an existing list (of arbitrary size) to empty? I know how to do it from the keyboard by going into the VAR menu, selecting the list, and pressing [DEL]. (By "program" I mean HP-BASIC, not SysRPL.)

I'm trying to get a program to initialize itself to a known state, which requires an empty list to which it can add things as it goes.

Re: Create empy list on 38g/39g/40g

*Message #2 Posted by **Eddie W. Shore** on 24 Oct 2011, 3:20 p.m.,*
in response to message #1 by Kiyoshi Akima

{ } -> L# should do it. (where # is 0-9)

Re: Create empy list on 38g/39g/40g

*Message #3 Posted by **Kiyoshi Akima** on 24 Oct 2011, 3:25 p.m.,*
in response to message #2 by Eddie W. Shore

Nope. {} gives a syntax error, with or without a space between the braces.

Re: Create empy list on 38g/39g/40g

*Message #4 Posted by **Eddie W. Shore** on 25 Oct 2011, 9:02 a.m.,*
in response to message #3 by Kiyoshi Akima

> Quote:
>
> Nope. {} gives a syntax error, with or without a space between the braces.

I got the same thing. MAKELIST requires a sequence - I can't imagine a way to create an empty list.

I have a feeling that empty lists aren't possible on the 38g/39g/40g.

Possible workaround (?):

Initialize the list with {1} and delete the "first 1" at the end program execution

```
{1} -> L1
** commands to add elements to L1
Result:  L1 = {1, #, #, ...}
**
SUB L1; L1; 2; SIZE(L1)
```

```
Result: L1={#, #, #, ...}


SUB - CMDS-Matrix menu
SIZE - MATH-List menu
```

I hope this helps.

Eddie

Edited: 25 Oct 2011, 9:10 a.m.

Re: Create empy list on 38g/39g/40g

*Message #5 Posted by **M. Joury** on 25 Oct 2011, 10:03 a.m.,*
in response to message #1 by Kiyoshi Akima

If you have an empty list (via DEL in the LIST menu then you can do the following:

Say L9 is empty and you want to make L1 empty: L9>L1:

HTH

Cheers,

Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

MySamBA execution level

*Message #1 Posted by **Masaki Adachi** on 24 Oct 2011, 1:15 p.m.*

FWIW when ran on my windows 64 bit install, MySamBA will not show available com ports unless the program is run as Administrator. Not sure if this is some seeting on my machine, but USB IO port controller that I use with my bitWhacker gizmo does not require this.

Re: MySamBA execution level

*Message #2 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 2:22 p.m.,*
in response to message #1 by Masaki Adachi

I cannot comment on this for various reasons (I'm running XP 32bit in Admin mode and I don't know the innards of the library used for the com port handling in MySamba).

But I have recently changed MySamba to allow the manual input of the com port. This might solve a Linux problem, too if it works at all. Please test!

Re: MySamBA execution level

*Message #3 Posted by **Masaki Adachi** on 24 Oct 2011, 10:41 p.m.,*
in response to message #2 by Marcus von Cube, Germany

It works. As long as one can guess a correct port number, that is.

Also, the new form's file selection box is rather long and pushes Browse button to far right, causing the form width to cut off the button. please check.

Edited: 24 Oct 2011, 10:53 p.m.

Re: MySamBA execution level

*Message #4 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 2:02 a.m.,*
in response to message #3 by Masaki Adachi

You can resize the Window to the right. I added this feature to allow seeing the complete file name of the binary file. But this looks strange when you have worked with the old version before because the stored width is just too small.

Re: MySamBA execution level

*Message #5 Posted by **Masaki Adachi** on 25 Oct 2011, 7:12 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Is vertical scroll bar supposed to display on the form? Mine does.. My system locale is set to Japanese in order to allow non unicode Japanese application to display correctly. This sometimes confuse size calculation for application. see the screenshot here

Re: MySamBA execution level

*Message #6 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 9:06 a.m.,*
in response to message #5 by Masaki Adachi

> Quote:
>
> Is vertical scroll bar supposed to display on the form?

No. I can only test on my XP box where it doesn't appear. I've added some more headroom around the borders.

Re: MySamBA execution level

*Message #7 Posted by **Masaki Adachi** on 25 Oct 2011, 12:17 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Thanks, it looks more natural now. Please see here

Edited: 25 Oct 2011, 12:19 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The FOCAL Factory: Lend, Lease Savings

*Message #1 Posted by **Geir Isene** on 24 Oct 2011, 11:53 a.m.*

A new module from the HP-41 User Library Solutions

Re: The FOCAL Factory: Lend, Lease Savings

*Message #2 Posted by **Ángel Martin** on 24 Oct 2011, 12:11 p.m.,*
in response to message #1 by Geir Isene

and there'll be two more later today, as follows:

- Electrical Engineering (with extras)
- Control Systems (with extras)

From the subsidiary factory :-)

Re: The FOCAL Factory: Lend, Lease Savings

*Message #3 Posted by **Geir Isene** on 24 Oct 2011, 12:15 p.m.,*
in response to message #2 by Ángel Martin

Oh yes - we are into outsourcing. To Yoda no less :)

Re: The FOCAL Factory: Lend, Lease Savings

*Message #4 Posted by **Geir Isene** on 24 Oct 2011, 4:44 p.m.,*
in response to message #2 by Ángel Martin

And they are UP!

Go grab.

The list of HP 41 solution books

*Message #5 Posted by **gene wright** on 25 Oct 2011, 5:20 p.m.,*
in response to message #4 by Geir Isene

Richard Nelson has compiled a list of solution books published for the HP 41 series calculator. Of these 38 !! books, the ones for Taxes are IMO the least useful today. :-)

```
# Title
1       Antennas
2       Applied Statistics I
3       Applied Statistics II
4       Business Statistics/Marketing/Sales
5       Calendars
6       Cardiac/Pulmonary
7       Chemical Engineering
8       Chemistry
```

```
9       Civil Engineering+
10      Control Systems
11      Electrical Engineering+
12      Fluid dynamics and Hydraulics
13      Games (I)
14      Games II
15      Geometry
16      Heating, Ventilating & Air Conditioning
17      High-Level Math
18      Home Construction Estimating
19      Lend/Lease/Savings
20      Mechanical Engineering
21      Optometry I (General)
22      Optometry II (Contact Lens)
23      Physics
24      Real Estate
25      Small Business
26      Solar Engineering
27      Stat/Marketing/Sales
28      Structural Analysis
29      Structural Design
30      Surveying
31      Taxes1979
32      Taxes1980
33      Taxes1981
34      Taxes1982
35      Taxes1983?
36      Taxes1984
37      Test Statistics
38      Time Module Solutions
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Acrilic Support for the HP-2225 printer

*Message #1 Posted by **dinamarco** on 24 Oct 2011, 11:41 a.m.*

I'm looking for the acrilic support for the HP-2225 printer... Is possible to find to sell? How much does it cost? Regards....

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI's "fake weight"

*Message #1 Posted by **Cristian Arezzini** on 24 Oct 2011, 7:11 a.m.*

I was at a flea market yesterday, and saw a calculator that looked interesting. It was a TI BAII Plus Professional, "advanced business analyst". I'm not a finance type, I know nothing about business, so I have no practical use for it; but it was in good condition, it felt solid and well-built, and at 5 euro it was cheap, so I bought it.

I took it home and immediately disassembled it, to see how it is built. It does seem well-built enough - and the keyboard has a decent feedback, really usable - but I was amused to see that they screwed two heavy metal plates to the back shell, just to give it a more substantial feel. I mean, the weight doesn't come from solid casing and high-quality materials: but from something added just with the purpose of making you think it's solid! :) Personally I think it's a bit like cheating... like gold-plating a watch, or like putting a wing on a otherwise standard car, so that it just looks faster... But I do agree that it feels good to hold it! :)

Cristian

Re: TI's "fake weight"

*Message #2 Posted by **Paul Gaster** on 24 Oct 2011, 7:48 a.m.,*
in response to message #1 by Cristian Arezzini

I don't think TI is the only one who does this. The pictures I have seen of the 15C LE show a black metal plate in the back housing. I can't think of any reason it would be there except to add weight. Of course for the LE the goal was to make it look, feel, and get the same results as the original, so I guess it is a special situation.

Re: TI's "fake weight"

*Message #3 Posted by **Eric Rechlin** on 24 Oct 2011, 3:47 p.m.,*
in response to message #2 by Paul Gaster

Usually thin metal is put inside for RFI protection. You don't need a thick metal plate, but a lot of HPs, including the 48, have a thin metal sheet/plate covering the board to meet FCC requirements.

Eric

Re: TI's "fake weight"

*Message #4 Posted by **Paul Gaster** on 24 Oct 2011, 7:07 p.m.,*
in response to message #3 by Eric Rechlin

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=196943

The 15C LE metal has a bunch of holes and does not cover even half of the pcb.

Re: TI's "fake weight"

*Message #5 Posted by **db (martinez, ca.)** on 24 Oct 2011, 8:14 p.m.,*

in response to message #3 by Eric Rechlin

Eric; I was once told that weight for weight or mass to mass, a mesh is better for rfi protection than a sheet. Is that true?

Re: TI's "fake weight"

*Message #6 Posted by **Eric Rechlin** on 25 Oct 2011, 1:56 a.m.,*
in response to message #5 by db (martinez, ca.)

The point is you don't want the holes so big that the RFI can get out at the wavelengths you are trying to block. You're basically building a Faraday cage. More holes = less material = cheaper. It's reached the point where the simplest materials (like plain metal) are a big factor in the cost of electronic devices, because the electronics have gotten so cheap and commodities have gotten so expensive.

I think calculators these days probably emit so little RFI that there isn't a need for shielding anymore.

Eric

Re: TI's "fake weight"

*Message #7 Posted by **Katie Wasserman** on 25 Oct 2011, 11:13 a.m.,*
in response to message #6 by Eric Rechlin

Early calculators that used inverter circuits to obtain the higher voltages needed for early MOS chips emitted a huge amount of RFI. I don't think that there were any RF emission standards for low power devices back then. For laughs take a broadcast band AM radio and put in next to an HP-35 then tune between stations. You can hear the 35 calculate!

Re: TI's "fake weight"

*Message #8 Posted by **Ethan Conner** on 25 Oct 2011, 12:07 p.m.,*
in response to message #7 by Katie Wasserman

When i was in high school i remember being able to hear my TI-30 on my am/fm cassette player.

Re: TI's "fake weight"

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 26 Oct 2011, 12:58 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> For laughs take a broadcast band AM radio and put in next to an HP-35 then tune between stations. You can hear the 35 calculate!

At one time someone proposed that the way to tell that a lengthy TI-59 calculation had finished without watching the display was to listen to a nearby radio. .

Re: TI's "fake weight"

*Message #10 Posted by **Geoffrey Wang** on 24 Oct 2011, 11:46 a.m.,*

in response to message #1 by Cristian Arezzini

I read somewhere that TI did this with their recent calculators like the TI36X. It's not cheating, but rather paying attention to customer feedback. I doubt most people would not want to buy a calculator with a bunch of keys and light weight (just like keyboards). I just wish Casio had done it with non-HP16C alternative, the CM-100.

Re: TI's "fake weight"

*Message #11 Posted by **Cristian Arezzini** on 24 Oct 2011, 1:52 p.m.,*
in response to message #10 by Geoffrey Wang

I didn't know this was common practice, but after all it makes sense. I can see why people like to have something that feels "heavy" in their hands. It's just that I would prefer if the weight came from a more substantial structure rather than an iron bar screwed to the shell! :)

Cristian

Re: TI's "fake weight"

*Message #12 Posted by **Thomas Radtke** on 24 Oct 2011, 2:40 p.m.,*
in response to message #11 by Cristian Arezzini

Lightweight calculators are shirt pocket friendly. It is, after all, a *pocket* calculator, not one to fill a lead belt.

Re: TI's "fake weight"

*Message #13 Posted by **Jeff Johnson** on 24 Oct 2011, 3:57 p.m.,*
in response to message #12 by Thomas Radtke

Geoffrey and Cristian are spot on. It's not just calculators. Back when Bell Telephone went to electronic sets, users felt that the phones were "cheap" feeling, so Bell added metal plates to give it the "quality" feel. We have a paradigm that associates weight with quality. Much like the humorous problem with the HP-12C revision, where accountants were uncomfortable with the increased computation speed, afraid that the calculator was rushing through the calculation. They liked to see it "doing something".

Re: TI's "fake weight"

*Message #14 Posted by **Bill Wiese** on 24 Oct 2011, 4:01 p.m.,*
in response to message #1 by Cristian Arezzini

This is not unusual.

QA testing may have found that without added weight it scooted over the desk when in use, perhaps.

Weight also sometimes gives the perception of 'substance' and durability.

When I was at Motorola, one person told me that Moto - who for decades has made durable police radios, walkie-talkies, etc. - in the late 80s was able to reduce the weight of their police walkie talkies simply due to integration and materials changes.

In no way was durability or lifespan affected. But reports of 'issues' and quality drops kept coming in - after investigation, there was no substantiation but somehow "lightweight" kept coming up. Moto put some weights inside the radios without anything else changing, and the complaints stopped.

Perception is a nasty beast.

Bill Wiese San Jose CA

Re: TI's "fake weight"

*Message #15 Posted by **BobVA** on 24 Oct 2011, 6:00 p.m.,*
in response to message #14 by Bill Wiese

...and don't get me started on 1970's audio gear (slate end plates, pot metal ballast inside turntables, etc.) :-)

Bob

Re: TI's "fake weight"

*Message #16 Posted by **Lincoln R.** on 25 Oct 2011, 12:25 a.m.,*
in response to message #15 by BobVA

There's another more practical reason for putting weights in things. The weights make it less likely that the object will move when said movement is undesirable (for instance one would not want their calculator to go sliding around the desk when they push a button, or have a rotary dial phone spin when they try to turn the dial).

For that matter, my dishwasher has a large concrete block (I kid you not) zip-tied to the bottom part of the metal frame. The block does nothing for cleaning dishes, nothing for appearance, and I doubt anyone ever says "these darn lightweight dishwashers are junk."

Re: TI's "fake weight"

*Message #17 Posted by **Jose Gonzalez Divasson** on 25 Oct 2011, 3:55 p.m.,*
in response to message #15 by BobVA

There is a school of audio enthusiasts that claim that adding weight to audio components improve sound, by lowering their resonance frequency to below audio band. Hence, you see weights in turntable platters, lead shot in hollow tubes in audio racks, 150lbs loudspeakers, and so on.

There is another school that aims to low mass - and trying to have the q of that mass as low as possible (light woods, composites), trying to get a low resonance peak, but avoiding energy storage and therefore delayed release.

Another world altogether!

Re: TI's "fake weight"

*Message #18 Posted by **Michael Meyer** on 26 Oct 2011, 5:17 p.m.,*
in response to message #17 by Jose Gonzalez Divasson

I suppose that's the reason I'm heavier than I used to be--- to give the impression of increased quality!

Re: TI's "fake weight"

*Message #19 Posted by **Ren** on 27 Oct 2011, 2:41 p.m.,*
in response to message #14 by Bill Wiese

IIRC, back on the old USENET ham radio group, someone told the story of repairing an old handheld Motorola that a cop frequently used as a "billy club". It would arrive in the repair shop with bits of hair or skin stuck to knobs.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Steve Jobs meets the 9100a

*Message #1 Posted by **Howard Owen** on 24 Oct 2011, 1:55 a.m.*

I just started reading the new biography of Steve Jobs. Early on it describes how Jobs joined the "Hewlett Packard Explorers Club" at Homestead High. This met in the HP cafeteria and featured HP engineers talking about their projects. One quote might be of interest to some around here.

> Quote:
>
> I saw my first desktop computer there. It was called the 9100A, and it was a glorified calculator, but also really the first desktop computer. It was huge, maybe 40 pounds, but it was a beauty of a thing. I fell in love with it.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C-LE Blinking

*Message #1 Posted by **dbatiz** on 23 Oct 2011, 11:50 p.m.*

Is it normal for an overflow condition to make the display blink on a 15C? On my 15C-LE, if I type 70!, i get 9.999999 99 blinking. I can then keep doing other problems, but the display keeps blinking until I use the "back arrow" key. Is this normal?

Very Respectfully,

David

Re: 15C-LE Blinking

*Message #2 Posted by **Michael de Estrada** on 23 Oct 2011, 11:56 p.m.,*
in response to message #1 by dbatiz

Yes. It is normal.

Re: 15C-LE Blinking

*Message #3 Posted by **MK-52** on 24 Oct 2011, 1:23 a.m.,*
in response to message #1 by dbatiz

The flag 9 is set to true when overflow happen. (HP-15C Owner's Handbook page 45) Thank you.

Re: 15C-LE Blinking

*Message #4 Posted by **dbatiz** on 24 Oct 2011, 1:53 a.m.,*
in response to message #1 by dbatiz

My apologies. Thank you for the prompt responses. I didn’t have my manual handy when I posted the question. I don’t remember if the 11C had any blinking error conditions for overflow.

Very respectfully,

David

Re: 15C-LE Blinking

*Message #5 Posted by **MK-52** on 24 Oct 2011, 2:33 a.m.,*
in response to message #4 by dbatiz

I checked HP-11C Owner's Handbook (Japanese version). The manual doesn't state the blinking. However, I don't have 11C, and so I cannot check it on real machine.

Edited: 24 Oct 2011, 2:42 a.m.

Re: 15C-LE Blinking

*Message #6 Posted by **Katie Wasserman** on 24 Oct 2011, 10:29 a.m.,*
in response to message #5 by MK-52

The 11C doesn't blink on overflow or for any other reason.

Re: 15C-LE Blinking

*Message #7 Posted by **Nicholas Winterer** on 24 Oct 2011, 3:52 p.m.,*
in response to message #6 by Katie Wasserman

The blinking feature cost extra, of course.

Re: 15C-LE Blinking

*Message #8 Posted by **Tim Wessman** on 24 Oct 2011, 4:01 p.m.,*
in response to message #7 by Nicholas Winterer

How about we make a LE 15c that blinks constantly. That should definitely be worth the price I think you will agree.

TW

Clairvoyant 15C-LE Blinking

*Message #9 Posted by **Howard Owen** on 24 Oct 2011, 4:18 p.m.,*
in response to message #8 by Tim Wessman

Make one that displays your answer before you enter it and you'll have an even bigger hit. :)

Re: 15C-LE Blinking

*Message #10 Posted by **uhmgawa** on 24 Oct 2011, 5:52 p.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> The 11C doesn't blink on overflow or for any other reason.

Technically there is a single BLINK opcode in the 11c rom image, executed just after "running" is loaded into the display registers. Other instances of a 0x030 word are in what appears to be constant data.

[Edit: the same appears true for the 12c/16c firmware versions I've checked.]

Edited: 24 Oct 2011, 6:03 p.m.

Re: 15C-LE Blinking

*Message #11 Posted by **Gerson W. Barbosa** on 24 Oct 2011, 4:22 p.m.,*
in response to message #4 by dbatiz

No need to apologize. The HP-15C is the only Voyager that blinks on overflows, as far as I know. Cyrille once called this a "**strange 15C behavior**", perhaps the first indication that the HP-15C LE was on its way to becoming true :-)

Regards,

Gerson.

Re: 15C-LE Blinking

*Message #12 Posted by **Dave Britten** on 24 Oct 2011, 8:12 p.m.,*
in response to message #1 by dbatiz

You can also manually trigger the blinking display with SF 9, if you have some need to do that in a program (signal an error, or what have you).

Re: 15C-LE Blinking

*Message #13 Posted by **Marcus von Cube, Germany** on 25 Oct 2011, 1:57 a.m.,*
in response to message #12 by Dave Britten

Yes you can. SF 9 starts blinking, CF 9 stops it. At least on the 15C. I think the 11C doesn't have flag 9. (Just checked it: It has only two flags.)

Edited: 25 Oct 2011, 1:59 a.m.

Re: 15C-LE Blinking

*Message #14 Posted by **Jeroen Van Nieuwenhove** on 25 Oct 2011, 3:44 p.m.,*
in response to message #12 by Dave Britten

And, curious enough, the blinking behavior can be disabled again not only by entering CF 9, but also by pressing the backspace key, as well as by powering off/on the calculator.

Re: 15C-LE Blinking

*Message #15 Posted by **uhmgawa** on 26 Oct 2011, 10:36 a.m.,*
in response to message #14 by Jeroen Van Nieuwenhove

> Quote:
>
> And, curious enough, the blinking behavior can be disabled again not only by entering CF 9, but also by pressing the backspace key, as well as by powering off/on the calculator.

That behaviour is intentional given the firmware disposition. The r2d2 display controller will exit blink mode when it sniffs a DISOFF instruction or DISTOG instruction (if toggling to the "off" state). Voyager firmware routinely emits DISOFF/DISTOG instructions during execution to minimize visual chatter due to the flurry of partial display updates it performs. In fact the act of pressing any key will disable blink mode. However the firmware keeps reissuing a DISBLINK instruction in the process of routine display updates until flag 9 is cleared.

Re: 15C-LE Blinking

*Message #16 Posted by **Miguel Toro** on 26 Oct 2011, 12:16 p.m.,*
in response to message #15 by uhmgawa

> Quote:

> In fact the act of pressing any key will disable blink mode.

Well, not any key, as an example, numerical keys do not disable blinking. You have to use backspace or ON/OFF on the 15c.

Re: 15C-LE Blinking

*Message #17 Posted by **uhmgawa** on 26 Oct 2011, 4:45 p.m.,*
in response to message #16 by Miguel Toro

> Quote:
>
> > Well, not any key, as an example, numerical keys do not disable blinking. You have to use backspace or ON/OFF on the 15c.

I believe we're tripping over semantics here.

From the perspective of the r2d2 display hardware, each key press results in a DISOFF instruction being emitted by the firmware which disables blink mode. However this isn't apparent to the user as the firmware reenables blink mode (via a DISBLINK/0x030 instruction) during its routine update of the display when flag 9 is set.

Re: 15C-LE Blinking

*Message #18 Posted by **Miguel Toro** on 26 Oct 2011, 5:47 p.m.,*
in response to message #17 by uhmgawa

Understood now!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Question about ERR

*Message #1 Posted by **fhub** on 23 Oct 2011, 6:08 p.m.*

Is it possible that the ERR command is changing or destroying the return stack? :-(

In my main program I call a subroutine (with XEQ 81) and this subroutine makes a loop with a maximum of 100 runs. If the this loop reaches the desired accuracy before the counter is at 100, it makes a usual RTN and everything is working fine.
But if the counter reaches 100 I have a ERR 20 statement and a GTO 81 just after it, so if I just press R/S when the error message appears it repeats this subroutine (GTO 81) and should try another 100 iterations.
Now if within these next 100 iterations the accuracy is ok, then it goes to the RTN command again and so should return to the main program - but it doesn't! :-(
It jumps to the very first program step as if this RTN in the subroutine would be the RTN in the main program.

So I'm wondering if this ERR command has any effect on the return stack? Maybe it resets this stack?

Franz

Re: [WP34s] Question about ERR

*Message #2 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 3:19 a.m.,*
in response to message #1 by fhub

If I read the code correctly, ERR should not kill the stack but it decrements the program counter which is probably not what you want. Clearing the return stack might be a side effect which is not intended. I have to verify this.

Edit: I just found the piece of code that resets the return stack pointer. I cannot easily change this because an error in XROM might leave you in an illegal state. I'll discuss this with Pauli.

Edited: 24 Oct 2011, 4:00 a.m.

Re: [WP34s] Question about ERR

*Message #3 Posted by **Paul Dale** on 24 Oct 2011, 4:00 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Clearing the return stack on a hard error is the intended behaviour. At least until the triumvirate is convinced otherwise :-)

- Pauli

Re: [WP34s] Question about ERR

*Message #4 Posted by **fhub** on 24 Oct 2011, 4:42 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> Clearing the return stack on a hard error is the intended behaviour. At least until the triumvirate is convinced otherwise :-)

Well, I would say using the ERR command in a program is a bit different to a 'hard error' produced by the XROM (because of an illegal operation).
If the programmable ERR command does really reset the return stack, then this command is almost useless for own programs.

So please rethink again your position about this issue ...

Franz

Re: [WP34s] Question about ERR

*Message #5 Posted by **fhub** on 24 Oct 2011, 5:04 a.m.,*
in response to message #4 by fhub

One more thing about ERR:

Yesterday I've even checked if an ERR command in my program would clear the ENTRY? flag - I hoped it would do it and in fact it did! :-)

So it's very comfortable to check if the user has entered any new value before pressing R/S on an intentional ERR command in the program to decide what to do afterwards. But if ERR has this side-effect of clearing the return stack then all this won't work of course.

Re: [WP34s] Question about ERR

*Message #6 Posted by **Paul Dale** on 24 Oct 2011, 5:40 a.m.,*
in response to message #5 by fhub

A program stopping should clear the entry flag.

If it doesn't it is a bug that will be fixed.

- Pauli

Re: [WP34s] Question about ERR

*Message #7 Posted by **fhub** on 24 Oct 2011, 7:07 a.m.,*
in response to message #4 by fhub

> Quote:
>
> So please rethink again your position about this issue ...

Oh, I just see that my request was granted - very nice, thanks! :-)

Now my Polynomial RootSolver is indeed ready. The only problem left is to improve the convergence speed a bit, because as Marcus told me a real HP-20b/30b is quite slow on some bad-conditioned polynomials.
But I've already an idea to solve this speed problem. Unfortunately it will need still more program

steps (currently about 250), and I hoped I could put this PRS program together with my TVM-Solver into one flash region. :-(
(well, maybe I should make the input and output a bit less comfortable!? ;-))

Franz.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S flashed on Linux, with SAM-BA 2.10

*Message #1 Posted by **Hubert Weikert** on 23 Oct 2011, 2:43 p.m.*

Up to now I failed to get SAM-BA for Linux working on my Debian box.

On Linux only the CDC version of SAB-BA is available, this one does not work, the same as the Windows CDC version is also failing.

To make it short, it works for me now this way:

- install SAM-BA 2.10 for Windows with CrossOver on the Linux Box.
- I use a serial to USB adapter with a FTDI chip (FT232RL)
- configure the serial port com2 to point to /dev/ttyUSB0 (see UsbToSerial for details how to do this)
- started SAM-BA from the menu, selected COM2:, and flashed a WP34S as usual.

MySamba does not scan the available serial ports at startup under Wine or CrossOver, even when it starts in these environments.

Essentially, now the road is free to set up the compiler to allow a cross compile of WP34S on Linux.

Hubert

Edited: 23 Oct 2011, 2:55 p.m.

Re: WP34S flashed on Linux, with SAM-BA 2.10

*Message #2 Posted by **Geir Isene** on 23 Oct 2011, 3:31 p.m.,*
in response to message #1 by Hubert Weikert

Thanks for this.

Re: WP34S flashed on Linux, with SAM-BA 2.10

*Message #3 Posted by **Lode** on 23 Oct 2011, 3:59 p.m.,*
in response to message #1 by Hubert Weikert

Personally, I got it to work with SAM-BA 2.9 under wine.

Just the normal wine, no crossover or anything. This works for me, under Archlinux.

The only catch is, it seems like sometimes I need to restart SAM-BA 2.9 a few times before it really detects that the calculator is there.

EDIT: forgot to mention that my PC has, afaik, a regular hardware serial port. And to make it work I also had to create a link from ~/.wine/dosdevices/com1 to /dev/ttyS0. I wonder why Linux calls a COM port a "teletype". Probably something historical :)

Edited: 23 Oct 2011, 4:02 p.m.

Re: WP34S flashed on Linux, with SAM-BA 2.10

*Message #4 Posted by **Rob Willett** on 24 Oct 2011, 1:59 a.m.,*
in response to message #3 by Lode

<history on> Linux calls com ports a teletype or tty because thats what serial ports (which are COM ports) use to drive. A com port is actually a DOSism (is that a real word?). I recall MS-DOS having COM1 and COM2 in the early 80's.

If you look at /dev on Linux (or most UNIX systems), you will see /dev/tty1, /dev/tty2 for some considerable number of /dev/tty's. This was how we use to connect terminals to UNIX boxs, we may have had 100 or more serial ports on a mini driving old VT100 type terminals.

Terminals were an enhancement of the original teletypes from the 60's and 70's and the naming of them carried over. </history off>

Rob

Re: WP34S flashed on Linux, with SAM-BA 2.10

*Message #5 Posted by **Hubert Weikert** on 24 Oct 2011, 11:40 a.m.,*
in response to message #4 by Rob Willett

The "teletype" used with minicomputers at these times for input and output was a Teletype Corp. ASR-33. It supported ASCII, had hardcopy, and allowed to use punched tapes for storage and restore of programs and command sequences. Electricaly they were connected with a 20mA current loop, the 'tty' ports. RS-232 was not yet widely used then, only for Modem lines.

Teletypewriters were some kind of precursor of today's email, in Europe they were using 5 bit Baudot coding, in the US 7 bit ASCII.

You can see Dennis Ritchie and Ken Thomson using ASR-33's in front of a PDP-11 in the picture in a WIRED article (see ASR-33), running probably an early version of UNIX there.

Hubert

Re: WP34S flashed on Linux, with SAM-BA 2.10

*Message #6 Posted by **Egan Ford** on 24 Oct 2011, 10:11 a.m.,*
in response to message #1 by Hubert Weikert

> Quote:
>
> MySamba does not scan the available serial ports at startup under Wine or CrossOver, even when it starts in these environments.

I had the same issue. I hope that MySamba will someday support a text input field.

MySamba updated.

*Message #7 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 2:07 p.m.,*
in response to message #6 by Egan Ford

Please test the newest version.

- I've converted the COM port drop-down to a combo box.
- The window can be resized horizontally.

Re: MySamba updated.

*Message #8 Posted by **Egan Ford** on 24 Oct 2011, 2:35 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Where is it? I downloaded the zip file from sf.net and it's the same as the older version.

Re: MySamba updated.

*Message #9 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 2:47 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Sorry, I uploaded the wrong file in my first attempt. This should be fixed now.

Re: MySamba updated.

*Message #10 Posted by **Egan Ford** on 24 Oct 2011, 3:56 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Great, can set COM port. New problem. I cannot select .bin files. You got the filter set to scripts. .dat appear, but .bin does not.

Thanks.

Re: MySamba updated.

*Message #11 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 4:29 p.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> I cannot select .bin files. You got the filter set to scripts. .dat appear, but .bin does not.

I didn't change anything there, at least not deliberately. Can't you override the filetype settings in the open file dialog? Or just enter the filename?

Re: MySamba updated.

*Message #12 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 4:42 p.m.,*
in response to message #10 by Egan Ford

Can you try again?

Re: MySamba updated.

*Message #13 Posted by **Egan Ford** on 24 Oct 2011, 4:55 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Thanks. It worked. I can now flash from OS/X using Wine. No problems. Took 19 sec for a "full" load.

Thanks again.

Re: MySamba updated.

*Message #14 Posted by **Egan Ford** on 24 Oct 2011, 5:00 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Question:

1. Do I need to erase with the special cable to use MySamba? I have been, but wondered if there was a faster way.

Re: MySamba updated.

*Message #15 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 5:05 p.m.,*
in response to message #14 by Egan Ford

Good to know it works. Once WP 34S is installed, you can do ON+D (once), ON+S (twice). This will switch off the calculator with the "Boot from flash" bit cleared. The next power on will start the SAM-BA boot loader. This preserves any libraries and backups in flash but might need a few seconds more to write the data.

Re: MySamba updated.

*Message #16 Posted by **Egan Ford** on 24 Oct 2011, 6:10 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Excellent. Just tested. It works, thanks!

For the rest of you:

1. Connect cable.
2. Turn ON 34S.
3. Press and hold ON, then D S S (D 6 6), then release on. Calc will turn off.
4. Press and release on. Flash with MySamba.
5. Press and release reset button on cable.
6. Disconnect cable.
7. Turn on. Check VERS and BATT.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How to go full RPN on the cheap

*Message #1 Posted by **Michael de Estrada** on 23 Oct 2011, 2:38 p.m.*

I'm a totally RPN person, but have used cheap algebraic calcs in harsh environments such as my garage workshop to avoid damage to my expensive RPN calcs. I hate algebraics and constantly make errors using them due to my RPN mindset. But now I've found a solution in the Victor V12 HP 12CP clone, that can be purchased for only $13.99 here with free shipping and no sales tax. I bought two for $14.98 from this seller, and then two more at the reduced $13.99 price. I've had a week to play around with one of them, and it is a good solid calc with a decent keyboard and contrast adjustable display. The only annoyances are the tiny decimal point and hard to read red shifted legends on the black keys. It uses two AAA batteries and is very fast. It comes with a very nice magnetic clasp carry case, and a limited printed manual that omits many features, but covers all the basics. Other than the Compucessory CCS-28956, where else could you find a RPN programmable calc even close to this price ? Even programmable algebraics sell for much more.

Re: How to go full RPN on the cheap

*Message #2 Posted by **Thomas Chrapkiewicz** on 23 Oct 2011, 3:02 p.m.,*
in response to message #1 by Michael de Estrada

Has anyone studied the hardware inside one of these?

TomC

Re: How to go full RPN on the cheap

*Message #3 Posted by **Jim Yohe** on 23 Oct 2011, 3:33 p.m.,*
in response to message #1 by Michael de Estrada

Is it a knockoff so close to the 12C that you can use the 12C manual for all of its functions and programming? I read that it also has an algebraic mode which, of course, isn't built into the 12C.

Re: How to go full RPN on the cheap

*Message #4 Posted by **Michael de Estrada** on 23 Oct 2011, 3:50 p.m.,*
in response to message #3 by Jim Yohe

It's the same as the first generation HP 12C Platinum, which has an algebraic mode but no parentheses. Also, it has 400 program steps, rather than 99 as on the original HP 12C. The old HP 12 CP manual can be used and the only feature that seems to be missing is the self test. Also, the keyboard layout and programming key codes are the same, so the original HP 12C manual can be used as well.

Edited: 23 Oct 2011, 3:55 p.m.

Re: How to go full RPN on the cheap

*Message #5 Posted by **Eddie W. Shore** on 23 Oct 2011, 4:16 p.m.,*
in response to message #1 by Michael de Estrada

This is a clone of the original HP 12C Platinum. A good buy if you are on a budget. I have not found a scientific RPN clone that isn't a computer emulator or iPhone/iPad app.

Edited: 23 Oct 2011, 4:17 p.m.

Re: How to go full RPN on the cheap

*Message #6 Posted by **Michael de Estrada** on 23 Oct 2011, 5:07 p.m.,*
in response to message #5 by Eddie W. Shore

Really, all I was wanting was an RPN 4-banger type calc to replace the various algebraic 4-bangers I have deployed around the house, garage and in the car. All the extra financial stuff and programming capabilities are just extra icing on the cake. I have an original mint made in USA HP 12C that more than meets any serious financial calculations I need to make. The Victor just saves wear and tear on that calc and allows me to use RPN wherever I go. As to scientific calculations, were I still working, I'd use the HP 15C LE at the office or on trips and leave my original HP 15C at home.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Power saving revisited

*Message #1 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 1:47 p.m.*

The latest build of WP 34S has a new algorithm for speed switching. Testers (on the real hardware) are welcome.

Background: Running at full speed is hard on the coin cells which are not rated for the 10mA current draw (20mA total) at 37MHz. We want the speed but we probably do not want it all the time.

1. When a program is started, the processor is immediately switched to full speed.* Label search would be too slow otherwise.
2. When numbers or commands are input, the processor runs at about 2MHz. You may notice this, it's a little less snappy than it used to be. This change was introduced earlier with the NULL option.
3. When a command is executed, speed switching is delayed about 0.1s. In a first step, speed is increased to 20MHz. 0.1s later, the calculator switches to full speed.*

* With SLOW in effect or with the battery symbol lit, this is 20MHz, 37MHz otherwise.

The main consequence of (3) is that many commands never switch to 20MHz or higher because they finish before the 0.1s elapse. This should reduce the stress on the batteries in normal manual operation. But some commands (try the factorial or LN) take noticeably longer in manual mode because they really need the full speed and do get it only after some delay.

I'd like to hear your comments on this.

As a side note: The power drain in idle mode (e. g. during a PSE) should be lower then it used to be (0.2mA instead of 0.4mA). I found some pull-up resistors which were unnecessarily left active. I still need to verify this but I have to modify my calculator first for the measurements.

Edit: Just fixed a bug with the latest changes.

Edited: 23 Oct 2011, 2:26 p.m.

Re: WP 34S: Power saving revisited

*Message #2 Posted by **Thomas Chrapkiewicz** on 23 Oct 2011, 2:52 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hello Marcus:

I presume that this is the '1767' build. I've just downloaded and flashed a 20b.

TomC

Re: WP 34S: Power saving revisited

*Message #3 Posted by **fhub** on 23 Oct 2011, 3:35 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

Quote:

I presume that this is the '1767' build. I've just downloaded and flashed a 20b.

There's already a bugfix 1769.

Re: WP 34S: Power saving revisited

*Message #4 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 4:30 p.m.,*
in response to message #3 by fhub

1767 has issues with the CONV catalog.

Re: WP 34S: Power saving revisited

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Oct 2011, 4:55 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Just downloaded what appears to be 1769, but the VERS command on the calculator returns 1768... Please clarify.

TIA

Re: WP 34S: Power saving revisited

*Message #6 Posted by **Dominic Richens** on 23 Oct 2011, 7:09 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

That's a pretty typical source control problem. When the calc.bin was built, it was built using 1768 + changes. Only once the calc.bin was checked in did it become 1769.

So VERS always returns a revision behind.

Re: WP 34S: Power saving revisited

*Message #7 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 3:11 a.m.,*
in response to message #6 by Dominic Richens

Dominic, almost. I add one to the last checked out revision number during the build and compile it into the binary. No more REV tags in the binary files.

Re: WP 34S: Power saving revisited

*Message #8 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 3:09 a.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

This has to do with the way the revision number is calculated in the build process. Walter had updated the manual between my two commits. So adding one to the last checked out copy of the sources didn't work out this time.

[Return to Index | Top of Index]

Go back to the main exhibit hall

NY Times article - a school without "technology"

*Message #1 Posted by **Don Shepherd** on 23 Oct 2011, 1:25 p.m.*

A school without technology? In Silicon Valley, no less.

article here

Re: NY Times article - a school without "technology"

*Message #2 Posted by **Thomas Radtke** on 23 Oct 2011, 1:39 p.m.,*
in response to message #1 by Don Shepherd

I have my problems with Steiners esoterism. In my world, it's suspicious if things are supposed to work like people think they do isolated from any scientific theory. But that's just me.

Otherwise, I share the opinion that a slide rule is superior to any calculator when it comes to education. A microscope, otoh, is hard to replace by anything else.

Re: NY Times article - a school without "technology"

*Message #3 Posted by **Thomas Chrapkiewicz** on 23 Oct 2011, 2:15 p.m.,*
in response to message #1 by Don Shepherd

Any coherent philosophy is not without exceptions. I do fundamentally agree with the philosophy here; we cannot let technology impede the thinking/creative process.

I've been a professor and engineer in mathematics, electrical engineering and science for almost 40 years and fundamentally agree with this philosophy. Appropriate technology is essential and in many cases vital; however technology can be a distraction(and in many cases in some of our crumbling school systems in America is).

TomC

Detroit, Michigan, USA

Re: NY Times article - a school without "technology"

*Message #4 Posted by **robert rozee** on 23 Oct 2011, 2:54 p.m.,*
in response to message #1 by Don Shepherd

i thoroughly applaud this 'minimalist' approach. with modern computers in the classroom kids barely have to think for themselves at all - what would have once been a research assignment spanning many diverse skills becomes a browse using google and some judicious cut-and-paste... and the kids all hand in the same piece of work as google teaches you that the 'best' answers are always on the first page!

similarly we have kids who can perform what would have been mathematical wonders (20 years back) on a graphical calculator, yet struggle to tell you what 7 x 9 equals.

i do think there is a compromise, however, a technological 'sweet spot'. a class set of kindles e-ink readers can provide every student with a rich research library, while a single-line non-programmable calculator (such as an fx-31) eliminates the use of error-prone lookup tables. i'd allow teachers whiteboards and DVD players, yet keep the well stocked printed library of fiction reading material.

it is important to use technology as appropriate to teach, as opposed to simply teaching technology.

Edited: 23 Oct 2011, 3:02 p.m.

Re: NY Times article - a school without "technology"

*Message #5 Posted by **Gerson W. Barbosa** on 23 Oct 2011, 3:59 p.m.,*
in response to message #4 by robert rozee

> Quote:
>
> yet struggle to tell you what 7 x 9 equals.

Here is a low-tech solution for this problem:-)

Re: NY Times article - a school without "technology"

*Message #6 Posted by **bill platt** on 23 Oct 2011, 4:40 p.m.,*
in response to message #5 by Gerson W. Barbosa

from Mars Staedtler no less

Re: NY Times article - a school without "technology"

*Message #7 Posted by **Gerson W. Barbosa** on 23 Oct 2011, 5:48 p.m.,*
in response to message #6 by bill platt

Yes, and this one includes an erasing device in case mistakes are made :-)

I remember once our Descriptive Geometry professor criticized my drawing and suggested I got a better compass. "It's a STAEDTLER!" I said while handing it to him. "No, you've engraved the brand name yourself", he replied. It doesn't suffice to have the right tool if one lacks the skills...

Re: NY Times article - a school without "technology"

*Message #8 Posted by **bill platt** on 23 Oct 2011, 7:08 p.m.,*
in response to message #7 by Gerson W. Barbosa

LOL.

My compass set was liberated from a trash heap somewhere in Germany by my father, some time in the 1940s...I bought one Staedtler small spring compass but the plastic threaded inserts stripped out.

Re: NY Times article - a school without "technology"

*Message #9 Posted by **Martin Pinckney** on 25 Oct 2011, 8:23 a.m.,*

in response to message #8 by bill platt

K+E nickel-plated set I got when I entered engineering school 44 years ago. Still use it a few times per year.

Re: NY Times article - a school without "technology"

*Message #10 Posted by **robert rozee** on 23 Oct 2011, 4:45 p.m.,*
in response to message #5 by Gerson W. Barbosa

indeed... when i was at primary school we all had access to a printed 'times table' chart on the back of every math exercise book - 144 entries covering 1 x 1 up to 12 x 12. cutting out the obsolete/imperial 11's and 12's, the trivial 1's, and reflections across the diagonal, one is then only left with 36 multiplications to learn.

i showed such a simplified multiplication table to a 'modern' teacher recently. said teacher was absolutely amazed at this ingenious and mysterious construction i'd devised!! :-(

Re: NY Times article - a school without "technology"

*Message #11 Posted by **bill platt** on 23 Oct 2011, 5:04 p.m.,*
in response to message #10 by robert rozee

You cheated yourself if you didn't go up to 12 X 12 and higher. We had to go to 15 X 15 but I didn't get good above 12 x 12. We still buy by the gross here :-)

Re: NY Times article - a school without "technology"

*Message #12 Posted by **Gerson W. Barbosa** on 23 Oct 2011, 6:15 p.m.,*
in response to message #10 by robert rozee

With no imperial units to worry about, we don't go beyond 9x9 here. BTW, I remember those pencils were forbidden in class. They still are not allowed during public service and college admittance examinations, though I cannot realize why applicants would need them.

Re: NY Times article - a school without "technology"

*Message #13 Posted by **bill platt** on 23 Oct 2011, 5:11 p.m.,*
in response to message #1 by Don Shepherd

I have rolled my eyes and groaned every time administrators brag about the "technology" they are bringing into the classroom. All I can think of is the waste of net present value, purchasing rapidly depreciating assets in lieu of leveraging that money to buy the most talented and motivated instructors. Of course in pubic school, the teacher's unions prevent that...unless you are the Baltimore city schools, which managed to get consensus for change....

The comment about the ease of picking up the technology is so true, and yet there is some sort of (adult-experience) fear of not spooning computer-operator crap. IT all reminds me of my 9th grade maths teacher who said, "don't waste time with typing class--you'll figure that out on your own" and he was Right!

Furthermore, the rush to "technology" is so stupid when you consider that it will and has continued to evolve so rapidly that learning how to be a button-pusher today means nothing 10 years from now...

Re: NY Times article - a school without "technology"

*Message #14 Posted by **Lincoln R.** on 23 Oct 2011, 9:31 p.m.,*
in response to message #13 by bill platt

I don't know about that. We had computers in my elementary school (Apple IIe Platinum, 5.25" floppy drive, some even had color monitors), and that was how I got introduced to computers and technology. My parents wouldn't have bought one, my dad was a factory worker with no use for such things. I didn't even know what a computer was before school, in fact I can distinctly remember asking the teacher "Why are there TVs sitting on top of the typewriters, does nobody use them?" 10 years later, I finally managed to convince my parents to buy a computer, taught myself some basic programming, read books about digital logic, decided I wanted to be a computer engineer, and ended up going from a decrepit and perpetually bankrupt public high school to Carnegie Mellon.

"Picking up technology" is easy if you mean learning about Facebook and video games and basic Microsoft Word, but getting a good understanding of technology is anything but easy.

I wouldn't say that I agree with the "middle school research papers turning into wikipedia cut-and-paste" thing, but then again schools can look for this. You simply explain that this is called plagiarism, and that it is not OK.

However, I am inclined to agree that making students actually learn how to do math is a useful skill. Not having to deal with the unit circle and approximation when I want to know some trig value is useful, but actually understanding what the trig value means is much more important, because it teaches you how to think, as opposed to how to just follow some instructions.

Re: NY Times article - a school without "technology"

*Message #15 Posted by **bill platt** on 23 Oct 2011, 11:04 p.m.,*
in response to message #14 by Lincoln R.

""Picking up technology" is easy if you mean learning about Facebook and video games and basic Microsoft Word, but getting a good understanding of technology is anything but easy."

Yes. I agree with you here. Problem is that much of the computer use in schools is nothing more than facebook / word "appliance user" stuff rather than what you did as a kid--learning fundamentals of programming and of hardware architecture.

Re: NY Times article - a school without "technology"

*Message #16 Posted by **Ed Look** on 24 Oct 2011, 10:55 a.m.,*
in response to message #1 by Don Shepherd

I can do basic calculations and estimate in my head. I am old.

I have an associate who is even older. He can do basic calculations and estimate in his head... much faster than I can.

He is of the slide rule generation.

My high school class was the first in my school to be allowed to have and use calculators.

An overwhelming amount of college students cannot do even simple algebraic problems in a reasonable time, if at all. They are of the powerful graphing calculator/home computer/laptop/smartphone/electronic gaming system generation.

This might not be too rigorous or even remotely scientific, but three points do define a line.

Take away their computers and smartphones and brick-heavy superpowerful calculators that can plot! Give them lookup tables- the point IS to make errors and learn how not to do so. Give them graphing paper, PENCIL & ERASER; how else can a student develop a feel for how different mathematical expressions move? More advanced students? Give them the equivalent of the old HP-31E or 32E. And even then, if they need to plot, use the numerical output, not an electronic display. I wish I was taught with the slide rule; it seems to develop your math senses better than with a calculator.

Re: NY Times article - a school without "technology"

*Message #17 Posted by **jonathan G harris** on 24 Oct 2011, 12:57 p.m.,*
in response to message #16 by Ed Look

I remember being back at my community college doing Calc I-III and the physics I & II for my engineering path back in 2002-2004. Of course I had a TI-89 and could do many of the problems for my calculus classes. About half way through Calc II I went and got a HP 49G and although I felt it was a step back in capability, I was able to do ALOT more thinking on my own. It's really hard to explain what that means but with the HP I felt more connected to the logic involved in problem-solving. I had to really understand what I was doing and understand the problem. With the TI, i felt I was just punching crap into a black box and it was spitting stuff back out at me. I gave my TI-89 to a girl in pre-calculus for a few bucks (she was smokin!!!!!!!) and have been HP ever since.

My last year at Uni the Electrical Engineering department decided to ban the powerful graphing calculators for their courses. I was a senior at that time and didn't care as much although I was ticked that many professors didn't enforce this rule. I remember a Controls Systems exam and I used my HP-33S. Some students had other scientific calculators on their desks but a few (cheaters...) pulled out their 89s and proceeded to do matrices that would take me 10 minutes to do by hand in the amount of time it took to punch in the data. The difference is that I still know how to do determinants and other calculations by hand whereas they probably will have to grab a calculator or a computer software (matlab).

I don't have a problem using technology provided that it is used as tool and not a crutch. I still own a TI-92+ (yes, the brick!!) and a HP-50g but the only calculator I carry with me daily is my HP-15C LE.

I went back recently to the same community college that I graduated from a few months ago and talked to the dean (I taught algebra there for 1 1/2 years before I started my career as a Protection & Controls Engineer) and to her dismay they were doing away with teacher-taught prep math classes and using a new software with very limited classtime with another human. She and I both agreed that this was a horrible idea. I may be a well-paid engineer (HA!) but I would be an absolute fool to think I made it this far without many excellent teachers that took the time and love to teach me and others mathematics.

No misplaced fondness for the "good old days"

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 24 Oct 2011, 10:42 p.m.,*
in response to message #1 by Don Shepherd

I am 82. I graduated high school in 1946. I received my B.S. in Engineering in 1950.

We were taught to use logarithms in high school. No need to fool around with estimates there if one only paid attention to the proper use of the characteristic.

I was introduced to the slide rule in college. I eventually discovered that a slide rule, even my K&E Log Log Duplex Decitrig or my friend's Pickett with double scales in place of the A and B scales and triple scales in place of the K scale, was a sorry replacement for the use of my book of log tables. First, it was only good to three decimal places. Second, it made it hard to keep up with the characteristic so I had to mess around with estimates. If I really concentrated I could do the equivalent characteristic calculations on the side by, among other things, keeping track of how many times I moved the slide from left to right or right to left.

Furthermore, the slide rule offered no capability for chain calculations which combined addition and subtraction with multiplicaion and division. I don't count the efforts to place an Addiator on the back as a futile response to the early four bangers.

To put it as plainly as I know how, doing engineering with a slide rule was a big pain in the ass!

And, then there was plotting on semilog and log-log paper for curve fitting. Doing that sort of thing one time is enough. After that, it's bad for the soul.

Re: No misplaced fondness for the "good old days"

*Message #19 Posted by **bill platt** on 24 Oct 2011, 10:55 p.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

If you think log log is bad, try running an integrator around section curves, and doing a weight estimate by hand...and computing curves of form by hand...yes, the digital computer saved us from a lot of paying of penance...

You have an interesting point about the slide rule versus the tables. My 1936 Eschbach (yes, I still use it frequently--some things never change...) has logs to 6 decimal places. If you are doing a lot of chaining, that sure is better than a slide rule.

Edited: 24 Oct 2011, 10:57 p.m.

Re: No misplaced fondness for the "good old days"

*Message #20 Posted by **Martin Pinckney** on 25 Oct 2011, 9:46 a.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

> Quote:
>
> To put it as plainly as I know how, doing engineering with a slide rule was a big pain in the ass!
>
> And, then there was plotting on semilog and log-log paper for curve fitting.

Nevertheless, using these tools does give one a better understanding of the underlying mathematical principles, IMO.

I actually still enjoy manual plotting, and using a classic analog planimeter, when these are necessary from time to time. (Yes, sometimes I find no digital alternative).

The biggest breakthroughs the computer afforded in my line of work came when pipe network and pond routing software became available. Now doing those manually was indeed a chore!

Re: No misplaced fondness for the "good old days"

*Message #21 Posted by **Palmer O. Hanson, Jr.** on 26 Oct 2011, 12:52 a.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> Nevertheless, using these tools does give one a better understanding of the underlying mathematical principles, IMO.

What I am saying is that once you have done that a time or two and understand the underlying principles then it is time to move on.

> Quote:
>
> I actually still enjoy manual plotting, and using a classic analog planimeter, when these are necessary from time to time. (Yes, sometimes I find no digital alternative).

We used the manual plotting as one method of solution when I took a class in curve fitting back in 1949. It certainly was easier than accumulating the sums needed for a least squares fit. But once I had access to curve fitting programs on the Honeywell Computer Network and converted them for use with my TI-59 my stack of plotting paper didn't get much use.

I see use of a planimeter as a classic case of not needing to understand the underlying principles in order to obtain all of the benefit. I have one of my own that I managed to get for about twenty-five dollars about ten years ago. Last week there was a mint condition K&E (made after WW II in West Germany) for sale for $150 at a thrift store in Florida. Too expensive for my collection.

I did a lot of work with LeRoy sets in the Navy in 1951-1952. We were still using them in the mid-1970's to make slides for overhead projectors. Who uses a LeRoy set now?

Re: No misplaced fondness for the "good old days"

*Message #22 Posted by **Martin Pinckney** on 26 Oct 2011, 10:35 a.m.,*
in response to message #21 by Palmer O. Hanson, Jr.

> Quote:
>
> Who uses a LeRoy set now?

No one, I'd venture. I used one in 1977 to revise a City map (I was a graduate engineer but draftsman was the only job I could find at the time).

The LeRoy was replaced by the lettering machines (sort of an electronic LeRoy). We still used those up until about 1990, when CAD took over everything (except two guys who continued to hand-draft until 1995, in this company). I still know professional architects who refuse to use CAD.

Re: No misplaced fondness for the "good old days"

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 26 Oct 2011, 9:56 p.m.,*
in response to message #22 by Martin Pinckney

Somewhere in the 1980's our tech pubs operation was still using LeRoys for lettering on slides. One of our engineers decided to make his own slides using computer generated lettering which was in its infancy. The lettering on his slides was barely legible. Many of the viewers were saying how wonderful it all was until I commented that if a tech pubs person had delivered slides with lettering as poor as that we would be calling his supervisor and demanding an explanation.

Re: No misplaced fondness for the "good old days"

*Message #24 Posted by **bill platt** on 26 Oct 2011, 10:41 p.m.,*
in response to message #21 by Palmer O. Hanson, Jr.

In 1985 we all used them and thought they were pretty cool, but something must have clicked in me and most if not all of my classmates. I never did go buy one. By 1995 there was no reason really to need one as software was then good enough and cheap enough to digitize anything and get at it with simpson's rule etc.

Re: NY Times article - a school without "technology"

*Message #25 Posted by **Alexander Oestert** on 25 Oct 2011, 8:45 a.m.,*
in response to message #1 by Don Shepherd

The Waldorf school is not applying no technology at all but just not the latest technology. They are using blackboards and chalk in the classrooms which once were also new technology to pupils whose ancestors wrote on parchment, carved in wood or took chisels to a stone. One can now discuss if the advent of blackboard-and-chalk-technology did any harm to the kids back then. Would they have been better off had they only stuck to chiseling?

We all have lost knowledge about many technologies that once were important to mankind but are no more, and we are taught new things that are important now. Most of us don't have to know how to grow crops, as our ancestors had to. We can very well ponder the question if we really need to know 6x9 by heart when we can find the answer easily on the smartphone we have at hand at all times. It might be far more important to be able to judge how reliable a wikipedia article is.

The things people have to learn change and so do the means by which they learn them.

Re: NY Times article - a school without "technology"

*Message #26 Posted by **bill platt** on 25 Oct 2011, 9:11 a.m.,*
in response to message #25 by Alexander Oestert

All true, but the point isn't to eschew technology merely for eschewing's sake; rather, it is to focus on the fundamentals and understanding how and why--the kind of scalable intelligence that does give one the ability to judge the veracity of a wikipedia article...

10 years ago I did look closely at the possibility of enrolling my then 4 year old in a Waldorf school. By the time he reached kindergarten age we had moved and so that was no longer an option. The larger issue with Waldorf for us was that their approach was so different, that if you started with Waldorf, your child would, admittedly by the Waldorf people, be behind in grade 4, because the way they teach various disciplines is not in sync with the more prevailing ductus. This is a problem for people who move a lot. I have never lived in one place more than 4 years as an adult and I've been an adult for considerably more time than I've been a kid.

My kids have attended private school. Even there, I have seen misapplication of "technology" on occasion. What this means is that there is some "fancy" new idea about web-this or interactive-that which ultimately becomes a distraction from what is actually being taught. That is the risk with "implementation and deployment" of "the latest 'technology'" (I *hate* this use of the word technology.)

Edited: 25 Oct 2011, 9:14 a.m.

Re: NY Times article - a school without "technology"

*Message #27 Posted by **Dominic Richens** on 26 Oct 2011, 1:33 p.m.,*
in response to message #26 by bill platt

My kids all started in a Waldorf school and moved over to conventional school at different ages when

we moved. I have friends whose kids went all the way up until high school and know there are kids that go through high school and onto university.

My impression was the pedagogy was excellent - kids moved up in grades when they were ready as it was assumed that every kids learned differently. They still followed the standard provincial curriculum, so moving to a conventional school was not an issue in that sense. The biggest problem my kids had was moving to a public school was the assumption that they were either like the majority of kids or had a learning disability!

Waldorf is definitely more right-brained. I wouldn't say it is "anti-technology", but technologically appropriate. There is a real focus on depth and base principles and manipulatives.

Anthroposophy, on the other hand, is just plain nuts.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S: HP20B vs HP30B keyboard

*Message #1 Posted by **Rob Willett** on 23 Oct 2011, 12:25 p.m.*

I've just started using the WP-34S in anger and am slowly getting my head around it. I have to say how impressed I am with the software as a whole. Very, very professional.

I'm not as impressed with the HP-20B as the hardware for the calculator, the shape of it is not nice on the hand, the shaped sides mean the top digs into fingers. The keys aren't anywhere near as nice as any of the other 'decent' calculators, the whole calculator needs raising by as couple of mm's on the top to make it easier to use on the desk.

However all said and done, the massive advantages of the WP-34S easily outweigh the cheap and cheerful (ish) hardware.

I have no idea how good the HP-30B is as a foundation for the software. Does anyone have any comparisons they can offer. Is the keyboard any better, is the case any better?

If the HP-30B is better, does anyone want to buy a HP-20B loaded up with the latest software :) ?

Thanks,

Rob

Re: WP-34S: HP20B vs HP30B keyboard

*Message #2 Posted by **Walter B** on 23 Oct 2011, 12:35 p.m.,*
in response to message #1 by Rob Willett

> Quote:
>
> I have no idea how good the HP-30B is as a foundation for the software. Does anyone have any comparisons they can offer. Is the keyboard any better, is the case any better?

Yes, significantly. No, it's the same.

Re: WP-34S: HP20B vs HP30B keyboard

*Message #3 Posted by **Rob Willett** on 23 Oct 2011, 1:05 p.m.,*
in response to message #2 by Walter B

Thanks for the prompt reply. I'll look round for an HP-30B and see how much they are.

Re: WP-34S: HP20B vs HP30B keyboard

*Message #4 Posted by **Paul Dale** on 24 Oct 2011, 3:56 a.m.,*
in response to message #1 by Rob Willett

Get a 30b and repurpose that. The only single advantage the 20b has is the overlay matches its colour better.

The 30b has a significantly better keyboard and is available cheaper.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Tools for exploring the 41cv?

*Message #1 Posted by **Peter Murphy (Livermore)** on 23 Oct 2011, 11:00 a.m.*

I've got a 41cv for exploration, and no literature to go with it. I see three HP publications on TAS right now:

http://www.ebay.com/itm/190588555418?ssPageName=STRK:MEWAX:IT&_trksid=p3984.m1438.l2648

http://www.ebay.com/itm/280759260940?ssPageName=STRK:MEWAX:IT&_trksid=p3984.m1438.l2648

http://www.ebay.com/itm/280759262115?ssPageName=STRK:MEWAX:IT&_trksid=p3984.m1438.l2648

How useful might each of them be? (I can guess, of course, given their descriptions.)

What other publications might be useful?

Thanks for these and any other suggestions on exploration.

Oh, and where might I pick up a fourth port cover, the calculator having only three at present?

Edited: 23 Oct 2011, 11:20 a.m. after one or more responses were posted

Re: Tools for exploring the 41cv?

*Message #2 Posted by **Walter B** on 23 Oct 2011, 11:19 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Your subject got me alarmed, but - alas - it's only the 4**1**cv :-(

Re: Tools for exploring the 41cv?

*Message #3 Posted by **Peter Murphy (Livermore)** on 23 Oct 2011, 11:25 a.m.,*
in response to message #2 by Walter B

Subject line edited too late to avoid alarm. Ich bitte Sie um Entshchuldigung.

Re: Tools for exploring the 41cv?

*Message #4 Posted by **db (martinez, ca.)** on 23 Oct 2011, 11:35 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

all are good. as an aside: for a new user, the manual for the C was the best, followed by the cv, with the cx manual being the least useful for the newbie. that's understandable because the cx had so much to cover.

have you bought the museum dvd yet? it has a lot more stuff for your purposes.

Re: Tools for exploring the 41cv?

*Message #5 Posted by **Peter Murphy (Livermore)** on 23 Oct 2011, 12:00 p.m.,*

in response to message #4 by db (martinez, ca.)

Thanks for the suggestion.

I don't have any Museum DVDs. It would appear that I'd need 01 and 02 at least:

HP-41C / CV Guide for the Experienced User . . . (CD 02) HP-41C / CV Owner's Handbook . . . (CD 01) HP-41C Owner's Handbook And Programming Guide Color . . . (CD 05)

Am I missing anything?

Re: Tools for exploring the 41cv?

*Message #6 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 12:39 p.m.,*
in response to message #5 by Peter Murphy (Livermore)

Just get the full DVD, it's worth every cent!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42 ?

*Message #1 Posted by **fhub** on 23 Oct 2011, 9:06 a.m.*

Does anyone know what's the matter with Thomas Okken?

After his last Free42 bugfix we found that there was still a bug (with complex trig functions) and he wanted to fix it. Two weeks later it was still not fixed, so I asked him again here and he said he would do it the next weekend.
But also this "next weekend" is now more than 3 weeks ago and there's still no new version ... :-(

Franz

Re: Free42 ?

*Message #2 Posted by **Geir Isene** on 23 Oct 2011, 9:14 a.m.,*
in response to message #1 by fhub

Maybe the Free42 is not his main occupation in life?

Re: Free42 ?

*Message #3 Posted by **fhub** on 23 Oct 2011, 9:17 a.m.,*
in response to message #2 by Geir Isene

> Quote:
>
> Maybe the Free42 is not his main occupation in life?

Well, if it would be his main occupation I would expect a fix **immediately**. ;-)

But even if not, then I would say 5 weeks is just too long...

Re: Free42 ?

*Message #4 Posted by **robert rozee** on 23 Oct 2011, 9:57 a.m.,*
in response to message #3 by fhub

could be he's unwell, perhaps has the flu?

Re: Free42 ?

*Message #5 Posted by **fhub** on 23 Oct 2011, 10:42 a.m.,*
in response to message #4 by robert rozee

> Quote:
>
> could be he's unwell, perhaps has the flu?

And that's exactly why/what I have **asked** above - I haven't **complained** at all!

Re: Free42 ?

*Message #6 Posted by **Alexander Oestert** on 23 Oct 2011, 10:03 a.m.,*
in response to message #3 by fhub

Quote:

5 weeks is just too long...

Too long only if you had payed for the service. But Free42 is FREE! So let's be grateful and patient!

Hopefully Thomas Okken is well and the 'delay' is not due to some mishap or illness!

Re: Free42 ?

*Message #7 Posted by **Mike Morrow** on 23 Oct 2011, 11:51 a.m.,*
in response to message #6 by Alexander Oestert

Quote:

Too long only if you had payed for the service. But Free42 is FREE! So let's be grateful and patient!

Exactly! An unfortunate sense of entitlement is apparent.

Even if it were not free, Free42 is the finest offering of its type anywhere for any platform. The Android version is the only calculator I'd have on my smartphone. Thank you Thomas!

Only a sense of gratitude and admiration is appropriate for Thomas Okken and Free42.

Re: Free42 ?

*Message #8 Posted by **Byron Foster** on 23 Oct 2011, 12:26 p.m.,*
in response to message #3 by fhub

Quote:

Well, if it would be his main occupation I would expect a fix **immediately**. ;-)

But even if not, then I would say 5 weeks is just too long...

Wow! do you expect this of all purchased software? you must be perpetually disappointed :)

Re: Free42 ?

*Message #9 Posted by **Ángel Martin** on 23 Oct 2011, 10:58 a.m.,*
in response to message #1 by fhub

The fix was done, only one last case still missing involving one of the versions (I forget which one right one, either DECIMAL or BINARY). Thomas has always been very responsive.

Re: Free42 ?

*Message #10 Posted by **Thomas Okken** on 23 Oct 2011, 3:37 p.m.,*
in response to message #1 by fhub

I've had other things on my mind. Why are you even asking this on this forum? Nobody here knows me personally; in case you want to ask about my health, well, my email address is not a secret.

Just be patient. I have no intention of abandoning Free42, but I have no intention of driving myself crazy over it, either. I'm sorry if my overly optimistic estimates have caused you inconvenience, and I do recognize that I have a tendency to be overly optimistic and that life tends to foil those optimistic plans (happens all the time at work, too, unfortunately), but that's just the way it is.

Sooner or later I will find the time to get the kind of sustained in-the-zone burst of activity that is needed for programming to be both productive and fun at the same time; I don't get that feeling with Free42 as often as in, say, 2005, when the project was

still taking shape, but as you can see from the recent Android port, it does still happen occasionally. Fixing minor bugs usually does not require a big burst of activity, but even minor bugs can be harder than you think; some days I may crank out 500 lines of working code without breaking a sweat, while some other days I submit one single-line bug fix at the end of the day and go home exhausted. So it goes.

- Thomas

Re: Free42 ?

*Message #11 Posted by **fhub** on 23 Oct 2011, 4:54 p.m.,*
in response to message #10 by Thomas Okken

> Quote:
>
> Why are you even asking this on this forum? Nobody here knows me personally; in case you want to ask about my health, well, my email address is not a secret.

Ok, sorry that I've asked - will not happen again! :-(

Franz

Re: Free42 ?

*Message #12 Posted by **Geir Isene** on 24 Oct 2011, 9:59 a.m.,*
in response to message #11 by fhub

No sulking please.

Re: Free42 ?

*Message #13 Posted by **Miguel Toro** on 24 Oct 2011, 12:04 p.m.,*
in response to message #11 by fhub

I think it is a matter of how things should be handled.

Maybe it would had been a good idea to send, in first place, a private message to Thomas asking politely how thing are going with the bug. Knowing him, he would have answered it promptly and you would have been updated about the issue.

Secondly, (and obviously, I am not a native) the question in your post seems to me a littler harsh. If, maybe, it had been phrased differently...

Regards,

Miguel

Re: Free42 ?

*Message #14 Posted by **Les Wright** on 24 Oct 2011, 9:28 a.m.,*
in response to message #1 by fhub

I have been a supporter of Free42 for a number of years. I have donated a modest amount to the cause (not very much, but Thomas was most thankful at the time) and cheerfully paid the modest AppStore costs for Free42 and 42s for iPhone when they first came out.

I have been friendly enough with Thomas over the years to know that Free42 is but a passionate avocation and hardly his main purpose in life. Despite this, he has at times been very responsive to my queries when I have on occasion identified some obscure irregularities.

I have noticed over the past year that Free42 has seemingly gotten less of Thomas' attention. There was a stretch of several months without any revision. I assumed only that the man had gotten busy, and that the project had to take a back seat. As a grateful admirer and fan, I thought that I was obliged to be patient.

That said, I have to say that I bristle at the tone of your query. I suspect that if your bug report is not getting addressed as quickly as you would like, there is nothing at all wrong with Thomas, as you wonder. Rather, he is likely just addressing matters of greater importance.

Free42 is offered to us at little or no cost. I have no trouble cutting the developer some slack if he cannot immediately address my every whim or complaint. I just feel blessed that the great software exists.

Edited: 24 Oct 2011, 9:29 a.m.

Re: Free42 ?

*Message #15 Posted by **fhub** on 24 Oct 2011, 10:46 a.m.,*
in response to message #14 by Les Wright

> Quote:
>
> That said, I have to say that I bristle at the tone of your query.

I'm really wondering about what fuss is made here because of a simple question like "Does anyone know what's the matter with .....?".

What crazy world! ;-)

Franz

Re: Free42 ?

*Message #16 Posted by **Geir Isene** on 24 Oct 2011, 11:15 a.m.,*
in response to message #15 by fhub

Who started the fuzz mewonders, and for what? Crazy world indeed ;)

Re: Free42 ?

*Message #17 Posted by **Ángel Martin** on 24 Oct 2011, 12:17 p.m.,*
in response to message #15 by fhub

Susceptibilities aside, I do see some "lost in the translation" issues behind all thus fuzz.

The *"what's the matter with"* is a tricky idiom to handle, and it's at the root of this issue.

I'm pretty sure there was no mean intention in the first place, so let's cut everybody some slack and move on.

Cheers, ÁM

Re: Free42 ?

*Message #18 Posted by **Thomas Okken** on 24 Oct 2011, 5:28 p.m.,*
in response to message #17 by Ángel Martin

> Quote:
>
> I'm pretty sure there was no mean intention in the first place, so let's cut everybody some slack and move on.

Seconded.

Re: Free42 ?

*Message #19 Posted by **Dominic Richens** on 24 Oct 2011, 2:50 p.m.,*
in response to message #15 by fhub

Franz,

I think some people on this forum forget that not everyone here is a native speaker of English (and American English at that).

The idiom "what's the matter with him?" is often used as a put-down (see the 2nd entry of [link:http://idioms.thefreedictionary.com/What's+the+matter%3F]http://idioms.thefreedictionary.com/What's+the+matter?[/link]) even though it literally does not mean that.

A more neutral idiom would be "what is up with him?"

Edited: 24 Oct 2011, 2:51 p.m.

Re: Free42 ?

*Message #20 Posted by **Dave Shaffer (Arizona)** on 24 Oct 2011, 3:03 p.m.,*
in response to message #19 by Dominic Richens

> Quote:
>
> A more neutral idiom would be "what is up with him?"

Still could be interpreted as a bit confrontational - "up with him" still could imply (at least to me) that one might be thinking that he could be deliberately not responding or hiding. In verbal communication, the tone of voice could affect the meaning of this. When writing, though, you loose that finesse.

I think even better here would be something like "I wonder if something has happened to Thomas. I haven't heard from him about a request I made a few weeks ago." And then, perhaps, describe the history, but without any real or implied expectation of (immediate or even delayed) response.

Re: Free42 ?

*Message #21 Posted by **Howard Owen** on 24 Oct 2011, 4:26 p.m.,*
in response to message #15 by fhub

> Quote:
>
> But even if not, then I would say 5 weeks is just too long...

In any language, that is impatient. Expressing impatience is not polite when the developer has given so many man-years to the development of a Free/Libre gift to you and everyone else who uses it. The appropriate response to frustration of this kind is either to fix the problem in source code, in a way that doesn't totally screw things up, or else to return the gift for your money back.

Re: Free42 ?

*Message #22 Posted by **Ángel Martin** on 24 Oct 2011, 4:34 p.m.,*
in response to message #21 by Howard Owen

Yes of course - but Free isn't synonym with "Libre", but with "Gratis" instead :-)

Really, it's very easy to trip yourself up when using a second language - and I don't mean to imply you did!

Edited: 24 Oct 2011, 4:35 p.m.

Re: Free42 ?

*Message #23 Posted by **fhub** on 24 Oct 2011, 4:50 p.m.,*
in response to message #22 by Ángel Martin

> Quote:

> Really, it's very easy to trip yourself up when using a second language

Yes, and that's why I finally stop posting here now - I'm tired of all those accusations just because of a simple question.

Cheers,
Franz

Re: Free42 ?

*Message #24 Posted by **Howard Owen** on 24 Oct 2011, 4:50 p.m.,*
in response to message #22 by Ángel Martin

Free/Libre is FSF terminology meant to indicate that Free (capitalized) refers to freedom and not necessarily "free as in beer." In this case, the code is libre and often gratis. (You can pay for 42S derived applications, too. My belief is that those are all GPL compliant, or else have a separate license from Mr. Okken.)

You're right that gratis may be the more important consideration when deciding whether or not to complain about the speed of development, and in what terms.

Re: Free42 ?

*Message #25 Posted by **Egan Ford** on 24 Oct 2011, 10:06 a.m.,*
in response to message #1 by fhub

Last I checked Free42 was open source, have you considered fixing the bug yourself and submitting it?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's chief strategy officer to retire next month, won't have a successor

*Message #1 Posted by **designnut** on 23 Oct 2011, 6:36 a.m.*

http://www.engadget.com/2011/10/21/hps-chief-strategy-officer-to-retire-next-month-wont-have-a-s/

Re: HP's chief strategy officer to retire next month, won't have a successor

*Message #2 Posted by **Walter B** on 23 Oct 2011, 7:48 a.m.,*
in response to message #1 by designnut

Sounds like an official confirmation HP has no strategy no more :-/ Bill and Dave must be generating electricity at high rpm in their graves :-(

Re: HP's chief strategy officer to retire next month, won't have a successor

*Message #3 Posted by **Thomas Radtke** on 23 Oct 2011, 8:46 a.m.,*
in response to message #2 by Walter B

No strategy is much better than a bad one. My company survives since decades by having no strategy and being unwilling to grow. It makes up for a very flexible company. But then, isn't that a strategy also? Hm...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s: Trying to understand SLV

*Message #1 Posted by **Miguel Toro** on 22 Oct 2011, 11:10 p.m.*

Hi,

I am having a hard time with SLV. I wanted to transfer the 15c Cash flow analysis to the 34s (Advanced functions handbook) but, even if the routine calculating NPV gives the expected result for every example I could find, when the same routine is called through SLV to solve IRR as with the 15C, the results are just off.

Trying other examples from the 15c manual, I can see that the 34s solver sometimes should use different initial guesses to obtains result or not show a Solve failed message (page 184, section 13 on the original 15c owner handbook).

What should I consider to make SLV to give better results? I really would like to port the CFA to the 34s.

Thanks,

Miguel

Thanks

Re: WP 34s: Trying to understand SLV

*Message #2 Posted by **Paul Dale** on 22 Oct 2011, 11:17 p.m.,*
in response to message #1 by Miguel Toro

The 34S solver is a completely different implementation to the 15c. For starters, it is using a quadraticly converging approximation which should converge much faster for many functions -- you'll see this in the 2nd best estimate which is often many digits less accurate unlike the same on the 15c.

The 34S solver also solves to the display resolution -- so e.g. FIX 02 will give a very rough estimate, FIX 08 better etc. The 15c solver doesn't depend on the display settings. Conversely, the 34S integration doesn't depend on the display settings and the 15c's does.

- Pauli

Re: WP 34s: Trying to understand SLV

*Message #3 Posted by **Miguel Toro** on 23 Oct 2011, 9:11 a.m.,*
in response to message #2 by Paul Dale

Hi Pauli,

Is there a way to make this work with the 34s solver? This is an adaptation of the routine found on the 15c advanced functions handbook. The program works for NPV but, as I mentioned, the IRR does not get it right.

For IRR there are two examples on page 43 and 44 that should yield 8.04 and 10.06 respectively.

if, as written, this is not possible, is there another formula that I could use to calculate IRR?

Thanks,

Miguel

```
001 LBL'CFE'            // Cash flows entry
002 CL[alpha]
003 2
004 ENTER[^]
005 EEX
006 5
007 /
008 STO K
009 [alpha]'AMT'
010 [alpha] [^]
011 [alpha]'OCC'
012 LBL 00
013 CLx
014 PROMPT
015 x=0?
016 GTO 01
017 [cmplx]STO[->]K
018 ISG K
019 NOP
020 GTO 00
021 LBL 01
022 RCL K
023 IP
024 x=0?
025 RTN
026 2
027 -
028 EEX
029 2
030 [times]
031 2
032 +
033 EEX
034 5
035 /
036 STO K
037 RTN


038 LBL'NPV'            // Calls label 02 to calculate Net Present Value
039 SSIZE4
040 CL[alpha]
041 [alpha]'Int'
042 [alpha] ?
043 PROMPT
044 EEX
045 2
046 /
047 STO I
048 RCL K
049 STO J
050 XEQ 02
051 RTN


052 LBL'IRR'            // Solves label 02 to calculate IRR
053 SSIZE4
054 RCL K
055 STO J
056 EEX
057 3
058 +/-
059 STO I
060 SLV 02
061 GTO 10
062 CL[alpha]
063 [alpha]'No[space]'
064 [alpha]'sol'
065 [alpha]'uti'
```

```
066 [alpha]'on!'
067 [alpha]VIEW
068 RTN
069 LBL 10
070 EEX
071 2
072 [times]
073 RTN


074 LBL 02
075 RCL I
076 1
077 STO A
078 +
079 STO B
080 0
081 STO C
082 LBL 03
083 [cmplx]RCL[->]J
084 RCL I
085 x=0?
086 GTO 04
087 1
088 +
089 x[<->] Y
090 +/-
091 y[^x]
092 STO A
093 1
094 x[<->] Y
095 -
096 RCL/ I
097 RCL[times] B
098 GTO 05
099 LBL 04
100 R[v]
101 LBL 05
102 [times]
103 STO+ C
104 RCL A
105 STO[times] B
106 ISG J
107 GTO 03
108 RCL C
109 RTN
```

Re: WP 34s: Trying to understand SLV

*Message #4 Posted by **Dieter** on 23 Oct 2011, 11:10 a.m.,*
in response to message #3 by Miguel Toro

There are several reasons why your program does not work.

1. SLV expects the current value of the variable to solve for in X. On each function call (here label 02) it fills the stack with the interest rate and expects the routine to use this value as the currect guess for which the NPV (that should become zero) is calculated. So you have to store this value first (LBL 02 STO I) before the NPV is evaluated. Also setting the loop control number (RCL K STO J) should generally be handled here.

   In my program version I chose to hand over the interest rate as a percentage (i.e. i instead of i/100) and use the following steps at Lbl 02. This way the NPV routine may be placed directly before:

   ```
   LBL "NPV"
   "I%?"
   PROMPT
   SSIZE 4
   LBL 02
    1
   STO A
   x<>y
   ```

```
 %        ; i/100
STO I
 +        ; 1 + i/100
STO B
CLX
STO C
RCL K
STO J
LBL 03
...
```

2. SLV expects two (!) initial guesses for the interest rate in X and Y. In your program, one of them is 0,001 (i.e. 0,1%) and the other is the value that happens to be in Y before calling SLV - this is the control number stored in K. #-)

   Give SLV two decent guesses and it will work. For instance 0 and 1 for 0 and 100%. In my program (with i instead of i/100) I used 0 and 100. This will work in most (!) cases, but not in all - providing two good guesses here is a work of art since the interest rate can also be negative. ;-)

3. SLV is quite picky at judging its own results. It may throw an error even though the result is fine. This especially happens in ALL mode (or other modes displaying many digits). So use something like FIX 6 instead which will return the (decimal) IRR with six digits after the decimal point or four digits for the percentage. Finally switch back to FIX 2 or something similar. I did it this way and it worked for me:

   ```
   0        ; 1st guess = 0%
   FIX 06   ; results correct to six decimals will do
   EEX      ; 2nd guess = 100% - use 1 in your program instead
   2
   SLV 02   ; Launch Solve
   GTO 10   ; solution found? then jump to exit routine
   X~~Y?    ; check if both last results agree in displayed digits
   GTO 10   ; in this case the result is fine as well, so exit
   ERR 20   ; otherwise throw an error
   LBL 10   ; exit and display result
   FIX 02   ; reset display to usual 2 digits
   ...
   ```

   Pauli, there might be a problem with the SLV routine since I sometimes got an "solve failed" error although both final approximations agreed in all 16 digits. However, the final function value was not zero, which in these cases still was fine because the function usually returned values order of 10^6 and larger. On the other hand the returned value might be checked as mentioned above.

   Anyway, analyzing the value returned by Solve is essential here because the NPV is calculated in a way that does not ensure the best possible precision. For instance, ((1+i)^n)-1 can be evaluated much more precisely by using e^x-1 and ln(1+x) as offered by the 34s.

4. You should also take a look at the sign of the returned NPV. However, the correct IRR does not depend on this.

5. There is some room for improvement. For instance, in the entry routine simply use INC K twice instead of ISG K NOP and you can forget the clumsy initial calculation of the loop control number. And instead of your own error message you can simply throw ERR 20 (Solve failed). ;-)

Change the program accordingly and it will work. Just tried it myself - it returns the same values as those in the advanced functions handbook. ;-)

Dieter

Edited: 23 Oct 2011, 3:55 p.m. after one or more responses were posted

Re: WP 34s: Trying to understand SLV

*Message #5 Posted by **Miguel Toro** on 23 Oct 2011, 3:49 p.m.,*
in response to message #4 by Dieter

Thank you very much Dieter, I will make the changes. Your detailed explanation helped me to better understand how SLV works.

And a question: why not to publish yours as an article?

Regards,

Miguel

Edited: 23 Oct 2011, 3:58 p.m.

Re: WP 34s: Trying to understand SLV

*Message #6 Posted by **Dieter** on 23 Oct 2011, 4:28 p.m.,*
in response to message #5 by Miguel Toro

I think this a bit too special for an article, and all information can also be found in the manual (well, a bit hidden here and there as it relies on the reader to know how previous HPs worked ;-)). However, please note I made a final correction in the second code example, about the same time you wrote your reply. I assumed an error that in fact was not there. For the same reason point 4 (sign of returned NPV) is obsolete as well. #-)

Dieter

Edited: 23 Oct 2011, 4:40 p.m.

Re: WP 34s: Trying to understand SLV

*Message #7 Posted by **Dominic Richens** on 23 Oct 2011, 7:19 p.m.,*
in response to message #6 by Dieter

Dieter

I think your example is a very illuminating demonstration of how SLV works. This is exactly the way that classic HP manuals explain some of the more complicated functions - take an example and implementing.

Please consider adding a section to WP34s users' guide.

cheers!

Re: WP 34s: Trying to understand SLV

*Message #8 Posted by **Dieter** on 28 Oct 2011, 7:21 a.m.,*
in response to message #5 by Miguel Toro

For the record: here is your program with a few modifications. It is the same algorithm with a numeric improvement using ln1+x and e^x-1 as well as the changes discussed before. You may use this as a basic version for your own, better and even more reliable program. ;-)

The result of the solver now is checked in three ways. Does the solver think it has found a solution? If not, do the last two guesses agree in their first six decimals? If not, is at least the

NPV for this result less than half a cent? If not, throw an error, else display the result.

Since I prefer the hotkeys A...D I used these instead of alpha labels. I also prefer to enter an interest rate and then simply press [B] instead of XEQ"NPV", then being prompted for the interest rate and finally get a result.

So here's my current, unfinished and experimental version. Use it at your own risk. BTW it's the first time I used the (dis)assembler - very nice. ;-)

```
001 LBL A
002 SSIZE4
003 CLSTK
004 STO I
005 STO J
006 STO K
007 ALL 03
008 LBL 00
009 CLx
010 CL[alpha]
011 [alpha]'CF'
012 [alpha]IP J
013 [alpha]'[^]n'
014 [alpha]IP J
015 PROMPT
016 x=0?
017 GTO 01
018 STO+ I
019 [cmplx]STO[->]K
020 INC J
021 INC K
022 INC K
023 GTO 00
024 LBL 01
025 RCL K
026 x=0?
027 ERR 15
028 2
029 -
030 EEX
031 3
032 /
033 2
034 EEX
035 +/-
036 5
037 +
038 STO K
039 RCL I
040 CL[alpha]
041 [alpha] #
042 [alpha]'CF'
043 [alpha] =
044 VW[alpha]+ X
045 RTN
046 LBL B
047 SSIZE4
048 XEQ 02
049 FIX 02
050 CL[alpha]
051 [alpha]'NPV'
052 [alpha] =
053 VW[alpha]+ X
054 RTN
055 LBL C
056 SSIZE4
057 FIX 06
058 CLSTK
059 EEX
060 2
061 SLV 02
062 GTO 05
063 x[approx]? Y
064 GTO 05
065 RCL Z
066 FIX 02
067 ROUND
068 x[!=]0?
```

```
069 ERR 20
070 R[v]
071 LBL 05
072 FIX 02
073 CL[alpha]
074 [alpha]'IRR'
075 [alpha] %
076 [alpha] =
077 VW[alpha]+ X
078 RTN
079 LBL 02
080 1
081 STO A
082 %
083 STO I
084 STO B
085 INC B
086 CLx
087 STO C
088 RCL K
089 STO J
090 LBL 03
091 [cmplx]RCL[->]J
092 RCL I
093 x=0?
094 GTO 04
095 LN1+x
096 +/-
097 [times]
098 e[^x]-1
099 STO A
100 INC A
101 +/-
102 RCL/ I
103 RCL[times] B
104 ENTER[^]
105 LBL 04
106 R[v]
107 [times]
108 STO+ C
109 RCL A
110 STO[times] B
111 ISG J
112 GTO 03
113 RCL C
114 RTN

  A        B        C
Start   i%=>NPV   =>IRR%
```

Here's the example from the 15C Advanced Solutions Handbook p. 43:

```
  Keys              Display

  [A]               CF0^n0
                              0.
-80000 [ENTER] 1
  [R/S]             CF1^n1
                              0.
  -600 [ENTER] 1
  [R/S]             CF2^n2
                              0.
  6500 [ENTER] 1
  [R/S]             CF3^n3
                              0.
  8000 [ENTER] 2
  [R/S]             CF4^n4
                              0.
  7500 [ENTER] 2
  [R/S]             CF5^n5
                              0.
 91000 [ENTER] 1
  [R/S]             CF6^n6
                              0.
  [R/S]             #CF=
                              8.
```

There are 8 cashflows in total.
Now let's determine the NPV for an interest rate of 9%.

```
 9   [B]           NPV=
                      -4108.06
```

Since the NPV is negative the IRR has to be less than 9%.
What is its value?

```
     [C]           IRR%=
                         8.04
```

Dieter

Re: WP 34s: Trying to understand SLV

*Message #9 Posted by **Marcus von Cube, Germany** on 28 Oct 2011, 8:34 a.m.,*
in response to message #8 by Dieter

Dieter, it's still a good idea to have an alpha label at the beginning of the program so that it can be found in a flash region. Look at the vectors program in the library folder for an example.

Re: WP 34s: Trying to understand SLV

*Message #10 Posted by **Miguel Toro** on 28 Oct 2011, 12:37 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi Marcus,

That was my original intention : to run this and other financial routines I am programing from a flash region. When they are ready, I will post them on an article, for whoever will be interested.

Thanks to Dieter, I finally got how SLV works (it is really different from was I knew with the 35s or 32sII) and I am using the new knowledge a lot. :-)

Regards,

Miguel

Edited: 28 Oct 2011, 3:07 p.m.

Re: WP 34s: Trying to understand SLV

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 28 Oct 2011, 11:14 a.m.,*
in response to message #8 by Dieter

> Quote:
>
> BTW it's the first time I used the (dis)assembler - very nice. ;-)

Thank you, Dieter! I appreciate the comment.

Cheers...

Re: WP 34s: Trying to understand SLV

*Message #12 Posted by **Miguel Toro** on 28 Oct 2011, 12:17 p.m.,*

in response to message #8 by Dieter

Thank you Dieter,

I have already made the changes discussed before and was thinking about improving precision using ln1+x and e^x-1, but you were faster. :-)

I really appreciate these improvements and the time you took to help.

Regards,

Miguel

Edited: 28 Oct 2011, 12:19 p.m.

Re: WP 34s: Trying to understand SLV

*Message #13 Posted by **Paul Dale** on 23 Oct 2011, 8:45 p.m.,*
in response to message #4 by Dieter

Dieter, thanks for the insightful comments about this one.

> Quote:
>
> Pauli, there might be a problem with the SLV routine since I sometimes got an "solve failed" error although both final approximations agreed in all 16 digits. However, the final function value was not zero, which in these cases still was fine because the function usually returned values order of 10^6 and larger. On the other hand the returned value might be checked as mentioned above.

I know of this problem, I haven't worked out how to fix it. The error is being thrown when the two estimates are equal when rounded but the function evaluation isn't rounding to zero. At least I think this is the cause. The problem is in the keystroke wrapper so should be fixable without using lots of flash.

- Pauli

Re: WP 34s: Trying to understand SLV

*Message #14 Posted by **Dieter** on 28 Oct 2011, 6:47 a.m.,*
in response to message #13 by Paul Dale

I thinks this deserves a closer look. Imagine the solver has determined two successive guesses that agree in all displayed (or even all sixteen) digits. But does this also mean that the respective function result rounds to zero as well? Of course it doesn't, depending on the first derivative of the function.

Let us consider a very simple function like this in ALL mode:

```
LBL 01
x^2
7
-
RTN
```

So the solver should return sqrt(7) = 2,64...
Let's see what it comes up with:

```
2 [ENTER] 3
SLV 01
=> Solve FA1LEd
```

What happened here? The solution has a true value of 2,6457 51311 06459 05905... You see that the 16th significant digit is quite exactly right in the middle between 0 and 1. So the 16-digit result returned by the solver has to be ...064591 or maybe ...064590. It doesn't matter which of these two is returned - none of them will provide a function result that rounds to zero (which in this case I assume means "less than 5 E-17"). You either get 2 E-15 or -3 E-15. That's why solve will throw an error although in fact it has found the correct solution.

There is some simple mathematics behind this: if the solution is varied by 1 ULP = 1 E-15 the function result will vary by as much as 2 * sqrt(7) * 1 E-15 = 5,3 E-15. So chances are there simply is no 16-digit value that will return a function result close enough to zero. Try the example modified to sqrt(2), with 1 and 2 as the initial guesses, and even in FIX 4 solve thinks it was unable to find a solution.

Actually solve will almost *always* throw an error if the display mode is SCI or ENG. This seems to happen every time the function result is not exactly zero. Try the mentioned example in SCI 9 or even SCI 0 mode - you will always get an error message.

That's why I think it does not make much sense if solve checks whether the function result rounds to zero or not. Even the best possible solution may return a result that is significantly different from zero. If you want to include an additional test one might think of varying the result by 1 ULP and see if the function result can be reduced this way. In the IRR example this leads to a slightly better result (in the last digit).

Dieter

Re: WP 34s: Trying to understand SLV

*Message #15 Posted by **Paul Dale** on 28 Oct 2011, 6:49 p.m.,*
in response to message #14 by Dieter

I'm not seeing this one fail on the console emulator? What firmware revision are you using?

Probably moot now, I've take the almost zero check out of the solver code. It won't fail anymore if the guesses converge. The user will have to check that a zero was found instead of a discontinuity.

- Pauli

Re: WP 34s: Trying to understand SLV

*Message #16 Posted by **fhub** on 29 Oct 2011, 7:14 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Probably moot now, I've take the almost zero check out of the solver code. It won't fail anymore if the guesses converge. The user will have to check that a zero was found instead of a discontinuity.

Looking at the previous and the current XROM code for the solver 'm now really confused! :-(

Here's the previous version:

```
slv_fin::               RCL Z
                        FILL
---                     x[approx]0?
---                             JMP slv_found
                        XEQ slv_fixstack
                        JMP exit


---slv_found::          XEQ slv_fixstack
---                     JMP slv_fail_common
```

In your todays change you've remove the 4 lines which I've marked with --- at the beginning.

But if I understand your previous version correctly, then if x[approx]0? it jumps to slv_found, but from there it jumps again to slv_fail_common (which gives an error). Isn't THIS the problem of the previous version?
I guess this x is the function value, but if it's almost zero then the solver didn't fail, correct?

So I would say that the only wrong thing in your old solver version was, that this condition and the jump was wrong - or IOW: why does the label slv_found jump to slv_fail_common ???

Franz

Re: WP 34s: Trying to understand SLV

*Message #17 Posted by **Paul Dale** on 29 Oct 2011, 7:19 a.m.,*
in response to message #16 by fhub

I don't know what I wrote in the old code :-(

It wasn't failing for the case Dieter presented but it wasn't correct either.

- Pauli

Re: WP 34s: Trying to understand SLV

*Message #18 Posted by **fhub** on 29 Oct 2011, 7:46 a.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> I don't know what I wrote in the old code :-(

Well, first I would say that the solver should indeed test if the function value is almost zero, and if not then maybe it could give an error message (something like "Dubios accuracy" or "Possible infinity").

Then I would prefer having the solution x in X and the function value f(x) in Y, so a simple x<->y would show if the solution is correct.

And finally I think you should only change your old XROM code as follows (i.e. swap the 2 JMP lines):

```
slv_fin::               RCL Z
```

```
                          FILL
                          x[approx]0?
                                  JMP slv_found
                          XEQ slv_fixstack
                          JMP slv_fail_common


slv_found::               XEQ slv_fixstack
                          JMP exit
```

Franz

Edited: 29 Oct 2011, 7:47 a.m.

Re: WP 34s: Trying to understand SLV

*Message #19 Posted by **Dieter** on 29 Oct 2011, 12:44 p.m.,*
in response to message #15 by Paul Dale

I had used the emulator in version 2.2 1630. In the meantime the latest emulator version (wp34s-V22.zip) seems to be 2.2 1782 which I downloaded now. It returns the same results:

```
P/R
LBL 01
x^2
7
-
RTN
P/R

ALL 03

2 ENTER 3
SLV 01

Solve FA1LEd
```

As mentioned, I think a final check for a near-zero-result is not a good idea at all. Take a look at the example. The best function results a 16-digit calculator can come up with are 2E-15 or -3E-15. Is this "approximately zero"? If you think so, consider the same function multiplied with 1E15, i.e. f(x) = 10^15*(x^2-7). In this case the best possible function results are 2 resp. -3. Which sure is not "approximately zero". ;-)

BTW - the other example x^2 - 2 in FIX 4 fails as well in 2.2. 1782.

There is a way to see whether the two last converging guesses actually are a valid solution. The result may be varied by 1 ULP until a sign change occurs. This is similar to the way Solve worked on the 34C and 15C: if the last guess did not return exactly zero they returned two final estimates with opposite signs of the function result, which were returned in Z and T as well. So the user was sure the actual solution had to be somewhere inbetween.

Dieter

Re: WP 34s: Trying to understand SLV

*Message #20 Posted by **fhub** on 29 Oct 2011, 2:10 p.m.,*
in response to message #19 by Dieter

> Quote:
>
> As mentioned, I think a final check for a near-zero-result is not a good

> idea at all.

Or do it as I suggested: make this near-zero-check, but don't let the solver fail if it's not zero, but just display a 'warning' message instead (now we even have such a MSG command).

Franz

Re: WP 34s: Trying to understand SLV

*Message #21 Posted by **Dieter** on 1 Nov 2011, 1:57 p.m.,*
in response to message #20 by fhub

Some kind of "inaccurate" flag sure is a nice idea - but where is the limit? It depends on the function resp. its first derivative and the value of the root SLV has found. So I'd say there should be no final close-to-zero test. Instead a simple trick may be used: have the user round the function result to zero, if desired.

At the same time this is a simple but efficient technique to cancel solve's iteration as soon as the desired accuracy level *of the function result* is reached. This idea was also used in the IRR example (function result < 0,005? => result ok). If the user really wants a final "approximately zero" check he may simply add X~~0? Clx as the final steps of his function.

Dieter

Re: WP 34s: Trying to understand SLV

*Message #22 Posted by **Paul Dale** on 29 Oct 2011, 7:49 p.m.,*
in response to message #19 by Dieter

The solver near zero check was been removed in 1785 so you don't have it yet :-(

In fact I'm pretty disillusioned with the approximately zero test. It seems to be almost useless -- rounding a near zero number generally doesn't change it.

I don't see two function values being documented as being returned in either the 34c or 15c manuals about solve. Unless I've missed something. They both say, best in X next best in Y and f(X) in Z.

- Pauli

Re: WP 34s: Trying to understand SLV

*Message #23 Posted by **Walter B** on 30 Oct 2011, 1:56 a.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> In fact I'm pretty disillusioned with the approximately zero test. It seems to be almost useless -- rounding a near zero number generally doesn't change it.
>
> I don't see two function values being documented as being returned in either the 34c or 15c manuals about solve. Unless I've missed

> something. They both say, best in X next best in Y and f(X) in Z.

May well be we know the reason now.

Walter

Re: WP 34s: Trying to understand SLV

*Message #24 Posted by **Dieter** on 30 Oct 2011, 10:51 a.m.,*
in response to message #22 by Paul Dale

Fine, so I'll have the modified SLV version once the emulator gets an update. ;-)

> Quote:
>
> In fact I'm pretty disillusioned with the approximately zero test. It seems to be almost useless -- rounding a near zero number generally doesn't change it.

I wonder how this test is supposed to work. Is it the same as ROUND followed by X=0? In this case it will only work in FIX mode, since in all other cases the value in X is simply rounded to its displayed number of *significant* digits. Which never will get zero - unless the unrounded value already is.

Anyway, the test may be useful in programming ...once it has been carefully documented. In FIX n it actually tests if abs(x) is less than $0{,}5 \times 10^{-n}$.

> Quote:
>
> I don't see two function values being documented as being returned in either the 34c or 15c manuals about solve. Unless I've missed something. They both say, best in X next best in Y and f(X) in Z.

You are right, I just checked both the 34C manual and the device itself. #-) However, I still think returning the two function results in Z and T is a good idea.

Dieter

Edited: 30 Oct 2011, 10:55 a.m.

Re: WP 34s: Trying to understand SLV

*Message #25 Posted by **Dieter** on 1 Nov 2011, 9:42 a.m.,*
in response to message #22 by Paul Dale

In the meantime I updated the emulator replacing wp34s.exe and wp34sgui.exe with their current versions (as of sunday evening UTC). VERS now shows 2.2 1789. Switching to program mode, 510 available steps are displayed instead of the usual 506. Is this correct?

I then tested the same example (solve x^2 - 7) on this newer version. With the same initial guesses 2 and 3 in ALL mode it still throws the same error: Solve Fa1LEd, although the result is fine and X and Y agree in all digits. In FIX 11 the

same result is returned without an error message.

Dieter

Re: WP 34s: Trying to understand SLV

*Message #26 Posted by **Marcus von Cube, Germany** on 1 Nov 2011, 12:09 p.m.,*
in response to message #25 by Dieter

Don't rely on the current builds! I'm heavily working on the inner workings and many check-ins are just for safety or cross checking by my fellow developers.

If we are done solve and integrate can be nested to any depth, and unused program space can be used as data. Be patient!

Re: WP 34s: Trying to understand SLV

*Message #27 Posted by **Walter B** on 1 Nov 2011, 12:32 p.m.,*
in response to message #26 by Marcus von Cube, Germany

From a user's point of view, we should close v2.2 then at a build number it was sufficiently stable. Then do all the mess in an incremented version.

Re: WP 34s: Trying to understand SLV

*Message #28 Posted by **fhub** on 1 Nov 2011, 1:14 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> Don't rely on the current builds!

How true!
Today (SVN 1804) I've compiled my program with wp34s_asm.pl and got "Illegal opcode" in the emulator (also SVN 1804). Looking at the program in the flash I saw commands like GTO without any address, or XEQ 1 (single digit) ...

BTW, what's this new LOCL and 200 instead of 100 for the address range?
If you want us to test your new 'ideas' then you should really give us at least a bit of information for such new features. ;-)

Franz

Edited: 1 Nov 2011, 1:14 p.m.

Re: WP 34s: Trying to understand SLV

*Message #29 Posted by **Marcus von Cube, Germany** on 1 Nov 2011, 2:00 p.m.,*
in response to message #28 by fhub

Send me your file and I'll try it. Read my posting above: I'm working so don't expect that the software is in a usable state. That's why we have a release package that should work.

LOCL is an abbreviation. :-)

Re: WP 34s: Trying to understand SLV

*Message #30 Posted by **fhub** on 1 Nov 2011, 2:21 p.m.,*
in response to message #29 by Marcus von Cube, Germany

> Quote:
>
> LOCL is an abbreviation. :-)

WOW, that's really a comprehensive explanation! And since I'm a clever guy I guess it's an abbreviation for LOCAL. ;-)
Now I know what to do with it ...

Re: WP 34s: Trying to understand SLV

*Message #31 Posted by **Walter B** on 23 Oct 2011, 11:14 a.m.,*
in response to message #3 by Miguel Toro

Buenas tardes Miguel,

What spontaneously crossed my mind reading your original post: Why doesn't he use a financial calc for this? Honestly, we made the WP 34S (sic!) to be a scientific calc since HP's activities were a bit low in this area.

Though I admit I voted for some %-functions and also a TVM solver many weeks ago, I'm most willing to kick those out if there will be any trouble with them. If you want a financial calc, get the 30b or 17bii+ Silver and you'll be done.

Walter

Re: WP 34s: Trying to understand SLV

*Message #32 Posted by **Miguel Toro** on 23 Oct 2011, 3:55 p.m.,*
in response to message #31 by Walter B

Hola Walter

Ah! But I want the one to control them all!

Seriously, I always wanted the pocketable, simple calculator that can cope with finances as well as science and maths. And the 34s is what I am finding closest to this.

Thanks,

Miguel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s: comments and a suggestion

*Message #1 Posted by **Nigel J Dowrick** on 22 Oct 2011, 5:15 p.m.*

In the past few days I have flashed my HP-20b and applied the overlay. My reactions:

1. The calculator looks fantastic! I admit that I was worried that the overlay would make it look amateurish, especially since "clumsy" is my middle name. Anyone who is holding off because they like their calculators smart should stop worrying and go ahead!

2. The firmware is astonishing! I've never seen a feature set like it on a calculator of this size. A lot of trouble has gone into making everything work well on the chosen hardware and it shows. The usability of this machine could scarcely be better. Highlights (for me) include the flexible way in which registers can be addressed, the handling of complex numbers, and the huge number of space- and step-saving programming commands. The firmware is stable (no crashes at all) even though I'm not running the latest version.

3. The manual is superb. Although it isn't aimed at new users, someone knowing roughly what to expect will find the detailed information here. The diagrams and tables are models of clarity and design - I can imagine the huge amount of effort and skill that must have gone into their creation. Too often documentation can take a back seat, but this manual is of the same high standard as the other components of the WP 34S project.

My heartfelt thanks to everyone involved. I haven't had so much fun with a calculator for a very long time, and there is still lots more to play with!

One small suggestion: the fraction separator is currently the same height as the digits 0-9. As such it doesn't (for me) clearly separate the numerator and denominator. Old Casio calculators used a separator made from the bottom and bottom-right segments: this half-height character provided a clear break in the string of digits. Would this be a possible change?

Nigel (UK)

Re: WP 34s: comments and a suggestion

*Message #2 Posted by **Walter B** on 23 Oct 2011, 11:42 a.m.,*
in response to message #1 by Nigel J Dowrick

Nigel,

Thanks for your very kind words [blush] :-)

Regarding your suggestion, we've employed a similar looking symbol for fraction mode overflow already. Please see page 30 of the manual for an example. Though this will show up in the very left numeric position only. Additionally, looking at the fraction display from some distance, the current fraction bar looks like one while the alternative you suggested looks more like a comma. That all said, we may think about changing the symbol if a clear majority of forumers want it (quorum: at least 10 votes in favour of a change). I solemnly declare the poll stations open ;-)

Walter

Re: WP 34s: comments and a suggestion

*Message #3 Posted by **Jeroen Van Nieuwenhove** on 23 Oct 2011, 6:06 p.m.,*
in response to message #2 by Walter B

Here's my vote for a fraction separator like on ancient Casio's. In my view, the separators that occupy only one (upper or lower) half of the LCD segments stand out more clearly. This is already the case for the Â° ' " separators for HMS notation. I think the fractions would indeed stand out better if the separator would be Casio-style. Of course, this is more a question of taste.

Now, the almost invisible difference between comma and point separators on the 30b REALLY is something that drives me nuts (much worse than on the first version of the 33S), but that is a hardware problem that cannot be rectified by the WP 34s project).

Edited: 23 Oct 2011, 6:20 p.m.

Re: WP 34s: comments and a suggestion

*Message #4 Posted by **Paul Dale** on 24 Oct 2011, 4:04 a.m.,*
in response to message #2 by Walter B

Changing this symbol is very simple -- we've got a special font for the seven segment display and this is a single isolated character and I believe it is only used for this purpose.

- Pauli

Re: WP 34s: comments and a suggestion

*Message #5 Posted by **Jeroen Van Nieuwenhove** on 23 Oct 2011, 6:18 p.m.,*
in response to message #1 by Nigel J Dowrick

> Quote:
>
> 2. The firmware is astonishing!

I would like to add a footnote to this observation. Just imagine how great a calculator the 33S and the 35S could have been if HP had it tested out for a year in this community. Not only would most of the bugs been discovered, but features like complex number support could have been expanded to a decent level (like on the 15C) had there been a community that advocated it. OK, I know I am daydreaming, but the WP 34s project surely shows the strength of the combination of a few dedicated and expert individuals together with a critical and knowledgeable community.

Re: WP 34s: comments and a suggestion

*Message #6 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 2:58 a.m.,*
in response to message #5 by Jeroen Van Nieuwenhove

I fear that the hardware of the 33s or 35s poses a restriction upon what can be implemented function wise. A 6502 programmed in C isn't the best architecture in this respect. So most probably no full complex support even with help of the community. But the bugs should have been ironed out as would have been some quirks of the 35s (think of bases other than 10, or P<>R).

Re: WP 34s: comments and a suggestion

*Message #7 Posted by **Paul Dale** on 24 Oct 2011, 4:03 a.m.,*
in response to message #6 by Marcus von Cube, Germany

128kb of rom on the 35s which is the same as the 20b. Plus lots more RAM and a decent display. I think something better could have been done.

- Pauli

Re: WP 34s: comments and a suggestion

*Message #8 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 4:41 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> 128kb of rom on the 35s which is the same as the 20b.

Not quite. ARM thumb code should get more out of the ROM space as 6502 code compiled from C.

Re: WP 34s: comments and a suggestion

*Message #9 Posted by **Paul Dale** on 24 Oct 2011, 5:39 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Maybe from C, but 6502 code should be a lot more compact in general...

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] Latest update ?

*Message #1 Posted by **robertoataulfo** on 22 Oct 2011, 7:34 a.m.*

```
Where do I get the latest update?
http://wp34s.sourceforge.net/ WP34S is with the date of 09.23.2011
```

Re: [WP34S] Latest update ?

*Message #2 Posted by **Alexander Oestert** on 22 Oct 2011, 8:27 a.m.,*
in response to message #1 by robertoataulfo

http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/calc.bin?view=log

>>>HERE<<<

Edited: 22 Oct 2011, 9:45 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

FORTH on the Sharp PC-1500

*Message #1 Posted by **Ph.Théry** on 22 Oct 2011, 6:01 a.m.*

Hello,

I'm looking after a FORTH for the Sharp PC-1500.

I saw on the archive (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=144612) that it was possible to get the forth back from the MC-12 datalogger.

Thanks, philippe

Re: FORTH on the Sharp PC-1500

*Message #2 Posted by **Bill (Smithville, NJ)** on 22 Oct 2011, 8:52 a.m.,*
in response to message #1 by Ph.Théry

Hi Philippe,

I was able to save the MC-12 Forth to a WAV file which could then be reloaded into the PC-1500. A couple of memory pokes are required to set the Basic Pointers. You'll also need a 16K memory card.

The Zipped WAV file is 7 MB. If your email program can receive large attachement, I can email it to you.

Bill

Re: FORTH on the Sharp PC-1500

*Message #3 Posted by **x34** on 22 Oct 2011, 8:51 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

Is it possible to write/read WAV files without printer/tape recorder cradle?

Re: FORTH on the Sharp PC-1500

*Message #4 Posted by **Eric Smith** on 22 Oct 2011, 10:48 p.m.,*
in response to message #3 by x34

No. Without the cassette interface there is no way to read or write cassettes, or anything acting like a cassette.

Re: FORTH on the Sharp PC-1500

*Message #5 Posted by **Ph.Théry** on 23 Oct 2011, 8:41 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Hi Bill, thanks for your reply. My mail can accept file less than 20Mo, this will be enough. With the WAV

file, can you send the "couple of memory pokes" to do with. Would you have the manual ?

Thanks, philippe

Re: FORTH on the Sharp PC-1500

*Message #6 Posted by **Bill (Smithville, NJ)** on 23 Oct 2011, 1:54 p.m.,*
in response to message #5 by Ph.Théry

Pleas send me your email adress by sending me an email through the forum.

I'll then get the wav file off to you with the memory pokes that are required. I did test the wav file on several PC-1500's some time ago. But unfortunaley, I no longer have a PC-1500 to re-test it on. So hopefully, I'll get the memory pokes correct for you.

I have scanned copy of the German Manual. No English version.

Bill

Edited: 23 Oct 2011, 1:56 p.m.

Re: FORTH on the Sharp PC-1500

*Message #7 Posted by **Ph.Théry** on 25 Oct 2011, 5:11 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Hi Bill, my adress is philippe.thery@wanadoo.fr Thanks

Re: FORTH on the Sharp PC-1500

*Message #8 Posted by **Bill (Smithville, NJ)** on 25 Oct 2011, 6:10 p.m.,*
in response to message #7 by Ph.Théry

Philippe,

You have mail.

Bill

Re: FORTH on the Sharp PC-1500

*Message #9 Posted by **Bill (Smithville, NJ)** on 25 Oct 2011, 6:31 p.m.,*
in response to message #8 by Bill (Smithville, NJ)

Philippe,

Your email system rejectetd it due to size.

Do you have anouther email to use?

Bill

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: trouble with CLSTK

*Message #1 Posted by **Miguel Toro** on 22 Oct 2011, 12:03 a.m.*

Hi, I noticed that CLSTK not only clear the stack, but also registers L and I, so LastX value is lost after performing a CLSTK. I have revision 1728 in my 34s and I am using revision 1747 on my computer. In both of them I see the same result.

Of course, other calculators as the 42s or the 35s, preserve LastX after clearing the stack.

Regards,

Miguel

Re: WP 34S: trouble with CLSTK

*Message #2 Posted by **Walter B** on 22 Oct 2011, 2:52 a.m.,*
in response to message #1 by Miguel Toro

Buenas dias Miguel,

Thank you for reporting this. I admit I didn't use CLSTK for months - I take 0 FILL instead. But anyway, you found a real bug :-) Congratulations! We will take care of it.

Walter

Re: WP 34S: trouble with CLSTK

*Message #3 Posted by **Paul Dale** on 22 Oct 2011, 3:08 a.m.,*
in response to message #2 by Walter B

More a lack of communication and inadequate command definition than a bug :-(The question being are L and I part of the stack registers or not -- they are intimately linked to them at the least.

Anyway, clear stack no longer clears I and L.

- Pauli

Edited: 22 Oct 2011, 3:09 a.m.

Re: WP 34S: trouble with CLSTK

*Message #4 Posted by **Miguel Toro** on 22 Oct 2011, 7:12 a.m.,*
in response to message #3 by Paul Dale

Thank you guys.

As always, user support is second to none :-)

Regards,

Miguel

Re: WP 34S: trouble with CLSTK

*Message #5 Posted by **Miguel Toro** on 22 Oct 2011, 7:36 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> I admit I didn't use CLSTK for months - I take 0 FILL instead

That is exactly what I also do, but for programming I would rather use CLSTK, and that is how I found the issue.

Edited: 22 Oct 2011, 7:36 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The FOCAL Factory proudly presents 2 new modules

*Message #1 Posted by **Geir Isene** on 21 Oct 2011, 7:31 p.m.*

TFF™ softly launches the aforementioned "avalanche" of User Library Solution modules and the kick-off was unanimously decided to be the "Business Stat/Marketing/Sales" and "Test Statistics" FOCAL Roms.

The President decided to host the .ROM and the .MOD images at the UC-41 page .

Enjoy or else.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #2 Posted by **gene wright** on 21 Oct 2011, 10:18 p.m.,*
in response to message #1 by Geir Isene

Wonderful!

I *know* these are user code and some of them are dated, etc., but given that the solution book code is already written, debugged and was useful then, it *might* be useful now.

So, bravo! Please don't stop know! Build up good karma!

Re: The FOCAL Factory proudly presents 2 new modules

*Message #3 Posted by **Ángel Martin** on 22 Oct 2011, 2:28 a.m.,*
in response to message #2 by gene wright

Gene, here's my offer to you (and anyone else): should you send me the programs in RAW files I'll gladly put them together in ROM, MOD, EXCEL, PDF or any format you care (except RPL :-)

And when you do, don't forget to specify:

- XROM id#
- FAT entries sequence
- XROM vs. XEQ convention (to avoid LBL conflicts)
- etc...

Best, 'AM.

Edited: 22 Oct 2011, 4:47 a.m.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #4 Posted by **Monte Dalrymple** on 21 Oct 2011, 10:52 p.m.,*
in response to message #1 by Geir Isene

Both the .rom and .mod Tests links seem to be broken...

Re: The FOCAL Factory proudly presents 2 new modules

*Message #5 Posted by **Geir Isene** on 22 Oct 2011, 5:03 a.m.,*
in response to message #4 by Monte Dalrymple

Fixed.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #6 Posted by **Ángel Martin** on 22 Oct 2011, 2:26 a.m.,*
in response to message #1 by Geir Isene

TFF go travel! Yesssir, way to go :-)

And now the daunting step: what about the manuals??

Best, 'AM

Re: The FOCAL Factory proudly presents 2 new modules

*Message #7 Posted by **Geir Isene** on 22 Oct 2011, 5:04 a.m.,*
in response to message #6 by Ángel Martin

The materials are already at TOS and in the TOSdvd as pdfs.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #8 Posted by **Ángel Martin** on 22 Oct 2011, 7:02 a.m.,*
in response to message #7 by Geir Isene

Any chance to get a link to that in your web site? (saves search time and effort...)

This is what I get clicking on your name at TOS:

```
Title   Date
ASTROUI ROM     Nov 22. 2010
ICEBOX ROM 1H   Jan 12, 2010
ICEBOX ROM Manual 1H    Jan 12, 2010
ISENE ROM       Oct 16, 2011
ISENE ROM Manual        Oct 16, 2011
NOV CHAP Manual 1       Jun 3, 2011
NOV CHAP rom 1          Jun 3, 2011
```

none seems to be it?

Edited: 22 Oct 2011, 7:04 a.m.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #9 Posted by **Geir Isene** on 22 Oct 2011, 9:18 a.m.,*
in response to message #8 by Ángel Martin

These new modules are simply the old User Library Solutions in ROM/MOD format - but yeah, I will include the links...

...done :)

Re: The FOCAL Factory proudly presents 2 new modules

*Message #10 Posted by **Ángel Martin** on 22 Oct 2011, 2:02 p.m.,*
in response to message #9 by Geir Isene

oh, I was wrong - I thought it was your Stats-on-steroids [or was it asteroids?] :-)

BTW the MOD file doesn't have any "name", and gives errors on V41.

Best, 'AM

Re: The FOCAL Factory proudly presents 2 new modules

*Message #11 Posted by **Geir Isene** on 22 Oct 2011, 7:26 p.m.,*
in response to message #10 by Ángel Martin

Not any name? How so? On a real 41, the first FOCAL program in the FAT becomes the "name" of the module...

Edited: 22 Oct 2011, 7:31 p.m.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #12 Posted by **Geir Isene** on 23 Oct 2011, 9:13 a.m.,*
in response to message #10 by Ángel Martin

I confirmed the error on the FOCAL modules on the V41. Seems V41 doesn't support using modules that have no MCODE header but where the first header is a FOCAL program. This is however no problem on an ordinary HP-41 or on the EMU41.

Any ideas on why? Or how to (very easily) solve it? The obvious solution would perhaps be to manually enter an MCODE header function as the first FAT entry, but that would defeat the purpose of letting a non-MCODE savvy person be able to create easy FOCAL roms...

Maybe just drop the MODs?

Re: The FOCAL Factory proudly presents 2 new modules

*Message #13 Posted by **Ángel Martin** on 23 Oct 2011, 11:00 a.m.,*
in response to message #12 by Geir Isene

I don't think it's a V41 limitation. If you edit the appropriate MOD file "Title" field using ml2k, then it's properly shown on V41.

Edited to add:- Also can edit the Copyright, Date, etc. fields.

Edited: 23 Oct 2011, 11:03 a.m.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #14 Posted by **Geir Isene** on 23 Oct 2011, 5:08 p.m.,*
in response to message #13 by Ángel Martin

I have now fiddled with the MLDL2K for a while and managed to debug the issue. The MOD files are now correct and should run (although they do not show up on CAT2 on the V41 as they do on a real HP-41, they do work also on the V41). It would be nice if someone else could verify this.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #15 Posted by **Ángel Martin** on 24 Oct 2011, 1:56 a.m.,*
in response to message #14 by Geir Isene

They work fine on my V41 w/the CCD (or OS/X) - showing the first program in the page (4k-block).

A bare 41 doesn't "see" the FAT entries unless they're longer than 7 chrs, which obviously won't be the case when copying FOCAL programs to ROM (synthetics aside).

That's why I always add a simple MCODE header to the construct. In fact I just completed the Control_Systems and Electrical_Engineering solution books, adding them to ROM/MOD. Unfortunately they can't be fit into a single 4k block together, so it's two of them right now. I can send them to your FFT library if you want.

Re: The FOCAL Factory proudly presents 2 new modules

*Message #16 Posted by **Geir Isene** on 24 Oct 2011, 2:07 a.m.,*
in response to message #15 by Ángel Martin

Please do :)

Re: The FOCAL Factory proudly presents 2 new modules

*Message #17 Posted by **Ángel Martin** on 24 Oct 2011, 4:36 p.m.,*
in response to message #16 by Geir Isene

I just did :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need a new toy. 48g or 50g?

*Message #1 Posted by **JamesT** on 21 Oct 2011, 6:06 p.m.*

I 'need' a new toy to play with and am intrigued by the 48g/50g. Which should I get? I like a quality keyboard and heard that the 48g is better in this regard. Is there anything about the 50g that says I should go that direction?

Re: Need a new toy. 48g or 50g?

*Message #2 Posted by **Walter B** on 21 Oct 2011, 6:20 p.m.,*
in response to message #1 by JamesT

The 50G features a far better display than the 48G.

Re: Need a new toy. 48g or 50g?

*Message #3 Posted by **Egan Ford** on 21 Oct 2011, 6:37 p.m.,*
in response to message #1 by JamesT

50g:

1. Larger, clearer display.
2. Can run off batteries or USB power.
3. USB and Serial ports.
4. SD Card for storage.
5. Less Ugly keyboard colors, however the 48G does have the Holy Grail of calculator keys--a large Enter.
6. Can be programmed in C and ARM ASM for speed.
7. Comes with warranty.
8. Can run 41, 42, 15C, etc... emulators.
9. It's a toy and a tool.
10. No assembly required.

Do you have a 34S yet? Currently my favorite toy.

1. Smaller display.
2. Can run off batteries.
3. Serial port only, can drain batteries.
4. Some limited flash storage.
5. Does have the Holy Grail of calculator keys--a large Enter. Good color scheme.
6. Can be programmed in C and ASM for speed, but with a lot of care.
7. Comes with warranty. Sorta of.
8. Can run 41, 42, 15C, 16C, etc... RPN code with little change. It's kinda the 'Swiss Army Knife' of RPN calculators. It has a zillion functions that you'll never use. But just the knowledge that you could completely rebuild any advance civilization with it is reason enough to get one and take it everywhere you go. (Pack extra batteries).
9. It's a toy and a tool.
10. Some assembly required.

Edited: 21 Oct 2011, 6:41 p.m.

Re: Need a new toy. 48g or 50g?

*Message #4 Posted by **David Hayden** on 21 Oct 2011, 6:40 p.m.,*
in response to message #1 by JamesT

Do you mean the 48G from the 1990's, or the 48gii that they make today?

In addition to the better display, the 50g has an SD card and more memory than the 48gii.

Re: Need a new toy. 48g or 50g?

*Message #5 Posted by **NateB** on 21 Oct 2011, 6:48 p.m.,*
in response to message #1 by JamesT

The 50g has better connectivity options. If you decide that you want to start installing programs/libraries from hpcalc.org, transferring data is much easier with the 50g. For the 48 you'll need a serial cable and a computer with a serial port or USB to serial converter. Also, the 48G only has 32K RAM (128K for the 48G+/GX).

Edited: 21 Oct 2011, 6:50 p.m.

Re: Need a new toy. 48g or 50g?

*Message #6 Posted by **Gilles Carpentier** on 21 Oct 2011, 6:52 p.m.,*
in response to message #1 by JamesT

50G is far better. Bigger screen, really faster, CAS, infinite integers, USB for connection and electric power, imo better keys position ...

The less : not so 'sensual' keyboard (but it is correct), and for some people the lack of "large enter key", insuffisant paper documentation (but downloadable on HP site include advanced manuel)

Re: Need a new toy. 48g or 50g?

*Message #7 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 7:47 p.m.,*
in response to message #1 by JamesT

Strangely, it's not always pointed out as the first thing, but I'm with Gilles: the 50g is a *far* more capable machine software-wise.

Re: Need a new toy. 48g or 50g?

*Message #8 Posted by **JamesT** on 21 Oct 2011, 8:14 p.m.,*
in response to message #7 by Oliver Unter Ecker

Didn't think about the display quality/size...very good point.

As for the Enter key, I felt it looked strange but didn't notice they had shrunk and moved it from its usual location.

The 50g seems to have more sheer toy potential. And seems like a deal for $100. I will be ordering one. Thanks for all the feedback!

Re: Need a new toy. 48g or 50g?

*Message #9 Posted by **bill platt** on 21 Oct 2011, 9:19 p.m.,*
in response to message #8 by JamesT

48 has joined the ranks of antiques now!

But it is a pretty awesome antique...

Re: Need a new toy. 48g or 50g?

*Message #10 Posted by **Dave Britten** on 21 Oct 2011, 9:41 p.m.,*
in response to message #1 by JamesT

I prefer the 48, personally. The keyboard and menu layouts on the 50g are awful, and I still have problems with duplicated/missed keystrokes occasionally, despite fiddling with KEYTIME. Plus the keys on the 50g are still too stiff, particularly the arrows.

My opinion is that all the extra memory, speed, and screen size are wasted if it's a pain in day to day use. And thus I keep a 48SX on my desk. :)

Re: Need a new toy. 48g or 50g?

*Message #11 Posted by **Eddie W. Shore** on 22 Oct 2011, 11:26 a.m.,*
in response to message #1 by JamesT

Quote:

> I 'need' a new toy to play with and am intrigued by the 48g/50g. Which should I get? I like a quality keyboard and heard that the 48g is better in this regard. Is there anything about the 50g that says I should go that direction?

50g has a faster processor, can be connected by USB port, has an SD card, and has more real estate as far the screen goes.

What I like of the 48G better: bigger ENTER screen, MTH and PRG menus don't need a shift key to access it.

Despite this, my vote is for the 50g.

Edited: 22 Oct 2011, 11:29 a.m.

Re: Need a new toy. 48g or 50g?

*Message #12 Posted by **From Hong Kong** on 22 Oct 2011, 1:19 p.m.,*
in response to message #1 by JamesT

Quote:

> I 'need' a new toy to play with and am intrigued by the 48g/50g. Which should I get? I like a quality keyboard and heard that the 48g is better in this regard. Is there anything about the 50g that says I should go that direction?

I can say that 48G is obviously old technology with some significant limitations such as unflashable firmware but HP-50G isn't good enough, particularly its keyboard. If I need to choose between them, I'll go for HP-50G for sure.

To be frank, no calculator made by HP after HP-48SX is good enough to fascinate me.

Edited: 22 Oct 2011, 1:25 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

It's ALIVE!!!

*Message #1 Posted by **David Hayden** on 21 Oct 2011, 4:28 p.m.*

I just had to share this story. I picked up a 48SX with a broken display as a door prize at HHC2011. Not surprisingly, when I put batteries in and tried it, nothing happened.

Today I tried again, figuring that I'd try to induce a computation error and see if it would beep. Again, no luck.

I tried adjusting the contrast. Nothing.

I tried pressing the ON button harder, and many times. Suddenly it turned on!!! The display has some marks on it, but it's perfectly readable.

Then I tried to turn it off.... it wouldn't go off. Hmmmmmm.....

Then I remembered reading here that keyboard failure is common on some models and if you press under the display, it causes two contacts to come together that fix the problem. I pressed under the display, and I was able to turn it off and on at will.

So the bottom line is that the display has a few nasty marks but is otherwise okay. The real problem is just that the ON key doesn't register. That's alright, I just want to play around with the machine anyway.

Dave

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unusual non-HP RPN (red led display) to restore...

*Message #1 Posted by **Cristian Arezzini** on 21 Oct 2011, 4:07 p.m.*

A few days ago I impulse-bought a calculator on eBay. It is an "Emerson E12" calculator. There was no detailed description, but looking at the photos I noticed it was RPN so I bought it - at 14 Euro it was cheap enough. It arrived today, and it works when I power it with the included adapter. It's pure RPN, quite nice and feature-rich, made in 1975. I opened it, and it's quite clean inside, but I noticed that it's actually a re-badged Corvus 500! And I'm quite happy about that! :)

But it has a problem with the display: three segments are totally missing, and two more have a few "dots" missing. The display is made by hp (there's 1130-053 written on it). Is there something I can do to fix it? If not, is there somewhere to buy another - or a compatible replacement?

Second problem: there was some oxidation on the metal contacts for the batteries. I cleaned them the usual way, but one broke. What material should I use to rebuild it? Copper foil? Something else?

Third question (but this is unrelated): another calculator I'm restoring has (had) a foam pad between the keys and the domes. The foam has disintegrated with age. What can I use to replace it?

Fourth: right now I'm in the process of trying to restore several calculators... is it OK if I ask a lot of questions here? :)

Cristian

Re: Unusual non-HP RPN (red led display) to restore...

*Message #2 Posted by **Lincoln R.** on 22 Oct 2011, 11:23 a.m.,*
in response to message #1 by Cristian Arezzini

I'm certain others will chime in with more useful advice, but I've seen 2 common types of LED failures on old calculators, both relating to bad electrical contact between the LEDs and the driver.

First, if the contacts are dirty/solder joint broken/wire or trace cracked, that would do it. Solderless HP Spice series machines had issues with this, the LED module (like everything else) was held against the PCB contacts by a piece of plastic and a couple of spring clips.

Second, it's possible for chemicals from degrading batteries to get inside the LED module and eat the bonding wires. You can see this by looking closely near the segments with the unit disassembled, you should see several tiny wires running to the segments. If any of these seem broken/missing/corroded, you're probably looking at replacing the LED module.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #3 Posted by **db (martinez, ca.)** on 22 Oct 2011, 9:17 p.m.,*
in response to message #1 by Cristian Arezzini

Congrats on your find. This is the first time i have heard of that brand, or any rebadging of the Corvus 500. Is

it an exact copy as far as you can see?

Re your fourth question: Asking questions about repairing old calculators (especially hp & RPN) is one of the reasons for this forum's existence.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #4 Posted by **Cristian Arezzini** on 23 Oct 2011, 10:31 a.m.,*
in response to message #3 by db (martinez, ca.)

As far as I can see, it's an exact copy - I only have pictures of the Corvus, but it seems an exact copy of mine. And the motherboard of mine has the Corvus logo on it, that's why I thought of a mere re-badging. And the display is an hp part! :)

Cristian

Re: Unusual non-HP RPN (red led display) to restore...

*Message #5 Posted by **Michael de Estrada** on 23 Oct 2011, 10:48 a.m.,*
in response to message #4 by Cristian Arezzini

Where was it made ? My Corvus 500 was made (assembled) in Hong Kong. Also, I assume you realize that you can operate it from a universal AC adapter @ 4.5 Vdc in the event you can't repair the battery connectors. I'm using 3 x 1.5V AA alkaline cells in mine.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #6 Posted by **Cristian Arezzini** on 23 Oct 2011, 11:00 a.m.,*
in response to message #5 by Michael de Estrada

It was "assembled in Hong Kong". It came with its (working) power supply, that's how I've tested it - can't use batteries until I rebuild the contacts (if I ever will)! :)

I couldn't find anything online about it... (the brand is actually "Emerson Electronics").

Cristian

Re: Unusual non-HP RPN (red led display) to restore...

*Message #7 Posted by **Michael de Estrada** on 23 Oct 2011, 11:21 a.m.,*
in response to message #6 by Cristian Arezzini

I don't know if it's the same company, but Emerson used to make tube radios.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #8 Posted by **db (martinez, ca.)** on 23 Oct 2011, 11:47 a.m.,*
in response to message #7 by Michael de Estrada

...and there's that other Emerson. There is a quote by him stuck right above my computer

and in front of my nose. "Do the duty of the day". So i best be signing out and doing those roof drains.

btw, Cristian; *Your* duty is to fix that Corvus clone. You'll like using it.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #9 Posted by **Cristian Arezzini** on 23 Oct 2011, 12:28 p.m.,*
in response to message #7 by Michael de Estrada

I don't know if that's the same Emerson, the logo is different... Are you interested in a photo? :)

Cristian

Edited: 23 Oct 2011, 12:28 p.m.

Re: Unusual non-HP RPN (red led display) to restore...

*Message #10 Posted by **db (martinez, ca.)** on 23 Oct 2011, 7:37 p.m.,*
in response to message #9 by Cristian Arezzini

yes

Re: Unusual non-HP RPN (red led display) to restore...

*Message #11 Posted by **Cristian Arezzini** on 24 Oct 2011, 6:24 a.m.,*
in response to message #10 by db (martinez, ca.)

OK, I'll post a pic when I get home later today. I have to upload it to my own web space, right?

Cristian

Re: Unusual non-HP RPN (red led display) to restore...

*Message #12 Posted by **Martin Pinckney** on 24 Oct 2011, 2:58 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> I don't know if it's the same company...

Emerson Electric is a large company that made all sorts of electrical stuff. Fans, power tools, radios, air conditioners...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 71B Zenwand Manual

*Message #1 Posted by **Ph.Théry** on 21 Oct 2011, 3:45 p.m.*

I am looking for a copy of the HP 71B Zenwand manual. Can anyone help me?

Re: HP 71B Zenwand Manual

*Message #2 Posted by **Klaus** on 24 Oct 2011, 8:52 a.m.,*
in response to message #1 by Ph.Théry

I have a manual, but it doesn't serve to make photocopies of it. However, it is pretty easy to use the Zenwand without it, IIRC you can just use the function

```
barcode$
```

, it will automatically determine the type of barcode and return a decoded string of it.

Do you have any specific questions?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New version of 41Z - adds ZSTO Math

*Message #1 Posted by **Ángel Martin** on 21 Oct 2011, 2:21 p.m.*

just to proof that the 34S is not the only one getting constant and frequent enhancements :-)

New version (aptly labeled "9J") adds ZSTO math functions (/,-,*, and /) - as well as

- expanded all-MCODE ZGAMMA function, now supporting Re(z)<0 using analytical continuation,
- Z^3 function - with higher accuracy than Z^X
- new launcher to access the ZSTO math functions
- FOCAL program to calculate cubic equation roots, and
- FOCAL program to calculate Rieman's Zeta.
- optimized code for Bessel functions (FOCAL) - using the new ZSTO math additions, which is how this came into being.

We lost a couple of functions due to the 64-FAT entries limitation, as follows:

1. IMAGINE, it was a header function, not much of a loss there
2. Z<>V, superceded by Z<>ST with argument =3
3. Z/I, easily replaceable with Z*I, then ZNEG

All available in a meager 8k ROM...

Soon available at a TOS near you.

Best, 'AM

Edited: 21 Oct 2011, 2:26 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g: Full Command and Function Reference incorporated into the O.S.

*Message #1 Posted by **Software49g** on 21 Oct 2011, 10:38 a.m.*

Hello,

Here is a video that shows an implemented help for *all* commands integrated into the Operating System.

http://www.youtube.com/watch?v=ZPN5bTPNHFs

Features:
- integrated into the O.S.
- ultra fast
- combined text and graphic area with unlimited length
- supports algebraic and RPN presentation
- example for the command, RPN or ALG example and RPN or ALG result depending on the mode the calculator operates
- shows flag settings affecting the operation of the function or command
- hyperlinked navigation to related commands

The new "Help for all Commands" (TM) requires an installed MLP or OSE.

Enjoy,
Andreas
http://www.software49g.gmxhome.de

Re: HP 50g: Full Command and Function Reference incorporated into the O.S.

*Message #2 Posted by **Paul Onions** on 22 Oct 2011, 6:23 p.m.,*
in response to message #1 by Software49g

> Quote:
>
> The new "Help for all Commands" (TM) requires an installed MLP or OSE.

Great! How do I get hold of this? I don't see it mentioned on your website, did I miss it?

Thanks, Paul

Re: HP 50g: Full Command and Function Reference incorporated into the O.S.

*Message #3 Posted by **Software49g** on 22 Oct 2011, 7:53 p.m.,*
in response to message #2 by Paul Onions

Hello,

it is not yet ready for release but your are welcome to help.

Regards,
Andreas
http://www.software49g.gmxhome.de

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

User RPL Question

*Message #1 Posted by **Paul Berger (Canada)** on 21 Oct 2011, 9:41 a.m.*

While playing with user RPL I have noticed that on 49G and later calculators my program that contains some nested loops performs much better if I put a decimal point after constants. On the 49G more than 4 times improvement in run time. I searched through the AUR but did not find any mention of what this does. Could someone point me to some information on what the decimal point does?

Re: User RPL Question

*Message #2 Posted by **Cristian Arezzini** on 21 Oct 2011, 9:47 a.m.,*
in response to message #1 by Paul Berger (Canada)

The HP49 and 50g have two different kinds of numbers: integers and reals. For example, "5." is a real and "5" is an integer. There are different internal algorithms depending on which one you use, and the difference in execution time can be really large, as you noticed! I had to modify all my old 48G programs, to add the "." after numbers...

Cristian

Re: User RPL Question

*Message #3 Posted by **Crawl** on 21 Oct 2011, 10:05 a.m.,*
in response to message #2 by Cristian Arezzini

Actually, if you open (for modifying) a program in approximate mode and save it, decimals will AUTOMATICALLY be added after every number.

Personally, I don't like that feature, as there is no (as far as I know) similar feature to remove all the decimals, and there have been times I accidentally added them and then needed to remove them manually.

Re: User RPL Question

*Message #4 Posted by **Eddie W. Shore** on 21 Oct 2011, 3:23 p.m.,*
in response to message #3 by Crawl

> Quote:
>
> Actually, if you open (for modifying) a program in approximate mode and save it, decimals will AUTOMATICALLY be added after every number.
>
> Personally, I don't like that feature, as there is no (as far as I know) similar feature to remove all the decimals, and there have been times I accidentally added them and then needed to remove them manually.

I ran into that situation myself - once the program adds automatic decimal points, there is no way back.

Re: User RPL Question

*Message #5 Posted by **Eddie W. Shore** on 21 Oct 2011, 3:26 p.m.,*
in response to message #2 by Cristian Arezzini

> Quote:
>
> The HP49 and 50g have two different kinds of numbers: integers and reals. For example, "5." is a real and "5" is an integer. There are different internal algorithms depending on which one you use, and the difference in execution time can be really large, as you noticed! I had to modify all my old 48G programs, to add the "." after numbers...
>
> Cristian

Would you recommend that programs be entered and ran in Approx mode and if exact numbers/expressions are necessary just take a XQ or -> Q command at the end?

I just noticed that running ->Q switches the calculator from Approximate mode to Exact mode

Edited: 21 Oct 2011, 3:27 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-65 strange card writing error

*Message #1 Posted by **John Garza** on 21 Oct 2011, 2:56 a.m.*

I have an HP-65 that I refurbished a few yars ago (new drive roller, clutch, cleaned head & leaf switches, etc. and well lubed).

It was working perfectly until today. I can read cards fine. I can write cards and then read them back in and get a steady "0.00".

However, when I switch to W/PRGM, in addition to the normal keycode display, I see minus signs at the left and right ends of the display. And the program does not run properly, the display just flickers dimly. This strange behavior only happens with cards that I have recently written to. Standard Pac cards, and cards I recorded a month ago read and run properly and don't display the minus signs.

AFAIK, the most likely culprit with write failures is the leaf switches. But I have not read any mention of the strange display. Could the switches be "marginal" - making intermittent contanct (somehow getting out of adjustment by just sitting on a shelf)? or maybe some electronics are finally dying (caps, coils, etc.)

Anyone seen this before?

-John (3665)

Re: HP-65 strange card writing error

*Message #2 Posted by **Rik Bos** on 21 Oct 2011, 3:08 p.m.,*
in response to message #1 by John Garza

Hi John,

Did you replaced the tantalium caps next to the head amplifier circuit and on the back of the motor ? A lot of strange cardreader errors are caused by a cap with a high ESR value. Also important is the condition of your battery pack because the head amplifier gets it supply directly form the battery, if the internal resistance of the pack is getting high you also get unpredictable results. A bad battery pack also causes the a short battery life.

-Rik

Re: HP-65 strange card writing error - Caps values?

*Message #3 Posted by **AlbertTocarLoseggs** on 21 Oct 2011, 4:41 p.m.,*
in response to message #2 by Rik Bos

Hi Rik, Which are the values of these tantalum caps? Are the same for an HP-67? Thanks, Albert

Re: HP-65 strange card writing error - Caps values?

*Message #4 Posted by **Rik Bos** on 21 Oct 2011, 5:39 p.m.,*
in response to message #3 by AlbertTocarLoseggs

Hi Albert,

According to the HPCC schematics from Tony Duell they are 22uF, there is also one on the motor for supression of the commutation spikes. Keep in mind that Tony some times makes a typo so the value could also be 2.2uF, but you'll see the value when you open the calculator.

-Rik

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any 9100 owners out there?

*Message #1 Posted by **David Ramsey** on 20 Oct 2011, 7:43 p.m.*

Just got a 9100B off TAS; hopefully, it's as functional as it appears to be. I'm crossing my fingers.

I'm having Larry Atherton rebuild the power supply and generally check it out; he regaled me with a half-hour lecture on how insanely complex the 9100 is; how it shouldn't even have been possible to build one with the technology of the time, and so forth.

He asked if I knew anyone else that owned one of these machines that he could talk to if need be. Well, I imagine Tony has one...anyone else?

Re: Any 9100 owners out there?

*Message #2 Posted by **Tony Duell** on 21 Oct 2011, 3:58 a.m.,*
in response to message #1 by David Ramsey

No, I don't have _one_. I have 2 :-) (both B's)

The design is simple in terms of component count, but complex in terms of how it's all intertwined. There are something like 44 flip-flops (only) in there -- 20 on each of 2 PCBs (these include the program counters for the firmware and microcode, the arithmetic digit registers, etc), 2 for the clock divider, 1 for the core memory page select and finally one for the error flag. The last is an SR, all the others are JKs.

There really is no need to 'rebuild the power supply'. In all the 9100s I've worked on, I think I've had one PSU problem (rectifiers for the main -15V line shorted, which blew the mains fuse). I've never had the regulator transistor fail. And I've never had to replace any capacitors.

You're welcome to talk to me about it. I've taken mine into rather more pieces than HP ever intended me to do, and I've traced out schematics...

Re: Any 9100 owners out there?

*Message #3 Posted by **David Ramsey** on 21 Oct 2011, 12:52 p.m.,*
in response to message #2 by Tony Duell

In the playing with ancient electronics I've done over the past year or so, I've found old capacitors to be a fairly common problem, in everything from an NEC Turbo Express hand held game to the 9835 I acquired recently.

Now, the only way *I* can tell if a cap is marginal or bad is if it's visually obvious: bulging ends or visible leakage or corrosion. But I understand they can be electrically bad, too.

That said, I have many old HP desktops with untouched power supplies that work perfectly. If my 9815 or 9825 die, they're fairly easy to replace, even today. But if the 9100 croaks, well, those are a lot harder to find!

Of course Larry Atherton knows about a zillion times more about this stuff than I do, so I'll trust his judgment.

Re: Any 9100 owners out there?

*Message #4 Posted by **Rik Bos** on 21 Oct 2011, 3:13 p.m.,*
in response to message #3 by David Ramsey

I think the Guru is Tony in this case and not Larry ;-P I never met a person with more HP(and DEC and....) related hardware knowledge. To understand what I mean look at cctalk/cctech at classiccmp.org

;-) Rik

Re: Any 9100 owners out there?

*Message #5 Posted by **Tony Duell** on 22 Oct 2011, 4:06 a.m.,*
in response to message #4 by Rik Bos

Hmmm. I am not sure I'm ever going to be a 'guru' of anything. And quite a number over on cctalk seem to object to my postings.

But anyway. I will admit I've taken a 9100 apart. Really apart, meaning I desoldered the 4 parts of the ROM assembly from each other. I do have a fair idea as to how they work.

Feel free to ask...

Re: Any 9100 owners out there?

*Message #6 Posted by **Tony Duell** on 22 Oct 2011, 4:00 a.m.,*
in response to message #3 by David Ramsey

My experience (based on a _lot_ of vintage hardware, not just HP) is that capacitors can fail, but not as often as some will have us believe, and that the 'witch hunt' on old electrolytics in power supplies is unjustified.

The other issue is : why would you have to replace an entire 9100 just because a capacitor in the PSU has failed? It's unlikely to do much (if any) more damage when it goes. So you'd _then_ replace the capacitor and get the machine running again.

Re: Any 9100 owners out there?

*Message #7 Posted by **Eric v d Wateren** on 21 Oct 2011, 7:59 a.m.,*
in response to message #1 by David Ramsey

Well done finding this unit David... it never appeared on my occasional searches, so I'll probably need to do some tweaking there.

Your 9100B looks to be in very good condition. Just be careful with the display CRT if you have to transport it, as I understand that is the only part that is pretty much impossible to find a replacement for.

Congrats and enjoy!

Re: Any 9100 owners out there?

*Message #8 Posted by **David Ramsey** on 21 Oct 2011, 3:12 p.m.,*
in response to message #7 by Eric v d Wateren

Yeah, the one thing that makes me nervous is the odd appearance of the exponent in the first line of the display. On my monitor it looks as if a piece of black tape or something is covering the bottom segments of the X register exponent and part of the last digit of the mantissa.

Re: Any 9100 owners out there?

*Message #9 Posted by **Tony Duell** on 22 Oct 2011, 4:09 a.m.,*
in response to message #8 by David Ramsey

You know, your guess of 'bad capacitors' might just be right here...

The 'display task' -- the firmware that produces the display -- is synchronised to the mains to prevent flicker. There's a resistor connected to one end of the transformer secondary winding which drives a transistor on the right sideboard in the processor section for this.

Anyway, ripple on one of the CRT electrodes will blank out part of the display and it'll be pretty stable as a result of the above. I think my schematic of the PSU board gives the voltage _and ripples_ that I measured in my working machine. Use a 'scope to check the ones in your machine.

And then check the associated smoothing capacitors, etc

Re: Any 9100 owners out there?

*Message #10 Posted by **David Ramsey** on 22 Oct 2011, 11:26 a.m.,*
in response to message #9 by Tony Duell

Thanks for the pointers, Tony! It's not clear from the one photo of the display if there's really a problem or if it's some artifact of the image, but I should know shortly.

Re: Any 9100 owners out there?

*Message #11 Posted by **Tony Duell** on 22 Oct 2011, 4:04 a.m.,*
in response to message #7 by Eric v d Wateren

I was watching it on E-bay, I didn't intend to buy it, but I wanted to see how much it went for. Way more than I could ever afford....

The CRT is impossible to find now. It was a custom part for this machine, it's an electrostatically-deflected one with a larger than normal deflection angle (I suspect this leads to some non-linearity in the display, but this doesn't matter for displaying digits).

Worse than that, the electrodes in the electron gun are supported by fragile glass rods. If these break (due to rough handling), it not only ruins the CRT but if the electrodes then short together it can apply high voltages to the logic side of the machine, taking out transistors and diodes all over the processor section. Ouch.

The HP service manual is mostly a boardswapper guide, but it's worth reading nonetheless. It has some information on the PSU and CRT circuitry, and a warning to remove and inspect the CRT if you suspect the machine may have thrown about. I do it anyway, but then I am not afraid of taking thing apart ;-)

Re: Any 9100 owners out there?

*Message #12 Posted by **paolo** on 21 Oct 2011, 5:20 p.m.,*
in response to message #1 by David Ramsey

Hi David,

I own one HP9100A recovered just before dumping by a local research lab. It had a pair of shorted rectifier diodes in the power supply that I replaced quite easily (along with the related fuse) and it is now working fine. The magnetic card reader is ok too. I too wonder how many operative such machines are around nowadays, it would be nice to set up a sort of census about that.

Regards

Paolo

Re: Any 9100 owners out there?

*Message #13 Posted by **David Ramsey** on 22 Oct 2011, 10:04 p.m.,*
in response to message #12 by paolo

Ah, so you got yours for free!

Re: Any 9100 owners out there?

*Message #14 Posted by **paolo** on 24 Oct 2011, 4:43 p.m.,*
in response to message #13 by David Ramsey

Yes, actually it was bit of luck. When I recovered it from dumping I even didn't know that the 9100A was such an interesting historical item, I simply liked the old-fashioned appearance. Then while looking for repair suggestions I discovered this forum and learned some more.

Still I would like to know how many such 9100A or B units are preserved today: I know about five or six working machines that were mentioned in the forum but I would guess there are a lot more.

Sometime I wonder how to start a census within the forum, or possibly even within a larger target including science museums and so on.

Paolo

Re: Any 9100 owners out there?

*Message #15 Posted by **David Ramsey** on 26 Oct 2011, 11:04 a.m.,*
in response to message #14 by paolo

You know, it would not be difficult to design a MySQL database schema, with a simple PHP front end input form and report module, that would allow forum members to input whatever calcs they have so that we could have some statistics.

Of course we'd need support from Dave Hicks. Is he still alive?

Re: Any 9100 owners out there?

*Message #16 Posted by **Israel Otero** on 25 Oct 2011, 1:53 p.m.,*
in response to message #1 by David Ramsey

I have an HP9100A and I look forward to know how many of us have one. I get it in 1987 from HP by a HP2000 service engineer back then and still works ok.

Any 9100 owners out there?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"A thing of beauty is a joy forever" - John Keats

*Message #1 Posted by **Gerson W. Barbosa** on 20 Oct 2011, 4:47 p.m.*

'Twas a joy in '82, it's a joy in 2011!

Thanks, HP! Cyrille, Glenn, Tim et al., thank you!

Re: "A thing of beauty is a joy forever" - John Keats

*Message #2 Posted by **JJDietrich** on 20 Oct 2011, 4:52 p.m.,*
in response to message #1 by Gerson W. Barbosa

I wish mine would arrive! Actually, I'd be happy if it would just ship. Ordered on 10/5, HP site still says it hasn't shipped. Patiently waiting...

Re: "A thing of beauty is a joy forever" - John Keats

*Message #3 Posted by **Gerson W. Barbosa** on 20 Oct 2011, 5:43 p.m.,*
in response to message #2 by JJDietrich

It will eventually arrive. Mine were ordered on 25/7, shipped on 9/13 by SC. Picked them in the Post Office this afternoon.

```
CNA 13207R7 LE# 01386
CNa 13208DN LE# 01285
CNA 13208M3 LE# 02448
```

All 117 keys ok!

Cheers,

Gerson.

Re: "A thing of beauty is a joy forever" - John Keats

*Message #4 Posted by **From Hong Kong** on 20 Oct 2011, 11:18 p.m.,*
in response to message #2 by JJDietrich

> Quote:
>
> I wish mine would arrive! Actually, I'd be happy if it would just ship. Ordered on 10/5, HP site still says it hasn't shipped. Patiently waiting...

I hope yours will be flawless after all the mentioned problems have been addressed. If this is so, it's worth the wait! :)

Re: "A thing of beauty is a joy forever" - John Keats

*Message #5 Posted by **Artur-Brazil** on 21 Oct 2011, 5:50 a.m.,*
in response to message #2 by JJDietrich

Mine one has arrived yesterday too, after an almost 30 days postal striking! Hoppefully, no fault keys, a beautifull box and plastic wrapper and, as I couldn't leave the opportunity pass, I programmed my version of last context (the pixels circle) and, while in the original 15C, a radius of 1800 would take 2h for computing, the LE took only 45sec !!! Many thanks to all that worked on this project and all that ask for it!
Artur- Brazil

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

graphing/solving with 50g

*Message #1 Posted by **Robin Shelton** on 20 Oct 2011, 3:54 p.m.*

Calling all awesome geeks! Calc 3 questions.

How do you graph parametric equations? I.E x(t)= 5cos(t) - cos(5t) y(t)= 5sin(t) - sin(5t)

Also how do you solve multiply equations with multiple variables? I.E. 7x+ 6y+ 9z= 0 5x+ 6y+ 20z= 0 x+ y+ z= 0

Last one! When I integrate the Sq root of [(-12sin(3x))^2+ (12cos(3x))^2 and you are integrating it from 0 to 2(pie)/3 (I have no pie symbol on the computer... awesome)I get a question mark. But when I integrate it by hand I get 8(pie). Any help would be much appreciated!

Re: graphing/solving with 50g

*Message #2 Posted by **x34** on 20 Oct 2011, 4:15 p.m.,*
in response to message #1 by Robin Shelton

1 http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&cc=us&objectID=c01941254&jumpid=reg_R1002_USEN#parametric

2 Use linear solver

Re: graphing/solving with 50g

*Message #3 Posted by **Crawl** on 20 Oct 2011, 6:08 p.m.,*
in response to message #1 by Robin Shelton

For 2, that's a homogeneous equation which means it has a trivial solution of x=y=z=0.

In general, for systems like that, I would enter them as matrices.

Eg.,

```
[7 6 9]
[5 6 20]
[1 1 1]
```

(It's easiest to enter with the Matrix writer)

Then hit 1/x.

Then enter

```
[0]
[0]
[0]
```

then multiply.

If the system of equations is not linear, you can use the command MSLV. This is an advantage the 50g has over the TI89, by the way; the TI89 has no built-in function for solving systems of nonlinear equations.

For the last one, it looks to me like the integrand is the constant value 12, so yes, 12 * 2 pi / 3 = 8 pi.

I get the question mark when I evaluate that integral, too. Two ways around it: In approximate mode, you'll get the correct numerical value. To get it exact, when the integral is in level 1 of the stack, instead of hitting EVAL, hit TSIMP. (To simplify trigonometric expressions) It immediately gives 8pi.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What would you prefer: RPN or RPL?

*Message #1 Posted by **Hugh Evans** on 20 Oct 2011, 3:18 p.m.*

Full disclosure: This is for some decision making related to OpenRPN.

The reason I have posed this question is that I'm curious if there's much real interest in a RPL based calculator. While it may not be perfect in every way, the 50g is a reasonable option for anyone needing a graphing calculator that has RPL program-ability. When I need a CAS I use a computer, and the same is true for most function plotting, running statistics on huge data sets, etc. From a personal standpoint my dream machine is what the 42s could have been if engineers weren't forced to hold back to prevent it from cannibalizing 48g sales.

One loosely proposed concept has been brought up under the title of RPN+ and serves the purpose of an extended version of what we already know. User definable or otherwise unlimited stack would be included. After the core functions are implemented, all others could be written in a scripting language (options such as python and lua have been mentioned.)

The other option is *fix, which is effectively sysRPL Forth.

If you have some other idea, please put post it. Input is needed so we can feel more confident in our choice of direction.

Re: What would you prefer: RPN or RPL?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 20 Oct 2011, 3:21 p.m.,*
in response to message #1 by Hugh Evans

RPN | RPN+

Re: What would you prefer: RPN or RPL?

*Message #3 Posted by **Steve Simpkin** on 20 Oct 2011, 3:39 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

I vote for RPN | RPN+ too. I use a RPL machine (HP-48SX) for my work calculator, but I would rather have an expanded RPN+ for a new calculator.

NNNNNNNNNNNNNNNNNNNNNNNNN (n.t.)

*Message #4 Posted by **Maximilian Hohmann** on 20 Oct 2011, 3:24 p.m.,*
in response to message #1 by Hugh Evans

n.t.= No Text

Re: What would you prefer: RPN or RPL?

*Message #5 Posted by **Crawl** on 20 Oct 2011, 3:26 p.m.,*
in response to message #1 by Hugh Evans

I don't know about RPN / RPL, but I think I'm losing interest in getting any more calculators without a CAS. If a CAS implies RPL, then I'm in the RPL camp.

Re: What would you prefer: RPN or RPL?

*Message #6 Posted by **Gilles Carpentier** on 20 Oct 2011, 3:36 p.m.,*
in response to message #1 by Hugh Evans

RPL forever :D

And HP50G specially.

Re: What would you prefer: RPN or RPL?

*Message #7 Posted by **Jeff Johnson** on 20 Oct 2011, 3:40 p.m.,*
in response to message #1 by Hugh Evans

I'm hardly a programmer any more, but I would hate to see the richness and depth of RPL lost when building an "ultimate" calculator that is to rise above the 50g. RPL is iconic in HP history. If sysRPL FORTH is truly implemented in the classical tradition of the FORTH language, where you build new objects as a combination of existing objects, it would certainly be a powerful way to build and share libraries. That would be a positive vote for *fix.

Re: What would you prefer: RPN or RPL?

*Message #8 Posted by **Hugh Evans** on 20 Oct 2011, 4:09 p.m.,*
in response to message #7 by Jeff Johnson

Everything we have considered thus far includes FORTH like ability to build commands from a core command set. No matter what, it will be possible to very easily make this hardware into any type of calculator you want. If people just want RPL, it seems that emulating saturn would be the easier route. Commands will not even be limited by the system we implement as other executables can be written.

Re: What would you prefer: RPN or RPL?

*Message #9 Posted by **Donald Williams** on 20 Oct 2011, 3:50 p.m.,*
in response to message #1 by Hugh Evans

RPN only. Take it one step at a time. If an RPN approach is ever accomplished then do RPL & Forth for those fanatics that need it.

Re: What would you prefer: RPN or RPL?

*Message #10 Posted by **Oliver Unter Ecker** on 20 Oct 2011, 3:50 p.m.,*
in response to message #1 by Hugh Evans

For your project, make the HW capable enough so it can be both: RPN+ and RPL+.

If you can, give it WiFi for really convenient sharing abilities and more.

CAS. A calc without multiple visible lines and visible data types such as arrays and infix expressions, isn't really a suitable base, I think.
So, I'd say, yes, you need an RPL-style machine if you want to offer a CAS.

I'm currently implementing a CAS for my project, ND1. It's effectively Mathematica, via use of the WolframAlpha API. How cool are Mathematica results in an RPL calc? Very...

As I mention in your project's forum, if you make this machine a suitable base, I'll work on making ND1 available for it. If you add WiFi, it will have a Mathematica-based CAS.

[EDIT: To clarify, I'm suggesting a system that's open enough to "boot" into multiple calculators. I added more thoughts to the thread in the openrpn forum.]

Edited: 20 Oct 2011, 4:02 p.m.

Re: What would you prefer: RPN or RPL?

*Message #11 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:32 p.m.,*
in response to message #10 by Oliver Unter Ecker

> Quote:
>
> If you can, give it WiFi for really convenient sharing abilities and more.

For a device like this, Bluetooth would be the better choice: easy peer-to-peer networking and low power consumption.

Re: What would you prefer: RPN or RPL?

*Message #12 Posted by **Jim Yohe** on 20 Oct 2011, 4:03 p.m.,*
in response to message #1 by Hugh Evans

RPN

Re: What would you prefer: RPN or RPL?

*Message #13 Posted by **Han** on 20 Oct 2011, 4:03 p.m.,*
in response to message #1 by Hugh Evans

I guess I'm not seeing much of a difference in RPN vs RPL. I sort of see RPN as just the keystroke version of RPL (and hence a bit more limited). In fact, on the HP48 and similar systems, if you wanted to do keystroke programming, it could be done provided you start with << and end with >> -- everything in between may as well be keystrokes. The only other minor difference is how ENTER is implemented.

Re: What would you prefer: RPN or RPL?

*Message #14 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:33 p.m.,*
in response to message #13 by Han

> Quote:
>
> The only other minor difference is how ENTER is implemented.

And STO...

Re: What would you prefer: RPN or RPL?

*Message #15 Posted by **Crawl** on 20 Oct 2011, 6:13 p.m.,*

in response to message #14 by Marcus von Cube, Germany

And GOTO. (I do wish RPL had GOTO)

Edited: 20 Oct 2011, 6:13 p.m.

Re: What would you prefer: RPN or RPL?

*Message #16 Posted by **Eddie W. Shore** on 21 Oct 2011, 12:21 a.m.,*
in response to message #15 by Crawl

> Quote:
>
> And GOTO. (I do wish RPL had GOTO)

So do I - and LBL. My biggest pet peeve with RPL is the lack of GTO and LBL.

Re: What would you prefer: RPN or RPL?

*Message #17 Posted by **Thomas Radtke** on 21 Oct 2011, 4:13 a.m.,*
in response to message #16 by Eddie W. Shore

Give me a BREAK!

Re: What would you prefer: RPN or RPL?

*Message #18 Posted by **Maximilian Hohmann** on 21 Oct 2011, 4:45 a.m.,*
in response to message #17 by Thomas Radtke

> Quote:
>
> Give me a BREAK!

And a PAUSE (but the kind that accepts keystrokes while pausing, otherwise we cannot play Lunar Rocket Lander properly)

Re: What would you prefer: RPN or RPL?

*Message #19 Posted by **Thomas Radtke** on 21 Oct 2011, 5:17 a.m.,*
in response to message #18 by Maximilian Hohmann

Which, of course, is first priority ;-).

Re: And a short manual please!

*Message #20 Posted by **Maximilian Hohmann** on 21 Oct 2011, 7:43 a.m.,*
in response to message #19 by Thomas Radtke

> Quote:
>
> Which, of course, is first priority ;-).

Yes! And second priority is a short and simple manual for me. I'm spoilt by 20+ years of Macintosh usage and really don't want to waste my time with anything that

can not be mastered intuitively. Ten pages maximum for the manual (8 of which the list of functions :-) , not more than two for using and programming) and I buy it!

Re: And a short manual please!

*Message #21 Posted by **John B. Smitherman** on 21 Oct 2011, 8:22 a.m.,*
in response to message #20 by Maximilian Hohmann

Hi Maximilian. To me the Mac user interface isn't intuitive but rather it's consistent. It works the same way from software app to software app year after year. For example, dragging a disc to the trash can to eject it isn't intuitive at all but it's worked that way for many years.

John

Re: And a short manual please!

*Message #22 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 9:39 a.m.,*
in response to message #20 by Maximilian Hohmann

How much shorter than this RPL on wikipedia do you want the manual to be?

Honestly, I don't understand why people say that RPL has a steep learning curve. The language is about as easy as it gets.

Mastering the 700+ commands in a 50g (or other RPL machine) is another matter, but you don't need any of them to comprehend, and use, the language. The command set isn't there to intimidate, either. It's there for you to pick up something when you need it, and save you from wasting time on reinventing the wheel.

Re: And a short manual please!

*Message #23 Posted by **M. Joury** on 21 Oct 2011, 12:04 p.m.,*
in response to message #22 by Oliver Unter Ecker

I don't think that it is difficult so much as different. From my perspective, coming at it as a programmer, it is a relatively easy language with a lot of power. Many people seem to miss that it *is* keystroke programmable (just place your keystrokes between <<>> and you are set). Maybe the looping constructs are more involved but with that added complexity comes power. And they really are not that hard to master. However, I would still rather have FOCAL or RPN for quick and dirty solutions and RPL for more involved, fully developed, applications.

Cheers,

-Marwan

Re: And a short manual please!

*Message #24 Posted by **Eddie W. Shore** on 21 Oct 2011, 3:35 p.m.,*
in response to message #22 by Oliver Unter Ecker

The Wikipedia article does a great job of summarizing the main commands

on RPL.

Also check out my RPL blogs on Eddie's Math and Calculator Blog for a summary of some of the main commands.

Re: What would you prefer: RPN or RPL?

*Message #25 Posted by **Han** on 21 Oct 2011, 3:10 p.m.,*
in response to message #18 by Maximilian Hohmann

You can do all that with RPL. You can also have temporary variables that span across multiple subroutines (i.e. temporary global variables) by prefixing them with the left arrow (e.g. <-p)

Quote:

```
<<
  << subprg1 >>
  << subprg2 >>
  ...
  << subprgn >>


  ->


  s1 s2 ... sn


  <<


  @ main routine goes here


  @ call a subroutine with:
  s1 EVAL


  @ do a GOTO with:
  s1 KILL


  @ pause and wait for keypress with:
  0 WAIT


  >>
>>
```

I'm not familiar with how BREAK works in RPN... does that just exit the current loop? Or does it kill the program?

Re: What would you prefer: RPN or RPL?

*Message #26 Posted by **Eddie W. Shore** on 21 Oct 2011, 3:37 p.m.,*
in response to message #25 by Han

Cool - up to now I had to store the subroutines as global variables and purge them in the end. I have to try this! Thanks!

Re: What would you prefer: RPN or RPL?

*Message #27 Posted by **Marcus von Cube, Germany** on 21 Oct 2011, 4:52 p.m.,*

in response to message #25 by Han

No need for BREAK in RPN, a GTO just does the job nicely. Cleanup of loops is just by reusing their counter register(s).

BREAK would be a nice addition to RPL because it lacks a clean way to exit a loop early if some condition becomes true. This is common practice in languages like C or Java.

Re: What would you prefer: RPN or RPL?

*Message #28 Posted by **Paul Berger (Canada)** on 21 Oct 2011, 7:19 p.m.,*
in response to message #27 by Marcus von Cube, Germany

I made a clean exit from a FOR NEXT loop by bumping up the loop counter to the exit value when I determined there was no point continuing the loop.

Re: What would you prefer: RPN or RPL?

*Message #29 Posted by **Marcus von Cube, Germany** on 22 Oct 2011, 4:54 a.m.,*
in response to message #28 by Paul Berger (Canada)

Isn't the loop index precomputed and immune against later modifications in RPL? What about a loop without an index variable?

Re: What would you prefer: RPN or RPL?

*Message #30 Posted by **Paul Berger (Canada)** on 22 Oct 2011, 3:01 p.m.,*
in response to message #29 by Marcus von Cube, Germany

From the AUR

> Quote:
>
> FOR takes xstart and xfinish as the beginning and ending values for the loop counter, then creates the local variable counter as a loop counter. Then, the loop clause is executed; **counter can be referenced or have its value changed within the loop clause.** NEXT increments counter by one, and then tests whether counter is less than or equal to xfinish. If so, the loop clause is repeated (with the new value of counter).

By loops with out an index do you mean 'while' and 'do until' loops? in both of these cases these loops execute until some logical condition meets the exit criteria. While I have not explicitly tried this in RPL I would expect you should be able to have a compound test and one of the terms can be an exit flag that you could set or clear when you determine that you wish to exit the loop early.

Re: What would you prefer: RPN or RPL?

*Message #31 Posted by **Marcus von Cube, Germany** on 22 Oct 2011,*

4:12 p.m.,
in response to message #30 by Paul Berger (Canada)

I stand corrected, RPL allows the modification of the loop counter and the increment can be taken from stack each time. There is a loop construct with no visible counter in RPL (START/NEXT). But there is also a variant with a variable increment. All these loops (except START/NEXT) can be exited early by modification of the increment or the loop counter but you still need an IF block to skip any unwanted statements in the block. BREAK would make things easier.

Re: What would you prefer: RPN or RPL?

*Message #32 Posted by **Paul Berger (Canada)** on 22 Oct 2011, 5:19 p.m.,*
in response to message #31 by Marcus von Cube, Germany

Yes but even for break you need to make some kind of decision to get to the break in my case I did the test to see if it was worth continuing and all the code for the loop was under the THEN term and under the ELSE term I bumped up the loop count for early exit. I don't see how a BREAK command would make that any better.

Re: What would you prefer: RPN or RPL?

*Message #33 Posted by **Thomas Radtke** on 23 Oct 2011, 4:59 a.m.,*
in response to message #32 by Paul Berger (Canada)

A break is convenient to immediately leave a loop w/o enclosing the remaining code in a conditional statement, as it would be necessary when bumping the counter. Of course, one can live without BREAK, but it gives more clearly arranged code when using it. Java is quite stripped down compared to C++ in some respect but contains everything one needs. It's remarkable that break has been left in and that it's widely used.

Re: What would you prefer: RPN or RPL?

*Message #34 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 8:34 a.m.,*
in response to message #33 by Thomas Radtke

In Java, break has even been extended to take a label. This way you can break out several loops at once which is otherwise a mess. The labeled break isn't a goto, you can just 'name' the loop to break.

Re: What would you prefer: RPN or RPL?

*Message #35 Posted by **fhub** on 23 Oct 2011, 8:49 a.m.,*
in response to message #34 by Marcus von Cube, Germany

> Quote:
>
> In Java, break has even been extended to take a label. This way you can break out several loops at once which is otherwise a mess.

I still remember the good old BASIC times ;-) where you could simply go FROM wherever you want TO wherever you want with a GOTO! Ok, many called this "Spaghetti code", but nevertheless this was quite comfortable (and BTW, every assembly code works exactly the same way) ... :-)

Franz

Re: What would you prefer: RPN or RPL?

*Message #36 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 10:10 a.m.,*
in response to message #35 by fhub

Leaving a FOR/NEXT loop this way leaves an open control structure in memory. :-(

Re: What would you prefer: RPN or RPL?

*Message #37 Posted by **fhub** on 23 Oct 2011, 10:40 a.m.,*
in response to message #36 by Marcus von Cube, Germany

> Quote:
>
> Leaving a FOR/NEXT loop this way leaves an open control structure in memory. :-(

Well, first I don't think this would be a problem at all (you'll certainly not do it thousands of times ;-)), and then you could always set the loop-variable to the endvalue and GOTO the NEXT statement.

Re: What would you prefer: RPN or RPL?

*Message #38 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 5:46 a.m.,*
in response to message #28 by Paul Berger (Canada)

Plus, don't you still have to put an IF around the following code, until the NEXT/STEP?

'fraid there's no substitute to BREAK.

Re: What would you prefer: RPN or RPL?

*Message #39 Posted by **Paul Berger (Canada)** on 22 Oct 2011, 3:07 p.m.,*
in response to message #38 by Oliver Unter Ecker

Yes you do but it would seem to me that in order to determine if you should exit from a loop early, you would need to make some kind of a decision within the loop. I just don't think the lack of BREAK is such a big deal.

Re: What would you prefer: RPN or RPL?

*Message #40 Posted by **Oliver Unter Ecker** on 23 Oct 2011, 1:27 a.m.,*
in response to message #39 by Paul Berger (Canada)

Consider

```
for i:=0 to 1000
   if condition
      break
   if condition2
      ...
endloop
```

Yes, you can rewrite this to

```
for i:=0 to 1000
   if condition
      i:=1000
   if i < 1000 && condition2
      ...
endloop
```

but you have to have knowledge of the end value and you need to insert one additional IF, or condition for an existing IF, per break.

It looks bad and it introduces extra computation. What's more, if the end value should change, you have to maintain your end value update and code exclude IFs, or your code will (spuriously) fail.

This wouldn't be so bad, if breaks were rare. But running over a domain, checking for something, and doing an early exit is the life-blood of basic search algorithms, and happens all the time.

The RPL designers tried to keep things simple, and in this case maybe a little too simple.

CONTINUE is missing too...

Re: What would you prefer: RPN or RPL?

*Message #41 Posted by **Crawl** on 21 Oct 2011, 6:09 p.m.,*
in response to message #25 by Han

KILL will kill everything that's running; if a parent program calls a subprogram that

has KILL in it, both programs are killed.

People have pointed out that a language can be turing complete without GOTO, which is true; in principle, you could just be very careful about your structures. However, we are talking about hand-held calculators here, and I think for that application, it's important to be able to write programs on the fly. I've been in situations where a slight revision to a program would necessitate massive changes to the structure (adding many more IF THEN blocks throughout) when a simple goto or break would have done the job.

It is, by the way, possible to do loop breaking with error trapping / custom errors. I think this is the standard way it's done now. I think a built-in BREAK command would be more elegant.

Re: What would you prefer: RPN or RPL?

*Message #42 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 7:39 p.m.,*
in response to message #41 by Crawl

Agreed. And that's why I (just recently) put it into RPL+.

Along with IFTB ("if-then-break") and CONTINUE and IFTC ("if-then-continue").

Re: What would you prefer: RPN or RPL?

*Message #43 Posted by **Eddie W. Shore** on 23 Oct 2011, 4:24 p.m.,*
in response to message #25 by Han

I tried your suggestion Han but I am having trouble getting the program to execute.

An example: The goal of this program is to give a menu of 3 options: return the principal root of a number (F1: RPN), return all the real roots of a number (F2; REAL), and return all the real and complex roots of a number (F3: ALL).

```
<<
<< 'X' PURGE SWAP ^ SWAP - X ZEROS >> -> SUB1
<< { { "PRN" << XROOT ->NUM >> }
{ "REAL" << -103 CF SUB1 EVAL >> }
{ "ALL" << -103 SF SUB1 EVAL >> } }
TMENU >>
```

I get "CF Error: Undefined Local Name" error when I try to run the REAL option.

I get "SF Error: Undefined Local Name" error when I try to run the ALL option.

Re: What would you prefer: RPN or RPL?

*Message #44 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 4:41 p.m.,*
in response to message #43 by Eddie W. Shore

It looks like the local variable SUB1 is not accessible to the routine tied to the options "REAL" or "ALL". You can try <-SUB1 as the local name. If that doesn't work you need to define a global variable for SUB1. It depends on the inner workings of TMENU. You should create a subdirectory for the variables and the program to avoid cluttering HOME.

Re: What would you prefer: RPN or RPL?

*Message #45 Posted by **Eddie W. Shore** on 23 Oct 2011, 6:14 p.m.,*
in response to message #44 by Marcus von Cube, Germany

I have been using global variables and purging them at the end:

i.e.

```
<<   <<subroutine goes here>> 'SUB1' STO
(Main program)
'SUB1' PURGE >>
```

Re: What would you prefer: RPN or RPL?

*Message #46 Posted by **Marcus von Cube, Germany** on 24 Oct 2011, 2:54 a.m.,*
in response to message #45 by Eddie W. Shore

You didn't try the backwards arrow? This introduces a special type of local variable with extended visibility. (Don't ask for details!)

Re: What would you prefer: RPN or RPL?

*Message #47 Posted by **Geir Isene** on 20 Oct 2011, 4:07 p.m.,*
in response to message #1 by Hugh Evans

RPN every day of the week and twice on Sunday.

Re: What would you prefer: RPN or RPL?

*Message #48 Posted by **Geir Isene** on 20 Oct 2011, 6:32 p.m.,*
in response to message #47 by Geir Isene

And if you want a scripting language to go with that, try Raven.

Re: What would you prefer: RPN or RPL?

*Message #49 Posted by **bill platt** on 20 Oct 2011, 4:12 p.m.,*
in response to message #1 by Hugh Evans

Algebraic stack.

Re: What would you prefer: RPN or RPL?

*Message #50 Posted by **Lode** on 20 Oct 2011, 4:14 p.m.,*
in response to message #1 by Hugh Evans

RPN, but with more than 4 levels.

Re: What would you prefer: RPN or RPL?

*Message #51 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Oct 2011, 4:23 p.m.,*
in response to message #1 by Hugh Evans

RPN, perhaps with a well designed complex stack. Four-level stack is fine for me, with classic HP behavior.

Re: What would you prefer: RPN or RPL?

*Message #52 Posted by **Ángel Martin** on 20 Oct 2011, 4:31 p.m.,*
in response to message #1 by Hugh Evans

RPN, please.

Re: What would you prefer: RPN or RPL?

*Message #53 Posted by **David Hayden** on 20 Oct 2011, 5:34 p.m.,*
in response to message #1 by Hugh Evans

RPL is a very small, very efficient programming environment. The compiler and decompiler are pretty simple, so it's easy to write programs in RPL on the calculator.

On the down-side the syntax is not very intuitive.

I think many of the design goals for RPL don't really apply any more, so I'd vote for key keystroke programmability of RPN and a more modern scripting language as you mention.

Re: What would you prefer: RPN or RPL?

*Message #54 Posted by **x34** on 23 Oct 2011, 3:34 a.m.,*
in response to message #53 by David Hayden

> Quote:
>
> I think many of the design goals for RPL don't really apply any more

I agree. Is not it the reason why HP lost education battle to TI?

Re: What would you prefer: RPN or RPL?

*Message #55 Posted by **Paul Dale** on 23 Oct 2011, 3:58 a.m.,*
in response to message #54 by x34

I very much doubt RPL is the reason HP lost the educational market.

Cost is a big one. HP was never cheap.

RPN is probably the second. When I was at school (early 1980's) the teachers had at most half a clue as to how to calculate in RPN but they really weren't sure. The fight was lost here before I finished high school -- there were only two of us with HP calculators at that stage. Everyone else used CASIO, actually I did too since my 34C was broken & I bought a 602P.

A few more at university (late 1980's) used RPN but it was still in the minority. When the 28C came out nothing really changed.

- Pauli

Re: What would you prefer: RPN or RPL?

*Message #56 Posted by **Eddie W. Shore** on 23 Oct 2011, 4:27 p.m.,*
in response to message #55 by Paul Dale

There isn't wide-spread instructional materials of RPN/RPL - not it was promoted as much (I think)

compared to algebraic operated calculators.

Re: What would you prefer: RPN or RPL?

*Message #57 Posted by **Software49g** on 23 Oct 2011, 4:59 p.m.,*
in response to message #56 by Eddie W. Shore

I have several thousands pages of RPL documentation on my laptop, from deep down technical to user level and the internet is full of RPL instructions (and RPN).
So what is missing in your opinion ?

The real problem is that people/user do not read anymore. Which, as a quid pro quo, leads to declining manuals which are read even less which ...

I will be comming out with a help for *all* commands ASAP as shown here
HP 50G Full Command and Function Reference incorporated into the O.S.
which might be helpful as a short reference *but* for sure it can not overcome a lack of missing fundamentals which is the primary function of books.

Regards,
Andreas
http://www.software49g.gmxhome.de

By the way: For years I have been saying that the success of a machine targeting at professionals depends on the documentation/ease of use that comes with it.
But of cause that is contradictory to a company looking at short term profit only.

Edited: 23 Oct 2011, 5:02 p.m.

Re: What would you prefer: RPN or RPL?

*Message #58 Posted by **David Hayden** on 23 Oct 2011, 10:46 p.m.,*
in response to message #55 by Paul Dale

I was in high school in the late 70's. Everyone had a calculator, but most people used TI's even then. A few - perhaps 5% - used HP. So what has really changed?

I think it's the fact that the TI-83 is basically built into the textbooks now. My daughter, along with everyone else in her class, was required to buy one in 6th grade. The calculators are built into the books, and the lessons, and getting the teachers to change would be a lot of work.

I think this is actually one place where HP could very effectively leverage us, the user community. We could create HP-versions of the specific calculator lessons/exercises in specific textbooks. So if a teacher uses textbook XYZ, he or she (or the student) could go to a website and download the HP version of calculator lessons. Now if the teacher says "do the exercise on page 234," the enlightened HP student could just flip to the appropriate "translation" in their handy HP packet.

Re: What would you prefer: RPN or RPL?

*Message #59 Posted by **Michael Kussmaul** on 20 Oct 2011, 5:47 p.m.,*
in response to message #1 by Hugh Evans

RPL - and please NO CAS :-)

I guess there are two domains:

Education: They are already gone to algebraic, no one is getting an RPN/RPL calculator - only if he/she is a rebel :-) And there are tons of calculators with CAS for them - because you are not allowed to have a computer on an exam, CAS might be good for them...

Grown-Ups: Like me, who need a calculator at work, for light calculations (some cosine here an there, perhaps some small apps for quick calculations in a meeting, etc). For everything I need more than 30sec to enter (that includes 10x10 matrices) I use a computer, as it is faster overall.

Re: What would you prefer: RPN or RPL?

*Message #60 Posted by **Crawl** on 20 Oct 2011, 6:18 p.m.,*
in response to message #59 by Michael Kussmaul

I assure you that a CAS can be useful to grownups.

Re: What would you prefer: RPN or RPL?

*Message #61 Posted by **Michael Kussmaul** on 21 Oct 2011, 4:49 a.m.,*
in response to message #60 by Crawl

Yes, I use it all the time - on my computer :-)

Of course you are right, I was just a bit exaggerating...

Re: What would you prefer: RPN or RPL?

*Message #62 Posted by **Miguel Toro** on 20 Oct 2011, 5:50 p.m.,*
in response to message #1 by Hugh Evans

RPN.

Thanks,

Miguel

Re: What would you prefer: RPN or RPL?

*Message #63 Posted by **DigiGal** on 20 Oct 2011, 5:54 p.m.,*
in response to message #1 by Hugh Evans

Another vote for **RPN**

Re: What would you prefer: RPN or RPL?

*Message #64 Posted by **M. Joury** on 20 Oct 2011, 5:59 p.m.,*
in response to message #1 by Hugh Evans

Both :)? I'll take RPN as my preference.

Re: What would you prefer: RPN or RPL?

*Message #65 Posted by **Tim Wessman** on 20 Oct 2011, 6:01 p.m.,*
in response to message #1 by Hugh Evans

Is there a neither option? Algebraic is the way to go.

TW

Re: What would you prefer: RPN or RPL?

*Message #66 Posted by **Oliver Unter Ecker** on 20 Oct 2011, 6:12 p.m.,*
in response to message #65 by Tim Wessman

Really?!

No advantages to the RPN method of entry?

Or you mean just for the user programming language?

Re: What would you prefer: RPN or RPL?

*Message #67 Posted by **Hugh Evans** on 20 Oct 2011, 6:12 p.m.,*
in response to message #65 by Tim Wessman

Our version of RPL, *fix, is probably the best option for neither. It functions in prefix, infix, and postfix. Here's a link to a java implementation if you want to see it in action:

*fix

Re: What would you prefer: RPN or RPL?

*Message #68 Posted by **Howard Owen** on 20 Oct 2011, 9:10 p.m.,*
in response to message #65 by Tim Wessman

> Quote:
>
> Algebraic is the way to go.

Trollllllll... :)

Re: What would you prefer: RPN or RPL?

*Message #69 Posted by **Steve Simpkin** on 21 Oct 2011, 2:00 p.m.,*
in response to message #65 by Tim Wessman

> Quote:
>
> Is there a neither option? Algebraic is the way to go.

What is this "Algebraic" thing that you speak of? I am not familiar with it.

Re: What would you prefer: RPN or RPL?

*Message #70 Posted by **Howard Owen** on 21 Oct 2011, 6:52 p.m.,*
in response to message #69 by Steve Simpkin

"You keep using that word. I do not think it means what you think it means."

Re: What would you prefer: RPN or RPL?

*Message #71 Posted by **Paul Dale** on 22 Oct 2011, 3:19 a.m.,*
in response to message #70 by Howard Owen

It comes from a combination and contraction of two words:

- Algae
- Braille

It refers to an ancient and little used form of written communication that lays out a thick sheet of pond scum and then glues blood sucking leeches into a variety of positions to render the letters. The writing is read by placing your finger tips onto the slimy surface and feeling the leeches bite into you.

One has to be wary however, an algebraic rendition of Tolstoy's classic *War and Peace* is very likely to render the reader unconscious, if not dead, due to blood loss.

Additionally, unscrupulous authors have been known to practice bdellotry before affixing the leeches into position, thus causing a greater level of blood loss amongst their readers.

Finally, the pond scum is very likely to infect the reader with a variety of nasty bacterial diseases.

- Pauli

Re: What would you prefer: RPN or RPL?

*Message #72 Posted by **Walter B** on 22 Oct 2011, 4:18 a.m.,*
in response to message #71 by Paul Dale

Heh heh, what did you read last?

Re: What would you prefer: RPN or RPL?

*Message #73 Posted by **Paul Dale** on 22 Oct 2011, 4:23 a.m.,*
in response to message #72 by Walter B

The last book I read was *The Stainless Steel Rat Sings the Blues* by Harry Harrison.

- Pauli

Re: What would you prefer: RPN or RPL?

*Message #74 Posted by **Lyuka** on 22 Oct 2011, 6:46 a.m.,*
in response to message #73 by Paul Dale

Hi Paul,

I thought it would be from The Devil's Dictionary by Ambrose Bierce,
and also had consulted the American Heritage Dictionary for its origin, that was also interesting :-)

[Arabic, al-, *the* + jabr, *bone-setting, restoration* (from jabara, *to set (bones), force, restore*.)]

Lyuka

Re: What would you prefer: RPN or RPL?

*Message #75 Posted by **Paul Dale** on 22 Oct 2011, 6:56 a.m.,*
in response to message #74 by Lyuka

I wasn't aware of The Devil's Dictionary. Interesting.

The real definition is a bit of a surprise. Quite unexpected -- not that it comes from the Arabic but what exactly it does come from.

I prefer the one I made up :-)

- Pauli

Re: What would you prefer: RPN or RPL?

*Message #76 Posted by **Walter B** on 22 Oct 2011, 3:28 p.m.,*
in response to message #75 by Paul Dale

Words containing the syllable "al" are suspects having Arabic origin: Gibraltar, Andalusia, Almeria, ...

Re: What would you prefer: RPN or RPL?

*Message #77 Posted by **Howard Owen** on 22 Oct 2011, 7:25 p.m.,*
in response to message #76 by Walter B

Having fun with the online etymology dictionary.

Alcohol, albatross, alcove, alchemy, alembic and algebra all either originated in Arabic or passed through it on the way to English. Alderman, aleatory, aleph, ale, alert, algae and alien are all from sources other than Arabic.

Re: What would you prefer: RPN or RPL?

*Message #78 Posted by **Paul Dale** on 22 Oct 2011, 7:40 p.m.,*
in response to message #76 by Walter B

I said I wasn't surprised that the word had Arabic origins.

I was surprised at the meanings of the words is came from.

- Pauli

Re: What would you prefer: RPN or RPL?

*Message #79 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 4:23 a.m.,*
in response to message #71 by Paul Dale

I always wondered.

Thanks for clarifying the issue scientifically.

Re: What would you prefer: RPN or RPL?

*Message #80 Posted by **Patrice** on 20 Oct 2011, 7:16 p.m.,*

in response to message #1 by Hugh Evans

RPN if OpenRPN is to be a non graphic calc (43S)

Patrice

Re: What would you prefer: RPN or RPL?

*Message #81 Posted by **Les Bell** on 20 Oct 2011, 7:34 p.m.,*
in response to message #1 by Hugh Evans

For a calculator, definitely RPN. It's convenient for back-of-an-envelope calculations and use in meetings, which is what I want a calculator for. Keystroke programmability to automate some repetitive calculations is all I need, and GTO/GSB/ISZ/DSE will get the job done.

If the problem is complex enough to require RPL, with its highly regular but awkward syntax, I'd prefer to sit at a computer and work with GNU Octave or R or Matlab or Mathematica.

Best,

--- Les
[http://www.lesbell.com.au]

Whats RPL?

*Message #82 Posted by **Geoff Quickfall** on 20 Oct 2011, 8:29 p.m.,*
in response to message #1 by Hugh Evans

;-)

RPN

Re: Whats RPL?

*Message #83 Posted by **Thomas Chrapkiewicz** on 21 Oct 2011, 7:06 a.m.,*
in response to message #82 by Geoff Quickfall

I agree!

Re: What would you prefer: RPN or RPL?

*Message #84 Posted by **Eddie W. Shore** on 21 Oct 2011, 12:20 a.m.,*
in response to message #1 by Hugh Evans

Good question! I like RPN for simplicity, RPL for the extended set of commands. Truthfully, I'm not sure if I can be on team-RPN or team-RPL yet because I like both.

Here's how I would imagine some of the RPL commands on an RPN (keystroke) machine:

FOR Loop:

```
start
end
FOR register#
** commands **
NEXT
```

WHILE Loop:

```
y
x
WHILE Test#  (i.e. #1: x=y; #2: x>y; #3: x<y, etc)
** commands **
WEND
```

DO Loop:

```
DO
** commands **
y
x
UNTIL Test# (i.e. #1: x=y, #2: x>y, #3: x<y, etc)
```

If text is allowed - it would be handled like the 41C/42S (?):

CHOOSE - each option is presented for 2 seconds. ("1. Choice 1", "2. Choice 2", "3. Choice 3"...) - and cycles until something is chosen. Up to 9 options.

```
"text 1"
"text 2"
...
"text n"
CHOOSE
```

PROMPT - message displays for 2 seconds and then stops for input.

```
"text"
PROMPT
```

DISP n - message displays for n seconds.

```
"text" or register#
DISP n
```

If graphing functions is featured:

PLOT - plots an equation as an algebraic object.

```
'equation'
PLOT
```

XRNG and YRNG would work the same way as it would on the graphing calculators.

Edited: 21 Oct 2011, 12:22 a.m.

Re: What would you prefer: RPN or RPL?

*Message #85 Posted by **megarat** on 21 Oct 2011, 1:34 a.m.,*
in response to message #1 by Hugh Evans

Even yet another vote for RPN.

Although I do enjoy messing around with RPL from time to time, for what I use calculators for, RPN is the bee's knees.

Re: What would you prefer: RPN or RPL?

*Message #86 Posted by **Bart (UK)** on 21 Oct 2011, 3:19 a.m.,*
in response to message #1 by Hugh Evans

RPL definitely.

Re: What would you prefer: RPN or RPL?

*Message #87 Posted by **Thomas Radtke** on 21 Oct 2011, 4:18 a.m.,*
in response to message #1 by Hugh Evans

42S+27S - RPN w/ full blown equation editor, i.e. a tuned Binford 9100 turbo (or, a 32SIII).

Re: What would you prefer: RPN or RPL?

*Message #88 Posted by **Cristian Arezzini** on 21 Oct 2011, 8:20 a.m.,*
in response to message #1 by Hugh Evans

RPL for me, any day. I (have to) use RPN often but I just don't like the ENTER behavior and the limited stack, the 48/50 way is so much easier for me. But I like the RPN's STO.

Cristian

Re: What would you prefer: RPN or RPL?

*Message #89 Posted by **E Walsh** on 21 Oct 2011, 10:14 a.m.,*
in response to message #1 by Hugh Evans

RPN please!!

Re: What would you prefer: RPN or RPL?

*Message #90 Posted by **Fred Lusk** on 22 Oct 2011, 1:47 a.m.,*
in response to message #1 by Hugh Evans

Because I started with my dad's HP-35 (while in junior high school!), RPN is ingrained and natural to me. Most of the programs I still use today for civil engineering, I wrote on an HP-41CX and an HP-42S back in the 1980s and 1990s. I still program, but not nearly as much.

I have an HP-48G+ and I have dabbled with PRL programming. There is no question that it is enormously more powerful than RPN, but it's just not natural to me and I find it frustrating. It's also a pain to edit on the machine itself. Thank goodness for HPUserEdit. In the final analysis, I greatly prefer RPN.

However, I've had this question for years: when the 48 series was designed, why didn't HP include an RPN mode? It would have provided an excellent upgrade path for HP-41 and HP-42S users. I know some engineers who still use an HP-41 because they don't like the HP-48/-49/-50 series. I still use an HP-42S as my primary machine, though I also keep my HP-48G+ in my briefcase ready for use when needed.

Re: What would you prefer: RPN or RPL?

*Message #91 Posted by **Michael Lopez** on 23 Oct 2011, 2:18 a.m.,*
in response to message #90 by Fred Lusk

Love RPN & still have 2 HP41s (CV & CX) BUT at the end of the day I've come to realize that RPL is my preference as well. My favourite calculators now are the HP 48GX & HP 50G.

Hope this helps.

Cheers,

Michael

What would you prefer: RPN or RPL?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #1 Posted by **Ethan Conner** on 20 Oct 2011, 2:31 p.m.*

All puns intended. :) Just my two cents here feel free to chime in. As a potential customer for these projects some things i like or don't like about what is out there so far. First i would be willing to layout a couple hundred dollars for a low production custom calc. Second it has to exist in a completed physical form. Not interested in pictures of potential products. It also must have a base scientific configuration for the keyboard and firmware. I don't want to have to buy a new faceplate, stickers or overlays every six weeks. Also don't want to have to reflash it that often either. Third i don't want a "minivan" that's been turned into a "sports car". It's an impressive feat but it's still just a hopped up "minivan". Not to mention that even the brainiacs in this group have trouble with it which doesn't bode well for an average joe like me. Nail down your physical form and firmware and put it up for sale. These are all impressive efforts and i wish everyone of you the best.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #2 Posted by **Manolo Sobrino** on 20 Oct 2011, 4:34 p.m.,*
in response to message #1 by Ethan Conner

I miss a calculator that could interact with the calculations in your computer seamlessly. For instance, copy/paste data/formulae, and some sort of session sharing, kind of mathematica notebook idea. An easy cross-compiling procedure in C would come in handy too.

The point of calculators is specificity for the task and keyboard convenience (used to be mobility, but smartphones and tablets are here to stay). There are much more powerful (and sometimes even cheaper) platforms for scientific computing. It makes little sense to dedicate a lot of work just to improve the things that something else will do better, ignoring the real strengths. Unless it's just for fun...

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #3 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:43 p.m.,*
in response to message #1 by Ethan Conner

Pun intended? I get the message. :-)

A 30b with custom WP 34S faceplate and keys is on my wish list but who will produce it for us? Frequent re-flashing is just a consequence of our inability to fix all bugs once and for all. And as long we find some more flash space we will add features. ;-)

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #4 Posted by **Oliver Unter Ecker** on 20 Oct 2011, 6:02 p.m.,*
in response to message #3 by Marcus von Cube, Germany

A calc written in an interpreted language, can be updated without re-flashing. If it has WiFi (or Bluetooth) this can even be done over the air, and it can be a matter of pressing one button.

Edited: 20 Oct 2011, 6:58 p.m.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #5 Posted by **Marcus von Cube, Germany** on 21 Oct 2011, 3:38 a.m.,*
in response to message #4 by Oliver Unter Ecker

The 20b/30b platform lacks the necessary resources. :-(

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #6 Posted by **David Hayden** on 21 Oct 2011, 7:30 a.m.,*
in response to message #4 by Oliver Unter Ecker

> Quote:
>
> A calc written in an interpreted language, can be updated without re-flashing.

Are you sure? It seems to me that if you need to change the calculator software, you need to reflash it, regardless of the language that the software is written in.

If I'm missing something, can you explain how this would work?

Dave

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #7 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 10:34 a.m.,*
in response to message #6 by David Hayden

> Quote:
>
> If I'm missing something, can you explain how this would work?

Certainly.

The only calc I know that implements what I'm referring to is my own, so forgive me for illustrating the point with an ND1 example:

Say ND1 had no "SINH" function, or there would be an error in its implementation.

At run-time, a user can type this code

```
calculator.functions["SINH"] = function(x) { return (Math.exp(x)-Math.exp(-x))/2;
};
```

in an "Injection" text editor and save it. Subsequently, the calculator will have a system-wide "SINH" function. It will be available in normal RPN operation and in RPL programming, and it will be indistinguishable from a built-in function.

This works because (most) interpreted languages allow you to evaluate code written in their own language. It's as if C could compile C code and dynamically bind to the compiled result.

Sometimes this is used with another language feature called "introspection" that let's you discover what properties are presently associated with an object.

Besides this enabling cool things such as updating your calc (entirely, or partially) by simply re-

evaluating some code, it's really simple and elegant to code. No object IDs, method IDs, RTTI stuff as in statically compiled languages.

You can find more info about how this works in ND1 here. The same general idea would work and be supported by pretty much any interpreted language.

If you think interpreted performance sucks, know that modern implementations use JIT compilers and can achieve pretty high speeds. For JavaScript, it's currently a factor ~10x slower than C. The gap is shrinking and one could argue that performance isn't of paramount importance in a calculator.

It's not slow. I'm getting a factor 10x-100x faster RPL performance on ND1 in comparison to a 50g. And ~20x as much speed on top of that for code written in JavaScript, which, as "run-time environment", becomes the rough equivalent of SysRPL.
See the Benchmarks section at the end of this, which also lists a few HPGCC results.

[EDIT: Forgot to mention: ND1 has a "Restore Calculator" button that will fetch key definitions and any injection code from a server and re-create the calculator. This can be used to deliver a full update, fixes, new functionality, new key definitions, new menus. The process takes a second or two.]

Edited: 21 Oct 2011, 10:41 a.m.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #8 Posted by **uhmgawa** on 21 Oct 2011, 11:15 a.m.,*
in response to message #7 by Oliver Unter Ecker

> Quote:
>
> [EDIT: Forgot to mention: ND1 has a "Restore Calculator" button that will fetch key definitions and any injection code from a server and re-create the calculator. This can be used to deliver a full update, fixes, new functionality, new key definitions, new menus. The process takes a second or two.]

Which is functionally equivalent to "reflashing" irrespective of the interconnect method or whether the downloaded bits are persistent.

Upon further thought, having a pocket calculator of necessity tethered to a server wouldn't be my first choice. I'd agree the feature is no doubt convenient in some scenarios but in my usage I fundamentally expect an autonomous device.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #9 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 11:33 a.m.,*
in response to message #8 by uhmgawa

Hmm. Not sure why you say that. The equivalent to reflashing would be an ordinary software update, which re-installs the binary and all resources.

The mentioned method provides a dynamic "overwrite" over unchanged code. It's not the in-place replacement that "flashing" is.

The point is, it's relatively painless to do as the binary remains the same. To fix one function you just need to communicate the source code for that function. There's no compiling,

linking. It takes one second to do versus fiddling with cables and computer connections, download of code to said computer, rebooting of the device, etc.

Of course, the calculator doesn't need to be "tethered to a server". The calc is stand-alone. If you want an update, you wander to a WiFi net and push that button.

Not mentioned before but probably obvious: networking allows you store your data and download shared data as well. Someone wrote a new set of Special functions, click on their shared folder and have it installed in your calculator a second later.

Want to work on code on both your computer and your calc? Or need that big matrix transferred from your computer? Click a button, or use an "overloaded" VISIT key that connects to your computer, retrieves the code, stores it in a local variable, and displays it in your device's editor.

Or just use your calc stand-alone and backup your data from time to time.

I think lack of networking was one of the main reasons that made people turn away from island high-end calcs.

Edited: 21 Oct 2011, 11:39 a.m.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #10 Posted by **uhmgawa** on 21 Oct 2011, 11:51 a.m.,*
in response to message #9 by Oliver Unter Ecker

> Quote:
>
> Hmm. Not sure why you say that. The equivalent to reflashing would be an ordinary software update, which re-installs the binary and all resources.

Not necessarily but that's certainly been the traditional connotation. It is possible to update persistent device storage on a per-byte basis if needed. The choice of whether doing so replaces the entire application image or merely adds/modifies/deletes function entries in a dictionary of primitive operations, is essentially an implementation detail.

> Quote:
>
> I think lack of networking was one of the main reasons that made people turn away from island high-end calcs.

I agree any calculator of the capability being discussed here should *never* be conceived without a bidirectional, user accessible interconnect between it and the outside world.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #11 Posted by **Paul Dale** on 21 Oct 2011, 6:14 p.m.,*
in response to message #7 by Oliver Unter Ecker

Just thought I'd note that $(e^x - e^{-x}) / 2$ is not a good implementation of SINH. Think about what happens as x approaches 0.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #12 Posted by **Oliver Unter Ecker** on 21 Oct 2011, 7:34 p.m.,*
in response to message #11 by Paul Dale

Thanks for your note, Pauli.

Are you suggesting to use (e^x - 1/e^x)/2 instead, for higher accuracy?

If so, I'm actually getting slightly lower accuracy from that (tried x=0.00001). I must be missing something. Can you enlighten me?

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #13 Posted by **Paul Dale** on 22 Oct 2011, 3:30 a.m.,*
in response to message #12 by Oliver Unter Ecker

Nope, that has the same problems for x almost equal to 0.

There are a number of alternative encodings for this function. Most use the EXPM1 function (i.e. e^x-1).

e.g. the HP-41 maths module uses:

```
( (e^x-1) / e^x + (e^x-1) ) / 2
```

The 34S uses something a bit more complicated:

```
if (|x| < 0.5)
        t = e^x-1
        sinh = t / 2 / (t+1) * (t+2)
else
        sinh = (e^x - e^-x) / 2
```

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #14 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 4:24 a.m.,*
in response to message #13 by Paul Dale

Nice.

Thanks, Pauli! I shall consider which to adopt.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #15 Posted by **Paul Dale** on 22 Oct 2011, 4:37 a.m.,*
in response to message #14 by Oliver Unter Ecker

Be very very careful implementing numeric functions. The obvious formulas are

often poor. I'd suggest looking up pretty much any of William Kahan's writings on numerical analysis.

Also don't implement e^x-1 the obvious way, it will produce very poor results for x close to zero and the whole purpose of this function is to produce good results there. This is the way the 34S does it:

```
u = e^x
if (u == 1)
    expm1 = x
else if ( (u-1) == -1 )
    expm1 = -1
else
    expm1 = (u-1) * x / ln(u)
```

Also beware of aggressive optimising compilers and compilers that produce code that uses varying lengths of reals. Both are very bad for numeric computations.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #16 Posted by **Marcus von Cube, Germany** on 22 Oct 2011, 4:50 a.m.,*
in response to message #15 by Paul Dale

Pauli, wouldn't it be easier to compute e^x-1 by summing up the series for e^x without the constant term?

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #17 Posted by **Paul Dale** on 22 Oct 2011, 5:02 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Possibly -- I suspect that unless you sum the series backwards, you'll encounter rounding issues in the low digit or three. Also, the Maclaurin series expansion converges very slowly for |x| large.

We've already got e^x as part of the decNumber library & it doesn't appear to be summing this series at all.

I see no point including a second function of similar size needlessly, especially when I can produce accurate results for e^x-1 from e^x quite easily.

- Pauli

Re: EXP and EXP-1

*Message #18 Posted by **Marcus von Cube, Germany** on 22 Oct 2011, 7:23 a.m.,*
in response to message #17 by Paul Dale

Pauli, I didn't know we are using EXP from the library. But it might

still be easier to modify this code to subtract the 1 early in the process. Using LN seems to be expensive.

Re: EXP and EXP-1

*Message #19 Posted by **Paul Dale** on 22 Oct 2011, 7:35 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Yes, Ln is expensive. Always better expensive than wrong.

The decNumber exp() function actually does do the Maclaurin series expansion on a range reduced argument so this approach might be possible. It wouldn't be trivial, this function is quite complex and the accuracy guarantees it assumes won't hold if we make this change.

Definitely more thought will be required before jumping into this change.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #20 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 6:10 a.m.,*
in response to message #15 by Paul Dale

Oh, I love that one, thank you, Pauli!

I got the point of this function, but hadn't quickly turned up an implementation, so did it the obvious way and kept the bad feeling of knowing this was defeating the point. So, thanks for the relief!

Got the LNP1 code up?

I appreciate your comments about numerical analysis in general and will dig into the oft-cited pointer you gave. My focus has been on features and completeness before best numerical performance, which simply isn't my thing. This sure could use someone else's oversight.

A few days ago, I discovered the hard way that

```
3600 * (x - y)
```

loses accuracy in comparison to

```
3600 * x - 3600 * y
```

C'mon, IEEE 754! ;-)

Edited: 22 Oct 2011, 6:14 a.m.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #21 Posted by **Paul Dale** on 22 Oct 2011, 6:50 a.m.,*

in response to message #20 by Oliver Unter Ecker

> Quote:
>
> Got the LNP1 code up?

Try sourceforge -- all the 34S sources are there :) This one needs special attention to get correct -- the 34S implementation relies on the compiler not rearranging the order of expressions. Specifically the (x+1)-1 equal to zero test must not be optimised to just test x equal to zero.

> Quote:
>
> I appreciate your comments about numerical analysis in general and will dig into the oft-cited pointer you gave. My focus has been on features and completeness before best numerical performance, which simply isn't my thing.

For a calculator, the numerical accuracy and stability have to be paramount. Getting the wrong answer isn't at all helpful. This has been my goal for the 34S -- while I cannot guarantee correctly rounded for all function results since that simply isn't possible with finite precision arithmetic, I would like all functions to be accurate to plus or minus one in the final digit. At present I'm not aware of any cases when an incorrectly rounded result is produced but I'm sure some exist.

> Quote:
>
> A few days ago, I discovered the hard way that
>
> ```
> 3600 * (x - y)
> ```
>
> loses accuracy in comparison to
>
> ```
> 3600 * x - 3600 * y
> ```

This doesn't make sense, at least at first glance (although more than that is often required in this area of mathematics). Floating point multiplication isn't associative with addition but I wouldn't expect there to be a large difference especially when multiplying by 3600 which is a fairly small integer all things considered. For x & y normalised reals, x-y can be represented exactly -- this is the entire purpose of subnormal numbers. So there shouldn't be a large difference between the two -- rounding can & will introduce a difference but it shouldn't be large for doubles.

Given the 3600 looks like a time based calculation, I suspect you're being tripped up by binary floating point numbers not being able to exactly represent what are otherwise simple decimals. Just a guess though and no real basis for it. However, if this is true you'll have to manually introduce rounding to fix the results up. The 34S code base won't help here since it uses decimal arithmetic which avoids some of these problems. The Free 42 code has addressed this I believe.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #22 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 7:38 a.m.,*
in response to message #21 by Paul Dale

Thanks, Pauli. I have another reason to look at your surely excellent code base. Wish time was more abundant.

> Quote:
>
> For a calculator, the numerical accuracy and stability have to be paramount.

While I do agree in principle, for my calculator user programmability and writing larger programs was a goal, where better numerical results than those commonly obtained from regular programming languages would be a nice-to-have, but not a must. Specifically, if speed were to suffer a lot, I'd stick to what a standard lib spits out. (I'm still special-casing periods of half pi in sin(), etc.)

Being within one ULP is nice but, as you know, breaks down anyway when errors from multiple computations accumulate.

I sometimes wish I had decNumber, but most of the time IEEE-754 and the regular math lib beat the accuracy out of a 50g, which has been my threshold target to not underperform.

> Quote:
>
> I suspect you're being tripped up by binary floating point numbers not being able to exactly represent...

It's the difference of two correctly represented numbers not being correctly represented in IEEE-754:

```
2.2-2 = 0.20000000000000018
```

Hence the greater error when multiplying this.

I'm probably not expressing myself correctly when I say the accuracy is lessened. I should probably say it's stochastically lessened, as for cases where the difference is correctly represented, the result is the same.

At any rate, the fix was to manually round, as you suggest.

Again, decNumber would be nice but I want speed, too. I'm planning to provide a BCD data type at some point in the future, and give users the choice over which tradeoff to make.

Edited: 22 Oct 2011, 7:41 a.m.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #23 Posted by **Paul Dale** on 22 Oct 2011, 5:14 p.m.,*
in response to message #22 by Oliver Unter Ecker

> Quote:
>
> It's the difference of two correctly represented numbers not being correctly represented in IEEE-754:
>
> `2.2-2 = 0.20000000000000018`

That's what I thought. You'll likely find that the two different expressions *3600 (x-y)* vs *3600 x - 3600 y* will both seem better at times depending on the input values.

I also shouldn't have written *exactly* for the result of the difference of two normalised numbers. *Correctly* is better, digit loss is always possible and thus *exact* isn't true.

> Quote:
>
> Again, decNumber would be nice but I want speed, too. I'm planning to provide a BCD data type at some point in the future, and give users the choice over which tradeoff to make.

IEEE 754 supports decimal arithmetic now -- convince your language provider to support it too :-)

- Pauli

Numerical Analysis

*Message #24 Posted by **Paul Dale** on 22 Oct 2011, 5:31 a.m.,*
in response to message #14 by Oliver Unter Ecker

For those interested in learning more about this kind of thing and who have digested all of Kahan's documents which I referenced above. The following books are good sleection:

- *The Algebraic Eigenvalue Problem* by *J. H. Wilkinson* -- very in-depth and a great introduction to error analysis from when it was being invented.
- *Elementary Functions* by *Jean-Michel Muller* -- a good reference on how to implement functions in many different ways. This one covers many/all of the standard algorithms -- CORDIC, series expansions, partial fractions, polynomial approximations.
- *Accuracy and Stability of Numerical Algorithms* by *Nicholas J. Higgam* -- another great book on error anlysis.
- *Matrix Computations* by *Gene H. Golub* and *Charles F. Van Loan* -- pretty

much what it says but one of the canonical texts in numerical analysis.

- *Handbook of Mathematical Functions* by *Abramowitz* & *Stegun* -- A&S is the bible for mathematical and physical functions.
- *NIST Handbook of Mathematical Functions* -- an updated version of A&S although the overlap is deliberately kept low.
- *An Atlas of Functions* by *Oldham*, *Myland* & *Spanier* -- lots of functions and their properties. Not really essential if you have A&S but easier reading.
- *Numerical Recipes* by *Press*, *Teukolsky*, *Vetterling* and *Flannery* -- doesn't get good comments from numerical analysis circles but it is easy to read and contains code that can be used with sufficient care and attention to detail.

Be prepared to pay anything from $500 - $1k for these. And yes, I've bought hard copies of all of these and more since starting the 34S project.

- Pauli

Edit: Fixed the author's name on the first book as mentioned below.

Edited: 27 Oct 2011, 6:54 a.m. after one or more responses were posted

Thought of an app?

*Message #25 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 6:21 a.m.,*
in response to message #24 by Paul Dale

Very impressive.

Have you guys thought of making an app, charge a few dollars, and at least recoup some of what you put into this project?

I'm willing to share with you my experience in the app store.

Re: Thought of an app?

*Message #26 Posted by **Paul Dale** on 22 Oct 2011, 6:58 a.m.,*
in response to message #25 by Oliver Unter Ecker

> Quote:
>
> Have you guys thought of making an app, charge a few dollars, and at least recoup some of what you put into this project?

We hadn't that I'm aware of.

Given the far less tight resources of such an app, we'd implement a lot of things quite differently.

- Pauli

Edited: 22 Oct 2011, 6:59 a.m.

Re: Thought of an app?

*Message #27 Posted by **Oliver Unter Ecker** on 22 Oct 2011, 7:49 a.m.,*
in response to message #26 by Paul Dale

> Quote:
>
> Given the far less tight resources of such an app, we'd implement a lot of things quite differently.

Sure, and maybe that would make things even more fun.
I trust WP34S, as is, would shine already.

There's an intimidating number of RPN apps out there, but only a handful comparable ones, I think.

You would be reaching a far greater number of users. (Though the average user will be far less engaged/supportive than the crowd here.) Esp. if you make it free.

Re: Numerical Analysis

*Message #28 Posted by **Rodger Rosenbaum** on 27 Oct 2011, 5:20 a.m.,*
in response to message #24 by Paul Dale

> Quote:
>
> For those interested in learning more about this kind of thing and who have digested all of Kahan's documents which I referenced above. The following books are good sleection:
>
> *The Algebraic Eigenvalue Problem* by *W. H. Wilkinson* -- very indepth and a great introduction to error analysis from when it was being invented.
>
> - Pauli

It's J. H. Wilkinson, not W. H. Wilkinson. :-(

I would recommend buying and reading:

Rounding Errors in Algebraic Processes by *J. H. Wilkinson*

before wading into *The Algebraic Eigenvalue Problem*

That way your brain gets used to deep water a little at a time. :-)

Re: Numerical Analysis

*Message #29 Posted by **Paul Dale** on 27 Oct 2011, 5:39 a.m.,*
in response to message #28 by Rodger Rosenbaum

Sorry about that. I was typing in semi-dark from the pile of books in front of me.

Sink or swim -- jump into the the *The Algebraic Eigenvalue Problem* :-) Actually, don't. It is *very* heavy going.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #30 Posted by **Patrice** on 20 Oct 2011, 7:24 p.m.,*
in response to message #1 by Ethan Conner

Wait for the final release of the 34S, wait a year after last bug fix, and can flash it only once, and have only one keyboard layout.

The down thing is that you will start to play with it in 3-4 years :)

Patrice

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #31 Posted by **uhmgawa** on 21 Oct 2011, 12:33 a.m.,*
in response to message #1 by Ethan Conner

> Quote:
>
> I don't want to have to buy a new faceplate, stickers or overlays every six weeks. Also don't want to have to reflash it that often either.

Simple solution. Obtain a calculator supported by a less responsive, proactive, and enthusiastic development team.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #32 Posted by **Ethan Conner** on 21 Oct 2011, 12:54 a.m.,*
in response to message #31 by uhmgawa

I'm not throwing my money at a moving target no matter how well it is supported. It is a very impressive effort and those involved should be proud of what has and will be accomplished. I'm dearly hoping that one of these projects will be internally and externally polished.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #33 Posted by **Paul Dale** on 21 Oct 2011, 12:56 a.m.,*
in response to message #32 by Ethan Conner

Each to their own of course.

Without people willing to jump in and use the device and report issues and problems, the device will never be polished.

- Pauli

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #34 Posted by **Walter B** on 21 Oct 2011, 1:24 a.m.,*
in response to message #32 by Ethan Conner

C2H6,

> Quote:
>
> I'm not throwing my money at a moving target

Nobody forces you to do so. Just stay firm, watch the news passing by, and wait until there are no news anymore. Then put your money wherever you prefer if it will be available still ;-) MMV

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #35 Posted by **Ethan Conner** on 21 Oct 2011, 1:56 a.m.,*
in response to message #34 by Walter B

Don't worry i'm not sweatin' it. :) I watched a video of DIY from HHC that looks pretty good and the open guy has enthusiasm for a complete product. And if none of them mature there's still the hp50g. :)

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #36 Posted by **Jake Schwartz** on 21 Oct 2011, 10:22 a.m.,*
in response to message #35 by Ethan Conner

> Quote:
>
> Don't worry i'm not sweatin' it. :)

/<rant on> This whole thread has me scratching my head, as I'm not sure its purpose. Looking back at HP calculators all the way to the HP35 in 1972, no matter how long the R&D people sweat over a product, I don't think they could ever produce a completely bug-free item. If you are waiting for one, you might as well keep waiting for the "train that will never arrive". If there is no respect for those who "put it out there" for the community to enthusiastically exercise so issues may be reported and they may be repaired in a timely fashion, then what's the point? It is obvious that we ALL would love to purchase completely finished, polished, clean, bug-free boxes which suit our every need and fit nicely in our budgets, but that is a pipe dream. Instead of us all complaining that what's out there isn't good enough for us, the community is pitching in to help improve things. /<rant off>

Jake

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #37 Posted by **Ethan Conner** on 21 Oct 2011, 12:04 p.m.,*
in response to message #36 by Jake Schwartz

Sorry if i wasn't entirely clear. My point was exactly that at some time you have to nail the whole thing down and say it is what it is. I have an R&D background in aviation and have seen a few good projects die because they suffered from "terminal developement-itis". This is why companies hire non-tech managers and accountants. Somebody has to step in and enforce a goal of product capability and time deadline. It has been my experience that a

project with no deadline never matures or reaches a completion point because things happen so fast in technology these days that there is always some new material,code etcetera than what you just incotporated 6 months ago into the design. I have seen multi-million dollar contracts cancelled because the customer wouldn't let up on the feature creap. Please let me say as i have said before i think all three of the efforts are admirable and the people involved should be proud of what they have accomplished. :) I just don't want a calculator that i have to put stickers on and overlays or sleeves because it never achieves a base configuration on the interface. (case and keys and display) If none of these projects ever gets completed i'm ok with that, there are still big companies who make high end calculators. I'm just a potential customer stating what i desire. A finished non patched up calculator.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #38 Posted by **Marcus von Cube, Germany** on 21 Oct 2011, 12:25 p.m.,*
in response to message #37 by Ethan Conner

Ethan, shop here! :-)

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #39 Posted by **Ethan Conner** on 21 Oct 2011, 12:45 p.m.,*
in response to message #38 by Marcus von Cube, Germany

ROFL!!! Actually i love engineers more than bean counters. :)

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #40 Posted by **uhmgawa** on 21 Oct 2011, 4:04 p.m.,*
in response to message #37 by Ethan Conner

> Quote:
>
> Sorry if i wasn't entirely clear. My point was exactly that at some time you have to nail the whole thing down and say it is what it is.. Somebody has to step in and enforce a goal of product capability and time deadline.

All very true in a commercial context. But IME the primary motivation here is really not that of commercial revenue, at least I'd hazard that's the case for most folks.

Rather it is the compelling engineering challenge of leveraging available technology to produce something superior to commercial counterparts catering to the bottom of the pyramid in their respective markets. Here "superior" will be defined by whoever has picked up the development gauntlet and is doing the measurement. While no one likely would be opposed to achieving commercial success, it isn't the actual driving force. A loose corollary might be most involved in such projects would not have the same degree of commitment and passion if this work was actually their 40h/wk job, simply due to the concessions needed in commercializing the associated technology you've cited above.

So IMHO attempting to push open collaborative efforts into a commercial model, a model which by its existence fosters the existence of open development counterparts,

may well work to extinguish them.

My experience and subjective views. I'm certain you'll find others who fall elsewhere in the spectrum.

Re: An "Open" letter to "DIY" and "Repurposed" calculator projects

*Message #41 Posted by **Ethan Conner** on 21 Oct 2011, 4:41 p.m.,*
in response to message #40 by uhmgawa

Yes if the goal is unlimited development then so be it. Truly there is nothing wrong with that. However there have been in the past decade some other highly developed projects that have succeeded in a constant state of flux while providing a stable hardware platform and code which to work with. The parallax basic stamp and arduino being a couple of examples. I certainly would not want anyone in the repurposed side feel slighted. It would just be a desire of mine to have anyone or all to be successful. Look how everyone frothed at the mouth over the 15c le. It is a perfect example of what this community is willing to go for when presented with an oppurtinity to open their wallets for a stable platform.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Firmware<>Layout wish

*Message #1 Posted by **Alexander Oestert** on 20 Oct 2011, 10:45 a.m.*

Dear 34s-Team,

if I've understood correctly, the process of creating a new layout has already started and there will be some kind of firmware split to accommodate users with old and new overlays alike. I do especially like this latter decision and want to explicitly thank you for it!

I'd like to make a wish nevertheless: Could the 'old' firmware be changed back to exactly match the 'old' overlays by bringing back the f- and g-shifted original behavior of the x<>y key? The 'new' behavior should be reserved for the 'new' firmware and its overlays.

In case there are other instances of firmware and overlay not matching that I have not discovered yet, my wish applies to them as well. ;)

I'm not judging the changes to be bad (or good, for that matter), it's more a question of aesthetics to me to have key presses on my dedicated "WP-34s Mark I" machine to do what is advertised on the outside.

Edited: 20 Oct 2011, 10:46 a.m.

Re: [WP34s] Firmware<>Layout wish

*Message #2 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 1:10 p.m.,*
in response to message #1 by Alexander Oestert

You can of course stick to the files in the release package but I assume your wish isn't too exotic. Let Walter and Pauli comment on it.

Re: [WP34s] Firmware<>Layout wish

*Message #3 Posted by **Walter B** on 20 Oct 2011, 1:58 p.m.,*
in response to message #1 by Alexander Oestert

v2.1 was the one distributed at HHC - it's the last official one matching the old overlays. The current v2.2 brought the matrix functions and the changed shifted x<>y. Since we'll have a major layout change in the next step (v3.0) discussed here and agreed on already, I suggested internally to stay with the old layout for the final v2.2 build. I did receive no opposing vote in some 30 hours :-) so I think that's what we're going to do.

Re: [WP34s] Firmware<>Layout wish

*Message #4 Posted by **Alexander Oestert** on 20 Oct 2011, 2:12 p.m.,*
in response to message #3 by Walter B

V2.2 staying as it is now or reverting to the V2.1 layout of the x<>y key?

Re: [WP34s] Firmware<>Layout wish

*Message #5 Posted by **Egan Ford** on 20 Oct 2011, 2:32 p.m.,*
in response to message #4 by Alexander Oestert

I 2nd this and it seems reasonable to keep x<>y the same for 2.2 and the old layout. I plan on having a 2.2 and a 3.0 machine.

Re: [WP34s] Firmware<>Layout wish

*Message #6 Posted by **Alexander Oestert** on 20 Oct 2011, 2:53 p.m.,*
in response to message #5 by Egan Ford

I have the exact same plan! :-)

Re: [WP34s] Firmware<>Layout wish

*Message #7 Posted by **Steve Simpkin** on 20 Oct 2011, 3:35 p.m.,*
in response to message #6 by Alexander Oestert

Me too.

Re: [WP34s] Firmware<>Layout wish

*Message #8 Posted by **Dominic Richens** on 20 Oct 2011, 4:15 p.m.,*
in response to message #4 by Alexander Oestert

I think if you stay with 1722 (says 2.2 1721) you are good. It's the build just before the x<>y key was changed, and yet has the HP41-style press-and-hold hints. SVN revision 1722

There was a bunch of shift and calatlog handling re-working after that, but I'm not sure it is critical.

Marcus, can you tell us if it would be worth "porting" updates such as 1730 into such a build? Are there any other bugfixes we should have in that "2.2 classic" load?

cheers!

Edited: 20 Oct 2011, 4:18 p.m.

Re: [WP34s] Firmware<>Layout wish

*Message #9 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:09 p.m.,*
in response to message #8 by Dominic Richens

The recent changes were:

Fix the emulator
Make room for more changes

I think, we can do a conditional compilation to reactivate the old x<>y key bindings. The team will decide upon this.

Re: [WP34s] Firmware<>Layout wish

*Message #10 Posted by **Dominic Richens** on 20 Oct 2011, 6:09 p.m.,*
in response to message #9 by Marcus von Cube, Germany

In my experience this is a time to "branch by promotion". That is create a branch for "classic" WP34s. The aim being to take the 1722 build and make no more changes to it, except to fix bugs.

Would we call this 2.2 or 2.1? Or something else?

Re: [WP34s] Firmware<>Layout wish

*Message #11 Posted by **Walter B** on 20 Oct 2011, 6:16 p.m.,*
in response to message #10 by Dominic Richens

> Quote:
>
> Would we call this 2.2 or 2.1?

Please see below.

Re: [WP34s] Firmware<>Layout wish

*Message #12 Posted by **Steve Simpkin** on 20 Oct 2011, 7:21 p.m.,*
in response to message #10 by Dominic Richens

> Quote:
>
> "classic" WP34s

LOL :)

Hey Walter, give us a current pic of V3 layout

*Message #13 Posted by **gene wright** on 20 Oct 2011, 2:52 p.m.,*
in response to message #3 by Walter B

even if we had it before. :-)

Here it is again

*Message #14 Posted by **Walter B** on 20 Oct 2011, 3:20 p.m.,*
in response to message #13 by gene wright

Hmmmh, Gene, seems your short range memory has been better shortly ;-)

Anyway, here is what I found in the archive.

Edited: 20 Oct 2011, 3:24 p.m.

Re: Here it is again

*Message #15 Posted by **gene wright** on 20 Oct 2011, 3:34 p.m.,*
in response to message #14 by Walter B

Yep, it fails quite often. ;-)

So the picture is the V3 leading candidate, with MATRIX on a key?

Re: Here it is again

*Message #16 Posted by **Walter B** on 20 Oct 2011, 3:46 p.m.,*
in response to message #15 by gene wright

Based on the results of said poll and internal agreements, it is. Now don't you tell me you don't know what you voted for ;-)

Edited: 20 Oct 2011, 3:48 p.m.

Re: Here it is again

*Message #17 Posted by **gene wright** on 20 Oct 2011, 4:25 p.m.,*
in response to message #16 by Walter B

Who am I and what do I mean by 'Who am I?'

just kidding.

Good, I like the picture layout and it can be fixed with minimal adjustments to the overlays. I'm pretty confident that Eric can rattle off just the changed key positions with little effect on everyone.

Re: Here it is again

*Message #18 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:11 p.m.,*
in response to message #17 by gene wright

We are discussing to get rid of -> as a primary function. This would make room for another hotkey.

Re: Here it is again

*Message #19 Posted by **fhub** on 20 Oct 2011, 5:27 p.m.,*
in response to message #18 by Marcus von Cube, Germany

> Quote:
>
> We are discussing to get rid of -> as a primary function. This would make room for another hotkey.

WOW, the best idea I've read since a long time! ;-)

Then I would even update my TVM solver, because with 5 hotkeys it could have the usual "N I PV PMT FV" layout. :-)

Franz.

-> and ... ?

*Message #20 Posted by **gene wright** on 20 Oct 2011, 5:34 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Could STATUS live in MODE ? Perhaps the first (or last entry)?

Just curious.

Re: -> and ... ?

*Message #21 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:37 p.m.,*
in response to message #20 by gene wright

STATUS isn't an executable command, more of a special state of the calculator. If it were a command, it would be alphabetically sorted-in somewhere.

Re: Here it is again

*Message #22 Posted by **Eric Rechlin** on 20 Oct 2011, 5:11 p.m.,*
in response to message #14 by Walter B

Walter,

If this is the final 3.0 layout, please give me your blessing to update my overlay design to reflect these changes, and I will then start producing overlays with the new design and replacement keys for those who might want them instead of a whole new overlay:

Eric

Re: Here it is again

*Message #23 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:14 p.m.,*
in response to message #22 by Eric Rechlin

Nothing is final at the moment, Eric. Please wait before you invest in any designs! If we get the chance we will change more then what you can see on Walter's layout.

Re: Here it is again

*Message #24 Posted by **Walter B** on 20 Oct 2011, 5:38 p.m.,*
in response to message #22 by Eric Rechlin

Eric,

Please wait and watch. The only thing I'm 98% sure about so far is v2.2 will use the old layout.

Walter

Re: New layout, my 2 cents

*Message #25 Posted by **Patrice** on 20 Oct 2011, 7:00 p.m.,*
in response to message #22 by Eric Rechlin

Hi all,

My late comment on the old and new layout.

./,
I think it can be moved to a MODE menu, it is the kind of thing that I set once every time I reset the calc.
For the alpha mode, the '.' can be enough to remind that it is here that you get some special chars.

FIX SCI ENG
I think they can be moved to a menu, it is the kind of thing that I set once in a while and stay for a good piece of time.

This would free some keys for more valuable things.

Patrice

Re: New layout, my 2 cents

*Message #26 Posted by **Walter B** on 21 Oct 2011, 1:36 a.m.,*
in response to message #25 by Patrice

> Quote:
>
> This would free some keys for more valuable things.

Please allow a glimpse on what those "more valuable things" shall be. Else my abilities in clairvoyance are too limited for guessing, and we don't want to leave the freed space blank. BTW, the new commands shall fit where you want to put them. TIA

Walter

Re: New layout, my 2 cents

*Message #27 Posted by **Patrice** on 21 Oct 2011, 1:29 p.m.,*
in response to message #26 by Walter B

look at Marcus answer, he got ideas.

Patrice

Re: New layout, my 2 cents

*Message #28 Posted by **Marcus von Cube, Germany** on 21 Oct 2011, 3:35 a.m.,*
in response to message #25 by Patrice

Patrice, I'm constantly voting for leaving the display mode settings on the keyboard. I agree with replacing './,' which is also available as an ON+'.' combination on the device. Maybe a good place for SHOW. It's in the same place as X which makes perfect sense.

Re: New layout, my 2 cents

*Message #29 Posted by **Patrice** on 21 Oct 2011, 1:46 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Hi Marcus,

> Quote:
>
> I'm constantly voting for leaving the display mode settings on the keyboard.

I think that both options are a little like tastes and colours.
Both options have positives and negatives aspects.

Patrice

Re: Here it is again - Overlay Versions

*Message #30 Posted by **Thomas Chrapkiewicz** on 20 Oct 2011, 7:18 p.m.,*
in response to message #22 by Eric Rechlin

Eric:

A generic recommendation (-or- A glimpse into the future):

As we are going to have multiple WP34s versions with appropriate overlays, it would be nice to have the version number printed on the overlay itself somewhere; for instance unobtrusively in one of the corners.

TomC ps: I've already got two different WP34s's and a HP20b/HP45 clone.

Re: Here it is again

*Message #31 Posted by **David Hayden** on 21 Oct 2011, 7:47 a.m.,*
in response to message #22 by Eric Rechlin

My late comments:

I've never felt a need for y<> or z<> commands. If the thinking is that these are useful in programming then I'd argue that CLP is far more common and should remain on the keyboard.

I think || is much too specialized a function to take up keyboard space. If an engineer wants it they can write a short program using one of the hot keys. BTW, I saw this as a former electrical engineering student who had this exact function programmed on a 41C and assigned to shift-+.

So I'd leave CLP at [h]EEX and put pi on [g]/, thus moving || to a menu (probably X.FCN) or maybe remove || entirely. It would actually make a nice programming example.

I love this calculator.

Dave

Re: Here it is again

*Message #32 Posted by **Egan Ford** on 21 Oct 2011, 8:36 a.m.,*
in response to message #31 by David Hayden

I 2nd all of that. I also had little use for x<>a as well outside of programming.

Re: Here it is again

*Message #33 Posted by **John Abbott (S. Africa)** on 21 Oct 2011, 10:37 a.m.,*
in response to message #31 by David Hayden

I second that. I find CLP very useful in two instances:
1. To quickly get to the beginning of RAM if debugging.
2. To quicly clear all programs in RAM.
Just my opinion of course.
John

BTW- is the idea to move CLP into the P.FCN catalogue?

Re: Here it is again

*Message #34 Posted by **Egan Ford** on 21 Oct 2011, 10:54 a.m.,*
in response to message #33 by John Abbott (S. Africa)

I 2nd that too.

Re: Here it is again

*Message #35 Posted by **Marcus von Cube, Germany** on 21 Oct 2011, 12:09 p.m.,*
in response to message #33 by John Abbott (S. Africa)

CLP will go to the CLEAR catalogue. I'm with you with keeping it easily available. The run mode function is duplicated on RTN so this is not an issue. As for clearing RAM, maybe a shift-hold combination may do as a second way to reach the command.

Re: [WP34s] Firmware<>Layout wish

*Message #36 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Oct 2011, 3:13 p.m.,*
in response to message #3 by Walter B

FWIW, I would like 2.2 to keep 2.1 layout (as seen in HHC 2011), as it was difficult enough to obtain overlays just to throw them away before even applying them (I have now a 20B and a 30B to be reflashed and "re-overlayed" to 2.1 version). I understand that the MATRIX menu could still be accesed via some of the menus. I admit I should read the fine manual, but I'm having a very intense workload, so time for reading and reflashing has been scarce.

I was thinking that, if possible, layout changes would be more manageable if such changes are limited to keys and don't affect the faceplate. The latter is supposed to be very difficult to remove, and it there will also be adhesive traces that may be difficult to clean. It seems that changing the sticker over one or two keys would be much easier.

I accept that the time for suggestions expired some days ago, but this idea may just be considered. My suggestion to bring NULL to the 34S was rejected at first time, but I'm glad that NULL made its way through and is now available. So, let's hope there may be second chances...

If suggestions are still received, TONE and BEEP are my favorites and are still missing :-D

[As always, please disregard any idiomatic mistake]

Re: [WP34s] Firmware<>Layout wish

*Message #37 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Oct 2011, 3:41 p.m.,*
in response to message #36 by Andrés C. Rodríguez (Argentina)

It seems that the only changes to the faceplate are below x<>y and "Show", so the idea of issuing just a few key stickers to update layout from 2.x to 3.x seems feasible. These two differences on the faceplate versions are absolutely acceptable for someone (like me) who is not very fond of the idea of faceplate peeling. We can surely live with them for a while.

OK, I can reflash my 20B with WP-34 v2.x and current overlays; and wait for a 3.x overlay to be applied in the future to the 30B. Even the original HP model numbers would be aligned with this path. But new key stickers will be needed soon!

BTW, would you consider removing the full space between the deveopers' names in the status screen; so the last "r" in Walter may appear full size? I think that

```
PauliWalter
```

would be more readable than

```
Pauli Walte^r
```

Just my AR$ 0.1

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Bug?

*Message #1 Posted by **fhub** on 20 Oct 2011, 7:23 a.m.*

I've almost finished my Polynomial RootSolver for the WP34s, but in my final tests I've jumped into a problem: The command RTN+1 doesn't work in a program!

Now I've checked it with the following short testprogram:

```
LBL A
XEQ 00
SKIP 01
ERR 20
RTN
LBL 00
RTN+1
```

Running this program (with shortcut [A]) should always show the error message 20 because LBL 00 just returns to this ERR 20 line - or better said it should do it, but it doesn't work: no error message at all! :-(

So unless I'm misunderstanding something this RTN+1 command doesn't work as it should in a program.

Franz.

Edited: 20 Oct 2011, 7:45 a.m.

Re: [WP34s] Bug?

*Message #2 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 1:07 p.m.,*
in response to message #1 by fhub

I haven't tested this but if you are right it's a bug. Maybe later today Pauli or me will find the time to look at it.

Re: [WP34s] Bug?

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 20 Oct 2011, 5:06 p.m.,*
in response to message #1 by fhub

I think program is working the way it should. LBL A -> XEQ 00 -> LBL 00 -> RTN+1 -> SKIP01 (skipps ERR20) -> RTN (END)

If you remove the SKIP01 command

LBL A -> XEQ 00 -> LBL 00 -> RTN+1 -> ERR20 (Get "Solve FAILED")

Or if you add some other line right after SKIP01, and before ERR20, it works too.

From the 34s Manual: Skips n program steps forwards (1 <= n <= 99). So e.g. SKIP 02 skips over the next two steps,going e.g. from step 123 to step 126.

EDIT: Never mind :) you are right, after reading the RTN+1 definition more carefully, it should actually go to

the second line AFTER XEQ, skipping the one right after XEQ (SKIP01 in this case), therefore it should execute ERR20, but it lands on SKIP01.

-Kerem

Edited: 20 Oct 2011, 5:14 p.m.

Re: [WP34s] Bug?

*Message #4 Posted by **Paul Dale** on 20 Oct 2011, 6:54 p.m.,*
in response to message #1 by fhub

This problem seems to go away if the RTN+1 command is not at the end of program memory. So there is a workaround until we fix the issue properly.

- Pauli

Re: [WP34s] Bug?

*Message #5 Posted by **Paul Dale** on 21 Oct 2011, 2:56 a.m.,*
in response to message #1 by fhub

Fixed in the sources. Not built yet, but soon will be I expect.

- Pauli

Re: [WP34s] Bug?

*Message #6 Posted by **fhub** on 21 Oct 2011, 3:42 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> Fixed in the sources. Not built yet, but soon will be I expect.

Yep, it's working again, thanks!

This was indeed a very strange bug and it was pure coincidence that I had this RTN+1 at the end of my program - I guess otherwise it won't have been found for a very long time. ;-)

Franz

Re: [WP34s] Bug?

*Message #7 Posted by **Walter B** on 21 Oct 2011, 5:27 p.m.,*
in response to message #6 by fhub

That's the way bugs are found - else they would have been found earlier.

Re: [WP34s] Next Bug?

*Message #8 Posted by **fhub** on 22 Oct 2011, 12:39 p.m.,*
in response to message #1 by fhub

Ok, here's the next bug, this time in the quadratic solver SLVQ:

Solving the equation x^2-x=0 with SLVQ returns 0 (zero) for both solutions (instead of 1 an 0).
To test it: 1 ENTER 1 +/- ENTER 0 SLVQ ==> 0 in X and Y

I know that SLVQ is based on my own code I've posted some time ago here, but my code returns the correct results, so there must have gone something wrong in translating my code to the internal XROM code.

Franz

Re: [WP34s] Next Bug?

*Message #9 Posted by **Marcus von Cube, Germany** on 22 Oct 2011, 1:55 p.m.,*
in response to message #8 by fhub

This one is for Pauli, I'm afraid.

Re: [WP34s] Next Bug?

*Message #10 Posted by **Paul Dale** on 22 Oct 2011, 8:38 p.m.,*
in response to message #9 by Marcus von Cube, Germany

I think I've got this fixed now. It was quite a mess :-(

- Pauli

Re: [WP34s] Next Bug?

*Message #11 Posted by **fhub** on 23 Oct 2011, 6:21 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> I think I've got this fixed now. It was quite a mess :-(

Without having tested it I guess your 'fix' is still not working for a*x^2=0 (i.e. when b=c=0).

Looking at your new code

```
x>0?
[cmplx]CONJ
-                   /* -b-sqrt 2c 2c 2c */
STO/ Y              /* -b-sqrt 2c/(-b-sqrt) 2c 2c */
```

I see that you've now removed the step "x[!=]0?" before the "STO/ Y",
so this division may fail if -b-sqrt=0.

And you won't have run into this 'mess' if you would just have used my code (which is working perfectly) ... ;-)
(calculating the discriminant with a "cpx *" is ok, but why change my other code?)

Franz

Edited: 23 Oct 2011, 6:22 a.m.

Re: [WP34s] Next Bug?

*Message #12 Posted by **Paul Dale** on 23 Oct 2011, 6:30 a.m.,*
in response to message #11 by fhub

> Quote:
>
> And you won't have run into this 'mess' if you would just have used my code
> (which is working perfectly) ... ;-)
> (calculating the discriminant with a "cpx *" is ok, but why change my other code?)

Using complex * changed the stack layout and I needed to preserve more on the stack and last X to call this a built in command. That's why I rearranged things.

Feel free to update your code to use complex * for the discriminant and preserve the stack semantics of the built-in and I'll happily include this instead.

Otherwise, it will have to wait until I get around to revisiting the current code which has the problem you mentioned :-(Sigh.

- Pauli

Re: [WP34s] Next Bug?

*Message #13 Posted by **fhub** on 23 Oct 2011, 6:59 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> Feel free to update your code

No need for this because it works fine! ;-)

Your XROM code should look like this (only the 5 problematic lines):

```
x[>=]0?
[cmplx]CONJ
-
x[!=]0?
STO/ Y
```

So just change x>0? to x[>=]0? in line 1 and insert [x!=]0? again at line 4.

Franz

Re: [WP34s] Next Bug?

*Message #14 Posted by **Paul Dale** on 23 Oct 2011, 8:40 p.m.,*
in response to message #13 by fhub

Thanks. The changes are in but won't be built until someone kicks it off -- I can't at the moment.

- Pauli

Re: [WP34s] Next Bug?

*Message #15 Posted by **Dieter** on 23 Oct 2011, 9:02 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:

> This one is for Pauli, I'm afraid.

And for Walter as well, I think. Currently the manual says:
"*Solves the quadratic equation $ax^2 + bx + c = 0$ with the real parameters put on the stack [c, b, a, ...], and tests the result.*"
(Version 2.2.1687 as included in the last emulator package)

The manual seems to suggest that the user enters c first, then b, finally a, and maybe even more due to the "..." following these three. In fact, the correct order seems to be a [ENTER] b [ENTER] c. The manual should state this clearly in exactly this way, and the final "..." should get deleted.

I think a simple stack diagram would be useful here:

```
    input       real solution     complex solution
T   ...         ...               ...
Z    a          discriminant      discriminant
Y    b     =>   2nd real root     |imaginary part|
X    c          1st real root     real part

L   ...         c                 c
```

Dieter

Re: [WP34s] Next Bug?

*Message #16 Posted by **fhub** on 23 Oct 2011, 9:10 a.m.,*
in response to message #15 by Dieter

I interpret [c, b, a, ...] as [X, Y, Z, ...=T] because otherwise this "..." at the end won't make any sense at all.

Edited: 23 Oct 2011, 9:10 a.m.

Re: [WP34s] Next Bug?

*Message #17 Posted by **Dieter** on 23 Oct 2011, 9:24 a.m.,*
in response to message #16 by fhub

There you are: the manual allows different interpretations, while it *should* simply state the required information unambigously.

"[c, b, a, ...]" denotes a vector with four or more components. Instead, the user should be told directly that a is expected in Z, b in Y and c in X. Preferably by a simple and graphic stack diagram, as suggested.

Dieter

Re: [WP34s] Next Bug?

*Message #18 Posted by **Dominic Richens** on 23 Oct 2011, 9:29 a.m.,*
in response to message #17 by Dieter

Dieter, Franz,

Please consider adding a section to WP34s users' guide. All the button .png files are there so you can write something in the un-ambiguous style of the classic HP manual.

cheers!

Edited: 23 Oct 2011, 9:31 a.m.

Re: [WP34s] Next Bug?

*Message #19 Posted by **fhub** on 23 Oct 2011, 9:34 a.m.,*
in response to message #17 by Dieter

> Quote:
>
> There you are: the manual allows different interpretations, while it *should* simply state the required information unambigously.

When I wrote "I interpret [c, b, a, ...]" then I meant of course that it can't be interpreted in a different way IF you're using your logic brain. ;-)

> Quote:
>
> "[c, b, a, ...]" denotes a vector with four or more components.

Come on, we're talking about a (usually 4-level) stack calculator but not about mathematics in common.
What sense should "a vector with 4 or more components" make in the WP34s context?

Franz

Re: [WP34s] Next Bug?

*Message #20 Posted by **Walter B** on 23 Oct 2011, 11:03 a.m.,*
in response to message #15 by Dieter

Dieter, I added a sentence to the "Print Conventions" for you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S and 'dead' HP20B

*Message #1 Posted by **Rob Willett** on 20 Oct 2011, 6:37 a.m.*

Hi,

I've been lurking here for some time and followed the threads with great interest, it's nice to see other people with the same fascination with HP calcs. I'm a big fan of the HP landscape calcs, specifically the 16C which has earned it's weight in gold on projects. So far I have an HP11C, HP12C, HP15C, HP16C, HP41C, HP41CV, HP17B, HP20S, HP48GX (utter rubbish but that's my view). All mint with manuals and some boxes. The next purchase is an HP10C, so any good versions around let me know.

I was very interested in the WP 34S and have acquired cables, calculator, overlays etc to have a go at creating on.

I have a couple of questions though:

1. Where is the best place to ask for WP 34S support? The sourceforge home page seems light on mailing lists and forums. I don't want to clog up this forum if it's in appropriate.

2. If this is the right place to ask questions. I have one, sorry if it's a bit long but I wanted to ensure I got all the information in and I did look around an awful long time to see if somebody else has had the same problem:

I've downloaded the various WP-34S manuals, zip files docs etc and actually read them before starting work. I just (last week) got a new laptop from work with 64 bit Windows 7 to replace my Windows XP build.

I connected the cables up, loaded up the HL-340 USB/Serial adapter and eventually found a driver that seemed to work. Since I have nothing in the house that uses serial I have no way to prove that the cable and USB adapter actually works even if the Windows tells me it is.

I downloaded and installed SAM-BA 2.10 from the ALTEL website.

I then followed the instructions in the manual of pressing various reset/erase buttons and the HP-20B display went blank.

I tried to launch SAM-BA 2.10 and that went nowhere. I could choose the COM 5 port, the right board but nothing ever happened. Checked Google and not a lot of information but it appears that 64bit Windows 7 is not a likely platform for this to work with SAM-BA 2.10. Somebody suggested SAM-BA 2.6 with XP.

So my intention is to use my VMWare Fusion Windows XP session on my Mac to try and make the connection to the HP-20B and see if that works. This will be fun as the USB/Serial adapter is not recognised by the Mac so not sure what will happen in the Windows XP session. If this fails then I'll try a 32bit Linux session on Windows 7. This is getting rather complicated.

However my real problem is that the HP-20B now displays nothing after putting it into the right mode for flashing, I am assuming this is due to me having erased the memory on the thing. Have I bricked the calculator or can I simply go through the cable key press sequence again and it will be put in the right format? Since I can't see anything at all on the calc siplay, I thought that before each attempt to connect the calculator to SAM-BA I would remove the batteries for 2 minutes, then replace to know that the calculator is starting from a known off state.

Any suggestions or recommendations gratefully appreciated.

Thanks,

Rob.

Re: WP 34S and 'dead' HP20B

*Message #2 Posted by **Gerson W. Barbosa** on 20 Oct 2011, 6:51 a.m.,*
in response to message #1 by Rob Willett

Bart's article may help in case you haven't read it yet.

Regards,

Gerson.

Re: WP 34S and 'dead' HP20B

*Message #3 Posted by **Bart (UK)** on 20 Oct 2011, 6:58 a.m.,*
in response to message #1 by Rob Willett

Hi,

Welcome to the forum and the WP-34s project.

Indeed by erasing the 20b flash, there is only the boot loader left and that does not communicate to the screen.

Don't worry, it is not bricked. Once you get the SAMBA and comms sorted, you should be able to go through the complete procedure and "resurrect" the calculator to a 34s!

See this thread for some tips on reviving a "dead" 20b/20b (particularly the advice on batteries and Tim's advice on the RESET and ON button presses).

Regards
-B

Re: WP 34S and 'dead' HP20B

*Message #4 Posted by **Rob Willett** on 20 Oct 2011, 7:28 a.m.,*
in response to message #3 by Bart (UK)

Thanks for the responses. The interesting thing in the articles is that somebody is using Windows Vista. Not sure if it's 64 bit but there's hope. Either way between VMware Fusion, VMware Workstation, I will find a way to get the thing flashed.

I'm reassured about not bricking the HP20B. I'll get a supply of CR2032's to make sure we hold the voltage at the right level.

And I forgot to add my HP 35S to my list of calc's, odd as it is sitting in front of me as I do some stats <doh>.

Thanks again for the prompt help, once I get it working I'm happy to help anybody in London out.

Rob

Re: WP 34S and 'dead' HP20B

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Oct 2011, 7:46 a.m.,*
in response to message #4 by Rob Willett

FWIW, I had succesfully used SAM-BA 2.6 under Windows 7, but I have the 32-bit version. SAM-BA 2.10 didn't worked in the same environment. I'm using a FTDI chip-based USB to serial converter.

HTH

Re: WP 34S and 'dead' HP20B

*Message #6 Posted by **Bart (UK)** on 20 Oct 2011, 8:15 a.m.,*
in response to message #4 by Rob Willett

I have got SAMBA2.10 to work in Windows Vista, but it's the 32-bit version.

Re: WP 34S and 'dead' HP20B

*Message #7 Posted by **Gerry Schultz** on 20 Oct 2011, 1:05 p.m.,*
in response to message #4 by Rob Willett

I've posted this before, but with an HP laptop running Win7 Professional 64-bit using SAM-BA 2.10, I have successfully installed WP-34S images in both 20b and 30b calculators. The critical item here is an FTDI USB-to-RS232 adapter. I use an ES-U-1001-R100 I got from Newark; part number 34M8933.

As a side note Eddie Shore came by my place as he too was having problems burning a WP-34S image using Vista. With the above adapter, he successfully updated his 20b using his PC. So I think your problem is the adapter cable.

I hope this helps, Gerry

WP-34s forums (was Re: WP 34S and 'dead' HP20B

*Message #8 Posted by **Dominic Richens** on 20 Oct 2011, 9:08 a.m.,*
in response to message #1 by Rob Willett

Since Rob brought it up, is there a reason we don't use SourceForge.net: WP-34s: Open Discussion forum?

Maybe it's not as nice as this one, but at least it is searchable.

You need to have a Sourceforge account to post, but that's really not different that MoHPC. You don't have to be a member of the WP-34s project to post.

Re: WP-34s forums (was Re: WP 34S and 'dead' HP20B

*Message #9 Posted by **Martin Pinckney** on 20 Oct 2011, 9:31 a.m.,*
in response to message #8 by Dominic Richens

This was discussed at length a few weeks ago. There were differing opinions (surprised?) about whether the 34s discussions were appropriate here or not. Then the 15c LE suddenly appeared, and that dominated the forum for a few weeks. Now that has subsided and the 34s has reared its beautiful head again. Not to mention Open RPN.

Re: WP-34s forums (was Re: WP 34S and 'dead' HP20B

*Message #10 Posted by **Rob Willett** on 20 Oct 2011, 9:47 a.m.,*
in response to message #9 by Martin Pinckney

Personally speaking (and as a new lurker my vote counts for nothing), I'd like to see announcements and high level stuff on WP-34S here and the low level detailed support stuff elsewhere, e.g. SourceForge or whatever.

I think the same for OpenRPN.

I love the idea of new calculators and will happily buy into them (my other half just rolls her eyes and sighs), e.g. the HP 41CL is great, I'm hopefully on a waiting list for one. I will look at the OpenRPN stuff as well, but should everybody have to wade through idiots like me posting how they cocked up flashing the HP 20B, or which keyboard layout is optimal?

It's difficult, a museum is not necessarily about old stuff, goto the Science Museum in London and whilst it has some fabulous old steam engines, it has some remarkably modern other exhibits.

I think a balance is needed, people should be aware of what's going on, and should know how to get to find it, but should we have to wade through all the threads. Personally speaking the threads on the new HP 15C LE and possible defects is of no interest to me but I have no problem with them being there.

Just my 2p worth,

Rob,

Re: WP-34s forums (was Re: WP 34S and 'dead' HP20B

*Message #11 Posted by **Martin Pinckney** on 20 Oct 2011, 10:15 a.m.,*
in response to message #10 by Rob Willett

Understood. The bottom line is, the museum curator doesn't have much to say unless someone mentions the banned 41 site. So it's really up to the posters.

Re: WP 34S and 'dead' HP20B

*Message #12 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 1:03 p.m.,*
in response to message #1 by Rob Willett

SAM-BA.exe has issues, not only with Windows 7. You should try to get the modified MySamba.exe to work which is much quicker. You'll find it on our SF pages easily.

Re: WP 34S and 'dead' HP20B

*Message #13 Posted by **Egan Ford** on 20 Oct 2011, 1:15 p.m.,*
in response to message #1 by Rob Willett

I had similar problems, my solution is posted here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=201249#201249

IANS, my batteries were weak from repeated failed attempts. At 2.7V I could not power up another 30b. Test your batteries. OS/X does not need to recognize your USB to Serial for Windows/XP in a VM to work. I also used XP in a VM without issue, but only after I swapped out my Keyspan USB to Serial with one that is FTDI based. I also had to start over. Just follow the process blindly from the start. I would also recommend mysamba.exe for flashing.

Re: WP 34S and 'dead' HP20B

*Message #14 Posted by **Rob Willett** on 20 Oct 2011, 3:13 p.m.,*
in response to message #13 by Egan Ford

Thanks for all the excellent responses. I feel a lot better that I'll get somewhere.

My plan tonight is to acquire a couple of new CR2032 batteries (could be difficult at 20:12 in an evening), plug the existing cable into my XP host under VMWare Fusion, download mysamba.exe and see how it goes.

When that fails, I'll order this cable, buy another set of batteries and have another go :)

http://www.easysync-ltd.com/product/527/es-u-1001-r100.html

Best wishes,

Rob

Re: WP 34S and 'dead' HP20B (success)

*Message #15 Posted by **Rob Willett** on 20 Oct 2011, 5:36 p.m.,*
in response to message #14 by Rob Willett

Success.

I thought I'd log exactly the hardware I used here to help the next person who has my problem.

I successfully managed to flash the HP-20B from a Mac running Lion using VMWare Fusion 3 running Windows XP SP3 (32 bit).

I have an HL-340 (super cheap) USB/Serial converter connected to the Windows XP guest. I used SAM-BA 2.10 which some people said were problematic. No issues for me.

I followed the instructions on the WP-34S website and it worked exactly as it should do. Took longer than 45 seconds to do the download but it worked fine in the end.

Now the difficult bit is putting the labels on correctly and neatly.

If anybody from London wishes a hand drop me a line at rob DOT hpcalcforum AT robertwillett DOT com.

If you can't work my e-mail address out you don't deserve to have a WP-34S.

Thanks to you for all the prompt help on this site. I'd post a picture but you know it all looks like.

Re: WP 34S and 'dead' HP20B (success)

*Message #16 Posted by **Marcus von Cube, Germany** on 20 Oct 2011, 5:47 p.m.,*
in response to message #15 by Rob Willett

You should still switch to MySamba.exe as it is much faster (below 20 seconds) and therefore less demanding on batteries.

Re: WP 34S and 'dead' HP20B (success)

*Message #17 Posted by **Rob Willett** on 20 Oct 2011, 6:20 p.m.,*
in response to message #16 by Marcus von Cube, Germany

I tried MySamba and it simply didn't work for me. I will try again though now I know how to do it.

Re: WP 34S and 'dead' HP20B (success)

*Message #18 Posted by **Egan Ford** on 20 Oct 2011, 6:49 p.m.,*
in response to message #15 by Rob Willett

> Quote:
>
> If anybody from London wishes a hand drop me a line at rob DOT hpcalcforum AT robertwillett DOT com.

I was there last week. I could have helped you. :-)

You may also find this thread interesting since you are a Mac user as well: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=201295#201295.

Edited: 20 Oct 2011, 6:53 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Nigel Peters

*Message #1 Posted by **Nigel Peters** on 19 Oct 2011, 11:31 p.m.*

I have a HP 11C to which I have misplaced the user manual several years ago. The screen is displaying the following 0,000 that I can not get rid of. I do not believe that it is the batteries as that is usually indicated by a flashing *. How do I get a normal screen back?

Nigel

Re: Nigel Peters

*Message #2 Posted by **Raymond Del Tondo** on 20 Oct 2011, 12:11 a.m.,*
in response to message #1 by Nigel Peters

Can't see anything wrong with an 11C saying 0,000 .
Or do you mean you want a decimal point instead of the comma?
If yes, turn the 11C off, press and hold the decimal point key,
press the ON key, release both.

HTH

Ray

0,0000 screen display, Nigel Peters

*Message #3 Posted by **Nigel Peters** on 20 Oct 2011, 9:55 p.m.,*
in response to message #2 by Raymond Del Tondo

Ray,

Thanks for the response. I had already tried that several times before posting the message. Anyway problem now is corrected. See my response to Steve as to how.

Nigel

Re: Nigel Peters

*Message #4 Posted by **Steve Simpkin** on 20 Oct 2011, 5:21 a.m.,*
in response to message #1 by Nigel Peters

Here is a scanned copy of the HP-11C Owner's Guide from HP's website.
http://h10032.www1.hp.com/ctg/Manual/c00503576.pdf

Nigel Peters 0,0000 Screen Display

*Message #5 Posted by **Nigel Peters** on 20 Oct 2011, 9:50 p.m.,*
in response to message #4 by Steve Simpkin

Steve,

Many thanks for the user manual. It really helped. My calculator does show the asterick when the battery is low, so I knew it wasn't low batteries. After trying a number of different things, I found it was somehow reated to Engineering notation (even though it wasn't showing the exponent)

Nigel

Re: Nigel Peters

*Message #6 Posted by **John Garza** on 21 Oct 2011, 11:08 a.m.,*
in response to message #4 by Steve Simpkin

Just curious, how did you find this in a search?

-J

Re: Nigel Peters

*Message #7 Posted by **Onur Ilkorur** on 20 Oct 2011, 1:42 p.m.,*
in response to message #1 by Nigel Peters

Hi,

After asking the same question on this forum a while back, I wasn't satisfied with the answers that I have received and made my own reasearch about his situation with the HP 11Cs.

According to "A Guide to HP Handheld Calculators and Computers" by W.A.C. Mier-Jedrzejowicz, 5th Edition there has been some early HP 11Cs produced without the "*" sign on the screen.

Some may tell you that early Voyager series may fail to detect the low battery voltage and maybe you should also take this into consideration, however, the HP 11C that I have do not have a "*" on the LCD.

Hope it helps, Onur

Re: Nigel Peters

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 20 Oct 2011, 2:01 p.m.,*
in response to message #7 by Onur Ilkorur

I too heard that early units did not have the *. However, my 11C, S/N 2222Axxxxx (making it mid May '82?) has the * so yours would have to be **very** early indeed to not have it.

BTW: Are you aware that it does **not** light up when the self test is activated? AFAIK, there is no way to activate it without low batteries -- and in a calculator that is notoriously stingy on power usage, that might take a very long time indeed!

Use mine every day! :-)

Re: Nigel Peters

*Message #9 Posted by **Onur Ilkorur** on 20 Oct 2011, 2:37 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

Yes, my first thought was to check the self test, but after reading here on the forum that the self test

does not lit the "*" sign on the LCD, I have carefully collected 3 LR44 batteries that with lit/blink the "*" on my other HP 11Cs and HP 15Cs with also sufficiently low serial numbers. They all lit/blink the "*" sign, however that one HP 11C just displayed "0,0000" and masked everything that I have typed with it. Like, if I key in "12345678" the display looks like "0,0000678".

As for everyday use I have switched to HP 15C LE, but that is another (sad) story though ...

0,0000 screen display, Nigel Peters

*Message #10 Posted by **Nigel Peters** on 20 Oct 2011, 10:01 p.m.,*
in response to message #7 by Onur Ilkorur

Onur,

Thanks for your response. Problem has been corrected. See my response to Steve as to how the problem was corrected.

Nigel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 43S] Another newborn

*Message #1 Posted by **Jeroen Van Nieuwenhove** on 19 Oct 2011, 7:28 p.m.*

Today, a new 43s is born. Thanks, Pauli and Walter for this fantastic extreme makeover of the 20/30b. I will be busy for some weeks discovering the features of this beast. Also thanks to Gene for the cable and to Eric for the 30b and the overlays. I know that the keyboard layout is due to be changed and I look forward to having matrix support on this already terrific machine.

FYI: Flashing this unit on Windows Vista x64 with a native serial port worked flawlessly.

Re: [WP 43S] Another newborn

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 7:46 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

Having Repurposed a 30b to a 34s very recently, I completely share your ecitement and appreciation to the WP-34s team! Enjoy!

However I beleive you meant 34s and not 43s (see what excitement does to us!)

Re: [WP 43S] Another newborn

*Message #3 Posted by **Paul Dale** on 19 Oct 2011, 7:51 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

And please don't forget Marcus :-)

- Pauli

Re: [WP 43S] Another newborn

*Message #4 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 8:04 p.m.,*
in response to message #3 by Paul Dale

I would suggest renaming it wpm-34s. Or just leave it as is until someone else with first name beginning with "D" join the team. Thus, wp turned upside down would stand for D???? and Marcus as well :-)

Re: [WP 34S] Another newborn

*Message #5 Posted by **Egan Ford** on 19 Oct 2011, 9:13 p.m.,*
in response to message #4 by Gerson W. Barbosa

Or CS 34S. Community Scientific 34S.

Re: [WP 34S] Another newborn

*Message #6 Posted by **Walter B** on 20 Oct 2011, 12:21 a.m.,*

in response to message #5 by Egan Ford

The "wp" wasn't my idea, but it simply fits the logo nicely :-) And in fact that project was 'founded' by Pauli and me in 2008, and was driven by us until this March as you can read in the archives. Since March 2011, Marcus contributes a significant fraction as you've observed and still see.

And if we still needed a proof it's a success ...

> Quote:
>
> Or CS 34S. Community Scientific 34S.

... now it's claimed the community has done the work ;-)

Re: [WP 34S] Another newborn

*Message #7 Posted by **Egan Ford** on 20 Oct 2011, 1:03 a.m.,*
in response to message #6 by Walter B

More along the lines of created for the community.

If you want to get specific about the contributions, we have HP making the HW, I think about 5 solid contributors to the software, assembler, documentation, and overlay; and countless testers, complainers, supporters, suggesters, cable shippers, evangelists, unauthorized documentors, etc...

My suggestion was not to minimize anybody's efforts or to remove any acknowledgement, but to expand the acknowledgement to the larger supporting community.

I think just calling it the 34S is great too, and I do not have any issues with WP. But I do think adding more letters is not a good idea.

Re: [WP 34S] Another newborn

*Message #8 Posted by **Walter B** on 20 Oct 2011, 1:22 a.m.,*
in response to message #7 by Egan Ford

Egan, I may have guessed what you wanted to express but that ball was too nice to let it rest there ;-) And also HP was baptized HP since they made products for H & P, wasn't it? (Hint: If you replace an argument take care of its plausibility ;-)

Re: [WP 34S] Another newborn

*Message #9 Posted by **Egan Ford** on 20 Oct 2011, 11:47 a.m.,*
in response to message #8 by Walter B

> Quote:
>
> And also HP was baptized HP since they made products for H & P, wasn't it?

I do not know enough of HP's history to argue that one way or the other. My gut tells me that HP created products to make money, not to fill a missing personal need with no intent to monetize it. IOW, I think your argument is irrelevant. Unless you are only

suggesting that once named, the name sticks.

I think the 34S is more inline with the history of Wozniak and the Apple I. Woz just wanted to make himself a computer, and then shared that with a broader community by making it open source (or free with source). Both the ROM source and the schematic for the Apple I is published in the Apple I manual.

Again, what started this thread was my followup to a statement that suggested adding letters. WP is already a mouthful since 'W', at least in English, is 3 syllables. My suggestion was to rename the letters and keep it at two. CS was the only thing I could think of that would embody the work of Marcus and others, and at the same time hint at the target audience in the same way 'scientific' is used. I would have love to have said, "Community Scientific, by the community for the community", but when less than half of the community cannot even be bothered to vote for a keyboard layout, it's clearly, "not of the community", but still for the community. To suggest, back to your original statement, that the 34S was made for W & P is a mischaracterization given the volume of support, testing, reaction to input, non-WP contributors, etc... And, I think "CS" is more inline with other projects such as OpenRPN and Free42.

Lastly, and again, I really do not have an issue with the current name, I never did. And you are clearly keen on not changing it, and that's fine too.

Hint: Follow up with, we are not going to change it and that's final. :-)

Re: [WP 34S] Another newborn

*Message #10 Posted by **Gerson W. Barbosa** on 20 Oct 2011, 1:34 p.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> WP is already a mouthful since 'W', at least in English, is 3 syllables.

I should have paid attention to this before daring to suggest an even longer name... Sorry! When writing in English, I usually avoid long words whenever I can. Instead of referring to this road as a parallelepiped road, for instance, I would call it a six-faced stone road or something like that. Awkwardly, in Portuguese 'W' is a two-syllable word.

Since the name wp-34s has stuck, there's no need to change it now, INMHO. Besides, I think the other great contributor's names have already been credited in the documentation.

Gerson.

Re: [WP 34S] Another newborn

*Message #11 Posted by **Walter B** on 20 Oct 2011, 2:57 p.m.,*
in response to message #10 by Gerson W. Barbosa

Egan, Gerson, all,

We won't change the name WP 34S once it has become popular now. That's it :-)

FYI, 'W' is a one-syllable word in German - like all other letters except 'Y'. The

latter is three syllables like in Greek where we got it from. May be one reason why brands like BMW or VW grew up here.

BTW, I've got a favourite emoticon ;-) and I use it exactly for this purpose quite frequently, so please take into account some of my posts may be just meant this way. And since I was taught to care for proper spelling and grammar (some precision helps in math and physics, too) my only escape may be plain ignorance of the proper (American?) English wording. Nevertheless, I feel pretty comfortable between so many multilingual people here. Thanks for your understanding.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A Simulator for a Stack Machine

*Message #1 Posted by **Thomas Klemm** on 19 Oct 2011, 3:02 p.m.*

This CPU simulator is a small project for educational reasons: it's goal is to explain a stack machine like the Java virtual machine. It's a little off topic but I thought some of you might still have an interest since the programming language which is used resembles RPN and RPL.

Kind regards
Thomas

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Fully testing HP 41

*Message #1 Posted by **Le Babou** on 19 Oct 2011, 1:53 p.m.*

Hello.

I love old hp calculators since i'm young, but too expensive for me at that time ;-)

Now, I could purchase several ones (67, 41c, 41cv, 41cx), not to store them in a shelf but to have the pleasure of using them daily :-)

For 67, it exist a program that fully test it, but I've none for 41... So my question is: is it possible to find on the market the Service Roms used to deeply test them ? Is there an alternative to this ?

Thanks a lot for your help and experience. Xavier.

Re: Fully testing HP 41

*Message #2 Posted by **Geoff Quickfall** on 19 Oct 2011, 7:51 p.m.,*
in response to message #1 by Le Babou

In the case of the 41C, 41CV and 41CX there are specific ROM modules that were used to test the functions.

There is no "blanket program" akin to the 67/97 or 65 families, or self tests such as the voyager and later families.

If you have a CLONIX and PIC programmer you can configure the clonix to be a TEST ROM.

Not to helpful, I know, so test the old fashioned way. try out functions and compare the answers to a known source.

Cheers, Geoff

Re: Fully testing HP 41

*Message #3 Posted by **Bruce Larrabee** on 20 Oct 2011, 10:11 a.m.,*
in response to message #1 by Le Babou

Hi

I know I saw somewhere that if you have the 67 test (on magnetic card) you can modify the test to run on the HP41.

I remember starting to try that once but didn't get back to it...

Re: Fully testing HP 41

*Message #4 Posted by **Paul Berger (Canada)** on 20 Oct 2011, 2:18 p.m.,*

in response to message #3 by Bruce Larrabee

The card reader for the 41 has a routine built in to convert programs from a 67/97 to run on the 41.

Re: Fully testing HP 41

*Message #5 Posted by **geoff quickfall** on 20 Oct 2011, 2:38 p.m.,*
in response to message #4 by Paul Berger (Canada)

The problem with the 67 diagnostic is that it doesn't test all the extras that the 41C has:

```
nested executes
time functions
keyboard
memory
x memory
flags
x functions
rom module connections
...
```

It does test the 67 extensiviley. Also, the error codes that arise will be on the most part meaningless as they are specific to the 67.

Cheers, Geoff

Re: Fully testing HP 41

*Message #6 Posted by **Le Babou** on 21 Oct 2011, 4:36 a.m.,*
in response to message #5 by geoff quickfall

Thanks a lot for your answers.

I'll try to find one of those old test rom.

Regards. Xavier.

Re: Fully testing HP 41

*Message #7 Posted by **Johnny Bjoern Rasmussen** on 21 Oct 2011, 4:51 a.m.,*
in response to message #6 by Le Babou

I have two HP-41 test modules. I remember one labled "PCP ET 11966". I don't remember what it does. You can borrow them for testing and copying if you want to.

Cheers!
Johnny

Re: Fully testing HP 41

*Message #8 Posted by **Allen** on 23 Oct 2011, 8:59 a.m.,*
in response to message #7 by Johnny Bjoern Rasmussen

See this article . Some details about the HP 41c/v/x service Modules.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

38E/C, 12C, 12CP date arithmetic bug

*Message #1 Posted by **Katie Wasserman** on 19 Oct 2011, 11:28 a.m.*

A while back a date arithmetic bug was found during beta testing that affects all the 12C, 12CP, 38E/C and 12C clone calculators ever made. It's been unreported here (or anywhere else as far as I know), it's really obscure and was apparently fixed in the Pioneer series and after.

If you're not aware of this, the 38E/C and the 12C/CP calculators compute both 365 day calendar and 360 day calendar date differences in the X and Y registers respectively. If you take a forward date difference to February 28 both values (365/360) are correct. If you take a reverse date difference the 360 day value is wrong.

For example: 12/31/2007 to 02/28/2008 returns X=59, Y=58; while 02/28/2008 to 12/31/2007 returns X=-59, Y=-57 and that -57 is wrong. Pretty clearly backwards in time should be the same number of days as forwards in time.

While this is extremely unlikely to ever occur during normal usage, it's useful as a calculator forensic. You'll find that the 12C/12CP clone calculators -- the Aurora FN1000, Compucessory CCS 28956 and Victor V12 -- have the same bug. Prior to the 38E/C, the 92 offered 365/360 date arithmetic, but that gives different answers using 360-day calculations.

-Katie

Edited to correct 3/31/2008 to 03/01/2008, but that was the wrong date too, the correct date for the example is 02/28/2008.

Edited: 19 Oct 2011, 10:05 p.m. after one or more responses were posted

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #2 Posted by **bill platt** on 19 Oct 2011, 11:41 a.m.,*
in response to message #1 by Katie Wasserman

Hi Katie:

Interesting!

I think this should go in an article entitled "calculator forensics" or something :-)

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #3 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 11:55 a.m.,*
in response to message #1 by Katie Wasserman

> Quote:
>
> You'll find that the 12C/12CP clone calculators -- the Aurora FN1000, Compucessory CCS 28956 and Victor V12 -- have the same bug.

This means they all did an excellent reverse-engineering work :-)

Gerson.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #4 Posted by **Thomas Radtke** on 19 Oct 2011, 12:31 p.m.,*
in response to message #3 by Gerson W. Barbosa

Proof of reliability! :-D

Just wanted to try it on my 18C/19B calculators, but batteries are empty and already started leaking. Last time I checked was one week ago, and no power warning came up :-/.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #5 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 1:17 p.m.,*
in response to message #4 by Thomas Radtke

The HP-17BII ROM on Emu42 returns 91 and -91, so you might get the same results on your HP-18C and HP-19B. BTW, I have to check the batteries in my physical calculators. So far I have lost one HP-48S and one HP-49G due to battery leakage.

Edited: 19 Oct 2011, 1:19 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #6 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 12:50 p.m.,*
in response to message #1 by Katie Wasserman

> Quote:
>
> For example: 12/31/2007 to 03/31/2008 returns X=59, Y=58;

Are you sure these are correct? For me, this looks like e three month difference which should be around 90 days in any case. (90 for 360 mode, 91 for 365 mode: 31 (Jan) + 29 (Feb) + 31; if the algorithm excludes the beginning and end dates 1 less for each: 89 and 90.)

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #7 Posted by **Katie Wasserman** on 19 Oct 2011, 1:26 p.m.,*
in response to message #6 by Marcus von Cube, Germany

My typo, should have been 03/01/2008 not 03/31/2008.

Edited: 19 Oct 2011, 1:27 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #8 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 1:12 p.m.,*
in response to message #1 by Katie Wasserman

Hi Katie:

If I recall correctly, there are 12C Models with ABA and ABC part numbers. ABA is what widely used in the

US, ABC (I may be incorrect) for Canada, UK, Brazil, etc. I think this difference was due to the differences in some financial algorithms used by these regions. Curious if you would get the same date answer from ABA vs ABC. May be the clones were reverse engineered after ABC instead of ABA model. Do you have more insight on the differences between ABA and ABC?

Thanks, Kerem

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #9 Posted by **Katie Wasserman** on 19 Oct 2011, 1:39 p.m.,*
in response to message #8 by Kerem Kapkin (Silicon Valley, CA)

I have no idea what the ABA vs ABC distinction is for sure, but I remember something about Canadian mortgage calculations being done differently than in the US, perhaps that's the only difference. I don't have an ABC version, it would be interesting to check for this date calculation bug.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #10 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 1:49 p.m.,*
in response to message #9 by Katie Wasserman

Thanks for your response. I recently checked on HP's site and can't find any details on the differences between the two 12C models except ABC is ~$30 more expensive then ABA (long time ago I recall reading some place about the difference in algorithm, wonder what other differences are there):

MFG#F2230A#ABC

MFG#12C#ABA

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #11 Posted by **M. Joury** on 19 Oct 2011, 1:42 p.m.,*
in response to message #1 by Katie Wasserman

Hi Katie,

I must be missing something. I have tried to reproduce this on 7 different HP12C/12CP models and so far have been unable to do so. What am I missing?

My procedure:

```
12.312007 ENTER^ 3.312008 deltaDYS:  91 & 90
3.312008 ENTER^ 12.312007 deltaDYS:  -91 & -90
```

Am I doing this correctly?

```
Units tried:
2 * original 12C
1 * original 12CP
2 * intermediate 12CP (single 2032 cell)
1 * new 12CP
1 * 12C+
```

Thanks,

-Marwan

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #12 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 1:53 p.m.,*
in response to message #11 by M. Joury

Marwan:

I got the same answer you reported, 12CP 25th AE (1 battery)

Kerem

Edited: 19 Oct 2011, 1:53 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #13 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 4:27 p.m.,*
in response to message #11 by M. Joury

Katie made a mistake. She was meaning 03/01, not 03/31. See her answer to my post above in this thread.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #14 Posted by **M. Joury** on 19 Oct 2011, 4:40 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Yes. But see my tests below with the correct dates. They still don't match Katie's results. Also see my reference to an explanation of financial date calculations (later post this thread). This may explain what is going on though I did not try to go through it in detail.

Cheers,

-Marwan

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #15 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 8:31 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Same results using a HP-12Cp 25th AE

12.312007 <-> 3.012008 : 61 / 61

3.012008 <-> 12.312007 : -61 / -60

12.302007 <-> 3.012008 : 62 / 61

3.012008 <-> 12.302007 : -62 / -61

Edited: 19 Oct 2011, 8:33 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #16 Posted by **M. Joury** on 19 Oct 2011, 1:50 p.m.,*
in response to message #1 by Katie Wasserman

Further weirdness:

Original 12C & new 12CP

```
12.312007 ENTER^ 3.012008 deltaDYS result: 61 / 61
3.012008 ENTER^ 12.312007 deltaDYS result: -61 / -60
```

Obviously wrong but not what Katie is seeing.

Cheers,

-Marwan

Edited: 19 Oct 2011, 2:17 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #17 Posted by **BruceH** on 19 Oct 2011, 2:25 p.m.,*
in response to message #16 by M. Joury

Can someone else please check the 30B? I'm seeing 61 days in both actual and 360 mode for 12.31.2007 to 1.3.2008, likewise -61 for both going backwards.

Secondly, why is Marwan seeing 61/60 days but Katie seeing 59/58 both on the 12C?

PS: Wolfram Alpha thinks it is 61 days so I'm surprised this error hasn't been spotted sooner.

Edited: 19 Oct 2011, 2:38 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #18 Posted by **Kiyoshi Akima** on 19 Oct 2011, 5:04 p.m.,*
in response to message #17 by BruceH

I don't have my 30b handy but do have a 20b.

```
12.312007 <->  3.012008 :  61 /  722941
 3.012008 <-> 12.312007 : -61 / -722941
```

The calculator seems to have a problem with the 31st day of a 30-day month. So let's back off a day...

```
12.302007 <->  3.012008 :  62 /  61
 3.012008 <-> 12.302007 : -62 / -61
```

(edited for format)

Edited: 19 Oct 2011, 5:06 p.m.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #19 Posted by **Michael de Estrada** on 19 Oct 2011, 3:39 p.m.,*
in response to message #16 by M. Joury

Hi Marwan,

I just received a new Victor V12 today, and I get exactly the same results that you do as well.

Michael

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #20 Posted by **tony(nz)** on 19 Oct 2011, 3:36 p.m.,*
in response to message #1 by Katie Wasserman

Hi Katie that's really because the 30/360 formula (p209 in 12C manual) is asymmetric by definition and assumes the second date is after the first. Even going just one day forward from any 31st to the first will give one but going back a zero on 30/360. eg in MDY 12.312007 to 1.012008 gives 1,1 but backwards -1,0.

Cheers Tony

(corrected my spelling of asymmetric after reading Katie's reply)

Edited: 19 Oct 2011, 9:34 p.m. after one or more responses were posted

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #21 Posted by **M. Joury** on 19 Oct 2011, 3:47 p.m.,*
in response to message #20 by tony(nz)

Yes. See here for more info on financial date calculations. It might explain some things.

Cheers,

-Marwan

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #22 Posted by **Katie Wasserman** on 19 Oct 2011, 7:25 p.m.,*
in response to message #21 by M. Joury

I agree that HP's formula is asymmetric, which is probably why the clones have this bug too. To compute this correctly you need to recognize the date order is reverse and swap the arguments before using the formula, then sign adjust after you get the result.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #23 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 8:15 p.m.,*
in response to message #22 by Katie Wasserman

Can the ROMs in the clones (in the alternative devices, I mean) be easily exctracted? This would be interesting.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #24 Posted by **M. Joury** on 19 Oct 2011, 5:24 p.m.,*
in response to message #1 by Katie Wasserman

I looked at this on the 17bii, 17bii+ Silver, 19bii, and the HP200LX Calculator application and noticed that there were 3 results offered on each of these machines. Results below were identical on all the above platforms.

```
Days = Actual number of days
360D = 360 days
365D = 365 days
```

For the dates given by Katie the 17bii returns the following:

```
12.312007 DATE1
3.012008  DATE2
```

```
Results
DAYS:  ACTUAL DAYS = 61
360D:  360 DAYS    = 61
365D:  365 DAYS    = 60


Calculation reversed...


3.012008  DATE1
12.312007 DATE2


DAYS:  ACTUAL DAYS = -61
360D:  360 DAYS    = -61
365D:  365 DAYS    = -60
```

Interesting results and maybe explained by this. But I really have not taken the time to study it.

Cheers,

-Marwan

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #25 Posted by **Katie Wasserman** on 19 Oct 2011, 7:20 p.m.,*
in response to message #24 by M. Joury

Sorry all.

I screwed this up trying to do it from memory. Now that I've got a 12C in my hands the correct test is:

12/31/2007 to 2/28/2008 vs 2/28/2008 to 12/31/2007.

I've edited the start of this thread to correct the dates.

-Katie

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #26 Posted by **Michael de Estrada** on 19 Oct 2011, 7:40 p.m.,*
in response to message #25 by Katie Wasserman

Just rechecked it with my new Victor V12, and like you stated above, it has the same bug.

Re: 38E/C, 12C, 12CP date arithmetic bug

*Message #27 Posted by **Miguel Toro** on 19 Oct 2011, 8:57 p.m.,*
in response to message #25 by Katie Wasserman

Well, it seems that the bug is in the formula from the manual, so, I do not know if call it a bug, since what is implemented if what is documented :-)

30/360 Day Basis

```
DAYS = f(DT2) - f(DT1)
f(DT) = 360 (yyyy) + 30mm + z


for f(DT1)
if dd1 = 31 then z = 30
```

```
if dd1 <> 31 then z = dd1


for f(DT2)
(1)if dd2 = 31 and dd1 = 30 or 31 then z = 30
(2)if dd2 = 31 and dd1 < 30 then z = dd2
(3)if dd2 < 31 then z = dd2


f(DT2) = 722,880 + 31 (2) = 722,911
f(DT1) = 722,940 + 28 = 722,968


Days = -57
```

page 252 from the User's guide

Edited: 19 Oct 2011, 9:07 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Corrosion ... best way to remove?

*Message #1 Posted by **gene wright** on 19 Oct 2011, 10:43 a.m.*

I have vinegar, alcohol and water.

Suggestions? Geoff's book suggests soak in white vinegar first, then alcohol then rinse in water.

?

Re: Corrosion ... best way to remove?

*Message #2 Posted by **geoff quickfall** on 19 Oct 2011, 1:44 p.m.,*
in response to message #1 by gene wright

youve got mail.

Remove the label first. then photo copy it, clean up the photocopy and photocopy the result. Thats if you are OCD.

Cheers, Geoff

Re: Corrosion ... best way to remove?

*Message #3 Posted by **gene wright** on 19 Oct 2011, 5:18 p.m.,*
in response to message #2 by geoff quickfall

The real question is why is this huge thing hanging on the ceiling above my head and how I will get enough vinegar up there to clean it up.

Re: Corrosion ... best way to remove?

*Message #4 Posted by **geoff quickfall** on 20 Oct 2011, 8:40 p.m.,*
in response to message #3 by gene wright

HEH HEH HEH!

Re: Corrosion ... best way to remove?

*Message #5 Posted by **uhmgawa** on 19 Oct 2011, 7:48 p.m.,*
in response to message #2 by geoff quickfall

> Quote:
>
> Remove the label first. then photo copy it, clean up the photocopy and photocopy the result. Thats if you are OCD.

It is also possible to remove/desolder the terminal contacts, clean the corrosion by sandblasting (vibratory/rotary tumbler should work, haven't tried) and re-plate the nickel surface. Once the plating barrier is gone the base metal (phosphor bronze, steel, etc..) is subject to substantial oxidation. Even tinning via solder is better than leaving the base metal exposed IMHO as the oxide scrubs off more readily during cell insertion.

Re: Corrosion ... best way to remove?

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Oct 2011, 2:01 p.m.,*
in response to message #1 by gene wright

Gene:

You can use this mixture to resolve which is mostly Copper Oxide: •1/4 cup white vinegar (dilute acetic acid) •1 teaspoon salt (NaCl)

If you have any left over solution, put your old pennies in there, they will come out shiny clean too :)

-Kerem

Re: Corrosion ... best way to remove?

*Message #7 Posted by **Ethan Conner** on 19 Oct 2011, 4:23 p.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

There is also a product called evaporust that works pretty good. Also check the brownell's website i think they have something also.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP50g - High power consumption

*Message #1 Posted by **Frido Bohn** on 19 Oct 2011, 10:09 a.m.*

Recently, I ordered an HP50g and was astounded that the LOW BAT signal turned on after one night at the desktop (turned off). First, I blamed the enclosed batteries which might have been low and installed a fresh set. However, after one night the same finding. Some surfing in the web revealed that this is not an uncommon problem of this calculator.

Some measurements of power consumption showed the following picture according to the calc's status at ~6 V (where ~ stands for "approximately" not for AC :-):
Program running: ~100 mA
Key pressed: ~68 mA
Idle: ~50 mA
Off: ~40 mA

After some back and forth with HP services I got a replacement calculator today, and the first I did was the set of measurements on that machine:

Program running: ~65 mA
Key pressed: ~28 mA
Idle: ~12 mA
Off: ~26 µA

The less power consumption of about 3 orders of magnitude in the replacement would warrant a longer battery life of 3 years or so if the calculator was not used.

HP services said that I should care of the disposal of the first machine I received. However, it appears inadequate to me to throw an otherwise fully functional calculator away. At least, it can be operated with the USB cable from which it gets its power.
Or is there some means to repair this calculator? I read speculations about a burned Zener and the like. Is there a way to exchange malfunctioning components?

Re: HP50g - High power consumption

*Message #2 Posted by **Bart (UK)** on 19 Oct 2011, 11:43 a.m.,*
in response to message #1 by Frido Bohn

> Quote:
>
> The less power consumption of about 3 orders of magnitude ...

Looks more like a constant ~40mA dissapearing somewhere.

> Quote:
>
> Or is there some means to repair this calculator?

Opening is easy enough. Remove the screen, see here. There are two screws on the top of the screen. Once these are removed, you can carefully pry the calculator apart. I used plastic levers from what is commonly known as "mobile phone tools" (see this example). The rest depends on how confident & equipped you are to trace the fault.

-B

Re: HP50g - High power consumption

*Message #3 Posted by **Frido Bohn** on 21 Oct 2011, 4:34 a.m.,*
in response to message #2 by Bart (UK)

> Quote:
>
> The rest depends on how confident & equipped you are to trace the fault.

OK, I managed to open the calculator but I fear that my electronic skills are not that far developed at all. Thanks anyway!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A coincidence about the kilometer / mile discussion

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 19 Oct 2011, 8:51 a.m.*

Some days ago there was a thread about miles and kilometer conversion. I just noticed that the IEEE standards for WAVE (Wireless Access for Vehicular Environments, a.k.a. "smart cars", "car talk" and other popular nicknames) are identified as IEEE 1609.x . It seems somehow appropriate that the conversion factor between miles and meters appears in the name of these vehicular-related definitions.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s low battery threshold Increased to 2.7V

*Message #1 Posted by **Jeff O.** on 19 Oct 2011, 8:33 a.m.*

I note that with build 1737, the low battery threshold was increased to 2.7 Volts. Why? What was it before? Do I need to replace my batteries when the indicator lights up?

Re: wp34s low battery threshold Increased to 2.7V

*Message #2 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 10:13 a.m.,*
in response to message #1 by Jeff O.

It had reports of strange behavior at various voltage levels, so I decided to increase the threshold. It not only displays the indicator, it also reduces the maximum speed and therefore the stress on the batteries. If I knew precisely at what voltage the problems with full speed start I could set the threshold to that point, but I have no dependable information about it.

In short: With BATT on, you can still operate your 34S safely but it will not be as fast as with new batteries.

Maybe I'll add another modification: Increase the operating speed only after a short delay so that routine stuff like data entry and simple operations will all run at 2 MHz which should be light on batteries. This will need some testing though to find the right compromise between (perceived) speed and power consumption.

Re: wp34s low battery threshold Increased to 2.7V

*Message #3 Posted by **Jeff O.** on 19 Oct 2011, 11:55 a.m.,*
in response to message #2 by Marcus von Cube, Germany

What if I am in a situation where I need to have the answer to some life or death problem (such as determining the number of pixels in a circle) as quickly as possible, yet my battery voltage is at 2.7 Volts and I have no new batteries? Would it be possible to have a flag or setting that would leave in high-speed mode regardless of battery voltage? Or maybe let me set the low battery threshold wherever I want, with the default being 2.7 Volts?

Edited: 19 Oct 2011, 11:56 a.m.

Re: wp34s low battery threshold Increased to 2.7V

*Message #4 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 12:30 p.m.,*
in response to message #3 by Jeff O.

For death or life problems you should not use WP 34S. ;-)

We have no room to store such a threshold. If anybody can give me a valid value for the threshold below which running at more then 30 MHz will cause reliability problems and above which these can be ruled out, I'm a taker.

Re: wp34s low battery threshold Increased to 2.7V

*Message #5 Posted by **Jeff O.** on 22 Oct 2011, 5:29 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> If anybody can give me a valid value for the threshold below which running at more then 30 MHz will cause reliability problems and above which these can be ruled out, I'm a taker.

I will not claim to be an expert, but, in perusing the CR2032 data sheets from various manufacturers (available here), many of them mention an end point voltage of 2.0 Volts. I don't propose going that low, but if you examine the discharge curves, it looks like 2.5 Volts might be a reasonable value to use as the low-battery threshold on wp34s.

Re: wp34s low battery threshold Increased to 2.7V

*Message #6 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 3:04 a.m.,*
in response to message #5 by Jeff O.

Jeff, I did a recent updat to change it back to 2.5V. While testing a lengthy program with weak batteries which normally do not light the low battery indicator, it started flashing randomly during the computation. BATT reported 2.7V. It looks like the current draw on weak batteries has a noticeable effect on the voltage.

Re: wp34s low battery threshold Increased to 2.7V

*Message #7 Posted by **Paul Dale** on 23 Oct 2011, 3:16 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Was that in SLOW mode?

What about start slow mode at 2.7 or 2.8 volts. Light the low battery indicator at 2.5?

I know confusion will occur when the device suddenly runs slower but it seems a shame to waste batteries needlessly.

- Pauli

Re: wp34s low battery threshold Increased to 2.7V

*Message #8 Posted by **Marcus von Cube, Germany** on 23 Oct 2011, 4:32 a.m.,*
in response to message #7 by Paul Dale

It wasn't in SLOW mode. I vote against an automatic but invisible speed throttle. The calculator was still working perfectly. If you want to deliberately save battery power, use SLOW as a setup command.

What I'm thinking about is a delayed speed up for manual operations so that the speed will remain at 2MHz unless an operation takes more then .2s. Maybe even a two step approach.

Re: wp34s low battery threshold Increased to 2.7V

*Message #9 Posted by **Walter B** on 20 Oct 2011, 12:37 a.m.,*
in response to message #3 by Jeff O.

Even in SLOW mode the WP 34S works faster than you can key in a problem. And please note you can keep a fire door open for several minutes by a WP 34S with battery voltage <<2.7V as well ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Matrix Library

*Message #1 Posted by **John Abbott (S. Africa)** on 19 Oct 2011, 4:23 a.m.*

Hi Marcus
I have found an error (finger trouble probably) in the matrix library - namely in wp34s-1.dat.
The first 'M-' label should read 'M-0'. The real 'M-' appears further down.
For Pauli - in the 'M-y' routine you execute a [cmplx]DROP, which does not leave
a descriptor on the stack. Should this not be just a DROP?
Regards John
BTW- Thanks for these routines. The LU routine (if included) would be great :)

Edited: 19 Oct 2011, 4:25 a.m.

Re: Matrix Library

*Message #2 Posted by **Paul Dale** on 19 Oct 2011, 4:30 a.m.,*
in response to message #1 by John Abbott (S. Africa)

> Quote:
>
> I have found an error (finger trouble probably) in the matrix library - namely in wp34s-1.dat.

Won't be finger trouble -- these are generated by the assembler from the sources in the library. Still, the source only has one 'M-' label so something has gone awry.

> Quote:
>
> For Pauli - in the 'M-y' routine you execute a [cmplx]DROP, which does not leave a descriptor on the stack. Should this not be just a DROP?

The matrix descriptor is saved in L. The value on the stack isn't the descriptor anymore -- it is a loop index for ISG that has finished. Thus, complex DROP is correct here.

> Quote:
>
> BTW- Thanks for these routines. The LU routine (if included) would be great :)

The LU routine will be back if we can find enough space for the wrapper. We're working on it.

- Pauli

Re: Matrix Library

*Message #3 Posted by **John Abbott (S. Africa)** on 19 Oct 2011, 4:43 a.m.,*
in response to message #2 by Paul Dale

Thanks Pauli, should have checked L - I just looked at the comments which said the descriptor was returned in X.
Thanks for the prompt response. I am really enjoying this calculator :)
Regards John

Re: Matrix Library

*Message #4 Posted by **Paul Dale** on 19 Oct 2011, 5:27 a.m.,*
in response to message #3 by John Abbott (S. Africa)

There wasn't a comment on this routine about stack and register use????

I've added some clarification nonetheless. The documentation for these is in the doc directory.

- Pauli

Re: Matrix Library

*Message #5 Posted by **John Abbott (S. Africa)** on 19 Oct 2011, 8:49 a.m.,*
in response to message #4 by Paul Dale

My apologies then, I mistook the comments above, applying to the functions below. Still love this wp34s - great effort and thanks!
Regards John

Re: Matrix Library

*Message #6 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 10:17 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Still, the source only has one 'M-' label so something has gone awry.

This must have been my fault when changing names from M. to M- in the (wrong) hope that would ease the navigation of the built-in matrix commands in the catalogs. I assume it has been fixed by Pauli now.

Re: Matrix Library

*Message #7 Posted by **Walter B** on 20 Oct 2011, 12:41 a.m.,*
in response to message #6 by Marcus von Cube, Germany

... and at least some of these routines/commands will be renamed soon.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48G mod. after 15 years.

*Message #1 Posted by **Lyuka** on 19 Oct 2011, 3:05 a.m.*

Hi

Though I have an HP 50g, I've repaired the 15 years old 48G from a kind of sentiment and nostalgia recently. Then upgraded its memory to 128KB and additional 128KB with memory backup at port 1.

Actually, I prefer 48G's key pads than that of 50g.

Lyuka

Re: 48G mod. after 15 years.

*Message #2 Posted by **bluesun08** on 19 Oct 2011, 7:34 a.m.,*
in response to message #1 by Lyuka

Is it possible also to implement 50g-Rom?

Re: 48G mod. after 15 years.

*Message #3 Posted by **Lyuka** on 20 Oct 2011, 4:59 a.m.,*
in response to message #2 by bluesun08

AFAIK, It's impossible as the processor differs.

Re: 48G mod. after 15 years.

*Message #4 Posted by **Nacho** on 19 Oct 2011, 7:52 a.m.,*
in response to message #1 by Lyuka

As always,

fantastic work and explanation.

2 months ago I received a non working 49g , took its display and installed it into my 48G+ and changed also the cap...

full 48 working machines :)

regards

Re: 48G mod. after 15 years.

*Message #5 Posted by **Lyuka** on 20 Oct 2011, 5:07 a.m.,*

in response to message #4 by Nacho

Thanks Nacho,

I'd like to see the LCD transplantation.
It's also interesting.
Is the LCD of the 49g completely compatible to 48g?

Regards,
Lyuka

Re: 48G mod. after 15 years.

*Message #6 Posted by **Nacho** on 20 Oct 2011, 5:41 a.m.,*
in response to message #5 by Lyuka

> Quote:
>
> Thanks Nacho,
>
> I'd like to see the LCD transplantation.
> It's also interesting.
> Is the LCD of the 49g completely compatible to 48g?
>
> Regards,
> Lyuka

Hello Lyuka,

The display is P&P but far better with the high 49g contrast.

I will post a picture later.

Regards

Re: 48G mod. after 15 years.

*Message #7 Posted by **Ed Look** on 19 Oct 2011, 9:52 p.m.,*
in response to message #1 by Lyuka

Absolutely impressive!

Was it difficult to open the case?

And, the holes are CLEAN after you desoldered and removed the chip and capacitor! Very neat job.

I suppose this was not done with tools normally found at home, right?

Re: 48G mod. after 15 years.

*Message #8 Posted by **Lyuka** on 20 Oct 2011, 5:45 a.m.,*
in response to message #7 by Ed Look

Thanks Ed,

It's fairly easy to open the case if you use a special tool for the 'pioneer' ---

A BUTTER KNIFE! :-)

To pull out the four heat stakes behind the [1][2][3] keys,
I had used it as a leverage to make the bottom of the case apart.
FYI you'd better have its edge rounded and polished not to harm the inside part of the housing.

Regards,
Lyuka

Re: 48G mod. after 15 years.

*Message #9 Posted by **Thomas Chrapkiewicz** on 19 Oct 2011, 11:16 p.m.,*
in response to message #1 by Lyuka

Nice work (and documentation).

How did you remove the 32k memory? Did you use chipquik or solder braid?

Regards, TomC

Re: 48G mod. after 15 years.

*Message #10 Posted by **Lyuka** on 20 Oct 2011, 5:57 a.m.,*
in response to message #9 by Thomas Chrapkiewicz

Thanks TomC,

Exactly! I used CHIP QUIK SMD (pdf) like ultra low melting point solder to remove the SOP RAM.
FYI it's available online at DigiKey.

Regards,
Lyuka

Re: 48G mod. after 15 years.

*Message #11 Posted by **Paul Berger (Canada)** on 20 Oct 2011, 2:35 p.m.,*
in response to message #9 by Thomas Chrapkiewicz

I have removed several SOIC package chips safely and cleanly by starting at one corner and heating the pins and the lift it away from the board using something thin like a sewing needle. Usually if you remove heat simultaneous to lifting the pins, you can get away with just running the needle under the pin and by the time it drops again the solder has cooled enough that it does not stick again. Needles work well because they are thin and you can work your way down the case with it, and they don't lift the pin much so as to minimize bending. You could do the same thing with a thin blade but that doe not work so well if the chips are densely packed on the board.

Re: 48G mod. after 15 years.

*Message #12 Posted by **bill platt** on 20 Oct 2011, 10:32 a.m.,*
in response to message #1 by Lyuka

Another great tid-bit to be used one day. Chip Quik! Great idea!

Re: 48G mod. after 15 years.

*Message #13 Posted by **Dave Shaffer (Arizona)** on 20 Oct 2011, 12:44 p.m.,*
in response to message #12 by bill platt

> Quote:
>
> Chip Quik! Great idea!

Sounds like the latest, greatest cookie dough to hit the market!

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

48g - is there a CAT command?

*Message #1 Posted by **Liord** on 18 Oct 2011, 9:44 p.m.*

The title sums it: Does the 48g/gx has an equivalent to CAT (catalog?) key/command like the 49/50 has?.
If not, is there another way to browse through the whole list of commands?
TIA,
~Liord

Re: 48g - is there a CAT command?

*Message #2 Posted by **Raymond Del Tondo** on 19 Oct 2011, 12:32 a.m.,*
in response to message #1 by Liord

The HP-48G Series don't have a built-in CMD Cat, but SpeedUI for the HP-48G Series features a nice CMD Catalog with parameter help.

HTH

Ray

Re: 48g - is there a CAT command?

*Message #3 Posted by **Liord** on 19 Oct 2011, 7:16 p.m.,*
in response to message #2 by Raymond Del Tondo

Thanks!, just what I was looking for.
~Liord

Re: 48g - is there a CAT command?

*Message #4 Posted by **bill platt** on 19 Oct 2011, 7:29 p.m.,*
in response to message #3 by Liord

If you don't have an alternative UI (speedUI, Metakernel etc) I think it is simply a matter of pushing "MTH" and scrolling through commands, and then "PRG" and doing the same thing, and etc. That's what I do, anyway, with my limited facility in RPN.

Re: 48g - is there a CAT command?

*Message #5 Posted by **Pal G.** on 19 Oct 2011, 8:28 p.m.,*
in response to message #1 by Liord

> Quote:
>
> If not, is there another way to browse through the whole list of commands?

As there is *not*, a great way to browse through the whole list of commands is to read the "HP Programmer's Reference Manual".

Cheers.

Re: 48g - is there a CAT command?

*Message #6 Posted by **Chris Randle (UK)** on 20 Oct 2011, 10:29 a.m.,*
in response to message #1 by Liord

On my 48SX, you can use

```
2050 MENU
```

to get the full command set as multiple pages of menu items. It's not particularly useful because it's not in alpha order, and you can't jump to particular entries, unless you count using a page number after the menu number, e.g.

```
2050.06 MENU
```

takes you to page 6 of the full listing which begins with DDAYS.

I don't have a G/GX, but reading the HP50g AUR and using an emulator, it looks like menu number 2219 will give you the additional 48G commands.

Re: 48g - is there a CAT command?

*Message #7 Posted by **Liord** on 20 Oct 2011, 8:54 p.m.,*
in response to message #6 by Chris Randle (UK)

I hope my response is in the correct place,
anyways - Thanks guys for all the enlightening info!.
(Now I begin to realize how little I know about this HP device of wonders...)
P.S.
the- 2219 MENU (and 2050) work!, very Cool 'trick'. thanks.
P.P.S.
Someday, I fully intend to read the "HP Programmer's Reference Manual",
Alas, evil ninjas have stolen this ancient tome of knowledge from me.
So in the meantime I will seek wisdom in this wise (and friendly) forum. :)
Lior

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

3rd Installment of the RPL tutorial is up

*Message #1 Posted by **Eddie W. Shore** on 18 Oct 2011, 10:03 p.m.*

Another installment of the RPL tutorial series is up: Part 10 (DO Loop), Part 11 (CASE Structure), Part 12 (Subroutines), Part 13 (Custom Menus and the Quadratic Regression), and Part 14 (Additional Examples). There is also a blog summarizing the programming commands so far.

http://edspi31415.blogspot.com

Re: 3rd Installment of the RPL tutorial is up

*Message #2 Posted by **Namir** on 19 Oct 2011, 2:40 a.m.,*
in response to message #1 by Eddie W. Shore

Eddie,

Can you assemble your RPL tutorials into a single PDF document and offer it for download?

Namir

Re: 3rd Installment of the RPL tutorial is up

*Message #3 Posted by **bluesun08** on 19 Oct 2011, 2:50 a.m.,*
in response to message #1 by Eddie W. Shore

Is there a printversion of the tutorial?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OpenRPN Prototyping In Progress

*Message #1 Posted by **Hugh Evans** on 18 Oct 2011, 5:06 p.m.*

I will post pictures as the process goes forward, but hardware development is in full swing. Lead time is a couple of weeks for some of the parts, like deep drawn aluminum enclosures. I am working with several electronic design companies, but I really wish someone from this community would help with this instead.

The plan is to make a motherboard that can be used in any model. it will be built using SODIMM form factor. The planned CPU is ARM Cortex M3 (low power and a good enough display driver we could run a touchscreen!) running 16MB to 128MB PSRAM and as much flash as reasonable, a micro MMC slot will allow for expansion.

I'm waiting to hear back from e-ink regarding a custom display.

Since people who volunteered rapid prototyping seem to have vanished, there is a decision to make. If anyone has CNC, injection molding equipment (or mold design experience) can mill metal/other materials, rapid prototyping, etc. Please contact me. Otherwise, I can have many of the parts fabricated through emachineshop, but it will require larger runs to be feasible.

Building a hardware platform is priority number 1, if anyone is interested in partnering with me to help with financing it would be greatly appreciated. This will be a profitable venture.

I feel like I'm almost going at this alone and wish more of you would stop by openrpn.org to interact. This is not vaporware. I'm proud of the fact that I'm not afraid to try something and strike out. Last time we got a lot of useful code. I was also a less than wealthy Mechanical Engineering student when this project first started. Now I'm in a much better position to make this happen, but I would still appreciate some help (I'm sure Pauli wouldn't mind not being the lone programmer!)

As a side note: Can we please put the past behind us? For the most part OpenRPN is not the same project it once was. Effectively, this project might as well be two weeks old. So the comments of "vaporware" are uncalled for. OpenRPN is for the people in this community and other like minded individuals. Once the hardware is ready I plan to put it up for sale so people can start tinkering. The *fix core will make programming and creating new commands/menus simple. We have a lot to look forward to. I consider what we are doing to be the first calculator to advance to the 21st century. Give us a chance-- you won't be disappointed and you can help define the calculators of your dreams.

Thanks for taking the time to read this, I hope to see you on the forums at OpenRPN soon. I live near Columbus, OH... If anyone in the project is halfway near, perhaps we can meet up.

-Hugh

Edited: 18 Oct 2011, 9:40 p.m. after one or more responses were posted

Re: OpenRPN Prototyping In Progress

*Message #2 Posted by **Eric Smith** on 18 Oct 2011, 6:28 p.m.,*
in response to message #1 by Hugh Evans

16MB of SRAM? Isn't that pretty expensive?

Re: OpenRPN Prototyping In Progress

*Message #3 Posted by **Hugh Evans** on 18 Oct 2011, 9:39 p.m.,*
in response to message #2 by Eric Smith

Yes, that would be... Typo, PSRAM will make much more sense. We could go up to 128MB for well under $10 a chip at low volume. Sorry for the confusion.

Re: OpenRPN Prototyping In Progress

*Message #4 Posted by **Dominic Richens** on 18 Oct 2011, 7:07 p.m.,*
in response to message #1 by Hugh Evans

Bizarre.

MicroTrend had this to say about your URL:

URL: http://www.openrpn.org/ Risk Level: Dangerous Details: Verified fraud page or threat source

Re: OpenRPN Prototyping In Progress

*Message #5 Posted by **Hugh Evans** on 18 Oct 2011, 9:44 p.m.,*
in response to message #4 by Dominic Richens

I haven't figured out MicroTrend's problem, but I know what you're taking about. My computer at work does the same thing. We just need an official website. If anyone wants to build a page for this project, I have quite a bit of artwork to help get you started. We really need to do something more than point to phpBB. However, at the time I wanted to just get back online.

The only workaround I have at the moment is to go to sourceforge, search for OpenRPN and follow the link. It will load and sourceforge will apparently stop phishing for your credit card info ;)

Re: OpenRPN Prototyping In Progress

*Message #6 Posted by **Bruce Bergman** on 18 Oct 2011, 11:29 p.m.,*
in response to message #5 by Hugh Evans

> Quote:
>
> We really need to do something more than point to phpBB. However, at the time I wanted to just get back online.

Hugh, you're welcome to use wiki4hp.com for hosting your site, if you wish. It's a wiki, which actually is probably a very good fit for your needs. I can also put up forums underneath that if you need such.

Feel free to contact me if you want to discuss further.

Thanks, Bruce

Re: OpenRPN Prototyping In Progress

*Message #7 Posted by **Brandon Poindexter** on 18 Oct 2011, 8:03 p.m.,*
in response to message #1 by Hugh Evans

It would be great if there was a page explaining exactly what "OpenRPN" is for new members here. :)

Re: OpenRPN Prototyping In Progress

*Message #8 Posted by **Hugh Evans** on 18 Oct 2011, 10:45 p.m.,*
in response to message #7 by Brandon Poindexter

Brandon,

I'll get on that, as I've stated before the URL is just a pointer at the moment.

OpenRPN is a collaborative effort in both software and hardware to make ultra high end calculators. Since overhead is minimal, while the end products will be no more than $200 they will likely be the finest handheld calculators the world has ever seen. In a nutshell, we want to advance as HP should have. Look at the fanciest handheld calculator you can find... The technology in it is cheap, slow, and at least 15 years old rather than modern and capable of holding more in memory, interfacing with computers in a meaningful and easy manner, etc. OpenRPN is an effort from the ground up.

It uses a proprietary although open, programming language called *fix which allows all major types of input logic and programming: prefix, postfix, and infix. All command/files/menus will be visible on your computer when connected via USB. Once the *fix core has been written, all other commands will be written natively in it.

Quality of build will be second to none. The first prototypes should start to appear within the next month or so. I am anxiously awaiting samples of deep drawn shells, I have a machinist lined up to make the faceplates. To add mass and protect the electronics, the inside will be filled with two part urethane (the electronics will not be bound however.) I hope to cover the entire flaceplace with alumino silica (gorilla glass.) the entire enclosure will be surrounded with a black rubber boot, either nitrile or flurosilicone.

The processor will most likely be a ARM Cortex M3, at least 16MB of PSRAM possibly up to 128, and a big chunk of flash that can be supplemented with a micro MMC card.

Again, I will put this into writing and make it easy to find on our formal webpage. That make take a little time, because getting hardware built is my top priority. Hell, I've been off work since 5 and all I've been thinking about are calculators!

If you have any more questions, please feel free to send me a PM.

Thanks for your interest!

-Hugh

Re: OpenRPN Prototyping In Progress

*Message #9 Posted by **uhmgawa** on 19 Oct 2011, 10:20 a.m.,*
in response to message #8 by Hugh Evans

> Quote:
>
> Quality of build will be second to none. The first prototypes should start to appear within the next month or so. I am anxiously awaiting samples of deep drawn shells, I have a machinist lined up to make the faceplates.

I must be missing some document describing definition of device abstract functionality, device use

case(s) and corresponding user facing GUI(s), supported firmware architecture(s), hardware topology and features, physical/mechanical requirements.

Could you provide a pointer?

> Quote:
>
> I hope to cover the entire flaceplace with alumino silica (gorilla glass.

Is this an effort rather to produce a specialized PDA or touchpad? From the above it appears a physical keypad has been eliminated.

> Quote:
>
> The processor will most likely be a ARM Cortex M3, at least 16MB of PSRAM possibly up to 128, and a big chunk of flash that can be supplemented with a micro MMC card.

Could you share the details of your power consumption analysis and resulting design budget? I'm assuming since you're onto mechanical enclosure production the details of power source, footprint, and envelope have been finalized. Actually the same should be true for the display. Could you share the details of graphic resolution, footprint, and envelope here as well?

> Quote:
>
> If you have any more questions, please feel free to send me a PM.

Any objection to keeping the discussion in an open forum? I believe doing so would be far more beneficial for a transparent, open development effort.

Re: OpenRPN Prototyping In Progress

*Message #10 Posted by **Hugh Evans** on 19 Oct 2011, 10:55 a.m.,*
in response to message #9 by uhmgawa

A public forum exists here.

You're describing this effort as if enough people have expressed interest to approach this as a full design team. While this would be nice, we simply don't have enough people to use this approach.

There is still a physical keyboard.

This is not a finalized design, and I do not understand why you continually treat me as if I am incompetent simply because I have limited resources to work with. I've said before that you sound like you have a lot to offer to this project, and rather than criticize it why not help? I don't claim to be an expert in all aspects of this project, but I'm giving everything my best shot to make it happen.

Re: OpenRPN Prototyping In Progress

*Message #11 Posted by **uhmgawa** on 19 Oct 2011, 12:25 p.m.,*
in response to message #10 by Hugh Evans

> Quote:
>
> You're describing this effort as if enough people have expressed interest to

> approach this as a full design team. While this would be nice, we simply don't have enough people to use this approach.

I can understand and appreciate the challenges such a prospective project faces. But given you indicated being at the stage of mechanical development, I would have assumed such issues were addressed to a fair degree of certainty. My questions were for my benefit as I believed I was missing something obvious.

FWIW I would hardly expect a full blown formal engineering approach here. But I also wanted to make sure the opposite wasn't true. For example, building an interesting form factor enclosure and trying to shoehorn components in later is a perilous approach.

> Quote:
>
> There is still a physical keyboard.

The above is one good example of information I was seeking. Can you share details of the design, functional layout, and mechanical construction of this keyboard? You very well may have all of this worked out in your head. But until it is documented in some form where others can read and understand the concepts and details, the substantial benefit of peer (and moreover prospective consumer) review is lost.

> Quote:
>
> This is not a finalized design, and I do not understand why you continually treat me as if I am incompetent..

I'm not sure from where that comment is originating as I believe I'd only asked similar questions of you once before. And for the same reason, namely I'm trying to assess what is being designed, where the effort is at, the execution plan, and my personal prediction of its success. I'd imagine other potential contributors have similar thoughts and concerns.

If not for asking such questions, how else can we ascertain this information?

> Quote:
>
> ..simply because I have limited resources to work with.

That is in part, the definition of engineering. No shame here that I can see.

> Quote:
>
> A public forum exists here.

I realise you are trying to seed that forum. However I think in the interim there is far greater benefit of keeping the discussion here. Even if you should endure the occasional lump or two, at least you'll gain invaluable feedback from prospective consumers of the effort.

Re: OpenRPN Prototyping In Progress

*Message #12 Posted by **Don Shepherd** on 19 Oct 2011, 1:28 p.m.,*
in response to message #11 by uhmgawa

> Quote:
>
> there is far greater benefit of keeping the discussion here

Maybe for the few who may be interested in this project, but certainly not for me and other members I know.

Please remember, this is a **museum** after all. The focus here should be on vintage HP calculators, not new development effort. New development discussions belong in SourceForge. This forum is turning into a detailed design forum for new DIY calculators, and I for one think that is inappropriate.

When I visit the Air and Space **Museum** in Washington DC, I want to see the old Apollo and Mercury capsules, not the latest offerings from Boeing. The way this forum is going recently, it's like they took all of the vintage aircraft out of the Air and Space Museum and put them in storage to make room for the Boeing 777.

Re: OpenRPN Prototyping In Progress

*Message #13 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 1:41 p.m.,*
in response to message #12 by Don Shepherd

Don, don't be too harsh! It's the forum of the museum, not the museum itself. Take, as an example, the work carried out by a museum of natural history: The associated scientific society is typically not only engaged in paleontology but in natural/environmental science in general.

Re: OpenRPN Prototyping In Progress

*Message #14 Posted by **Hugh Evans** on 19 Oct 2011, 1:42 p.m.,*
in response to message #12 by Don Shepherd

Don,

I fully agree, and this is precisely the reason I make every effort to direct people towards the forum on sourceforge. Generally, I've found that the forum here is receptive to very occasional updates. But when it comes to OpenRPN, unless I have hardware to show off it's the equivalent of asking for a beating.

This is a group I have an incredible amount of respect for and enjoy taking part in. I can bag about finding a mint 42s with case and manual for $20 on craigslist. But when it comes to my own projects, they need their own space.

If you're interested in OpenRPN, come over to sourceforge.

Re: OpenRPN Prototyping In Progress

*Message #15 Posted by **Howard Owen** on 19 Oct 2011, 2:42 p.m.,*
in response to message #12 by Don Shepherd

Let me add my vote that such discussions *not* be banned from this forum. A lot of the attendees of HHC 2011 were excited by the talks on the WP-34S *and* the SR-60 *and* the 41-CL. That runs the gamut from new to old to new/old. How do you put the latter into an excluded or included category?

Clearly there are varied interests represented here. As an enthusiast, I could care less about the HP-12C, HP45, HP80, HP18C, HP22S and many others. I hereby demand that those machines be excluded from discussion, because a real museum wouldn't show things I didn't like!

This is a community based on broadly shared interests. The community can decide what's appropriate, but nobody is going to be 100% satisfied. If I had to go elsewhere to get my calculator nerd/enthusiast fix, I would. As it stands I'm glad that the collector and enthusiast portions of my calculator obsession have a single home.

Re: OpenRPN Prototyping In Progress

*Message #16 Posted by **Garth Wilson** on 19 Oct 2011, 4:26 p.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> Please remember, this is a museum after all.

It has been my impression that the reason for calling it a museum is not to commiserate about how bad we all had it 30 years ago when we didn't know better, or to give the youngsters a respect for a tragedy that they need to learn from so they don't repeat it, but rather to acknowledge the value of what HP did back then. What greater honor could we give it than to emulate it, and to do it the best we can with the greater memory and computing power resources available today. Part of the value is of course the durability, which means it will not be made like today's disposable consumer electronics that don't last; so in that, we are still keeping with the old.

Re: OpenRPN Prototyping In Progress

*Message #17 Posted by **Egan Ford** on 19 Oct 2011, 4:28 p.m.,*
in response to message #12 by Don Shepherd

> Quote:
>
> When I visit the Air and Space **Museum** in Washington DC, I want to see the old Apollo and Mercury capsules, not the latest offerings from Boeing. The way this forum is going recently, it's like they took all of the vintage aircraft out of the Air and Space Museum and put them in storage to make room for the Boeing 777.

I recently went to the Computer History Museum (awesome) to see vintage and historically relevant machines, however I had some great conversations about machines old and new with some of the other visitors there. Discussions about the new and how it came from the old are just as interesting.

I consider this forum the museum lobby or cafe--a place to chat about any topic with people that share a common interest.

Re: OpenRPN Prototyping In Progress

*Message #18 Posted by **Han** on 18 Oct 2011, 9:38 p.m.,*
in response to message #1 by Hugh Evans

I notice that only the HP 12 C model was posted. Other plans to include other models I find myself uninterested in the 12c but I would be interested in an hp48 reboot

Re: OpenRPN Prototyping In Progress

*Message #19 Posted by **Hugh Evans** on 18 Oct 2011, 9:56 p.m.,*
in response to message #18 by Han

I'll be posting renderings of another calculator soon. I like to think of it of as what the 42s would have been had it been designed in the modern day (by HP engineers in their heyday.) Since all of the designs use a SODIMM motherboard it will be very possible to make a 48 style machine in the future.

Due to the 15C LE, Quixote (codename for the portrait layout calculator) will likely be the first to be released. Then again, if we continue to receive generous donations, it may be easy to launch both models at the same time. A graphing model is not a top priority at the moment.

Re: OpenRPN Prototyping In Progress

*Message #20 Posted by **Oliver Unter Ecker** on 20 Oct 2011, 9:16 a.m.,*
in response to message #1 by Hugh Evans

Hugh,

I applaud the effort and that you're going for it.

> Quote:
>
> …hardware development is in full swing.

Nice!

> Quote:
>
> …running 16MB to 128MB PSRAM and as much flash as reasonable…

Very nice!

> Quote:
>
> …wish more of you would stop by openrpn.org to interact.

I created an account and posted something. I may have something to contribute.

I agree that active discussion should happen in the dedicated forum.

From the early stage of the discussion in the dedicated forum, I gleam that it hasn't been quite decided yet what the overarching goal of the project should be: Will it be an attempt at creating a 42C "successor", a 50g "successor", or both, or something else? On that question, input from and discussion in this forum may be appropriate and beneficial (to both the project and the community here).

Prior talk suggested a 42C "RPN" style machine. Newer discussion, and stated RAM available, seem to not exclude an "RPL"-style machine. These are two very different beats. If you aim for latter, you need to keep the app world in mind, too.

If the 50g had a half-baked CAS, you don't want to repeat that mistake. If apps can communicate via WiFi, your calculator won't be very "high-end", if it doesn't do that too. Etc., etc.

> Quote:
>
> Since overhead is minimal, while the end products will be no more than $200 they will likely be the finest handheld calculators the world has ever seen.

Nothing wrong with a little youthful exuberance… ;-)

> Quote:
>
> ...off work since 5 and all I've been thinking about are calculators!

Aren't we all...

--O

Edited: 20 Oct 2011, 2:03 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Complex Cubic Equation - 41Z Version

*Message #1 Posted by **Ángel Martin** on 18 Oct 2011, 4:00 p.m.*

Here's a corolary of this thread on solving the cubic equation using the trigonometric method.-

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=180771#180771

It picked my curiosity and wanted to try it on the 41Z. The following programs are the result, amazingly short (around 65 z-steps) and showcasing the versatility of the machine.

Input: four complex coefs in Z-stack four levels
Output: three roots in Z-Stack levels

Two versions, hyperbolic vs. circular functions.

Enjoy, 'AM

```
1       LBL "ZCRT"                      LBL "ZCRT"
2       ZRUP    a3                      ZRUP    a3
3       Z/      a0/a3                   Z/      a0/a3
4       ZSTO (00)       a0'             ZSTO (00)       a0'
5       Z<>W    a1                      Z<>W    a1
6       LASTZ   a3                      LASTZ   a3
7       Z/      a1/a3                   Z/      a1/a3
8       ZSTO 01 a1'                     ZSTO 01 a1'
9       ZRUP    a'2                     ZRUP    a'2
10      LASTZ   a3                      LASTZ   a3
11      Z/      a2/a3                   Z/      a2/a3
16      3                               3
17      ST/  Z                          ST/  Z
18       /                              /
19      ZSTO 02 a2' / 3                 ZSTO 02 a2' / 3
12      Z^2     a2^2 / 9                Z^2     a2^2 / 9
13      3                               3
14      ST*  Z                          ST*  Z
15      *       a2^2/3                  *       a2^2/3
20      Z-      a1-a2^2/3               Z-      a1-a2^2/3
21      ZRCL 02 a2/3                    ZRCL 02 a2 /3
22      Z^3     a2^3/27                 Z^3     a2^3/27
23      ZDBL    2a2^3/27                ZDBL    2 a2^3/27
24      ZRCL 01 a1                      ZRCL 01 a1
25      ZRCL 02 a2/3                    ZRCL 02 a2/3
26      Z*      a1*a2/3                 Z*      a1*a2/3
27      Z-      (a2^3/27)-(a1*a2/3)     Z-      (a2^3/27)- (a1*a2/3)
28      ZRCL (00)       a0              ZRCL (00)       a0
29      Z+      q=a0+(a2^3/27)-(a1*a2/  Z+      q = a0+(a2^3/27)- (a1*a2/3)
30      ZHALF   q/2                     ZHALF   q/2
31      Z<>W    p                       Z<>W    p
32      3                               -3
33      ST/  Z                          ST/  Z
34       /      p/3                     /       -p/3
35      Z/      3q/2p                   Z/      -3q/2p
36      LASTZ   p/3                     LASTZ   -p/3
37      ZSQRT   sqr(p/3)                ZSQRT   sqr(-p/3)
38      ZSTO (00)                       ZSTO (00)
39      Z/      3q/2p/sqr(p/3)          Z/      -3q/2p / sqr(-p/3)
40      ZHASIN                          ZASIN
41      3                               3
42      ST/  Z                          ST/  Z
43       /      1/3 ash[ ]              /
44      ZRPL^                           ZRPL^
```

```
45      ,002                            ,002
46      STO 02                          STO 02
47      RDN                             RDN
48      LBL 02                          LBL 02
49      RCL 02                          RCL 02
50      INT                             INT
51      120     2kp/3                   120     2kp/3
52      D-R                             D-R
53      *                               *
54      ST+ Z   add to imaginary part   +       add to real part
55      RDN     tidy up stack           ZSIN
56      ZHSIN                           ZRCL (00)
57      ZRCL (00)                       Z*
58      Z*                              ZDBL
59      ZDBL                            ZRCL 02 a2/3
60      ZNEG                            Z-
61      ZRCL 02 a2/3                    ZAVIEW
62      Z-                              ZRUP    save in Z-stack
63      ZAVIEW                          ISG 02
64      ZRUP    save in Z-stack         GTO 02
65      ISG 02                          END
66      GTO 02
67      END
```

Edited: 18 Oct 2011, 4:39 p.m.

Re: Complex Cubic Equation - 41Z Version

*Message #2 Posted by **Ángel Martin** on 19 Oct 2011, 2:29 a.m.,*
in response to message #1 by Ángel Martin

In writing a version for the 42S it occurred to me that there's no way to input four complex numbers in the stack without using a data register - how can this be possible on the pinnacle of RPN development? ;-)

Re: Complex Cubic Equation - 41Z Version

*Message #3 Posted by **Thomas Klemm** on 19 Oct 2011, 3:42 p.m.,*
in response to message #2 by Ángel Martin

This was pointed out once by Valentin Albillo.

Nice extension of my program by the way.

Cheers
Thomas

Re: Complex Cubic Equation - 41Z Version

*Message #4 Posted by **Ángel Martin** on 19 Oct 2011, 4:23 p.m.,*
in response to message #3 by Thomas Klemm

Yes Thomas, thanks for the pointers to the method. Indeed I used your program as the "core", with a preamble section to prepare the depressed equation, and a provision to obtain the three roots.

You'll no doubt see the parallel between the "standard" functions and those in the 41Z, which does have a proper 4-level complex stack.

Cheers, 'AM

Edited: 19 Oct 2011, 4:24 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE back in stock at HP H&HO

*Message #1 Posted by **Michael de Estrada** on 18 Oct 2011, 12:44 p.m.*

Just noticed that the HP 15C LE is back in stock at the HP Home & Home Office webstore. Don't know how long this will last, so hurry up and order if you want one at MSRP. Try the SAVE15HP coupon to save $15. Good luck.

Michael

Re: HP 15C LE back in stock at HP H&HO

*Message #2 Posted by **Paul Gaster** on 18 Oct 2011, 1:03 p.m.,*
in response to message #1 by Michael de Estrada

"In stock: Can ship within 24 hours." - Right. I ordered two on 9/25 and they have not shipped yet. Something seems very fishy.

Re: HP 15C LE back in stock at HP H&HO

*Message #3 Posted by **Michael de Estrada** on 18 Oct 2011, 1:04 p.m.,*
in response to message #2 by Paul Gaster

Did you buy them from HP Home or HP Business ? I bought 2 from HP Home and they shipped immediately.

Edited: 18 Oct 2011, 1:05 p.m.

Re: HP 15C LE back in stock at HP H&HO

*Message #4 Posted by **Paul Gaster** on 18 Oct 2011, 1:07 p.m.,*
in response to message #3 by Michael de Estrada

Good catch. I ordered from HP Business.

Re: HP 15C LE back in stock at HP H&HO

*Message #5 Posted by **Michael de Estrada** on 18 Oct 2011, 1:11 p.m.,*
in response to message #4 by Paul Gaster

Notice that HP Business offers no indication of the stock status of their items, but that HP Home specifically states "in stock" and won't let you order unless it has an "in stock" status.

Re: HP 15C LE back in stock at HP H&HO

*Message #6 Posted by **Brandon Poindexter** on 18 Oct 2011, 3:20 p.m.,*
in response to message #4 by Paul Gaster

I ordered from the HP business website on October 11. I called HP Business customer service

yesterday (17th) and a representative told me that they will be shipping out "this week". I actually called a week ago around October 14, and they said it will be shipping out on Monday the 17th, so I have no idea when to expect my HP 15c, lol.

Re: HP 15C LE back in stock at HP H&HO

*Message #7 Posted by **Mike Maiorana** on 18 Oct 2011, 1:35 p.m.,*
in response to message #1 by Michael de Estrada

Out of stock already. :(

Re: HP 15C LE back in stock at HP H&HO

*Message #8 Posted by **Michael de Estrada** on 18 Oct 2011, 1:46 p.m.,*
in response to message #7 by Mike Maiorana

Wow ! That was quick.

Re: HP 15C LE back in stock at HP H&HO

*Message #9 Posted by **M. Joury** on 18 Oct 2011, 2:02 p.m.,*
in response to message #8 by Michael de Estrada

51 minutes from when you posted that they were back in stock!

Re: HP 15C LE back in stock at HP H&HO

*Message #10 Posted by **Thomas Chrapkiewicz** on 18 Oct 2011, 3:17 p.m.,*
in response to message #9 by M. Joury

....and they're all gone... . ....

Re: HP 15C LE back in stock at HP H&HO

*Message #11 Posted by **Howard Owen** on 18 Oct 2011, 3:47 p.m.,*
in response to message #7 by Mike Maiorana

HP definitely has a hit on their hands.

Re: HP 15C LE back in stock at HP H&HO

*Message #12 Posted by **Geoffrey Wang** on 18 Oct 2011, 6:28 p.m.,*
in response to message #11 by Howard Owen

or the TAS resellers bought them all.

Re: HP 15C LE back in stock at HP H&HO

*Message #13 Posted by **Miguel Toro** on 18 Oct 2011, 6:42 p.m.,*
in response to message #12 by Geoffrey Wang

Therefore ... TAS resellers also think that HP definitely has a hit on their hands :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41c+ : i still prefer it

*Message #1 Posted by **Michel Beaulieu** on 17 Oct 2011, 8:37 p.m.*

I didn't have a 15C to compare. I have a 41C with time module for years with quad memory module. I recently - 1 months ago - bought a 15LE with manual.

I was thinking about the 15c as HP greatest one - I was wrong, for me. The 41c is A LOT LOT more lovable than the 15c.

- It have more memory - It have ABC capability - It have real world connectivity port - it is expandable - it have a real user keyboard mode - it have tone and beep - it have great angle on a desk - programming is greater in my opinion - you can save programs with external help acc.

I know that it is more bulky, a bit fragile and more hard on batterries. But can you tell me why it is not "bring back the 41" instead of the 15c?

Why no the 42? I think i know : It does not have expandability, that i think is the greatest feature of the 41.

Don't get me wrong : i'm really happy about the 15Cle, but what about a 41CZ instead?

Re: HP41c+ : i still prefer it

*Message #2 Posted by **Martin Pinckney** on 17 Oct 2011, 10:10 p.m.,*
in response to message #1 by Michel Beaulieu

Bringing back the 15c was relatively "easy", because it was based on the already-in-production 12c.

The 41 would be an order of magnitude more difficult and expensive.

Re: HP41c+ : i still prefer it

*Message #3 Posted by **Eric Smith** on 17 Oct 2011, 10:16 p.m.,*
in response to message #1 by Michel Beaulieu

It's unlikely that HP will bring the 41C/CV/CX back, or any other old models. The only reason that the 15C is back as a limited edition is that it took relatively little additional engineering after they had already redesigned the 12C with modern components.

On the other hand, Richard Ottosen and I have redesigned the 41CX with some improvements (high-resolution graphic display capable of showing full stack, SD slot, serial port), and demonstrated a working prototype at HHC 2011.

The unfortunate part is that the firmware and electronics is the *EASY* part of designing (or redesigning) a calculator.

How many new and improved 41CX calculators would actually sell per year, given that they would likely have to sell for at least $200/unit?

Re: HP41c+ : i still prefer it

*Message #4 Posted by **M. Joury** on 17 Oct 2011, 10:21 p.m.,*
in response to message #3 by Eric Smith

Like I said before... I'd buy! :)

Re: HP41c+ : i still prefer it

*Message #5 Posted by **Jim Creybohm** on 18 Oct 2011, 12:20 a.m.,*
in response to message #3 by Eric Smith

Put me down for a couple! I prefer the alpha keyboard to the 42s menus, and it IS friendlier to program. For me, it is the BEST calculator ever made - the addition of the modules made it more complete as an engineering tool - especially the petroleum pac.

I don't mean to belittle the efforts of those who put the 15C together - because I am certain that this was a monumental effort in a company the size of HP. I am having a blast with the 15 - I would just have rather it was a 41.

Re: HP41c+ : i still prefer it

*Message #6 Posted by **Patrice** on 18 Oct 2011, 2:29 p.m.,*
in response to message #5 by Jim Creybohm

My correction

> Quote:
>
> because I am certain that this was a monumental effort in a company the size of HP

because I am certain that this was a monumental effort in a team the size of HP Calculator division.

Patrice

Re: HP41c+ : i still prefer it

*Message #7 Posted by **M. Joury** on 17 Oct 2011, 10:20 p.m.,*
in response to message #1 by Michel Beaulieu

I for one agree with you. The nearest calculator to perfection that HP ever made was either the 41 or the 42. The 41 for it's connectivity, expandability, and off-line storage capabilities, and the 42 for its size and programming power (in many ways better than the 41). Combine the two feature sets and you have a machine that would be perfect.

I think that a lot of people would love to see a new version of the 42 with a few additional capabilities (such as time functions and USB port) added. The problem with the 42 per the experts on this forum is that it would be a lot harder to bring back. There is no current platform that could be easily repurposed with 42S capabilities (unlike the 12C+ to 15C LE effort) and it might in fact require an entire rewrite of the firmware if you wanted to offer improved capabilities.

That said, there is obvious interest in such a machine. The WP34S is inspired by many of the features of the 42S as well as other models and the OpenRPN effort (which hopefully will get restarted and see fruit at some future date) also seems to be driven by a 42S capabilities paradigm.

Cheers,

-Marwan

Re: HP41c+ : i still prefer it

*Message #8 Posted by **Allen** on 17 Oct 2011, 11:51 p.m.,*
in response to message #7 by M. Joury

> Quote:
>
> The 41 for it's connectivity, expandability, and off-line storage capabilities, and the 42 for its size and programming power (in many ways better than the 41). Combine the two feature sets and you have a machine that would be perfect.

I think that describes the Hp rationale behind creating the HP 48S/SX/G/GX. Although not RPN machines, they combined the best of both the 41 and 42. Not counting the HP 28C/S - the awkward intermediate species between the Pinnacle of Pioneer Perfection, the Notable Nut Series and the Champion Charlemagne Family.

Re: HP41c+ : i still prefer it

*Message #9 Posted by **Garth Wilson** on 18 Oct 2011, 2:41 a.m.,*
in response to message #8 by Allen

> Quote:
>
> I think that describes the Hp rationale behind creating the HP 48S/SX/G/GX. Although not RPN machines, they combined the best of both the 41 and 42

It still lacks HPIL though, the 41's connectivity to thousands of models of lab equipment via the HPIL-to-HPIB (IEEE-488) interface converter. This is what I bought the 41 for. It can interface to 15 such pieces of equiment *simultaneously* (the IEEE-488 fanout limit) plus a lot of HPIL devices ahead of it.

Re: HP41c+ : i still prefer it

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Oct 2011, 10:02 a.m.,*
in response to message #7 by M. Joury

WRT rewriting the firmware, there exists Free42 by Thomas Okken. Also there were emulators that run the 42 ROM Image, but copyright issues are complex. Free42, or some initiative based upon Thomas' excellent work looks like a feasible way.

Re: HP41c+ : i still prefer it

*Message #11 Posted by **Marcus von Cube, Germany** on 18 Oct 2011, 10:30 a.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

Thomas has stated earlier that the software wasn't written with memory constrained devices in mind. It freely allocates memory as needed which is a problem if you must live within kilobytes instead of megabytes.

Re: HP41c+ : i still prefer it

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 19 Oct 2011, 12:04 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Hi Marcus, you are right. But looking at Free42 may be a good starting point if you would like to recreate the 42S; the original message says something as starting from scratch, or so.

On the other hand, possibly the best thing to do these days is, of course, 34S... lets hope HP will not discontinue the 30B. And, for new initiatives, perhaps something may be derived from 34S code but with a better display. I don't know if your code can be adapted to a different display or not.

Best regards,

Andrés

Re: HP41c+ : i still prefer it

*Message #13 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 7:54 a.m.,*
in response to message #12 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> I don't know if your code can be adapted to a different display or not.

We lost the source code long ago, it's all patching ARM assembly language now. I'm afraid no better display. :-(

;-)

Re: HP41c+ : i still prefer it

*Message #14 Posted by **Andrés C. Rodríguez (Argentina)** on 19 Oct 2011, 8:40 a.m.,*
in response to message #13 by Marcus von Cube, Germany

I hope your final emoticon is the one to take into account!

Re: HP41c+ : i still prefer it

*Message #15 Posted by **Thomas Okken** on 19 Oct 2011, 5:30 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Free42 is not very memory-hungry in terms of RAM requirements; it uses about twice as much memory as the HP-42S for user programs and data, plus some fairly small fixed amount for things like the stack, flags, alpha register, and some auxiliary data structures.

The part of Free42 that *does* take up a lot of memory is the code itself, about 300-500 kilobytes for the code and read-only data structures, depending on CPU architecture. An ARM-based machine with half to one megabyte of ROM and 32 kilobytes of RAM or more would make a fine HP-42S replacement. Presumably you would need those or better specs for *fix as well.

Re: HP41c+ : i still prefer it

*Message #16 Posted by **Ángel Martin** on 18 Oct 2011, 2:05 a.m.,*
in response to message #1 by Michel Beaulieu

The 41CL exists and puts the 41 series into the 21st. century - with flying colors, if I may add.

A new unit with larger display (DIY5) will be a success amongst the people in this forum.

Re: HP41c+ : i still prefer it

*Message #17 Posted by **From Hong Kong** on 18 Oct 2011, 2:54 a.m.,*
in response to message #1 by Michel Beaulieu

In my opinion, a good calculator (not a computer) should have the criteria:

(1) small footprint (2) all routine functions such as trig and log functions accessed as primary and secondary functions but not from menus (3) long life battery (4) abundant functions (5) abundant memory (6) sophisticated programmability (7) fast

What we need is a calculator. We can't expect a calculator to do anything. I think the best calculator on earth is HP-42S!

Re: HP41c+ : i still prefer it

*Message #18 Posted by **M. Joury** on 18 Oct 2011, 9:42 a.m.,*
in response to message #17 by From Hong Kong

One huge drawback. Specially with all that memory. No I/O! That was what kept me from switching over from the 41 to the 42. A memory lost condition took hours to recover from on the 42, 5 minutes or less on the 41.

Cheers,

-Marwan

Edited: 18 Oct 2011, 9:43 a.m.

Re: HP41c+ : i still prefer it

*Message #19 Posted by **Donald Williams** on 18 Oct 2011, 10:44 a.m.,*
in response to message #17 by From Hong Kong

Please pardon the following rant. I admit I am very prejudiced on this subject.

"What we need is a calculator. We can't expect a calculator to do anything."

I can only assume that you never saw or operated an HP 41 system, because an HP 41 system "could" do "anything". And it could do "anything" "anywhere" until the batteries went dead. And once you become accustomed to a hand held device that can do that, all the other devices, before or after, become inadequate substitutes.

Actually I consider it a gross injustice to call the HP-41 a calculator or compare it to one. The HP-41 was the "System Controller" for the HP 41 System. It just happened to be an excellent stand alone calculator in addition to its primary mission.

If you had an HP-41 and you only used the device in the calculator mode, then you simply have no idea about how powerful and capable the HP-41 system was.

That HP-41 system has never been equaled, by any hand held device, by any manufacturer (including HP) ever. Period!

RPL machines - A solution to a problem that never existed, with 1 measly I/O port.

HP-42 - Sorry. That is just a crippled HP-41

HP-15LE - Mediocrity at 100x the speed. But I am glad that some people are finally able to fulfill their desire.

Re: HP41c+ : i still prefer it

*Message #20 Posted by **Martin Pinckney** on 18 Oct 2011, 11:15 a.m.,*
in response to message #19 by Donald Williams

While it is certainly true that the 41 system has no comparison in connectivity, I submit that, except for a few die-hards, this has no value today. What would have value is a calculator with robust capabilities, robust build quality, ease of use, combined with easy I/O.

Does the 50g supply this? If so, we probably won't see anything new from HP, except for perhaps a 50g upgrade. If not, well... who knows?

Re: HP41c+ : i still prefer it

*Message #21 Posted by **Garth Wilson** on 18 Oct 2011, 2:37 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> While it is certainly true that the 41 system has no comparison in connectivity

I have the 71 also which does all that and is much more powerful, but is not as practical as the 41 as a calculator, so the 71 mostly sits in the drawer.

> Quote:

> , I submit that, except for a few die-hards, this has no value today. What would have value is a calculator with robust capabilities, robust build quality, ease of use, combined with easy I/O.

I'm not using the 41 to control things on the workbench much anymore, but that's partly because my work has changed somewhat. The 41's size is an advantage over a laptop though, or even an iPad, making it easier to disconnect from the equipment and go from the work bench to the office 20 feet away and back.

Re: HP41c+ : i still prefer it

*Message #22 Posted by **M. Joury** on 18 Oct 2011, 11:24 a.m.,*
in response to message #19 by Donald Williams

Hear, hear!

Re: HP41c+ : i still prefer it

*Message #23 Posted by **Geir Isene** on 18 Oct 2011, 12:10 p.m.,*
in response to message #19 by Donald Williams

Fully agreed!

Re: HP41c+ : i still prefer it

*Message #24 Posted by **From Hong Kong** on 18 Oct 2011, 12:24 p.m.,*
in response to message #19 by Donald Williams

I would rather call HP-41C/CV/CX a handheld computer. A handheld calculator should not fall into the class of calculators.

I agree with some of you that I/O is a necessary addition to a capable calculator.

Re: HP41c+ : i still prefer it

*Message #25 Posted by **Mike Morrow** on 18 Oct 2011, 1:14 p.m.,*
in response to message #19 by Donald Williams

> Quote:
>
> I can only assume that you never saw or operated an HP 41 system, because an HP 41 system "could" do "anything".

I bought a 41C in 1980, and a 41CX in 1984. I used them for many years. The system was state-of-the-art in 1979, but six years later it was just an extremely extremely slow, mediocre, rather expensive system to which a lot of other expensive items could be attached to run slowly, with output to an extremely limited display or some very limited thermal printer. Sorry...it is certainly hyperbole to claim the the HP-41C series could do anything. Only the quality and feel of the HP-41C-series keyboard is missed today (that's why I still have a 41CX in mint condition). And here's a cheap shot...it started HP on its long-lived trend producing calculators that were grossly ugly and flimsy, when compared to earlier series. (Don't you love that charger plug door cover on the 41C...if one of the legs hasn't broken off and ruined it, just wait.)

> Quote:
>
> Actually I consider it a gross injustice to call the HP-41 a calculator or compare it to one.

Get accustomed to it, because it is just a very slow calculator...always has been...even though HP tried unsuccessfully to sell it as a "handheld computer" (without providing any customer access to the machine internals and firmware) to knowledgeable and experienced technical people who would have none of that nonsense.

> Quote:
>
> HP-42 - Sorry. That is just a crippled HP-41
>
> HP-15LE - Mediocrity at 100x the speed.

I suppose you must have carried around with you in every theater your HP-41C and ALL those expensive gee-gaws in your perfect unmatched "system". I have the honor to suggest that only a vanishingly small percentage of technical calculator users have ever wanted to carry anything around except a small light-weight handheld. Few will ever have need to make that device a "system controller". There have always been devices better suited for that than any handheld calculator ever made.

The HP-15C firmware mathematical function set is considerably more sophisticated and capable than that of the 41C. The kludge known as the 41C Advantage Module was a very poor attempt to provide some of the 15C's capability for the 41C. The almost universally acknowledged RPN high point, the 42S, overwhelms all mathematical function capability of all earlier *and later* RPN machines, while providing much more RAM and much greater speed, accuracy and precision in results compared to earlier models including the blessed 41C. Would it be unfair to mention also battery life? In fact the HP-41C did cripple the 42S in the sense that 42S firmware had to be designed to be compatible with the much less capable 41C.

So yes, I am familiar with the HP-41C system.

Re: HP41c+ : i still prefer it

*Message #26 Posted by **Garth Wilson** on 18 Oct 2011, 2:14 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> The system was state-of-the-art in 1979, but six years later it was just an extremely extremely slow, mediocre, rather expensive system to which a lot of other expensive items could be attached to run slowly, with output to an extremely limited display or some very limited thermal printer. Sorry...it is certainly hyperbole to claim the the HP-41C series could do anything.

I started with the Thinkjet printer, not the thermal printer, but in the last 15 years have only used the bigger desk printers with my 41. I've also used the 80-column video monitor with it, but usually I have no need for much of a display. I recently bought the little thermal printer on TOS for $35 since it takes so little space on the workbench.

This 41cx was getting used for controlling a stack of automated test equipment in '86-'87, and I was taking it home at night for other work. It was nice that it was so much more portable than a laptop,

and faster to get programs going too. As far as execution speed goes, yes it was slow, but we replaced it with an HP-9000 series computer with a 68000 processor, and the speed was hardly double. Why? Because both controllers spent much of their time twiddling their thumbs waiting for filters to settle and readings to come back from the instruments.

> Quote:
>
> (Don't you love that charger plug door cover on the 41C...if one of the legs hasn't broken off and ruined it, just wait.)

The 41's battery life was too long to worry about using rechargeable batteries. Even when we were using it many hours a day in atomated testing, a set of alkalines went a few months. I've never used a card reader or bar-code wand. I have the tape drive but seldom used it, with the 41's extended and continuous memory which has never failed me.

> Quote:
>
> And here's a cheap shot...it started HP on its long-lived trend producing calculators that were grossly ugly and flimsy, when compared to earlier series.

IMO, style in general peaked about 1980 and has been going downhill ever since, whether it's calculators, toasters, stereos, or cars. At least HP realized that their chevron keyboard on the 49 (I think it was the 49) was a big mistake.

Re: HP41c+ : i still prefer it

*Message #27 Posted by **Martin Pinckney** on 18 Oct 2011, 2:43 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> I suppose you must have carried around with you in every theater your HP-41C and ALL those expensive gee-gaws in your perfect unmatched "system". I have the honor to suggest that only a vanishingly small percentage of technical calculator users have ever wanted to carry anything around except a small light-weight handheld.

To be fair, Mike, I don't think anyone suggested they carried around any of the HPIL system. These were likely used in laboratory or office settings, and apparently by more than just a "vanishingly" small number of people, since there still seem to be a lot of these peripherals out there.

> Quote:
>
> Few will ever have need to make that device a "system controller". There have always been devices better suited for that than any handheld calculator ever made.

Maybe, but in its day, the 41 certainly had a huge following in many scientific, engineering, and other technical fields; hence the large number of peripherals and ROMs made for it. Someone must have put these to use, at least for a certain time period.

Re: HP41c+ : i still prefer it

*Message #28 Posted by **Garth Wilson** on 19 Oct 2011, 1:12 a.m.,*
in response to message #27 by Martin Pinckney

> Quote:
>
> Few will ever have need to make that device a "system controller". There have always been devices better suited for that than any handheld calculator ever made.

I missed that one the first time around. At the company where I got my start in automated testing in about 1985, we got an HP3421A data acquisition unit for evaluation, and set it up on one of the production workers' test benches for testing of VHF power transistors. I did the wiring to the power meters, RF relays, etc., and, since I didn't have my own 41 yet, had a friend who worked there come in with his, which he did very willingly since he was interested in it too, and in *20 minutes* of his lunch had the program written and working. A requisition was put in for the same equipment to automate the repetitive taking of data in the engineering lab, but the company said the 41 was too easy to steal, and approved an IBM PC and IEEE-488 card in stead. A few weeks after it was set up, the two engineers working with it were *still* having problems with the communication between the computer and the IEEE-488 card, and getting results that worked right.

I said in my previous post that at the next company I worked at, the 41 eventually got replaced with an HP-9000 68000-based computer which was made for such system control. What I neglected to say was that the 41 was easier there also for getting a program going.

If you wanted to write a test program, even to test only a few dozen of something and then dump the program, the 41 may have been the very easiest to get a program going on, in spite of lacking things like program structures.

Re: HP41c+ : i still prefer it

*Message #29 Posted by **M. Joury** on 18 Oct 2011, 2:48 p.m.,*
in response to message #25 by Mike Morrow

I still have not found a calculator that replaces my 41. Yes it is slow by today's standards but...

```
1.  Easy to program
2.  Extensible
3.  All the memory you need for a keystroke programmable
3b. I have never run across a program that I would want to run on a calculator
that is too large for available memory (CV or CX)
4.  I/O so that I can save all those programs I write (and I have written
hundreds, perhaps thousands for the 41)
    offline and recover them in the event of a "MEMORY LOST" condition.  Try that
with the 15C or 42S.
5.  Use it in my astro classes one day and in my stats class or economics class
the next.  Just write a WALL card or file and
    switch out the machine's target functionality.  Again, try that on the 15C.
One could argue that the 42S with all it's
    memory can do both at the same time but lose that memory and you spend hours
recovering.
```

The 42S is a great machine but it is missing I/O and that has proven to be a deal breaker for me. The 15C still has mnemonic programming and therefor is somewhat harder to program. It also has less memory and also lacks I/O. The closest machine(s) to the 41 are the 48 series where they have all the power (and more) of the 41 as well as the I/O capabilities in regards to offline storage. The problem there is size and lack of portable offline storage (although I believe that there were some 3rd party portable solutions and you could always backup to a RAM card for some added security).

To sum it up, I still use a calculator almost daily and my calculator of choice (even after all these years) is still the HP-41.

Just my 0.02

Cheers,

-Marwan

Edited to correct misuse of tags

Edited: 18 Oct 2011, 4:32 p.m.

Re: HP41c+ : i still prefer it

*Message #30 Posted by **Ángel Martin** on 18 Oct 2011, 3:34 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> Get accustomed to it, because it is just a very slow calculator...always has been...even though HP tried unsuccessfully to sell it as a "handheld computer" (without providing any customer access to the machine internals and firmware) to knowledgeable and experienced technical people who would have none of that nonsense.

Please, this is verging the hilarious.

- The 41 system was sold to (literally!) thousands of scientists and engineers who very well knew what they were doing. Facts before theory.

- The 15C was introduced LATER and (surprise) was way slower than the 41. Go and figure.

- If speed is the name of the game, then turn your attention to the 41CL and behold sheer amazing beauty.

-HP released the MCODE and specs way earlier than usual, where do you think all those 3rd. party accessories and peripheral came from? We're still waiting for the 42S or 48 internals to be released to the public, BTW.

Cheers, 'AM

Re: HP41c+ : i still prefer it

*Message #31 Posted by **Massimo Gnerucci (Italy)** on 18 Oct 2011, 4:06 p.m.,*
in response to message #30 by Ángel Martin

Go Ángel! Go!

:-)

Re: HP41c+ : i still prefer it

*Message #32 Posted by **Eric Smith** on 18 Oct 2011, 9:13 p.m.,*
in response to message #30 by Ángel Martin

Actually HP released a great deal of internals information on the 48. They haven't released the actual ROM source code, but they did make available everything needed to develop in System RPL or Saturn assembly, including documentation for supported entry points.

Re: HP41c+ : i still prefer it

*Message #33 Posted by **Ángel Martin** on 19 Oct 2011, 2:47 a.m.,*
in response to message #32 by Eric Smith

Point taken. It's a shame it didn't have wider success then, a sign of the times it had to live in or perhaps due to its design choices (RPL et al) - we'd never know.

Re: HP41c+ : i still prefer it

*Message #34 Posted by **Howard Owen** on 18 Oct 2011, 4:17 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> The system was state-of-the-art in 1979, but six years later it was just an extremely extremely slow, mediocre, rather expensive system to which a lot of other expensive items could be attached to run slowly, with output to an extremely limited display or some very limited thermal printer..

The truth is, few of the machines people rave about here have much value for me in an absolute sense. What you seem to be missing (or perhaps ignoring) is this is a calculator museum. I love the old machines out of nostalgia, appreciation of quality (power cover notwithstanding) and the thrill of squeezing remarkable feats out of ancient hardware and software. The HP-41 was an interesting and important milestone on the path to modern computers. It was also the device I first learned to program on. The fact that it got overtaken and surpassed doesn't affect my attitude about it in the least. I love that machine, and I'm thrilled that others who love it have been so productive in keeping it green over the years.

Others claim practical value in the pocket calculator format and I see no reason to doubt them. They have some very nice choices now, between old HP machines, newer HP models and the WP-34S. I own two of the latter, but I'm using them as fun techie toys. You may prefer Mathematica or Matlab, if your work involves obtuse mathematics on a daily or even occasional basis. I own the former, which I use - as a toy!

If you don't derive that sort of enjoyment from old machines, that's your privilege. But I get a little miffed when you try to disparage the machines that I love so well, based on feature lists and performance. I just think you are missing the point entirely.

Re: HP41c+ : i still prefer it

*Message #35 Posted by **M. Joury** on 18 Oct 2011, 4:44 p.m.,*
in response to message #25 by Mike Morrow

> Quote:
>
> The system was state-of-the-art in 1979, but six years later it was just an extremely extremely slow, mediocre, rather expensive system

6 years later? In 1985? What was there to challenge the HP-41 in 1985?

I would argue, as others have, that the 41 has never been bettered. Sure there are faster machines, and laptops, and mobile phones with calculator apps but is there a single device available today, or

at any time, that has the total capability of the 41 in an easily portable package? And even now, 32 years later, my HP-41 still does the job I need it for.

Just take the example of using the 41 as a instrumentation monitoring device. Sure you can setup your laptop to accomplish this but away from the office, away from a power source, that will last all of 3-8 hours depending on the laptop in question. An HP-41 can potentially run for days and weeks on a single set of batteries.

Cheers,

-Marwan

Re: HP41c+ : i still prefer it

*Message #36 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 18 Oct 2011, 5:38 p.m.,*
in response to message #25 by Mike Morrow

In addition to general use...

HP-41 was a critical back up computer during many space flights (used in space) for calculating mission critical paramaters in the event primary computers have failed. It was a handheld computer many scientist and engineers have bet their lives on (literaly). Can you think of another computer, you could bet your life on its accuracy, reliability and performance?

Smithsonian Air Museum

Regards, -K2

Edited: 18 Oct 2011, 7:09 p.m.

Re: HP41c+ : i still prefer it

*Message #37 Posted by **Ángel Martin** on 18 Oct 2011, 3:24 p.m.,*
in response to message #19 by Donald Williams

YES!! YES!!!

Re: HP41c+ : i still prefer it

*Message #38 Posted by **Massimo Gnerucci (Italy)** on 18 Oct 2011, 3:33 p.m.,*
in response to message #37 by Ángel Martin

YESSSSSSSSSSSSS!!! :)

An unabashed 41 user, especially now with the CL

*Message #39 Posted by **Geoff Quickfall** on 18 Oct 2011, 5:26 p.m.,*
in response to message #1 by Michel Beaulieu

Okay,

Started with RPN so that is were this essay begins:

25-25C-41C-41CX-42S and now back to the 41C with the CL conversion.

lets say 'personal preference'. You start out with RPN (1975 for me)and it becomes familiar. As each RPN

generation comes to market you adapt your programs and continue.

Then comes the 41C, the ultimate, at the time, RPN machine. Yes, it ran HPIL and some of my lab equipment in the mid 80's. Mag cards, tape deck, floppy drive, plotter all in the era of the 8088. We had an 8088, never touched it, would have had to learn to do things differently while writing and researching and working. Besides the mainframe and the 41 performed flawlessly. Didn't need IO to the 8088 as I had back up galore.

Into the cockpit and it works wonderfully except for th dreaded ESD prevelant in the cockpit environment. Used it extensively in the cockpit from 1986 to 2009. Produced flight plans (1991) with it in Tapei when the typhoon grounded the flight planning computers. The F/O's laptop did not produce as accurate a flight plan as the 41 did.

In 2009 I went to the HCC2009 and was given a 42S. Wow, faster and just as easy to program EXCEPT for the lack of timing functions and a real time clock. All programs with minor rewrites worked. Never the less, once loaded and increased to 32K it worked with the IR printer but I was always concerned by a sudden 'Memory Loss' and all the work that would entail (14K of programs). So the 41CX was in the flight bag as backup.

Yes, I had a 48SX, 48G+, 48G and etc but I did not grow up with RPL. I did convert programs to RPL but was never happy with the learning curve (or my lack of ability ;-). On the other hand, had I never seen RPN and started with RPL as my first machine, then I may have another story.

Back to the 41CX, ALONG COMES MONTE with the 41CL and now the primary is the 41 again with a 42S backup. It has not suffered from ESD, nor Memory Loss at work. It is faster at some things then the 42S and as fast at others.

Here is a demo which I presented at HHC2011 showing an extended memory data base search comparison between the CL and the CX with identical 'calculator states':

cl versus cx

I guess my rambling can be condensed to this:

"You use what you are familiar with, be it the RPLs 48, 41, 50, 28 or the RPNs. For me it is the RPNs. And now with the CL board, speed is not a disability with the 41, nor is I/O or memory. I have four different fully loaded HP41CX's loaded into my single 41CL. I just switch from the Palynology computer to the flight computer with the execution of a short routine. I also have a PDA built into the memory.

I don't need graphing capability, or teaching tool and etc. It fulfils the need in the 21st century with the updated board and still works with the HPIL I have accumulated over the years.

Just saying!

Geoff

Re: An unabashed 41 user, especially now with the CL

*Message #40 Posted by **Ángel Martin** on 19 Oct 2011, 2:35 a.m.,*
in response to message #39 by Geoff Quickfall

Amen to all that - I subscribe entirely to it, also to the RPL part not being my cup of tea for the good reasons you list (even if it's technically superior and all that).

Best, 'AM

Re: An unabashed 41 user, especially now with the CL

*Message #41 Posted by **geoff quickfall** on 19 Oct 2011, 3:11 a.m.,*
in response to message #40 by Ángel Martin

Cheers, Angel

and thanks for the updated Clutils. My machine is never out of turbo50 so I never saw the alpha display.

Now I have to clean up Gene's machine, boy is he needy! Just kiddin Gene.

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

FWIW - km to miles conversion factor on a four-banger calculator

*Message #1 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 7:37 p.m.*

...or when you HP lacks this conversion factor and you don't remember it (1.609344).

Enter 45 then press the SQRT key three times and *voilà*:

```
1.609353928
```

The error when converting the distance from the Earth to the Moon is than then one mile and a half.

When converting greater distances such as the Earth-Sun distance you might want to subtract 1/450 from 45 before extracting the eighth-root:

```
1.609343993
```

The error will be inferior to half a mile.

My 2 cents (every time someone uses this to convert km to miles :-)

Edited: 17 Oct 2011, 7:41 p.m.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #2 Posted by **bill platt** on 17 Oct 2011, 7:53 p.m.,*
in response to message #1 by Gerson W. Barbosa

That's pretty funny!

And easier than doing (0.3048m per feet) 5280 feet per mile etc.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #3 Posted by **Paul Dale** on 17 Oct 2011, 7:56 p.m.,*
in response to message #1 by Gerson W. Barbosa

I just use eight fifths as the conversion factor. Much larger error but easy to remember :-)

- Pauli

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #4 Posted by **designnut** on 17 Oct 2011, 8:09 p.m.,*
in response to message #3 by Paul Dale

Driving in Europe I found KM a much more usable distancce measure. I liked the 100M posts along rural roads. A mile is simply too large for my measuring stick. Are we ever going to get on the world standars? Sam

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #5 Posted by **bill platt** on 17 Oct 2011, 8:16 p.m.,*
in response to message #4 by designnut

Who wants centimeters when you can have an inch? Who wants kilometers when you can have mile? Who wants kilograms-force when you can have pound? Who wants kilograms when you can have slugs? Who wants deciliters when you can have cups? Who wants cubic decimeters when you can have pecks?

And finally, wouldn't you miss chains, rods, furlongs and leagues not necessarily in that order?

See what I mean :-)

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #6 Posted by **db (martinez, ca.)** on 21 Oct 2011, 10:59 p.m.,*
in response to message #5 by bill platt

Bill; did you realize that 10 chains equal one furlong? And that 100 links are one chain? We have the beginnings of a new metric here. All we need is something that's 6.6 feet (let's call that the basketball player), the 6,600' furlongic mile, and the micro-furlong for fine work.

We have surveyors, horse lovers, cricket players, and all those desirous of knowing just how big "hells half acre" really is - all firmly on our side. We can't loose.

It can't be any more contrived than the metric system.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #7 Posted by **Walter B** on 21 Oct 2011, 11:43 p.m.,*
in response to message #6 by db (martinez, ca.)

:-D

Shall I quote Mikhail Gorbatchov?

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #8 Posted by **David Hayden** on 18 Oct 2011, 1:12 p.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> I just use eight fifths as the conversion factor. Much larger error but easy to remember :-)

I use the same factor and some tricks to convert between miles and Km in my head. Use these to make friends and get dates (well, make friends anyway... nerdly friends).

The trick is knowing that to get 0.6X you take half of X and add 1/10th X. So 0.6*52 = 26 + 5.2 = 31.2

mi->km: multiply by 1.6. So 52mi = 52+26+5.2 = 83km

km->mi: multiply by 0.6. So 52km = 31.2mi.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #9 Posted by **John B. Smitherman** on 17 Oct 2011, 8:09 p.m.,*
in response to message #1 by Gerson W. Barbosa

Which is close to the golden ratio of 1.61803399

John

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #10 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 8:19 p.m.,*
in response to message #9 by John B. Smitherman

Which is halfway between 8/5 and the golden ratio.

Gerson.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #11 Posted by **Egan Ford** on 17 Oct 2011, 8:15 p.m.,*
in response to message #1 by Gerson W. Barbosa

But I thought the definition of a four-banger was that it had only the primary four arithmetic operators. So, no square root key. :-)

About 100 lbs ago I used to run 5K and 10K races. So I always remembered 10K ~ 6.2M.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #12 Posted by **bill platt** on 17 Oct 2011, 8:17 p.m.,*
in response to message #11 by Egan Ford

Oh! You are right! It is a 5-banger. Also known as an Audi.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #13 Posted by **Dan W** on 17 Oct 2011, 8:45 p.m.,*
in response to message #11 by Egan Ford

> Quote:
>
> But I thought the definition of a four-banger was that it had only the primary four arithmetic operators. So, no square root key. :-)
>
> About 100 lbs ago I used to run 5K and 10K races. So I always remembered 10K ~ 6.2M.

Yes but I recall there is also a clever iterative way to do square root approximations on a 4-banger. But I forget what the trick is.

And then it would have to be done 3 times. Sort of a mathematical Rube Goldberg process I suppose.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #14 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 9:05 p.m.,*

in response to message #11 by Egan Ford

> Quote:
>
> About 100 lbs ago I used to run 5K and 10K races. So I always remembered 10K ~ 6.2M

4 years and 15 kg ago I ran 2400 meters in 10m53s in a proof I had to run the distance in 11m03s at most for a perfect score. I never asked myself why exactly 2400 meters, but I realize now this is approximately one and a half mile.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #15 Posted by **M. Joury** on 17 Oct 2011, 10:29 p.m.,*
in response to message #1 by Gerson W. Barbosa

Clever. In testing the conversion accuracy just for fun) with a relatively large number the nearest calculator I had to hand was a HP39gs and in running the conversion I was reminded that HP got the conversions backwards on that machine. ->MILE converts *FROM* miles to KM and ->KM converts *FROM* KM to Miles.

ROM Version 2.22.

Cheers,

-Marwan

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #16 Posted by **Gerson W. Barbosa** on 18 Oct 2011, 12:26 p.m.,*
in response to message #15 by M. Joury

Interesting. What other HP calculators offer direct km->mi and mi->km conversions? I mean without having to append the units as in the 48/49/50g.

Gerson.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #17 Posted by **Marcus von Cube, Germany** on 18 Oct 2011, 12:59 p.m.,*
in response to message #16 by Gerson W. Barbosa

WP 34S does it.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #18 Posted by **Chris Randle (UK)** on 18 Oct 2011, 4:03 p.m.,*
in response to message #16 by Gerson W. Barbosa

35s

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #19 Posted by **dbatiz** on 18 Oct 2011, 1:25 a.m.,*
in response to message #1 by Gerson W. Barbosa

It may seem like the long way, but the only distance conversion I've successfully commited to memory is 25.4mm=1 Inch. Being a definition, it is exact. From there, any four banger can get my any conversion I need in just a couple of steps.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #20 Posted by **Paul Dale** on 18 Oct 2011, 2:12 a.m.,*
in response to message #19 by dbatiz

I'm not so sure myself. How many links in an atto-parsec? :-)

I love good old imperial measurements, there is an obtuse unit for everything ;-) Well, I love them so long as I don't have to actually use them that is.

- Pauli

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #21 Posted by **Gerson W. Barbosa** on 18 Oct 2011, 7:20 a.m.,*
in response to message #20 by Paul Dale

I would always prefer the International System, except in situations like the following:

The woods are lovely, dark and deep,

But I have promises to keep,

And miles to go before I sleep,

And miles to go before I sleep.

-- Robert Frost

Here, the metric system would spoil the metric of the poem :-)

Gerson.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #22 Posted by **bill platt** on 18 Oct 2011, 7:51 a.m.,*
in response to message #21 by Gerson W. Barbosa

Haha very clever!

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #23 Posted by **Gerson W. Barbosa** on 18 Oct 2011, 9:19 a.m.,*
in response to message #22 by bill platt

The **woods are love**ly, **dark** and **deep**,

But **I have prom**ises to **keep**,

Ki**lo**meters to **go ere sleep**ing,

Ki**lo**meters to **go ere sleep**ing.

No conversion factor will do. This looks quite terrible!

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #24 Posted by **mike reed** on 18 Oct 2011, 10:22 a.m.,*
in response to message #23 by Gerson W. Barbosa

Gerson; how about this??

The woods are lovely, dark and deep,

But I have promises to keep,

And far to go before I sleep,

And far to go before I sleep.

Generic, and still in the correct meter! ;o)

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #25 Posted by **Gerson W. Barbosa** on 18 Oct 2011, 10:31 a.m.,*
in response to message #24 by mike reed

That's better.

Just found this one:

http://maraady.squarespace.com/blog/2008/2/18/and-kilometers-to-go-before-i-sleep.html

I was just listening to a Bee Gee's song in the car and noticed something even worse: it appears there are no rhymes for kilometer, except speedometer, odometer, magnetometer and the like.

"The preacher talked to me and he smiled,

Said, come and walk with me, come and walk one more mile."

Edited: 18 Oct 2011, 12:47 p.m.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #26 Posted by **Matt Fegenbush** on 18 Oct 2011, 11:09 a.m.,*
in response to message #20 by Paul Dale

Are you talking about links in a surveyor's (Gunter's) chain or an engineer's chain? I only work in surveyor's chains since I consider engineers chains an abomination.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #27 Posted by **Kiyoshi Akima** on 18 Oct 2011, 1:24 p.m.,*
in response to message #1 by Gerson W. Barbosa

If you're on a scientific calculator and can tolerate an order of magnitude more error (half a foot in a mile), just use the natural logarithm of 5. You'll be off less than fifteen miles when you get to the Moon.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #28 Posted by **Patrice** on 18 Oct 2011, 2:19 p.m.,*
in response to message #1 by Gerson W. Barbosa

Weird, I always thought a Mile was 1.852 Km .

As far as I remember, the 2 Miles have already killed!

Patrice

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #29 Posted by **Marcus von Cube, Germany** on 18 Oct 2011, 2:35 p.m.,*
in response to message #28 by Patrice

Patrice, you seem to be talking about nautical miles.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #30 Posted by **Patrice** on 18 Oct 2011, 4:46 p.m.,*
in response to message #29 by Marcus von Cube, Germany

The only one I know about :)

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #31 Posted by **Cristian Arezzini** on 19 Oct 2011, 4:24 a.m.,*
in response to message #1 by Gerson W. Barbosa

Didn't four-bangers only have the four operations, so no square root? :P

Cristian

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #32 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 6:45 a.m.,*
in response to message #31 by Cristian Arezzini

Ciao Cristian,

My definition of "four-banger calculator" matches the one I've found here:

"a calculator that only does addition, subtraction, multiplication and division – sometimes with square root and percent keys added for good measure."

The greek word for table is *trapezi* (in a loose transliteration), which originally implied a "four-footed" furniture. Tables now have three, two or even only one foot, yet in Greece they keep on calling it *trapezi* :-)

http://areadomus.gr/gr/Table/Beta--High-Bar-Table-/show_143_451_.html

Gerson.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #33 Posted by **Jeff Kearns** on 19 Oct 2011, 10:30 a.m.,*
in response to message #1 by Gerson W. Barbosa

As a Canadian engineer raised in both English and SI/Metric systems, I find this post at once funny and coincidentally of interest.

Funny: Upon reading the post, I wondered why one would one bother remembering such complicated numbers when the 'standard' to use is 1 in equals 25.4 mm? It is easy to remember and a breeze to use on a 4-banger.

Interesting: Shortly after reading this post yesterday, I saw an el-cheapo 'scientific 180 function' calculator for $1.50 at Giant Tiger that had the conversion factors listed on the inside cover of the calculator. It said 1 in = 2.53995 cm (or something close to that...). I bought the calculator for my 7 year old and ended up getting if for free as they overcharged me by 100% at the check-out...

I have since researched the conversion factors and cannot find any reference to this bizarre conversion. Any thoughts on this? I do not have the calculator with me.

Jeff Kearns

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #34 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 11:25 a.m.,*
in response to message #33 by Jeff Kearns

> Quote:
>
> 1 in = 2.53995 cm (or something close to that...)

You have a good memory! That's the same number that appears here and elsewhere.

The exact 2.54 conversion factor derives from the international yard, defined in 1959 as 0.9144 meters (0.9144/36 = 0.0254).

According to Wikipedia, the new international foot *"was 2 ppm shorter than the previous U.S definition and 1.7 ppm longer than the previous British definition."* However 2.54 cm is about 20 ppm *longer* than 2.5399 cm, a mistake perhaps.

http://en.wikipedia.org/wiki/Foot_(unit)

Gerson.

Edited: 19 Oct 2011, 11:47 a.m.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #35 Posted by **Marcus von Cube, Germany** on 19 Oct 2011, 12:40 p.m.,*
in response to message #34 by Gerson W. Barbosa

> Quote:
>
> 1 inch (in) | 2.53995 centi*liters* (cm)

:-)

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #36 Posted by **Gerson W. Barbosa** on 19 Oct 2011, 1:29 p.m.,*
in response to message #35 by Marcus von Cube, Germany

Sharp eagle's sight!

From the website you have quoted:

"With a diverse population of over 170 million souls, Brazilians are very happy people, spontaneous, enthusiastic and high-spirited who tend to live for the moment and who know how to enjoy themselves"

They've forgotten to add the following:

and never waste their time by checking and double-checking their websites contents.

:-)

Edited: 19 Oct 2011, 1:47 p.m.

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #37 Posted by **bill platt** on 19 Oct 2011, 3:14 p.m.,*
in response to message #34 by Gerson W. Barbosa

I wonder if this relates in any way to the "survey foot" ?

And didn't there used to be some sort of abstruse issue with ml not equaling cubiccentimeters?

Re: FWIW - km to miles conversion factor on a four-banger calculator

*Message #38 Posted by **Martin Pinckney** on 19 Oct 2011, 3:49 p.m.,*
in response to message #37 by bill platt

Yes. The U.S. Survey Foot was based on the old definition of the meter. So when the meter definition changed, two foot definitions were needed, else all the existing base of survey work would be off.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL and PPC ROM

*Message #1 Posted by **Gerry Schultz** on 17 Oct 2011, 7:27 p.m.*

During the HHC2011 conference, Richard talked about the PPC ROM and what it took to get it out the door. I was a member of the PPC during that time and I remember that there were some minor bugs in the PPC ROM discovered after the ROM mask was made. Since it's now a part of the 41CL, has the PPC ROM image been patched so those bugs are no longer there? I don't remember if any subsequent 41C apps were written that depended upon the PPC bugs.

Which brings up my second question. Have the ROM images loaded into the 41CL been corrected for known bugs so that it's actually better to have the 41CL than the original ROM plug-in modules?

Gerry

Re: 41CL and PPC ROM

*Message #2 Posted by **Monte Dalrymple** on 17 Oct 2011, 7:39 p.m.,*
in response to message #1 by Gerry Schultz

I did not do any editing. But it is easy to patch things in
Flash. Beta users had to patch the CL Extra Functions several
times before everything was working right.

Monte

PPC ROM bugs?

*Message #3 Posted by **gene wright** on 17 Oct 2011, 7:53 p.m.,*
in response to message #2 by Monte Dalrymple

The *only* bug of which I was ever aware was in the BE Block Exchange routine. It ended a loop with a GTO BE global label call rather than a GTO local label number. This slowed down the exchange routine, but did not affect results.

I am not aware of *any* other bugs.

Anyone have some? :-)

Re: 41CL and PPC ROM

*Message #4 Posted by **Eric Smith** on 18 Oct 2011, 1:13 a.m.,*
in response to message #1 by Gerry Schultz

Not bugs per se, but there are problems with some of the routines if you have any "buffers" in the memory. This most commonly case occurs when using Time Module/41CX alarms, which are stored in a buffer. The buffers occupy registers just below the key assignments, and synthetic programs (including those in the PPC ROM) that manipulate the key assignments or program memory may corrupt the buffers leading to lost data or

crashes.

The reason I say that these aren't bugs is that the PPC ROM was written before there were any ROMs available that used buffers, so there was no way for the programmers to know that there would be a problem.

This is an example of why HP said that if PPC put synthetics in the ROM, that HP would not accept any responsibility for the results.

Re: 41CL and PPC ROM

*Message #5 Posted by **Ángel Martin** on 18 Oct 2011, 2:13 a.m.,*
in response to message #1 by Gerry Schultz

As much as I love the PPC ROM (being an active PPC member during its gestation I lived all the excitement) I must say it's been superseded by more capable and vastly more interesting modules. Consider for instance the CCD Module and the HEPAX - both monumental and trend-setting.

Some others also added excellent contributions to the "state of the art" back them (and even now).- think of the ground-breaking AECROM, the ZENROM and ZENROM Programmer, etc. The expandability of the 41 series matched with the ability to program MCODE made all the difference to me.

Easy to say for somebody still making new ones :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

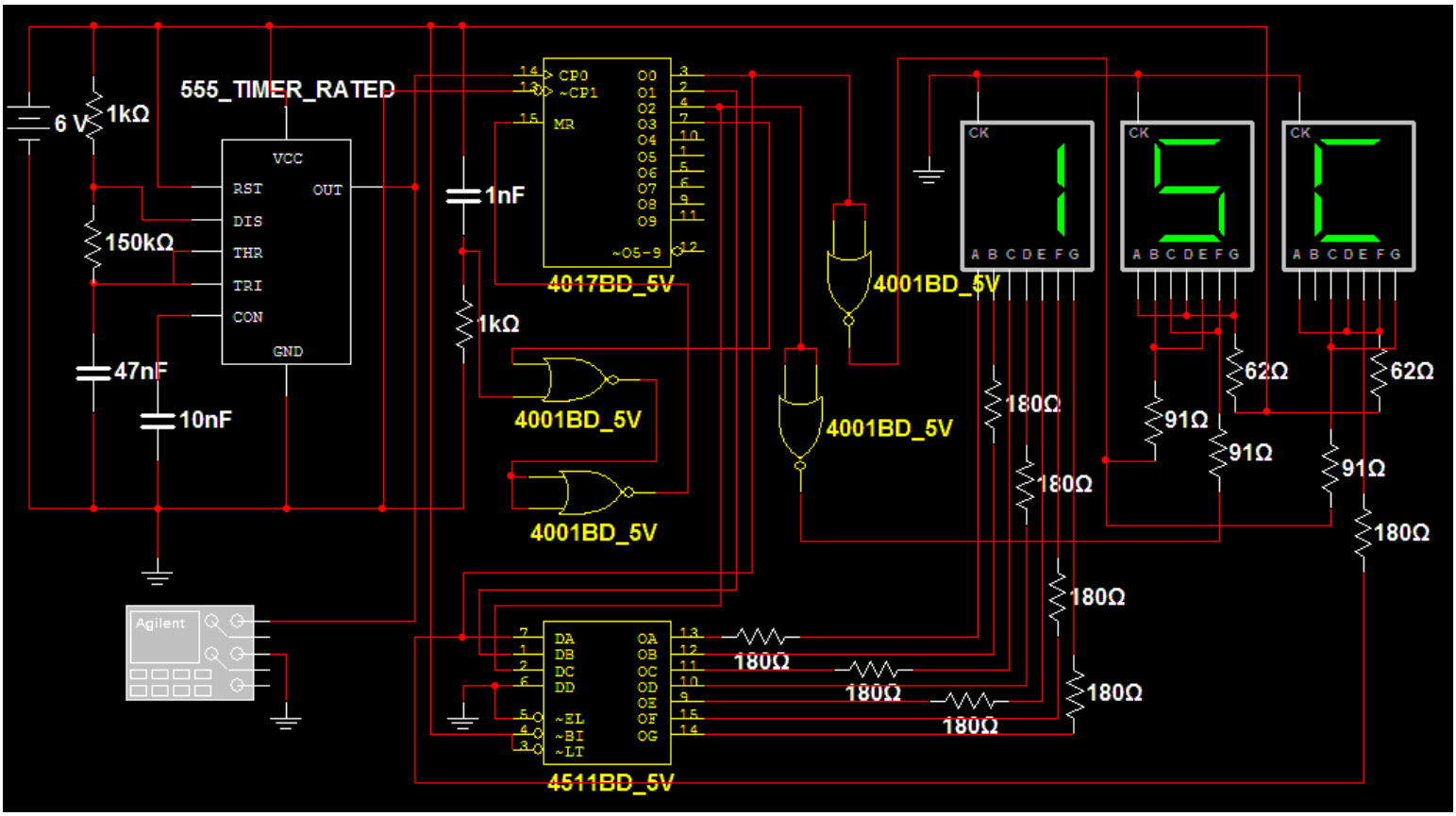
A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)

*Message #1 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 4:37 p.m.*

I'm back to school for lack of something better to do (I'd rather be vacationing in southern France or Tuscany :). Lots of things have changed: one of my classmates in 1986 and 1987 is now my professor of Digital Electronics, for instance, and back then we used DOS PSpice :-)

After finishing my homework exercises on digital counters I decided to design a counter to cycle through the names of my first, second and third HP calculator. My first idea was doing it with three synchronous counters, for the two digits and characters. When I was done with the first one I realized a Johnson counter would do the job more nicely. Also, the second digits and characters could be easily derived from the first digit.

My first calculator was an HP-15C, as displayed. An easy question for those in the field: what were my second and third HP calculators? Comments and improvement suggestions welcome.



Notes:

1) The 47 nF capacitor should be replaced with a 4.7 uF in the real circuit so that the clock frequency is around 1 Hz;

2) The Agilent multimeter is optional :-)

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)

*Message #2 Posted by **Monte Dalrymple** on 17 Oct 2011, 4:58 p.m.,*
in response to message #1 by Gerson W. Barbosa

15C, 22S, 48S ?

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)

*Message #3 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 5:14 p.m.,*
in response to message #2 by Monte Dalrymple

Almost: 15C, 2?S, 4?S.

Regards,

Gerson.

When the first digit is 4 the 4017 output O2 is high, low after the inverter, which means the segments "c" and "f" in the second display are not lit. Therefore it cannot display an "8".

Edited: 17 Oct 2011, 5:34 p.m.

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)
*Message #4 Posted by **Paul Berger (Canada)** on 17 Oct 2011, 5:35 p.m.,*
in response to message #3 by Gerson W. Barbosa

15C 28S 42S

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)
*Message #5 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 5:42 p.m.,*
in response to message #4 by Paul Berger (Canada)

Yes. It's great it doesn't cycle through 20 or so calculators. But then again I would not pose the problem :-)

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)
*Message #6 Posted by **Monte Dalrymple** on 17 Oct 2011, 6:16 p.m.,*
in response to message #2 by Monte Dalrymple

oops. swapped the 2nd and 3rd middle digits.

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)
*Message #7 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 6:24 p.m.,*
in response to message #6 by Monte Dalrymple

Yes, I noticed the swapping later, only after I had already edited my reply to you.

Re: A simple (and useless) digital circuit for the fans of the HP-15C (and two other HP calculators)
*Message #8 Posted by **bill platt** on 17 Oct 2011, 7:23 p.m.,*
in response to message #6 by Monte Dalrymple

Haha and that produced actual models, too, by accident!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: ATTN: Matt Fegenbush

*Message #1 Posted by **Hugh Evans** on 17 Oct 2011, 3:26 p.m.*

Matt,

I can't seem to reach you so this is my last resort. Please get in touch with me so we can discuss prototyping.

Thanks!

hugh-evans@hotmail.com

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Am I a bad person ?

*Message #1 Posted by **Michael de Estrada** on 17 Oct 2011, 1:50 p.m.*

So, I know we're all supposed to be loyal to HP and all that. But why should I pay $80 for an HP 12CP, when I can get one of these new for $15 shipped ? So, it's made in China, but then so is the 12CP.

Re: Am I a bad person ?

*Message #2 Posted by **Egan Ford** on 17 Oct 2011, 2:02 p.m.,*
in response to message #1 by Michael de Estrada

If it meets your needs and the quality and user experience is sufficient, then you are a smart person, not a bad person.

Re: Am I a bad person ?

*Message #3 Posted by **uhmgawa** on 17 Oct 2011, 2:12 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> So, I know we're all supposed to be loyal to HP and all that. But why should I pay $80 for an HP 12CP, when I can get one of these new for $15 shipped ? So, it's made in China, but then so is the 12CP.

Have you popped it apart yet? Just curious if it has metal vs. the econo elastomer domes. If the former it may be useful for repair parts in a pinch.

I'd hazard this is a functional work-alike and not "leveraging" legacy firmware? I'm curious in either case what the speed comparison is relative to a legacy 12C. Also whether the choice of 2x AA cells was a concession to convenience or a design necessity.

Re: Am I a bad person ?

*Message #4 Posted by **Michael de Estrada** on 17 Oct 2011, 2:15 p.m.,*
in response to message #3 by uhmgawa

I don't have it yet. I don't think it has clicky keys. It uses 2 x AAA, not 2 x AA.

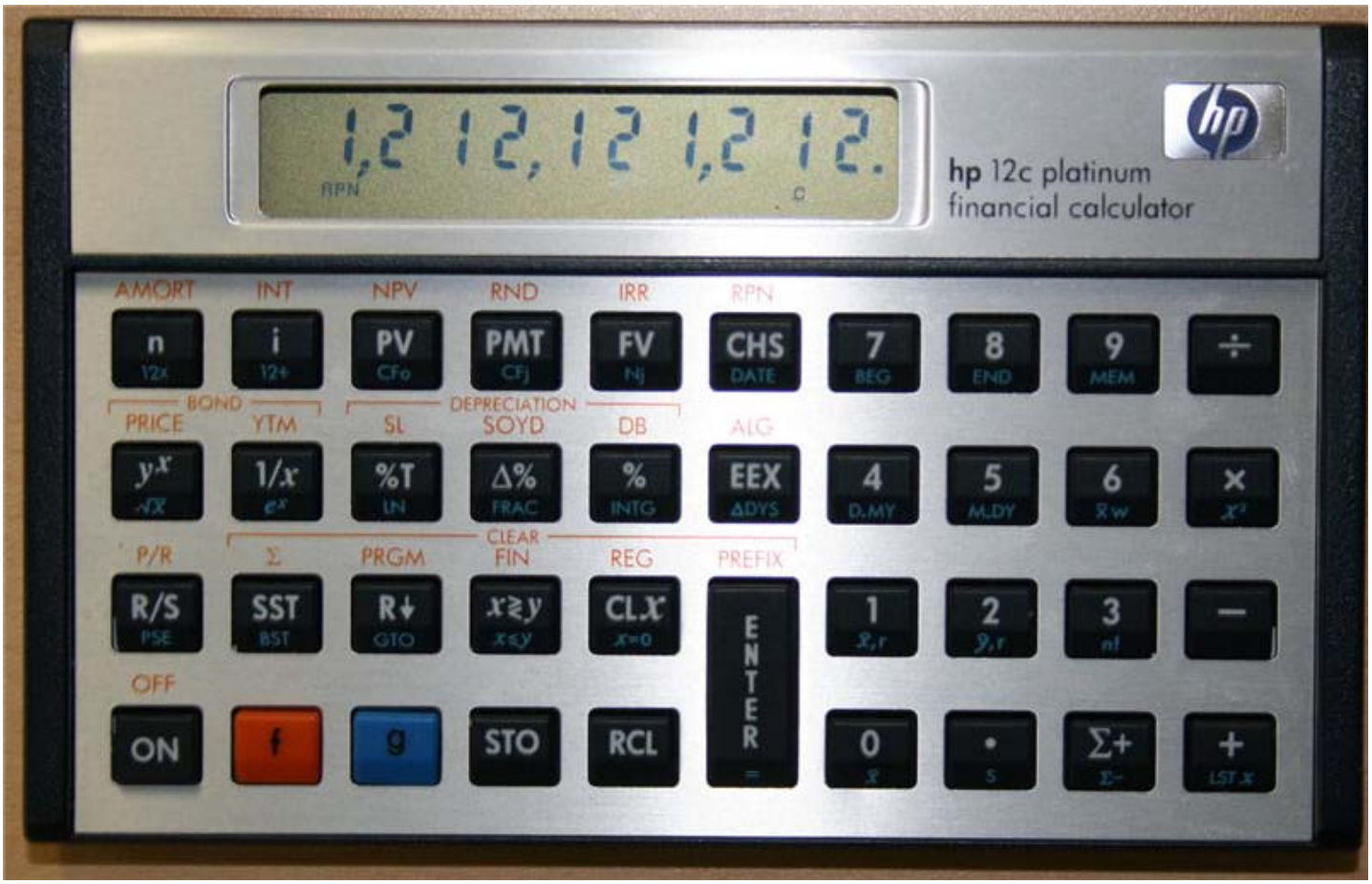
Edited: 17 Oct 2011, 2:28 p.m.

Re: Am I a bad person ?

*Message #5 Posted by **Nicholas Winterer** on 17 Oct 2011, 2:33 p.m.,*
in response to message #3 by uhmgawa

> Quote:
>
> I'd hazard this is a functional work-alike and not "leveraging" legacy firmware?

If they did borrow HP firmware, it's probably from the old silver 12C Platinum. Same number of program steps and same keyboard layout:



Re: Am I a bad person ?

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 17 Oct 2011, 5:35 p.m.,*
in response to message #3 by uhmgawa

Related discussion from the archieves with pictures http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=132456

uhmgawa; popped apart picture

*Message #7 Posted by **db (martinez, ca.)** on 21 Oct 2011, 12:07 a.m.,*
in response to message #3 by uhmgawa

not a very detailed photo but: click here

i don't think that anything from the victor will work on an hp.

Re: uhmgawa; popped apart picture

*Message #8 Posted by **uhmgawa** on 21 Oct 2011, 12:46 a.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> not a very detailed photo but: click here
>
> i don't think that anything from the victor will work on an hp.

I'd agree.

Yet if it has flash resident firmware (doubtful) and a full voyager set of annunciators (?) it might be worth a swat to

determine weather it could be repurposed. Although that may be overly optimistic.

Re: uhmgawa; popped apart picture

*Message #9 Posted by **Paul Berger (Canada)** on 21 Oct 2011, 8:57 a.m.,*
in response to message #8 by uhmgawa

The 8 pads arranged in two row at the right of the board look like they may be either JTAG or serial link connectors, it appears that some of them are labeled, but the picture resolution is too low to make out what it says.

Re: Am I a bad person ?

*Message #10 Posted by **j beede** on 17 Oct 2011, 4:37 p.m.,*
in response to message #1 by Michael de Estrada

If you don't care about how the buttons feel I would buy it. After RPN, the tactile feel of HP calculators is the most important feature for me--that feel makes it easier for me to know when I have missed a keystroke in a large/fast sequence.

Do they offer an HP-16C clone for $15 :)

Re: Am I a bad person ?

*Message #11 Posted by **John B. Smitherman** on 17 Oct 2011, 5:06 p.m.,*
in response to message #10 by j beede

> Quote:
>
> Do they offer an HP-16C clone for $15 :)

Next, is a 15c le clone for $15. ;-)

John

Re: Am I a bad person ?

*Message #12 Posted by **Bruce Bergman** on 17 Oct 2011, 8:23 p.m.,*
in response to message #1 by Michael de Estrada

LOL. I actually bought three of these myself ($9 each on a DealNews Deal) to toss in the garage and the truck; places I wouldn't normally keep a valuable HP calculator. So, they do have their purposes! :-)

Thanks,

Bruce

Re: Am I a bad person ?

*Message #13 Posted by **db (martinez, ca.)** on 17 Oct 2011, 9:33 p.m.,*
in response to message #1 by Michael de Estrada

No you're not a bad person. I'm sure the other Mike here would urge us to give you "unconditional positive regard" in this, and he's even got RPN (not hp) license plates!

I've had one of these for a long time and noticed you didn't mention the best thing about it. The screen has **BIG NUMBERS** that are suited to yours and my aging eyes. The screen is angled toward the user too.

Re: Am I a bad person ?

*Message #14 Posted by **Eddie W. Shore** on 18 Oct 2011, 9:32 a.m.,*
in response to message #1 by Michael de Estrada

I don't think so - I have been curious about this clone myself. $15 though?

Re: Am I a bad person ?

*Message #15 Posted by **Michael de Estrada** on 18 Oct 2011, 9:37 a.m.,*
in response to message #14 by Eddie W. Shore

$14.98, actually. Victor V12

Re: Am I a bad person ?

*Message #16 Posted by **Katie Wasserman** on 18 Oct 2011, 10:56 a.m.,*
in response to message #15 by Michael de Estrada

If you want a disposable 12C clone, get a Compucessory 28956. They're all over the internet usually for around $10.

While the Compucessary is smaller, the Victor V12 is much more usable. The programing codes on the Compucessary make no sense becasue they ripped off the firmware and permuted the rows and columns of the keys.

Re: Am I a bad person ?

*Message #17 Posted by **M. Joury** on 18 Oct 2011, 11:26 a.m.,*
in response to message #16 by Katie Wasserman

LOL! How the heck are you supposed to read a program? Writing one may be possible but editing it a month later would prove...

Cheers,

-Marwan

Re: Am I a bad person ?

*Message #18 Posted by **Bruce Bergman** on 18 Oct 2011, 11:43 a.m.,*
in response to message #16 by Katie Wasserman

In fact, the only things good about the Compucessory are it's size (very small and flat) and the little slidey keyboard cover. ;-)

I tried one of these too, and just like Katie said, it's all wonky. The keys are moved around in different places, the colors suck, the labels are small, etc. BUT, it does do RPN and have a good pile of basic HP-like calculator functionality.

I keep that one in a folio binder because it's very small.

The Victor is much bigger (um, maybe twice as big), but has a really nice angled display. My wife actually like that quite a bit.

Thanks, Bruce

Re: Am I a bad person ?

*Message #19 Posted by **Bart (UK)** on 19 Oct 2011, 6:05 a.m.,*
in response to message #18 by Bruce Bergman

> Quote:
>
> In fact, the only things good about the Compucessory are it's size (very small and flat) and the little slidey keyboard cover. ;-)

And it has the parenthesis for ALG mode (above the X->M and M->X keys which I presume are the equivalent of STO and RCL). So where the Victor rips-off the fist 12C Paltinum (all silver), this one actually rips off the current Platinum?

Re: Am I a bad person ?

*Message #20 Posted by **Michael de Estrada** on 19 Oct 2011, 8:43 a.m.,*
in response to message #19 by Bart (UK)

I think the Compucessory "rips off" the original 12C, not the Platinum 12CP.

Re: Am I a bad person ?

*Message #21 Posted by **Bart (UK)** on 19 Oct 2011, 9:13 a.m.,*
in response to message #20 by Michael de Estrada

Ah, the original 12C does not have Algebraic mode ;-)

Re: Am I a bad person ?

*Message #22 Posted by **Michael de Estrada** on 19 Oct 2011, 9:32 a.m.,*
in response to message #21 by Bart (UK)

I looked up its specs, and the Compucessory has 99 programming steps, same as the original 12C, whereas the 12CP has 400 steps. Maybe the () are there just for decoration.

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #23 Posted by **Bart (UK)** on 19 Oct 2011, 9:45 a.m.,*
in response to message #22 by Michael de Estrada

Interesting, it has blue shifted "RPN" and "ALG" above the "+/-" and "EXP" keys respectively - and other shifted symbols that are only on the 12C Platinum.
The specs (even on the Compucessory site) are very meagre.

As Katie and Bruce have already used one, perhaps they can shed some light on it?

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #24 Posted by **Katie Wasserman** on 19 Oct 2011, 10:59 a.m.,*
in response to message #23 by Bart (UK)

The Compucessory adds a margin calculation function (COST/SELL/MGN) so it's not just stolen firmware. Its manual leaves out a lot of the functionality that's actually in the calculator. It's a really weird 'thing' that seems to be based on stolen 12CP source code.

They all share a common date arithmetic bug that HP introduced with the 38C/E, which is a pretty interesting tracer for common code somewhere. I'm about to write that up in a new Forum post.

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #25 Posted by **Michael de Estrada** on 19 Oct 2011, 11:11 a.m.,*
in response to message #24 by Katie Wasserman

So, does it have 400 programming steps like the 12CP, or just 99 like the original 12C ?

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #26 Posted by **Katie Wasserman** on 19 Oct 2011, 11:35 a.m.,*
in response to message #25 by Michael de Estrada

It's got 400 steps but only 31 cash flow registers, so it's likely based on the early model 12CP source code.

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #27 Posted by **Bart (UK)** on 19 Oct 2011, 11:47 a.m.,*
in response to message #26 by Katie Wasserman

Which raises the question: Do the parenthesis work? (I tried on a silver 12CP and it definitely is not in the code either - i.e. it's not just an omission on the keyboard).

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #28 Posted by **Katie Wasserman** on 19 Oct 2011, 7:34 p.m.,*
in response to message #27 by Bart (UK)

The parenthesis definitely work on the 12CP 25th AE, up to 13 levels deep. You have an early edition 12CP the one with 31 cash flows, I think. I don't have a Compucessory with me so can't check if they are working on that machine, but I think that they do. Bruce do you know?

Re: Compucessoy 28956- Katie or Bruce can you shed some light on this?

*Message #29 Posted by **Bart (UK)** on 20 Oct 2011, 4:58 a.m.,*
in response to message #28 by Katie Wasserman

The 12CP I am talking about is the first release with the silver keyboard faceplate (here is the one I have). These do not have the parenthesis printed on the keyboard.

As far as I am aware, the 25th AE and all dark keyboard faceplate 12CP have parenthesis on the STO & RCL keys.

Thus if the V12 does not have the parenthesis, it is equivalent to that first release 12CP. The question is whether the Compucessory is equivalent to the early or later 12CP. If it has the parenthesis merely printed on but not working it would be an earlier 12CP (silver key faceplate 12CP), otherwise a later (dark key faceplate) 12CP.

Edited: 20 Oct 2011, 5:06 a.m.

$10 but with $5 to $10 shipping it seems...

*Message #30 Posted by **gene wright** on 18 Oct 2011, 12:24 p.m.,*
in response to message #16 by Katie Wasserman

Haven't found one for $10-12 shipped yet. Katie, have any good leads?

Re: $10 but with $5 to $10 shipping it seems...

*Message #31 Posted by **Katie Wasserman** on 18 Oct 2011, 10:24 p.m.,*
in response to message #30 by gene wright

Gene,

Buy 5 or more here. Include one with each cable you ship out and add $10 to the cost of the cable. You'll be an even bigger hit with us Forum goers than you are already!

-Katie

Re: Am I a bad person ?
*Message #32 Posted by **Bart (UK)** on 21 Oct 2011, 7:32 a.m.,*
in response to message #16 by Katie Wasserman

Hmmm, cannot find the Victor nor the Compucessory in the UK. No overseas dealer that ships to the UK and the few that are on auction are "ship to US only" as well.

Re: Am I a bad person ?
*Message #33 Posted by **db (martinez, ca.)** on 21 Oct 2011, 8:57 p.m.,*
in response to message #32 by Bart (UK)

Bart; If you want, you can get one and have it shipped to me then i can send it to you. Shipping from our east coast might be a bit cheaper but not much. Figure out which you want and which seller is less "dear". My suggestion for occasional use is the Victor but if you actually do bonds the Compucessory might be fun.

Re: Am I a bad person ?
*Message #34 Posted by **Bart (UK)** on 18 Oct 2011, 10:41 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Am I a bad person ?

Well, let's consider the fact that you purchased a calculator with an algebraic mode **that does not have parenthesis*!***.

Of course, as an RPN user you wouldn't even notice this - or probably not even care. ;-)

Re: Am I a bad person ?
*Message #35 Posted by **Michael de Estrada** on 18 Oct 2011, 11:34 a.m.,*
in response to message #34 by Bart (UK)

Heck, it doesn't even have an = sign. :)

Re: Am I a bad person ?
*Message #36 Posted by **Miguel Toro** on 18 Oct 2011, 11:46 a.m.,*
in response to message #35 by Michael de Estrada

It has, barely visible on the Enter key. It is a red key, so really dangerous :-)

Re: Am I a bad person ?
*Message #37 Posted by **Paul Gaster** on 18 Oct 2011, 12:13 p.m.,*
in response to message #34 by Bart (UK)

The first 12C Platinum, which added algebraic, did not have parenthesis either. These guys must have ripped off that design then never bothered to update it. Or maybe HP plugged the leak.

Edited: 18 Oct 2011, 12:14 p.m.

I just received a Victor V12
*Message #38 Posted by **Michael de Estrada** on 19 Oct 2011, 3:22 p.m.,*
in response to message #1 by Michael de Estrada

I just received the Victor V12 that I ordered last Sunday for $14.98 shipped, and it's brand new in its sealed package. There is no serial number that I can find so I have no idea when it was actually manufactured. It's pretty impressive for the price, decent contrast adjustable display and semi-clicky but very positive keys. I comes with a very nice magnetic clasp case and readable printed Owners Guide. The 2 x AAA batteries were not installed, so they were nice and fresh. Overall quality seems very good, the battery door fits tight and the calc sits evenly on its 4 rubber feet. It fired up in RPN mode and everything seems to work like it should. At this price I'm thinking of picking up another to keep as a spare.

Re: Am I a bad person ?

*Message #39 Posted by **Eddie W. Shore** on 19 Oct 2011, 11:20 p.m.,*
in response to message #1 by Michael de Estrada

OK, the curiousity got me - I got a Victor 12C today. It is my first non-HP RPN calculator. I'm curious to find out how good it is against the real thing.

Victor V12 x 2

*Message #40 Posted by **Michael de Estrada** on 20 Oct 2011, 11:53 p.m.,*
in response to message #39 by Eddie W. Shore

I just bought my second Victor V12 for just $14.98 shipped. How can you beat this for the cheapest RPN programmable calculator with a good keyboard and display ? And it even comes with a really nice magnetic clasp carry case.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Problems with International Shipping of HP15c LE

*Message #1 Posted by **Nick_S** on 17 Oct 2011, 11:15 a.m.*

Hi

I just joined the MoHPC forum having been reading the entries here for a while. Based in Athens, Greece, I currently use HP28S and HP48GX calculators which I have owned since new.

I thought I would purchase a couple of HP15c LE calculators, while they are available, as a portable carry around calculator and to have a slice of calculator history. So I placed an order with Samson Cables and watched them slowly make their way to Europe. Unfortunately things seem to have gone wrong along the way. Why the package ended up in French Customs (via New Caledonia) when I live in Greece is an enigma to me. It now appears to have turned around and is returning to the USA. I have contacted Samson Cables to see what they can do.

Here is the track and trace information for the USPS Express Mail International delivery:

-Addressee cannot be located, Item returned to sender, October 17, 2011, 11:18 am, FRANCE

-Customs Clearance, October 13, 2011, 10:51 am, FRANCE

-Customs Clearance, October 10, 2011, 11:35 am, FRANCE

-Processed Through Sort Facility, October 10, 2011, 11:33 am, FRANCE

-Processed Through Sort Facility, October 06, 2011, 10:50 am, NEW CALEDONIA

-Processed Through Sort Facility, September 27, 2011, 9:33 pm, ISC SAN FRANCISCO (USPS)

-Arrived at Sort Facility, September 27, 2011, 9:32 pm, ISC SAN FRANCISCO (USPS)

-Electronic Shipping Info Received, September 27, 2011

-Processed through USPS Sort Facility, September 26, 2011, 9:05 pm, SALT LAKE CITY, UT 84199

-Acceptance, September 26, 2011, 5:24 pm, DRAPER, UT 84020

The USPS seem to have messed up here.

Nick

Edited: 17 Oct 2011, 11:52 a.m. after one or more responses were posted

Re: Problems with International shipping of HP15c LE

*Message #2 Posted by **Eric Rechlin** on 17 Oct 2011, 11:23 a.m.,*
in response to message #1 by Nick_S

I've noticed a definite degradation in service with the USPS lately.

I mailed two packages to Norway by Priority Mail on the same day in early September. One arrived in 10 days, which is pretty much normal. The other took a full month to arrive, spending 2 weeks sitting in Chicago.

As some of you know, the package containing the DVDs to be distributed at the HHC conference was mailed from Chicago by Priority Mail, and instead of the 2 days that would be expected (3 at worst), it took a full 7 days to arrive.

Also, some domestic letters addressed perfectly have come back marked as having an invalid address, yet sending them again causes them to go through, so there seems to be some laziness on the part of the delivery people too.

This is what happens when Congress mandates a certain level of service out of the USPS (visiting every single address in the country, six days a week) while at the same time preventing them from raising rates enough to cover costs.

Eric

Re: Problems with International shipping of HP15c LE

*Message #3 Posted by **Paul Gaster** on 17 Oct 2011, 11:38 a.m.,*
in response to message #2 by Eric Rechlin

I live in a suburb of Chicago and agree on the degradation in service. My home mail used to be delivered roughly between 12 and 2 pm, but 2 weeks ago I saw a new mail delivery person delivering at 8 pm. Another night it was after 7 pm. They seemed to have changed all the routes and the people around. I do not know exactly what is going on but things seemed to have gone drastically downhill.

Re: Problems with International Shipping of HP15c LE

*Message #4 Posted by **Thomas Radtke** on 17 Oct 2011, 12:36 p.m.,*
in response to message #1 by Nick_S

Simple explanation: The tracking number doesn't belong to your parcel.

Another one: A french investment bank has bought Greece.

Best bet: SC mixed up your address.

Either way you'll get it - sooner or later.

Re: Problems with International Shipping of HP15c LE

*Message #5 Posted by **Martin Pinckney** on 17 Oct 2011, 1:54 p.m.,*
in response to message #1 by Nick_S

Back in the day (early 1960s, latest) my father used to get mail addressed only with his name and city, state. No street, no number, no zip.

Now if the 5-digit zip is off on the last digit only, it will get returned.

Re: Problems with International Shipping of HP15c LE

*Message #6 Posted by **Dave Shaffer (Arizona)** on 17 Oct 2011, 3:55 p.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Back in the day (early 1960s, latest) my father used to get mail addressed only with his name and city, state. No street, no number, no zip

In the 60's, I could get mail delivered with only my ham call and ZIP:

K3NXO 16652

would get to me.

I had forwarned the local PO though!

Other than perhaps Santa Claus ("North Pole") or the "White House", I don't think you can do much better.

Re: Problems with International Shipping of HP15c LE

*Message #7 Posted by **Eric Rechlin** on 17 Oct 2011, 6:04 p.m.,*
in response to message #5 by Martin Pinckney

Actually about a year ago I got a package where the sender had the wrong ZIP code, spelled the city wrong, and had the wrong street address, and it still got to me on time. I was astonished. So sometimes the USPS does seem to care.

Another time, about 10 years ago, I got a magazine where the address label had been nearly completely torn off, showing only the following:

```
ERIC REC
6330 MAI
HOUSTON
```

Most impressive was that >200 people shared that address.

I think it's only been this year that the USPS has gone downhill. One of the clerks at my post office has expressed her exasperation to me (I've helped her out in the past, repairing their calculators and stuff). It's pretty sad what's going on there now.

Eric

Re: Problems with International Shipping of HP15c LE

*Message #8 Posted by **bill platt** on 17 Oct 2011, 8:20 p.m.,*
in response to message #7 by Eric Rechlin

You are absolutely right on every point.

Re: Problems with International Shipping of HP15c LE

*Message #9 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 6:18 p.m.,*
in response to message #1 by Nick_S

Once in a while they make mistakes, reversible mistakes though. Early this year I ordered a Foxconn motherboard from China. I live in Curitiba, Brazil, in a neighborhood called São Francisco. When tracking the item I noticed the item ended up going to San Francisco California. The seller called USPS and it eventually arrived at my door one week later. My three HP-15C LE's haven't arrived yet. Last time I checked they were in São Paulo, waiting to be taxed.

Good luck!

Gerson.

Re: Problems with International Shipping of HP15c LE

*Message #10 Posted by **Nick_S** on 18 Oct 2011, 2:25 a.m.,*
in response to message #9 by Gerson W. Barbosa

Gerson, that is reassuring. Samson Cables are currently following this up with USPS.

Nick

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thank you HP!

*Message #1 Posted by **Graham D. Wilson** on 17 Oct 2011, 12:32 a.m.*

My 15c LE (no. 02534) arrived late last week in Cape Town. I don't own a vintage 15c to compare it to, but I'm very impressed with the LE - build quality, size and capabilities - and can easily see why the 15c is so popular. The LE really does envoke the heyday of HP calculators.

THANK YOU Tim. Cyrille and everyone from HP for bringing this calculator back into production.

---- My HP pedigree ----
sci rpn: 29C, *15C LE*, 32Sii, 42S
sci rpl: 28S, 48G+, 48GX
bus: 17Bii, 19Bii, 17Bii+(silver)

Re: Thank you HP!

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 10:56 a.m.,*
in response to message #1 by Graham D. Wilson

You're lacking a 34S! ;-)

Re: Thank you HP!

*Message #3 Posted by **John Abbott (S. Africa)** on 17 Oct 2011, 1:42 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Definitely agree with Marcus :)
Over the years I have had, and still have a number of HP's.
The wp34s is feature rich, and is really something to get excited about - get one Graham, you won't be disappointed.
By the way, I also live in SA - where did you order your 15cLE from?
John

Re: Thank you HP!

*Message #4 Posted by **Graham D. Wilson** on 17 Oct 2011, 2:16 p.m.,*
in response to message #3 by John Abbott (S. Africa)

Got mine by post from Samson Cables in Utah.

I paid $99 + $24 shipping to SA. But I see they've now increased the price by 50%!

[Return to Index | Top of Index]

Go back to the main exhibit hall

Thank you HP!

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE Diagnostics.

*Message #1 Posted by **robertoataulfo** on 17 Oct 2011, 7:45 a.m.*

```
"The original ON-divide keyboard test can be made to work on the new Limited Edition models.
Once you press ON and divide, you must start the test without delay.
You have about a one-second time limit to press each key in the sequence.
If you take too long, you'll get an Error 9.
If you complete the test quickly enough, the calculator will display '15' centered on the
screen."
```

Edited: 17 Oct 2011, 7:45 a.m.

Re: 15C LE Diagnostics.

*Message #2 Posted by **DigiGal** on 17 Oct 2011, 5:55 p.m.,*
in response to message #1 by robertoataulfo

Quote:

> "The original ON-divide keyboard test can be made to work on the new Limited Edition models.
> Once you press ON and divide, you must start the test without delay.
> You have about a one-second time limit to press each key in the sequence.
> If you take too long, you'll get an Error 9.
> If you complete the test quickly enough, the calculator will display '15' centered on the screen."

Wow, the posts and threads are really moving fast these days.

Turns out this has been posted at least a couple of times already.

I recently posted a photo of my original 15c and 15c LE together. In the photo the display shows the results after running the [ON] [÷] keyboard tests on each unit. Guess even that photo got bumped to the archive already.

Thanks for posting again though, it is real easy to miss a post or even a whole thread these days.

Edited: 18 Oct 2011, 1:19 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT weird cursor behavior

*Message #1 Posted by **Martin Pinckney** on 16 Oct 2011, 11:03 p.m.*

I asked this question before, and no one seemed to know the answer. Its driving me crazy. My cursor jumps around the page as I type, resulting in a mish-mash of mixed-up words. It's getting worse. I can't type a complete sentence now without a problem.

It happens in any program when editing text, but it seems to be worse when on line. Sometimes when typing an email or a post on this forum, a whole section of text gets highlighted on its own, then, not watching the screen, I replace it with new text. When I see what has happened, then I have to UNDO and try again.

Any ideas from you computer geeks?

Re: OT weird cursor behavior

*Message #2 Posted by **Paul Berger (Canada)** on 16 Oct 2011, 11:23 p.m.,*
in response to message #1 by Martin Pinckney

Well for starters what kind of computer? and what OS? How is the keyboard connected? wired? wireless? Do you have some alternate OS you could boot on the system to isolate if it is a hardware or a software issue? For example if you are using a x86 windows compatable system you could download and burn a linux CD Kanoppix that is designed to run off the CD and see if the behaviour is the same there.

Re: OT weird cursor behavior

*Message #3 Posted by **Lincoln R.** on 16 Oct 2011, 11:23 p.m.,*
in response to message #1 by Martin Pinckney

This is a really obvious one, but if you're on a laptop, make sure part of your hand isn't hitting the track pad. If you're on a desktop I'd suspect a faulty mouse.

Re: OT weird cursor behavior

*Message #4 Posted by **kc** on 16 Oct 2011, 11:33 p.m.,*
in response to message #3 by Lincoln R.

Yes, I happened to have similar problem with my newly bought notebook, only to find out later that it was my hand that got in touch with the track-pad while typing. Trivial problem, but real.
kc

Re: OT weird cursor behavior

*Message #5 Posted by **Bart (UK)** on 17 Oct 2011, 5:11 a.m.,*
in response to message #4 by kc

I hate touchpads, worst invention ever in my opinion. Cost me many hours of wotk. I now always attach a mouse.

Re: OT weird cursor behavior

*Message #6 Posted by **Eric Smith** on 17 Oct 2011, 5:30 a.m.,*
in response to message #5 by Bart (UK)

Some notebooks provide a button to toggle the touchpad on and off, so that you can disable it when using an external mouse. Sadly, the one I have does not, so I still have to live with the cursor jumping away if I get my thumbs or palms too close to the touchpad while typing.

Re: OT weird cursor behavior

*Message #7 Posted by **Paul Berger (Canada)** on 17 Oct 2011, 6:34 a.m.,*
in response to message #6 by Eric Smith

My Lenovo laptop has a utility to enable or disable the entire trackpad or just certain features of it. I do use the trackpad but dislike the tapping and scrolling "features" so I turn them off however periodically I discover that they get re-enabled some how.

Re: OT weird cursor behavior

*Message #8 Posted by **Katie Wasserman** on 16 Oct 2011, 11:24 p.m.,*
in response to message #1 by Martin Pinckney

Do you have a wireless keyboard and/or mouse?

If so, something is interfering with it or the battery is low. Try a new battery and if that doens't help move the USB wireless receiver to a different USB port as far from the old one as possible.

If you have a wired keyboard/mouse and this is happening you might have a virus or a broken keyboard or mouse.

Re: OT weird cursor behavior

*Message #9 Posted by **Dave Shaffer (Arizona)** on 16 Oct 2011, 11:30 p.m.,*
in response to message #1 by Martin Pinckney

Could it be your computer (in particular the keyboard/mouse)?

Does it happen if you try different PCs?

When I type on one of my my laptops, I have to be very careful to not let my palm brush the "mouse" touchpad. Otherwise, the cursor can indeed go far astray - and if I am not watching, I start typing somewhere else.

Re: OT weird cursor behavior

*Message #10 Posted by **Martin Pinckney** on 17 Oct 2011, 10:49 a.m.,*
in response to message #1 by Martin Pinckney

Sorry, I should have given more information. It's a tablet PC (HP, of course). Actually, I think generically they are called convertible, since the screen pivots so you can use it like a regular laptop, or folded like a tablet. Windows 7 Pro 32 bit. I don't use the touchpad, I use a Microsoft notebook optical mouse.

I wondered about the touchpad, but if I'm just typing, the mouse cursor is independent from the text cursor, so I am at a loss how that could be the problem.

Edited: 17 Oct 2011, 10:50 a.m.

Re: OT weird cursor behavior

*Message #11 Posted by **Paul Berger (Canada)** on 17 Oct 2011, 10:54 a.m.,*
in response to message #10 by Martin Pinckney

Well typical touchpad operation allow for moving the mouse pointer and also simulation of mouse buttons sometimes referred to as tapping, if that is enabled then it could easily move the mouse pointer and then effectively click elsewhere which i believe would move your text cursor, and could even have the same effect as click and drag. I would look in the windows setting for something to completely disable the track pad if you don't use it or at least to turn off tapping. If it is anything like the track pad on my Lenovo laptop it will also have physical buttons that you may also be inadvertently hitting.

Edited: 17 Oct 2011, 10:57 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Different keyboards on ARM 12c

*Message #1 Posted by **Jose Gonzalez Divasson** on 16 Oct 2011, 4:24 p.m.*

It seems that there are variations on the HP12c keyboard (ARM version). Does anybody have some information on it?

HP12c keyboard variations

One of my customers claims there are clear differences when it comes to key feel and key registration - so far I have not been able to find any. If anything, numbers are bigger and sharper.

The new Anniversary comes with the previous type of keyboard.

Re: Different keyboards on ARM 12c

*Message #2 Posted by **bill platt** on 16 Oct 2011, 5:46 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Wow, the text is different!

Re: Different keyboards on ARM 12c

*Message #3 Posted by **Paulo MO** on 16 Oct 2011, 6:14 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I can tell you this: Your customer's info is probably right. I just bought a new 12c+, and a 15C LE. They are supposed to have the same hardware, and, hence the same keyboard feel. Not so, by a long shot. The 15c LE keyboard is much harder and more precise. The 12c+ keyboard is much softer (even though not mushy). Additionally, is has receding keys and a defective Enter key (I'm now having the calculator replaced). The key print is exactly the same you have on the picture (the "new", "sub-par", one).

Different factory? Different assembly line? Different dome materials? I don't know. But I know this: different ball game.

Paulo

Edited: 16 Oct 2011, 6:19 p.m.

Re: Different keyboards on ARM 12c

*Message #4 Posted by **Jeff O.** on 16 Oct 2011, 7:19 p.m.,*
in response to message #3 by Paulo MO

I believe that the first 3 characters of the serial number denote the factory of manufacture (country also, but that is China in all cases.) So the calculators pictured were made in different factories, 4CY vs. CNA. My 15c LE was made in the CNA factory. Where was your 12c+ made?

Re: Different keyboards on ARM 12c

*Message #5 Posted by **Lincoln R.** on 16 Oct 2011, 9:19 p.m.,*
in response to message #4 by Jeff O.

Yes, 4CY is a different factory. I do not work for HP or either of these companies, so I am not 100% sure, but I believe that 4CY == Inventec Appliance, and CNA == Kinpo Electronics.

We know HP uses both of these manufacturers (They've admitted to using Kinpo, and some of the PDFs in the 20b SDK had engineering drawings by Inventec).

My reasoning for believing this mapping of serial number to manufacturer is as follows:

We know that Kinpo made the HP-35s, and the 35S has a "Regulatory Model Number" molded into the back that reads HSTNJ-KN01, and a serial number beginning with CNA.

My 30b has a serial number beginning with 4CY and a "Regulatory Model Number" of HSTNJ-IN07. My 12c+ looks like the 'unexpected' one and has a 4CY serial number, regulatory model number HSTNJ-IN04. Also, the 30b and 12c+ serial number stickers are the same color and same font.

My 15C LE has a CNA serial number and model number HSTNJ-KN13. Its' serial number sticker doesn't match the 30b or 12c+ ones.

And sure enough, if you look at the picture of the backs of the two 12c+es, you'll notice "HSTNJ-IN04" underneath the multilingual "Product of China" on the 4CY one, and "HSTNJ-KN05" underneath "Product of China" on the CNA one.

Edited: 16 Oct 2011, 9:22 p.m.

Re: Different keyboards on ARM 12c

*Message #6 Posted by **Miguel Toro** on 17 Oct 2011, 10:55 a.m.,*
in response to message #5 by Lincoln R.

Really interesting,

So, there are two different manufacturers for the 12c+. Is it the same for the 15C LE? Is there any non Kimpo 15C LE?

Mine is CNA13208LC and a "Regulatory Model Number" of HSTNJ-KN13, therefore a Kimpo with the two bad keys [10^x] and [GSB] that, by the way, seem to be really improving little by little with usage.

Regards,

Miguel

Re: Different keyboards on ARM 12c

*Message #7 Posted by **Paulo MO** on 17 Oct 2011, 1:52 p.m.,*
in response to message #4 by Jeff O.

My "sub-par" 12c+ (I love the use of "sub-par", when referring to a less than good financial calculator ;-)) is also a 4CY. Hence, and trying to apply a little bit of abductive reasoning (even though three or four cases are not a sufficient basis for statistical inference), it would seem that:

1. CNA is producing keyboards which are hard and precise.

2. 4CY produces keyboards with lower overall quality.

3. Both 4CY and CNA produce keyboards with ocasional bad keys (eventually at a more than acceptable rate - see the 15c LEs).

Care to build statistics to verify the hypothesis? ;-)

Paulo

Edited: 17 Oct 2011, 1:56 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The ISENE.ROM

*Message #1 Posted by **Geir Isene** on 16 Oct 2011, 1:12 p.m.*

As mentioned a week ago, it is now very easy to create FOCAL rom images. With HEPAX in an HP-41CL or an HP-41 with a NoV module, you can now create your FOCAL roms with ease. Transfer the image with Juergen Keller's recipe .

First ROM out is my own - a collection of my FOCAL programs in a 4K module image.

From the UC-41 page:

"The most useful of my FOCAL programs below is now contained in one 4K ROM image - the ISENE.ROM. Here you will find the Ultimate Alarm Clock, the PDA programs NOTES and REM as well as CRYPT to encrypt and decrypt ascii files and other neat stuff for your HP-41.

Download the ISENE.ROM and the detailed manual."

Testing reports are highly appreciated.

Re: The ISENE.ROM

*Message #2 Posted by **Ángel Martin** on 16 Oct 2011, 2:48 p.m.,*
in response to message #1 by Geir Isene

nice! The avalanche has begun :-)

What about your enhanced Curve Fitting maisterwerk?

Re: The ISENE.ROM

*Message #3 Posted by **Geir Isene** on 16 Oct 2011, 4:29 p.m.,*
in response to message #2 by Ángel Martin

Yes - the curve fitting on steroids will show up later.

Re: The ISENE.ROM

*Message #4 Posted by **Ángel Martin** on 16 Oct 2011, 2:50 p.m.,*
in response to message #1 by Geir Isene

BTW, the CharterBT-Roman font doesn't seem to be available in the standard adobe setup, so there are some lines illegible (table of contents, etc.)

Re: The ISENE.ROM

*Message #5 Posted by **Geir Isene** on 16 Oct 2011, 4:13 p.m.,*
in response to message #4 by Ángel Martin

Thanks - fixed.

Nice to have you guys in my corner to correct things :)

Re: The ISENE.ROM

*Message #6 Posted by **Ángel Martin** on 17 Oct 2011, 1:15 a.m.,*
in response to message #5 by Geir Isene

Looking much better, thanks. Still the LIBHPX section contains the non-standard font, sure you can also change that.

Re: The ISENE.ROM

*Message #7 Posted by **Geir Isene** on 17 Oct 2011, 6:01 a.m.,*
in response to message #6 by Ángel Martin

Fixed.

Re: The ISENE.ROM

*Message #8 Posted by **Geir Isene** on 16 Oct 2011, 4:22 p.m.,*
in response to message #1 by Geir Isene

BTW - here's how it's done:

1. Initialize HEPAX on the CL (via the HEPCL function in CLUTILS) or use a NoV module (Diego's marvel)
2. Save the programs you want in your module (HSAVEP) in the sequence you want them to appear in the module (make a short "Header program" as the first in the list - this will show up as the "name" of your module in CAT2)
3. Use BLCAT (from CLUTILS) or similar function to check when your saved programs goes past the first 4K of HEPAX RAM
4. When you are satisfied with your new FOCAL rom, edit a few addresses in the ROM:
5. Write h300 to XFF3 (where X is the page number where your HEPAX RAM/module is located) and h000 to XFE7 and XFE8 - this signifies that this is no longer a HEPAX RAM block.
6. Go to X000 and write any number from h001 to h01F as the XROM number you want for your new module.
7. Then use the recipe linked above to transfer the module to your PC and turn it into a real .ROM file.

Re: The ISENE.ROM

*Message #9 Posted by **Namir** on 17 Oct 2011, 2:54 a.m.,*
in response to message #1 by Geir Isene

Can you post an ISENE.MOD file so many of us can easy load it to HP-41CX emulators?

Thanks,

Namir

Re: The ISENE.ROM

*Message #10 Posted by **Geir Isene** on 17 Oct 2011, 3:11 a.m.,*

in response to message #9 by Namir

Never done that. Recipe?

Re: The ISENE.ROM

*Message #11 Posted by **Ángel Martin** on 17 Oct 2011, 3:35 a.m.,*
in response to message #10 by Geir Isene

Using ML2k manager is a piece of cake.

Re: The ISENE.ROM

*Message #12 Posted by **Namir** on 17 Oct 2011, 5:13 a.m.,*
in response to message #11 by Ángel Martin

Can someone do that and share the MOD file with the rest of us?

Re: The ISENE.ROM

*Message #13 Posted by **Ángel Martin** on 17 Oct 2011, 7:33 a.m.,*
in response to message #12 by Namir

Done.- will email it to you later today.

Re: The ISENE.ROM

*Message #14 Posted by **Namir** on 17 Oct 2011, 7:41 a.m.,*
in response to message #13 by Ángel Martin

Angel, you are the man!!!!

Many thanks!!

Namir

Re: The ISENE.ROM

*Message #15 Posted by **Geir Isene** on 17 Oct 2011, 11:35 a.m.,*
in response to message #14 by Namir

Thanks to Ángel; Here's the direct link: ISENE.MOD.

And available as usual on the UC-41 page.

Splurge on it.

Re: The ISENE.ROM

*Message #16 Posted by **Ángel Martin** on 17 Oct 2011, 1:26 p.m.,*
in response to message #14 by Namir

It really is a trivial afair using ML2k manager SW - which is free and doesn't require an MLDL2k to run - so we have Meindert to thank!

Re: The ISENE.ROM

*Message #17 Posted by **Geir Isene** on 17 Oct 2011, 2:21 p.m.,*
in response to message #16 by Ángel Martin

Ah, I have thought that I needed the device itself to do this. Now I downloaded the software and got it running under WINE, so now I can churn out both ROM and MOD files.

Re: The ISENE.ROM

*Message #18 Posted by **Monte Dalrymple** on 17 Oct 2011, 10:45 a.m.,*
in response to message #12 by Namir

You need it in .ROM format for transfer to the 41CL.

Re: The ISENE.ROM

*Message #19 Posted by **Gerry Schultz** on 17 Oct 2011, 2:12 p.m.,*
in response to message #18 by Monte Dalrymple

Hi Monte. I scanned through the 41CL manual on your website yesterday. How does a user load a new ROM image into the 41CL? Is there a PC based application that can 'talk' to the 41CL through the serial port or do you use the 'Updating the 41CL Hardware' procedure in your manual?

Thanks, Gerry

Re: The ISENE.ROM

*Message #20 Posted by **Monte Dalrymple** on 17 Oct 2011, 4:42 p.m.,*
in response to message #19 by Gerry Schultz

A couple of the Beta testers stepped up here.

Antti Louko wrote python scripts for linux and
Raymond Wiker wrote a program that uses the MS .NET framework.

I'll ask them for permission to post it on my 41CL pages,
or perhaps on the 41CL wiki: http://www.wiki4hp.com/doku.php?id=41cl:replacement_cpu_board

The serial port and the YIMP function is used to import stuff.

Monte

Edited: 18 Oct 2011, 10:01 a.m. after one or more responses were posted

Re: The ISENE.ROM

*Message #21 Posted by **Geir Isene** on 17 Oct 2011, 5:08 p.m.,*
in response to message #20 by Monte Dalrymple

Or you can use a PIL BOX. Or an RS-232/IL converter (if you are into tinkering).

Re: The ISENE.ROM

*Message #22 Posted by **Gerry Schultz** on 17 Oct 2011, 6:44 p.m.,*
in response to message #21 by Geir Isene

Thanks Monte and Geir. Actually I have both the PIL Box and the RS-232/IL converter. I'm on the waiting list for the next batch of 41CL cards and it appears they will be available soon. Since I'm running Windows 7/WinXP on all my PCs, I would be interested in Raymond Wiker's program if he makes it available.

Thank you, Gerry

Re: The ISENE.ROM

*Message #23 Posted by **Monte Dalrymple** on 17 Oct 2011, 7:40 p.m.,*
in response to message #22 by Gerry Schultz

Raymond has graciously agreed to my posting it on the 41CL website, so expect to see it show up shortly.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP17BII+ Hardware - Atmel processor?

*Message #1 Posted by **Thomas Chrapkiewicz** on 16 Oct 2011, 12:28 p.m.*

Has anyone studied the HP17BII+ hardware?

HP.com indicates that it operates on (2)CR2032, 28k memory, has a clock/calendar, infrared and beeper output.

Is this based on the ATSAM processor? If so, is it 'flash'-able?

TomC (pardon me if this has been posted before - could not find a thread.)

Re: HP17BII+ Hardware - Atmel processor?

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 12:52 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

It's not! It's a mask programmed 6502 derived system. No way to update the firmware.

Re: HP17BII+ Hardware - Atmel processor?

*Message #3 Posted by **Thomas Chrapkiewicz** on 16 Oct 2011, 1:16 p.m.,*
in response to message #2 by Marcus von Cube, Germany

:(

Re: HP17BII+ Hardware - Atmel processor?

*Message #4 Posted by **Walter B** on 16 Oct 2011, 4:13 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

I share your feelings. Indeed this question was raised several times here already. The UI of the 17bii+ Silver is simply more attractive to techies like us :-)

Re: HP17BII+ Hardware - Atmel processor?

*Message #5 Posted by **JamesT** on 16 Oct 2011, 11:32 p.m.,*
in response to message #4 by Walter B

I find the 17BII+ to be a disappointing "upgrade" to the classic model. The solver is markedly slower and there are other limitations. It does have a nice look and feel though, but alas not function.

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

R.I.P. Denis Ritchie

*Message #1 Posted by **Dominic Richens** on 16 Oct 2011, 5:48 a.m.*

Died yesterday at age 70.

Re: R.I.P. Denis Ritchie

*Message #2 Posted by **Namir** on 16 Oct 2011, 8:42 a.m.,*
in response to message #1 by Dominic Richens

Your date "pointer" is corrupt!! Dennis passed away October 12.

Namir

Re: R.I.P. Denis Ritchie

*Message #3 Posted by **uhmgawa** on 16 Oct 2011, 11:06 a.m.,*
in response to message #2 by Namir

> Quote:
>
> Your date "pointer" is corrupt!! Dennis passed away October 12.
>
> Namir

I discovered that too last week after I'd unwittingly made a reference to him elsewhere in this forum.

It seems truly unfortunate for a man whose accomplishments permeate modern technology, to have his passing go comparatively unnoticed. Steve Jobs releases a few well thought out consumer devices and is hailed as a genius. So be it, credit given where it is due. But Dennis Ritchie provided the "shoulders" the entire industry built upon for the last 30 years. I can't even think of an equivalent analogy to underscore what this man has given us.

Re: R.I.P. Denis Ritchie

*Message #4 Posted by **Namir** on 16 Oct 2011, 12:16 p.m.,*
in response to message #3 by uhmgawa

While I made a living for may years writing C++ books, C++ would not exist if C did not succeed as it did. The credit goes to Ritchie! His influence is indeed great and has gone without the credit it truly deserves.

Re: R.I.P. Denis Ritchie

*Message #5 Posted by **Thomas Radtke** on 16 Oct 2011, 12:59 p.m.,*
in response to message #4 by Namir

Mr. Gates had an article in the Scientific American in the late 80th. That was the point I knew people are valued for their business, not their thoughts.

Re: R.I.P. Denis Ritchie

*Message #6 Posted by **David Ramsey** on 16 Oct 2011, 1:05 p.m.,*
in response to message #4 by Namir

I have real trouble dealing with the concept of "credit for C++". I'd be more inclined to use the phrase "Blame for C++"...

Of course that really goes to Stroustrup, not Richie. C was actually a wonderful accomplishment for its time, before it was eaten by Cthulu and crapped out as C++.

Edited: 16 Oct 2011, 1:07 p.m.

Re: R.I.P. Denis Ritchie

*Message #7 Posted by **Namir** on 16 Oct 2011, 2:13 p.m.,*
in response to message #6 by David Ramsey

What do you dislike about C++?

Re: R.I.P. Denis Ritchie

*Message #8 Posted by **Howard Owen** on 16 Oct 2011, 3:20 p.m.,*
in response to message #7 by Namir

Now for a long chewing over the question of which OO programming language/platform/environment is better. We can also haul in the merits of design by committee, whether or not this or that language has been used to create this or that wonderful/monstrous/useful/unusable software, whether this or that language **can** be used to do those things and so forth.

Oops, didn't mean to bring Forth into the discussion. :)

Re: R.I.P. Denis Ritchie

*Message #9 Posted by **Egan Ford** on 16 Oct 2011, 5:39 p.m.,*
in response to message #8 by Howard Owen

> Quote:
>
> Now for a long chewing over the question of which OO programming language/platform/environment is better.

Better for what? Given that language/platform/environment is often intertwined, then you have to use what the platform supports. E.g. Objective-C for iOS & OS/X, C++ for GNOME/KDE, C# & C++ for Windows, Java for JVM, etc...

OO language/platform/environment sometimes feels like a chore.

C OTOH is near ubiquitous, it's small, fast, and sexy, and can scale up and down.

Re: R.I.P. Denis Ritchie

*Message #10 Posted by **Howard Owen** on 16 Oct 2011, 8:31 p.m.,*
in response to message #9 by Egan Ford

I agree with you about C, Egan. I just sensed the imminent breakout of hostilities in the holy language wars around C++. :)

Re: R.I.P. Denis Ritchie

*Message #11 Posted by **David Ramsey** on 16 Oct 2011, 9:10 p.m.,*
in response to message #7 by Namir

Well, it's an object oriented layer on top of a non-object oriented language. In fact as you know it was originally simply a preprocessor that spit out C code. Since it's not really OO at the roots, it has a number of, shall we say, problems...like the utter lack of garbage collection.

And really, any language that *needs* const_cast, reinterpret_cast, static_cast, and dynamic_cast (good quiz to see if someone really knows their C++: ask them to explain, in detail, what each of these does and when it should be used) obviously has deep architectural problems.

Basically, C++ gives you "more than enough rope". Stroustrup is not sympathetic: here's a quote from his "C++ Style and Techniques FAQ":

> Quote:
>
> How do I deal with memory leaks?
>
> By writing code that doesn't have any. (Goes on to explain C++ standard containers)

But my biggest complaint is that it's based on C. Now, I have nothing against C; it was hot stuff in the 70s. But it limits what C++ can do. For example, my gripe about no garbage collection? It's *impossible* to add to C++, because of C. Nothing you can do to C++ will prevent a programmer from writing code like:

int c[100]; c[101] = 23;

...because C arrays are just shorthand for pointer arithmetic, and a pointer can point to anything in memory, right? Fixing this would break the entire world's base of C code.

The only thing that ever made C++ bearable for me was the amazing Qt application framework. Loved that thing...

Re: R.I.P. Denis Ritchie

*Message #12 Posted by **David Hayden** on 17 Oct 2011, 8:30 a.m.,*
in response to message #11 by David Ramsey

I think one of the design goals behind C++ was to add OO capabilities without taking away the ability to write small and fast code when you want it. Garbage collection and array access checking come with a significant performance penalty.

On the other hand, they are also the cause of many MANY bugs, and as a friend once said "the biggest performance improvement is when the code goes from "not working" to "working". Put another way, if you're allowed to have bugs in the code, then it can be made to run arbitrarily fast.

Re: R.I.P. Denis Ritchie

*Message #13 Posted by **Eric Rechlin** on 16 Oct 2011, 3:58 p.m.,*
in response to message #6 by David Ramsey

Stroustrop is the reason why I try not to stray on to the A&M campus, for fear that I might do something I might regret.

Eric

Re: R.I.P. Denis Ritchie

*Message #14 Posted by **Bruce Larrabee** on 16 Oct 2011, 12:54 p.m.,*
in response to message #3 by uhmgawa

Dennis MacAlistair Ritchie... Onward and upward...

I quite agree with the sentiments you have expressed.

Re: R.I.P. Denis Ritchie

*Message #15 Posted by **Bruce Larrabee** on 16 Oct 2011, 12:56 p.m.,*
in response to message #14 by Bruce Larrabee

Dennis with Ken...

Re: R.I.P. Denis Ritchie

*Message #16 Posted by **Borja** on 17 Oct 2011, 5:15 a.m.,*
in response to message #3 by uhmgawa

Actually both (Jobs and Ritchie) have some things in common. Even though Jobs was an entrepreneur and a businessman (not a scientist or inventor, as he has been portrayed by the unsurprisingly ignorant media) and Ritchie was a scientist.

Both took part in a revolution against undue complexity. Ritchie, with Ken Thompson, developing C and Unix while the next big thing was an operating system, MULTICS, more complicated than soviet bureaucracy. Jobs, by leading Apple towards making computers much more usable for the general public, in the case of the Mac, and, later, to launch the computer-that-is-not-a-computer, the iPad.

Both were immune to the dreadful Second System Syndrom described by Fred P. Brooks in his

awesome book, "The Mythical Man Month". Following Jobs, who, although obviously didn't "invent", "code", etc, Apple products, there is a steady improvement from the Apple II to the Mac, to the NeXT, and to the iPhone/iPad.

In the case of Ritchie, from C and Unix, and, although Plan 9 was mostly (as far as I know) Pike's and Presotto's idea, I'm sure he contributed ideas, then Inferno... Eveything I've seen coming from that research group led by Ritchie has been brilliant. From systems software to just software engineering (or I should say counter-engineering).

Both have made enormous contributions to technology. I don't think there are entrepreneurs like Hewlett, Packard or Jobs, and by looking at the sad state of software engineering in general, seems that generation of computer scientists won't get a replacement either.

I think we will miss them sorely.

Re: R.I.P. Denis Ritchie

*Message #17 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 1:07 p.m.,*
in response to message #1 by Dominic Richens

C and Unix are of his legacy.

Re: R.I.P. Denis Ritchie

*Message #18 Posted by **Howard Owen** on 16 Oct 2011, 4:08 p.m.,*
in response to message #17 by Marcus von Cube, Germany

It's impossible to overstate the influence Dennis Ritchie had over my life and career. He was co-developer of Unix, inventor of C and the driving force behind rewriting the former in the latter. That marriage between Unix and C launched an interesting experimental tools development platform into dominance over academic Computer Science, and later broad commercial success as a desktop and server OS. The static linking between Unix and C carried over into even broader and more influential success in the forms of Linux and gcc. I swam in that torrent for most of my career.

Obviously computers would have changed the world without Mr Ritchie's influence. But the open nature, portability and simplicity of Unix, its encouragement of collaboration, and its wide distribution (which AT&T eventually lost control over) were key ingredients in the free-wheeling explosion of creativity that defined the astonishing computer revolution of the late 20th and early 21st centuries. That was my era, and thanks to Dennis Ritchie, in large part, it was a real joy to participate in.

Re: R.I.P. Denis Ritchie

*Message #19 Posted by **Bruce Larrabee** on 16 Oct 2011, 5:23 p.m.,*
in response to message #18 by Howard Owen

I can relate Howard, I remember programming pre-C language. I had developed a 'wish list' of things a programming language really ought to have. Then Dennis created C. Bingo! My Pascal friends all said, 'too cryptic', I just couldn't understand what they were talking about. (Strings?, too much overhead, not flexible enough. They'd screw up all my automated formatting sooner or later!) When I got a copy of SAMS 'Programming in C' all the example code compiled and ran without errors on three different computers systems with three different operating systems!! I had read a LOT of books, I had never seen ANY book that all the example code compiled and ran without errors even on the target system! But I digress...

Then there is UNIX... A rational operating system... What can one say...

It is my opinion as well that someone like Dennis Ritchie does not receive the appropriate financial compensation for the true extent of their contribution to our world. It seems sadly to indicate a perverse set of priorities in effect.

Re: R.I.P. Denis Ritchie

*Message #20 Posted by **Egan Ford** on 16 Oct 2011, 5:53 p.m.,*
in response to message #19 by Bruce Larrabee

I first heard of C and UNIX in the mid '80s while in high school. I already knew BASIC, Pascal, and a bit of 6502 ASM, but when I saw C (and UNIX) it was love at first sight. C was small, direct, and to the point. It was beautiful. *The C Programming Language* (Ed. 1, (K&R)) was the easiest programming book I had read. I truly appreciated the brevity of it. And I liked how pointers were handled.

Every computer I own runs UNIX (OS/X) or Linux. The UNIX philosophy to treat all devices as files coupled with piping and redirection has made working with UNIX very productive and powerful. In the mid '80s I also picked up *The UNIX Programming Environment* by Kernighan and Pike. This book compliments *The C Programming Language* very well. Both books served me well my career transitioned to C and UNIX.

Lastly, I have to give a shout-out to Stevens (R.I.P.). His books on UNIX programming and TCP/IP are priceless.

Denis, thanks for C and UNIX. If it wasn't for C and UNIX I would have ended up as a teacher. Not that there is anything wrong with that.

Edited: 16 Oct 2011, 5:54 p.m.

Re: R.I.P. Denis Ritchie

*Message #21 Posted by **Paul Berger (Canada)** on 16 Oct 2011, 7:37 p.m.,*
in response to message #19 by Bruce Larrabee

I am also a big fan of C, in the early days of PCs I had Turbo Pascal since it was one of the very early low cost compilers for PCs, but the breaking point came when I was writing a program that involved rolling lower case text to upper case, a simple matter of subtracting 0x20 for the character value, except in Pascal, that won't let you do math on characters, so I said &^%&%&* this and rewrote it in C which like unix lets you do pretty much what you what, unix and C not only will let you shoot yourself in the foot if you are not careful, it will also load and aim the gun for you..... but that freedom is also the beauty of it.

Re: R.I.P. Denis Ritchie

*Message #22 Posted by **Bill (Smithville, NJ)** on 16 Oct 2011, 9:03 p.m.,*
in response to message #21 by Paul Berger (Canada)

Hi Paul,

> Quote:
>
> I had Turbo Pascal since it was one of the very early low cost compilers for PCs, but the breaking point came when I was writing a program that involved rolling lower case text to upper case

Reading this brought back a distant memory for me. I thought I had written a Turbo Pascal program many years ago the converted lower to upper case and I didn't remember it being that difficult. Being someone who never throws away anything, not if it can be saved to a hard drive, I looked for it and found my original program "UPPER.PAS". Program is dated 1989. It's actually very easy to convert from lower to upper case as follows:

CH := UPCASE(CH);

While I have done a lot of programming in C (NOT C++), I still have a fondness for Turbo Pascal and still use it (or FEEPAS) a lot for my simple programming tasks.

Like many others here, I too studied the The C Programming Language (Ed. 1, (K&R)) and still have a copy somewhere.

Bill

Re: R.I.P. Denis Ritchie

*Message #23 Posted by **Bruce Larrabee** on 17 Oct 2011, 12:24 a.m.,*
in response to message #21 by Paul Berger (Canada)

The Unix environment nurtured things like grep. After I squeezed grep dry I went searching for MORE POWER.

I found SED, diabolical.

Never graduated to awk. (I believe the 'k' in awk stands for Kernighan.) If I needed that much horse power I wrote filters in C from my own filter templates. Okay I guess I've drifted off topic a bit.

Dennis with Ken again, shaking hands with someone that looks vaguely familiar? Looks like, Hugh Hefner? No that's not right...

Re: R.I.P. Denis Ritchie

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Oct 2011, 8:00 a.m.,*
in response to message #23 by Bruce Larrabee

Author names initials (Aho, Weinberger and Kernighan) are the origin of the "awk" name. BTW, Katie Wasserman, who regularly posts here and is a true expert about calculators, once mentioned she used to develop programs in awk.

Re: R.I.P. Denis Ritchie

*Message #25 Posted by **Paul Berger (Canada)** on 16 Oct 2011, 8:29 p.m.,*
in response to message #18 by Howard Owen

AT&T did not actually lose control of Unix and would eventually sell it, however what happened is a number of Unix like OSes appeared the first of which is arguably BSD. In the beginning AT&T gave unix away free to educational institutions at about version 7 time AT&T was starting to think that maybe unix could be a commercial product, however they could not market computer as the result of a consent decree dating back to the late 50s. By the time System V rolled around At&T was no longer giving unix away to universities, howevr by that time USC Berkley had already finished BSD, one of the big contributors to that effort was on William Joy who created the vi editor and would go on to be the head of software at Sun. At an University across the pond in Holland noted OS professor Andrew Tanenbaum who had been using th3 AT&T unix as an example to teach operating systems created a stripped down unix like OS he christened Minix and wrote a text book about it "Operating Systems Design and Implementation" also know as "The Minix Book" a very excellent and readable text book if you are at all interested in what makes an OS tick. A little later Linus Torvalds came along with his kernel of a unix like OS called Linux, I started playing with linux almost as soon as he started distributing it, back when changing the configuration of the kernel required recompiling it. Most commercial unix systems are based on a license originally obtained from AT&T in most cases, later from Novell and SCO, which ended up with a high profile lawsuit by SCO against several unix vendor, that SCO eventually lost, and as part of that suit it was determined the trademark really belonged to Novell. Currently the trademark is owned by a company known as the Open Group. Any OS that calls itself Unix must have a valid license to use the trademark, as well as the licensed code. Most current unix vendors have added significant features to the unix base code some which are shared and some that remain proprietary. I have been involved with unix systems professionally since the mid 80s and it was love at first sight for me too. I have watched unix based system grow from workstations size machine that where used to run small businesses as well up to the the enterprise level systems we have today that rival mainframes in power and capacity.

With regard to Dennis Ritchie he created the C programming language, however unix was a creation of Ken Thompson, who had been Bell Labs representative on the multi-vendor MULTICS project that had just collapsed, the original unix was written in assembler on a PDP-7 system, Ritchie created C based on an interpreter "B' that Thompson had created for his new toy, they then worked together to rewrite the OS in C, to this day unix implementations are written in C. Another person of note involved with the development of C and unix at Bell Labs where Brian Kernighan, Brian and Dennis would author what is the standard bible of C "The C Programming Language".

Re: R.I.P. Denis Ritchie

*Message #26 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Oct 2011, 10:14 p.m.,*
in response to message #25 by Paul Berger (Canada)

I once heard that the C language was derived from "B" and this one, in turn, derived from BCPL. As the sequence of letters of this one starts with B and C, some people supposed that the succesor of C was to be called "P". Others supposed that, in alphabetical order, after "B" and "C" the next language would be "D". But finally it was C++, as all we know.

Re: R.I.P. Denis Ritchie

*Message #27 Posted by **Howard Owen** on 17 Oct 2011, 12:40 a.m.,*
in response to message #25 by Paul Berger (Canada)

> Quote:
>
> AT&T did not actually lose control of Unix and would eventually sell it, however what happened is a number of Unix like OSes appeared the first of which is arguably BSD.

I beg to differ. You had to buy a Unix source license from AT&T to run BSD. They absolutely tried to retain control over BSD even after the Net 2 release, which had striven to remove all AT&T copyrighted code. I knew some of the BSDI folks and had their beta release deployed running my very first firewall. AT&T certainly did lose control of the BSD variant of Unix, though the ink didn't dry until shortly after they sold the IP to Novell. That settlement later came back to haunt SCO when they attempted to claim ownership over Linux, by asserting it was derived from Unix.

Re: R.I.P. Denis Ritchie

*Message #28 Posted by **Eddie W. Shore** on 16 Oct 2011, 5:08 p.m.,*
in response to message #1 by Dominic Richens

RIP Ritchie - condolences to his family. Thank you for your contributions, Mr. Ritchie!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can anyone identify these keys?

*Message #1 Posted by **Bruce Larrabee** on 16 Oct 2011, 5:22 a.m.*

Hello All,

Can anyone here identify these keys?

Thank you everyone...

Re: Can anyone identify these keys?

*Message #2 Posted by **Keith Midson** on 17 Oct 2011, 5:32 a.m.,*
in response to message #1 by Bruce Larrabee

Hi Bruce, looks like an early attempt at a 28C/ 18C. Early prototype perhaps? Cheers, Keith

Re: Can anyone identify these keys?

*Message #3 Posted by **Bart (UK)** on 17 Oct 2011, 6:06 a.m.,*
in response to message #2 by Keith Midson

I would guess 18C early prototype, as it has an "=".

Re: Can anyone identify these keys?

*Message #4 Posted by **Gerson W. Barbosa** on 17 Oct 2011, 6:59 a.m.,*
in response to message #3 by Bart (UK)

A few more pieces of the puzzle, I guess:

a, b, c, d, e.

Re: Can anyone identify these keys?

*Message #5 Posted by **Bruce Larrabee** on 17 Oct 2011, 10:24 a.m.,*
in response to message #4 by Gerson W. Barbosa

Heh, did you see the HP28S I built for Keith from a set of clear parts just like those? I built myself one first. It came out quite nice. Then I built one for Keith. It came out PERFECT! (Learned a couple details building the first one...)

Here's a couple shots of mine (maybe Keith will post his for us?)

Re: Can anyone identify these keys?

*Message #6 Posted by **Keith Midson** on 17 Oct 2011, 3:39 p.m.,*
in response to message #5 by Bruce Larrabee

Bruce - yes mine is perfect! One of my favorites in my collection. Here it is: Clear-28S
Also: Clear-28S-2
And: Clear-28S-3
Cheers, Keith

Edited: 17 Oct 2011, 3:39 p.m.

Re: Can anyone identify these keys?

*Message #7 Posted by **Bruce Larrabee** on 17 Oct 2011, 10:27 a.m.,*
in response to message #3 by Bart (UK)

Your guesses sound like a possibility.

Any clue what 'ENDE' or 'SAL' mean?

Re: Can anyone identify these keys?

*Message #8 Posted by **Patrice** on 17 Oct 2011, 12:54 p.m.,*
in response to message #7 by Bruce Larrabee

ENDE look German to me!

Re: Can anyone identify these keys?

*Message #9 Posted by **Dave Shaffer (Arizona)** on 17 Oct 2011, 3:49 p.m.,*
in response to message #7 by Bruce Larrabee

"ende" = end entry ?

"sal" = sale ?

Could be intended for use as (part of) a cash register?

Re: Can anyone identify these keys?

*Message #10 Posted by **Thomas Radtke** on 18 Oct 2011, 1:12 a.m.,*
in response to message #7 by Bruce Larrabee

ENDE is indeed german, and SAL might be Saldo. So, it's an interesting mix of languages.

Can anyone identify these keys?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE thoughts

*Message #1 Posted by **kc** on 16 Oct 2011, 3:56 a.m.*

I seldom see people in this forum complain about HP 15c (not LE). Now I got my 15c LE, and I try to figure out why people like the original 15c so much. A product of 30 years old, I can feel how great it was when it was first launched: elegant, beautiful, all the necessary functions fit in a pocket, and the positive key-click feel. The best technology and quality of the time. It is like when you look back at the iphone 30 years later (sorry for those of you that are anti-iphoner). Nonetheless, it is a 30-year old product, and technology has much advanced. I consider programming the HP 15c LE quite un-userfriendly, especially when I am debugging, due to the fact that I cannot see the function. I have to slowly decipher each programme line into the corresponding function, and write it down on a paper, before I can understand and debug the programme. It makes me uninterested in writing programme on my 15c LE. For the same reason, I cannot see the actual equation when I use HP solve. Not good. Other than that, it was a nice calculator.
And the 15c LE manual. I think, for the price it charges, the manual should at least have two colours, preferrably three (black, blue, orange to match the colour of the calculator). Slight disappointed.
kc

Re: 15c LE thoughts

*Message #2 Posted by **Paulo MO** on 16 Oct 2011, 6:19 a.m.,*
in response to message #1 by kc

I could say the same thing about my wife. More than 30 years old; not very friendly, when I try to program any type of useful behavior; could never debug a single thing; and never, ever, do I get to see the full equation I'm trying to solve. Lousy instruction manual, BTW. Come on... Are you really trying to rationalize love? ;-)

Paulo

Edited: 16 Oct 2011, 6:20 a.m.

Re: 15c LE thoughts

*Message #3 Posted by **Thomas Radtke** on 16 Oct 2011, 6:32 a.m.,*
in response to message #2 by Paulo MO

Women seem to be fuzzy logic devices, so the RPN approach has to fail.

Re: 15c LE thoughts

*Message #4 Posted by **Paulo MO** on 16 Oct 2011, 8:08 a.m.,*
in response to message #3 by Thomas Radtke

:-)

Re: 15c LE thoughts

*Message #5 Posted by **From Hong Kong** on 16 Oct 2011, 9:13 a.m.,*

in response to message #1 by kc

> Quote:
>
> I consider programming the HP 15c LE quite un-userfriendly, especially when I am debugging, due to the fact that I cannot see the function. I have to slowly decipher each programme line into the corresponding function, and write it down on a paper, before I can understand and debug the programme. It makes me uninterested in writing programme on my 15c LE. For the same reason, I cannot see the actual equation when I use HP solve. Not good. Other than that, it was a nice calculator.
> And the 15c LE manual. I think, for the price it charges, the manual should at least have two colours, preferrably three (black, blue, orange to match the colour of the calculator). Slight disappointed.
> kc

Either the classic or modern HP-15C doesn't have I/O and sound capabilities and the function of entering, displaying and storing full alphabets and special symbols. In some places of the planet such as Hong Kong, only this kind of calculators is allowed in public exams or some universities.

However, the calculator is so powerful that users tend to live with this 'non-userfriendliness'.

Edited: 16 Oct 2011, 9:17 a.m.

Re: 15c LE thoughts

*Message #6 Posted by **Martin Pinckney** on 16 Oct 2011, 8:39 p.m.,*
in response to message #1 by kc

Yes, it's 30 year old technology. What were you expecting? The folks who love it, and who have been clamoring for its return, have 30-40 year careers behind them. Nostalgia is a powerful thing.

It's still a great calculator.

Re: 15c LE thoughts

*Message #7 Posted by **kc** on 16 Oct 2011, 11:11 p.m.,*
in response to message #6 by Martin Pinckney

Yes, still a great calculator. That's why people in this forum often ask for an upgrade of existing great HP calculators e.g. 43s, instead of creating new ones. The fact that the majority of folks here hate the design of 33s is also a solid example of how they treasure the old ones and have strong reservation to new designs. (No negative meaning)
kc

Re: 15c LE thoughts

*Message #8 Posted by **From Hong Kong** on 17 Oct 2011, 2:04 a.m.,*
in response to message #7 by kc

> Quote:
>
> Yes, still a great calculator. That's why people in this forum often ask for an upgrade of existing great HP calculators e.g. 43s, instead of creating new ones. The fact that the majority of folks here hate the design of 33s is also a solid example of how they treasure the old ones and have strong reservation to new designs. (No negative meaning)

> kc

The idea of HP-43S is great! I don't know why I didn't buy HP-42S when it was still in production. :(

HP-33S and HP-35S are crap, however.

Re: 15c LE thoughts

*Message #9 Posted by **Carey** on 17 Oct 2011, 12:11 a.m.,*
in response to message #1 by kc

I believe anyone's impression of the HP 15c/15c LE (or any calculator) depends largely on its intended use. If the 15c is to be used only for routine programs then I agree it can be a pain to use. However, if one's calculation or programming needs require, for example, matrices with complex elements, or contour integrals (integrating a complex function between complex limits) or ill-conditioned matrices requiring the extreme floating-point precision provided in the 15c due to the work of William Kahan, a world-class numerical analyst, then one's appreciation for the HP15c grows immensely (see the HP-15c Advanced Functions Handbook). While we have all heard the cliche that one turns to a computer, not a calculator, for advanced calculations, the reality is that the syntax learning curve for the above advanced calculations is much less for the 15c than for most software, the 15c fits in a shirt pocket and doesn't have to boot-up to use.

Regards, Carey

Re: 15c LE thoughts

*Message #10 Posted by **Lincoln R.** on 17 Oct 2011, 1:36 a.m.,*
in response to message #9 by Carey

Agreed. I'm a computer engineer who primarily works with digital logic. 90% of the work I do is done on computers. However, I still keep a calculator (Usually my 32s) with me, and frequently still use paper for sketching out rough ideas. Sure, I could launch MATLAB or deal with a bunch of mouse-clicking (and algebraic mode) to use the Windows/Mac OS X/Linux/whatever calculator application, but most of the time it's quicker and easier to pull out my calculator because it's ready to go as soon as I hit the on button.

Also, random fun fact: While the Macintosh OS has featured an algebraic-only calculator since the beginning, the Apple Lisa's calculator application had an RPN mode complete with a 4 level stack named X,Y,Z, and T... could it have had something to do with several ex-HP engineers working on that project?

Re: 15c LE thoughts

*Message #11 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 2:24 a.m.,*
in response to message #10 by Lincoln R.

> Quote:
>
> While the Macintosh OS has featured an algebraic-only calculator since the beginning, ...

Have you ever tried to switch it to RPN? Try CMD-R or the View menu! :-)

Re: 15c LE thoughts

*Message #12 Posted by **Michael Kussmaul** on 17 Oct 2011, 5:21 a.m.,*
in response to message #11 by Marcus von Cube, Germany

> Yes, this is my favorite feature of the MacOSX calc :-) But still I prefer a standalone physical calc beside my computer - less context switches...

Re: 15c LE thoughts

*Message #13 Posted by **Keith Midson** on 17 Oct 2011, 6:09 a.m.,*
in response to message #1 by kc

I think it is different to the iPhone analogy. Many users of the original 15C still have and use it regularly. There has been a lot of debate in this forum whether or not it is "the best" HP ever made, but the fact remains that it is immensely popular - it is compact and a useful shape for desktop use and it fits neatly in a pocket. Nothing has been released from HP that compared to this calculator in terms of form-factor and function - sure there have been many comparable models (more powerful, etc), but engineers are a funny breed and like familiarity and certainty. We learn how to do something and (generally) stick to it. Most younger engineers haven't had such a dependency on a handheld, but have relied on computers (Excell, etc) - the place of a calculator to this generation is more of a backup computing device.
The 12C has had a similar experience for accountants, managers, etc, but managed to stay in production over the last 30 years - HP tried to change it, but were forced by consumers to keep production running - engineers and scientists didn't have the same power over HP.
I was VERY excited about the re-release of the 15C - i've got it now and it is truly wonderful. Much faster than the original, but there is something 'cheap' about it. It has the mass produced feel that all of the modern HP's have. I just bought a 'new in box' 1986 15C and it is even more wonderful!! It is seriously like new (even the smell) - the quality is much better than the original, has a better keyboard and the delay makes you feel like it is really thinking about what you have asked it to calculate - the fact that it is umpteen times slower then the LE really doesn't make much difference to the vast majority of your calculations.
So, whilst you can argue that it is outdated technology, really when you compare it to a modern scientific calculator - you basically need the same functions, you need some sort of keyboard, you need RPL (yes you really do!), so the 15C still fits the bill. Probably the only thing you don't have is an interface between the calculator and a computer or transferable storage.
Cheers, Keith

Re: 15c LE thoughts

*Message #14 Posted by **Roger Blake** on 17 Oct 2011, 6:49 a.m.,*
in response to message #13 by Keith Midson

I can't understand why some people like the original 15C keyboard so much. Even when first buying one in the eighties I was struck by how different the keyboard felt to other HP calculators at the time. No positive feel to the keypress, and the enter key had an especially poor feel. I'll admit the keyboard worked in practice and lasted well over the years with no problems but I never liked it although loving the calculator as a whole. So I was really pleased to find the positive click on the LE. Whether keyboard build quality is worse with the LE is another matter - the current problems don't bode well, but as to the feel, I remain puzzled why some people think it worse, even when seemingly admiring other early HP keyboards with a much more postive feel ? Explanations welcomed !

Edited: 17 Oct 2011, 6:51 a.m.

Re: 15c LE thoughts

*Message #15 Posted by **Martin Pinckney** on 17 Oct 2011, 11:01 a.m.,*
in response to message #14 by Roger Blake

There does seem to be a lot of differing opinions when comparing the LE to the original. I can't compare, since I've never owned an original, and haven't even touched an 11c in 15 years or so.

Nevertheless, I have been very impressed with the build quality and keypad behavior of my LE.

Re: 15c LE thoughts

*Message #16 Posted by **Reth** on 19 Oct 2011, 1:43 a.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> Nevertheless, I have been very impressed with the build quality and keypad behavior of my LE.

That, given your LE doesn't have bad key/s as 12% of us do.

And HP keeps being silent about their findings...

Re: 15c LE thoughts

*Message #17 Posted by **Paul Gaster** on 20 Oct 2011, 8:20 a.m.,*
in response to message #16 by Reth

I heard something interesting yesterday from Bach. Last month I ordered 2 from them. Early this month I called and was told that their next shipment should arrive on the 11th and that the calculators would ship right after that. Well that date came and went so I called again yesterday. I was told that HP recalled the calculators for a quality issue so that has delayed things. I asked the lady on the phone if she knew what the problem was and she said that it had something to do with the keyboard.

To be honest I am not in a huge hurry and would rather wait a bit to get a calculator that is fully checked and has a good keyboard.

Re: 15c LE thoughts

*Message #18 Posted by **Michael de Estrada** on 20 Oct 2011, 12:03 p.m.,*
in response to message #17 by Paul Gaster

My mama always said that "patience is a virtue" and this has proven true many times over.

Re: 15c LE thoughts

*Message #19 Posted by **Jeff Johnson** on 20 Oct 2011, 12:37 p.m.,*
in response to message #18 by Michael de Estrada

Totally agree on the patience thing. Have plenty of other HP calcs to play with while I'm waiting. Wondering if those who stocked up on the new LE models to resell at huge markups will have the conscience to send their units back for exchange (assuming the keyboards are affected). Seems unlikely. Still waiting ...

Re: 15c LE thoughts

*Message #20 Posted by **Thomas Radtke** on 20 Oct 2011, 12:56 p.m.,*
in response to message #19 by Jeff Johnson

> Quote:

> Wondering if those who stocked up on the new LE models to resell at huge markups will have the conscience to send their units back for exchange (assuming the keyboards are affected). Seems unlikely.

Why unpacking them in the first place? ;-)

I assume TAS to work as a filter. The more often things got recycled through it, the fewer good items are on sale.

Re: 15c LE thoughts

*Message #21 Posted by **Ethan Conner** on 20 Oct 2011, 1:14 p.m.,*
in response to message #20 by Thomas Radtke

I "stocked up" not so much for reselling although that may happen. I just wanted a good chance at getting one as soon as possible. Also wanted a good chance at receiving at least one good unit. Turns out they are all perfect minus the PSE bug and if reflashing is ever offered they will be done one at a time so i always have one to use and one as a backup.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: 15c logos for sale..

*Message #1 Posted by **uhmgawa** on 16 Oct 2011, 2:50 a.m.*

in response to message #1 Posted by robert rozee on 11 Oct 2011, 11:38 a.m.,

> Quote:
>
> the idea is not to produce an exact identical replacement - that would be extremely hard, and i'd say even the silver ones are obviously different from the original when subjected to any more than a casual glance.

I wouldn't outright dismiss creating a cosmetically indistinguishable replica as extremely hard. There will certainly be some preparation involved. But I think this might be a good starting point to create accurate artwork for cnc engraving.

Note there is substantial variation in the appearance of even HP manufactured logos. The above 16c has a highly reflective surface while the 15c finish has a brushed texture.

If anyone has interest in the original jpegs, feel free to PM me. Flikr insists on squashing the resolution of uploads although these seem to be of marginally usable resolution.

Edited: 16 Oct 2011, 3:00 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP 34S] A-D double duty suggestion

*Message #1 Posted by **Dominic Richens** on 15 Oct 2011, 8:27 p.m.*

Right now, XEQ A runs LBL A just like pressing A directly. However we can make XEQ A run LBL 11 instead by removing the NO_SHORT from

```
regA_idx, regB_idx,
regC_idx, regD_idx,
```

We would need a small change to process_key() to still allow us to enter LBL A in program mode.

if (shorthand && State2.runmode)

This gives us another 4 "quick call" labels and if we want to keep those keys as Sigma+, 1/x, y^x and sqrt(x) we can use 11-14 instead of A-D as labels.

Re: [WP 34S] A-D double duty suggestion

*Message #2 Posted by **Alexander Oestert** on 16 Oct 2011, 1:46 a.m.,*
in response to message #1 by Dominic Richens

I think XEQ A runs LBL 'A', which is different from LBL A, IIRC.

Edited: 16 Oct 2011, 1:48 a.m.

Re: [WP 34S] A-D double duty suggestion

*Message #3 Posted by **Walter B** on 16 Oct 2011, 2:18 a.m.,*
in response to message #2 by Alexander Oestert

Please see "Addressing Labels" - page 24 of the manual :-)

Edited: 16 Oct 2011, 3:58 p.m. after one or more responses were posted

Re: [WP 34S] A-D double duty suggestion

*Message #4 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 12:59 p.m.,*
in response to message #3 by Walter B

Walter, read the docs (or change them if they are wrong on this)! There is absolutely no connection between labels 'A' and A and there is no shortcut to address label 'A'. To access subroutine 'A' you need to press XEQ ENTER^ A ENTER^.

XEQ A and A do the same if A is defined as a label and is not used as a digit (where f+A takes this duty).

Back to Dominc's suggestion: It will cause more grief then fun because it's unexpected behavior. If you want a shortcut to label 11 just use XEQ f A.

Re: [WP 34S] A-D double duty suggestion

*Message #5 Posted by **Walter B** on 16 Oct 2011, 3:55 p.m.,*
in response to message #4 by Marcus von Cube, Germany

:-? Marcus, you go out on a limb there. I'd recommend you read said page yourself thoroughly instead of claiming anything pointless. What you wrote is exactly what the manual says.

Edited: 16 Oct 2011, 3:59 p.m.

Re: [WP 34S] A-D double duty suggestion

*Message #6 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 2:12 a.m.,*
in response to message #5 by Walter B

Sorry, I misread your comment in that you were seconding Alexander's remark. I remember that there was such a confusion in an earlier version of the manual.

Your answers are often just a bit terse: "RTFM on page xyz!" instead of citing or rephrasing a few words. So the reader never knows what the essence of your post is, except he goes to the file system, fires up Acrobat Reader with the manual, goes to page xyz, finds the corresponding text, and then returns to the forum in order to re-read and answer your post. That was just too demanding for me on a Sunday afternoon.

Re: [WP 34S] A-D double duty suggestion

*Message #7 Posted by **Walter B** on 17 Oct 2011, 4:03 a.m.,*
in response to message #6 by Marcus von Cube, Germany

In fact, I seldom write RTFM unless well deserved ;-) I think, however, that manual is written and maintained to be read. And sometimes I hate repeating what I wrote (hmmmh, maybe more than sometimes).

Re: [WP 34S] A-D double duty suggestion

*Message #8 Posted by **Alexander Oestert** on 17 Oct 2011, 4:13 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Sorry, I misread your comment in that you were seconding Alexander's remark.

Well, I did also. Even after reading said manual page a couple of times now I still am confused. ;)

Edited: 17 Oct 2011, 4:24 a.m.

Re: [WP 34S] A-D double duty suggestion

*Message #9 Posted by **Walter B** on 17 Oct 2011, 4:24 a.m.,*
in response to message #8 by Alexander Oestert

> Quote:
>
> Even after reading said manual page a couple of times now I still am

> confused.

Don't hesitate to ask questions. Please quote what's confusing you :-)

Re: [WP 34S] A-D double duty suggestion

*Message #10 Posted by **Alexander Oestert** on 17 Oct 2011, 4:32 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> what's confusing you :-)

In a word? The manual! ;)

Please don't get me wrong, I'm not complaining. I'm just a guy who needs at least a five lines code snippet to accompany every single function in the manual, every necessary keystroke written down. Without that I find myself all searching at the wrong places or the wrong keywords.

Re: [WP 34S] A-D double duty suggestion

*Message #11 Posted by **Dominic Richens** on 17 Oct 2011, 6:22 a.m.,*
in response to message #10 by Alexander Oestert

Alex,

Sounds like you should be contributing to the wiki Users Guide :-)

With Walter's pointer, I did peruse page 24 and yes, it does say it right there (in 3rd column and footnote 14).

All the information is in the manual, but sometimes it feels like that little bit you are looking for is "in the bottom of a locked filing cabinet stuck in a disused lavatory with a sign on the door saying 'Beware of the Leopard'".

Re: [WP 34S] A-D double duty suggestion

*Message #12 Posted by **Alexander Oestert** on 17 Oct 2011, 6:38 a.m.,*
in response to message #11 by Dominic Richens

As soon as I understand a topic, I might eventually try to put that in words, although I am not so sure I can do it any better.

Re-reading the manual and Walter's statement on it above, I guess I know now what got me confused: Walter's posting first said 'Correct' before he edited that out. I'm actually happy to see him confused with the manual, too. ;-)

Re: [WP 34S] A-D double duty suggestion

*Message #13 Posted by **Dominic Richens** on 16 Oct 2011, 6:00 a.m.,*
in response to message #2 by Alexander Oestert

Is this new?

In 1664 XEQ A run LBL A just like pressing A directly. XEQ ENTER A ENTER runs LBL 'A (four keys strokes)

Re: [WP 34S] A-D double duty suggestion

*Message #14 Posted by **Paul Dale** on 16 Oct 2011, 2:29 a.m.,*
in response to message #1 by Dominic Richens

I don't like this much.

How do I enter XEQ A in a program before I've defined LBL A?

Doing this also loses consistency between run and program modes. The same keystrokes should do the same thing in both.

- Pauli

Re: [WP 34S] A-D double duty suggestion

*Message #15 Posted by **Dominic Richens** on 16 Oct 2011, 6:18 a.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> How do I enter XEQ A in a program before I've defined LBL A?

That does not change.

> Quote:
>
> Doing this also loses consistency between run and program modes. The same keystrokes should do the same thing in both.

Agreed, for the first four labels - if they are used.

Edited: 16 Oct 2011, 6:19 a.m.

Re: [WP 34S] A-D double duty suggestion

*Message #16 Posted by **Dieter** on 16 Oct 2011, 7:32 a.m.,*
in response to message #14 by Paul Dale

I like the idea of four additional hotkeys in addition to A...D. Maybe because I am used to the 41C which has no less than 15 of these. So I think something like [prefix] [A] would be nice. For instance, as mentioned, [A] and [XEQ] [A].

Dieter

Re: [WP 34S] A-D double duty suggestion

*Message #17 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 1:03 p.m.,*
in response to message #16 by Dieter

A to D have functions on the shift planes which would be unaccessible if we'd allow for a prefixed A to D shortcut.

XEQ f A calls XEQ 11.

Re: [WP 34S] A-D double duty suggestion

*Message #18 Posted by **Dieter** on 16 Oct 2011, 5:33 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> A to D have functions on the shift planes which would be unaccessible if we'd allow for a prefixed A to D shortcut.

Actually I had some other kind of prefix keys in mind. But honestly, I simply forgot the following feature:

> Quote:
>
> XEQ f A calls XEQ 11.

This will do.
At least until the h-shifted functions of A...D go to a DISP menu in favour of four new hotkeys like a...d or A'...D'. ;-)

Dieter

Re: [WP 34S] A-D double duty suggestion

*Message #19 Posted by **Dominic Richens** on 16 Oct 2011, 8:13 p.m.,*
in response to message #17 by Marcus von Cube, Germany

But that's inconsistent with the other shortcut keys, like STO, where XEQ STO call LBL 21. I was trading runtime inconsistency for programming inconsistency, favouring the one that means fewer keystrokes at runtime. It also frees up XEQ f to call LBL 24.

Re: [WP 34S] A-D double duty suggestion

*Message #20 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 2:20 a.m.,*
in response to message #19 by Dominic Richens

The f prefix allows to address any key (not only A to D) to act as a shortcut. The shifts are exempt from this feature because they never act upon themselves, only as a prefix. The rule is:

If a key has no predefined meaning in the context of label entry, it is translated to a row/column code. If it has, it can still be used this way by prefixing it with f. The prefix just disables the special meaning of the key such as the digits or '.'.

With the new feature of command display you can always control what will be executed. This has the potential to increase the confidence in what WP 34S will execute upon a given keystroke sequence.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

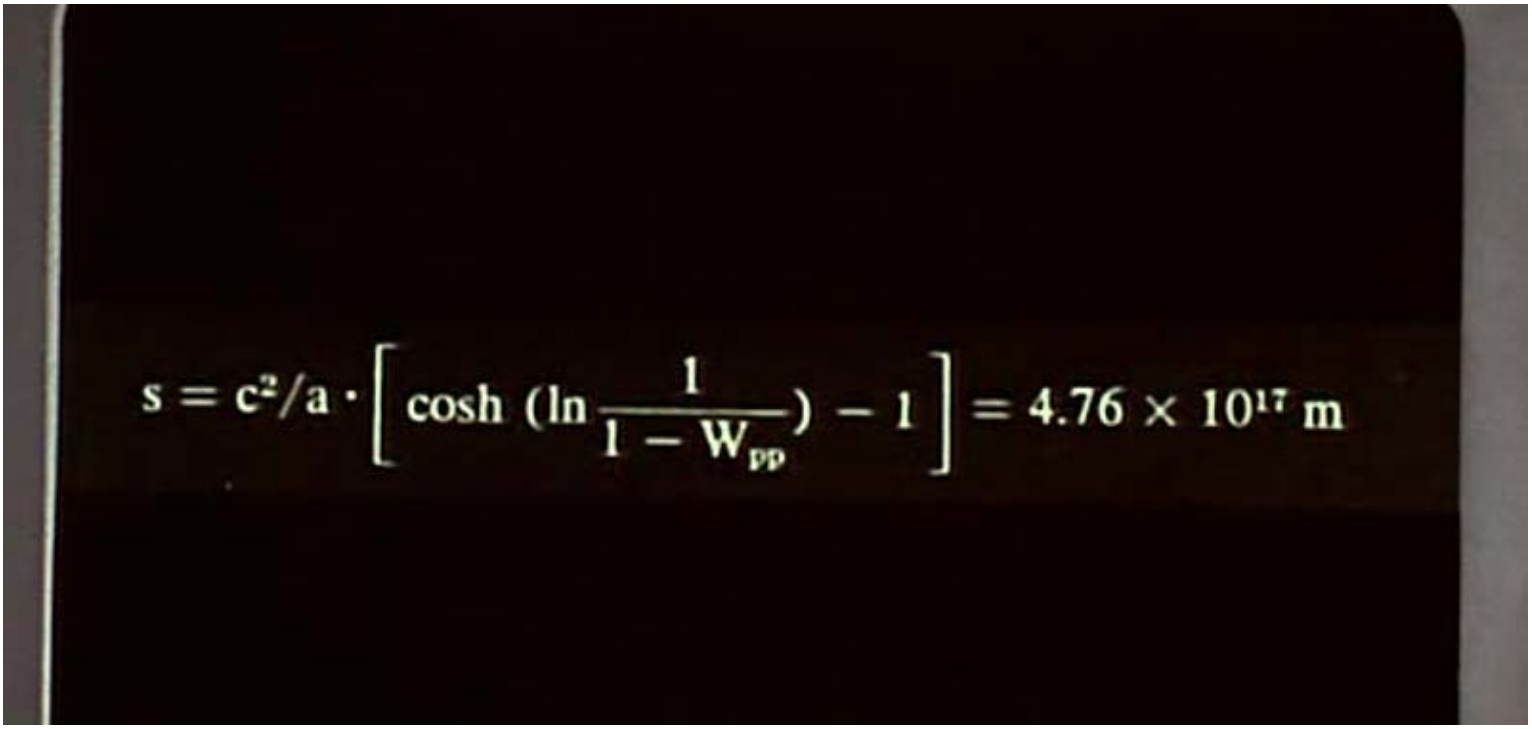
Another reference to hyperbolic functions in a movie

*Message #1 Posted by **gene wright** on 15 Oct 2011, 10:40 a.m.*

The image below is from one of my favorite TV movies from 1971, "City Beneath the Sea" by Irwin Allen.

Movie info at imdb

The circumstances of this screen being shown was discussion about firing nuclear missiles to deflect an incoming asteroid from hitting the earth. The results appear to be in meters. Anyone recognize the formula? No wonder TI put hyperbolics on most of their calculators! They were trying to save the earth! :-)



Re: Another reference to hyperbolic functions in a movie

*Message #2 Posted by **tony(nz)** on 15 Oct 2011, 3:34 p.m.,*
in response to message #1 by gene wright

Hi Gene, I remember that formula! From Special Relativity. Hyperbolic motion. It must be on wiki, yep - they show the c^2/a. That "Wpp" could be an indication of "warp" - it approaches 1 as the terminal speed approaches c. Oh I found the formula in my old text by Rindler called "Special relativity" published 1966, page 41. Thanks for the memories! Cheers, Tony

Re: Another reference to hyperbolic functions in a movie

*Message #3 Posted by **troy** on 15 Oct 2011, 4:00 p.m.,*
in response to message #1 by gene wright

whoa! that is one long distance. i haven't seen the movie so don't know what context this was used. but 4.8e17 m is

about 50 light years?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP-34s] alpha entry?

*Message #1 Posted by **Alexander Oestert** on 15 Oct 2011, 9:40 a.m.*

In the manual I read

[alpha] 'HEL'

I only get

[alpha] H

[alpha] E

[alpha] L

that is each character on its own line preceded by a greek alpha. How do I enter the version from the manual?

Thanks!

Re: [WP-34s] alpha entry?

*Message #2 Posted by **fhub** on 15 Oct 2011, 9:46 a.m.,*
in response to message #1 by Alexander Oestert

IIRC you have to press ENTER after starting alpha-mode, i.e.:
[f][alpha][ENTER]

Then you can enter up to 3 characters.

Re: [WP-34s] alpha entry?

*Message #3 Posted by **Alexander Oestert** on 15 Oct 2011, 9:52 a.m.,*
in response to message #2 by fhub

[enter] ends alpha mode on my machine.

I am talking about text prompts, not alpha labels that in fact are entered by pressing [enter] after shift-LBL.

Edited: 15 Oct 2011, 10:01 a.m. after one or more responses were posted

Re: [WP-34s] alpha entry?

*Message #4 Posted by **fhub** on 15 Oct 2011, 10:08 a.m.,*
in response to message #3 by Alexander Oestert

Try [f][alpha][f][alpha] and then enter your text!?

Re: [WP-34s] alpha entry?

*Message #5 Posted by **Alexander Oestert** on 15 Oct 2011, 10:20 a.m.,*
in response to message #4 by fhub

That works, although I have to clean some leftover characters from the previous entry on every new alpha program line. Strange :-(

Re: [WP-34s] alpha entry?

*Message #6 Posted by **fhub** on 15 Oct 2011, 10:34 a.m.,*
in response to message #5 by Alexander Oestert

> Quote:
>
> That works, although I have to clean some leftover characters from the previous entry on every new alpha program line. Strange :-(

Every alpha entry is **appended** to the already existing alpha content, so before each new entry you have to do a CLalpha.

Re: [WP-34s] alpha entry?

*Message #7 Posted by **Alexander Oestert** on 15 Oct 2011, 10:50 a.m.,*
in response to message #6 by fhub

Strangely it is not exactly the previous entry I have to delete before I can enter the next program line, but only the first two characters and not the third. But that is something the programmers may worry about - I don't.

Re: [WP-34s] alpha entry?

*Message #8 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 11:23 a.m.,*
in response to message #7 by Alexander Oestert

I'll check that again. Maybe I broke something lately. It works fine from the wp34s_asm tool, though.

Edit: I see the bug. Will be fixed...

Edited: 15 Oct 2011, 11:26 a.m.

Re: [WP-34s] alpha entry?

*Message #9 Posted by **Alexander Oestert** on 15 Oct 2011, 11:34 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Great service! :-)

Re: [WP-34s] alpha entry?

*Message #10 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 11:58 a.m.,*
in response to message #9 by Alexander Oestert

Should be fixed now. It was a pretty old bug. Thank God there were some 2

bytes free in flash for the bugfix. ;-)

Re: [WP-34s] alpha entry?

*Message #11 Posted by **fhub** on 15 Oct 2011, 12:03 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> Should be fixed now. It was a pretty old bug.

What exactly was this bug, Marcus?
I can't remember that I would have seen something as Alexander has described it (although I don't really know what his problem with alpha is/was).

Re: [WP-34s] alpha entry?

*Message #12 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 12:15 p.m.,*
in response to message #11 by fhub

You ended up with two characters from the previous multi character command (alpha or label) already entered when you started the multi alpha command directly after another such command.

Re: [WP-34s] alpha entry?

*Message #13 Posted by **fhub** on 15 Oct 2011, 12:27 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Ok thanks, I've not run into this problem so far because I avoid (if possible) using anything that has to do with alpha-mode! ;-)
This alpha-stuff is indeed one of the WP34s things which is (sometimes) still a mystery to me.

BTW, since Pauli has fixed an error with matrix-norm in matrix.wp34s, maybe you could re-compile wp34s-1.dat again if you have some free time? I would do it myself, but since you use this precompiler-format I can't do it (because the pp doesn't work for me).

Re: [WP-34s] alpha entry?

*Message #14 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 2:26 p.m.,*
in response to message #13 by fhub

Time to install Perl on your system. ;-)

I'll fix the libraries soon.

Edit: 'soon' is now. :-)

Edited: 15 Oct 2011, 2:39 p.m.

Re: [WP-34s] alpha entry?

*Message #15 Posted by **fhub** on 15 Oct 2011, 3:20 p.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> Time to install Perl on your system. ;-)

Well, I have TinyPerl and Neil's asm is working, but unfortunately his pp not. :-(

Thanks for the update!

Re: [WP-34s] alpha entry?

*Message #16 Posted by **Neil Hamilton (Ottawa)** on 16 Oct 2011, 8:50 a.m.,*
in response to message #15 by fhub

> Quote:
>
> Time to install ***real*** Perl on your system. ;-)

Just to let everyone else know that this has been previous identified to be the failings of tiny perl, **not** my scripts.

Additionally, the EXE versions also works fine but Franz refuses to cough up 15MB of disk space. He would rather forgo the benefits of the latest features of the WP 34S rather than fix the underlying issue -- the fault interpreter in tiny perl. This is his choice.

Franz, please tell the whole story if you insist on repeating your comment that my script doesn't not work. Your comment can cause confusion among those that are just getting on board this project. AFAIK, there are no outstanding bugs in either the actual assembler or the preprocessor.

Re: [WP-34s] alpha entry?

*Message #17 Posted by **fhub** on 16 Oct 2011, 9:07 a.m.,*
in response to message #16 by Neil Hamilton (Ottawa)

> Quote:
>
> Franz, please tell the whole story if you insist on repeating your comment that my script doesn't not work.

I wrote "because the pp doesn't work **for me**" (just re-read message #13), and as long as this is true I repeat

this statement as often as I want, point!

Re: [WP-34s] alpha entry?

*Message #18 Posted by **Dominic Richens** on 15 Oct 2011, 7:45 p.m.,*
in response to message #5 by Alexander Oestert

Does anyone know if it is possible to have catalog characters as one of the 3? E.g., how would I get [alpha]'N=' for instance?

Re: [WP-34s] alpha entry?

*Message #19 Posted by **Paul Dale** on 15 Oct 2011, 8:59 p.m.,*
in response to message #18 by Dominic Richens

You can't from the keyboard. This is a limitation in the way the tricharacter alpha is implemented :-(

Using the assembler you can.

Pauli

Re: [WP-34s] alpha entry?

*Message #20 Posted by **Dominic Richens** on 15 Oct 2011, 7:42 p.m.,*
in response to message #1 by Alexander Oestert

See the wiki

Entering_and_Displaying_Alpha_Strings

If that's not what you meant, please add it :-)

Re: [WP-34s] alpha entry?

*Message #21 Posted by **Alexander Oestert** on 16 Oct 2011, 1:54 a.m.,*
in response to message #20 by Dominic Richens

Thanks, 'alpha lock mode' is what I was searching for.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Finding extremums of function with complex derivate

*Message #1 Posted by **Lukas K.** on 15 Oct 2011, 6:18 a.m.*

Given is the function I want to calculate the maximums auf this function using the FCN->EXTR function of the 50g. This fails with the message 'Bad Guess(es)', because the derivate of f is complex. Why is f' complex, whereas f only returns real values? Adding a ->NUM to the end of the Y-Var program slows down the plot and sends the calculator into an infinite loop when trying to find the maximum of f. The TI-83 fails at this, too. It finds the maximum at the guessed one. Has anyone an idea how to find the maximum of f (using the 50g)?

Re: Finding extremums of function with complex derivate

*Message #2 Posted by **Allen** on 15 Oct 2011, 8:44 a.m.,*
in response to message #1 by Lukas K.

For most values of x the function would approach 4. You can see in this function , can you use the estimation?

Edited: 15 Oct 2011, 8:56 a.m.

Re: Finding extremums of function with complex derivate

*Message #3 Posted by **Crawl** on 15 Oct 2011, 10:55 a.m.,*
in response to message #2 by Allen

I think the URL you pasted didn't work right,how about this?

Yeah, the exponential will be of the form (cos(t)+isin(t)).

So that plus 1 has a maximum absolute value when it equals 2. (when t=0, 2pi, 4pi, etc)

So you need to solve for (x+3.1e-6)/x = an integer.

Or x = 3.1e-6/(n-1), with n an integer.

I'm not sure why it seems like the derivative is complex; it shouldn't be. I'd have to check what the HP50g gives for that later.

Edited: 15 Oct 2011, 10:58 a.m. after one or more responses were posted

Re: Finding extremums of function with complex derivate

*Message #4 Posted by **Crawl** on 15 Oct 2011, 10:56 a.m.,*
in response to message #3 by Crawl

My URL didn't work either; the parentheses get lost. Oh, well.

Re: Finding extremums of function with complex derivate

*Message #5 Posted by **Lukas K.** on 15 Oct 2011, 11:20 a.m.,*
in response to message #3 by Crawl

Well, plotting and finding it's maximums did the trick. Why didn't I think of this earlier? :(

f' seems to be complex, because the derivate of |a+bi| is signum(a+bi), which returns a complex value :(

Re: Finding extremums of function with complex derivate

*Message #6 Posted by **Crawl** on 15 Oct 2011, 7:24 p.m.,*
in response to message #5 by Lukas K.

I tried playing around with the HP50g with that expression, and it can give wildly varying forms depending on what you do with it. Some of which do not contain complex numbers at all.

At least, make sure rigorous is on, so it doesn't simply return abs(x) as x.

This is probably a situation for which the TI89 gives a more straight forward result.

Edited: 15 Oct 2011, 7:25 p.m.

Re: Finding extremums of function with complex derivate

*Message #7 Posted by **Han** on 15 Oct 2011, 7:35 p.m.,*
in response to message #5 by Lukas K.

> Quote:
>
> Well, plotting and finding it's maximums did the trick. Why didn't I think of this earlier? :(
>
> f' seems to be complex, because the derivate of |a+bi| is signum(a+bi), which returns a complex value :(

Are you sure that Re(f) = |f| ? If this is true, then you can graph Re(f) and get your answer that way.

How about using the fact that |z|^2 = z * conj(z) and e^(i*t) = cos(t)+i*sin(t)?

Re: Finding extremums of function with complex derivate

*Message #8 Posted by **bunuel66** on 17 Oct 2011, 6:06 a.m.,*
in response to message #7 by Han

It seems that: Re(z)!=|z|^2 That said, max of f is 4 for x=3.1e-6/k, k being 0,1,2....

My two cents...

Regards

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New HP15c LE manual - good!

*Message #1 Posted by **Jose Gonzalez Divasson** on 14 Oct 2011, 5:52 p.m.*

It is a pleaseure to see again a full manual with our calculators, included in the package. A lot of care has been clearly put into it:

HP15c Manuals compared

The more time passes, the happier I am with the HP15c LE. Thanks again!!

I have read the message from Hugh Evans where he states his preference for HP42s but at the end, he takes the 15c with him due to its size. Same happes with me. (in addition, I find easier to work with it with a single hand for most operations, joining the left hand to operate it with both thumbs for more other non-basic operations)

Re: New HP15c LE manual - good!

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:45 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

AFAIK, the manual was re-edited by volunteers in this community for HP.

Re: New HP15c LE manual - good!

*Message #3 Posted by **David Hayden** on 15 Oct 2011, 9:05 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus is right. The document was recreated in modern word processing software. HP provided an initial version to a group of volunteers. This was a great start but it still had perhaps 4-5 formatting or content errors on each page. It went through 4 or 5 revisions with at least two volunteers who compared it word-for-word with the original manual. Along the way volunteers rescanned every diagram in higher resolution and the keystroke font was tweaked several times.

One of the hardest parts was keeping the page numbering the same so that page references in the table of contents, index, and throughout the text would not have to change. This required small formatting tweaks on nearly every page.

I think the effort really paid off. The manual has a few errors, but most are in Appendix F which was rewritten to apply to the new hardware. For the most part it seems error-free

It's a great example of how we can help HP improve their products.

Re: New HP15c LE manual - good!

*Message #4 Posted by **Jose Gonzalez Divasson** on 15 Oct 2011, 7:00 p.m.,*
in response to message #3 by David Hayden

David,

Can I use this information in the blog? May I quote you?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S without Windows

*Message #1 Posted by **Egan Ford** on 14 Oct 2011, 5:42 p.m.*

For you non-Windows users out there wp34sgui works again with Wine (Unix/Linux Windows emulator).

Tips:

1. cd to ~/.wine/dosdevices and symlink your USB to Serial device. e.g.

   ```
   cd ~/.wine/dosdevices
   ln -s -f /dev/tty.usbserial-FTFTXBQO com4
   ```

   This will allow you to use wp34sgui to serial xfer stuff.

2. svn download the latest wp34s:

   ```
   svn co https://wp34s.svn.sourceforge.net/svnroot/wp34s wp34s.svn
   ```

3. Setup wp34sgui to use a com port to transfer to the physical:

   ```
   cd wp34s.svn/trunk/windows/bin
   echo com4: >wp34s.ini
   ```

4. Lastly fire it up:

   ```
   wine wp34sgui &
   ```

Issues:

1. I cannot get the 34S to send to the virtual 34S, however sending from the virtual to the physical works just fine. I'll have to investigate some more, but just having virtual to physical is a great start. No VMware and no Windows. Yeah!
2. MySamba.exe untested. Also on my list.

Re: 34S without Windows

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 5:50 p.m.,*
in response to message #1 by Egan Ford

Thanks for the test. Try a speed correction factor (a percentage) in X on the device before the transfer. Start with 95.

Re: 34S without Windows

*Message #3 Posted by **Egan Ford** on 14 Oct 2011, 6:06 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Worked with 90. Thanks! All is right with the universe again.

Re: 34S without Windows

*Message #4 Posted by **Egan Ford** on 14 Oct 2011, 6:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Question. Is there a chksum program to test RAM or parts of RAM for bad transfers? I read the docs on SHOW, but that does not address libraries (SENDL) or registers (SENDR) or entire state (SENDA).

Thanks.

Edited: 14 Oct 2011, 6:10 p.m.

Re: 34S without Windows

*Message #5 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:32 a.m.,*
in response to message #4 by Egan Ford

Yes, the test is automatic. All transfers are secured by a 16 bit CRC.

Re: 34S without Windows

*Message #6 Posted by **Egan Ford** on 14 Oct 2011, 5:57 p.m.,*
in response to message #1 by Egan Ford

MySamba.exe tested. It does not work. MySamba does not enumerate the COM ports. A free-form field in MySamba would be appreciated.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S Matrix Questions

*Message #1 Posted by **Egan Ford** on 14 Oct 2011, 4:55 p.m.*

I know that this has been covered via various threads and I have not read them all or have been able to follow them until today when I got my 34S flashed (plus I have been out of the office).

Questions:

1. I understand that some of the user flash pages had to be used. Which ones? How would I determine this as a user from the 34S? It is possible to overwrite the used pages as a user?
2. MIO and other Matrix Library functions are missing, how do I add? Where do I add?
3. Other than the two pages in Walters guide is there any other Matrix documentation?

Thanks, and sorry if this has all be answered before, but I have been unable to find a central source of this information.

Re: 34S Matrix Questions

*Message #2 Posted by **gene wright** on 14 Oct 2011, 5:16 p.m.,*
in response to message #1 by Egan Ford

The library files are in a download area on the sourceforge site.

You download those files and then use Samba to load them to different locations in the 34S from the main location to flash the firmware.

Libraries 1 through 5 can go to these offsets:

```
0x11f400 - Library 1
0x11f000 - Library 2
0x11ec00 - Library 3
0x11e800 - Library 4
0x11e400 - Library 5
```

I have been intending to write this up because I could not figure out how to do this either.

I have a write up (thanks Marcus and Pauli for being so patient with my questions), but your questions confirm the need for better instructions.

The library files as they exist now can be found here:

34S Library directory on Sourceforge

Each file is named wp34s-5.dat, etc.

The order really does not matter, but if a library has the same 3 character label as another, the label in the lowest numbered library gets executed if called.

Re: 34S Matrix Questions

*Message #3 Posted by **Egan Ford** on 14 Oct 2011, 5:32 p.m.,*
in response to message #2 by gene wright

Thanks Gene, now more confused. IIRC, the *.dat in that directory should already have been append to calc.bin, correct? I ask since after flashing with the latest code X.FCN, TEST, and P.FCN have the matrix functions listed per Walters doc. However other functions discussed such as MIO are not.

And do I have to use Samba or can I use SENDL via the emulator?

Re: 34S Matrix Questions

*Message #4 Posted by **gene wright** on 14 Oct 2011, 5:35 p.m.,*
in response to message #3 by Egan Ford

I have only used Samba, so YMMV.

I don't believe the calc.bin file has the .dat files appended. You create a fullcalc.bin :-) file by doing a copy/b command and joining the .dat to the .bin files.

MIO was in a library (it is actually now replaced by a MED matrix Editor). One library has the AM1, etc. programs to load the matrices. One library has prime number functions, etc.

So the matrix commands are part of the calc.bin original file in the firmware now.

The libraries are extra to that.

Re: 34S Matrix Questions

*Message #5 Posted by **Egan Ford** on 14 Oct 2011, 5:53 p.m.,*
in response to message #4 by gene wright

> Quote:
>
> I don't believe the calc.bin file has the .dat files appended. You create a fullcalc.bin :-) file by doing a copy/b command and joining the .dat to the .bin files.

Or, the cat command if you are Unix/Linux, e.g.:

```
cat calc.bin *.dat >fullcalc.bin
```

> Quote:
>
> MIO was in a library (it is actually now replaced by a MED matrix Editor).

Great, docs for MED?

> Quote:
>
> So the matrix commands are part of the calc.bin original file in the firmware now.

Nothing like confusion. :-|

Re: 34S Matrix Questions

*Message #6 Posted by **Egan Ford** on 14 Oct 2011, 7:29 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Great, docs for MED?

NM, found the docs for MED in the source. :-)

Re: 34S Matrix Questions

*Message #7 Posted by **Paul Dale** on 14 Oct 2011, 8:13 p.m.,*
in response to message #4 by gene wright

> Quote:
>
> MIO was in a library (it is actually now replaced by a MED matrix Editor).

MIO should still be there.

The relevant library files are available on subverion:

- Extra matrix functions. This includes the MIO routine.
- Matrix editor.

In both cases, download the latest. Having these will help understand how to use them. You could also type them in all else failed, there are less than 250 lines in total.

- Pauli

Re: 34S Matrix Questions

*Message #8 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 5:47 p.m.,*
in response to message #3 by Egan Ford

SENDL is up to the task if you can get the serial commands to work. This might include some experimentation with speed correction factors (see the docs).

Gene is correct with SAM-BA.exe but there should be a join.cmd file in the realbuild directory to join the libs into calc_full.bin which can be sent with MySamba.

Re: 34S Matrix Questions

*Message #9 Posted by **Egan Ford** on 14 Oct 2011, 5:54 p.m.,*
in response to message #8 by Marcus von Cube, Germany

cat works just as well as join.cmd. MySamba flashed it just fine. Thanks.

Re: 34S Matrix Questions

*Message #10 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:37 a.m.,*
in response to message #9 by Egan Ford

Same idea, different operating system.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)

*Message #1 Posted by **deleted** on 14 Oct 2011, 4:14 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #2 Posted by **Jake Schwartz** on 14 Oct 2011, 4:22 p.m.,*
in response to message #1 by deleted

> Quote:
>
> why not have a display/keyboard overlay that is one unit with minimal current draw?

This is the exact idea put forth in 2005 by Tim Wessman's winning entry in HP's "Design A Calculator" contest that year, which Tim presented at HHC2005 in Illinois. Great minds think alike...

Jake

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #3 Posted by **Paul Dale** on 14 Oct 2011, 8:48 p.m.,*
in response to message #1 by deleted

I've thought about keys with dynamic labels. Dismissed mostly because they've never been practical at least before touch screens which aren't really keys.

The idea is interesting and seems very cool and nerdy. The downside is you can't see what key does what until you've entered the appropriate "mode". E.g. which shift key do I enter for xxx?

Still a nice idea.

- Pauli

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #4 Posted by **Thomas Radtke** on 15 Oct 2011, 2:23 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> The downside is you can't see what key does what until you've entered the appropriate "mode". E.g. which shift key do I enter for xxx?

I would become clear if the shift key is called 'Inv'. Another one could be called 'Trig' or 'Prgm'. I imagine

it could be like going through menus.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #5 Posted by **Cristian Arezzini** on 15 Oct 2011, 6:57 a.m.,*
in response to message #4 by Thomas Radtke

> Quote:
>
> I would become clear if the shift key is called 'Inv'. Another one could be called 'Trig' or 'Prgm'. I imagine it could be like going through menus.

Hehe... it would be just like having different "modes" where every function is a primary key! :)

Cristian

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #6 Posted by **Thomas Radtke** on 15 Oct 2011, 8:28 a.m.,*
in response to message #5 by Cristian Arezzini

Yes, and this is not unseen on original calculators for touch screen devices or certain remotes, i.e., it's already a proven concept.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #7 Posted by **Thomas Radtke** on 15 Oct 2011, 9:05 a.m.,*
in response to message #1 by deleted

Let me repeat myself (again): For a start, take a proven concept that will sell, i.e., the 42S. Without being too innovate, you will already have to fight with enough problems.

(deleted post)

*Message #8 Posted by **deleted** on 15 Oct 2011, 3:17 p.m.,*
in response to message #1 by deleted

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #9 Posted by **Walter B** on 15 Oct 2011, 3:33 p.m.,*
in response to message #8 by deleted

This is next to what I remember from 2006. A bare plate with 37 holes. Hmmh, everybody will agree a calculator may (!) look like this. And with a nice CAD SW, everybody can draw such a picture. Without further contents it's hard to detect major mental works implemented. Any progress since 2006?

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #10 Posted by **Hugh Evans** on 15 Oct 2011, 3:53 p.m.,*
in response to message #9 by Walter B

This is the response I get from simply sharing an idea? I didn't even say: here's my great new final plan to send out for prototyping?

I formally apologize for sharing any thoughts/ ideas with this group. Do we need to hold a poll to address if I'm welcome here? Have I ever expressed strong negativity towards others around here? I'm getting rather disillusioned by all of this.

I'm feeling like the most hated guy in the forum to have a quick rendering I post to be blasted. A rendering intended to show off nothing other than a thought.

All I'm trying to do is give something to this community. Maybe I'm barking up the wrong tree and everyone is happy paying $400 a piece for worn out machines.

I've always enjoyed this community, but this shift in attitude is nothing short of cynical and rude.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #11 Posted by **Walter B** on 15 Oct 2011, 4:07 p.m.,*
in response to message #10 by Hugh Evans

Come on, first you wrote:

> Quote:
>
> I think most people around here would be excited enough about the new portrait layout design I put together last night.

and then you post the message I responded to. If that's what people shall get excited about, I think many will share my view. But I will not comment OpenRPN vapourware any further, too many disappointments in the past :-(

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #12 Posted by **Hugh Evans** on 15 Oct 2011, 4:20 p.m.,*
in response to message #11 by Walter B

I was referring to a design I have not yet posted. Apparently I shouldn't post anything around here.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #13 Posted by **M. Joury** on 15 Oct 2011, 10:57 p.m.,*
in response to message #10 by Hugh Evans

Speaking for myself I would love to continue to see ideas put forward in an effort to rekindle the OpenRPN effort.

Cheers,

-Marwan

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #14 Posted by **Michael Kussmaul** on 16 Oct 2011, 6:32 a.m.,*

in response to message #13 by M. Joury

Me too! I'm missing a modern RPN or RPL calculator. Those 15c, 42S are all great, but to be honest quite outdated for nowadays. Personally I'm not the guy who lives in the past, so I bought the 15c LE solely because I like the form factor and RPN is a must - there is no other calculator on the market offering this...

The WP 34S looks promising as well and all involved did a nice job on it, but we can't overcome the physical limitations of it (small LCD screen, non-native keys, low memory), so even it takes longer, I would like to see a new approach like OpenRPN.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #15 Posted by **Thomas Radtke** on 16 Oct 2011, 7:42 a.m.,*
in response to message #14 by Michael Kussmaul

> Quote:
>
> Personally I'm not the guy who lives in the past [...]

Of course, String 'Theories' require more than a 8x8 matrix, and the 15C is a little slow for computed flow dynamics anyway.

Are you seriously using a pocketable calculator in your professional work and touch the limits of the 15C? I don't, so I'd like to know your applications or that of other users asking for a next gen calculator.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #16 Posted by **Michael Kussmaul** on 16 Oct 2011, 8:13 a.m.,*
in response to message #15 by Thomas Radtke

I don't use my calculator for all things :-) My background is physics as well but I switched to computer science for my job.

For heavy math I use computer programs (simplifying formulas, taylor expansions, etc), so I would not enter a 8x8 matrix on a calculator, because a computer still offers much better editing capabilities.

But for smaller on-the-spot calculations a calculator is much better. E.g. for OpenGL programming you have 4x4 matrices and my calculator is useful for debugging them. I also wrote some small programs to help my work, e.g. Enter an OpenGL vector x,y,z and let it run through my transformation matrix and return the resulting vector. I also need simple trigonometry calculations all the time.

I think those are the main use cases for a calculator, I don't need fancy plotting, symbolic calculations (a computer is much better at those tasks). But I'm hooked to RPN and appreciate some simple programmable capabilities. And I like to do simple calculations with a physical device, so I don't have to switch context on my computer just to open the computer-calculator-app to compute a simple cosine...

I also have a 48G, and like it very much, but it's just to big to take with me all the time. So the 15c will fit in my already filled-up bag. I even would appreciate it the 15c would be half as thick :-)

(deleted post)

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #17 Posted by **Thomas Radtke** on 16 Oct 2011, 8:25 a.m.,*
in response to message #16 by Michael Kussmaul

> Quote:
>
> For heavy math I use computer programs (simplifying formulas, taylor expansions, etc), so I would not enter a 8x8 matrix on a calculator, because a computer still offers much better editing capabilities.

Yes, but not much. With USER mode, data entry is a breeze :-).

> Quote:
>
> But for smaller on-the-spot calculations a calculator is much better. E.g. for OpenGL programming you have 4x4 matrices and my calculator is useful for debugging them.

And the 15C can do it!

> Quote:
>
> I even would appreciate it the 15c would be half as thick :-)

But please using a steel chassis ;-).

It is my whole point that what was useful and sufficient 30 years ago hasn't changed much. Just the opposite, more and more is done on the PC, so some calculator features even became obsolete (like, as you mentioned, CAS on the 48).

Unfortunately, one feature is lost: Reliability. And that's the most important feature of all :-(.

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #18 Posted by **Michael Kussmaul** on 16 Oct 2011, 8:47 a.m.,*
in response to message #17 by Thomas Radtke

Yes, entering a 8x8 matrix is not the problem on the 15C (ok, it is, as the 15C only support 7x7 ;-) but most of the time you need to edit them afterwards (typos, changes) and this is much easier on a computer for a matrix this large.

A steel or aluminum chassis would be good as well, but while I'm enjoying my aluminum MacBook, I'm not sure, if it is a good idea for a calculator. I also have an aluminum remote control for my tv (the one from Apple) but I dropped it to the floor many times and now has 20+ ugly dents... so its much more fragil than plastic. I think for larger devices (laptops) its ok, because you don't drop them, but for smaller things (calculators) the risk is greater to drop them...

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #19 Posted by **Michael Kussmaul** on 16 Oct 2011, 8:35 a.m.,*
in response to message #16 by Michael Kussmaul

(deleted post)

Just to clarify: I don't touch the limit of the 15C in technical terms, more in usability terms: e.g. I'm missing

- a multi line display: so I can see the full stack (at least 2 lines, more would be even better)
- alphanumeric support: so program code is less cryptic
- menu system: aka 42S for less common functions, because I don't have the manual with me all the time and I easily forget the usage of functions
- nice typesetting: e.g. In degree mode show 10° 34' 23.34" and not aka 15c 10.342334, the same for imaginary numbers etc. bonus points if the program could also output it's own special characters, e.g. a program could output "radius: 15m" instead of simply "15". Bonus points++ if the calculator understands, that the value is still 15, so I could continue calculating with it :-)
- some sort of import/export: to store programs on computer and even editing them there, and just transfer them to the calculator, as writing programs on calculator is cumbersome... I would even be happy if calculator itself would not support editing programs, so you have to write them on computer and uploading them

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #20 Posted by **Thomas Radtke** on 16 Oct 2011, 8:54 a.m.,*
in response to message #19 by Michael Kussmaul

> Quote:
>
> nice typesetting: e.g. In degree mode show 10° 34' 23.34" and not aka 15c 10.342334 [...]

Like on some Casios and Commodores, yes. But then, some function would be nice to decompose the format (just to maybe put the minutes onto the stack). Easily done on HPs with a few keystrokes :-). Come to think of it, former HP had put a lot of thoughts into the firmware. That the current HP isn't able to do good firmware anymore has been proven alone by the fact that complex numbers cannot be decomposed on the 35s.

Why requesting such features when there's no one left to implement them right?

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #21 Posted by **Cristian Arezzini** on 17 Oct 2011, 12:11 a.m.,*
in response to message #19 by Michael Kussmaul

> Quote:
>
> Just to clarify: I don't touch the limit of the 15C in technical terms, more in usability terms: e.g. I'm missing
>
> - a multi line display: so I can see the full stack (at least 2 lines, more would be even better)
> - alphanumeric support: so program code is less cryptic
> - menu system: aka 42S for less common functions, because I

don't have the manual with me all the time and I easily forget the usage of functions
- nice typesetting: e.g. In degree mode show 10° 34' 23.34" and not aka 15c 10.342334, the same for imaginary numbers etc. bonus points if the program could also output it's own special characters, e.g. a program could output "radius: 15m" instead of simply "15". Bonus points++ if the calculator understands, that the value is still 15, so I could continue calculating with it :-)
- some sort of import/export: to store programs on computer and even editing them there, and just transfer them to the calculator, as writing programs on calculator is cumbersome... I would even be happy if calculator itself would not support editing programs, so you have to write them on computer and uploading them

---

You just described the Hp48! :) By the way, I totally agree with your points and that's why - bulkiness aside - the 48 is my favorite calculator...

Cristian

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #22 Posted by **Walter B** on 17 Oct 2011, 12:52 a.m.,*
in response to message #21 by Cristian Arezzini

Quote:

... that's why - bulkiness aside - the 48 is my favorite calculator...

Bulkiness is one of the key features of the 48, however :-I

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #23 Posted by **Cristian Arezzini** on 17 Oct 2011, 1:09 a.m.,*
in response to message #22 by Walter B

It is indeed, but I have to say I don't mind it. First, I really *love* the big screen, and you can't have a big screen on a small calculator. Second, the 48 lives in my work bag (and before it lived in my university backpack) so its bulkiness wasn't a problem. And I love the feeling of power and sturdiness it gives - it just looks like it means business! :) And for when I'm out and about, I always have the 34s in my small shoulder bag...

Cristian

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #24 Posted by **Steve Simpkin** on 17 Oct 2011, 1:54 a.m.,*
in response to message #21 by Cristian Arezzini

The HP-48SX was the last HP calculator I bought new (and the first one I

(deleted post)

reach for at work), until the HP30b which is now a WP34s :)

Re: Pocket Sized Vertical (Portrait) Style Calculator Interest

*Message #25 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:03 p.m.,*
in response to message #8 by deleted

The keyboard layout is the same as the 30b except that you obviously plan to put the arithmetic functions to the left ("old style"). The display area seems to be large enough for a graphical display. This would imply a menu system which would very well deserve another row of keys.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is the SVN version of 34S that does NOT need a keyboard change?

*Message #1 Posted by **Egan Ford** on 14 Oct 2011, 1:41 p.m.*

Subject says it all.

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #2 Posted by **Dominic Richens** on 14 Oct 2011, 1:58 p.m.,*
in response to message #1 by Egan Ford

All of them.

Pauli stated that any changes to the layout will be done on a (not yet created) branch.

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #3 Posted by **Paul Dale** on 14 Oct 2011, 8:03 p.m.,*
in response to message #2 by Dominic Richens

> Quote:
>
> Pauli stated that any changes to the layout will be done on a (not yet created) branch.

That isn't quite what I said. The changes to layout will involve a branch. We haven't decided if the current layout will be the branch or the new....

The change to Y<> and Z<> is on the keyboard now.

- Pauli

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #4 Posted by **Jeff O.** on 14 Oct 2011, 1:59 p.m.,*
in response to message #1 by Egan Ford

The latest version, 1726, uses the current keyboard (i.e the one for which Eric's overlay works.) It has the "41C" enhancements, i.e., the function name is displayed when you press a key and NULLs out if you hold the key down for few seconds. (This feature will help when they change the keyboard, if one decides to keep loading new versions without changing the overlay.)

The above is incorrect, version 1722 is the last version that is fully compatible with Eric's overlay. See the following posts. I never used the old functions that are gone and like the new, so I can live with the change.

Edited: 14 Oct 2011, 4:53 p.m. after one or more responses were posted

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #5 Posted by **Dominic Richens** on 14 Oct 2011, 2:10 p.m.,*
in response to message #4 by Jeff O.

Actually I forgot about the x<>y changes in 1723. It's potentially minor but the x< and >a on the x<>y are now y<> and z<>.

So I think 1722 is the last version that exactly matches Eric's overlays.

```
svn co -r 1722 https://wp34s.svn.sourceforge.net/svnroot/wp34s/trunk/realbuild realbuild
svn co -r 1722 https://wp34s.svn.sourceforge.net/svnroot/wp34s/library library
```

Edited: 14 Oct 2011, 2:24 p.m.

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #6 Posted by **Walter B** on 14 Oct 2011, 4:32 p.m.,*
in response to message #5 by Dominic Richens

Confirmed :-)

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #7 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Oct 2011, 4:37 p.m.,*
in response to message #5 by Dominic Richens

I am sorry this may be very obvious to some, but I can't locate the different versions of the 34s code calc.bin to flash.

Seem like the most recent version of the calc.bin file on this site
http://sourceforge.net/projects/wp34s/files/ which is 1630

There is another calc.bin file in https://wp34s.svn.sourceforge.net/svnroot/wp34s/trunk/realbuild/

Which I cannot tell the date or the rev. by looking at the file name on Internet Explorer. How do we locate different revs of the calc.bin file with rev notes (if available)?

Thanks –K2

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #8 Posted by **fhub** on 14 Oct 2011, 4:45 p.m.,*
in response to message #7 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> How do we locate different revs of the calc.bin file with rev notes (if available)?

Use the following link:
http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/

If you click on calc.bin you come to a site with a list of the last revisions, and for each revision there's a 'download' option.

Franz

Edited: 14 Oct 2011, 4:46 p.m.

Re: What is the SVN version of 34S that does NOT need a keyboard change?

*Message #9 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Oct 2011, 4:53 p.m.,*
in response to message #8 by fhub

Great! This is excatly what I was looking for, thank you Franz.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Finally, 34S flashed

*Message #1 Posted by **Egan Ford** on 14 Oct 2011, 1:35 p.m.*

I think I had two issues:

1. Weak Batteries. They were new, but as I struggled to get my 34S flashed I must have worn them down. At 2.7V they would not power up my other 30b.
2. Keyspan USB to Serial. I've had this for years and never had a problem using it with OS/X or Windows (virtualized/physical) or Linux (virtualized/physical). I've also used it to flash H8 and PIC without issue. Given that FTDI-based adapters have been reported to work I ordered the cheapest one I could from Amazon.

Now I can flash via Windows XP in a VMware VM under OS/X without issue. Setup: MacBook Air, OS/X 10.6.8, VMware Fusion 3.1.3 (Windows XP SP3), USB to Serial (FDTI): $13.44US from Amazon (http://www.amazon.com/gp/product/B004ETE9GO.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP keyboards, past and present

*Message #1 Posted by **Cristian Arezzini** on 14 Oct 2011, 10:03 a.m.*

I was playing with a few old non-HP calculators I just recently bought. They are all from the early 70's. And they all have really horrible keyboards. The keys are mushy, bouncy, in a word almost unusable; while HP keyboards from that era are really nice. But you all know this.

What I was thinking today is that the quality of even non-HP keyboards is much better these days. I sometimes play, for example, with a ultra-cheap, modern Casio fx-570. Its keyboard doesn't "rotate and click", but I find it reliable: no missed keys or bounces *ever*. True, it doesn't have the pleasant click, but it's perfectly usable. Some modern HP keyboards instead, despite having the click, aren't all that reliable. I use, for example, the HP-50g and the WP-34s (30b hardware), and with both I have to keep an eye on the display, to see if all the keys registered because they sometimes don't.

I still like HP keyboards a lot, maybe I'm just saying that the "gap" between HP and others has gone - or worse yet, has reversed...

OK, "rant" over! :)

Cristian

Re: HP keyboards, past and present

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 14 Oct 2011, 12:18 p.m.,*
in response to message #1 by Cristian Arezzini

I always liked the HP-41 keyboard layout for the function keys, on the left (L) side of the numbers with the order top down (-) (+) (*) (/).

Never heard the reason why HP moved the function keys to the right (R) of the numbers with the order top down (/) (*) (-) (+).

Does anyone know HP's motivation to this change?

-K2

Re: HP keyboards, past and present

*Message #3 Posted by **Martin Pinckney** on 14 Oct 2011, 1:16 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

No one so far as I know has successfully answered this question.

If the premise is that the most-used keys should be closest to each other, then the four basic math operators, number keys, and Enter should be grouped together, which they basically are on all HP's.

If + and - are used more frequently, then these should be closest to Enter, as on the Classics.

Why are the Pioneers and 48's the opposite of this?

The Voyagers may offer the best arrangement, since the numbers are flanked by Enter on the left, and four basic math operators on the right, plus the order of operators, combined with the dropped down Enter key, puts all the most-used keys closest to each other.

Re: HP keyboards, past and present

*Message #4 Posted by **Thomas Radtke** on 14 Oct 2011, 1:10 p.m.,*
in response to message #1 by Cristian Arezzini

Huh, I thought the 30b had a good keyboard..? The design of the 15C LE keyboard appears to be good, however. Are these 'loose' domes in the new Voyagers a first? It's great! HP should take the good job their employees do serious and care for a likewise good manufacturing. But that won't happen, unfortunately.

BTW, all my Casios had reliable keyboards, and so did my Commodores, Corvus' and Sinclairs. The only exception were TIs and some minor calculator brands like Philips.

Re: HP keyboards, past and present

*Message #5 Posted by **Lincoln R.** on 14 Oct 2011, 1:34 p.m.,*
in response to message #4 by Thomas Radtke

Yeah, my fx-7000g's keyboard works fine, it's just very mushy. The molded rubber 'keys' are very flimsy and flex a lot, and there's no tactile feedback.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: number display and rounding

*Message #1 Posted by **Dieter** on 14 Oct 2011, 8:44 a.m.*

In the olden days I also used a TI58 here and there. As on most TIs, its standard display format shows all digits, similar to the original HP35 or the later ALL setting, while most HPs used a fixed decimal format - FIX 2 on earlier machines and FIX 4 on later models.

But there was another difference. HPs machines, set to a FIX format, usually switch to scientific notation if the value is so small that if would round to zero. Enter Pi, and in FIX 4 you will get 3,1416. Divide this by 10000 and you'll see 0,0003. Divide again by 10 and you will get 3,1416 E-5. While TI's machines showed the same results in the first two cases, the last value was handled differently: it was simply displayed as zero (0,0000). In other words: the HP way was a switch to scientific notation while the TIs showed the result like the one you would have got after an additional RND (which returns zero in this case as well).

I think both ways of handling this are valid options. There are cases where I actually prefer the "round to zero" way. So I would like to ask two questions:

1. Do you consider an option or a flag useful that sets either the one or the other display rounding mode?

2. Especially for Pauli: if (!) this option is considered useful, is there a chance this may find its way into the 34s?

Dieter

Re: WP34s: number display and rounding

*Message #2 Posted by **Paul Dale** on 14 Oct 2011, 10:10 a.m.,*
in response to message #1 by Dieter

I don't personally care for this. If you are in FIX mode and the display switches, the value would have displayed as zero. Sounds simple enough to me at least. We will still need the switch to exponential notation for large numbers -- I assume TI's do this even though it isn't entirely consistent to my mind.

Anyway, if enough people think it is worthwhile, we could dedicate the fabled last bit of RAM to supporting this mode. I'd have to see how much flash it consumes -- the display formatting code is horrible and making changes is more difficult & more space consuming than I'd like :-(Of course, we'd have to no think of a better use of the bit :-)

As mentioned, executing RND after the underflow to exponential notation does result in the TI answer. Is this a bug or a feature I wonder?

- Pauli

Re: WP34s: number display and rounding

*Message #3 Posted by **Steve Simpkin** on 14 Oct 2011, 2:44 p.m.,*
in response to message #2 by Paul Dale

I am very much against this mode. I always want to know the difference between zero and 3.1416 E-5.
I am hoping that last bit of RAM will be available for a USER mode :)

Re: WP34s: number display and rounding

*Message #4 Posted by **M. Joury** on 14 Oct 2011, 4:25 p.m.,*
in response to message #3 by Steve Simpkin

I *strongly* second this. Don't see much need for a round to zero automatically (I actually think that this is a bad idea) and am very much in favor of a user mode. Given one bit left I would *strongly* opt for a user mode if at all possible.

Just my 0.02

Cheers,

-Marwan

Re: WP34s: number display and rounding

*Message #5 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 5:11 p.m.,*
in response to message #4 by M. Joury

Before we discuss any changes I need to squeeze the code a little bit more. The last version fills flash *exactly*. :-/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thanks Eric!

*Message #1 Posted by **Eddie W. Shore** on 14 Oct 2011, 1:08 a.m.*

Thanks for the HHC 2011 Proceedings CD!

Re: Thanks Eric!

*Message #2 Posted by **Bruce Bergman** on 14 Oct 2011, 1:16 a.m.,*
in response to message #1 by Eddie W. Shore

Second! :-)

Re: Thanks Eric!

*Message #3 Posted by **Eric Rechlin** on 14 Oct 2011, 1:34 a.m.,*
in response to message #1 by Eddie W. Shore

You're welcome.

Actually these weren't the proceedings. The discs were made a week before the conference, before the proceedings were made. This disc was supposed to be included with the packets at registration, but due to a total failure of the USPS (the package sent by Priority Mail took 7 days to go halfway across the country), the package with the discs didn't arrive in time.

The discs contain the current copy of my website, plus a bunch of other goodies (official HP press photographs, all the manuals from HP's website, and more).

Eric

Edited: 14 Oct 2011, 1:35 a.m.

Re: Thanks Eric!

*Message #4 Posted by **Namir** on 14 Oct 2011, 1:40 a.m.,*
in response to message #3 by Eric Rechlin

Oh! So I have some goodies waiting for me when I get home next Thursday? If so, thank in advanced Eric!

Re: Thanks Eric!

*Message #5 Posted by **Steve Simpkin** on 14 Oct 2011, 2:36 a.m.,*
in response to message #3 by Eric Rechlin

Eric,
Excellent! Thank you vey much for the disk and the WP34s overlay!

Re: Thanks Eric!

*Message #6 Posted by **Howard Owen** on 14 Oct 2011, 3:20 a.m.,*
in response to message #3 by Eric Rechlin

Thanks for the goodies then. I already have hardcopy of the proceedings, so this is better. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S JG1582 / JG1752

*Message #1 Posted by **M. Joury** on 13 Oct 2011, 11:37 p.m.*

I am trying to figure out what exactly these modes do. Per the manual they are supposed to effect the calculation of J-D and D-J but they don't appear to make any difference on my machine. What am I missing? I'm currently running build 1630.

Cheers,

-Marwan

Re: WP34S JG1582 / JG1752

*Message #2 Posted by **Paul Dale** on 13 Oct 2011, 11:42 p.m.,*
in response to message #1 by M. Joury

These two set the assumed change over date between the Julian and Gregorian calendars for purposes of the other date commands.

- Pauli

Re: WP34S JG1582 / JG1752

*Message #3 Posted by **M. Joury** on 14 Oct 2011, 7:00 a.m.,*
in response to message #2 by Paul Dale

Right, but shouldn't they effect what J-D and D-J return? J-D and D-J seem to return the same value for either setting in my case. How can I verify that the change in setting took place? Can't seem to find that in the manual.

Example: With Either JG mode setting and for the date 10.142011 (today US date format) they both return 2,455,849.

Thanks,

-Marwan

Re: WP34S JG1582 / JG1752

*Message #4 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 7:05 a.m.,*
in response to message #3 by M. Joury

Try a date *before* the switch-over date. The Julian day should be different only between 1582 and 1752.

Re: WP34S JG1582 / JG1752

*Message #5 Posted by **M. Joury** on 14 Oct 2011, 7:14 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Ah. Like I said in my original post: "What am I missing." Makes sense now that you put it into words. Silly misunderstanding.

Thanks,

-Marwan

Re: WP34S JG1582 / JG1752

*Message #6 Posted by **Bart (UK)** on 14 Oct 2011, 7:30 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> The Julian day should be different only between 1582 and 1752

Yes, and choosing JG1582 or JG1752 depends on when the Gregorian calendar was adopted in which country. Some adopted in 1582 and others only in 1752. So knowing which implementation to use depends on both the year you wish to convert and knowledge of where that date originated.

Re: WP34S JG1582 / JG1752

*Message #7 Posted by **Bart (UK)** on 14 Oct 2011, 7:17 a.m.,*
in response to message #3 by M. Joury

And so it should.

The implementations depend on finding the JD for years before 1582 and 1752, when the Gregorian Calendar was adopted, depending on country.

Perhaps the "notes" in the following reference will shed some light on the subject.Julian Date Converter

Re: WP34S JG1582 / JG1752

*Message #8 Posted by **Dieter** on 14 Oct 2011, 7:25 a.m.,*
in response to message #3 by M. Joury

Sure - you will get the same result for any date after 1752. ;-)

In 1582 pope Gregory XIII introduced the calendar we still use today - the Gregorian calendar. The official switch date was Friday, 15 October 1582 which followed directly on Thursday, 4 October. The dates inbetween are not defined.

While the new calendar was adopted in many countries (e.g. most of Europe) in 1582 or shortly after, the British Empire did not do so before September 1752. So the years between 1582 and 1752 will cause different results because the countries that had switched early already had the Gregorian calendar while in the British Empire still the old Julian calendar was valid.

Before this flag was introduced the 34s generally assumed a switch in 1752, i.e. the date valid only for the British Empire. Today at least the official (and IMHO only correct) date can be set. Users in countries that did not adopt the Gregorian calendar on these two dates will only get correct results for dates after the one their country switched.

Dieter

Re: WP34S JG1582 / JG1752

*Message #9 Posted by **M. Joury** on 14 Oct 2011, 9:12 a.m.,*
in response to message #8 by Dieter

Thanks you for all the responses and explanations. I had never worked with Julian dates between 1582 and 1752 and so missed the point.

Cheers,

-Marwan

Re: WP34S JG1582 / JG1752

*Message #10 Posted by **Walter B** on 14 Oct 2011, 5:28 p.m.,*
in response to message #8 by Dieter

> Quote:
>
> While the new calendar was adopted in many countries (e.g. most of Europe) in 1582 or shortly after, the British Empire did not do so before September 1752.

So it took them 170 years extra. Applying this to metric units, the US of A are a bit overdue, aren't they? (Sorry, couldn't resist ;-)

Re: WP34S JG1582 / JG1752

*Message #11 Posted by **M. Joury** on 14 Oct 2011, 6:48 p.m.,*
in response to message #10 by Walter B

The non-metric nature of US units drives me insane! Metric is just so much more logical. The best (sarcasm on) is having to have two sets of tools to work on European cars (which is all we own) and bicycles (that are all metric) plus all the other things around the house that are not. I wonder how much this would reduce costs for US corporations if they would just get it over with and switch over.

Cheers,

-Marwan

Re: WP34S JG1582 / JG1752

*Message #12 Posted by **Paul Dale** on 14 Oct 2011, 9:43 a.m.,*
in response to message #3 by M. Joury

These settings also impact the other date functions not just the J-D and D-J ones.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Error 5 in simple loop

*Message #1 Posted by **Eric Zoob** on 13 Oct 2011, 11:30 p.m.*

I was trying to get around the PSE issue by using R/S to stop a simple program. This simple count-down loop produces "Error 5" when you get to 3.0000

```
001 LBL A
002 1
003 0
004 STO 0
005 LBL B
006 RCL 0
007 R/S
008 DSE 0
009 GSB B
010 RTN
```

Re: HP-15C LE Error 5 in simple loop

*Message #2 Posted by **Paul Dale** on 13 Oct 2011, 11:33 p.m.,*
in response to message #1 by Eric Zoob

Try GTO B instead of GSB B on line 9. You are filling up the return stack.

- Pauli

Re: HP-15C LE Error 5 in simple loop

*Message #3 Posted by **Jan** on 14 Oct 2011, 7:51 a.m.,*
in response to message #2 by Paul Dale

That's it indeed.

Re: HP-15C LE Error 5 in simple loop

*Message #4 Posted by **Michael de Estrada** on 13 Oct 2011, 11:38 p.m.,*
in response to message #1 by Eric Zoob

Subroutine nested more than 7 deep. 10 - 7 = 3.

Re: HP-15C LE Error 5 in simple loop

*Message #5 Posted by **Eric Zoob** on 14 Oct 2011, 12:05 a.m.,*
in response to message #4 by Michael de Estrada

My apologies. I should have known that.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

O.T. Reading computer internals

*Message #1 Posted by **designnut** on 13 Oct 2011, 10:25 p.m.*

I have a program called AIDA64 that looks deep into my dcomputer (free trial). I reads ttemperatures voltages and CPU watts in use. It is a locally built-up, not a name brand. Any idea what it uses to read all that informattion?

Re: O.T. Reading computer internals

*Message #2 Posted by **David Ramsey** on 13 Oct 2011, 11:15 p.m.,*
in response to message #1 by designnut

All modern CPUs have internal temperature sensors so that they can throttle clock speed and/or voltage to keep it within its thermal envelope.

Most current motherboards have various flavors of "super I/O" chips (Fintek makes some) that can control and report on these values. AIDA64 checks for a number of these chips and probably combines information from them with information from the CPU.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why hp-20b more expensive than 30b?

*Message #1 Posted by **Masaki Adachi** on 13 Oct 2011, 9:32 p.m.*

Something peculiar is going on through the internet stores. If you go to amazon.com and compare the sales price of HP20b and 30b, 30b is cheaper than 20b by more than $10. HP30b comes to $32.54 including shipping. Outside of Amazon, the best price I could find on 20b was from buy.com ($28). It still comes to $35 if you add the shipping charge.

This is great for people who is thinking about flashing WP34S. keyboard is of much better quality on 30b compared to 20b.

So I did a quick calculation for the cost of ownership for flashed WP34S.

$33 for hp 30b from amazon affiliated seller (incl. shipping) $3 for flash cable from Gene $5 for overlay from Eric Total $41

retail industry does a strange thing.

Re: Why hp-20b more expensive than 30b?

*Message #2 Posted by **bill platt** on 13 Oct 2011, 11:11 p.m.,*
in response to message #1 by Masaki Adachi

> Quote:
>
> $3 for flash cable from Gene

That is freaking crazy cheap--unsustainably so--for a hand-made product!

Re: Why hp-20b more expensive than 30b?

*Message #3 Posted by **Paul Gaster** on 13 Oct 2011, 11:42 p.m.,*
in response to message #2 by bill platt

Before this gets out of hand, Gene does not make these by hand. He got big bags of them from HP.

Also, he was spending so much time, gas money, and postage that he raised his price. It isn't $3 anymore. I tried to search the archives but couldn't find the thread with the new price quickly. If you want one just send him a message to get the new price and details.

Re: Why hp-20b more expensive than 30b?

*Message #4 Posted by **Jeff O.** on 14 Oct 2011, 9:13 a.m.,*
in response to message #3 by Paul Gaster

New prices:

$6 to USA addresses
$10 oustide USA

Updates and Cables

Re: Why hp-20b more expensive than 30b?

*Message #5 Posted by **Dan W** on 14 Oct 2011, 12:18 a.m.,*
in response to message #1 by Masaki Adachi

> Quote:
>
> Something peculiar is going on through the internet stores. If you go to amazon.com and compare the sales price of HP20b and 30b, 30b is cheaper than 20b by more than $10. HP30b comes to $32.54 including shipping. Outside of Amazon, the best price I could find on 20b was from buy.com ($28). It still comes to $35 if you add the shipping charge.
>
> This is great for people who is thinking about flashing WP34S. keyboard is of much better quality on 30b compared to 20b.
>
> So I did a quick calculation for the cost of ownership for flashed WP34S.
>
> $33 for hp 30b from amazon affiliated seller (incl. shipping) $3 for flash cable from Gene $5 for overlay from Eric Total $41
>
> retail industry does a strange thing.

And add about $20 or so for a USB-to-Serial adapter most of us would need. Still, not bad at all.

Strange about those Amazon prices. About a month ago I checked and the 30b was more expensive by about $10.

Re: Why hp-20b more expensive than 30b?

*Message #6 Posted by **Masaki Adachi** on 14 Oct 2011, 12:14 p.m.,*
in response to message #5 by Dan W

You are right about USB-serial converter. The one I used is " USB to RS-232 Serial Adapter for Windows 7 (32/64bit) FTDI Chip Pro Adapter with LED" ($18+$6.50 s&h)

Three LEDs are in blue tinted DB9 shell, power, Tx and Rx.

Quite geeky when they blink while the signal are fed into calculator.

Edited: 14 Oct 2011, 12:17 p.m.

Re: Why hp-20b more expensive than 30b?

*Message #7 Posted by **Lincoln R.** on 14 Oct 2011, 1:56 a.m.,*
in response to message #1 by Masaki Adachi

The 20b is no longer manufactured, so probably everyone who was selling them cheaply sold out, and the only vendors on Amazon who still have them in stock are the ones who want to overcharge, so nobody's buying.

You can probably find a used 30b for not too much on TAS. I got mine that way for under $20 shipped. No manual, just the opened original packaging, a 30b, and a case, but you don't need the manual if you're going to be flashing it.

At any rate, from what I've heard the 20b keyboard is atrocious, however my 30b's feels great so I'd recommend the 30b.

Re: Why hp-20b more expensive than 30b?

*Message #8 Posted by **Steve Simpkin** on 14 Oct 2011, 2:41 a.m.,*
in response to message #1 by Masaki Adachi

HP30b Calculator = $22 (New from Amazon)
WP 34s Overllay = $5 (Thanks Eric)
Programming Cable = free (Thanks Gene)
Attending HHC 2011 = Priceless!

Re: Why hp-20b more expensive than 30b?

*Message #9 Posted by **gene wright** on 14 Oct 2011, 7:37 a.m.,*
in response to message #8 by Steve Simpkin

Steve's cable was free at HHC 2011. :-)

I have now had to ask $6 to send to a US address and $10 to an overseas address. Sorry about that. Email me if you want more information and I will respond with the procedure I have adopted.

Re: Why hp-20b more expensive than 30b?

*Message #10 Posted by **megarat** on 14 Oct 2011, 12:08 p.m.,*
in response to message #1 by Masaki Adachi

While this isn't as bargain-basement as one could hope for, the 20b is currently only $27.99 (or $34.93 shipped) from buy.com. That's roughly the same price as the 30b on Amazon.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp12C capability

*Message #1 Posted by **Todd Israels** on 13 Oct 2011, 8:48 p.m.*

Will the new 12c with arm processor take the firmware for the 15C LE? I do like the desighn of the 10 series calculators. Does the 12C+ have enough memory space to make it possible to have a 12C, 15C and 16C rom on board, so the calculator to run would be selectable? I know this would prove more complicated than it appears!

Re: hp12C capability

*Message #2 Posted by **Jeff O.** on 13 Oct 2011, 9:45 p.m.,*
in response to message #1 by Todd Israels

> Quote:
>
> Will the new 12c with arm processor take the firmware for the 15C LE?

Yes. The hardware is identical.

> Quote:
>
> Does the 12C+ have enough memory space to make it possible to have a 12C, 15C and 16C rom on board...

Is 128 kB enough?

Re: hp12C capability

*Message #3 Posted by **uhmgawa** on 13 Oct 2011, 11:29 p.m.,*
in response to message #2 by Jeff O.

> Quote:
>
> Is 128 kB enough?

For an AVR target a KEMU config including 11c/12c/15c/16c support weighs in at:

```
/usr/bin/avr-size kemu_m1284p.elf
   text    data     bss     dec     hex filename
  51498     162    2239   53899    d28b kemu_m1284p.elf
```

Note this in on a modest 8-bit AVR core which isn't exactly the runtime architecture Dennis Ritchie had in mind. So I'd expect ARM thumb code to do considerably better. Note however the firmware occupies the lion's share of flash, thus any reduction due to use of a sane runtime architecture will be proportional to actual emulator code.

Even a 64KB sam7l would suffice if the above assumption holds. Interestingly 24-28KB of flash is more

than sufficient for a single 15c configuration, and a 12c flash footprint would further reduce that by 7.5KB. I'd expect quite a bit of elbow room could be found in the sam7l128 used in the encore 12c/15c.

RWM (bss + data above) however would need to be partitioned between the 2KB of battery backed and 4KB volatile regions. But I think that is doable. Other features such as a CLI interface and support (mapping the segment display to ascii, etc..) are included in the above image, the RWM storage for which doesn't need to be persistent over power off periods or can be deconfigured altogether.

Re: hp12C capability

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 14 Oct 2011, 7:11 a.m.,*
in response to message #2 by Jeff O.

I am going to take a wild guess and say that though they look very similar, that the 12c+ and the 15c LE are actually a little bit different.

The 20b and the 30b have some minor difference that allows the 30b F/W to recognize that it is running on a 20b chassis. On the 20b chassis, HP was a bit clever here and the 30b F/W runs in a reduced "20b" mode -- none of the 30b-specific functions run.

So, given that I own neither a 12c nor a 15c LE, that if you could get ahold of the 15c LE F/W, that it would not run on the 12c chassis.

Note that this is likely a one direction limitation. We have seen that 12c F/W does run on a 15c LE just as the 30b will run the 20b F/W.

Just a guess...

Re: hp12C capability

*Message #5 Posted by **Don Shepherd** on 13 Oct 2011, 10:21 p.m.,*
in response to message #1 by Todd Israels

I would think the annunciators would be different.

Re: hp12C capability

*Message #6 Posted by **uhmgawa** on 13 Oct 2011, 11:48 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> I would think the annunciators would be different.

The lcd glass used in the encore voyagers is identical to the original versions w/r/t supporting the sum of all model annunciators. However no voyager model actually uses all annunciators except for the special case of the system test which enables every software driven segment of the the display.

I found this simplification convenient, allowing use of a more comfortable font for rendering annunciators in KEMU's graphic display support as there is no reason to consume limited pixel real estate for annunciators which aren't used in a given model.

Re: hp12C capability

*Message #7 Posted by **Katie Wasserman** on 14 Oct 2011, 11:58 a.m.,*

in response to message #6 by uhmgawa

> Quote:
>
> The lcd glass used in the encore voyagers is identical to the original versions w/r/t supporting the sum of all model annunciators. However no voyager model actually uses all annunciators except for the special case of the system test which enables every software driven segment of the the display.

This is true with the exception of the 12CP, it has different annunciators and uses all of them. It has larger digits too.

Re: hp12C capability

*Message #8 Posted by **NateB** on 13 Oct 2011, 10:40 p.m.,*
in response to message #1 by Todd Israels

It has been done, with modification to the older hardware.

Video

I'd be interested in replacing the guts of an original, non-working 15c with the internals of a new 12c and flashing it with the 15c firmware.

Edited: 13 Oct 2011, 10:43 p.m.

Re: hp12C capability

*Message #9 Posted by **Todd Israels** on 14 Oct 2011, 12:20 a.m.,*
in response to message #1 by Todd Israels

Thanks for the knowledgeable answers so far. It would be an awesome combination and appears to be possible. Maybe the 12C re purposing project could be restarted to accomplish this

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another couple of practical speed tests for the 15c

*Message #1 Posted by **Jose Gonzalez Divasson** on 13 Oct 2011, 6:19 p.m.*

Here are another couple of practical speed tests for the 15c

Blog - practical speed tests

Re: Another couple of practical speed tests for the 15c

*Message #2 Posted by **Paul Berger (Canada)** on 13 Oct 2011, 8:49 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I wrote a program to find 4 digits numbers such that A^B * C^D = ABCD I used the same algorithm on several calculators from a 41 up to a 50G and I even plowed into sysRPL for the first time and wrote a sysRPL version of the program. When I got my 15C LE I ported the 41 version of the program over to it and the result is the program on the 15C LE is almost as fast as the sysRPL program on the 50G. Since this was my first try at sysRPL it may not be the most efficient program possible but still this says a lot for the speed of 15C LE. If anyone is interested I can post all the results. I am currently attempting to port the algorithm over to a TI-59 but it is hard going, it has been many years since I programmed a TI and there are subtle differences in the way they handle thing plus of course its not RPN.

Re: Another couple of practical speed tests for the 15c

*Message #3 Posted by **Chris Randle (UK)** on 14 Oct 2011, 5:19 a.m.,*
in response to message #2 by Paul Berger (Canada)

Interested.

I'm tinkering with sysRPL at the moment, so I'd like a benchmark timing to have something to aim for.

Re: Another couple of practical speed tests for the 15c

*Message #4 Posted by **Paul Berger (Canada)** on 14 Oct 2011, 11:09 p.m.,*
in response to message #3 by Chris Randle (UK)

My program is basically 4 nested loops, one loop for each digit in the number, with the thousands being the outer loop and units the inner loop. It is not completely brute force it eliminates any values wher the x^y would be greater than the value tested, this test is not perfect and does eliminate number that are potential candidates, however it does come up with the right answer, it also eliminate any 0^x values even though some schools of thought say 0^0 =1 but it was easier to ignore this. Even though I know there is only one number that fits the A^B*C^D=ABCD I go through all numbers from 0 to 9999 with the exception noted above.

```
The results in ascending time order are as follows:
50G    SysRPL 00:01:30
15C LE RPN    00:01:39
50G    UsrRPL 00:02:29
49G    SysRPL 00:03:28
48GX#1 UsrRPL 00:05:58
```

```
75C    Basic  00:06:21
48GX#2 UsrRPL 00:06:24
49G    UsrRPL 00:06:39
71B    Basic  00:08:57
28S    UsrRPL 00:12:40
28C    UsrRPL 00:18:20
41CV   RPN    01:36:28
```

Things I learned from this exercise:
1. It takes a lot more statements to create a SysRPL program, you would really want to have a need for the extra speed to even bother.
2. Learning curve to get started with SysRPL is even steeper than UsrRPL and it is not as well documented.
3. I found writing UsrRPL pretty straight forward and since I have some programming experience it makes sense to me.
4. The memory in the 28C really is pitifully small I could not even save the program after editing it , there seemed to be enough free space but it would tell me there was no room.
5. Having a a powered on peripheral printer attached to a 41 has a very significant impact on the run time of a program, it appears that it keep checking the state of the switches on the printer as I could start and stop trace while it was running, a HPIL attached printer had no effect.
6. I wrote a version of the program for a TI-59, after using HP calculators for several years now, and being used to how they operated, it was painful to go back to program a TI and compared to the HP41 it took almost twice as many step to accomplish the same thing, and after 02:19:51 it failed to find the answer.

Notes:
1. I listed two 48GXs as one seems to be about 6% faster than the other, it seemed like a big variation to me.
2. Timing for the 41CV, 28C, 28S and 15C LE where measured using a stop watch, timing for all others was measured by the calculators clock.

Re: Another couple of practical speed tests for the 15c

*Message #5 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:12 a.m.,*
in response to message #4 by Paul Berger (Canada)

This would be a nice exercise on WP 34S in integer mode. I'd assume this will be the fastest. In real mode, the 34S might be even slower then the 15C LE because logs are slow.

Re: Another couple of practical speed tests for the 15c

*Message #6 Posted by **Paul Dale** on 15 Oct 2011, 4:32 a.m.,*
in response to message #5 by Marcus von Cube, Germany

I imagine it would be much faster. Integer mode doesn't use logs for y^x. It does it in a cleverer way :-) Additionally, integer logs are fast.

- Pauli

Re: Another couple of practical speed tests for the 15c

*Message #7 Posted by **Paul Dale** on 16 Oct 2011, 1:26 a.m.,*
in response to message #6 by Paul Dale

I've quickly coded this for the 34S. In 2's complement 64 bit integer mode, it takes 8.7 seconds to iterate fully over the range of possibilities. In real mode it takes a lot longer: 451.9 seconds (7 minutes 31.9 seconds). Those logarithms are hurting us lot.

The unique result is returned in register 30 and the number of TICKS in X.

I've made no real attempt to prune the search space here so I'm confident it can be sped up some more.

- Pauli

```
001 /*       */ LBL A
002 /*       */ TICKS
003 /*       */ STO K
004 /*       */ 9
005 /*       */ STO D
006 /*       */ STO 00
007 /*       */ INC X
008 /*       */ STO J
009 /*  l0:: */ RCL 00
010 /*       */ RCL[times] J
011 /*       */ STO 10
012 /*       */ RCL D
013 /*       */ STO 01
014 /*  l1:: */ RCL 10
015 /*       */ RCL+ 01
016 /*       */ RCL[times] J
017 /*       */ STO 11
018 /*       */ RCL 00
019 /*       */ RCL 01
020 /*       */ y[^x]
021 /*       */ STO 20
022 /*       */ RCL D
023 /*       */ STO 02
024 /*  l2:: */ RCL 11
025 /*       */ RCL+ 02
026 /*       */ RCL[times] J
027 /*       */ STO 12
028 /*       */ RCL D
029 /*       */ STO 03
030 /*  l3:: */ RCL 12
031 /*       */ RCL+ 03
032 /*       */ RCL 02
033 /*       */ RCL 03
034 /*       */ y[^x]
035 /*       */ RCL[times] 20
036 /*       */ x=? Y
037 /*       */ STO 30
038 /*       */ DSL 03
039 /*       */ BACK 09 // JMP l3
040 /*       */ DSE 02
041 /*       */ BACK 17 // JMP l2
042 /*       */ DSL 01
043 /*       */ BACK 29 // JMP l1
044 /*       */ DSE 00
045 /*       */ BACK 36 // JMP l0
046 /*       */ TICKS
047 /*       */ RCL- K
048 /*       */ RTN
```

Re: Another couple of practical speed tests for the 15c

*Message #8 Posted by **Paul Berger (Canada)** on 17 Oct 2011, 12:52 p.m.,*
in response to message #7 by Paul Dale

Taking the filter out of my 15C LE program increases the run by almost one minute to 2' 28".

Re: Another couple of practical speed tests for the 15c

*Message #9 Posted by **Kiyoshi Akima** on 20 Oct 2011, 2:49 p.m.,*
in response to message #8 by Paul Berger (Canada)

I must be doing something wrong, since my first brute-force program for the 15C+

found the solution in 1:12. A minor but possibly cheating optimization brought the time down to fifteen seconds.

UserRPL on the 50g did it in 23 seconds, down to 13 in SysRPL. The current champion is the 30b at 3 seconds.

Re: Another couple of practical speed tests for the 15c

*Message #10 Posted by **Paul Berger (Canada)** on 20 Oct 2011, 3:11 p.m.,*
in response to message #9 by Kiyoshi Akima

Impressive, I would be interested in seeing your programs.

Re: Another couple of practical speed tests for the 15c

*Message #11 Posted by **Kiyoshi Akima** on 20 Oct 2011, 3:52 p.m.,*
in response to message #10 by Paul Berger (Canada)

You have mail.

It's not ready for public consumption. Give me the weekend to polish it up and I'll post it then.

Re: Another couple of practical speed tests for the 15c

*Message #12 Posted by **Paul Berger (Canada)** on 20 Oct 2011, 7:25 p.m.,*
in response to message #9 by Kiyoshi Akima

Now that I re-read your post I see the difference your time is for finding the result. My program tests all reasonable possibilities from 0000 - 9999 except 0^x that is ignored and also when it finds A^B > AB00 it skips to the next value of B and if C^D > AB00 it skips to the next value of D. As I am writing this it occurs to me that in the first case I could skip to the next value of A right away since the value B is incrementing if A^B > AB00 then A^(B+1) will certainly be larger too, and the same thing would apply for C & D. When this problem was originally posted it was not revealed that there was only one 4 digit number that would satisfy A^B*C^D = ABCD so it was necessary to check all 4 digit numbers.

Re: Another couple of practical speed tests for the 15c

*Message #13 Posted by **Kiyoshi Akima** on 21 Oct 2011, 1:29 p.m.,*
in response to message #12 by Paul Berger (Canada)

Back to the drawing board...

Okay, I'll revise my programs to find all numbers. So far the 15C+ did it in 1:28 and the HP 50g 1:09 in SysRPL. That's brute-force, without any filtering.

Re: Another couple of practical speed tests for the 15c

*Message #14 Posted by **Paul Berger (Canada)** on 15 Oct 2011, 10:29 a.m.,*
in response to message #5 by Marcus von Cube, Germany

If you wish I could provide you with a listing of my program, I don't have a WP34S at this time, but I understand the programming model is similar to 41 and 15C.

Re: Another couple of practical speed tests for the 15c

*Message #15 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 11:09 a.m.,*
in response to message #14 by Paul Berger (Canada)

A listing would be fine. Porting shouldn't be a problem.

Re: Another couple of practical speed tests for the 15c

*Message #16 Posted by **Paul Berger (Canada)** on 15 Oct 2011, 10:31 p.m.,*
in response to message #15 by Marcus von Cube, Germany

You have mail...

Re: Another couple of practical speed tests for the 15c

*Message #17 Posted by **Reth** on 14 Oct 2011, 11:39 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I wander how come speed is so important for a pocket calculator used mainly for crunching numbers?

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Re: [WP 34S] New keyboard layout (poll)

*Message #1 Posted by **Walter B** on 13 Oct 2011, 5:57 p.m.*

After discussing back and forth, it all boils down to whether (1) we keep the present layout but with changed EXIT and x<>y keys as shown in the picture below or (2) we turn to a layout as presented here (changed keys are marked):

MATRIX shall contain the new matrix commands, and L.R. all commands related to 2D data (curve fit modes, COV, etc.).

Your votes please :-)

Walter

Re: [WP 34S] New keyboard layout (poll)

*Message #2 Posted by **Cristian Arezzini** on 13 Oct 2011, 6:19 p.m.,*
in response to message #1 by Walter B

I think I'd vote for 2. But is that layout fixed? I guess if it is we won't get same-shift "window change" keys...

Cristian

Re: [WP 34S] New keyboard layout (poll)

*Message #3 Posted by **fhub** on 13 Oct 2011, 6:24 p.m.,*
in response to message #1 by Walter B

+1 for this new layout, looks really good! :-)

What two pictures Walter? only one in this thread... ?

*Message #4 Posted by **gene wright** on 13 Oct 2011, 6:26 p.m.,*
in response to message #3 by fhub

?

Re: What two pictures Walter? only one in this thread... ?

*Message #5 Posted by **fhub** on 13 Oct 2011, 6:32 p.m.,*
in response to message #4 by gene wright

Option (1) is the current layout (as in the release version) with only the 2 keys x<>y and EXIT changed as in the posted picture (which is option (2)).

Re: What two pictures Walter? only one in this thread... ?

*Message #6 Posted by **Walter B** on 14 Oct 2011, 12:50 a.m.,*
in response to message #5 by fhub

Exactly. Thanks, Franz :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #7 Posted by **Eric Rechlin** on 13 Oct 2011, 6:59 p.m.,*
in response to message #1 by Walter B

Rather than moving 4 keys around, why not just put MATRIX on [3] and pi on [EEX] and leave the [*] and [DownArrow] alone? Though if there is a good reason for moving X.FCN and STATUS I'm sure I could be convinced otherwise...

Eric

Re: [WP 34S] New keyboard layout (poll)

*Message #8 Posted by **M. Joury** on 13 Oct 2011, 7:06 p.m.,*
in response to message #7 by Eric Rechlin

My thoughts exactly. What is the logic of moving X.FCN and Status?

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout (poll)

*Message #9 Posted by **Walter B** on 14 Oct 2011, 1:06 a.m.,*
in response to message #8 by M. Joury

Some reasoning:

Starting point: MATRIX just looks right at *. STATUS is moved next to TEST for obvious reasons. Then X.FCN goes to 3 next to P.FCN, driving PI to EEX. Thus CLP - which became pretty "dangerous" since it deletes all programs - is no longer on the keyboard :-) (CLP was meant to clear just the current program when placed there as discussed here earlier.)

./, has a second use in alpha mode calling a catalogue of punctuation marks :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #10 Posted by **Howard Owen** on 13 Oct 2011, 7:03 p.m.,*
in response to message #1 by Walter B

I only see one layout here. It looks to me like option 2. If you have an option 1 mentioned in some other thread, could you please provide a link, or else post a picture here?

If option 1 doesn't change anything other than the unshifted key functions or the H shifted plane, then I vote for that. These changes aren't significant enough to justify the pain of replacing the whole base decal, in my opinion.

Thanks for asking. :)

Re: [WP 34S] New keyboard layout (poll)

*Message #11 Posted by **Walter B** on 14 Oct 2011, 1:11 a.m.,*
in response to message #10 by Howard Owen

Please see above or read message #1 again.

Re: [WP 34S] New keyboard layout (poll)

*Message #12 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 13 Oct 2011, 7:22 p.m.,*
in response to message #1 by Walter B

I would vote for option (2) two which adds the valuable Matrix functions on the keyboard, and Pi seems to be in a better place in addition to other changes. -K2

Re: [WP 34S] New keyboard layout (poll)

*Message #13 Posted by **Dominic Richens** on 13 Oct 2011, 9:22 p.m.,*
in response to message #1 by Walter B

I've been meaning to ask this question, what does ./, do that it deserves to be on the keyboard? Doesn't ON-. do the same thing? Isn't it on the MODE catalog? Isn't it a set once only thing?

I say do option 1 and make MATRIX the h-shifted function on the decimal key.

However, I like having that 123456 block of keys be for catalogues.

I'm not sure I "get" most of the other changes on option 2 (but that's nothing new :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #14 Posted by **M. Joury** on 13 Oct 2011, 9:27 p.m.,*
in response to message #13 by Dominic Richens

Good point on ./,. That would be a perfect place for PI. Then place MATRIX where PI is currently.

Re: [WP 34S] New keyboard layout (poll)

*Message #15 Posted by **Eric Rechlin** on 13 Oct 2011, 10:44 p.m.,*
in response to message #13 by Dominic Richens

I agree. Something that you only need to set once should not be on a scarce key label on the keyboard.

Eric

Re: [WP 34S] New keyboard layout (poll)

*Message #16 Posted by **Walter B** on 14 Oct 2011, 1:16 a.m.,*
in response to message #15 by Eric Rechlin

Please see my post above. Thanks :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #17 Posted by **Dominic Richens** on 14 Oct 2011, 8:25 a.m.,*
in response to message #16 by Walter B

But that key is still the "." key. So even if we make MATRIX (or something else) the h-shifted function it is still no less logical place for the punctuation alpha-catalogue.

Re: [WP 34S] New keyboard layout (poll)

*Message #18 Posted by **Morten Nygaard Åsnes** on 14 Oct 2011, 1:47 a.m.,*
in response to message #1 by Walter B

Option 2

Re: [WP 34S] New keyboard layout (poll)

*Message #19 Posted by **Gerson W. Barbosa** on 14 Oct 2011, 2:17 a.m.,*
in response to message #1 by Walter B

2

Re: [WP 34S] New keyboard layout (poll)

*Message #20 Posted by **Alexander Oestert** on 14 Oct 2011, 2:43 a.m.,*
in response to message #1 by Walter B

I vote for option 0: leave everything as it is. The proposed changes are far to insignificant in my opinion to warrant all the hassle.

Re: [WP 34S] New keyboard layout (poll)

*Message #21 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 3:52 a.m.,*
in response to message #20 by Alexander Oestert

Option 0 is essentially option 1 with just replacing the rarely used xtoa/atox with the more useful (and brand new) y<> and z<> commands and swapping OFF and SHOW. You can certainly live with your old overlay then.

Re: [WP 34S] New keyboard layout (poll)

*Message #22 Posted by **Alexander Oestert** on 14 Oct 2011, 6:11 a.m.,*
in response to message #21 by Marcus von Cube, Germany

My old overlay is really not my concern: I will just stick to the firmware version that supports it.

But from my perspective no change in the overlay is necessary at all, the gain seems too minor to me, as that I would want to render prior overlays partly obsolete. I'd rather change only inside the catalogs, but not the interface.

Again, this is only my very, very limited "curious user" perspective which should not at all influence the poll of more professional users who really need a calculator for their productive work. BTW how many of these are here amongst WP-34s users?

Re: [WP 34S] New keyboard layout (poll)

*Message #23 Posted by **Paul Dale** on 14 Oct 2011, 6:24 a.m.,*
in response to message #22 by Alexander Oestert

> Quote:
>
> My old overlay is really not my concern: I will just stick to the firmware version that supports it.

You'll miss out on bug fixes if so & I'm sure there are plenty of bugs lurking still :-(

- Pauli

Re: [WP 34S] New keyboard layout (poll)

*Message #24 Posted by **Alexander Oestert** on 14 Oct 2011, 6:28 a.m.,*
in response to message #23 by Paul Dale

Even if that were the case, I could easily live with that. I'm not working but only playing with the WP34s. It's a wonderful toy, though! :)

[WP 34S] Time to branch? (was New keyboard layout (poll)

*Message #25 Posted by **Dominic Richens** on 14 Oct 2011, 8:19 a.m.,*
in response to message #23 by Paul Dale

> Quote:
>
> You'll miss out on bug fixes if so & I'm sure there are plenty of bugs lurking still :-(

Time to investigate branching. I would suggest branching instead of tagging, since it implies we can still propagate bugfixes. Options:

- branch off of the last 2.1 version, or last known stable version. I have been using 2.1 1664 for a while - I took that because it was the version where FIX would get me out of integer mode.
- branch now, just before the keyboard layout changes. May not be as stable, but it has the HP-41 press-and-hold behaviour, the matrix routines plus other small enhancements and bugfixes.

Or we could also do both. But I would only volunteer to maintain one of them :-)

Re: [WP 34S] Time to branch? (was New keyboard layout (poll)

*Message #26 Posted by **Paul Dale** on 14 Oct 2011, 10:03 a.m.,*
in response to message #25 by Dominic Richens

If (and it is by no means certain) we do a major change to the keyboard, there will be subversion branches involved.

We've not decided what form they will take, first we need to decide if a branch is necessary. For option 1, it isn't.

- Pauli

Re: [WP 34S] New keyboard layout (poll)

*Message #27 Posted by **Jeff O.** on 14 Oct 2011, 9:28 a.m.,*
in response to message #21 by Marcus von Cube, Germany

Can someone remind me of the need to swap OFF and SHOW? Is it just a preference to press h-EXIT to turn the calculator off instead of g-EXIT?

Edited: 14 Oct 2011, 9:29 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #28 Posted by **fhub** on 14 Oct 2011, 9:33 a.m.,*
in response to message #27 by Jeff O.

> Quote:
>
> Can someone remind me of the need to swap OFF and SHOW? Is it just a preference to press h-EXIT to turn the calculator off instead of g-EXIT?

Yes, it's just a preference of one (or very few) user, but with the difference that THIS preference seems to be made whereas many others are not.

Re: [WP 34S] New keyboard layout (poll)

*Message #29 Posted by **Cristian Arezzini** on 14 Oct 2011, 9:49 a.m.,*
in response to message #28 by fhub

I seem to recall that it's a preference of *many* users - people eventually got used to the way it is, but the "other" way is perceived as more intuitive, and I agree.

Oh, and this change, unlike others, comes at zero cost, as they are already going to change the layout anyway.

Cristian

Re: [WP 34S] New keyboard layout (poll)

*Message #30 Posted by **fhub** on 14 Oct 2011, 9:58 a.m.,*
in response to message #29 by Cristian Arezzini

> Quote:
>
> I seem to recall that it's a preference of *many* users

And switching the calculator OFF is indeed a *very* useful and *often used* feature - I am indeed using this OFF many times during my calculations! ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #31 Posted by **Dominic Richens** on 14 Oct 2011, 10:30 a.m.,*
in response to message #29 by Cristian Arezzini

I tend to turn my calculator on and off a lot so I would like it to be the h-shift function. However, I can see why people who use SHOW a lot would find this a downgrade.

On the WP-34s, to be an "h-shift" function is coveted due to the proximity of the h key to the edge of the calculator.

Overall I find the postilion of the shift keys annoying, but I think that is just because I never used anything prior to the HP15C. After that the shift keys were always a "left-thumb" keys. It was the main reason for starting the WP-32sII modifications (which, at this rate, will be done in 2015).

Re: [WP 34S] New keyboard layout (poll)

*Message #32 Posted by **John Abbott (S. Africa)** on 14 Oct 2011, 2:44 a.m.,*
in response to message #1 by Walter B

I vote for #2. If Eric can provide a "keyboard patch kit" as suggested, then this makes the change easier to manage.
BTW, thanks for the overlays Eric - really professional.
John

Re: [WP 34S] New keyboard layout (poll)

*Message #33 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 4:08 a.m.,*
in response to message #1 by Walter B

There seem to be some votes for Walter's new layout. If we go this route we should go a little further:

1. Move C/Py,x to the right and drop Phi and its inverse.
2. Move STATUS to PSE (I know Walter will object to this.)
3. Move ! to to the f-shifted position of the same key (UP)
4. Move <(and)> to h-shifted UP and DOWN

5. Now we have room for SF, CF and FS? on the vacant positions of UP and DOWN. :-)

Should look like this:

This is from an older design and lacks FS? but you see the point.

Edited: 14 Oct 2011, 5:06 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #34 Posted by **fhub** on 14 Oct 2011, 6:07 a.m.,*
in response to message #33 by Marcus von Cube, Germany

Quote:

Should look like this:

This is from an older design and lacks FS? but you see the point.

I don't like this splitting of "!" and "C P(y x)" to different keys at all - these 3 functions belong together and should stay as they are currenty.

Dropping Phi and its inverse is ok, it's really not used so often.
Removing PSE is also ok, that's definitely a programming function which should go the catalog - I would prefer having DROP on the keyboard instead (of course on an other position).

Franz

Re: [WP 34S] New keyboard layout (poll)

*Message #35 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 7:19 a.m.,*
in response to message #34 by fhub

> Quote:
>
> I don't like this splitting of "!" and "C P(y x)" to different keys at all - these 3 functions belong together and should stay as they are currenty.

The 15C has them on 0 and +, so a bit more apart, and no-one complains. In my design they are side by side.

Re: [WP 34S] New keyboard layout (poll)

*Message #36 Posted by **fhub** on 14 Oct 2011, 7:30 a.m.,*
in response to message #35 by Marcus von Cube, Germany

> Quote:
>
> The 15C has them on 0 and +, so a bit more apart, and no-one complains. In my design they are side by side.

Well, then which 'partner' would you like to give this "[g]!"?
IOW what you put on the [f]-part of this key?
Otherwise the "!" would be quite 'lonesome' ... ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #37 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 5:20 p.m.,*
in response to message #36 by fhub

Besides FS? (grouped with SF and CF on DOWN), ln Gamma comes into my mind.

Re: [WP 34S] New keyboard layout (poll)

*Message #38 Posted by **gene wright** on 14 Oct 2011, 7:40 a.m.,*
in response to message #34 by fhub

Speak for yourself about the normal distribution and inverse. I use it quite a bit! :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #39 Posted by **fhub** on 14 Oct 2011, 7:57 a.m.,*
in response to message #38 by gene wright

> Quote:
>
> Speak for yourself about the normal distribution and inverse. I use it quite a bit! :-)

Well, does not everybody here only speak for himself? ;-)

Edited: 14 Oct 2011, 7:58 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #40 Posted by **Dominic Richens** on 14 Oct 2011, 8:21 a.m.,*
in response to message #39 by fhub

If true, then use the following wording: "I don't use it so often" :-)

Re: [WP 34S] New keyboard layout (poll)

*Message #41 Posted by **fhub** on 14 Oct 2011, 8:32 a.m.,*
in response to message #40 by Dominic Richens

> Quote:
>
> If true, then use the following wording: "I don't use it so often" :-)

Well, I think I'm old enough to choose my wording myself. ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #42 Posted by **Alexander Oestert** on 14 Oct 2011, 8:39 a.m.,*
in response to message #41 by fhub

> Quote:
>
> Well, I think I'm old enough to choose my wording myself. ;-)

... and old enough to suffer from the so caused misunderstandings ... ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #43 Posted by **Dieter** on 14 Oct 2011, 8:56 a.m.,*
in response to message #38 by gene wright

So do I. I consider these two functions absolutely essential in many different sciences. At least more essential than the || function for the EE department. ;-)

I sometimes have the impression that "science" here is usually considered something that is generally done not more than 3 meters (or 10 feet) away from a workbench. But there's more science out there. ;-) In finance, economics, econometrics, statistics and many, if not most other social sciences (sic!) the normal distribution (and others) is at least as essential as P<>R in engineering. Please don't let us forget this.

Dieter

Edited: 14 Oct 2011, 9:01 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #44 Posted by **Walter B** on 15 Oct 2011, 2:44 a.m.,*
in response to message #33 by Marcus von Cube, Germany

> Quote:
>
> There seem to be some votes for Walter's new layout.

;-) What's the opposite of euphemism?

> Quote:
>
> If we go this route we should go a little further:

If you can't beat an idea try exaggerating it ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #45 Posted by **svisvanatha** on 14 Oct 2011, 7:40 a.m.,*
in response to message #1 by Walter B

My Vote is for Option 2.

I did like the idea of PI on the [3] though!

Can we also get a white 'reminder' label above EEX for LastX. There is space ;)

Re: [WP 34S] New keyboard layout (poll)

*Message #46 Posted by **fhub** on 14 Oct 2011, 7:55 a.m.,*
in response to message #45 by svisvanatha

> Quote:
>
> Can we also get a white 'reminder' label above EEX for LastX. There is space ;)

There is even more space over the keys left and right of EEX, so why not even write the following 'reminder': "do not forget: LastX = RCL L" ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #47 Posted by **Dieter** on 14 Oct 2011, 8:06 a.m.,*
in response to message #46 by fhub

I see I am not the only one who prefers a dedicated LastX key. ;-) Please see my other message in this thread with a suggestion that I think is useful and consistent. What do you two think about that?

Dieter

Edited: 14 Oct 2011, 8:14 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #48 Posted by **fhub** on 14 Oct 2011, 8:36 a.m.,*
in response to message #47 by Dieter

> Quote:

> I see I am not the only one who prefers a dedicated LastX key. ;-)

I guess you did misunderstand my posting, Dieter.
In fact I don't need this LastX at all, in the meantime I've really got used to RCL L. :-)

Franz

Re: [WP 34S] New keyboard layout (poll)

*Message #49 Posted by **Egan Ford** on 14 Oct 2011, 11:37 a.m.,*
in response to message #47 by Dieter

> Quote:
>
> I see I am not the only one who prefers a dedicated LastX key.

I do as well. RCL L works, and I am not suggesting removing it. But if WP, et al really want to creating something that would be broadly accepted by RPN users then LASTx should be present.

If you create something that meets the needs of a small market, then only a small market will use it.

I guess the question is, if HP were to build the 34S, would they do it without LASTx?

Edited: 14 Oct 2011, 11:38 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #50 Posted by **Eric Rechlin** on 14 Oct 2011, 11:56 a.m.,*
in response to message #49 by Egan Ford

Think about the 50g.

SWAP (or X<>Y or whatever your preferred nomenclature) is one of the most important keys in RPN, yet it isn't labeled on the 50g at all. You just have to know that it is on the right arrow key!

Eric

Re: [WP 34S] New keyboard layout (poll)

*Message #51 Posted by **Dieter** on 14 Oct 2011, 12:04 p.m.,*
in response to message #50 by Eric Rechlin

> Quote:
>
> Think about the 50g.

That's RPL - and therefore doesn't count in the world of pure RPN. ;-)

Dieter

Re: [WP 34S] New keyboard layout (poll)

*Message #52 Posted by **Egan Ford** on 14 Oct 2011, 12:06 p.m.,*

in response to message #50 by Eric Rechlin

50g is RPL. 50g also had to make compromises to support ALG. For a pure RPN calculator, why compromise on LASTx?

If the audience for the 34S is only this community, then apparently most do not want LASTx. So don't have it. But if you all really want to push this to a larger audience, then think about what the average RPN user would expect.

Lastly, what if WP, et al had put LASTx on the keyboard, and you put it on the overlay, and 100s of overlays have shipped. Do you think we would be having this discussion? Dumping LASTx to save a label space? Probably not. Because there are lower priority functions such as || that would be considered first.

Re: [WP 34S] New keyboard layout (poll)

*Message #53 Posted by **Dieter** on 14 Oct 2011, 12:15 p.m.,*
in response to message #49 by Egan Ford

Please take a look at my suggestion in the message below. Now imagine LSTX on h [0]. A truly classic solution, just as Pi on h [.] ;-) It may actually do a simple RCL L but it is easier to type (both keys on the edge of the keyboard) and more intuitive for most RPN users out there.

Dieter

Edited: 14 Oct 2011, 12:18 p.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #54 Posted by **svisvanatha** on 14 Oct 2011, 10:12 a.m.,*
in response to message #46 by fhub

The reminder label was actually Pauli's suggestion a few days ago ;)

Re: [WP 34S] New keyboard layout (poll)

*Message #55 Posted by **Dieter** on 14 Oct 2011, 8:03 a.m.,*
in response to message #1 by Walter B

I prefer the layout shown in the picture (that's option 2, if I get it right). Not only because it leaves the normal distribution on the keyboard - an essential function not only in mathematics and statistics but also for everyday use in the social sciences. The arrangement of the menus on the six digit keys is nice as well.

But there still is room for improvement. ;-) I really like the idea of the two new functions Y<> and Z<>. But if there is sufficient RAM and even keyboard space for these two, why has as dedicated LastX been rejected for the same reasons (no RAM, valuable keyboard space wasted)?

I already mentioned that the f-shifted exponential functions and the g-shifted logs feel strange to me, maybe even "wrong". The reason for this may be the fact that all earlier HP calculators with different shift keys for these functions did it exactly the other way round: Take a look at classics like the HP-25, the 65, the 67 or the 34C - they all use f ln and g e^x as well as f log and g 10^x. Maybe this is more intuitive since - just like sqrt and x^2 - the f-shifted function usually returns a result smaller than the input while g-shift returns a larger one. I think we should do it this way as well and swap f and g here. Walter, what do you think?

As others already suggested, Pi should better go to h [.] while the decimal marker can be set using the

respective command. Which usually is only done once by the user anyway, or even by the SETEUR etc. commands. Also, SHOW is a command that should be accessible as conveniently as possible. There is a reason why it has an exposed position on most HPs. So a h prefix is the obvious choice.

Suggestion for a useful and consistent layout:

h [ENTER] = SHOW
h [EEX] = CONST (yes, it will fit)
h [.] = Pi

This would also free g [EXIT] for LastX, maybe only as a shortcut for RCL L so that virtually no RAM is required.

What do you think?
Also take a look at the good old 34C. ;-)

Dieter

Edited: 14 Oct 2011, 8:27 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #56 Posted by **Paul Dale** on 14 Oct 2011, 10:01 a.m.,*
in response to message #55 by Dieter

> Quote:
>
> I really like the idea of the two new functions Y<> and Z<>. But if there is sufficient RAM and even keyboard space for these two, why has as dedicated LastX been rejected for the same reasons (no RAM, valuable keyboard space wasted)?

The keyboard space these occupy wasn't well utilised (ATOX and XTOA under different names) and we'd passed around many suggestions for existing commands to put there, none of which fitted in well. These are the best we came up with without leaving the slots empty.

The way I implemented these commands actually *saved* a little flash. There is one common routine for all of these exchanges and now it adds the opcode to a base address to decide the source register instead of always taking the X register. This did cost some additional bytes of course and more in function table overheads. However, I took this chance to remove the x<>y and complex x<>y dedicated functions -- they, like LastX, aren't necessary as separate standalone commands -- this saved about a hundred bytes which offset the extra I used.

The nett result is the x<>y command doesn't display as nicely as before, we have saved a few bytes, the two difficult to fill keyboard slots are occupied consistently and we've gained some potentially useful commands.

I think this is a worthwhile exchange and others seem to agree.

The 34S is at the point of everything being a compromise :-(

- Pauli

Re: [WP 34S] New keyboard layout (poll)

*Message #57 Posted by **Dominic Richens** on 14 Oct 2011, 10:49 a.m.,*

in response to message #56 by Paul Dale

> Quote:
>
> The 34S is at the point of everything being a compromise :-(

Pretty damn good for a compromise :-) I prefer to think of it as a "negotiated design".

Re: [WP 34S] New keyboard layout (poll)

*Message #58 Posted by **Dieter** on 14 Oct 2011, 12:08 p.m.,*
in response to message #56 by Paul Dale

Thank you for the explanation re. X<> and Z<>. But...

> Quote:
>
> The 34S is at the point of everything being a compromise :-(

I do not see a reason for a sad smiley here. In such a project where the user community is heavily involved, the best possible result is something that most users may agree to. This usually is called a compromise. :-)

Dieter

Edited: 14 Oct 2011, 12:09 p.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #59 Posted by **Dieter** on 14 Oct 2011, 11:36 a.m.,*
in response to message #55 by Dieter

In other words, my proposal would look like this:

If [./,] has to be saved, simply leave it on h [.] and move Pi to h [0]. PSE may go to a catalog since it is used for programming only.
In the picture g [EXIT] is not used. This space may be taken by PSE or another useful command. For instance, let's say... LSTX. :-D

Dieter

Edited: 14 Oct 2011, 11:52 a.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #60 Posted by **Alexander Oestert** on 14 Oct 2011, 1:27 p.m.,*
in response to message #59 by Dieter

Why "for programming ONLY"? Programming is one of the main reasons I use the WP34s - and fast (and dirty) programming that is. As PSE is a very important function for this kind of programs to have for me, I'm absolutely happy with having it well in reach on the keyboard.

Re: [WP 34S] New keyboard layout (poll)

*Message #61 Posted by **Dieter** on 14 Oct 2011, 1:59 p.m.,*
in response to message #60 by Alexander Oestert

Quote:

> Why "for programming ONLY"?

Because PSE does not make much sense in Run mode, does it? It's useful only (in the sense of "exclusively") in Program mode.

But look, in the picture PSE still is there. ;-) The layout even has an unassigned position at g EXIT. So at least three out of four possible commands (Pi, LastX, PSE and . / ,) can be realized.

Dieter

Re: [WP 34S] New keyboard layout (poll)

*Message #62 Posted by **Walter B** on 14 Oct 2011, 4:57 p.m.,*
in response to message #61 by Dieter

Please also note PSE has a second use as indicator where to find Greek PSI in alpha mode.

Re: [WP 34S] New keyboard layout (poll)

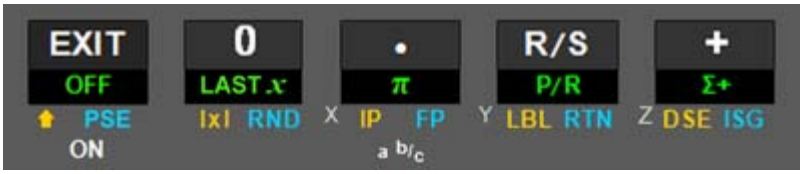
*Message #63 Posted by **Dieter** on 14 Oct 2011, 5:45 p.m.,*
in response to message #62 by Walter B

Well, the proposed layout shows just some humble improvements of your option 2 of course. ;-)

What do you think about it? I feel the swapped positions of the logarithmic and exponential functions make some sense. For me, it looks much more ..."natural" and intuitive this way.

Concerning the number of letters in key labels: if six letters like MATRIX fit on a key in a row that is five keys wide, probably five letters like CONST will fit as well in a row that's six keys wide. And if everything else fails it can also be done with four or even three letters: CONS or CNST resp. CON or CST.

Leaving PSE on the keyboard is no problem as well. Here's another option for the last row:



It even includes another function whose name shall not be mentioned here. ;-)

Dieter

Edited: 14 Oct 2011, 5:47 p.m.

Re: [WP 34S] New keyboard layout (poll)

*Message #64 Posted by **Walter B** on 15 Oct 2011, 2:39 a.m.,*
in response to message #63 by Dieter

> Quote:
>
> if six letters like MATRIX fit on a key in a row that is five keys wide, probably five letters like CONST will fit as well in a row that's six keys

wide.

Where <20% increase may be tolerable, 25% may be just too much. That's the difference between "probably" and "sure" ;-) It will not fit. And BTW, I don't see any relation of CONST to EEX.

Regarding PSE, I prefer it remaining on 0 for reasons stated in the manual.

Walter

Re: [WP 34S] New keyboard layout (poll)

*Message #65 Posted by **Dieter** on 16 Oct 2011, 9:32 a.m.,*
in response to message #64 by Walter B

Walter -

you mentioned two reasons why CONST should remain on [ENTER] and Pi on [EEX]. I would like to convice you that there are other, IMHO even better reasons for the solution I suggested.

1. **"CONST is too wide for the [EEX] key"**

   I do not have a 30B here, but I assume its keys are roughly (if not exactly) the same size as those on my 35s. Here, the delete key (back arrow) has CLEAR (in capitals) printed on it. Other keys in the same row show ABS(space)N and RND(space)O. So I do not see why CONST will not fit just as well. We can even gain some space with a slightly (virtually imperceptible) condensed font.

   If there *really* was not enough space, four letters would do just as well (CONS or CNST). HP themselves did so when neccessary, even in models as similar as the 67 and 97: On the latter it's LASTX, FRAC, MERGE and PAUSE while on the 67 it says LSTX, FRC, MRG and PSE. That's perfectly okay - I do not see any problem with this either.

2. **"There is no relation between [EEX] and CONST, so Pi should stay there"**

   First of all, there is no relation between [EEX] and Pi either. ;-)

   Second, Pi is a constant, like e or Phi, the golden ratio. That's why it appears in the CONST catalog. So currently [EEX] holds the mathematical constant Pi, while I simply suggest putting *all* constants there. The constants menu on [EEX] is neither more nor less intuitive or logic than its placement on the [ENTER] key. Just as [EEX] means "enter exponent", the shifted function is "enter constant".

   Finally, Pi is a constant that is frequently used in manual calculations. So it seems natural that it should be close to the digit keys. The designers of the original 35A knew that and placed this key next to the decimal point. On most classic HPs it's a shifted function of a digit key as well, and so it is in the original 34S layout (h [3]). That's why I think it should go to h [.] or h [0].

   The latter two keys are wider than those in the upper rows, so there is another option: Use one of these for CONST. This is even very intuitive: a constant is

entered with one of the digit keys, just like any other number.

3. **"PSE must stay on [0] because in alpha mode the Greek Psi is entered [g] [0] with PSE printed below as a reminder"**

   There is no reason why this should not work with another key just as well. In my last proposal the user presses [g] [EXIT] with PSE printed below. Even if for some other reason PSE has to stay on h [0] there is no problem either:

   h [0] = PSE
   h [.] = CONST
   h [EEX] = Pi
   h [ENTER] = SHOW

   Which leaves some space for
   g {EXIT] = LastX

Walter, you did not comment on the swapped log/exp functions. So I assume you like it just as I do. I hope I also could give some good reasons for the other changes I suggested.

Dieter

Re: [WP 34S] New keyboard layout (poll)

*Message #66 Posted by **Walter B** on 14 Oct 2011, 5:13 p.m.,*
in response to message #59 by Dieter

Dieter,

Thanks for supplying a complete proposal :-) But take care: you can put more letters in that bitmap than you can read on the real calculator. No way putting CONST on one of those small keys IMHO. So PI is - again IMHO - a far better inhabitant there. Continue trying ;-)

Walter

Re: [WP 34S] New keyboard layout (poll)

*Message #67 Posted by **Eddie W. Shore** on 15 Oct 2011, 12:27 a.m.,*
in response to message #55 by Dieter

> Quote:
>
> ... Suggestion for a useful and consistent layout:
>
> h [ENTER] = SHOW
> h [EEX] = CONST (yes, it will fit)
> h [.] = Pi
>
> This would also free g [EXIT] for LastX, maybe only as a shortcut for RCL L so that virtually no RAM is required.
>
> What do you think?
> Also take a look at the good old 34C. ;-)
>
> Dieter

> I like this idea.
>
> Eddie

Re: [WP 34S] New keyboard layout (poll)

*Message #68 Posted by **Alexander Oestert** on 14 Oct 2011, 8:05 a.m.,*
in response to message #1 by Walter B

If suggestions are still welcome: put ALL, FIX, SCI and ENG in an h-shifted catalog on the D-key and thus free up three h-shifted locations.

Re: [WP 34S] New keyboard layout (poll)

*Message #69 Posted by **Walter B** on 14 Oct 2011, 5:03 p.m.,*
in response to message #68 by Alexander Oestert

> Quote:
>
> put ALL, FIX, SCI and ENG in an h-shifted catalog on the D-key and thus free up three h-shifted locations.

OK, if I'd do this we'll gain three empty h-shifted locations. So what do you want to put there (a) fitting in that environment (b) better than the removed functions do? If you suggest something, please do it completely instead of only half ;-)

Re: [WP 34S] New keyboard layout (poll)

*Message #70 Posted by **Mike Mancini** on 14 Oct 2011, 1:42 p.m.,*
in response to message #1 by Walter B

Hi all, long time lurker, first time poster and recent WP 34s user.

I'd strongly recommend rethinking the colors selected, especially for the f and h labels. They don't appear to provide nearly enough contrast for a anyone with moderate to severe dichromacy (e.g. red-green or blue-yellow). Going darker with the f key (to more of an burnt orange) and lighter with the h key (to more of a mint) would be one fix. Granted, I'm going off the picture and not the overlay and things change on paper vs. screen, but I think it's important to bring up the accessibility concerns now since there's talk of changing the layout.

Re: [WP 34S] New keyboard layout (poll)

*Message #71 Posted by **Walter B** on 14 Oct 2011, 4:55 p.m.,*
in response to message #70 by Mike Mancini

Please check the colors on the overlay. It's significantly less brilliant than the emulator skin. If the problem persists, please return. TIA

Walter

So, if you stay with version 1... the MATRIX commands...

*Message #72 Posted by **gene wright** on 14 Oct 2011, 4:04 p.m.,*

in response to message #1 by Walter B

are only in X.FCN ?

Re: So, if you stay with version 1... the MATRIX commands...

*Message #73 Posted by **Walter B** on 14 Oct 2011, 4:52 p.m.,*
in response to message #72 by gene wright

No, Sir. They are distributed to X.FCN, P.FCN, and TEST. You can check this most easily employing the emulator 8-)

the MATRIX commands... and a new function T<> ?

*Message #74 Posted by **gene wright** on 14 Oct 2011, 5:11 p.m.,*
in response to message #73 by Walter B

Ah, I had found M-DET and M-INV in X.FCN, but I guess my concern is that they are in one or three :-) menus, rather than in a MATRIX menu itself. They are also out of the internal menu, it appears.

Hmm... think I'm leaning for option 2.

Another thought... although it would not be needed for stack exchange operations, T<> _ _ would be a useful function to put into the X.FCN catalog.

T exchange with X, Y or Z can be effected by doing the reverse exchange, but T exchange with a data memory cannot.

How about that as an addition to the X.FCN catalog? T<> ?

Re: the MATRIX commands... and a new function T<> ?

*Message #75 Posted by **Walter B** on 14 Oct 2011, 5:18 p.m.,*
in response to message #74 by gene wright

> Quote:
>
> How about that as an addition to the X.FCN catalog? T<> ?

That can be done easily :-) though I doubt this function will see much use (z<> and even y<> as well). YMMV

Edited: 14 Oct 2011, 5:19 p.m.

Re: the MATRIX commands... and a new function T<> ?

*Message #76 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 5:35 p.m.,*
in response to message #75 by Walter B

It's in P.FCN. :-)

Re: the MATRIX commands... and a new function T<> ?

*Message #77 Posted by **gene wright** on 14 Oct 2011, 5:40 p.m.,*
in response to message #76 by Marcus von Cube, Germany

Rats!

Re: the MATRIX commands... and a new function T<> ?

*Message #78 Posted by **Dieter** on 16 Oct 2011, 9:56 a.m.,*
in response to message #75 by Walter B

> Quote:
>
> I doubt this function will see much use (z<> and even y<> as well

That's my impression either. But it's very useful for programming. Just like any other advanced stack manipulation command. So the f- and g-shifted [X<>Y] key is free for two other commands that are more useful for manual calculations. I am sure we will find some. ;-)

Please don't let us get trapped by the idea that the primary target is a layout that *looks* nice, and therefore Y<> and Z<> should get assigned to the X<>Y key since all these go so well with each other and all these exchange functions on the same key look so nice. We are talking about a tool here, and it should support the user with a well balanced set of keyboard functions. The question whether a function should be accessible on the keyboard or by browsing a menu should not be answered by design aspects but by usefulness instead.

Dieter

Re: the MATRIX commands... and a new function T<> ?

*Message #79 Posted by **Paul Dale** on 14 Oct 2011, 8:02 p.m.,*
in response to message #74 by gene wright

> Quote:
>
> Ah, I had found M-DET and M-INV in X.FCN, but I guess my concern is that they are in one or three :-) menus, rather than in a MATRIX menu itself. They are also out of the internal menu, it appears.

Something that hasn't been mentioned about the MATRIX catalogue. All the matrix commands start M-, so navigating this catalogue will require you to enter these two before the first possible distinguishing character. i.e. a standalone MATRIX catalogue will be *more* difficult to navigate to commands in than it currently is.

> Quote:
>
> Another thought... although it would not be needed for stack exchange operations, T<> _ _ would be a useful function to put into the X.FCN catalog.

:-) Way ahead here. I can add A<> B<> C<> and D<> for forty more bytes. I think we at the point of diminishing returns by then so I didn't bother.

From much of the discussions here, it seems most people are stuck on the four level stack.

- Pauli

Re: the MATRIX commands... and a new function T<> ?

*Message #80 Posted by **Walter B** on 15 Oct 2011, 2:28 a.m.,*
in response to message #79 by Paul Dale

> Quote:
>
> it seems most people are stuck on the four level stack.

As expected, it takes a conservative audience a long time to get accustomed to innovations ;-/ But I'm happy (and content) we did this step towards eight stack levels. Now let time go by ... :-)

Edited: 15 Oct 2011, 2:30 a.m.

Re: the MATRIX commands... and a new function T<> ?

*Message #81 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 4:27 a.m.,*
in response to message #79 by Paul Dale

Do we have the chance of a generic register exchange and/or register move command? It would need some tuning in the input logic to input two addresses. To squeeze it into a single op-code is another treat. Maybe not worth the hassle...

Re: the MATRIX commands... and a new function T<> ?

*Message #82 Posted by **Paul Dale** on 15 Oct 2011, 4:30 a.m.,*
in response to message #81 by Marcus von Cube, Germany

It cannott be squeezed into a single opcode. We might be able to do one in a double length op-code -- actually there would be plenty of space for it.

The input logic would be a problem. Especially given the zero free bytes.

There are a whole suite of double register commands that could be useful. Arithmetic STO, conditional tests .... Sadly, no space in the 34S for these.

- Pauli

Re: the MATRIX commands... and a new function T<> ?

*Message #83 Posted by **fhub** on 15 Oct 2011, 5:31 a.m.,*
in response to message #79 by Paul Dale

> Quote:
>
> From much of the discussions here, it seems most people are stuck on the four level stack.

And just because of this the STOS/RCLS A would have been quite useful commands.
I really don't understand why you've removed them again and again, when OTOH you've put in lots of other stack commands (like all those new swaps). :-(

Franz

Edited: 15 Oct 2011, 5:31 a.m.

Re: the MATRIX commands... and a new function T<> ?

*Message #84 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 11:13 a.m.,*
in response to message #83 by fhub

At the moment they would not fit. I have to find some more flash space before I can start with my next idea, a return stack only limited by memory. :-)

Re: the MATRIX commands... and a new function T<> ?

*Message #85 Posted by **Paul Dale** on 15 Oct 2011, 5:51 p.m.,*
in response to message #84 by Marcus von Cube, Germany

Which we've not yet agreed to :-)

- Pauli

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #86 Posted by **Walter B** on 15 Oct 2011, 5:26 p.m.,*
in response to message #1 by Walter B

At the bottom line so far, it's nine in favour of option 2, zero for option 1, one for an unchanged layout. Votes of ourselves are not counted. Meanwhile, however, two new stack commands were placed below of x<>y, so there is a layout change anyway now.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #87 Posted by **Cristian Arezzini** on 16 Oct 2011, 2:20 a.m.,*
in response to message #86 by Walter B

> Quote:
>
> Votes of ourselves are not counted.

If you mean that your preferences don't count, I can't see why. If anything, I think your opinions would be more qualified and "educated", given your involvement, than those of regular users...

Cristian

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #88 Posted by **Paul Dale** on 16 Oct 2011, 2:31 a.m.,*
in response to message #87 by Cristian Arezzini

We had a split decision on these changes.

Our opinion still count of course :-)

- Pauli

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #89 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 12:47 p.m.,*
in response to message #86 by Walter B

The sample size is very small compared to the population size. The latter should best be known to Eric who can tell to how many different people he has sold overlays. We might assume that only people which are interested in an updated layout post here. "Never believe in a statistic which you haven't forged yourself!".

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #90 Posted by **Eric Rechlin** on 16 Oct 2011, 2:44 p.m.,*
in response to message #89 by Marcus von Cube, Germany

I've sold about 230 of them, and the average person bought 2 of them, so there are probably around 110-120 people in the population.

Eric

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #91 Posted by **Marcus von Cube, Germany** on 16 Oct 2011, 3:12 p.m.,*
in response to message #90 by Eric Rechlin

Thanks for the numbers. Now how to weigh their silent votes?

Don't worry, Marcus...they all agree with me

*Message #92 Posted by **gene wright** on 16 Oct 2011, 3:30 p.m.,*
in response to message #91 by Marcus von Cube, Germany

;-) lol

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #93 Posted by **Egan Ford** on 16 Oct 2011, 4:25 p.m.,*
in response to message #91 by Marcus von Cube, Germany

> Quote:
>
> Thanks for the numbers. Now how to weigh their silent votes?

That's easy. No change.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #94 Posted by **Walter B** on 16 Oct 2011, 5:00 p.m.,*
in response to message #93 by Egan Ford

Too late. That train is gone ;-)

And BTW, who doesn't vote must not complain about the results.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #95 Posted by **Egan Ford** on 16 Oct 2011, 5:32 p.m.,*
in response to message #94 by Walter B

> Quote:
>
> And BTW, who doesn't vote *must not* complain about the results.

Must not?

Given the volume of discussion, objections, and complaints in this thread regarding the current proposals, I surmise that your *must not* directive will be undoubtedly ignored.

I predict that most that didn't vote will keep their current layout and firmware, or perhaps upgrade to the latest firmware that supports the old layout. And less than half will actually get a new 30b for a new overlay or get patches from Eric.

IMHO, there are a lot of great suggestions, even from the 34S development team, that are getting ignored. Expect objections, suggestions, criticisms, and yes complaints.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #96 Posted by **Walter B** on 16 Oct 2011, 5:50 p.m.,*
in response to message #95 by Egan Ford

That was a translation of a German saying "Wer nicht zur Wahl geht, darf sich hinterher nicht über das Ergebnis beschweren." Nevertheless, I know people will complain always for any reason whatsoever. But the receiver of such complaints may think (and say): "Well, folks, you didn't vote, so ..."

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #97 Posted by **Ángel Martin** on 17 Oct 2011, 4:24 a.m.,*
in response to message #96 by Walter B

I'm sure I'm not the best qualified to comment on German-to-English translations, but in my experience DÜRFEN and MÜSSEN are widely misused by non-native speakers when moving between both languanges.

For me it works better to associate DÜRFEN to "being allowed to", and MÜSSEN to "can" - in contexts like the one used here. Not only it's more polite, but also it doesn't sound so harsh and regimented, I mean saying you "musn't" do something has lots of connotations beyond not being allowed to.

Cheers, ÁM.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #98 Posted by **Jeff O.** on 16 Oct 2011, 5:54 p.m.,*
in response to message #94 by Walter B

Okay, I vote for no change beyond the already implemented y<> and z<> commands on the x<>y key.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #99 Posted by **gene wright** on 17 Oct 2011, 7:46 a.m.,*
in response to message #98 by Jeff O.

My reason for voting for #2 was to put the MATRIX catalog on the keyboard.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #100 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 8:06 a.m.,*
in response to message #99 by gene wright

This looks nicer than it actually is. If you put all matrix command in one catalog, tests and all, it's harder to find a function therein. All commands start with M- (or M., we are in a discussion about the nomenclature). To navigate, say to M-DET, you have to press 7 (for M), f, ., and finally D, to get there. This is true for the current arrangement, too, but the number of matrix commands in each catalog is smaller because they are distributed over TEST, X.FCN and P.FCN.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #101 Posted by **Walter B** on 17 Oct 2011, 8:30 a.m.,*
in response to message #100 by Marcus von Cube, Germany

It's just a matter of proper naming :-)

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #102 Posted by **fhub** on 17 Oct 2011, 9:34 a.m.,*
in response to message #101 by Walter B

> Quote:
>
> It's just a matter of proper naming :-)

Or of having other ideas, like the following: ;-)

What if you would fill the input/keyboard buffer automatically with the 2 codes for "M" and "-" (or "." if it's changed again) when the user calls the MATRIX catalog?
Then his first 'real' keypress would bring him already to the desired function.

Franz

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #103 Posted by **Eric Rechlin** on 17 Oct 2011, 10:12 a.m.,*
in response to message #102 by fhub

What if you change the search algorithm?

In other words, if you press a letter, but no command starts with that letter, instead jump to the first command with that letter at the earliest position in its name.

Eric

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #104 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 10:14 a.m.,*
in response to message #103 by Eric Rechlin

What if you press the next character then? Jump to the next command or to the next better match?

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #105 Posted by **Eric Rechlin** on 17 Oct 2011, 11:00 a.m.,*
in response to message #104 by Marcus von Cube, Germany

You could do it like the 50g and have a timeout. If the next character is typed soon (1-2 seconds or so) after the last one, it will use that. Otherwise, treat the next character as starting over.

Eric

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #106 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 11:36 a.m.,*
in response to message #105 by Eric Rechlin

That's already there but what will happen upon a timeout? Back to square one or to square three? As long as I can't reliably mark the already selected characters I'll refrain from such an automatism.

It we had a value stored with each command to indicate the first character position to search for we might have a chance to implement such behavior consistently and globally for all catalogs, but I doubt we find the space in our tables. Pauli? Walter?

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #107 Posted by **Walter B** on 17 Oct 2011, 1:01 p.m.,*
in response to message #106 by Marcus von Cube, Germany

KISS. As written above already. But I'm abroad right now.

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #108 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 10:13 a.m.,*
in response to message #102 by fhub

I was thinking about this but we have no way of telling the user that we have already done part of the navigation for him. This seems a bit too surprising. We cannot properly underline the characters already selected and inverting them is too ugly. (There are more problems to solve here which are of pure technical nature but very hard to overcome: The timeout resetting the pointer to the beginning occurs while the processor is off and is only detected when the next key is pressed. This makes it impossible to reset the navigation cursor at the right time.)

Re: [WP 34S] New keyboard layout (intermediate poll results)

*Message #109 Posted by **Paul Dale** on 17 Oct 2011, 5:35 p.m.,*
in response to message #108 by Marcus von Cube, Germany

Underline is definitely out. So is inverse. We've tired both and the dot matrix portion of the screen isn't up to it.

Pre-loading the M- like we do for the complex catalogue would be possible but I doubt we've got enough code space left for this.

The old caveat applies: be care what you ask for, you just might get it :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Business Website - HP 15c

*Message #1 Posted by **Brandon Poindexter** on 13 Oct 2011, 3:57 p.m.*

So thinking that the "Business" website for HP had a "buy now" button for the HP 15c meant that it was in stock, I ordered one on the 10th. And also chose FedEx priority overnight because it was only a $5 difference from the regular shipping. In any case I still have not gotten a shipping confirmation, yet checking the status of my package on their website, a single line reads : Ship Complete - Yes. So does that mean its been shipped out? Its been like that since the day I ordered.

So has anyone who ordered from the HP business website gotten their HP 15c LE? Or is the "buy now" button more like a we-don't-have-any-but-order-anyway deal?

Re: HP Business Website - HP 15c

*Message #2 Posted by **Paul Gaster** on 13 Oct 2011, 4:53 p.m.,*
in response to message #1 by Brandon Poindexter

I think we are both in the same boat. I ordered on 9/25 and the "Cust. Quoted Delivery Date" changes each day to the current date. I also assumed they were in stock when I ordered. If not why even allow orders without at least warning people?

I think the Ship Complete means that if multiple items are in the order to wait until all items are in stock before shipping. I ordered two and I seem to remember a question about that in the order process.

Last week I did give them a call and was told that they would not get any in stock until near the end of the month.

Re: HP Business Website - HP 15c

*Message #3 Posted by **Geoffrey Wang** on 13 Oct 2011, 5:53 p.m.,*
in response to message #2 by Paul Gaster

I ordered one on 9/26 and just today I got the "order shipped" email with a tracking number. I guess they got some in stock and must be backfilling them.

Re: HP Business Website - HP 15c

*Message #4 Posted by **JamesT** on 13 Oct 2011, 7:06 p.m.,*
in response to message #3 by Geoffrey Wang

I also placed my order on 9/26, but no shipping update yet. Let's hope they're moving through the queue now....

Re: HP Business Website - HP 15c

*Message #5 Posted by **Mark R** on 13 Oct 2011, 9:03 p.m.,*
in response to message #4 by JamesT

I ordered one on 9/24 from the small biz website. When I checked the status (using the link in the order confirmation e-mail) I also saw the "Cust quoted ship date" change each day to the current date. I sent HP an e-mail to ask about the status of my order on 10/10 (again, using the link in the order confirmation e-mail). I just recieved a e-mail today stating that it has shipped. Not sure if it had anything to do with the inquiry e-mail, but it might be worth the effort to contact HP if you still haven't heard anything.

Re: HP Business Website - HP 15c

*Message #6 Posted by **JJDietrich** on 13 Oct 2011, 7:06 p.m.,*
in response to message #1 by Brandon Poindexter

Another data point for ya: ordered mine from the biz website on 10/5, "shipping complete: No" as of right now. Eagerly awaiting my new toys! (ordered 2).

Re: HP Business Website - HP 15c

*Message #7 Posted by **Brandon Poindexter** on 13 Oct 2011, 10:20 p.m.,*
in response to message #6 by JJDietrich

> Quote:
>
> I ordered one on 9/26 and just today I got the "order shipped" email with a tracking number. I guess they got some in stock and must be backfilling them.

Hmm, so I suppose if your order is more than about 2 weeks you get a shipping update for your HP 15c LE. I was excited the past 2 days expecting a box to be at my front door, but I guess now I know that I have to wait a couple weeks. Ah well.

Maybe I should be glad that they cant immediately ship out, since it could mean that they are selling these REALLY well. One can only hope that this succeeds beyond it's "LE" status and turn into a full time HP model.

Edited: 13 Oct 2011, 10:21 p.m.

Re: HP Business Website - HP 15c

*Message #8 Posted by **Geoffrey Wang** on 13 Oct 2011, 11:01 p.m.,*
in response to message #7 by Brandon Poindexter

My first HP15CLE came from the HP Home website and shipped from Olive Branch, MS. This one ordered from HP Business shipped from Indianapolis, IN today. Edited: Duh, they're both near FedEx national hubs.

Edited: 13 Oct 2011, 11:14 p.m.

Re: HP Business Website - HP 15c

*Message #9 Posted by **Lincoln R.** on 14 Oct 2011, 12:05 p.m.,*
in response to message #8 by Geoffrey Wang

Olive Branch, MS? Did it come from the same warehouse that the Buy.com orders were shipping from?

Re: HP Business Website - HP 15c

*Message #10 Posted by **Jan** on 14 Oct 2011, 10:10 a.m.,*
in response to message #7 by Brandon Poindexter

One can only hope that this succeeds beyond it's "LE" status and turn into a full time HP model.

True. There really seems to be a market for this thing, provided the quality issues will be resolved. In fact, I can barely wait for a decent new release of the 15C free of flaws and with 100+ times the speed of the original. It would be just what I always hoped HP would bring to the market, not as a collectors item but as a tool for my work. Although much numerical work nowadays is done via a PC there are many occasions (even in the course of using a numerical package) in which a handheld calculator is a pure convenience (no switching between windows etc). And with these speeds you really have some computing-power with you in your shirtpocked while not being at your desk. So: go for it HP!

Re: HP Business Website - HP 15c

*Message #11 Posted by **Jeff O.** on 14 Oct 2011, 11:12 a.m.,*
in response to message #10 by Jan

> Quote:
>
> I can barely wait for a decent new release of the 15C free of flaws and with 100+ times the speed of the original.

One of the current (no pun intended) "flaws" of the 15c LE is excessive power drain on the batteries. The power drain on keypress will hopefully be an easy fix with no consequences, but the power drain during program execution is (I think, I am not one of the experts on this) directly related to the speed. So if they fix this issue, then the "100+ times the speed of the original" claim may no longer be possible. I am hoping they might implement some sort of power management that would allow high speed for brief periods, then throttle back, and maybe a selectable high-speed mode for when you really need results fast and don't care about battery life.

Edited: 15 Oct 2011, 7:09 p.m. after one or more responses were posted

Re: HP Business Website - HP 15c

*Message #12 Posted by **Michael de Estrada** on 14 Oct 2011, 11:51 a.m.,*
in response to message #11 by Jeff O.

You can't have your cake and eat it too.

Re: HP Business Website - HP 15c

*Message #13 Posted by **Jeff O.** on 14 Oct 2011, 12:23 p.m.,*
in response to message #12 by Michael de Estrada

Depends on your definition of cake. If I want speed, why can't I have it at the expense of battery life? If you want battery life, why can't you have it at the expense of speed? Of course I have no idea if such choices would be possible to give to the user with the 15c LE platform, but we do get that choice with wp34s, for example. I am naive enough to believe it to be possible with the 15c LE.

Re: HP Business Website - HP 15c

*Message #14 Posted by **Lincoln R.** on 14 Oct 2011, 12:04 p.m.,*
in response to message #11 by Jeff O.

I think the power drain issue people were complaining about the most was that pushing buttons caused high drain (higher than current 12C+ firmware). Yes, the calculator sucks power while doing computations, but that's not much time unless you're running a large program.

Re: HP Business Website - HP 15c

*Message #15 Posted by **Jeff O.** on 14 Oct 2011, 12:24 p.m.,*
in response to message #14 by Lincoln R.

I think some strong feelings were expressed that the power drain during program execution is not acceptable.

Re: HP Business Website - HP 15c

*Message #16 Posted by **Jan** on 14 Oct 2011, 12:28 p.m.,*
in response to message #11 by Jeff O.

Interesting info. How serious are these problems actually? Maybe things will turn out not that bad in practice. After all, higher speed also means shorter running times. It will actually depend on the "mechanism" tipping the balance (the large magnitude of the current during a programrun or the shortening of the runtime itself) how things will eventually work out. Personally I would say that we have a problem in this respect only when power consumption becomes excessive in such a way that battery-life is reduced to 1 month or less upon intensive use of the calculator. In any other circumstance I would be willing to pay for speed.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 15c EL

*Message #1 Posted by **Jan** on 13 Oct 2011, 3:32 p.m.*

Hi

Does anybody know whether HP did something about the quality-issues regarding the 15c-EL (keyboard andd firmware) in later production runs (are there any later production runs?). I think about buying one but I am a bit cautious in view of my experiences with the 35S. Thanks.

Re: hp 15c EL

*Message #2 Posted by **Bill Smith** on 13 Oct 2011, 7:04 p.m.,*
in response to message #1 by Jan

Sorry, I don't have an answer to your question, but would like to add to it. The HP website indicates the 15C EL is "Out of Stock, Check back soon". I hope that means there will be additional production available. Does anyone know this to be true?

Re: hp 15c EL

*Message #3 Posted by **Martin Pinckney** on 13 Oct 2011, 8:06 p.m.,*
in response to message #2 by Bill Smith

I don't think anyone on this forum knows the answers to these questions; it's all speculation.

By the way, it's LE.

Re: hp 15c EL

*Message #4 Posted by **Michael de Estrada** on 13 Oct 2011, 8:31 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> By the way, it's LE

Actually, now it's NA

Re: hp 15c EL

*Message #5 Posted by **Jan** on 14 Oct 2011, 7:58 a.m.,*
in response to message #1 by Jan

Thank for your reactions (sorry for the typo). Meanwhile I have heard from somebody that someone (we're talking vague rumours here) at HP-customersupport mentioned to him that there will be new units by the end of the month. I will just wait for that I guess. Better to give HP some time to solve some quality-issues (or not

to have an 15c LE at all) than to prompt into bad experiences of the kind I had with my 35S. Anyway, thanks for the info to all.

Re: hp 15c EL

*Message #6 Posted by **Michael de Estrada** on 14 Oct 2011, 10:14 a.m.,*
in response to message #5 by Jan

I heard that the reason for the delay is that the cargo ship with the remaining production has been captured by Somali pirates. Due to the high ransom demands, the new MSRP will be $999.99 each.

Re: hp 15c EL

*Message #7 Posted by **Jan** on 14 Oct 2011, 3:59 p.m.,*
in response to message #6 by Michael de Estrada

USD 999.99? That's too much for my taste.

Re: hp 15c EL

*Message #8 Posted by **Jeroen Van Nieuwenhove** on 15 Oct 2011, 9:19 a.m.,*
in response to message #6 by Michael de Estrada

Nah, the Somali pirates are selling them on TAS for only $250. Go check it out.

Edited: 15 Oct 2011, 9:21 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s and complexity

*Message #1 Posted by **Thomas Chrapkiewicz** on 13 Oct 2011, 2:43 p.m.*

Firstly, I'd like to re-iterate that the WP34s (2.1 1630)is an awesome machine. Again, my thanks and congratulations to all that are supporting it.

I am concerned about support as this machine continues to evolve. Functionality will be added to support users requirements and potential bugs will be awakened or generated.

I hope that we will maintain control of various 'stepping stones' along this development path.

For example, there are matrix functions being added to the current machine. There may be compromises in other functionality of the machine (for instance, loss of some of the 9 flash areas). Perhaps to some users, a '2.1' machine with 9 flash areas is more important than a '2.2' machine with only 5 flash areas). I hope that all documentation, source and .bin files will continue to be available for all variations.

TomC

Re: WP34s and complexity

*Message #2 Posted by **Walter B** on 13 Oct 2011, 4:05 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

AFAIK, that's exactly what sourceforge and SVN is for: you can go to any build and get the files for that.

Re: WP34s and complexity

*Message #3 Posted by **Thomas Chrapkiewicz** on 13 Oct 2011, 4:20 p.m.,*
in response to message #2 by Walter B

I agree, that is what SVN is for. However, for instance, I was looking for a version 2.0 (pdf)manual. How does one find that?

Thanks TomC

Re: WP34s and complexity

*Message #4 Posted by **Dominic Richens** on 13 Oct 2011, 6:16 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Because the file was renamed, you need to search through the history of the doc directory:

http://wp34s.svn.sourceforge.net/viewvc/wp34s/doc/Manual_wp_34s_2_0.pdf?pathrev=1265

This is a typical problem with most RCS. What should be done is that the file name never changes, and create an "edition", such as a symlinks to a specific version with that verion in it's name.

Re: WP34s and complexity

*Message #5 Posted by **Thomas Chrapkiewicz** on 13 Oct 2011, 11:39 p.m.,*
in response to message #4 by Dominic Richens

Thank you Dominic; that is a help, however, I have a few pages from a DIFFERENT 2.0 version of the documentation.

I had printed part of the 2.0 manual but did not save the entire document. The version I have parts of has 34s 2.0 1099 on the front/title page and has 81 pages.

If I change the last digits of the URL you gave me to 1099, I get a manual that looks close (it also has 81 pages), but the front/title page shows 34s 2.0 1089.

How does one go about searching for these manuals in the RCS? Do they no longer exist?

TomC

Re: WP34s and complexity

*Message #6 Posted by **Walter B** on 14 Oct 2011, 1:21 a.m.,*
in response to message #5 by Thomas Chrapkiewicz

Thomas,

you can get it from me. Please drop me an email stating your email address.

Walter

Re: WP34s and complexity

*Message #7 Posted by **Walter B** on 15 Oct 2011, 4:55 p.m.,*
in response to message #5 by Thomas Chrapkiewicz

Looking for build number 1099 of calc.bin and the respective documentation, you find it as follows:

1. Start here: http://sourceforge.net/projects/wp34s/develop
2. Clicking on "browse code" will take you here: http://wp34s.svn.sourceforge.net/viewvc/wp34s/
3. Click on trunk/ , then realbuild/ . Now you'll be here: http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/
4. Choose calc.bin for obvious reasons. Then scroll way (!) down until 1099.
5. Clicking on that number brings you here: http://wp34s.svn.sourceforge.net/viewvc/wp34s?view=revision&revision=1099 You can download calc.bin from one of its neighbouring sites.
6. Go to next revision twice, reaching http://wp34s.svn.sourceforge.net/viewvc/wp34s?view=revision&revision=1101 (surprise! ;-) Now you're next to the documentation you want. Just download it :-)

HTH,
Walter

Re: WP34s and complexity

*Message #8 Posted by **Thomas Chrapkiewicz** on 16 Oct 2011, 8:20 a.m.,*

in response to message #7 by Walter B

Hello Walter:

Thank you very much! That gives us a reliable method to get to any .bin file.

However, I do not understand your last step, "..go to next revision twice."

Thanks, TomC

Re: WP34s and complexity

*Message #9 Posted by **Walter B** on 16 Oct 2011, 10:14 a.m.,*
in response to message #8 by Thomas Chrapkiewicz

Being at step 5, you'll find on that site a tag "Jump to revision: ..." "Go" followed by two arrows "Previous revision" and "Next revision". Clicking twice on "Next revision" will take you from 1099 to 1101.

Re: WP34s and complexity

*Message #10 Posted by **Thomas Chrapkiewicz** on 16 Oct 2011, 10:28 a.m.,*
in response to message #9 by Walter B

Walter:

Got it! Thanks again!

TomC

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP-34S] Flashing/chaining and assembler problems

*Message #1 Posted by **Cristian Arezzini** on 13 Oct 2011, 2:41 p.m.*

I just reflashed the calc with the latest svn version to try the matrix programs, and as it is rather tedious to upload every single file (the calc.bin and the five .dat files) one by one, checking the entry point for each, I tried "chaining" them into a single file, to send it in one go - but it didn't work. I got a file that is about 131Kb in size, but when I try to send it with Samba, I get an "Out of memory" error.

Also, I tried using the assembler to re-encode my programs (calc version is 1725, and assembler opcode version is 1725 too) but I get the following error: "ERROR: Cannot recognize mnemonic at line 25 of file mySrc.wp34s: -> 023 x[<->]y <-" Has something changed? The MySrc file was created by the assembler a few weeks ago, and I didn't hand-edit it...

Cristian

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #2 Posted by **Mark Hardman** on 13 Oct 2011, 2:52 p.m.,*
in response to message #1 by Cristian Arezzini

See Marcus' explaination at:

x[<->]y is now x[<->] Y

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #3 Posted by **Cristian Arezzini** on 13 Oct 2011, 2:56 p.m.,*
in response to message #2 by Mark Hardman

Thank you... I had missed that. Things happen so fast that I seem to be unable to stay up-to-date with everything :(Sorry for missing that!

The other question still stands though... unless I missed something else :)

Cristian

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #4 Posted by **Mark Hardman** on 13 Oct 2011, 3:12 p.m.,*
in response to message #3 by Cristian Arezzini

You might try Jeff O's method of combining the flash regions using the DOS "copy /b" command.

Flashing HP 20b for WP 34S

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #5 Posted by **Cristian Arezzini** on 13 Oct 2011, 3:38 p.m.,*
in response to message #4 by Mark Hardman

I did the Linux equivalent of that, and the file I got is actually a binary concatenation of the input files. I'm wondering if the problem is that the calc.bin is smaller than the "official" 128Kb? But then, I don't see how that should cause an "out of memory".

Another question: am I right in thinking that if I transfer all the .dat files that are in the library folder, I end up with no free flash regions? If it is so, which would mean that the various .dat files given to us are just "modules" that we can install or not in whichever region we want, wouldn't it be better to name them something like "what_this_module_does.dat", so that we can choose easily what to install and where, and what region(s) we want to leave free?

Cristian

Edited: 13 Oct 2011, 3:39 p.m.

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #6 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 3:49 p.m.,*
in response to message #5 by Cristian Arezzini

I accidentally merged all the .dat files into calc.bin. My fault. It will be remedied soon. Until then, use the serial commands to transfer your files from the emulator to the device. For flashing you should switch to MySamba.

SAM-BA.exe may help you to overwrite the predefined dat files directly in flash. The method is described in flash.txt and should be in Walter's manual, too. You need to send each .dat file to its associated address in flash.

Re: [WP-34S] Flashing/chaining and assembler problems

*Message #7 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 3:49 a.m.,*
in response to message #6 by Marcus von Cube, Germany

I've reworked the library stuff so that calc.bin is just the plain binary without any .dat files merged.

There are a few new files in the realbuild directory:

```
wp34s-?.dat    - copies from library for convenience
join.cmd       - A command file to merge these into calc_full.bin
```

The command file makelib.cmd in the root directory builds the .dat files. Just take a look what goes where. This is subject to frequent changes.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34s Users' Guide - looking for writers/editors

*Message #1 Posted by **Dominic Richens** on 13 Oct 2011, 12:31 p.m.*

Steve Simpkin and I have put together a framework and table of contents for traditional HP-like manual for the WP-34s. Only it's Wiki based, using the same engine as wikipedia.org, MediaWiki.

This is meant to be the "dummies" Guide to Walter's detailed and technical reference manual.

For example, it took me about 1/2 hour to figure out the exact keystrokes necessary to get my program to output an "=" sign in the alpha area with the result. So I documented it in a wiki page, complete with button icons.

But Steve and myself have neither the time nor the expertise to write the whole thing, so it's a community project - it will be as good as we make it.

WP-34s Users' Guide

Click on the "Community Portal" for instructions on how to get signed up and contribute!

Note that there are tools to turn the entire wiki into a PDF book, once we have content in it.

Edited: 13 Oct 2011, 1:02 p.m.

Re: WP-34s Users' Guide - looking for writers/editors

*Message #2 Posted by **Bruce Bergman** on 13 Oct 2011, 1:53 p.m.,*
in response to message #1 by Dominic Richens

Dominic, any interest in hosting your manual on wiki4hp.com, where a lot of the discussion around the WP 34S details is already happening?

I can add a MediaWiki formatter for you, if you prefer. There are already a fair number of contributors in that wiki as it is...

thanks, bruce

Re: WP-34s Users' Guide - looking for writers/editors

*Message #3 Posted by **Dominic Richens** on 13 Oct 2011, 3:11 p.m.,*
in response to message #2 by Bruce Bergman

Hi Bruce,

That would be a good idea.

I initially passed by wiki4hp because it was dokuwiki and sourceforce was Mediawiki. However, at sourceforge we're limited to their default configuration and extensions that they supply. For instance I'd like to add the PdfBook extension so people can just print it out as a book.

So yes, if you can install MediaWiki on wiki4hp we can use that instead.

cheers!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone Updated (re-flashed) a 12C 30th AE?

*Message #1 Posted by **linear** on 13 Oct 2011, 11:55 a.m.*

It seems that the 12C 30th AE is being shipped with older firmware (2009-07-02). At least, that's what my 12C 30th AE had (purchased Sept 25, from HP Home & Office).

Has anyone flashed their 12C 30th AE with newer firmware (eg 2009-11-19)? If so, did it work out OK?

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #2 Posted by **M. Joury** on 13 Oct 2011, 4:23 p.m.,*
in response to message #1 by linear

Katie is the first person that reported this in this forum. She is also the most likely candidate to have already flashed her machine. I am sure that she will jump in and reply when she sees your post.

But, FWIW, there should be no issues with it working with the newer firmware. To the best of my knowledge the only differences from a 12C+ are the box and the 30th AE on the front.

Cheers,

Marwan

Edited: 13 Oct 2011, 6:58 p.m. after one or more responses were posted

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #3 Posted by **Katie Wasserman** on 13 Oct 2011, 4:41 p.m.,*
in response to message #2 by M. Joury

I'm jumping in :)

I haven't re-flashed my 12C 30th AE yet, for no good reason other than it's just a collectible for me. However, re-flashing it with the latest firmware **has to work** as Marwan said, there's nothing special about the AE other than the packaging, faceplate and back plate.

The latest firmware (I have 2009-11-19) gets rid of the SST/BST problems and some others. However: the low battery indicator does not work, there is a 2 second timeout when running the keyboard self-test, and this program locks it up (you need to turn off the calculator to stop it):

```
01 1
02 AMORT
03 GTO 01
```

Those are all the bugs in the latest firmware as far as I know.

-Katie

Edited: 13 Oct 2011, 4:43 p.m.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #4 Posted by **Gerry Schultz** on 13 Oct 2011, 5:34 p.m.,*
in response to message #3 by Katie Wasserman

Last year at HHC 2010, prototype HP 15C+ calculators were passed out for testing and finding bugs. I assume that if HP issued firmware updates in the last year prior to the HP 15 LE release, then those people who did them would have experience at updating this platform.

Were there any firmware updates issued by HP for the 15C+ during the last year?

Gerry

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #5 Posted by **Geoff Quickfall** on 13 Oct 2011, 5:40 p.m.,*
in response to message #4 by Gerry Schultz

"Were there any firmware updates issued by HP for the 15C+ during the last year?"

Yes!

Flashing is SAMBA and the cable. Of course access to the web site and the new software was required (NDA protected).

Maybe HP will set up a public site with access and a disclaimer ;-)

Gerry, your 41 as well as Eddie's will be completed next week. I am paying back to the company my five days in a row off for HCC!

Cheers, all

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #6 Posted by **Gerry Schultz** on 13 Oct 2011, 5:56 p.m.,*
in response to message #5 by Geoff Quickfall

Excellent and thanks a million, Geoff! Eddie was over at my house this last weekend to see if using my USB-to-RS232 would get his 20b back up and running with WP-34S firmware using his Vista laptop. We were successful.

So, how do you like your steak? When next we meet, I owe you dinner!

Now, when will the next batch of 41CL cards be ready? I'm ready to go! :-)

Gerry

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #7 Posted by **linear** on 13 Oct 2011, 9:43 p.m.,*
in response to message #5 by Geoff Quickfall

> Quote:
>
> .....Flashing is SAMBA and the cable. Of course access to the web site and the

> new software was required (NDA protected).

How does one get access to the web site, and execute the required NDA? Is this only available to those who attended HHC2010?

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #8 Posted by **Geoff Quickfall** on 13 Oct 2011, 10:42 p.m.,*
in response to message #7 by linear

Hello Linear,

nice moniker; actually I was refering to the 15LE beta testing team with reference to the site. That was an NDA from 2010 and a signup page for anyone wanting to beta test.

It happens though, that the cable handed out at 2010 and 2011 and by Gene Wright is the correct cable for the 20b and 30b and 12C and 15LE.

With reference to the 12C and 15LE updates, I was commenting that I hoped the updates would be similar to the testing site, but public domain.

Cheers, Geoff

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #9 Posted by **Katie Wasserman** on 14 Oct 2011, 12:06 p.m.,*
in response to message #8 by Geoff Quickfall

> Quote:
>
> the correct cable for the 20b and 30b and 12C and 15LE.

... and the 10bii+

This is a great little calculator with a fantastic display and keyboard that gets no respect from this forum. While it's native firmware has algebraic logic it would make a cheap platform to re-purpose and it has more digits and annunciators than the voyagers.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #10 Posted by **Jeff O.** on 14 Oct 2011, 12:30 p.m.,*
in response to message #9 by Katie Wasserman

I picked one up as a door prize at HHC 2011. I am surprised by how much I like it. The keyboard isn't bad at all. Tim tried to explain the technology to me, but I did not really understand. I don't think there are any metal domes involved. I'm sure it would have brought howls of protest if used on the 15c LE, but it is not a bad alternative, in my opinion of course. Maybe I'll try flashing wp34s onto it and see what happens. Actually I would, except I don't have the 10bii+ firmware to flash it back.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #11 Posted by **M. Joury** on 14 Oct 2011, 3:38 p.m.,*

in response to message #10 by Jeff O.

I would be beyond surprised if the WP34S firmware ran on the 10bii. The keyboard and display are just too different.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #12 Posted by **Jeff O.** on 14 Oct 2011, 4:44 p.m.,*
in response to message #11 by M. Joury

I would not expect success, I would just like to see what happens. Would some keys still work? Anything sensible in the display? Probably not, but if it could be done with no harm (i.e. the original firmware could be flashed back in), it might be fun to try.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #13 Posted by **M. Joury** on 14 Oct 2011, 6:44 p.m.,*
in response to message #12 by Jeff O.

Yes, I agree, if you could get it back to 10bii state it might be interesting trying it.

Re: Anyone Updated (re-flashed) a 12C 30th AE?

*Message #14 Posted by **linear** on 14 Oct 2011, 2:06 p.m.,*
in response to message #8 by Geoff Quickfall

Quote:

Hello Linear,

nice moniker;.....

With reference to the 12C and 15LE updates, I was commenting that I hoped the updates would be similar to the testing site, but public domain.

Cheers, Geoff

Thanks for the clarification, Geoff. I also hope that the 12C and 15C LE updates will be made available!

P.S. The moniker comes from the fact that I am a "linear IC designer". Guess I shouldn't playing with digital calculators! :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Navpac manual anyone? (HP-41. Not HP's Navigation Pac)

*Message #1 Posted by **Geir Isene** on 13 Oct 2011, 4:34 a.m.*

I am looking for the manual or QRG for the Navpac rom (not the HP Navigation Pac). Anyone?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The French TI 84.Pocket.fr

*Message #1 Posted by **Namir** on 12 Oct 2011, 8:51 p.m.*

I am in the south of France, and I found the TI 84.pocket.fr. I got a unit. It is part of several French-version TI machines that TI launched last year. The TI 84.pocket.fr is smaller than the TI84 and has no cover. It runs on 4 AAA batteries (included) and has a USE port. The buttons are labeled in French. You can set the menu system on the LCD to be in French or English. The machine is interesting and does a lot of numerical calculations that we come to expect (no CAS support)--matrices, lists, solver. Graphics is fairly fast. So far so good!

Namir

Re: The French TI 84.Pocket.fr

*Message #2 Posted by **Joerg Woerner** on 12 Oct 2011, 9:08 p.m.,*
in response to message #1 by Namir

Namir,

I got mine a few days ago:

Cheers, Joerg

Re: The French TI 84.Pocket.fr

*Message #3 Posted by **Namir** on 12 Oct 2011, 11:25 p.m.,*
in response to message #2 by Joerg Woerner

Thanks for the pictures. Gives a better idea about size and keys' language.

Re: The French TI 84.Pocket.fr

*Message #4 Posted by **Peter Murphy (Livermore)** on 13 Oct 2011, 12:40 a.m.,*
in response to message #1 by Namir

What's the price of one of these?

Re: The French TI 84.Pocket.fr

*Message #5 Posted by **Namir** on 13 Oct 2011, 3:20 a.m.,*
in response to message #4 by Peter Murphy (Livermore)

I got it for 119.80 euros which is about USD 160. I know that's bit high and you can get the TI Nspire CX CAS for even less in the US.

Edited: 13 Oct 2011, 3:20 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

The solution to the quartic equation on the HP50g, revisited

*Message #1 Posted by **Crawl** on 12 Oct 2011, 7:33 p.m.*

The last time I posted about this topic, I had a program that had the HP50g itself go through the steps to solve the equation from first principles. This took about 3 minutes (for the most general case), and the final result couldn't be displayed in pretty print.

This solution is basically just plugging into an already simplified solution. It "solves" the general case in about 10 seconds, and the result can be displayed in pretty print.

%%HP: T(3)A(R)F(.); \<< 0 0 0 0 \-> A B C D E ALPHA BETA GAMM DELTA \<< C 2 ^ 3 B D * * - 12 A E * * + 'ALPHA' STO 2 C 3 ^ * 9 B C D * * * - 27 A D 2 ^ * * + 27 B 2 ^ E * * + 72 A C E * * * - 'BETA' STO BETA 'SQUAREROOT' \v/ 'SQUAREROOT' -4 ALPHA 3 ^ * BETA 2 ^ + = SUBST + 'GAMM' STO 'SQUAREROOT' \v/ 'SQUAREROOT' B 2 ^ 4 A 2 ^ * / 2 C * 3 A * / - ALPHA 3 A GAMM 2 / 3 INV ^ * * / 1 3 A * / GAMM 2 / 3 INV ^ * + + = SUBST 'DELTA' STO B NEG 4 A * / 2 INV DELTA * - 2 INV NEG 'SQUAREROOT' \v/ 'SQUAREROOT' B 2 ^ 2 A 2 ^ * / 4 C * 3 A * / - ALPHA 3 A * GAMM 2 / 3 INV ^ * / - 3 A * INV GAMM 2 / 3 INV ^ * - B 3 ^ A 3 ^ / 4 B C * * A 2 ^ / - 8 D * A / + 4 DELTA * / + = SUBST * + \>> \>>

The solution is:

%%HP: T(3)A(R)F(.); '((-(B/(4*A)))-((1/2)*(\v/((((B^2)/(4*(A^2)))-((2*C)/(3*A)))+(((((C^2)-(3*(B*D)))+(12*(A*E)))/(3*(A*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2))))+((1/(3*A))*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2)))))-((1/2)*(\v/((((((B^2)/(2*(A^2)))-((4*C)/(3*A)))-((((C^2)-(3*(B*D)))+(12*(A*E)))/((3*A)*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2))))-((1/(3*A))*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2)))+(((((B^3)/(A^3))-((4*(B*C))/(A^2)))+((8*D)/A))/(4*(\v/((((B^2)/(4*(A^2)))-((2*C)/(3*A)))+(((((C^2)-(3*(B*D)))+(12*(A*E)))/(3*(A*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2))))+((1/(3*A))*XROOT(3,((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))+(\v/(((-4)*((((C^2)-(3*(B*D)))+(12*(A*E)))^3))+((((((2*(C^3))-(9*(B*(C*D))))+(27*(A*(D^2))))+(27*((B^2)*E)))-(72*(A*(C*E))))^2))))/2)))))))))'

I've tested it with numerical inputs, and confirmed it works.

Caveats from the previous thread still apply. If you want a numerical result, you should be in approx. mode before

running the program, or the calculator might not be able to evaluate the result to a number.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI 58 / 59 Master Library Survival Guide booklet

*Message #1 Posted by **gene wright** on 12 Oct 2011, 5:00 p.m.*

Good material here. Should have been in the owners manual for these calculators, but required a TI user to write it up.

Master Library Survival Guide

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #2 Posted by **Namir** on 12 Oct 2011, 8:42 p.m.,*
in response to message #1 by gene wright

Thanks Gene!! Cool document!

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #3 Posted by **Peter Murphy (Livermore)** on 12 Oct 2011, 8:53 p.m.,*
in response to message #1 by gene wright

Beginning a document with a "Forward" is not auspicious. Ending with a "Backward" would take some the sting out of it, however.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #4 Posted by **Garth Wilson** on 13 Oct 2011, 12:47 a.m.,*
in response to message #1 by gene wright

I bought the book (actually a pile of paper stapled at the upper-left corner) when it was in print. It has a little bit on synthetic programming at the end.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #5 Posted by **gene wright** on 13 Oct 2011, 7:40 a.m.,*
in response to message #4 by Garth Wilson

Can you scan any pages that are not in my PDF?

Fred Fish was kind enough to allow this to be copied and distributed. Just did not want the TI historical material to disappear!

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #6 Posted by **Garth Wilson** on 13 Oct 2011, 9:57 p.m.,*
in response to message #5 by gene wright

Do you know if you are specifically missing any parts? With a quick look, it looks like you have

everything I do, except that for some reason unknown to me, ML-24 & 25 come before ML-01 in mine. The little bit of synthetic stuff is at the end in Appendix B, pages B-1 and B-2.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #7 Posted by **Martin Pinckney** on 13 Oct 2011, 9:05 a.m.,*
in response to message #1 by gene wright

Interesting, Gene, but about 25 years too late for me!

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #8 Posted by **gene wright** on 13 Oct 2011, 11:50 a.m.,*
in response to message #7 by Martin Pinckney

Nah, it isn't too late!

Improvements to documentation in the past *should* provide guidance for good documentation today.

The PPC rom manual is an excellent example. The survival guide here was another example of improving upon what the manufacturer provided. :-)

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #9 Posted by **Jesse Dodd** on 13 Oct 2011, 12:45 p.m.,*
in response to message #8 by gene wright

Gene

Thanks for the blast from the past. I remember loading the Master Library programs into memory and then laboriously single stepping through the programs and writing the steps on paper for study. Good times.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #10 Posted by **Mike Morrow** on 13 Oct 2011, 11:02 p.m.,*
in response to message #9 by Jesse Dodd

> Quote:
>
> I remember loading the Master Library programs into memory and then laboriously single stepping through the programs and writing the steps on paper for study.

You could have been helped with the purchased the PC-100A print cradle. That option was one of the **great** advantages that the TI-59 system had over the competing HP-67. For every one for which it was possible, I printed out all the programs on the several memory modules I owned, taped the strips to paper, then xeroxed the paper to create the file copy.

I bought a TI-59 after having earlier in 1977 purchased my first HP, the HP-67. The TI-59 with the memory modules, greater speed, greater RAM, and PC-100 option was, IMHO, far more advanced in technology than the HP-67, even if its algebraic entry system was much more awkward. Programs written for the HP-67 were usually about 60 percent the number of steps required by the TI-59. My main problem with the TI-59 is that I couldn't find one that was reliable. I went through five of them between 1977 and 1980. I decided thus to use the HP-67 for all my critical programs that I used as an engineering officer on a nuclear submarine. The HP-67 suffered only one failure

after three years of use.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #11 Posted by **Garth Wilson** on 14 Oct 2011, 12:23 a.m.,*
in response to message #10 by Mike Morrow

> Quote:
>
> I bought a TI-59 after having earlier in 1977 purchased my first HP, the HP-67. The TI-59 with the memory modules, greater speed,

You're kidding-- the 67 was even slower than the TI-59??

> Quote:
>
> greater RAM, and PC-100 option was, IMHO, far more advanced in technology than the HP-67, even if its algebraic entry system was much more awkward. Programs written for the HP-67 were usually about 60 percent the number of steps required by the TI-59

but the 59 had more than enough memory to make up for it.

> Quote:
>
> My main problem with the TI-59 is that I couldn't find one that was reliable. I went through five of them between 1977 and 1980. I decided thus to use the HP-67 for all my critical programs that I used as an engineering officer on a nuclear submarine. The HP-67 suffered only one failure after three years of use.

Interesting. I had two 59's and a 58c and the only trouble was the minor keyboard problems.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #12 Posted by **Martin Pinckney** on 14 Oct 2011, 10:59 a.m.,*
in response to message #11 by Garth Wilson

I loved my 59. Might still be using it but for the keyboard reliability issues. I did get many years out of it, though. When it did fail, I was already using the PC for most number crunching, so I bought a TI-36 Solar. That failed after only a year or two. All the others in the company were using 11c's at the time, and I really liked the build quality. (Well, there was one guy who also had a 59, but its keyboard went bad, too).

I didn't like RPN, so when I found out about the Pioneer series, I bought a 20s. Still have it, still works fine, 20 years later. That was only the beginning of my HP interest.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #13 Posted by **Eddie W. Shore** on 15 Oct 2011, 12:34 a.m.,*
in response to message #12 by Martin Pinckney

I also had troubles with the TI-36 (particularly TI-36X Solar) in their early runs. The solar screen was so weak a pen easily punctured it.

Re: TI 58 / 59 Master Library Survival Guide booklet

*Message #14 Posted by **Eddie W. Shore** on 15 Oct 2011, 12:31 a.m.,*
in response to message #1 by gene wright

Thanks, Gene. Another reason I wish I was born earlier than 1977 so I could have understood all these classic machines when they were in production. LOL

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C Warranty in Canada - Resolved

*Message #1 Posted by **Jim Creybohm** on 12 Oct 2011, 1:09 p.m.*

Hello all,

After my previous and rather frustrated posting, one of the HP support staff who is a follower of this forum contacted me after reading my rant, to assure me that the warranty issue will be resolved.

Unfortunately I am unable to determine if this will be the case for the European users, but HP is standing behind their product in Canada. There appears to be some confusion on the support side about the product internally, and this is apparent.

However, Paul L. with HP support in Canada phoned and emailed me to assure me that I will receive a new HP calculator once they are received (out of backorder).

So, thanks to HP, thanks especially to Paul, and to the generousity of the users here who allowed me to vent and offered alternatives. It's great to be a (lurking) part of a community (and a company) that offers so much.

Thanks again, Paul!

Re: 15C Warranty in Canada - Resolved

*Message #2 Posted by **DigiGal** on 12 Oct 2011, 1:28 p.m.,*
in response to message #1 by Jim Creybohm

Great news, glad you were able to get it resolved. Thanks for the update.

Re: 15C Warranty in Canada - Resolved

*Message #3 Posted by **Eddie W. Shore** on 12 Oct 2011, 3:13 p.m.,*
in response to message #1 by Jim Creybohm

This is great news - thanks for the update.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Photo of my HP 15c | 15c LE

*Message #1 Posted by **DigiGal** on 12 Oct 2011, 12:15 p.m.*

Re: Photo of my HP 15c | 15c LE

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 12:20 p.m.,*
in response to message #1 by DigiGal

What's your LE#?

You can see clearly the slight tint of the newer LCD. Do you have any keyboard issues?

Re: Photo of my HP 15c | 15c LE

*Message #3 Posted by **DigiGal** on 12 Oct 2011, 12:34 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I posted my LE number and keyboard results earlier in the keyboard survey.

But here they are again to go with the picture. **LE # 02220 and no faulty keys.**

The photo shows the LCD display on both old/new after running the [on ÷] keyboard tests.

Had ordered my LE through Amazon third party seller as soon as they were available there $99.

So glad HP finally re-released the 15c (bugs and manual errors in all) hopefully they'll make it part of their permanent lineup after they are done producing the LE's.

The original 15c is my daily use calc that I carry with me it's still working fine after all these years and the LE is a secondary unit that stays at home next to my computer.

Eagerly awaiting an HP flash update to fix the bugs and will need to order a flash cable from <Gene?>.

Edited: 12 Oct 2011, 12:36 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP 34S: Some testing required

*Message #1 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:31 a.m.*

In preparation of any upcoming keyboard changes I've modified the software to behave a little more like the 41C. It's in SVN and it's very likely buggy. I didn't test my changes thoroughly. So I ask you to download and install either the emulator or the firmware and report any bugs or strange behavior in the keyboard engine.

Before you ask: There is no hidden ASN command!

Re: WP 34S: Some testing required

*Message #2 Posted by **fhub** on 12 Oct 2011, 12:36 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> I've modified the software to behave a little more like the 41C.

WOW, works great - congratulations Marcus! :-)
So far I've found no problems ...

One question: is it intended that SHOW now only works as long as you hold down the key?

Franz

Re: WP 34S: Some testing required - Try again!

*Message #3 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 2:32 p.m.,*
in response to message #2 by fhub

> Quote:
>
> One question: is it intended that SHOW now only works as long as you hold down the key?

You found a bug. The temporary displays need some more attention. We may leave it the way it is now but I tend to better bring back the old behavior.

Edit: hopefully fixed.

Edited: 12 Oct 2011, 2:54 p.m.

Re: WP 34S: Some testing required - Try again!

*Message #4 Posted by **fhub** on 12 Oct 2011, 4:10 p.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Edit: hopefully fixed.

Yes, SHOW is working again as before, but I just found that something with the f/g/h keys is seriously broken: if you press one of these shift-keys you can't undo this anymore! :-(

[f] and [g] pressed more often than once just doesn't switch off the prefix again, you can switch from g to f and from f to g, but it doesn't go away at all. And [h] is even more mysterious: pressing [h] repeatedly switches from h to f to h to f ... ;-)

Franz

Re: WP 34S: Some testing required - Try again!

*Message #5 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 5:06 p.m.,*
in response to message #4 by fhub

> Quote:
>
> [f] and [g] pressed more often than once just doesn't switch off the prefix again, you can switch from g to f and from f to g, but it doesn't go away at all. And [h] is even more mysterious: pressing [h] repeatedly switches from h to f to h to f ... ;-)

I've tried it on both the emulator and the real hardware. It works fine. Have you updated the DLL?

Re: WP 34S: Some testing required - Try again!

*Message #6 Posted by **fhub** on 12 Oct 2011, 6:08 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> I've tried it on both the emulator and the real hardware. It works fine. Have you updated the DLL?

Yes, latest DLL 1717 from yesterday.

Now I've tried it again and I found a small difference whether I use the touchpad (instead of a mouse on my Win7 netbook) or the keyboard:
with the touchpad it works sometimes (maybe 50%) correctly when I make an extremely short touch on the pad (i.e. release the finger almost immediately), but with the keyboard it always fails.
It behaves as if the key/mouse 'release' would be interpreted by the program as if it would be a new 'press' - I guess it's a timing problem in the 'press/release' routine!?

Re: WP 34S: Some testing required - Try again!

*Message #7 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 2:16 a.m.,*
in response to message #6 by fhub

So it's emulator only and Win 7 related. Can you try with a mouse instead?

Re: WP 34S: Some testing required - Try again!

*Message #8 Posted by **fhub** on 13 Oct 2011, 3:29 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> So it's emulator only and Win 7 related. Can you try with a mouse instead?

I can't imagine what this should have to do with Win7 or using a mouse instead of the touchpad!?
But ok, I've tried it now with a mouse and this is just as bad as with the keyboard - whenever f/g/h is activated it can't be switched off anymore with f/g/h keys.

The last version I have where this problem does not exist is 1716, so it can't suddenly be a problem of Win7 when it hasn't been so for any previous version.

Re: WP 34S: Some testing required - Try again!

*Message #9 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 4:45 a.m.,*
in response to message #8 by fhub

The reason I'm suspecting Win7 is that it works flawlessly on my XP development system. I have an idea how to fix it, though. I'll report back here when you can test again.

Re: WP 34S: Some testing required - Try again!

*Message #10 Posted by **Didier Lachieze** on 13 Oct 2011, 7:01 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi Marcus, I've tested the latest emulator & dll version under Win7 and I have the same issue.

It's very strange. For example when I start the emulator if I click on [h] with the mouse several times the h indicator toggles as expected, however sometimes I get the f indicator on when the h indicator should be off. If I use the keyboard and press [h] to toggle the h indicator, I see h and f indicators alternatively in the display. For [g] it's similar: with the mouse the indicator generally toggles correctly but with the keyboard I keep seeing the g indicator in the display. Same for [f].

Edit: I've tried to run it with different compatibility modes (Win XP SP2, Sp3, Vista..): same behavior.

Edited: 13 Oct 2011, 7:06 a.m.

Re: WP 34S: Some testing required - Try again!

*Message #11 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 9:44 a.m.,*
in response to message #10 by Didier Lachieze

The whole GUI stuff is a bit flaky and has ever been so. It's code originally written by HP for their internal testing. There ware and most probably still are some strange pieces of code which I do not completely understand and

have modified to death. Please try the latest version of the emulator and see if I fixed the issues.

Re: WP 34S: Some testing required - Try again!

*Message #12 Posted by **Namir** on 13 Oct 2011, 10:40 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus,

Sorry for asking you the obvious. What is the URL for the latest eumlator? I keep getting links to older emulator versions when I search through Google.

Namir

Re: WP 34S: Some testing required - Try again!

*Message #13 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 10:47 a.m.,*
in response to message #12 by Namir

Go to http://wp34s.svn.sourceforge.net/viewvc/wp34s/ and find your way to trunk/realbuild and trunk/windows/bin.

I'd prefer a real SVN client such as Tortoise SVN. You find instructions here: http://sourceforge.net/scm/?type=svn&group_id=389575

For the emulator, get the wp34s-?.dat files, emulator.dll and wp34sgui.exe.

Re: WP 34S: Some testing required - Try again!

*Message #14 Posted by **Namir** on 13 Oct 2011, 11:06 a.m.,*
in response to message #13 by Marcus von Cube, Germany

Merci!!

Re: WP 34S: Some testing required - Try again!

*Message #15 Posted by **fhub** on 13 Oct 2011, 1:06 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> Please try the latest version of the emulator and see if I fixed the issues.

No, the problem still exists in SVN 1725!
The only thing that has changed is that now [h] doesn't toggle between 'f' and 'h' anymore (but stays with 'h'), but in about 80% f/g/h don't switch themselves off.

Re: WP 34S: Some testing required - Try again!

*Message #16 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 3:41 p.m.,*
in response to message #15 by fhub

Franz, I don't have Win 7 and the problem does not exist on XP. So I need an idea. I ask you to explain exactly what you are doing and what happens then. I can then create custom versions with debug output built in for you to test. I fear that Win 7 does a different handling of events. Wait until Friday.

Re: WP 34S: Some testing required - Try again! (GERMAN)

*Message #17 Posted by **fhub** on 13 Oct 2011, 4:13 p.m.,*
in response to message #16 by Marcus von Cube, Germany

> Quote:
>
> I ask you to explain exactly what you are doing and what happens then.

Ok, wenn meine bisherigen (mehrmaligen) Erklärungen in Englisch nicht verständlich waren, dann also nochmals in Deutsch: ;-)

Also, bleiben wir mal bei der Tastatur:
Ich drücke [f] und 'f' erscheint im Alpha-Display. Ich drücke nochmals [f], aber die Anzeige 'f' bleibt - es gibt nur ein (sehr) kurzes Blinken so als ob ich die Taste [f] 2-mal gedrückt hätte (oder also ob sie nicht 'entprellt' wäre). Das Prefix 'f' läßt sich also nicht mehr ausschalten (beim Drücken einer anderen Taste geht das 'f' allerdings weg, und es wird auch die korrekt Shift-Funktion ausgeführt. Und bei [g] und [h] tritt exakt der gleiche Effekt auf.

Wenn ich den Emulator mit der Maus bediene, zeigt sich in etwa 80% das gleiche Verhalten, in ca. 20% klappt das Ausschalten der Shift-Funktion mit der jeweiligen Taste aber. Ich sehe allerdings kein System dahinter, ob es klappt oder nicht ist eher zufällig.

Wie gesagt tippe ich auf ein Timing-Problem, d.h. daß der Emulator irgenwie zwischen Taste drücken, loslassen und wieder drücken nicht mehr richtig unterscheiden kann, welcher Tastenzustand gerade herrscht.
Allerdings kann ich mir nicht vortstellen daß Du unter Windows diese neuen Routinen so 'systemnah' programmiert hast, daß zwischen WinXP und Win7 wirklich ein Unterschied sein sollte!?

Franz

Re: WP 34S: Some testing required - Try again! (GERMAN)

*Message #18 Posted by **fhub** on 13 Oct 2011, 5:45 p.m.,*
in response to message #17 by fhub

Hallo Marcus, hier noch eine (vielleicht nicht unwichtige) Ergänzung:
Nach weiteren Versuchen habe ich festgestellt, daß sich dieser Bug nur auf die Anzeige von f/g/h bezieht, aber nicht auf das tatsächliche Ein- und Ausschalten.

D.h. ich drücke [f], dann nochmals [f], und intern ist tatsächlich dieses f-Shift wieder korrekt ausgeschaltet, es wird aber immer noch 'f' angezeigt!
Daß es ausgeschaltet ist erkenne ich daran, daß jede nachher gedrückte Taste wieder ihre Grundfunktion (also ohne f-Shift) liefert.

Tatsächlich scheint das ganze also ein reines Anzeigeproblem dieser f/g/h-Indikatoren zu sein.

Franz

Re: WP 34S: Some testing required

*Message #19 Posted by **Jeff O.** on 13 Oct 2011, 8:42 a.m.,*
in response to message #1 by Marcus von Cube, Germany

OK, I see that the function name is displayed and NULLs out if you hold the key down. I like that, but might make the "NULL" display go away upon release of the key or after a time delay. What other features/changes are there that makes it "behave a little more like the 41C"?

Re: WP 34S: Some testing required

*Message #20 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 9:40 a.m.,*
in response to message #19 by Jeff O.

NULL not going away is a bug that should be fixed now.

Yes, it's exactly that you can see the command before it executes what makes 34S behave a little more like the 41C. This helps recognize the commands being executed, especially while you are waiting for your latest overlay from Eric. Hold down one of the hot keys A to D and see if they will execute their default function or call a label, see the actual address called by XEQ + some key, preview the next step in SST mode with the option to cancel it by keeping DOWN pressed for a second...

I did some more work an the shift key detection. I hope I could fix the strange behavior reported by Franz.

Re: WP 34S: Some testing required

*Message #21 Posted by **Dominic Richens** on 13 Oct 2011, 10:06 a.m.,*
in response to message #20 by Marcus von Cube, Germany

I like the idea! Is there a way for LBL A-D to have it display a user defined string? For example with the TVM solver, is there a way it could it display 'N=' when you press and hold A? I can never remember which program I had assigned to LBL A, B, C or D.

I modified the TVM solver to display the label like the HP-20b does _after_ they key is released, so at

least I know when I've hit the wrong key as opposed to puzzling at the wrong answer.

Re: WP 34S: Some testing required

*Message #22 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 10:41 a.m.,*
in response to message #21 by Dominic Richens

Nice idea but not possible with the current infrastructure. I can only display the text representation of an opcode after it has been decoded but before it's executed. Pressing and holding A does not execute any code, it just compiles the keyboard input to XEQ A which is then displayed.

If we ever find a way to support real assignable keys, we may associate them with descriptive strings but at the moment, we have no such plans or resources.

Re: WP 34S: Some testing required

*Message #23 Posted by **Marcus von Cube, Germany** on 13 Oct 2011, 11:54 a.m.,*
in response to message #1 by Marcus von Cube, Germany

From a conversation I had with Jeff O.:

> Quote:
>
> > Hi Marcus,
> > Build 1725 is 126 kB. There still seem to be 5 flash regions, are
> > they just empty?
>
> I've added a bunch of dat files so that the file is bigger. I should have reset the calc.bin file to its original size before committing it to SVN. Just enjoy what came with it. It's stuff from the library and some testing programs such as Valentin's matrix AM3.
>
> > I tacked on my main memory back up region (wp34s.dat). The bin
> > file loaded successfully, but the programs won't run. They all
> > worked in 1722. Have there been significant opcode changes?
>
> We have reorganized the op-codes. You need to feed your dat file through the disassembler, change all occurrences of x[<->]y to x[<->] Y and feed it into the assembler again. x[<->]y is gone and is replaced by the more generic command. On the keyboard, there is no difference but old programs suffer from changed op-codes.

Binary program images need to be modified to work on the current release. There is a space before the Y in the exchange command.

Edited: 13 Oct 2011, 11:55 a.m.

WP 34S: Windows 7 copy ordered / KML anybody?

*Message #24 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 4:47 a.m.,*
in response to message #1 by Marcus von Cube, Germany

In order to fix the Win 7 problems with the emulator I've just ordered a copy of Windows 7 so I have a testing environment. I hope this will sort the bugs out.

It might be the right time to rewrite the emulator DLL based on KML. Are there any KML specialists here

willing to do it? The result should

- be HP legacy free,
- not rely on MFC and therefore on the much too expensive full Visual Studio,
- have an easier to maintain skin description file,
- provide a better visual feedback on pressed keys.

This might even be the basis of a future port to other GUIs like Mac OS, Linux, iOS or Android. I'm willing to help but I feel that others are more qualified for the job than me.

Edited: 14 Oct 2011, 5:09 a.m.

Re: WP 34S: Windows 7 copy ordered / KML anybody?

*Message #25 Posted by **Marcus von Cube, Germany** on 14 Oct 2011, 3:22 p.m.,*
in response to message #24 by Marcus von Cube, Germany

Thanks to Franz' information I've made another attempt at fixing the emulator issues. Please test.

I still would prefer a complete redevelopment of the emulator. Any takers?

Re: WP 34S: Windows 7 copy ordered / KML anybody?

*Message #26 Posted by **fhub** on 14 Oct 2011, 4:30 p.m.,*
in response to message #25 by Marcus von Cube, Germany

> Quote:
>
> Thanks to Franz' information I've made another attempt at fixing the emulator issues.

And this time you were finally sucessful, everything is working fine again with the new SVN 1727 - congratulation! :-)

Many thanks for your good work,
Franz

Re: WP 34S: Windows 7 copy ordered / KML anybody?

*Message #27 Posted by **fhub** on 15 Oct 2011, 5:48 a.m.,*
in response to message #25 by Marcus von Cube, Germany

> Quote:
>
> I still would prefer a complete redevelopment of the emulator. Any takers?

Marcus, have you ever thought about using Christoph Giesselink's EmuXX system as base?
It's source code is available, it has a very powerful KML scripting language and is used (and thus known) already to a lot of people.

I guess it shouldn't be too hard to make a connection between the EmuXX GUI code and your calculator code!?
Since my progamming language is not 'C', I couldn't do this, but I could (and would) definitely make a comfortable KML script for the "EmuWP34s" ;-) where ALL functions on the keyboard (also the shifted ones) would be directly clickable by the mouse (as I've already made for almost all other

EmuXX versions).

Franz.

Re: WP 34S: Windows 7 copy ordered / KML anybody?

*Message #28 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 11:15 a.m.,*
in response to message #27 by fhub

Franz, I was hoping for some external help for this. It's exactly what I had in mind.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Matrix M.xx vs. M-xx

*Message #1 Posted by **fhub** on 12 Oct 2011, 9:58 a.m.*

The matrix functions have just been renamed again from M.xxx to M-xxx

In principle that's ok, but 2 functions look a bit ugly now: M-+ and M-+* ;-)

Re: [WP34s] Matrix M.xx vs. M-xx

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:21 a.m.,*
in response to message #1 by fhub

I did that because navigating in the catalog(ue)s is harder with a '.' in the name (I keep forgetting to press f before the dot and never get where I want to.) I agree that the two functions you mention don't look pretty. Maybe we change that back to '.' or even no delimiter at all. For me, M-DET or M.DET don't look any better then MDET.

Re: [WP34s] Matrix M.xx vs. M-xx

*Message #3 Posted by **fhub** on 12 Oct 2011, 10:29 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Yes, M+ and M+* without delimiter would be better.
But for all other matrix functions I would keep the delimiter, otherwise some keywords would in fact be quite counterintuitive. And changing it only for some (e.g. MDET, MINV) won't be consistent.

Re: [WP34s] Matrix M.xx vs. M-xx

*Message #4 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:33 a.m.,*
in response to message #3 by fhub

It's Walter's and Pauli's decision.

Re: [WP34s] Matrix M.xx vs. M-xx

*Message #5 Posted by **fhub** on 12 Oct 2011, 10:37 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> It's Walter's and Pauli's decision.

I know - as usual ... ;-)

Re: [WP34s] Matrix M.xx vs. M-xx

*Message #6 Posted by **Walter B** on 12 Oct 2011, 2:23 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> It's Walter's and Pauli's decision.

Thus Marcus changed it ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp-15c LE firmware update HOWTO?

*Message #1 Posted by **Eric Zoob** on 12 Oct 2011, 9:28 a.m.*

I purchased two of the new 15C LE calculators with firmware 2011-04-15, and have been following the posts here. If a firmware update is made available, how will it be made available? i.e., can I send my calculators to be re-flashed (to HP, or to someone who has the cables and has done this before with other HP calculators), or will I be expected to do it myself somehow? How has this worked in the past?

Edited: 12 Oct 2011, 9:39 a.m.

Re: hp-15c LE firmware update HOWTO?

*Message #2 Posted by **Katie Wasserman** on 12 Oct 2011, 11:06 a.m.,*
in response to message #1 by Eric Zoob

These are all good questions that only HP can answer.

There has been no systematic way past ARM-based HP calculators have been upgraded after purchase. Some people do it themselves by getting a cable (from HP and now via Gene) and asking HP for the latest firmware, it's not posted anywhere. The HP website/manuals don't even acknowledge that these machines can be upgraded.

Re: hp-15c LE firmware update HOWTO?

*Message #3 Posted by **Peter Murphy (Livermore)** on 12 Oct 2011, 11:16 a.m.,*
in response to message #2 by Katie Wasserman

Texas Instruments makes operating system and software updates for its handhelds a big feature. For example, see here:

http://education.ti.com/calculators/products/US/os-update/

Re: hp-15c LE firmware update HOWTO?

*Message #4 Posted by **Thomas Radtke** on 12 Oct 2011, 12:02 p.m.,*
in response to message #2 by Katie Wasserman

Katie,

there's a SDK for the 20b available from HP, containing a firmware file. I found it somewhere on HPs website and used it to update my 20b. So, some acknowledgement has been made.

Thomas

Paging Gene...

*Message #5 Posted by **DigiGal** on 14 Oct 2011, 10:49 a.m.,*

in response to message #2 by Katie Wasserman

Paging Gene...

I sent you an e-mail a couple of days ago but didn't hear back yet, I'd like to order one of the cables form you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #1 Posted by **Thomas Chrapkiewicz** on 12 Oct 2011, 7:51 a.m.*

What is the recommended USB -> Serial convertor for usage with the latest Win7/64bit OS?

In the past, I've been pleased with the performance of a Belkin device as it had RX/TX indicators and drivers were immediately available. Now I find that this device is not supported by the manufacturer with Win7/64.

Thank you in advance for your advice, TomC

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #2 Posted by **Bart (UK)** on 12 Oct 2011, 9:04 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

The FTDI converter that I referenced in article 1060 has drivers that claim Windows 7 64-bit compatability - driver list

-Bart

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #3 Posted by **Thomas Chrapkiewicz** on 12 Oct 2011, 10:05 a.m.,*
in response to message #2 by Bart (UK)

Does anyone know of a USA source?

Thanks, TomC

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #4 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:15 a.m.,*
in response to message #3 by Thomas Chrapkiewicz

Doesn't sell FTDI directly?

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #5 Posted by **Bart (UK)** on 12 Oct 2011, 12:33 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Yes, I purchased mine using the "buy online" button. However, the HQ is UK based and there may be additional transport costs for our friends on the other side of the Atlantic.

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #6 Posted by **Eric Smith** on 12 Oct 2011, 12:55 p.m.,*

in response to message #3 by Thomas Chrapkiewicz

Digi-Key Corporation and Mouser Electronics both sell FTDI products.

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #7 Posted by **NateB** on 12 Oct 2011, 7:34 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Several are available on Amazon. Just search for FTDI RS232.

Example 1

Example 2

Example 3

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #8 Posted by **Jeff O.** on 13 Oct 2011, 7:52 a.m.,*
in response to message #3 by Thomas Chrapkiewicz

EasySYNC ES-U-1001-R10

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #9 Posted by **Thomas Chrapkiewicz** on 13 Oct 2011, 12:59 p.m.,*
in response to message #8 by Jeff O.

Thank you all for your helpful assistance and recommendations.

Surprisingly enough, the Belkin device does NOT use generic (i.e. FTDI type devices; there is a hand labelled ASIC in it!). (If anayone is curious for details, email me and I can take some pics.) Surprising.

In the meantime I will pursue the FTDI devices.

Regards, TomC

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #10 Posted by **Lincoln R.** on 12 Oct 2011, 9:23 a.m.,*
in response to message #1 by Thomas Chrapkiewicz

If you can figure out what USB to RS232 chip your Belkin adaptor is using, you could check the chip manufacturer's website to see if Win7 64 drivers are available. Belkin doesn't really design anything themselves these days, and they certainly don't design USB to RS232 ASICs.

Re: HP Calculator Communications - USB -> RS232/Serial on Win7/64?

*Message #11 Posted by **Gerry Schultz** on 12 Oct 2011, 3:13 p.m.,*
in response to message #10 by Lincoln R.

Here's what I use and it works under Win7: FTDI - US232-100 USB to RS232 Serial Cable. Newark part number 34M8933; cost $24.

Gerry

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] 0=-2*10^(-15)???

*Message #1 Posted by **Alexander Oestert** on 12 Oct 2011, 5:45 a.m.*

If this is in the manual, please forgive me and just point me in the right direction.

I'm doing the following on the WP-34s (2.1 1388)

2.5

Square root

x^2 (results in 2.5 in the display)

2

+/-

* (results in -5 in the display)

5

+

and the result is -2*10^(-15)

Why is that? Should I just update my firmware version?

Edited: 12 Oct 2011, 5:45 a.m.

Re: [WP34s] 0=-2*10^(-15)???

*Message #2 Posted by **Paul Dale** on 12 Oct 2011, 5:56 a.m.,*
in response to message #1 by Alexander Oestert

This is perfectly acceptable, normal and most likely correct behaviour.

The calculator only has a finite number of digits and the intermediate results are rounded to this number of digits (16 in the case of the 34S). This means subsequent operations are working with numbers that aren't exactly what you entered.

That is a pretty old firmware version, lots has happened in the meantime. Bug fixes and improvements.

- Pauli

Re: [WP34s] 0=-2*10^(-15)???

*Message #3 Posted by **Dominic Richens** on 12 Oct 2011, 6:14 a.m.,*
in response to message #2 by Paul Dale

though 2.1 1664 returns the same answer. But it's not really a bug and so will will probably always do that.

Re: [WP34s] 0=-2*10^(-15)???

*Message #4 Posted by **Alexander Oestert** on 12 Oct 2011, 6:23 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> That is a pretty old firmware version, lots has happened in the meantime. Bug fixes and improvements.

I'm waiting for the final version before reflashing (and draining my batteries in the process).

Thanks!

Re: [WP34s] 0=-2*10^(-15)???

*Message #5 Posted by **Paul Dale** on 12 Oct 2011, 6:35 a.m.,*
in response to message #4 by Alexander Oestert

I wouldn't worry about an occasional reflash -- plug in flash and unplug doesn't take long and won't do much of anything to the battery life. Leaving (or forgetting) the calculator with cable plugged in will.

- Pauli

Re: [WP34s] 0=-2*10^(-15)???

*Message #6 Posted by **Alexander Oestert** on 12 Oct 2011, 6:56 a.m.,*
in response to message #5 by Paul Dale

Is that a hint on how long it will take to see the final firmware? ;)

Re: [WP34s] 0=-2*10^(-15)???

*Message #7 Posted by **Paul Dale** on 12 Oct 2011, 6:59 a.m.,*
in response to message #6 by Alexander Oestert

Most likely :)

- Pauli

Re: [WP34s] 0=-2*10^(-15)???

*Message #8 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:00 a.m.,*
in response to message #7 by Paul Dale

Final? What final?

We may continue development almost forever. Plans are to have stable releases from time to time on which you can rely. I can't say when the next point in time will be for a release.

Re: [WP34s] 0=-2*10^(-15)???

*Message #9 Posted by **Alexander Oestert** on 12 Oct 2011, 10:06 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Yeah, stable release is what I meant. I plan to get hold of one to use with my newly acquired overlays before you dare devils change them again! ;)

[WP34s] stable release and keyboard

*Message #10 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:14 a.m.,*
in response to message #9 by Alexander Oestert

Devilish folk are we! :-D

In fact we are discussing some keyboard changes. There are several options being discussed:

Minimalist: Just fix one or two idiosyncrasies such as having XTOA/ATOX on the keyboard which seems a bit wasteful. There are some diverging ideas concerning this approach.

Medium: Make an overhaul of the keyboard which will definitely require a new overlay. We have something up our sleeves for this approach, too.

Maximum: Complete redesign, assignable keyboard and some such... More likely to be implemented on new hardware.

Re: [WP34s] 0=-2*10^(-15)???

*Message #11 Posted by **Steve Simpkin** on 12 Oct 2011, 6:28 a.m.,*
in response to message #1 by Alexander Oestert

For reference, I get the following answers from these calculators:
HP-25: 0
TI-89: 0
HP-48G: 2*10^(-11)
HP 33s: 2*10^(-11)

Re: [WP34s] 0=-2*10^(-15)???

*Message #12 Posted by **Paulo MO** on 12 Oct 2011, 7:18 a.m.,*
in response to message #11 by Steve Simpkin

HP 15c: 0

Re: [WP34s] 0=-2*10^(-15)???

*Message #13 Posted by **Mike Maiorana** on 12 Oct 2011, 10:51 a.m.,*
in response to message #11 by Steve Simpkin

HP45 returns 0.000000000 (at fix 9)

Re: [WP34s] 0=-2*10^(-15)???

*Message #14 Posted by **Werner** on 12 Oct 2011, 6:56 a.m.,*
in response to message #1 by Alexander Oestert

Results are rounded to 16 digits after every operation, so:

```
sqrt[2.5] = 1.581138830084189665999..
rounded to 16 digits that is 1.581138830084190


1.581138830084190^2 = 2.500000000000001 0562...
rounded to 16 digits is 2.500000000000001


and then 5 - 2 * 2.500000000000001 = -2e-15
```

Thankfully it doesn't try to decide for you that that should be zero...

Cheers, Werner

Re: [WP34s] 0=-2*10^(-15)???

*Message #15 Posted by **Alexander Oestert** on 12 Oct 2011, 7:00 a.m.,*
in response to message #14 by Werner

I'm well aware that some rounding takes place with the root and square operations. What astonishes me more is the fact that the intermediate results 2.5 and 5 thereafter **looked** like they were exact but in fact weren't.

Edited: 12 Oct 2011, 7:02 a.m.

Re: [WP34s] 0=-2*10^(-15)???

*Message #16 Posted by **Paul Dale** on 12 Oct 2011, 7:04 a.m.,*
in response to message #15 by Alexander Oestert

Use SHOW to see all the digits in the number. The display is only 12 digits long and numbers are 16 digits on the device. With a wider display, you'd have seen all the digits but that is not to be on this hardware.

- Pauli

Re: [WP34s] 0=-2*10^(-15)???

*Message #17 Posted by **Alexander Oestert** on 12 Oct 2011, 7:10 a.m.,*
in response to message #16 by Paul Dale

Maybe I'm using SHOW the wrong way or it's buggy in my firmware version, but SHOW used on 2.5 and -5 in the calculation from posting #1 will not show any more decimal places. Isn't that what you meant?

EDIT: I flashed the newest firmware and now SHOW actually shows the whole mantissa.

Edited: 12 Oct 2011, 8:41 a.m. after one or more responses were posted

Re: [WP34s] 0=-2*10^(-15)???

*Message #18 Posted by **Paul Dale** on 12 Oct 2011, 7:29 a.m.,*
in response to message #17 by Alexander Oestert

Update your firmware -- SHOW got changed a bit not too long ago.

- Pauli

Edited: 12 Oct 2011, 7:29 a.m.

Re: [WP34s] 0=-2*10^(-15)???

*Message #19 Posted by **Alexander Oestert** on 12 Oct 2011, 7:33 a.m.,*
in response to message #18 by Paul Dale

see my EDIT above.

Thanks again!

what about an indicator for hidden decimals?

*Message #20 Posted by **Alexander Oestert** on 12 Oct 2011, 8:43 a.m.,*
in response to message #18 by Paul Dale

I wonder if it wouldn't be nice to have some kind of indicator that pointed me to press SHOW. Otherwise I don't have a reason to doubt the exactitude of the result that is shown in case I get 5 with no decimal places. You know, something like the thing you do in fraction mode.

Re: [WP34s] 0=-2*10^(-15)???

*Message #21 Posted by **Derek Walker (UK)** on 12 Oct 2011, 7:22 a.m.,*
in response to message #15 by Alexander Oestert

Some results from a random collection of calculators in my desk drawer:
Casio fx-991ES, Casio fx-4800p, TI-68: all 0
HP35s: 2*10^(-11) - intermediate results were inexact
TI36X: 2*10^(-11) - intermediate results looked exact

Re: [WP34s] 0=-2*10^(-15)???

*Message #22 Posted by **Lincoln R.** on 12 Oct 2011, 8:02 a.m.,*
in response to message #21 by Derek Walker (UK)

HP 32s: 2*10^(-11)
HP 48g: 2*10^(-11)
Casio fx-7000g: 0
HP 12c: 0
HP 12c ARM (2009-11-19): 0
HP 35 (Non-Buggy, 1302A: 0
HP 28c: 2*10^(-11)

I have to say I'm a bit disappointed that an HP 35 and an old Casio seem to be more accurate than the 32s and 48g (at least in this case).

Edited: 12 Oct 2011, 8:03 a.m.

Re: [WP34s] 0=-2*10^(-15)???

*Message #23 Posted by **Paul Dale** on 12 Oct 2011, 8:10 a.m.,*
in response to message #22 by Lincoln R.

They aren't. Read Werner's post above and round the values to ten digits and you'll see why

they *appear* to be more accurate.

- Pauli

Re: [WP34s] 0=-2*10^(-15)???

*Message #24 Posted by **Lincoln R.** on 12 Oct 2011, 8:39 a.m.,*
in response to message #23 by Paul Dale

Ah. That makes sense. This is what I get for trying to carry on intelligent conversation at 7 AM.

Re: [WP34s] 0=-2*10^(-15)???

*Message #25 Posted by **Alexander Oestert** on 12 Oct 2011, 8:13 a.m.,*
in response to message #22 by Lincoln R.

I'm not a mathematician but I would say your conclusion is wrong. Those calcs that show 0 as a result might just not carry as many decimal places.

Re: [WP34s] 0=-2*10^(-15)???

*Message #26 Posted by **Dimitri** on 12 Oct 2011, 9:13 a.m.,*
in response to message #25 by Alexander Oestert

HP41C: 0

Re: [WP34s] 0=-2*10^(-15)???

*Message #27 Posted by **Marcus von Cube, Germany** on 12 Oct 2011, 10:06 a.m.,*
in response to message #26 by Dimitri

From the results here it looks like all the 10 digit machines with correct rounding return 0.

You should get the same result if you set WP 34S to SCI 10 and press RND after the sqrt and the x^2 operations.

Re: [WP34s] 0=-2*10^(-15)???

*Message #28 Posted by **Jake Schwartz** on 12 Oct 2011, 11:25 a.m.,*
in response to message #27 by Marcus von Cube, Germany

> Quote:
>
> From the results here it looks like all the 10 digit machines with correct rounding return 0.

...but of course that only applies to *this* problem and likely will not be the case for every one (or perhaps even most of them) like this....therefore, with functions in the mix which generate irrational results (like square root), it makes sense to use the 34S SHOW as a check. With this specific problem, I bet that ANY large-precision setting on the HP48/49/50 in conjunction with the LongFloat library will yield a small non-zero result (as it probably should).

Jake

Re: [WP34s] 0=-2*10^(-15)???

*Message #29 Posted by **C.Ret** on 12 Oct 2011, 3:47 p.m.,*
in response to message #28 by Jake Schwartz

It makes sense to check all digits only when in your application 2.10^{-15} is significantly different from zero.

In most of my practical applications, as soon as a result is less than a fraction of a millimeter, a millisecond, a milligram, a milliamp or a combination of theses, it's not harmful to consider it as null or negligible.

Last time I was measuring the surface of grass in my garden. I may have use the square root key to check my computations backward.

Are you serously stating that I have to use SHOW function to check that I was right at 2.10^{-15} meter precision ?

I was not attempting to count sub-atomic particles in my garden, I only have to get a rough idea of how much potting soil I have to buy !

Re: [WP34s] 0=-2*10^(-15)???

*Message #30 Posted by **Jake Schwartz** on 12 Oct 2011, 4:20 p.m.,*
in response to message #29 by C.Ret

> Quote:
>
> Are you serously stating that I have to use SHOW function to check that I was right at 2.10-15 meter precision ?
>
> I was not attempting to count sub-atomic particles in my garden, I only have to get a rough idea of how much potting soil I have to buy !

Going back to the beginning of the thread, there was a specific problem suggested which had nothing to do with particles or gardens.....there was no reference to anything, but the fact that the result was not exactly zero to 16 decimal places. It looked like everyone else in the thread accepted the premise that this was not necessarily a practical application related to "real-world" things such as measuring items to millimeter resolution or anything else. As a result, I would hope you would see the discussion for what it was - an exchange related purely to accuracy. No need to find fault with it, if that is what you were doing.

Jake

Re: [WP34s] 0=-2*10^(-15)???

*Message #31 Posted by **kc** on 13 Oct 2011, 1:22 a.m.,*
in response to message #22 by Lincoln R.

42s on iphone: -2*10^(-24)
Seems it has the highest precision so far.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Second Installment of RPL Tutorials (beginners)

*Message #1 Posted by **Eddie W. Shore** on 11 Oct 2011, 9:56 p.m.*

The RPL tutorial series continues: part 5 covers the Prompt command, part 6 covers algebra and calculus commands, part 7 covers the HP solver, part 8 covers the While-Repeat-End loop, and part 9 covers temporary custom menus. Eddie's blog (RPL Tutorial for beginners)

Re: Second Installment of RPL Tutorials (beginners)

*Message #2 Posted by **bluesun08** on 13 Oct 2011, 7:02 a.m.,*
in response to message #1 by Eddie W. Shore

Is there also a printable version of the Tutorial?

Re: Second Installment of RPL Tutorials (beginners)

*Message #3 Posted by **Eddie W. Shore** on 15 Oct 2011, 12:38 a.m.,*
in response to message #2 by bluesun08

Bluesun,

Yes - for now you can print the blog directly.

I am planning to put a third set of tutorials of the 50g on the blog - when it's all said and done - I think I am going to make a pdf document of it all.

The target date for the third (and final?) set is the weekend of 10/23 - 10/24/2011.

Edited: 15 Oct 2011, 12:41 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Best friends! (DataMath)

*Message #1 Posted by **robertoataulfo** on 11 Oct 2011, 9:24 p.m.*

```
Do not just take the best and rarest calculators also have to have the best friends.
You made a child happy. :-)
Thank you with all my heart Joerg.


"15 LE" and "12C 30Th"
```

Edited: 11 Oct 2011, 9:29 p.m.

Re: Best friends! (DataMath)

*Message #2 Posted by **Joerg Woerner** on 11 Oct 2011, 9:33 p.m.,*
in response to message #1 by robertoataulfo

You are welcome - thanks for the kind feedback!

Enjoy your beauties ;-))

Cheers, Joerg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Swap meets at HHCs?

*Message #1 Posted by **Peter Murphy (Livermore)** on 11 Oct 2011, 6:41 p.m.*

HHC 2011 was my first. Thinking back on it, I now wonder whether time and place could be made for swapping/buying/selling calculators and related stuff at the next HHC. I'd be an eager participant. Or has the idea been tried and failed, never to be resurrected?

Re: Swap meets at HHCs?

*Message #2 Posted by **Allen** on 11 Oct 2011, 8:26 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

In theory I see where that might work, I think it would be fun.

In practice, however, I think calculators make poor currency since they do not meet a critical part of Adam Smith's guidelines for a monetary system: they are indivisible.

It's also hard to agree on what constitutes a "reasonable" price.

At HHC2009 at least one presenter established a temporary booth and during break times sold some interesting items perhaps to fund the cost of the trip? Although I did not buy anything, I thought it was tastefully done and not out of place.

In HHC 2008 some attendees brought certain serial cables and other small manufactured items to sell, and in other years there has been one or two items of commercial interest, though I don't think it's ever been more than a handful of people exchanging anything.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

27S display - a show stopper?

*Message #1 Posted by **Thomas Radtke** on 11 Oct 2011, 3:35 p.m.*

A colleague sold me this quite beaten up 27S today (for a very reasonable price):

While it has interesting features, I found the display to be not only problematic, but an imposition. Is it just this package with the protective cover making it almost unreadable? I know this kind of LCDs from the 18C/19B, but this one tops it all. For any viewing angle, a certain adjustment of contrast between black background and slightly readable characters has to be found.

What were your thoughts when you bought your sample (when it was new)?

Re: 27S display - a show stopper?

*Message #2 Posted by **BruceH** on 11 Oct 2011, 3:54 p.m.,*
in response to message #1 by Thomas Radtke

Mine is fine and perfectly readable so it sounds like yours has been damaged. If you can post a picture of the screen then the knowledgeable folks here might be able to make useful suggestions.

Re: 27S display - a show stopper?

*Message #3 Posted by **Thomas Radtke** on 11 Oct 2011, 4:03 p.m.,*
in response to message #2 by BruceH

Thanks for your answer, Bruce.

Two angles, same contrast. The camera got the contrast in the top image much better than my eyes do.

[Edit: Used a flash light - under very bright light the problem appears to be less visible]

Edited: 11 Oct 2011, 4:35 p.m.

Re: 27S display - a show stopper?

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 11 Oct 2011, 5:01 p.m.,*
in response to message #3 by Thomas Radtke

Hi Thomas,

My circa '93 17bii from Singapore has this same "feature" while my 2 other 17bii's (both Indonsesia, later in the decade) do not. The later ones have a much wider field of view before "blacking out".

Interestingly, the indicators (shift, print, etc.) do not seem to be affected to nearly the same extent as the dot matrix area.

What is the date and source of the 27S?

Re: 27S display - a show stopper?

*Message #5 Posted by **Eric Smith** on 11 Oct 2011, 5:42 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> Interestingly, the indicators (shift, print, etc.) do not seem to be affected to nearly the same extent as the dot matrix area.

That's because the dot matrix area has a much higher multiplex factor than the annunciators.

Re: 27S display - a show stopper?

*Message #6 Posted by **bill platt** on 11 Oct 2011, 6:33 p.m.,*
in response to message #5 by Eric Smith

What does that mean? (or what is the multiplexer?)

Re: 27S display - a show stopper?

*Message #7 Posted by **Eric Smith** on 11 Oct 2011, 8:55 p.m.,*
in response to message #6 by bill platt

Segments on a dot-matrix display generally aren't driven continuously. Some fraction of them are driven at any given time. For the dot-matrix area of the 17B/17BII/27S/42S display, one row is driven at a time, which is 16:1 multiplex. The annunciators are generally driven at a lower multiplex rate, though I don't know specifically for those calculators what the rate is.

Re: 27S display - a show stopper?

*Message #8 Posted by **uhmgawa** on 11 Oct 2011, 6:13 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> My circa '93 17bii from Singapore has this same "feature" while my 2 other 17bii's (both Indonsesia, later in the decade) do not. The later ones have a much wider field of view before "blacking out".

IIRC Hosoda-san (www.finetune.jp) suggested this was due to a weak/broken boost regulator for the lcd bias resulting in a low drive voltage. IME I've seen this result from too high of a drive voltage so I'm not quite certain. I think in part the lower contrast and viewing angle dependent contrast/depth is a characteristic of the lcd and controller in use. But certainly an out of spec drive voltage can be aggravating the situation. Some of my Saturn units as well have rather poor contrast and I'd been reminding myself to experiment with tightening it up.

> Quote:
>
> Interestingly, the indicators (shift, print, etc.) do not seem to be affected to nearly the same extent as the dot matrix area.

The annunciators might be multiplexed via a different rate/scheme such that the average segment "off" voltage is well below the lcd polarization threshold. Or maybe there is just less crosstalk between them given the size/spacing geometry difference relative to pixels in the matrix field.

Re: 27S display - a show stopper?

*Message #9 Posted by **Lyuka** on 11 Oct 2011, 7:59 p.m.,*
in response to message #8 by uhmgawa

> Quote:
>
> broken boost regulator for the lcd

for more information about it, take a look at
'A work-around for sticking-to-low-contrast LCD problem of the HP-42S'
and previous thread 'An HP-42S fix success, and a contrast problem'.

Regards,
Lyuka

P.S. The PCB and the LCD of the 27S is identical to that of the 42S.

Edited: 11 Oct 2011, 8:02 p.m.

Re: 27S display - a show stopper?

*Message #10 Posted by **uhmgawa** on 12 Oct 2011, 1:00 a.m.,*
in response to message #9 by Lyuka

> Quote:
>
> for more information about it, take a look at
> 'A work-around for sticking-to-low-contrast LCD problem of the HP-42S'
> and previous thread 'An HP-42S fix success, and a contrast problem'.

Ah, I think I see what my confusion was above. You were describing low contrast due to insufficient lcd polarization drive resulting in a faint display vs. the low contrast inherent in this series of lcds under normal operation.

The latter problem is due to the intended "off" pixels receiving an average multiplex voltage just over their polarization potential which partially enables them, thereby reducing the contrast ratio due to saturation. AFAICT it really looks to be an issue of the controller either logically in terms of excessive multiplex ratio (or less likely analog drive) either of which results in RMS voltages (and optical polarization states) for on vs. off being too close causing readjustment of the lcd drive rail to be needed as the viewing angle changes.

This appears unrelated to a glass quality issue as the polarization level doesn't seem to visibly ghost due to crosstalk and the partial polarization is uniform. While these displays perform rather poorly by modern standards I seem to recall this being typical of matrix displays around the time these calculators were developed.

> Quote:
>
> The PCB and the LCD of the 27S is identical to that of the 42S.

The 17B I peeled open was very close except for what appeared to be a few cosmetic layout changes. Unsure whether that was model specific or a uniform change made to all models relative to manufacturing date (probably the latter).

Re: 27S display - a show stopper?

*Message #11 Posted by **Thomas Radtke** on 12 Oct 2011, 1:36 a.m.,*
in response to message #9 by Lyuka

Thanks for the links! So, replacing diode and capacitor might help?

Re: 27S display - a show stopper?

*Message #12 Posted by **Thomas Radtke** on 12 Oct 2011, 1:27 a.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> What is the date and source of the 27S?

I can tell not before tomorrow, but it's an early Singapore model sold in Germany.

Same here with the anunciators, they are perfectly readable.

Re: 27S display - a show stopper?

*Message #13 Posted by **Thomas Radtke** on 12 Oct 2011, 11:15 a.m.,*
in response to message #12 by Thomas Radtke

S/N 2917Sxxxx

Re: 27S display - a show stopper?

*Message #14 Posted by **M. Joury** on 11 Oct 2011, 7:15 p.m.,*
in response to message #1 by Thomas Radtke

My 27S (3224S04249) is perfectly legible. No issues whatsoever.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S : How many flash regions available

*Message #1 Posted by **Miguel Toro** on 11 Oct 2011, 1:53 p.m.*

Hi,

Perhaps this has been already answered. I am using version 2.2 1693. When I try to save a program in a region greater that 5, the calculator does nothing. The manual states that 9 regions are still available. Should I reflash my 34s?

Thanks,

Miguel

Re: WP34S : How many flash regions available

*Message #2 Posted by **Marcus von Cube, Germany** on 11 Oct 2011, 3:47 p.m.,*
in response to message #1 by Miguel Toro

The matrix functions have taken their share of flash memory. Walter has probably not yet updated the manual.

Re: WP34S : How many flash regions available

*Message #3 Posted by **Walter B** on 11 Oct 2011, 5:54 p.m.,*
in response to message #2 by Marcus von Cube, Germany

... since I'm still struggling with the consequences. BTW, due to frequent changes the amount of flash sectors available is probably the least reliable information in the manual. Sorry for that.

Re: WP34S : How many flash regions available

*Message #4 Posted by **Paul Dale** on 11 Oct 2011, 6:05 p.m.,*
in response to message #2 by Marcus von Cube, Germany

And Marcus said, things are very much in flux at the moment. The matrix functions have consumed about three flash partitions, we've done a bit of scraping and pulled back a bit of space and we try to find more.

- Pauli

Re: WP34S : How many flash regions available

*Message #5 Posted by **Miguel Toro** on 11 Oct 2011, 6:26 p.m.,*
in response to message #4 by Paul Dale

In my humble opinion, the matrix functions are well worth the lost space, even though the flash regions are a real nice feature to have.

This is a fascinating machine :-)

Thank you,

Miguel

Edited: 11 Oct 2011, 6:27 p.m.

Re: WP34S : How many flash regions available

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 11 Oct 2011, 7:17 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I am sorry if this topic was addressed before, I couldn't find it searching the forum archives.

Does HP 30b use Single Layer Cell (SLC) or Multi Layer Cell (MLC) flash memory. If the flash is part of the ATMEL SOC AT91SAM7L128 CPU, OEM spec states that it is in fact SLC which is a great news for longevity and reliability.

Re: WP34S : How many flash regions available

*Message #7 Posted by **Paul Dale** on 11 Oct 2011, 7:20 p.m.,*
in response to message #6 by Kerem Kapkin (Silicon Valley, CA)

The flash is all on CPU.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

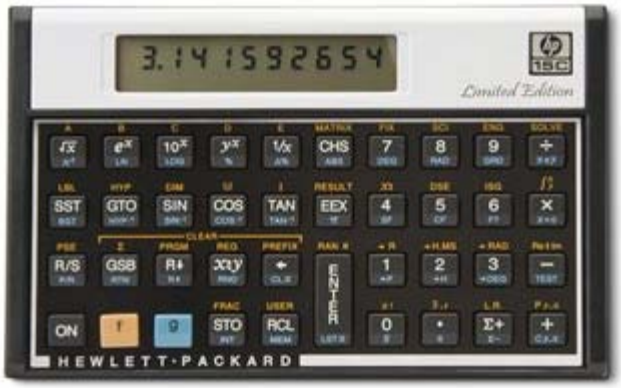
HP Forum Archive 20

[Return to Index | Top of Index]

The most abused phrase "Check Back Soon"

*Message #1 Posted by **Michael de Estrada** on 11 Oct 2011, 1:26 p.m.*

Check Back Soon



Edited: 11 Oct 2011, 1:28 p.m.

Re: The most abused phrase "Check Back Soon"

*Message #2 Posted by **Howard Owen** on 11 Oct 2011, 2:16 p.m.,*
in response to message #1 by Michael de Estrada

That's why these things go for a premium on TAS. The page says the calculator is "unavailable from the manufacturer" and the bezel says "Limited Edition." Q.E.D.

Re: The most abused phrase "Check Back Soon"

*Message #3 Posted by **Thomas Radtke** on 11 Oct 2011, 3:06 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> Q.E.D.

What exactly had to be shown? That it's a limited edition? We knew that. Each calculator is ;-).

BTW - There are apparently 3000 US 15C LEs. Any hints given on how many european calculator there will be? And has anyone @HP mentioned other contries? It has already shown up on the japaneese HP site.

Re: The most abused phrase "Check Back Soon"

*Message #4 Posted by **Martin Pinckney** on 11 Oct 2011, 3:51 p.m.,*
in response to message #3 by Thomas Radtke

HP calls it a Limited Edition. The constant "Sold Out" message proves it.

Re: The most abused phrase "Check Back Soon"

*Message #5 Posted by **Howard Owen** on 11 Oct 2011, 5:50 p.m.,*
in response to message #3 by Thomas Radtke

I see I must make explicit what I left as an exercise.

It is well known that

$$U_b = F_i*(A_r + V_s)^2$$

Where
U_b = urgency to buy,
F_i = impulsivity factor,
A_r = anticipated rarity,
And
V_s = verified scarcity

Since A_r and V_s are both >0, and impulsivity (among Americans) approaches infinity as long as the mortgage isn't due, we have U_b approaching infinity as well.

Since it has been widely reported in the Silly Mathematics literature that P_{eBay} is directly proportional to U_b, we have P_{eBay} > what you really ought to pay. Q.E.D.

Any logical inconsistencies or antifactual facts noted by the reader are irrelevant because I say so.

Re: The most abused phrase "Check Back Soon"

*Message #6 Posted by **Martin Pinckney** on 11 Oct 2011, 9:36 p.m.,*
in response to message #5 by Howard Owen

Beautiful.

Re: The most abused phrase "Check Back Soon"

*Message #7 Posted by **Eddie W. Shore** on 11 Oct 2011, 9:57 p.m.,*
in response to message #5 by Howard Owen

Nice theory

Re: The most abused phrase "Check Back Soon"

*Message #8 Posted by **Allen** on 11 Oct 2011, 10:23 p.m.,*
in response to message #5 by Howard Owen

Don't forget about

$U_b = F_i*(A_r + V_s)^2 + H_{media}^3$

Where
H_{media}= Media Hype (incl. from a unit left in a pub to leaked datasheets)

Re: The most abused phrase "Check Back Soon"

*Message #9 Posted by **hpnut** on 11 Oct 2011, 10:25 p.m.,*
in response to message #8 by Allen

media hype only raised to the power of 3? ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] a) Input position and b) units and c) reminder plate

*Message #1 Posted by **Alexander Oestert** on 11 Oct 2011, 10:26 a.m.*

I just received Eric's fabulous overlays and thus started playing again with the WP34s, after having been distracted by the 15c LE. I apologize for that... ;)

Now with the overlays it's even better than it was already! Thank you again! I still came across two things that I wanted to mention:

a) Is there a reason why the input is on the left side of the display while the result is shown on the right side? I find that a bit odd and would prefer it to be in the same position, without a preference for left or right.

b) Scrolling through the constants catalog I found myself wishing to see the corresponding unit(s) in the upper display alongside the constants name. That would be a big help for my elderly brain. But I reckon it could be a question of no more RAM left over what prevents them to be squeezed in?!?

c) Coming from the 15c I could imagine a nice backplate with reminders on it in the style of Eric's overlay. Like the location of the statistical registers and such.

Edited: 11 Oct 2011, 10:51 a.m.

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #2 Posted by **Martin Pinckney** on 11 Oct 2011, 11:03 a.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> a) Is there a reason why the input is on the left side of the display while the result is shown on the right side? I find that a bit odd and would prefer it to be in the same position, without a preference for left or right.

Interesting question. The Classics, Voyagers, and Pioneers do both on the left. The 48's have input on the left, results on the right. These are the only types I own.

What does the unmodified 30b do?

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #3 Posted by **Jeff O.** on 11 Oct 2011, 12:30 p.m.,*
in response to message #2 by Martin Pinckney

Input and display on left.

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #4 Posted by **Paul Dale** on 11 Oct 2011, 5:27 p.m.,*

in response to message #1 by Alexander Oestert

> Quote:
>
> a) Is there a reason why the input is on the left side of the display while the result is shown on the right side? I find that a bit odd and would prefer it to be in the same position, without a preference for left or right.

This is another one that bounced back and forth a few times :-) I don't remember all the reasoning. However, display on the right so you see the exponent and input on the left to distinguish it easily come to mind immediately.

- Pauli

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #5 Posted by **Alexander Oestert** on 12 Oct 2011, 4:10 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> This is another one that bounced back and forth a few times :-)

I'm sorry, it seems I have not read the forum too thoroughly...

> Quote:
>
> However, display on the right so you see the exponent and input on the left to distinguish it easily come to mind immediately.

I don't find it hard to distinguish between mantissa and exponent, if that's what you meant. Their respective sizes make that one easy.

I understand however that there are reasons for both ways. Is it possible (and easy enough to implement) to have a switch, say, in the MODE menu?

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #6 Posted by **Paul Dale** on 12 Oct 2011, 4:15 a.m.,*
in response to message #5 by Alexander Oestert

It would be possible of course.

It would use a small amount of code space (I'm not sure how much actually) and it would use our last bit of RAM. I find it difficult to believe that there isn't a better use for this last lonely bit.

All that said, I'm not going to code it :-)

- Pauli

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #7 Posted by **Alexander Oestert** on 12 Oct 2011, 5:11 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> All that said, I'm not going to code it :-)

You're the king and can leave the input on the 'wrong' side as you wish - you drive on the wrong side of the road as well down under. ;-)

BTW, what I always wanted to ask an Australian: When you describe the course of the sun during the day in a hand gesture - what do you do? While I use my right hand and describe an ascending and descending semi circle from left to right, am I right to assume that you would do the opposite?

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #8 Posted by **Paul Dale** on 12 Oct 2011, 5:43 a.m.,*
in response to message #7 by Alexander Oestert

> Quote:
>
> BTW, what I always wanted to ask an Australian: When you describe the course of the sun during the day in a hand gesture - what do you do? While I use my right hand and describe an ascending and descending semi circle from left to right, am I right to assume that you would do the opposite?

I don't use this gesture myself.

The sun still rises in the East and sets in the West. If I was looking Northish from here, I'd do it in reverse -- right to left. Not sure which hand I'd use for it but that isn't really relevant.

We're not too far from the Tropic of Capricorn, North of which the sun is can be either North or South of you depending on the time of year. How's that for added confusion. For example, when we lived in Townsville some fifteen years ago, both the North and South sides of our house received full direct sunlight at different times of the year.

- Pauli

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #9 Posted by **Alexander Oestert** on 12 Oct 2011, 5:52 a.m.,*
in response to message #8 by Paul Dale

Thanks for this amazing insight. This house you had must have been every realtor's dream! ;) Too bad that every house in town was just the same...

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #10 Posted by **Paul Dale** on 12 Oct 2011, 5:58 a.m.,*
in response to message #9 by Alexander Oestert

Trust me, having sun on all four sides of your house when you in the heart of the tropics isn't a desirable selling point. Being well shadowed and breezy is far more enjoyable.

- Pauli

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #11 Posted by **Michael Kussmaul** on 12 Oct 2011, 9:56 a.m.,*
in response to message #8 by Paul Dale

Funny :-) The first time I was in Australia the moon confused me, because ascending/descending was swapped until I realized I'm upside-down. Here in Switzerland you learn:

a: "Abnehmend" - means descending, so if you draw an "a" the first stroke resembles the shape of a descending moon, like "("

z: "Zunehmend" - means ascending, so if you draw an "z" the first stroke resembles the shape of an ascending moon, like ")"

I learned this by heart, so I had some confusing moments when it didn't work down-under :-)

Re: [WP34s] a) Input position and b) units and c) reminder plate

*Message #12 Posted by **Dieter** on 12 Oct 2011, 6:07 p.m.,*
in response to message #11 by Michael Kussmaul

Ah, yes - I also learned this rule of the moon resembling an handwritten A or Z from my grandfather. But there's another one that works very well especially in Australia. ;-) The Romans, living on the northern hemisphere, used to say *luna mentitur* - the moon lies. Simply because the descending moon looks like a C as in *crescens*, while the ascending moon resembles a D like in *decrescens*. However, while it's just the other way round north of the equator, this is exactly the way it is on the southern hemisphere, so the C/D rule works fine there. ;-)

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Changes on the integration wrapper

*Message #1 Posted by **Miguel Toro** on 11 Oct 2011, 9:12 a.m.*

I made a revision of the routine and, in addition of the display format as a mean to control accuracy and time of execution, there is now an iteration limit as suggested. The value of this limit can be changed easily in the program.

Edited: 11 Oct 2011, 9:12 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some 30b routines, revisited

*Message #1 Posted by **Harry Jacobson** on 11 Oct 2011, 4:13 a.m.*

In Some 30b Routines Jeff O presents 10 routines

> Quote:
>
> In the absence of a complete repurposing of the 30b, I decided to come up with a set of key reassignments and/or programs to make the 30b more easily useable (to me, at least) as a scientific calculator. I decided to implement the following functions in the 10 available program slots:
> SIN-1
> COS-1
> TAN-1
> Complex add
> Complex subtract
> Complex multiply
> Complex divide
> Complex Invert
> Polar to Rectangular Conversion
> Rectangular to Polar Conversion

Within the message thread program modifications were made so that all programs could have program labels and still fit in the 290 byte program memory of the 30b. Thomas Klemm contributed to the final set of programs.

I wondered if the programs could be shrunk further. Further shrinkage would have no practical purpose since there could be no more than 10 programs therefore no way to use the released program memory. Still, the exercise was enjoyable and successful. The shrunken programs revisited consume 272 bytes of 290 bytes of program memory.

I played with the 30b inverse trig functions sin-1, cos-1, and tan-1. I discovered whether or not the 2nd or final Input is pressed, that when followed by an arithmetic (+, -, X, /) or one-number (x^2, 1/x, e^x, etc.) function *the answer is the same.* (My calculator's SW version 4 5 2010 1.) The advantage to not pressing the 2nd or final Input is the name of the inverse trig function (sin-1, cos-1, tan-1) remains displayed. This eliminates the need for the 2nd *message XXX-1* step, a saving of 18 bytes total. Also, I made COS-1 and TAN-1 callable routines and re-numbered labels.

Here are the ten programs, revisited. Programs 3, 4, and 9 are unchanged from the original message thread.

```
Prgm 0
Program Description:    Arc Sine
bytes and checksum: 11.090
Step    function        comments
0       SH7             assign to shift-hold 7
1       message SIN-1   Program label
2       Math            execute SIN-1 function
3       Input           execute SIN-1 function
4       Down            execute SIN-1 function
5       Stop


Prgm 1
```

```
Program Description:    Arc Cosine
bytes and checksum: 14.118
Step    function        comments
0       SH8             assign to shift-hold 8
1       message COS-1   Program label
2       Lbl11           Program label for call from R->P routine
3       Math            execute COS-1 function
4       Input           execute COS-1 function
5       Up              execute COS-1 function
6       Up              execute COS-1 function
7       RTN             Return for call


Prgm 2
Program Description:    Arc Tangent
bytes and checksum: 13.189
Step    function        comments
0       SH9             assign to shift-hold 9
1       message TAN-1   Program label
2       Lbl21           Program label for call from R->P routine
3       Math            execute TAN-1 function
4       Input           execute TAN-1 function
5       Up              execute TAN-1 function
6       RTN             Return for call


Prgm 3
Program Description:    Add two rectangular form complex numbers
bytes and checksum: 24.218
Step    function        comments
0       SH+             assign to shift-hold +
1       message CPLX+   Program label
2       ) Swap
3       ( Rv            Roll down
4       +
5       ( Rv            Roll down
6       +
7       ( Rv            Roll down
8       ( Rv            Roll down
9       ( Rv            Roll down
10      message CPLX+   display CPLX+ upon completion
11      Stop


Prgm 4
Program Description:    Subtract two rectangular form complex numbers
bytes and checksum: 25.053
Step    function        comments
0       SH-             assign to shift-hold -
1       message CPLX-   Program label
2       ) Swap
3       ( Rv            Roll down
4       -
5       ( Rv            Roll down
6       ) Swap
7       -
8       ( Rv            Roll down
9       ( Rv            Roll down
10      ( Rv            Roll down
11      message CPLX-   display CPLX- upon completion
12      Stop


Prgm 5
Program Description:    Multiply two rectangular form complex numbers
bytes and checksum: 41.251
Step    function        comments
0       SH*             assign to shift-hold x
1       message CPLX*   Program label
2       Lbl 51          Program label for call from divide routine
3       STO 1
4       ( Rv            Roll down
5       STO 2
6       ) Swap
7       STO * 1
8       *
9       ( Rv            Roll down
10      STO * 2
11      ) Swap
12      ( Rv            Roll down
```

```
13      *
14      +
15      RCL 1
16      RCL - 2
17      message CPLX*   display CPLX* upon completion
18      RTN             Return for Call


Prgm 6
Program Description:    Divide two rectangular form complex numbers
bytes and checksum: 20.194
Step    function        comments
0       SH/             assign to shift-hold /
1       message CPLX/   Program label
2       Call71          execute complex invert routine
3       Call51          execute complex multiply routine
4       message CPLX/   display CPLX/ upon completion
5       Stop


Prgm 7
Program Description:    Invert a rectangular form complex number
bytes and checksum: 47.204
Step    function        comments
0       NPV             assign to the NPV key
1       message CPLX x-1 Program label
2       Lbl 71          Program label for call from divide routine
3       STO 1
4       ( Rv            Roll down
5       ( Rv            Roll down
6       ( Rv            Roll down
7       STO 2           Store value that was at top of stack
8       ( Rv            Roll down
9       STO * 1
10      ) Swap
11      +/-
12      Input
13      x^2
14      RCL + 1
15      /
16      ) Swap
17      Ans
18      /
19      RCL 2
20      ( Rv            Roll down
21      message CPLX x-1 display CPLX x-1 upon completion
22      RTN             Return for Call


Prgm 8
Program Description:    Rectangular to Polar Conversion
Bytes and checksum: 52.195
Step    function        comments
0       IRR             assign to the IRR key
1       message R->P    Program label
2       STO 1           store real component
3       x^2             square real component
4       ) Swap          swap squared real component and imaginary component
5       STO 2           store imaginary component
6       x^2             square imaginary component
7       +               add squared imaginary component
8       square root     take square root to calculate magnitude
9       STO 3           store magnitude
10      Input           duplicate magnitude to stack y since GF consumes stack x value
11      GF 82           branch to end if magnitude = 0
12      RCL + 1         add real component: r + x
13      Input           duplicate r + x to stack y since GF consumes stack x value
14      GF 81           branch if magnitude + real component = 0
15      RCL 2           imaginary component: y
16      ) Swap          swap y and r + x
17      /               divide to calculate tangent of half-angle: y / (r + x)
18      Call21          execute TAN-1 function
19      Input           input TAN-1 function
20      Gto 82          branch to end
21      Lbl 81          Routine to handle magnitude + real component = 0 part
22      Call11          execute COS-1 function to obtain 180 (or Pi)
23      Input           input COS-1 function
24      Lbl 82          Label for branch in steps 11 and 20
25      2               enter two
26      *               multiply half-angle by 2 to get angle
```

```
27      RCL 3           recall magnitude
28      message R->P    display R->P upon completion
29      Stop


Prgm 9
Program Description:    Polar to Rectangular Conversion
bytes and checksum: 25.058
Step    function        comments
0       CashFl          assign to the CashFl key
1       message P->R    Program label
2       STO 1           store magnitude
3       ( Rv            Roll down to preserve stack
4       Cos             take cosine of angle
5       Ans             recall the angle
6       Sin             take sine of angle
7       RCL * 1         calculate imaginary component
8       ) Swap
9       RCL * 1         calculate real component
10      message P->R    display P->R upon completion
11      Stop
```

Edited: 11 Oct 2011, 4:29 a.m.

Re: Some 30b routines, revisited

*Message #2 Posted by **Jeff O.** on 11 Oct 2011, 12:12 p.m.,*
in response to message #1 by Harry Jacobson

Hello Harry,
I did not exect to see that post brought up again :-) The main interest in the 30b nowadays is as a platform for wp34s.

As far as leaving out the INPUT, that does seem to work if your next action is some function. But if you want to key in a new value to operate on the result, you must remember to press INPUT first.

Re: Some 30b routines, revisited

*Message #3 Posted by **Harry Jacobson** on 11 Oct 2011, 5:41 p.m.,*
in response to message #2 by Jeff O.

Et tu Jeff?

Did you convert your 30b to a wp34s?

I do use the 30b TVM functions.

About INPUT, you'll notice I left them in program 8 after the call statements. No sweat when using the calculator having to INPUT for some calculations. Easy to remember.

It's curious there's no need to INPUT when followed by Roll Down, Swap, and +/-! The only operations I do which need INPUT are STO and the occasional entry of a new value which (to me) make them the exceptions.

Re: Some 30b routines, revisited

*Message #4 Posted by **Miguel Toro** on 11 Oct 2011, 6:42 p.m.,*
in response to message #3 by Harry Jacobson

Hi Harry, These are nice programs. May I suggest to create an article, so they are not lost in the constant flow of posts in the forum?

Regards,

Miguel

Re: Some 30b routines, revisited

*Message #5 Posted by **Jeff O.** on 11 Oct 2011, 8:20 p.m.,*
in response to message #3 by Harry Jacobson

Sorry, no betrayal was intended.

I have two 30b calculators - one is converted to wp34s, the other is to be converted, but as yet remains a 30b.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15c new and old - pictures

*Message #1 Posted by **Jose Gonzalez Divasson** on 10 Oct 2011, 6:33 p.m.*

Now that I have received my first 15c (waiting for the 1st European batch, due early December), I thought some that have not yet bought it might like to compare it with the original with some pictures:

HP15c new and old - some pictures (post 1 of several)

In future days we'll run deeper comparisons. Let me say for a start that it is a fantastic product and that compares very well with the old one. All keys register properly and long, complex programs run instantaneously (My IRR program with 10 years' flow runs in less than a second, compared with 1m30' for the old one)

Re: HP15c new and old - pictures

*Message #2 Posted by **Alex Mark (Greece)** on 11 Oct 2011, 5:32 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Any bugs like in the US models?

Re: HP15c new and old - pictures

*Message #3 Posted by **Dan W** on 11 Oct 2011, 10:27 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

One of the first things I noticed was the LCD display. The new version has this slightly unpleasant greenish tint, where the original was grey. This shows up well on one of the last photos.

Re: HP15c new and old - pictures

*Message #4 Posted by **Roger Blake** on 11 Oct 2011, 10:39 a.m.,*
in response to message #3 by Dan W

Also the segments are spaced slightly wider within the characters on the LE, and more worryingly - although I seem to have been the only one to notice this - the new displays easily asquire fine scratches. - 35S is similar. If you hold them up to the light at a low angle you may see them. The old voyagers didn't suffer this.

Re: HP15c new and old - pictures

*Message #5 Posted by **Derek** on 11 Oct 2011, 11:43 a.m.,*
in response to message #3 by Dan W

i've been meaning to write up a review on the LE, but you are absolutely right. i noticed this right away and for whatever reason, although i thought i would get used to it, i still notice it and continue to be mildly annoyed by the difference. (don't know if that means if i don't adapt well to new things or if there is something inherently less pleasant with this yellow/green tint)

Re: HP15c new and old - pictures

*Message #6 Posted by **uhmgawa** on 11 Oct 2011, 3:19 p.m.,*
in response to message #5 by Derek

> Quote:
>
> i've been meaning to write up a review on the LE, but you are absolutely right. i noticed this right away and for whatever reason, although i thought i would get used to it, i still notice it and continue to be mildly annoyed by the difference. (don't know if that means if i don't adapt well to new things or if there is something inherently less pleasant with this yellow/green tint)

It isn't just the effective color difference (although that indeed exists) but the lesser segment contrast particularly when the display is viewed increasingly away from perpendicular. The 12c+ is identical in this respect IIRC.

Re: HP15c new and old - pictures

*Message #7 Posted by **Jose Gonzalez Divasson** on 11 Oct 2011, 4:55 p.m.,*
in response to message #6 by uhmgawa

At any rate, screen contrast in either model is miles ahead of any other calculator in the Pioneer line.

And I can live happily with the greenish tint, since I have an ultra-fast calculator, and my beloved original 15c can rest safe in a box...

Re: HP15c new and old - pictures

*Message #8 Posted by **uhmgawa** on 13 Oct 2011, 5:12 p.m.,*
in response to message #7 by Jose Gonzalez Divasson

> Quote:
>
> At any rate, screen contrast in either model is miles ahead of any other calculator in the Pioneer line.

It is indeed, but then again Pioneer displays are a different lcd technology and even for a graphic matrix have notoriously poor contrast. The s/n 28xx <= voyagers also have reduced contrast relative to the original design due to an increased multiplexing scheme for the sake of minimizing pin count. Just shows what happens when your handiwork falls victim to the cost reduction engineering team.

So the ultimate Voyager retrofit for the uber geek is an original unit which tosses the pcb, r2d2(s), NUT cpu, and brings in a new pcb with an ARM core of your choice, new segment lcd controller, and some provision for i/o; preserving the original tactile domes, low multiplex lcd glass, case and D/S keycaps, yielding the best of both worlds. I'd half seriously considered doing so but at the time dumped it on the back burner to join the other time starved ideas.

I do have what amounts to a NUT/Voyager in-circuit emulator work in progress which coincidentally needs the discardable Voyager (ideally 15c model) portions called out above. So it appears I could justify the effort with minimal guilt and shame of bandsawing up a legacy 15c just for fluff.

Re: HP15c new and old - pictures

*Message #9 Posted by **Derek** on 11 Oct 2011, 6:40 p.m.,*
in response to message #6 by uhmgawa

ah man, i just pulled both out and there it is. you're right. i think i hadn't tried to think about what was different beyond the tint, but the off axis viewing is not as good on the LE...oh well, it's still pretty good.

solved another polynomial today...much faster than the old 15C: so the LE does have something going for it! :)

Re: HP15c new and old - pictures

*Message #10 Posted by **Derek** on 11 Oct 2011, 11:44 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

wow. your original 15C looks to be in GREAT shape. has it seen lots of use? my 27 year old 15C looks battered in comparison, but is going strong!

Re: HP15c new and old - pictures

*Message #11 Posted by **Dusan Zivkovic** on 11 Oct 2011, 1:51 p.m.,*
in response to message #10 by Derek

Now this is all starting to seem to me like a great market opportunity. It would work similar to the already big market for new "relic" guitars, where new instruments are artificially distressed in custom shops and sold at a higher price than functionally identical nice glossy ones. It all started when Fender brought Keith Richards a "reissue" guitar in mid-90s and he said, "It looks too new." They took a small hammer, and soon Keith was happy. Anybody willing to join me with a small hammer and a bunch of new 15C LEs? The critics will easily spot stuff like "wrong shape of the dent on the worn R/S key" but from the other side of the office, ordinary spectators will think it is a real 1982 Voyager. ;)

Re: HP15c new and old - pictures

*Message #12 Posted by **Vladan Dugaric** on 11 Oct 2011, 2:18 p.m.,*
in response to message #11 by Dusan Zivkovic

Just keep that hammer away from my 15C LE :)

Vladan

Re: HP15c new and old - pictures

*Message #13 Posted by **Martin Pinckney** on 11 Oct 2011, 2:48 p.m.,*
in response to message #11 by Dusan Zivkovic

> Quote:
>
> ... big market for new "relic" guitars, where new instruments are artificially distressed in custom shops and sold at a higher price than functionally identical nice glossy ones.

Heck, they sell brand new worn-out blue jeans for more than the good ones. I could save a lot of money by going to the thrift store.

If I wore blue jeans.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Warning if you have a calculator shipped outside the US. No warranty.

*Message #1 Posted by **Jim Creybohm** on 10 Oct 2011, 6:20 p.m.*

So, after getting an HP 15 shipped from Samson Cables to Canada, one of the two I ordered has a faulty Enter key. It clicks, but does not always register. It is serious enough that the person I gave it to is actually giving it back to me in frustration. This was a gift to a customer, so you can imagine my chagrin.

Samson has said that they can't do anything. They can't get any more calculators, and that I need to go to HP direct.

So, I contact HP 1-800-DO-LITTLE customer support line, only to be told that there is NO warranty for a product out side the US that was sold only IN the US. Really? I have a US mailing address, what does it matter where the darn thing was bought or shipped to?

Can anyone help me out here? What am I supposed to do? I am really disappointed with HP's patent pending support.

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #2 Posted by **Lincoln R.** on 10 Oct 2011, 7:44 p.m.,*
in response to message #1 by Jim Creybohm

Yeah, that sounds like an interesting bit of lawyering. Perhaps you could use your US address to file the warranty claim? A bit of a nuisance, but better than being stuck with a dead calc. Also, I'm not sure if HP is shipping replacements either, you might be better off taking your $ back if Samson will refund and waiting for more to be made.

I know none of these are great options, but they may be all you have.

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #3 Posted by **Nicholas Winterer** on 10 Oct 2011, 8:11 p.m.,*
in response to message #1 by Jim Creybohm

I would be happy to claim your warranty for you, if you can't just call HP again without mentioning your location.

That policy is absurd.

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #4 Posted by **Eric Rechlin** on 10 Oct 2011, 10:59 p.m.,*
in response to message #1 by Jim Creybohm

Hopefully someone from HP will chime in with an official response, but I was told by HP a couple years ago that the warranty is valid worldwide, and I know that others in Europe have had no problems getting their warranty handled even if they purchased the calculator in the US. This was not the case in the past, however.

Maybe you just got the wrong person? Maybe try calling back again and you'll get a better answer?

Eric

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #5 Posted by **Raymond Del Tondo** on 10 Oct 2011, 11:39 p.m.,*
in response to message #4 by Eric Rechlin

Sounds like a lottery;-)

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #6 Posted by **Walter B** on 11 Oct 2011, 1:09 a.m.,*
in response to message #5 by Raymond Del Tondo

That lottery's called "case law" ;-)

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #7 Posted by **Paulo MO** on 11 Oct 2011, 3:02 a.m.,*
in response to message #1 by Jim Creybohm

I recently received a 12c+ shipped from the US to Europe. It had bad keys (the Enter key among them). I had no problems whatsoever with the warranty claim. That was three/four days ago, and I'm now waiting for a replacement (with my fingers crossed, just in case).

It is true that the 12c+ is being sold in Europe, and the 15C LE is not being sold in Canada (or anywhere else, for that matter :-)). But I'm not sure if that is an issue at all. So, my advice is: try again; you may indeed get an assistant with a different "opinion".

Best of luck Paulo

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #8 Posted by **Jim Creybohm** on 11 Oct 2011, 7:53 a.m.,*
in response to message #1 by Jim Creybohm

Thanks all.

Nicholas, I may yet take you up on your generous offer, however I am hopeful that a mechanism can be found that will eliminate this frustration for folks in Europe as well as us in Canada.

Next step: I guess I am going to have to call again. If I get the same answer then HP has definitely lost me as a customer.

I will keep everyone apprised on how this goes.

Re: Warning if you have a calculator shipped outside the US. No warranty.

*Message #9 Posted by **Eddie W. Shore** on 11 Oct 2011, 8:46 a.m.,*
in response to message #8 by Jim Creybohm

Best of luck, Jim. Hopefully HP will do the right thing and replace the calculators pronto.

Warning if you have a calculator shipped outside the US. No warranty.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repair HP41CV. Help needed.

*Message #1 Posted by **Kees van der Sanden** on 10 Oct 2011, 2:22 p.m.*

The LCD of HP41CV will not turn on.

I measured the following behavior: When applying a battery voltage of 6 Volt, the calculator sinks 340 uA. (This current seems much too high for the sleepmode). When the ON key is pressed, the supply current goes to 1.4 mA. When the ON key is pressed, the battery current is 2.2 mA. The calculator cannot be turned back to the sleepmode by pressing the ON key. By reconnecting the battery, the sleepmode is back. The internal supply voltage is in sleepmode about the battery voltage and in active mode 6.4 Volt, regardless of the battery voltage (between 4V and 6V).

The model is a halfnut version, serial 2721Sxxxxx. Is this a known problem? Where to find service documentation for this model?

Re: Repair HP41CV. Help needed.

*Message #2 Posted by **Rik Bos** on 10 Oct 2011, 4:16 p.m.,*
in response to message #1 by Kees van der Sanden

Hi Kees,

Did you check the board connection (small gold wires or conducting rubberstrips) and did you checked the board for whiskers (small conducting parts). If you're shure it's a hard ware problem start with replacing the tantalium caps, the costs are low and the change of succes is high. If you have the diagrams from the service manual you can check the power supply with a scoop.

-Rik

Re: Repair HP41CV. Help needed.

*Message #3 Posted by **uhmgawa** on 10 Oct 2011, 4:26 p.m.,*
in response to message #1 by Kees van der Sanden

> Quote:
>
> The LCD of HP41CV will not turn on.
>
> I measured the following behavior: When applying a battery voltage of 6 Volt, the calculator sinks 340 uA. (This current seems much too high for the sleepmode). When the ON key is pressed, the supply current goes to 1.4 mA. When the ON key is pressed, the battery current is 2.2 mA. The calculator cannot be turned back to the sleepmode by pressing the ON key. By reconnecting the battery, the sleepmode is back. The internal supply voltage is in sleepmode about the battery voltage and in active mode 6.4 Volt, regardless of the battery voltage (between 4V and 6V).

Can you get a scope on the LC oscillator tank when trying any/all of the above? Check frequency, stability,

and oscillator startup time.

> Quote:
>
> Where to find service documentation for this model?

I've found it in various forums. However the only response to your question which apparently won't get this post censored is to recommend you buy the museum DVD.

Re: Repair HP41CV. Help needed.

*Message #4 Posted by **Kees van der Sanden** on 11 Oct 2011, 4:03 p.m.,*
in response to message #3 by uhmgawa

Thanks for you reply.

I probed with a scope on a lot of tracks. Except for DC levels I traced one repeating clock pattern close to the display pins. The clock pattern starts with 8 pulses at a frequency of about 500 Khz. Next this burst remains at a high level (about 6 Volt) for about 10 us. Finally the signal changes in a damped sine. This patterns repeats itself continuously.

I think I need the service documentation to continu.

Re: Repair HP41CV. Help needed.

*Message #5 Posted by **Ronald P** on 11 Oct 2011, 7:44 a.m.,*
in response to message #1 by Kees van der Sanden

You have a PM

Ronald

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Eric's overlays

*Message #1 Posted by **Han** on 10 Oct 2011, 2:21 p.m.*

I was wondering if it was still possible to request custom overlays of older models. I'm particularly fond of the HP48, and would like to have some nice overlays for things like JAZZ's editor, the ML debugger, etc.

If you are still considering requests, Eric, I'd like to know what the current costs would be.

Re: Eric's overlays

*Message #2 Posted by **Eric Rechlin** on 10 Oct 2011, 2:59 p.m.,*
in response to message #1 by Han

Wouldn't it be better to email me directly?

Anyway, yes, I can make overlays for the 48, but I haven't had much luck in finding good material to do it with. If you don't mind cardstock, I can do it on that. Ideally I'd want something either both more durable (like adhesive vinyl stuck to cardstock) or more stuff (like Mylar), but my current cutter is not powerful enough to cut those options.

I did make some sample SurveyPro overlays for someone who requested them, but I never heard back on how well they worked long-term.

Eric

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

when is a red dot a dot, and when not? and if not, then what?

*Message #1 Posted by **robert rozee** on 10 Oct 2011, 11:30 a.m.*

the discussion of "red dot" HP35's recurs again and again, with a great deal of speculation and hand waving around the authenticity of said dot. it seems that anyone can take ANY HP35 and drill a hole in the front of it to turn it into the elusive "red dot" variant. so i pose these questions:

1. what, if any, difference is there between a front casing that has been moulded with a 'red dot' hole in it, and one that has had the hole drilled later?

2. what, if any, difference is there (beyond a dot of paint) between the power switch in a "red dot" HP35 and the power switch in a later (non-dot) 35? were 'red dot' switches ever fitted (with dot not visible) to later 35's?

3. did HP ever drill "red dot" holes when carrying out repairs that required replacing a damaged front casing on an early 35?

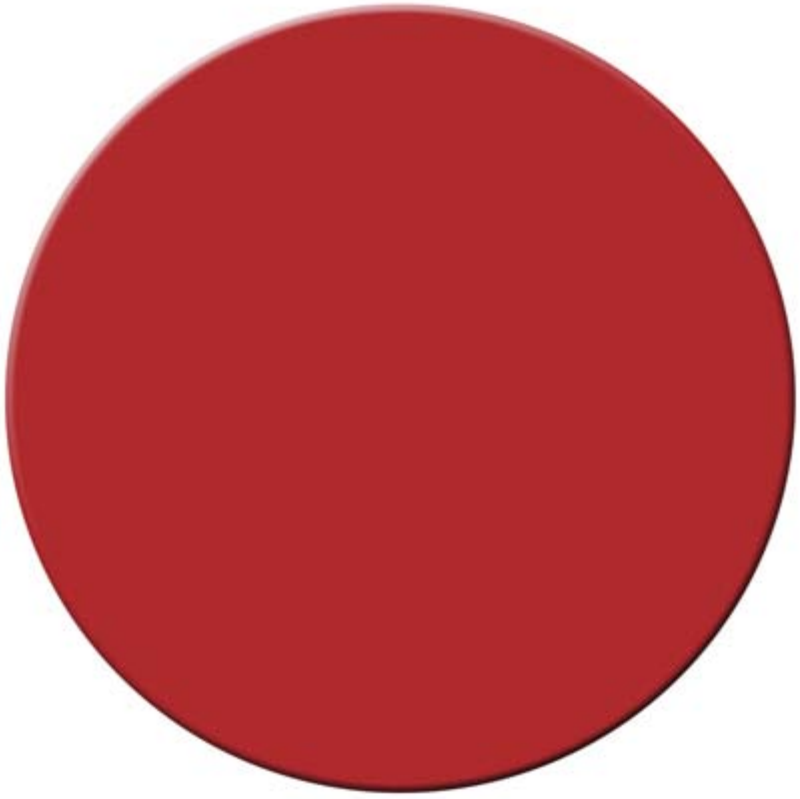
given the large number of 35's that were reworked, outside labelling doesn't appear to be any reliable indicator of a given 35's true heritage. and if a "red dot" is so easy to 'fake', is it even a worthwhile point to base a premium price/value upon? surely the presence of the ln(2.02) bug burnt into the ROMs is a better point of distinction?

comments?

Re: when is a red dot a dot, and when not? and if not, then what?

*Message #2 Posted by **Michael de Estrada** on 10 Oct 2011, 12:13 p.m.,*
in response to message #1 by robert rozee

This is a red dot:



Re: when is a red dot a dot, and when not? and if not, then what?

*Message #3 Posted by **bill platt** on 10 Oct 2011, 1:07 p.m.,*
in response to message #2 by Michael de Estrada

Looks orange to me :-0

Re: when is a red dot a dot, and when not? and if not, then what?

*Message #4 Posted by **Thomas Radtke** on 10 Oct 2011, 1:23 p.m.,*
in response to message #3 by bill platt

To me, it looks more like a waste of bandwidth. You know, I'm on the EDGE here (<- great joke!).

:-/

Re: when is a red dot a dot, and when not? and if not, then what?

*Message #5 Posted by **Gerson W. Barbosa** on 10 Oct 2011, 6:05 p.m.,*
in response to message #2 by Michael de Estrada

In my computer screen these are actually about 120,176 red dots (I knew the HHC 2011 programming challenge would prove useful one day :-)

Re: when is a red dot a dot, and when not? and if not, then what?

*Message #6 Posted by **Walter B** on 11 Oct 2011, 1:14 a.m.,*
in response to message #5 by Gerson W. Barbosa

That's an undisputed advantage of SW over HW: when you've solved a problem, it's solved for all time.

Fortunately, it's not that easy.

*Message #7 Posted by **Frank Boehm (Germany)** on 11 Oct 2011, 6:28 a.m.,*
in response to message #1 by robert rozee

But please understand that I won't spill out all the secrets, as it might help fraudsters.
But: Drilling a hole will *never* turn it into a red dot. There are several details that can not be falsified.
I agree that a blurry picture might help in ripping off a buyer, but as soon as you are able to inspect the item or have good enough pictures, there is no chance to fool an expert (and there are a couple of them on this forum, they won't spill out the secrets as well...).

To answer at least one question: I don't think HP ever drilled a hole into a HP35 case :)
On a sidenote: the red dot is really pointless - the battery might be dead, but it will still show the red dot...

Re: Fortunately, it's not that easy.

*Message #8 Posted by **robert rozee** on 11 Oct 2011, 8:39 a.m.,*
in response to message #7 by Frank Boehm (Germany)

> Quote:
>
> But please understand that I won't spill out all the secrets, as it might help fraudsters.
> But: Drilling a hole will *never* turn it into a red dot. There are several details that can not be falsified.

what are those other details?! remember, labels and rubber feet (that can have been legitimately replaced) don't count.

what other structural difference is there that can be observed or measured? for instance, is the front casing different internally in some way?

Re: Fortunately, it's not that easy.

*Message #9 Posted by **Martin Pinckney** on 11 Oct 2011, 10:53 a.m.,*
in response to message #8 by robert rozee

> Quote:
>
> what are those other details?! remember, labels and rubber feet (that can have been legitimately replaced) don't count.
>
> what other structural difference is there that can be observed or measured? for instance, is the front casing different internally in some way?

I am not a HP 35 expert, but my guess is, the answers to your questions fall under:

> Quote:
>
> I won't spill out all the secrets, as it might help fraudsters.

Re: Fortunately, it's not that easy.

*Message #10 Posted by **David Ramsey** on 11 Oct 2011, 11:15 a.m.,*
in response to message #7 by Frank Boehm (Germany)

> Quote:
>
> But please understand that I won't spill out all the secrets, as it might help fraudsters.

C'mon, that's silly.

If we can't discuss the details of things like this here, where can we discuss them?

Is preventing fraudsters from manufacturing fake Red Dots any more important than withholding details that might allow a buyer not to be tricked?

Since some of the details "cannot be falsified", I don't see what the problem is anyway.

Re: Fortunately, it's not that easy.

*Message #11 Posted by **Martin Pinckney** on 11 Oct 2011, 1:33 p.m.,*
in response to message #10 by David Ramsey

> Quote:
>
> Is preventing fraudsters from manufacturing fake Red Dots any more important than withholding details that might allow a buyer not to be tricked?
>
> Since some of the details "cannot be falsified", I don't see what the problem is anyway.

Good questions.

Answers, anyone?

Re: Fortunately, it's not that easy.

*Message #12 Posted by **Juergen Keller** on 12 Oct 2011, 6:14 a.m.,*
in response to message #7 by Frank Boehm (Germany)

> Quote:
>
> There are several details that can not be falsified.

So what's the point of not discussing it here??? Is there a 'I know the Red Dot secrets' club that you have to join first?

Re: Fortunately, it's not that easy.

*Message #13 Posted by **Michael Eckstein** on 12 Oct 2011, 8:24 a.m.,*
in response to message #12 by Juergen Keller

AFAIK there in no secret database of unfalsifiable Red Dot details. It's rather a private investigation of the RD owners, some specific feature could be known by just one person. But there are many well known details from which could be determined, whether HP 35 is really the Red Dot. From what you see in the auction on TAS follows that the calculator is very probably a true Red Dot, but it was definitely modified either in the HP service or elsewhere since it lacks several ot those well known features.

Is this a Red Dot ?

*Message #14 Posted by **Michael de Estrada** on 12 Oct 2011, 9:22 a.m.,*
in response to message #13 by Michael Eckstein

Where is the Red Dot ?

Re: Is this a Red Dot ?

*Message #15 Posted by **Michael Eckstein** on 12 Oct 2011, 9:48 a.m.,*
in response to message #14 by Michael de Estrada

Apparently it's missing :-) and it could be for several possible reasons. But that does not mean that it had to be a fake.

Posted: A response from the seller of the red dot HP 35

*Message #16 Posted by **gene wright** on 13 Oct 2011, 1:49 p.m.,*
in response to message #14 by Michael de Estrada

The seller of this item asked me to post this for everyone. The red dot is not mine nor am I bidding on it. It appears if you have any questions he will be happy to answer them.

==========

I have the HP-35 Red Dot up for auction on TAS. We recently purchased Guy Ball's collection and this was one of the items. I personally have been dealing with these type items for years and work diligently to provide high quality, authentic items at all times. Anyone that has purchased from us knows we stand behind our products and offer a 14 day money back guarantee for any reason.

This particular calculator may have been sent back for repair of the 2.02 bug and had some label changes by the factory. It does have the correct serial label and the serial number is close to the one on Michael's site that also is missing the red color. If you have any questions please email me at sctt.reynolds@gmail.com

Regards, Scott Reynolds Vintage Calculators Inc Owner

Re: Is this a Red Dot ?

*Message #17 Posted by **Randy** on 13 Oct 2011, 3:37 p.m.,*
in response to message #14 by Michael de Estrada

> Quote:
>
> Where is the Red Dot ?

Hidden, on the other side of the slide switch. Classic rookie re-assembly error.

WP-34s red dot?

*Message #18 Posted by **Dominic Richens** on 11 Oct 2011, 6:33 a.m.,*
in response to message #1 by robert rozee

Eric should do a run of WP-34s overlays with a red dot somewhere so our children and grand-children can make a fortune on eBay :-)

Re: WP-34s red dot?

*Message #19 Posted by **Walter B** on 11 Oct 2011, 6:21 p.m.,*
in response to message #18 by Dominic Richens

I vote for placing a red dot over EEX a.k.a. L so Egan knows where to find his LASTx :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-19C with a strange S/N

*Message #1 Posted by **Ernst Fueloep** on 10 Oct 2011, 11:17 a.m.*

Hi,

I have a HP-19C which has a very strange serial number:

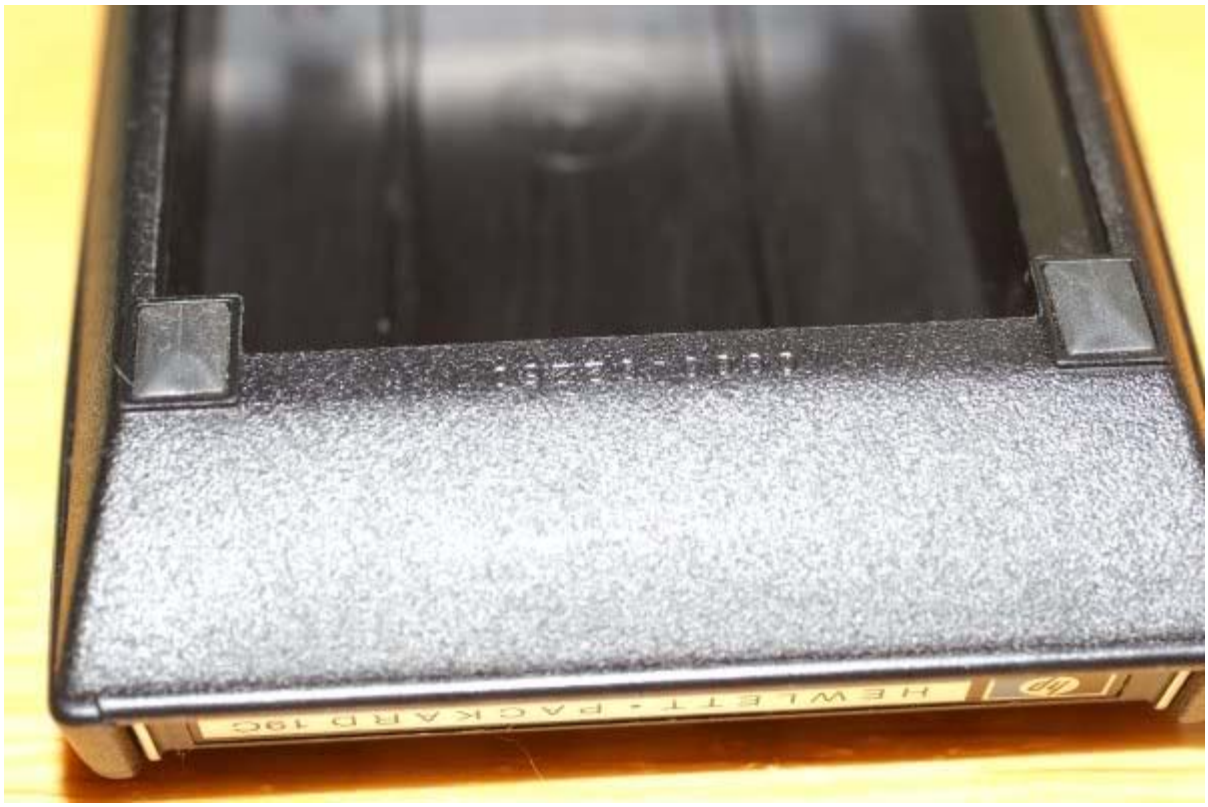
0000A02260

Has anybody seen this? What is the meaning of it?

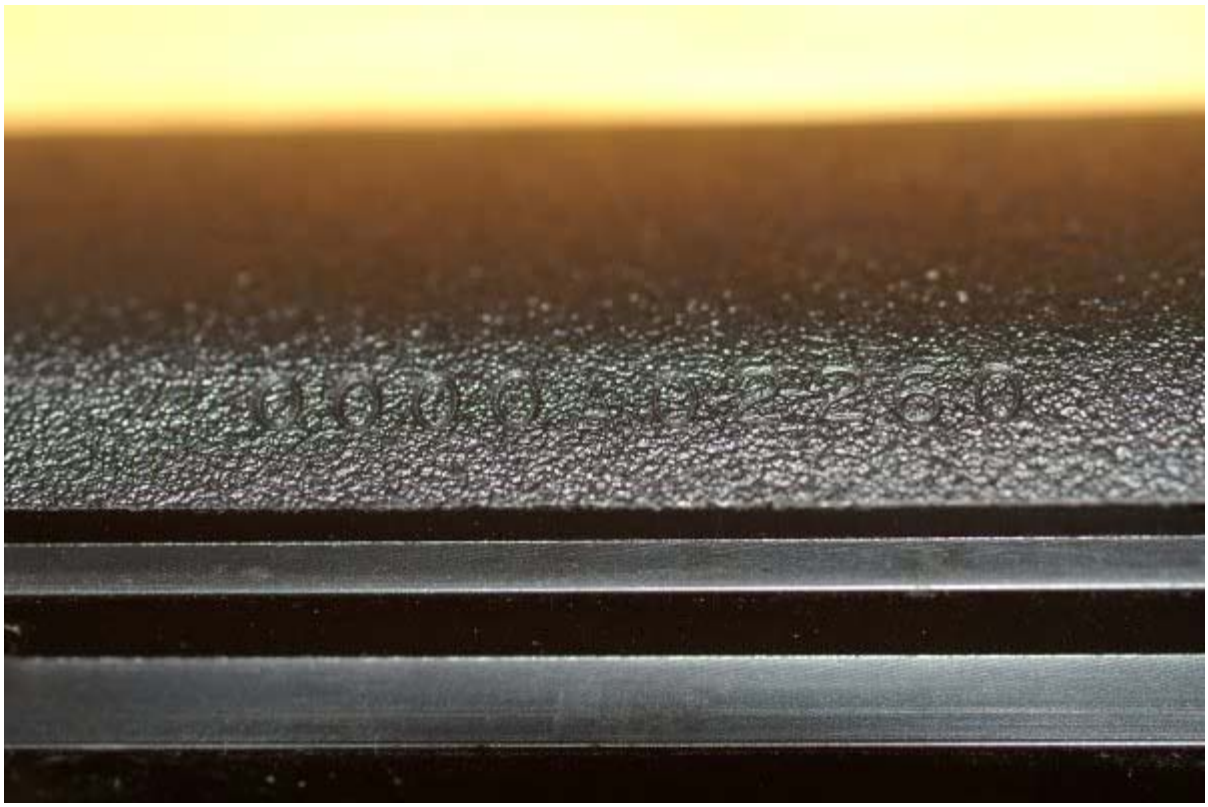
See pictures.

FIX
SCI
ENG
GSB
GTO
SST
PREFIX
PRGM
REG
ENTER
CHS
EEX
CLX
PRT PRGM
GRD
RAD
DEG
DEL
PRT Σ
STO
DSZ
INT
PRT REG
LAST x
PAUSE
PRT STK
Continuous Memory
HEWLETT-PACKARD 19C

The battery contacts are broken. I never saw this before on any HP-19C. Because of this I am currently unable to verify if this unit works or not.



Here is the serial number close up and rotated 180 degrees for easy reading. I have never seen such a serial number.



What is it? Is this some kind of prototype?

Re: HP-19C with a strange S/N

*Message #2 Posted by **Juergen Keller** on 10 Oct 2011, 2:13 p.m.,*
in response to message #1 by Ernst Fueloep

My guess is that it is a prototype. The 4 zeros are also mentioned in another thread about 71B's:

HP-71B Early Date Code

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35 red dot - real or fake?

*Message #1 Posted by **Keith Midson** on 10 Oct 2011, 5:52 a.m.*

There is a listing on TAS right now (item 110755350953) that claims to be a red dot 35. I always thought that a red dot had the label "Hewlett Packard", not "Hewlett Packard 35" - the "35" edition came later. Can anyone confirm this? Is this a fake, or a red dot with a new label?

Looks real.

*Message #2 Posted by **Frank Boehm (Germany)** on 10 Oct 2011, 6:28 a.m.,*
in response to message #1 by Keith Midson

However it has been serviced (front sticker and back sticker have been replaced), so it's not in original state and therefor lacks "The Bug".
Still a real red dot.

Re: HP-35 red dot - real or fake?

*Message #3 Posted by **Gerson W. Barbosa** on 10 Oct 2011, 9:12 a.m.,*
in response to message #1 by Keith Midson

Mine is real ;-)

Re: HP-35 red dot - real or fake?

*Message #4 Posted by **Thomas Chrapkiewicz** on 10 Oct 2011, 10:57 a.m.,*
in response to message #3 by Gerson W. Barbosa

:)

Re: HP-35 red dot - real or fake?

*Message #5 Posted by **Sondre K. Selnes** on 10 Oct 2011, 9:39 a.m.,*
in response to message #1 by Keith Midson

In addition to the wrong label, it looks somewhat unreal to me, due the distance from the power button to the "red dot". The outlets inside the calculator are like new, indicating that this has been opened. The low starting price tag from 0.99 US$! .. I think its a fake.

something like this?

*Message #6 Posted by **Frank Boehm (Germany)** on 10 Oct 2011, 11:31 a.m.,*
in response to message #5 by Sondre K. Selnes

The position of the hole is correct.
Due to the construction of the battery pack and gold plating, corrosion on the contacts rarely ever happened. I think I've only seen one of the classics with noteworthy corrosion.

Nevertheless, the calculator has been opened before, very likely during HP service.
The seller obviously knows "something" about HP calcs, so starting at 0.99 is no real risk, but increases the possibility of a bidding war.

Edited: 10 Oct 2011, 11:32 a.m.

The "service" of HP

*Message #7 Posted by **Sondre K. Selnes** on 10 Oct 2011, 6:16 p.m.,*
in response to message #6 by Frank Boehm (Germany)

I rader have a none-working and in bad shape red dot in ordinary state, than one coming from HP service, when I see this - B A D - work.

An old calculator shall by my opinion look old, it even do not have to work.

(By the years, I have to admit there is one calculator that stands out from the crowd. I have used both HP-, TI-, Sinclair- and CASIO. Both HP-15C and TI-34 are excellent calculators, but the CASIO FX-82 (LCD) from 1983 stand out! The AA sized batteries still works and there are no corrosion, no keyboard errors, no display errors... no errors even in the year 2011.

I am a big fan of HP calculators, but have to admit that CASIO is the winner.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S matrix operations

*Message #1 Posted by **Paul Dale** on 10 Oct 2011, 5:16 a.m.*

I've added a number of matrix routines to the library/matrix.wp34s file. This along with Marcus's matrix editor is about half a flash region. We'd like to provide a full region of matrix functions if possible.

My question is then "What extra functions should go in?"

Suggestions are welcome, suggestions with code are better :-) These aren't going to be held to the same standard as the internal user code commands -- wreck the stack, use the lettered registers and flags and generally have fun.

I am aware of these functions but thought I'd see what people wanted before diving in and doing the ones I find interesting (and probably completely useless).

The existing functions in user code are:

- **M.1** - Create an identity matrix from a descriptor in X. No stack damage, L changed.
- **M.0** - Create an zero matrix from a descriptor in X. No stack damage, L changed.
- **ATR** - Return the sum of the absolute values of the matrix diagonal.
- **TR** - Return the trace of the matrix.
- **M-** - Matrix subtraction.
- **M+** - Matrix addition.
- **M.y** - Multiply matrix by scalar.
- **FNM** - Frobenius norm.
- **RNM** - Row norm.
- **CNM** - Column norm.
- **MFD** - Find element in matrix.
- **M^** - Find the maximum element in matrix.
- **Mv** - Find the minimum element in a matrix.

Yes, these need better documentation.

These are implemented internally and documented reasonably in doc/matrix.txt:

- **M.TRN** - Matrix transpose in-situ.
- **M.times** - Matrix multiply.
- **M.+times** - Matrix addition & scalar multiplication.
- **M.R<->** - Matrix row swap.
- **M.Rtimes** - Multiply row by scalar.
- **M.R+times** - Multiply a row by a scalar and add to another row.
- **M.IJ** - Convert a register index to row/column indices.
- **M.REG** - Convert row/column indices to a register index.
- **M.ALL** - Return a loop index to iterate over the entire matrix.
- **M.DIAG** - Return a loop index to iterate over the diagonal of the matrix.
- **M.ROW** - Return a loop index to iterate over a row of the matrix.
- **M.COL** - Return a loop index to iterate over a column of the matrix.

M.ROW? - Extract the row count from a matrix descriptor.
- **M.COL?** - Extract the column count from a matrix descriptor.
- **M.SQR?** - Check if a matrix descriptor is for a square matrix & execute the next step if not.
- **M.COPY** - Copy a matrix to another location.
- **M.DET** - Calculate the determinant of a matrix.
- **M.LIN** - Solve a system of linear equations.
- **M.INV** - Invert a matrix in-situ.

This seems like a fairly good selection of operations. Their names might change, but the functions are very unlikely to.

- Pauli

Re: WP 34S matrix operations

*Message #2 Posted by **Miguel Toro** on 10 Oct 2011, 7:57 a.m.,*
in response to message #1 by Paul Dale

May I suggest my little editor? Code is already there :-)

Regards,

Miguel

Re: WP 34S matrix operations

*Message #3 Posted by **Paul Dale** on 10 Oct 2011, 8:06 a.m.,*
in response to message #2 by Miguel Toro

I did think about this one but didn't act.

I'll put it in.

- Pauli

Re: WP 34S matrix operations

*Message #4 Posted by **Paul Dale** on 10 Oct 2011, 8:15 a.m.,*
in response to message #2 by Miguel Toro

And done.

- Pauli

Re: WP 34S matrix operations

*Message #5 Posted by **Carey** on 11 Oct 2011, 3:45 a.m.,*
in response to message #1 by Paul Dale

Please forgive if the following matrix functions were previously considered or require too many resources, but useful would be:

```
* eigenvalues
* eigenvectors
* singular value decomposition (svd)
* singular values
```

Regards,
Carey

Re: WP 34S matrix operations

*Message #6 Posted by **Paul Dale** on 11 Oct 2011, 3:50 a.m.,*
in response to message #5 by Carey

All of these are under consideration, although I've coded none of them. I'm not sure how to deal with complex results, at least at the moment.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15 LE: Errata list for Owner's Handbook

*Message #1 Posted by **Felix Gross** on 10 Oct 2011, 3:05 a.m.*

I have posted a list of Errata for the HP 15 LE Owner's Handbook in the article section. The list will be updated so please send me errors you become aware of.

Felix

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #1 Posted by **Walter B** on 10 Oct 2011, 2:46 a.m.*

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #2 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 3:08 a.m.,*
in response to message #1 by Walter B

Having the windowing operations on different shift keys is not the best solution because you cannot hold a shift while tapping on UP/DOWN to move the window. I vote for moving <(and)> to g-shifted UP/DOWN.

h-shifted might be even better. Move MATRIX on h-6, leave STATUS on h-X and move ! and L.R. on the vacant f/g positions on the UP key. So no function is lost (L.R. still on the keyboard) and the function set should fit nicely (except that y^ and r are no longer together with L.R. We could just put them side by side.)

SB & CB may be disputable but they are better then x<>alpha. :-)

Edited: 10 Oct 2011, 4:16 a.m.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #3 Posted by **Egan Ford** on 10 Oct 2011, 4:46 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I completely agree. I am still arguing for LASTx to replace FILL. RCL L can still function as LASTx, but FILL should be in P.FNC.

Ceterum censeo: Walter, bring back LASTx (and if you stubbornly refuse to, the community is going to do it the old HP way).

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #4 Posted by **Paul Dale** on 10 Oct 2011, 4:53 a.m.,*
in response to message #3 by Egan Ford

What about putting a LastX label above the EEX key as a memory aide? We're not going to have a LastX command -- it will always display as RCL L. We don't have the hundred odd bytes to implement LastX as a stand alone command.

As for FILL, try working with the eight level stack -- FILL is far more useful there. If isn't *g FILL* vs *ENTER ENTER ENTER*. It is *g FILL* vs ***ENTER ENTER ENTER ENTER ENTER ENTER ENTER***.

Additionally, FILL accepts a complex prefix so it is *CPX g FILL* versus *CPX ENTER CPX ENTER CPX ENTER*.

And as always, feel free to grab the sources and do what you want :-) That is the whole point of making this open source.

- Pauli

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #5 Posted by **Egan Ford** on 10 Oct 2011, 5:30 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> We're not going to have a LastX command -- it will always display as RCL L. We don't have the hundred odd bytes to implement LastX as a stand alone command.

I'll take your word for that since I have not looked at the code. Why LASTx replacing FILL would take 100s of "odd bytes" :-) is lost on me. Or why a key pointed to RCL L for that matter.

> Quote:
>
> As for FILL, try working with the eight level stack -- FILL is far more useful there. If isn't *g FILL* vs *ENTER ENTER ENTER*. It is *g FILL* vs ***ENTER ENTER ENTER ENTER ENTER ENTER ENTER***.
>
> Additionally, FILL accepts a complex prefix so it is *CPX g FILL* versus *CPX ENTER*

> *CPX ENTER CPX ENTER.*

I think there will be two camps, those that use FILL and the majority that do not outside of programming.

> Quote:
>
> And as always, feel free to grab the sources and do what you want :-) That is the whole point of making this open source.

I plan to, once I can fix my flashing problems. I'll try to setup a build environment on OS/X or Linux or *gasp* Windows in a VM.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 5:36 a.m.,*
in response to message #5 by Egan Ford

Egan, for the emulator, my preferred testing environment, you will need Windows anyway. Building the flash image on Mac OS shouldn't be too hard, Yagarto is available and the rest comes either with Xcode or is already there (like the Unix utilities or Perl.)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #7 Posted by **Paul Dale** on 10 Oct 2011, 5:44 a.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Why LASTx replacing FILL would take 100s of "odd bytes"

Replacing the "FILL" slot on the keyboard with "RCL L" won't cost anything much. It wouldn't look like "LASTx" in programs, it would look like "RCL L".

Creating a command named "LASTx" will take of the order of 100 bytes.

- Pauli

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #8 Posted by **svisvanatha** on 11 Oct 2011, 7:32 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> What about putting a LastX label above the EEX key as a memory aide?

Yes, this is a good idea.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #9 Posted by **Cristian Arezzini** on 10 Oct 2011, 5:00 a.m.,*
in response to message #3 by Egan Ford

I wouldn't mind a LastX key (though it's operatively redundant) but please don't remove FILL, I use it often... And I use the 8-level stack.

Edited: 10 Oct 2011, 5:01 a.m.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #10 Posted by **Egan Ford** on 10 Oct 2011, 5:31 a.m.,*
in response to message #9 by Cristian Arezzini

How about LASTx replacing FILL and RCL L = FILL?

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #11 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 5:38 a.m.,*
in response to message #10 by Egan Ford

RCL L is just RCL of register L which serves as LastX, so there is no point in swapping the two functions. I'm discussing a user mode keyboard internally. If we get that straight, all should be fine for you.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #12 Posted by **Paul Dale** on 10 Oct 2011, 5:42 a.m.,*
in response to message #10 by Egan Ford

How would you then support RCL+ L or STO->L ???

Special casing RCL L creates a big inconsistency in the interface.

- Pauli

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #13 Posted by **Dominic Richens** on 10 Oct 2011, 1:24 p.m.,*
in response to message #10 by Egan Ford

please tell me you are being facetious...

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #14 Posted by **Eric Rechlin** on 10 Oct 2011, 7:18 a.m.,*
in response to message #3 by Egan Ford

I disagree with adding LASTx. When RCL-L works just as well, I can't see wasting valuable keyboard real estate just to have a command on the keyboard twice to satisfy the nomenclature preferences of some.

Eric

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #15 Posted by **Alexander Oestert** on 10 Oct 2011, 7:45 a.m.,*
in response to message #14 by Eric Rechlin

> Quote:
>
> wasting valuable keyboard real estate just to have a command on the keyboard twice

With this in mind, why not rethink the double assignment of 1/x, Sum+, x^2 and square root? I would suggest putting some of the more obscure functions on A-D that are not so terribly missed when A-D are in user mode: What about ||, %, delta% and ./, The locations could be used for something else.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #16 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 8:42 a.m.,*
in response to message #15 by Alexander Oestert

> Quote:
>
> 1/x, Sum+, x^2 and square root?

You missed the idea behind putting these as defaults on A to D: They are all on the keyboard in some other (shifted) position and the A to D location is just an unshifted shortcut to them if no program is active.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #17 Posted by **Alexander Oestert** on 10 Oct 2011, 8:50 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I was aware of the idea behind it - and I like it. I still deem it at least worth of thinking about not having these shortcuts there but something else instead of twice the same.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #18 Posted by **Cristian Arezzini** on 10 Oct 2011, 10:58 a.m.,*
in response to message #17 by Alexander Oestert

I tend to agree with this. There are several functions already that I never used because they're not my field, so I think that putting four "more obscure" functions there (but still having them in the catalogs of course) would free up 4 positions.

Cristian

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #19 Posted by **Dominic Richens** on 10 Oct 2011, 1:38 p.m.,*
in response to message #18 by Cristian Arezzini

Hi Cristan, Alexander

Those four functions would have to be replaced by another four functions that are currently **primary** (e.g. un-shifted) functions. There are no other primary functions anyone would want put there (STO, RCL, roll, swap, neg, EEX, XEQ, CPX, -> /, *, +. -)

If I am going to be doing a lot of calculations that need them I just PSTO n (if I

haven't already) and CLP and voila, they are back to being primary functions for A, B, C, D.

For the record, I'm fine with RCL L instead of LastX - at least I personally like it better than any of the alternatives.

BTW, why did ./, end up on the keyboard? I say put MATRIX there, make h-EXIT the OFF key and so be it.

While there are a few choices that Walter, Pauli and Marcus made that I didn't much like initially, I now find they make sense or are, at worst, inconsequential.

Edited: 10 Oct 2011, 1:39 p.m.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #20 Posted by **Walter B** on 10 Oct 2011, 5:49 p.m.,*
in response to message #19 by Dominic Richens

Bonsoir Dominic,

> Quote:
>
> While there are a few choices that Walter, Pauli and Marcus made that I didn't much like initially, I now find they make sense *or are, at worst, inconsequential.*

(emphasis added). Please explain to me like a 4-year-old what you wanted to tell us with that.

Walter

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #21 Posted by **Dominic Richens** on 10 Oct 2011, 9:07 p.m.,*
in response to message #20 by Walter B

Dear 4-year old :-) I didn't like having to f or g shift for trig and log functions - but now have gotten used to it. I glad you made that choice since it allows for programmable keys and some 60 functions on the keyboard due to 3 function keys.

What I'm trying to get across is that us users need to trust that you've thought carefully about your design decisions - even if we don't understand them initially.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #22 Posted by **Walter B** on 11 Oct 2011, 1:21 a.m.,*
in response to message #21 by Dominic Richens

Merci bien - now I know your meaning of *in*consequential :-)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #23 Posted by **Alexander Oestert** on 11 Oct 2011, 6:23 a.m.,*
in response to message #19 by Dominic Richens

> Quote:
>
> Those four functions would have to be replaced by another four functions that are currently **primary**

I understand that they now are accessed unshifted when not in user mode. But why could they only be replaced by other primary functions? If you put a now shifted function on these keys, they would then be primary but why would that be a problem?

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #24 Posted by **Dominic Richens** on 11 Oct 2011, 7:44 a.m.,*
in response to message #23 by Alexander Oestert

because there are not any other primary functions that I would want to have to shift for when those labels are defined.

IMHO of course :-)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #25 Posted by **Alexander Oestert** on 11 Oct 2011, 8:09 a.m.,*
in response to message #24 by Dominic Richens

I still don't understand the "primary" requirement. Why not putting there the four functions I suggested in #15 above?

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #26 Posted by **Dominic Richens** on 11 Oct 2011, 9:40 a.m.,*
in response to message #25 by Alexander Oestert

where are we going to move Sigma+ 1/x, y^x and sqrt to?

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #27 Posted by **Alexander Oestert** on 11 Oct 2011, 10:31 a.m.,*
in response to message #26 by Dominic Richens

> Quote:
>
> where are we going to move Sigma+ 1/x, y^x and sqrt to?

They are already there twice right now. That's the reason I came up with this idea in the first place.

Sum+ is on h/+

1/x is on f/ division key

y^x is on f/9

Square root is on f/times key

Edited: 11 Oct 2011, 11:31 a.m.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #28 Posted by **Dominic Richens** on 11 Oct 2011, 12:07 p.m.,*
in response to message #27 by Alexander Oestert

I'm thoroughly confused.

I though you wanted to move those functions to other keys because you didn't want to shift to get Sigma+, 1/x, y^x and sqrt(x) when A-D was defined?

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #29 Posted by **Alexander Oestert** on 11 Oct 2011, 12:26 p.m.,*
in response to message #28 by Dominic Richens

No, I wanted to make room for functions that are not on the keyboard yet, instead of having four functions twice. See # 15 above.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #30 Posted by **Walter B** on 11 Oct 2011, 2:18 p.m.,*
in response to message #29 by Alexander Oestert

The four default primary functions top left were put there since they would have deserved top places but didn't make it on keytops else. When you overwrite one of them by defining e.g. label D, you will be happy to find an easy way to SQRT (the symbol) still. You don't want to dig for it in a menu, do you?

Walter

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #31 Posted by **Alexander Oestert** on 11 Oct 2011, 3:14 p.m.,*
in response to message #30 by Walter B

That is why I did not want to get rid of them, but

get rid of the 'obscure' functions (from the keyboard, I mean) I listed in posting #15 instead.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #32 Posted by **Walter B** on 11 Oct 2011, 6:11 p.m.,*
in response to message #31 by Alexander Oestert

Sorry, I will try to express it more clearly: The four top left default primary functions are four we are happy to feature as primary functions per default. When we'll overwrite one (or more) of them, we'll be still happy the respective (popular) function will be only two keystrokes away. IMHO we shall not put anything on this keyboard which will vanish with the first hotkey definition. YMMV.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #33 Posted by **Dominic Richens** on 11 Oct 2011, 3:07 p.m.,*
in response to message #29 by Alexander Oestert

Oh, that's what you meant - don't know why I didn't get that.

Seems odd, though. To put the least popular functions currently on the keyboard in the most prominent place when LBL A-D are not defined.

My preference to achieve the same goal of freeing up shifted spaces on the keyboard would be to do away with the un-shifted A-D and make LBL A-D always (XEQ) shifted - kind of like the HP-15C.

I've been using the TVM solver a lot and when I go to change 'NP', 'NI' or 'I' I always forget to press XEQ first. As a result I find myself pressing XEQ for 'N', 'PMT' and 'FV'.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #34 Posted by **Marcus von Cube, Germany** on 11 Oct 2011, 3:42 p.m.,*
in response to message #33 by Dominic Richens

I almost never use the functions indicated in white above A to D. I would not want to see the hot keys A to D replaced.

Be patient, please. The team is thinking... :-)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #35 Posted by **Alexander Oestert** on 11 Oct 2011, 3:53 p.m.,*
in response to message #34 by Marcus von Cube, Germany

> Quote:
>
> I almost never use the functions indicated in white above A to D. I would not want to see the hot keys A to D replaced.
>
> Be patient, please. The team is thinking... :-)

Right, the hotkeys should not be replaced. I'd rather have two more... ;)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #36 Posted by **Dominic Richens** on 11 Oct 2011, 6:36 p.m.,*
in response to message #34 by Marcus von Cube, Germany

Just to contradict myself, one of my flash banks has 4 optical power and frequency conversion routines mapped to A-D and I quite like the current design you came up with.

Hence my comment on another thread about adding a "USER" mode bit.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #37 Posted by **fhub** on 11 Oct 2011, 4:08 p.m.,*
in response to message #33 by Dominic Richens

> Quote:
>
> I've been using the TVM solver a lot and when I go to change 'NP', 'NI' or 'I' I always forget to press XEQ first. As a result I find myself pressing XEQ for 'N', 'PMT' and 'FV'.

Yippee, somebody is really using my TVM program? :-)

Yes, it would be much more comfortable to use with a full row of 6 user-defineable function keys - my biggest wish for the WP34s! ;-)

Franz

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #38 Posted by **Dominic Richens** on 11 Oct 2011, 6:40 p.m.,*
in response to message #37 by fhub

Yes - it's really quite nice. I improved it's usability a bit by adding alpha labels to remind me what key I just hit. See the section in the users' guide

With six function keys it's going to be an HP-20b :-)

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #39 Posted by **Walter B** on 11 Oct 2011, 1:45 a.m.,*
in response to message #3 by Egan Ford

:-D

Sounds like we must bring back x^y ...

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #40 Posted by **Cristian Arezzini** on 10 Oct 2011, 4:59 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I like it. But: what about swapping Mode and Const? That way Conv and Const would be near each other, and I think they're somewhat related. Also, why separate X.FCN and P.FCN? Again, I think they should be near eaach other, or even better (IMO) merged together.

I agree with Marcus about the window keys.

I like the move of OFF and the SF,CF keys.

I suppose it would be impossible to make the whole top row of keys assignable (like the first 4 are now)? That would give some more consistency to the layout, and increase the ease of use in hexadecimal mode. And I would just like to have a couple more programmable keys! And I don't use CPX or [Arrow] anyway... ;)

Cristian

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #41 Posted by **Dominic Richens** on 10 Oct 2011, 1:42 p.m.,*
in response to message #40 by Cristian Arezzini

> Quote:
>
> I like it. But: what about swapping Mode and Const?

The letters CONST will not fit on those narrow top row keys. Otherwise I agree - perhaps we can use "CNST".

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #42 Posted by **Peter Murphy (Livermore)** on 10 Oct 2011, 9:54 p.m.,*
in response to message #41 by Dominic Richens

But the letter K will surely fit.

There's a K key on the 10B, where it represents a constant-related function.

And K for Konstante is easy to remember.

There should be minimal confusion between such a key and the letter-K alphabet key, because those are all grey-shifted.

Re: [WP 34S] New keyboard suggestion (NT ;-)

*Message #43 Posted by **Walter B** on 11 Oct 2011, 1:54 a.m.,*
in response to message #40 by Cristian Arezzini

MODE is put where it is since CPX and the two fraction labels are "setting the area" for modes there. Same reasons for ->, CONV, and R<>P on one key. And we feature a CPX CONST catalog which would give - following your suggestion - unfair advantage to Parkinson victims ;-/ We tried to avoid such double clicks.

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #44 Posted by **Morten Nygaard Åsnes** on 10 Oct 2011, 1:14 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I second having windowing operations on different keys (same shift key)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-50G CAS Sums problem

*Message #1 Posted by **x34** on 10 Oct 2011, 2:33 a.m.*

I do not understand some HP-50G CAS features. I was unable to find some simple sums, e.g.

sum x/n!,n=0..infinity, calculator says "?"

There is another problem - how can I fix Indep var? If I enter sum n/x^^n, n=1..infinity calc says "EVAL Error: Unsigned inf error" and changes Indep var to N.

My ROM version is 2.15.

Re: HP-50G CAS Sums problem

*Message #2 Posted by **Glenn Shields** on 11 Oct 2011, 11:31 a.m.,*
in response to message #1 by x34

Also waiting for an answer -- noted that setting approximate mode doesn't work, nor does using a variable other than x. But evaluating it as a finite series, say up to n=15, spits out "e" to full accuracy.

Re: HP-50G CAS Sums problem

*Message #3 Posted by **Crawl** on 11 Oct 2011, 1:44 p.m.,*
in response to message #2 by Glenn Shields

There really isn't an answer. The Hp50 cannot evaluate that series to e, symbolically. Series evaluation is probably based on look-up tables, and there is only so much stuff like that that can be packed into a calculator (now).

The TI89 can evaluate that series to e, but it cannot evaluate the taylor series for e^x to e^x. Nor can the TI89 evaluate the sum of the even terms to cosh(1).

It can take a bit of creativity and knowledge to coax these CAS calculators to give the answer you want, particularly when the problems are difficult, but it is still much easier to do that than to solve problems purely with pen and paper.

They do have some series stored, though. For example, both the HP50 and TI89 can sum reciprocal even powers in terms of pi.

The second series there converges to x/(x-1)^2, when it does converge. The HP50g actually can sum that one symbolically, when x has a fixed value. But in general, there is a remainder term of the form x^n. The calculator then tries to find that limit (if it isn't zero, it can't converge), but since x is undetermined it can't find the limit. (It depends on whether x's absolute value is more or less than 1)

Note that the lim function takes two arguments: The expression, and the value x tends to. It does not, in other words, take as a third argument the variable the limit applies to; it assumes the variable is the independent variable. So I presume what the calculator is doing behind the scenes is temporarily turning

the independent variable to 'n' to take the limit. Maybe it is supposed to turn the independent variable back to 'x' when it's done, but the error prevents that. In any case, if you sum over the variable x, this won't happen.

Re: HP-50G CAS Sums problem

*Message #4 Posted by **x34** on 11 Oct 2011, 2:04 p.m.,*
in response to message #3 by Crawl

Thanks for clarifications, Crawl. Do you know, where can I found any documentation on HP-50G CAS, especially Sum function? I tried reading Erable docs, but no Sum there. First I thought the Sum's functionality is equal to HP-48GX, but 48GX lacks infinity support.

So. I am feeling stumble, and want to see detailed Sum docs.

Re: HP-50G CAS Sums problem

*Message #5 Posted by **Crawl** on 12 Oct 2011, 12:45 p.m.,*
in response to message #4 by x34

There is this:

http://www-fourier.ujf-grenoble.fr/~parisse/degraeve/cas49_1.pdf

It says:

You must also understand that [sigma] is able to calculate symbolically the summations of rational fractions, and the hypergeometric series admitting a discrete primitive (starting from ROM version 1.11).

I'm not sure what a "discrete primitive" is, though, nor does Google help.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c logos for sale..

*Message #1 Posted by **uhmgawa** on 10 Oct 2011, 12:32 a.m.*

I hesitate to point this out for fear of encouraging it. But I suppose it had to happen sooner or later:

15c "LED" logo

Can't really tell from the picture but it appears to be an impression molded copy vs. CNC cut.

Re: 15c logos for sale..

*Message #2 Posted by **Michael de Estrada** on 10 Oct 2011, 12:42 a.m.,*
in response to message #1 by uhmgawa

Doesn't seem very profitable, since most HP 15C logos have not fallen off. Mine certainly hasn't. Also, unlike rubber feet and such, which work with all Voyagers, this only works with a 15C. By the time the logo falls off, the calc is so beat up, it isn't worth spending the money for a new logo.

Re: 15c logos for sale..

*Message #3 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 2:20 a.m.,*
in response to message #2 by Michael de Estrada

Mine is in very good condition but the logo is lost. No big deal as it works like a charm but a collector might think different.

Re: 15c logos for sale..

*Message #4 Posted by **Les Wright** on 10 Oct 2011, 2:31 a.m.,*
in response to message #2 by Michael de Estrada

I paid a little too much a few years ago for an 11C that was a bit more banged up than it appeared in the TAS pic. Works great, but I have been keen to make it look better to get the feeling, perhaps illusory, that I have gotten my money's worth. I have been able the flatten the dinged bezel a bit and approximate the brushed finish with a ScotchBrite pad, but the metallic finish of the logo is long worn off. I would happily pick up a replacement if an 11C version was available.

Re: 15c logos for sale..

*Message #5 Posted by **Raymond Del Tondo** on 10 Oct 2011, 3:42 a.m.,*
in response to message #4 by Les Wright

That eBay seller also offers 11C logos in another auction;-)

Re: 15c logos for sale..

*Message #6 Posted by **robert rozee** on 10 Oct 2011, 7:30 a.m.,*

in response to message #5 by Raymond Del Tondo

looking at these badges, it occurred to me that one could fairly easily produce a close approximation using PCB fabrication methods - i'm not saying that is how these ones are made, but they inspired the following idea.

many fab houses allow you to order PCBs with a variety of different solder mask colours - red, green, blue, BLACK. further, you can specify (within reason) pretty much any routing you like, that is slots cut in the board. i once worked on a project where the boards were circular (4" across) with a 1" hole in the middle.

seems you could create your "HP 15C" (or 11C or 16C) logo as a copper pattern, with the solder mask the exact reverse of this. the result would be a slightly raised metallic logo with a sunken black background. you could specify tinplate finish (silver), none (copper coloured) or gold plate. judicious routing cuts would leave the logos with perfectly cut corners and edges, just requiring a bit of filing in two spots and application of black marker around the edges.

from a 10cm x 10cm PCB, one might end up with 100 or more badges.

just an idea...

Re: 15c logos for sale..

*Message #7 Posted by **Martin Pinckney** on 10 Oct 2011, 9:14 a.m.,*
in response to message #6 by robert rozee

Don't forget, there's a member of this forum that casts these from silver.

Re: 15c logos for sale..

*Message #8 Posted by **robert rozee** on 10 Oct 2011, 10:04 a.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> Don't forget, there's a member of this forum that casts these from silver.

true, but the silver ones are quite expensive, being individually hand-made. a solution where 100 badges are yielded from a small PCB might only cost a dollar or so each + postage.

personally, i've got an 11C that is missing its badge. it's a 'working' calculator, so filling the gap would be nice but not essential. i've actually been looking out for a piece of scrap HP equipment (such as a printer) with a logo the right size that i could trim down to fit.

Re: 15c logos for sale..

*Message #9 Posted by **uhmgawa** on 10 Oct 2011, 11:23 p.m.,*
in response to message #8 by robert rozee

> Quote:
>
> true, but the silver ones are quite expensive, being individually hand-made.

> a solution where 100 badges are yielded from a small PCB might only cost a dollar or so each + postage.
>
> ---

I'm not sure the pcb approach will result in equivalent cosmetics without an elevation relief nor the 45* bevel cut periphery. I'm also unsure whether economical board houses will singulate a board of that size. But the last two points could be addressed if you chose to do the cutting. The black solder mask aligning exactly at the foil etch may be a challenge although I can't say I've ever tried to do so either.

My back burner voyager logo recreation project (if it ever materializes) would be to use black acrylic countertop material (marketed as Corian, Avonite, etc.. here in the US market) slabbed into thin blanks and epoxy laminated with a hard temper aluminumn sheet. Corian machines quite nicely with carbide tooling compared to say, ABS and can be had for cheap at your local kitchen counter fabricator. The tempered aluminum (flashing, beverage can) serving as the silver top surface should last longer abrasion-wise than the actual calculator to which it is attached, assuming unlike most of my 15c legacy voyagers it actually does remain attached.

Re: 15c logos for sale..

*Message #10 Posted by **Matt Fegenbush** on 11 Oct 2011, 9:52 a.m.,*
in response to message #9 by uhmgawa

If you use a similar high grade epoxy adhesive, you would have quite the time getting the logo off the calculator.

Re: 15c logos for sale..

*Message #11 Posted by **robert rozee** on 11 Oct 2011, 11:38 a.m.,*
in response to message #9 by uhmgawa

the idea is not to produce an exact identical replacement - that would be extremely hard, and i'd say even the silver ones are obviously different from the original when subjected to any more than a casual glance.

more of an idea to produce something attractive and clean to fill the gap. using thin PCB material there would be just a small protrusion, but (as you say) the edges would not be bevelled at 45 degrees, and the metal writing would be raised up just a fraction.

Re: 15c logos for sale..

*Message #12 Posted by **Derek** on 10 Oct 2011, 12:28 p.m.,*
in response to message #2 by Michael de Estrada

if it were $2, i'd probably do it for fun...but $12 is way too much if one is using their 15c and not worrying about appearance or retail value.

my circa 1984 15C is still going strong: it lost its logo in college (1988 or so), but the feet, while worn, are still in place.

it's been beat to death (i lost the case around that same time (bought a replacement a few years ago) and just threw it in the outside pouch of my backpack to get banged up with pens, pencils, and other things for several years) and used to death (i still use it almost every day*).

* i recently bought a 15C LE to potentially replace the 15C for every day use. i'm still getting used to the new tactile feedback and "sand blasted" key feel... (on a positive note, solving for a root of a polynomial the other day was lightening fast on the LE)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: An integration wrapper

*Message #1 Posted by **Miguel Toro** on 9 Oct 2011, 10:55 p.m.*

Another week-end little project.

As suggested by the WP34s team on a older post, I tried to make a wrapper to improve accuracy for the integration function.

A test with sqrt(abs(x-1)), from 0 to 2, gives:

```
WP 34s : 1.30929962
WP 34s with the wrapper (fix 5) : 1.33333672


Expected : 4/3


Using this program:


LBL 10
1
-
ABS
[sqrt]
RTN
```

Any comment to improve it as always very welcome.

Miguel

Edited: 9 Oct 2011, 11:04 p.m.

Re: WP34S: An integration wrapper

*Message #2 Posted by **gene wright** on 9 Oct 2011, 11:10 p.m.,*
in response to message #1 by Miguel Toro

Hi Miguel!

Try it on these expressions from the PPC ROM examples:

Dropbox link to IG results

Re: WP34S: An integration wrapper

*Message #3 Posted by **Miguel Toro** on 10 Oct 2011, 7:21 a.m.,*
in response to message #2 by gene wright

Hi Gene,

Here are the results. Not so bad, I think. Function 10, takes too long, so I ran it with FIX 3. Against my own advice, the others where done with FIX 6, getting decent running times.

```
1:      3.141593
2:      0.666667
3:      0.636620
4:      -0.999984
6:      3.141594
8:      0.499995
9:      1.991321
10:     0.785399        FIX 3 (too slow otherwise)
12:     2.203347
```

Re: WP34S: An integration wrapper

*Message #4 Posted by **Paul Dale** on 9 Oct 2011, 11:22 p.m.,*
in response to message #1 by Miguel Toro

Nice compact routine.

- Pauli

Re: WP34S: An integration wrapper

*Message #5 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 2:36 a.m.,*
in response to message #1 by Miguel Toro

A few minor remarks:

In your instructions, "cumulatif" should spelled "cumulative". (Neither of us is a native speaker, I assume, so we need to help each other. :-))

Why do you set the stack size to 4? I haven't checked your code but if you don't need A to D for other purposes or rely on the duplication of T just leave the setting alone. If you really need it, use STOM/RCLM to save and restore the mode.

The iteration uses the approximate comparison operator which relies on the display setting (Am I right, Pauli?). Just put a comment in that explains how this affects accuracy of the integral.

I'd like to see some // comments at the end of the lines. This would help to understand your code and it will not disturb the assembler.

Edited: 10 Oct 2011, 2:39 a.m.

Re: WP34S: An integration wrapper

*Message #6 Posted by **Walter B** on 10 Oct 2011, 2:40 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> The iteration uses the approximate comparison operator which relies on the display setting (I'm I right, Pauli?).

Please see page 58/102. You are :-)

Re: WP34S: An integration wrapper

*Message #7 Posted by **Miguel Toro** on 10 Oct 2011, 6:54 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Got it! I will do the changes.

Thanks,

Miguel

Done!

Note: The possibility of using complex instruction makes the code more compact, so i need a four register stack to take advantage of that, so I followed your advice and stored and restored modes.

Edited: 10 Oct 2011, 8:23 a.m.

Re: WP34S: An integration wrapper

*Message #8 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 8:38 a.m.,*
in response to message #7 by Miguel Toro

> Quote:
>
> so i need a four register stack to take advantage of that

Only if you rely on the duplication of z/t when doing a complex drop or an operation that drops the stack.

The way it is now it works and that's fine. You should note in the instructions that J is used for saving the mode.

Maybe a limit should be set on the number of iterations. Do you do the halving of intervals over the complete range over and over or do you have a check for each subinterval and divide only if a subinterval is outside the accuracy bounds? The latter would probably need some kind of backtracking which is obviously not possible without recursive programming.

Re: WP34S: An integration wrapper

*Message #9 Posted by **Miguel Toro** on 10 Oct 2011, 8:49 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Yes. I will think about setting a limit on the number of iteration.

Thank you Marcus,

Miguel

Re: WP34S: An integration wrapper

*Message #10 Posted by **Paul Dale** on 10 Oct 2011, 4:57 p.m.,*
in response to message #9 by Miguel Toro

An iteration limit would be a good idea. I tried integrating LN(x) from 0 to 1 and gave up after my laptop had been crunching away for over half an hour. I was using ALL mode sound rounding was to 12 digits not a fixed number of decimals.

- Pauli

Re: WP34S: An integration wrapper

*Message #11 Posted by **Miguel Toro** on 10 Oct 2011, 9:59 p.m.,*
in response to message #10 by Paul Dale

With an iteration limit of 15, LN gives -0.999973 in six seconds. I will leave this limit in the routine.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

42s repair..

*Message #1 Posted by **uhmgawa** on 9 Oct 2011, 4:25 p.m.*

I have a 42s kicking around which needed some attention. As I received it the display was defunct apparently due to decompressed, contaminated, or defective zebra connectors. I took some jpegs during the repair process which I thought may be of interest/use to others so I've located them here.

I've before called the 42s "repair hostile" however I now believe the mechanical design deliberately intends to torment. For as much as folks (justifiably) gripe about the DOA rate of the 15C le, given the overall design, provision of using 9 screws to reattach the PCB, standard OTS snap domes, and a conventional sam7l in a lqfp, I'd be hard pressed to find a more maintenance and experimentation-friendly design.

Re: 42s repair..

*Message #2 Posted by **Jaime Morales** on 10 Oct 2011, 12:52 p.m.,*
in response to message #1 by uhmgawa

Thanks for sharing!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Old Datamath quirk: anyone remember?

*Message #1 Posted by **Glenn Shields** on 9 Oct 2011, 12:59 p.m.*

First, thanks to all for the HHC videos, an eye-opener for sure. The TI talk reminded me (painfully) of once having a Datamath red-LED calculator, with a peculiar quirk: sometimes, when turning it on, the display would start counting up from the rightmost place, at blistering speed. No decimal point or leading zeroes, just counting up at about the rate of 500 per second, as a very rough estimate. Any explanation of this, or personal experience? Again, ouch, that unit is part of some landfill somewhere. TIA, Glenn

Re: Old Datamath quirk: anyone remember?

*Message #2 Posted by **Maximilian Hohmann** on 9 Oct 2011, 1:26 p.m.,*
in response to message #1 by Glenn Shields

Hello!

> Quote:
>
> Any explanation of this, or personal experience?

Explanation? No. Personal experience? Yes. Because it works in more or less the same way with most Ti calculators! My Ti-59 still does that trick today.

Regards, max

Re: Old Datamath quirk: anyone remember?

*Message #3 Posted by **Glenn Shields** on 9 Oct 2011, 3:10 p.m.,*
in response to message #2 by Maximilian Hohmann

Thanks, I appreciate that validation. I had another TI red LED machine, also in the landfill (keeping my HP35 company). But all that reminiscing at the conference led me to see, on the Datamath site, the name "Monsanto." It said they developed the LEDs for TI (and HP also?) as well as Agent Orange. Does anyone also remember that they sponsored the Disneyland attraction "Adventure Through Inner Space?" Interesting connections. Regards, Glenn

Re: Old Datamath quirk: anyone remember?

*Message #4 Posted by **Lincoln R.** on 9 Oct 2011, 5:18 p.m.,*
in response to message #3 by Glenn Shields

I'm pretty sure HP made their own LEDs. For years, HP was one of the bigger suppliers of LED displays. This business got handed off to Agilent, who later spun it off into another company called Avago, IIRC.

Re: Old Datamath quirk: anyone remember?

*Message #5 Posted by **Dan W** on 9 Oct 2011, 5:57 p.m.,*
in response to message #3 by Glenn Shields

> Quote:
>
> Does anyone also remember that they sponsored the Disneyland attraction "Adventure Through Inner Space?" Interesting connections. Regards, Glenn

Wow that's an old memory! I went on that ride as a young squirt probably back in '70 or so. Its one of the few rides I recall well.

Miracles from Molecules!

Found a very good CGI re-creation of the ride on YouTube. Don't know how they did it.

CGI Ride

Re: Old Datamath quirk: anyone remember?

*Message #6 Posted by **Martin Pinckney** on 9 Oct 2011, 7:12 p.m.,*
in response to message #3 by Glenn Shields

> Quote:
>
> Does anyone also remember that they sponsored the Disneyland attraction "Adventure Through Inner Space?"

At Disney *World* , it was the Monsanto Circle Vision Theater (later different corporate sponsors for that attraction).

Re: Old Datamath quirk: anyone remember?

*Message #7 Posted by **David Ramsey** on 9 Oct 2011, 10:56 p.m.,*
in response to message #2 by Maximilian Hohmann

I used a TI 59 for the last two years I was in college. I never saw (or, before now, heard of) this quirk...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

calculator longevity

*Message #1 Posted by **bill platt** on 9 Oct 2011, 9:16 a.m.*

In an earlier thread (archived), Robert Rozee posted the following:

> Quote:
>
> a 2011 model 12C/15C is built using a processor with a designed materials lifespan of perhaps 10 years, keyboard (including contacts) and plastic parts that are 'just good enough'. the LCD is attached with a printed flex + glue system that is known to fail over time (several years) - though said failure will in 99% of units be safely outside of the 1-year limited warranty. and the PCB assembly uses a lead-free soldering process that is guaranteed to fail before this decade is out.

I have heard conflicting information with respect to the solder. I have heard only negatives in postings here. But in my real work, I asked about this with one expert who said it is untrue.

What is the story? On what basis is the lead-free approach deemed to be less durable long term?

Re: calculator longevity

*Message #2 Posted by **Hugh Evans** on 9 Oct 2011, 10:54 a.m.,*
in response to message #1 by bill platt

It's poorly understood at best. Many devices (highest profile is the first generation xbox 360) designed near the date of switchover had reliability problems. The wrong temperature profile was used during reflow which filled joints with microcrystals, rather than full blown cold joints. Even good joints over time are more prone to fatigue failure in my understanding. If anyone tells you they know with absolute certainty how SnAg or SAC solder will perform over time they're crazy because the data do not yet exist.

Re: calculator longevity

*Message #3 Posted by **Katie Wasserman** on 9 Oct 2011, 11:49 a.m.,*
in response to message #2 by Hugh Evans

There are quite a lot of testing results comparing leaded and lead-free solders, particularly from NASA. If you really want to get into it you can read the Executive Summary it's *only* 78 pages long! I guess that NASA executives have a lot of time on their hands these days.

I agree that the results are not all in yet and won't be for many years but there is a lot that is known. The general conclusion from this study is the leaded solders are better for some things than lead-free, and vice-versa.

Edited: 9 Oct 2011, 11:49 a.m.

Re: calculator longevity

*Message #4 Posted by **uhmgawa** on 9 Oct 2011, 3:40 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> There are quite a lot of testing results comparing leaded and lead-free solders, particularly from NASA. If you really want to get into it you can read the Executive Summary it's *only* 78 pages long! I guess that NASA executives have a lot of time on their hands these days.

Have a gander at the volumes of data produced by the defense industry. I suppose those folks get a little excited by the phrase "brittle solder joints". :P

> Quote:
>
> I agree that the results are not all in yet and won't be for many years but there is a lot that is known. The general conclusion from this study is the leaded solders are better for some things than lead-free, and vice-versa.

Personally I don't really care for the workability of the lead free alloys nor the required higher temperature profiles. Fortunately I'm hardly alone such that leaded solder still is accessible at reasonable cost. I expect that will eventually change but by that time I should have hoarded enough to make it a non issue.

Re: calculator longevity

*Message #5 Posted by **Paul Berger (Canada)** on 9 Oct 2011, 7:53 p.m.,*
in response to message #2 by Hugh Evans

One of the problems that the xBoxes as well as other electronic devices had was problem with Ball Grid Array (BGA) packaging. In a BGA package the interconnect between the chip package and the board it is mounted on is a tiny ball of solder. The problem occurs as the result thermal cycling of components, as the temperature rises and falls, the circuit board and the chip package expand and contract at different rates which puts stress on the joint and can lead to the joint shearing. Devices that are turned on an off frequently are more prone to suffering this kind of failure for obvious reasons. One of the ways some manufacturers got around this problem was to move to an interconnect technology known as solder column, where instead of using a ball of solder, which is very rigid, a column of solder is used, the column is flexible enough to absorb the microscopic movement. I do however know of one instance where the use of solder columns lead to a different problem, a large very dense chip that was mounted on solder columns with a big heat sink on top of it the heat sink was held against the chip by spring tension this spring tension over time, cause the solder columns to buckle with catastrophic results.

I know of devices that suffer from the shearing BGA connection problem that where manufactured before RoHS complaint manufacturing was common.

Re: calculator longevity

*Message #6 Posted by **Lincoln R.** on 9 Oct 2011, 5:05 p.m.,*
in response to message #1 by bill platt

Also, "designed" lifespan of about 10 years is probably about on par with old HPs. Many of them lasted a lot longer, but even out of those, how many have we (or some previous owners) had to repair? I don't deny that many classic HPs were better constructed than current models (But also some weren't, for instance the solderless Spice models).

I do agree about the glued on LCD ribbon cable, though. I've seen a lot of those fail on older TI graphing calculators (Although I think TI's assembly practices exacerbated this by making the cable longer than necessary and folding it into a 'Z' shape after bolting the LCD and keyboard PCBs into place. If they had waited until bolting the boards into the case, and applied the cable without all the extra length that just gets folded up and pinched by the rear case, I don't think the traces would fail nearly as easily).

Anyhow, those TIs are fixable by carefully attaching wires between the two PCBs, not sure if something similar could be done with an HP LCD ribbon.

Re: calculator longevity

*Message #7 Posted by **Eric Smith** on 9 Oct 2011, 9:10 p.m.,*
in response to message #6 by Lincoln R.

Ribbon or flex cable is exactly how the two halves of the HP-71B were connected.

Re: calculator longevity

*Message #8 Posted by **Lincoln R.** on 9 Oct 2011, 9:34 p.m.,*
in response to message #7 by Eric Smith

As well as the 28C/28S. Ribbons can work, but you have to be careful how you fold them and if you expect them to put up with stress, make them out of thicker/better material. I've seen old ribbons that were heavy plastic with decently thick metal traces, the aforementioned TI-83+ ribbon was thinner than a piece of bible paper and seemed to have painted/printed carbon traces.

Re: calculator longevity

*Message #9 Posted by **Eric Smith** on 9 Oct 2011, 9:20 p.m.,*
in response to message #1 by bill platt

Lead-free is less durable because without the lead, the tin will gradually form "whiskers" which end up shorting signals together. While some vendors have attempted to minimize this with the formulations of RoHS solder and plating, there really isn't any certain method of eliminating it. This is why military equipment and medical equipment is generally exempt from the RoHS regulations. For medical equipment the exemption doesn't do much good because the RoHS regulations have resulted in most things *only* being available in RoHS versions. For military equipment it is not uncommon for the electronic devices to be sent out to have the RoHS plating, solder balls, etc. replaced with non-RoHS, but they can only afford to do that because the military (and by extension, the legislature) doesn't care how much the taxpayers have to spend to get it done.

For example, see the National Electronis Manufacturing Center of Excellence argument for a five-year delay in RoHS requirements for electronics: Tin Whiskers and the Impending RoHS Conversion to Lead-Free. As we know, they did not get their exemption, because the issue is political, not technical. The governments don't care whether they increase the amount of electronics going into the landfill, as long as they can claim progress on lead reduction.

Edited: 9 Oct 2011, 9:22 p.m.

Re: calculator longevity

*Message #10 Posted by **bill platt** on 9 Oct 2011, 9:38 p.m.,*
in response to message #9 by Eric Smith

So the whisker thing is part of it. I remember seeing a NASA paper on whiskers once about 8 years ago. It

was pretty interesting.

This political thing reminds me of the fluorescent lightbulb law. I am stocking up on 100W bulbs--when I can find them. See my video on the subject:

http://www.youtube.com/watch?v=JR0ws9Gu2kY

Edited: 9 Oct 2011, 9:40 p.m.

Re: calculator longevity

*Message #11 Posted by **Martin Pinckney** on 9 Oct 2011, 9:54 p.m.,*
in response to message #10 by bill platt

> Quote:
>
> See my video on the subject:

Bill, that's you in the video?

Re: calculator longevity

*Message #12 Posted by **Mike Morrow** on 9 Oct 2011, 10:21 p.m.,*
in response to message #10 by bill platt

The audio is unintelligible.

Re: calculator longevity

*Message #13 Posted by **Martin Pinckney** on 9 Oct 2011, 11:37 p.m.,*
in response to message #12 by Mike Morrow

It came in plain for me.

Re: calculator longevity

*Message #14 Posted by **Garth Wilson** on 10 Oct 2011, 12:42 a.m.,*
in response to message #10 by bill platt

Our son does maintenance in a school and recently got a big box of CFLs that were supposed to last 10,000 hours. About 40% of them didn't even make it to 250 hours. Add to that that it takes them at least two minutes to come up to full brightness, they can't be used as oven lights, etc..

Re: calculator longevity

*Message #15 Posted by **Lincoln R.** on 10 Oct 2011, 1:49 a.m.,*
in response to message #14 by Garth Wilson

Heh. The maintenance people at my college once tried replacing an oven light with a CFL. Luckily we noticed before using the oven and complained about it.

Re: calculator longevity [o.t.]

*Message #16 Posted by **Nicholas Winterer** on 10 Oct 2011, 4:03 a.m.,*
in response to message #14 by Garth Wilson

Not to mention they have a completely different spectral distribution from regular incandescent bulbs. Where incandescents emit light over the entire visible spectrum (they approximate the famous planck distribution), CFLs emit only a few discrete frequencies of light, designed to trick our eyes into seeing white light. You can verify this by looking through a pair of those cardboard diffraction grating glasses for kids. Instead of rainbows, you see several narrow bands.

The problem with CFLs is that the frequency response of the cones in our eyes varies among humans. CFLs look white on average, but I imagine they could be pretty annoying for those on the edges of the bell curve. The 3500 K CFLs don't look that bad to me, but I can't stand the higher color temperature ones (they look too blue). I've talked to others who prefer the 4100 K or 5500 K CFLs and think the 3500 K look too orange.

The other problem with CFLs is color renditioning. Some objects will look really weird under a CFL. While a CFL may look white while looking straight at it or watching it reflect off a white object, it can give colored objects a weird tinge. Many pigments respond to a narrow range of wavelengths, and if the CFL does not emit that wavelength then the color of the object will appear different than it would under sunlight. In fact, some objects which would appear identical in color under sunlight could appear to be different colors under a CFL.

The regulation of light bulbs is insane considering that residential lighting (where most incandescents are used) accounts for less than 1% of the energy usage in the US. Still, our regulators will pat themselves on the back for making the world a safer place and we will be forced to buy overpriced, ugly light bulbs from a cartelized light bulb industry (who will constantly lobby for additional regulation to further restrict competition).

Re: calculator longevity [o.t.]

*Message #17 Posted by **bill platt** on 10 Oct 2011, 10:15 a.m.,*
in response to message #16 by Nicholas Winterer

..AND it is one massive transfer of jobs to China. The profits are higher on the mercury laced CFLs. Regular lightbulbs are a commodity (they really aren't but act like it in the marketplace...)

All the CFLs I've sen are Chinese. And places such as Ikea push them and push them

There was an attempt by the republicans to get this repealed a few months ago but it died in the Senate. Dammit.

We need a grass-roots movement. Unfortunately the rich Hollywood "green" types (green as in greenback if you asked me) have been lending their support to the Big Corporate and have put out little blurbs such as National Geographic's "This Bulb" campaign.

Re: calculator longevity

*Message #18 Posted by **Tom Mathes** on 10 Oct 2011, 10:18 a.m.,*
in response to message #14 by Garth Wilson

> Quote:
>
> Our son does maintenance in a school and recently got a big box of CFLs that were supposed to last 10,000 hours. About 40% of them didn't even make it to 250 hours. Add to that that it takes them at least two minutes to come up to full brightness, they can't be used as oven lights, etc..

In my experience we get the rated lifetime if not more in any CFL we've used in our home. I replaced some 8-10 year old CFLs a few weeks ago and the newer designs seem to come up to full brightness within 15-30 seconds, some newer GE units we bought last year seem full brightness within 5-10 seconds. CFLs don't like lots of cycling (like in a hallway situation) but in our home we've put them in places were they stay on for hours and we have always gotten rated lifetimes if not better. I also like the fact that I'm not climbing on ladders to replace bulbs in hateful locations once a year anymore.

And I don't find anything odd nor objectionable about the light they give off. I've had guests in our home that would gripe about CFL color rendition. When I asked them what they thought about the lights in the room, they always something like 'Why do you ask? They're regular bulbs'. They weren't, they were plastic-covered CFL bulbs and looked like regular incandescents.

I have to wonder if the spiral shape and early problems with CFL light quality 'colors' judgement about newer designs. My limited experience with people who gripe about CFLs and the reaction I get when they're informed the light in the room is from CFLs (but disguised as incandescents) lead me to that conclusion.

Re: calculator longevity

*Message #19 Posted by **bill platt** on 10 Oct 2011, 10:21 a.m.,*
in response to message #18 by Tom Mathes

The biggest improvements are the electronic ballasts. Older fluorescents have a very noticable flicker. For me, it made reading impossible after a few minutes. I had to disable the ceiling fluorescent fixtures when I worked in an office and I couldn't read in the library at college. I would get triple vision and a headache.

Re: calculator longevity

*Message #20 Posted by **Martin Pinckney** on 10 Oct 2011, 10:37 a.m.,*
in response to message #18 by Tom Mathes

> Quote:
>
> In my experience we get the rated lifetime if not more in any CFL we've used in our home.

I've been replacing the incandescents in my office with CFL's for several years. In my experience, they last about 2x, not the 7x or more usually claimed.

Re: calculator longevity

*Message #21 Posted by **David Ramsey** on 10 Oct 2011, 11:34 a.m.,*
in response to message #20 by Martin Pinckney

The solution is simple: use LED light bulbs. The Philips 60 watt equivalent bulbs:

http://www.homedepot.com/h_d1/N-5yc1v/R-202530170/h_d2/ProductDisplay?langId=-1&storeId=10051&catalogId=10053

...introduced last fall provide illumination that is (to me) indistinguishable from that of a good incandescent. And they output a full 850 lumens.

Yeah, they're $25 each (but they were $50 this time last year), but hey, we're saving the

planet! Or something.

I bought several last year and my office has two of them that are generally on at least 10 hours per day. No failures yet.

Re: calculator longevity

*Message #22 Posted by **bill platt** on 10 Oct 2011, 11:54 a.m.,*
in response to message #21 by David Ramsey

I call it the Candle Effect.

There was no legislation passed to ban candles. We chose the incandescent naturally.

Why are people not switching to CFL "fast enough"? Because they suck.

What is the need to convert to a transitional technology (CFL) with enormous pblic health risks (mercury) when there is a better technology already in existence and catching up?

$%#$#ing goddam politicians make me soooooo angry. They *all* suck. Suck suck suck.

LEDs have been improving in a way that is similar to the magnetic memory advances. It is called "Haitz's Law".

http://ledlightinggroupllc.com/wp-content/uploads/2010/02/Haitz-email.pdf

Re: calculator longevity

*Message #23 Posted by **Dave Shaffer (Arizona)** on 10 Oct 2011, 5:23 p.m.,*
in response to message #21 by David Ramsey

I concur on LEDs. I have one in my desk lamp, 40 W equivalent, that probably has at least 5000 hours on it. I just installed a 65 W equivalent ceiling flood light in the kitchen - it is indistinguishable from an incandescent, at 1/5 the energy.

In the meantime, I find CFLs quite acceptable - and I've lowered my electric bill by around $10 / month for the last year. I've seen maybe one infant failure out of more than a dozen.

Re: calculator longevity

*Message #24 Posted by **Garth Wilson** on 10 Oct 2011, 2:47 p.m.,*
in response to message #18 by Tom Mathes

> Quote:
>
> and the newer designs seem to come up to full brightness within 15-30 seconds, some newer GE units we bought last year seem full brightness within 5-10 seconds. CFLs don't like lots of cycling (like in a hallway situation) but in our home we've put them in places were they stay on for hours and we have always gotten rated lifetimes if not better.

I took my light meter to a newish CFL we have at home, and it started up at less than half final

brightness, and it took over two minutes to get there. I agree that CFLs last plenty long if they're left on for long periods. That's not the case in the hall or the hall closet or the bathroom at home like you say.

On the mercury issue, we've found that the fluorescent tubes that have slightly less mercury--supposedly to be better for the environment--have extremely short lives compared to the ones with a little more, so they're actually putting *more* mercury into the environment because you have to replace them so often. Also, our son has found a high DOA rate on those. It just doesn't pay.

Re: calculator longevity

*Message #25 Posted by **Paul Gaster** on 10 Oct 2011, 9:46 a.m.,*
in response to message #1 by bill platt

Does anyone have at least a rough date of when HP switched over to RoHS solder on their calculators? Just curious since I have a pair of 12C calculators made in China. One was made in 2002 and one in 2004. This was I think before RoHS was mandatory, but I don't know if HP switched sooner or not. You would think they would have been working on the switch over for quite some time, and well before the deadline to make sure there would be no production delays or stoppages.

Re: calculator longevity

*Message #26 Posted by **robert rozee** on 10 Oct 2011, 10:08 a.m.,*
in response to message #25 by Paul Gaster

in theory the PCB inside should be marked with a clear "RoHS" or "Pb free" logo to meet statutory requirements. certainly, all products i've worked on were marked thus.

Re: calculator longevity

*Message #27 Posted by **Tom Mathes** on 10 Oct 2011, 10:07 a.m.,*
in response to message #1 by bill platt

10 years for an IC is an industry standard lifespan going back at least since the mid 80s. I started my career as an IC reliability engineer. We used 10 year lifespans, assuming continuous usage, as our long-term reliability target. ICs often last way longer than that since they are rarely used continuously.

Nothing new there, even the older 'classic' HP calcs used ICs that were likely rated for 10 years of practical life.

Re: calculator longevity

*Message #28 Posted by **bill platt** on 10 Oct 2011, 10:19 a.m.,*
in response to message #27 by Tom Mathes

That is right. However because engineering is incremental, we improve our ability to accurately predict life. So the specification is the same, but the actual outcome is vastly different because the conservatism is replaced with more accurate and therefore less conservative predictions.

Some products seem to reach a maximum quality point at somewherea around 10 years into the development of the thing. Older electric toasters last forever. New improved ones last 6 months if you are lucky. Voyagers from 1982 last forever. Spice (older) and 49g+ (newer) die. I am sure we can find tons of examples of this.

Re: calculator longevity

*Message #29 Posted by **uhmgawa** on 10 Oct 2011, 9:36 p.m.,*
in response to message #1 by bill platt

> Quote:
>
> What is the story? On what basis is the lead-free approach deemed to be less durable long term?

The other consideration to keep in mind is the unique service conditions to which an average pocket calculator is subjected. Unless the design provides a substantially rigid frame the pcb will likely be subjected to bending and torsion stress in excess of that seen by other consumer devices. The wide, flat envelope and economical construction doesn't leave much room for functional beams and gussets in the design. I'm not certain whether this gives the advantage to the improved ductility of lead bearing solders or rather the increased joint stress effectively dwarfs the marginal difference between lead bearing and lead free alloys.

Sort of a timely question as I'd been puzzling why HP chose such a seemingly bizarre packaging for the 42s cpu. But it dawned on me that was probably the only way to reliably reflow a 170 pin 0.5mm pitch package onto a pcb exposed to substantial distortion in normal usage. Case in point an sram housed in a rigid epoxy flat pack adjacent to a saturn cpu yielded to the pcb stresses as can be seen here. In this case that intermittent existed before the unit was disassembled.

On a related note the conventional "disassembly procedure" of peeling apart a 42s until four pops have occurred I believe just exacerbates the problem.

Re: calculator longevity

*Message #30 Posted by **bill platt** on 11 Oct 2011, 4:07 p.m.,*
in response to message #29 by uhmgawa

this is very interesting. I am glad I asked the question!

Re: calculator longevity

*Message #31 Posted by **Jeroen Van Nieuwenhove** on 11 Oct 2011, 6:04 p.m.,*
in response to message #29 by uhmgawa

Now that is a very impressive investigation that sheds new light on the design decisions for the 42s. Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: SLVQ implementation

*Message #1 Posted by **Dieter** on 9 Oct 2011, 8:27 a.m.*

I just noticed that SLVQ may return results with slight errors even in relatively simple cases:

```
-1 ENTER
-1 ENTER
 1 SLVQ

 WP34s results              correct (16 digits)

 0,61803 39887 49895 0      0,61803 39887 49894 8
 1,61803 39887 49894        1,61803 39887 49895
```

With 39 internal digits a correct 16-digit result should be no problem. So what's going on here?

Dieter

Re: WP34s: SLVQ implementation

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 11:16 a.m.,*
in response to message #1 by Dieter

If I'm not mistaken, SLVQ is not implemented natively but in user code (XROM). So the normal round-off errors may occur.

Re: WP34s: SLVQ implementation

*Message #3 Posted by **Paul Dale** on 9 Oct 2011, 5:31 p.m.,*
in response to message #1 by Dieter

Solve is a user code program so much work isn't carried out in high precision (some is still). It also searches at display accuracy (i.e. using the approximately equal test).

Thus, some lower order digits errors are to be expected.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C- LE bad button

*Message #1 Posted by **Djj** on 9 Oct 2011, 1:11 a.m.*

I purchased 6 HP15C-LE calculators and one of them had a "4" key that would not register when pressed normally. It clicked nicely but would take a little extra pressure to register. I took it apart to find the cause.

The back is easy to remove with 6 screws. Four screws under the feet and 2 in the battery compartment. There is a tiny spring that connects the metal plates and is probably for ESD. The PCB is heat staked in place. There's a little slack under the stake heads when pressing the PCB towards the front panel.

I thought loose heat stakes might be the problem. I pressed the PCB and it did not correct the problem key. I used a large sharp drill bit to trim off the heat stakes flush with the PCB. I removed the board from the front panel. There is a rubber sheet between the plastic keys and the PCB dome switch assembly. My guess is the sheet makes the keys feel good and protects the switch assembly.

So now I have it apart and can press directly on the switch assembly. The "4" key is more reliable but still fails about 1/2 of the time. On a failed press a little extra pressure makes it register. If I lay the rubber sheet over the switch assembly and press the key the reliability goes down.

Next I peeled back the plastic that holds the dome springs in place. The dome springs lift up with the plastic sheet so I can see the PCB contacts. There are small dents in the contact pads that look like the board is tested with spring probes or a flying probe.

Near the dent on the center of the pad for the "4" key there was a very small piece of clear to white plastic. Just a flake, but I suspect it prevented the dome spring from contacting the center pad since it is positioned almost dead center. I remove the plastic flake and put back the plastic cover and the problem is gone. I have 100% reliable presses directly against the plastic and through the rubber sheet.

This seems to be the fix for my calculator however the problem could be wide spread. So HP, check for contamination under the dome switches.

Re: HP15C- LE bad button

*Message #2 Posted by **Cristian Arezzini** on 9 Oct 2011, 1:35 a.m.,*
in response to message #1 by Djj

Great information, thank you! Now, if only HP hadn't used heat-stakes but screws, we all could fix our problems without ending with a loose calculator... :(

Cristian

Re: HP15C- LE bad button

*Message #3 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 6:27 a.m.,*
in response to message #2 by Cristian Arezzini

This would explain why some units have keys that are extremely hard to press and don't click at all:

contamination with some plastic residue that blocks the path of the key.

Are there tiny holes below the domes so that we can clean the keyboard from the back without cutting the heat stakes? There was such a mention for some other calculator in the past.

Re: HP15C- LE bad button

*Message #4 Posted by **Michael Kussmaul** on 9 Oct 2011, 7:34 a.m.,*
in response to message #1 by Djj

Great analysis!

May I ask you, how you re-applied the heat-stakes after you "cut" them off? As I'm having the same issue as you, I'm thinking of self-repairing the calculator myself as well...

Re: HP15C- LE bad button

*Message #5 Posted by **Djj** on 9 Oct 2011, 8:39 a.m.,*
in response to message #4 by Michael Kussmaul

I plan on using thread forming screws or small machine screws to reassemble the calculator.

Keep in mind this repair is a sample size of one. Other calculators could have other issues.

Re: HP15C- LE bad button

*Message #6 Posted by **Michael Kussmaul** on 9 Oct 2011, 11:28 a.m.,*
in response to message #5 by Djj

You are correct, but if I can reassemble the calculator afterwards, at least it should not make the problem worse :-)

I have not seen the internals of the 15c LE yet, but what you think, would it also be possible to just apply some glue on the cut heat-stakes? E.g. Some good two component glue or something?

Re: HP15C- LE bad button

*Message #7 Posted by **Reth** on 10 Oct 2011, 7:09 p.m.,*
in response to message #5 by Djj

Would you keep us posted about your success in reassembling the calculator?

Thanks in advance.

Re: HP15C- LE bad button

*Message #8 Posted by **John B. Smitherman** on 9 Oct 2011, 9:55 a.m.,*
in response to message #1 by Djj

Djj, now that you have seen and solved the problem do you think it would have been possible to shake the calculator hard enough to move the small piece of plastic out of the way?

John

Re: HP15C- LE bad button

*Message #9 Posted by **Gerardo Rincon** on 9 Oct 2011, 10:24 a.m.,*
in response to message #8 by John B. Smitherman

How about putting a strong vacuum cleaner hose to the key and create enough air movement inside to move the flakes out of place?

Re: HP15C- LE bad button

*Message #10 Posted by **Thomas Radtke** on 9 Oct 2011, 10:25 a.m.,*
in response to message #8 by John B. Smitherman

It would be terrible if that works. How many 'flakes' must there be to have a chance of one of them in a neuralgic position each 10th calculator? :-/

Re: HP15C- LE bad button

*Message #11 Posted by **NateB** on 9 Oct 2011, 11:15 a.m.,*
in response to message #10 by Thomas Radtke

When I purchased my 50g a few years ago I couldn't believe the amount of debris (too large to be described as dust) between the LCD and plastic cover. It was so bad I had to pull the plastic cover off and clean it out. The pieces were large enough to block contact between the snap domes and PCB.

Re: HP15C- LE bad button

*Message #12 Posted by **Djj** on 9 Oct 2011, 11:06 a.m.,*
in response to message #8 by John B. Smitherman

I doubt shaking the calculator could have dislodged the plastic. Vacuum won't work because the plastic film that holds the dome springs in place seals the assembly. I don't know if particles under the dome switches is the widespread problem. HP will have to figure that out.

Re: HP15C- LE bad button

*Message #13 Posted by **robert rozee** on 9 Oct 2011, 10:57 a.m.,*
in response to message #1 by Djj

an excellent analysis.

i worked on a product several years ago that used a very similar keyboard arrangement. there was a relatively small number of units produced per year (amounting to around 10 per day) selling to the customer for about $5k each. hence assembly was quite 'manual' orientated with many QC checks.

the white plastic sheet has adhesive applied with a stencil. there is a dot of adhesive (perhaps 3/16th of an inch across) that holds each of the domes in place, as well as adhesive in all areas well clear of the domes. in our case, a 'path' was also left clear of adhesive such that no closed air pockets were formed around keys.

as supplied to us, we received the white plastic sheet with the domes pre-applied. a waxed-paper (light blue coloured) backing sheet was also there to cover (just) the areas with exposed adhesive. the application process in the factory consisted of peeling off the blue backing sheet - being careful to not disturb the domes - and using an alignment jig to apply the white plastic sheet + attached domes to the keyboard PCB.

the possible failure modes were:

1. a dome could fall off, rendering a key completely non-functional

2. a dome could be moved out of position slightly, producing a key that would often operate ok but wouldn't 'click' due to the button pressing it other than in the dead centre

3. a stray scrap of the white plastic sheet, blue backing sheet, or a piece of loose adhesive, could get between dome and PCB during assembly, resulting in a key that would click but either not register, or only register if pressed hard.

the above three cases to seem to mirror closely the problems seen with the 12C/15C-LE.

Re: HP15C- LE bad button

*Message #14 Posted by **Martin Pinckney** on 9 Oct 2011, 12:41 p.m.,*
in response to message #1 by Djj

The silver lining in the 15c LE quality control cloud is that - they are repairable! Who would have expected that today?

Re: HP15C- LE bad button

*Message #15 Posted by **Eddie W. Shore** on 9 Oct 2011, 3:14 p.m.,*
in response to message #1 by Djj

The 15C LE problems are reminding me of the 49g+ keyboard problems when they first came out in 2003.

Re: HP15C- LE bad button

*Message #16 Posted by **Reth** on 9 Oct 2011, 4:54 p.m.,*
in response to message #1 by Djj

Excellent work! Now it seams that nothing can be done to fix a calculator without taking it apart and thus avoiding the (non-existent?) warranty? Cheers,

On the other hand, HP should be aware by now about the problem; they must have have done and found the same as you did.

HP, any comments?

Edited: 9 Oct 2011, 5:02 p.m.

Re: HP15C- LE bad button

*Message #17 Posted by **Michael de Estrada** on 9 Oct 2011, 5:13 p.m.,*
in response to message #16 by Reth

Sorry, but HP is busy developing the new ePad.

HP Support Team.

Re: HP15C- LE bad button

*Message #18 Posted by **DigiGal** on 12 Oct 2011, 12:54 p.m.,*
in response to message #1 by Djj

Djj - Got Photos of the teardown???

Re: HP15C- LE bad button

*Message #19 Posted by **Djj** on 13 Oct 2011, 11:22 p.m.,*
in response to message #18 by DigiGal

I bought two types of screws to reassemble my HP15C-LE. The first was a small thread forming screw #00 x 3/16" and the second was a 0-80 machine screw. I was hoping the thread forming screw would fit. I tried to order the same size as the small screw from the battery compartment since it seemed to be a good fit. I didn't get the size right and ended up with screws too small. My past experience with thread forming screws is that they can be difficult to size correctly and the fit is important to prevent cracking the plastic. There is not much excess plastic to thread into or deform in the thin plastic posts.

The machine screw size was a good fit so I went forward with it even though machine screws are not typically threaded into ABS plastic. I used a bottoming tap to form threads in the plastic posts. Then I just reassembled the calculator. The LCD is a little fragile so I placed it in position then set the PCB in place. The used small plastic washers under the 0-80 machine screws. I ran the self tests and everything is good and the keyboard feels great. I know I completely voided the warranty but the problem was bugging me.

I bought the machine screws, washers, and tap from McMastercarr.com

The PN for the tap is 2522A811, the washers are 90295A313, and the 0-80 phillips machine screws are 91772A054. the total was 21.50 + shipping.

I put a few pictures on photobucket at:

http://s1093.photobucket.com/albums/i427/djj2011/

Re: HP15C- LE bad button

*Message #20 Posted by **Reth** on 14 Oct 2011, 4:23 a.m.,*
in response to message #19 by Djj

Great job! Thanks a lot.

Re: HP15C- LE bad button

*Message #21 Posted by **DigiGal** on 14 Oct 2011, 10:44 a.m.,*
in response to message #19 by Djj

Nicely executed and documented, Thanks for sharing!

Re: HP15C- LE bad button

*Message #22 Posted by **Katie Wasserman** on 14 Oct 2011, 12:16 p.m.,*
in response to message #19 by Djj

Excellent! Thanks for letting us know how this worked out.

I suspect that this will be useful to many of us, you should post this as an article here so that it doens't get lost.

Edited: 14 Oct 2011, 12:20 p.m.

Re: HP15C- LE bad button

*Message #23 Posted by **linear** on 14 Oct 2011, 2:12 p.m.,*

in response to message #19 by Djj

Great work, Djj!

As Katie suggested, please make an article of your project! I think that many of us will be doing the same mod to fix "bad keys" on the 15C LE.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: a litlle matrix helper to enter and review matrices

*Message #1 Posted by **Miguel Toro** on 8 Oct 2011, 9:09 p.m.*

Hi,

Nothing fancy here, just a little routine to help entering and reviewing matrice for the WP 34s, based on the MIO application of the PPC ROM.

Hope you find it useful and please, any comment to improve it, is very very welcome.

Miguel

Edited: 8 Oct 2011, 11:59 p.m. after one or more responses were posted

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #2 Posted by **Paul Dale** on 8 Oct 2011, 9:53 p.m.,*
in response to message #1 by Miguel Toro

Marcus wrote a small matrix editor for the 34S. It is in the library directory on subversion at sourceforge.

I've no idea how the two compare -- I've used neither so far :)

- Pauli

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #3 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 6:19 a.m.,*
in response to message #1 by Miguel Toro

Mine ('MED') doesn't allow the sequential input of all elements. You need to navigate there with the arrows, start typing, press R/S, then one of the arrows again to go to the next element. Entering a single element needs either arrow navigation or manually setting I and J as the indexes.

What I don't like with your routine, Miguel, is that you have to press the function key, then enter the matrix descriptor and then R/S. Why not just enter the descriptor and then press the function key?

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #4 Posted by **Miguel Toro** on 9 Oct 2011, 7:12 a.m.,*
in response to message #3 by Marcus von Cube, Germany

You are correct. I will make the changes in the routine and the article.

Thank you Marcus.

Done!

Edited: 9 Oct 2011, 7:54 a.m. after one or more responses were posted

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #5 Posted by **Paul Dale** on 9 Oct 2011, 7:30 a.m.,*
in response to message #4 by Miguel Toro

Two editors has to be better than one :-)

- Pauli

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #6 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 8:18 a.m.,*
in response to message #4 by Miguel Toro

Quote:

```
Review an individual element of a matrix
BB.RRCC // Matrix descriptor
[C]
Row number (i)
[ENTER]
Column number (j)
[R/S]
--> Element value in X


Review an individual element of a matrix
BB.RRCC // Matrix descriptor
[D]
Row number (i)
[ENTER]
Column number (j)
[R/S]
New element value [R/S]
```

If you look closely at these two, they are completely identical from the user's point of view. The only difference is that he has to enter a value and press R/S again if he wants to update the cell. So why not just ditch [D] and add a STO operation just after the last STOP in [C]? If the user just wants to see an element he does not enter any new data.

Quote:

```
014 FIX 00
015 CL[alpha]                    // shows the next element indexes
016 [alpha]RC# X
017 [alpha]RC# Y
018 FIX[->]02
```

This can be replaced by [alpha]IP which appends only the integer part. You need to add a delimiter.

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #7 Posted by **Miguel Toro** on 9 Oct 2011, 8:55 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Great!!!

I will do the changes. Thank you very much Marcus.

Regards,

Miguel

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #8 Posted by **Miguel Toro** on 9 Oct 2011, 11:06 a.m.,*
in response to message #1 by Miguel Toro

I made a major overhaul of the routine (Marcus von Cube being the culprit of that :-)). The routine is simpler for the user and easy on resources for the WP 34s.

Thank you Marcus,

Miguel

Edited: 9 Oct 2011, 11:06 a.m.

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #9 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 11:19 a.m.,*
in response to message #8 by Miguel Toro

> Quote:
>
> Registers
> R01: Index to acces elements through the matrix

You get in trouble with a matrix starting in R00 or R01.

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #10 Posted by **Miguel Toro** on 9 Oct 2011, 11:51 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Yes,

It intended to begin at R10 so there are some registers left to do other things. I will write a comment, so at least leave R0 and R1 free.

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #11 Posted by **fhub** on 9 Oct 2011, 12:02 p.m.,*
in response to message #10 by Miguel Toro

> Quote:
>
> Yes,
>
> It intended to begin at R10 so there are some registers left to do other things. I will write a comment, so at least leave R0 and R1 free.

Why don't you use register I instead of R1? Then you won't have any restrictions where the matrix is located.

Re: WP 34S: a litlle matrix helper to enter and review matrices

*Message #12 Posted by **Miguel Toro** on 9 Oct 2011, 12:20 p.m.,*
in response to message #11 by fhub

Mince alors! I always forget about that. Certainly. I will change that.

Thanks,

Miguel

Done!

Edited: 9 Oct 2011, 2:11 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 97 needs to be repaired (Ciao Ignazio)

*Message #1 Posted by **aurelio** on 8 Oct 2011, 7:20 p.m.*

Hello, this message is for anyone, on this board who can help me, with his advices to repair a HP97 that I've just got in a quite pretty cosmetically conditions. Ignazio I would like to send you a private message but I can't do it, I don't know your post address.

1)The machine came with a network adapter and a battery pack maybe rebuilt, the pack doesn't hold the charge (I'm waiting for a new battery pack bouught on internet). the calculator turns on but shows sometimes an error message "-E ror -E"

2)The card reader is not working and when I tried to insert a card I got the message "error", the card i dirty from the gummy leakage: i think and I hope maybe it need just to clean it and replace whit a couple of "o rings" or , better a picece o a silicon tube.

3)The printer doesn't work properly, the card feeder run but slowely and there are no printed characters.

Edited: 9 Oct 2011, 2:43 a.m.

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #2 Posted by **Peter Geiser** on 9 Oct 2011, 8:36 a.m.,*
in response to message #1 by aurelio

Hi Aurelio

For repairing the card reader, please check out my page with a detailed guide:
http://www.pmgeiser.ch/calc/index.php?id=HP97cardReader

Best regards
Peter

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #3 Posted by **aurelio** on 9 Oct 2011, 10:03 a.m.,*
in response to message #2 by Peter Geiser

> Quote:
>
> Hi Aurelio
>
> For repairing the card reader, please check out my page with a detailed guide:
> http://www.pmgeiser.ch/calc/index.php?id=HP97cardReader
>
> Best regards
> Peter

Hello Peter! I will read your instructions, thank-you

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #4 Posted by **geoff quickfall** on 9 Oct 2011, 8:54 a.m.,*
in response to message #1 by aurelio

Sounds like you have it plugged into the wall wart (ac adaptor) without the battery pack installed.

Don't ;-)

insufficient power to operate the printer and card reader regardless of the card reader being dirty (which it probalby is).

Wait for your battery pack, charge it up as per the calc specs. Then test the printer. Clean the card reader and test with a charged battery pack.

Geoff

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #5 Posted by **aurelio** on 9 Oct 2011, 10:00 a.m.,*
in response to message #4 by geoff quickfall

> Quote:
>
> Sounds like you have it plugged into the wall wart (ac adaptor) without the battery pack installed.
>
> Don't ;-)
>
> insufficient power to operate the printer and card reader regardless of the card reader being dirty (which it probalby is).
>
> Wait for your battery pack, charge it up as per the calc specs. Then test the printer. Clean the card reader and test with a charged battery pack.
>
> Geoff

Hello Geoff and thank-you for the answer: Unfortunately I don't know if the previous owner switched on it without the battery pack installed, hope not. I never did it because I read in the forum archives the reasons to avoid it (I don' understand why these machines were not protected at that time against this kind of problems, but far from these kind of discussions..) So I'm waiting for the battery pack then I'll try again

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #6 Posted by **Paul Berger (Canada)** on 9 Oct 2011, 8:02 p.m.,*
in response to message #5 by aurelio

Well The 97 is protected, however it will not function correctly it relies on the battery pack for a couple things. The first is power supply smoothing, there does not seem to be any effective power supply filter caps in the 97 that I can find. on my 97 if I plug it in without a battery pack the display flickers. The other thing is the AC input is mainly for charging the battery and cannot produce enough current to operate the printer, a charged battery is required for that.

Re: Hp 97 needs to be repaired (Ciao Ignazio)

*Message #7 Posted by **Michael de Estrada** on 9 Oct 2011, 8:13 p.m.,*
in response to message #6 by Paul Berger (Canada)

IIRC, someone on this forum has stated that operating the printer w/o a battery installed can/will damage the printer. IDK if this is true, and have never attempted to do this with any Topcat.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2011 on YouTube

*Message #1 Posted by **Peter Murphy (Livermore)** on 8 Oct 2011, 3:52 p.m.*

If it's been mentioned here I've missed it: YouTube has 18 of the talks given at HHC 2011.

A search in YouTube for <hhc 2011 san diego> turns them up.

Re: HHC 2011 on YouTube

*Message #2 Posted by **Howard Owen** on 8 Oct 2011, 4:06 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Thanks, Jake!

Whoops, not Jake's camera. Who took these?

Edited: 8 Oct 2011, 4:08 p.m.

Re: HHC 2011 on YouTube

*Message #3 Posted by **David Hayden** on 8 Oct 2011, 7:10 p.m.,*
in response to message #2 by Howard Owen

I'm not certain, but I suspect these are Eric Rechlin's videos.

Re: HHC 2011 on YouTube

*Message #4 Posted by **geoff quickfall** on 9 Oct 2011, 8:48 a.m.,*
in response to message #3 by David Hayden

From the angle, I would say yes to Erics videos, What is amazing is how small the camera was!

Geoff

Re: HHC 2011 on YouTube

*Message #5 Posted by **Geir Isene** on 8 Oct 2011, 6:16 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Very neat. Enjoyed the talk on the SR-60 and of course the 41CL ;)

Re: HHC 2011 on YouTube

*Message #6 Posted by **geoff quickfall** on 9 Oct 2011, 8:50 a.m.,*
in response to message #5 by Geir Isene

the talks started at 7:30 am and ended at 10:40pm with the CL on Saturday.

Had to wake some people up, hence the name change for the title. It was alot of fun as usual!!

Joes talks are always GOOD!

Cheers, Geoff

Re: HHC 2011 on YouTube

*Message #7 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:15 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

It's evident why Joe Horn won the Best Speaker Award. :-)

I still have to learn some more English... :-/

Re: HHC 2011 on YouTube

*Message #8 Posted by **Keith Midson** on 8 Oct 2011, 9:47 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I loved the presentation by Dennis Harms on why the 12C has lasted so long. Keith

Re: HHC 2011 on YouTube

*Message #9 Posted by **Allen** on 8 Oct 2011, 10:55 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Wow! I did a search for "HHC 2011"- I never knew you guys could dance so well!

Re: HHC 2011 on YouTube

*Message #10 Posted by **Ethan Conner** on 8 Oct 2011, 11:05 p.m.,*
in response to message #9 by Allen

LOL!

Re: HHC 2011 on YouTube

*Message #11 Posted by **Paul Dale** on 9 Oct 2011, 1:17 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Very nice to see many of these talks.

- Pauli

Re: HHC 2011 on YouTube

*Message #12 Posted by **Bill (Smithville, NJ)** on 9 Oct 2011, 11:20 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

The talks are great. Thanks for posting them on youtube.

The best part is I now have a face to go with the names I have seen so often here on the forum.

Bill

Re: HHC 2011 on YouTube

*Message #13 Posted by **Eddie W. Shore** on 9 Oct 2011, 3:16 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Liking the videos, thanks! These are good to listen to for inspiration or just going through the workday. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Manual for vintage Russian MK-61 RPN programmable calculator?

*Message #1 Posted by **Cristian Arezzini** on 8 Oct 2011, 3:22 p.m.*

Sorry if this is off-topic - it's not an HP calculator, but it's RPN and it's programmable, and it's old so it fits in a museum site! :) I have one of these beasts and it's really interesting - lots of "hidden functions", illegal opcodes and the possibility of synthetic programming... Nice for a nerd! :) Anyway, I managed to learn the basic use, but I really need a manual and I can't read Russian. I found a "functions table" in English, but no complete manual. Does anyone know if such a translation exists somewhere?

Thanks, Cristian

Re: Manual for vintage Russian MK-61 RPN programmable calculator?

*Message #2 Posted by **Bunuel66** on 8 Oct 2011, 4:15 p.m.,*
in response to message #1 by Cristian Arezzini

You probably know: http://www.alfredklomp.com/technology/mk-61/ I have also one ;-)

Regards

Re: Manual for vintage Russian MK-61 RPN programmable calculator?

*Message #3 Posted by **Bunuel66** on 8 Oct 2011, 4:17 p.m.,*
in response to message #1 by Cristian Arezzini

And also: http://www.taswegian.com/MOSCOW/mk-61.html and http://gregescov.tripod.com/keys.htm

Re: Manual for vintage Russian MK-61 RPN programmable calculator?

*Message #4 Posted by **Cristian Arezzini** on 8 Oct 2011, 6:03 p.m.,*
in response to message #3 by Bunuel66

Yes, I knew those pages, but thanks anyway because it was interesting to re-read them after a long time! :) They were very useful because they enabled me to start using the calculator; but I'd like to be able to take advantage of the (supposedly very good) full manual...

Cristian

Re: Manual for vintage Russian MK-61 RPN programmable calculator?

*Message #5 Posted by **Michael de Estrada** on 8 Oct 2011, 6:15 p.m.,*
in response to message #4 by Cristian Arezzini

I have an MK-61 as well. Did you also get the complete electrical schematic diagram sheet with it ?

I just picked up an MK56

*Message #6 Posted by **Michael de Estrada** on 8 Oct 2011, 8:05 p.m.,*
in response to message #5 by Michael de Estrada

Shortly after my post above, I picked up a very clean looking Elektronika MK56, which is the desktop equivalent to the MK61. It also has a green VFD display and runs directly from a 220 vac mains.

Re: I just picked up an MK56

*Message #7 Posted by **Cristian Arezzini** on 9 Oct 2011, 1:48 a.m.,*
in response to message #6 by Michael de Estrada

Hehe, and I just bought a MK52, which is functionally the same but in landscape format (!) and with a "persistent memory" - supposedly the only calculator ever with an onboard EEPROM for program storage - and an expansion port. Fascinating machines! :) I love to disassemble them and see how different soviet electronics looked back then... Now they look the same as western ones, but then, now everything is made in China! :)

Mine did not come with a schematic, I don't know if it is a later build (the manual got progressively simpler and smaller with time) r if the previous owner just lost it.

Cristian

Re: I just picked up an MK56

*Message #8 Posted by **Michael de Estrada** on 9 Oct 2011, 2:02 a.m.,*
in response to message #7 by Cristian Arezzini

My MK61 came in a box with a 208 page manual, the schematic, AC adapter, soft slip case and calculator. The back is molded 92 06, so I assume it means that it was manufactured in June, 1992. Also, several pages in the back of the book are stamped and hand written 12.10.92, which suggests that it was sold on 12 October 1992.

Re: I just picked up an MK56

*Message #9 Posted by **Cristian Arezzini** on 9 Oct 2011, 3:38 a.m.,*
in response to message #8 by Michael de Estrada

Mine is marked "88 10" so it's older than yours, I suppose this means the original owner just lost the schematic. But I downloaded it somewhere. Though I'm not at the point where I'd need a schematic yet... I'd be happy enough with a usable (for me) manual! :)

Cristian

Re: I just picked up an MK56

*Message #10 Posted by **spb** on 11 Oct 2011, 2:20 a.m.,*
in response to message #7 by Cristian Arezzini

> Quote:
>
> Hehe, and I just bought a MK52, which is functionally the same but in landscape format (!) and with a "persistent memory" - supposedly the only calculator ever with an onboard EEPROM for program storage - and an expansion port. Fascinating machines! :) I love to disassemble them and see

> how different soviet electronics looked back then... Now they look the same as western ones, but then, now everything is made in China! :)
>
> Mine did not come with a schematic, I don't know if it is a later build (the manual got progressively simpler and smaller with time) r if the previous owner just lost it.
>
> Cristian

The Elektronika MK 52 came with a schematic at least part of the time; the one I own came with one.

My favourite Elektronika calculator has to be the MK 54, which was a clone of the B3-34 (Elektronika's first really big programmable) in a case identical to the MK 61's. Since the B3-34 only had one shift key and the MK 61 has two, this means that the MK 54 has a shift key that isn't used by any function of the calculator.

The key is not, as you might think, just not connected to anything, however. Using it before any function will give a familiar-to-any-Elektronika-user `eggog'.

The MK 52 might be the only calculator to have EEPROM storage, but the MK 54 has to be the only one that has an error button.

Re: I just picked up an MK56

*Message #11 Posted by **Cristian Arezzini** on 11 Oct 2011, 3:51 a.m.,*
in response to message #10 by spb

> Quote:
>
> ---
>
> The MK 52 might be the only calculator to have EEPROM storage, but the MK 54 has to be the only one that has an error button.
>
> ---

I'd heard about that calculator, and of its incredible "Error" button! :)

I've been experimenting a lot with my MK61, and I'm starting to wonder if maybe I have an unusual ROM revision... because some of the procedures needed to enter some of the weird, unofficial, "hacker" modes give unexpected results (while the emulator and other people's 61s work as expected). Instead of being able to enter some illegal opcodes or numbers, my calculator enters a weird, semi-unstable state which I don't understand (yet). And I have no idea why.

It's a shame that with all the huge amount of articles and documentation about these programmables published in Russian, almost nothing has been translated, or is available in any way...

Cristian

Re: I just picked up an MK56

*Message #12 Posted by **fhub** on 11 Oct 2011, 4:46 a.m.,*
in response to message #11 by Cristian Arezzini

Since here seems to be a MK-xx fanclub ;-)

Do you know this site:
http://www.pisi.com.pl/piotr433/

It has many infos (and emulators!) for the MK-85 and MK-90! :-)

Franz

Re: I just picked up an MK56

*Message #13 Posted by **x34** on 11 Oct 2011, 5:15 a.m.,*
in response to message #11 by Cristian Arezzini

There is no unused prefix button on MK-54. If you mean blue "K" button, then it is used as indirect prefix for some functions -e.g. K ∏->x is equivalent to RCL (x). (∏ stands for Russian P, which looks like Product symbol or inverted U, so K U->x.)

Strange behaviour of MK-54 is frequently caused by unstable power (check oxidized contacts) or instability of generator. There are lot of information on Russian sites.

Edited: 11 Oct 2011, 5:18 a.m.

Re: I just picked up an MK56

*Message #14 Posted by **spb** on 14 Oct 2011, 8:02 p.m.,*
in response to message #13 by x34

> Quote:
>
> There is no unused prefix button on MK-54. If you mean blue "K" button, then it is used as indirect prefix for some functions -e.g. K ∏->x is equivalent to RCL (x). (∏ stands for Russian P, which looks like Product symbol or inverted U, so K U->x.)

Interesting. Unfortunately, I can't reproduce the behaviour you describe on my MK 54. I also note that the Elektronika calculator emulator I have doesn't reproduce the behaviour you describe on the MK 54.

I'm also not sure I'm following what you're saying. In the example you give, the K shift button isn't being used as an indirect prefix. Unless I misunderstand you, you're saying that it's acting as a NOP, because the unshifted Π -> x key does what you're describing.

Re: I just picked up an MK56

*Message #15 Posted by **Cristian Arezzini** on 15 Oct 2011, 7:03 a.m.,*
in response to message #14 by spb

> Quote:
>
> I also note that the Elektronika calculator emulator I have doesn't reproduce the behaviour you describe on the MK 54.

That might not be meaningful - I found out that the emulator is not really an emulator, but a simulator - it doesn't use the original firmware of the actual calculators. For example, it doesn't handle "Zggog" on the 61...

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Nerdvana & mass production of FOCAL rom images

*Message #1 Posted by **Geir Isene** on 8 Oct 2011, 3:09 p.m.*

Firstly; Here's my latest blog post celebrating my new HP-41CL:

NERDVANA

Secondly; I realized a shortcut to easy production of FOCAL program rom images for the HP-41. With no knowledge of MCODE:

1. Load HEPAX into your CL (use the function HEPCL from the CLUTILS rom)
2. Save your favorite FOCAL programs to HEPAX RAM (use HSAVEP)
3. Transfer the 4K HEPAX RAM block to your PC using the serial connector or a PIL BOX
4. Use the conversion from LIF file to ROM file as detailed in Geoff's QRG for the 41CL

Optionally you can add an MCODE header, set the XROM# for your module and set the ROM ID and version number. This requires onl a very basic knowledge of MCODE.

With this, we could see an avalanche of new FOCAL rom images :)

Re: Nerdvana & mass production of FOCAL rom images

*Message #2 Posted by **Dwight Sturrock** on 8 Oct 2011, 11:13 p.m.,*
in response to message #1 by Geir Isene

By FOCAL do you mean RPN keystroke programming?

Re: Nerdvana & mass production of FOCAL rom images

*Message #3 Posted by **Geir Isene** on 9 Oct 2011, 6:24 a.m.,*
in response to message #2 by Dwight Sturrock

Yes, the keystroke programming of the HP-41.

Re: Nerdvana & mass production of FOCAL rom images

*Message #4 Posted by **Ángel Martin** on 9 Oct 2011, 8:23 a.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> With this, we could see an avalanche of new FOCAL rom images :)

Well, looking forward to that avalanche!

Once again, the HEPAX proves to be the cornerstone of the 41 system.- I don;t know what we'd do without it.

I use a similar method on my MLDL2k, which I think is better and easier than the PILBox plus the LIF conversion. You should try it out, maybe the avalanche becomes a deluge!

on the HEPCL function - I've thought about doing a subset configuring just 8k of HEPAX RAM, instead of the 16 it does currently. Will that jive?

Best, 'AM

Re: Nerdvana & mass production of FOCAL rom images

*Message #5 Posted by **Geir Isene** on 9 Oct 2011, 8:49 a.m.,*
in response to message #4 by Ángel Martin

That will Jive - as I only use 8K of HEPAX RAM at a time (holding several sets of 8K HEPAX RAM pages to switch between)

... I don't have an MLDL:(

Suggestion for the start of the flood?

*Message #6 Posted by **gene wright** on 9 Oct 2011, 5:38 p.m.,*
in response to message #4 by Ángel Martin

I think ALL of the programs from the HP 41 solution books are prime candidates. Most of them can be barcode scanned into a 41.

Just imagine having all of *that* material available on your 41CL as well as what is already there.

Wow!

Re: Suggestion for the start of the flood?

*Message #7 Posted by **Ángel Martin** on 10 Oct 2011, 1:43 a.m.,*
in response to message #6 by gene wright

Well, I for one don't think that many of those programs would be worth the effort - besides a librarian appeal, of course. They're quite aged, most were written during the initial phase of the 41's existence and don't even use X-Functions.

There were other programs in the User's Library more worthy of this type of project, it's a shame no indexed listing remains, or no repository was made - beyond what's left on TOS and this very museum site.

Just my 2 cents, only one person's opinion.

Best, 'AM

Re: Suggestion for the start of the flood?

*Message #8 Posted by **Geir Isene** on 10 Oct 2011, 2:14 a.m.,*
in response to message #7 by Ángel Martin

Well, there are some interesting one's - like those of the User Libraries of Physics, Marketing/Sales, Games I/II...

Re: Suggestion for the start of the flood?

*Message #9 Posted by **Ángel Martin** on 10 Oct 2011, 7:49 a.m.,*
in response to message #8 by Geir Isene

A few (the most interesting ones) from the Games I/II are in the FUNSTUFF and ADVENTURE modules, part of your CL Libray indeed.

Re: Suggestion for the start of the flood?

*Message #10 Posted by **gene wright** on 10 Oct 2011, 9:54 a.m.,*
in response to message #9 by Ángel Martin

Couple of thoughts:

1) What's useful to you or me might not be useful to others and vice versa. Some of those programs are certainly application oriented, but having them in .rom format will preserve them and allow them to be used by doing some UPLUG and PLUG commands. :-) Please don't dismiss the idea too quickly. :-)

2) A number of HP 41 programs can be found here on David Ramsey's site:

HP documents FTP link

Re: Nerdvana & mass production of FOCAL rom images

*Message #11 Posted by **Håkan Thörngren** on 9 Oct 2011, 3:30 p.m.,*
in response to message #1 by Geir Isene

Or install NutStudio Tools on your host computer.

1. Copy the games example (from the installation) to a new work folder.
2. Copy all the RPN files (text or raw) you want in your module into the work folder.
3. Edit the Makefile to mention the RPN files.
4. Make a trivial edit to header.s to change the name of the module, XROM number and XROM ID.
5. Optionally edit games.ModDesc (XML file) to set correct MOD metadata.
6. Run 'make' and it will put together your new RPN module.

You can omit step 4 and 5 initially.

All very easy steps. NutStudio Tools have been able to do ths for a while, but no avalanche of RPN modules...

Re: Nerdvana & mass production of FOCAL rom images

*Message #12 Posted by **Egan Ford** on 10 Oct 2011, 4:52 a.m.,*
in response to message #11 by Håkan Thörngren

I keep forgetting that this exists. Can you provide the URL again?

BTW, I love the name, "NutStudio".

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

HP-46 faulty keys - to Katie

*Message #1 Posted by **Juergen Keller** on 8 Oct 2011, 1:49 p.m.*

I've got an HP-46 which is in working condition except that some keys do not work at all. In some old forum threads I found a note from Katie that the cause might be a bad filter cap which might cause all sorts of weird behavior. Katie, can you confirm this?

Re: HP-46 faulty keys - to Katie

*Message #2 Posted by **Katie Wasserman** on 8 Oct 2011, 2:25 p.m.,*
in response to message #1 by Juergen Keller

I definitely seen flaky printer output when there's bad filter capacitor, but I don't remember if I've seen flaky key functions in that case.

Re: HP-46 faulty keys

*Message #3 Posted by **Juergen Keller** on 8 Oct 2011, 4:04 p.m.,*
in response to message #2 by Katie Wasserman

Thanks for your quick response. Well, the printer works like a charm, but some keys on the left (SIN, COS, TAN, TO POL, X^2) don't respond at all. Too bad, it's in nice condition.

Re: HP-46 faulty keys

*Message #4 Posted by **Tony Duell** on 9 Oct 2011, 3:48 a.m.,*
in response to message #3 by Juergen Keller

According to the schematic, those keys are one complete electrical row (row 2) of the keyboard. I'd start by checking that there's continuity between the appropriate connections of the keyswitches and pin 8 of the Control&Timing IC. If not, check the keyboard DIL connector, cable, etc. If that's OK, I suspect the C&T IC itself.

Re: HP-46 faulty keys

*Message #5 Posted by **Juergen Keller** on 10 Oct 2011, 4:23 a.m.,*
in response to message #4 by Tony Duell

Thank you for your suggestion. I will try to isolate the problem. If the C&T IC is faulty I guess there's not much chance to repair it.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c LE arrived in Madrid, Spain

*Message #1 Posted by **Joaquin Herrero** on 8 Oct 2011, 10:04 a.m.*

Limited edition number 00276. New tests (g + ENTER + ON) passed succesfully. Old tests fail (seems that old tests failure is "normal") and every key works.

Now I have a 16c, a 11c and this new baby.

Re: HP-15c LE arrived in Madrid, Spain

*Message #2 Posted by **db (martinez, ca.)** on 8 Oct 2011, 10:53 a.m.,*
in response to message #1 by Joaquin Herrero

Sr. Herrero;

There is some conjecture here as to how people found out about the new 15. The guesses go that they discovered it through this forum from between 90% down to 0.9% of cases. Since I don't recognize your name, i wondreed how the 15cle came to your attention?

Re: HP-15c LE arrived in Madrid, Spain

*Message #3 Posted by **Joaquin Herrero** on 8 Oct 2011, 3:21 p.m.,*
in response to message #2 by db (martinez, ca.)

I have some search terms programmed in Twitter and one of them is "HP calculators" and there I heard about the new 15c LE. Don't remember the name of the guy who tweeted about this.

Re: HP-15c LE arrived in Madrid, Spain

*Message #4 Posted by **Eddie W. Shore** on 8 Oct 2011, 11:52 a.m.,*
in response to message #1 by Joaquin Herrero

Nice!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE - arrived!

*Message #1 Posted by **Thomas Radtke** on 8 Oct 2011, 7:54 a.m.*

Bought from SC, paid $94,99 + $18 shipping, about 16 Euro taxes. No rattling f, g keys, all keys registering. LE-No. 2936.

Guess I'm extremly lucky - and for sure happy :-).

Re: 15C LE - arrived!

*Message #2 Posted by **Alexander Oestert** on 8 Oct 2011, 8:07 a.m.,*
in response to message #1 by Thomas Radtke

See! I told you so! ;)

Re: 15C LE - arrived!

*Message #3 Posted by **Thomas Radtke** on 8 Oct 2011, 1:07 p.m.,*
in response to message #2 by Alexander Oestert

Trusting your crystal bowl (of course!), I had a hard time nonetheless ;-).

Keys feel exactly like those of the 35s (surface and feedback on keypress), but this moment of horror went away after just a few seconds. For some instant fun, I implemented my 32SII program for the HHC2011 excercise/contest. Writing, but never reading operating instructions, I missed the x=y? test and replaced it with "- x=0?". Accidently, without actually realizing what I did, I glanced through the backplate text and found TEST 5 afterwards. Oh well...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41-MCODE Question

*Message #1 Posted by **Ángel Martin** on 8 Oct 2011, 6:13 a.m.*

Does anyone know which OS rutine is called to display a mainframe function NAME while a key is being depressed?

I've located the equivalent for an XROM function, but it doesn't seem work for mainframe ones.

Appreciate any hints that save me long & tricky trace analysis!

Best, 'AM

Re: 41-MCODE Question

*Message #2 Posted by **Eric Smith** on 9 Oct 2011, 1:07 a.m.,*
in response to message #1 by Ángel Martin

I think the routine that displays the name is PROMFC (05C7), but in the specific case you're asking about, it may be using the entry point PROMF2 (01D3), called from 0CD2 (a few lines after PARS75).

However, I haven't tried to verify any of this, so I could be completely wrong.

It doesn't look like PROMFC (or PROMF2) are usable as a subroutine from a ROM of your own, if that's what you're looking for.

Edited: 9 Oct 2011, 1:08 a.m.

Re: 41-MCODE Question

*Message #3 Posted by **Ángel Martin** on 9 Oct 2011, 5:26 a.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> I haven't tried to verify any of this, so I could be completely wrong.

If there's something I've learned in this forum is that you're *never* completely wrong, Eric. In fact you're absolutely correct, such is the routine I was looking for.

> Quote:
>
> It doesn't look like PROMFC (or PROMF2) are usable as a subroutine from a ROM of your own, if that's what you're looking for.

I'm not sure that I get your comment: I've been able to call it form my SandMath module without issues. All it needs is the entry point of the invoked function in A[S&X], for instance that'll be 07D for SDEV,

07C for MEAN, ect. This is reading from the FNCTBL to get the location of the function.

The reason I wanted to know about this is to implement a menu-like launcher, something akin to the 42-style (and later models).

Function "-PB/STS" in the SandMath now prompts a menu in the display, and gets into a [NEXT] partial entry sequence. The allowed choices are the five top keys, SHIFT, and BackArrow (as always). SHIFT toggles the displayed menu to another 5 choices, which in this case are:

Unshifted: SD: CV: R: LR: Y:
shifted: MN: LM: GD: C: P:

here SD is for Standard Deviation, and MN is for Mean - while the others are functions from the SandMath ROM.

Pressing any of the top keys will first display the function name (if the key is kept depressed), then leave the partial entry sequence and execute the corresponding function.

It all worked great, with the exception of displaying the function names for the mainframe MEAN and SDEV.

Now that's also working. Menus are very doable, the HP-41.5 is born :-)

Thanks again, 'AM

Re: 41-MCODE Question

*Message #4 Posted by **Eric Smith** on 10 Oct 2011, 5:03 p.m.,*
in response to message #3 by Ángel Martin

Cool! I'm looking forward to trying the new version of SandMath.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A real 15C ...

*Message #1 Posted by **Keith Midson** on 8 Oct 2011, 5:04 a.m.*

Looks like this HP-15C
;) Keith

Edited: 8 Oct 2011, 5:05 a.m.

Re: A real 15C ...

*Message #2 Posted by **hpnut** on 8 Oct 2011, 5:49 a.m.,*
in response to message #1 by Keith Midson

Looks like a Sherman tank just passed over it and none the worse happened :-)

I have a battered HP 12C, also of similar durability.

hpnut in Malaysia

Re: A real 15C ...

*Message #3 Posted by **Keith Midson** on 9 Oct 2011, 12:40 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> I have a battered HP 12C, also of similar durability.

The worst 12C I have is this one

Re: A real 15C ...

*Message #4 Posted by **Thomas Radtke** on 8 Oct 2011, 5:54 a.m.,*
in response to message #1 by Keith Midson

Nice find from the trash-dump.

Re: A real 15C ...

*Message #5 Posted by **Mike Morrow** on 8 Oct 2011, 8:41 a.m.,*
in response to message #1 by Keith Midson

I seriously doubt the pictured example has seen much actual use at all. Perhaps there has been some of instances of abuse, but that's all. It is impossible to use any Voyager regularly without wear on the model "badge" becoming apparent...and this example has none.

Re: A real 15C ...

*Message #6 Posted by **Keith Midson** on 8 Oct 2011, 10:12 a.m.,*
in response to message #5 by Mike Morrow

I've uploaded a photo of the back of the calculator now - definitely lots signs of use there! Perhaps the lack of wear on the emblem is to do with not being moved in and out of the slip cover for many years?

Re: A real 15C ...

*Message #7 Posted by **Roger Blake** on 8 Oct 2011, 10:49 a.m.,*
in response to message #5 by Mike Morrow

My HP15c had LOTS of use and its badge was absolutely fine. Unfortunately the whole calculator was dropped and smashed two years ago.

In contrast my HP16C - which I still have - had far less use but lost its badge years ago and more recently the chrome panel had buckled and come loose. Works perfectly though :-)

Re: A real 15C ...

*Message #8 Posted by **uhmgawa** on 8 Oct 2011, 12:12 p.m.,*
in response to message #1 by Keith Midson

> Quote:
>
> Looks like this HP-15C
> ;) Keith

Didn't you win the auction on that US$79-ish 15c which looked like it was used in a corrosion experiment? If so I believe you are on the hook to share pictures with the class of that unfortunate casualty. In any case that 15c leaves the specimen above in the dust w/r/t horrific condition.

Re: A real 15C ...

*Message #9 Posted by **robert rozee** on 8 Oct 2011, 12:27 p.m.,*
in response to message #8 by uhmgawa

> Quote:
>
> Didn't you win the auction on that US$79-ish 15c which looked like it was used in a corrosion experiment?

now that raises an interesting question - what if a nice person from HP were to supply a new bezel and keyboard plate from the 15LE production line? would these brand new parts fit on an original 15C? would the parts need trimming?

perhaps TW might comment?

Re: A real 15C ...

*Message #10 Posted by **Keith Midson** on 8 Oct 2011, 8:25 p.m.,*
in response to message #9 by robert rozee

> Quote:

> Didn't you win the auction on that US$79-ish 15c which looked like it was used in a corrosion experiment? If so I believe you are on the hook to share pictures with the class of that unfortunate casualty. In any case that 15c leaves the specimen above in the dust w/r/t horrific condition.

No, I bought this for about $120 in 2009. From memory, there was little information from the seller other than something like "well used/ as is, etc". It was actually the first 15C I purchased, but I sold it later that year when I found a better one.
I am an engineer and many examples I see in engineering offices are similar to this. There is one design office that I visit for work occasionally where there are 4 x 15C's in active duty. All are very well worn, similar to my Flickr example. One has been missing its battery cover for years and is taped up with sticky tape, one is missing it's 15C emblem. I think what happens to many of these is they remain on a desk where the get knocked, bumped, dropped, etc.
Keith

Re: A real 15C ...

*Message #11 Posted by **Keith Midson** on 8 Oct 2011, 11:04 p.m.,*
in response to message #10 by Keith Midson

I should also add that the reason for posting this pic was my fascination with how a calculator (the 15C) can be used exclusively for so many years by some professionals without replacement. It is hard to imagine that happening these days (think of how often most people change their mobile phone). Even graduates these days do not seem to have the need for such a close connection to a specific calculator.
What is also amazing is that they last for so long (also the batteries). Will the 15C-LE last 30 years under daily hard working conditions? Probably not (nothing against the LE - I have 2 and praise HP for its re-release - I have one in front of me right now as i'm multitasking work and other stuff), but quality of manufacturing is just not the same in this mass-produced age.
Keith

Re: A real 15C ...

*Message #12 Posted by **Frank Rottgardt** on 8 Oct 2011, 12:48 p.m.,*
in response to message #1 by Keith Midson

can also look like this one:

a real work horse

Re: A real 15C ...

*Message #13 Posted by **uhmgawa** on 8 Oct 2011, 1:18 p.m.,*
in response to message #12 by Frank Rottgardt

> Quote:
>
> can also look like this one:
>
> a real work horse

Wow. I believe we have a new first place winner. Although the suspect corrosion experiment cited above was impressive, it was likely victim of lying derelict in a hostile environment. The unit here was simply

used to death. I suppose if there is any right way for a voyager to check out, this may be the most respectful.

HP: Please buy this from the owner and place it in your corporate museum, forever running the ON/x self test.

Edited: 8 Oct 2011, 1:37 p.m.

Re: A real 15C ...

*Message #14 Posted by **Dave Shortt** on 10 Oct 2011, 9:19 p.m.,*
in response to message #12 by Frank Rottgardt

Gives new meaning to the phrase "calculator battery." :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Does anyone have access to rapid prototyping?

*Message #1 Posted by **Hugh Evans** on 7 Oct 2011, 6:31 p.m.*

With a community such as this, it's certainly worth asking. You can probably guess what this is for as well, and you would be correct in your assumption. I need two major parts with the largest measuring about 3"x5"x3/8" while the other is literally a sheet of keys. All of this will fit into a deep drawn enclosure and eventually require a rubber case for grip and shock protection.

Next: get ready for some physical hardware. I have designs in CAD and they are looking amazing. Otherwise, don't expect to hear much from OpenRPN until major developments take place. If you have any questions, feel free to shoot me an email. We are looking for a host aside from sourceforge as well. I can't wait to share what I've been working on with everyone here!

We are actively recruiting sw, hw, and documentation talent if you have skills you would like to contribute. OpenRPN is alive and underground. But the next response from the intended end users (you) is "WOW!"

Thanks! I look forward to hearing from you soon!

Re: OT: Does anyone have access to rapid prototyping?

*Message #2 Posted by **uhmgawa** on 7 Oct 2011, 7:07 p.m.,*
in response to message #1 by Hugh Evans

> Quote:
>
> We are actively recruiting sw, hw, and documentation talent if you have skills you would like to contribute. OpenRPN is alive and underground.

If you could provide some details of the project's charter it may help prospective contributors decide whether or not it is of interest to them. Otherwise such a semi-clandestine appearance begs the question whether this is indeed an open vs. commercial endeavor, either which may be attractive to folks, but from different motivations.

FWIW a major attraction for myself (and I'd hazard others as well) to contribute to an open effort is the ability to be involved in the definition phase of the design, rather than jumping in to help productize someone else's preconceived brain child.

Re: OT: Does anyone have access to rapid prototyping?

*Message #3 Posted by **Hugh Evans** on 8 Oct 2011, 12:48 a.m.,*
in response to message #2 by uhmgawa

Valid concerns, more information will be available shortly. There will be community involvement in the definition, although since this is a reboot I can already rattle off a set of specs that 99% of the people here would not complain about. Physical production is a risk I will most likely be assuming, which ultimately means that the community has more overall say over the software.

For now, I recommend staying tuned while information is made available. Messages on this board will be sparse and largely limited to major announcements of progress.

Feel free to send me an email if you have any specific questions or concerns.

Re: OT: Does anyone have access to rapid prototyping?

*Message #4 Posted by **uhmgawa** on 8 Oct 2011, 12:27 p.m.,*
in response to message #3 by Hugh Evans

> Quote:
>
> Valid concerns, more information will be available shortly. There will be community involvement in the definition, although since this is a reboot I can already rattle off a set of specs that 99% of the people here would not complain about..
>
> Feel free to send me an email if you have any specific questions or concerns.

Ok, could you share the above "set of specs" so I (and likely others) could assess their interest in this open project?

One point I'd offer is a device such as a calculator (I assume that's what we're discussing) is most successfully approached as an exercise in functional/UI/software/hardware/mechanical/manufacturing codesign rather than a concentration on a convenient subset of the above with the balance left as an afterthought. I have no idea where you're at in the process however from my reading above it appears the effort may not be receiving benefit of a concurrent engineering approach.

Edited: 8 Oct 2011, 12:56 p.m.

Re: OT: Does anyone have access to rapid prototyping?

*Message #5 Posted by **Hugh Evans** on 8 Oct 2011, 2:41 p.m.,*
in response to message #4 by uhmgawa

I don't want to create confusion by listing specs that are not yet set in a public forum. If you send me a PM I will be happy to discuss this at length with you. A great deal of room exists for changes right now and I am being vague and evasive only because I *want* to avoid any confusion at this stage.

A fully concurrent engineering approach would be ideal, but in my experience it is questionably feasible at best with all volunteer labor working on a specialized niche device. You sound like you're holding back on some thoughts regarding how best to approach this project, and I would appreciate it if you would share your thoughts with me. Progress will likely not be as fast as many of us would like. One important lesson I learned the first time around is that the physical components present the greatest challenge, and that is what people require proof of to generate real interest.

The end users here want a reliable scientific tool that will last a very long time. That means never cutting corners for the sake of improving margins, and going for the best quality of build that is possible. Long battery life, access to internal features/expansion similar to a development kit, keys that feel solid and provide excellent tactical feedback (go "click" every time and register), a high contrast display, and the ability to expand.

Again, if you have questions I don't think cluttering this forum is the place for it. Until there is

something to show off, I want to keep quiet.

Re: OT: Does anyone have access to rapid prototyping?

*Message #6 Posted by **Matt Fegenbush** on 7 Oct 2011, 8:27 p.m.,*
in response to message #1 by Hugh Evans

I have own machining equipment and have the design and programming experience with making injection molds for production as well as ersatz molds for making mockup components.

Long story short, I would like to be involved.

Re: OT: Does anyone have access to rapid prototyping?

*Message #7 Posted by **Hugh Evans** on 11 Oct 2011, 10:44 p.m.,*
in response to message #6 by Matt Fegenbush

Matt,

I'm not sure if you received my e-mail. We can discuss details of the designs at OpenRPN.org and hopefully get the ball rolling. The priority is to create a physically complete hardware platform for development. Basically, we need a field to play the game and nice drawings or even simulations don't count.

Alternatively, you can respond via email through this site or direct: hugh.evans at columbus dot rr dot com.

Re: OT: Does anyone have access to rapid prototyping?

*Message #8 Posted by **rapidprototypingservices** on 15 Oct 2011, 2:26 p.m.,*
in response to message #7 by Hugh Evans

yes we do! What materials are you looking for? Email me john@proto3000.com

John Frangella - Proto3000 1-888-887-7686, ex:111

Re: OT: Does anyone have access to rapid prototyping?

*Message #9 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 9:05 a.m.,*
in response to message #1 by Hugh Evans

I'm busily designing keyboards at the moment but I'd like to move on to other projects if time permits and our baby is done.

Re: OT: Does anyone have access to rapid prototyping?

*Message #10 Posted by **Hugh Evans** on 9 Oct 2011, 3:06 p.m.,*
in response to message #1 by Hugh Evans

Everyone who responded to this thread expressing interest should have received an email from me already. Please come over to the forum currently in use as the splash page at OpenRPN Forum

I have a couple of quick renderings that make use of minimal manufacturing capabilities. These are first drafts and establish only the working outside dimensions. It shows the proposed rubber boot/case that will protect an underlying deep drawn case. It's a starting point for discussion and planning.

Thanks for your interest, I look forward to working with all of you and getting some physical hardware ready from production.

Re: OT: Does anyone have access to rapid prototyping?

*Message #11 Posted by **Dave Shaffer (Arizona)** on 9 Oct 2011, 4:12 p.m.,*
in response to message #1 by Hugh Evans

Anybody got one of these 3D printers ?

$1700 if you need to buy your own, and claimed to print from CAD files.

Probably not much good for volume production, but sure looks useful for onesies and twosies.

Re: OT: Does anyone have access to rapid prototyping?

*Message #12 Posted by **Hugh Evans** on 9 Oct 2011, 6:01 p.m.,*
in response to message #11 by Dave Shaffer (Arizona)

That's essentially the point of this thread. Even using rapid prototyped plastic parts I can cast molds for low volume runs. Since the company I work for makes a lot of polymers I'm consider using a two part urethane if necessary to fabricate a small run of keys and case components. These will prove extremely useful for those designing the electronics and give us a chance to start testing snaps domes and learn how to get the best tactile response. Once the electronics are designed I've considered selling them as nice ARM development kits to increase volume and hopefully improve the pricepoint. I also want to build one or two dozen complete prototype calculators to give several major team members as thanks for their contribution and debugging of the design before fully locking it in.

After that, the tricky part will be financing. I would prefer to avoid pre orders. This is where trying a kickstarter or finding investors may come in. The goal price maximum is $200 for both the voyager and pioneer format designs. I already have several tricks up my sleeve to keep production costs low. For example: those of you joking about all aluminum: I can get it done for well under $20 per complete case with keys at quatities of around 500.

Hardware must be proven first, then everyone gets to see what wp34s can do when hardware isn't the limiting factor :)

Re: OT: Does anyone have access to rapid prototyping?

*Message #13 Posted by **Paul Dale** on 9 Oct 2011, 6:06 p.m.,*
in response to message #12 by Hugh Evans

I wasn't joking about the aluminum case. For small runs it will quite possibly be cheaper than a moulded plastic case.

- Pauli

Re: OT: Does anyone have access to rapid prototyping?

*Message #14 Posted by **Hugh Evans** on 9 Oct 2011, 6:47 p.m.,*
in response to message #13 by Paul Dale

Agreed, I'm giving it a good close look. Even in low quantities it can be very reasonable. The outer (back) shell wi be deep drawn. Not to mention the inherent cool factor. One idea I'm toying with is using a sheet of gorilla glass to cover the entire faceplate. Not only would it be sleek and durable, it's a great way to slip layouts underneath. If that doesn't pan out, the aluminum face would be great for etching custom labels. I'm doing a good job of selling myself on this now lol.

Lots of ideas to consider. And the improved access to fabrication this time around is very exciting. I'm hoping to have at least one prototype within 90 days and one complete with electronics within 6 months.

I missed this project. If fizzled out last time largely because I went through a very rough period in my life. Across the board I'm much better equipped to see it through this time and devote more of my energy towards it. I hope anyone who grew frustrated with OpenRPN in the past will put it behind them. This crazy project is for you. The target audience can be summed up as the members of this board. The resources are here, and I understand the burden is on me to prove this project is possible. I look forward to making a lot of people happy with the kinds of calculators they've always dreamed of.

Re: OT: Does anyone have access to rapid prototyping?

*Message #15 Posted by **Walter B** on 9 Oct 2011, 6:59 p.m.,*
in response to message #14 by Hugh Evans

> Quote:
>
> I'm hoping to have at least one prototype within 90 days and one complete with electronics within 6 months.

Hmmh, a prototype without electronics? :-?

Re: OT: Does anyone have access to rapid prototyping?

*Message #16 Posted by **Hugh Evans** on 9 Oct 2011, 7:20 p.m.,*
in response to message #15 by Walter B

Absolutely, although I suppose mock-up might be a more appropriate term for that stage. I want to experiment with tactile response variables at that stage as well. I suspect solid keys will give the best feel and sound. Snap discs will require selection and manufacturers usually have specific pc board patterns they design for their own discs. If everything checks out at this stage the electronics designers have all the dimensional information they need to design.

Re: OT: Does anyone have access to rapid prototyping?

*Message #17 Posted by **Walter B** on 9 Oct 2011, 7:26 p.m.,*
in response to message #16 by Hugh Evans

Wish your resurrected project all the best - but the stop watch's running now again :-/

Re: OT: Does anyone have access to rapid prototyping?

*Message #18 Posted by **uhmgawa** on 9 Oct 2011, 6:50 p.m.,*
in response to message #12 by Hugh Evans

> Quote:

> Once the electronics are designed I've considered selling them as nice ARM development kits..

Which ARM SoCs are you considering or have decided upon?

> Quote:
>
> ..those of you joking about all aluminum: I can get it done for well under $20 per complete case with keys at quatities of around 500.

I don't think I've seen anyone downplay use of an aluminum case. Actually I'd considered doing so in my former voyager recreation project. It is fairly easy to cast rough blanks to minimize material removal and finish machining. And the choice of Al brings in desirable strength and shielding properties. The point I paused was that of aesthetics in use. An anodized finish is subject to wear and will start looking shabby after it abrades. A textured or blasted natural finish may be a better choice from this perspective but may not have universal appeal. The thermal characteristics of a cold block of Al vs. ABS could also be a detraction for some. A elastomer boot will offset these issues but at the cost of added bulk. So there are a few things to consider here if you're targeting a premium design with a corresponding premium end user cost.

Re: OT: Does anyone have access to rapid prototyping?

*Message #19 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 7:27 p.m.,*
in response to message #18 by uhmgawa

Have you ever worked on an all Al MacBook? The feeling is just great. The surface is very smooth, not glossy, just pleasing the skin touching it.

Re: OT: Does anyone have access to rapid prototyping?

*Message #20 Posted by **Hugh Evans** on 9 Oct 2011, 7:35 p.m.,*
in response to message #18 by uhmgawa

The SoC selection process is not far along. Ive started shopping around and am keeping in mind the consensus from the first time around. Battery life is everything and even lower end ARMs will have no problems working very fast as calculators. I nice big chunk of on board flash makes sense, potentially using USB mass storage device to interface and load files. Hopefully sufficient memory is available onboard, but its easy enough to leave pads on the pc board for expansion or as an option. More and more include LCD controllers, but these tend to be geared towards power hungry applications such as tablets and phones. Do you have something in mind?

Also... What was your voyager project?

Re: OT: Does anyone have access to rapid prototyping?

*Message #21 Posted by **Mark Hardman** on 9 Oct 2011, 7:18 p.m.,*
in response to message #1 by Hugh Evans

Hugh,

In the "TwistyPuzzles" community some of the more exotic Rubiks type puzzles are prototyped and then sold directly from a 3D printing company called Shapeways.

Here's an example of an item that I've actually purchased. I can vouch for the quality and precision of their

prototyping process.

Geared Mixup

Re: OT: Does anyone have access to rapid prototyping?

*Message #22 Posted by **Hugh Evans** on 9 Oct 2011, 11:05 p.m.,*
in response to message #21 by Mark Hardman

Mark,

I've come across that site a couple of times and I appreciate you bringing it back to my attention. It appears that they do enough work to be a viable option for short production runs, which could be very useful in a project like this. Production runs of 500 sound a lot less scary than 10,000!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2011 / O.S. Extension Pack

*Message #1 Posted by **Software49g** on 7 Oct 2011, 5:16 p.m.*

Hello,

those who have been at HHC 2011 have seen my O.S. Extension Pack for the HP 50g.

The O.S. Extension Pack is a downgraded version of the Multi Lingual Pack and contains only the English parts of it.
It is for those who do not want or need the other languages available. The O.S. Extension Pack can not be upgraded to a full Multi Lingual Pack.

The O.S. Extension Pack requires ROM 2.15 or higher and consists of

- English Language Pack (must be installed for taking over the operating system)

- TreeBrowser / Formula Browser (must be installed for viewing data sets)

- TreeBrowserBuilder / Formula Builder

- GUISLV / GUIMES

- Data set of the Equation Library

- Data set of the most common formulas of economics

- Fast CAS help system (extendable to act as a help for all commands)

More information about it is available on my website
http://www.software49g.gmxhome.de

Regards,
Andreas

P.S.
The new and fast help engine is capable of handling very large text with inline graphics.
If there is interest it could be used to bring the AUR incorporated into the O.S. thus allowing help for *all* built-in commands.
Please contact me by private mail if you would like to help with it.

Re: HHC 2011 / O.S. Extension Pack

*Message #2 Posted by **Giancarlo** on 8 Oct 2011, 1:14 a.m.,*
in response to message #1 by Software49g

Hello Andreas, Thank you very much for posting this information. Unfortunately i couldn't attend to the hhc2011 but i had the chance to see your presentation on youtube (looking for hhc 2011). You did a great job!

Your piece of sw seems to be very useful and integrates very well with the hp50 os completing with Gui some programs like the Mes.

Some questions of your presentation were very interesting. I am referring to the development of os updates (new roms) and in general the development of new high end calculators. Did you have some hopes on these points? Did you have the chance to speak about these points with Hp attendees?

Btw, if you need some transaltion in italian please ask; i would be more than happy to contribute.

Thanks

Giancarlo from Italy

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Curciut or Circuit ? :-)

*Message #1 Posted by **robertoataulfo** on 7 Oct 2011, 3:04 p.m.*

```
some information about this calculator?

The world's most powerful one-chip slide-rule calculator "curciut" :-)
```

Re: Curciut or Circuit ? :-)

*Message #2 Posted by **Steve Simpkin** on 7 Oct 2011, 3:33 p.m.,*
in response to message #1 by robertoataulfo

Very clever marketing. I is difficult to dispute that this is the worlds most powerful one-chip slide rule calculator "curciut". All of the calculators I know of use "circuits" so they can't compare :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Battery Contact Needed

*Message #1 Posted by **Fouad M. Kaadou** on 7 Oct 2011, 1:20 p.m.*

Hello, I am looking for a battery contact for my HP-97 since the one already in it is heavily corroded. so if you have any spares from broken calculators or peripherals please let me know. I am willing to pay. I have also posted this on the classified ads.

Thanks in Advance,

Fouad

Re: Battery Contact Needed

*Message #2 Posted by **Paul Berger (Canada)** on 7 Oct 2011, 2:28 p.m.,*
in response to message #1 by Fouad M. Kaadou

I think the battery contacts used in the HPIL printer and tape drive are the same, and i have some I have emailed you directly.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Slide rule

*Message #1 Posted by **BruceH** on 7 Oct 2011, 9:19 a.m.*

Some of the UK press have included this picture as part of their Steve Jobs coverage.

Check out the the large slide rule over the blackboard!

Re: Slide rule

*Message #2 Posted by **Thomas Chrapkiewicz** on 7 Oct 2011, 9:21 a.m.,*
in response to message #1 by BruceH

That was how we were taught to use a slide rule 'back in the day'!

TomC

Re: Slide rule

*Message #3 Posted by **Bart (UK)** on 7 Oct 2011, 11:06 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

I love this forum, makes me feel so young - I missed out on being part of the "sliderule generation" :-)

Re: Slide rule

*Message #4 Posted by **Mike Morrow** on 7 Oct 2011, 2:44 p.m.,*
in response to message #3 by Bart (UK)

> Quote:
>
> I missed out on being part of the "sliderule generation" :-)

I was definitely in the slide rule era. I bought a Dietzgen N1725 (front and back), IMHO the ultimate and finest slide rule of all time. It cost me $35 new in 1969 (equivalent to $220 in 2011).

An entering engineering or science student at Georgia Tech in 1970 had a decent slide rule as the only computational device requirement.

Throughout the mid-1970s, slide rules remained a requirement in universities due to the expense of scientific calculators. That was also true of the U.S. Navy's nuclear power training program, where calculators were *not* an option. It was there I received the best training I'd ever seen on slide rule use for common engineering problems, much better than any similar training I'd received at Georgia Tech.

Re: Slide rule

*Message #5 Posted by **Martin Pinckney** on 7 Oct 2011, 4:49 p.m.,*
in response to message #4 by Mike Morrow

> Quote:

> I was definitely in the slide rule era. I bought a Dietzgen N1725 (front and back), IMHO the ultimate and finest slide rule of all time.

Looks very similar to my Post Versalog. At the time it was considered by "those in the know" as better than the ubiquitous K+E and Picketts that most of my fellow engineering students had.

I got good use out of my Post, but I secretly liked the Picketts because they were Aluminum and USA-made.

Re: Slide rule

*Message #6 Posted by **Mike Morrow** on 7 Oct 2011, 5:28 p.m.,*
in response to message #5 by Martin Pinckney

The Dietzgen N1725 was made in the USA. It was made of mahogany wood which had great dimensional stability, with teflon runners for the slide called "Microglide". Verrry smooth!

I never did like the metal slide rules. The slide always seemed to move roughly. Plus...they were yellow.

Re: Slide rule

*Message #7 Posted by **Martin Pinckney** on 7 Oct 2011, 5:41 p.m.,*
in response to message #6 by Mike Morrow

Well, of course the metal would have to be very precisely machined to be smooth, and then some type of lubrication might still be needed. Maybe I never got the chance to really test the Pickett.

I remember the K+E users lubricated them with talcum powder. The Post, you weren't supposed to put anything on them because the bamboo had natural lubrication.

Teflon sounds good. I'm sure I never tried one of those.

Re: Slide rule

*Message #8 Posted by **spb** on 8 Oct 2011, 12:51 a.m.,*
in response to message #5 by Martin Pinckney

> Quote:
>
> Looks very similar to my Post Versalog. At the time it was considered by "those in the know" as better than the ubiquitous K+E and Picketts that most of my fellow engineering students had.

The Post 1460 Versalog is absolutely among the best slide rules ever made. I still have an example of its successor, the Teledyne-Post 44CA-600 Versalog II, sitting on my desk.

Apart from everything else, the bamboo Posts have all aged very well; much better than a lot of metal Picketts and plastic (sorry, `ivorite') K+Es.

Re: Slide rule

*Message #9 Posted by **megarat** on 7 Oct 2011, 4:14 p.m.,*
in response to message #3 by Bart (UK)

> Quote:

> I love this forum, makes me feel so young - I missed out on being part of the "sliderule generation" :-)

While I'm not of the slide rule generation either, I totally recommend picking up a slide rule sometime and learning how to use it. They're they coolest things ever. I bought a slide rule on a lark a few years ago, now I have more than ten of them, and I'm always amazed at what can be accomplished with a few sliding pieces of plastic/metal/wood/bamboo.

In a way, I find slide rules to be more interesting than calculators because of the fact that more aptitude is required: that is, the quality and speed of one's answer greatly depends on their skill with the instrument. Whereas operating a calculator is so easy, and the answers are always the same.

Edited: 7 Oct 2011, 4:14 p.m.

Re: Slide rule

*Message #10 Posted by **David Hayden** on 7 Oct 2011, 4:24 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

I think I was in the first generation that didn't use slide rules at all. My father tried to teach me how to use one when I was perhaps 10 or 12, but by the time I entered high school in 1977, absolutely no one (students or teachers) used them. Our math and science textbooks had tables in the back for transcendental functions, but the TI-30 cost $30 so almost everybody bought one of those (I still have mine). I quickly moved up to an HP 29C and haven't been the same since :).

Dave

Re: Slide rule

*Message #11 Posted by **Garth Wilson** on 7 Oct 2011, 5:47 p.m.,*
in response to message #10 by David Hayden

> Quote:
>
> but by the time I entered high school in 1977, absolutely no one (students or teachers) used them.

I was still using one in my high-school physics class that same year. The other students thought it couldn't possibly be very accurate, but were impressed when we had to calculate the orbital period of a satelite around the earth and my answer was only four seconds different from the teacher's which he got with his TI calculator. I had a calculator--actually two--but not scientific.

Later in college I had a couple of classes in a room that had one of the huge instruction sliderules over the chalkboard as mentioned above but it was never used because everyone was using calculators by then. When a couple of men came through with a video camera making a video to promote the school, they wanted to videotape me using the sliderule because it was so unusual. I'm sure they didn't use that part in the final promotional video though since that would make it look outdated. They were just fascinated.

I got my first scientific calculator in Dec 1981, a TI-58c which cost about $100 at Jewelcor, because the slide rule was not programmable and I wanted to do some calculations that took thousands of iterations. My longest-running program ran for nearly 24 hours on the 58c.

Edited: 7 Oct 2011, 9:36 p.m.

Re: Slide rule

*Message #12 Posted by **Steve Simpkin** on 7 Oct 2011, 7:34 p.m.,*
in response to message #10 by David Hayden

I entered High school in 1976 with a Commodore SR4148R calculator ($65 at Sears Department Store!). Less than a year later I had enough money (and the price had gone down) to buy my HP-25 that lasted me through three years of high school, four years of college and the first two years of work. Damn that calculator was great! Of course the HP-25 begot the HP-11C which begot the HP-28C which begot the HP28S which begot the HP48SX and so on, and so on...

It's funny, the WP34s is the first HP calculator (well, the HP30b core that was made by HP) I have bought *new* in 20 years. It is that compelling.

Re: Slide rule

*Message #13 Posted by **Wes Loewer** on 8 Oct 2011, 6:53 a.m.,*
in response to message #10 by David Hayden

For those of you who enjoy using calculator emulators, here's one to add to your collection:

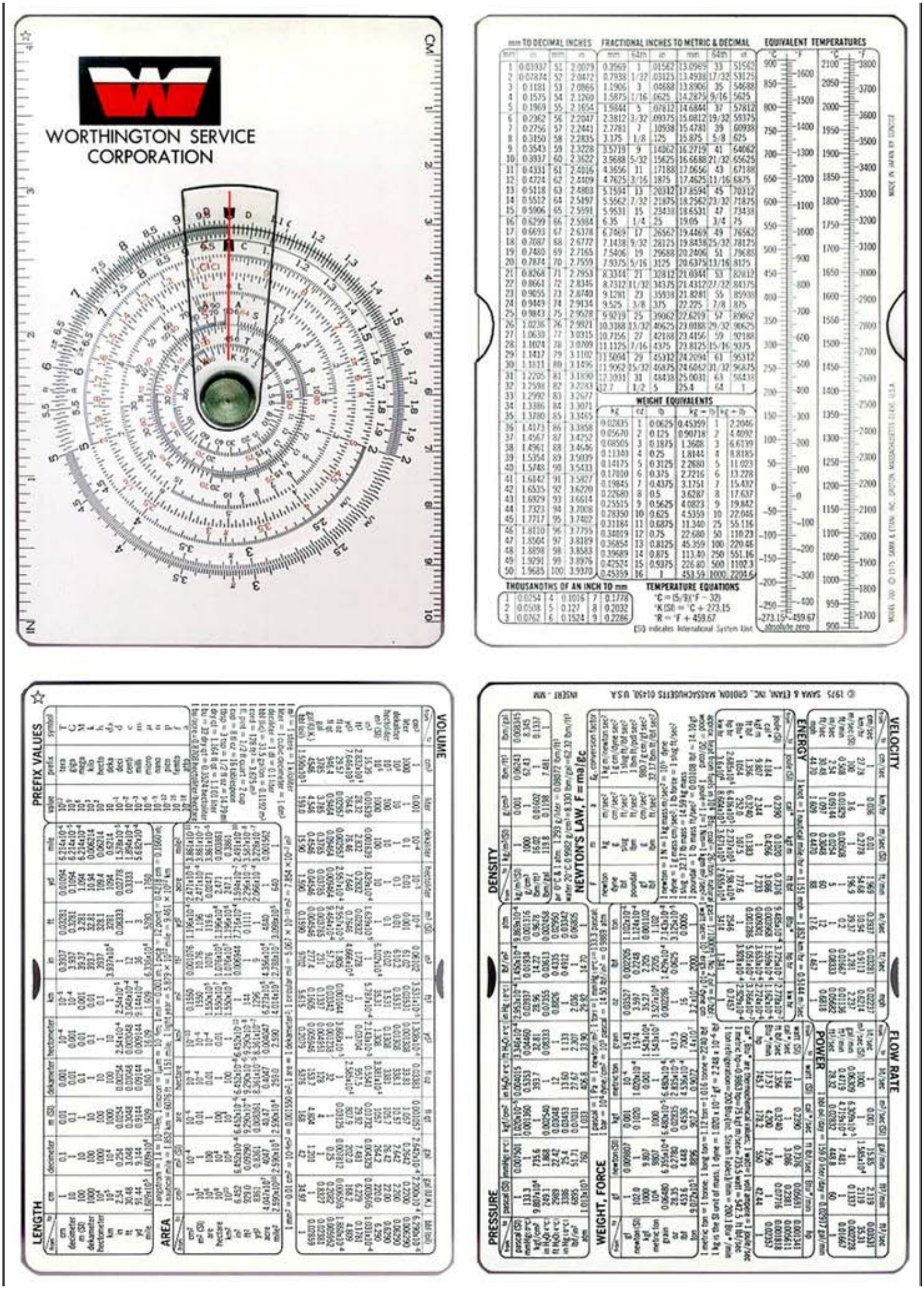
http://www.antiquark.com/sliderule/sim/n909es/virtual-n909-es.html

> Quote:
>
> but by the time I entered high school in 1977, absolutely no one (students or teachers) used them.

I also entered high school in '77. In 11th grade chemistry ('79-80), we were required to use slide rules -- no calculators allowed. It was the last year of that policy. I was one of only two kids in the school who had a circular slide rule.

It was a cheap promotional slide rule (Concise Model 700-MM) but I really liked it. It had an insert with lots of conversion factors with cm & inch rulers down the sides. Unfortunately, I left it on the back dash of the car once and it warped such that the numbers no longer lined up properly.

It looked like this picture, but had "Compliments of Allied Chemical Corporation."


WORTHINGTON SERVICE CORPORATION
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mm TO DECIMAL INCHES
FRACTIONAL INCHES TO METRIC & DECIMAL
EQUIVALENT TEMPERATURES
WEIGHT EQUIVALENTS
THOUSANDTHS OF AN INCH TO mm
TEMPERATURE EQUATIONS
°C = (5/9)(°F − 32)
°K (SI) = °C + 273.15
°R = °F + 459.67
(SI) indicates International System Unit
absolute zero
PREFIX VALUES
LENGTH
AREA
VOLUME
PRESSURE
DENSITY
NEWTON'S LAW, F = ma/gc
WEIGHT, FORCE
VELOCITY
FLOW RATE
ENERGY
POWER
INSERT - MM
© 1975 SAMA & ETHAN, INC., GROTON, MASSACHUSETTS 01450, U.S.A.

-wes

Re: Slide rule

*Message #14 Posted by **Derek Walker (UK)** on 10 Oct 2011, 2:53 a.m.,*
in response to message #13 by Wes Loewer

If you want to replace it, Concise 700MM slide rules are still available new, although only a small quantity and therefore not 'cheap' any more:
http://www.sphere.bc.ca/test/circular.html#catalog
and scroll down about half way.
I bought one last year, and it's very handy to keep in a pocket for quick unit conversions - often quicker than colleagues can do them on a calculator.

Re: Slide rule

*Message #15 Posted by **Julián Miranda (Spain)** on 8 Oct 2011, 1:21 p.m.,*
in response to message #10 by David Hayden

When I was 16 on the Logarithms chapter, in the Maths book, there was a part explaining how a slide rule works, but it was skipped by the teacher. As a curiosity I read it. A year later I found a Faber Castell 67/87 slide rule and bought it for around $7. Next year at university we found another 67/87 but the size of the one on the photograph, at a warehouse room with slide projectors, mobile blackboards, and similar. Later I tried to get it but have already disappeared.

Re: Slide rule

*Message #16 Posted by **bill platt** on 7 Oct 2011, 10:52 a.m.,*
in response to message #1 by BruceH

That's a Pickett wall mounted slide rule. We had the same one in my physics classroom in 11th grade.

Re: Slide rule

*Message #17 Posted by **Katie Wasserman** on 7 Oct 2011, 11:11 a.m.,*
in response to message #16 by bill platt

I had one of those in the front of my 8th grade math class -- the one with the teacher that had Afghan dogs and looked just like one herself.

Re: Slide rule

*Message #18 Posted by **Namir** on 7 Oct 2011, 11:48 a.m.,*
in response to message #17 by Katie Wasserman

I found a small slide rule that I had received as a gift from a French/German ductile pipe maker in 1973. Made me smile and realize that the HP-35 made it obsolete!

Re: Slide rule

*Message #19 Posted by **bill platt** on 7 Oct 2011, 11:54 a.m.,*
in response to message #18 by Namir

slide rules are more reliable during high emp events though :-/

Re: Slide rule

*Message #20 Posted by **Paul Berger (Canada)** on 7 Oct 2011, 2:37 p.m.,*

in response to message #19 by bill platt

In the mid 70's when I was in high school I took a class called "Strength of Materials" that involved a lot of calculations related to loads. Even though there was some early hand held calculators available we where not permitted to use them, but had to learn to use a slide rule which I still have and can still do basic calculations on it. Our instructor did not feel that calculators where reliable enough for field work.

Re: Slide rule

*Message #21 Posted by **Martin Pinckney** on 7 Oct 2011, 1:04 p.m.,*
in response to message #18 by Namir

> Quote:
>
> I found a small slide rule that I had received ... in 1973. Made me smile and realize that the HP-35 made it obsolete!

In practical terms, not quite yet. Individuals would have been hard pressed to spend so much $ on a calculator back then. I got my first scientific calculator in 1978. At $250, it was a big purchase even then.

Re: Slide rule

*Message #22 Posted by **Harry Jacobson** on 10 Oct 2011, 5:33 a.m.,*
in response to message #18 by Namir

> Quote:
>
> ....Made me smile and realize that the HP-35 made it obsolete!

The HP-35 I got going into grad school would have made my K+E Log Log Duplex Decitrig obsolete if the slide rule hadn't been destroyed by fire. I used insurance money from the fire to pay for the HP-35.

Re: Slide rule

*Message #23 Posted by **bill platt** on 7 Oct 2011, 11:55 a.m.,*
in response to message #17 by Katie Wasserman

That is funny!

Re: Slide rule

*Message #24 Posted by **MBlount** on 7 Oct 2011, 11:56 a.m.,*
in response to message #1 by BruceH

I'm 42 and we had one of those in my math classroom back in the mid 80's. It was never used, but it didn't get in the way so nobody ever took it down.

Re: Slide rule - Sample Here...

*Message #25 Posted by **Thomas Chrapkiewicz** on 7 Oct 2011, 3:30 p.m.,*
in response to message #1 by BruceH

In May of 2006, Scientific American published an article on the slide rule. It included a usable paper model of a slide rule.

Here is an educational article which has the template from the SciAm article:

http://www.pgccphy.net/rec/rec005-sliderule.pdf

TomC

Re: Slide rule - Sample Here...

*Message #26 Posted by **Neil Hamilton (Ottawa)** on 7 Oct 2011, 4:23 p.m.,*
in response to message #25 by Thomas Chrapkiewicz

I too was on the trailing edge of slide rules and was the last in my school to still use one (no battery failures for me!).

Alas, I moved over to an HP-25 and largely stopping using my Aristo-Studio No. 0968 upon entering university in '76.

BTW: Here is a virtual slide rule you can use if you can't locate your trusty old friend: here

Re: Slide rule - Sample Here...

*Message #27 Posted by **bill platt** on 7 Oct 2011, 11:06 p.m.,*
in response to message #26 by Neil Hamilton (Ottawa)

I may have been the last slide rule user in my school, too. In fall 1983, dropped my 11c and broke it. While it was in Corvallis getting repaired, I borrowed a slide rule during a physics exam.

So not only was I the only person, student or teacher, with an HP, I was also possibly the last to use a slide rule! Paradoxical! :-)

Re: Slide rule

*Message #28 Posted by **Dale Reed** on 8 Oct 2011, 2:46 p.m.,*
in response to message #1 by BruceH

A couple of the classroom-size Pickett slide rules are available on TAS -- here's the better one.

I still have my N1010-ES, case, manual, in excellent condition. I too graduated to an HP-25 -- my 18th birthday present -- which holds the place of highest honor in my small collection.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I keep getting a Fatal error with SAM-BA v.2.10

*Message #1 Posted by **Eddie W. Shore** on 7 Oct 2011, 9:05 a.m.*

I keep getting a Communication Error regardless which USB port I put the cable with the adapter.

There is no place to find SAM-BA v.2.09 on AMTEL's website.

I also can't get MySamba to "find" a connection port.

Now I probably have a dead calculator with no hope of ever bringing it back.

Edited: 7 Oct 2011, 9:06 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 9:13 a.m.,*
in response to message #1 by Eddie W. Shore

> Quote:
>
> I also can't get MySamba to "find" a connection port.

That's strange. Does the adapter register in Windows? Do you see it in device manager?

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #3 Posted by **Eddie W. Shore** on 7 Oct 2011, 9:16 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Not at first. Windows recommended me a web driver which I installed. It did not work. I'll try it from the CD and see what happens.

The USB to Serial Adapter I am using an Aluratek one (AUS100)

Update: The CD was absolutely no [insert bad words here] help! I doubt the CD even had the driver to begin with. Now I am trying the Aluratek website. If that doesn't work - it's going back to Staples for a refund (if I can get one).

Update #2: After reinstalling the Aluratek driver again, I restarted the computer. Then I get an "Installing device driver software" message, and taking a long time do so, I finally get a success (COM 4). Running SAM-BA, I select com4 and nothing happens. So I try running it again, and get only com3 (which I was unsuccessful before).

I plug the cord in another port - it is COM 5. So I run SAM-BA again and nothing happens.

I am running Vista and it supposed to work on Vista.

MySamba doesn't read the port at all.

I am so frustrated - it worked when someone else does it. (The next computer I buy will be a Mac - I am getting sick of Windows)

Edited: 7 Oct 2011, 9:54 a.m. after one or more responses were posted

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #4 Posted by **Dan W** on 7 Oct 2011, 9:49 a.m.,*
in response to message #3 by Eddie W. Shore

Are you running Windows 7? Before installing 2.10, did you tell it to run in Win XP SP2 compatibility mode?

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #5 Posted by **Eddie W. Shore** on 7 Oct 2011, 9:54 a.m.,*
in response to message #4 by Dan W

I have Windows Vista (unfortunately). Now I am beginning to see why everyone hates it.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #6 Posted by **Eddie W. Shore** on 7 Oct 2011, 9:56 a.m.,*
in response to message #5 by Eddie W. Shore

I am also getting an error in the Start up script when I unplug the cord.

I am reinstalling SAMBA - this is my last attempt.

Edited: 7 Oct 2011, 9:57 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #7 Posted by **Bart (UK)** on 7 Oct 2011, 9:59 a.m.,*
in response to message #6 by Eddie W. Shore

I successfully did it with Windows Vista, see article 1060.

Note, use the SAMBA *without* the "_cdc" tag.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #8 Posted by **Eddie W. Shore** on 7 Oct 2011, 10:20 a.m.,*
in response to message #7 by Bart (UK)

It still doesn't work! The SAM-BA 2.10 (non CDC) does not work. - at least not on my laptop. I still get the same communication error.

Next time there is a major update on the WP 34S, I just buy another one.

I now have to head to work, a very frustrated person.

Edited: 7 Oct 2011, 10:26 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #9 Posted by **Bart (UK)** on 7 Oct 2011, 10:43 a.m.,*
in response to message #8 by Eddie W. Shore

> Quote:
>
> ... a very frustrated person.

Yes, I can imagine that. (My laptop screen doesn't work - after a metal object impacted it at speed. Fortunately it has an external screen connector)*.
Wish I could be of more help, but the replies here have already addressed those problems I could think of.

Edit: *this was not due to WP-34s, but unrelated Vista "anomalies".

Edited: 7 Oct 2011, 10:52 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #10 Posted by **Egan Ford** on 7 Oct 2011, 9:56 a.m.,*
in response to message #4 by Dan W

Can you elaborate on that? I am not a Windows user.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #11 Posted by **Dan W** on 7 Oct 2011, 10:34 a.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> Can you elaborate on that? I am not a Windows user.

In the "How to get started", it is step 4:

How to Get Started

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #12 Posted by **robert rozee** on 7 Oct 2011, 11:36 a.m.,*
in response to message #3 by Eddie W. Shore

> Quote:
>
> The USB to Serial Adapter I am using an Aluratek one (AUS100)

i've downloaded the drivers from the Aluratek website and can confirm they are for a Prolific PL2303 chip, driver package v130.

it is likely that ALL the problems you are seeing are related to the drivers you have downloaded and the PL2303 chip. many of these chips are chinese forgeries (it happens to be a chip that is easy to duplicate), and the current bug-free prolific drivers will detect a fake and refuse to install - hence only outdated prolific drivers will work. also, the PL2303 itself (even genuine ones) requires external level

shifters to drive RS232 correctly, which many adaptors lack.

bottom line - all hope was lost once you walked out the staples store. return the USB/serial adaptor and buy one that uses anything other than a prolific PL2303 chip.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #13 Posted by **Eddie W. Shore** on 7 Oct 2011, 11:14 p.m.,*
in response to message #12 by robert rozee

I noticed the PL2303 chip on the two that I bought. I'll have to go on a mission to find such a cord (maybe Fry's? Best Buy?).

Thanks, Robert.

Marcus, one way or another I am going to get the calculator to work again - I can't wait to try out those matrix functions... even if I have to buy one from you.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #14 Posted by **Jeff O.** on 7 Oct 2011, 10:26 a.m.,*
in response to message #1 by Eddie W. Shore

> Quote:
>
> Now I probably have a dead calculator with no hope of ever bringing it back.

Eddie,
I am sure that there is hope to bring it back. If worse comes to worse, I'll bet that lots of people would volunteer to re-flash it for you. I'd be happy to do so, but there is probably someone within reasonable driving distance who could do it for you. Of course, getting it to work yourself would be ideal. I have a Vista machine that I keep meaning to try it on. I bought an EasySYNC ES-U-1001-R10 USB to serial converter which is supposed to work and have drivers for Vista. I'll let you know if I have success.

Did you remove the batteries from your 30b? If I recall correctly, it runs at high power and won't shut itself off once it is erased.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #15 Posted by **Eddie W. Shore** on 7 Oct 2011, 10:30 a.m.,*
in response to message #14 by Jeff O.

I tried on my 20b, in the worst case scenario that it didn't work. At least I have working WP 34 on the 30b.

I will see if I can find the cord you suggested, Jeff. Pleaser let us know what happens.

And the batteries were taken out after the failed attempts.

Thanks for your help, guys. I am sorry I can't report better news.

Edited: 7 Oct 2011, 10:32 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #16 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 10:50 a.m.,*

in response to message #15 by Eddie W. Shore

You should still use a DMM to check the battery voltage or swap the batteries with your 30b (after doing a ON+STO of course!)

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #17 Posted by **Howard Owen** on 7 Oct 2011, 11:59 a.m.,*
in response to message #15 by Eddie W. Shore

You may have several layers of driver cruft from multiple installations. Try removing all the USB serial ports with device manager, rebooting and reinstalling. Vista has an XP mode too, if I remember correctly.

Having said all that, I think Marcus knows what he's talking about with respect to the chipset. In any case you should try to clean out the old ports before trying to install a new driver for the new cable.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #18 Posted by **Jeff O.** on 7 Oct 2011, 3:54 p.m.,*
in response to message #15 by Eddie W. Shore

Eddie,
I was able to successfully flash a 20b on my Vista PC. Here is how I did it:
1. bought an FTDI ES-U-1001-R10 USB to RS232 adapter. I bought it direct from FTDI, cost about $30 shipped. I did this several weeks ago.
2. I did not use the installation CD that came with the converter because it did not list Windows Vista (or XP) on the instruction card that came with it. It said "For other O.S. and later driver releases, go here": http://www.ftdichip.com/Drivers/VCP.htm, so I did. Then I clicked on the setup executable link over in the comments section for Windows operating systems, and let it install the drivers.
3. Then I plugged in the USB to Serial converter, and windows told me that it successfully installed the drivers for my device and told me it was COM10.
4. Went to sourceforge and downloaded the latest bin file and Marcus' new version of MySamBa
5. Connected the cable to my 20b, and did the sequence of button pushes* to get it ready for flashing.
6. Started MySamBa. Nothing in the COM port dropdown. Crap. Stopped MySamBa. Started again, same result.
7. Right-clicked on the MySamBa.exe file and chose properties, clicked on the "Compatibilities" tab, and checked the box to run it in compatibility mode for Windows XP (Service Pack 2).
8. Started MySamBa - COM10 now availalbe in the dop down. Navigated to the bin file, clicked download, and successfully donwloaded the rom to my 20b.

If I can do this, anybody can because by-and-large, computers hate me.

* - Not sure if this is the official sequence, but what always works for me is as follows-
- turn calculator on
- plug in cable
- press and hold ON key on the calculator
- press and hold the Erase button on the cable
- press and release the Reset button on the cable
- release the Erase button on the cable
- release the ON key
- press and release the ON key
- click on download in MySamBa

...

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #19 Posted by **Gerry Schultz** on 7 Oct 2011, 6:28 p.m.,*
in response to message #18 by Jeff O.

I got an ES-U-1001-R100 USB-to-Serial adapter from Amazon and it works for me under Windows 7 without any driver installation. SAM-BA 2.10 also installed without issue for me. Perhaps this worked so easily as it's an HP laptop :-).

Gerry

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #20 Posted by **Eddie W. Shore** on 11 Oct 2011, 8:25 a.m.,*
in response to message #19 by Gerry Schultz

I have two Easy Sync cables coming this week. Thank you so much for helping me get my 20b back to life on Sunday, Gerry!

On a side note, my laptop is in defragmenting mode - it's been a day and a half ever since Sunday at 11 PM.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #21 Posted by **Eddie W. Shore** on 7 Oct 2011, 10:14 p.m.,*
in response to message #18 by Jeff O.

I don't know what's wrong with me, but nothing works. I am following the steps and the suggestions but for some stupid reason I still can't get a stupid connection - not with Samba, MySamba, not with one connector, or another one I bought at the bookstore. I must have downloaded the stupid driver three or four times. I even put new batteries and not even the ON+STO combo can't bring it back to life.

I'll try it on another computer - maybe I'll have better luck.

Thanks guys for your advice. When HP fixes the PSE bug, I hope I can get HP to swap two machines for my old ones.

Edited: 7 Oct 2011, 10:24 p.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #22 Posted by **Jeff O.** on 7 Oct 2011, 10:43 p.m.,*
in response to message #21 by Eddie W. Shore

Based on all I have read here, I suspect both of your USB to serial converters. Your best bet may be to find a Windows XP machine with a real serial port if you can.

When (if?) HP fixes the PSE bug, go over to Gerry Schultz's to reflash your 15c LEs.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #23 Posted by **Eddie W. Shore** on 7 Oct 2011, 11:04 p.m.,*
in response to message #22 by Jeff O.

Maybe I'll try at work (if I can get away with it...). Maybe I'll luck out and find a store that

actually sells a converter that works. Or have Gerry do it for me.

==========

HP: You really need make it so that the average dumb-behinds like myself can just plug in the calculator with a regular USB port without any adapters to update the software - like the 50g.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #24 Posted by **Howard Owen** on 8 Oct 2011, 1:55 a.m.,*
in response to message #18 by Jeff O.

Here's my recipe using SAM-BA.

By the way, I felt had to write this because the manual refers to another document for some important steps, then directs you back to itself for some others. I found actually trying to follow this with two PDFs open, one with very nice and helpful pictures that make the steps not fit on a single PDF page, was very difficult. There needs to be a canonical list of instructions in one place.

```
connect cable to PC and calculator
on the calculator/cable:
   press and release ON/CE
   Press and hold ERASE on the cable
   press and release RESET on the cable
   press and release ON/CE
   release ERASE on the cable
   press RESET on the cable
   press ON/CE
start SAM-BA on the PC
in SAM-BA:
   choose serial port and board at91sam7l128-ek
   press connect
   browse to the calculator image (calc.bin)
   press SEND FILE
   wait for the download to finish
   say "no" to the lock regions dialog
   in the scripts area, select boot from flash
   press execute
back on the calc/cable
     press RESET on the cable
     press ON/CE machine should start
     press [H] X.FCN to get the function menu
     press the 3 (V) key to jump to the VERS command.
     Press XEQ
Compare the version number to the expected one.
Marvel at the tiny "r" in Walter's name. :)
```

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #25 Posted by **Gerry Schultz** on 7 Oct 2011, 5:51 p.m.,*
in response to message #15 by Eddie W. Shore

Hey Eddie, I flashed your 20b at the HHC Conference and can do it again if you like. I'm in West LA and my work email is gerald dot schultz at fox dot com. My home email is g (underscore character) schultz at ca dot rr dot com. We can set up a time this weekend to get together and I can try re-flashing it.

Gerry

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #26 Posted by **Eddie W. Shore** on 7 Oct 2011, 10:25 p.m.,*
in response to message #25 by Gerry Schultz

Gerry,

I think I am going to have to take you up on your offer. Thanks for flashing it for me at the conference.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #27 Posted by **Tim Wessman** on 7 Oct 2011, 11:35 a.m.,*
in response to message #1 by Eddie W. Shore

I would recommend using the new MySamba. The old one wouldn't show any com ports of any variety in win7. It works great on xp, win7 with all 3 usb<->serial adapters I have.

TW

Edited: 7 Oct 2011, 11:36 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #28 Posted by **Egan Ford** on 7 Oct 2011, 12:06 p.m.,*
in response to message #27 by Tim Wessman

The new one does not enumerate any of my com ports, whereas Win7 Device Manager does (COM5).

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #29 Posted by **Egan Ford** on 8 Oct 2011, 12:53 a.m.,*
in response to message #28 by Egan Ford

I fixed the com port display issue by using XP comp mode with the Oct 4th dated MySamba, however now I get a failed to connect error. I see the LED on the USB->Serial blink as it tries to connect to the 30b for about 2 seconds then, "failed to connect". Stumped. Thanks.

Edited: 8 Oct 2011, 12:53 a.m.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #30 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:56 a.m.,*
in response to message #29 by Egan Ford

Are the batteries on your calculator OK? Is it turned on? Do a RESET on the cable then an ON (long enough) and then connect.

Re: I keep getting a Fatal error with SAM-BA v.2.10

*Message #31 Posted by **Egan Ford** on 8 Oct 2011, 11:18 a.m.,*
in response to message #30 by Marcus von Cube, Germany

2.8V each. I tried the reset, then on sequence and there was a ray a hope, I didn't get the error, but then again nothing happened. I doubt it downloaded the code in a second.

Subsequent tries have resulted in the same connection error.

[Return to Index | Top of Index]

Go back to the main exhibit hall

I keep getting a Fatal error with SAM-BA v.2.10

HP Forum Archive 20

[Return to Index | Top of Index]

Choosing an HP-48 - Thanks

*Message #1 Posted by **E.Lub_EU** on 7 Oct 2011, 9:04 a.m.*

Dear all,

Please accept my apologies for not reacting earlier to your numerous and enlighting answers. I have unfortunately been kept away from this forum by more pressing matters.

All have been useful and I am still mulling over them, but I am now in a much better position to evaluate HP offerings of the time.
Thanks again.

Etienne

Re: Choosing an HP-48 - Thanks

*Message #2 Posted by **Peter Murphy (Livermore)** on 7 Oct 2011, 11:27 a.m.,*
in response to message #1 by E.Lub_EU

Etienne,

Back in the early 1990s there was discussion of the then-new 48G/GX, and of differences between them and the 48S/SX, that went into much more detail than the Forum responses to your question.

Yesterday I found a long item, "HP48 FAQ - Last-modified: 12/12/1994," which I think may give you more information you can use:

http://www.guzu.net/hp48/docs/hp-faq.htm

I would further note that there was little or no Forum discussion of reference materials that might help you explore the 48. I'd go for the 48G myself, and I'd start with the "HP 48 G Series User's Guide" and the "HP 48G series Advanced User's Reference Manual." Those might be enough.

But several non-HP books have helped me explore the 48G: in particular, four from Grapevine Publications, starting with "An Easy Course in Using and Programming the HP 48G/GZ."

Purchased as hard copies, all those books will cost as much as a 48G; some of them are available online, however, and perhaps others on the Forum can provide links.

Finally, I would note that I have had a lot of fun exploring problems provided by Project Euler; someone on the Forum recently said that he had solved about 100 of them, which I find very impressive.

Re: Choosing an HP-48 - Thanks

*Message #3 Posted by **Chris Randle (UK)** on 7 Oct 2011, 1:18 p.m.,*
in response to message #2 by Peter Murphy (Livermore)

> Quote:
>
> Finally, I would note that I have had a lot of fun exploring problems provided by Project Euler;

Seconded. I've only just discovered the site and I'm trying to work my way through it on a 50g. I've done the first 10 so far. It's great fun.

Re: Choosing an HP-48 - Thanks

*Message #4 Posted by **E.Lub_EU** on 7 Oct 2011, 4:01 p.m.,*
in response to message #2 by Peter Murphy (Livermore)

Thanks for the link to the faq, Peter. I haven't gone though all of it yet, of course, but it looks really promising.

On this site I found an article from megarat listing serial numbers, ROM versions, etc. Most useful in my "pre-buying" situation.

Thanks for the tip about books. I have recently found some in French on Paul Courbis' site, but will try to get a glimpse at the one you suggested. I will also try to get a machine with its hardcopy documentation.

I will check Project Euler, but that might not be for beginners...

Thanks again!
Etienne

Re: Choosing an HP-48G; connecting to a Mac Power PC G4?

*Message #5 Posted by **Peter Murphy (Livermore)** on 8 Oct 2011, 1:47 p.m.,*
in response to message #4 by E.Lub_EU

Etienne,

If I were in your position -- at least if that position were in the USA -- I'd be interested in this TAS auction (Item number: 320769824633) for a 48G, two manuals (one of them perhaps the AUMF), and a cable (perhaps the original, if one were included in the original package).

I'd wonder if the cable would allow me to connect this calculator to my Macintosh Power PC G4. Can anyone tell whether that's possible, and if so how?

Thanks.

Re: Choosing an HP-48G; connecting to a Mac Power PC G4?

*Message #6 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 2:55 p.m.,*
in response to message #5 by Peter Murphy (Livermore)

The 48G speaks Kermit so it should be possible to find software to connect it to your Mac. You need a serial interface but a USB to serial adapter should do. You can download an X modem server instead which should make the connection even easier. The server is part of the Conn4x package (Windows only) so it might be necessary to connect the 48G once to a Windows machine to install it.

Re: Choosing an HP-48G; connecting to a Mac Power PC G4?

*Message #7 Posted by **Raymond Wiker** on 8 Oct 2011, 4:43 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> The 48G speaks Kermit so it should be possible to find software to connect it to your Mac. You need a serial interface but a USB to serial adapter should do. You can download an X modem server instead which should make the connection even easier. The server is part of the Conn4x package (Windows only) so it might be necessary to connect the 48G once to a Windows machine to install it.

I'm pretty sure that the HP48G has XMODEM support in ROM... I've transferred code to my HP48GX using minicom and rzsz (X/Y/Z-modem support).

Re: Choosing an HP-48G; connecting to a Mac Power PC G4?

*Message #8 Posted by **Cristian Arezzini** on 8 Oct 2011, 6:01 p.m.,*
in response to message #7 by Raymond Wiker

I fondly remember the "good old days" when I connected almost every day my 48G to my Commodore Amiga, using a self-built serial cable and using only the information found on the user's manual (no such thing as Internet those days) and a standard Amiga xmodem software... :)

Cristian

Re: Choosing an HP-48G; connecting to a Mac Power PC G4?

*Message #9 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:23 p.m.,*
in response to message #7 by Raymond Wiker

X-modem is available in ROM but not as a complete server, just as XSEND & XRCV (or similar) for single objects.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE arrived today in Austria, Europe

*Message #1 Posted by **Peter HOFMANN** on 7 Oct 2011, 7:55 a.m.*

It arrived in good shape, despite it was in an envelop. Luckily it must be one of the good ones: no rattling keys, all registering properly, self-tests passed with flying colors. In sum, a great looking calculator, rivaling the original one in my book.

Very good and reliable shipment by SC (Chris) ...

I'm happy ;-)

SN CNA 1320901

Re: HP15C LE arrived today in Austria, Europe

*Message #2 Posted by **Ethan Conner** on 7 Oct 2011, 12:23 p.m.,*
in response to message #1 by Peter HOFMANN

What is the LE# on the backplate?

Re: HP15C LE arrived today in Austria, Europe

*Message #3 Posted by **Peter HOFMANN** on 8 Oct 2011, 5:08 a.m.,*
in response to message #2 by Ethan Conner

Limited Edition Number 00106 -

Re: HP15C LE arrived today in Austria, Europe

*Message #4 Posted by **Borja** on 8 Oct 2011, 5:03 p.m.,*
in response to message #3 by Peter HOFMANN

I preordered on July 26th and the one I received was #412. The second one that was missing from my original order arrived this week, it was one thousand something.

No keyboard problems with either of them.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

[WP 34S] New keyboard layout anybody? - Edited

*Message #1 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 6:38 a.m.*

With the matrix functions in place, we are discussing a modified keyboard layout at the moment. This would include giving the matrix functions their own catalog(ue), moving OFF to h+EXIT and some other rearrangements.

We have not yet implemented this because I opposed to any change that would render Eric's overlays obsolete. At HHC many units have been flashed to the present layout and we would run into trouble if a user without a cable would receive a (new) overlay which no longer matches his/her software or the other way round (old overlay with current software.)

I herewith kindly ask Walter to prepare one of the bitmaps so we can discuss the changes here and hope that the community will comment on this so we can finally decide what we'll do. The ideas are good but I fear the implications may not be worth the improvements. That's why I'm asking YOU, our audience.

Marcus

Edit: Having read the answers so far I'm leaning towards changing the keyboard, but not in a hurry. Let's discuss the proposed changes with a graphic from Walter in place and we go on from there.

Edited: 7 Oct 2011, 10:26 a.m. after one or more responses were posted

Re: [WP 34S] New keyboard layout anybody?

*Message #2 Posted by **Alexander Oestert** on 7 Oct 2011, 6:52 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I just ordered two overlays, so I am not very keen on having to order another set in the near future. But I also don't think it wise to stop development only because there are some overlays out. In the contrary I would hate to see further improvements stalled for this reason.

Would it be possible and reasonably easy to have the firmware in two versions from here on out? One working with the old keyboard layout the other one with a possible new one.

Edited: 7 Oct 2011, 6:53 a.m.

Re: [WP 34S] New keyboard layout anybody?

*Message #3 Posted by **Paul Dale** on 7 Oct 2011, 7:57 a.m.,*
in response to message #2 by Alexander Oestert

Are you volunteering to support one of the versions? :-)

I certainly don't want to support two different ones.

- Pauli

Re: [WP 34S] New keyboard layout anybody?

*Message #4 Posted by **Alexander Oestert** on 7 Oct 2011, 8:05 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> Are you volunteering to support one of the versions? :-)
>
> I certainly don't want to support two different ones.

- Pauli

I would if I were able to, but I'm not. So I will just stick to the latest firmware that supports the old keyboard layout.

Re: [WP 34S] New keyboard layout anybody?

*Message #5 Posted by **Dan W** on 7 Oct 2011, 10:32 a.m.,*
in response to message #2 by Alexander Oestert

I just ordered 2 overlays too, so I'm not keen on it. But I suppose if the change affects a few keys, a "patch kit" would work well. I would do this rarely and accumulate all desired changes into one drop.

The other reason I'm not that excited is because there are two sets of calculator functions I do not use. One is the statistical functions, and the other is the matrix functions. Why?

In both cases, large amounts of data need to be entered. This is a lot easier in Excel than on a calculator, especially if the calculator does not have some PC interface, which is normally where the data is anyway. It is easier on data entry, checking, and it is easier to see & document the matrix or the statistical data set.

With statistical data, I also prefer to see the data graphically before I start curve fitting or parameterizing the distributions. Much safer that way. Anscombe's quartet is a good illustration of the reasons why.

I greatly appreciate all of the hard work and creativity that has gone into this. But is isn't going to bother me if these functions are a little harder to get to.

Re: [WP 34S] New keyboard layout anybody?

*Message #6 Posted by **Forrest Switzer** on 7 Oct 2011, 3:44 p.m.,*
in response to message #2 by Alexander Oestert

I just ordered two also.

Forrest

Re: [WP 34S] New keyboard layout anybody?

*Message #7 Posted by **megarat** on 7 Oct 2011, 4:24 p.m.,*
in response to message #2 by Alexander Oestert

I just ordered three overlays, but I say go for it anyway.

Maybe I should clarify a bit: I have no objection if the overlays change occasionally. Say, once or twice a year. That's good for progress, and I can afford the occasional US$5 outlay.

Edited: 7 Oct 2011, 4:31 p.m.

Re: [WP 34S] New keyboard layout anybody?

*Message #8 Posted by **Dominic Richens** on 7 Oct 2011, 7:20 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I think small changes in the keyboard layout could just be "run-time" configurable no? New options in the MODE catalog.

Re: [WP 34S] New keyboard layout anybody?

*Message #9 Posted by **Paul Dale** on 7 Oct 2011, 7:56 a.m.,*
in response to message #8 by Dominic Richens

Not all that easily.

- Pauli

Re: [WP 34S] New keyboard layout anybody?

*Message #10 Posted by **Dieter** on 7 Oct 2011, 7:40 a.m.,*
in response to message #1 by Marcus von Cube, Germany

There are essentially three or four things I would like to change:

- I really miss LastX. Yes, I know it an be done by RCL L, but for the same reason x<>y could be omitted since x<> Y works just as well. My suggestion: h ENTER = LastX and g ENTER = SHOW. This is consistent with other HP calculators. Move the CONST menu to h EXIT and put FILL in a catalog - it's almost exclusively used for programming anyway, and in manual calculations 3x ENTER does it just as well.

- I can't say why, but the arrangement of the log and exponential functions somehow seems "wrong" to me. I feel they should swap their positions, i.e. ln = f-shift and e^x = g-shift. The same way as sqrt is f-shifted and x^2 is g-shifted.

- Finally, I wonder if the || function on the divide key really is so important for everyday use that it justifies a valuable position on the keyboard. I am sure there are more useful functions that deserve this place. You may say that || "fits so nicely" on the divide key because all four functions on it are ..."division related". But this should be no reason for wasting this valuable position for a relatively exotic function that most users will not need for their daily manual calculations. I would suggest to put the XROOT function there. I consider this function far more useful for the vast majority of users than ||. If XROOT had been implemented earlier I am sure it already was somewhere on the keyboard now.

- The matrix functions should go to their own menu. The respective key could be h 0 which is now reserved for PSE. Since this functions is only used in programs anyway it can be moved to one of the other menus.

Dieter

Re: [WP 34S] New keyboard layout anybody?

*Message #11 Posted by **Egan Ford** on 7 Oct 2011, 9:20 a.m.,*
in response to message #10 by Dieter

2nd that.

Re: [WP 34S] New keyboard layout anybody?

*Message #12 Posted by **Brian Walsh** on 7 Oct 2011, 9:42 a.m.,*
in response to message #10 by Dieter

> Quote:
>
> There are essentially three or four things I would like to change:
> • I really miss LastX. Yes, I know it an be done by RCL L, but for the same reason x<>y could be omitted since x<> Y works just as well. My suggestion: h ENTER = LastX and g ENTER = SHOW. This is consistent with other HP calculators. Move the CONST menu to h EXIT and put FILL in a catalog - it's almost exclusively used for programming anyway, and in manual calculations 3x ENTER does it just as well.

I strongly disagree about getting rid of x<>y. It is the most frequently used stack manipulation function and deserves its central unshifted position on the keyboard. I agree about CONST and FILL, though. Put LastX on h ENTER in place of CONST.

> Quote:
>
> • I can't say why, but the arrangement of the log and exponential functions somehow seems "wrong" to me. I feel they should swap their positions, i.e. ln = f-shift and e^x = g-shift. The same way as sqrt is f-shifted and x^2 is g-shifted.
>
> • Finally, I wonder if the || function on the divide key really is so important for everyday use that it justifies a valuable position on the keyboard. I am sure there are more useful functions that deserve this place. You may say that || "fits so nicely" on the divide key because all four functions on it are ..."division related". But this should be no reason for wasting this valuable position for a relatively exotic function that most users will not need for their daily manual calculations. I would suggest to put the XROOT function there. I consider this function far more useful for the vast majority of users than ||. If XROOT had been implemented earlier I am sure it already was somewhere on the keyboard now.

I haven't used these enough to comment.

> Quote:
>
> • The matrix functions should go to their own menu. The respective key could be h 0 which is now reserved for PSE. Since this functions is only used in programs anyway it can be moved to one of the other menus.

Sounds reasonable to me.

Re: [WP 34S] New keyboard layout anybody?

*Message #13 Posted by **M. Joury** on 7 Oct 2011, 11:40 a.m.,*
in response to message #12 by Brian Walsh

I don't think that Dieter was suggesting that we should get rid of X<>Y. He was arguing *FOR* LASTx by using X<>Y as an example of another function that is accessible via another method and still exists on the keyboard. I am with him 100% here.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody?

*Message #14 Posted by **Brian Walsh** on 7 Oct 2011, 12:56 p.m.,*
in response to message #13 by M. Joury

I understood but adamantly disagree with the concept of accessing x<>y by any other means than a single keystroke. x<> Y is completely unacceptable for such a frequently used function.

Re: [WP 34S] New keyboard layout anybody?

*Message #15 Posted by **M. Joury** on 7 Oct 2011, 1:05 p.m.,*
in response to message #14 by Brian Walsh

I don't think that anyone disagrees with that. X<>Y is fundamental to RPN and should always be in the primary plane.

Keyboard efficiency... lastX and X<>Y etc

*Message #16 Posted by **gene wright** on 7 Oct 2011, 9:54 a.m.,*
in response to message #10 by Dieter

h Lastx is the same number of keystrokes as RCL L but uses up another key location. I view that as a bad tradeoff. No gain in efficiency but losing a key position. I would vote against an hLastX change (as if my vote is worth much).

X<>Y however is a different story. Changing it to use x<> Y would now require three keystrokes instead of one. That's a lot of wasted time/effort to replace a VERY commonly used RPN function. Sure, it would free up a space on the keyboard, but at the expense of 2 extra keypresses. The RCL L vs. h LastX takes away a key location but saves no steps.

That's my view of that tradeoff.

This is Walter's baby, but I personally agree strongly with the RCL L and X<>Y choices.

Re: Keyboard efficiency... lastX and X<>Y etc

*Message #17 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 10:17 a.m.,*
in response to message #16 by gene wright

Gene, you are on my side. RCL L is a perfect replacement for LastX. It just should go into a Beginner's Guide: "Are you missing LastX from your trusty HP-25? Here it is: RCL L."

Are <(and)> really needed ?

*Message #18 Posted by **gene wright** on 7 Oct 2011, 10:57 a.m.,*
in response to message #17 by Marcus von Cube, Germany

I know they append an open or close parenthesis to Alpha, but are those symbols used enough to really take up two shifted key positions on the keyboard?

I'm merely trying to figure out some way to get the matrix menu on the keyboard and these are about the ONLY places where I would have any reluctance at all with functions placed.

Is there an alternative that could be done for (and) ?

Re: Are <(and)> really needed ?

*Message #19 Posted by **Egan Ford** on 7 Oct 2011, 11:47 a.m.,*
in response to message #18 by gene wright

They are also used to scroll the display in base 2 mode.

Use the || key for the matrix functions and you'll be able to keep the symbol too.

ALL, FIX, SCI, and ENG have to somehow be redundant and could be consolidated under yet another menu. E.g. DISP.

Re: Are <(and)> really needed ?

*Message #20 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 1:05 p.m.,*
in response to message #19 by Egan Ford

> Quote:
>
> ALL, FIX, SCI, and ENG have to somehow be redundant and could be consolidated under yet another menu. E.g. DISP.

We had that already. Being able to change the display format quickly is essential in every day use.

Re: Are <(and)> really needed ?

*Message #21 Posted by **Egan Ford** on 7 Oct 2011, 1:57 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Really? Do you have any data to back that up? I only ask because I rarely change it. I am curious what others think. Perhaps you already did.

Perhaps its time for a fourth function/key. Can you register a double-click? :-)

Re: Are <(and)> really needed ?

*Message #22 Posted by **M. Joury** on 7 Oct 2011, 2:08 p.m.,*
in response to message #21 by Egan Ford

Has there been a previous discussion of SHIFT+HOLD?

I am with Egan here. While I agree that ALL, FIX, SCI, ENG are pretty fundamental I don't change them often and can live with these functions in a sub-menu as long as it has just those four options for quick access. Use one of the existing keys as a menu key and save yourself 3 keys for other uses.

Cheers,

-Marwan

Edited: 7 Oct 2011, 3:09 p.m. after one or more responses were posted

Perhaps FILL is a candidate for a menu?
*Message #23 Posted by **gene wright** on 7 Oct 2011, 3:02 p.m.,*
in response to message #22 by M. Joury

giving the matrix catalog a home instead?

Re: Perhaps FILL is a candidate for a menu?
*Message #24 Posted by **Egan Ford** on 7 Oct 2011, 3:17 p.m.,*
in response to message #23 by gene wright

On ENTER? I'd put LASTx there before MATRIX.

From the manual:

> Quote:
>
> If you know how to deal with a good old HP RPN scientific calculator, you can start with your WP 34S right away.

Walter needs to append, "unless you are looking for LASTx, then continue reading this manual."

IMHO, LASTx is fundamental to all RPN calculators.

I still say, use || for matrix--no need to change overlay.

Re: Perhaps FILL is a candidate for a menu?
*Message #25 Posted by **svisvanatha** on 7 Oct 2011, 3:33 p.m.,*
in response to message #24 by Egan Ford

It seems to be consistent, a Catalog should be h-shifted.

Re: Are <(and)> really needed ?
*Message #26 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 4:21 p.m.,*
in response to message #21 by Egan Ford

Double click isn't possible. Why I change the display format? Because I prefer ALL over any FIX format but sometimes want to watch a result in a different format.

Re: Are <(and)> really needed ?
*Message #27 Posted by **David Persinger (US)** on 7 Oct 2011, 4:25 p.m.,*
in response to message #26 by Marcus von Cube, Germany

I agree with you here, Marcus.

Re: Are <(and)> really needed ?
*Message #28 Posted by **Paul Dale** on 7 Oct 2011, 7:21 p.m.,*
in response to message #18 by gene wright

They scroll the display in integer mode (in any base not just binary). They are essential to have on the keyboard for integer work.

The parentheses are a bonus because the graphics turned out nicely. If they didn't, the parentheses would have ended up in one of the symbol alpha catalogues instad.

- Pauli

Re: Keyboard efficiency... lastX and X<>Y etc
*Message #29 Posted by **Dominic Richens** on 7 Oct 2011, 11:43 a.m.,*

in response to message #17 by Marcus von Cube, Germany

done

Users' Guide: Oddities

I've created a section for stuff that might throw HP calc users for a loop.

Re: Keyboard efficiency... lastX and X<>Y etc

*Message #30 Posted by **Egan Ford** on 7 Oct 2011, 11:52 a.m.,*
in response to message #29 by Dominic Richens

Add, "|| isn't 'pause', it's something that is relevant to the EE crowd."

Re: Keyboard efficiency... lastX and X<>Y etc

*Message #31 Posted by **svisvanatha** on 7 Oct 2011, 10:22 a.m.,*
in response to message #16 by gene wright

I am OK with the choices as well.

I will point out that RCL L for LastX is non-intuitive (although well documented in the manual). I am not aware of any previous HP calculator that did not have a shifted key position for LastX. If the layout is being reconsidered, I would ask the Trinity to give thought to:

```
1. moving CONST to a numeric position and making h-ENTER to be LastX.
One reason Walter gave [1] for CONST being h-ENTER was that it was the only key wide enough for the
'CONST' lettering.
Seeing how STATUS occupies the h-[*] key, it certainly is possible to move CONST to say h-[0], and
move PSE to a catalog.


2. Matrix catalog could be h-[6], and move L.R. to its respective catalog.
```

No demands here! Just a few suggestions. In any case - many thanks for all your work.

[1] Comment 30 @ http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=183084

Edited: 7 Oct 2011, 10:26 a.m.

Re: Keyboard efficiency... lastX and X<>Y etc

*Message #32 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 10:35 a.m.,*
in response to message #31 by svisvanatha

I don't use LastX often so I may not be the most credible person here but I'm still against duplicating RCL L on a key by itself. As already pointed out the number of key presses is identical and you will certainly have to read the manual in parts to make any use of your WP 34S so it's not asking too much for learning this once.

Re: Keyboard efficiency... lastX and X<>Y etc

*Message #33 Posted by **Dieter** on 7 Oct 2011, 10:54 a.m.,*
in response to message #16 by gene wright

For the record: the x<>y example was only for "illustration purposes". Of course I do not want to get rid of a dedicated x<>y key. But for the same reason I would prefer LastX that's called "LastX". ;-)

Dieter

Re: [WP 34S] New keyboard layout anybody?

*Message #34 Posted by **E.Lub_EU** on 7 Oct 2011, 9:41 a.m.,*
in response to message #10 by Dieter

Dieter,

> Quote:

> Finally, I wonder if the || function on the divide key really is so important for everyday use that it justifies a valuable position on the keyboard

It does !!!! This is an *invaluable* function to have on the keyboard for EE's work.

Note that while doing analog design, it is used daily in keystroke mode, and is then as useful as sqrt, x^2, trig and exponential functions.

I was initially puzzled by the glyph used (||), but I was really thrilled when I discovered that it was the "parallel" function. I cannot comment for other engineering/science fields.

So, unless there is another way to keep it easily accessible, or if the trinity decides differently, I would strongly argue for it being kept on the keyboard. I am agnostic regarding its position, though.

Etienne

Re: [WP 34S] New keyboard layout anybody?

*Message #35 Posted by **Egan Ford** on 7 Oct 2011, 10:08 a.m.,*
in response to message #34 by E.Lub_EU

> Quote:
>
> It does !!!! This is an *invaluable* function to have on the keyboard for EE's work.

Then write a program for it and map it to A-D. It is a specialized function used by a specialized group.

Re: [WP 34S] New keyboard layout anybody?

*Message #36 Posted by **Masaki Adachi** on 7 Oct 2011, 12:41 p.m.,*
in response to message #34 by E.Lub_EU

I, for one, thought || was nice. but of course I am an electrical engineer (or used to be)

Re: [WP 34S] New keyboard layout anybody?

*Message #37 Posted by **Gerson W. Barbosa** on 9 Oct 2011, 3:01 p.m.,*
in response to message #36 by Masaki Adachi

Exactly the same here.

Re: [WP 34S] New keyboard layout anybody?

*Message #38 Posted by **M. Joury** on 7 Oct 2011, 11:12 a.m.,*
in response to message #10 by Dieter

I like these ideas. The problem is that each of us have different requirements. For example I would choose to replace || with %T (or at least find some other location for %T on the keyboard since I use it a lot). On my machine I have written a tiny program that executes %T and has the label A so it can be run directly.

Anyway, and I know that I have brought this up before, a fully implemented re-assignable keyboard would make everyone happy. Then Eric could throw in a few blank labels with his keyboards)or in my case I could simply use some leftover labels from my HP-41's) and we could all be happy. I have intended for quite some time to take a look at the code and see what it would take to implement some of the ideas I have put forward but unfortunately life continues to get in the way.

But to answer the question of what to do with all the keyboards already out there... I just ordered 4 overlays from Eric and as far as I am concerned I really don't care if I have to order another 4 or 8 or whatever it takes to get to where this calc is going. I certainly don't want to hold up improvements because of an existing base. After all, isn't this how legacy design gums up the wheels of progress?

Just my $0.02 worth.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody?

*Message #39 Posted by **Paul Dale** on 7 Oct 2011, 7:29 p.m.,*
in response to message #38 by M. Joury

As assignable keyboard is out of the question. We have one single solitary *bit* of non-volatile RAM free a the moment. Key assignments are impossible in so little space.

How much space would they require? To allow an assignable keyboard, we'll need a *minimum* of two bytes for each assignable position. So 34 * 4 * 2 = 272 bytes at least. We have exactly 2048 bytes in total for all preserved state -- registers, programs, user settings, everything.

Adding an assignable keyboard will consume way too much memory for this little device.

We've discussed this possibility several times and it always comes down to not enough RAM to do it properly.

- Pauli

Re: [WP 34S] New keyboard layout anybody?

*Message #40 Posted by **Steve Simpkin** on 7 Oct 2011, 7:53 p.m.,*
in response to message #39 by Paul Dale

Just a reminder that you can use Keyboard Codes (see page 86 of the Edition 2.1 Owner's Manual) to assign many of the WP 34s keys to a program. The extra step of pressing XEQ before the key is a reasonable alternative to an assignable keyboard IMHO.

Re: [WP 34S] New keyboard layout anybody?

*Message #41 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 10:37 p.m.,*
in response to message #39 by Paul Dale

The only way to do it would be to do a specialized label search and execute a (short) program for each assigned key. The remaining bit would then be the "User Mode" toggle. The assignments may go to a library page if desired.

Re: [WP 34S] New keyboard layout anybody?

*Message #42 Posted by **M. Joury** on 7 Oct 2011, 11:04 p.m.,*
in response to message #41 by Marcus von Cube, Germany

I was thinking about just such a solution but hesitated to mention it since I have not had time to delve into the code at all. This would definitely work for me as at least a partial solution that meets most of my requirements.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody?

*Message #43 Posted by **Steve Simpkin** on 8 Oct 2011, 2:00 a.m.,*
in response to message #41 by Marcus von Cube, Germany

Building on this idea... How about a USER mode where pressing a key (other than the shift keys) will perform a label search for LBL 'k[key code]'. If the label exists, execute the program, else perform the default key function. For the shift keys, on the next key pressed, perform a search for LBL 'f[key code]', 'g[key code]' or 'h[key code]', depending on the shift key that was pressed.
While not as elaborate as the HP-41C key assignment system, it produces four planes of user defined actions while only using 1 bit of RAM. Just thinking out loud.

Re: [WP 34S] New keyboard layout anybody?

*Message #44 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:04 a.m.,*
in response to message #43 by Steve Simpkin

This is not the worst idea one can have. The changes to the code would be minimal. We just need a USER key.

Re: [WP 34S] New keyboard layout anybody?

*Message #45 Posted by **Steve Simpkin** on 8 Oct 2011, 2:38 p.m.,*
in response to message #44 by Marcus von Cube, Germany

A USER key (non assignable of course) and an annunciator of some kind. Of the fixed symbols in the display, I don't see the small equals sign or the small down arrow being used for anything in the manual (unless I missed it).

Re: [WP 34S] New keyboard layout anybody?

*Message #46 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 2:58 p.m.,*
in response to message #45 by Steve Simpkin

You missed it. ;) Both have a use: = denotes any power eating state such as waiting for a serial connection or debug mode. Down arrow denotes alpha lower case mode. Before you ask: The large = is tied to flag D. It might be possible to display a small u in the alpha display to indicate user mode.

Re: [WP 34S] New keyboard layout anybody?

*Message #47 Posted by **Steve Simpkin** on 8 Oct 2011, 6:11 p.m.,*
in response to message #46 by Marcus von Cube, Germany

If I could remember what I had forgotten, I could have looked it up :)
If a small u in a corner of the dot matrix display would not be too complex to implement, that should suffice. For the User key, perhaps a shifted plane of the Exit key or a shifted plane of a shift key (as is being discussed in this thread) could be used?
There is not much in this little machine that you three haven't used already. I am still awestruck be the huge (and growing!) feature set.

Re: [WP 34S] New keyboard layout anybody?

*Message #48 Posted by **Paul Dale** on 8 Oct 2011, 7:04 p.m.,*
in response to message #46 by Marcus von Cube, Germany

> Quote:
>
> The large = is tied to flag D.

Flag A :-)

> Quote:
>
> It might be possible to display a small u in the alpha display to indicate user mode.

Again this is hard that it appears -- the status line is character based not graphical. So we need a character for the symbol (which we have) and then everything needs to be realigned properly (which is painful). That is assuming there is space in the line for this -- it is pretty busy already.

- Pauli

Re: [WP 34S] New keyboard layout anybody?

*Message #49 Posted by **Dominic Richens** on 8 Oct 2011, 7:58 a.m.,*
in response to message #43 by Steve Simpkin

hey that's funny Steve, I was looking at the code for how to do something very similar, but I like your idea

better.

Sometimes I don't want "A" to run LBL"A", for example. I wanted to be able to turn off that feature and just do XEQ A but otherwise do Sigma+. I found the place in the code to do that top row functions regardless of the LBLs.

I was looking at adding a USERON, USEROFF to the MODE catalog and using one of those last free bits of non-volatile RAM.

Now for what you are suggesting, having something on the MODE catalog would of course impose restrictions (e.g. LBL h05 couldn't be used).

The other thing I wanted to change with the MODE catalog was adding a * or underlining the modes that are currently active.

Re: [WP 34S] New keyboard layout anybody?

*Message #50 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 8:02 a.m.,*
in response to message #49 by Dominic Richens

> Quote:
>
> The other thing I wanted to change with the MODE catalog was adding a * or underlining the modes that are currently active.

That's a really hard thing to accomplish given the current code base. :-(

Re: [WP 34S] New keyboard layout anybody?

*Message #51 Posted by **Dominic Richens** on 8 Oct 2011, 1:25 p.m.,*
in response to message #50 by Marcus von Cube, Germany

I wouldn't say hard, just not elegant.

I think I counted 26 of the entries were "toggles", so I would use a function with a rather long case statement, called from catcmd(), with a case for certain op_codes and append a * depending on the appropriate UState member value.

How are we for text segment space?

Re: [WP 34S] New keyboard layout anybody?

*Message #52 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 3:01 p.m.,*
in response to message #51 by Dominic Richens

This would be *very* demanding on flash space. If you want to know how much is left look at the summary.txt file on the realbuild folder.

Re: [WP 34S] New keyboard layout anybody?

*Message #53 Posted by **Dominic Richens** on 8 Oct 2011, 6:01 p.m.,*
in response to message #52 by Marcus von Cube, Germany

.fixed 0x00100000 0x1e380 .revision 0x0011e3fc 0x4

I take this to mean there are 1e3fc - 1e380 = 7c bytes left?!!!

Re: [WP 34S] New keyboard layout anybody?

*Message #54 Posted by **Paul Dale** on 8 Oct 2011, 7:09 p.m.,*
in response to message #53 by Dominic Richens

> Quote:

> I take this to mean there are 1e3fc - 1e380 = 7c bytes left?!!!

That is about right - 124 bytes. We're trying to reclaim some code space & have been doing so for a couple of months. All the low hanging fruit have long since been collected.

Your idea is sound and positive, it just won't fit.

- Pauli

Re: [WP 34S] New keyboard layout anybody?

*Message #55 Posted by **Paul Dale** on 8 Oct 2011, 7:07 p.m.,*
in response to message #49 by Dominic Richens

> Quote:
>
> I was looking at adding a USERON, USEROFF to the MODE catalog and using one of those last free bits of non-volatile RAM.

The last bit actually. There is only one. We're going to have to be very very careful about using it.

All of the commands hidden by A, B, C & D are available elsewhere on the keyboard. I've almost stopped using the hot keys are shortcuts.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #56 Posted by **M. Joury** on 7 Oct 2011, 11:00 p.m.,*
in response to message #39 by Paul Dale

Yes, I remember that discussion. The basic HP41C has 441 bytes, the HP41CV/CX have 2,233 bytes and they make it work by allocating RAM out of available memory. I understand that the manipulation of memory adds complexity and potential bugs so all I am saying is that it is not completely unfeasible.

There are two features that I deem essential in any machine that is going to replace my 41 or my 48 series machines. In order of importance to me the first is partitioned programs whereby non-alpha labels are local within a program and the second is a fully customizable keyboard (this and the lack of I/O were the only things that kept the 42S from being the perfect calculator). I use my calculators more to write small utility programs and simple arithmetic rather than complex math. The problem with all labels being global is a big issue for me and though the WP34S has some ways to handle this that other calcs don't it will never replace my 41 and my 48 type machines until it offers local labels.

Don't get me wrong. This is a *GREAT* calculator, it just does not meet my requirements for a day-to-day workhorse in its current form. I am using it and I am enjoying it but it has not become my go-to calculator as I hoped it might.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #57 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:07 a.m.,*
in response to message #56 by M. Joury

V3, if ever being created on the same hardware, will definitely have an END statement and a more elaborate scheme of putting programs in flash.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #58 Posted by **Paul Dale** on 8 Oct 2011, 7:12 p.m.,*
in response to message #57 by Marcus von Cube, Germany

I would consider this very unlikely however. There is more capable hardware being developed now. E.g.

OpenRPN, DIY RPN, DM 15CC. We'd almost certainly use one of these platforms for our next project.

The 30b is fine and when we started it was really the only thing available (and in many ways it still is), however the screen is very limiting and the amount of RAM is tiny. The flash space is also becoming a limiting factor which wasn't something I thought we'd have big difficulties with.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #59 Posted by **Walter B** on 9 Oct 2011, 5:19 a.m.,*
in response to message #58 by Paul Dale

I'm with Pauli in this matter. In fact, the 20b was the only suitable repurposable calculator the time we started with the 34S. But while progressing, we found the 20b contains some very rigid limits: keyboard, display and memory. Keyboard was overcome with the 30b eventually, but the breathtaking display limits the UI most obviously still ;-) So anything going beyond the WP 34S will definitively need a more modern LCD, allowing softkeys - hey, that was possible 25 years ago already, it must be possible in 2012 as well and better!

Ceterum censeo: HP, launch a 43S (and if you stubbornly refuse to, the community is going to do it the old HP way).

Walter

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #60 Posted by **David Hayden** on 9 Oct 2011, 9:02 a.m.,*
in response to message #59 by Walter B

If you ever do a follow-on calculator, I hope you'll do reassignable keys and have the keys display their function briefly when held down like the 41C. This means the function executes when the key is released, not when it's pressed.

This whole thread shows the value of reassignable keys. Everyone has their favorite functions and everyone has functions that they never use. With reassignable keys, Your Favorite Functions are never more than a couple of clicks away.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #61 Posted by **Walter B** on 9 Oct 2011, 1:31 p.m.,*
in response to message #60 by David Hayden

Know. this. All my old (vapourware) designs had an ASN key. But all we can give you with the WP 34S are the four hotkeys you see. Sorry for this, but such's real life so far.

Walter

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #62 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 3:22 p.m.,*
in response to message #61 by Walter B

No need for ASN if we delegate it to some labels in program space. Just a user mode setting (maybe a flag?) is needed.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #63 Posted by **M. Joury** on 10 Oct 2011, 7:08 a.m.,*
in response to message #62 by Marcus von Cube, Germany

Hi Marcus,

For now that would be a great solution but in the future (next generation?) a true ASN function would definitely be a better solution. for one thing that would allow assigned keys to be used during programming. With my HP-41 I had a keyboard layout I used for day-to-day stuff and another that I used when programming the calculator.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.
*Message #64 Posted by **Paul Dale** on 10 Oct 2011, 7:28 a.m.,*
in response to message #63 by M. Joury

You won't get a true ASN function on the 34S. There isn't the RAM for it. Our next device will have it definitely.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.
*Message #65 Posted by **M. Joury** on 10 Oct 2011, 1:46 p.m.,*
in response to message #64 by Paul Dale

So I understand. But what Marcus is suggesting is a great interim improvement for the current device.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.
*Message #66 Posted by **Paul Dale** on 9 Oct 2011, 5:37 p.m.,*
in response to message #57 by Marcus von Cube, Germany

> Quote:
>
> V3, if ever being created on the same hardware, will definitely have an END statement and a more elaborate scheme of putting programs in flash.

We effectively have an END statement at the end of each flash block (and main RAM). That's 6 - 8 programs each of which can be up to 506 steps long and they can have multiple alpha labels each. There are 100 local labels in each so every fifth statement can be a label -- that should be sufficient for most things. If it isn't we've back and skip as well.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.
*Message #67 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 7:19 p.m.,*
in response to message #66 by Paul Dale

Pauli, I'm just thinking of flash regions of arbitrary length. The internal logic would remain pretty much the same.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.
*Message #68 Posted by **M. Joury** on 10 Oct 2011, 7:14 a.m.,*

in response to message #66 by Paul Dale

True, but the issue is that I then have to decide what programs go where when developing them and then never move them around or place two programs with the same labels in the same space. This is the real issue since for any given program or limited set of programs I can definitely assign labels accordingly. It is not the lack of labels that is the problem but the fact that any two sharing a "region" have to have different labels and with lots of small utility programs (the way I use my calculator) it is not always possible to plan ahead as to what goes where.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #69 Posted by **Paul Dale** on 10 Oct 2011, 7:26 a.m.,*
in response to message #68 by M. Joury

I know where you're coming from here and I too tend to use the device in a similar manner -- except when I'm editing and debugging. I've still not had a problem with clashing labels. Generally, I use a block of ten labels for each program. Worst case I switch to run mode and GTO xx to see if a label is already defined.

With the assembler, it is quite possible to off load programs and reload them with SKIP/BACK automatically added -- no labels now.

Anyway, it is very unlikely we'll implement program partitions on the device as it. I've said this many times already, it really isn't as easy as people are making it out to be. If anyone disagrees, please download the sources and implement it. Then I'll have a look and figure out where you got it wrong :-) I'd love to be shown to be mistaken here BTW.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #70 Posted by **fhub** on 10 Oct 2011, 7:45 a.m.,*
in response to message #69 by Paul Dale

> Quote:
>
> Anyway, it is very unlikely we'll implement program partitions on the device as it. I've said this many times already, it really isn't as easy as people are making it out to be. If anyone disagrees, please download the sources and implement it. Then I'll have a look and figure out where you got it wrong :-) I'd love to be shown to be mistaken here BTW.

Well Pauli, since I'm not a C-programmer I'll definitely not implement it into your sources, but I've already explained long time ago how such an END could be implemented very easy and without needing many bytes:

1) add the new statement END and a new opcode for it
2) the 'code' for this END (i.e. when a running program comes to such an END) is just the same as for RTN - you could even make it simply jump to the RTN routine, so almost no new code would be needed
3) when a program reaches a GTO nn or XEQ nn (with nn=00..99) it should just look for this LBL nn not in the complete current flash region but just down to the **next** END statement, and when the LBL nn is not found then start searching it again beginning from the **previous** END statement.
In other words: since now an END is separating different programs, the 'search-for-label' routine should just search **within** the current program instead of the complete flash region.
The only real changes which would be required for this are in this 'search-for-label' routine, and I think these changes would neither be difficult nor cost many bytes.

And with this kind of END implementation you could even simplify the command for clearing a single program - again: just clear the current program between the previous and the next END.

Franz

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #71 Posted by **Paul Dale** on 10 Oct 2011, 7:57 a.m.,*
in response to message #70 by fhub

> Quote:
>
> ...but I've already explained long time ago how such an END could be implemented very easy and without needing many bytes:

As I explained at the time and many times since, I do not believe that doing END properly is as simple or straightforward as has been suggested time and again.

Since I obviously don't know much of anything about the deep dark internals of the 34S software implementation, I'm happily deferring to those who clearly are far more knowledgeable in these dark arts than I to put actions behind their words. Someone, anyone: step up and prove me wrong here -- show me it is very easy.

- Pauli

For those impaired in detecting such: that was sarcasm. The offer to prove me wrong still stands however -- I'd love someone to do that.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #72 Posted by **fhub** on 10 Oct 2011, 8:04 a.m.,*
in response to message #71 by Paul Dale

> Quote:
>
> Since I obviously don't know much of anything about the deep dark internals of the 34S software implementation, I'm happily deferring to those who clearly are far more knowledgeable in these dark arts than I to put actions behind their words. Someone, anyone: step up and prove me wrong here -- show me it is very easy.
>
> - Pauli
>
> For those impaired in detecting such: that was sarcasm. The offer to prove me wrong still stands however -- I'd love someone to do that.

Oh my god, I can't stand this bullshit anymore! :-(

Is "feel free to implement it yourself" or "prove me wrong" all you can say?
Well, then it's indeed a waste of time to make any suggestions.

Franz

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #73 Posted by **Paul Dale** on 10 Oct 2011, 8:05 a.m.,*
in response to message #72 by fhub

I'm not the one who bought this up yet again....

In fact I'm getting sick of regurgitating the same response time and again.

- Pauli

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #74 Posted by **fhub** on 10 Oct 2011, 8:23 a.m.,*
in response to message #73 by Paul Dale

> Quote:
>
> In fact I'm getting sick of regurgitating the same response time and again.

Well, as long as your only 'arguments' against any new ideas are like this
"I do not **believe** that doing END properly is as simple or straightforward as has been suggested time and again."
you should not wonder that noone would be satisfied with such an answer!
If I want to **believe** I would go to a church but not visit this forum ...

Franz

Edited: 10 Oct 2011, 8:24 a.m.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #75 Posted by **Alexander Oestert** on 10 Oct 2011, 8:28 a.m.,*
in response to message #74 by fhub

Franz, you are clearly out of line.

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #76 Posted by **M. Joury** on 10 Oct 2011, 9:51 a.m.,*
in response to message #73 by Paul Dale

No, I believe that I brought it up. And it was a comment on how I used the calculator. I already understood that we would not be seeing this in the current implementation. This was more than anything a future wish list to make the next generation all that it can be and so I mentioned the two features that I miss most from the HP-41.

It looks like we might get a partial implementation of one of those features and that is great but I didn't intend to start a battle over this. Being a developer myself I have heard more often than I care to count how "easy" something would be to implements without the requester having any idea about the internal complexity. My favorite (not exactly the same scenario) was when a UI "expert" told me he did not like a screen layout and that I should change it. When I asked him what he wanted he said "Just change it and I'll let you know if I like it". I threw him out of my office!

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody? And partitioning program memory.

*Message #77 Posted by **M. Joury** on 10 Oct 2011, 9:41 a.m.,*
in response to message #69 by Paul Dale

Hi Paul,

I am not suggesting it is easy and I understand that we won't see this in the WP-34S. My comments are for the future. BTW, SKIP/BACK is what I meant when I mentioned in an earlier posting that at least the WP-34S provides alternatives that (somewhat) solve the problem.

Cheers,

-Marwan

Re: [WP 34S] New keyboard layout anybody?

*Message #78 Posted by **Paul Gaster** on 7 Oct 2011, 7:52 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I say keep moving forward and create a new layout. The overlay is only obsolete if a person wants the new firmware, which some may not. Some are/were happy as is. You also gave warning about a potential change over a week ago, maybe even longer, so this is not a huge suprise.

Re: [WP 34S] New keyboard layout anybody?

*Message #79 Posted by **Cristian Arezzini** on 7 Oct 2011, 8:46 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I'd say, don't stop new ideas just because there are a few overlays around. Who flashed at HHC and doesn't have a cable will be unable to reflash the calculator anyway. Maybe Eric could stock a few of the old layouts as well as the new ones; so who has the cable and wants to be up-to-date can buy the new layout, while the others can order the older version. This seems to me much less trouble than maintaining two separate firmwares. And buying a new overlay every so often isn't a huge deal, they're rather cheap anyway...

Cristian

Re: [WP 34S] New keyboard layout anybody?

*Message #80 Posted by **Mike Maiorana** on 7 Oct 2011, 9:54 a.m.,*
in response to message #79 by Cristian Arezzini

Since Gene was kind enough to offer me a cable, I'll offer to reflash anyone's calculator for the cost of postage.

Re: [WP 34S] New keyboard layout anybody?

*Message #81 Posted by **svisvanatha** on 7 Oct 2011, 8:46 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Well, this is a developing project, so course corrections like this are expected. I think maintaining multiple versions of the firmware is a bad idea. It is hard enough for the 34S 'Trinity' to spend the time that they do on this project. Asking for multiple versions is a a burden on their free time.

I am wondering if it is possible for Eric Rechlin to create an 'update package' for those with the current layout. It would include new key labels for those keys where the h-shifted function have changed, and small labels to be placed on the existing overlay for places where the f- and g-shifted functions have changed. This would limit the cost to existing users in migrating to the new layout. New users could then purchase the full overlay kit from him.

In the end though, I think we all have to realize that the Trinity has spent more time and money than any of us on this. I am fully willing to spend another $5 on an overlay.

Re: [WP 34S] New keyboard layout anybody?

*Message #82 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 9:09 a.m.,*
in response to message #81 by svisvanatha

Changing the keyboard layout is a lot of work, so I'm not keen on it except there are very good reasons to do so. Here are some points:

1. Walter needs to provide the actual layout in a form suitable for the manual: non-trivial mental work to get it consistent.
2. The layout has to be applied to the three BMP graphics for the emulator: tedious pixelwork.

3. Eric has to the same on his overlay file: even more tedious pixelwork.
4. The keyboard driver has to be rewritten to accommodate the new layout: non-trivial programming exercise.

I've a few more corrections in mind than what we have come up with until now, so I assume there will be discussions ahead. I vote for not changing the layout until this is all settled. Let's call it V3 then!

Re: [WP 34S] New keyboard layout anybody?

*Message #83 Posted by **Howard Owen** on 7 Oct 2011, 12:25 p.m.,*
in response to message #82 by Marcus von Cube, Germany

Changes to the keyboard will be fairly painful for those of us who have keyboards with the current layout. (I've ordered two additional overlays myself. Why is everyone doing that?) Nonetheless, WP34S is in beta. If a consensus of the developers emerges around changing the layout, in consultation with the user community, then the pain of upgrading shouldn't stand in the way.

I think it's amusing how you've opened Pandora's Box a little, Marcus. Putting the keyboard layout in play is going to be fun to watch. But this is a great exercise now. The real machine has been in tester's hands for a while. We have experience of how the actual layout works. The discussion around changing the layout will be informed by that experience. The result ought to be solid improvement to the scheme.

Regardless, changes like this shouldn't be undertaken lightly. As the tester community grows, so too will the pain of updating the keyboard layout. At some point you should declare the layout to be out of beta, even if the calculator itself stays in a testing phase. That means that trying to get the best possible layout now is really important. Taking it slow and getting it right is the correct approach, in my opinion. A long lead time will reduce the impact on Eric too. I don't know how many overlays he has in current production now.

Re: [WP 34S] New keyboard layout anybody?

*Message #84 Posted by **Eric Rechlin** on 7 Oct 2011, 2:04 p.m.,*
in response to message #83 by Howard Owen

> Quote:
>
> I don't know how many overlays he has in current production now.

About 60 went out to the first beta testers in June.

Based on feedback, I made a bunch of minor changes and made another 50 for HHC in September.

After HHC, I made another 75, and of those 75 I have fewer than 10 left.

Right now I don't know if I should make a bunch more or hold off until any changes are decided upon.

Eric

Re: [WP 34S] New keyboard layout anybody?

*Message #85 Posted by **Walter B** on 7 Oct 2011, 2:27 p.m.,*
in response to message #84 by Eric Rechlin

I recommend you wait a bit. The design department is working, but I won't finish the layout on a train ride ;-) Just rely on our usual speed ...

Walter

Edit: just realized I'll arrive about right to watch a nice football match of our national team :-) And there's more to come ...

Edited: 7 Oct 2011, 2:40 p.m. after one or more responses were posted

Re: [WP 34S] New keyboard layout anybody?

*Message #86 Posted by **Howard Owen** on 7 Oct 2011, 2:37 p.m.,*

in response to message #85 by Walter B

> Quote:
>
> Just rely on our usual speed ...

I wish you would consider taking your time with your decisions. There's a lot of user experience you could capture that might help optimise and stabilize the layout going forward.

Re: [WP 34S] New keyboard layout anybody?

*Message #87 Posted by **Eric Rechlin** on 7 Oct 2011, 9:16 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Assuming the layout changes are minor, I'd be willing to send out a "keyboard patch kit" to anywhere in the world for $2 (and add $1 for each extra patch kit desired).

I'm assuming no primary functions would change, but if they do, or if any [h] shifted functions change, it will be very easy to fix by just removing the key sticker and putting a new one on.

If [f] or [g] shifted functions change, the easiest solution would be to just apply a small sticker on top of the existing overlay. Not perfect, but it beats trying to apply a whole new one.

Eric

Re: [WP 34S] New keyboard layout anybody?

*Message #88 Posted by **svisvanatha** on 7 Oct 2011, 9:18 a.m.,*
in response to message #87 by Eric Rechlin

Wow! Now that is service!

Re: [WP 34S] New keyboard layout anybody?

*Message #89 Posted by **Jim Horn** on 7 Oct 2011, 11:38 a.m.,*
in response to message #87 by Eric Rechlin

I'm delighted with both the progress of the '34S and the deliberation shown in potential key changes. My only concerns about that have been:

1) Can Eric keep up with the demand if we all want new overlays?

2) Can existing overlays be removed from the 20b and 30b to allow a clean replacement with a new overlay?

I've not had to remove my overlay - it looks nearly as good as when I put it on months ago. If it can be removed cleanly, I see no problem with replacing it.

Go, team! We're cheering you on...

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #90 Posted by **Morten Nygaard Åsnes** on 7 Oct 2011, 2:36 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I would support changing Last X to a primary or shifted key. Maybe remove the dedicated convert key? Also I would have the key for scrolling binary numbers left and right in the display be two keys using the same shift key, as it is now using two different shift keys is very non intuitive.

(another thing that doesn't have anything to do with the layout, I would like base two numbers to only display 8 bits at a time, scrolling a binary number when 12 bits is displayed means it's impossible to quickly see which byte you are looking at)

As for removing ALL, FIX, SCI, and ENG from dedicated keys, I think a display menu is a good idea. I like how the 35s does it where you can jump to a menu item with the number keys: Display 1 => Fix, Display 2 => Sci, etc.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #91 Posted by **Walter B** on 7 Oct 2011, 4:04 p.m.,*
in response to message #90 by Morten Nygaard Åsnes

Just two comments:

1. Any proposals of DISP menus "how the 35s does" won't work due to the excellent display of the 20b/30b ;-/ Did we mention already this is our favourite piece of hardware?
2. The odds for a label "Last x" appearing are very low for the reasons explained by Gene and others.

Walter

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #92 Posted by **Egan Ford** on 7 Oct 2011, 7:49 p.m.,*
in response to message #91 by Walter B

> Quote:
>
> The odds for a label "Last x" appearing are very low for the reasons explained by Gene and others.

Perhaps I missed this explanation. I have not read a single argument for FILL over LASTx.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #93 Posted by **Walter B** on 9 Oct 2011, 5:29 a.m.,*
in response to message #92 by Egan Ford

Well, LASTx is accessible via RCL L already - only two keystrokes. That's the best you can get since it won't become a primary function ever. FILL is two keystrokes now, while the alternatives - 3 or 7 times ENTER - need more work. Sufficient?

Walter

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #94 Posted by **Cristian Arezzini** on 7 Oct 2011, 8:07 p.m.,*
in response to message #90 by Morten Nygaard Åsnes

> Quote:
>
> (another thing that doesn't have anything to do with the layout, I would like base two numbers to only display 8 bits at a time, scrolling a binary number when 12 bits is displayed means it's impossible to quickly see which byte you are looking at)

I second that! :) Cristian

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #95 Posted by **Jeff O.** on 7 Oct 2011, 4:01 p.m.,*
in response to message #1 by Marcus von Cube, Germany

We seem to be rehashing a lot of the discussion about key labels and functions that we had last spring. For the moment, why not keep it simple? Put the MATRIX menu where PSE is, and put PSE in the P.FCN menu. For now, everyone can just remember this change. If it "sticks", at some point Eric can send out new labels for the 0 key.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #96 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 4:30 p.m.,*
in response to message #95 by Jeff O.

Jeff, there are a few more inconsistencies which should be attacked. Some have been mentioned here such as having the

windowing functions for long integers on different shift keys isn't optimal. Putting OFF on h-EXIT is another consideration. And I never understood why ATOI and ITOA are on the keyboard (riddle: where?).

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #97 Posted by **Walter B** on 7 Oct 2011, 4:34 p.m.,*
in response to message #95 by Jeff O.

MATRIX goes on h-shifted '*' and pushes STATUS to h-shifted '.'
SHOW and OFF swapped as discussed earlier.
Put DECM on the keyboard due to the known H.d discussions here. H.d becomes H thus.
Introduce a catalog CLEAR in consequence.

Walter

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #98 Posted by **Howard Owen** on 7 Oct 2011, 5:07 p.m.,*
in response to message #97 by Walter B

I like the fact that the changes are all on the h plane. That makes it easy for Eric to ship patch kits to owners of the existing overlays, as he suggested.

Forgive my ignorance of previous discussion on this topic, but why wouldn't DECM be better in the MODE menu?

edit: To be CLEAR, I think that menu makes perfect sense. Perhaps you could do something else with the space?

Edited: 7 Oct 2011, 5:10 p.m.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #99 Posted by **Walter B** on 7 Oct 2011, 5:22 p.m.,*
in response to message #98 by Howard Owen

> Quote:
>
> why wouldn't DECM be better in the MODE menu?

Because of people unable to find it - and having all other important modes on the keyboard.

Walter... one suggested change to your graphic?
*Message #100 Posted by **gene wright** on 7 Oct 2011, 5:36 p.m.,*
in response to message #97 by Walter B

A clear menu is fine, but perhaps CLX should be g backspace?

I'm guessing that CLX would be used more than CL Sigma.

CLx instead of CLSigma
*Message #101 Posted by **Walter B** on 7 Oct 2011, 7:04 p.m.,*
in response to message #100 by gene wright

Thanks - put it in my new proposal already.

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #102 Posted by **Dan W** on 8 Oct 2011, 12:52 a.m.,*
in response to message #97 by Walter B

Is there any reason the shift keys do not themselves have shifted functions?

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #103 Posted by **Walter B** on 8 Oct 2011, 1:25 a.m.,*
in response to message #102 by Dan W

Please look at page 27/102 of the current manual.

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #104 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:08 a.m.,*
in response to message #103 by Walter B

They cancel each other.

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #105 Posted by **Alexander Oestert** on 8 Oct 2011, 8:13 a.m.,*
in response to message #104 by Marcus von Cube, Germany

If each one canceled only itself, could they then have shifted functions? Like f and h shift for g, g and h shift for f and finally f and g shift for h.

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #106 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 9:00 a.m.,*
in response to message #105 by Alexander Oestert

f cancels / replaces g, etc. This is useful if you have accidentally pressed the wrong shift. Don't tell me you never do! :-)

Re: [WP 34S] New keyboard as suggested yesterday evening
*Message #107 Posted by **gene wright** on 8 Oct 2011, 9:14 a.m.,*
in response to message #106 by Marcus von Cube, Germany

I think what they are suggesting is:

f pressed incorrectly is cancelled by pressing f again.

g pressed incorrectly is cancelled by pressing g again.

f pressed followed by g would execute whatever the f-shifted function of g was.

In other words, yes, people press shift keys, even the wrong one from time to time. But the fix is to press the wrongly pressed shift key again to turn it off.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #108 Posted by **Alexander Oestert** on 8 Oct 2011, 9:55 a.m.,*
in response to message #107 by gene wright

What Gene says!

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #109 Posted by **Dan W** on 8 Oct 2011, 11:41 a.m.,*
in response to message #106 by Marcus von Cube, Germany

> Quote:
>
> f cancels / replaces g, etc. This is useful if you have accidentally pressed the wrong shift. Don't tell me you never do! :-)

Yes but what if you press a shift key by accident when you want an unshifted function?

There must be a way to clear the shift key. The obvious way to do that is to press the same shift key again.

Shift keys have historically not had shifted functions. But is that a paradigm that, dare I say it, could be shifted?

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #110 Posted by **gene wright** on 8 Oct 2011, 12:03 p.m.,*
in response to message #109 by Dan W

In the past, HP's normal way of canceling the shift key on many models was to press the "prefix" shifted function, which cleared the prefix key.

This had the added benefit of showing the mantissa in the display.

I believe the 12c f and g keys cancel each other, but the prefix clear is the way to clear both.

That said, it might be nice to consider having some shifted functions on the other shift keys.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #111 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 12:56 p.m.,*
in response to message #110 by gene wright

So we could have a g-shifted and an h-shifted function on f, an f-shifted and an h-shifted function on g and an f-shifted and a g-shifted function on h. We might relocate -> to both f and g as their g- and f-shifted function respectively. The conversions would then be called with f+g+DEG/RAD/GRAD respectively g+f+H.MS/H.d. CONV might then go to h+f and some other catalog(ue) on h+g.

What to put on where is now ->?

I'd like Walter, our chief design officer, to comment on this.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #112 Posted by **gene wright** on 8 Oct 2011, 1:06 p.m.,*

in response to message #111 by Marcus von Cube, Germany

It's just an idea. The shift keys are very lonely on that row with no shifted friends. :-)

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #113 Posted by **fhub** on 8 Oct 2011, 2:27 p.m.,*
in response to message #111 by Marcus von Cube, Germany

> Quote:
>
> So we could have a g-shifted and an h-shifted function on f, an f-shifted and an h-shifted function on g and an f-shifted and a g-shifted function on h.

Oh my god, it seems you want to create the most complicated calculator keyboard ever! :-(

Have you thought about how the 4 labels for these f/g/h keys would look then? For each of the 3 keys one label must be omitted (the one of it's own function), and this would be on a different place for each key.

Could you please make a SVN build with the latest changes before such keyboard 'deformations' are done? This will then certainly be the last version I'm using ...

Franz

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #114 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 3:03 p.m.,*
in response to message #113 by fhub

Franz, I plan to create a stable build that matches the current layout and a branch for future development.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #115 Posted by **fhub** on 8 Oct 2011, 3:14 p.m.,*
in response to message #114 by Marcus von Cube, Germany

> Quote:
>
> Franz, I plan to create a stable build that matches the current layout and a branch for future development.

That's good to hear, Marcus! :-)

As for the f/g/h combinations:
The maximum I could imagine would be h-shifted functions for f and g (but not any/all other combinations) - this would make 2 new green labels for f and g which could either be used for 2 catalogs or to put the -> and CPX to these [h][f] and [h][g] positions: with this last method you could extend the 4 A-D user keys to the usual 6 A-F, which would be very comfortable for programs with more than 4 functions keys (just thinking of TVM or TRIGON for example).

Franz

Edited: 8 Oct 2011, 3:16 p.m.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #116 Posted by **Walter B** on 9 Oct 2011, 5:36 a.m.,*
in response to message #115 by fhub

Don't worry, "such keyboard 'deformations'" won't happen as long as I'm

responsible for the UI :-)

Walter

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #117 Posted by **Alexander Oestert** on 9 Oct 2011, 9:38 a.m.,*
in response to message #116 by Walter B

It's a pity you judge this to be a deformation. I find it very appealing. With six new locations on the keyboard, most shuffeling around of other functions could be avoided.

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #118 Posted by **David Hayden** on 9 Oct 2011, 9:11 a.m.,*
in response to message #113 by fhub

> Quote:
>
> Have you thought about how the 4 labels for these f/g/h keys would look then? For each of the 3 keys one label must be omitted (the one of it's own function), and this would be on a different place for each key.

Actually, you just have to replace the sticky keyboard overlay with a spiral-bound flip chart that attaches to the top of the calculator. Each sheet corresponds to one of the 27 possible key planes (f, g, and h keys unpressed, pressed, or pressed and held).

It would come with a stylus to reach through the half-inch deep hole created by the chart when you actually need to PRESS a key. Oh wait, you'd need three styluses (styli?) for the [f](hold)[g](hold)[h](hold) plane....

:)

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #119 Posted by **Cristian Arezzini** on 9 Oct 2011, 9:35 a.m.,*
in response to message #118 by David Hayden

> Quote:
>
> Oh wait, you'd need three styluses (styli?) for the [f](hold)[g](hold)[h](hold) plane....

Nah... just put the planes that need held keys at the bottom, so that the keys stick well out of the holes! :)

Cristian

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #120 Posted by **Paul Dale** on 9 Oct 2011, 5:49 p.m.,*
in response to message #118 by David Hayden

The maximisation of functions on a keyboard occurs when half the keys are shifts -- I'm discounting shifted shift functionality here -- in that case every key should be a shift which is silly.

- Pauli

Re: [WP 34S] New keyboard as suggested yesterday evening

*Message #121 Posted by **Howard Owen** on 9 Oct 2011, 6:58 p.m.,*
in response to message #120 by Paul Dale

We certainly don't want a shifty calculator. :)

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #122 Posted by **David Hayden** on 7 Oct 2011, 5:59 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Responding to the thread so far:

I agree that RCL L is fine in place of LASTx. Yes it's a little different but it's intuitive and the same number of keystrokes.

I think we can definitely move ./, to a menu. Perhaps more than anything else, that function is likely to be used once when the user gets their calculator and never ever again.

I agree that || is so specialized that it should move off the keyboard. I completely understand its importance to electrical engineering, but functions like this are the reason why A-D are assignable. Further, || is easily misunderstood as |x| for the beginner. At least it was for this beginner.... :)

If you change the keyboard, I think you should increase the revision number to 2.2. Eric could put the rev number on the labels and this would help people keep straight which keyboard layout goes with which software version.

I think PSE could move to P.FCN if the space is needed.

I'd leave "H.d" as the name of the command at [f] [RCL]. "H" is unintuitive. Also, with FIX/SCI/ENG automatically changing to DECM, I don't think we need DECM on the keyboard explicitly.

Finally, let me say NICE JOB on the keyboard layout in general. This discussion gave me a chance to really look it over, and, given the huge amount of functionality involved, it's really well done.

One last comment for Eric: in dim light, I have trouble distinguishing between the blue and green on the keyboard overlay (I have one with the clearcoat if that makes a difference). I'd prefer a brighter green if it's possible.

Dave

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #123 Posted by **Egan Ford** on 7 Oct 2011, 7:45 p.m.,*
in response to message #122 by David Hayden

> Quote:
>
> One last comment for Eric: in dim light, I have trouble distinguishing between the blue and green on the keyboard overlay (I have one with the clearcoat if that makes a difference). I'd prefer a brighter green if it's possible.

I'll second that. Given that all the green labels are on sloped keys I'd vote to change h to white and the labels to white. This is inline with the 34C, however the 34C had a black h with white keys, but the concept was the same.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #124 Posted by **Howard Owen** on 7 Oct 2011, 8:53 p.m.,*
in response to message #123 by Egan Ford

How would that work with the white main function labels? I wonder if the machine would look more cluttered that way?

edit: I agree the green labels are too dim. A light green might be better.

Edited: 7 Oct 2011, 8:55 p.m.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #125 Posted by **Egan Ford** on 8 Oct 2011, 12:24 a.m.,*
in response to message #124 by Howard Owen

Like this:

Just reverse the black/white.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #126 Posted by **Howard Owen** on 8 Oct 2011, 12:42 a.m.,*
in response to message #125 by Egan Ford

Those keys have very steep fronts. For me, it's quite easy to separately scan the key tops and fronts. With the shallower angle of the (30|20)b keys, I think it would look more muddled. I don't actually know, since I haven't seen an example of a 34S with this scheme. It might be pretty subjective whether light green or white would work better. From a style point of view, I suspect the green would visually clash with the other colors. Of course, if you are looking for good contrast, that might be just the ticket.

I'm going to have a look for template images to try out some of these combinations.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #127 Posted by **Howard Owen** on 8 Oct 2011, 1:21 a.m.,*
in response to message #125 by Egan Ford

The atrocious (esthetically, in my opinion) lime green on the canonical layout image strikes me as just fine for contrast's sake. Here I've replaced that green with white. This picture lacks a third dimension to show how the front slope might aid you in distinguishing the primary functions from the h-shifted ones. I think the result is pretty jumbled nonetheless. The fact that the alpha plane is off white adds to the problem.

edit: How's this?

I wouldn't mind if the alpha plane were bright green, either. The off white is dim in Eric's overlays, as well as in the template image.

Edited: 8 Oct 2011, 1:31 a.m.

Re: [WP 34S] New keyboard layout anybody? - Edited

*Message #128 Posted by **Eddie W. Shore** on 11 Oct 2011, 8:27 a.m.,*
in response to message #127 by Howard Owen

I think light green would be best - to distinguish the key's primary function and h function.

What about "WP-34s I" and "WP-34s II"?

*Message #129 Posted by **Alexander Oestert** on 8 Oct 2011, 6:57 a.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> Edit: Having read the answers so far I'm leaning towards changing the keyboard, but not in a hurry. Let's discuss the proposed changes with a graphic from Walter in place and we go on from there.

I think I will stick to the old keyboard layout and therefor to the then old software. My wish would be to have the corresponding firmware stable and bugs free and maybe in that status marked as "WP-34S I" and "final" with its own download repository.

Changes to the layout and the firmware from there on could be marked "WP-34s II" with kind of a fresh start, appealing to everyone who wants to go on and have changes made.

This is how I, as a layman, imagine programmers do things in such cases. If that is not so, I apologize. In this case I would be happy to just get a notification when the last firmware version compatible with the old keyboard layout is published. Thank you in advance.

Edited: 8 Oct 2011, 7:06 a.m.

Re: What about "WP-34s I" and "WP-34s II"?

*Message #130 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 7:13 a.m.,*
in response to message #129 by Alexander Oestert

SVN supports branches and the idea isn't too bad to fix the current V2.2 and only get rid of bugs here.

Let's start with V2.3 or even V3 with all the good ideas in place.

Re: What about "WP-34s I" and "WP-34s II"?

*Message #131 Posted by **Jim Johnson** on 8 Oct 2011, 8:48 a.m.,*
in response to message #130 by Marcus von Cube, Germany

Should I hold off on buying new keyboard templates in anticipation of a new layout?

Re: What about "WP-34s I" and "WP-34s II"?

*Message #132 Posted by **Marcus von Cube, Germany** on 8 Oct 2011, 9:01 a.m.,*
in response to message #131 by Jim Johnson

I'd say Yes.

[WP 34S] New keyboard color scheme?

*Message #133 Posted by **Howard Owen** on 8 Oct 2011, 1:46 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Problems I see with the current color scheme:

- Off white alpha labels are hard to see.
- Bright green labels somehow end up dim on Eric's overlays.
- I don't like the green from an esthetic point of view.

This scheme replaces the green with an orange color that has pretty good contrast on the PNG. The green color is used for the alpha labels. This reduces the glare from the green while enhancing visibility of the alpha labels.

- Caveat: I have no idea how this would look on a real overlay
- Caveat: Using orange here would require extensive changes to the example images in the manual.

Re: [WP 34S] New keyboard color scheme?

*Message #134 Posted by **Ángel Martin** on 8 Oct 2011, 2:35 p.m.,*
in response to message #133 by Howard Owen

love it, a clear improvement.

Re: [WP 34S] New keyboard color scheme?

*Message #135 Posted by **Brian Walsh** on 8 Oct 2011, 2:49 p.m.,*
in response to message #133 by Howard Owen

While I think orange may be one of the very few other colors that work well, I also think it's getting to be too many colors. Personally I rather like the green and don't have a problem with it.

I'm more curious to get feedback from users who have partial or total colorblindness as to their preferences.

Re: [WP 34S] New keyboard color scheme?

*Message #136 Posted by **Cristian Arezzini** on 8 Oct 2011, 2:52 p.m.,*
in response to message #133 by Howard Owen

I don't know, I don't have a problem with the green - I don't know why, but I think it's perfectly legible. It's less bright than the white labels of course, but I like that because this way, the primary (white) labels stand out more... Or maybe I'm just used to it.

Cristian

Re: [WP 34S] New keyboard color scheme?

*Message #137 Posted by **Howard Owen** on 8 Oct 2011, 3:50 p.m.,*
in response to message #136 by Cristian Arezzini

The main problems this is designed to fix are the legibility of the alpha plane, and a brightening of the h plane. Aside from esthetics, I'm worried that Eric's printing system may not be able to produce a bright enough green to give good contrast. If you look at his overlays, the green is pretty dim. Despite that, his green is easier to see than the gray of the current alpha plane.

I think legibility is primary and esthetics are secondary. If Eric can produce a brighter green, then I have no problem sticking with it for the h plane. That leaves the alpha labels. Perhaps we can use orange for those, assuming Eric can produce a more legible overlay with that color.

Another consideration ought to be that the alpha plane is on the main overlay. That isn't "patchable" like the h plane is. Still, a wholesale color change of the h plane, either to orange or a brighter green, would demand a complete replacement of the key cap labels anyway. Adding the base sticker to the mix wouldn't be that much extra effort.

Re: [WP 34S] New keyboard color scheme?

*Message #138 Posted by **Eric Rechlin** on 8 Oct 2011, 4:57 p.m.,*

in response to message #137 by Howard Owen

I am open to color changes, if Walter/Pauli/Marcus agree on a new color scheme.

I might be able to brighten the green a bit, but I can't brighten it a lot due to limitations in the media and ink. All I can really do is make it whiter. The vinyl isn't a particularly bright white, and my printer's ink isn't as bright as what some printers can produce (perhaps because of its use of pigment instead of dye?).

Eric

Re: [WP 34S] New keyboard color scheme?

*Message #139 Posted by **Howard Owen** on 8 Oct 2011, 5:20 p.m.,*
in response to message #138 by Eric Rechlin

That's what I feared. Do you think you could produce a bright orange?

Re: [WP 34S] New keyboard color scheme?

*Message #140 Posted by **Eric Rechlin** on 8 Oct 2011, 10:47 p.m.,*
in response to message #139 by Howard Owen

Nothing will be very bright. I think the way it is now is still pretty legible, however; you'll see when you get your overlays, probably Monday.

Eric

Re: [WP 34S] New keyboard color scheme?

*Message #141 Posted by **Howard Owen** on 9 Oct 2011, 1:58 p.m.,*
in response to message #140 by Eric Rechlin

Except for the alpha labels, I find the overlay colors to be bright enough. The green H plane is only a problem in dim light. I actually have trouble with ordinary text under those conditions, so I know how to remedy that. :) I've voted for your overlays with my dollars twice now. Thank you for offering them.

Re: [WP 34S] New keyboard color scheme?

*Message #142 Posted by **Howard Owen** on 8 Oct 2011, 5:24 p.m.,*
in response to message #138 by Eric Rechlin

The vinyl is off-white? I wonder what you could with that as the background color.

Re: [WP 34S] New keyboard color scheme?

*Message #143 Posted by **Walter B** on 9 Oct 2011, 5:47 a.m.,*
in response to message #138 by Eric Rechlin

As an alternative to a brighter green (please see the emulator :-)) also a clear red would be viable IMO. But keep in mind that's not discussed yet within the team.

The alpha letters will stay dimmed - it's a calculator, not a typewriter, else it would feature a totally different layout.

Walter

Re: [WP 34S] New keyboard color scheme?

*Message #144 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 6:03 a.m.,*
in response to message #143 by Walter B

The problem is that on a screen the colors come out significantly different than on a printer to warrant this discussion. The former dark read on the alpha characters was almost invisible on the first overlays. I vote for a backlit keyboard ;-).

Edit: Typo.

Edited: 9 Oct 2011, 11:40 a.m.

Re: [WP 34S] New keyboard color scheme?

*Message #145 Posted by **Howard Owen** on 9 Oct 2011, 11:46 a.m.,*
in response to message #143 by Walter B

I don't want to use the 34S as a word processor, I just want to enter three character alpha labels in my XEQ, GTO and LBL instructions, as documented in the manual.

Re: [WP 34S] New keyboard color scheme?

*Message #146 Posted by **Eddie W. Shore** on 11 Oct 2011, 8:44 a.m.,*
in response to message #133 by Howard Owen

What about the alpha characters being black letters on white boxes? This would help distinguish the alpha characters from the rest of the functions.

Re: [WP 34S] New keyboard color scheme?

*Message #147 Posted by **Howard Owen** on 11 Oct 2011, 2:20 p.m.,*
in response to message #146 by Eddie W. Shore

Walter doesn't want them emphasized, and I can understand that. I just think they should be visible. :)

edit:typo

Edited: 11 Oct 2011, 2:20 p.m.

Re: [WP 34S] New keyboard color scheme?

*Message #148 Posted by **M. Joury** on 11 Oct 2011, 9:40 a.m.,*
in response to message #133 by Howard Owen

I like it.

Re: [WP 34S] New keyboard color scheme?

*Message #149 Posted by **Paul Guertin** on 11 Oct 2011, 8:30 p.m.,*
in response to message #133 by Howard Owen

I like the new overlay, and eventually plan to buy one as soon as I have enough free time to actually start playing with a WP 34S.

I don't know if this has been discussed before, and this is a really minor point, but the fact that the "2, 8, 10, 16" base indicators are numeric bothers me a little. I'd prefer to have "BIN, OCT, DEC, HEX".

Re: [WP 34S] New keyboard color scheme?

*Message #150 Posted by **Walter B** on 12 Oct 2011, 1:52 a.m.,*
in response to message #149 by Paul Guertin

Space is very tight up there, so seven letters below a key would require a **very** tiny font :-/

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #151 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 7:28 a.m.,*
in response to message #1 by Marcus von Cube, Germany

It looks like we have three options:

1. We leave the layout as is and live with its shortcomings. This would save us from relabeling and relearning the keyboard. It would provide a basis for making the software stable before we move on to other things.

2. We make only very minor changes such as moving L.R. to a menu to make room for the MATRIX menu. This is so minor that it can be remembered easily or changed with a single label. We may swap SHOW and OFF in the process but not more.

3. We make major changes, starting with Walter's suggestions and throwing in whatever the team and its user base thinks will make the layout better. In order not to disappoint those who do not want to change we would need to split the development to be able to fix bugs in the present version.

Please vote!

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #152 Posted by **fhub** on 9 Oct 2011, 8:08 a.m.,*
in response to message #151 by Marcus von Cube, Germany

I would vote for point 1 or 2 (I don't see much difference between them):
Of course there should be an additional MATRIX menu (and L.R is indeed a good place), but I don't even see the need for changing SHOW and OFF!?

One thing is clear: you can never make everybody happy!
Take 50 WP34s users and you'l get 50 different keyboard layout preferences. ;-)

Of course I would also like to see a lot of keyboard changes (there are many functions I won't never need and many useful functions that I miss), but you'll never get all users "under one hat" (as we say in German ;-)), and I can really live with the current layout.

And IMO other changes (in supported functions or operations) would be much more important than moving around keyboard labels - but that's another thing of course ... ;-)

Franz

Edited: 9 Oct 2011, 8:09 a.m.

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #153 Posted by **Alexander Oestert** on 9 Oct 2011, 8:25 a.m.,*
in response to message #151 by Marcus von Cube, Germany

1 and 2 basically mean the project has come to its end. 3 means the fun goes on. So my vote goes to 3.

My reasoning goes like this: I don't really need a working, sophisticated calculator in my every day life - I own several that are up to the task, but I find the process of thinking, trying, flashing and all that stuff to be fun. If once the 34s will be perfected it will be boring! ;) In practice, I will flash a 30b with the last and stable version, put Eric's labels on it and then have a 20b ready for experimenting with what ever comes next!

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #154 Posted by **fhub** on 9 Oct 2011, 8:36 a.m.,*
in response to message #153 by Alexander Oestert

> Quote:
>
> 1 and 2 basically mean the project has come to its end. 3 means the fun goes on. So my vote goes to 3.

I don't agree. If "fun goes on" only means shuffling around the keyboard labels (as point 3 suggests), then it's just a waste of time IMO.

"fun goes on" would require real improvements of the WP34s functionality, but as Pauli himself has mentioned yesterday this will certainly not happen (look at his remark about and END statement and local labels).

And so I would indeed say that the project has come to its end (despite of fixing any bugs which may still exist).

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #155 Posted by **Michael Kussmaul** on 9 Oct 2011, 8:45 a.m.,*
in response to message #154 by fhub

On the other hand: If the functionality comes to an end (we filled up all flash space, no additional functions can be added anymore) why not look back and re-think how the layout could be tweaked and re-arranged to make it "perfect" for the supported function-set?

I guess the layout changed organically over the time and now contains a lot of compromises, so it would not be that bad to rethink them in face of the current function-set?

I would also vote for 3 - but I don't own a 34S as of yet, so my vote should be discarded I guess :-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #156 Posted by **fhub** on 9 Oct 2011, 9:04 a.m.,*
in response to message #155 by Michael Kussmaul

> Quote:
>
> On the other hand: If the functionality comes to an end (we filled up all flash space, no additional functions can be added anymore) why not look back and re-think how the layout could be tweaked and re-arranged to make it "perfect" for the supported function-set?
>
> I guess the layout changed organically over the time and now contains a lot of compromises, so it would not be that bad to rethink them in face of the current function-set?

Yes, you're right, but as I already said: you'll never make all users happy - that's the main problem with making a "perfect" layout. :-(

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #157 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 8:49 a.m.,*
in response to message #154 by fhub

One of the things that fascinate me about WP 34S are the shortcomings of the hardware: So little RAM, so much to put in there. It has been a real challenge in the past few months to push the limits farther with each new release. The typical sequence of events was:

"Can we implement this and that?"
"No, I doesn't fit."
"I've done it, together with some other improvements."
:-)

I would really miss this if we had a platform with abundant resources. Of course we would face other challenges such as adding network support and real time 3D graphics... ;-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #158 Posted by **fhub** on 9 Oct 2011, 9:02 a.m.,*
in response to message #157 by Marcus von Cube, Germany

> Quote:
>
> Of course we would face other challenges such as adding network support and real time 3D graphics... ;-)

Yes, and please don't forget to implement Dolby Surround, too! ;-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #159 Posted by **Howard Owen** on 9 Oct 2011, 2:01 p.m.,*

in response to message #158 by fhub

Quad core would be nice. :) Oh, and keep the long battery life whatever you do!

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #160 Posted by **fhub** on 9 Oct 2011, 2:42 p.m.,*
in response to message #159 by Howard Owen

> Quote:
>
> Quad core would be nice. :)

It seems we're going to create a super-calculator - at least in our imagination ... ;-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #161 Posted by **Paul Dale** on 9 Oct 2011, 5:27 p.m.,*
in response to message #154 by fhub

> Quote:
>
> "fun goes on" would require real improvements of the WP34s functionality, but as Pauli himself has mentioned yesterday this will certainly not happen (look at his remark about and END statement and local labels).

Don't think this sad thought please. We are planning a 43S that will address these issues.

So, even though the the 34S might be approaching *complete*, that doesn't mean we'll stop.

- Pauli

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #162 Posted by **Howard Owen** on 9 Oct 2011, 6:55 p.m.,*
in response to message #161 by Paul Dale

> Quote:
>
> We are planning a 43S that will address these issues.

Do you have hardware in mind? "Just curious" understates my interest by some distance. :)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #163 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 7:17 p.m.,*
in response to message #162 by Howard Owen

The HP 40b! ;-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #164 Posted by **Walter B** on 9 Oct 2011, 7:18 p.m.,*
in response to message #162 by Howard Owen

Yes we have - but we won't let it out yet ;-)

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.
*Message #165 Posted by **Cristian Arezzini** on 9 Oct 2011, 9:45 a.m.,*
in response to message #151 by Marcus von Cube, Germany

My vote would be closer to "2.5" - i.e. major changes scare me a little, but a few, well-thought changes are ok. After all I've been using this calc for just a few months, I think I still have the flexibility to re-learn a few key assignment... especially if there's a reason to change. I totally agree on adding the Matrix menu, even though I never use matrices, and on swapping Show and Off - I'm used to the way they are now, but I remember at first I really wanted OFF to be on the right-most shift.

The point is: the fact that we're used to this layout now, shouldn't prevent us from improving it.

Cristian

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #166 Posted by **E.Lub_EU** on 9 Oct 2011, 11:07 a.m.,*
in response to message #151 by Marcus von Cube, Germany

Marcus,

From your proposition, I understand that the user mode suggested earlier would only be eventually considered in option 3.
If that's right, my preference would be for option 3.

If not, I would kindly ask it to be added to the "current" layout, as I believe it would make things easier for different "breeds" of users.
That would make the process a slightly different option 2, I guess, unless user mode can be fitted in a "1+epsilon" option (added function without layout change).

Sorry for not strictly adhering to your offer!

Etienne

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #167 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 11:31 a.m.,*
in response to message #166 by E.Lub_EU

User mode should be independent of the keyboard layout. It will certainly rely on row/column codes which do not change. I'm a friend of the proposal with special global labels even if that would cost a few more program steps then local labels or a special KEY instruction. The label search function would need no change and the key assignment could be easily put in a library region. Rest the necessary indicator and a key position to toggle the mode. Another problem would be that some functions would be eternally hidden in user mode because we typically do not repeat functions which are on the keyboard in any catalog(ue)s.

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #168 Posted by **Howard Owen** on 9 Oct 2011, 11:43 a.m.,*
in response to message #151 by Marcus von Cube, Germany

I think that as the installed base grows, wholesale keyboard changes will become more and more painful. At the same time there is now lots of experience among beta testers using the current layout. If you want to leverage feedback from your users, now would be a good time to do that.

Personally I can live with most of the suggestions made here. My personal concern is legibility of the actual, as opposed to conceptual keyboard. My eyes are almost 56 years old and I have trouble picking out letters with the current overlays. I should hasten to add that I think Eric's overlays are wonderful, and make the WP-34S usable. I wouldn't own one without them.

The color scheme is actually within my power to change, in principle at least. If the project wants to keep the alpha plane dim, then that's fine. I can try to pursue a better solution for my individual circumstances.

Edited: 9 Oct 2011, 11:48 a.m.

Re: [WP 34S] New keyboard layout anybody? - The Pendulum is swinging back.

*Message #169 Posted by **Jeff O.** on 9 Oct 2011, 1:19 p.m.,*
in response to message #151 by Marcus von Cube, Germany

Preferred: 2 (except leave SHOW and OFF alone. This change would require a keyboard plane change, which will either require a sticker on the overlay, or a whole new overlay.)

Second choice: 1

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

First four parts of the Beginner RPL Tutorial up

*Message #1 Posted by **Eddie W. Shore** on 6 Oct 2011, 11:24 p.m.*

The first four parts of the RPL Programming Tutorial is up at my blog: http://edspi31415.blogspot.com/. The tutorial covers the HP 50g and 49g+ calculators for beginner programmers who want to real what RPL is all about. Part 1 covers the structure of the program, Part 2 covers local variables, Part 3 covers the IF-THEN-ELSE-END structure, and Part 4 covers the FOR-NEXT structure.

Re: First four parts of the Beginner RPL Tutorial up

*Message #2 Posted by **bluesun08** on 7 Oct 2011, 7:29 a.m.,*
in response to message #1 by Eddie W. Shore

Is there a pdf-file available?

Re: First four parts of the Beginner RPL Tutorial up

*Message #3 Posted by **Eddie W. Shore** on 7 Oct 2011, 9:08 a.m.,*
in response to message #2 by bluesun08

Not yet - however I am thinking about putting a PDF file together once I finish the series.

Re: First four parts of the Beginner RPL Tutorial up

*Message #4 Posted by **Thomas Chrapkiewicz** on 7 Oct 2011, 9:35 a.m.,*
in response to message #1 by Eddie W. Shore

In the "Common Keyboard Commands for Hewlett Packard RPL Calculators (HP 48S/48G/50g)" section:

The 'swap' function does not require a shift key prefix on the 48/49/50. Simply keying the right arrow performs the swap operation.

TomC

Re: First four parts of the Beginner RPL Tutorial up

*Message #5 Posted by **Peter Murphy (Livermore)** on 7 Oct 2011, 12:58 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

But left shift/SWAP does have a use: it swaps the contents of L1 and the command line, and leaves those contents in L1 and L2, respectively.

It's the same as ENTER SWAP under those circumstances, so it's not a necessary thing, but that's not the only instance of that in the 48.

First four parts of the Beginner RPL Tutorial up

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Recent 15LE orders on hold?

*Message #1 Posted by **Scott Newell** on 6 Oct 2011, 9:37 p.m.*

I got my order in last Monday (in stock at the HP small business website) and haven't been charged or received a ship notice yet. The last few days I've checked, the online portal shows a "Cust. Quoted Delivery Date" of the current day (requested ship date is 9/26).

Has anyone received a recent order from HP? I'm starting to suspect they're not shipping until they get the keys and firmware fixed.

Re: Recent 15LE orders on hold?

*Message #2 Posted by **Michael de Estrada** on 6 Oct 2011, 10:07 p.m.,*
in response to message #1 by Scott Newell

The last two that I received from HP Home & Home Office were ordered on 9/26 and received 9/28. They both shipped from the Memphis, TN distribution center. Very shortly after I placed my orders, the website returned to out-of-stock status. All 4 that I've received have had LE numbers under 3000.

Re: Recent 15LE orders on hold?

*Message #3 Posted by **Didier Lachieze** on 7 Oct 2011, 2:19 a.m.,*
in response to message #2 by Michael de Estrada

Has anybody received a 15C with LE number above 3000?

Re: Recent 15LE orders on hold?

*Message #4 Posted by **JamesT** on 7 Oct 2011, 2:08 a.m.,*
in response to message #1 by Scott Newell

My order from the small business site is in the exact same status, ordered one day prior.

Re: Recent 15LE orders on hold?

*Message #5 Posted by **From Hong Kong** on 7 Oct 2011, 5:54 a.m.,*
in response to message #1 by Scott Newell

> Quote:
>
> I'm starting to suspect they're not shipping until they get the keys and firmware fixed.

A sensible guess! Hopefully, they're doing so.

According to all the posts about HP-15C LE here, the first 3,000 units seemed to be available online or in the US only.

I knew that HP-15C LE will arrive in Hong Kong no earlier than November. Probably, these units may have LE# higher than 3,000 with known problems fixed.

Re: Recent 15LE orders on hold?

*Message #6 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 6:25 a.m.,*
in response to message #5 by From Hong Kong

In order to tackle the keyboard issues, HP must not only stop the current production if at all possible, they need to open each package and let people perform the keyboard test to make sure that faulty units are not put to market. The y should have dine this in the first place.

I stay with my U.S. #52 but I'm hoping for a European unit from thecalculatorstore.com when it is available.

Re: Recent 15LE orders on hold?

*Message #7 Posted by **Geoffrey Wang** on 7 Oct 2011, 7:11 a.m.,*
in response to message #1 by Scott Newell

In the same boat -- ordered Sunday 9/26 from SMB and the "Cust. Quoted Delivery Date" is always the current date. Maybe the HP15CLE(fixed) will be more valuable than the first series of LE.

Re: Recent 15LE orders on hold?

*Message #8 Posted by **Paul Gaster** on 7 Oct 2011, 8:02 a.m.,*
in response to message #1 by Scott Newell

I ordered 2, and I see the same thing when I check status online. Well, at first the "Customer Quoted Delivery Date" said Oct. 5th, which to be honest is upsetting. I ordered with the assumption that they had them in stock, otherwise why did they show it in stock and take orders? Also, no emails or warnings were given that the shipping date would be Oct 5th. I ordered Sept. 25th, so I assumed that they would ship in a few days. Now, like you, the date keeps changing.

I did call the 6th and was told the calculators would ship “in a few weeks”. I am not getting a nice warm fuzzy feeling about being told to wait for a few more weeks.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Restoring silver trim: solution found >>

*Message #1 Posted by **tim m.** on 6 Oct 2011, 8:29 p.m.*

All:

I don't know if this has been mentioned, but I happened across a possible solution for restoring worn-off silver trim near the on/off switch of the Classics. Previously, I had used silver model paint, but it did not have the correct reflectivity compared to the original chrome.

At the local Michael's, I happened across a silver leafing kit. Essentially, there is a glue pen and sheets of silver leaf. One applies the glue, waits for it to dry partially, then presses on the silver leaf. Excess leaf is wiped away with a brush.

Here's a link to the product. Mods, delete if inappropriate to post a link to Amazon.

Has anyone else tried this? How durable is it?

-Tim

Re: Restoring silver trim: solution found >>

*Message #2 Posted by **Brian Walsh** on 6 Oct 2011, 8:42 p.m.,*
in response to message #1 by tim m.

Sounds promising! How about very carefully brushing on some clear fingernail polish over it?

That's a good thought! >>

*Message #3 Posted by **tim m.** on 7 Oct 2011, 12:19 a.m.,*
in response to message #2 by Brian Walsh

My only concern is if it would affect the reflectivity of the silver leaf (which is almost spot-on to the original chrome in my test case).

I was thinking a thin brushed-on coat of cyanoacrylate, but that tends to become translucent as it dries.

-Tim

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SAM-BA 2.10 for Linux not working.

*Message #1 Posted by **Egan Ford** on 6 Oct 2011, 6:06 p.m.*

Has any been able to flash the 30b with sam-ba 2.10 for Linux on a Linux machine with real serial port or a USB to serial adapter? I have tried both and in both instances it fails to connect. However kermit can use the serial port just fine.

I have also had no luck with Windows XP or 7 with a USB to Serial.

Thanks.

Re: SAM-BA 2.10 for Linux not working.

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 3:54 a.m.,*
in response to message #1 by Egan Ford

Try the new MySamBa (to be found on SF) on Windows. It may work under Wine, too.

Re: SAM-BA 2.10 for Linux not working.

*Message #3 Posted by **Eric Smith** on 7 Oct 2011, 4:06 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Is the source there, to port it to Linux? I couldn't find it.

Re: SAM-BA 2.10 for Linux not working.

*Message #4 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 5:28 a.m.,*
in response to message #3 by Eric Smith

The source is in Delphi so I doubt this is possible. I need Cyrille's approval to give it away.

Re: SAM-BA 2.10 for Linux not working.

*Message #5 Posted by **Eric Smith** on 7 Oct 2011, 10:49 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Unless there's something unusual about the code, it shouldn't be too hard to do a Linux port. Permission is the more serious issue.

Re: SAM-BA 2.10 for Linux not working.

*Message #6 Posted by **Bart (UK)** on 7 Oct 2011, 10:00 a.m.,*
in response to message #1 by Egan Ford

Did you use the SAMBA *without* the "_cdc" tag?

SAM-BA 2.10 for Linux not working.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Hrast Programmer's Cool Music

*Message #1 Posted by **Namir** on 6 Oct 2011, 5:16 p.m.*

I just downloaded the following HrastProgrammer albums:

```
Harmony of the Machines
Industronik Programmator
Binary Concept
Kozmotronik Processor
```

The music is awesome. I wrote HrastProgrammer and told him that I had a problem deciding whether he was a better programmer or a better musician!! His music stands shoulder to shoulder with other famous European electronic music artists.

It is so nice to see folks who are part of our online community who have talents in other areas.

Namir

Edited: 6 Oct 2011, 5:19 p.m.

Re: OT: Hrast Programmer's Cool Music

*Message #2 Posted by **Geir Isene** on 6 Oct 2011, 5:47 p.m.,*
in response to message #1 by Namir

I agree. Found the music a few days ago. Me like :)

Re: OT: Hrast Programmer's Cool Music

*Message #3 Posted by **Dave Shaffer (Arizona)** on 7 Oct 2011, 12:29 a.m.,*
in response to message #1 by Namir

Namir

I hope we ALL have talents in other areas!

Dave

Re: OT: Hrast Programmer's Cool Music

*Message #4 Posted by **HrastProgrammer** on 7 Oct 2011, 1:47 p.m.,*
in response to message #1 by Namir

Thanks Namir and Geir :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 barcodes... via the web browser

*Message #1 Posted by **Raymond Wiker** on 6 Oct 2011, 5:04 p.m.*

I'm working on a little program for generating program barcodes for the HP-41, in the form of a simple web page with Javascript code to parse the program and generate the bar codes.

It's beginning to look complete, but I'd like some example programs (as plain text) to test with. I would also like to know if there is a "canonical" mapping for certain HP-41 characters that are not available in USASCII (like ∑ (Sigma), ≠ (not-equal), etc)...

Any pointers to program listings or other information?

Re: HP-41 barcodes... via the web browser

*Message #2 Posted by **gene wright** on 6 Oct 2011, 5:23 p.m.,*
in response to message #1 by Raymond Wiker

Plain text listings in the program section here:

Link

Re: HP-41 barcodes... via the web browser

*Message #3 Posted by **Raymond Wiker** on 6 Oct 2011, 9:38 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> Plain text listings in the program section here:
>
> Link

Thank you - that should help a lot!

Re: HP-41 barcodes... via the web browser

*Message #4 Posted by **Geir Isene** on 6 Oct 2011, 5:48 p.m.,*
in response to message #1 by Raymond Wiker

Very Nice :)

Re: HP-41 barcodes... via the web browser

*Message #5 Posted by **Egan Ford** on 6 Oct 2011, 11:11 p.m.,*
in response to message #1 by Raymond Wiker

Have you looked at the source code to http://www.hpmuseum.org/software/41uc.htm. That should help answer your question and also provide some help with your code. I used it to generate barcodes for web pages, e.g. http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=193137#193137 (message #26).

Re: HP-41 barcodes... via the web browser

*Message #6 Posted by **Raymond Wiker** on 7 Oct 2011, 5:53 a.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Have you looked at the source code to http://www.hpmuseum.org/software/41uc.htm. That should help answer your question and also provide some help with your code. I used it to generate barcodes for web pages, e.g. http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=193137#193137 (message #26).

I couldn't find the source code there, but that may not be all that important - it seems that I have everything (yeah, right) working. I'll probably implement some of the "compiler rules" described for 41uc, as they seem to make sense - and are probably used in other places, too.

Thanks!

Re: HP-41 barcodes... via the web browser

*Message #7 Posted by **Egan Ford** on 7 Oct 2011, 9:54 a.m.,*
in response to message #6 by Raymond Wiker

At the bottom of http://www.hpmuseum.org/software/41uc.htm is a link to Warren Furlow's web site. There you can get the source to HP41UC and the latest version.

Or, I can email it to you. Even if you do not need it, it may be a nice to have.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"How to" for WP-34s Poisson distribution

*Message #1 Posted by **Dominic Richens** on 6 Oct 2011, 3:24 p.m.*

Have a look at this:

Users' Guide: Poisson distribution

It took me a long time to figure out the Poisson solver, mainly because the format the parameters needed to be in was not what I was used to. I assume I've got it right, since the answer is the same as this Poisson calculator.

Comments?

Re: "How to" for WP-34s Poisson distribution

*Message #2 Posted by **Paulo MO** on 6 Oct 2011, 5:10 p.m.,*
in response to message #1 by Dominic Richens

I did not loose any time over this (and maybe I should ;-)) but when the User's Guide your link is pointing to says that "Assuming call inter-arrival times follow the Poisson distribution,...", probably what is meant is "Assuming that the number of call arrivals follows a Poisson distribution,...". A Poisson inter-arrival time would be non-sensical. This will, BTW, imply that the inter-arrival time is exponentially distributed.

Who cares, right? :-)

-Paulo

Re: "How to" for WP-34s Poisson distribution

*Message #3 Posted by **Dominic Richens** on 6 Oct 2011, 6:31 p.m.,*
in response to message #2 by Paulo MO

I care! Bring it on!

yeah, it is nonesense - thanks for the correct wording.

Two other things possibly wrong with the example:

- I think the more accurate model for blocking is Erlang-B, which is Poisson pdf(x,u)/cdf(x,u)
- I'm not sure 8000 is the right number for sample size. I think the answer is correct because the number is so large. But if I enter "1" as the sample size and 200 as the mean I get "Parameter Error".

Re: "How to" for WP-34s Poisson distribution

*Message #4 Posted by **Walter B** on 7 Oct 2011, 1:38 a.m.,*
in response to message #3 by Dominic Richens

Please read the footnote on page 16 of THE MANUAL. May help ;-)

Walter

Re: "How to" for WP-34s Poisson distribution

*Message #5 Posted by **Alexander Oestert** on 7 Oct 2011, 3:24 a.m.,*
in response to message #4 by Walter B

In the manual I just downloaded, there is no footnote on page 16.

Re: "How to" for WP-34s Poisson distribution

*Message #6 Posted by **Dominic Richens** on 7 Oct 2011, 6:53 a.m.,*
in response to message #4 by Walter B

Yes, read that, know that much already :-)

I'm expecting to specify the mean and have it tell me the probability of X (as the footnote on page 48 says). I don't understand the lambda = n * p0 part. What does sample size n have to do with a Poisson distribution?

In my example I used 8000 as the sample size but that's bogus - the 200 was a projection (the amount of traffic I think I'm going to have if I add more users). I could have used anything that kept the value of J =< 1 such than 200 = J * K and I get the same answer.

It works like the footnote on pg 48 if I always put p0 = 1 in J and the mean in K. I think the Remark for Poisson should say "Alternatively, Poisson's lambda = n*p0, may be in K if J = 1.

Edited: 7 Oct 2011, 6:56 a.m.

Re: "How to" for WP-34s Poisson distribution

*Message #7 Posted by **Alexander Oestert** on 7 Oct 2011, 7:21 a.m.,*
in response to message #6 by Dominic Richens

Would someone be so kind and point me in the right direction: I really don't find a footnote on page 16 of the WP34s manual. Are you talking about some other manual?

Edited: 7 Oct 2011, 7:22 a.m.

Re: "How to" for WP-34s Poisson distribution

*Message #8 Posted by **Dominic Richens** on 7 Oct 2011, 7:36 a.m.,*
in response to message #7 by Alexander Oestert

Could be page 13 - whatever page "STATISTICAL DISTRIBUTIONS, PROBABILITIES ETC. " is on in your version. I think Marcus and I are both using the new 2.2 version, not the 2.1 version in the zip file:

https://sourceforge.net/projects/wp34s/files/doc/

Re: "How to" for WP-34s Poisson distribution

*Message #9 Posted by **Alexander Oestert** on 7 Oct 2011, 8:01 a.m.,*
in response to message #8 by Dominic Richens

Thanks, it is page 13. I was already using the recommended version.

Re: "How to" for WP-34s Poisson distribution

*Message #10 Posted by **Paul Dale** on 7 Oct 2011, 8:04 a.m.,*
in response to message #6 by Dominic Richens

I thought this might cause a bit of confusion eventually.

I wanted a single parameter lambda for the Poisson distribution. Walter wanted the two parameters.

- Pauli

Re: "How to" for WP-34s Poisson distribution

*Message #11 Posted by **Dieter** on 7 Oct 2011, 8:29 a.m.,*
in response to message #10 by Paul Dale

I assume Walter had some *very* convincing reasons for this. But at the moment I simply cannot see which. ;-)

I am a big fan of POLA and KISS. Using two parameters for the Poisson distribution sure is possible, but not what I would consider consistent with the mentioned *policy of least astonishment*. Please, let's do it the way most users would expect and as also stated on the Wolfram Mathworld website on this subject. Especially the part between equations (8) and (9): *"Note that the sample size N has completely dropped out of the probability function, which has the same functional form for all values of nu"* (resp. lambda, since nu or lambda = N*p).

Finally: if really two values p0 and n are given, pressing [x] returns the usual single parameter lambda. On the other hand, splitting a given lambda into n and a 1 that has be be stored in a separate register is awkward and an additional effort for most users who expect the usual single-parameter Poisson distribution.

Dieter

Re: "How to" for WP-34s Poisson distribution

*Message #12 Posted by **Paul Dale** on 7 Oct 2011, 7:33 p.m.,*
in response to message #11 by Dieter

> Quote:
>
> I assume Walter had some *very* convincing reasons for this. But at the moment I simply cannot see which. ;-)

I don't remember the reasons, long long past now. Set p = 1 and n becomes lambda which didn't seem such a hardship to provide both view points.

- Pauli

Re: "How to" for WP-34s Poisson distribution

*Message #13 Posted by **Dominic Richens** on 7 Oct 2011, 10:11 p.m.,*
in response to message #12 by Paul Dale

Okay - so that's how I'm documenting it in the Users' Guide. I think the comment in the Owner's Manual should be changed to say p0 = 1 the mean can be put in K.

Re: "How to" for WP-34s Poisson distribution

*Message #14 Posted by **Paulo MO** on 7 Oct 2011, 4:37 p.m.,*
in response to message #6 by Dominic Richens

This lambda= n*p0 is probably a left-over of the binomial distribution. The thing is: when you have a bunch of n repeated experiments, each with p0 probability of success (aka Bernoulli trials), then the mean number of successes is of course, n*p0, and the probability of k successes is given by the binomial distribution. Now, for cases where n is unknown but large, instead of using the CORRECT binomial distribution, we may use a Poisson, which is a fine approximation to the real thing, since this Poisson is the mathematical limit of the binomial when the number of experiments goes to infinity, but MAINTAINING the same mean n*p0. The parameter of this Poisson distribution will then be precisely the very same value of n*p0 of the original binomial. But n (sample size) or p0 (prob of individual success) will have no meaning or expression in the Poisson world. Only their product n*p0 (the mean number of successes) remains, as THE Poisson parameter.. The advantage of using the Poisson is huge. For example, in these traffic problems, we have no notion of n (the number of costumers who may or may not call), nor can we reliably estimate p0 (the probability that one of them decides to call). No way we can use a proper binomial, thus. BUT it is very easy to estimate the mean number of calls arriving per hour (just count them), which is all we need to go ahead and solve the problem via a Poisson approximation.

Hurra for Poisson (who would have been a medical doctor, if he had been an obedient son)

Best -Paulo

Re: "How to" for WP-34s Poisson distribution

*Message #15 Posted by **Dieter** on 8 Oct 2011, 1:29 p.m.,*
in response to message #14 by Paulo MO

I think you wrote a very nice and convincing explanation why the Poisson distribution on the 34s should be changed to the usual single-parameter definition. ;-) It's simply the way most users will expect this distribution to work, and you explained the mathematical background behind this.

Dieter

Re: "How to" for WP-34s Poisson distribution

*Message #16 Posted by **Paulo MO** on 8 Oct 2011, 4:47 p.m.,*
in response to message #15 by Dieter

I totally agree with you, Dieter. Single parameter is the way to go. In a Poisson process, if someone forces us to state what N and p0 are, the only mathematically consistent answer is: N=infinity, p0=0. Having to, for example, put p0=1 in the 34s to make the thing work, would be a source of constant and unbearable mental agony :-)

But hey, if that is the price to have a 34s, it's a small price; Long live the 34s team! ;-)

Paulo

Re: "How to" for WP-34s Poisson distribution

*Message #17 Posted by **Dieter** on 9 Oct 2011, 8:13 a.m.,*
in response to message #16 by Paulo MO

They may live even a bit longer after this oddity has been corrected - it will give peace to their minds. ;-)
This is one of the advantages of such a project with the user community involved: there is no need to stop at the second best solution: we can go for the best. :-)

Dieter

Re: "How to" for WP-34s Poisson distribution

*Message #18 Posted by **Walter B** on 9 Oct 2011, 10:48 a.m.,*
in response to message #14 by Paulo MO

Exactly that's the way it is described on page 48 of the manual. The parameters used for the binomial distribution may remain unchanged in J and K for Poisson as well. Alternatively, you may use the canonical Poisson's parameter in J while you store 1 in K.

HTH
Walter

Re: "How to" for WP-34s Poisson distribution

*Message #19 Posted by **Dominic Richens** on 9 Oct 2011, 1:17 p.m.,*
in response to message #18 by Walter B

But it's actually the other way around. The 1 goes into **J** and the mean goes into K because anything greater than 1.0 in J causes "Invalid Parameter".

Re: "How to" for WP-34s Poisson distribution

*Message #20 Posted by **Walter B** on 9 Oct 2011, 6:10 p.m.,*
in response to message #19 by Dominic Richens

Bonsoir Dominic,

Looks like there's a mismatch between documentation and firmware. We'll get that settled. Thanks for pointing that out.

Walter

Edit: Changed the manual. Not committed yet.

Edited: 9 Oct 2011, 6:52 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE....It's a calculator.....not a finger massager

*Message #1 Posted by **Ethan Conner** on 6 Oct 2011, 1:53 p.m.*

After reading the previous thread about a negative review and tech support i decided to check out the reviews on the HP website. In the business listing for the 15C LE someone left a one star review for "tactile feedback" not being good. This to me is an over reaction. Being someone who uses calculators at home and p.o.s. (credit/debit card devices at stores) plus tools at work with numeric keypads they are all complete mush compared to the 15C LE. I understand writing a negative review for a unit with a malfunctioning key. To write a one star review on a calculator that IMHO still puts everything else out there to shame in the key department that is new manufacture.....come on..... that wasn't necessary.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #2 Posted by **jonathan G harris** on 6 Oct 2011, 2:39 p.m.,*
in response to message #1 by Ethan Conner

Not that my opinion counts(even though I have bought 6 15cLEs...), but I concur Mr. Conner.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #3 Posted by **Ángel Martin** on 6 Oct 2011, 3:51 p.m.,*
in response to message #1 by Ethan Conner

Well, against all odds and when I had lost all hope, my unit surfaced at the customs office (in a town that will remain unnamed) - so finally I got mine (only bought ONE, that suffices as I'm not interested in speculative auctioning :-) - ordered back in early July, from the supplier that sells international - that's a while ago.

It arrived in good shape, despite it was in an envelop (no cardboard box). Luckily it must be one of the good ones: no rattling keys, all registering properly, self-tests passed with flying colors. In sum, a great looking calculator, rivaling the original one in my book.

I'm happy ;-)

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #4 Posted by **Mike Morrow** on 6 Oct 2011, 4:53 p.m.,*
in response to message #3 by Ángel Martin

> Quote:
>
> ... self-tests passed with flying colors.

That must refer to the *new* self-tests, not the original 15C self tests. The old 'ON plus *' and 'ON plus +' self tests always fail on the 15C-LE, and corrupt program memory.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #5 Posted by **Tim Wessman** on 6 Oct 2011, 5:20 p.m.,*
in response to message #4 by Mike Morrow

No, it correctly emulates the 15c which also corrupts memory when it fails the self test.

TW

Edited: 6 Oct 2011, 5:20 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #6 Posted by **Mike Morrow** on 6 Oct 2011, 6:04 p.m.,*
in response to message #5 by Tim Wessman

Tim, I'm sure you must be joking!

I replied to a post alleging *"...self-tests passed with flying colors"* (some rather pertinent information missing!) with:

"That must refer to the new self-tests, not the original 15C self tests."

Do you contest my statement? If so, what is inaccurate?

I then continued:

*"The old 'ON plus *' and 'ON plus +' self tests always fail on the 15C-LE, and corrupt program memory."*

Do you contest my statement? If so, what is inaccurate?

Your response was *"No, it correctly emulates the 15c which also corrupts memory when it fails the self test."*

You use "No" in your response with an apparently novel sense of meaning, one with which I am not familiar. :-)

What remains unacknowledged within your response is the fact that the 15C-LE **always fails** these tests. This is a 'feature' that, I have the honor to point out, the original 15C does *not* possess.

It seems fabulous that all those months of beta testing did not reveal this fault. Eliminating reference to the old self tests in version 2.4 of the Owner's Handbook does *not* make this fault go away, even if some would like to believe that's all it takes.

Edited: 6 Oct 2011, 6:13 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #7 Posted by **db (martinez, ca.)** on 6 Oct 2011, 6:39 p.m.,*
in response to message #6 by Mike Morrow

Mike; Tim's answer is consistent with his sense of (gallows) humor. Read it like that.

And while i think that he's funny; i'll acknowledge that frau Wessman must be a saint.

I understand none of the 15's problems would have happened on Rickover's watch, but these

guys didn't have Rickover's budget either.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #8 Posted by **Mike Morrow** on 6 Oct 2011, 9:33 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> I understand none of the 15's problems would have happened on Rickover's watch, but these guys didn't have Rickover's budget either.

If you are referring to "the Admiral", many of us who worked in his program considered him a legend, but also a liability who should have been retired at least 20 years earlier.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #9 Posted by **uhmgawa** on 6 Oct 2011, 6:47 p.m.,*
in response to message #6 by Mike Morrow

> Quote:
>
> It seems fabulous that all those months of beta testing did not reveal this fault.

You could never be accused of less than entertaining editorials. ;)

> Quote:
>
> Eliminating reference to the old self tests in version 2.4 of the Owner's Handbook does *not* make this fault go away, even if some would like to believe that's all it takes.

I have to agree. This is so engrained in the synapses of the captive market for this device, dismissing it as a documentation footnote feels at least a little sacrilegious. Same for rotate-22 which deserves recognition in its own right and is effectively trivial to support.

Edited: 6 Oct 2011, 9:53 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #10 Posted by **Lincoln R.** on 6 Oct 2011, 7:22 p.m.,*
in response to message #6 by Mike Morrow

Uh, emulators are hard. Trying to make a program work on a new architecture when you have *NO SOURCE CODE* is hard. While it might make you feel all nostalgic to see the 'original' self tests working on your 15C LE, I'd imagine most of us would rather have the PSE bug and power consumption issues gone. If we could have both, that would be great, but I imagine the calculator division's programmers (who may consist solely of Cyrille) have things to work on besides the 15C.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #11 Posted by **Michael de Estrada** on 6 Oct 2011, 7:35 p.m.,*
in response to message #10 by Lincoln R.

From my POV, the thing that bothers me most are the large percentage of keyboard failures. I'm fortunate that the 4 units I bought were good with no hard/bad keys, and had there been any, it would have been a simple matter to return them for refund/replacement, since I live in the USA. I can only imagine what it must be like for someone living outside the USA, waiting for weeks and paying high shipping costs and customs fees, only to discover that the calc is faulty. It's this poor physical quality control that I find to be unforgivable. I hope that HP has the good sense to hold up distribution of the remaining units, until all of the faulty units are identified and scrapped.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #12 Posted by **Reth** on 7 Oct 2011, 12:12 a.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> ... I hope that HP has the good sense to hold up distribution of the remaining units, until all of the faulty units are identified and scrapped.

Me too, even nothing suggests so so far.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #13 Posted by **Mike Morrow** on 6 Oct 2011, 10:11 p.m.,*
in response to message #10 by Lincoln R.

> Quote:
>
> While it might make you feel all nostalgic to see the 'original' self tests working on your 15C LE,...

Nostalgia has nothing to do with it. Correcting a condition that can be executed from the keyboard and that always corrupts program memory is the *really important* point, but one upon which it seems little significance is being attached.

> Quote:
>
> ...I'd imagine most of us would rather have the PSE bug and power consumption issues gone.

Certainly, the PSE bug noted here a month ago is the most urgent problem, followed closely by the power management problems...though emulation is always a grand waste of battery energy even under the best of circumstances.

> Quote:
>
> ...I imagine the calculator division's programmers (who may consist solely of Cyrille) have things to work on besides the 15C.

However, at about $100 (-25/+100 percent), the HP 15C-LE is **very** expensive for what it offers. One can easily argue that a $13 Casio fx-115/991ES, though non-programmable, is more sophisticated in many areas. The HP 50G for a 25 percent premium is several orders of

magnitude a better value than a 15C-LE. In any evaluation, the price of the 15C-LE justifies expectations of better firmware emulation, better alpha- and beta-testing, and an Owner's Handbook with fewer errors (including all those still in the most recent Edition 2.4).

I can't understand why HP wastes effort with inferior emulation of 30-year-old products. The HP 12C and the HP 15C are part of old old history, long since replaced by far more capable machines. Why isn't HP development effort being directed to producing something as or more capable and the same size as the never-equaled 23-year-old HP 42S? Let's climb above the standards of 1988.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #14 Posted by **Martin Pinckney** on 6 Oct 2011, 10:50 p.m.,*
in response to message #13 by Mike Morrow

> Quote:
>
> I can't understand why HP wastes effort with inferior emulation of 30-year-old products. The HP 12C and the HP 15C are part of old old history, long since replaced by far more capable machines.

Answers: 12c, because it still sells well. 15c: because it appeals to nostalgic Baby Boomers (and more) therefore also sells well.

> Quote:
>
> Why isn't HP development effort being directed to producing something as or more capable and the same size as the never-equaled 23-year-old HP 42S?

Answer: It has. Its called the 30b. It's just not available in a scientific model, at least from HP. Yet.

Edited: 6 Oct 2011, 10:52 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #15 Posted by **Dwight Sturrock** on 6 Oct 2011, 11:51 p.m.,*
in response to message #13 by Mike Morrow

I paid $104 for my 50g from Amazon,

and $99 for my 15c LE from Amazon.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #16 Posted by **uhmgawa** on 7 Oct 2011, 12:11 a.m.,*
in response to message #10 by Lincoln R.

> Quote:
>
> While it might make you feel all nostalgic to see the 'original' self tests working on your 15C LE, I'd imagine most of us would rather have the PSE bug and power consumption issues gone.

I probably wasn't clear. Compatibility rather than nostalgia is the concern. Allowing a new user to pick up a 15c le and run the 30 year familiar voyager legacy self test, resulting in both error and subtle data corruption, isn't in anyone's best interest.

Furthermore given the precedent of the 12c+ supporting both system and keyboard tests as did the original 12c, an expectation is setup for the encore 15c le to behave functionally equivalent to its predecessor.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #17 Posted by **Mike Morrow** on 7 Oct 2011, 11:24 a.m.,*
in response to message #16 by uhmgawa

That's been my whole point about the old self-tests for a month now. Thanks for expressing it so clearly.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #18 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 4:11 a.m.,*
in response to message #6 by Mike Morrow

The question is "Can HP make the self tests work?" or "What makes them fail?". It must be an inconsistency in the emulation layer that may or may not be avoidable. If it's inevitable and patching the original ROM isn't an option then the best way to deal with the issue would be to trap the key combinations in the emulation layer and redirect them to the new self tests. This way, the old code has no chance to be ever executed which would eliminate the problem once and for all.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #19 Posted by **uhmgawa** on 7 Oct 2011, 10:03 a.m.,*
in response to message #18 by Marcus von Cube, Germany

> Quote:
>
> The question is "Can HP make the self tests work?" or "What makes them fail? ". It must be an inconsistency in the emulation layer that may or may not be avoidable.

I'm sure its in the development pipe as it isn't that hard to support. It was actually one of the first snags I encountered with KEMU which I wanted to accommodate as it does validate basic NUT/ram/rom integrity. It isn't however exhaustive and the level of test attempted could in large part be accomplished by statically validating the NUT instruction emulation accuracy. I had several bugs due to my misinterpretation of the HP NOMAS holy scroll documents which weren't caught by the system self test. Other dark corners such as ptr == 13 scenarios aren't addressed at all, which isn't surprising.

> Quote:
>
> If it's inevitable and patching the original ROM isn't an option then the best way to deal with the issue would be to trap the key combinations in the emulation layer and redirect them to the new self tests. This way, the old code has no chance to be ever executed which would eliminate the problem once and for all.

I think that's more work than just accommodating the self test in the first place. Doing so also has the desirable scaling property of functioning as the user most likely expects and eliminating the ongoing tech support burden needed to explain why the 15c le behaves differently.

Edited: 7 Oct 2011, 12:54 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #20 Posted by **Neil Hamilton (Ottawa)** on 7 Oct 2011, 2:25 p.m.,*
in response to message #19 by uhmgawa

> Quote:
>
> ...HP NOMAS holy scroll documents...

Hmmm. Are these generally available somewhere? I, for one, would love to have a look at these. Any links you can supply?

Cheers...

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #21 Posted by **jonathan G harris** on 6 Oct 2011, 5:12 p.m.,*
in response to message #3 by Ángel Martin

only bought ONE, that suffices as I'm not interested in speculative auctioning :-)

Don't worry, all 6 are for me and mine. #1 is in my shirt pocket right now, #2 is on my friend's desk at the training nuclear reactor that he helps run. #3 is a spare for me if/when my first stringer fails... #4 is going to be a christmas present for an old engineer that i know that absolutely cherishes his original HP 15C (that he still uses and is on his desk EVERYDAY). #5 May go to my girlfriend if she can prove to me that she will use it (damned civil engineer...) and #6 is the only one that i have found to not be able to pass the self test and will be sent back to HP probably over the weekend. :(

When I try to run the self test or any other operation it will work fine for the first 1-10 keypresses but after the battery and components heat up it will really start screwing up. Normally it will begin missing segments of numbers or whole numbers all together in the display. Very wierd!!! If it has been off for awhile I can complete a self test and it will display the "15" at the end but try it again after 5 minutes of on time and it begins missing segments badly...

Also the first thing I did when I got my 6 HP 15c LEs was run all three self tests then promptly remove the batteries (except for the one i keep in my shirt pocket and gave away to my nerdy nuclear friend...). I think that this is the only calculator that I have purchased that came with the batteries already in the device.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #22 Posted by **Ángel Martin** on 7 Oct 2011, 2:27 a.m.,*
in response to message #21 by jonathan G harris

I didn't mean to imply that everybody buying multiple units would be doing speculative auctioning - but certainly you'd agree with me that such cases have occurred?

Also I didn't specify which tests were passing with flying colors because there was NO NEED for it -

we all know by now about that, it's been repeated to death. So I disagree with the comment *'pertinent information missing'* - or would it be possible that they were the old ones? No, right.

Cheers, 'AM

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #23 Posted by **Ángel Martin** on 7 Oct 2011, 2:18 a.m.,*
in response to message #3 by Ángel Martin

Honestly, I don't see the problem with the old self-tests such a big issue. Simply avoid them, that's one of the benefits of reading this forum so we all know about the glitch and also know how to invoke the new ones.

Yes for sure the information in the manual should be amended, but here again it'd've bothered me much more if the unit had loose keyes or non-reliable registering.

The PAUSE bug is much worse, IMHO. That and the battery beating with the current draw sure is claiming for a firmware update. Coincidentally I also got the cable from Gene yesterday (thanks mate!) so I'm all set... waiting for the bits of course.

Edited: 7 Oct 2011, 2:19 a.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #24 Posted by **Mike Morrow** on 7 Oct 2011, 11:44 a.m.,*
in response to message #23 by Ángel Martin

> Quote:
>
> Honestly, I don't see the problem with the old self-tests such a big issue. Simply avoid them,...

That would be an absolutely disastrous attitude for *any* company to adopt for *any* product! (Of course, HP has a history of such, even back in the 'good old days'. I hope they fired those responsible for the sheer incompetency of Woodstock battery/charger design, 36 years ago.)

> Quote:
>
> ...that's one of the benefits of reading this forum so we all know about the glitch and also know how to invoke the new ones.

What percentage of 15C-LE users read this forum? Unfair question? Well then let's extend the time and ask what percentage of 15C-LE users five years from now will have read this forum at just the right time to have been exposed to these issues? Any company hanging its hope on an unofficial and somewhat obscure web forum to convey information to a customer five years from now would be woefully delusional. (Then there's the issue of how difficult it is to actually search old postings here, even if you know it's here somewhere.)

Edited: 7 Oct 2011, 11:46 a.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #25 Posted by **Ángel Martin** on 7 Oct 2011, 2:53 p.m.,*

in response to message #24 by Mike Morrow

> Quote:
>
> What percentage of 15C-LE users read this forum?

Probably 90%

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #26 Posted by **Martin Pinckney** on 7 Oct 2011, 3:39 p.m.,*
in response to message #25 by Ángel Martin

I think you either underestimate the widespread appeal of the 15c, or overestimate the membership of this forum.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #27 Posted by **Mike Morrow** on 7 Oct 2011, 4:23 p.m.,*
in response to message #25 by Ángel Martin

> Quote:
>
> Probably 90%

Undoubtedly too high by at least an order of magnitude. In fact, I think 0.9 percent would be an even better estimate.

Edited: 7 Oct 2011, 4:23 p.m.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #28 Posted by **Roger Blake** on 7 Oct 2011, 7:36 p.m.,*
in response to message #27 by Mike Morrow

But how do people find out that the HP15C/LE is available ? Certainly outside USA it might mostly be from this forum ? I certainly wouldn't have known other than by chance seeing it mentioned here first. It's certainly not on many country HP sites !

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #29 Posted by **Pal G.** on 7 Oct 2011, 7:53 p.m.,*
in response to message #28 by Roger Blake

> Quote:
>
> If you provide an optional email address, I will also try to keep you informed as to the progress of this effort.

I found this written at the "Bring Back the 15C" website. If the webmaster is true to his word, some percentage of the 15,479 signees received an email regarding the re-release, who then could have told friends.

Based on this knowledge, I would gamble Kevin Bacon heard about the re-release..

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #30 Posted by **Reth** on 8 Oct 2011, 12:48 a.m.,*
in response to message #29 by Pal G.

I signed up the petition but never heard anything back from them.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #31 Posted by **Jeroen Van Nieuwenhove** on 9 Oct 2011, 6:59 p.m.,*
in response to message #30 by Reth

Same here.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #32 Posted by **sylvandb** on 10 Oct 2011, 6:28 p.m.,*
in response to message #31 by Jeroen Van Nieuwenhove

make that three.

If not for HP Forum I'd not have heard of the 15c LE and probably not the 12c 30AE.

Re: HP 15C LE....It's a calculator.....not a finger massager

*Message #33 Posted by **Dave Shaffer (Arizona)** on 8 Oct 2011, 11:37 a.m.,*
in response to message #27 by Mike Morrow

> Quote:
>
> Quote: Probably 90%
>
> Undoubtedly too high by at least an order of magnitude. In fact, I think 0.9 percent would be an even better estimate.

Probably somewhere inbetween, perhaps towards the low end:

How many folks here on the forum have bought a 15C LE?

A lower limit would be the number reporting to the keyboard survey taken a week or two ago. Without looking it up, I recollect that around 50 people may have responded. Let's assume a comparable number didn't report (probably because their keyboard is fine - thereby skewing the "bad keyboard" fraction, by the way), so around 100.

This group collectively certainly bought an average of more than one calculator. Let's guess 2 or 3. So, forum members probably bought 200-300 new calculators.

If the original lot now being distributed is 3000, as surmised here several times, that leaves more than 2500 calculators to be ultimately bought by others (i.e. not counting the mass purchases by ebay speculators). Almost certainly these buyers will not purchase many more than 1 per person on average. (Many of these buyers may have spotted the calculator on ebay, from the resellers.)

So, around 100 buyers here, and around 2500 buyers elsewhere, or

around 4% of buyers are forum members (probably within a factor of 2 to 4)

This is to astronomical accuracy: a joke amongst astronomers goes "We feel good if we get the significant figures in the exponent correct!"

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Error 9, does it exist?

*Message #1 Posted by **Michael de Estrada** on 6 Oct 2011, 9:16 a.m.*

I was reading the reviews for the HP 15C LE on the HP Home & Home Office site, and came across another negative review, due in part to another misinformed tech support person:

"Try the self diagnostic. Error 9 every time. Called technical support. Was told this was normal for this new calculator. Nice job whoever wrote the new manual."

Although the revised Owner's Handbook (Edition 2.4, Sep 2011) has corrected the self-test information on page 261, it still lists "Error 9, Service" on page 207 with the description "Self-test discovered circuitry problem, or wrong key pressed during key test."

Clearly, this is no longer valid, yet it still appears in the manual and tech support is still oblivious to the whole situation. This is the second instance of a bad review that is the result of incompetent tech support. Frankly, tech support should be instructed to read the following text when asked any technical question regarding the HP 15C LE:

"I am a clueless minimum wage cretin who can't give you any useful information on this product. What did you expect from a company that hired a former eB** head as its CEO?"

Re: HP 15C LE Error 9, does it exist?

*Message #2 Posted by **Thomas Radtke** on 6 Oct 2011, 11:34 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> "[...] What did you expect from a company that hired a former eB** head as its CEO?"

And further: "...but information on this issue is up for auction on www.hpay.com and due in just a couple of hours. Bid now before it's too late!"

Re: HP 15C LE Error 9, does it exist?

*Message #3 Posted by **Mike Morrow** on 6 Oct 2011, 11:37 a.m.,*
in response to message #1 by Michael de Estrada

That assessment of tech support and the personal attacks on the people there is really, bizarrely, *out-of-line*.

Are you expecting that tech support people individually research the internet to find information that is not even on HP web sites, then evaluate the accuracy of those second- and third-party reports, then create a personal database for customer response? And then, do that for *every* HP product, current and past, for which inquiries might be received? That won't happen on any planet I know!

What has been reported as tech support failure is simply the complete failure of the HP organization behind

their tech support to provide the information and tools that *any* tech support person requires about *any* product to perform the job. This includes failure of effective and timely communication of customer-discovered faults by the management associated with particular products.

I doubt any of us could do better than the people at HP tech support when the corporate organization ignores its responsibilities. **It's a defect of HP management, not of the poor fellow who answers the phone.**

Re: HP 15C LE Error 9, does it exist?

*Message #4 Posted by **Alexander Oestert** on 6 Oct 2011, 11:53 a.m.,*
in response to message #3 by Mike Morrow

Thank you, Mike!

Re: HP 15C LE Error 9, does it exist?

*Message #5 Posted by **Michael de Estrada** on 6 Oct 2011, 12:10 p.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> Are you expecting that tech support people individually research the internet to find information that is not even on HP web sites

The updated manual is on the HP website. So, yes, I do expect a tech support person to know this.

Re: HP 15C LE Error 9, does it exist?

*Message #6 Posted by **Mike Morrow** on 6 Oct 2011, 1:25 p.m.,*
in response to message #5 by Michael de Estrada

Even the latest 15C-LE manual (available only electronically here) *still* has problems with respect to self-test issues, and *has corrected none of the several other errata that have been noted here*. Manual reading may be of little corrective value when customers call about inconsistent machine performance based on bad information from the manual, when the tech support rep will likely be referring to that same or similar erroneous manual as well.

Once again, **that's not the fault of the tech support rep**.

Edited: 6 Oct 2011, 2:29 p.m.

Re: HP 15C LE Error 9, does it exist?

*Message #7 Posted by **Martin Pinckney** on 6 Oct 2011, 12:26 p.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> **It's a defect of HP management, not of the poor fellow who answers the phone.**

Correct. Its HP management that hires the "clueless minimum wage cretin who can't give you any useful information on this product", then does not give the poor schmuck the info he/she needs to properly help the customer.

Edited: 6 Oct 2011, 12:27 p.m.

Re: HP 15C LE Error 9, does it exist?

*Message #8 Posted by **bill platt** on 6 Oct 2011, 12:26 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> "I am a clueless minimum wage cretin who can't give you any useful information on this product.

what the____.

Re: HP 15C LE Error 9, does it exist?

*Message #9 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 6 Oct 2011, 1:48 p.m.,*
in response to message #1 by Michael de Estrada

Besides the user manual, there is an error in the HP 15C LE specifications indicating that the calculator has 12 Digit Display.

When I spoke with HP Customer and HP Technical services, they insisted that it is correct and 12 digits despite even the photo shows 10. It feels like HP Customer Service Reps don't have much degree of freedom to make any decisions or communicate bi-directional between the customer and HP. Their responses indicate that they have to stick with the script. This is one way to ensure consistent customer service for a large company, therefore either it is consistently correct or incorrect, not much room for creative response.

Re: HP 15C LE Error 9, does it exist?

*Message #10 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 4:01 a.m.,*
in response to message #9 by Kerem Kapkin (Silicon Valley, CA)

The error might stem from the 12C Platinum which in fact has 12 digits despite the display shows just 10.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Matrix operations -- WP 34S

*Message #1 Posted by **Paul Dale** on 6 Oct 2011, 5:03 a.m.*

The matrix support operations are slowly of converging. There might be a few changes from here but most are now finalised.

I've swapped out the LU decomposition wrapper for the row operations. Does anyone want the explicit LU decomposition? Speak now or it is invisible forever -- I'm not aware of a use of the LU decomposition apart from finding determinants, inverses and solving linear equations (all of which we have).

I've updated the matrix multiply so that the result can replace or overlap the source matrices. This means you can square a 10x10 matrix safely. However, I'm at a loss as to how to do something similar for the generalised addition A = A + k B. Any suggestions? Should I split the constant multiple of a matrix from the matrix addition?

The loop index generating functions will probably stay as they are as will the register to I, J index and the reverse.

The matrix row operations are likely to stay but this is not yet not definite. For RREF they are useful. Beyond that? ??

The row and column query count functions might disappear... Anyone need a nicely behaved version of these instead of a user code version? The difference is lastX and the stack damage. These function are not much more than multiply by 100 and IP.

As for creating & initialising a matrix -- identity & zero are in user code now but they are mostly well behaved -- they damage L & nothing else. Marcus has done a matrix editor which should cover the rest pretty well.

What about a matrix copy? User code with stack damage or C and well behaved?

- Pauli

- Pauli

Re: Matrix operations -- WP 34S

*Message #2 Posted by **fhub** on 6 Oct 2011, 5:58 a.m.,*
in response to message #1 by Paul Dale

> Quote:
>
> I've swapped out the LU decomposition wrapper for the row operations. Does anyone want the explicit LU decomposition? Speak now or it is invisible forever

I would say let it in!
The LU code is there (I guess you use it for DET/INV/LIN), so why not let the user have access to it? It would cost just a few bytes for this one additional opcode, right?

> Quote:

> Should I split the constant multiple of a matrix from the matrix addition?

I would prefer separated A+B and k*A.

> Quote:
>
> The matrix row operations are likely to stay but this is not yet not definite. For RREF they are useful. Beyond that???

Well, if **you** implement M.RREF then you could remove these row operations. ;-)
But like for M.LU: they already exist, so why hide it from the user?

> Quote:
>
> What about a matrix copy? User code with stack damage or C and well behaved?

I don't think this will be needed very often, and moreover it's just a register-copy, so user code would be ok.

A few more matrix functions come into my mind (trace, rank, charpoly, eigenvalues/vectors), but I guess you want the users to code some things by themselves!? :-)

All just my (humble) opinion of course ... ;-)

Franz

Re: Matrix operations -- WP 34S

*Message #3 Posted by **Paul Dale** on 6 Oct 2011, 6:27 a.m.,*
in response to message #2 by fhub

> Quote:
>
> I would say let it in!
> The LU code is there (I guess you use it for DET/INV/LIN), so why not let the user have access to it? It would cost just a few bytes for this one additional opcode, right?

It ends up consuming a few hundred bytes of space for this. The routine needs to error check everything and to return the pivot values in a useful format. So the original question should have been what else is the LU decomposition useful for?

> Quote:
>
> Well, if you implement M.RREF then you could remove these row operations. ;-)
> But like for M.LU: they already exist, so why hide it from the user?

The row operations are stand alone. I don't need them for the LU decomposition which has the code it requires internally -- it isn't doing full row operations, only partial ones.

I'm not planing a M.RREF at the moment, the row operations are more useful I feel. You can apply them to the base matrix and the adjoint components separately e.g.

> Quote:

> A few more matrix functions come into my mind (trace, rank, charpoly, eigenvalues/vectors), but I guess you want the users to code some things by themselves!? :-)

User code for these unless there is a pressing reason to do them internally -- flash is too full already. Trace is easy & in the library. The rest aren't there. Of course code donations are welcome :-)

- Pauli

Re: Matrix operations -- WP 34S

*Message #4 Posted by **fhub** on 6 Oct 2011, 6:52 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> It ends up consuming a few hundred bytes of space for this.

Well, then it's indeed a bit too much overkill. I just thought you would use this LU code for the other operations (DET/INV/LIN) so I saw no reason to have the code included but not making it available.

> Quote:
>
> I'm not planing a M.RREF at the moment, the row operations are more useful I feel. You can apply them to the base matrix and the adjoint components separately e.g.

Yes, I just remembered another usage where the row operations would be quite useful: solving linear optimization problems (by the Simplex method). Long time ago I've written such a simplex program for the HP-48 (and TI-92+), but since it also covers and calculates multiple solutions it is quite complex, and so I doubt I would like to ever code this program for the WP34s. ;-)

And for the other operations: you're right - there must still be something left to do for the users. ;-)

What you've implemented so far wrt. matrix operations is more than enough (and in fact very useful), many thanks for this!

Franz

Re: Matrix operations -- WP 34S

*Message #5 Posted by **Marcus von Cube, Germany** on 6 Oct 2011, 6:44 a.m.,*
in response to message #1 by Paul Dale

> Quote:
>
> The row and column query count functions might disappear... Anyone need a nicely behaved version of these instead of a user code version? The difference is lastX and the stack damage. These function are not much more than multiply by 100 and IP.

I vote for leaving them in because they know about defaults (rr=cc) which would otherwise be a bit tricky in user code. They are used in the MED routine which would need a rewrite then.

M.CPY can simply be coded with R.CPY so I don't see a need for this.

Re: Matrix operations -- WP 34S

*Message #6 Posted by **Paul Dale** on 6 Oct 2011, 5:47 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Check the older revisions of matrix.wp34s on subversion for user code equivalents. They consume three stack levels which makes using them a bit annoying but the number of keystroke steps required wasn't large.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

R.I.P. Steve Jobs 1955-2011

*Message #1 Posted by **aj04062** on 5 Oct 2011, 7:53 p.m.*

Titan

Re: R.I.P. Steve Jobs 1955-2011

*Message #2 Posted by **Ethan Conner** on 5 Oct 2011, 8:50 p.m.,*
in response to message #1 by aj04062

R.I.P. Truly a giant of the computer age.

Re: R.I.P. Steve Jobs 1955-2011

*Message #3 Posted by **John B. Smitherman** on 5 Oct 2011, 9:55 p.m.,*
in response to message #1 by aj04062

Just think what he could have done with the HP calculator division.

John

Re: R.I.P. Steve Jobs 1955-2011

*Message #4 Posted by **Eric Smith** on 5 Oct 2011, 10:10 p.m.,*
in response to message #3 by John B. Smitherman

I think he would have jettisoned the calculator division in favor of tablets. He was more about changing the way we do things than making minor incremental improvements.

Although HP jettisoned tablets in favor of... nothing?

Re: R.I.P. Steve Jobs 1955-2011

*Message #5 Posted by **db (martinez, ca.)** on 5 Oct 2011, 10:37 p.m.,*
in response to message #3 by John B. Smitherman

The Woz is the one who had an HP 35. Just think what **he** would have done with the Calculator division.

Re: R.I.P. Steve Jobs 1955-2011

*Message #6 Posted by **Juergen Keller** on 6 Oct 2011, 10:33 a.m.,*
in response to message #5 by db (martinez, ca.)

It was a 65, see HP-65 helped founding Apple.

Re: R.I.P. Steve Jobs 1955-2011

*Message #7 Posted by **Eddie W. Shore** on 6 Oct 2011, 12:21 a.m.,*
in response to message #1 by aj04062

Condolences to his family. R.I.P. Mr. Jobs and thank you for all you contributed to the computer industry. Thank you for the iPod, Steve. You will be missed.

Re: R.I.P. Steve Jobs 1955-2011

*Message #8 Posted by **Walter B** on 6 Oct 2011, 1:03 a.m.,*
in response to message #7 by Eddie W. Shore

Can't do anything more than concurring.

Steve Jobs 1955-2011

*Message #9 Posted by **Sondre K. Selnes** on 6 Oct 2011, 1:52 a.m.,*
in response to message #1 by aj04062

With Steve, Apple became the diamond of computers-, technology- and innovation. Only Steve could have done all this. His spirit will live forever and inspire. Inspire to challenge new frontiers, so that new pupils, new students, new scientists and others get a better life.

Steve changed our world to a better place for all of us.

Thank you for everything Steve.

Edited: 6 Oct 2011, 3:22 a.m.

Re: Steve Jobs 1955-2011

*Message #10 Posted by **Mike Morrow** on 6 Oct 2011, 11:42 a.m.,*
in response to message #9 by Sondre K. Selnes

> Quote:
>
> Only Steve could have done all this. His spirit will live forever and inspire.

With such a religious following, perhaps there'll be a second coming!

Re: Steve Jobs 1955-2011

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 6 Oct 2011, 3:41 p.m.,*
in response to message #10 by Mike Morrow

> Quote:
>
> With such a religious following, perhaps there'll be a second coming!

We will see in three days.

Re: Steve Jobs 1955-2011

*Message #12 Posted by **Mike Morrow** on 7 Oct 2011, 11:58 a.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

> Quote:
>
> We will see in three days.

Too soon, I think. Such greatness should see a millennial return on 1 January 10000, after all the Y10K computer hype has been exhausted and the world is ready for hype of a different sort.

Re: R.I.P. Steve Jobs 1955-2011

*Message #13 Posted by **hpnut** on 6 Oct 2011, 5:50 a.m.,*
in response to message #1 by aj04062

His iconic iPad and iPOd are my kids' favourite electronic products. they practically grew up on these devices. thanks Steve, we will miss you.

hpnut in Malaysia

Re: R.I.P. Steve Jobs 1955-2011

*Message #14 Posted by **DigiGal** on 6 Oct 2011, 11:56 a.m.,*
in response to message #13 by hpnut

Think Different! In memory of Steve Jobs, may his soul rest in peace.

Re: R.I.P. Steve Jobs 1955-2011

*Message #15 Posted by **Eric Rechlin** on 6 Oct 2011, 5:27 p.m.,*
in response to message #1 by aj04062

From the LA Times:

> Quote:
>
> Analysts say Jobs drew inspiration for the university from Bill Hewlett and David Packard, whose greatest creation was not the pocket calculator or the minicomputer, but Hewlett-Packard itself. Hewlett and Packard famously set out their company's core values in "The HP Way."

Eric

Re: R.I.P. Steve Jobs 1955-2011

*Message #16 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 3:59 a.m.,*
in response to message #15 by Eric Rechlin

The book was one of my door prices. :-)

Re: R.I.P. Steve Jobs 1955-2011

*Message #17 Posted by **Norman Dziedzic** on 7 Oct 2011, 7:27 a.m.,*
in response to message #1 by aj04062

I am sad the man has passed and do have several apple product in the house. But some of the lauding is just way beyond my understanding.

Here is a post from a friend of mine that puts things in perspective for me:

Link to Post

Re: R.I.P. Steve Jobs 1955-2011

*Message #18 Posted by **Marcus von Cube, Germany** on 7 Oct 2011, 8:30 a.m.,*
in response to message #17 by Norman Dziedzic

Norman, thanks for the link. Thumbs up!

Re: R.I.P. Steve Jobs 1955-2011

*Message #19 Posted by **Artur-Brazil** on 7 Oct 2011, 3:26 p.m.,*
in response to message #17 by Norman Dziedzic

Hi, Normam For the first time I see someone quetioning the production of American products out of US...

Re: R.I.P. Steve Jobs 1955-2011

*Message #20 Posted by **Howard Owen** on 7 Oct 2011, 6:05 p.m.,*
in response to message #1 by aj04062

Others have noted how remarkable it is that most of us feel comfortable calling Mr. Jobs "Steve." Lots of theories have been advanced to explain this. I just think it's down to how he made you feel he was listening to you, and that he shared your enthusiasms. You get both messages loud and clear when using the products he conceived.

I saw Steve Jobs face-to-face just once. He was at a SunWorld conference plugging NeXTStep. (It must have been in 1993, because that's when NeXTStep 3.1 was shipped, which featured Sun SPARC/Solaris support.) He gave a dazzling keynote speech regarding the technology. It was the best dog-and-pony show I've ever seen. Later, I wandered near him in the exhibits. I wish I had spoken to him then. I didn't partly because I had some old resentments. I was a starving student when the Macintosh came out. I owned an Apple //e which I bought on time with my father cosigning the loan. I had no prospect of owning a Mac, so that colored my thinking about them. I felt put upon that the price of a Mac was so high. I ended up with an Amiga because I hated PCs too, but that's another story. I was also down on NeXT since my University admin days. They tended to be hard to centrally manage despite the wonderful tools available to do so. It was a political thing. NeXT workstations were bought by professors who wanted out of central system management, but who nonetheless expected support. None of that was NeXT's fault. I certainly wanted one myself. Nonetheless, those thoughts colored my perception of Steve Jobs at that conference.I had irrational reasons to resent him. Alas, I'm not always rational. (I flatter myself that irrationality was a symptom of inexperienced youth and that I'm better now. My rational mind tells me that's probably not so true as I'd like. :) The other reason I didn't speak up was that I was starstruck. But I did get a chance to watch him dazzle suits and geeks without slipping a gear. The breadth of his repertoire was astounding. His interactions were fluid and intuitive. He left people smiling because he understood them. He took that understanding and used it to paint a picture of the future that was challenging, fascinating and, above all, *cool.*

I think the traits that made him one of the most potent salesmen of the 20th *and* 21st centuries were the same ones that lead us to call him "Steve" now. The unalloyed vision that speaks so loudly from Apple's products challenges and fascinates us. Those products are personal, intimate even. They track our enthusiasms and lead us on to better ones. They are, above all else, *cool.* Looking under the hood a bit reveals some troubling aspects of Steve Job's vision and approach, to me at least. But it's sad the voice behind those visions is now quiet. The world won't have quite as much cool post-Steve. Someone else, or many someone elses, will have to carry it on.

Re: R.I.P. Steve Jobs 1955-2011

*Message #21 Posted by **sylvandb** on 8 Oct 2011, 12:24 a.m.,*
in response to message #20 by Howard Owen

> Quote:
>
> Others have noted how remarkable it is that most of us feel comfortable calling Mr. Jobs "Steve." Lots of theories have been advanced to explain this. ...
>
> I think the traits that made him one of the most potent salesmen of the 20th *and* 21st centuries were the same ones that lead us to call him "Steve" now. .... But it's sad the voice behind those visions is now quiet. The world won't have quite as much cool post-Steve. Someone else, or many someone elses, will have to carry it on.

I purchased my first Apple product a couple of years ago. Now there are two in my house. They aren't a good fit for me but I respect the accomplishment, credit due in large part to Steve Jobs, which made them possible.

Personally while I never spoke with him, from my perspective he wanted to be "Steve" rather than "Mr. Jobs" or "The Steve Jobs". He was part of the billionaire club but perhaps one of its most normal members. No walled compound, no gated community, not even a private road. He lived in a normal house, on a public street, in a normal neighborhood where the neighborhood children would come trick-or-treat at his house.

Goodbye Steve. I'll miss you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #1 Posted by **gene wright** on 5 Oct 2011, 12:46 p.m.*

The PDF in the dropbox link below is the result of a gift from TomC at the recent HHC.

Wonderful snapshot of calculators from this time period.

Olympic Sales Company

Enjoy and Thanks Tom!

P.S. The reason I wanted this for so long was that I remember having this catalog back in 1976 in the 8th grade and distinctly remember seeing the commodore page showing the 4 pre-programmed scientifics. Playing around with functions like permutations, linear regression, etc. long before I knew what they were certainly exposed me to the joy of learning, which I believe influenced many later interests.

Edited: 6 Oct 2011, 9:17 a.m. after one or more responses were posted

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #2 Posted by **M. Joury** on 5 Oct 2011, 1:13 p.m.,*
in response to message #1 by gene wright

Fascinating! Interesting that the 65 was nearly twice the price of the 67 and selling at the same time. I figured they would have immediately dropped the price of the 65.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #3 Posted by **Thomas Chrapkiewicz** on 5 Oct 2011, 3:41 p.m.,*
in response to message #1 by gene wright

No Problem. Hope all interested will enjoy!

TomC

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #4 Posted by **Katie Wasserman** on 5 Oct 2011, 6:19 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Thanks!!!

I collect calculators outside of the HP ones and have several of the ones in this catalog in my collection. To me this was the golden age of calculators.

For Katie...

*Message #5 Posted by **Joerg Woerner** on 6 Oct 2011, 8:13 a.m.,*
in response to message #4 by Katie Wasserman

Katie,

You should go for the Rockwell 22MS!!!

(Page 24, lower left, read the first line and SMILE).

Cheers, Joerg

Re: For Katie...

*Message #6 Posted by **Katie Wasserman** on 6 Oct 2011, 10:50 a.m.,*
in response to message #5 by Joerg Woerner

Joerg,

Yes indeed! I've got one of these in my collection of sexist calculators. The others are:

TI - Lady 1200

Royal - Countess

Adler - Lady

Adler - Sir (the only "man's" calculator I know of)

and my favorite:

Qualitron - La Femme

-Katie

Re: For Katie...

*Message #7 Posted by **x34** on 6 Oct 2011, 4:06 p.m.,*
in response to message #6 by Katie Wasserman

I have Siemens "SIR" engineering calc, probably the world smallest scientific calc with VFD, and one called Olympia SIR, which is almost the same. I think they are clones of Adler.

Re: For Katie...

*Message #8 Posted by **Katie Wasserman** on 6 Oct 2011, 10:49 p.m.,*
in response to message #7 by x34

Tahnks, I'll have to keep my eye out for that!

Edited: 6 Oct 2011, 10:51 p.m.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #9 Posted by **Steve S** on 5 Oct 2011, 7:49 p.m.,*
in response to message #1 by gene wright

...I lived near downtown LA in the 70's (Manhattan Beach)and visited Olympic Sales many times over the years. The store was a bit less impressive than its catalog, but there were enough things on display that the trip was never a waste...!

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #10 Posted by **Ethan Conner** on 5 Oct 2011, 8:54 p.m.,*
in response to message #9 by Steve S

I like seeing that 70's graphic design on the cover.....brings back memories.

Holy Grail Revisited

*Message #11 Posted by **db (martinez, ca.)** on 5 Oct 2011, 9:00 p.m.,*
in response to message #1 by gene wright

HP users have their 95c. TI collectors, the 88. For National Semiconductor aficionados it's the 7100.

Or maybe it's: TI attempted the 88, National tried the 7100, HP built and sold three million 41s.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #12 Posted by **hpnut** on 5 Oct 2011, 11:10 p.m.,*
in response to message #1 by gene wright

thanks for sharing, Gene.

I have never seen a wholesale catalog before, interesting to see that the markup is 15-20%.

HP is described as the Best and Most Sophisticated Electronic Calculators. hope Meg takes note of this ;-)

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #13 Posted by **x34** on 6 Oct 2011, 4:07 p.m.,*
in response to message #1 by gene wright

Gene, is it possible to store somewhere full version, including other manufacturers' calcs?

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #14 Posted by **gene wright** on 6 Oct 2011, 4:24 p.m.,*
in response to message #13 by x34

That PDF includes all the pages for the calculators in the catalog.

The other pages are for food processors, typewriters, etc. which for fairly obvious reasons :-) I have not scanned (yet).

No other calculators in this catalog - I scanned all the relevant pages.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #15 Posted by **Brian Walsh** on 6 Oct 2011, 8:45 p.m.,*
in response to message #1 by gene wright

Gene, the site (dropbox) says you've exceeded your bandwidth, so would it be possible for you to upload it somewhere else? I missed getting it till now. Thanks.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #16 Posted by **Katie Wasserman** on 6 Oct 2011, 9:13 p.m.,*
in response to message #15 by Brian Walsh

Gene and TomC,

If it's okay with you two I'd like to put this on my site of calculator manuals and other stuff. I've already got an Educalc and two Elek-tek catalogs there so it fits in well.

-Katie

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #17 Posted by **gene wright** on 6 Oct 2011, 9:32 p.m.,*
in response to message #16 by Katie Wasserman

Sure, had no idea there was a bandwidth issue on dropbox. It does not provide any stats for what is coming down, so I have no idea.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #18 Posted by **Katie Wasserman** on 6 Oct 2011, 10:52 p.m.,*
in response to message #17 by gene wright

Gene,

I've added it here crediting you and pointing your your site.

Thanks! -Katie

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #19 Posted by **gene wright** on 7 Oct 2011, 7:43 a.m.,*
in response to message #18 by Katie Wasserman

Katie, please feel FREE to put that PDF in a non-transient location - wont' offend me at all!

Dropbox is used because of its convenience.

I have another catalog - 1976 Markline (?) that I will be scanning soon. Same type of material.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic

Sales Company

*Message #20 Posted by **Katie Wasserman** on 7 Oct 2011, 11:27 a.m.,*
in response to message #19 by gene wright

> Quote:
>
> 1976 Markline (?)

I'd love to put that up too if I can.

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #21 Posted by **Brian Walsh** on 7 Oct 2011, 9:46 a.m.,*
in response to message #18 by Katie Wasserman

Thanks, Katie!

Re: Memory lane: A 1976-1977 catalog with calculators from Olympic Sales Company

*Message #22 Posted by **Thomas Chrapkiewicz** on 7 Oct 2011, 4:37 a.m.,*
in response to message #16 by Katie Wasserman

No prob.

TomC

[Return to Index | Top of Index]

Go back to the main exhibit hall

Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #1 Posted by **gene wright** on 5 Oct 2011, 12:19 p.m.*

I have been encouraging the smart people on the 34S to give us great matrix functionality in the machine. It's here.

A couple of years ago, Valentin gave us some simple-looking matrices of two digit integers whose determinants equaled 1. The inverses of the matrices were also composed of integers and the determinant of the inverses were exactly equal to 1.

AM3 was the most difficult matrix that Valentin generated and you can read about it here:

Valentin's AM1, AM2 and AM3 thread

I have just run the matrix determinant on AM3.

It comes out to exactly 1 with no Tiny Element flag, no "Hey the matrix has integers so the determinant must be an integer" adjustments. It is simply 1 to the entire precision of the result displayed.

Then, I computed the inverse of AM3 and the determinant of the resulting inverse.

The result?

1 to the entire precision of the result.

Incredible. Valentin needs to come back and get himself a WP-34S!

P.S. By the way, the determinants, inverses, etc are computed as near to instantly as I can see.

Edited: 5 Oct 2011, 12:33 p.m.

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #2 Posted by **Steve Simpkin** on 5 Oct 2011, 12:38 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> I have been encouraging the SMART people on the 34S to give us great matrix functionality in the machine. It's here.

Oh, Way to go Gene! Excluding all of the not-so-smart people like me from testing that Matrix stuff. Next you will be telling us that the WP 34s is so easy to use, even a caveman could do it. Hmmmph.
:)

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #3 Posted by **gene wright** on 5 Oct 2011, 12:44 p.m.,*
in response to message #2 by Steve Simpkin

Lol. Now Steve... anyone can download the current revision and test to your heart's content!

Beta software can be troubling, however, as yesterday afternoon, a version of these commands locked my machine where I had to remove the batteries. Caveat FREE emptor.

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #4 Posted by **Richard J Nelson** on 5 Oct 2011, 2:10 p.m.,*
in response to message #1 by gene wright

This is great progress. i will have to check on other matrix challenges that I may have in my library.

X < > Y,

Richard

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 5 Oct 2011, 9:50 p.m.,*
in response to message #4 by Richard J Nelson

> Quote:
>
> This is great progress. i will have to check on other matrix challenges that I may have in my library.

Page 24 of Kahan's paper "Mathematics Written in Sand" proposed a difficult problem. namely the inversion of a modified 8x8 Hilbert matrix where the elements are defined by A(i,j) = 360360/(i + j - 1). The inverse correct to 12 significant figures is

```
 1.77600177600E-4       -5.59440559441E-3        5.59440559441E-2       -0.256410256410
0.615384615385     .....

-5.59440559441E-3        0.234965034965         -2.64335664336          12.9230769231          .....

 5.59440559441E-2       -2.64335664336          31.7202797203          -161.538461538          .....

-0.256410256410          12.9230769231          -161.538461538          346.153846154          .....

 0.615384615385         -32.3076923077           415.384615385          .....

-0.8                     43.2                   -567                    .....

 0.533333333333         -29.4                    392                    .....

-0.142857142857          8                      -108                    .....
```

where only the elements of the first, second and third columns and parts of the fourth and fifth columns are shown. The exact values for the elements of the first column are 8/45045, -4/715, 8/143, 10/39, 8/13, 8/10, 8/15 and -1/7.

The following table presents the results for only the first column of the inverse (I get tired typing in all the numbers) as found by Stefan's program on the HP-35s, the HP-28s, the HP-28s with one iteration of refinement and the TI-85.

```
     True                    HP-35S                  HP-28S                  HP-28S+
TI-85

 1.77600177600E-4        1.77637306166E-4         1.77585836871E-4        1.77600204303E-4
1.77599778919E-4

-5.59440559441E-3       -5.5964307186E-3         -5.59363119661E-3       -5.59440698893E-3        -
5.59438445849E-3

 5.59440559441E-2        5.59708386791E-2         5.59338926659E-2        5.59440738932E-2
5.59437817772E-2

-0.256410256410         -0.256556617662          -0.25635505057          -0.256410352726          -
0.256408778659

 0.615384615385          0.615781713919          0.615235562229          0.615384873348
0.615380646744

-0.8                    -0.800565424016          -0.799788616834         -0.80000036382           -
0.799994393047

 0.533333333333          0.533737824252          0.533182624964          0.533333591708
0.533329346788

-0.142857142857         -0.142971771814         -0.142814556361          -0.14285721566           -
0.142856018664.
```

where the most striking thing is the major improvement with the iterative refinement on the HP-28.

Edited: 5 Oct 2011, 10:16 p.m.

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #6 Posted by **Paul Dale** on 6 Oct 2011, 12:27 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

The 34S seems to be getting 16 digit accuracy for this example assuming I've done things properly:

```
001  LBL A
002  .
003  0
004  8
005  STO K
006  M.ALL
007  STO I
008  LBL 00
009  3
010  6
011  0
012  3
013  6
014  0
015  RCL I
016  RCL K
017  M.IJ
018  +
019  1
020  -
021  /
022  STO[->]I
023  ISG I
024  GTO 00
025  RTN
```

Then .08 M.INV to get the inverse.

- Pauli

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #7 Posted by **Rodger Rosenbaum** on 9 Oct 2011, 4:23 p.m.,*
in response to message #6 by Paul Dale

Valentin gave a matrix with an even higher condition number in this thread: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=84694#84694

He didn't call it AM7 in that thread, but in this document:

http://membres.multimania.fr/albillo/calc/pdf/DatafileVA014.pdf

he identifies it as AM7.

Valentin's AM7 determinant on the WP 34S

*Message #8 Posted by **gene wright** on 9 Oct 2011, 5:27 p.m.,*
in response to message #7 by Rodger Rosenbaum

is 1.0000... to the limits of precision of the machine.

The determinant of the inverse of this AM7 matrix is also 1.000... to the limits of the precision of the machine.

Amazing!

P.S. the timing is as near to instantaneous as I can imagine for the determinant and the display barely has time to flash "Wait..." or such before the inverse is computed. The determinant of the inverse is instantaneous.

Edited: 9 Oct 2011, 5:32 p.m.

Re: Valentin's AM7 determinant on the WP 34S

*Message #9 Posted by **Paul Dale** on 9 Oct 2011, 5:50 p.m.,*

in response to message #8 by gene wright

> Quote:
>
> P.S. the timing is as near to instantaneous as I can imagine for the determinant and the display barely has time to flash "Wait..." or such before the inverse is computed. The determinant of the inverse is instantaneous.

I'll likely take out that wait display. I thought these would be slower than they are.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #10 Posted by **gene wright** on 9 Oct 2011, 5:59 p.m.,*
in response to message #9 by Paul Dale

Maybe change it to say:

"Don't blink"

:-)

Good, take that thing out and it will look as fast as it is.

Re: Valentin's AM7 determinant on the WP 34S

*Message #11 Posted by **fhub** on 9 Oct 2011, 6:05 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I'll likely take out that wait display. I thought these would be slower than they are.

But does this still hold for a 10x10 matrix?

Re: Valentin's AM7 determinant on the WP 34S

*Message #12 Posted by **Paul Dale** on 9 Oct 2011, 6:51 p.m.,*
in response to message #11 by fhub

A second or less for a 10x10.

You do see the wait message long enough to read it.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #13 Posted by **Valentin Albillo** on 9 Oct 2011, 6:56 p.m.,*
in response to message #11 by fhub

> Quote:
>
> But does this still hold for a 10x10 matrix?

Who knows ... try this one and see how it fares:

Albillo Matrix #10 (AM#10):

```
  29   23   40   37   30   32   66   48   38   44
  24   22   45   49   16   39   65   72   38   56
  67   44   92   37   66   20   69   14   14   37
  37   28   63   70   36   35   52   43   26   72
  21   10   19   20   23   16   27   12   13   21
```

```
  49   65   93   71   65   39   83   57   42   77
  36   26   60   68   35   33   46   38   22   69
  51   42   63   39   71   16   57   13   15   40
  31   19   43   39   22   22   53   36   35   43
  57   28   76   38   37   23   89   45   38   44

Determinant :

   1
```

The HP-71B gives DET(AM#10) as **59.9605462429** instead of 1 so it's losing *all* significant digits and then some.

You can quickly check whether you've inputted it correctly by computing its Frobenius norm, which should give:

```
    FNORM(AM#10) ->  466.407547109
```

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #14 Posted by **Walter B** on 9 Oct 2011, 7:02 p.m.,*
in response to message #13 by Valentin Albillo

Buenas tardes, Valentin!

Long time no see - welcome back :-)

Walter

Re: Valentin's AM7 determinant on the WP 34S

*Message #15 Posted by **Valentin Albillo** on 9 Oct 2011, 7:10 p.m.,*
in response to message #14 by Walter B

> Quote:
>
> Buenas tardes, Valentin!
>
> Long time no see - welcome back :-)
>
> Walter

Thanks, Walter. Regrettably, I can't visit the forum as frequently as in times past, just too busy ... :D

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #16 Posted by **gene wright** on 9 Oct 2011, 9:46 p.m.,*
in response to message #15 by Valentin Albillo

Valentin! Good to see you again.

Email me through the forum if you can or use an old email if you have one from the past. Thanks!

Re: Valentin's AM7 determinant on the WP 34S

*Message #17 Posted by **Dan W** on 9 Oct 2011, 7:09 p.m.,*
in response to message #13 by Valentin Albillo

Since a lot of us use Excel these days, I took several of these ill conditioned matrices and tried them in Excel (version 2007, on a Windows 7 PC). The determinants are:

AM1 0.99999986183

AM2 0.99999977967

AM3 1.00000101670

AM10 1.00096388386

Edited: 9 Oct 2011, 7:10 p.m.

Re: Valentin's AM7 determinant on the WP 34S

*Message #18 Posted by **Bunuel66** on 10 Oct 2011, 6:42 p.m.,*
in response to message #17 by Dan W

Well, the mystery is still there, det(AM10) on HP39gs gives...1 exactly. Even doing the trick (det(AM10)-1)*10000 gives 0!

Regards

Re: Valentin's AM7 determinant on the WP 34S

*Message #19 Posted by **Valentin Albillo** on 14 Oct 2011, 7:34 p.m.,*
in response to message #18 by Bunuel66

> Quote:
>
> Well, the mystery is still there, det(AM10) on HP39gs gives...1 exactly. Even doing the trick (det(AM10)-1)*10000 gives 0!

I suggest people with a WP 34S (and other calcs as well) should try (in non-exact mode) these two nifty 10x10 matrices I've concocted for the occasion

#AM 11:

```
  65    66   -58    74    -3   -46    28    29    11     6
 -19    33    67     6    56    -6    25    20    57    49
  72    19    85   -20    46    14    39    -4    52    43
 -52    -4   -37    95    39    32    79    90     4    -4
 -16    29    71     2    60     3    30    17    61    52
 -39    24   -23    88    23   -12    63    57     4    -1
  63    82    42    28    20   -71    57    49    -7   -12
 -61   -26    47    30    77    63    77    27    26    16
  26   -43    45   -39    47    97    57   -29    43    32
  60    19    34    23    33    10    81     8   -12   -20
```

True determinant = 1

```
HP-71B determinant = 754557.820054
Frobenius norm     = 461.055311215
Row norm           = 458
Column norm        = 536
Sum of elements    = 2540
```

#AM 12:

```
 -19   33   56   -6  -23   44   25   49   57   20
  26  -43   47   97  -32   13   57   32   43  -29
 -39   24   23  -12   77   54   63   -1    4   57
  65   66   -3  -46   97   39   28    6   11   29
 -52   -4   39   32   84   47   79   -4    4   90
  72   19   46   14  -33   52   39   43   52   -4
 -61  -26   77   63  -10   37   77   16   26   27
  63   82   20  -71   19   61   57  -12   -7   49
 -16   29   60    3  -26   45   30   52   61   17
  60   19   33   10   19   53   81  -20  -12    8
```

True determinant = 1

```
HP-71B determinant = 683755.24004
Frobenius norm     = 452.653288953
Row norm           = 441
```

```
Column norm        = 536
Sum of elements    = 2597
```

Despite the very small (2-digit or less) integer elements I expect non-exact calc algorithms to lose **20-23** significant digits while computing the determinant. The norms and sum of elements are included to check correct input.

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #20 Posted by **Paul Dale** on 14 Oct 2011, 8:39 p.m.,*
in response to message #19 by Valentin Albillo

Valentin, your guess as to the accuracy loss is spot on...

```
Matrix  Returned result       Internal result
 AM11   1.000000000000000     1.000000000000000048037082578075789975 96
 AM12   1.000000000000000     1.000000000000000057647815638165551436 05
                                                          ^ 17th digit
```

On more lost digit and the 34S will get the answer wrong. No that isn't a challenge, I'm sure it is possible.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #21 Posted by **gene wright** on 14 Oct 2011, 8:48 p.m.,*
in response to message #20 by Paul Dale

Of course, at one point you were computing internally with more than 39 digits... but at a VERY large expense of memory, which would *not* be worth it at all.

The real point (to me) is that the 34S matrix commands seem to be more accurate by far than anything we've ever had that was calculator-portable and *ought* to handle most anything that gets thrown at them.

Great job, and someone get Valentin a 34S !!

Re: Valentin's AM7 determinant on the WP 34S

*Message #22 Posted by **Paul Dale** on 14 Oct 2011, 8:51 p.m.,*
in response to message #21 by gene wright

Currently, I'm doing the LU decomposition using temporaries of 34 digits and the multiply/accumulate calculations to 39. We're just fitting into the volatile RAM at the moment which is perfect.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #23 Posted by **Paul Dale** on 14 Oct 2011, 9:20 p.m.,*
in response to message #22 by Paul Dale

Only two calculations are done to more than the internal 39 digits, they aren't used by the matrix code.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #24 Posted by **Dan W** on 15 Oct 2011, 2:04 p.m.,*
in response to message #20 by Paul Dale

Here are the results in Excel 2007 for comparison. AM12 is really tough!

AM1 0.99999986183

AM2 0.99999977967

AM3 1.00000101670

AM10 1.00096388386

AM12 4.49647974387

Re: Valentin's AM7 determinant on the WP 34S

*Message #25 Posted by **Marcus von Cube, Germany** on 15 Oct 2011, 2:29 p.m.,*
in response to message #24 by Dan W

WP 34S does an LU decomposition to 34 digits with pivoting and then computes the determinant from the diagonal. This seems to be quite stable.

Pauli, correct me, if have misread your code.

Re: Valentin's AM7 determinant on the WP 34S

*Message #26 Posted by **Paul Dale** on 15 Oct 2011, 5:50 p.m.,*
in response to message #25 by Marcus von Cube, Germany

This is correct. I'm using Dolittle's algorithm like the 15C. This is stable but not the fastest.

The only extra thing to note is that the multiply/subtract steps used in the calculation of the lower triangular matrix are done using 39 digits which could help avoid a little extra cancellation if we're lucky.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #27 Posted by **Valentin Albillo** on 16 Oct 2011, 11:27 a.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> One more lost digit and the 34S will get the answer wrong. No that isn't a challenge, I'm sure it is possible.

Indeed it is. Enter **AM#13**, another one of my 10x10 matrices entirely consisting in very small (2-3 digit) integer elements:

AM #13:

```
   34    33   195   -18   213   238   -66    13    24   -56
   39   148   -51    95  -388   -11    28    31   -35    49
 -125   124  -129   130    86   -99   156   -31   -53   181
  248   -65   -44   128   107    28    71    84  -119   -10
   87   201    40   291   -25    40   -68   268   176    31
   28  -148   147    75    89   139   187  -146  -156   -22
  175    69   140   178  -143   306   182   -51  -108  -129
 -113   101  -126    97   165  -112   127    36    45   123
 -127   202   148   356   277   224   258    24    63    98
   52  -116   173    93    38   -14  -188   132    76    19
```

True determinant = 1

```
HP-71B determinant = 288,676,439,828
Frobenius norm     = 1387.86490697
Row norm           = 1777
Column norm        = 1531
Sum of elements    = 5167
```

Despite its simplicity I expect non-exact calc algorithms to lose **25-28** digits while computing its determinant.

This will surely make the final 16-digit 34S result *inexact in its last 4 or 5 digits*. Less capable calcs or computing software (say Excel) will probably lose *all* their digits, as seen in the result given above for the HP-71B Math ROM's **DET** function.

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #28 Posted by **Walter B** on 16 Oct 2011, 4:10 p.m.,*
in response to message #27 by Valentin Albillo

Buenas tardes Valentin,

please forgive me if my following question is mathematically trivial. But are there any smaller matrices of similar "nastyness" like AM#13? E.g. an 8x8 matrix? I'd estimate the probability for somebody keying in a 10x10 matrix into a pocket calculator being <0.01 even in an high math environment like this forum, and <1e-5 elsewhere.

TIA for your response,
Walter

Re: Valentin's AM7 determinant on the WP 34S

*Message #29 Posted by **Werner** on 17 Oct 2011, 3:08 a.m.,*
in response to message #28 by Walter B

There's no need to go even that far.

Take a 2x2 matrix

```
[[  a   a-1 ]
 [ a+1   a  ]]
```

its determinant is 1.
Now, for decimal machines, take a=2^39 = 549'755'813'888, and compute the determinant.
12-digit machines return 0. Free42 with its 25 decimal digits of precision returns

```
0.956630091747
```

The condition number of this 2x2 matrix is 1e24, even greater than Valentins 10x10 - of course, not with the same small elements.
The 34S carries 16 digits normally, so try a=2^50.
The condition number is (2*a+1)^2 or about 5e30, you'll get maybe 4 digits correct in the determinant.

Cheers, Werner

Edited: 17 Oct 2011, 7:05 a.m. after one or more responses were posted

Re: Valentin's AM7 determinant on the WP 34S

*Message #30 Posted by **Paul Dale** on 17 Oct 2011, 3:20 a.m.,*
in response to message #29 by Werner

Try calculating this via:

```
5
0
2^x
FILL
DEC T
INC Y
cmplx *
```

:-)

The matrix determinant code isn't as good.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #31 Posted by **Werner** on 17 Oct 2011, 3:41 a.m.,*
in response to message #30 by Paul Dale

On the 42S I had to create the equivalent 3x3 matrix

```
[[  a  a-1  0 ]
 [ a+1  a   0 ]
 [  0   0   1 ]]
```

to bypass what you just demonstrated, because it uses the straightforward formula a*b-c*d to calculate 2x2 determinants. Here (as in the 34S) the matrix code must resort to

```
   a
( --- * a - (a-1))*(a+1)
  a+1
```

to calculate the determinant, and the first division introduces the small roundoff error.
There's nothing to be done about that, that's my point.

Cheers, Werner

Edited: 17 Oct 2011, 3:43 a.m.

Re: Valentin's AM7 determinant on the WP 34S

*Message #32 Posted by **Valentin Albillo** on 17 Oct 2011, 3:33 p.m.,*
in response to message #28 by Walter B

Hi, Walter:

> Quote:
>
> [...] are there any smaller matrices of similar "nastyness" like AM#13? E.g. an 8x8 matrix?

Certainly. Have a look at this 8x8 matrix o'mine. Not as nasty as it sticks to small (2-3 digit) integer elements but still pretty nasty nevertheless:

AM#8:

```
  -65   153  -222   257   306   520  -121   461
  131    13   184   -69  -202    13   253  -121
   11    27   -81    88    92    44   -71    99
  347   320   267   171  -328   577   463    88
   87   237   -21   277    55   336   107   104
 -354  -223  -337  -563   548   333    63   323
  208   306    73   243  -115   563   196   215
  165   243    19   112    61   566   453   109

True determinant =  1
```

Go and try your favourite calculator against it and see how it fares and how many digits are lost.

> Quote:
>
> I'd estimate the probability for somebody keying in a 10x10 matrix into a pocket calculator being <0.01 even in an high math

> environment like this forum, and <1e-5 elsewhere.

Maybe but you know what they say: *"No pain, no gain"*.

The Spanish version of said proverb begins with *"El que quiera peces ..."* and common decency prevents me from posting the end ... XD.

> Quote:
>
> TIA for your response

You're welcome.

Best regards from V.

Hey V ... check your email!

*Message #33 Posted by **gene wright** on 17 Oct 2011, 3:40 p.m.,*
in response to message #32 by Valentin Albillo

ha!

Re: Valentin's AM7 determinant on the WP 34S

*Message #34 Posted by **Ángel Martin** on 17 Oct 2011, 4:03 p.m.,*
in response to message #32 by Valentin Albillo

> Quote:
>
> "El que quiera peces ..."

definitely much more a poetic version than the prosaic saxon one :-)

Glad to see you're in top shape, as usual.

Best, 'AM

Re: Valentin's AM7 determinant on the WP 34S

*Message #35 Posted by **Paul Dale** on 17 Oct 2011, 5:30 p.m.,*
in response to message #32 by Valentin Albillo

0.9999999999999997

Which displays as 1 of course :-)

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #36 Posted by **Paul Dale** on 16 Oct 2011, 5:47 p.m.,*
in response to message #27 by Valentin Albillo

Yep, that does it.

The returned value is 0.9999999999908109 instead of 1.

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #37 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 2:03 a.m.,*
in response to message #36 by Paul Dale

Still slightly better then the 71B. ;)

There are 11 nines in the result so rounded to 10 digits it will still return a 1.

Walter, Pauli has committed a .wp34s source file that inputs the matrix. No need to type it in. :-)

Re: Valentin's AM7 determinant on the WP 34S

*Message #38 Posted by **Werner** on 17 Oct 2011, 2:32 a.m.,*
in response to message #36 by Paul Dale

condition nr of AM13 is (about) 4e23, so you get 11 digits correct with 34-digit arithmetic.
Free42 Decimal uses 25 digits and returns 1.01769242024 as determinant, so indeed 2 correct digits, and I guess I'm that one out of a hundred that did key in the matrix ;-)
An 8x8 matrix with a similar condition number is possible, but then the individual elements will have to be larger.
And that's my point: 34-digit arithmetic for 10x10 matrices is a bit of overkill. There will always be a matrix that returns completely wrong results. It would be better to return an estimate of the condition number instead, so that you know how many digits of the result can be trusted. If too many digits are lost, then the matrix is the problem (and the way it was obtained), not the algorithm or the number of digits the calculator uses.

Cheers, Werner

How about a M-COND command?

*Message #39 Posted by **gene wright** on 17 Oct 2011, 7:52 a.m.,*
in response to message #38 by Werner

that returns the condition number of a matrix?

Re: How about a M-COND command?

*Message #40 Posted by **Werner** on 17 Oct 2011, 8:49 a.m.,*
in response to message #39 by gene wright

a short and easy way would be what I use on a 42S: (it lacks CNRM, so I have to use row norm on the transpose)

```
TRAN
RNRM
LASTX
INVRT
RNRM
*
```

but of course, that implies inverting the matrix..
Another option would be to estimate it the way they do in LAPACK (SGECON), but that would be quite a lengthy routine, and as I've come to understand, life is short and flash is full - to paraphrase Bill Wickes.

Cheers, Werner

Re: How about a M-COND command?

*Message #41 Posted by **fhub** on 17 Oct 2011, 8:55 a.m.,*
in response to message #39 by gene wright

> Quote:
>
> that returns the condition number of a matrix?

That leads me to the following question: HOW do you compute this condition number of a matrix???

Since I didn't know its exact definition I searched a bit and found that cond(A)=norm(A)*norm(A^-1).

Well, now I have a problem with this definition: if A is ill-conditioned then computing A^-1 will give a quite inaccurate result, so also norm(A^-1) and thus cond(A) will be inaccurate.
This is what we call in German "the cat biting its own tail".

So again my question: what's the usual way to compute this cond(A)?

Franz

Re: How about a M-COND command?

*Message #42 Posted by **Werner** on 17 Oct 2011, 10:11 a.m.,*
in response to message #41 by fhub

The condition number does not have to be calculated to any great accuracy to be useful. If it is in the order of magnitude of 10^a, then we can expect to lose 'a' digits when calculating the determinant or solving a system of equations. If a is near the number of digits carried by your calculator, the matrix is said to be singular to working precision.

Cheers, Werner

Re: How about a M-COND command?

*Message #43 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 10:17 a.m.,*
in response to message #42 by Werner

Then it would be more appropriate to compute the $\log_{10}$ of the condition number as an integer.

Re: How about a M-COND command?

*Message #44 Posted by **fhub** on 17 Oct 2011, 10:27 a.m.,*
in response to message #42 by Werner

> Quote:
>
> The condition number does not have to be calculated to any great accuracy to be useful.

Well, that doesn't change the principle problem at all! :-(

If you have to calculate A^-1 to get cond(A), then this A^-1 could already be SO wrong for a VERY-ill-conditioned matrix (just see some DET results in this thread!), that the computed cond(A) with this wrong A^-1 would not only be of "no great accuracy" but even completely wrong.

It's the same as if you would try to measure the precision of any measuring instrument with this (unprecise) instrument itself.

Franz

Edited: 17 Oct 2011, 10:28 a.m.

Re: How about a M-COND command?

*Message #45 Posted by **Walter B** on 17 Oct 2011, 12:44 p.m.,*
in response to message #44 by fhub

> Quote:
>
> It's the same as if you would try to measure the precision of any measuring instrument with this (unprecise) instrument itself.

FWIW, this is one of the easiest jobs d:-) The solution won't help you in the matrix problem, however ...

Re: How about a M-COND command?

*Message #46 Posted by **fhub** on 17 Oct 2011, 1:21 p.m.,*
in response to message #45 by Walter B

> Quote:
>
> FWIW, this is one of the easiest jobs d:-)

Arrogant as usual ... ;-)

Re: How about a M-COND command?

*Message #47 Posted by **Walter B** on 17 Oct 2011, 5:49 p.m.,*
in response to message #46 by fhub

> Quote:
>
> Arrogant as usual ... ;-)

It's really easy - it doesn't have to be complex just because you don't know it ;-) But since some folks earn their $$$ teaching that method I won't disclose it here.

Re: How about a M-COND command?

*Message #48 Posted by **fhub** on 17 Oct 2011, 6:18 p.m.,*
in response to message #47 by Walter B

> Quote:
>
> It's really easy - it doesn't have to be complex just because you don't know it ;-) But since some folks earn their $$$ teaching that method I won't disclose it here.

Pfff, what a lame excuse! But I didn't expect anything else from you, because I already know you and your vacuous statements here since a few months.

Re: How about a M-COND command?

*Message #49 Posted by **Walter B** on 18 Oct 2011, 12:51 a.m.,*
in response to message #48 by fhub

> Quote:
>
> I didn't expect anything else from you, because I already know you and your vacuous statements here since a few months.

:-/ Shall I say "ditto"? No, I won't follow your track. Else you'll eventually quit for the 16th time, and we all know

already what will happen thereafter ;-)

Re: How about a M-COND command?

*Message #50 Posted by **Valentin Albillo** on 17 Oct 2011, 12:51 p.m.,*
in response to message #44 by fhub

Hi, Franz:

> Quote:
>
> Well, that doesn't change the principle problem at all! :-([...] It's the same as if you would try to measure the precision of any measuring instrument with this (unprecise) instrument itself.

You're absolutely correct that this is kinda chicken-and-egg problem, you need the inverse to compute the condition number and if the matrix is very ill-conditioned your computed inverse will be practically useless.

The way out of this annoying conundrum is to simply estimate the necessary norm of the inverse as economically as possible without actually computing the inverse proper. You may want to have a look at this paper for a feasible approach:

http:/www.math.ufl.edu/~hager/papers/condition.pdf

Best regards from V.

Edited: 17 Oct 2011, 12:53 p.m.

Re: How about a M-COND command?

*Message #51 Posted by **fhub** on 17 Oct 2011, 1:26 p.m.,*
in response to message #50 by Valentin Albillo

> Quote:
>
> http:/www.math.ufl.edu/~hager/papers/condition.pdf

Thanks Valentin!

A short look at this paper tells me that it isn't worth the troubles. ;-)

I've also found some other estimation algorithms on the internet, quite a few of them use the LU-decomposition of the matrix A. This M-LU is already coded in WP34s, so bringing it back to the user might not be the worst idea. :-)

Franz

Re: How about a M-COND command?

*Message #52 Posted by **Paul Dale** on 17 Oct 2011, 5:45 p.m.,*
in response to message #39 by gene wright

The condition number is one I'd like to have included. We're out of flash again and scraping any back is getting much harder so it is unlikely to ever go native.

The reason I've not done this is as Franz has already pointed out: I don't

know how without suffering the effects of any ill-conditioning.

Valentin's link looks interesting.

How many people want M-LU exposed again? Assuming we can squeeze it back in.

- Pauli

Re: How about a M-COND command?

*Message #53 Posted by **Valentin Albillo** on 18 Oct 2011, 7:36 a.m., in response to message #52 by Paul Dale*

> Quote:
>
> How many people want M-LU exposed again? Assuming we can squeeze it back in.

I'm about the last person to be qualified to have a say on this but I would hazard that the LU decomposition should *always* be exposed (i.e., available) to end users, as it's pretty useful for many advanced matrix processing.

On the M-COND command, computing it reliably is not practical and a decent estimate (plus or minus one order of magnitude) is about the best that can be done within reasonable time and memory limits. However, on the other hand we should remember that what's important is the *final* goal and the condition number *isn't* it.

The final goal is to get a decent estimation on the number of digits lost in the final result when computing the matrix determinant. Abour three years ago I wrote a full 16-page article discussing and implementing a novel idea I came up with in order to achieve this goal, with worked examples aplenty and intended for its immediate publication in **HPCC Datafile** magazine (together with four or five other very worthwhile articles, even though I say so myself) but most regrettably things went South then and there through no fault of my own and the articles never saw the light.

They wanted both my articles *and* my money, though they had next to none of the former and simply way too much of the latter. They got neither.

Best regards from V.

Re: How about a M-COND command?

*Message #54 Posted by **Paul Dale** on 18 Oct 2011, 9:41 a.m., in response to message #53 by Valentin Albillo*

> Quote:
>
> I'm about the last person to be qualified to have a say on this but I would hazard that the LU decomposition should *always* be exposed (i.e., available) to end users, as it's pretty useful for many advanced matrix processing.

I'd have said quite the opposite. When it comes to hard core mathematics, I value your opinion quite highly. I'll try hard to squeeze the exposed LU decomposition back in again.

Maybe not in the upcoming release, but the one after...

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #55 Posted by **Rodger Rosenbaum** on 19 Oct 2011, 5:55 a.m.,*
in response to message #38 by Werner

AM#8 has a condition number of about 5E19 according to Mathematica, but my HP50 says the condition number is about 5E15. If the goal is to determine the true condition number, then arithmetic with many more digits than the 15 digits internally in the HP50 would be necessary.

However, if one's goal is to solve some system using the given matrix, knowing that the condition number is at least 5E15 is enough to know that any solution derived from that matrix is likely to have no correct digits (on an HP50)--we don't need to know that the true condition number is 5E19.

Testing the COND function on the HP50, I have been unable to find a matrix with a true condition number greater than E12 which was inaccurately calculated to have a smaller condition number. The calculator doesn't seem to ever seriously underestimate the condition number.

Using a column matrix of: b=[1289 202 209 1905 1182 -210 1689 1728]T along with A=AM#8, we have a linear system Ax=b. The HP50 solution of this system, using the / key, is:

x=[-85.97057 -1328.61068 452.27432 61.401457 1570.67801 1770.08111 2566.08833 471.67052]T

but, the exact solution is:

[1 1 1 1 1 1 1 1]T

We can see that the high condition number makes for no correct digits in the solution.

Using the LSQ function to solve the system rather than the / key method gives much better results on the HP50--showing the first 4 digits of the results:

[.7876 1.181 .7576 1.015 .7726 .8039 1.211 1.212]T

This shows the advantage of orthogonal methods of solution rather than the Gaussian method.

Re: Valentin's AM7 determinant on the WP 34S

*Message #56 Posted by **Werner** on 22 Oct 2011, 1:43 p.m.,*
in response to message #55 by Rodger Rosenbaum

Hi, Rodger! Long time no hear.

> Quote:
>
> This shows the advantage of orthogonal methods of solution rather than the Gaussian method

But LSQ performs a rank determination, and will probably deem the matrix rank 7 (which, in 15-digit arithmetic, it is). Orthogonal transformations on the 8x8 matrix would not yield better results. I think ;-) (but I will be sure to verify)

Cheers, Werner

Re: Valentin's AM7 determinant on the WP 34S

*Message #57 Posted by **Valentin Albillo** on 17 Oct 2011, 4:09 p.m.,*
in response to message #36 by Paul Dale

Hi, Pauli:

> Quote:
>
> *(the underlining is mine)* Yep, that does it.
>
> The returned value is 0.999999999908109 instead of 1.

So the last 5 digits are lost as well, just as predicted ... :D

Now it's quite simple to concoct a 10x10 matrix with integer elements, still relatively small (6 digits or less), which should make the 34S result lose ***all its digits*** (and about 10 more if they were available !) and there's no need to painstakingly key in the 100 elements.

You simply use **AM#13** *squared*, i.e., form a new matrix **AM^2#13** by multiplying **AM#13** times itself. You'll get:

AM^2#13:

```
 -20180   47048    7076   98251   41242   14030   64203   13262   -3203   47956
  11359  -73359  -11370  -94757  -41339   -5116   15477  -82406  -79528  -19197
 100607   -2350   18324   54227 -118108   11778  -46780   68188    6781  -32421
  70760   -7344   40129   10754   58137   61653  -23236   33140   -2354  -34295
  13986   62051  -18247  135133   83179   15409   97207   39458  -19488   67225
  74931  -41113   32420   12012    -678   57658   21586  -20364  -55150  -41049
  76033  -51699   37581    2730    3139  107847  114841  -98712 -138280  -36810
  69960   46252   16119  100837  -72889   21405  -18475   86423   35487  -10128
 143252   65026   33559  263485  -53355   94084  133288   73613  -61885   21603
 -54883   23173  -39308   40609  149155  -56851   20293   30429   26420   71570
```

True determinant = 1

```
HP-71B determinant = -5.1369256228 E32 (!)
Frobenius norm     = 661395.105928
Row norm           = 943150
Column norm        = 812795
Sum of elements    = 1928143
```

If I'm correct you should lose **45-50** digits at the very least so completely ruining the 34S result (let alone other models' !).

Of course it is possible to produce a 10x10 matrix with smaller integer elements and similarly high condition number but it would be necessary to key it in which would be a pain in the *derriere*.

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #58 Posted by **Marcus von Cube, Germany** on 17 Oct 2011, 4:33 p.m.,*
in response to message #57 by Valentin Albillo

I think you can do this ad nauseam. Squaring an ill conditioned matrix should

roughly square its condition number thus doubling the number of lost digits. Still interesting that you can do this with such harmless looking integers.

Re: Valentin's AM7 determinant on the WP 34S

*Message #59 Posted by **Paul Dale** on 17 Oct 2011, 5:38 p.m.,*
in response to message #58 by Marcus von Cube, Germany

I think the numbers stopped looking harmless when they hit three digits positive and negative ;-)

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #60 Posted by **Valentin Albillo** on 17 Oct 2011, 6:43 p.m.,*
in response to message #59 by Paul Dale

> Quote:
>
> I think the numbers stopped looking harmless when they hit three digits positive and negative ;-)

Oh really ?

So I take it you're saying that the big bad 34-digit full-floating-point 34S is afraid of being harmed by those meanie *three-digit* positive and negative *integers* ? ... ;-)

Pathetic ! ...

Perhaps **the 34S is not for me** after all, I much prefer real-macho calculators which are afraid of *nothing* whatsoever I may throw at them ... XD

Best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #61 Posted by **Walter B** on 18 Oct 2011, 1:09 a.m.,*
in response to message #60 by Valentin Albillo

Buenas dias Valentin,

> Quote:
>
> So I take it you're saying that the big bad 34-digit full-floating-point 34S is afraid of being harmed by those meanie *three-digit* positive and negative *integers* ? ... ;-)
>
> ...
>
> I much prefer real-macho calculators which are afraid of *nothing* whatsoever I may throw at them ...

Can't prevent you from taking Pauli's post your way ;-) But at the bottom line you must admit the WP 34S is proven to be the most macho matrix matador met so far :-)

Re: Valentin's AM7 determinant on the WP 34S

*Message #62 Posted by **Paul Dale** on 18 Oct 2011, 2:09 a.m.,*

in response to message #61 by Walter B

Personally, I think you took Valentin's post the wrong way :-)

Anyway, I never said the 34S was scared of anything, I only said I was. My years of pure mathematics never involved numbers as large as these, we'll not written out explicitly at any rate...

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #63 Posted by **Valentin Albillo** on 18 Oct 2011, 5:50 a.m.,*
in response to message #62 by Paul Dale

> Quote:
>
> Personally, I think you took Valentin's post the wrong way :-)

Yes, definitely. Doesn't matter, though, it happens all the time ...

> Quote:
>
> Anyway, I never said the 34S was scared of anything, [...]

Well, it should. Just try AM#13 squared, as above, and post what the computed result is, I'd be curious to know ...

TIA and best regards from V.

Re: Valentin's AM7 determinant on the WP 34S

*Message #64 Posted by **Paul Dale** on 18 Oct 2011, 6:02 a.m.,*
in response to message #63 by Valentin Albillo

Too many program steps for the matrix itself :-(Make the matrix simpler for goodness sake....

Assuming I've squared the matrix properly & I'm not sure I have after more half a dozen semi-decent (export) German beers and a third of a bottle of bad wine, the determinant is -142456776964.0436.

Not really an unexpected result given the ill-conditioned nature of the matrix.

- Pauli

PS: Valentin, if you need a 34S, I'm willing to reflash one of mine and send it your way.

Re: Valentin's AM7 determinant on the WP 34S

*Message #65 Posted by **fhub** on 18 Oct 2011, 6:16 a.m.,*
in response to message #64 by Paul Dale

> Quote:
>
> ...after more half a dozen semi-decent (export) German beers and a third of a bottle of bad wine...

Ohhh, then I hope you don't plan to make any WP34s code 'improvements' in the next 24 hours ... ;-)

Franz

Re: Valentin's AM7 determinant on the WP 34S

*Message #66 Posted by **Paul Dale** on 18 Oct 2011, 6:30 a.m.,*
in response to message #65 by fhub

Come on, most hard-core programmers code best after a bit of ethanol. Sadly, I think I'm a bit past that peak :-(

To reassure our user base, I'm not coding anything on the 34S tonight....

- Pauli

Re: Valentin's AM7 determinant on the WP 34S

*Message #67 Posted by **Paul Dale** on 9 Oct 2011, 7:26 p.m.,*
in response to message #13 by Valentin Albillo

Welcome back.

The determinant returned is 1.000000000000000.

The internal working result is 0.999999999999999999998617199680615581171.

So fifteen or so digits are lost during the computation.

- Pauli

Again, simply incredible...

*Message #68 Posted by **gene wright** on 9 Oct 2011, 9:54 p.m.,*
in response to message #67 by Paul Dale

The jaw just drops...

Re: Valentin's AM7 determinant on the WP 34S

*Message #69 Posted by **Werner** on 10 Oct 2011, 2:41 a.m.,*
in response to message #67 by Paul Dale

The condition number of AM10 is about 3e14, so you can expect to lose at least 14 digits, that's about right then.
Interestingly, even trying to estimate the condition number on a real 42S gives the wrong result since there, it loses all digits and the column norm of the inverse matrix is off by an order of magnitude... had to use Free42 ;-)

Werner

Re: Valentin's AM7 determinant on the WP 34S

*Message #70 Posted by **Peter Murphy (Livermore)** on 9 Oct 2011, 7:43 p.m.,*
in response to message #13 by Valentin Albillo

Valentín,

Unless you have been following the Forum closely, you may not know how much AM #1 has contributed to improvement in the WP-34S matrix-handling capability: a lot.

Testing that capability with AM #10 should be interesting to observe at least, and it may lead to further improvement.

Many thanks for those matrices, which continue to have beneficial effects even in your unfortunate absence from this Forum.

Peter Murphy Livermore, CA

Re: Valentin's AM7 determinant on the WP 34S

*Message #71 Posted by **Marcus von Cube, Germany** on 9 Oct 2011, 7:10 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I'll likely take out that wait display. I thought these would be slower than they are.

Try on a 10x10 in SLOW mode and consider again, please.

Slow mode?

*Message #72 Posted by **gene wright** on 9 Oct 2011, 9:47 p.m.,*
in response to message #71 by Marcus von Cube, Germany

I didn't know it had AOS...

Re: Slow mode?

*Message #73 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 2:13 a.m.,*
in response to message #72 by gene wright

It does not have Another Operating System but Another Operating Speed. :-)

SLOW reduces the speed but also the power draw on the poor button cells.

Re: Valentin's AM7 determinant on the WP 34S

*Message #74 Posted by **Paul Dale** on 9 Oct 2011, 10:32 p.m.,*
in response to message #71 by Marcus von Cube, Germany

11 or 12 ticks for a 10x10 matrix inversion in SLOW mode. It should be okay to leave the waiting message out.

7 ticks in FAST mode.

- Pauli

Edited: 9 Oct 2011, 10:33 p.m.

Re: Valentin's AM7 determinant on the WP 34S

*Message #75 Posted by **Marcus von Cube, Germany** on 10 Oct 2011, 2:15 a.m.,*
in response to message #74 by Paul Dale

As log as the watchdog doesn't kick in you can leave out the message. If you see "Reset" but it back.

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #76 Posted by **Crawl** on 5 Oct 2011, 11:05 p.m.,*
in response to message #1 by gene wright

Of course, if you did expansion in minors (iteratively), you should get the exact result as well ... right? Because then it's just multiplication and addition of integers, no division.

This would probably not be true for finding the determinant of the inverse, though, because in that case, the entries are so big that multiplying them out would lead to truncation error.

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #77 Posted by **Paul Dale** on 5 Oct 2011, 11:13 p.m.,*
in response to message #76 by Crawl

Expansion by minors is O(n!) time. The algorithm I've used is $O(n^3)$ time.

For a 10x10 matrix this is likely to be significant. For small matrices there is no real difference. For the 7x7 examples here, I've no real feeling what the speed differential would be.

Expansion by minors is also going to be at a great risk of bad cancellation if the intermediate results get truncated.

- Pauli

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #78 Posted by **Eddie W. Shore** on 6 Oct 2011, 12:22 a.m.,*
in response to message #1 by gene wright

Nice! Congratulations to the WP 34S Team!

Re: Matrix functions on the WP 34s Build 1685: in a word "incredible"

*Message #79 Posted by **Crawl** on 6 Oct 2011, 9:16 a.m.,*
in response to message #1 by gene wright

For what it's worth, if you replace the 1,1 entry in matrix 1 (58) with 58+x, the determinant is

1+96360245x

For matrix 2, it would be

1+193969587x

and for matrix 3,

1+294228951x

giving some hint as to why these three matrices are "ill conditioned".

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C : Good grief it's good to see these again !

*Message #1 Posted by **John Henry** on 5 Oct 2011, 5:44 a.m.*

Honestly. Words fail me. Number 1926. From Samson's shop.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What to do with mushy voyager snap domes?

*Message #1 Posted by **Nicholas Winterer** on 4 Oct 2011, 7:38 p.m.*

I have a 12C and 16C, each with one mushy key. I opened the 12C today (I'm using my 12C for practice and will crack open the 16C later if everything goes well) and un-staked the PCB, expecting to find a puncture in the little rubber pad between the back of the keys and the snap domes. The rubber pad turned out to be fine, but the snap dome behind the FV key feels weird. It doesn't have as pronounced of a snap as the other domes, but otherwise it looks fine.

What would cause a snap dome to go mushy and is there anything I can do to fix it? If there's no simple fix for the bad dome, I was thinking about trying to cut the bad dome out and switch it with the pristine dome at the bottom of the enter key. Are the domes simply taped above the proper spot on the PCB?

I would really appreciate any advice on how to proceed here.

Thank you!

Re: What to do with mushy voyager snap domes?

*Message #2 Posted by **uhmgawa** on 4 Oct 2011, 10:23 p.m.,*
in response to message #1 by Nicholas Winterer

> Quote:
>
> I have a 12C and 16C, each with one mushy key.

Which key(s) out of curiosity?

> Quote:
>
> What would cause a snap dome to go mushy and is there anything I can do to fix it?

Fatigue of the dome due to normal cycling or improper/defective actuating probe in the keycap. Domes are stamped to precise geometries and when worn out need to be replaced.

> Quote:
>
> Are the domes simply taped above the proper spot on the PCB?

The domes used in a voyager are unique IME as they are packaged as 5 domes on a carrier strip which happens to correspond to a key matrix scan row. Electrically the carrier is redundant and likely exists just to ease dome placement during assembly as the carrier strip mates with adjacent heat stakes. But a 8.5~9mm isolated dome will work as well. Conventional snap domes are normally mounted to a pcb with no more than an overall polyester adhesive sheet.

Re: What to do with mushy voyager snap domes?

*Message #3 Posted by **robert rozee** on 5 Oct 2011, 12:37 a.m.,*
in response to message #2 by uhmgawa

i'd be inclined to swap a whole strip of 5 domes from a beyond-repair donor 12C (completely dead, broken screen or damaged case), which can likely be purchased on ebay for very little. although the strip joining groups of 5 domes together serves no electrical purpose, my gut feeling is that it does help stabilize the dome location - perhaps contributing to the exceptional lifespan of the original voyagers.

Re: What to do with mushy voyager snap domes?

*Message #4 Posted by **Nicholas Winterer** on 6 Oct 2011, 3:18 p.m.,*
in response to message #3 by robert rozee

My current 12C could become the donor for my 16C (I have a 12C+ so I hardly ever use the original anyway), but first I want to see how solid it feels once I get it back together. If it's really bad I will probably just live with the mushy 5 on my 16C.

Re: What to do with mushy voyager snap domes?

*Message #5 Posted by **Nicholas Winterer** on 6 Oct 2011, 3:17 p.m.,*
in response to message #2 by uhmgawa

> Quote:
>
> Which key(s) out of curiosity?

FV on the 12C and *5* on the 16C.

By the way, uhmgawa, was it you who posted dissembled 12C+ pics in another thread? I remember seeing them recently but couldn't find them again when I went to look. I'm wondering if adding one of those rubber pads from an old voyager could improve the key feel on the 12C+/15C LE (seems like it could dampen the hard click).

Re: What to do with mushy voyager snap domes?

*Message #6 Posted by **uhmgawa** on 6 Oct 2011, 4:27 p.m.,*
in response to message #5 by Nicholas Winterer

> Quote:
>
> *FV* on the 12C and *5* on the 16C.

Interesting. Not keys I'd expect to see high cycle usage.

> Quote:
>
> By the way, uhmgawa, was it you who posted dissembled 12C+ pics in another thread? I remember seeing them recently but couldn't find them again when I went to look.

Yes, they are here hp12c_plus_teardown but I've also copied them to flickr.com which I found to be a bit more linux usage friendly.

> Quote:
>
> I'm wondering if adding one of those rubber pads from an old voyager could improve the key feel on the 12C+/15C LE (seems like it could dampen the hard click).

The more pronounced click in the sam7l voyagers is due to use of a cut, 4 legged dome. Perhaps to ease pcb routing or perhaps it was thought to be an improvement. It isn't IMHO but they are selling just fine anyway. Actually the primary motivation for the dismembered 12c+ above was upon first acquiring one I puzzled what HP did to the keypad which resulted in such a hollow, economical tactile feel.

Note the 12c+ does have a rubber pad over the dome's adhesive sheet.

Re: What to do with mushy voyager snap domes?

*Message #7 Posted by **John Robinson** on 5 Oct 2011, 1:24 a.m.,*
in response to message #1 by Nicholas Winterer

I've done successful dome swaps on 41c calcs, so I presume the voyagers are similar. On the 41c, a sheet of sticky plastic film covers the domes, I simply peel it back, replace the dome with one from a donor calc, and put the sticky plastic back.

Cheers, John

Re: What to do with mushy voyager snap domes?

*Message #8 Posted by **Nicholas Winterer** on 6 Oct 2011, 3:19 p.m.,*
in response to message #7 by John Robinson

Looks like its the same on the voyagers. I will try the same approach.

Thanks for sharing, everyone!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

56 HP-41CX's Sold At Government Auction

*Message #1 Posted by **John M (Ottawa)** on 4 Oct 2011, 6:14 p.m.*

A lot of fifty-six (56) HP-41CX's sold recently at Canadian Government surplus auction (called Crown Asset Distribution).

Link to HP-41CX Auction

It will be interesting to see if this will affect the overheated HP-41CX market on TAS. It depends on how the buyer will disperse his trove of 56 calculators.

Footnote: At least one of the HP-41CX's is actually an HP-67.

Re: 56 HP-41CX's Sold At Government Auction

*Message #2 Posted by **hpnut** on 4 Oct 2011, 6:42 p.m.,*
in response to message #1 by John M (Ottawa)

wow! they were sold at $30 Canadian a piece!

Re: 56 HP-41CX's Sold At Government Auction

*Message #3 Posted by **Raymond Del Tondo** on 4 Oct 2011, 6:55 p.m.,*
in response to message #2 by hpnut

But look at the boxes! If the calcs were handled like the retail boxes, it's more than likely that there's a certain amount of waste in the box, including broken calcs...

Re: 56 HP-41CX's Sold At Government Auction

*Message #4 Posted by **Howard Owen** on 4 Oct 2011, 8:03 p.m.,*
in response to message #3 by Raymond Del Tondo

But at least you've got plenty of spare parts. :)

Re: 56 HP-41CX's Sold At Government Auction

*Message #5 Posted by **Egan Ford** on 5 Oct 2011, 12:26 a.m.,*
in response to message #1 by John M (Ottawa)

> Quote:
>
> A lot of fifty-six (56) HP-41CX's sold recently at Canadian Government surplus auction (called Crown Asset Distribution).

Looks like Geoff is going to be very busy. :-)

Re: 56 HP-41CX's Sold At Government Auction

*Message #6 Posted by **hpnut** on 5 Oct 2011, 1:24 a.m.,*
in response to message #5 by Egan Ford

I am drooling over this antique HP multimeter, alas sold :-(

http://crownassets.pwgsc.gc.ca/mn-eng.cfm?snc=wfsav&sc=ach-shop&vndsld=1&srchtype=&lci=&sr=1&str=31&ltnf=1&lcn=206162&lct=L&sf=ferm-clos

Re: 56 HP-41CX's Sold At Government Auction

*Message #7 Posted by **Dave Shaffer (Arizona)** on 5 Oct 2011, 1:58 a.m.,*
in response to message #6 by hpnut

There are half a dozen on e*** right now!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Scalpers. HP 15C old is now cheap and rare..

*Message #1 Posted by **bill platt** on 4 Oct 2011, 4:21 p.m.*

I never thought that this would turn out this way! Obviously most of the HP 15C LE machines ahve been bought by scalpers. These are being turned on Ebay for measurable premium.

Meanwhile, real 15C machines are at a lower average price and are practically drowned out in the completed listings.

Original HP 15C machines, hammer prices:

```
250
260
710
209
167
295
99
117
325
169
165
125
100
191
210
110
180
100
129
```

Average = $206 Lowest = $99 Highest - $710 (a new record1?)

Compare this to the prices for the new 15C LE: Average close: $220 Lowest: $147 Highest: $447

Edited: 4 Oct 2011, 4:47 p.m.

Re: Scalpers. HP 15C old is now cheap and rare..

*Message #2 Posted by **Steve Fennell** on 4 Oct 2011, 6:53 p.m.,*
in response to message #1 by bill platt

$447? Wow that has got to be one disappointed buyer.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Crystal to my 30b

*Message #1 Posted by **robertoataulfo** on 4 Oct 2011, 4:06 p.m.*

```
To make the time functions accurate, it requires adding a crystal to my 30b.
Has anyone compiled a parts list and where to put them in a 30b?
Can I use this crystal for this purpose?


http://commerce.hpcalc.org/20bkit.php
```

Edited: 4 Oct 2011, 4:07 p.m.

Re: Crystal to my 30b

*Message #2 Posted by **Walter B** on 4 Oct 2011, 4:44 p.m.,*
in response to message #1 by robertoataulfo

Marcus is our soldering expert here. He will tell you :-)

Re: Crystal to my 30b

*Message #3 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 4:44 p.m.,*
in response to message #1 by robertoataulfo

You just need the crystal and the two capacitors for the modification. Be prepared for some frustration while trying to solder the tiny parts to the barely appropriate solder pads. But its worth the effort and makes the serial interface much more reliable.

Re: Crystal to my 30b

*Message #4 Posted by **Gerry Schultz** on 4 Oct 2011, 5:17 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Hey Marcus, I asked Eric Rechlin of Hpcalc.org at the end of the HHC conference about this and he says he will be putting together a kit of parts needed to add a crystal to a 30b sometime before the end of the year. I too am interested in adding the crystal and capacitors to my 30b and if I had the values for the parts I could order them myself. But being a lazy person, having Eric put together the parts is good too.

Gerry

Re: Crystal to my 30b

*Message #5 Posted by **robertoataulfo** on 4 Oct 2011, 7:36 p.m.,*
in response to message #3 by Marcus von Cube, Germany

```
Marcus are these items?


http://commerce.hpcalc.org/20bkit.php
```

Re: Crystal to my 30b

*Message #6 Posted by **Marcus von Cube, Germany** on 5 Oct 2011, 1:52 a.m.,*
in response to message #5 by robertoataulfo

Yes, but you just need:

- 18 pF 0603 capacitors (quantity 2)
- 32.768 kHz clock crystal (quantity 1)

Re: Crystal to my 30b

*Message #7 Posted by **E.Lub_EU** on 7 Oct 2011, 10:49 a.m.,*
in response to message #5 by robertoataulfo

Roberto,

As Marcus mentionned in his reply, you only need a crystal and 2 capacitors to add to your 30b. One caveat is that the crystal has to be "compatible" with the capacitors chosen. Eric will have taken care of that in his kit.

If you do not get the kit through Eric, please verify that you order a crystal that is specified for a 12pF capacitive load (this parameter is often designated as "CL" in the specification sheet).

Hope this helps.

Good luck!
Etienne

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s decals?

*Message #1 Posted by **Evan Gates** on 4 Oct 2011, 2:51 p.m.*

I'm interested in trying water slide decals instead of the normal stickers for the wp34s. Has anyone tried this? Is anyone knowledgeable on the subject of decals? I haven't used them since my last pinewood derby car back in cub scouts...

Just tossing around an idea, -Evan

Re: wp34s decals?

*Message #2 Posted by **David Ramsey** on 4 Oct 2011, 3:01 p.m.,*
in response to message #1 by Evan Gates

I think they'd be much (much) less durable than the thick vinyl adhesive decals.

Re: wp34s decals?

*Message #3 Posted by **Evan Gates** on 4 Oct 2011, 3:13 p.m.,*
in response to message #2 by David Ramsey

I'd definitely clear coat it. Not owning the 20b or 30b yet, is it easy/possible to take off the front plate and keys? If not this may be impossible (well, extremely difficult).

-Evan

Re: wp34s decals?

*Message #4 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 3:43 p.m.,*
in response to message #3 by Evan Gates

Depending on model you have to open a number of heat stakes (more on the 30b then on the 20b).

Re: wp34s decals?

*Message #5 Posted by **Eric Rechlin** on 4 Oct 2011, 5:21 p.m.,*
in response to message #1 by Evan Gates

I've got everything necessary to make them but I haven't had the chance to try it out yet. The problem is contrast on the silver background (obviously it won't work so well on the keys, since you can't print white ink). Also it seems like a lot of work to install.

Eric

[Return to Index | Top of Index]

wp34s decals?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

update 12C ?

*Message #1 Posted by **robertoataulfo** on 4 Oct 2011, 10:02 a.m.*

There is an update to HP-12C? Thanks

Re: update 12C ?

*Message #2 Posted by **Paulo MO** on 4 Oct 2011, 10:53 a.m.,*
in response to message #1 by robertoataulfo

?? I don't think so, unless you're referring to the "new" ARM architecture (aka 12c+) as an update (it certainly is faster ;-))

Cheers Paulo

Re: update 12C ?

*Message #3 Posted by **Jeff O.** on 4 Oct 2011, 12:20 p.m.,*
in response to message #1 by robertoataulfo

Do you mean an updated rom for the 12c+? (12c+ being the unofficial name of the current 12c architecture with two 2032 batteries and the ARM processor.) If so, the answer is maybe. As I understand things (as discussed here, for example), the latest rom for the 12C+ is dated 2009-11-19 (as shown by menu no. 2 of the ON+g+ENTER self tests.) It was developed in a give and take primarily between Katie Wasserman and Cyrille de Brébisson soon after the 12c+ appeared.

...

Re: update 12C ?

*Message #4 Posted by **robertoataulfo** on 4 Oct 2011, 12:44 p.m.,*
in response to message #3 by Jeff O.

```
How does this new rom?
How do I get it?
The procedure for installing it is equal to WP34S?
```

Re: update 12C ?

*Message #5 Posted by **Jeff O.** on 4 Oct 2011, 2:51 p.m.,*
in response to message #4 by robertoataulfo

> Quote:
>
> How do I get it?

I would suggest you contact Tim Wessman through the HP Museum Forum contact mechanism.

> Quote:
>
> The procedure for installing it is equal to WP34S?

Yes, identical procedure.

..

Re: update 12C ?

*Message #6 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 3:25 p.m.,*
in response to message #5 by Jeff O.

You should go to http://sourceforge.net/projects/wp34s/files/FlashTool/ and download the most recent Version of MySamBa. It is much faster then SAM-BA.exe. It works for all images, not only for WP 34S.

Re: update 12C ?

*Message #7 Posted by **Jeff O.** on 4 Oct 2011, 4:26 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Marcus,
What is the compatibility of the new $\text{MySamba}_{\text{Marcus}}$ with Windows XP/Vista/7 etc.? How about serial to USB converter issues? Seems like these were major issues with SAM-BA, does $\text{MySamba}_{\text{Marcus}}$ ameliorate them?

Re: update 12C ?

*Message #8 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 4:40 p.m.,*
in response to message #7 by Jeff O.

In effect $\text{MySamBa}_{\text{Marcus}}$ == $\text{MySamBa}_{\text{Cyrille}}$ with very minor modifcations. I cannot comment on compatibility with different brands of adapters of different versions of Windows but I assume that is has less issues then SAM-BA.exe. I'm hoping for feedback.

Re: update 12C ?

*Message #9 Posted by **Jeff O.** on 5 Oct 2011, 12:23 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Can you remind me of the advantage(s) of $\text{MySamba}_{\text{M}}$ over $\text{MySamba}_{\text{C}}$? In a previous post you mention that it is faster than Sam-Ba, are there other changes? Perhaps it can load a less than 128 kB bin file into a 20b/30b?

I have a PC running Windows Vista with no serial port, and have purchased an FTDI USB to serial converter which claims to have drivers for Vista. I'll give $\text{MySamba}_{\text{M}}$ a try and see how it works.

Re: update 12C ?

*Message #10 Posted by **Marcus von Cube, Germany** on 5 Oct 2011, 2:15 p.m.,*
in response to message #9 by Jeff O.

Cyrille's version does not work with flash images that are shorter then 128KB.

Re: update 12C ?

*Message #11 Posted by **Tim Wessman** on 5 Oct 2011, 3:49 p.m.,*
in response to message #10 by Marcus von Cube, Germany

It also appears to correctly identify COM ports on Win7. Previously none would show up. :-)

This means you can now use this program on any version of windows (just tested it) and I can trash my XP VM that was wasting quite a bit of space on my SSD. :-)

TW

Re: update 12C ?

*Message #12 Posted by **Marcus von Cube, Germany** on 5 Oct 2011, 4:36 p.m.,*
in response to message #11 by Tim Wessman

If Cyrille's version did not do this correctly than it's a matter of the compiler (Delphi 2005) and the library (I use Indy 7). My changes to the code are minor, only dealing with the length of the file.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Modified Flash Tool for WP 34S

*Message #1 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 4:37 a.m.*

I've uploaded a modified version of Cyrille's MySamBa download tool to SF. Please try it out on your machines and report back here.

Re: Modified Flash Tool for WP 34S

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 6:07 a.m.,*
in response to message #1 by Marcus von Cube, Germany

First Impression: I works just once. :-(

It seems that the software write protects the flash after updating it which makes it impossible to burn another image once the tool has been used. You need to do a full erase first. I will investigate this further.

Re: Modified Flash Tool for WP 34S

*Message #3 Posted by **Namir** on 4 Oct 2011, 9:12 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus,

That does not sound too user friendly!!!!

Namir

Re: Modified Flash Tool for WP 34S

*Message #4 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 9:56 a.m.,*
in response to message #3 by Namir

The problem is that I need to disassemble and modify ARM assembly code which exists as a hex dump only in the program. I have an idea but this will need some testing.

Cyrille talked about doing the disassembly with an HP 50g. Is anybody here with enough knowledge to help me? I can post the hex dump here if needed.

Edit: here it is:

```
70 47 78 47
01 06 A0 E3
02 1C A0 E3
EB 30 E0 E3
0D 3C C3 E3
9B 70 E0 E3
43 20 A0 E3
00 40 93 E5
02 00 14 E3
FC FF FF 0A
08 20 83 E5
```

```
00 40 A0 E3
40 20 A0 E3
00 60 93 E5
01 00 16 E3
FC FF FF 0A
04 50 93 E5
05 40 24 E0
00 60 93 E5
01 00 16 E3
FC FF FF 0A
04 60 93 E5
06 40 24 E0
06 54 85 E0
00 60 93 E5
01 00 16 E3
FC FF FF 0A
04 60 93 E5
06 40 24 E0
06 58 85 E0
00 60 93 E5
01 00 16 E3
FC FF FF 0A
04 60 93 E5
06 40 24 E0
06 5C 85 E0
04 50 80 E4
01 20 52 E2
E5 FF FF 1A
00 20 93 E5
01 00 12 E3
FC FF FF 0A
04 20 93 E5
04 00 52 E1
01 0C 40 12
58 20 A0 13
D7 FF FF 1A
FF 2C A0 E3
0F 28 82 E3
00 20 02 E0
01 2C 42 E2
01 20 82 E2
5A 24 82 E3
00 20 87 E5
04 20 97 E5
01 00 12 E3
FC FF FF 0A
59 20 A0 E3
01 10 51 E2
CA FF FF 1A
5A 04 A0 E3
01 0C 80 E2
0B 00 80 E2
00 00 87 E5
04 20 97 E5
01 00 12 E3
FC FF FF 0A
04 20 97 E5
01 00 12 E3
FC FF FF 0A
FF 00 E0 E3
02 0C C0 E3
0D 10 A0 E3
A5 14 81 E3
00 10 80 E5
FE FF FF EA
```

Edited: 4 Oct 2011, 10:15 a.m.

Re: Modified Flash Tool for WP 34S

*Message #5 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 11:23 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I found a very simple disassembler for ARM code on the net, compiled it, pasted my hex dump into HexEdit on my Mac, saved the resulting binary and came up with the following:

```
200B40 47784770 Undefined instruction  ; [undefined instr]
200B44 E3A00601 MOV     r0, #1<<20
200B48 E3A01C02 MOV     r1, #1<<9
200B4C E3E030EB MVN     r3, #&EB
200B50 E3C33C0D BIC     r3, r3, #&D00
200B54 E3E0709B MVN     r7, #&9B
200B58 E3A02043 MOV     r2, #67
200B5C E5934000 LDR     r4, [r3, #0]
200B60 E3140002 TST     r4, #2
200B64 0AFFFFFC BEQ     &00200B5C
200B68 E5832008 STR     r2, [r3, #8]
200B6C E3A04000 MOV     r4, #0
200B70 E3A02040 MOV     r2, #64
200B74 E5936000 LDR     r6, [r3, #0]
200B78 E3160001 TST     r6, #1
200B7C 0AFFFFFC BEQ     &00200B74
200B80 E5935004 LDR     r5, [r3, #4]
200B84 E0244005 EOR     r4, r4, r5
200B88 E5936000 LDR     r6, [r3, #0]
200B8C E3160001 TST     r6, #1
200B90 0AFFFFFC BEQ     &00200B88
200B94 E5936004 LDR     r6, [r3, #4]
200B98 E0244006 EOR     r4, r4, r6
200B9C E0855406 ADD     r5, r5, r6, LSL #8
200BA0 E5936000 LDR     r6, [r3, #0]
200BA4 E3160001 TST     r6, #1
200BA8 0AFFFFFC BEQ     &00200BA0
200BAC E5936004 LDR     r6, [r3, #4]
200BB0 E0244006 EOR     r4, r4, r6
200BB4 E0855806 ADD     r5, r5, r6, LSL #16
200BB8 E5936000 LDR     r6, [r3, #0]
200BBC E3160001 TST     r6, #1
200BC0 0AFFFFFC BEQ     &00200BB8
200BC4 E5936004 LDR     r6, [r3, #4]
200BC8 E0244006 EOR     r4, r4, r6
200BCC E0855C06 ADD     r5, r5, r6, LSL #24
200BD0 E4805004 STR     r5, [r0], #4
200BD4 E2522001 SUBS    r2, r2, #1
200BD8 1AFFFFE5 BNE     &00200B74
200BDC E5932000 LDR     r2, [r3, #0]
200BE0 E3120001 TST     r2, #1
200BE4 0AFFFFFC BEQ     &00200BDC
200BE8 E5932004 LDR     r2, [r3, #4]
200BEC E1520004 CMP     r2, r4
200BF0 12400C01 SUBNE   r0, r0, #&100
200BF4 13A02058 MOVNE   r2, #88
200BF8 1AFFFFD7 BNE     &00200B5C
200BFC E3A02CFF MOV     r2, #&FF00
200C00 E382280F ORR     r2, r2, #&F0000
200C04 E0022000 AND     r2, r2, r0
200C08 E2422C01 SUB     r2, r2, #&100
200C0C E2822001 ADD     r2, r2, #1
200C10 E382245A ORR     r2, r2, #&5A000000
200C14 E5872000 STR     r2, [r7, #0]
200C18 E5972004 LDR     r2, [r7, #4]
200C1C E3120001 TST     r2, #1
200C20 0AFFFFFC BEQ     &00200C18
200C24 E3A02059 MOV     r2, #89
200C28 E2511001 SUBS    r1, r1, #1
200C2C 1AFFFFCA BNE     &00200B5C
200C30 E3A0045A MOV     r0, #&5A000000
200C34 E2800C01 ADD     r0, r0, #&100
200C38 E280000B ADD     r0, r0, #11
200C3C E5870000 STR     r0, [r7, #0]
200C40 E5972004 LDR     r2, [r7, #4]
200C44 E3120001 TST     r2, #1
200C48 0AFFFFFC BEQ     &00200C40
200C4C E5972004 LDR     r2, [r7, #4]
200C50 E3120001 TST     r2, #1
200C54 0AFFFFFC BEQ     &00200C4C
200C58 E3E000FF MVN     r0, #&FF
200C5C E3C00C02 BIC     r0, r0, #1<<9
200C60 E3A0100D MOV     r1, #13
200C64 E38114A5 ORR     r1, r1, #&A5000000
200C68 E5801000 STR     r1, [r0, #0]
200C6C EAFFFFFE B       &00200C6C
```

I turned out that the routine assumed a clear memory which can be simply written without erase (command #1) at address 200c28. I changed that to #3 (erase and write) and this should have done

the trick. I was able to replace the 34S image with the original 20b ROM and back to WP 34S.

I'm uploading the modified version on SF.

Edited: 4 Oct 2011, 11:55 a.m.

Re: Modified Flash Tool for WP 34S

*Message #6 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 12:17 p.m.,*
in response to message #5 by Marcus von Cube, Germany

```
200B48 E3A01C02 MOV     r1, #1<<9
```

If you look at this instruction you can see that r1 is loaded with the number of flash pages. r1 is later used to stop the download, set the boot bit and reset the calculator. I'd like to replace it with an instruction that loads an arbitrary constant (the number of flash pages in the current bin file). The number is <= 512. Any ARM specialist who can help me out? Is there an instruction that allows this? We can assume that the size is a multiple of 4 so something like MOV r1, #n<<2 should do the trick and I just need to fill #n with the correct value (<=128) before I send the code to the calculator.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Could wp34s influence HP to offer 30b in different firmwares?

*Message #1 Posted by **Harry Jacobson** on 4 Oct 2011, 4:00 a.m.*

This is not meant to take away from all the work and enthusiasm about the WP34s. What if HP joined in the fun this way:

What if HP were to offer something like the 30b in three versions: (1) the HP business professional version, (2) the HP scientific version, and (3) entrepreneur generated special versions, all with catchier marketable names and keyboard overlays. The point being HP recognize - for profit - the same hardware platform be used to satisfy more than one market niche? Might that reduce HP's development cost and garner more features and benefits to the community?

Instead of software modules the *entire calculator* could be performance tuned for different purposes, e.g., surveying, construction, celestial navigation (kidding). An entrepreneur preferring the key layout of the 12C might put out a version with a re-organized key layout. Schools could maintain a collection of firmwares and overlays for different coursework. The imagination takes flight.

It's almost 4am and my eyes are burning. I've read through a ton of entertaining threads tonight. I love this forum!

Harry

Edited: 4 Oct 2011, 4:18 a.m.

Re: Could wp34s influence HP to offer 30b in different firmwares?

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 5:02 a.m.,*
in response to message #1 by Harry Jacobson

Key labeling is the point. The current hardware isn't friendly to legends above or below the keys. It's a matter of case production (HP told me they will never ever use the same case molding technique again.)

The current WP 34S firmware will not be flashed into a commercial product. The license (GPL) needs to be adhered to (easy, just put the source code on a CD and sell the calculator together with the cable) but the firmware isn't "production friendly" because it does not contain a self-test, may still be buggy, depletes the batteries, etc., etc.

Writing custom solutions is possible but the effort is huge as can be seen with our project. Cyrille's SDK could be a base for this and was conceived with just this idea in mind.

Re: Could wp34s influence HP to offer 30b in different firmwares?

*Message #3 Posted by **Paul Dale** on 4 Oct 2011, 5:15 a.m.,*
in response to message #2 by Marcus von Cube, Germany

The 34S doesn't use HP's maths library which seemed to be an issue when I raised the possibility a while back. RPN only might be one as well.

The GPL license isn't necessarily a sticking point. We, the authors, are quite at liberty to license the software under different terms as well. I would be very attentive to an approach by someone wanting to put the device into commercial production.

The "production friendly" comments are definitely applicable. I expect we could work around these if required. For example, preloaded keystroke programs or a factory test image that ends up reflashing the device via serial with the real image.

Finally, the effort to write firmware can be greatly reduced if a sensible calculator framework is already written and debugged. e.g. have the power management, the keyboard state machine, the display driver and fonts all written. Add in a number of common numeric functions and the function dispatching and stack management code. The custom solution then ends up more of an exercise in tweaking the keyboard and screen code and adding missing pieces of functionality. However, even given all this it is still going to be a lot of work getting things just right.

- Pauli

Re: Could wp34s influence HP to offer 30b in different firmwares?

*Message #4 Posted by **Masaki Adachi** on 4 Oct 2011, 11:31 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I was actually wondering if HP could provide the hp20b/30b ingredients in a kit form, like good old Heathkit or Japan's Gaekken kits (http://www.makershed.com/SearchResults.asp?Cat=65) HP can certainly write a most complete assembly instruction book I am sure.

PCB assembly with LCD already attached keypad(s) Overlay(s) top case bottom case programming cable CD with firmware a thick instruction manual. batteries included

Re: Could wp34s influence HP to offer 30b in different firmwares?

*Message #5 Posted by **Walter B** on 4 Oct 2011, 3:35 p.m.,*
in response to message #4 by Masaki Adachi

I don't know for sure, but according to my observations the times of such kinds of assembly kits are gone. Most members of the target market seem to have more money than time nowadays. Add that's it not hip or cool (or whatever term you prefer) for many people anymore to assemble their own equipment - so called "professional solutions" sell better, though their quality may not justify it in every case. Thus I doubt there will be something like a set of assembly kits you describe.

Just my 20m€

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sandmath-II and 41Z - questions to Angel

*Message #1 Posted by **Vincent Weber** on 4 Oct 2011, 3:34 a.m.*

Hi Angel if you are reading,

I am getting confused over the versions and usage of your wonderful modules...

For Sandmath-II, is it a replacement for the 8K Sanndmath module ? it seems that no 12K version is available any more on TOS, does it mean we need to use the ALGEBRA module instead ?

For 41Z, I downloaded the latest version, and I am getting confused over the key assignements. When I execute ZK?YN and press Y, the "SIGMA+" key, which used to prompt "Z" for Z commandes, now displays "-HP 41Z". Is it normal ?

Also, be it with V41 or i41CX+, CAT 2 does not display the whole 41Z catalog (only the ZMATH and ZVECTOR "subdirs")... unless the CCD module is plugged in, in which case everything is ok... ?

it would be nice if you could post a summary about with are the current versions of all your modules, so that no confusion exists ;)

Many thanks and best regards,

Vincent

Re: Sandmath-II and 41Z - questions to Angel

*Message #2 Posted by **Ángel Martin** on 4 Oct 2011, 4:23 a.m.,*
in response to message #1 by Vincent Weber

Hi Vincent, yes I'm reading :-)

First off, you're not alone in this confusion - I myself need to have a roadmap to keep track of all the different versions and releases of these two modules - in particular the SandMath saga - so I can't imagine what's like for the casual user.

So let me try to do a summary recap. The 41Z is easier, let's tackle it first.

Because of the different addiditons and enhancements made to it, the FAT function order has slightly changed from some older revisions to the current one (9H). This explains why your key assignments can be mixed up, if they were made using a previous version of the module. The internal "ZY?YN" function is supposed to be alright whichever revision, in other words consistent with the changes made. Revision 9H assigns "ZKBRD" to the SIGMA+ key, but it's possible that the one you're using has some glitches.

I typically use only ZKBRD and not the complete USER keyboard, as that gives me better compatibility with the standard functions (i.e. for real numbers) and with the SadnMath launchers - Also it doesn't take up so many KA registers.

As to the CAT2 listings - you're correct, because of the length of the "header" functions being less than 7 they don't show up in the standard CATALOG - only the CCD-style. I did it this way to allow direct execution of the functions using "XEQ, ALPHA, fcn_name". Since I always have the AOSX module plugged in (the 4k subset of the CCD) it's a non-issue to me, but I could change it of course.

BTW, revision 9H is not released yet . I just finished making big changes to the launchers code, replacing an old pedestrian scheme with a MCODE-table based new one. This has resulted in huge space savings, more than 256 bytes freed up so I could "squeeze" in the wonderful ZZETA program - adapted from JM Baillard's original one.

I'm leaving the SandMath for later, this is getting kinda long. Thanks again for your interest in these modules.

Best, ÁM

Re: Sandmath-II and 41Z - questions to Angel

*Message #3 Posted by **Vincent Weber** on 4 Oct 2011, 4:44 a.m.,*
in response to message #2 by Ángel Martin

Hey Angel, Many thanks for your fast and detailed answer ! I shall wait for the Sandmath saga then ;) Just a few clarifications about 41Z: I am using 9F, the latest available on TOS. Starting fresh with a clear memory, using ZK?YN does NOT assign ZBRD properly. But the previous version (supplied with V41) does ! Also, with 9F, clearing memory trying leaves the calc in a state when nothing can be done - compley bricked until your remove the module, on both V41 and i41CX+. Is it normal ?

Thanks and cheers,

Vincent

Re: Sandmath-II and 41Z - questions to Angel

*Message #4 Posted by **Ángel Martin** on 4 Oct 2011, 6:55 a.m.,*
in response to message #3 by Vincent Weber

> Quote:
>
> clearing memory trying leaves the calc in a state when nothing can be done - compley bricked until your remove the module, on both V41 and i41CX+. Is it normal ?

Well, it's a bug - so it's not "normal". I changed the code to make use of the CPU M register not realizing that the [RESIZE] routine overwrites it. A previous version was using register Q(9), but I consolidated the two interrupts (Memory_Lost and CALC_ON) and that's when it got broken.

Anyway it's also fixed in version 9H, if you tell your email I'll be glad to send it to you.

Cheers, ÁM

Re: Sandmath-II and 41Z - questions to Angel

*Message #5 Posted by **Vincent Weber** on 4 Oct 2011, 7:09 a.m.,*
in response to message #4 by Ángel Martin

Thanks Angel ! Actually you do have m'y email, since we had an chat by mail with Antonio this morning ;) thanks if you can send it ! Cheers, Vincent

Sandmath Modules Roadmap

*Message #6 Posted by **Ángel Martin** on 4 Oct 2011, 7:25 a.m.,*
in response to message #1 by Vincent Weber

In the beginning the SandMath was available in two flavors, the 8k version and the 12k version - with the latter just adding a Matrix/Polynomial section on top of the 8k version, and thus a real superset.

The 12k footprint has some obvious issues that made me reconsider that arrangement. Besides, more Matrix routines were competing for the same space, and there was no available room in the 12k version to accomodate for them. The straw that broke the camel's back was my new "Matrix Editor" mode, which required substantial room to code and would never fit in the 12k - so it was time for a new approach.

That's when I rolled the 8k version into the "SandMath-II", as a direct replacement, and when I released the ALGEBRA module. This one is a self-contained ROM, that does not have any dependencies on the SandMath-II - so they can be used independently.

So far so good, but there are a few side frills that make the story more interesting :-).

Shortly after this (or it may have been simultaneously, not sure anymore) I decided to put together a Matrix add-on to the SandMath-II. This is available as the MATRIX ROM, a 4k module that only works in combination with the SandMath-II. Its contents is basically the same as the matrix-related stuff in the ALGEBRA module - but of course it lacks everyting else. The 4k-MATRIX ROM is a subset of the ALGEBRA Module.

But wait, the plot thickens:- As both the 8k-ALGEBRA and the 4k-MATRIX rely on the ADVANTAGE Pack (all those wonderful MCODE Array functions from the CCD being there), it occurred to me that the ultimate MATRIX module should be a page-switched, 12-k construct occupying just 8k, with (at least) the same contents as the MATRIX rom plus all the Matrix functionality of the Advantage Pack.

And that's the ADVANCED_MATRIX Pac - which BTW also retains both SOLVE and INTEG just to make things more complicated :-) In truth, this was motivated by the page-switching design, and also due to the fact that one of the 4k blocks doesn't have a FAT (obviously). SOLVE and INTEG are monster routines, filling up 3/4th.s of a block, so they lend themselves splendidly to this usage.

In case you wonder, the ADVANCED-MATRIX Pack does not require the SandMath-II module either, so there's some inevitable redundancy but the dependencies are removed. However it does not have the Polynomial programs of the ALGEBRA ROM, so alas, it's not a superset of it.

The obvious missing piece in all this jigsaw puzzle would be a 4k-Polynomial ROM, to use on top of the ADVANCED_MATRIX Pac to come up with a real superset of the ALGEBRA Module with the Advantage Pack power into it. Are we lost yet? I am, somebody please draw a sketch! ... "-)

Which ones to use? Your choice, depends on what you're more likely to do or need at a given point.

PS. In case you got this, let me throw another couple of logs to the bonfire:- Another two modules that are very closely related to the ones described above are the "BESSEL ROM" and the "POLYNOMIAL_ROM", done in collaboration with Jean-Marc Baillard. Those two are also self-contained, and treat the subjects with a deeper/wider reach. Not for the faint of heart, but a wonder for the adventurous.

Hope this helps, and again thanks for your interest in all those roms.

Best, ÁM

Re: Sandmath Modules Roadmap

*Message #7 Posted by **Geir Isene** on 4 Oct 2011, 8:33 a.m.,*
in response to message #6 by Ángel Martin

Would it help to move all the reusable code into it's own 4K MATHLIB module and then have the other modules as pure 4K modules calling MATHLIB when needed? More modular methinks.

Re: Sandmath Modules Roadmap

*Message #8 Posted by **Ángel Martin** on 4 Oct 2011, 10:25 a.m.,*
in response to message #7 by Geir Isene

Yes methinkstoo - albeit it's easier to say it than to do it. At the end of the day it's all about footprint and there's only 32k that can be actively mapped at a time. Add to that the other system constraints (limited FAT entries, XROM id# conflicts) and you'll have a nice challenge in your hands.

On the other hand, work to get port #4 as a silent library is already in progress... just not only with a MATH focus though.

Re: Sandmath Modules Roadmap

*Message #9 Posted by **Eric Smith** on 4 Oct 2011, 11:11 a.m.,*
in response to message #8 by Ángel Martin

Remember that using block 4 will be incompatible with the HP-IL module when the printer enable switch on the latter is turned off. The switch moves the printer ROM from page 6 to page 4.

Re: Sandmath Modules Roadmap

*Message #10 Posted by **Geir Isene** on 4 Oct 2011, 12:57 p.m.,*
in response to message #9 by Eric Smith

Why turn it off, though?

Re: Sandmath Modules Roadmap

*Message #11 Posted by **Ángel Martin** on 4 Oct 2011, 2:21 p.m.,*
in response to message #10 by Geir Isene

because you may:

a) use the IR printer, and the IR module takes page #6
b) not have any printer and want to spare the CAT2 searches
c) none of the above :)

Re: Sandmath Modules Roadmap

*Message #12 Posted by **Eric Smith** on 4 Oct 2011, 6:01 p.m.,*
in response to message #11 by Ángel Martin

Or because you have the 82143A printer.

Re: Sandmath Modules Roadmap

*Message #13 Posted by **Vincent Weber** on 4 Oct 2011, 9:04 a.m.,*
in response to message #6 by Ángel Martin

Thanks Angel for the detailed explanation ! Just to add to the confusion: I noticed you also did a curve fitting module. How is it compared to the ADVANTAGE CFIT or with the one in AEC ? i noticed that you left the SILOOP routine in your advanced matrix pac and that you have some linear régression routines in Sandmath, how is all this related ? Thanks and cheers Vincent

Re: Sandmath Modules Roadmap

*Message #14 Posted by **Ángel Martin** on 4 Oct 2011, 9:59 a.m.,*
in response to message #13 by Vincent Weber

The CurveFitting Module is a compendium of all the related techniques from the other modules, as follows:

1. includes the AECrom functions and programs - impressive!
2. includes the Advantage Pack CFIT
3. includes W. Kolb's seminal CF program
4. throws in the Standard pack CFIT just for kicks
5. plus a selection of statistical and probability functions, among which you've seen the Linear regression (also in the SandMath)

Pfeeww....

PS. SILOOP and SIRTN must remain in the ADVANCED_MATRIX as they're an integral component of SOLVE / INTEG. A real wonderful implementation, worth spending some time studying...

Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #15 Posted by **gene wright** on 4 Oct 2011, 10:12 a.m.,*
in response to message #14 by Ángel Martin

Angel...

So many modules, so confusing to most of us. :-)

Favor?

Please give us a short list of the modules you presently have on TOS along with a short explanation of what is in them. 2 sentences perhaps. Please indicate which roms are "obsolete"

I think it would also help if you could indicate which roms are in the 41CL and what the 4 letter rom abbreviation is in the 41CL.

This is not a criticism! I LIKE your rom enthusiasm but it is difficult to keep them straight! :-)

And, any chance we can get a curvefit .rom format? Our 41CL units are waiting. ;-)

Edited: 4 Oct 2011, 10:28 a.m.

Re: Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #16 Posted by **Ángel Martin** on 4 Oct 2011, 10:48 a.m.,*
in response to message #15 by gene wright

No worries, here's the list in all its alphabetical glory: (have you used the CLLIB function already?)

#	ID	Size	Name	Author
1	A41P	12k	Advantage Pac	HP Co.
2	AADV	4k	Advantage Apps	J-F Garnier
3	ADV1	16k	Adventure_1	Angel Martin
4	ADV2	12k	Adventure_2	Angel Martin
5	AEC3	8K	AECROM 13-digit	Angel Martin
6	AECR	8k	AECROM	Red Shift
7	AFDE	8k	AFDC1	GunZen
8	AFDF	8k	AFDC2	GunZen
9	AFIN	4k	Auto Finance	GMAC
10	ALGG	8k	Algebra ROM	Angel Martin
11	ALGY	4k	Astrology	??
12	ALPH	4k	ALPHA ROM	A. Martin & D. Wilder
13	AOSX	4k	AMC OS/X	Angel Martin
14	ASM4	4k	Assembler4	
15	ASMB	4k	Assembler3	
16	ASTT	16k	ASTRO-2010	Jean-Marc Baillard
17	AUTO	4k	Auto-Start/Dup	HP Co.
18	AV1Q	4k	AV1 ROM	Beechcraft
19	AVIA	4k	Aviation Pac	HP Co.
20	B52B	8k	B-52 ROM	Boeing
21	BCMW	4k	BCMW ROM	
22	BESL	8k	Bessel ROM	A. Martin & JM Baillard
23	BLDR	8k	BLD ROM W. Doug	Wilder
24	BLND	4k	Bufferland ROM	Angel Martin
25	CCDP	8k	CCD Plus	Angel Martin
26	CCDR	8k	CCD Module	W&W GmbH
27	CCDX	4k	CCD OS/X	Raymond del Tondo
28	CHEM	4k	Chemistry User	
29	CHES	8k	Chess/Rubik's	A. Martin & C. Roetlgen
30	CIRC	4K	Circuit Analysis	HP Co.
31	CLIN	4K	Clinical Lab	HP Co.
32	CLUT	4k	CL Utils 1H	Angel Martin
33	CURV	8k	Curve-Fitting	Angel Martin
34	CVPK	8k	Cv-Pack ROM	
35	DA4C	4k	DisAssembler4C	W. Doug Wilder
36	DACQ	8k	Data Acq Pac	HP Co.
37	DASM	4k	DisAssembler4D	W. Doug Wilder
38	DAVA	4K	David Assembler 2C	David van Leeuwen
39	DEVI	8k	HP-IL Development	HP Co.
40	DIIL	4k	HP-IL Diagnostics	HP Co.
41	DMND	4k	Diamond ROM	
42	DYRK	4k	Dyerka ROM	David Yerka
43	E41S	8k	ES41 Module	
44	ESML	4k	ES MLDL 7B	
45	EXIO	4k	Extended I/O	HP Co.
46	EXTI	4k	Extended-IL ROM	Ken Enery
47	FACC	4k	300889_FACC	??
48	FINA	4k	Financial Pac	HP Co.
49	FRTH(*)	8k	FORTH Module	Serge Vaudenay
50	FUNS	8k	FunStuff Module	Angel Martin
51	GAME	4k	Games Pac	HP Co.
52	GMAS	4k	Auto Finance-2	GMAC
53	GMAT	8k	Auto Finance-3	GMAC
54	HCMP	4k	HydraComp ROM	Paul Monroe
55	HEPR	4k	HEPAX RAM	VM Electronics
56	HEPX	16k	HEPAX Module	VM Electronics
57	HOME	4k	Home Mngmt. Pac	HP Co.
58	ICDO	4k	Icode ROM	
59	IDC1	8k	ML-ICD	BCMC 1987
60	IDC2	4k	BG/UG IDC	BCMC 1985
61	JMAT	8k	JMB Math	Jean-Marc Baillard
62	JMTX	8k	JMB Matrix	Jean-Marc Baillard
63	ILBF	4k	IL-Buffer	Angel Martn
64	KC135	12k?	Weight & Balance Comp.	??
65	L119	8k	AFDC-1E-003	Zengun
66	LAIT(*)	4k	LaitRAM XQ2	LaitRam Corp.
67	LAND	4k	Land Navigation	Warren Furlow
68	LBLS	4k	Labels ROM	W. Doug Wilder
69	MADV	12k	Modified Advtg	Angel Martn
70	MATH	4k	Math Pac	HP Co.
71	MCHN	4k	Machine Pac	HP Co.
72	MDP1	8k	AFDC-1F ROM	Zengun
73	MDP2	8k	AFDC-1F ROM	Zengun
74	MELB	4k	Melbourne ROM	PPC Members
75	MFLB	4k	Mainframe Labl	David van Leeuwen
76	MILE	8k	Military Eng ROM	??
77	MLRM	4K	ML ROM	Frits Ferwerda
78	MPLB	8k?	Multi-Prec. Lib	Peter Platzer
79	MTRX	4k	MATRIX ROM	Angel Martin
80	MTST	4k	MC Test ROM	??

81	MUEC	8k	Muecke ROM	Mücke Software GmbH
82	NAVI	8k	Navigation Pac	HP Co.
83	NCHP	4k	NoVoCHAP	G. Isene & A. Martin
84	NFCR	4k	NFC ROM	Nelson F. Crowe
85	NPAC	8k	NavPac ROM	??
86	NVCM	8k	NaVCOM 2	??
87	OILW	8k	OilWell Module	Jim Daly
88	P3BC	16k	Aviation P3B/C	??
89	PANA	8k	PANAME ROM	S. Bariziene & JJ Dhenin
90	PARI	4k	PARIO ROM	Nelson F. Crowe
91	PCOD	4k	Proto-Coder 1A	Nelson F. Crowe
92	PETR	8k	Petroleum Pac	HP Co.
93	PFST	4k	ProfiSet	Winfried Maschke
94	PLOT	8k	Plotter Module	HP Co.
95	PMLB	4k	PPC Melb ROM	PPC Members
96	POLY	8k	Plolynomial ROM	A. Martin & JM Baillard
97	PPCM	8k	PPC ROM	PPC Members
98	PRIQ	8k	PRIDE ROM	
99	PS0F	4k	Profiset Subset	Winfried Maschke
100	QUAT	8k	Quaternions ROM	Jean-Marc Baillard
101	RAMP	4k	RAMPage Module	Angel Martin
102	REAL	8k	Real State Pac	HP Co.
103	ROAM	4k	ROAM Module	Wilson Holes
104	ROMS	4k	SV's ROM	Serge Vaudenay
105	SANA	12k	SandMath-12k	Angel Martin
106	SBOX	8k	SandBox	Angel Martin
107	SEAK	4k	SeaKing MK5	Navy Air
108	SECY	4k	Securities Pac	HP Co.
109	SGSG	4k	Gas Module	SGS Redwood
110	SIMM	16k	SIM Module	
111	SKWD	4k	Skwid's BarCode	Ken Emery
112	SMCH	8k	Speed Machine	Alameda Mngmt. Corp.
113	SMPL	4k	Simplex Module	Phillipe J. Roussel
114	SMTS	8k	SandMath-8k	Angel Martin
115	SND2	8k	SandMath-II	Angel Martin
116	SPEC	4k	Spectral An.	Jean-Marc Baillard
117	SRVC(*)	4k	Service ROM	HP Co.
118	STAN	4k	Standard Pac	HP Co.
119	STAT	4k	Statistics Pac	HP Co.
120	STRE	4k	Stress Analysis	HP Co.
121	STRU	8k	Structural An.	HP Co.
122	SUPR	8k	SUP-R-ROM	James W. Vick
123	SURV	4k	Surveying Pac	HP Co.
124	THER	4k	Thermal Pac	HP Co.
125	TOMS	4k	Tom's ROM	Thomas A. Bruns
126	TOOL	4k	ToolBox-II	Angel Martin
127	TREK	4k	Start Trek	Angel Martin
128	TRIH	4k	83Trinh	Phil Trinh
129	UNIT	4k	Unit Conversion	Angel Martin
130	USPS	8k	Mail Delivery	USPS
131	YFNS	4k	Alternate YFNS	Monte Dalrymple
132	YFNZ	4k	Main YFNS	Monte Dalrymple
133	Z41Z	8k	41Z Module	Angel Martin
134	ZENR	4k	Zenrom	Zengrange Ltd.
135	ZEPR	4k	Programmer	Zengrange Ltd.

Re: Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #17 Posted by **gene wright** on 4 Oct 2011, 10:52 a.m.,*
in response to message #16 by Ángel Martin

Great, now which of yours in this list are obsolete?

(My CLUTILs version did not have that function - hopefully in a week or two it will)

Re: Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #18 Posted by **Ángel Martin** on 4 Oct 2011, 11:56 a.m.,*
in response to message #17 by gene wright

Quote:

> Great, now which of yours in this list are obsolete?

none!

They're all there, actively supported at no cost :-)

Re: Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #19 Posted by **Monte Dalrymple** on 4 Oct 2011, 12:27 p.m.,*
in response to message #16 by Ángel Martin

There are a couple of errors in this table.

The mnemonic for the Mainframes Labels is "MLBL"

The mnemonic for the Multiprecision Library is "MLTI"
and it is a 4k ROM.

Remember that mnemonics must use unique first and last
characters to be parsed correctly.

Re: Angel, favor ? And the Curvefit is a .mod not a .rom !

*Message #20 Posted by **Monte Dalrymple** on 4 Oct 2011, 12:21 p.m.,*
in response to message #15 by gene wright

Gene, your machine includes the curvefit ROM. It's the upper
page of the image loaded with the CURV mnemonic.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 4 Oct 2011, 1:38 a.m.*

Significant amount of keyboard issues with number of HP 15C LE out there. I recalled an article finally located it in EE Times early 2008.

EE Times Article 2/1/2008

Back then Director of Product Development group of HP Calculators Sam Kim has said about about the keyboard design on HP 35s which has 25 screws!! (BTW HP 35s cost 1/2 of HP15C LE)

"I really wanted to design something for the old-time calculator user while also attracting new customers."

(it's held together by 25 screws. Kim explains, "The keyboard is the most important part of a calculator. It must work year after year. Those 25 screws hold it down rock solid. The keyboard will never get loose and this thing will last forever. It costs us more, but it demonstrates the attention to detail we've put in.")

Article goes on quoting that "HP claims that it performs a one-million key press-test on the keyboard. This means that the keyboard will survive at least a million key presses. Putting that in perspective, it's unlikely that a user will ever reach that number of key presses."

Why weren't these standards applied to new HP 15C LE? What Did Change in 3.5 Years!!

Companies produce great products when Employees take pride of their work.

Edited: 4 Oct 2011, 2:25 a.m. after one or more responses were posted

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #2 Posted by **From Hong Kong** on 4 Oct 2011, 2:02 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> Article goes on quoting that HP claims that it performs a one-million key press-test on the keyboard. This means that the keyboard will survive at least a million key presses. Putting that in perspective, it's unlikely that a user will ever reach that number of key presses.

I'm afraid that I can't find the logic behind the above assertion. The one million key presses don't mean that the keyboard can survive another one million key presses.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #3 Posted by **Lincoln R.** on 4 Oct 2011, 2:05 a.m.,*
in response to message #2 by From Hong Kong

That probably isn't a test HP did on each production calculator, but rather a test ran on random units from

production for quality assurance.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #4 Posted by **From Hong Kong** on 4 Oct 2011, 2:15 a.m.,*
in response to message #3 by Lincoln R.

> Quote:
>
> That probably isn't a test HP did on each production calculator, but rather a test ran on random units from production for quality assurance.

Will these tested units be sold?

Edited: 4 Oct 2011, 2:18 a.m.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #5 Posted by **Lincoln R.** on 4 Oct 2011, 2:33 a.m.,*
in response to message #4 by From Hong Kong

If I had to guess, I'd say not unless someone at the factory goofed. I don't know anything about HP or their contractors' manufacturing practices but I'd assume from what I've seen of other companies manufacturing processes that the calculators that get used for keyboard testing also get used for other tests that are likely destructive (How much weight can you drop on the LCD before it breaks, what kind of overvoltage the CPU can stand, etc.).

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #6 Posted by **Lincoln R.** on 4 Oct 2011, 2:05 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

For what it's worth, the 35s's "25 screw" keyboard had hollow heat stakes with screws screwed into the heat stakes. They're still melted over, so you can't unscrew it and take the keyboard out. Also, several people have apparently had issues with 35s keyboards. Once again I'm not a mechanical engineer, but I can't see those screws doing too much other than possibly holding the top of the heat stake on if it cracks off (or on the negative side making the heat stake crack down the sides from having the screw inside it).

Anyhow, I see the calculator division's recent work as gradual improvement. The 49g+ had a lot of keyboard issues, the 50g seems to have mostly solved that. The 35s had buggy firmware and a decent, but not ideal (and according to some prone to wear-out) keyboard but started to look like a classic HP again (Orange and Blue shift keys, big enter key, etc.)

The 20b and 12c+ were cool hacker platforms, and the 12c+ was more fuel for the "bring back the 15c" fire, but the 20b had a not-so-great keyboard and the 12c+ was (to those other than finance types) teasing those who wanted 15c and 16c reissues.

The 30b is a lot like the 20b, just as hacker-friendly, but has a much better keyboard (perhaps the best in HP's modern lineup).

And now we finally have that 15c people have been wanting, but the excitement has been at least slightly diminished by a manufacturing screw-up (or heatstake-up as it might be more accurately called) and some repairable firmware bugs.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #7 Posted by **uhmgawa** on 4 Oct 2011, 3:27 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> EE Times Article 2/1/2008
>
> Back then Director of Product Development group of HP Calculators Sam Kim has said about about the keyboard design on HP 35s which has 25 screws!! (BTW HP 35s cost 1/2 of HP15C LE)
>
> "I really wanted to design something for the old-time calculator user while also attracting new customers."
>
> (it's held together by 25 screws. Kim explains, "The keyboard is the most important part of a calculator. It must work year after year. Those 25 screws hold it down rock solid. The keyboard will never get loose and this thing will last forever. It costs us more, but it demonstrates the attention to detail we've put in.")

I recall first hearing that interview quip and at some point later opening up a 35s. I realized even if that intention was earnest, it certainly wasn't achieved. Some screws were cockeyed, others had broken/stripped studs -- it appeared the screws were a bandaid after someone had a tried their hand heat staking with a clothes iron. Removal of the pcb still requires severing the deformed stake head after the screw is extracted. I'm not quite sure where they were headed with that engineering feat.

IMHO a sentence with both "attention to detail" and the "35s" needs a negative in there somewhere to be taken seriously in this context.

Edited: 5 Oct 2011, 8:20 a.m. after one or more responses were posted

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #8 Posted by **Reth** on 4 Oct 2011, 3:58 a.m.,*
in response to message #7 by uhmgawa

IMHO the 25 screws only make the 35S slightly (but not enough) heavier to mimic "solid" feel (HP48 - like), but unsuccessfully.

That keyboard practically is a joke no matter what the intentions were.

And it was not meant to be "collectible" as some suggested for the 15C LE either.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #9 Posted by **Paul Gaster** on 4 Oct 2011, 5:45 a.m.,*
in response to message #8 by Reth

In the 15C LE pictures I have seen, it seems to have a metal plate in the bottom of the back part of the housing. I am guessing this is for weight. I think HP learned that this was a better option vs using a ton of screws.

Re: HP15C LE Keyboard Issues (...and 3.5 Years Ago)

*Message #10 Posted by **Bart (UK)** on 4 Oct 2011, 6:19 a.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

I fail to see how the screws help (other than if a user takes one apart it's easer to put back together) as the 28S, 48 SX series and 48GX series were all heatstaked only and worked well for many years.

Edit: what i'm getting at: don't blame the technology when it's the application (or mis-application) of the technology that's the problem.

Edited: 4 Oct 2011, 6:20 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

missing segments on 20b running 34s

*Message #1 Posted by **db (martinez, ca.)** on 4 Oct 2011, 12:50 a.m.*

No complaint here, this is a question.

Has anyone else noticed missing segments that fail and then come back during another use? The ones that fail seem to be the lower segments of both lines, but as i said, it is an intermittent electrical problem. It's as if hp has subcontracted Lucas to make the display.

New batteries did not cure the problem.

Re: missing segments on 20b running 34s

*Message #2 Posted by **Paul Dale** on 4 Oct 2011, 12:56 a.m.,*
in response to message #1 by db (martinez, ca.)

Sounds like a hardware problem to me. I've not noticed anything like this on either my 20b or 30b.

- Pauli

Re: missing segments on 20b running 34s

*Message #3 Posted by **Walter B** on 4 Oct 2011, 1:26 a.m.,*
in response to message #2 by Paul Dale

Nor did I.

Re: missing segments on 20b running 34s

*Message #4 Posted by **db (martinez, ca.)** on 4 Oct 2011, 9:34 p.m.,*
in response to message #3 by Walter B

Yes. I'd bet it is a hardware problem too. Well, i dodged the bullet on the 15c issues but i have the only imperfect screen in the 20/30b series. I can live with that. Maybe it will be worth something on ebaby someday.

"Hewlet (sic) Packard Calculator with the RARE UNIQUE ONE-OF-A-KIND *Ghost Screen*. L@@k!!!!!"

Re: missing segments on 20b running 34s

*Message #5 Posted by **Walter B** on 5 Oct 2011, 1:27 a.m.,*
in response to message #4 by db (martinez, ca.)

Hopefully, you can add then: "They are not made this way anymore!"

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Test WP34S (Hardware)?

*Message #1 Posted by **robertoataulfo** on 4 Oct 2011, 12:27 a.m.*

How do I test the keyboard, display, etc. (I used ON + PMT)

Re: Test WP34S (Hardware)?

*Message #2 Posted by **Paul Dale** on 4 Oct 2011, 12:54 a.m.,*
in response to message #1 by robertoataulfo

You don't. The 34S firmware has no self test capability.

Reflash back to the 30b or 20b and use the self test there if you must have one.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Mapping HP-15C LE faulty keys

*Message #1 Posted by **Reth** on 3 Oct 2011, 10:23 p.m.*

I'm curious if faulty keys are related to their position in relation to the heat stakes. Please indicate which key/s are faulty.

Mine has faulty [.] key

Re: Mapping HP-15C LE faulty keys

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 2:48 a.m.,*
in response to message #1 by Reth

[x] - Seems to have gotten much better with time and some contact cleaner.

Re: Mapping HP-15C LE faulty keys

*Message #3 Posted by **Miguel Toro** on 4 Oct 2011, 4:53 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi Marcus,

Could you explain how to use the contact cleaner? The only way is then to open the unit?

Thanks Miguel

Re: Mapping HP-15C LE faulty keys

*Message #4 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 5:10 p.m.,*
in response to message #3 by Miguel Toro

I just pushed the key top a bit down and sprayed a tiny amount of cleaner in the gap. Then I agitated the key repeatedly for some time.

Re: Mapping HP-15C LE faulty keys

*Message #5 Posted by **Miguel Toro** on 4 Oct 2011, 6:48 a.m.,*
in response to message #1 by Reth

[10^x] and [GSB] in my unit. As Marcus, mine seems getting better with usage.

Edited: 4 Oct 2011, 6:48 a.m.

Re: Mapping HP-15C LE faulty keys

*Message #6 Posted by **Paul Gaster** on 4 Oct 2011, 7:55 a.m.,*
in response to message #1 by Reth

If you look back at the older threads about the keyboards most people listed what key was bad, if they had a bad one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp15c LE firmware problem, keys rough

*Message #1 Posted by **Brackett** on 3 Oct 2011, 10:17 p.m.*

I got a new 15c LE Friday. There were a couple disappointments I have with it. One is the firmware seems to have a problem, the other is with the keys.

Has anyone else noticed that a repeated 'PSE' instruction during a running program will not display the data? Only the initial 'PSE' is displayed. Try the example on page 114, Display Format Control. If you stop the program the display flashes and is only cleared with CF9. Resuming the program then it will display one more 'PSE' and goes blank until the end of the program regardless of any additional 'PSE'. After running the program there is no indication of a register overflow (flashing display).

My original 15c has nice shiny, smooth keys. The LE keys are rough. I'm used to running my fingers over the keys to operate the calc. The other 'key' issue is the top legends are 'tampo' (printed) not sublimation (multi injection molding) as on the original 15c. That means the legends will wear off from use as the top of the keys get the most abrasion. I might be tempted to find a busted old 15 with good keys and swap them (might not work).

btw, mine fails the self test on page 261: hold ON, hold X, release ON, release X. Error 9 every time. I'm not sure I trust my LE.

Re: hp15c LE firmware problem, keys rough

*Message #2 Posted by **Jeff O.** on 3 Oct 2011, 10:37 p.m.,*
in response to message #1 by Brackett

There has been ***a lot*** discussion about all of your issues in the past month or so. For the complete story, go to the most recent archive and start reading around September 1. Brief comments as follows:

> Quote:
>
> Has anyone else noticed that a repeated 'PSE' instruction during a running program will not display the data?

That was found very early on by Mike Morrow. It is a bug in the emulation layer. The calculator will produce correct results, you just **can't** see multiple pauses.

> Quote:
>
> My original 15c has nice shiny, smooth keys. The LE keys are rough.

Several reviews noted this. Most users don't seem to mind. You do, which is up to you, of course.

> Quote:
>
> The other 'key' issue is the top legends are 'tampo' (printed) not sublimation (multi injection molding) as on the original 15c.

> Double injection-molded keys went away a long time ago. It would be nice if the 15c LE had them, but no real reason to expect their return now.
>
> > Quote:
> >
> > ...mine fails the self test on page 261...
>
> The original self tests have no meaning with regard to the functioning of the 15c LE. They were supposed to be disabled, and reference to them was supposed to be removed from the manual. The ON - X test corrupts program memory (another emulation layer bug), so don't do it if you have a program in memory.
>
> sorry if the above sounds terse, it was not intended to, I just wrote it in a hurry... Please join the discussion.
>
> Also edited to correct typo in bold
>
> *Edited: 4 Oct 2011, 7:57 a.m. after one or more responses were posted*

Re: hp15c LE firmware problem, keys rough

*Message #3 Posted by **Brackett** on 3 Oct 2011, 11:43 p.m.,*
in response to message #2 by Jeff O.

Hi Jeff,

I hadn't looked far enough back in the archives to see the issues I raised.

Thanks for the summary!

Best regards,

Mike

Re: hp15c LE firmware problem, keys rough

*Message #4 Posted by **Bart (UK)** on 4 Oct 2011, 6:06 a.m.,*
in response to message #3 by Brackett

No problem, all the regulars here know that there isn't a good search facility for this forum and Google doesn't link correctly to messages recently moved to the archives (which most of the recent messages will suffer as there is much activity at the moment causing messages to be moved to the archives quite quickly).

The criteria for moving messages to the archives is based on number, the limit is 501 messages in the "active" forum thereafter the next oldest message gets moved to the archives. In this manner, threads and threads of threads can get fragmented until the complete thread is in the archive. Also a message moving out of the forum does not appear in the archive immediately. Even though I've been around here for over two years and gained a reasonable understanding of the forum and archives, and use several techniques for searhing the archives, I still sometimes struggle to find a particular thread.

Re: hp15c LE firmware problem, keys rough

*Message #5 Posted by **Jeff O.** on 4 Oct 2011, 8:10 a.m.,*
in response to message #3 by Brackett

You are welcome.

Regarding your idea to swap out the keys with those from a non-working original 15C, there were some good tear down pictures of a 12c (physically identical to the 15c LE) posted recently (yesterday, I think) which show the keys and their construction. All except the f and g key are on a common framework, while the 15C has 39 individual keys. Instead of swapping keys, how about tearing your 15c LE down an spraying the keys with a few coats of clear gloss lacquer? That should also help prevent the legends from wearing off.

HP DO SOMETHING and do it fast!

*Message #6 Posted by **Alexander Oestert** on 4 Oct 2011, 8:33 a.m.,*
in response to message #1 by Brackett

Why, oh, why does HP not address this issue on their homepage in a manner that is easy to find? And why are they not contacting the LE buyers by mail via the resellers?

I really fear that if HP does not do something in the very, very near future (i.e. NOW!) they will destroy the goodwill that came with the 15c LE re-launch and eventually even ruin the perfect reputation of the original 15c. I reckon new buyers who are not properly informed about the nature of the problems might imagine it to be a problem with the 15c as such and not only the emulator.

Edited: 4 Oct 2011, 10:10 a.m.

Re: HP DO SOMETHING and do it fast!

*Message #7 Posted by **Reth** on 4 Oct 2011, 3:01 p.m.,*
in response to message #6 by Alexander Oestert

Well they did something already - TW wrote:

> Quote:
>
> 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

Guess what I read between the lines ;)

Re: HP DO SOMETHING and do it fast!

*Message #8 Posted by **Alexander Oestert** on 4 Oct 2011, 3:15 p.m.,*
in response to message #7 by Reth

They should do something more obvious than having us read between the lines. Besides, what do you read there?

Re: HP DO SOMETHING and do it fast!

*Message #9 Posted by **Reth** on 4 Oct 2011, 4:00 p.m.,*
in response to message #8 by Alexander Oestert

"You are on your own, mate, don't bother trying to contact us" - that's what I read.

What they should do is simple - put here or on HP web site an email address where owners of faulty calculators can disclose their problems and get solutions or at least some information about what's been happening. As simple as that.

Re: HP DO SOMETHING and do it fast!

*Message #10 Posted by **Gerry Schultz** on 4 Oct 2011, 4:57 p.m.,*
in response to message #9 by Reth

Reth, I disagree. I believe it means to stop send me anymore emails. These keyboard issues have been discovered recently and when we (a small group of us) first talked to Tim about the keyboard reports on the 15C LE at the HHC conference, he wasn't sure what was going on as he had not seen one yet. I had my 15C LEs with the bad keys at the conference and when there was a break for Tim to look at them, he did and I could tell that he was disappointed by what he felt when pushing on the bad keys. He asked me if he could evaluate them and I left them with him.

I'm sure since then, Tim has been inundated with email queries and offers from customers to send in their 15c LEs for evaluation. As the 'HP point man' for our community, everyone wants to help with this issue. So, he's getting bombarded from us and probably from his superiors to figure out and fix both the firmware and hardware issues. In that light, his statement of do not email me makes sense.

I too work for a LARGE corporation and it takes a while to fix or change something, so I think we just need to be patient and let HP work through these issues. IMHO the reason we haven't heard anything is that the calculator group can't say anything until this situation has been figured out, a solution has been assembled and tested, and finally, that Legal has authorized an official HP spokesman to convey what is being done. The quickest way to get fired is to act as a company spokesman without your employer's permission.

Finally, I want to mention that even though Tim is a HP employee, he is a part of our community and cares about the calculators he helps build as much as we do. Just because we don't hear anything doesn't mean nothing is happening.

Now if I don't hear anything in a few months, then I will as curious as the rest of you about what's going on. I want this resolved ASAP but I don't want a firmware upgrade that introduces new bugs or have the keyboard problems fixed but then have displays start failing prematurely. The people I'm concerned about are those who have purchased 15c LEs and don't have any recourse but HP Customer Service. I've had some recent experiences with them and was not impressed. At least we here in the community can pool our knowledge and experience to make educated guesses about what's going on with this situation.

When I hear anything about my calculators I will let everyone know what happened.

Thanks, Gerry

Re: HP DO SOMETHING and do it fast!

*Message #11 Posted by **Glenn Dowdy** on 4 Oct 2011, 5:10 p.m.,*
in response to message #10 by Gerry Schultz

> Quote:
>
> Finally, I want to mention that even though Tim is a HP employee, he is a part of our community and cares about the calculators he helps build as much as we do. Just because we don't hear anything doesn't mean nothing is happening.
>
> Now if I don't hear anything in a few months, then I will as curious as the rest

of you about what's going on. I want this resolved ASAP but I don't want a firmware upgrade that introduces new bugs or have the keyboard problems fixed but then have displays start failing prematurely. The people I'm concerned about are those who have purchased 15c LEs and don't have any recourse but HP Customer Service. I've had some recent experiences with them and was not impressed. At least we here in the community can pool our knowledge and experience to make educated guesses about what's going on with this situation.

When I hear anything about my calculators I will let everyone know what happened.

Thanks, Gerry

Without going in to details, please be assured that we are working on the root cause analysis with the aim of solving the key issue for any future production. I don't have any insights into what will happen to current owners with unacceptable keyboard issues, other that the Support Manager is also working that a solution for you.

Re: HP DO SOMETHING and do it fast!

*Message #12 Posted by **Gerry Schultz** on 4 Oct 2011, 5:29 p.m.,*
in response to message #11 by Glenn Dowdy

Notice how quickly Glenn responded? HP is watching out for our interests.

Gerry

Re: HP DO SOMETHING and do it fast!

*Message #13 Posted by **E Walsh** on 4 Oct 2011, 5:50 p.m.,*
in response to message #12 by Gerry Schultz

First, I want to say that I appreciate HP addressing our desire to get the 15C back into production (Thanks Tim, Glenn, et al.!). My unit came through with no key problems. In fact, the keys feel great and register correctly every time. Since the rate of units with one or more defective keys hovers around 10-12% from what I've read, it appears that 88-90% of us will be satisfied with a firmware update, and the remaining with an exchange. If HP has suspended production pending revisions to the manufacturing process, then perhaps these solutions can happen.

Re: HP DO SOMETHING and do it fast!

*Message #14 Posted by **Reth** on 4 Oct 2011, 5:58 p.m.,*
in response to message #10 by Gerry Schultz

Well I might be wrong with what the message implies, but I can remember not too far back what happened with the crappy HP49+ keyboard. Absolutely nothing official, latter fix for new production but nothing for the early birds with faulty units. I still have one of them and the answer from the official Australian dealer was - HP has not formally recognized any keyboard issues so no replacement and go away.

Then I think we don't ask for more than some info for the time being. **(Thanks, Glenn!)**

BTW I have a problem with the way warranty is being handled. The enclosed piece of paper

states there is a warranty form in the box for some countries (?) and if not so, this form could be downloaded from HP website which turns out to be dead end - no such calculator there hence no form. The only way apparently is to write a letter to HP :-/ all this happening in 21st century?

I see no reason to be very optimistic with this issue. Hope you are right and I'm wrong.

Cheers,

_____

edit: after seeing Glenn's post

Edited: 4 Oct 2011, 6:04 p.m.

Re: hp15c LE firmware problem, keys rough

*Message #15 Posted by **Bart (UK)** on 4 Oct 2011, 11:53 a.m.,*
in response to message #1 by Brackett

> Quote:
>
> That means the legends will wear off from use as the top of the keys get the most abrasion.

With HP's current method that may not happen too quickly, it takes quite a bit of effort to remove: see this thread:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=186042

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12cP25thAE Self-Test Result?

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 3 Oct 2011, 10:05 p.m.*

I was wondering if anyone who has a HP12cP25thAE could run this test and verify what I am seeing.

When I used to run a self test on my 12cP25thAE by pressing {g}+{ENTER}+{ON} sequence and then pressing on [2] for the "C" option, I used to just get the Checksum message "ChE--564Ah", then press [ENTER] the copyrigth message "C 2004 hP".

Now I am getting "UEr 02" after the checksum and before the copyright message. I don't recall seeing this before. Does anyone have an idea?

Re: HP 12cP25thAE Self-Test Result?

*Message #2 Posted by **Katie Wasserman** on 3 Oct 2011, 10:49 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

This is normal, it's always been there on the 12CP 25th AE. It's not like the 12C+ or the 15C LE.

Re: HP 12cP25thAE Self-Test Result?

*Message #3 Posted by **Miguel Toro** on 3 Oct 2011, 11:47 p.m.,*
in response to message #2 by Katie Wasserman

Hi Katie,

Could you tell me what the fourth item on the menu ("4.CPU") is for?

When chosen, the information presented in my unit is : 3999310 h2

Thanks,

Miguel

Re: HP 12cP25thAE Self-Test Result?

*Message #4 Posted by **Katie Wasserman** on 4 Oct 2011, 12:29 a.m.,*
in response to message #3 by Miguel Toro

I wish I could but it's a mystery to me too. Another person here pointed out that this number changes each time you press 4 from the 1.2.3.4 menu. Actually I find that it doesn't change each time, but most.

.....

I just did a little testing and think it's a clock speed indication of some kind. As the calculator warms up (hold in in your hands for a while) this number gets smaller. As it cools down (put in the in refrigerator for a minute) this number get larger. You need to be patient with this becasue it takes a while for the

heat to penetrate into the chip, but simply CPU clocks are usually very temperature dependent just like this.

Anyone else want to hazard a guess?

Re: HP 12cP25thAE Self-Test Result?

*Message #5 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 4 Oct 2011, 4:09 p.m.,*
in response to message #4 by Katie Wasserman

Thanks Katie for the response. I wonder what does "UEr 2" means in that message, User 2? U Error 2? wild guess.

Also about the 4.CPU option, i think you are correct. It seem to correlate to what it seem like a CPU speed. I also confirmed that hot makes it go lower, cold higher. Alhtough I beleive 12cPAE had a Sunplus 6502 processor which was running at 1MHZ. I wish there were more information on these messages and how to read the self test results, you may remember TW commented that on the checksum FF=FF is good which is not the case for the 12cPAE.

Re: HP 12cP25thAE Self-Test Result?

*Message #6 Posted by **Katie Wasserman** on 4 Oct 2011, 5:37 p.m.,*
in response to message #5 by Kerem Kapkin (Silicon Valley, CA)

"UEr 2" - I read that as "Version 2".

Yes, the checksum is totally different on the 12CP 25th AE.

I don't understand the need to show some sort of clock speed indication unless it's possible to run at different speeds. But the "h2" on the right side of the display might be a clue as to the meaning.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

More talk of cults at HP

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 3 Oct 2011, 9:55 p.m.*

The article "The trouble with superheroes" on page 74 of the October 1 issue of The Economist states in part

> Quote:
>
> ... HP has fallen victim to the cult of the corporate saviour. It keeps reaching outside its ranks to hire a superstar as CEO. This is something HP never did during its glory days. And it never seems to work. ...

A later paragraph heading is "Corporate culture matters more than stars." These days it seems that the HP board doesn't believe that.

Re: More talk of cults at HP

*Message #2 Posted by **Walter B** on 4 Oct 2011, 1:30 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

IMHO, there's enough written about that board in earlier threads. It's a pity HP has it.

Re: More talk of cults at HP

*Message #3 Posted by **Eddie W. Shore** on 6 Oct 2011, 12:37 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hiring a superstar "savior" in hopes that he/she will solve everything has proven to be a guaranteed mistake. I see this all the time in sports - a team signs this great big hyped superstar who turns out to be not worth the hype. (Manny Ramirez anyone?) I certainly hope HP doesn't expect Meg Whitman to be the company's "savior".

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE production

*Message #1 Posted by **Peter Kim** on 3 Oct 2011, 8:30 p.m.*

How many of you think HP is pushing back the next batch of 15c LE production to address the faulty keyboard issue? (hpcalc.org says that their 15c LE has been backordered to 10/28)

On an unrelated note, does anybody else also think that another kind of old HP calculator revival like the 15c LE is simply not possible? 15c LE was only an incremental jump from the 12c, which is already in production. If you want to revive something like the 42s, they'll have to set up the production line to make that kind of device from scratch again. I just can't see HP engaging in that kind of business especially with the current business environment (new CEO, etc).

Re: 15c LE production

*Message #2 Posted by **Martin Pinckney** on 3 Oct 2011, 8:40 p.m.,*
in response to message #1 by Peter Kim

Probably extremely unlikely that HP would re-introduce a Pioneer in the original form factor, for the reasons you cite. I had thought they *could* produce a 42s on the 17bii+ platform, But I've been informed that is impossible.

However, perhaps they could produce a "42s-like" calculator on a modern platform, much as they produced the 35s based in part on the 32sii/33s.

Whether there is or will be any incentive to do so is another matter.

Re: 15c LE production

*Message #3 Posted by **Paul Gaster** on 3 Oct 2011, 8:52 p.m.,*
in response to message #2 by Martin Pinckney

The 30b has the same number of keys as a 42S, and the same configuration if you look at them side by side. Even many of the labels are the same. Shift, up and down arrows, backspace/clear, big enter key, on/off. The screen is the big difference. Swap out the 30b screen to something better and you would almost be there. If I was at HP I would use a 30b with a better screen to re-introduce the 42S. It wouldn't be that hard. The 34S team has done a great job with the 30b considering the screen limitations. I can't even imagine what they could do if had a better screen.

Re: 15c LE production

*Message #4 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 2:35 a.m.,*
in response to message #3 by Paul Gaster

Paul, the 42s not only had a better screen, it had more memory and a printer interface. If you wanted to put this in the 30b package, a new board with a completely different chip would be needed. Given the late discussions about battery depletion, a new case design to support larger batteries would be needed, too.

So don't hold your breath!

Re: 15c LE production

*Message #5 Posted by **svisvanatha** on 3 Oct 2011, 8:42 p.m.,*
in response to message #1 by Peter Kim

Well, a HP-designed 42S+ is possible if the current 17Bii+ is updated with the same ARM processor as the 12C+.

Re: 15c LE production

*Message #6 Posted by **Dave Britten** on 3 Oct 2011, 9:02 p.m.,*
in response to message #1 by Peter Kim

Just put a bare-metal ARM port of Free42 into 30b hardware with a 17bii+ LCD, add some I/O and display driver code, and you'd have an awfully good start.

Re: 15c LE production

*Message #7 Posted by **Eric Smith** on 3 Oct 2011, 9:48 p.m.,*
in response to message #6 by Dave Britten

The 30b hardware isn't capable of driving the 17bii+ LCD, or anywhere close to it. The Atmel chip can drive a maximum of 400 segments (or pixels), and the 17bii+ display has over 2100.

A "bare-metal ARM port of Free42" isn't trivial, either. I tried to do that a few years back, and it was taking a *lot* of work to rewrite all of the memory management. Obviously it can be done, but it isn't a small project.

Re: 15c LE production

*Message #8 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 2:39 a.m.,*
in response to message #7 by Eric Smith

Connecting a different LCD isn't impossible but you can't just take a bare LCD, it needs it's own controller. There are enough pins on the Atmel chip to drive such a device. The internal LCD controller would then be disabled and the pins reused for I/O.

What you can't overcome are the memory restrictions. You would need some external memory chip connected to the device.

Re: 15c LE production

*Message #9 Posted by **Eric Smith** on 4 Oct 2011, 2:49 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Not going to happen in a low-cost HP product. In OEM quantities, LCD modules with controllers are *much* more expensive than bare LCDs.

Re: 15c LE production

*Message #10 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 4:48 a.m.,*
in response to message #9 by Eric Smith

I agree. HP having chosen a system-on-a-chip design has been cost driven from the beginning and would be foiled by adding expensive external components to overcome its limitations.

Re: 15c LE production

*Message #11 Posted by **Dave Britten** on 4 Oct 2011, 6:31 a.m.,*
in response to message #7 by Eric Smith

> Quote:
>
> The 30b hardware isn't capable of driving the 17bii+ LCD, or anywhere close to it. The Atmel chip can drive a maximum of 400 segments (or pixels), and the 17bii+ display has over 2100.

Bummer.

> Quote:
>
> A "bare-metal ARM port of Free42" isn't trivial, either. I tried to do that a few years back, and it was taking a *lot* of work to rewrite all of the memory management. Obviously it can be done, but it isn't a small project.

I don't doubt that. It would certainly be a better prospect than hacking new features into the existing 42s ROM binaries, though.

Re: 15c LE production

*Message #12 Posted by **Mike Morrow** on 3 Oct 2011, 9:08 p.m.,*
in response to message #1 by Peter Kim

> Quote:
>
> If you want to revive something like the 42s, they'll have to set up the production line to make that kind of device from scratch again.

Emulating old calculators like the 30-year-old 15C and the 23-year-old 42S is a really bad idea. Emulation on a fast processor winds up wasting the vast majority of available battery energy, compared to doing the same thing in some version of C+ that generates native code for the host processor. In that latter case, program run times are a small fraction of those in an emulated version.

The HP 30b has the same number of keys and key arrangement as the original 42S. There is no emulation layer on the 30b and it is the fastest handheld that HP has ever made by large margin (ten times faster than the HP 50G, eight times faster than the 15C-LE, both with emulation layers). The 30b is also a more attractive and sturdy package than the original 42S. The best solution would be an HP 42S equivalent in a HP 30b package, using something other than CR2032 cells. But something other than an AT91SAM7L128 would be required to handle the display requirements and other issues.

Re: 15c LE production

*Message #13 Posted by **uhmgawa** on 4 Oct 2011, 4:02 a.m.,*
in response to message #12 by Mike Morrow

> Quote:

> Emulating old calculators like the 30-year-old 15C and the 23-year-old 42S is a really bad idea. Emulation on a fast processor winds up wasting the vast majority of available battery energy..

It need not unconditionally be so. The sam7l voyager product was chosen to run at the maximum clock frequency for some perceived (I expect primarily marketing) benefit. For a pocket calculator otherwise wildly successful at a fraction of this throughput, doing so was arguably a little heavy handed to force as a non-negotiable default.

> Quote:
>
> ..compared to doing the same thing in some version of C+ that generates native code for the host processor. In that latter case, program run times are a small fraction of those in an emulated version.

I don't think that is a foregone conclusion. In both cases you are drawing upon some set of routines to implement the abstract model functionality. In the pure c implementation case, we define the model. In the emulation case the model has been defined and we're making a best effort attempt to map into an efficient implementation. An area in which emulation falls short is where features exist in the abstract model which are inefficient to support relative to the host architecture, or features in the host architecture (eg, native multiply) which aren't defined in the base model. I'd give emulation the upper hand in terms of code density vs. the pure c implementation equivalent where we're creating more memory consuming function call invocations vs. encoding operation semantics in terse instruction data. Doing so as a hybrid approach to reduce memory footprint in a c implementation swings us back closer to emulation where we're interpreting some form of optimized intermediate code.

Re: 15c LE production

*Message #14 Posted by **Eric Rechlin** on 3 Oct 2011, 9:53 p.m.,*
in response to message #1 by Peter Kim

10/28 is a guesstimate. I only put that so as not to disappoint people. If my supplier is right (though they have been known to be wrong in the past, hence the 10/28 guesstimate) I should get another shipment on 10/12.

From what has been posted here in the past, I would say you shouldn't expect anything different about these 15c calculators.

Eric

Re: 15c LE production

*Message #15 Posted by **Howard Owen** on 3 Oct 2011, 11:53 p.m.,*
in response to message #1 by Peter Kim

> Quote:
>
> On an unrelated note, does anybody else also think that another kind of old HP calculator revival like the 15c LE is simply not possible?

I'd never say such a thing. A year ago, everyone who didn't go to HHC 2010 thought a new 15C was flatly impossible. I thought the 15C LE was a gift to the community, but looking at the reaction of buyers, as reflected in eBay auctions, it's clear they are selling very well. Obviously HP thought they could make a profit

on this device. I doubt it was this simple, but maybe they looked at the robust sales of original 15Cs, did some math and went for it. It looks to me like they have a hit on their hands, despite all the defects Katie and others have turned up.

There's another calculator that sells very well on eBay, though it's in shorter supply than the 15C, so sales volume is necessarily low. I'm wondering if a reloaded 42S might not sell well. I was reminded in this thread that it would need a more expensive display. The engineering work to make that happen would boost their non-recurring expenses. But if they could sell enough machines it might cost out. If they went for a new machine in the spirit of the 42S instead, that would require a lot more engineering time and expense up front. I suspect one reason the 15C got a green light was the fact that very little time needed to be spent on the emulated 15C image, as opposed to the emulator itself.

I still think it's highly unlikely anything will emerge from the calculator division along those lines, but I've been wrong before. :)

Re: 15c LE production

*Message #16 Posted by **Katie Wasserman** on 4 Oct 2011, 12:35 a.m.,*
in response to message #15 by Howard Owen

The 16C re-sells really well too. Once the bugs are worked out of the 15C LE with (hopefully) a new firmware release the 16C should be a whole lot easier than a 42s reissue.

Re: 15c LE production

*Message #17 Posted by **Ángel Martin** on 4 Oct 2011, 4:30 a.m.,*
in response to message #16 by Katie Wasserman

> Quote:
>
> a new firmware release the 16C should be a whole lot easier than a 42s reissue.

No doubt about that - however being a dedicated machine, its potential interest and appeal to the user community is substantially less.

I own two 16C and they're fast enough for what I used them. So speed increase alone isn't worth so much. My 2 cents.

Re: 15c LE production

*Message #18 Posted by **Martin Pinckney** on 4 Oct 2011, 8:16 a.m.,*
in response to message #15 by Howard Owen

> Quote:
>
> A year ago, everyone who didn't go to HHC 2010 thought a new 15C was flatly impossible.

Not so. Research the archives. For the last couple of years there were several of us predicting it would happen who had no inside knowledge. In particular, DaveJ was outspoken in this opinion.

Re: 15c LE production

*Message #19 Posted by **Howard Owen** on 4 Oct 2011, 1:52 p.m.,*
in response to message #18 by Martin Pinckney

> Quote:
>
> Not so. Research the archives. For the last couple of years there were several of us predicting it would happen who had no inside knowledge. In particular, DaveJ was outspoken in this opinion.

Clearly "everyone" was a gross generalization. :) My apologies for painting with too broad a brush.

Re: 15c LE production

*Message #20 Posted by **Jeff O.** on 4 Oct 2011, 8:57 a.m.,*
in response to message #15 by Howard Owen

At HHC 2010, we were given a survey along the lines of "Which calculator would you like to see re-issued." (I'm pretty sure we took the survey before the pre-production 15c+ calculators were handed out.) I don't recall if there was a list of choices or if it was a write-in, but the 42S was certainly a candidate. I used to be a huge 42S fan, having replaced my 15C with one in 1988 and then using it for about 15 years on a daily basis, but, I voted for the 15C. The reason I gave was that the 15C could be brought back with no functional changes and serve an identifiable niche - a very powerful, small calculator that can be operated easily, programmable to do some complex things if you want, with a useful amount of memory but not so much that you cry if you lose it. The 42S, on the other hand, was a near miss at a truly fantastic calculator. If it was brought back as-is today, its shortcomings would really stand out. What we really want is the 43s, of course :-)

For the record, to make the 42s near-perfect in my opinion, it needs more memory (no problem today) some form of I/O, and complex number support as described here, for example. I'd also like to see a larger screen, to give better graphing support but mostly to display the stack, Last x, and the date and time (ala the one Eric showed for DIY5). But now I am heading into feature-creep territory.

Re: 15c LE production

*Message #21 Posted by **Mike Morrow** on 4 Oct 2011, 10:48 a.m.,*
in response to message #20 by Jeff O.

> Quote:
>
> For the record, to make the 42s near-perfect in my opinion, it needs more memory (no problem today) some form of I/O, ...

At this point, it becomes almost mandatory that the calculator becomes large enough to carry at least two AAA cells. Button and coin sized cells can not support much I/O, especially if one of the most desirable methods (micro SD) were employed. I would like to see a design that used coin or button cells for compactness, had micro SD and USB, but only allowed writes to the micro SD when external power through the USB connector was present.

> Quote:
>
> ...and complex number support as described here, for example.

Your reference doesn't really describe complex number support, just complex number entry method, which IMHO just scratches the surface of complex support. Complex number support in depth and detail means any function that the machine performs which is defined for the complex domain as input

or output is performed naturally by the machine. In that respect, the 42S overwhelms the capability of any other handheld made by anyone ever, except the RPL machines. There are a few omissions, such as lack of a complex gamma function. I'm quite happy with the current 42S complex number entry method, and I am unconvinced of any real advantage for other approaches.

> Quote:
>
> I'd also like to see a larger screen, to give better graphing support but mostly to display the stack, Last x, and the date and time (ala the one Eric showed for DIY5). But now I am heading into feature-creep territory.

I would like to see an HP 42S replacement that, in addition to the micro SD and USB external power source mentioned above, is the same size (accepting the limitation that places on power source), faster, and has real time clock, calendar, and financial programming of the 17bii. And...one that isn't "orange on brown/dark brown" ugly.

Re: 15c LE production

*Message #22 Posted by **Jeff O.** on 4 Oct 2011, 11:58 a.m.,*
in response to message #21 by Mike Morrow

> Quote:
>
> Your reference doesn't really describe complex number support, just complex number entry method...

Yes, I guess I should have said complex number “entry, display and manipulation" instead of “support.” I concur with your desire for full support for any function defined for the complex domain.

> Quote:
>
> I'm quite happy with the current 42S complex number entry method, and I am unconvinced of any real advantage for other approaches.

```
You are OK with:


key in real component
press ENTER
key in imaginary component
press shift
press STO (for shifted COMPLEX function)


vs.


key in real component
press "i"
key in imaginary component?
```

Can you cite any disadvantage to the entry method I proposed? (Other than needing an "i" key and so requiring some change to the keyboard.) In addition to the extra keystrokes required for entry, the 42S method has the disadvantage of pushing T off the top of the stack when you want to enter a complex number.

> Quote:

> I would like to see an HP 42S replacement that, in addition to...
>
> Put an unshifted "i" key on it, and I'd buy it in a heartbeat. Otherwise, it might take a minute.
>
> ...
>
> *Edited: 4 Oct 2011, 12:22 p.m.*

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Attention collectors!

*Message #1 Posted by **robertoataulfo** on 3 Oct 2011, 8:22 p.m.*

Gunzen Computer Artillery Fire Data

Edited: 3 Oct 2011, 8:25 p.m.

Re: Attention collectors!

*Message #2 Posted by **Martin Pinckney** on 3 Oct 2011, 8:42 p.m.,*
in response to message #1 by robertoataulfo

Something similar that had been used in the German Army appeared a few years ago.

Re: Attention collectors!

*Message #3 Posted by **Ángel Martin** on 4 Oct 2011, 2:25 p.m.,*
in response to message #1 by robertoataulfo

The listing mentions 4 modules as not being present for "security reasons" . I know of three of those (actually the images are available at TOS), but has anybody ever heard ot the "fourth" one?

Maybe it's just a myth?

Re: Attention collectors!

*Message #4 Posted by **David Hayden** on 4 Oct 2011, 5:01 p.m.,*
in response to message #1 by robertoataulfo

Didn't Geoff show something like that during his presentation at HHC 2011? :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Replacement for HP15c LE with problematic key?

*Message #1 Posted by **Jesse Dodd** on 3 Oct 2011, 4:57 p.m.*

First off, I don't want anyone to misinterpret this post. I'm extremely grateful to the very limited HP staff for bringing back the hp 15c, and I understand that there are going to be some birthing pains. I'm just looking for some information to try and clarify what's happening.

I purchased two HP 15c LE calculators from buy.com and unfortunately one of the calculators has a defective square root key that will very often click without registering. As soon as Tim Wessman found out that a percentage of these calculators had keyboard problems he posted a note that we should email him in order for HP to capture these machines for analysis. I sent Tim an email as instructed and received a reply from a Paul Littrell on behalf of HP Calculator Technical Support on September 20th. Oddly enough the content of this email in a bitmap image of text which is very pixilated, small and difficult to read. Because it is an image (and I can't simply copy and paste) I'm going to retype the email here:

Hello,

It has come to our attention that you are experiencing an issue with the keypad on you HP 15c Calculator. HP would be interested in investigating your issue further, Unfortunately we do not currently have a case open for your issue.

[What] We would like you [to] do is contact our Calculator Support at (800) 474-6836 to open a case on your issue. Once you have created a case with your name, addresses,[sic] and serial number of the calculator, please inform the agent that you have been requested to have your case escalated to Paul Littrell.

Once the case has been escalated to me, I will then be able to make arrangements to capture your unit for replacement. HP is interested in capturing this unit for further evaluation.

We appreciate your assistance in this matter.

Thank you, Paul Littrell

On Behalf of HP Calculator Technical Support

end of email

On September 21st I called the telephone number and gave the needed information to the very polite man on the telephone and informed him that the case needed to be escalated to Paul Littrell. He assured me that he had received the memo about this issue and I would hear back from HP shortly. He then gave me a service ticket number (which I assume is the same as a case number), and then I waited.

So far, so good.

The next thing to happen was Tim posted another message saying that HP had enough defective calculators to analyze, and requested that we not send anymore in. At this point I had still not heard from HP yet, so today I gave them a call. After speaking to a robot and a gentleman with a heavy accent I was redirected to Calculator Support. The person there had received a new memo that read that HP was out of 15c calculators and that my best bet was to

try to receive an exchange from the original vendor (Buy.com). He did not have an estimate as to when HP would have additional calculators available for exchange.

So my questions are:

Did anyone else attempt to send an HP 15c LE calculator with a bad key(s) into Paul Littrell?

Did you then subsequently receive instructions on how to send it in?

If so did you receive a replacement calculator?

Thank you for any information.

Jesse

Re: Replacement for HP15c LE with problematic key?

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 3 Oct 2011, 5:28 p.m.,*
in response to message #1 by Jesse Dodd

I ordered mine from HP Direct EPP program. Received it on Friday last week with defective [7] key CNA132093F LE#00253. Immediately sent out an e-mail to customer support, not yet received a response. Then called the same number you have at customer support, CS said it will be replaced with another one, after being on hold for about 10 minutes, I was told that, 15c was out of stock and an exchange based on backorder was not possible. So HP CS told me that my only option was to get a refund and e-mailed me a FedEx label for the return. I shipped the defective unit back to HP today. So far I haven't been unable to find another 15c to purchase on HP shopping sites.

Re: Replacement for HP15c LE with problematic key?

*Message #3 Posted by **Howard Owen** on 3 Oct 2011, 6:57 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

As crappy as these are turning out, I'm reading between the lines that they are selling well. Not being able to exchange the machine for future stock suggests that HP may have stopped making them.

See what sort of trouble I can get into when I don't rein in my imagination?

Re: Replacement for HP15c LE with problematic key?

*Message #4 Posted by **Gerry Schultz** on 3 Oct 2011, 7:00 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

At the conference, there was a discussion about when more HP 15C LEs would be arriving and I remember it being said that there were two shipments, one by plane and one by boat. The boat shipment should be here in early October, like today! So I think we'll see more stock show up in the next week.

Re: Replacement for HP15c LE with problematic key?

*Message #5 Posted by **Jeff Kearns** on 3 Oct 2011, 8:29 p.m.,*
in response to message #4 by Gerry Schultz

After reading this topic, I decided to 'just now' conduct the Self Test (ON X) on my recently acquired 15C LE and I get Error 9. That means my unit needs servicing... I own three original 15C's and they all work flawlessly.

What should I do? I get the impression that if i send it back (to whom? Samson Cables? HP?) that I will never see another one...

Not impressed! Didn't they spare exchange units? QC is a fail.

Jeff K.

Re: Replacement for HP15c LE with problematic key?

*Message #6 Posted by **Brandon Poindexter** on 3 Oct 2011, 8:53 p.m.,*
in response to message #5 by Jeff Kearns

I think this has been addressed many a times before, but the original S.T. can only work when the user very quickly key's in the old S.T. I had downloaded the HP 15c LE manual from a few days ago, and on page 261 it describes the self test and is different than from the original S.T.

On a related note, does that mean the online manual for the HP 15c LE has been updated?

Re: Replacement for HP15c LE with problematic key?

*Message #7 Posted by **Gerry Schultz** on 3 Oct 2011, 9:08 p.m.,*
in response to message #5 by Jeff Kearns

As Eric said this morning in another thread: "The self-tests for the original 15C were not supposed to be in the 15C LE or its manual. Getting an error from them doesn't signify that anything is wrong."

Here's the 15C Limited Edition self test that I know of:

Turn the calc. off Press and hold 'g' and 'ENTER' While still holding down 'g' and 'ENTER' press the 'ON' key Release 'ON', followed by 'g' and 'ENTER'

The test screen will display ' 1.L 2.C 3.H ' Press 1 to perform the LCD test Press 2 to display the Copyright/Checksum message Press 3 to perform the keyboard test

Press ON to exit the self-test.

The keyboard test requires you to push all the keys, one at a time. With each push, something should be removed from the LCD display. When you have completed pushing all the buttons, there should be nothing remaining on the display.

I found this on-line.

Gerry

Re: Replacement for HP15c LE with problematic key?

*Message #8 Posted by **Jeff Kearns** on 3 Oct 2011, 9:28 p.m.,*
in response to message #7 by Gerry Schultz

Gents,

Many thanks! So far, I like it... It certainly is fast for definite integrations with FIX 7.

I will look for the previous posts on the self test issue.

Jeff

Re: Replacement for HP15c LE with problematic key?

*Message #9 Posted by **Jon S Canale** on 3 Oct 2011, 9:34 p.m.,*
in response to message #8 by Jeff Kearns

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=194012#194012

Re: Replacement for HP15c LE with problematic key?

*Message #10 Posted by **Reth** on 4 Oct 2011, 4:08 a.m.,*
in response to message #5 by Jeff Kearns

And I think you didn't read the OP' posting too...

This topic is about bad keys and possible replacement of faulty units

Re: Replacement for HP15c LE with problematic key?

*Message #11 Posted by **G Clark** on 3 Oct 2011, 10:15 p.m.,*
in response to message #1 by Jesse Dodd

Jesse, I have exactly the same story as you. Purchased from buy.com, email to Tim, reply from Littrell, called the 800 number and spoke with Paul Lapansee, emailed POP and invoice to Lapansee as requested on 9/20. After a week of hearing nothing, I emailed Lapansee on 9/27 and got the following response:

"There is no ETA when you will get a replacement. We are waiting to get some in stock. So if possible try to replace it through the reseller first. If you are not able to then we will replace it when it comes in stock."

According to the buy.com website, they have a 45 day return policy. I think I will wait a few more days to see if any stock shows up on their website. I would rather get a replacement than a refund.

Re: Replacement for HP15c LE with problematic key?

*Message #12 Posted by **Jesse Dodd** on 4 Oct 2011, 10:36 a.m.,*
in response to message #11 by G Clark

So now we have an n=2 of people who where not able to send their 15c in for analysis.

Is there anyone reading this who was successful in sending a calculator in, and if not, how did they get enough machines to evaluate per Tim's post?

Re: Replacement for HP15c LE with problematic key?

*Message #13 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 12:22 p.m.,*
in response to message #12 by Jesse Dodd

Tim collected some on HHC.

Re: Replacement for HP15c LE with problematic key?

*Message #14 Posted by **Gerry Schultz** on 4 Oct 2011, 1:04 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Hi Marcus. I bought two 15c LEs from Samson Cable and two from HP which arrived just before

the HHC conference. Of these, one had a bad CHS key and the other a bad GTO key. At the conference I showed them to Tim and left them with him for evaluation. I'm sure I'll get my replacements when more stock arrives.

Gerry

Re: Replacement for HP15c LE with problematic key?

*Message #15 Posted by **Thomas Radtke** on 4 Oct 2011, 1:29 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Marcus,

since you've already tried 'Kontakt 60' and noticed some effect, would you consider Randys 'ultrasonic bath procedure'? I'm quite sure, after yours was the second report on this, that dirt/oil residues causes contact problems.

Too bad CFC had to be banned (for a good reason) :-(.

Thomas

Re: Replacement for HP15c LE with problematic key?

*Message #16 Posted by **Reth** on 4 Oct 2011, 2:37 p.m.,*
in response to message #15 by Thomas Radtke

> Quote:
>
> ... I'm quite sure, ..., that dirt/oil residues causes contact problems.
>
> ... Thomas

I don't think so - so far we only know about calculators with one bad key each, or I've missed such with more than one?

Re: Replacement for HP15c LE with problematic key?

*Message #17 Posted by **Thomas Radtke** on 4 Oct 2011, 2:47 p.m.,*
in response to message #16 by Reth

IIRC, there was one report about two bad keys in one unit. Well, I have no different explanation about this 'Kontakt 60' substance being apparently helpful, but that would be an argumentum ad ignorantiam, of course :-/.

Wishful thinking.

Re: Replacement for HP15c LE with problematic key?

*Message #18 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 3:33 p.m.,*
in response to message #17 by Thomas Radtke

There a different problems: The CHS key on Gerry's unit was almost blocked as if there was some plastic in its path. My [times] key felt normal but didn't register each time.

This is most likely a contact problem which I tackled with contact cleaner (a tip from the forum.)

Re: Replacement for HP15c LE with problematic key?

*Message #19 Posted by **Reth** on 4 Oct 2011, 4:22 a.m.,*
in response to message #1 by Jesse Dodd

Looks like we are on our own since now on. No official acknowledgement of the problem, no one knows what to do, no one tells us what and how can be done...

I can sell it on TAS but that's not what my guts tell me, I'd rather keep it as a collectible or better, get it fixed.

I have no real use for that calc but bought one just to put my money where my mouth was a few years back signing the "bring back 15c" petition. Also I got fooled by many statements here that the modern 12C had flawless keyboard.

Re: Replacement for HP15c LE with problematic key?

*Message #20 Posted by **bluesun08** on 4 Oct 2011, 5:35 a.m.,*
in response to message #19 by Reth

I think so too. Who take care about us? HP definitivly not. Leo and Meg (also the board) will focus the business on Software *service(!!!)*. IMHO HP is not able to provide SERVICE and haven't provide good service in the past. I'm looking for the future ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: new build with Matrix functions?

*Message #1 Posted by **fhub** on 3 Oct 2011, 12:05 p.m.*

I just wanted to try the Matrix functions which are in the new build 2.2, but I can't find any of these functions in any catalog!?
They appear in the opcode table (wp34s.op), I find them in the EXE but don't see them listed in any catalog (in the emulator)?

So my (maybe) dumb question: how to get these new matrix functions???

Franz

Re: WP34s: new build with Matrix functions?

*Message #2 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 12:56 p.m.,*
in response to message #1 by fhub

Until we find a better place they are in the internal catalog: CPX h CPX.

Re: WP34s: new build with Matrix functions?

*Message #3 Posted by **fhub** on 3 Oct 2011, 1:02 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Until we find a better place they are in the internal catalog: CPX h CPX.

Oh sorry, my fault - this 'place' is really obvious. ;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP50G innards (for Eric)

*Message #1 Posted by **Han** on 3 Oct 2011, 9:21 a.m.*

I removed the LCD from the daughter board, since it was broken, so that I could take a photo of the traces. I took these earlier this morning, so the lighting could be better (probably will take another batch later today).

Inside of the HP 50G

Re: HP50G innards (for Eric)

*Message #2 Posted by **Eric Smith** on 3 Oct 2011, 3:19 p.m.,*
in response to message #1 by Han

That's very helpful, thanks! There's no need to do another batch of photos for me.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

100!

*Message #1 Posted by **Walter B** on 3 Oct 2011, 5:08 a.m.*

Due to some more introductory remarks, the WP 34S Owner's Manual now contains 100 pages for the first time. I didn't expect that amount when we started :-/ Frankly, I doubt I tackled that task if I'd have seen that then.

But now it's slowly moving in the direction of software, where it's said "20% of the code is for what the SW shall do, and 80% is for error prevention and recovery - if the user does something a knowledgeable user shouldn't do". Seems such is life.

FWIW, Walter

Re: 100!

*Message #2 Posted by **fhub** on 3 Oct 2011, 5:27 a.m.,*
in response to message #1 by Walter B

> Quote:
>
> ...the WP 34S Owner's Manual now contains 100 pages...

100 only? In the header you state 100**!** ;-)

Nevertheless many thanks for it,
Franz

Re: 100!

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Oct 2011, 8:00 a.m.,*
in response to message #2 by fhub

Well Franz, 100! is just 11000, and the manual has more pages than that... (base 2, of course) :-)

Re: 100!

*Message #4 Posted by **Katie Wasserman** on 3 Oct 2011, 10:42 a.m.,*
in response to message #2 by fhub

100! -- I started reading this thread thinking that it might be about a sneaky way to compute factorials greater than 69 on an older HP calculator (or the 15C LE or 12C+). But no, it's another 34s topic, sigh.

Re: 100!

*Message #5 Posted by **Paul Dale** on 3 Oct 2011, 5:35 a.m.,*
in response to message #1 by Walter B

> Quote:

> 20% of the code is for what the SW shall do, and 80% is for error prevention and recovery - if the user does something a knowledgeable user shouldn't do

I'd have to agree with this. Catching the corner cases and returning the proper results for silly input consumes lots of code space.

- Pauli

Re: 100!

*Message #6 Posted by **Dominic Richens** on 3 Oct 2011, 6:15 a.m.,*
in response to message #1 by Walter B

sniff she's all grown up now!

Re: 100!

*Message #7 Posted by **Paul Dale** on 3 Oct 2011, 8:07 a.m.,*
in response to message #1 by Walter B

It is about to get a bit bigger soon once the matrix support settles properly.

And a user guide will be ten times this size ;-)

- Pauli

Re: 100!

*Message #8 Posted by **fhub** on 3 Oct 2011, 8:12 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> It is about to get a bit bigger soon once the matrix support settles properly.

Since you mention matrix support:
I see you're just working on M.LIN and M.INV - can you say what else is planned to be built-in wrt. matrix functions?

M.RREF would be very nice (could also be used for linear equation systems), and also eigenvalues/vectors would be great. :-)

Franz

Re: 100!

*Message #9 Posted by **Paul Dale** on 3 Oct 2011, 8:24 a.m.,*
in response to message #8 by fhub

I wasn't planning a RREF command. We're really tight on flash and the commonest uses for RREF that I remember are inverting a matrix and solving linear equations. Both of these are available already via the LU decomposition.

I'd like to include eigenvalues and vectors. Again, space is tight and these might have to be done via

user code. Another one which would be good to get in would be one of the SVD algorithms. Good for least squares solutions, finding the Moore–Penrose pseudoinverse and many other things. I've often said that any problem in linear algebra starts either with the SVD or the eigenvectors -- not strictly true but not that far off the mark :-)

- Pauli

Re: 100!

*Message #10 Posted by **fhub** on 3 Oct 2011, 8:28 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> ...and the commonest uses for RREF that I remember are inverting a matrix and solving linear equations. Both of these are available already via the LU decomposition.

You're right, but RREF is quite useful if you have more or less equations than variables, or if some equations are linear dependent. What does your M.LIN implementation do in such cases?

Re: 100!

*Message #11 Posted by **Paul Dale** on 3 Oct 2011, 8:31 a.m.,*
in response to message #10 by fhub

It errors out with a dimension mismatch or a singular matrix. I guess this isn't as good :-(

The generalised inverse solves part of these problems, but I've not done that at this stage.

- Pauli

Re: 100!

*Message #12 Posted by **fhub** on 3 Oct 2011, 8:39 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> It errors out with a dimension mismatch or a singular matrix. I guess this isn't as good :-(

No, not really. ;-)
And that's exactly the reason why I would like such a RREF command, because it solves all these problems.

About your "Matrix?" question: I would be happy also with 5 user pages - builtin matrix functions are always more comfortable than having to code them by yourself (not to forget the problems with only 3-letter labels).

Franz

Matrix?

*Message #13 Posted by **Paul Dale** on 3 Oct 2011, 8:30 a.m.,*

in response to message #7 by Paul Dale

A question for the folks here.

Implementing the matrix functions will force us to reclaim some of the user flash pages. Currently, matrix support has required three pages and a fourth is very likely.

How many pages of user flash is matrix support worth?

At the moment there are seven program flash pages. One is part of the device backup region which leaves six pages (506 steps each or 3036 steps in total) for whatever the user wants. This will likely drop to five pages (2530 steps).

- Pauli

Re: Matrix?

*Message #14 Posted by **David Persinger (US)** on 3 Oct 2011, 9:09 a.m.,*
in response to message #13 by Paul Dale

Is this something that can be implemented as programs that need not be installed?

I personally won't have a large need for matrix operations, but this is certainly a huge addition for some folks.

At the same time, I won't be using all of the user pages either. So for me it is not a problem to use additional pages for matrices.

I just thought it might be possible to make this an option for each person to choose, but I don't know the mechanics around this and if it is possible.

David

Re: Matrix?

*Message #15 Posted by **Paul Dale** on 3 Oct 2011, 6:04 p.m.,*
in response to message #14 by David Persinger (US)

> Quote:
>
> Is this something that can be implemented as programs that need not be installed?

Not the way it has been done. It would be possible to write user code programs to support matrix operations and they'd be smaller, slower, less accurate and more difficult to use but functional.

> Quote:
>
> I just thought it might be possible to make this an option for each person to choose, but I don't know the mechanics around this and if it is possible.

Not without two different firmware images which I'd like to avoid.

Another alternative would be to drop some of the esoteric functionality in favour of matrix support. e.g. zeta and Bernoulli numbers are largish as are some of the complex functions.

- Pauli

Re: Matrix?

*Message #16 Posted by **fhub** on 4 Oct 2011, 5:03 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Another alternative would be to drop some of the esoteric functionality in favour of matrix support. e.g. zeta and Bernoulli numbers are largish as are some of the complex functions.

+1 for this idea! :-)

I'd say matrix functions (e.g. M.RREF or the already existing but commented out row-operations) are more important than such special functions which almost nobody will ever need or use.

Franz

Re: Matrix?

*Message #17 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 5:13 a.m.,*
in response to message #16 by fhub

The question is what can be easily redone in user code without sacrificing too much accuracy. User code can go into libraries and thus swapped in and out. We have no provisions of putting native code into user flash regions to make them installable objects. This would require a major rewrite.

Re: Matrix?

*Message #18 Posted by **fhub** on 4 Oct 2011, 5:22 a.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> The question is what can be easily redone in user code without sacrificing too much accuracy.

Yes, that's ONE point - the other is which functions are used much more frequently than others. And I'm sure this point would definitely go to matrix operations in favour of such exotic functions Pauli mentioned (at least I myself have never needed or used any of them in my almost 30 years as mathematician ;-)).

Franz

Re: Matrix?

*Message #19 Posted by **gene wright** on 3 Oct 2011, 10:30 a.m.,*
in response to message #13 by Paul Dale

Argh.

As much as I would love a wonderful set of matrix functions, that is a lot of space. :-(

The RRM programs take about 350 program steps of one user flash area and give results that are VERY respectable and fast as well.

I know these will be even faster and a lot more accurate, but at a trade off.

The AM1 7x7 determinant takes 2 seconds using the RRM program and returns a result of 0.999997 which is awfully close to the real result of 1.

I have seen the result the new functions provide, which rounded to 15-16 digits really is equal to 1. lol

While that's wonderful and I certainly would love such abilities, it would be taking flash from everyone - and I can't make that call.

Re: Matrix?

*Message #20 Posted by **Paul Dale** on 3 Oct 2011, 5:51 p.m.,*
in response to message #19 by gene wright

There is a lot more to matrix support than the five PPC routines and RRM routine :-)

Matrix addition and multiplication? Transpose?

Also the routines I've coded do things in-situ and without altering the source matrix or doing anything untoward to the stack. i.e. they are much easier to use.

I guess the question comes down to how many programming steps are required on the 34S?

- Pauli

Re: Matrix?

*Message #21 Posted by **gene wright** on 3 Oct 2011, 5:57 p.m.,*
in response to message #20 by Paul Dale

50,000 !

:-)

Seriously, as you said, there is more functionality to be had than the RRM/PPC ROM stuff and to add that is a trade-off to program space.

Still, since pages of flash can be loaded by combining files at upload from a PC, having all 9 flash spaces open is very tempting!

Tough choice. Perhaps you should start a feedback thread with a compelling title to get the feeling here?

Re: Matrix?

*Message #22 Posted by **Gerry Schultz** on 3 Oct 2011, 7:27 p.m.,*
in response to message #21 by gene wright

It is a tough choice. Given that the 34S is still a moving target firmware wise, the community hasn't had a lot of time to develop complete user apps and get an idea of how

much space is needed for user-friendly programs. Also goes the corollary that any user program will fill up all the user space. So, does it really matter what a survey reveals? In the end, no matter how much programming is made available to the user, it will be filled up and we will cry for more.

The HP-41C was built with more memory than was ever seen before in an HP calculator, with a price tag to match. Now with the 41CL we have multiple pages to store complete 41 memory images, including extended memory.

Given the physical hardware limitations of the calculators,I vote for two different firmware images, one with matrix functions and one without. Then I can burn a couple of HP 20B/30Bs with the functionality I want and programming space I need. But that makes firmware development more complex. Now we are experiencing some of the design trade-offs HP has had to make in the past. CRAP!

I WANT IT ALL IN MY 34S and I WANT IT NOW!

Gerry

Re: Matrix?

*Message #23 Posted by **Paul Dale** on 3 Oct 2011, 7:29 p.m.,*
in response to message #22 by Gerry Schultz

Sounds like we've got a volunteer to maintain a split distribution :-)

- Pauli

Re: Matrix?

*Message #24 Posted by **Gerry Schultz** on 3 Oct 2011, 9:11 p.m.,*
in response to message #23 by Paul Dale

You are a very funny man:). I did sit next to Marcus during the conference but none of his smarts rubbed off on me.

Gerry

Re: Matrix? AKA: "vote early and often"

*Message #25 Posted by **db (martinez, ca.)** on 3 Oct 2011, 11:00 p.m.,*
in response to message #13 by Paul Dale

"How many pages of user flash is matrix support worth?"

As i have already stated; i think that massive program memory is more important than matrices, those complex functions, or even hyperbolic trig. I seldom need to describe trajectories in flat non-euclidean 4 dimensional spacetime of the sort used in special relativity any more. Maybe it's the bars i go to these days.

I see why you and the rest of the trinity don't want to have two or more final versions of the 34S floating around out there. I can also see how Eric Rechlin wouldn't like that either. You might give it another thought though.

Whatever you do, thanks.

hey db, we missed you this year!
*Message #26 Posted by **gene wright** on 3 Oct 2011, 11:05 p.m.,*
in response to message #25 by db (martinez, ca.)

Where were you at HHC?

Re: hey db, we missed you this year!
*Message #27 Posted by **db (martinez, ca.)** on 5 Oct 2011, 10:58 p.m.,*
in response to message #26 by gene wright

Thanks for asking Gene. If i had been, Marcus would have drank even more beer. Did i miss any interesting "deciduous trees"?

Too much work, too much indecision on the part of my employer, too much of my own house's roof open to the sky.

Re: hey db, we missed you this year!
*Message #28 Posted by **gene wright** on 7 Oct 2011, 7:25 a.m.,*
in response to message #27 by db (martinez, ca.)

Hey, that's three too's.

Hope you can come next year.

Re: Matrix? AKA: "vote early and often"
*Message #29 Posted by **Howard Owen** on 3 Oct 2011, 11:59 p.m.,*
in response to message #25 by db (martinez, ca.)

> Quote:
>
> I seldom need to describe trajectories in flat non-euclidean 4 dimensional spacetime of the sort used in special relativity any more. Maybe it's the bars i go to these days.

LOL!

Re: 100!
*Message #30 Posted by **Brian Walsh** on 3 Oct 2011, 9:57 a.m.,*
in response to message #1 by Walter B

100 pages barely scratches the surface. It deserves to be, and users deserve, several times that much, not so much to say "mine is bigger than yours" but because clear explanations *and examples* take that much. The PPC ROM manual is a shining example of good documentation.

It's that much more reason to take advantage of Gene and Jake's generous offer to fully document the WP 34S, especially including beginner info. Doing so will free you to do other things. Thank you for everything you have done thus far.

Re: 100!
*Message #31 Posted by **David Hayden** on 3 Oct 2011, 1:41 p.m.,*

in response to message #30 by Brian Walsh

I agree with Brian. The original 15C Owners Handbook was 300 pages. Given the huge addition of functionality, I think a 34S manual with similar detail would be 800-1,000 pages.

Re: 100!

*Message #32 Posted by **Jake Schwartz** on 4 Oct 2011, 11:44 a.m.,*
in response to message #31 by David Hayden

> Quote:
>
> I think a 34S manual with similar detail would be 800-1,000 pages.

...and since the 34S computes 100! to be 9.332621544394415 E157, we have our work cut out for us :-)

Jake

Re: 100? Why not a thousand flowers?

*Message #33 Posted by **Peter Murphy (Livermore)** on 3 Oct 2011, 11:46 a.m.,*
in response to message #1 by Walter B

The HP 48G/GX had its User's Guide (which underwent at least eight editions) and its Advanced User's Reference Manual (three). They're exactly what one would call the FM: read it and you'll find everything, or nearly so.

HP left it at that.

Then others wrote books on using the 48G/GX. Grapevine Publications put out four books and a Pocket Guide, and Thomas Adams wrote or cowrote two more. Some books, written for the 48S/SX, are pertinent to the 48G/GX as well. There may be others of which I am not aware. They all have their place alongside the FM.

I would think that 100! pages by a principal in the 34S project would qualify, after minor fixes, as the FM. Rather than setting up a wiki within which to make the FM satisfy everyone -- an impossible project -- might it not be better for anyone with a Grapevine-like idea just to do it?

By all means read and proofread the FM, and suggest fixes to the author. Then let the FM be, and let a thousand flowers bloom.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE - pre-release firmware available?

*Message #1 Posted by **Alexander Oestert** on 3 Oct 2011, 4:34 a.m.*

As the bugs seem to pile up, is someone able and willing to make an earlier 15c LE firmware version available, that supposedly has no PSE and voltage drain problem? I think many would appreciate that effort!

Thanks in advance!

Worried in Hamburg :(

Edited: 3 Oct 2011, 4:35 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

sigh

*Message #1 Posted by **Howard Owen** on 2 Oct 2011, 10:57 p.m.*

"Very RARE and Hard to Find!"

TAS link.

Re: *sigh*

*Message #2 Posted by **Michael de Estrada** on 2 Oct 2011, 11:04 p.m.,*
in response to message #1 by Howard Owen

Haha ! I just saw that too. You beat me to it. Like it's the only TAS listing. And there have already been many more auctions that have ended.

Edited: 2 Oct 2011, 11:12 p.m.

Re: *sigh*

*Message #3 Posted by **bill platt** on 3 Oct 2011, 12:07 a.m.,*
in response to message #2 by Michael de Estrada

closing prices as of today:

```
Average close: $220
Lowest:  $147
Highest: $447
```

Sometimes I am positively amazed by humans.

Oh, and I didn't touch an HP for this. I used a spreadsheet on an IBM :-)

```
210
250
242
210
213
203
250
153
147
152
154
154
154
260
255
250
170
181
175
260
165
193
199
280
```

```
360
240
187
229
229
185
199
150
202
179
355
300
199
447
223
299
275
265
215
200
175
200
200
210
200
```

Edited: 3 Oct 2011, 12:07 a.m.

Re: *sigh*

*Message #4 Posted by **Howard Owen** on 3 Oct 2011, 12:26 a.m.,*
in response to message #3 by bill platt

I'm conflicted about this. On the one hand it's amazing to see so many folks getting, not to put too fine a point on it, [screwed, not only by the sellers, but through getting potentially defective units. On the other it's nice to see a revived 15C selling so well. It may mean HP will actually spend the dough to implement in a reasonable way the fixes Cyrille and Tim come up with. Of course, in my dreams, brisk sales could even lead to a not limited edition 15C, or even consideration of the idea to designing new calcs along the lines of the "42S plus II glory hallelujah."

Like I said: *sigh*. :)

Re: *sigh*

*Message #5 Posted by **Jim Yohe** on 3 Oct 2011, 12:43 a.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> "42S plus II glory hallelujah."

Amen!

Re: *sigh*

*Message #6 Posted by **Ethan Conner** on 3 Oct 2011, 1:00 a.m.,*
in response to message #5 by Jim Yohe

Appropriate Sunday commentary. :)

Re: *sigh*

*Message #7 Posted by **Howard Owen** on 3 Oct 2011, 3:00 a.m.,*

in response to message #6 by Ethan Conner

There's no doubt in my mind that this hobby is at least $^{2}/_{3}$ religion, and that last decimal digit better be a seven. :)

Re: *sigh*

*Message #8 Posted by **Howard Owen** on 3 Oct 2011, 3:02 a.m.,*
in response to message #3 by bill platt

Have you been tracking prices for a while, Bill?

Re: *sigh*

*Message #9 Posted by **bill platt** on 3 Oct 2011, 9:28 a.m.,*
in response to message #8 by Howard Owen

On and off for about 10 years... But I am not a baseball statistician about it.

Re: *sigh*

*Message #10 Posted by **Joerg Woerner** on 3 Oct 2011, 1:28 p.m.,*
in response to message #3 by bill platt

Bill,

Great work.

Funny to know that the one from the Datamath Calculator Museum sold for the highest price so far ;-))

I guess I should focus more on Hewlett Packard stuff instead TI's.

Cheers, Joerg

Re: *sigh*

*Message #11 Posted by **gene wright** on 3 Oct 2011, 1:54 p.m.,*
in response to message #10 by Joerg Woerner

Yes, you should!

Re: *sigh*

*Message #12 Posted by **Joerg Woerner** on 3 Oct 2011, 2:39 p.m.,*
in response to message #11 by gene wright

Gene,

I would have to sell my TI-88 first - a nice HP collection needs some start-up money ;-))

Cheers, Joerg

Re: *sigh*

*Message #13 Posted by **David Ramsey** on 3 Oct 2011, 5:23 p.m.,*
in response to message #12 by Joerg Woerner

I believe you said you'd sell the TI-88 for $2500.01, right?

Re: *sigh*

*Message #14 Posted by **Joerg Woerner** on 3 Oct 2011, 9:17 p.m.,*
in response to message #13 by David Ramsey

I remember that you wanted to trade it for your supercharged, custom-painted Saleen Mustang ;-))

Cheers, Joerg

Re: *sigh*

*Message #15 Posted by **David Ramsey** on 4 Oct 2011, 3:06 p.m.,*
in response to message #14 by Joerg Woerner

Really? I don't remember ever saying that.

Besides, as a sophisticated European person used to sophisticated cars, I don't think you'd like it. It's pretty, but quite crude. Kind of like the SR-60. :-)

Re: *sigh*

*Message #16 Posted by **bill platt** on 4 Oct 2011, 4:23 p.m.,*
in response to message #15 by David Ramsey

I discovered that there is a pretty energetic 1960s Mustang collector fan base in Holland. Meanwhile in the U.S. we like better cars, such as Porche....

Re: *sigh*

*Message #17 Posted by **Alexander Oestert** on 3 Oct 2011, 4:48 a.m.,*
in response to message #1 by Howard Owen

> Quote:
>
> "Very RARE and Hard to Find!"

At least for us Europeans that is true after all.

And with the bugs apparently accumulating in the LE, I might be tempted to also take advantage of this situation... ;)

Re: *sigh*

*Message #18 Posted by **Walter B** on 3 Oct 2011, 5:10 a.m.,*
in response to message #17 by Alexander Oestert

Seems there are better investments ;-)

[Return to Index | Top of Index]

sigh

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP IP for sale

*Message #1 Posted by **hpnut** on 2 Oct 2011, 10:50 p.m.*

I was wondering if this is part of HP's strategy to sell off PC manufacturing.

http://h20229.www2.hp.com/hpvps/OnlinePatentSales.html

talk about selling off the family's silver ;-)

Calculator Division next?

Re: HP IP for sale

*Message #2 Posted by **Katie Wasserman** on 3 Oct 2011, 1:39 a.m.,*
in response to message #1 by hpnut

I don't know how to judge this.

The purchase and sale of IP is a gigantic business these days. It might be that HP felt these groups of patents don't enhance its portfolio at all and don't threaten it either if they were held by a competitor. So it made good sense to sell them.

Or, like you suggest, selling these patents (one of the 2 examples came from the EDS acquisition) is a prelude to getting out of the PC business.

Re: HP IP for sale

*Message #3 Posted by **Lincoln R.** on 3 Oct 2011, 10:57 a.m.,*
in response to message #2 by Katie Wasserman

These patents don't seem *that* exciting. Not to mention, there are almost certainly terms and conditions in the sales contract, one of which may very well be "You agree to grant HP an indefinite, irrevocable, royalty-free license to use this patent." Given the proliferation of patent trolls in today's world I'd almost bet money that's in there somewhere, HP really doesn't want to get sued by someone who bought one of their own patents.

Re: HP IP for sale

*Message #4 Posted by **Lincoln R.** on 3 Oct 2011, 11:05 a.m.,*
in response to message #3 by Lincoln R.

Yup.

http://h20229.www2.hp.com/hpvps/Online%20Patent%20Sales%20Agreement.pdf Page 7

> Quote:

License Grant from Purchaser to HP. Effective as of the Closing Date, Purchaser agrees to grant and hereby grants to HP and its current and future Affiliates a worldwide, non-exclusive, perpetual, irrevocable, royalty-free and fully paid up license, without any right to sublicense, under each of the Licensed Patents, to make, have made, use, sell, offer for sale, have sold, lease, import, export, and/or otherwise transfer any product or service, and to practice or have practiced any method or process for the manufacture or use of any product or service.

Re: HP IP for sale

*Message #5 Posted by **Tim Wessman** on 3 Oct 2011, 1:53 a.m.,*
in response to message #1 by hpnut

There is a "buy it now" button if you look closely. . .

TW

Re: HP IP for sale

*Message #6 Posted by **hpnut** on 3 Oct 2011, 2:08 a.m.,*
in response to message #5 by Tim Wessman

Tim,

not surprising given that Meg is in the driving seat now :-)

hpnut in Malaysia

Re: HP IP for sale

*Message #7 Posted by **John B. Smitherman** on 3 Oct 2011, 7:01 a.m.,*
in response to message #5 by Tim Wessman

Do they accept PayPal? Will they ship outside of the US? ;-)

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.10 available

*Message #1 Posted by **Raymond Del Tondo** on 2 Oct 2011, 10:30 p.m.*

Hello all,

here's an important update for SpeedUI.

SpeedUI 11.10 fixes some serious bugs. See RelNotes.txt for details.

For installation/uninstallation, please take a look into StartHere.pdf supplied with the latest SpeedUI archive.

The new version is available here: http://www.hpmuseum.org/guest/deltondo/speedui.pdf (Walkthrough PDF)

http://www.hpmuseum.org/guest/deltondo/sui_1110.zip (SpeedUI zip archive)

and on www.hpcalc.org once the site will be updated.

Have fun:-)

Raymond

How does it do this?

*Message #2 Posted by **snaggs** on 3 Oct 2011, 5:14 a.m.,*
in response to message #1 by Raymond Del Tondo

I have a 48G+ which I havnt learnt yet. Does this UI make it different from the manuals or does it just speed it up?

Daniel

Re: How does it do this?

*Message #3 Posted by **Raymond Del Tondo** on 3 Oct 2011, 8:30 a.m.,*
in response to message #2 by snaggs

It's a bit of both. The main intention is speed while staying compatible to the standard HP-48G L&F , but there are some extensions and enhancements which will make usage more comfortable.

For more details please take a look into the walkthrough (speedui.pdf) which is linked in the initial post;-)

Ray

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S build problems on Linux

*Message #1 Posted by **Eric Smith** on 2 Oct 2011, 10:22 p.m.*

When I try to build WP-34S on a 64-bit Linux platform (Fedora 14) using the CodeSourcery toolchain, I get several errors. The first ones are in post_process.c:

```
printf( "sizeof(struct argcmd) = %d\n", sizeof(struct argcmd) );
```

The sizeof() macro returns a value of type size_t, which may not fit in an int. The correct conversion (according to the ISO C standard) for printf is "%zu" rather than "%d".

The rest of the problems in that file are all like:

```
post_process.c:72:2: error: cast from pointer to integer of different size
```

Resulting from source lines like:

```
ADJUST( p_monfuncs,     monfunc );
```

The ADJUST macro is defined as:

```
#define ADJUST(p,type) (info->p = (struct type *) BUFF(info->p))
```

I haven't yet figured out how to fix this. It appears to me that the code does an fread() of data intended for the target machine (ARM) into a buffer, and depends on the pointer size and endianness of the build host matching that of the target, which is not a good assumption.

I used a workaround for that, and got another two more errors:

```
In file included from asone.c:26:0:
main.c: In function 'main':
keys.c:428:15: error: 'runmode' may be used uninitialized in this function
keys.c:429:15: error: 'alphas' may be used uninitialized in this function
```

I removed -Werror to try to get past that, and the linker tells me:

```
region `flash' overflowed by 520 bytes
```

Is there any feature I can easily remove/disable that is likely to reduce the ROM size by at least 520 bytes?

Is this the right place to discuss such problems? It didn't appear that the tracker on Sourceforge is being used.

Thanks!

Eric

Edited: 2 Oct 2011, 10:24 p.m.

Re: WP-34S build problems on Linux

*Message #2 Posted by **Paul Dale** on 2 Oct 2011, 10:48 p.m.,*

in response to message #1 by Eric Smith

Quote:

When I try to build WP-34S on a 64-bit Linux platform (Fedora 14) using the CodeSourcery toolchain, I get several errors. The first ones are in post_process.c:

```
printf( "sizeof(struct argcmd) = %d\n", sizeof(struct argcmd) );
```

The sizeof() macro returns a value of type size_t, which may not fit in an int. The correct conversion (according to the ISO C standard) for printf is "%zu" rather than "%d".

I think the better fix would be casting the sizeof result to int which I'll commit soon. We build on machines with somewhat stupid compilers and I very much doubt they support %zu.

Quote:

The rest of the problems in that file are all like:

```
post_process.c:72:2: error: cast from pointer to integer of different size
```

...

I haven't yet figured out how to fix this. It appears to me that the code does an fread() of data intended for the target machine (ARM) into a buffer, and depends on the pointer size and endianness of the build host matching that of the target, which is not a good assumption.

This is one for Marcus. The post processor is packing pointers into flash into sixteen bits (128kb of flash where code must be even byte aligned means sixteen bits is sufficient for a function pointer). This is quite a hack but it saves more than a bit of flash :-)

Quote:

I used a workaround for that, and got another two more errors:

```
In file included from asone.c:26:0:
main.c: In function 'main':
keys.c:428:15: error: 'runmode' may be used uninitialized in this function
keys.c:429:15: error: 'alphas' may be used uninitialized in this function
```

These aren't errors fortunately. The compiler isn't clever enough to see that :-(I think I can fix this in a clean enough manner by avoiding the conditional assignment -- might save a couple of bytes too.

Quote:

I removed -Werror to try to get past that, and the linker tells me:

```
region `flash' overflowed by 520 bytes
```

Is there any feature I can easily remove/disable that is likely to reduce the ROM size by at least 520 bytes?

Try reducing the number of flash segment in the features.h header (NUMBER_OF_FLASH_REGIONS) or by turning off some functionality there. Matrix support is largish as are the zeta/Bernoulli pair. I've been adding

more than a bit of matrix code recently.

- Pauli

Re: WP-34S build problems on Linux

*Message #3 Posted by **Eric Smith** on 3 Oct 2011, 12:33 a.m.,*
in response to message #2 by Paul Dale

Got a binary built, thanks! I suppose I'll try flashing one of your premade ones first, to make sure the process works, before trying the image I just built.

Re: WP-34S build problems on Linux

*Message #4 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 12:35 a.m.,*
in response to message #2 by Paul Dale

We've had a bad with the CodeSourcery compiler: It produced a hang in the firmware due to a compiler (code generation or optimization) error. Don't hope it will do the job.

post_process.c was designed to run on a Windows build machine. It relies on a structure output by the linker after the actual image where it finds the actual 32 bit addresses of the functions and the addresses of the function tables themselves. It makes some assumptions about the endianess and alignment of the host compiler as you already found out.

Re: WP-34S build problems on Linux

*Message #5 Posted by **Eric Smith** on 3 Oct 2011, 1:02 a.m.,*
in response to message #4 by Marcus von Cube, Germany

So it's not currently possible to build on Linux?

Re: WP-34S build problems on Linux

*Message #6 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 1:27 a.m.,*
in response to message #5 by Eric Smith

Check if Yagarto.de has a Linux build of GCC 4.6. Set the options in the Makefile for HOSTCC to force a 32bit build. If you compile under Linux with the same options as the build from us the binaries should be identical (except for the revision number).

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S Revision 1653 Feedback

*Message #1 Posted by **svisvanatha** on 2 Oct 2011, 9:49 p.m.*

I just flashed the Rev 1653 firmware. A few observations:

1. The previous discussion of FIX, SCI, ENG, ALL, setting DECM mode while in Integer mode has been realized.

2. Some good descriptions have been added to the manual - I assume this is Walter's work. Many thanks!

3. With respect to returning to DECM mode. Page 22 of the manual says that [->][H.MS] will return to DECM. However, when I try this from Integer mode, I get the error: "Bad Mode Error". My key presses for [->][H.MS] are: [->] [f] [STO]. Am I misunderstanding what is intended here?

Many thanks, and this new revision is looking great (especially the additions to the manual)!

Re: WP-34S Revision 1653 Feedback

*Message #2 Posted by **Paul Dale** on 2 Oct 2011, 9:57 p.m.,*
in response to message #1 by svisvanatha

> Quote:
>
> 3. With respect to returning to DECM mode. Page 22 of the manual says that [->][H.MS] will return to DECM. However, when I try this from Integer mode, I get the error: "Bad Mode Error". My key presses for [->][H.MS] are: [->] [f] [STO]. Am I misunderstanding what is intended here?

A documentation error I suspect. No [->] is required as far as I was aware.

- Pauli

Re: WP-34S Revision 1653 Feedback

*Message #3 Posted by **svisvanatha** on 2 Oct 2011, 10:42 p.m.,*
in response to message #2 by Paul Dale

Thanks for the clarification.

Re: WP-34S Revision 1653 Feedback

*Message #4 Posted by **svisvanatha** on 2 Oct 2011, 11:31 p.m.,*
in response to message #1 by svisvanatha

4. Running a simple SOLVE to compare against the 15C LE:

```
LBL A
x^2
5
-
```

```
RTN
```

On the 15C LE, this yields 2.2361 with intial guess of 0 and 10 in the Y and X registers, respectively.

On the WP-34S, I initially get the "Solve Failed" message, but after clearing the message with EXIT, the correct result is displayed in X.

Re: WP-34S Revision 1653 Feedback

*Message #5 Posted by **Paul Dale** on 2 Oct 2011, 11:41 p.m.,*
in response to message #4 by svisvanatha

This stems from the error estimate in Z not being approximately zero. Try again in e.g. FIX 04 and it will work properly.

Seems that check is a bit too aggressive.

- Pauli

Re: WP-34S Revision 1653 Feedback

*Message #6 Posted by **svisvanatha** on 2 Oct 2011, 11:55 p.m.,*
in response to message #5 by Paul Dale

Ok. Thanks again!

Re: WP-34S Revision 1653 Feedback

*Message #7 Posted by **Walter B** on 3 Oct 2011, 2:54 a.m.,*
in response to message #1 by svisvanatha

> Quote:
>
> I just flashed the Rev 1653 firmware. A few observations:
>
> 1. The previous discussion of FIX, SCI, ENG, ALL, setting DECM mode while in Integer mode has been realized.

Except ALL, that had been in the manual for long already ;-)

> Quote:
>
> 3. With respect to returning to DECM mode. Page 22 of the manual says that [->][H.MS] will return to DECM. However, when I try this from Integer mode, I get the error: "Bad Mode Error". My key presses for [->][H.MS] are: [->] [f] [STO]. Am I misunderstanding what is intended here?

H.MS as well as ->H.MS work in DECM exclusively as explained in the index. I will change the table you quoted. Thanks for pointing to it.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34-S Flashing Cable Repair?

*Message #1 Posted by **svisvanatha** on 2 Oct 2011, 7:01 p.m.*

Hello,

Unfortunately, the serial flashing cable that I use for WP-34S has suffered an issue. One of the 6 male pins that connect to the backside of the calculator appears missing. There is a retaining ring at the bottom of the pin, where it connects to the black connector housing. That ring appears to have been opened, likely leading to the pin falling out. I guess I was not careful in inserting/removing the cable at some point, leading to the retaining ring failure :(

I have a new cable lying around, so I am not in an immediate need of repairing this. I just like the comfort of knowing that a backup exists.

So, I was wondering if this is repairable?

Re: WP34-S Flashing Cable Repair?

*Message #2 Posted by **Brian Walsh** on 2 Oct 2011, 7:08 p.m.,*
in response to message #1 by svisvanatha

Silly question, I suppose, but why do you *need* more than one cable? Nobody else I know of, except Gene Wright and perhaps a few other key contributors to the repurposing project, has more than one. And please remember, these cables are a gift to the user community from HP, which they have authorized Gene to distribute. It's generous of them to do so, and it's not as if you paid anything more than postage for them.

Re: WP34-S Flashing Cable Repair?

*Message #3 Posted by **svisvanatha** on 2 Oct 2011, 7:33 p.m.,*
in response to message #2 by Brian Walsh

Correct. I do not *need* more than one cable. Back in January of this year, when I purchased the 30B, and was inquiring about flashing it, I was offered a cable. I accepted that gracious offer, and was stunned to see two cables show up from that individual (incidentally, the individual was not Gene, however Gene appears to be a generous individual himself!).

It has been a few months since then, and I actually forgot about the extra cable that came in that package. It was not until today that it crossed my mind when I noticed my first cable was broken.

I value the gesture from that individual for sending me the cables, I realize how precious they are, and naturally came here for some constructive help in repairing the broken cable. Innocent enough (I think).

Re: WP34-S Flashing Cable Repair?

*Message #4 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 12:27 a.m.,*
in response to message #3 by svisvanatha

HP used to send them in packs of two. I gave my spare to Walter.

Re: WP34-S Flashing Cable Repair?

*Message #5 Posted by **sylvandb** on 3 Oct 2011, 1:55 p.m.,*
in response to message #1 by svisvanatha

> Quote:
>
> One of the 6 male pins that connect to the backside of the calculator appears missing. There is a retaining ring at the bottom of the pin, where it connects to the black connector housing. That ring appears to have been opened, likely leading to the pin falling out.
>
> I was wondering if this is repairable?

Cannot answer the repairable question...

The pins are called "pogo pins" or "spring loaded contact pins". I've seen them on ebay, but they are also available from electronics suppliers such as Mouser or Allied. They come in different sizes, don't know right off what size the HP plug uses.

Re: WP34-S Flashing Cable Repair?

*Message #6 Posted by **svisvanatha** on 3 Oct 2011, 8:44 p.m.,*
in response to message #5 by sylvandb

Thank you for the reply. I will look into your suggestion.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!

*Message #1 Posted by **Joerg Woerner** on 2 Oct 2011, 2:19 p.m.*

Just read the topic about the slightly larger housing of the new HP 15c Limited Edition and the original HP-15C.

Well, they are both FAR TOO LARGE - just remember this CUTIE from the Eighties!

Cheers,

Joerg

CASIO: BRING IT BACK! UNLIMITED!!!

PS: Please scroll down the page, there are two pictures with both calculators to compare the dimensions. You don't need a caliper to see the differences.

Edited: 2 Oct 2011, 2:20 p.m.

Re: HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!

*Message #2 Posted by **Bart (UK)** on 2 Oct 2011, 2:41 p.m.,*
in response to message #1 by Joerg Woerner

Is it RPN? ;-)

Re: HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!

*Message #3 Posted by **Dirk Mehldau** on 2 Oct 2011, 3:47 p.m.,*
in response to message #1 by Joerg Woerner

Well, HP 15c LE and HP-15C may be both huge, but look at the DM-15CC: http://www.rpn-calc.ch/

Watch the prototype here: http://youtu.be/G6NNtjnvD24

Let me quot Michael: Make it small - now!

Re: HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!

*Message #4 Posted by **Joerg Woerner** on 2 Oct 2011, 3:49 p.m.,*
in response to message #3 by Dirk Mehldau

WOW!!!!! That's a wonderful project. Cheers, Joerg

Re: HP 15c LE vs HP-15C dimensions - BOTH ARE HUGE!

*Message #5 Posted by **Jim Johnson** on 3 Oct 2011, 6:53 a.m.,*
in response to message #4 by Joerg Woerner

I traded email with the swiss designer before HP actually introduced the HP15cLE (in fact he used my quote in his web posting). I mentioned that his market for an exact HP15C clone would collapse if HP reintroduce the HP15C and he said he would likely move forward with plans to produce the HP15C credit card version.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE box -- just for the record

*Message #1 Posted by **John S. Miller** on 2 Oct 2011, 1:16 p.m.*

There have been some mentions here and other places about the "leather" box the LE comes in. That black reptilian-textured surface is not leather, but embossed paper. Just sayin'.

Re: 15c LE box -- just for the record

*Message #2 Posted by **aj04062** on 2 Oct 2011, 2:38 p.m.,*
in response to message #1 by John S. Miller

aw man!

I was hoping that it was "rich Corinthian leather"

Ricardo!

That would have completed the nostalgic blast.

Re: 15c LE box -- just for the record

*Message #3 Posted by **db (martinez, ca.)** on 3 Oct 2011, 12:31 a.m.,*
in response to message #1 by John S. Miller

HP calculator cases and even slip cases have also been erroneously identified as leather when they are really made from the hide of the Nuaga.

and just for the record; I have bought NEW an 11c, 12c (as a gift), 41cx, 71(hated it & sold it), 42 (sold it), 32sii, 48 sx & gx, 30b (for the 34s) and the new 15. The box for the 15cle is the nicest package any of my calcs ever came in. I doubt that hp claimed to have killed endangered species to make them.

Re: 15c LE box -- just for the record

*Message #4 Posted by **Michael de Estrada** on 3 Oct 2011, 12:39 a.m.,*
in response to message #3 by db (martinez, ca.)

The boxes are Vegan.

Re: 15c LE box -- just for the record

*Message #5 Posted by **robert rozee** on 3 Oct 2011, 9:23 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> The boxes are Vegan.

how many boxes do they manage to make out of each vegan skin?

Re: 15c LE box -- just for the record

*Message #6 Posted by **aj04062** on 3 Oct 2011, 12:19 p.m.,*
in response to message #5 by robert rozee

Nice

Re: 15c LE box -- just for the record

*Message #7 Posted by **Brian Walsh** on 3 Oct 2011, 2:12 p.m.,*
in response to message #5 by robert rozee

An eccentric friend who is a retired estate attorney has many unique perspectives. Being predominantly a carnivore, one of his sayings is, "Vegetables are what food eats."

Re: 15c LE box -- just for the record

*Message #8 Posted by **Martin Pinckney** on 3 Oct 2011, 5:05 p.m.,*
in response to message #7 by Brian Walsh

> Quote:
>
> "Vegetables are what food eats."

Funny!

Re: 15c LE box -- just for the record

*Message #9 Posted by **Dave Shaffer (Arizona)** on 3 Oct 2011, 5:16 p.m.,*
in response to message #7 by Brian Walsh

Reminds me of a bumper sticker: I didn't fight my way to the top of the food chain to eat vegetables!

Re: 15c LE box -- just for the record

*Message #10 Posted by **Martin Pinckney** on 3 Oct 2011, 2:10 p.m.,*
in response to message #3 by db (martinez, ca.)

> Quote:
>
> ... erroneously identified as leather when they are really made from the hide of the Nuaga.

Ah, yes, I remember when the entire inside of a late 1950's car could be had in hyde® of the Nauga (except the headliner, of course; that was the made from the hair of the Mo).

Edited: 3 Oct 2011, 5:07 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL

*Message #1 Posted by **M. Joury** on 2 Oct 2011, 11:45 a.m.*

I have seen several mentions that sound like people expecting to receive the 41CL board in the near future. I have not heard anything official about this and was wondering if people had information that indicated a pending release of the next set of boards?

Cheers,

-Marwan

Re: HP-41CL

*Message #2 Posted by **Mark Hardman** on 2 Oct 2011, 1:30 p.m.,*
in response to message #1 by M. Joury

It is pretty clear from Monte's last two blog entries that a new production batch will be available in the (hopefully) near future.

See: http://systemyde.com/hp41/

Re: HP-41CL

*Message #3 Posted by **M. Joury** on 2 Oct 2011, 7:45 p.m.,*
in response to message #2 by Mark Hardman

Thanks Mark,

Monte confirmed that they would be shipping in the near future :).

Cheers,

-Marwan

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 30b firmware

*Message #1 Posted by **Miguel Toro** on 2 Oct 2011, 9:35 a.m.*

Hi,

if it not inconvenient, does someone have the HP 30b original firmware to share? I received a 30b to repurpose as a 34s, so to have, finally, a better keyboard, but I would like to be able to reflash it back, just in case.

Thanks and regards,

Miguel

Re: HP 30b firmware

*Message #2 Posted by **Alexander Oestert** on 2 Oct 2011, 10:26 a.m.,*
in response to message #1 by Miguel Toro

Contact Gene Wright via forum mail.

I'm not offering to send it, not knowing if there is some kind of copyright issue. Gene seems to be the official HP contact person for this.

Edited: 2 Oct 2011, 10:36 a.m.

Re: HP 30b firmware

*Message #3 Posted by **Mike Maiorana** on 3 Oct 2011, 7:38 a.m.,*
in response to message #1 by Miguel Toro

Perhaps there is a way to download the existing code before flashing on the new code. That would eliminate any copyright issues with providing the code to another. However, I'm not sure how to do it.

Re: HP 30b firmware

*Message #4 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 10:05 a.m.,*
in response to message #3 by Mike Maiorana

There is no way to do that. Getting into SAM-BA mode requires clearing a bit in the processor. The existing firmware has no provisions for this (34S has!). The consequence: Only a full erase allows access to the flash memory but then it's already too late.

Re: HP 30b firmware

*Message #5 Posted by **Bart (UK)** on 3 Oct 2011, 11:46 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:

> ... requires clearing a bit in the processor.

Would that be a "flash read-protect" bit? Something that has been present on PGA's, ROM's, EPROM's etc. etc. etc. for decades and which any sensible OEM would use to protect their IP :-)

I decided to particularly buy a second 30b for a 34s reprogramming.

Re: HP 30b firmware

*Message #6 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 1:02 p.m.,*
in response to message #5 by Bart (UK)

There are two such bits: One to decide which ROM area to boot: SAM-BA or the image in flash; and one to protect the flash from reading through the JTAG port. For SAM-BA to work, the boot bit needs to be reset. Alas, that requires a full flash erase operation of which it is a (desired) side effect.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another HP-15C LE bug?

*Message #1 Posted by **Benoit Maag** on 2 Oct 2011, 3:23 a.m.*

While testing the HP-15 LE for speed by using the Taylor series of Arctan(1) to get an estimate of pi (pi/4= 1-1/3+1/5-1/7...), I seem to have stumbled into an unusual, unpredictable and potential annoying bug. After an ON/- reset, I entered the following:

LBL A 4 STO 0 3 STO 1 1 CHS STO 2 1 EEX 4 STO 3 LBL 0 4 RCL 1 / <= altered code (see below) RCL 2 * STO+ 0 2 STO+ 1 1 CHS STO* 2 DSE 3 GTO 0 RCL 0 RTN

At some point, the program stops with ERROR 0 Checking further, RCL 1 (where it says altered code above) is changed to RCL 5, and since R5 contains zero, there is a divide by zero error.

Bottom line, the program was modified during execution !!!

Additionally: - The R3 value when this occurs is never the same. - The problem does not seem to occur if you enter EEX 4 instead of 1 EEX 4. - I also tried a few other values for the number of cycles and did not see this problem.

Does anyone find the same on their machine? Any clue on the cause, and fix? Does this happen on the original HP-15C?

Re: Another HP-15C LE bug?

*Message #2 Posted by **Les Bell** on 2 Oct 2011, 4:31 a.m.,*
in response to message #1 by Benoit Maag

I just tried your program, very quickly, on my 15CLE. I didn't do an ON/- reset - I just did an f CLEAR PRGM and then entered it. The first time, I used a loop count of 1 EEX 2, just to check what was going on. Then I went in and edited the 2 to a 4, and ran the program three times, successfully. No ERROR 0, and no program corruption.

I suspect this is related to the ON/- reset.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Another HP-15C LE bug?

*Message #3 Posted by **Alexander Oestert** on 2 Oct 2011, 8:54 a.m.,*
in response to message #1 by Benoit Maag

Even after an ON/- reset it works on my LE.

Re: Another HP-15C LE bug?

*Message #4 Posted by **BobVA** on 2 Oct 2011, 10:13 a.m.,*
in response to message #1 by Benoit Maag

Just a quick test here as well - it seemed to work properly for three runs on mine. Also worked after an ON/- reset.

Kind of a long shot, but do you have all the settings at default? (Display mode, trig mode, flags, register allocation, etc.?) just in case that's got something to do with it?

Bob

PS Looks like the line feeds in your code listing got eaten by the editor - I took the liberty of putting them back in and adding line numbers. (Hopefully without introducing any errors of my own!)

```
[1] LBL A
[2] 4
[3] STO 0
[4] 3
[5] STO 1
[6] 1
[7] CHS
[8] STO 2
[9] 1
[10] EEX
[11] 4
[12] STO 3
[13] LBL 0
[14] 4
[15] RCL 1
[16] /
[17] RCL 2
[18] *
[19] STO+ 0
[20] 2
[21] STO+ 1
[22] 1
[23] CHS
[24] STO* 2
[25] DSE 3
[26] GTO 0
[27] RCL 0
[28] RTN
```

Edited: 2 Oct 2011, 10:51 a.m. after one or more responses were posted

Re: Another HP-15C LE bug?

*Message #5 Posted by **Benoit Maag** on 2 Oct 2011, 10:48 a.m.,*
in response to message #4 by BobVA

Les, Alexander, Bob,

Thank you for your feedback.

The purpose of the ON/- reset was to get the machine into a standard state before the test.

This being said, I tried this morning and could not reproduce the problem for a while. Then edited the program (changed 1 EEX 4 to 1 EEX 2), and edited back again, and the problem came back in the exact same way (RCL 1 changed to RCL 5). Fixed the RCL 1 and tried again, and it worked... odd

Re: Another HP-15C LE bug?

*Message #6 Posted by **BobVA** on 2 Oct 2011, 10:51 a.m.,*
in response to message #5 by Benoit Maag

There is a chance it's a hardware fault. You might try re-entering a second copy of your code (with different labels) without deleting the original version and see if the new copy works correctly. If it does, then do a clear program memory and re-enter the code once with the new labels. If that misbehaves I'd strongly suspect bad memory (i.e. step 15 is being stored in a flaky cell).

Cheers, Bob

Re: Another HP-15C LE bug?

*Message #7 Posted by **Benoit Maag** on 2 Oct 2011, 11:31 a.m.,*
in response to message #6 by BobVA

Bob,

Thank you for the suggestion. I have tried as you suggested and the 2nd copy did not crash so far. I tried also a small program that cycles infinitely with RCL 1 in cell 15 - no program corruption after quite a while - so I am really at a loss at what is happening...

Re: Another HP-15C LE bug?

*Message #8 Posted by **BobVA** on 2 Oct 2011, 11:39 a.m.,*
in response to message #5 by Benoit Maag

> Quote:
>
> ...Then edited the program (changed 1 EEX 4 to 1 EEX 2), and edited back again, and the problem came back in the exact same way (RCL 1 changed to RCL 5).

Hi Benoit:

Did that happen straight away? That is, right after the edit? Or after editing it and then running it?

Bob

Re: Another HP-15C LE bug?

*Message #9 Posted by **Katie Wasserman** on 2 Oct 2011, 12:38 p.m.,*
in response to message #8 by BobVA

I tried to reproduce this, doing the editing and rerunning as you suggest, with no errors or program corruption. If possible I suggest that you measure the voltages on the two batteries in your calculator.

It might be that a low voltage -- which will occur when running a long program -- is corrupting memory before the brown out detection kicks in. Brown out detection shuts down the ARM chip before voltage becomes too low to sustain memory, this voltage threshold is settable in firmware and might be too low. This would be really bad news so I hope that's not the issue, but I'm going to try testing that just the same.....

Re: Another HP-15C LE bug?

*Message #10 Posted by **Benoit Maag** on 2 Oct 2011, 1:34 p.m.,*
in response to message #9 by Katie Wasserman

The machine has been turned off for ~ 30 minutes. I took out the batteries - both measured 2.92 V on my digital voltmeter (I just measured a AAA new battery with it at 1.59~1.60V, so it probably does not give a low measurement).

What is the min voltage for an ARM processor?

Re: Another HP-15C LE bug?

*Message #11 Posted by **Katie Wasserman** on 2 Oct 2011, 1:57 p.m.,*
in response to message #10 by Benoit Maag

2.92 is actually pretty low for unloaded 2032 cells. If you can put a resistor across them and test the voltage under a simulated calculator load you'll know what the calculator is seeing. Try a 300 ohm resistor (or 330, that's easier to find) across just one cell.

I don't know what the brown out voltage is set to, you'd need see the source code to tell for sure. I'll try some tests later today to see if I can determine if whatever it's set to is working as it should.

Re: Another HP-15C LE bug?

*Message #12 Posted by **Benoit Maag** on 2 Oct 2011, 9:10 p.m.,*
in response to message #11 by Katie Wasserman

Katie,

With a 330 Ohm resistor, the voltage drops to 2.82V.

I just bought 2 new batteries, and without load, the voltage is 3.27~3.28 V (vs 2.92 V for the original batteries).

So the original batteries in the HP-15C I bought were either bad from the beginning, or got depleted extremely quickly (I barely used the machine before the problem started to occur).

So far, no error with the new batteries. Your idea is probably correct, which would mean the 'low bat' detection may need a review.

Thank you

Re: Another HP-15C LE bug?

*Message #13 Posted by **Benoit Maag** on 2 Oct 2011, 1:30 p.m.,*
in response to message #8 by BobVA

Edit and Run

Re: Another HP-15C LE bug?

*Message #14 Posted by **BobVA** on 2 Oct 2011, 4:21 p.m.,*
in response to message #13 by Benoit Maag

> Quote:
>
> Edit and Run

Interesting - so it may be something in the 15c edit routine that's tripping up the emulator code? And there's still the possibility it's a hardware problem on your 15C LE, particularly since no one else can reproduce it.

Katie: I was thinking about a low-battery related problem as well, but you'd think the errors would be more randomly distributed. Benoit's problem seems to crop up with particular key strokes and, maybe, a particular location in memory. Maybe it's both? If he's got a duff byte in memory that's more sensitive to voltage than it should be, when the edit routine tries to manipulate it, it fails. It's interesting that he always gets the same error. Maybe a sticky "4" bit?

Benoit: Could you try changing your code to swap your use of registers 1 and 2? If the error then changes to "2" becoming "6" that would seem to indicate a bit flip issue, likely in hardware.

Also, do you have any fresh batteries? Might be interesting to see if the problem goes away.

Thanks for trying all this. Barring some freak battery problem I'm guessing that you'll need to return your calculator, but it would be good document the problem here in case it crops up again.

Re: Another HP-15C LE bug?

*Message #15 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 4:44 p.m.,*
in response to message #14 by BobVA

The bug which modifies a memory location when a self-test is executed may be related to this one. Try if an ON+/ sequence or similar causes the same program space corruptions.

Re: Another HP-15C LE bug?

*Message #16 Posted by **Benoit Maag** on 2 Oct 2011, 4:58 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Marcus,

I presume you mean turning off the machine, then pressing ON and + together, then releasing +, then releasing ON?

I get ERROR 9

Re: Another HP-15C LE bug?

*Message #17 Posted by **Michael de Estrada** on 2 Oct 2011, 10:13 p.m.,*
in response to message #16 by Benoit Maag

Error 9 is the hardware error message for the original HP-15C and other Voyagers. It appears that your unit is faulty.

Edited: 2 Oct 2011, 10:17 p.m.

Re: Another HP-15C LE bug?

*Message #18 Posted by **Tim Wessman** on 2 Oct 2011, 10:26 p.m.,*
in response to message #17 by Michael de Estrada

Nope.

TW

Re: Another HP-15C LE bug?

*Message #19 Posted by **Michael de Estrada** on 2 Oct 2011, 10:33 p.m.,*
in response to message #18 by Tim Wessman

Care to elaborate.

Re: Another HP-15C LE bug?

*Message #20 Posted by **Eric Smith** on 3 Oct 2011, 1:04 a.m.,*
in response to message #19 by Michael de Estrada

The self-tests for the original 15C were not supposed to be in the 15C LE or its manual. Getting an error from the doesn't signify that anything is wrong.

Re: Another HP-15C LE bug?

*Message #21 Posted by **uhmgawa** on 2 Oct 2011, 9:13 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> The bug which modifies a memory location when a self-test is executed may be related to this one. Try if an ON+/ sequence or similar causes the same program space corruptions.

I hazard that isn't the case. Furthermore my earlier suspicion of HP having a bug in their Voyager/NUT emulator where the failing self test can't corrupt memory I now believe is incorrect. The original 15c firmware (perhaps others in the series as well) do indeed modify/corrupt memory in the case the system test fails.

I'd inadvertently backed out the patch in KEMU which supports self test on the 15c, and found the self test to then fail which corrupted an existing program. So that's apparently been the behavior of the firmware all along, but with a legacy 15c doing so was a non issue.

Re: Another HP-15C LE bug?

*Message #22 Posted by **Benoit Maag** on 2 Oct 2011, 4:55 p.m.,*
in response to message #14 by BobVA

Bob, Katie,

RCL 2 did turn into RCL 6, so the hypothesis of a weak bit impacted by a weak battery seems the most likely...

Re: Another HP-15C LE bug?

*Message #23 Posted by **John B. Smitherman** on 2 Oct 2011, 6:29 p.m.,*
in response to message #22 by Benoit Maag

It'll be interesting to see if the problem is resolved after replacing the batteries.

John

Re: Another HP-15C LE bug? --> serious power management bug

*Message #24 Posted by **Katie Wasserman** on 2 Oct 2011, 9:35 p.m.,*
in response to message #23 by John B. Smitherman

Bad news. I did some testing and if there is a brown out detection level set it's not working. When battery voltage drops below around 2 volts or if the batteries can't supply the needed 20ma of current (when running) you will lose all memory and possibly corrupt memory before that happens. I haven't seen any low battery indication warning before this happens either.

This is a serious bug.

The 12C+ seems to have the same problem, BTW.

Edited: 2 Oct 2011, 9:36 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #25 Posted by **Les Bell** on 2 Oct 2011, 9:45 p.m.,*
in response to message #24 by Katie Wasserman

Ouch! Better keep a supply of 2032's on hand.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Another HP-15C LE bug? --> serious power management bug

*Message #26 Posted by **Benoit Maag** on 2 Oct 2011, 9:52 p.m.,*
in response to message #24 by Katie Wasserman

Katie,

I am afraid you are right.

I run a few additional tests: after running the PI calculation program just 4~5 times (total run time < 10 minutes), I checked the brand new batteries (3.27~3.28 V unloaded before use) and they showed 2.95 V unloaded. Half an hour later, machine OFF, they had barely recovered to 3.0V. So the batteries really take a beating - makes me wonder whether you can run long programs without errors, and whether you need to change batteries all the time... (the 2 new CR 2032 cost me $10...)

What's next? Is HP reading this? Can we expect a firmware fix? What do you think?

Re: Another HP-15C LE bug? --> serious power management bug

*Message #27 Posted by **BobVA** on 2 Oct 2011, 11:15 p.m.,*
in response to message #26 by Benoit Maag

Hi Benoit: Did it work OK with the new batteries? At least initially?

Katie: Ugh - that's *not* good news, but I'm still thinking Benoit has a unique issue (or perhaps a unique manifestation of the brown out issue) with his 15C LE...thoughts?

Bob

Re: Another HP-15C LE bug? --> serious power management bug

*Message #28 Posted by **Benoit Maag** on 2 Oct 2011, 11:44 p.m.,*
in response to message #27 by BobVA

Hi Bob,

It did so far but the batteries seem to deplete very quickly.

I probably have a sensitive machine, but from what Katie found, I suspect that the same phenomenon will appear, without warning, on all machines as their battery wear out.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #29 Posted by **Katie Wasserman** on 3 Oct 2011, 2:11 a.m.,*
in response to message #27 by BobVA

> Quote:
>
> I'm still thinking Benoit has a unique issue (or perhaps a unique manifestation of the brown out issue) with his 15C LE...thoughts?

I agree, there's probably a weak bit in memory, or maybe several ones. But if the BOD (brown out detection) was working properly he likely would have never have known this. Probably his tests were causing the battery voltage to sink below the minimum memory retention voltage and he's seeing the one bit die as an early warning sign.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #30 Posted by **BobVA** on 3 Oct 2011, 9:41 p.m.,*
in response to message #29 by Katie Wasserman

Katie: Yep - that's probably what's happening. Benoit's calculator

might be out in the statistical tail and consequently he was the first to notice the problem.

Benoit: Your calculator seems to have a unique issue no one can reproduce, so you might want to think about a return.

Edited: 3 Oct 2011, 9:42 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #31 Posted by **Brandon Poindexter** on 3 Oct 2011, 12:20 a.m.,*
in response to message #26 by Benoit Maag

$10? just buy these. :) Even if 50% of them are dead, it would still be a better deal. Though waste becomes a problem if you just need 2 or 4 of these. . .

Re: Another HP-15C LE bug? --> serious power management bug

*Message #32 Posted by **Patrick Rendulic** on 3 Oct 2011, 1:23 a.m.,*
in response to message #26 by Benoit Maag

A good pair of CR2032 can be bought for +- an euro. You hust have to find the right place (for example: https://www.electronic-shop.lu/115137.html).

Nevertheless, this is not a solution to this new problem.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #33 Posted by **Eric Smith** on 2 Oct 2011, 9:52 p.m.,*
in response to message #24 by Katie Wasserman

I think Cyrille said that the battery level is checked only every 50 keystrokes or something like that.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #34 Posted by **Katie Wasserman** on 3 Oct 2011, 2:06 a.m.,*
in response to message #33 by Eric Smith

> Quote:
>
> I think Cyrille said that the battery level is checked only every 50 keystrokes or something like that.

I remember that too, although it might have been in conjunction with the 20b/30b not the 12C+.

However I just torture tested my 15C LE and no matter what I do, no matter how many keystrokes I press, no mater how slowly the voltage decreases, I have yet to see the low battery indicator come on (outside of the self tests).

When the voltage gets low enough or the batteries can't supply the needed current memory is lost.

Furthermore, even if the low battery light comes on the ARM chip should go into brown out mode and protect its memory, and it's clearly not doing that. So running a long program will not only kill the batteries it will clear memory.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #35 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 2:27 a.m.,*
in response to message #34 by Katie Wasserman

Katie, can you test this with a 12C+. It's a volume model which might cause error corrections getting a higher priority.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #36 Posted by **Katie Wasserman** on 3 Oct 2011, 3:04 a.m.,*
in response to message #35 by Marcus von Cube, Germany

I just tested my 12C+ with firmware dated 2009-11-19, which should be the latest but might not be what's in the majority of calculators in production, there are several versions out there now.

Anyway, I get exactly the same results as I found with the 15C LE. The low battery indicator never comes on and memory is lost when the battery voltage gets low enough.

This is really bad, but not as bad as the in the 15C LE: there's less memory to lose in the 12C+, most users have probably never entered a program, it doens't have the key-down 20ma current draw problem (therefore much better battery life) so this issue will not surface as often.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #37 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 3:07 a.m.,*
in response to message #36 by Katie Wasserman

This should get the attention of Cyrille and Tim, I hope.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #38 Posted by **Eddie W. Shore** on 3 Oct 2011, 7:53 a.m.,*
in response to message #37 by Marcus von Cube, Germany

Ditto.

Edited: 3 Oct 2011, 7:55 a.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #39 Posted by **Raymond Del Tondo** on 2 Oct 2011, 10:08 p.m.,*
in response to message #24 by Katie Wasserman

Is it a firmware bug, or is it a hardware problem?

I think to remember s.o. (you?) wrote that in an earlier firmware version for the same hardware (12c+, 15c LE) the battery drain problem wasn't there.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #40 Posted by **Alexander Oestert** on 3 Oct 2011, 1:41 a.m.,*
in response to message #39 by Raymond Del Tondo

If the drain problem wasn't there and the PSE bug wasn't there on that said earlier firmeare version: would one of the beta testers care to share that version here? Please :)

Re: Another HP-15C LE bug? --> serious power management bug

*Message #41 Posted by **Katie Wasserman** on 3 Oct 2011, 1:51 a.m.,*
in response to message #39 by Raymond Del Tondo

I wrote that the battery drain was not a problem on the 12C+ when keys were held down. On the current release of the 15C LE, the current draw when pressing and/or holding down a key is the same as running a program, 20ma.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #42 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Oct 2011, 7:56 a.m.,*
in response to message #41 by Katie Wasserman

Just another plea for new HP 15C LE new firmware.

As long as running a program or keeping keys pressed may cause loss of memory contents, the new calculator doesn't deserve a "C" symbol after the "15". And, sadly, it may also be said that the "limited" word in the "limited edition" string has little to do with the number of units manufactured...

Let's hope that a new firmware revision will correct this situation... and the PAUSE bug too!

I really like to have my new 15C, and I congratulate the people pushing it

into reality in a less-than-optimum context... I just expect these issues to be solved soon.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #43 Posted by **robert rozee** on 3 Oct 2011, 9:05 a.m.,*
in response to message #41 by Katie Wasserman

have just been looking over datasheets for various brands of CR2032 cells. to cut a long story short, the MAXIMUM continuous current draw allowed by any manufacturer seems to be 3mA. given two cells in parallel, this translates to a MAXIMUM of 6mA total current draw by the 12C or 15C calculator.

at 3mA from each cell, the normal CR2032 capacity of 210mAh will be reduced 150mAh at an operating temperature is 23 degrees C. so one would expect a 'running' time of 50 hours [based upon CR2032 datasheet from Mitsubishi]

up at the 20mA level - 10mA per cell - the storage capacity of the cell will (based upon projecting up from lower current drain characteristics) will be almost nothing. that is, if the cell is empty within minutes is will be due to NO fault of the cell manufacturer nor any cell design fault. quite simply, this discharge rate is outside of operating specs (the closet i can find is a pulse discharge of 15mA for 15 seconds, with no ratings provided below a 2.6v terminal voltage - this is perhaps why low voltage sensing is turned off in the firmware!!).

as i follow the unfolding of other's follies, i hear a mantra playing in the background:

THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES. THERE ARE NO FREE LUNCHES.

the candle that burns brighter burns out proportionately quicker. in that case, it burns out even quicker still. the only sane engineering solution is for HP to release firmware for the new 12C and 15C calculators that limits speed such that current drain remains below 3mA per cell (6mA in total). it would be prudent to limit the current drain even further.

this would, of course, mean that your shiny 'new' calculator is only a paltry 10x faster than the old one - but at least it then might give accurate numeric results...

Re: Another HP-15C LE bug? --> serious power management bug

*Message #44 Posted by **Mike Morrow** on 3 Oct 2011, 12:29 p.m.,*
in response to message #43 by robert rozee

This sort of issue is one of many that will deny the 15C-LE status as a *bona fide* re-issue of the 15C. No one ever picked up an extremely I/O and memory limited device like the original 15C and wondered "What limitless possibilities could be explored if only the 15C were one hundred times faster?" Instead, the much greater quality and battery life of the original 15C assures that the original 15C will always be the *ultimate* Voyager.

The re-issue of any old calculator through emulation on a much faster processor system *grossly* aggravates the battery energy depletion issue. The Savage Benchmark run on the HP 30b (not emulated), compared to the same benchmark run on the HP 15C-LE, performs it with a results *error that is 55 times smaller in one-eighth the time*. Problems that can be performed on both machines will use eight times more battery energy on the 15C-LE, compared to the 30b. All one can say good about emulation is that it is valuable if that is the **only way** machine performance can be upgraded, such as that emulated HP 49g known as the HP 50g.

Emulation should be abandoned for all future products. The original programmers were smart enough to program within the limits of the available hardware 30 years ago...why should that not be expected for current programmers and the hardware available today?

Edited to correct 49g+ to 49g.

Edited: 3 Oct 2011, 7:58 p.m. after one or more responses were posted

Re: Another HP-15C LE bug? --> serious power management bug

Message #45 Posted by ***robert rozee*** *on 3 Oct 2011, 2:48 p.m.,*
in response to message #44 by Mike Morrow

> Quote:
>
> This sort of issue is one of many that will deny the 15C-LE status as a *bona fide* re-issue of the 15C [...]

a nearly 30 year old 15C has a fairly good chance of still being fully functional today. the IC fabrication technology was optimized with extra internal layers to promote long life. the keyboard was engineered with materials far exceeding the design requirements. the plastics chosen and moulding methods used stood the test of time. the original machine was built to the mantra: ONE calculator to last the LIFETIME of the owner.

a 2011 model 12C/15C is built using a processor with a designed materials lifespan of perhaps 10 years, keyboard (including contacts) and plastic parts that are 'just good enough'. the LCD is attached with a printed flex + glue system that is known to fail over time (several years) - though said failure will in 99% of units be safely outside of the 1-year limited warranty. and the PCB assembly uses a lead-free soldering process that is guaranteed to

fail before this decade is out.

the technology all round is a compromise that (a) minimizes cost, (b) maximizes shareholder revenue, while (c) producing a product that will just adequately fulfil the expectations of a 21st century consumer that is used to a disposable calculator that will need to be replaced after a few years because of irreparable failure.

not wanting to criticize the modern 12C/15C design team - they have done a great job (ignoring keyboard failures in one batch and power-hungry firmware) to fulfil the modern design specifications - but the modern 12C/15C is as much a collectable 'design classic' as a $1 plastic flower pot painted up to look like a ming dynasty vase.

Edited: 3 Oct 2011, 2:50 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #46 Posted by **Jeroen Van Nieuwenhove** on 3 Oct 2011, 3:00 p.m.,*
in response to message #45 by robert rozee

> Quote:
>
> the modern 12C/15C is as much a collectable 'design classic' as a $1 plastic flower pot painted up to look like a ming dynasty vase.

OK, I can live with that, but then why does it have to cost me $99?

Re: Another HP-15C LE bug? --> serious power management bug

*Message #47 Posted by **robert rozee** on 3 Oct 2011, 3:06 p.m.,*
in response to message #46 by Jeroen Van Nieuwenhove

> Quote:
>
> OK, I can live with that, but then why does it have to cost me $99?

see point (b) above:
"(b) maximizes shareholder revenue" :-)

Edited: 3 Oct 2011, 3:08 p.m.

Re: Another HP-15C LE bug? --> serious power

management bug
*Message #48 Posted by **Patrick Rendulic** on 4 Oct 2011, 3:10 a.m.,*
in response to message #45 by robert rozee

So I just write:

The new HP-15C limited edition is crap. And all has been said.

HP can muschel me.

Re: Another HP-15C LE bug? --> serious power management bug
*Message #49 Posted by **Jeroen Van Nieuwenhove** on 3 Oct 2011, 2:52 p.m.,*
in response to message #44 by Mike Morrow

> Quote:
>
> that emulated HP 49g+ known as the HP 50g.

You mean that emulated HP48G/HP49G known as the HP 49G+/HP50G.

Re: Another HP-15C LE bug? --> serious power management bug
*Message #50 Posted by **Mike Morrow** on 3 Oct 2011, 7:56 p.m.,*
in response to message #49 by Jeroen Van Nieuwenhove

You're absolutely correct. I didn't intend to put the + sign after the 49g. Thanks, I'll correct the post.

Re: Another HP-15C LE bug? --> serious power management bug
*Message #51 Posted by **uhmgawa** on 3 Oct 2011, 6:08 p.m.,*
in response to message #44 by Mike Morrow

> Quote:
>
> This sort of issue is one of many that will deny the 15C-LE status as a *bona fide* re-issue of the 15C. No one ever picked up an extremely I/O and memory limited device like the original 15C and wondered "What limitless possibilities could be explored if only the 15C were one hundred times faster?" Instead, the much greater quality and battery life of the original 15C assures that the original 15C will always be the *ultimate* Voyager.

Agreed. Except for raw calculation speed, IMHO the legacy voyagers are superior in every way, no qualifiers needed, end of conversation.

But it is even more staggering considering they were designed back in 1980-81. As one example for benefit of perspective, have a look at the PPC/museum holy scrolls of the NUT cpu instruction documents banged out on what appears to be an IBM mainframe class line printer. This level of engineering achievement despite arguable rock and stick tooling is beyond impressive.

> Quote:
>
> All one can say good about emulation is that it is valuable if that is the **only way** machine performance can be upgraded..

Well it allows leveraging legacy technology which is otherwise prohibitively expensive to re-engineer for a given application. The 15c le would never be here otherwise.

> Quote:
>
> Emulation should be abandoned for all future products.

I believe I've also reached that conclusion. Yet there is something quite seductive about seeing 30 year old firmware spring into life in the context of your handiwork. But unless the associated firmware can reasonably survive as a black box, it will soon be beyond the point of diminishing engineering return.

> Quote:
>
> The original programmers were smart enough to program within the limits of the available hardware 30 years ago...why should that not be expected for current programmers and the hardware available today?

I do indeed sympathize with the emotional outcry. But to be fair it isn't at all a programmer/programming skill limitation. The prospective market in 2011 just won't sustain a business model developing pie-in-the-sky, clean slate pocket calculator products as was possible in 1982.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #52 Posted by **Steve Simpkin** on 3 Oct 2011, 3:29 p.m.,*
in response to message #43 by robert rozee

The datasheet for Energizer CR2032 cells shows the anticipated capacity for several pulse load scenarios including up to 23mA (brief) current pulses per cell. There is even data showing the effects on output voltage of a 30mA pulse for two seconds on a cell. I believe the data from this manufacturer suggests that a pair of CR2032 cells in parallel is at least a viable power source for these calculators provided there is some provision for limiting the duration of the 20mA pulse and correctly determining the brownout voltage in order to prevent corrupting RAM data. Here is the data sheet.
http://data.energizer.com/PDFs/cr2032.pdf

Re: Another HP-15C LE bug? --> serious power management bug

*Message #53 Posted by **Katie Wasserman** on 3 Oct 2011, 3:39 p.m.,*
in response to message #52 by Steve Simpkin

There's nothing on this sheet that comes even close to the load the 15C LE put on the cells. Just pressing a key is a 20ma pulse lasting around 100mSec (depending on the user). The 23ma spec is for "1mSec ON / 14mSec OFF". So just entering a number exceeds this spec by a factor of 100.

I think the spec sheet was totally ignored in the power design of this machine. The firmware needs a total revamp in this regard.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #54 Posted by **Martin Pinckney** on 3 Oct 2011, 4:01 p.m.,*
in response to message #53 by Katie Wasserman

OK, my head is spinning with all this power demand technical stuff.

But what does this mean vis-a-vis HP's stated battery life (1 year normal use)? Is that a complete fabrication? Should I go out and buy a bulk pack?

Has anyone had their cells fail yet (normal usage)?

Re: Another HP-15C LE bug? --> serious power management bug

*Message #55 Posted by **Katie Wasserman** on 3 Oct 2011, 4:24 p.m.,*
in response to message #54 by Martin Pinckney

If "normal use" was defined somewhere I could tell you.

I just did a little calculation/guesstimate (on the 15C LE of course!) that resulted in a 1 year battery life if all you did

were 50 simple additions of two 5-digit numbers every day. The major assumptions I made where: that you spend 1/10 second pressing a key down, that battery life is degraded by a factor of 5 from the spec due to the excessive 20ma current pulses, that you have new Energizer CR2032 cells to start with. I think that these are reasonable assumptions.

But this calculator was made to run programs and invert matrices and more substantial, power hungry things. So battery life is gong to be less if you use it a lot, maybe a lot less.

Edited: 3 Oct 2011, 4:28 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #56 Posted by **robert rozee** on 3 Oct 2011, 4:03 p.m.,*
in response to message #53 by Katie Wasserman

across several manufacturers there are some limited specifications for drawing 10mA for 15 seconds. but the drop in terminal voltage is the killer at this high a current, and in most cases a long recovery time is mentioned (10 pulses/day for one manufacturer).

i suspect the 10mA/15sec figures are included specifically for applications where two CR2032 cells in series are being used to drive a white LED. in such applications nobody cares too much about cell capacity, or indeed wrecking the cells.

Edited: 3 Oct 2011, 4:06 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #57 Posted by **robert rozee** on 3 Oct 2011, 3:54 p.m.,*
in response to message #52 by Steve Simpkin

> Quote:
>
> The datasheet for Energizer CR2032 [...]

unfortunately one can not guarantee the user will always use Energizer brand cells. from a design perspective it is necessary to select a power scheme that respects the specifications of at least most middle-of-the-road average-quality cell brands. assuming it is not acceptable (or practical) to have a calculator that runs at full-throttle for the first 2 seconds before slowing down, one has to select a current draw while 'running' that is sustainable on a continuous basis.

at the current 10mA/cell the terminal voltage will dip down below

the nominal low-battery level specified by most every manufacturer after just a few seconds. it is, therefore, impossible to detect low-battery voltage while a program is 'running' at the currently implemented speed. this is a simple fact.

given the demonstrated memory corruption, it can therefore be concluded that one can not with any certainty guarantee correct calculator operation (more specifically, numeric results). i would suspect that any historic reliability of the original 12C/15C binary code (often mentioned) is completely swamped by this failure of the modern hardware/firmware.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #58 Posted by **Martin Pinckney** on 3 Oct 2011, 5:00 p.m.,*
in response to message #57 by robert rozee

> Quote:
>
> unfortunately one can not guarantee the user will always use Energizer brand cells. from a design perspective it is necessary to select a power scheme that respects the specifications of at least most middle-of-the-road average-quality cell brands.

I really don't know much about the CR2032 "coin" cells, but my experience with using "button" cells like the formerly ubiquitous LR44/357 for many years, is that all name-brand cells of a given chemistry perform similarly, and the cheap Chinese brands are junk.

Edited: 3 Oct 2011, 5:01 p.m.

Re: Another HP-15C LE bug? --> serious power management bug

*Message #59 Posted by **Steve Simpkin** on 3 Oct 2011, 5:26 p.m.,*
in response to message #57 by robert rozee

Unfortunately I could not always find pulse load data on various manufacturer's CR2032 datasheets (that should be a red flag). As you suggested earlier, "the only sane engineering solution is for HP to release firmware for the new 12C and 15C calculators that limits speed such that current drain remains below 3mA per cell (6mA in total)." And fix the bug that causes the high current draw while a key is pressed. Of course they could no longer advertise the 15-CLE being up to 100x faster than before.

The HP20b and HP30b have the same potential issues. Cyrille

did mention (on 14 Apr 2010) for the HP20b that "The latest version of the SW only uses high speed when needed, and only for a short period, after that, it drops back to more manageable levels for the battery. since most calculation that will finish in any reasonable time will finish before the speed drops, it seems to work well." That probably still does not address the issue of momentarily drawing current beyond what the cells are rated for.

In the case of my WP-34s (it was a HP30b in a previous life), I now run it in SLOW mode to save battery life. I did this after noticing the low battery indicator flashing on and off when I was running a program in a tight loop. Using the batteries that came with the unit, the battery voltage (as measured by the BATT command) was around 2.6V after a few seconds of my program. New batteries were much better (for now).
By the way, I really love this WP34s calculator.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE arrives in Singapore

*Message #1 Posted by **Prabhu Bhooplapur** on 2 Oct 2011, 1:03 a.m.*

Hi, HP has not released HP15C LE in Singapore yet. However, I managed to get one from the USA.

Limited edition number 01791. Serial number CNA132088S.

Pretty good design. Key board is fine. I would have appreciated a multi-colour manual hard copy together with advanced functions manual.

Singapore used to be the home of HP calculator production for years but now I have to get these from overseas.

Prabhu

Re: HP15C LE arrives in Singapore

*Message #2 Posted by **Juergen Keller** on 2 Oct 2011, 5:10 p.m.,*
in response to message #1 by Prabhu Bhooplapur

> Quote:
>
> Singapore used to be the home of HP calculator production for years but now I have to get these from overseas.

At least, HP has still some loyal buyers in Singapore.

Enjoy your HP-15C LE!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Facebook page created for Hewlett Packard Calculators

*Message #1 Posted by **gene wright** on 2 Oct 2011, 12:29 a.m.*

Simply search for "Hewlett Packard Calculators" and the page should come up.

If you already have a facebook account, please consider finding the page and "liking" it or become a fan. The TI page has way too many fans already, so HP needs to be catching up. The content is sparse at the moment, but I expect it to grow.

If you don't have a facebook account, considering signing up for one. There are other benefits beyond the Hewlett Packard Calculator page.

Hopefully, the page will have a good amount of content directed to it by a wide variety of people from a variety of sources. The potential number of people who might FIND this page through exposure of facebook friends who like the page is incredible.

Who knows? Perhaps not only will a student find an answer to how to solve a problem the night before a test from this page, but perhaps some will become real fans of Hewlett Packard Calculators.

Re: Facebook page created for Hewlett Packard Calculators

*Message #2 Posted by **Eddie W. Shore** on 2 Oct 2011, 12:38 a.m.,*
in response to message #1 by gene wright

Done, Gene. I have Liked it.

Re: Facebook page created for Hewlett Packard Calculators

*Message #3 Posted by **sjthomas** on 2 Oct 2011, 1:03 a.m.,*
in response to message #1 by gene wright

Nyah. Facebook creeps me out.

Re: Facebook page created for Hewlett Packard Calculators

*Message #4 Posted by **Brian Walsh** on 2 Oct 2011, 1:36 a.m.,*
in response to message #1 by gene wright

I'll be on there post haste. I have four accounts, three of which I use for various purposes. It's better that way.

Just say no to Facebook apps and tighten up security the best you can. That said, it's not *too* bad if you're careful. If you're not, it can be a nightmare.

Re: Facebook page created for Hewlett Packard Calculators

*Message #5 Posted by **Brian Walsh** on 2 Oct 2011, 1:45 a.m.,*
in response to message #1 by gene wright

There is also HP Calculator Fan Club. http://www.facebook.com/groups/11852313084/

Re: Facebook page created for Hewlett Packard Calculators

*Message #6 Posted by **Howard Owen** on 2 Oct 2011, 2:04 a.m.,*
in response to message #1 by gene wright

On my like list.

FB is OK if you keep control of your friends list and lock down your settings. They have made doing the latter much easier recently. Many of my friends use Facebook a lot, so it's a good way for me to stay in touch with them.

Re: Facebook page created for Hewlett Packard Calculators

*Message #7 Posted by **Egan Ford** on 2 Oct 2011, 2:09 a.m.,*
in response to message #6 by Howard Owen

FB is evil.

http://www.gizmodo.com.au/2011/09/facebook-cookie-tracks-users-even-when-theyre-logged-out/

Re: Facebook page created for Hewlett Packard Calculators

*Message #8 Posted by **Bart (UK)** on 2 Oct 2011, 12:37 p.m.,*
in response to message #7 by Egan Ford

Are people still really so naive about the internet as a whole? Do you really not know that many sites do this? At one stage I was receiving emails for products resembling Google searches I had made not too long before, and I hadn't even signed up for any Google related accounts at the time. Generally I don't care who tracks me where, but when I do I make sure my cookies history (and other browsing history for that matter) is cleared.

Re: Facebook page created for Hewlett Packard Calculators

*Message #9 Posted by **Egan Ford** on 2 Oct 2011, 2:58 p.m.,*
in response to message #8 by Bart (UK)

> Quote:
>
> Are people still really so naive about the internet as a whole?

In general, yes. That is why FB and others can get away with violating your privacy. FB is frequently labeled as one of the largest offenders. I know that they need to make a buck and will continue to push the limits of data mining--and they will get caught.

> Quote:
>
> Do you really not know that many sites do this?

Uncountable. But not like the article above describes. Howard did an excellent job of breaking it down.

> Quote:

> Generally I don't care who tracks me where...

Most don't, but some do. My beef is that they do it in secret as much as possible. E.g The FB iPhone app without even asking scanned my address book and harvested any phone numbers that matched any of my FB friends.

> Quote:
>
> ...but when I do I make sure my cookies history (and other browsing history for that matter) is cleared.

I try to do the same, however there are cookies that I do not want cleared and having to manually track down offending cookies can be a pain.

For now when I have to use FB (like Howard due to peer and family pressure) I start a new browser in privacy mode.

Re: Facebook page created for Hewlett Packard Calculators

*Message #10 Posted by **Howard Owen** on 2 Oct 2011, 1:44 p.m.,*
in response to message #7 by Egan Ford

Tracking cookies are a normal part of the Internet now. (Sometimes "normal" describes behavior or facts that suck.) Tracking cookies are set by sites like doubleclick.net (Google's ad network) when you get shown one of their ads. The ads are served up by doubleclick.net servers, so the next time you load an ad the cookies the first one set get sent back to doubleclick.net. Doubleclick uses this to create a "click trail" that tells them what ads you have looked at. If you subsequently buy something an ad promoted, this information is used to prove to the advertiser that the ad "worked." Thus it is the basis for measuring ad effectiveness. It's also used to serve you ads targeted to your interests as revealed by your click trail.

This is normal, though creepy. However the big deal here was that one of the cookies that Facebook left on your browser after logout contained your user ID. Doubleclick and other ad networks are not supposed to associate your click trail with your actual identity. They don't need to do that in order to figure out your preferences or measure your buying behavior. But your Facebook user ID can absolutely be used to identify you. The Facebook "like" and comment buttons you see everywhere are served from Facebook directly, so whenever you load a page that has one, every FB cookie you have is sent back to the Facebook server, including that one, whether you are logged in or not.

As often happens when Facebook is made aware of an issue, meaning when they are caught such that a problem becomes widely known, they have responded to the problem by issuing a fix that deletes the cookie with your user id when you log out. This is what should have happened in the first place. Indeed, several other cookies associated with your logged in session are deleted when you log out. Facebook claims that the cookie in question was mistakenly left on your machine after logout. They also claim that the behavior the blogger described, where a fake account he created was somehow tied to his real account, could not have been due to this cookie since it was never used that way by Facebook. They ask you to trust them when they say that's they way it was supposed to work.

Facebook can be trusted to try to increase the amount of information you reveal to your friends and to others because that information is valuable. Facebook doesn't sell that information directly to others. They make it possible for others to access it if you let them. Facebook applications can get at a lot of that information, depending on how your privacy settings are configured. Each time you sign up for an application, you get a permission dialog that asks you to allow the app to access this information. If you

set your privacy settings to be restrictive, and you avoid using Facebook applications, you can eliminate or at least minimize the information about you that is given to third parties. But events like this one undermine trust in the platform.

Personally, I think Facebook is evil, but I participate anyway. Many of my friends are there. Significant things are shared that I want to know about. It's not just what movies people are watching or what trip they are taking. My friends frequently share what they believe, how they think, how they feel and so forth. This stuff is part of the substance of friendship. I also get access to information my friends are interested in. Links to websites enlighten or annoy me. They can make me laugh or make me angry. I also share what I'm doing, thinking and feeling with them. My friends list is small enough that I can do that comfortably. When Facebook is caught doing something like this, it undermines that comfortable feeling. But I carry on because my friends are there. That fact is important and relevant to my everyday life. It's not that I couldn't stay in touch with some of my friends without Facebook. But I couldn't keep up with all of them. And many of my younger friends use Facebook as a primary means of communicating with me. That's worth the privacy risk, though I often wish it weren't.

Re: Facebook page created for Hewlett Packard Calculators

*Message #11 Posted by **Egan Ford** on 3 Oct 2011, 4:28 p.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> Personally, I think Facebook is evil ...

http://yro.slashdot.org/story/11/10/03/1825234/facebook-files-for-a-patent-to-track-its-users-on-other-sites

http://yro.slashdot.org/story/11/10/02/2036246/privacy-groups-ask-ftc-for-facebook-investigation

Edited: 3 Oct 2011, 4:30 p.m.

Re: Facebook page created for Hewlett Packard Calculators

*Message #12 Posted by **Howard Owen** on 3 Oct 2011, 7:36 p.m.,*
in response to message #11 by Egan Ford

More evidence. And after they just got through swearing they didn't have any interest in tracking people.

Re: Facebook page created for Hewlett Packard Calculators

*Message #13 Posted by **Thomas Radtke** on 2 Oct 2011, 5:41 a.m.,*
in response to message #1 by gene wright

With Ghostery, AbBlock, dedicated spam filter etc. I have more than enough to do to keep spy networks out of my digital world. Getting back into it while keeping safety high just to press a silly button would not be reasonable, taking into account an expected positive effect on HP's popularity of around zero percent ;-).

On a second thought, imo HP didn't deserve something like 'Like it' since quite some time.

- unreliable 35s
- 20b with terrible keyboard
- new Voyagers with 10% failure rate

All credits earned in the past have been burned to ashes. Hope they go bancrupt soon and someone catches the calculator division. Just dreaming...

Re: Facebook page created for Hewlett Packard Calculators

*Message #14 Posted by **From Hong Kong** on 2 Oct 2011, 7:00 a.m.,*
in response to message #13 by Thomas Radtke

They have already paid the price of handing its leading position to TI.

Re: Facebook page created for Hewlett Packard Calculators

*Message #15 Posted by **Thomas Radtke** on 2 Oct 2011, 7:31 a.m.,*
in response to message #14 by From Hong Kong

Doesn't matter. According to Leo, you can't make enough money from selling hardware for the shareholders anyway. Even before him, HP didn't sold competitive harware but a competitive brand. This has to end at some point when HP becomes a synonym for 'problematic but nonetheless expensive hardware'. Leo might have anticipated this and reckoned that repairing what cost cutting beyond any reasonable limit has damaged is no option. He's probably right.

Unfortunately, the old ingenious UI to calculators, be it RPN, RPL/HP Solve, is tied to HP hardware and coding. This must end. It isn't just working anymore since, surprisingly, two people (my guess) coding everything and the cheapest manufacturing plant you can find on earth cannot grant for usable calculators.

Re: Facebook page created for Hewlett Packard Calculators

*Message #16 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Oct 2011, 7:57 a.m.,*
in response to message #1 by gene wright

Done. Already "liked" it. How do you become a "fan" of such page?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B Card Reader 82400A

*Message #1 Posted by **aj04062** on 1 Oct 2011, 9:08 p.m.*

I have the reader and the box. Does anyone have pictures or scans of the remaining items (QREF, manual, packing)?

Edited: 1 Oct 2011, 9:45 p.m. after one or more responses were posted

Re: HP-71B Card Reader 82400B

*Message #2 Posted by **Raymond Del Tondo** on 1 Oct 2011, 9:29 p.m.,*
in response to message #1 by aj04062

Are you sure you have a "B" revision?

For the packaging: The unit is centered in the cardboard box, and the are two papers only,
one of them being a short note that instructions will be found in the user manual,
a leaflet about accessories, and a tube containing a few mag cards and a cleaning card...

For scans: Have you checked the hpmuseum DVD?

Edited: 1 Oct 2011, 9:30 p.m.

Re: HP-71B Card Reader 82400A

*Message #3 Posted by **aj04062** on 1 Oct 2011, 9:44 p.m.,*
in response to message #2 by Raymond Del Tondo

You're right A...

checked DVD. Didn't find anything. found a 3 page scan on hpmuseum dot net

Edited: 1 Oct 2011, 9:45 p.m.

Re: HP-71B Card Reader 82400A

*Message #4 Posted by **robertoataulfo** on 1 Oct 2011, 9:51 p.m.,*
in response to message #3 by aj04062

How do I know the version? Thank's

Re: HP-71B Card Reader 82400A

*Message #5 Posted by **aj04062** on 1 Oct 2011, 10:13 p.m.,*
in response to message #4 by robertoataulfo

I don't understand

Re: HP-71B Card Reader 82400A

*Message #6 Posted by **Raymond Del Tondo** on 1 Oct 2011, 11:04 p.m.,*
in response to message #4 by robertoataulfo

Unfortunately the version is on the box only. It should be embossed on the housing of the unit. Since the card reader doesn't respond to VER$, there is no better resolution;-)

Edited: 1 Oct 2011, 11:08 p.m.

Re: HP-71B Card Reader 82400A

*Message #7 Posted by **Eric Smith** on 2 Oct 2011, 12:48 a.m.,*
in response to message #6 by Raymond Del Tondo

The 71B card reader doesn't have a ROM. It doesn't have a version. The "A" at the end of "82400A" is part of the model number, not a version per se.

For example, the 41C card reader was always model 82104A, even though there were versions 1D, 1E, 1F, and 1G of its ROM.

When a product with a model number ending in A was replaced by a model number ending in B, generally that signified more significant changes to the product than just a ROM code change. For example, the 82240A/B printers and the 9114A/B disk drives had significant physical differences.

Edited: 2 Oct 2011, 12:48 a.m.

Re: HP-71B Card Reader 82400A

*Message #8 Posted by **Etienne Victoria** on 2 Oct 2011, 3:51 a.m.,*
in response to message #1 by aj04062

The 71B Card Reader has neither specific manual nor QREF.

The Card Reader Use is documented in a specific section of the Hp-71B user manual...right at the end IIRC.

Etienne

Re: HP-71B Card Reader 82400A

*Message #9 Posted by **aj04062** on 2 Oct 2011, 1:54 p.m.,*
in response to message #8 by Etienne Victoria

so why is the box so long & wide? I presume the length to store the cards (are these the same as the 75C cards?) but it still seems wider that it needs to be.

I'm just looking to identify what I need to cobble together through copying or making to complete the item

Re: HP-71B Card Reader 82400A

*Message #10 Posted by **Etienne Victoria** on 2 Oct 2011, 4:08 p.m.,*
in response to message #9 by aj04062

Yes, the cards are the same as the 75C cards.

I have never seen a card reader box so I cannot help on this one.

The 71B Box is long and wide to store side by side:

- The 71B itself in a cardboard frame,

- The 2 hefty manuals

- The QRG

- The soft case

- The blank overlay

- The accessories leaflet

Etienne

Edited: 2 Oct 2011, 4:13 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE : fastest selling ever ?

*Message #1 Posted by **Donald Ingram** on 1 Oct 2011, 6:32 p.m.*

It seems that HP cannot keep the 15C LE in stock on their own webstore for more than a few hours.

Does this runaway success make the 15C their fastest selling calculator ever ?

Re: HP-15C LE : fastest selling ever ?

*Message #2 Posted by **Michael de Estrada** on 1 Oct 2011, 6:54 p.m.,*
in response to message #1 by Donald Ingram

I don't think HP has ever brought a calc to market in quite the bizarre manner of the HP 15C LE, which might explain the initial sales frenzy. Ultimately, sales will level out and will probably reach a finite asymtote representative of the true demand.

Re: HP-15C LE : fastest selling ever ?

*Message #3 Posted by **Katie Wasserman** on 1 Oct 2011, 8:24 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> reach a finite asymtote representative of the true demand

Do you have a function for this that we can plug into our favorite graphical calculator? Maybe HP can release another Limited Edition calculator, a variation of the 50g for use in doing just this!

Re: HP-15C LE : fastest selling ever ?

*Message #4 Posted by **Les Bell** on 1 Oct 2011, 8:57 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> Do you have a function for this that we can plug into our favorite graphical calculator? Maybe HP can release another Limited Edition calculator, a variation of the 50g for use in doing just this!

The "Gompertz Curve Trend Analysis" program on p.48 ff. of the HP-41 "Business Stat/Marketing/Sales" User's Library Solutions book should do the trick. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-15C LE : fastest selling ever ?

*Message #5 Posted by **Mike Morrow** on 1 Oct 2011, 10:48 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> Maybe HP can release another Limited Edition calculator...

How about a HP 6S Limited Edition?

Re: HP-15C LE : fastest selling ever ?

*Message #6 Posted by **Eddie W. Shore** on 2 Oct 2011, 12:13 a.m.,*
in response to message #5 by Mike Morrow

Or the ever so popular 9G.

Edited: 2 Oct 2011, 12:13 a.m.

Re: HP-15C LE : fastest selling ever ?

*Message #7 Posted by **x34** on 2 Oct 2011, 3:27 a.m.,*
in response to message #6 by Eddie W. Shore

Users demand HP-30S LE with silver cover and white keys!

Re: HP-15C LE : fastest selling ever ?

*Message #8 Posted by **Paul Dale** on 2 Oct 2011, 3:27 a.m.,*
in response to message #3 by Katie Wasserman

HP-01 LE

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12C ARM Firmware?

*Message #1 Posted by **Lincoln R.** on 1 Oct 2011, 6:04 p.m.*

Is it possible to get (from HP or someone else) the most current 12C+ firmware? Mine has the 2008-06-28 version, and I'm trying to get some practice with getting SAM-BA up and running on my old laptop that still has an RS-232 port.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

30b power on key codes (Q for Katie Wasserman)

*Message #1 Posted by **Harry Jacobson** on 1 Oct 2011, 5:46 p.m.*

If this information is elsewhere in the forum, excuse me! I didn't find it.

In a post about a year ago in the thread **Re: HP 30B not in blister pack** Katie Wasserman wrote,

> Quote:
>
> ....What's the date on the firmware?
>
> To check that:
>
> 1) Turn off
>
> 2) Press and hold PMT
>
> 3) Press ON
>
> 4) Press DOWN 4 times
>
> Thanks, Katie

How interesting! My question is, what other power on key codes are there and what do they do?

Thank you,

Harry

Edited: 1 Oct 2011, 5:47 p.m.

Re: 30b power on key codes (Q for Katie Wasserman)

*Message #2 Posted by **Katie Wasserman** on 1 Oct 2011, 8:19 p.m.,*
in response to message #1 by Harry Jacobson

Is there nothing online that lists the HP-30b/20-b self tests? Gee, I thought that Gene would have done that if not HP. At any rate they are:

- Screen Test, press INPUT to start and press to cyle through the 12 different displays

- Keyboard Test, press each key at least once in any order. Once they have all been pressed the test ends.

- Checksum, the number of the left side of the decimal point should equal the number on the right side of the decimal point.

- Battery Test, this is the voltage of the batteries. They are in parallel so it's sort of an average.

- Software Version, date of the firmware.

- Copyright message (also shows the amount of non-volitile RAM used by the firmware, should always be 2048, I think).

- Test System, pressing INPUT will toggle the test system on/off. The test system was used in development but when on will run the calculator somewhat faster and burn through batteries at lightning speed.

- Slow Clock, you can adjust the clock speed a little bit. I forget if this had a noticeable effect.

- Serial, I'm not sure. I think that this allows debugging of the serial interface that's used in the Test System.

Some of the above are guesses, please correct me if you know better.

-Katie

Edited: 1 Oct 2011, 8:20 p.m.

Re: 30b power on key codes (Q for Katie Wasserman)

*Message #3 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 6:56 a.m.,*
in response to message #2 by Katie Wasserman

If you look into the sources of the SDK you can learn about the serial and test system stuff.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone want an XServe?

*Message #1 Posted by **David Ramsey** on 1 Oct 2011, 4:59 p.m.*

Dual dual-core 2.0GHz Xeons, 9GB memory, standard Apple 80G boot drive. Includes one extra drive carrier that will accept any standard SATA 3.5" hard drive, original box, manuals, disks, cords, etc. as well as one unlimited-license copy of OS X Leopard Server.

I'd sell this cheap, guys. Really cheap. Like "one good 41CL-upgradable HP41 and shipping" cheap.

Lemme know.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Use HP serial interface to save/restore programs?

*Message #1 Posted by **Harry Jacobson** on 1 Oct 2011, 3:57 p.m.*

I searched the forum for this without success, so:

Can the HP serial interface cable be used to save/restore programs on the HP 30b without harming the existing firmware?

Thank you in advance,

Harry

Re: Use HP serial interface to save/restore programs?

*Message #2 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:43 p.m.,*
in response to message #1 by Harry Jacobson

No, you can only do this with the 34S firmware in place, not the original from HP.

There are provisions for supporting the serial I/O port in the firmware but this is not documented for the general user. It's more of a testing environment for HP. I'm pretty sure you cannot get to the programs or registers from the outside this way.

Once you press the Erase button on the cable the firmware is toast. Sam-Ba.exe has the nasty habit of clearing the RAM, too, so all your data is lost if you use this button.

Edited: 1 Oct 2011, 4:45 p.m.

Re: Use HP serial interface to save/restore programs?

*Message #3 Posted by **bill platt** on 2 Oct 2011, 7:51 p.m.,*
in response to message #2 by Marcus von Cube, Germany

So then you really want to turn a 30b into a 34s as soon as you get one? Then you can do all the cool stuff?

Re: Use HP serial interface to save/restore programs?

*Message #4 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 12:12 a.m.,*
in response to message #3 by bill platt

Cool stuff indeed. :-)

Re: Use HP serial interface to save/restore programs?

*Message #5 Posted by **Walter B** on 3 Oct 2011, 2:28 a.m.,*
in response to message #3 by bill platt

That was the reason why we made it :-)

Re: Use HP serial interface to save/restore programs?

*Message #6 Posted by **Harry Jacobson** on 4 Oct 2011, 12:59 a.m.,*
in response to message #3 by bill platt

Cool stuff aside, for the original 30b firmware there's the desire to offload programs to maintain a program library greater than the amount of memory available. That is, without having to continually erase and tediously key in.

If the 30b had a USB port or an SD slot..... but it doesn't.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Manual corrections

*Message #1 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 1:47 p.m.*

Is there a place where we can collect any errors found while reading the new manual? Here are some:

P.20: *Note: Decimal digits from the mantissa that spill into the exponent field will disappear from the display when you press ", but will be retained internally.*

The stray quotation marks are the problem.

P.35: *12.9 [+] 22.2481 Oops! The wrong divisor.*

The plus symbol should be the division symbol.

Page 62: *If the calculator is turned off, Continuous Memory will be preserved for a short period while the batteries are removed. Data and programs are preserved longer than other aspects of calculator status. Refer to appendix F for instructions on changing batteries.*

I doubt these facts are true. If you remove both batteries the memory will be cleared. There is no technical reason why the status and data should have a different retention behavior. This was the case when data memory and status were stored in different physical chips on the original hardware but on the Atmel its all in one chip.

Edit: Added page 62.

Edited: 1 Oct 2011, 5:15 p.m.

Re: HP 15C LE Manual corrections

*Message #2 Posted by **Didier Lachieze** on 2 Oct 2011, 5:04 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Page 259: Under Low-Power Indication: "*A battery symbol(*) shown in the upper-left corner of the display[..]*" - Should be *lower-left corner*.

Re: HP 15C LE Manual corrections

*Message #3 Posted by **Felix Gross** on 4 Oct 2011, 5:57 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I am currently collecting the errata reported in the forum. Next week I will post the collected list as an article in the museum.

Felix

Re: HP 15C LE Manual corrections

*Message #4 Posted by **Michael Kussmaul** on 7 Oct 2011, 10:53 a.m.,*

in response to message #3 by Felix Gross

I worked through the manual (It's my first 15c :-) and found these bugs:

- Page 61: ON / . 12.345,6700 (instead of 12.345.6700)
- Minor: Especially in Complex-Matrix-Section there are some super-scripts (like Tilde) misaligned
- Minor: Most i in Matrices are overlapping with text (e.g. page 169, example or 171 in the middle of page)
- Page 104: First letter on page should be bold as well
- Page 110: Brackets on top show the wrong part of 0. 050 02
- Minor: Page 139: 2 ENTER 1 f DIM B: B is on new line, in original manual, all is on one line
- Minor Page 140: f MATRIX 0: there are missing spaces before and after the MATRIX key (anyway spacing is not consistent across document :-)
- Minor Page 170: 4 ENTER 1 f DIM B: B is on new line, in original manual, all is on one line
- Minor Page 216: 19 f DIM (i): (i) is on new line, in original manual, all is on one line
- Page 261: Self-Test...
- Page 262: No blank line before I-Key description
- Page 269: MEM section is written twice (repeatedly)

All in all, this one of the best manuals I have read :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE Display timing issues?

*Message #1 Posted by **Michael Kussmaul** on 1 Oct 2011, 12:09 p.m.*

I'm aware of the PSE bug in the current 15c LE firmware, but I'm wondering if the following issue is also present in the original 15c:

As written on page 144 in the manual, if you store/reclall a value on a matrix you can just hold the button "about 3 seconds" to cancel assignment - the calculator will display "null".

Now it looks like on my 15c LE this is rather 2 seconds or even less - also in general if the calculator does show status messages (e.g. The current row/column in matrix entering mode) they are shown so short and quickly I have hard time reading them. Is this also the same on the original 15c?

Re: HP 15c LE Display timing issues?

*Message #2 Posted by **Paulo MO** on 1 Oct 2011, 3:36 p.m.,*
in response to message #1 by Michael Kussmaul

The thing is just fast, and slowing it down is not flawless. IMHO, lack of speed was the weakness of the original breed (only noticeable, of course, when using the most complex functionalities) and the increased mips are, thus, most welcome. Therefore, no complains here. :-)

Cheers Paulo

Re: HP 15c LE Display timing issues?

*Message #3 Posted by **Katie Wasserman** on 1 Oct 2011, 3:39 p.m.,*
in response to message #1 by Michael Kussmaul

I noticed the quicker time to "null" as well. While it's a lot less than the documented 3 seconds I think it's just about right for regular use. The better fix in my view is the change the documentation to "about 1 second".

Re: HP 15c LE Display timing issues?

*Message #4 Posted by **Dieter** on 2 Oct 2011, 9:23 a.m.,*
in response to message #3 by Katie Wasserman

I would consider this an improvement. The 41-series nulls after about 1.5 seconds, and I think that's just right. IMHO it's better a bit shorter (operation may get cancelled) than too long (key accidently released before timeout => matrix overwritten).

Dieter

Re: HP 15c LE Display timing issues?

*Message #5 Posted by **Mike Fikes** on 2 Oct 2011, 10:55 a.m.,*
in response to message #1 by Michael Kussmaul

With respect to Michael's question:

On the original 15C, the current row/column status message (when in matrix entering mode) is only shown for as long as you hold down the target matrix key (for example, while holding down the "A" key in the sequence STO A). (Unless, of course, 3 seconds elapse, resulting in cancellation / null.)

So, even on the original 15C, if you hit STO A and don't hold down the "A" key but simply press and release, you won't have time to read the status message, and may only see it briefly flash on the display.

Re: HP 15c LE Display timing issues?

*Message #6 Posted by **Michael Kussmaul** on 2 Oct 2011, 12:07 p.m.,*
in response to message #5 by Mike Fikes

Ok, many thanks for checking! So it works as advertised :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

34S SUM PROD change request ccccc >= fff

*Message #1 Posted by **Egan Ford** on 1 Oct 2011, 11:53 a.m.*

Could you please change "ccccc > fff" to "ccccc >= fff" so that ccccc can count down to and include 0.

Thanks.

Re: 34S SUM PROD change request ccccc >= fff

*Message #2 Posted by **Paul Dale** on 1 Oct 2011, 8:14 p.m.,*
in response to message #1 by Egan Ford

This is somewhat limited by the definition of DSE unfortunately.

Here is the sum and product code as it currently exists in the firmware image. It is just a plain old keystroke program. Feel free to submit a patch :-)

The stack will always be four levels deep when this code is run and registers 0-4 and flags 0-14 are freely available.

Then again, I could look into adding DSL and ISE as instructions.

- Pauli

```
/****************************************************************************/
/* Sigma and products
 * Register use:
 * 0    I
 * 1    product/sum
 * 2    carry for sum
 * 3    saved I
 */
               LBL 99                                   /* Entry: SUMMATION */
                       XEQ entry
                       SPEC?
                               JMP sum_product_okay
                       STO 00
                       STO 03                           /* Save for LastX*/
                       IP                               /* First function call is
separate*/
                       FILL                             /* to avoid Kahan summing from
zero*/
                       XEQUSR                           /* six extra instructions save
nine*/
                       SPEC?                            /* from executing*/
                               JMP sum_product_nan
                       STO 01
                       iC 0
                       STO 02
                       JMP sum_entry


sum_loop::             RCL 00
                       IP
                       FILL
                       XEQUSR
                       SPEC?
                               JMP sum_product_nan
```

```
                        RCL- 02
                        ENTER[^]
                        RCL+ 01
                        ENTER[^]
                        RCL- 01
                        RCL- Z
                        x[<->]y
                        [cmplx]STO 01


sum_entry::             DSE 00
                                JMP sum_loop
                        JMP sum_product_okay



                LBL 98                                  /* Entry: PRODUCT */
                        XEQ entry
                        SPEC?
                                JMP sum_product_okay
                        STO 00
                        STO 03
                        IP                              /* First function call is
separate*/
                        FILL                            /* to avoid a multiply*/
                        XEQUSR
                        SPEC?
                                JMP sum_product_nan
                        STO 01
                        JMP product_entry


product_loop::          RCL 00
                        IP
                        FILL
                        XEQUSR
                        SPEC?
                                JMP sum_product_nan
                        STO[times] 01
product_entry::         DSE 00
                                JMP product_loop


sum_product_okay::      RCL 03
                        STO L
                        iC 0
                        FILL
                        RCL 01
                        JMP exit


sum_product_nan::       RCL 03


sum_product_error::     STO L
                        iC 0
                        FILL
                        # NaN
                        JMP exit
```

Re: 34S SUM PROD change request ccccc >= fff

*Message #3 Posted by **Paul Dale** on 1 Oct 2011, 10:58 p.m.,*
in response to message #2 by Paul Dale

DSL and ISE are now present :-)

- Pauli

Re: 34S SUM PROD change request ccccc >= fff

*Message #4 Posted by **Walter B** on 2 Oct 2011, 2:37 a.m.,*
in response to message #3 by Paul Dale

... and documented in the manual :-)

Walter

Re: 34S SUM PROD change request ccccc >= fff

*Message #5 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 6:39 a.m.,*
in response to message #2 by Paul Dale

Pauli, what is the reasoning behind the complicated summation. It must have to do with increasing accuracy but how does it work?

If you want to make the code shorter, the two loops may easily be merged and the operation selected by a flag inside the loop.

Re: 34S SUM PROD change request ccccc >= fff

*Message #6 Posted by **Paul Dale** on 2 Oct 2011, 7:47 a.m.,*
in response to message #5 by Marcus von Cube, Germany

The summation is indeed an attempt to improve precision. The algorithm used is known as the Kahan sum.

Essentially, it maintains the sum and some of the digits lost off the end in two registers. The lost digits act as a correction term as each new item is added in.

Yes, the two loops could be merged. I didn't investigate this option since neither is very large.

- Pauli

Re: 34S SUM PROD change request ccccc >= fff

*Message #7 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 8:06 a.m.,*
in response to message #6 by Paul Dale

We will certainly be fighting for a handful of bytes again...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is your holy grail?

*Message #1 Posted by **Keith Midson** on 1 Oct 2011, 3:20 a.m.*

I've got a decent sized collection of HP's, but there is always something elusive that you have to have, but can't find. For me it's a clear case 12c. I've got a few clear cases (28s, 19bii, 30b, 71b, 17b & 67), but a clear cased 12c would really complete my 12c part of my collection.
What is your holy grail? Cheers, Keith

Re: What is your holy grail?

*Message #2 Posted by **Ángel Martin** on 1 Oct 2011, 4:20 a.m.,*
in response to message #1 by Keith Midson

Since I'm not a collector it's quite simple: the 41CL.

If I was a dedicated collector (admitedly I have a modest gathering of gear) I'd say a 41CY, or the slippery-elusive 3421 Control Module with soft-pad overlays... sigh.

Re: What is your holy grail?

*Message #3 Posted by **Garth Wilson** on 1 Oct 2011, 6:41 a.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> or the slippery-elusive 3421 Control Module with soft-pad overlays... sigh.

If it's just for a matter of collecting, that's one thing; but the 3421 definitely does not require the accompanying module in order to make full use of it.

For myself, I might say 41CL also, otherwise a Clonix-41, NoVRAM, or MLDL2000 or something like that. I'd like to see a concise comparison of them all. I expect the 41CL is the fastest, although few things are really so speed-critical

Edited: 1 Oct 2011, 3:08 p.m.

Re: What is your holy grail?

*Message #4 Posted by **robert rozee** on 1 Oct 2011, 7:59 a.m.,*
in response to message #2 by Ángel Martin

was wondering what a 41CY was, and upon searching chanced upon this series of photos that i thought others might like to have a browse over:

http://www.flickr.com/photos/jkeller-ch/

(sorry if this is a little off topic, but the photos are *very* well done)

Re: What is your holy grail?

*Message #5 Posted by **Juergen Keller** on 3 Oct 2011, 1:27 p.m.,*
in response to message #4 by robert rozee

Great to hear that you like my calculator pictures :-) As time allows I will add more ...

Re: What is your holy grail?

*Message #6 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:43 a.m.,*
in response to message #1 by Keith Midson

A 34S with professionally labeled keys and faceplate directly from the plant. I presume this will never happen...

Re: What is your holy grail?

*Message #7 Posted by **Egan Ford** on 1 Oct 2011, 11:47 a.m.,*
in response to message #6 by Marcus von Cube, Germany

With a 42S-esque case, white keys (grey for top two rows), yellow-f, blue-g, black-h, crystal, metal QR card on back, and serial port to the side.

Re: What is your holy grail?

*Message #8 Posted by **Egan Ford** on 1 Oct 2011, 2:44 p.m.,*
in response to message #7 by Egan Ford

> Quote:
>
> and serial port to the side.

Make that the top.

Re: What is your holy grail?

*Message #9 Posted by **David Ramsey** on 4 Oct 2011, 1:15 a.m.,*
in response to message #8 by Egan Ford

Make that a USB port. Jeez, guys, it's 2011!

Re: What is your holy grail?

*Message #10 Posted by **Brian Walsh** on 1 Oct 2011, 12:02 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> A 34S with professionally labeled keys and faceplate directly from the plant. I presume this will never happen...

That would be great, but complete and proper documentation are needed first.

I like Egan's ideas as well.

Edited: 1 Oct 2011, 12:03 p.m.

Re: What is your holy grail?

*Message #11 Posted by **Katie Wasserman** on 1 Oct 2011, 4:52 a.m.,*
in response to message #1 by Keith Midson

A 95C.

Re: What is your holy grail?

*Message #12 Posted by **Michael de Estrada** on 1 Oct 2011, 9:33 a.m.,*
in response to message #11 by Katie Wasserman

Me too. I thought you already had one.

Re: What is your holy grail?

*Message #13 Posted by **Katie Wasserman** on 1 Oct 2011, 1:41 p.m.,*
in response to message #12 by Michael de Estrada

I've even seen one for sale or auction, have you?

Edited: 1 Oct 2011, 1:42 p.m.

Re: What is your holy grail?

*Message #14 Posted by **Michael de Estrada** on 1 Oct 2011, 1:44 p.m.,*
in response to message #13 by Katie Wasserman

Nope. Just the photos in the MoHPC.

Re: What is your holy grail?

*Message #15 Posted by **Geir Isene** on 1 Oct 2011, 4:58 a.m.,*
in response to message #1 by Keith Midson

A mint HP-27

Re: What is your holy grail?

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 1 Oct 2011, 5:12 a.m.,*
in response to message #1 by Keith Midson

My missing brick it's an HP-92.
Not that I would discard a 95C... ;)

Massimo

Re: What is your holy grail?

*Message #17 Posted by **Dave Britten** on 1 Oct 2011, 7:07 a.m.,*
in response to message #1 by Keith Midson

Probably either a 42s or 16c. I'm not equipped with the reckless abandon required to buy either of them,

however.

Re: What is your holy grail?

*Message #18 Posted by **robertoataulfo** on 1 Oct 2011, 7:40 a.m.,*
in response to message #17 by Dave Britten

My holy grail :-)

Re: What is your holy grail?

*Message #19 Posted by **David Ramsey** on 4 Oct 2011, 1:17 a.m.,*
in response to message #18 by robertoataulfo

http://www.ebay.com/itm/VTG-SHARP-POCKET-COMPUTER-PC-1600-WORKS-GREAT-VERY-NICE-/280749081497?pt=Calculators&hash=item415df30399#ht_500wt_1413

Re: What is your holy grail?

*Message #20 Posted by **Norman Dziedzic** on 1 Oct 2011, 7:53 a.m.,*
in response to message #1 by Keith Midson

41CX S/N 2825S20268

Got me through college and then I sold it to a collector before I got the urge to start collecting myself. Would love to have it back ;-)

http://www.flickr.com/photos/njdjr/sets/72157624157159363/

Re: What is your holy grail?

*Message #21 Posted by **Brian Walsh** on 1 Oct 2011, 12:16 p.m.,*
in response to message #20 by Norman Dziedzic

Norman,

Since you're in the area, you might think about attending CHIP meetings - we meet at Ace Metal in Bensenville. I expect to receive the 41CL in a few weeks which will go into my 41CX. This coming Wednesday (10/5) I will be giving a report on the San Diego conference, with lots of show and tell. Some of us get together for dinner at Two Chefs around 6:30pm, with the meeting starting around 8:00pm.

Edited: 1 Oct 2011, 12:17 p.m.

Re: What is your holy grail?

*Message #22 Posted by **David Persinger (US)** on 1 Oct 2011, 8:07 a.m.,*
in response to message #1 by Keith Midson

I wish I had back ones that I no longer own due to failure:

- HP15c was my first, what I used in college until I broke it by (horrors) setting the foot of my chair on it, shattering the display.

- HP71b with card reader: just stopped working.

- H32s: bezzel around display was bent into display, I broke display trying to pry it up.

These were all done in my foolish younger years.

Glad I still have my 48sx w/eqn. library card, 35s, 50g and WP-34s...

Re: What is your holy grail?

*Message #23 Posted by **hpnut** on 1 Oct 2011, 10:36 a.m.,*
in response to message #1 by Keith Midson

An HP 16C.

Re: What is your holy grail?

*Message #24 Posted by **db (martinez, ca.)** on 1 Oct 2011, 10:44 a.m.,*
in response to message #1 by Keith Midson

The finished version of Monte's 41CL.
A 34s-like unit with the screen of the new 17.
Eric's (and Richard's?) latest.

Re: What is your holy grail?

*Message #25 Posted by **David Ramsey** on 1 Oct 2011, 11:31 a.m.,*
in response to message #1 by Keith Midson

A few months ago, I would have said "A Texas Instruments SR-60", but now I have one.

These days...hmmm. Maybe a 9821, which was a 9820 with a cassette drive replacing the card reader.

Re: What is your holy grail?

*Message #26 Posted by **Karl-Ludwig Butte** on 1 Oct 2011, 12:21 p.m.,*
in response to message #1 by Keith Midson

For me it would be a HP-67 CX. Was there any attempt to build one in the past ?

Regards

Karl

Re: What is your holy grail? (maybe a tad long)

*Message #27 Posted by **Dale Reed** on 1 Oct 2011, 1:45 p.m.,*
in response to message #1 by Keith Midson

As for a "collection" -- mine is mostly Voyagers. They're not particularly minty (except 15C LE, 12C AE, of course), but I like the ones I have. I mostly need to fill in on missing manuals (10C owner's handbook and the various advanced functions manuals).

But my holy grail is to be able to build my own calculator -- to gain the skills/tools in programming, part selection, PCB layout, case design/construction, etc., to make a calculator that does what **I** want.

I 'grew up' with an HP-25, but I like the continuous memory, the feel, the layout and the functions of the 11C, 15C, 16C. When I saw the 35S, I thought 'Great, HP is doing a CALCULATOR!' It's nice, but it's not a 15C.

I've also read here about folks wanting the 35S to have USB or SD Card, or some means of upload/download. I've read about the WP34S and using the tools for flashing a 20b or 30b (or 12C+ / AE or 15C LE). Got a 30b and a cable (thanks, Gene!) and will be loading it up over my vacation....

I read about the 41 series, including the blanknut.

I recently built my own sound-effects box (a display-less MP3 player with a LOUD speaker amp on board and files on an SD Card), so I've got a little bit of microcontroller programming and PCB design under my belt. Just a little.

So my RPN calculator is my next project.

I like the landscape layout of the Voyagers, and I look at my cellphone with a slide-out QWERTY (QWERTZ or AZERTY for some of you) keyboard.

If I were going to make a "blank" keyboard Voyager (or buy one, say a NW250AA#ABA OPT 001?), it would have the ENTER key horizontal (like my beloved HP-25) in the center of the bottom row, the spacebar position. Now I could use the keyboard / display of my "calculator" in an alpha mode for other things that need alpha input. And it would have USB and/or MicroSD, maybe a lithium-ion battery charged by the USB port. The holy grail of BYOC (build your own calc) hardware....

So I am following the discussions of the WP34S firmware with interest. Likewise the DIY5 hardware discussions, and the comments on various LCD displays. Thank you all for "teaching" me -- without really trying.

If I 'finalize' my candidate keyboard layout, I'll post it here. I've followed several recent discussions about which keys should be primary vs. shifted, and I think I've got a good layout FOR ME based on how I would use it.

For those who are interested, I'm currently working with a 4-line 20-character display and a Freescale MCF51JM128 (plenty of SPIs and has USB OTG). Just because I'm familiar with it.

With BYOC hardware, you can do yer own dang layout! And a lot more, if you've got USB, MicroSD, MP3 codec or whatever...

Sorry this is a bit long. But 'you asked'!

Dale

Re: What is your holy grail?

*Message #28 Posted by **Eddie W. Shore** on 1 Oct 2011, 2:10 p.m.,*
in response to message #1 by Keith Midson

HP 27S. However, the door prizes I won last HHC are awesome too: the long wanted 19B and the 71B. (Thanks!)

Now if I can get a 42S for under an arm and a leg.

Edited: 1 Oct 2011, 2:11 p.m.

Re: What is your holy grail?

*Message #29 Posted by **Randy** on 1 Oct 2011, 2:53 p.m.,*
in response to message #28 by Eddie W. Shore

1) HP22S - later production without the LCD window. 2) HP70 - in excellent to mint condition.

Re: What is your holy grail?

*Message #30 Posted by **Martin Pinckney** on 2 Oct 2011, 4:25 p.m.,*
in response to message #29 by Randy

> Quote:
>
> 1) HP22S - later production without the LCD window.

Randy, can you clarify. Do you mean there was a 22s with the recessed bezel? Singapore made? Didn't know that.

Re: What is your holy grail?

*Message #31 Posted by **MikeT** on 1 Oct 2011, 4:54 p.m.,*
in response to message #1 by Keith Midson

An HP97 or HP29C, I learnt to 'program' on the HP 97 when I was about 14 (my father had one) and I was hooked from day one!

Mike T.

Re: What is your holy grail?

*Message #32 Posted by **Dan W** on 1 Oct 2011, 7:04 p.m.,*
in response to message #1 by Keith Midson

I really only collect the Classic series, up thru the 67 and 97; mainly because I know them well and I can repair and restore them. Of those I'm only missing the HP-70.

As an engineer I've had less interest in the financials, and the HP-70 can be rather expensive.

For modern use, an HP-42S-LE would be my most desirable calculator. I hope one day it will be produced.

Re: What is your holy grail?

*Message #33 Posted by **Pal G.** on 1 Oct 2011, 7:28 p.m.,*
in response to message #1 by Keith Midson

A late HP 49G+, with serial number above CNA6XXXXXXX. Reportedly HP made a batch of "good" 49G+'s before switching to the 50G.

The 49G+ was my first HP calculator (mine is dead) and I prefer its looks compared to my 50G with its Darth Vader color scheme.

And a 42S.

Re: What is your holy grail?

*Message #34 Posted by **hpnut** on 2 Oct 2011, 7:58 p.m.,*
in response to message #1 by Keith Midson

Do enlighten me why HP made calculators with clear cases. thanks.

i think it's funky too.

Re: What is your holy grail?

*Message #35 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 12:13 a.m.,*
in response to message #34 by hpnut

This helps to control the mechanical construction of the case.

Re: What is your holy grail?

*Message #36 Posted by **megarat** on 3 Oct 2011, 6:35 p.m.,*
in response to message #35 by Marcus von Cube, Germany

I thought this was also for sales and demonstration purposes, so people could be impressed by the cool electronic components inside.

Re: What is your holy grail?

*Message #37 Posted by **Walter B** on 4 Oct 2011, 1:44 a.m.,*
in response to message #36 by megarat

Don't think so. Those were the days before 3D CAD.

Re: What is your holy grail?

*Message #38 Posted by **Brian Walsh** on 3 Oct 2011, 1:05 a.m.,*
in response to message #34 by hpnut

I don't have any clear case machines but have a blue (think Smurfs) 41 case, which might be one of a kind.

Outside of HP or former HP employees, these unusual cases are rare. Clear is the most common.

Re: What is your holy grail?

*Message #39 Posted by **Jim Horn** on 2 Oct 2011, 8:39 p.m.,*
in response to message #1 by Keith Midson

A long wish of mine - that HP would sell a custom ROM version of Casio's DataBank calculator watch as an RPN scientific calculator watch. Casio's scientific calculator watches of the 1980s, like many HP calculators, sell for many times their list price on the used market. An RPN version would be great!

Yes, today's smartphones reduce the need for this - but I'd still like to have one...

Re: What is your holy grail?

*Message #40 Posted by **Juergen Keller** on 3 Oct 2011, 1:41 p.m.,*
in response to message #1 by Keith Midson

The problem with HP calculators/computers is that there is not a single Holy Grail, there are many :-)

My top favorites are: 41CL, 41CY, 9100A, 9845C, 65, 85, and from a collector's point of view a 95C.

Re: What is your holy grail?

*Message #41 Posted by **Keith Midson** on 3 Oct 2011, 10:15 p.m.,*
in response to message #40 by Juergen Keller

That is true Juergen. What I have to have at any one time can change without warning too! My holy grail non-HP right now would be an Elektronika MK90 - I haven't seen one listed on TAS for a few years now. Cheers, Keith

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Serial # vs. LE

*Message #1 Posted by **Steve28** on 1 Oct 2011, 3:16 a.m.*

I ordered two HP-15C LEs a week apart. One from Samson Cables and one from HP directly. I noticed that one of the has Serial Number: CNA1310KS7 with a Limited Edition Number of 02048. The other one has a Serial Number of CNA13207TG and an LE Number of 01xxx - I don't have that one at home right now.

My understanding of the Serial Number scheme is the first three letters indicate the country of manufacture the next digit is the year and the next two are the week of the year. That means:

CNA1310KS7 = 31st week of 2011 (LE # 02048)

CNA13207TG = 32nd week of 2011 (LE # 01xxx)

This seems to indicate the LE numbers aren't being "issued" sequentially and/or they made/make the aluminum back plate separate from the the calculator and by the time the two meet... it's semi-random which unit gets which LE #.

Just wondering if anyone else who purchased multiple units noticed something similar.

Steve

Edited: 1 Oct 2011, 3:17 a.m.

Re: HP-15C LE Serial # vs. LE

*Message #2 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:41 a.m.,*
in response to message #1 by Steve28

I can only add my own unit to the list:

CNA13208GF (week 32/2011) LE# 00052.

Re: HP-15C LE Serial # vs. LE

*Message #3 Posted by **Paul Berger (Canada)** on 1 Oct 2011, 7:32 a.m.,*
in response to message #1 by Steve28

CNA13208YW LE01957 looks pretty random, assuming they are using all letter combinations my serial

number would be 485 away from Marcus's, however there is a difference of 1905 in the LE number.

Re: HP-15C LE Serial # vs. LE

*Message #4 Posted by **Jeroen Van Nieuwenhove** on 1 Oct 2011, 7:46 a.m.,*
in response to message #1 by Steve28

> Quote:
>
> CNA13207TG = 32nd week of 2011 (LE # 01xxx)

Mine is CNA13207TH (!) = 32nd week of 2011 (LE # 00726).

I think it is most likely that the batch of aluminium back plates was either mixed or split up along different production lines.

Re: HP-15C LE Serial # vs. LE

*Message #5 Posted by **Steve28** on 1 Oct 2011, 12:11 p.m.,*
in response to message #4 by Jeroen Van Nieuwenhove

Wow! Looks like we may have consecutive models!

Re: HP-15C LE Serial # vs. LE

*Message #6 Posted by **Geoffrey Wang** on 1 Oct 2011, 8:27 p.m.,*
in response to message #5 by Steve28

I've looked at about 20 pairs of numbers and couldn't deduce a method to the LE# numbering madness.

Re: HP-15C LE Serial # vs. LE

*Message #7 Posted by **Derek Walker (UK)** on 3 Oct 2011, 3:23 a.m.,*
in response to message #6 by Geoffrey Wang

Thinking of the production logistics, I suspect that the LE number would be printed at the same time as the rest of the backplate, well in advance of its fitting to the calculator, and probably at a different location (assuming aluminium trim production may be subcontracted to a metal manufacturer). In that case a batch of backplates would be available at the calculator production line and would be applied in random order as they were taken from the box.
An interesting point if this is correct, is that all the LE numbers reported here have been in the range 0 - 3000, suggesting that is the total size of the first production batch (rather than the ones supplied so far being the first 3000 of a larger production run).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12c 30th AE keyboard

*Message #1 Posted by **Paulo MO** on 30 Sept 2011, 8:11 p.m.*

Hi

Does anyone know if the keyboard of the12c 30th AE is of the same type of the 15 LE, with that new hard feedback (which I love), or if it is the very same keyboard of the regular 12c+ (of which I just bought a new calculator and am now stuck with some receding keys and a semi-working Enter key)? :-(

Thanks. Paulo

Re: HP12c 30th AE keyboard

*Message #2 Posted by **M. Joury** on 30 Sept 2011, 8:24 p.m.,*
in response to message #1 by Paulo MO

All three have the same keyboard. They are all physically the same machine the only difference being the firmware and key labeling. If you got a bad 12C+ send it back to HP. I once saw one in a store that was quite obviously bad but my own 12C+'s have been flawless with exactly the same key feel as my 15C LE's.

Cheers,

-Marwan

Edited: 30 Sept 2011, 8:35 p.m.

Re: HP12c 30th AE keyboard

*Message #3 Posted by **Paulo MO** on 1 Oct 2011, 3:16 a.m.,*
in response to message #2 by M. Joury

Thanks, Marwan.

Just bad luck, then. Murphy is alive!

Best Paulo

Re: HP12c 30th AE keyboard

*Message #4 Posted by **linear** on 30 Sept 2011, 8:24 p.m.,*
in response to message #1 by Paulo MO

The HP12c 30th AE seems to have the same keyboard as the 15c LE, including, unfortunately, the possibility of getting one with "flakey" keys.

My 12c AE has a flakey "CHS" key, one of my 15c's has a flakey "SST" key and the other a flakey Z+ key. Otherwise, the keyboards feel "good", IMHO.

Re: HP12c 30th AE keyboard

*Message #5 Posted by **Paulo MO** on 1 Oct 2011, 3:26 a.m.,*
in response to message #4 by linear

Sorry for your flakey keys. But is't always nice to know that "I'm not the only one" with a new "bad" 12c. :-)

In my case, and even not considering the bad keys, the overall keyboard does not have nearly the same feel of the 15 LE, by a loooong shot. It just seems to be a totally different design of the feedback mechanism (even though I now know otherwise, thanks to all of you).

Best Paulo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

So any pics / news from HHC 2011

*Message #1 Posted by **Han** on 30 Sept 2011, 4:38 p.m.*

Does anyone have any news/pics to post related to the most recent HHC?

Re: So any pics / news from HHC 2011

*Message #2 Posted by **Namir** on 30 Sept 2011, 4:40 p.m.,*
in response to message #1 by Han

I posted pictures for the public on Facebook.

Re: So any pics / news from HHC 2011

*Message #3 Posted by **Walter B** on 30 Sept 2011, 5:07 p.m.,*
in response to message #2 by Namir

Where?

Re: So any pics / news from HHC 2011

*Message #4 Posted by **Namir** on 30 Sept 2011, 5:09 p.m.,*
in response to message #3 by Walter B

Search for my name **Namir Shammas**

Edited: 30 Sept 2011, 5:09 p.m.

Re: So any pics / news from HHC 2011

*Message #5 Posted by **Thomas Chrapkiewicz** on 30 Sept 2011, 5:18 p.m.,*
in response to message #4 by Namir

Nice job Namir! (and good seeing you again!)

TomC [Tom Cee on fb.]

Re: So any pics / news from HHC 2011

*Message #6 Posted by **Garth Wilson** on 30 Sept 2011, 7:04 p.m.,*
in response to message #4 by Namir

An HP-71 and interface converters for door prizes?? Wow! I guess I should try harder to go. Any of those would have more than paid for my trip!

Re: So any pics / news from HHC 2011

*Message #7 Posted by **Han** on 1 Oct 2011, 2:38 p.m.,*
in response to message #4 by Namir

Namir,

I found your facebook page (I think) but did not see any HHC2011 photos. Perhaps I found the wrong Namir? Instead, I found photos of Montreaux and St. Peter's Basillica, among several other albums.\

Han

Re: So any pics / news from HHC 2011

*Message #8 Posted by **Karl-Ludwig Butte** on 1 Oct 2011, 12:30 p.m.,*
in response to message #1 by Han

Are there any news about Geoff Quickfall's book about restoring calculators ? Last thing I remember Geoff planned to release it for HHC 2011.

Geoff, are you listening ? I'd love to hear some good news from you and like to send you an order.

Regards

Karl

Re: So any pics / news from HHC 2011

*Message #9 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 1:17 p.m.,*
in response to message #8 by Karl-Ludwig Butte

He asked for some more weeks to complete and proofread it. He has accepted orders.

Re: So any pics / news from HHC 2011

*Message #10 Posted by **Karl-Ludwig Butte** on 2 Oct 2011, 6:13 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Thanks, Marcus for the update. May I ask if you have an email-address or url for me to send my order to Geoff ?

Thank you for your short feddback in advance.

Regards

Karl

Re: So any pics / news from HHC 2011

*Message #11 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 6:50 a.m.,*
in response to message #10 by Karl-Ludwig Butte

Try the forum email system.

Re: So any pics / news from HHC 2011

*Message #12 Posted by **Paul Dale** on 2 Oct 2011, 7:52 a.m.,*

in response to message #9 by Marcus von Cube, Germany

I missed this too :-(

- Pauli

Re: So any pics / news from HHC 2011

*Message #13 Posted by **uhmgawa** on 2 Oct 2011, 8:47 p.m.,*
in response to message #1 by Han

Quote:

Does anyone have any news/pics to post related to the most recent HHC?

On a similar thought, does any sort of a synopsis of the event exist? I haven't attended an HCC event thus far and regrettably my plan to be on the left coast last weekend didn't pan out.

I'd just tried rummaging through hpmuseum.org for clues from the past week, but have never understood where posts wander off to when they age out of the 4-5 day recent post window.

Re: So any pics / news from HHC 2011

*Message #14 Posted by **Brian Walsh** on 2 Oct 2011, 9:40 p.m.,*
in response to message #13 by uhmgawa

You could look at the conference schedule to view the list of talks. But to really get the flavor of the conference I recommend contacting Jake Schwartz to get DVDs of past conferences. It will be a good while till he has the recent one ready, but there are many hours to view as it is. Jake does the Herculean task of editing in addition to videotaping, and we all owe him a depth of gratitude for it.

Re: So any pics / news from HHC 2011

*Message #15 Posted by **Norman Dziedzic** on 6 Oct 2011, 7:21 a.m.,*
in response to message #14 by Brian Walsh

Brian Sorry I missed the CHIP meeting last night. Hope your presentation went well.

Also sorry to contact you on the public forum but tried a PM but didn't seem to work.

Can you please let me know when the next meeting will be at njdjr AT the rest sbcglobal DOT net (remove "the rest") Thanks, Norm

Re: So any pics / news from HHC 2011

*Message #16 Posted by **Brian Walsh** on 6 Oct 2011, 1:03 p.m.,*
in response to message #15 by Norman Dziedzic

Hi Norm, No problem, I just sent you an email with some info, and sorry, maybe I should have included my email address in the message above, which is bpwalsh - at - speakeasy - dot - net (or bpwalsh at gmail dot com).

Hope you can make the next meeting in two weeks.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C and 15C LE not the same dimensions?

*Message #1 Posted by **Derek** on 30 Sept 2011, 3:55 p.m.*

not sure if this has been raised before but...

i just received my 15C LE, and i was struck by the fact that it is a smidge larger in all three dimensions than my circa 1984 15C. (most notable to me was that it felt thick in my hand before even comparing the two units side by side)

no time for a full review right now, but i'm unsure how i feel about the keyboard. i see why some might like it, but it's not the same as my old 15C nor an older 12C i also own. it will take some getting used to.

Re: HP 15C and 15C LE not the same dimensions?

*Message #2 Posted by **Martin Pinckney** on 30 Sept 2011, 4:38 p.m.,*
in response to message #1 by Derek

> Quote:
>
> I just received my 15C LE, and I was struck by the fact that it is a smidge larger in all three dimensions than my circa 1984 15C.

Can anyone else confirm this? What about the modern 12c's - are they larger than the 1980's ones? If so, when did they "grow"? If not, I wonder why the factory would not use the same molds for both the modern 12c's and the 15c LE.

Re: HP 15C and 15C LE not the same dimensions?

*Message #3 Posted by **M. Joury** on 30 Sept 2011, 4:48 p.m.,*
in response to message #2 by Martin Pinckney

Yes. Not sure about length and width but it is certainly a tad thicker. Also perhaps a very slightly different shape in the beveling along the top edge. Seems to match the 12C+ exactly.

Re: HP 15C and 15C LE not the same dimensions?

*Message #4 Posted by **Michael de Estrada** on 30 Sept 2011, 4:58 p.m.,*
in response to message #3 by M. Joury

It's 5 grams heavier.

Re: HP 15C and 15C LE not the same dimensions?

*Message #5 Posted by **Jeroen Van Nieuwenhove** on 30 Sept 2011, 5:04 p.m.,*
in response to message #2 by Martin Pinckney

It struck me as well when I was comparing my 11C and the new 15C LE. The size differences are very minimal though. The 15C fits smoothly in the 11C pouch and vice versa.

I keep wondering why the new voyagers have dual CR2032 cells and not dual AAA-size cells. I think they would fit inside the case. Wouldn't AAA-size cells last longer?

Re: HP 15C and 15C LE not the same dimensions?

*Message #6 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 5:12 p.m.,*
in response to message #5 by Jeroen Van Nieuwenhove

You wouldn't be able to change one cell at a time without losing memory contents because AAA cells would need to be wired in series instead of in parallel.

Re: HP 15C and 15C LE not the same dimensions?

*Message #7 Posted by **Dwight Sturrock** on 30 Sept 2011, 11:40 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Being able to change one cell at a time really is a nice feature. Better than rushing to change the cells in series so you don't lose all memory!

Re: HP 15C and 15C LE not the same dimensions?

*Message #8 Posted by **robert rozee** on 1 Oct 2011, 1:03 a.m.,*
in response to message #7 by Dwight Sturrock

one could easily provide space for two AAA cells along with a small backup coin cell - assuming here that the AAA's would themselves fit in the available space.

Re: HP 15C and 15C LE not the same dimensions?

*Message #9 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Oct 2011, 8:18 p.m.,*
in response to message #6 by Marcus von Cube, Germany

A capacitor may be designed in so to supply a minimum current, allowing to keep the memory contents for a short time (say, less than a minute) while batteries are changed. That's the way it worked in many old models such as the 25C, 41C, Voyagers, Pioneers, etc. Parallel cells schemes are rather new for HP calcs and, with due respect, not the best solution around.

Re: HP 15C and 15C LE not the same dimensions?

*Message #10 Posted by **Katie Wasserman** on 1 Oct 2011, 3:05 a.m.,*
in response to message #5 by Jeroen Van Nieuwenhove

> Quote:
>
> Wouldn't AAA-size cells last longer?

Yes! Many, times longer because the 2032 cells are destroyed by the 20ma current load that the 15CLE has when running any function or even holding a key down. I'd estimate that you'd get less than 4 hours of program run time out of the CR2032 cells, while you'd get close to 50 hours with AAA cells.

Powering all the HP ARM-based calculators with 2032 cells is a huge engineering mistake in my view. The current load of the ARM running at more than a few MHz is too high for these size cells.

Re: HP 15C and 15C LE not the same dimensions?

*Message #11 Posted by **Bart (UK)** on 1 Oct 2011, 3:32 a.m.,*
in response to message #10 by Katie Wasserman

If thickness is a worry, what about AAAA cells, they're about 8.3mm dia. (AAA ~10.5mm dia.), have at least twice the capacity of CR2032, however only around 1% of the internal resistance - so can cope much better with the peak current drains and probably see several times the life.

(Note, I have referenced the Energizer data sheets for info only - I have no specific like or dislike towards them).

Re: HP 15C and 15C LE not the same dimensions?

*Message #12 Posted by **Katie Wasserman** on 1 Oct 2011, 4:55 a.m.,*
in response to message #11 by Bart (UK)

AAAA cells would be a good choice, but they are hard to find in stores. You could buy a 9V alkaline battery and rip it open to get at the 6 cells inside there (very close in size to AAAA), but how many people would know to do that?

Edited: 1 Oct 2011, 4:58 a.m.

Re: HP 15C and 15C LE not the same dimensions?

*Message #13 Posted by **Thomas Radtke** on 1 Oct 2011, 4:46 a.m.,*
in response to message #10 by Katie Wasserman

So, with the new firmware there's a chance to get the big block out of the Ford T.

Re: HP 15C and 15C LE not the same dimensions?

*Message #14 Posted by **uhmgawa** on 2 Oct 2011, 9:03 p.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> Yes! Many, times longer because the 2032 cells are destroyed by the 20ma current load that the 15CLE has when running any function or even holding a key down. I'd estimate that you'd get less than 4 hours of program run time out of the CR2032 cells, while you'd get close to 50 hours with AAA cells.

Some time ago I'd considered exactly that, namely designing a modified voyager housing with the same external envelope. Accommodating 2x AA cells would require the vertical depth to increase as it would compete for that space with the lcd glass. I seem to recall an anecdote to the effect the original voyager housing depth was extended to its current form when a third LR44 was added to the design.

> Quote:
>
> Powering all the HP ARM-based calculators with 2032 cells is a huge engineering mistake in my view. The current load of the ARM running at more than a few MHz is too high for these size cells.

I'm not quite sure why HP didn't initially use a more conservative clock frequency such that the current draw would be on a more realistic point in the CR2023's discharge curve. Clocking the sam7 at its maximum design frequency doesn't really make much sense given the expected usage of the device. At least some user configurable clock frequency would have been a more flexible approach.

Re: HP 15C and 15C LE not the same dimensions?

*Message #15 Posted by **John S. Miller** on 30 Sept 2011, 4:52 p.m.,*
in response to message #2 by Martin Pinckney

I made a quick-and-dirty comparison of the 15c LE with a made-in-USA 12c, using a digital caliper. The 15c is approximately 0.025" longer and thicker, and the height is close to "no difference."

Re: HP 15C and 15C LE not the same dimensions?

*Message #16 Posted by **Paul Berger (Canada)** on 30 Sept 2011, 5:13 p.m.,*
in response to message #1 by Derek

I held my LE up against my 1982 vintage 16C and I could not see any difference so I measured them both with vernier calipers and for the LE I get 12.89cm x 7.99cm x 1.5cm at its thickest point the 16C measures 12.84cm x 7.98cm x 1.45cm so in my case the variation is insignificant.

Re: HP 15C and 15C LE not the same dimensions?

*Message #17 Posted by **Derek** on 30 Sept 2011, 5:33 p.m.,*
in response to message #16 by Paul Berger (Canada)

ah, yes. the biggest difference is the thickness, and your calipers are consistent with what i felt in my hand. by eye, i don't think the length and width are noticeable, but in my hand, i immediately thought it was thicker. i guess my hands are ultra sensitive or that's just how well i know my hands know my 27 year old calculator that i've used exclusively over all that time for school (HS, college, grad) and work.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wanted: high-resolution photo of 50g internals

*Message #1 Posted by **Eric Smith** on 30 Sept 2011, 3:38 p.m.*

Is there already such a thing anywhere? I couldn't find it here or through Google image search.

Re: wanted: high-resolution photo of 50g internals

*Message #2 Posted by **Han** on 30 Sept 2011, 4:28 p.m.,*
in response to message #1 by Eric Smith

I could probably provide you some. I have an HP50G disassembled. What sort of pictures did you need?

Re: wanted: high-resolution photo of 50g internals

*Message #3 Posted by **Steve Simpkin** on 30 Sept 2011, 6:19 p.m.,*
in response to message #2 by Han

I think Eric is looking at potential housings for his DIY Calculator...

Re: wanted: high-resolution photo of 50g internals

*Message #4 Posted by **Eric Smith** on 30 Sept 2011, 9:56 p.m.,*
in response to message #2 by Han

Just looking for a high-resolution photo or scan of the circuit board.

Thanks! Eric

Re: wanted: high-resolution photo of 50g internals

*Message #5 Posted by **Han** on 3 Oct 2011, 12:15 a.m.,*
in response to message #4 by Eric Smith

I just found my tools to re-open my broken HP50G (bought it for $5.00 on TAS). If you're hoping for some clues on how the traces are connected, you may be pretty disappointed. It's a multilayer PCB with very few traces visible from the front and back sides. The only exception is the LCD daughter board -- well, at least the portion not covered by the glass...

Anyway, I can take some photos tomorrow during daylight. My camera does a pretty poor job inside with the typical yellow lightbulbs

Re: wanted: high-resolution photo of 50g internals

*Message #6 Posted by **Eric Smith** on 3 Oct 2011, 1:06 a.m.,*
in response to message #5 by Han

I'm not concerned about traces that aren't exposed.

Thanks!
Eric

Re: wanted: high-resolution photo of 50g internals

*Message #7 Posted by **Dave Shaffer (Arizona)** on 3 Oct 2011, 12:08 p.m.,*
in response to message #5 by Han

> Quote:
>
> My camera does a pretty poor job inside with the typical yellow lightbulbs

Can you set the "white balance"? That makes a big difference.

Re: wanted: high-resolution photo of 50g internals

*Message #8 Posted by **Han** on 3 Oct 2011, 3:02 p.m.,*
in response to message #7 by Dave Shaffer (Arizona)

Yes, but indoor incandescent lighting is just weak compared to natural lighting. Although I can set the white balance, the picture is grainy from indoor lights (unless you have lots of lights and flood the room).

Anyway, if you're looking for the photos, I posted a link in a later thread since this one was getting buried:

Link to the thread

Link to the photos

Re: wanted: high-resolution photo of 50g internals

*Message #9 Posted by **Dave Shaffer (Arizona)** on 3 Oct 2011, 5:28 p.m.,*
in response to message #8 by Han

Your "grainy" is probably from using a high ISO (sensitivity). Use the lowest ISO your camera has (looks like 80 or 100 for your A2200; DON'T set "auto"), and just make a longer exposure (there's no reciprocity failure for digital sensors!). You may need a tripod, too, though. Also, use the self-timer to avoid motion/shake when you press the shutter button.

Re: wanted: high-resolution photo of 50g internals

*Message #10 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 2:08 a.m.,*
in response to message #9 by Dave Shaffer (Arizona)

When I take photos of my gear I use a big flash with a diffuser. The reflector is aimed against the ceiling. This results in enough light and does not cause any flares or reflections.

[Return to Index | Top of Index]

Go back to the main exhibit hall

wanted: high-resolution photo of 50g internals

HP Forum Archive 20

[Return to Index | Top of Index]

Determinants of the AM1 matrix

*Message #1 Posted by **gene wright** on 30 Sept 2011, 3:29 p.m.*

AM1 Matrix

This is one of Valentin's matrices to test accuracy in computing a determinant. We have talked about it before. The exact determinant should be 1. Let's gather a list of results for various NON-exact mode machines, non-TINY ELEMENT flag machines as an article for accuracy.

```
WP 34S                  0.999997119354
HP-28S                  0.970960198039
HP-15C                  1.080204421
HP-35s                  1.00282960115
HP-71B                  0.97095056196
HP-48G                  0.999945522778
Casio FX-9860G Slim     1.0000000369657
```

Here are some starting values.

Re: Determinants of the AM1 matrix

*Message #2 Posted by **Bunuel66** on 30 Sept 2011, 3:50 p.m.,*
in response to message #1 by gene wright

TI82stats: 0.9996468043

Re: Determinants of the AM1 matrix

*Message #3 Posted by **Crawl** on 30 Sept 2011, 5:02 p.m.,*
in response to message #1 by gene wright

HP50g (with flags set as stated) gives the same answer as the HP48g.

The TI89 in approx mode gives 0.999718361859.

Re: Determinants of the AM1 matrix

*Message #4 Posted by **Jesse Dodd** on 30 Sept 2011, 5:40 p.m.,*
in response to message #1 by gene wright

TI nSpire CX CAS:

0.9997183618585

Re: Determinants of the AM1 matrix

*Message #5 Posted by **Peter Murphy (Livermore)** on 30 Sept 2011, 6:53 p.m.,*
in response to message #1 by gene wright

My shiny 39g+, acquired at HHC 2011, yields 1 exactly for AM1, suggesting that it's running in exact mode.

Does the 39g+ have a non-exact option, or am I stuck with exactness even if I don't want it? The user's guide appears not to discuss the subject.

Re: Determinants of the AM1 matrix

*Message #6 Posted by **Crawl** on 30 Sept 2011, 8:13 p.m.,*
in response to message #5 by Peter Murphy (Livermore)

For the 50g, to not get 1 exactly, not only do you need to turn off exact mode but you also have to set the "retain small element" flag.

Re: Determinants of the AM1 matrix

*Message #7 Posted by **Peter Murphy (Livermore)** on 30 Sept 2011, 9:17 p.m.,*
in response to message #6 by Crawl

The 39g+ appears to be an unflagged calculator.

Changing the (7,7) element of AM1 to 69.0 didn't trick the calculator: the determinant is still 1.

Re: Determinants of the AM1 matrix

*Message #8 Posted by **Crawl** on 30 Sept 2011, 10:14 p.m.,*
in response to message #7 by Peter Murphy (Livermore)

I skimmed through the 39g+ manual; it doesn't seem to have an exact mode.

My best guess is that it may be in fraction mode, so it's rounding 0.999.. to the fraction 1. You should be able to check in the Mode menu, under number format.

Re: Determinants of the AM1 matrix

*Message #9 Posted by **Bunuel66** on 1 Oct 2011, 6:04 a.m.,*
in response to message #8 by Crawl

HP39GS: 1.0000000000E0 quite instantaneously.

If I get some time, I'll experiment a bit with the sensitivity of the determinant computation to coefficients of the matrix.

Regards

Re: Determinants of the AM1 matrix

*Message #10 Posted by **Les Bell** on 30 Sept 2011, 8:09 p.m.,*
in response to message #1 by gene wright

HP-41CX with Advantage ROM: 1.082014365, in just over 14 seconds.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Determinants of the AM1 matrix

*Message #11 Posted by **Ángel Martin** on 1 Oct 2011, 4:32 a.m.,*
in response to message #10 by Les Bell

Same result (but of course) but instantaneous on the CL.

Edit: it gave me a good opportunity to put my PMTM method to test, a real breeze inputing all those matrix elements "in a row"

Edited: 1 Oct 2011, 5:15 a.m.

Re: Determinants of the AM1 matrix

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 30 Sept 2011, 10:46 p.m.,*
in response to message #1 by gene wright

Gene:

I suggest that you should go back and look at all the work that we did with this matrix back in 2005. A good place to start would be with the thread "More Matrix Results on HP and TI Machines" at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=72366 . One of the inputs that you will find there is your submission "TI CC-40 beats the HP-71B" which gives the CC-40 result as 1.00282671. The thread also includes the result for the TI-95 and other machines.

Palmer

Re: Determinants of the AM1 matrix

*Message #13 Posted by **gene wright** on 30 Sept 2011, 11:19 p.m.,*
in response to message #12 by Palmer O. Hanson, Jr.

Thanks, Palmer!

I had already grabbed those results and put them into a spreadsheet to keep up with all of this. The best results on this matrix so far are:

```
Casio FX-9860G Slim              1.000000036966
WP 34S                           0.999997119354
```

Quite amazed at the FX-9860G.

Re: Determinants of the AM1 matrix

*Message #14 Posted by **Thomas Chrapkiewicz** on 1 Oct 2011, 12:25 a.m.,*
in response to message #13 by gene wright

Hmmm....I'm thinking that these results along with the LBL A + loop, Savage benchmark, 8 queens results, etc could be added to this spreadsheet...

Perhaps you're doing this already?

TomC

Re: Determinants of the AM1 matrix

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 2 Oct 2011, 10:56 p.m.,*
in response to message #13 by gene wright

> Quote:
>
> I had already grabbed those results and put them into a spreadsheet to keep up with all of this.

Why don't you dump those results as an Article in this site?

Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #16 Posted by **gene wright** on 4 Oct 2011, 11:43 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

I will soon! Results so far! The ratio column is the error of the model listed divided by the error of the best model. The 39g+ is not listed because I do not believe it can possibly really return a 1 for a result. Sorry...

Calc	Value	Error	Ratio of error to best
Casio FX-9860G Slim	1.00000003696570	0.00000003696570	
WP 34S New Pauli firm	1.00000008439107	0.00000008439107	2.28
WP 34S RRM	0.99999711935400	0.00000288064600	77.93
HP-48G	0.99994552277800	0.00005447722200	1,473.72
TI-89	0.99971836185900	0.00028163814100	7,618.90
TI nSpire CX CAS	0.99971836185850	0.00028163814150	7,618.90
TI-86	0.99964680433800	0.00035319566200	9,554.69
TI-82	0.99964680430000	0.00035319570000	9,554.69
TI-83+	0.99964680400000	0.00035319600000	9,554.70
TI-95	1.00067670842400	0.00067670842400	18,306.39
TI-59	0.99836009871850	0.00163990128150	44,362.78
TI CC-40 Computer	1.00282671000000	0.00282671000000	76,468.46
HP-35s	1.00282960115000	0.00282960115000	76,546.67
HP-28S	0.97096019803900	0.02903980196100	785,587.77
HP-48S	0.97096019803900	0.02903980196100	785,587.77
HP-71B	0.97095056196000	0.02904943804000	785,848.45
HP-15C	1.08020442100000	0.08020442100000	2,169,698.42
HP 41 Advantage ROM	1.08201436500000	0.08201436500000	2,218,661.21
HP-41 Math ROM	(1.81476270400000)	2.81476270400000	76,145,256.27

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #17 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 12:25 p.m.,*
in response to message #16 by gene wright

WP 34S New Pauli firm	1.00000008439107	0.00000008439107	2.28

The latest firmware should do better. :-)

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #18 Posted by **Paul Gaster** on 4 Oct 2011, 1:23 p.m.,*
in response to message #16 by gene wright

Maybe I am missing something but how did you get an answer with a 35S? Are you using Stefan's matrix program?

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!
*Message #19 Posted by **gene wright** on 4 Oct 2011, 2:59 p.m.,*
in response to message #18 by Paul Gaster

Actually, I'm not sure. I took that result from the earlier post about this matrix from the forum.

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!
*Message #20 Posted by **Paul Gaster** on 4 Oct 2011, 8:32 p.m.,*
in response to message #19 by gene wright

I found it now. Yes, the 35S result is from Stefan's Matrix Multi-Tool Program for the HP-35s.

hope these links work:

link

link

link

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!
*Message #21 Posted by **Walter B** on 5 Oct 2011, 1:37 a.m.,*
in response to message #20 by Paul Gaster

Thanks for excavating! I found the oldest thread the most interesting - there are two more matrices to investigate :-)

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!
*Message #22 Posted by **Paul Dale** on 5 Oct 2011, 1:38 a.m.,*
in response to message #21 by Walter B

The 34S gets 1 and 1 for their determinants :-)

- Pauli

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!
*Message #23 Posted by **Walter B** on 5 Oct 2011, 1:45 a.m.,*
in response to message #22 by Paul Dale

Amazing, our baby, isn't it? Thanks for coding :-)

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #24 Posted by **Paul Dale** on 4 Oct 2011, 5:14 p.m.,*
in response to message #16 by gene wright

The current 34S result is 1 exactly. I very much doubt we'll go back to the less accurate version.

This will make all the other errors infinite :-)

- Pauli

Edited: 4 Oct 2011, 5:15 p.m.

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #25 Posted by **Palmer O. Hanson, Jr.** on 4 Oct 2011, 10:14 p.m.,*
in response to message #16 by gene wright

Gene:

The next thing that you might want to explore could be the results with AM2 and AM3 which are even more difficult.

Palmer

AM3 determinant on the new 34s firmware

*Message #26 Posted by **gene wright** on 4 Oct 2011, 10:25 p.m.,*
in response to message #25 by Palmer O. Hanson, Jr.

works out to 1.000 ... to the limits of returned precision.

The internal precision was (according to Pauli):

1.000000000000000000000000004678227405010

Amazing.

However, it did turn out a lock-up error trying to take the inverse of the AM3 matrix, which is being worked on.

Palmer, we need to get you a 34s. Email me!

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #27 Posted by **Paul Dale** on 5 Oct 2011, 4:13 a.m.,*
in response to message #16 by gene wright

In case anyone is interested, I've added a matrixtest.wp34s file to the library that contains the AM1, AM2 and AM3 matrices. In each case the 49 elements are stored from register 20 and the

determinant is taken. The matrix descriptor for all three is 20.07.

Just assemble and install in the emulator or on the real hardware.

- Pauli

We need a new calc.bin file first ;-)

*Message #28 Posted by **gene wright** on 5 Oct 2011, 10:11 a.m.,*
in response to message #27 by Paul Dale

to fix the memory issues with the inverse function?

Re: We need a new calc.bin file first ;-)

*Message #29 Posted by **fhub** on 5 Oct 2011, 11:23 a.m.,*
in response to message #28 by gene wright

> Quote:
>
> to fix the memory issues with the inverse function?

Not only this!

Now there's a little confusion about the SVN updates:
4 hours ago Pauli made changes to SVN 1683 removing M.LU and re-introducing the matrix-row-operations (there was a new wp34s.op).
Now Marcus has made a new build SVN 1685 where these last changes are NOT valid (i.e. M.LU is back and row-ops not included).
And there should be also a M.DIAG (which is used in the new matrix.wp34s), but it doesn't exist in the current build.

Slowly it's going to be a mess ...

Franz

Edited: 5 Oct 2011, 11:49 a.m.

Re: We need a new calc.bin file first ;-)

*Message #30 Posted by **Marcus von Cube, Germany** on 5 Oct 2011, 1:52 p.m.,*
in response to message #29 by fhub

It was just a missing update (or commit). I'll fix it soon.

SVN had not warned me about the fact that my local copy wasn't up to date. It should be fixed now.

BTW, please never *complain* about inconsistencies in the SVN builds, just tell us, preferably with an email! SVN is not a release mechanism and you can expect that there are non working build checked in just to keep the team members in sync.

Edited: 5 Oct 2011, 2:03 p.m.

Re: We need a new calc.bin file first ;-)

*Message #31 Posted by **Neil Hamilton (Ottawa)** on 5 Oct 2011, 2:10 p.m.,*
in response to message #30 by Marcus von Cube, Germany

> Quote:
>
> BTW, please never *complain* about inconsistencies in the SVN builds, just tell us, preferably with an email! SVN is not a release mechanism and you can expect that there are non working build checked in just to keep the team members in sync.

Hear, hear! Very well said!

People have to realize that you and Pauli are ~9 timezones apart and SVN is used as the communication tool to pass files around -- as in any distribute development. You are *kind* enough to let us in on the bleeding edge of the development so the belly-aching and complaining is just not appropriate!

Re: We need a new calc.bin file first ;-)

*Message #32 Posted by **fhub** on 5 Oct 2011, 2:19 p.m.,*
in response to message #30 by Marcus von Cube, Germany

> Quote:
>
> BTW, please never *complain* about inconsistencies in the SVN builds, just tell us, preferably with an email!

Where did I complain? I was just informing!

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #33 Posted by **Neil Hamilton (Ottawa)** on 5 Oct 2011, 2:01 p.m.,*
in response to message #27 by Paul Dale

Wow! Pauli I just got back from my adventure to San Diego and find the matrix stuff in place!! The editor is **very** cool.

One question about power consumption... I noticed that the RPN indicator was flashing and had to remember that this meant a program was still executing(?). Does this mean that there is a larger power drain while MED is running?

Cheers...

(BTW: Thanks to all who made me feel so welcome in the HHC group. You are a genuinely nice bunch of people!)

Edit: It looks like I may have mis-attributed MED to Pauli when it looks like Marcus created it. Sorry Marcus!! Very cool tool...

Edited: 5 Oct 2011, 2:04 p.m.

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #34 Posted by **Marcus von Cube, Germany** on 5 Oct 2011, 2:05 p.m.,*
in response to message #33 by Neil Hamilton (Ottawa)

MED is mine. :-)

It's RCL that is flashing while a PSE is in progress or while a program is running, not RPN. The power drain is only slightly higher than in deep sleep, it should still be well under 1mA.

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #35 Posted by **Neil Hamilton (Ottawa)** on 5 Oct 2011, 2:14 p.m.,*
in response to message #34 by Marcus von Cube, Germany

Hi Marcus,

Correct again! It *is* RCL that is flashing.

(Looks like I got an edit in just a minute before you corrected me on the author :-)

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #36 Posted by **Bunuel66** on 6 Oct 2011, 4:36 p.m.,*
in response to message #16 by gene wright

It is interesting not to believe the result provided by HP39g or gs. Just do the experiment. On my 39gs I have checked the display: scientific with 11 figures and even tested det(AM1)-1 to see possible hidden value. In any case, The result is exactly 1. I'm probably missing something. Please give me your light ;-)

Regards

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #37 Posted by **Gerson W. Barbosa** on 6 Oct 2011, 4:41 p.m.,*
in response to message #36 by Bunuel66

Something like this, perhaps?

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #38 Posted by **gene wright** on 6 Oct 2011, 5:26 p.m.,*
in response to message #37 by Gerson W. Barbosa

Yes, perhaps. I have worked with the 39g+ and 39gs and simply have no reason to think they have a better way to handle numbers like this than the 49g+ or 50g have / had.

I'm not disputing it returns a 1, but perhaps it always does things that are flag selectable

on the 50g - such as the tiny element flag and noting that the matrix had integers so the determinant must be an integer.

That's cheating. :-) At least from an accuracy perspective. After all, the actual result might work out to be 48.4802 and it rounds it to 48 because of such things. An integer, yes, but still wrong because the math inside was so bad.

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #39 Posted by **Paul Dale** on 6 Oct 2011, 5:58 p.m.,*
in response to message #38 by gene wright

As Crawl wrote on the other thread, change the first element of AM1 to 58.1 and see what happens. The correct answer is 9636025.5. This should bypass the everything is an integer check.

- Pauli

Re: Interim table of results for determinant of the AM1 matrix -- should = 1 ... get your models in now!

*Message #40 Posted by **Bunuel66** on 7 Oct 2011, 2:16 p.m.,*
in response to message #39 by Paul Dale

Checking HP39gs with 58.1 gives det=9636025.49994, not that bad ;-)

Regards

Re: Determinants of the AM1 matrix

*Message #41 Posted by **Paul Dale** on 30 Sept 2011, 11:14 p.m.,*
in response to message #1 by gene wright

The 34S might get an accuracy boost if I ever get time to finish the matrix code. All the new row operations will be performed in higher precision with correct rounding.

Unfortunately, I don't think there is enough RAM to unpack the matrix and do a LU decomposition completely at the higher precision. I'll have a think though.

- Pauli

Re: Determinants of the AM1 matrix

*Message #42 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:22 a.m.,*
in response to message #41 by Paul Dale

Not regarding any pivoting, an LU decomposition should be doable in place so RAM isn't an issue here. Adding pivoting might get tricky because you need the information about row or column swaps somewhere. Maybe in a condensed format in a register (using binary)?

Re: Determinants of the AM1 matrix

*Message #43 Posted by **Paul Dale** on 1 Oct 2011, 4:40 a.m.,*
in response to message #42 by Marcus von Cube, Germany

I know that an LU decomposition can be done in place (if you don't mind overwriting the matrix itself) and the code I've written can do this. However, I was talking about unpacking the matrix registers into the higher precision internal format and doing the decomposition on these instead. The big advantage is greatly increased precision.

I am pretty sure there isn't enough volatile RAM to do this. 3600 bytes would be required just to store the unpacked matrix.

The space for the pivots is small -- ten integers and these can be packed into one register easily. The largest matrix that can be decomposed on the device is 10x10.

- Pauli

Re: Determinants of the AM1 matrix

*Message #44 Posted by **Werner** on 2 Oct 2011, 4:45 a.m.,*
in response to message #43 by Paul Dale

3600 bytes for 49 elements? That would amount to 70+ bytes per number, that is one hell of a precision.
Standard quadruple precision is only 16 bytes, delivering about 35 decimal digits of precision.
Why does it take so much memory?

Cheers, Werner

Re: Determinants of the AM1 matrix

*Message #45 Posted by **Paul Dale** on 2 Oct 2011, 5:19 a.m.,*
in response to message #44 by Werner

3,600 bytes is for 100 numbers (a 10x10 matrix). They are 36 bytes each in a not well packed decimal format.

The unpacked format I'm using internally is not terribly space efficient three digits in two bytes plus some overhead. All arithmetic is done in this format so any space saving measures will require packing and unpacking to operate on them.

We're running 39 digits internally. Quadruple precision reals are available and they consume 16 bytes and give 34 digits but require packing and unpacking into the internal format I'm already using. I'd rather not pay the flash space cost for these pack/unpack routines for just this function.

- Pauli

Re: Determinants of the AM1 matrix

*Message #46 Posted by **Paul Dale** on 1 Oct 2011, 2:52 a.m.,*
in response to message #1 by gene wright

WP 34S using the determinant command I just finished coding:

```
1.000000084391072
```

This also means I've coded the Doolittle algorithm for the LU decomposition and I should be able to use this for solving equations and find a matrix inverse in place :-)

Assuming this fits into the stack space available on the hardware. If it doesn't the answer will still be the same, but the matrix will be modified (like the 15C does).

- Pauli

Re: Determinants of the AM1 matrix

*Message #47 Posted by **Walter B** on 1 Oct 2011, 4:15 a.m.,*
in response to message #46 by Paul Dale

Great news! :-)

Re: Determinants of the AM1 matrix

*Message #48 Posted by **Paul Dale** on 1 Oct 2011, 4:42 a.m.,*
in response to message #47 by Walter B

The higher accuracy of this result should be achievable from a key stroke program by taking advantage of one of the multiply-add sequences available.

- Pauli

Re: Determinants of the AM1 matrix

*Message #49 Posted by **gene wright** on 1 Oct 2011, 9:33 a.m.,*
in response to message #48 by Paul Dale

That is a great improvement. It has almost caught up with the 9860G result. The three leaders now are:

Calc	Value	Error	Ratio of error to best
Casio FX-9860G Slim	1.00000003696570	0.00000003696570	
WP 34S New Pauli firmware	1.00000008439107	0.00000008439107	2.28
WP 34S RRM	0.99999711935400	0.00000288064600	77.93

Re: Determinants of the AM1 matrix

*Message #50 Posted by **Paul Dale** on 1 Oct 2011, 8:29 p.m.,*
in response to message #49 by gene wright

You missed the highly accurate recoding which returns 1 exactly :-) We're checking if it is going to fit into available RAM or not. One solution here is to not allow 10x10 determinants and inverses -- limit it to 9x9 or 8x8 instead. I'm not too keen on this. What do folks here think about limiting the maximum invertible matrix size?

I'm sure the RRM program can be modified to achieve the same accuracy as the firmware you mention. The multiply-adds need to be recoded using complex multiplication which will take a bit of stack shuffling and a few extra steps.

- Pauli

Re: Determinants of the AM1 matrix

*Message #51 Posted by **Walter B** on 2 Oct 2011, 2:41 a.m.,*
in response to message #50 by Paul Dale

I can live with 9x9 as well :-)

Re: Determinants of the AM1 matrix

*Message #52 Posted by **Paul Dale** on 2 Oct 2011, 5:32 a.m.,*
in response to message #50 by Paul Dale

Actually, the high precision determinant is calculated as
1.000000000000000000000000000000396321014

This rounds to exactly 1 when reduced to the 16 digits stored in registers.

- Pauli

Re: Determinants of the AM1 matrix

*Message #53 Posted by **gene wright** on 2 Oct 2011, 7:16 a.m.,*
in response to message #52 by Paul Dale

I saw the highly accurate result. Just was not going to update the table until it was in a published flash.

9x9 ought to be good enough for anyone - Bill Gates

Re: Determinants of the AM1 matrix

*Message #54 Posted by **Paul Dale** on 2 Oct 2011, 7:49 a.m.,*
in response to message #53 by gene wright

Yeah, getting it to fit into RAM looks difficult to impossible. However, I've had an idea which might just work and give only slightly worse results. I'll try to code something up tomorrow and see how it turns out.

- Pauli

Re: Determinants of the AM1 matrix

*Message #55 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 12:49 p.m.,*
in response to message #54 by Paul Dale

I did some coding. The software still supports a 10x10 LU decomposition without disturbing the original matrix but the accuracy isn't the full 39 digits. I had to reduce it to 21 digits to make it fit. We are working on a better solution.

Re: Determinants of the AM1 matrix

*Message #56 Posted by **Paul Dale** on 3 Oct 2011, 5:45 a.m.,*
in response to message #53 by gene wright

Gene, time to update the 34S's determinant result, we have an image :-)

- Pauli

Re: Determinants of the AM1 matrix

*Message #57 Posted by **Paul Dale** on 2 Oct 2011, 7:00 p.m.,*

in response to message #52 by Paul Dale

I managed to get the high precision determinant fitting into RAM and giving a result of 1.00000000000000000000000008048808860320 which rounds to 1 exactly when returned to the stack.

Now to see how much flash this is costing us...

- Pauli

Re: Determinants of the AM1 matrix

*Message #58 Posted by **Ángel Martin** on 4 Oct 2011, 4:36 a.m.,*
in response to message #50 by Paul Dale

I don't know, probably as soon as you limit the size to 9x9 you'll get users needing support of higher dimensions, even if not such a precise result.

It's a trade-off, but you guys know what you're doing.

Re: Determinants of the AM1 matrix

*Message #59 Posted by **Marcus von Cube, Germany** on 4 Oct 2011, 4:41 a.m.,*
in response to message #58 by Ángel Martin

It's all set. Pauli managed to do an LU decomposition to 33 digits in available volatile memory for up to 10x10 elements. The trick was using the decimal128 packed format for the data.

More then 10x10 will not be possible with just 100 registers.

Re: Determinants of the AM1 matrix

*Message #60 Posted by **Paul Dale** on 4 Oct 2011, 4:47 a.m.,*
in response to message #59 by Marcus von Cube, Germany

There are 34 digits in a decimal128 actually. Instead of the 39 we usually use internally and the 16 in a decimal64 (our register format).

The calculated results are:

```
full precision: 1.000000000000000000000000000396321014
decimal128:     1.000000000000000000000008048808860320
decimal64:      1.000000084391072
```

The first two round to exactly 1 of course.

The reason there are 39 digits in the decimal128 result is that I'm still doing the accumulations and multiplications using the 39 digit numbers. The 34 digit ones are just for storing the LU decomposition of the matrix as it is being calculated.

- Pauli

Re: Determinants of the AM1 matrix

*Message #61 Posted by **Werner** on 4 Oct 2011, 5:54 a.m.,*
in response to message #60 by Paul Dale

I would say even 16 digits (and 39 for the inner products, reminiscent of 'floating-2') is plenty for solving 10x10 systems.
It is better to get an indication that your matrix condition is bad than to get a too-good-to-be-true result...

Cheers, Werner

Re: Determinants of the AM1 matrix

*Message #62 Posted by **Paul Dale** on 1 Oct 2011, 5:37 a.m.,*
in response to message #46 by Paul Dale

I've tried the same problem converting the matrix to internal precision and performing all operations at this precision. The determinant calculation gives a result of 1.000000000000000 when rounded back to register precision. Now to see if we can squeeze this version of the code into the hardware constraints -- I'm not confident it is possible.

- Pauli

Re: Determinants of the AM1 matrix

*Message #63 Posted by **Dieter** on 2 Oct 2011, 9:39 a.m.,*
in response to message #1 by gene wright

Very interesting - please take a closer look at this:

> Quote:
>
> ```
> HP-15C                  1.080204421
> HP-35s                  1.00282960115
> ```

The 15C uses its internal 13-digit precision and (supposedly) a state-of-the-art algorithm. Nevertheless, the better result here comes from the 35s which has to rely on the 12 digits available for user programs. Either the 35s matrix algorithm is absolutely great or this result is a positive exception and the 35s is otherwise outperformed by the 15C. What do you think?

Dieter

Re: Determinants of the AM1 matrix

*Message #64 Posted by **Palmer O. Hanson, Jr.** on 2 Oct 2011, 11:27 p.m.,*
in response to message #63 by Dieter

HP-15C 1.080204421

HP-35s 1.00282960115

TI-59 0.9983600987185

TI-95 1.000676708424

> Quote:
>
> The 15C uses its internal 13-digit precision and (supposedly) a state-of-the-art algorithm.

> Nevertheless, the better result here comes from the 35s which has to rely on the 12 digits available for user programs. Either the 35s matrix algorithm is absolutely great or this result is a positive exception and the 35s is otherwise outperformed by the 15C. What do you think?

The TI-59 and TI-95 both use 13 digit precision but the TI-59 truncates rather than rounds to the 13th digit. In addition, the TI-59 has the multiplication anomaly. But, both machines beat the HP-15C result. Kahan's "Mathematics Written in Sand" paper gave yhe following illustration of the capability of the HP-15C:

> Quote:
>
> ... For example, let E be a multiple of the notorious Hilbert matrix E(i,j) = 360360/(i+j-1) for 1<= i,j <= 8. The constant 360360 ensures that every element of E is an integer, hence exact, and 8x8 is as large a matrix as fits in the calculator. In under 90 seconds it gets the inverse of E correct to roughly three sig. dec., three more than are expected ... ... This extra accuracy is no accident with ill-conditioned matries like E, prone to systemic concellation, but is due to the extra-precise accumulation of scalar products to 13 sig. dec. during matrix operations.

My recollection (I will have to search for the results) is that the ML-02 program in the TI-59 Master Library module returns an inverse which is correct to approximately five significant digits. What do you think of that?

Re: Determinants of the AM1 matrix

*Message #65 Posted by **Werner** on 3 Oct 2011, 2:11 a.m.,*
in response to message #64 by Palmer O. Hanson, Jr.

The condition number for AM1 is about 9e10, meaning you stand to lose 11 digits and thus can't trust your result at all on a 10-digit calculator.
Depending on the algorithm used, however, you might get lucky.
LU-factorisation can be performed resulting in either a unit lower triangular matrix L or a unit upper triangular matrix U. The 42S does the former. If you calculate the determinant of AM1 on a 42S, you get:

```
0.970960198039
```

By no means an exceptional result, seeing that it uses 12 digits and accumulates dot products with the 15 digit internal precision. It indeed loses 11 digits in the process. Now calculate the determinant of TRANS(AM1), which amounts to simulating the L*unitU factorisation:

```
0.999403205613
```

All of a sudden, we have a result that is 2 digits better. That's what happened in the 15C as well, I gather. It uses 10-digit arithmetic with 13-digit inner products, but uses a different order of operations. Anyone willing to calculate DET(TRANS(AM1)) on a 15C and post the results?

Cheers, Werner

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Which program do you use the most

*Message #1 Posted by **David Persinger (US)** on 30 Sept 2011, 2:55 p.m.*

I am curious, which program or programs do you get the most value out of having on your handheld: games, extended functionality? Be specific please.

As for myself, I write small routines that apply to my work. I am in the eyeglass manufacturing industry, so I write routines for cylinder transposition, radius to diopter conversions, etc. None of these are very sophisticated, but just make things easier.

Re: Which program do you use the most

*Message #2 Posted by **Ed Look** on 30 Sept 2011, 3:36 p.m.,*
in response to message #1 by David Persinger (US)

I do research in and teach chemistry and physics; I got tired of converting from eV to nm or Å, and so I just wrote a short routine to do this for me. Also, HP calculator constant libraries generally list R, the gas constant in the proper, SI term of joules; and since I often need the ancient, but still oft-used l-atm, there's a little program for that. And then, there's a suite of four that I use often for calculating average, median, mode, maximum, and minimum of a set of data. The mode program is, I guess in today's terminology, still under construction; maybe I'll try to fix it one of these nights now that baseball season is over (although it's been several baseball seasons now!)

Other ones:

one to calculate the Miller Indices (in the Museum program archives!) of planes in cubic crystals from their 2-theta reflections (not for me myself, but I use it generally to make sure students don't pull a fast one). This one took a while to complete (and cubic is EASY); I'm not sure I want to contemplate routines for less symmetric unit cells.

one

Re: Which program do you use the most

*Message #3 Posted by **Martin Pinckney** on 30 Sept 2011, 3:37 p.m.,*
in response to message #1 by David Persinger (US)

> Quote:
>
> As for myself, I write small routines that apply to my work.

Ditto, civil/structural engineering. And business functions, too.

> Quote:
>
> None of these are very sophisticated, but just make things easier.

That's exactly what handheld calculators are for, these days. The heavy number crunching is best done on the computer.

Re: Which program do you use the most

*Message #4 Posted by **Martin Pinckney** on 1 Oct 2011, 12:20 a.m.,*
in response to message #3 by Martin Pinckney

Some specific examples:

Very simple formulas like the Rational one for calculating peak discharge from a small watershed.

Or the ACI formula for determining minimum steel in a concrete beam.

Or a formula for determining screw anchor capacity for a bulkhead.

Sometimes a more complicted one that uses nested IF's on the 27s, to follow Florida rule for calculating onsite waste flow based on floor area.

Like others have said, I often write quick short ad hoc routines that are later discarded.

Re: Which program do you use the most

*Message #5 Posted by **Dominic Richens** on 30 Sept 2011, 4:15 p.m.,*
in response to message #1 by David Persinger (US)

Lately the ones that get used the most are mW to dBm and back and THz to nm and back - very simple but speeds up debugging when I can just push 1 or 2 buttons.

Re: Which program do you use the most

*Message #6 Posted by **x34** on 30 Sept 2011, 4:23 p.m.,*
in response to message #1 by David Persinger (US)

Date/time calculations. I use my own date program on HP-35s which gives date, day-of-week, moonphase (for fun) and makes time<->unixtime conversions.

Curve fitting, by stefanv http://www.stefanv.com/calculators/hp35s_curve_fitting.html

I also have IP netmask calculator, but my brain computes faster (20 years in IP networking).

I'd like to see more real-life applications, especially numerical.

Re: Which program do you use the most

*Message #7 Posted by **Jeroen Van Nieuwenhove** on 30 Sept 2011, 5:17 p.m.,*
in response to message #1 by David Persinger (US)

I do not have a technical job, but I am an avid runner. In the past, I created routines (mostly on my 11C, later on a few RPL calcs) to calculate speed/distance information, lap times, race time prediction on different distances, and (drum roll) a routine that combines distance, speed and heart rate into an overall indication of fitness.

Re: Which program do you use the most

*Message #8 Posted by **Crawl** on 30 Sept 2011, 5:24 p.m.,*
in response to message #1 by David Persinger (US)

I don't know which one I use the *most*, but I can give an example of something I did with programming not too long ago.

I was trying to calculate the transmission of light through a film as a function of wavelength given the film's index of refraction. The formula for it, in the appendix of this paper, is incredibly complicated. I was using Excel and getting wrong answers.

So I went back to first principles and calculated the formulas myself on my HP50g. This is easy, much easier than entering the formulas in Excel. The starting point for the formulas are not so complicated if you allow n to be complex, which the HP50g can do, and the HP50g can do the algebra of the derivations (it involves working with symbolic matrices, another forte of the HP50g). So not only is it easy, it's almost impossible to make a mistake. Then I loaded in n as a function of wavelength through the SD card in a CSV file, calculated the transmission, wrote that as a CSV file on the SD card, and loaded it back into Excel. Then I went through my Excel file until I found my transcription errors and the Excel result matched my calculator result.

Re: Which program do you use the most

*Message #9 Posted by **Chris Randle (UK)** on 1 Oct 2011, 4:01 p.m.,*
in response to message #8 by Crawl

> Quote:
>
> ...wrote that as a CSV file on the SD card...

How did you do that? Did you use the SDLib library (L935],

http://www.hpcalc.org/details.php?id=6524

or is there another way?

Re: Which program do you use the most

*Message #10 Posted by **Paul Dale** on 30 Sept 2011, 6:44 p.m.,*
in response to message #1 by David Persinger (US)

Mostly, I write quick and dirty programs to automate mundane calculations. They get written, used and thrown away.

I don't remember any specific ones unfortunately.

- Pauli

Re: Which program do you use the most

*Message #11 Posted by **David Persinger (US)** on 30 Sept 2011, 11:19 p.m.,*
in response to message #10 by Paul Dale

Or you just write the code for entirely new calculators in your spare time :)

I just flashed my own, btw, thank you for your effort in that!

Re: Which program do you use the most

*Message #12 Posted by **Paul Dale** on 30 Sept 2011, 11:35 p.m.,*
in response to message #11 by David Persinger (US)

> Quote:
>
> Or you just write the code for entirely new calculators in your spare time :)

It is the only way to get the functions I want in a device ;-)

- Pauli

Re: Which program do you use the most

*Message #13 Posted by **Steve Simpkin** on 30 Sept 2011, 6:51 p.m.,*
in response to message #1 by David Persinger (US)

I am an Electrical Engineer in the telecommunications industry. I have written many, many small programs, primarily to automate conversions of data. Examples include Dbm to various audio levels, DB to gain, frequency response, clock and logic calculations, etc.

Re: Which program do you use the most

*Message #14 Posted by **Norman Dziedzic** on 30 Sept 2011, 11:54 p.m.,*
in response to message #1 by David Persinger (US)

I have been using the multiple equation solver on the 50g quite a bit.

I have a few different sets of equations in directories.

- Hydraulic Pump Calculations - Hydraulic Cylinder Calculations - Short Motion Profile Calculations

It really helps me to be able to type in known values and solve for unknowns. I never know ahead of time which values will be the knowns / unknowns and it usually changes several times when iterating through a problem.

Other than that, I use the bases when working with industrial controllers.

Re: Which program do you use the most

*Message #15 Posted by **Eddie W. Shore** on 1 Oct 2011, 2:14 p.m.,*
in response to message #1 by David Persinger (US)

I use my calculators for mathematics. My favorites would have to be: the quadratic equation, zeta function, matrix operations, and functions used for summation. I am not a gamer (any more).

Re: Which program do you use the most

*Message #16 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 2:35 p.m.,*
in response to message #15 by Eddie W. Shore

You're a likely candidate for the 34S. :-)

Re: Which program do you use the most

*Message #17 Posted by **Eddie W. Shore** on 2 Oct 2011, 12:14 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I so am. :)

Re: Which program do you use the most

*Message #18 Posted by **Les Bell** on 1 Oct 2011, 9:11 p.m.,*
in response to message #1 by David Persinger (US)

I also mostly use my calcs for short routines to help me figure out the stuff I'm working on. I'm currently a Comp. Sci. PhD candidate, working on computational trust, and most recently I've been working on the use of utility functions to model risk aversion in intelligent agents. A few keystrokes on the 41CX and I can have a routine which will let me play with the numbers and figure out which of various candidate functions seems most appropriate.

The 48GX was handy for plotting the functions, at least for the simple cases. However, when it comes to more complex 3D plots, I found it easier to whip up some Java code using the jzy3d library (especially since I'm doing a lot of simulation work in Java anyway).

I've also made heavy use of the 41CX for basic statistical number crunching, particularly calculating mean values across multiple simulations in my early experiments. Hopefully the 15CLE will be able to take over some of that load. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: Which program do you use the most

*Message #19 Posted by **megarat** on 3 Oct 2011, 5:21 p.m.,*
in response to message #1 by David Persinger (US)

Most of my programs are extended functionality or frequently made calculations. For reference, I work in the field of statistics and data analysis.

Probably my most frequently used program is something that calculates the standard deviation of a binomial distribution using the normal (Gaussian) approximation.

For a long while I was doing a specific datemath calculation and whipped up a program on my 15c to handle it for me. I was using that all the time for benchmarking an analysis routine I was running, but as that project has since moved on, so has the program.

Edited: 3 Oct 2011, 5:30 p.m.

Re: Which program do you use the most

*Message #20 Posted by **Egan Ford** on 3 Oct 2011, 5:39 p.m.,*
in response to message #1 by David Persinger (US)

Right now it'd be computing the number of pixels in a circle.

I used to use the MES on my 50g and 42S, but not so much anymore.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #1 Posted by **Tim Wessman** on 30 Sept 2011, 12:07 p.m.*

Hello,

The support team now has received enough units to analyze. They now ask that if you have an issue, please go through the normal support process.

Thank you to those that contacted me and sent back units!

TW

--

Although I work for the HP calculator group, the thoughts and comments expressed on this forum are my own.

Edited: 30 Sept 2011, 12:18 p.m.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #2 Posted by **Pal G.** on 30 Sept 2011, 12:33 p.m.,*
in response to message #1 by Tim Wessman

Thanks, Tim and HP, for immediately addressing the keyboard issue - even with the HHC2011 event occurring during the HP 15C LE roll out.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #3 Posted by **Reth** on 1 Oct 2011, 7:00 a.m.,*
in response to message #2 by Pal G.

And what exactly was addressed? I thought contacting support people was the only option anyway and nothing has been added. I see no official confirmation/admittance that the keyboard has issues.

Wouldn't be better if the support team disclosed their findings?

With 12% failure rating I think HP should be a lot more specific about the problem.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #4 Posted by **Lincoln R.** on 1 Oct 2011, 10:36 a.m.,*
in response to message #3 by Reth

> Quote:
>
> The support team now has received enough units to analyze.

Tim said they had enough units to analyze, not that they were done analyzing them. While this may seem like a "simple" problem, nothing is simple in industry. They'll probably have to disassemble a bunch of calculators, try to figure out why the keyboards don't work, figure out how to correct that, and then deal with the factory to make sure future units don't have this problem. I think I have a pretty good idea of what the issue is, but I'm not a mechanical engineer, nor do I know anything about HP's keyboard design so what I noticed could just be a coincidence or one isolated case.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #5 Posted by **Reth** on 1 Oct 2011, 11:18 a.m.,*
in response to message #4 by Lincoln R.

Yea, I know what Tim said, I was wandering why the excitement, just because some people did their job?

> Quote:
>
> I think I have a pretty good idea of what the issue is, but I'm not a mechanical engineer,

Would you speculate on this a bit?

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #6 Posted by **Lincoln R.** on 1 Oct 2011, 11:27 a.m.,*
in response to message #5 by Reth

I had a 15C with a bad divide key. It clicked, but didn't register unless you pushed it hard. I decided to open the back since they're not too hard to disassemble and discovered that if you held the PCB and the front case together, the key worked fine. Closer examination seemed to show that the heat stake closest to that key wasn't melted down far enough.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #7 Posted by **Reth** on 1 Oct 2011, 12:05 p.m.,*
in response to message #6 by Lincoln R.

That's interesting, thanks for sharing. But is there such a heat stake close to the "." key (my case) and could you fix the problem yourself?

Cheers,

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #8 Posted by **Lincoln R.** on 1 Oct 2011, 12:28 p.m.,*
in response to message #7 by Reth

Unfortunately I do not remember. It could be possible to carefully remelt the heat stake yourself, but I really wouldn't recommend it on something this new under warranty and with a known defect.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #9 Posted by **Reth** on 1 Oct 2011, 12:50 p.m.,*

in response to message #8 by Lincoln R.

Me too, thanks.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #10 Posted by **robert rozee** on 1 Oct 2011, 12:55 p.m.,*
in response to message #8 by Lincoln R.

the trick would probably be to make up a jig to hold down the PCB firmly, then place a drop of 2-part 24hr epoxy resin glue over the faulty stake, such that it would run down and around, and fill in the gap.

BTW, has anyone got photos of a disassembled 2xCR2032 HP-12C showing the actual keyboard construction/design. had a bit of a look with google, found various comments from 'experts' but no actual photos.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #11 Posted by **uhmgawa** on 3 Oct 2011, 12:56 a.m.,*
in response to message #10 by robert rozee

> Quote:
>
> the trick would probably be to make up a jig to hold down the PCB firmly, then place a drop of 2-part 24hr epoxy resin glue over the faulty stake, such that it would run down and around, and fill in the gap.

Heat stakes are no one's friend and are mainly a concession to cost reduced assembly. A malformed stake might just be a sign from above to rid the calc of them altogether and secure the pcb to the housing with screws. Doing so results in a serviceable keyboard and more flexibility in modifying the pcb.

Assuming the 15c le stakes voids are identical to the 12c+, an M1.2 screw is about the correct size to self thread the core. For a 12c+ stake cut flush with the pcb surface the resulting core void depth is about 4.5mm IIRC. Add to that the thickness of a plastic washer and a 4~5mm screw length should work. Appropriate screws are available as a service item for cell phone, etc.. repair (try Evilbay). Washers are easier to make than find and can be cut out of plastic stock with a paper punch.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #12 Posted by **Katie Wasserman** on 3 Oct 2011, 2:41 a.m.,*
in response to message #11 by uhmgawa

Have you modified your 12C+ as you describe, replacing the heat stakes with screws? If so, did you have any problem with cracked cores?

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #13 Posted by **uhmgawa** on 3 Oct 2011, 3:10 a.m.,*

in response to message #12 by Katie Wasserman

> Quote:
>
> Have you modified your 12C+ as you describe, replacing the heat stakes with screws? If so, did you have any problem with cracked cores?

Not yet as I'm still waiting on the M1.2 screws. I thought to grind a parallel slot partially through the threads of a single screw and use it as a poor-man's tap to thread each stake in advance. Although I suspect that is overkill.

Concerning the potential to crack a stake, I'd actually thought to slice through the stakes with a very thin kerf saw such that the screw when driven would freely expand the stake until it wedged in the pcb hole. That as well seems excessive.

M1.2 is almost a little undersize and I'm wondering if there will be sufficient mating wall depth to thread. M1.3 is probably ideal but there isn't much of an economical choice with this microscopic hardware.

If there is general interest I'd be happy to report the results.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #14 Posted by **Marcus von Cube, Germany** on 3 Oct 2011, 3:26 a.m.,*
in response to message #13 by uhmgawa

Maybe heating the screw is an option?

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #15 Posted by **uhmgawa** on 3 Oct 2011, 9:05 a.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> Maybe heating the screw is an option?

Mounting a jeweler's cross bit in a temperature controlled iron had crossed my mind. However I've had mixed results in the past trying to so. Eg, controlling both iron temperature and heat transfer to the screw such that the plastic isn't overheated. In this case the stakes are a low, fairly isolated mass and if they should overheat and distort it could make for a really bad day. The other potential is to have the ABS reflow so well it seizes the screw in the stake with similar consequences.

Although one scenario where this may be worth a shot would be

if the screw threads should strip out of the stake from repeated insertions/withdraw cycles. Touching an iron to the head of the screw in cautious doses can reflow the sheared ABS sufficiently to reestablish functional threads. This may be useful in my case as I'm concerned M1.2 diameter may be undersize.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #16 Posted by **uhmgawa** on 3 Oct 2011, 6:46 p.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> Have you modified your 12C+ as you describe, replacing the heat stakes with screws? If so, did you have any problem with cracked cores?

I came across some jpegs I took a while back of 12c+ internals. Unsure whether others here have already done so but on the chance they may be useful to someone I've located them here.

No 15c le pictures yet but the current lqfp package makes a compelling case for pcb trace out and capture of the schematic. I don't expect anything surprising as it appears to be functionally identical to the 12c+ which AFAICT is largely the Atmel reference design. However it would be a useful reference for a plethora of lost time projects. Maybe after the "limited" marketing campaign is over and the "recoup the NRE" phase begins I'll pick up a second 15c le from my local MalWart.

Re: 15C Keyboard Issues [UPDATE- DO NOT EMAIL ME]

*Message #17 Posted by **uhmgawa** on 3 Oct 2011, 6:55 p.m.,*
in response to message #10 by robert rozee

> Quote:
>
> BTW, has anyone got photos of a disassembled 2xCR2032 HP-12C showing the actual keyboard construction/design. had a bit of a look with google, found various comments from 'experts' but no actual photos.

I just uploaded some -- see above post in this thread.

Note the choice of legged snap dome was functional as the dome-side pcb routing takes advantage of this. So if you'd like to get the tactile feel of a legacy voyager you could cover the center contact trace exit with a strip of kapton tape and substitute a full circular dome. The original voyager domes are 9mm with a 150~170g actuation force. I forget what I'd measured the 4 legged domes on the 12c+ (and presumably 15c le) to be, but I'll recheck.

Added:

The 4 legged domes in the 12c specimen I have at hand are 8.36mm in diameter with an approximate 220g inflection force. Assuming this is representative of average production, the force needed to actuate a 12c dome is substantially greater than legacy voyager counterparts. Cut/legged domes also have a sharper transition compared to the full domes of the same diameter, which is likely the cause of the tactile difference.

Edited: 4 Oct 2011, 11:25 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Up & Running

*Message #1 Posted by **John Abbott (S. Africa)** on 30 Sept 2011, 12:02 p.m.*

Today I flashed my 30b to a WP 34S. I don't think I have been this excited about a calculator since my 42S :) Thanks Gene for the cable (only 8 days to S.Africa) and special thanks to Pauli, Walter and Marcus for all your efforts. Regards John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPL Basics Tutorial is now up on my blog

*Message #1 Posted by **Eddie W. Shore** on 30 Sept 2011, 10:05 a.m.*

This is just the tip of the iceberg.

RPL Tutorial (HP 48S/48G/49G/50g+)

On a side note: I think my next tutorials would be (1) keystroke programming (I want to restrict it to one calculator 12C, 15C, 34S - any preference?) - (2) the math functions on the RPL calculator.

Eddie

Re: RPL Basics Tutorial is now up on my blog

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 11:26 a.m.,*
in response to message #1 by Eddie W. Shore

Go for the 15C for obvious reasons.

Re: RPL Basics Tutorial is now up on my blog

*Message #3 Posted by **Dwight Sturrock** on 1 Oct 2011, 12:02 a.m.,*
in response to message #1 by Eddie W. Shore

Thanks, Eddie- I will read that.

I have been enjoying the power of my new 50g since buying it last year, but I am clueless on programming it.

I wrote hundreds of programs for my HP42s, but it's time to move on.

Dwight

Re: RPL Basics Tutorial is now up on my blog

*Message #4 Posted by **Eddie W. Shore** on 2 Oct 2011, 12:17 a.m.,*
in response to message #3 by Dwight Sturrock

```
A programming blog on the 50g sounds good.  So far the votes are:


1 for 15C (LE)
1 for 50g+


Any others?  WP34S perhaps?
```

Edited: 2 Oct 2011, 12:18 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE - Extended PSE Functionality?

*Message #1 Posted by **Alexander Oestert** on 30 Sept 2011, 9:44 a.m.*

Dear HP!

I'm sure you're busy fixing the PSE bug. While you're at it, might you consider to extend the functionality of the PSE command by making it possible to add a number afterwards to specify the length of the pause?

Example:

PSE - original behaviour, so old programs will still work

PSE 2 - 2 seconds pause

PSE 3 - 3 seconds pause and so on

Re: HP 15c LE - Extended PSE Functionality?

*Message #2 Posted by **From Hong Kong** on 30 Sept 2011, 9:48 a.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> Dear HP!
>
> I'm sure you're busy fixing the PSE bug. While you're at it, might you consider to extend the functionality of the PSE command by making it possible to add a number afterwards to specify the length of the pause?
>
> Example:
>
> PSE - original behaviour, so old programs will still work
>
> PSE 2 - 2 seconds pause
>
> PSE 3 - 3 seconds pause and so on

I'll be happier to see the PSE command to accept keyboard input and so I can use it to write more HP-15C games! :)

Re: HP 15c LE - Extended PSE Functionality?

*Message #3 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 10:00 a.m.,*
in response to message #2 by From Hong Kong

None of this will ever happen but you can still use the WP 34S where the behavior is implemented (taking

an argument in tenth of seconds and being interruptible by keyboard input).

The 15C is based on the original firmware running in an emulated environment. So any changes to the firmware are restricted to the interface between emulation and original hardware layer. The PSE bug was introduced by a speed optimization of the emulation of the R2D2 LCD driver chip which sped up the integrator considerably (intended outcome) but broke the reliable update of the physical display when a program is running (unintended side-effect).

Re: HP 15c LE - Extended PSE Functionality?

*Message #4 Posted by **Eddie W. Shore** on 30 Sept 2011, 10:02 a.m.,*
in response to message #3 by Marcus von Cube, Germany

It would be nice to see the PSE work as intended on the 15C LE (maybe internally force the calculator to wait a second?). Personally, I almost never use PSE - I use R/S instead because it gives you time to write the answer down.

Re: HP 15c LE - Extended PSE Functionality?

*Message #5 Posted by **Dave Britten** on 30 Sept 2011, 10:31 a.m.,*
in response to message #4 by Eddie W. Shore

Same here. Either you want the program to run fast and unattended, in which case PSE will just slow it down, or you want to get a series of intermediate results, in which case PSE will be too rushed. It might be handy for debugging, but R/S and SST are probably better options.

Just use this instead of PSE:

F? 7
R/S

Then if you have flag 7 set, your program will stop to show you intermediate results, otherwise it will just keep going. If you want to get really fancy, you could have it optionally put all the sequential results into a matrix, or series of registers so you can go back to them afterward. Maybe I'll do this to my prime factors program.

Edited: 30 Sept 2011, 10:52 a.m. after one or more responses were posted

Re: HP 15c LE - Extended PSE Functionality?

*Message #6 Posted by **Mike Morrow** on 30 Sept 2011, 10:48 a.m.,*
in response to message #5 by Dave Britten

If you set flag 9 on the HP 15C/15C LE, the display blinks until the calculator is turned off or flag 9 is cleared. Flag 9 is one of two system flags, and is set by overflow conditions or set manually. See page 100 of the Owner's Handbook.

Re: HP 15c LE - Extended PSE Functionality?

*Message #7 Posted by **Dave Britten** on 30 Sept 2011, 10:51 a.m.,*
in response to message #6 by Mike Morrow

Yeah, slipped my mind. Just use 7 instead.

Re: HP 15c LE - Extended PSE Functionality?

*Message #8 Posted by **Jeff O.** on 30 Sept 2011, 12:30 p.m.,*
in response to message #7 by Dave Britten

I thought you used Flag 9 on purpose. That way the display would be flashing when it stopped, reminding you that you needed to do something. Of course then it keeps flashing while you enter a number or whatever, so you'd have manually clear flag 9, or have a CF 9 be the next instruction. Perhaps not as useful as I first thought.

Re: HP 15c LE - Extended PSE Functionality?

*Message #9 Posted by **Paul Dale** on 30 Sept 2011, 6:38 p.m.,*
in response to message #4 by Eddie W. Shore

I use PSE a lot when debugging programs...

- Pauli

Re: HP 15c LE - Extended PSE Functionality?

*Message #10 Posted by **Alexander Oestert** on 30 Sept 2011, 10:45 a.m.,*
in response to message #1 by Alexander Oestert

I'm looking forward to someone commenting on my suggestion and not on what they'd rather like or why they don't use PSE at all. :-)

Re: HP 15c LE - Extended PSE Functionality?

*Message #11 Posted by **M. Joury** on 30 Sept 2011, 10:49 a.m.,*
in response to message #10 by Alexander Oestert

I believe that Marcus answered your question here. As he says, it is not going to happen because HP is *not* modifying the original firmware but just the emulator running underneath it.

Re: HP 15c LE - Extended PSE Functionality?

*Message #12 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 10:51 a.m.,*
in response to message #10 by Alexander Oestert

> Quote:
>
> I'm looking forward to someone commenting on my suggestion and not on what they'd rather like or why they don't use PSE at all. :-)

As I've already pointed out, the 15C will never see your improvements. It is likely impossible to add any more instructions or modify the existing ones due to limitations in the op-code space even if the source code were available.

Re: HP 15c LE - Extended PSE Functionality?

*Message #13 Posted by **Martin Pinckney** on 30 Sept 2011, 11:00 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Besides, TW has already said HP does not have the source code, and editing the binary seems too much like asking for more bugs.

Re: HP 15c LE - Extended PSE Functionality?

*Message #14 Posted by **Alexander Oestert** on 30 Sept 2011, 11:06 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Sorry, I thought you commented on From Hong Kong's idea.

Still, if HP would not release the original firmware, wouldn't that be a shame? :(In that case the flashing connector would merely serve to fix emulator bugs and nothing more...

Edit: They don' have the code? I'm learning the strangest things nowadays! ;(

Edited: 30 Sept 2011, 11:08 a.m.

Re: HP 15c LE - Extended PSE Functionality?

*Message #15 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 11:14 a.m.,*
in response to message #14 by Alexander Oestert

You still do not seem to understand: HP has full control over the 15C LE software but part of it is just a hex dump of the original 15C code. The source code of the latter is simply lost. :-(

They could, of course, write a completely new firmware which behaves the same as the original 15C did but is a native reimplementation of the functionality. Since there is no I/O, the internal representation of op-codes doesn't matter and additions may be made to the original code set.

If HP has no intentions to do this, the community may chime in...

Re: HP 15c LE - Extended PSE Functionality?

*Message #16 Posted by **Alexander Oestert** on 30 Sept 2011, 11:34 a.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> You still do not seem to understand:

Certainly true! I'm only a user.

> Quote:
>
> If HP has no intentions to do this, the community may chime in...

So you say this is possible!? Great! I'm looking forward to it, as I am to every new development on the wonderful WP34s!

Re: HP 15c LE - Extended PSE Functionality?

*Message #17 Posted by **uhmgawa** on 2 Oct 2011, 10:01 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> HP has full control over the 15C LE software but part of it is just a hex dump of

> the original 15C code. The source code of the latter is simply lost. :-(

I'd like to see it get found again by a community effort something like this (message #1 last paragraph).

> Quote:
>
> They could, of course, write a completely new firmware which behaves the same as the original 15C did but is a native reimplementation of the functionality.
>
> If HP has no intentions to do this, the community may chime in...

That's really where this should lead, and having annotated NUT source is the starting point. Perhaps the 15c le will result in enough interest to have such an effort attain traction even in light of the fact the end result would still export a 7 segment user interface.

Edited: 2 Oct 2011, 10:04 p.m.

Re: HP 15c LE - Extended PSE Functionality?

*Message #18 Posted by **Mike Morrow** on 30 Sept 2011, 11:01 a.m.,*
in response to message #10 by Alexander Oestert

> Quote:
>
> I'm looking forward to someone commenting on my suggestion and not on what they'd rather like or why they don't use PSE at all. :-)

OK...here goes. I don't like your idea. What you want to do is very simply accomplished by adding another PSE command after the first (in a 15C-LE with the PSE bug fixed, of course).

I don't like anyone's ideas for tweaking and "improving" the 15C-LE programming model in *any manner* beyond the *30-year-old standard* established by the original HP-15C. It will be sufficient when or if that ever takes place for the 15C-LE.

Sorry.

Re: HP 15c LE - Extended PSE Functionality?

*Message #19 Posted by **Alexander Oestert** on 30 Sept 2011, 11:13 a.m.,*
in response to message #18 by Mike Morrow

It can be done with stringing PSEs, but wouldn't my idea save memory? And it wouldn't have to be an official HP thing that everybody needed to flash on his machine. Just the possibility to decide which version to take would be nice.

But it's moot without the firmware available.

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #1 Posted by **Bruce Larrabee** on 30 Sept 2011, 8:42 a.m.*

Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #2 Posted by **Bart (UK)** on 30 Sept 2011, 8:52 a.m.,*
in response to message #1 by Bruce Larrabee

Nope, but it looks like a wonderful & historic piece of equipment. Thanks for the photo.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #3 Posted by **Eric Smith** on 30 Sept 2011, 10:31 a.m.,*
in response to message #1 by Bruce Larrabee

That's for use with the HP SDS (Software Development System), which uses an HP-85 to develop ROM modules for the HP-41.

The HP-41 connector should have a cable wired to an otherwise empty HP-41 module.

I'm not sure what the HP-85 interface is. Possibly to an 82940A GPIO card, but that's only a guess.

The real trick will be finding the SDS software.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #4 Posted by **Håkan Thörngren** on 30 Sept 2011, 2:55 p.m.,*
in response to message #3 by Eric Smith

So who used these items?

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #5 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 3:12 p.m.,*
in response to message #4 by Håkan Thörngren

It says "For internal use only" so presumably HP interns.

Re: Anyone know anything about this HP41C RAM / EPROM ROM

SIMULATOR?

*Message #6 Posted by **Håkan Thörngren** on 30 Sept 2011, 4:08 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Yes, but the HP-41 VASM listing indicate that a cross compiler on a HP64000 was used, at least initally. The HP-85 was not not really available at that time.

I also wonder about the box, it looks kind of like a real product, but they must have used less pretty hand built hardware internally?

It is also just a ROM emulator, surely they must have had a simulation environment as well?

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #7 Posted by **Eric Smith** on 30 Sept 2011, 9:59 p.m.,*
in response to message #6 by Håkan Thörngren

The HP64000 assembler for the Nut came about long after the 41 was designed and its ROMs written. There were earlier ROM emulators that were used for debugging.

The SDS was for development of third-party application modules, and did require the HP-85. Originally it did not support the development of microcode, though eventually they added the ability to use some HP-supplied microcode functions.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #8 Posted by **Brian Walsh** on 30 Sept 2011, 10:45 p.m.,*
in response to message #7 by Eric Smith

What do HAE and PAE on the switches stand for? I'm guessing Hard Addressed (something) and Port Addressed (something).

Edited: 30 Sept 2011, 10:48 p.m.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #9 Posted by **Bart (UK)** on 1 Oct 2011, 3:42 a.m.,*
in response to message #6 by Håkan Thörngren

> Quote:
>
> I also wonder about the box, it looks kind of like a real product, but they must have used less pretty hand built hardware internally?

Not neccessarily, I have worked for big companies where such low volume or even one-off items were mounted in a nice box and had a custom vinyl or anodised aluminium face plate made.
(When I was a student on a 2 month "vacation work" assignment I was tasked to put such an item together).

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #10 Posted by **Howard Owen** on 1 Oct 2011, 12:27 p.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> I have worked for big companies where such low volume or even one-off items were mounted in a nice box ...

And this was HP in the 1970s/80s, a famously engineering driven company.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #11 Posted by **Eric Smith** on 30 Sept 2011, 3:37 p.m.,*
in response to message #4 by Håkan Thörngren

They were used by people developing ROMs. My understanding is that HP never sold the SDS, but made it available to outside parties that were developing modules.

Re: Anyone know anything about this HP41C RAM / EPROM ROM SIMULATOR?

*Message #12 Posted by **Ángel Martin** on 30 Sept 2011, 2:25 p.m.,*
in response to message #1 by Bruce Larrabee

amazing, a piece of history no doubt!

Edited: 30 Sept 2011, 2:25 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP48 - WHY where were they made so difficult to open up?

*Message #1 Posted by **mr-scorpio** on 30 Sept 2011, 4:52 a.m.*

As any HP 48 owner will know. These machines are practically welded together, & literally require peeling off metal face plates & cutting or drilling through plastic to open them up & dismantle them.

Now whilst i acknowledge the: 'why would you want to open it up' brigade. That argument goes for most other devices anyway/ But most other devices have had & still use SCREWS!!! Why didn't HP make these calcs easier to open for maintenance purposes? Surely considering the original sale price, they didn't deem these calcs 'throw' away? - Meaning a replacement would be cheaper than opening it up..

Your thoughts...

Edited: 30 Sept 2011, 5:19 a.m.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #2 Posted by **Frido Bohn** on 30 Sept 2011, 5:38 a.m.,*
in response to message #1 by mr-scorpio

In comparison to, let's say, the HP35s or the HP50G, the HP 48 is easy to open: I use tire irons, one of those made of plastic, to get into the groove at the side between the LCD and the function keys where the top latches are. As soon as you got the first tire iron into it and succeeded to manage a breach you may put the second tire iron into the breach and move it downwards (where the + or ON key is) to separate both halves. You will have to apply some force to get the rivets out of their holes and will hear a seemingly unpleasant crack but you won't have to damage the bezel or drill holes into the calc.

But anyway, I suppose you did not want to hear the 1000th description of how to open an HP 48. From a more philosophical viewpoint I would conclude that the cases of HP calculators that contain screws to easyly acces the interiors were made by engineers whereas the other ones were produced by designers. Because designers don't care about the interiors whereas engineers always want to keep a path open to them.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #3 Posted by **Bart (UK)** on 30 Sept 2011, 5:50 a.m.,*
in response to message #2 by Frido Bohn

> Quote:
>
> In comparison to, let's say, the HP35s or the HP50G, the HP 48 is easy to open

I beg to differ, I think the 35s and 50g are quite easy to open.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #4 Posted by **Martin Pinckney** on 30 Sept 2011, 11:27 a.m.,*

in response to message #2 by Frido Bohn

> Quote:
>
> ...the HP 48 is easy to open: I use tire irons...

Wow, That'll get it open alright, but then what's left? {;-)

Re: HP48 - WHY where were they made so difficult to open up?

*Message #5 Posted by **Mike Morrow** on 30 Sept 2011, 12:59 p.m.,*
in response to message #4 by Martin Pinckney

I prefer dynamite blasting caps...with the dynamite if possible. That gets rid of one more of these dogs. :-)

The Clamshells are even more resistant to opening. I recommend double the blasting caps used for the 48-series.

HP in the post-Pioneer era has at least returned to case closures like that used on the HP 50G...extremely easy and non-damaging to open and close.

It's about time...even the extremely capable, extremely un-repairable (epoxy blob internals), extremely inexpensive Casio fx-115ES is, yes, extremely easy to open and close. HP in the 48S/G, Clamshell, and Pioneer eras had its head up its butt in many areas, not the least being deliberate construction to discourage repair outside of replacement, even by HP!

Re: HP48 - WHY where were they made so difficult to open up?

*Message #6 Posted by **Lincoln R.** on 30 Sept 2011, 9:30 a.m.,*
in response to message #1 by mr-scorpio

I think HP considered them sufficiently durable to not need to be opened. Also, if HP was interested in repairing them, the plastic cases and keyboard mechanisms were probably seen as cheap enough to not be worth reusing.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #7 Posted by **Thomas Chrapkiewicz** on 30 Sept 2011, 9:37 a.m.,*
in response to message #1 by mr-scorpio

Design for Manufacturability versus Design for Maintenance can have conflicting requirements.

For many reasons, within the last several decades (in many markets - electronics, vehicles) there has been a dramatic shift to Design for Manufacture.

Witness the fact that on some modern cars, it requires about $100.00 just to replace a headlight lamp (because it requires over an hour of effort). Again, the vehicle was easily and quickly assembled, with less attention paid to the maintenance cost.

The HP48 series were designed to be simple/easy/cheap to manufacture; not necessarily to be serviced.

TomC

Re: HP48 - WHY where were they made so difficult to open up?

*Message #8 Posted by **Han** on 30 Sept 2011, 12:45 p.m.,*
in response to message #1 by mr-scorpio

> Quote:
>
> As any HP 48 owner will know. These machines are practically welded together, & literally require peeling off metal face plates & cutting or drilling through plastic to open them up & dismantle them.

Actually, it is possible to open the HP48 series calculators with nothing other than a nail clipper, a toenail clipper, and patience. And you can open the HP48 and close it and have the calculator looking as it did before you opened the calculator.

I guess my webpage for the instructions have been removed. They used to be at http://www.math.uiuc.edu/~handuong/hp48/open. I have long since graduated from there, and they've finally decided to remove my files.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #9 Posted by **Martin Pinckney** on 30 Sept 2011, 2:50 p.m.,*
in response to message #8 by Han

Luckily I downloaded it before it disappeared.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #10 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 3:15 p.m.,*
in response to message #9 by Martin Pinckney

Now someone needs to make an article of it here.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #11 Posted by **Han** on 30 Sept 2011, 4:29 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I can post my archive of it, but I don't think you can create posts here with attachments.

Re: HP48 - WHY where were they made so difficult to open up?

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 1 Oct 2011, 1:40 p.m.,*
in response to message #11 by Han

Or, Wayback machine link
No pictures, unfortunately...

Massimo

Re: HP48 - WHY where were they made so difficult to open up?

*Message #13 Posted by **Frido Bohn** on 1 Oct 2011, 2:23 p.m.,*
in response to message #11 by Han

Hi Han,

somehow your pictures made their way to hpcalc.org, or weren't these yours?

I used this method and recommend it highly. In a previous post I was completely serious about using plastic tire irons for bikes. They are very robust, do not bend and don't damage the case of the calculator as a metal device (e.g. nail clipper) would.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Photo of Voyager and HP 35s

*Message #1 Posted by **Brandon Poindexter** on 29 Sept 2011, 11:04 p.m.*

Does anyone have a side by side shot of the HP 35s and HP 15/12c/etc? I've actually never seen an HP 12c in person, so im wondering how large or small it is in comparison to the 35s, and to see if it would fit in a pocket.

Thanks in advance!

Re: Photo of Voyager and HP 35s

*Message #2 Posted by **bill platt** on 29 Sept 2011, 11:16 p.m.,*
in response to message #1 by Brandon Poindexter

Significantly smaller, but still a little bit big for a front trouser pocket.

Re: Photo of Voyager and HP 35s

*Message #3 Posted by **Mike Morrow** on 29 Sept 2011, 11:23 p.m.,*
in response to message #2 by bill platt

I carried one of my HP-15C units in my front right trouser pocket for years in complete comfort. I never did that with the HP 42S that replaced the 15C, because I didn't want to chance damage to the 42S.

Re: Photo of Voyager and HP 35s

*Message #4 Posted by **bill platt** on 30 Sept 2011, 12:21 a.m.,*
in response to message #3 by Mike Morrow

I've carried both the voyagers and pioneers that way since the beginning (1982). But they are just a tad bigger than comfortable for me. Still workable though!

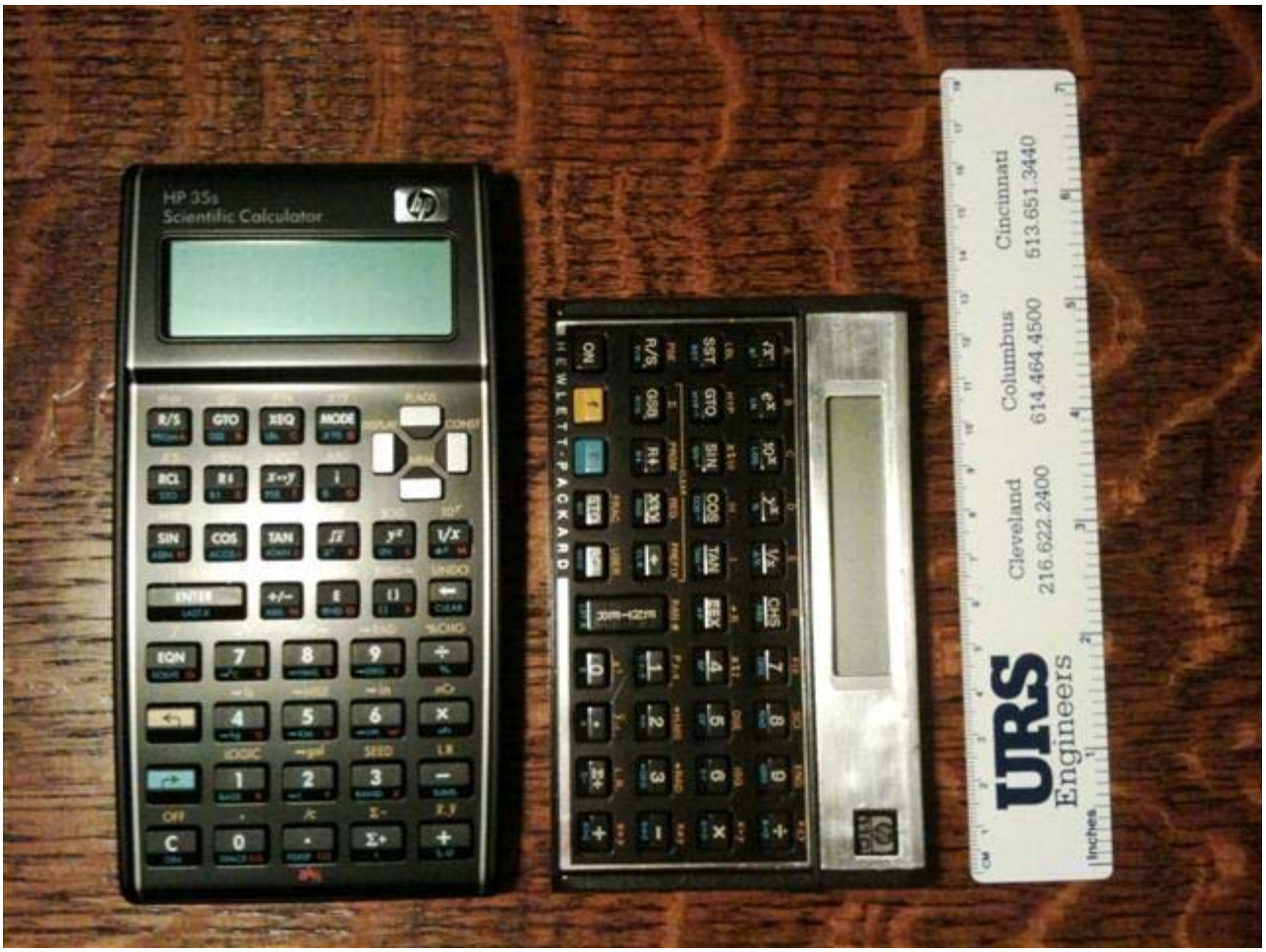
Re: Photo of Voyager and HP 35s

*Message #5 Posted by **Michael de Estrada** on 29 Sept 2011, 11:19 p.m.,*
in response to message #1 by Brandon Poindexter

Turned sideways a Voyager is about the same width as a 35s and about 1 1/8" less tall. It's uniformly thick, whereas the 35s gets thicker at the top and is about the same thickness as the 35s near its bottom. It will fit easily in a normal dress shirt pocket without sticking out at the top.

Re: Photo of Voyager and HP 35s

*Message #6 Posted by **NateB** on 29 Sept 2011, 11:47 p.m.,*
in response to message #1 by Brandon Poindexter



Larger

Re: Photo of Voyager and HP 35s

*Message #7 Posted by **bill platt** on 30 Sept 2011, 12:34 a.m.,*
in response to message #6 by NateB

I like the Ohioan engineer's 6" scale :-)

Re: Photo of Voyager and HP 35s

*Message #8 Posted by **Brandon Poindexter** on 30 Sept 2011, 1:25 a.m.,*
in response to message #1 by Brandon Poindexter

Thanks for all the replies everyone.

That is quite larger than i thought haha. I guess i should have bought larger-pocked pants since my 35s was always awkward to carry in my pocket. Oh well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp-12c from HP.com arrives with dead batteries

*Message #1 Posted by **Masaki Adachi** on 29 Sept 2011, 5:18 p.m.*

I did not feel like I should buy more of the hp-15C LEs so I decided to fulfill my long desire of owning a 12C. So I ordered an usual (not AE) model from hp.com and it has arrived today. Only thing was it did not turn on out of the box. I replaced batteries and the machine is back to life. I checked the cell voltage and they were 2.3 and 2.6 volts without any load. Firmware date is 2008.6.28 and serial # is 4CY1150D5T.

I am not sure how long this was on the shelf, but I am wondering what is my odds of having received a unit with internal short.

Re: hp-12c from HP.com arrives with dead batteries

*Message #2 Posted by **Katie Wasserman** on 29 Sept 2011, 8:05 p.m.,*
in response to message #1 by Masaki Adachi

The off state current is only a few microamps. That should take many years to discharge the 2032 cells if the calculator shut down properly. You might indeed have unit with a bad CPU or other components that allow for current leakage. However it could be just one bad cell. Since the cells are in parallel a single bad will will drain the other good cell.

Since you're able to measure the cell voltage, you likely have a DMM and that can likely measure current. Put the current meter in series with 3 volts powering the calculator. (2 AA batteries in a holder is easy to find if you don't have an external DC supply.) You should measure around 20ma when running a tight program loop, around .05 ma (IIRC) when on and idle and at most .005 ma when off.

Re: hp-12c from HP.com arrives with dead batteries

*Message #3 Posted by **Michael de Estrada** on 29 Sept 2011, 8:12 p.m.,*
in response to message #2 by Katie Wasserman

Since the batteries are in parallel, do you simply connect the power supply with 3 vdc to any one of the two battery terminals for testing ?

Re: hp-12c from HP.com arrives with dead batteries

*Message #4 Posted by **Katie Wasserman** on 29 Sept 2011, 8:15 p.m.,*
in response to message #3 by Michael de Estrada

Yes.

Re: hp-12c from HP.com arrives with dead batteries

*Message #5 Posted by **Masaki Adachi** on 30 Sept 2011, 5:25 p.m.,*
in response to message #2 by Katie Wasserman

Katie Thank you very much for your advice. I measured these current levels and all fall in the range that

you have identified. (except for the off current.. My RadioShack DMM can't detect micro amps) Maybe it was a bad cell. I feel much better now.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 11C low battery indicator

*Message #1 Posted by **Onur Ilkorur** on 29 Sept 2011, 12:58 p.m.*

Hello,

I have recently received a HP 11C with almost flat batteries. When I turned the calculator on, the display was "0.0000". When I started typing in numbers, I have noticed that the numbers that I've typed were masked with "0.0000".

For example: If I want to type in "12345678.0", the calculator displays: "0.0000678" therefore the first 5 digits are replaced by the "0.0000" mask.

I took the batteries from HP 11C and placed them in my HP 15C. On the HP 15C side, the asterisk sign at the lower left hand corner of the screen started blinking. However, there was no blinking asterisk on the HP 11C side.

I would like to know if there is a version of HP 11C without the low battery indicator or is my HP 11C acting strange?

Thanks in advance, Onur

Re: HP 11C low battery indicator

*Message #2 Posted by **Katie Wasserman** on 29 Sept 2011, 8:08 p.m.,*
in response to message #1 by Onur Ilkorur

My personal experience is that many of the old voyagers don't detect a low battery condition properly if at all. However, this is mitigated by the fact that they can go for 20 years without needing new batteries.

Re: HP 11C low battery indicator

*Message #3 Posted by **Dwight Sturrock** on 29 Sept 2011, 11:32 p.m.,*
in response to message #2 by Katie Wasserman

Is the shelf life of alkaline, mercury or silver oxide batteries in excess of even 10 years?

Re: HP 11C low battery indicator

*Message #4 Posted by **Katie Wasserman** on 30 Sept 2011, 2:36 a.m.,*
in response to message #3 by Dwight Sturrock

> Quote:
>
> Is the shelf life of alkaline, mercury or silver oxide batteries in excess of even 10 years?

The silver oxide (Energizer) is specked at about 7.5 years at 20 degrees C to be at 85% of capacity. It's linear, so after 20 years is should have just enough power to run the calculator. I can't find a spec for the alkaline cells, but it has to be substantially less.

There was a PX675 mercury cell with the same dimensions as the 357/LR44 cell it's voltage is 1.35. The would mean that the calculator would run at about 1 volt below nominal which would have been just ok. These had a shelf life of longer then the silver oxide cells, 10 years to 85% I think but they stopped making them around 20 years ago. Mercury cells have a very flat discharge voltage curve and so would stay at 1.35 volts until the instant they die. Not a good choice for use in a calculator CMOS memory. The only calculator I have that used mercury cells originally is the Sinclair Sovereign.

Re: HP 11C low battery indicator

*Message #5 Posted by **Michael de Estrada** on 30 Sept 2011, 9:12 a.m.,*
in response to message #4 by Katie Wasserman

I have a Sharp PC-1211 Pocket Computer (same as Tandy TRS-80 PC-1) with CMOS memory that uses MR44, 1.35V mercury batteries. It uses 4 batteries and is rated at 5.4 V (4x1.35). These batteries are still available for hearing aids.

Re: HP 11C low battery indicator

*Message #6 Posted by **Katie Wasserman** on 30 Sept 2011, 9:22 p.m.,*
in response to message #5 by Michael de Estrada

Oh yeah. I've got one of those too in the form of a PC-1 and they did use 1.35 volt mercury cells, I forgot I had that. But all mercury cells have been illegal to manufacture for many years, although they still might be available on the internet. The hearing aid batteries that you refer too have been replaced with zinc-air ones. They are 1.35 volts too, but have a much, much shorter shelf life once you activate them. Most hearing aid batteries last 1 month or less once you pull off the little tab blocking the air vent. Some have been engineered to last up to 1 year after activation.

Edited: 30 Sept 2011, 9:46 p.m.

Re: HP 11C low battery indicator

*Message #7 Posted by **Dwight Sturrock** on 30 Sept 2011, 11:37 p.m.,*
in response to message #6 by Katie Wasserman

I tried zinc-air on my rapacious HP42s' and usually got 2-3 months in heavy usage.

Re: HP 11C low battery indicator

*Message #8 Posted by **Dwight Sturrock** on 30 Sept 2011, 11:34 p.m.,*
in response to message #4 by Katie Wasserman

Amazing. So silver oxide is the way to go. Eveready now has 675 hearing aid batteries which it claims have the longest life, (the package says almost as good as mercury)3-4 years. It does not say what the chemistry is.

I know I burned through a ton of these batteries with my (3) HP42s, so I usually ended up stealing them from my 15C!

Battery life on the 42s was usually less than 6 months with heavy usage- programs, infrared, etc.

Re: HP 11C low battery indicator

*Message #9 Posted by **Katie Wasserman** on 1 Oct 2011, 3:17 a.m.,*
in response to message #8 by Dwight Sturrock

The (modern) 675 cells are zinc-air. Zinc-air has an extremely high energy density about 4 times that of silver oxide. The downside is the very high self discharge. If you need run long programs and use your calculator to do so every day they are a much better deal than silver oxide. However, if you mostly let your calculator sit in a draw, silver oxide is defiantly the way to go. Alkaline is a compromise, lower cost than silver oxide but less shelf life.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Flashing HP 20b for WP 34S

*Message #1 Posted by **Steve Brenton** on 29 Sept 2011, 7:22 p.m.*

I use MySamba/download (10-25-2010) to download calc.bin 118KB in 14 seconds. At this point nothing I try will bring the calculator to life. The download application window is still open. The cable is still connected. The 20b appears lifeless. What now ???

Re: Flashing HP 20b for WP 34S

*Message #2 Posted by **Eric Rechlin** on 29 Sept 2011, 8:18 p.m.,*
in response to message #1 by Steve Brenton

MySamba does the same thing for me. I suggest you use SAM-BA 2.10 instead.

Eric

Re: Flashing HP 20b for WP 34S

*Message #3 Posted by **Steve Brenton** on 29 Sept 2011, 8:37 p.m.,*
in response to message #2 by Eric Rechlin

Windows 7, I can't get the app window to open once I fill in COM3 and the 7l128 model and click. I also tried moving the patch files into the appropriate directories.

Re: Flashing HP 20b for WP 34S

*Message #4 Posted by **Dan W** on 29 Sept 2011, 9:44 p.m.,*
in response to message #3 by Steve Brenton

Before installing 2.10 in Win7, did you tell it to run in Win XP SP2 compatibility mode?

Re: Flashing HP 20b for WP 34S

*Message #5 Posted by **M. Joury** on 29 Sept 2011, 9:48 p.m.,*
in response to message #3 by Steve Brenton

I never could get the version I have to work under Win 7. Used a Windows XP box and all was good.

Re: Flashing HP 20b for WP 34S

*Message #6 Posted by **Steve Brenton** on 29 Sept 2011, 10:27 p.m.,*
in response to message #5 by M. Joury

Thanks, I'll stop beating my head against the wall now. Next I'll probably try Windows XP running on Microsoft Virtual PC running on Mac OS X Leopard and hope that the USB Serial Software works with SAMBA in that environment.

Re: Flashing HP 20b for WP 34S

*Message #7 Posted by **Jeff O.** on 29 Sept 2011, 10:32 p.m.,*
in response to message #2 by Eric Rechlin

You cannot flash just the 118 kB rom with Mysamba. It seems to need a full 128 kB file. You can create a full 128 kB file by concatenating the rom bin file with the various flash regions, which you can create with the emulator. The process is discussed in the manual, summarized as follows:

Open DOS window
change directory to where your files are
execute command:
copy /b wp34s.bin+wp34s-1.dat+wp34s-2.dat+wp34s-3.dat+wp34s-4.dat+wp34s-5.dat+wp34s-6.dat+wp34s-7.dat+wp34s-8.dat+wp34s.dat wp34s128.bin

Then load the wp34s128.bin file into the calcualtor with Mysamba.

You can use the same flash region over and over if you want, and they don't have to have any programs in them. The above is for a rom size of 118kB; the size changes occasionally as flash regions are consumed or freed up by changes. The wp34s-1, -2 etc. flash files are 1 kB each, the wp34s.dat file is 2 kB, just make sure to add enough flash region files with the 2kB file at the end to make the whole file 128 kB.

edited to add info on the process

Edited: 30 Sept 2011, 7:49 a.m.

Re: Flashing HP 20b for WP 34S

*Message #8 Posted by **Steve Brenton** on 1 Oct 2011, 7:59 p.m.,*
in response to message #2 by Eric Rechlin

Thanks Eric and everyone else. On Windows 7 I loaded Microsoft Windows Virtual PC and Windows XP Mode. Installed the driver for the Serial USB converter. Installed SAM-BA 2.10. Finally, it worked and my WP 34S is running per the installation instructions.

Re: Flashing HP 20b for WP 34S

*Message #9 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 6:44 a.m.,*
in response to message #1 by Steve Brenton

I discussed this with Cyrille and it looks like the image is flashed but the SAM-BA boot bit isn't set to 1 after the flashing. I do have the MySamba source code and I only need a Pascal compiler to have a chance to modify it.

Re: Flashing HP 20b for WP 34S

*Message #10 Posted by **Paul Dale** on 30 Sept 2011, 8:47 a.m.,*
in response to message #9 by Marcus von Cube, Germany

GPC?

- Pauli

Re: Flashing HP 20b for WP 34S

*Message #11 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 9:03 a.m.,*

in response to message #10 by Paul Dale

Delphi is required, even if not the most recent version, I assume. I may have a copy lying around somewhere. Just rewriting the PC part of it in C might be easier then porting to a different Pascal environment. A command line version will suffice.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Advance handbook 15C

*Message #1 Posted by **Michel Beaulieu** on 29 Sept 2011, 6:31 p.m.*

So now that i have a 15C (LE) for learning his programming, the manual refer to an "advanced functions handbook for the 15C" that can be bought at HP.

Well, i search the net for this one but not able to find it on HP site. Where is it?

Re: Advance handbook 15C

*Message #2 Posted by **Steve Fennell** on 29 Sept 2011, 6:34 p.m.,*
in response to message #1 by Michel Beaulieu

It's on the CD that comes with the 15C LE. You need to install the emulator first.

Re: Advance handbook 15C

*Message #3 Posted by **Michael de Estrada** on 29 Sept 2011, 6:34 p.m.,*
in response to message #1 by Michel Beaulieu

You can access it from the PC emulator Help menu.

Re: Advance handbook 15C

*Message #4 Posted by **Michel Beaulieu** on 29 Sept 2011, 6:46 p.m.,*
in response to message #3 by Michael de Estrada

Wow August 1982! It seems to be a scan...

Well, you seems to look at every options to find it!

For my curiosity, why the activation key number so long?

Thanks for the info.

Re: Advance handbook 15C

*Message #5 Posted by **Michael de Estrada** on 29 Sept 2011, 6:56 p.m.,*
in response to message #4 by Michel Beaulieu

Actually, the MoHPC CD/DVD has a much nicer color scan of the 15C Advanced Functions Handbook.

"An Easy Course In Programming The HP-11C and HP-15C"

*Message #6 Posted by **DigiGal** on 29 Sept 2011, 8:37 p.m.,*
in response to message #5 by Michael de Estrada

Link to MoHPC Museum DVDs and CDs

I'll second this recommendation for the Museum DVD it is a valuable resource for anyone interested in vintage HP calculators.

The DVD also contains a full PDF of the book **"An Easy Course In Programming The HP-11C and HP-15C"** © 1984, Grapevine Publications, Inc.

Edited: 29 Sept 2011, 8:55 p.m.

Re: Advance handbook 15C

*Message #7 Posted by **Pablo P (Spain)** on 29 Sept 2011, 8:16 p.m.,*
in response to message #4 by Michel Beaulieu

http://hp15c.org/hp15cAdvanced.pdf

Edited: 29 Sept 2011, 8:17 p.m.

Re: Advance handbook 15C

*Message #8 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 8:22 a.m.,*
in response to message #1 by Michel Beaulieu

There is a complete rework of the manual in the works but it's not ready for prime time yet. It will have the same contents but will be recreated as a digital document in the same way the Owner's Handbook has been. Once done, a download will be available.

IIRC the work can be attributed to members of this community. Thanks for their efforts.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HPGCC questions

*Message #1 Posted by **Steve Fennell** on 29 Sept 2011, 5:07 p.m.*

I'm interested in learning to use C/C++ on the 50g and porting some small programs I've written over the years. Both HPGCC 2.0SP2 and HPGCC3 are available. Which one should I start with? Are there any advantages and disadvantages to using one version over the other? They seem to have different origins, or at least HPGCC3 is a rewrite with a revised license if I understood correctly.

Re: HPGCC questions

*Message #2 Posted by **David Hayden** on 29 Sept 2011, 9:53 p.m.,*
in response to message #1 by Steve Fennell

I believe that HPGCC3 creates stand-alone programs, which is an improvement over HPGCC 2.0 which requires a library on the 50g. The lib can convert the program to stand-alone, or it can launch the program itself.

I think I also heard that HPGCC3 has a more extensive library.

On the plus side for HPGCC 2.0, it's been around longer so it may be more stable. Also, to make a shameless plug, my HPObjects library currently only works with HPGCC 1.1 and 2.0. The library lets you easily access and convert HP calculator objects (numbers, integers, lists, strings etc) into C equivalents, and back again. The library that comes with HPGCC 2.0 comes with some of this functionality, but the interfaces are inconsistent and only a few objects are supported.

Here are some handy links:

Egan Ford's excellent HPGCC 2 tutorial.

My HPObjects library

Good luck! I think you'll find it quite rewarding. HPGCC programs typically run 100 times faster than User RPL programs. On the other hand, they are typically about 100 times larger. On the third hand, you can always copy the actual program to an SD card, and replace it on the calculator with a small stub program that recalls it from the card and runs it. This saves you the space in HOME, but it still takes a large amount of RAM to run.

Feel free to contact me for help with HPGCC 2 programming.

Dave

Re: HPGCC questions

*Message #3 Posted by **Egan Ford** on 29 Sept 2011, 10:07 p.m.,*
in response to message #2 by David Hayden

Quote:

> I believe that HPGCC3 creates stand-alone programs, which is an improvement over HPGCC 2.0 which requires a library on the 50g. The lib can convert the program to stand-alone, or it can launch the program itself.

HPGCC 3 requires a custom ROM on the 50g. This is not a problem unless you plan to redistribute your code. At that is not a problem if all target machines have the custom ROM. Whereas HPGCC 2 will run on unmodified machines.

HPGCC 3 is faster, or at least the beta versions were that I tested a while ago. I wrote some pretty fast factorization programs with HPGCC 3. I could overclock the processor to 192 MHz.

I'd start with HPGCC 3 since that is the current supported version from the developers and fallback to HPGCC 2 if you want to leave your 50g with the HP blessed ROM.

P.S. I've had the HPGCC 3 ROMs on my 50g for years without any issues and I could still run HPGCC 2 code.

Edited: 29 Sept 2011, 10:09 p.m.

Re: HPGCC questions

*Message #4 Posted by **Steve Fennell** on 2 Oct 2011, 6:42 p.m.,*
in response to message #3 by Egan Ford

Thanks for both responses. I decided to give HPGCC3 a whirl and was able to get it compiled into the 2.15 ROM and loaded this weekend. The tutorial on hpgcc3.org was helpful as well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unable to register the 15c LE

*Message #1 Posted by **Neil Carlson** on 29 Sept 2011, 4:20 p.m.*

I don't know if registering the 15c LE with HP would serve any useful purpose (being notified when new firmware fixing the PSE bug is available, for example), but I've found that the 15c is missing from the menu of calculator models on the HP product registration page. An oversight?

Updated Manual for the 15c LE

*Message #2 Posted by **DigiGal** on 29 Sept 2011, 5:33 p.m.,*
in response to message #1 by Neil Carlson

Good question, support seems to be lagging the products release.

The HP Customer Care page for HP 15c Scientific Calculator is up now, it has a PDF of 15c Owners Handbook (Edition 2.4, Sep 2011) but the page lists "No alerts at this time" for the product.

Edited: 30 Sept 2011, 7:58 p.m. after one or more responses were posted

Updated Manual the 15c LE

*Message #3 Posted by **Michael de Estrada** on 29 Sept 2011, 6:17 p.m.,*
in response to message #2 by DigiGal

Thanks for the link. They have corrected the self-test section in Appendix F, page 261. There are still some insignificant typos that have not been corrected.

Edited: 29 Sept 2011, 6:32 p.m.

Re: Unable to register the 15c LE

*Message #4 Posted by **CAD_Jockey** on 29 Sept 2011, 8:27 p.m.,*
in response to message #1 by Neil Carlson

I have talked to tech support, and explained that you can't register the 15c LE, and they told me they were looking into it.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S suggestions

*Message #1 Posted by **David Hayden** on 29 Sept 2011, 3:52 p.m.*

I flashed a 20b to a 34S last night and I'm really enjoying it. When my 30b arrives from Eric, I'll apply the keyboard overlay and flash that one too.

I'm running version 2.11630 (as shown by the VERS command) and I have two suggestions.

First, when I press any key, the RPN annunciator flashes off and then back on. It would be nice if it stayed on.

Second is a usability thing for new users. I was playing around with it last night without the manual and I accidentally got into integer mode. It took me a good 10 minutes to figure how to get out of integer mode - I eventually stumbled onto H.d to do it. This was rather frustrating and I think for a new user it would be really annoying. So my suggestion is to change FIX, SCI, and ENG to change the calculator back to real mode if it's in integer mode. Even new users will probably know how to change the display using these functions and if you change the display mode, you probably want to start using real mode anyway.

Congratulations to everyone who put this together. It's a wonderful accomplishment.

Re: 34S suggestions

*Message #2 Posted by **Walter B** on 29 Sept 2011, 4:08 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> I'm running version 2.11630 (as shown by the VERS command) ...

Can't be true. Must be 2.1 1630.

> Quote:
>
> First, when I press any key, the RPN annunciator flashes off and then back on. It would be nice if it stayed on.

This is by purpose and was meant to give at least some value to that annunciator. We're in RPN always, so it's only not lit as long as the WP 34S is busy.

> Quote:
>
> Second is a usability thing for new users. I was playing around with it last night without the manual and I accidentally got into integer mode. It took me a good 10 minutes to figure how to get out of integer mode - I eventually stumbled onto H.d to do it. This was rather frustrating and I think for a new user it would be really annoying.

How about RTFM? Your experience is nothing more than the just deserts for not doing it ;-)

> Quote:
>
> Congratulations to everyone who put this together. It's a wonderful accomplishment.

Thank you :-)

Walter

Re: 34S suggestions

*Message #3 Posted by **Cristian Arezzini** on 29 Sept 2011, 4:57 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> This is by purpose and was meant to give at least some value to that annunciator. We're in RPN always, so it's only not lit as long as the WP 34S is busy.

What about reversing it (i.e. only light it when the calc is busy)? That would declutter the display a bit...

Re. how to exit integer mode, now of course it is instinctive to me after many months, but I remember the first time I used the 34s I had the very same problem - at last I resorted to resetting the calc. I don't remember right now if the manual is clear on how to enter/exit integer mode, but I remember that at the time it wasn't... I also suggested changing the key label to say "real" or something like that, but apparently that's exactly what ".d" means! :)

Cristian

Re: 34S suggestions

*Message #4 Posted by **Paul Dale** on 29 Sept 2011, 6:08 p.m.,*
in response to message #3 by Cristian Arezzini

> Quote:
>
> What about reversing it (i.e. only light it when the calc is busy)? That would declutter the display a bit...

I like this suggestion :-)

- Pauli

Re: 34S suggestions

*Message #5 Posted by **Dieter** on 29 Sept 2011, 6:16 p.m.,*
in response to message #4 by Paul Dale

While you're at it: maybe we could even get rid of that awkward "running Pro6rAM" display. ;-)

Dieter

Re: 34S suggestions

*Message #6 Posted by **Marcus von Cube, Germany** on 29 Sept 2011, 6:31 p.m.,*
in response to message #4 by Paul Dale

Doesn't work Pauli: The RPN annunciator is only lit when the calc accepts RPN input. It's turned off for temporary displays (such as VIEW) to indicate it is safe to press <- without disturbing X.

So RPN does what is says: You can enter RPN data and commands.

Re: 34S suggestions

*Message #7 Posted by **Paul Dale** on 29 Sept 2011, 6:41 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Drats. This device is too complex to fully understand anymore :-(

- Pauli

Re: 34S suggestions

*Message #8 Posted by **Steve Simpkin** on 29 Sept 2011, 8:08 p.m.,*
in response to message #7 by Paul Dale

Well if it is too complicated for you, Pauli, the rest of us are in real trouble :)
By the way, I am enjoying the WP34S way to much. Thank you Pauli, Walter and Marcus!

Re: 34S suggestions

*Message #9 Posted by **Egan Ford** on 29 Sept 2011, 8:41 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Doesn't work Pauli: The RPN annunciator is only lit when the calc accepts RPN input. It's turned off for temporary displays (such as VIEW) to indicate it is safe to press <- without disturbing X.

Thank you for this. This is very handy. I used this today on a plane while debugging code. Now if you can find a way to VIEW ALL and have X-T scroll by, that'd be nice. :-)

Re: 34S suggestions

*Message #10 Posted by **David Hayden** on 29 Sept 2011, 5:24 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> How about RTFM? Your experience is nothing more than the just deserts for not doing it ;-)

The "R" part (read) is easy and I did read it. It's the other "R" (remember) that was the problem.... :) I didn't have the manual handy at the time. By the way, the manual on page 22 shows the command as "[.d]" while the keyboard graphic shows it as "[H .d]"

Obviously the functionality is there. My only point is that finding it isn't intuitive and I offered a possible

change that would, IMHO, be more intuitive. Usability matters. I haven't looked at the code yet so I don't know if this would be hard to implement, or if there are reasons why it shouldn't work as I suggest.

Dave

Re: 34S suggestions

*Message #11 Posted by **Paul Dale** on 29 Sept 2011, 6:20 p.m.,*
in response to message #10 by David Hayden

> Quote:
>
> I haven't looked at the code yet so I don't know if this would be hard to implement, or if there are reasons why it shouldn't work as I suggest.

It wouldn't be at all difficult to implement. The function for ALL, FIX, SCI, ENG and DISP is:

```
void cmddisp(unsigned int arg, enum rarg op) {
        UState.dispdigs = arg;
        if (op != RARG_DISP)
                UState.dispmode = (op - RARG_STD) + MODE_STD;
        UState.fract = 0;
}
```

Replacing the *UState.fract = 0;* line with *op_float(NULL, NULL, OP_FLOAT);* will do the mode switch and convert the stack properly. Had you considered this being required?

As always, there are other issues to consider:

- Do all these five commands need to switch out of integer mode? Should they?
- Is making these functions have such a side effect a good thing or not? Simple functions are almost universally better than double barreled ones.
- What other side effects will happen here? One I know of is that H.MS display will be lost.

Changes like this usually have subtle side effects which aren't obvious.

- Pauli

Re: 34S suggestions

*Message #12 Posted by **gene wright** on 29 Sept 2011, 5:25 p.m.,*
in response to message #2 by Walter B

<rant on>

One could always suggest writing a manual that even advanced users don't find cryptic. The manual as-is might contain the information, but then again, an SD card might contain a lot of information but is not easily accessible unless you have an SD card reader.

C'mon Walter - there are probably 10-20 basic things that could be added to a "Common Questions" section at the end that would be helpful. We're talking about people who have written programs for HP calculators for 20+ years not being able to find fairly basic things in the documentation.

Jake and I are really toying with doing a new, readable manual that doesn't assume an advanced CS degree... but I would ask your forbearance with those who can't find things in your reference manual -

which is what it is and will remain given the level at which it is written.

If we do, I will predict our readable manual will be used a great deal more often than the one that exists now - because we won't assume that section 4, paragraph 3, line 6, fifth word is a sufficient explanation of where an important piece of information resides.

My 2 cents, but RTM is getting to be a tiresome response when the overwhelming majority of people here and at HHC find it much too difficult to find basic things in said manual.

</rant off>

Re: 34S suggestions

*Message #13 Posted by **Dieter** on 29 Sept 2011, 6:09 p.m.,*
in response to message #12 by gene wright

One of the beauties of the German language is its ability to express subtle differences with a vast number of expressions to choose from. This is also true for the English word "manual". Among many others, two possible options here are "Gebrauchsanweisung" and "Benutzerhandbuch". The first one contains the word "Anweisung" (order, command), so here the idea is to tell the user how to use the device: press this button, get that result. On the other hand, the second term means something more like "user's guide" - a handbook that is intended to be a helpful companion to the user, making him familiar with the machine so that he will be able so solve his everyday problems.

I think the current version of the manual is a tiny bit more on the "Gebrauchsanweisung" side, while your idea sounds more like a "Benutzerhandbuch". ;-)

Sooner or later I am sure there will be something that comes closer to your idea of a manual. And since this forum is full of native speakers of many different languages, there even is a chance there will be decent non-English versions as well. ;-)

Dieter

Re: 34S suggestions

*Message #14 Posted by **Walter B** on 29 Sept 2011, 6:50 p.m.,*
in response to message #12 by gene wright

Hmmh, we are talking about modes, aren't we? There's a chapter called "Display and Modes" in said manual. Sounds promising, doesn't it? On its very first page (22), in the very first table, is exactly the information you were looking for. Easy IMHO. YMMV.

Re: 34S suggestions

*Message #15 Posted by **svisvanatha** on 29 Sept 2011, 7:47 p.m.,*
in response to message #14 by Walter B

> Quote:
>
> Hmmh, we are talking about modes, aren't we? There's a chapter called "Display and Modes" in said manual. Sounds promising, doesn't it? On its very first page (22), in the very first table, is exactly the information you were looking for. Easy IMHO. YMMV.

Asking an innocent question here.

Since you mention Page 22, my English as a First Language tells me that the description of "Cleared by..." does indicate that [FIX], [SCI], [ENG], [H.MS], TIME, and [->][H.MS} will set DECM. That description indicates that the OP's observation/wish is actually how the 'manual' indicates the WP-34S will behave. In practice, however, the WP-34S does not behave like this.

If I have misunderstood, I apologize. I did read the manual.

Re: 34S suggestions

*Message #16 Posted by **Egan Ford** on 29 Sept 2011, 8:35 p.m.,*
in response to message #14 by Walter B

Walter,

You are missing an opportunity here. Instead of "RTFM" or "read page ##", how about asking yourself "why?" some struggle with and without the docs? And perhaps use that feedback to improve the documentation so that we can cultivate a larger and stronger community. Perhaps we just need a QR card. You're never going to escape excited users that skip through the ~100 page manual.

The more I use the 34S the more I wish someone would make it. I travel frequently (sometimes weekly) and I never carry a calculator anymore because of space and weight, so I suffer with emulation on my iPhone. Well that changed on this trip. When I packed my bags this morning I took my 34S. I want others to have the same great experience I have had and to feel the same way.

My $0.02US (I'd give you Euros if I had them):

".d" is neither clever nor obvious. On the 16C it's "FLOAT". Given the lack of space "FP" may have worked too.

I had the exact same problem as the OP. Since I could understand all the other symbols, ".d" did occur to me as a possible way to return back to FLOAT, however the leading "H" lead me to believe that it was the inverse of H.MS, and so it is.

That all said. The documentation *is* awesome, and the fact that we have any quality documentation is largely or solely due to your effort, and I thank you for that. And yes, if you RTFM (Read The *Fine* Manual) you will find all your answers, except "why?" :-) Please keep up the great work.

Thank you.

P.S. I know that writing docs sucks, and I'd wager that you spend more time on docs than the sum of all the coding time. Your efforts are appreciated. Thanks again.

Edited: 29 Sept 2011, 8:47 p.m.

Re: 34S suggestions

*Message #17 Posted by **Alexander Oestert** on 30 Sept 2011, 1:36 a.m.,*
in response to message #14 by Walter B

Yes, the info is there but I also had the very same problem with finding it the first time I needed it.

Re: 34S suggestions

*Message #18 Posted by **Brian Walsh** on 29 Sept 2011, 7:33 p.m.,*

in response to message #12 by gene wright

> Quote:
>
> (snip)
>
> C'mon Walter - there are probably 10-20 basic things that could be added to a "Common Questions" section at the end that would be helpful. We're talking about people who have written programs for HP calculators for 20+ years not being able to find fairly basic things in the documentation.
>
> Jake and I are really toying with doing a new, readable manual that doesn't assume an advanced CS degree... but I would ask your forbearance with those who can't find things in your reference manual - which is what it is and will remain given the level at which it is written.
>
> If we do, I will predict our readable manual will be used a great deal more often than the one that exists now - because we won't assume that section 4, paragraph 3, line 6, fifth word is a sufficient explanation of where an important piece of information resides.

Right on! Users don't need their hands held, but something beyond the terse descriptions is much needed, not to mention examples and as you suggest a FAQ.

You don't see open source software documentation held closely to the vest, and considering how much you and others are willing to pitch in and help, I suggest that it is in everyone's best interests, including the software team especially, to make the documentation produced up to now available in whatever format is requested, not just as PDFs. To do anything else is, in my opinion, selfish, unproductive, and uncooperative. Further, in the absence of said documentation being made available I am confident the user community, namely those contributing to the project, *will* find a way to accomplish their objectives.

> Quote:
>
> My 2 cents, but RTM is getting to be a tiresome response when the overwhelming majority of people here and at HHC find it much too difficult to find basic things in said manual.

It wasn't just RTM, it was RTFM, which in this forum where people are hopefully trying to help each other I find unacceptable.

Re: 34S suggestions

*Message #19 Posted by **Bruce Bergman** on 30 Sept 2011, 12:12 a.m.,*
in response to message #12 by gene wright

Here, here!

I remember when I was working for the Red Cross as a disaster services officer, teaching Shelter Management. One of the questions on the final test was:

"Your shelter has been in operation fairly well for a few days now. The kitchen staff report some food stuffs missing each night. You watch and find two kids taking food out of the refrigerator in the middle of the night and eating it before going to bed. What is your response and what should you do?"

Almost always, the first answer is "punish the offenders". The proper answer is "ask if the problem is

that they are unable to get enough food during mealtimes, and if so, increase the amount of food each person can get".

I don't want to start any debate on shelter management, but the point should be obvious: if a lot of people are complaining about something, there's probably a good chance there is a legitimate reason for it.

In more simple terms, if it walks like a duck, quacks like a duck and looks like a duck, then it's probably a duck.

I heard a lot of comments at the HHC conference that people LOVED the calculator, but the manual was daunting, oppressive, complex, confused and other words. To me, that shouts out for help.

Gene, if you and Jake embark on a better manual, I think you will have a LOT of positive support and comments from the user base. I whole heartedly support it.

My $0.02 anyhow. :-)

thanks,

Bruce

Re: 34S suggestions

*Message #20 Posted by **Walter B** on 30 Sept 2011, 1:33 a.m.,*
in response to message #19 by Bruce Bergman

> Quote:
>
> Here, here!

Again :-/ Are you sure you meant what you wrote here?

Anyway, you're right with your example. Though I wasn't up to "punish" anybody - I just sometimes wonder. And then I remember what a former senior colleague told me years ago (for the US: no offense intended, the following sentence is a literal translation of this person's advise, but please continue reading thereafter):

"If you write a manual every idiot could use, only an idiot will use it."

(For the US again: No, I know this characterisation doesn't apply to anybody here, of course. The quoted sentence is just indicating a trend, and it's another nice example of the German way of telling the truth directly without a lot of flowers and pampering around - and politically incorrect for sure. Please also note, here you don't see "Objects in this mirror appear smaller than they really are" etched in side mirrors of cars, nor "May contain hot beverages" printed on paper cups, nor anything alike. When we read such stuff, we shake our heads and wonder about foreign habits, education, and everything. BTW, this whole paragraph could be omitted in a German forum :-) just to give you an idea of the easy communication here.)

That said, I am aware of the challenge of writing a manual for people with different cultural background. And "H .d" has a longer history than you can know - but you don't have to, it's my job to guide you to the right keys. Just compare the manual editions 1.12 and 2.1, and I'm confident you see a positive trend.

Anyway,I'll think about a better way to get the DECM message transmitted.

O dear, this post got longer than thought. But I hope it helps a little bit.

Walter

Re: 34S suggestions

*Message #21 Posted by **Bruce Bergman** on 30 Sept 2011, 1:46 a.m.,*
in response to message #20 by Walter B

> Quote:
>
> Again :-/ Are you sure you meant what you wrote here?

Autocorrect. ;-) I blame that, and lack of sleep ;-)

thanks,

bruce

Re: 34S suggestions

*Message #22 Posted by **Paul Dale** on 30 Sept 2011, 1:49 a.m.,*
in response to message #20 by Walter B

Just put a line at the top of the first page of the manual:

To return to floating point mode, select H.d

:-)

Instead, please commit the word version of the manual to our subversion repository and Gene and Jake can get to work on an introductory guide and some learning modules which will usefully augment the current reference manual.

- Pauli

Edited: 30 Sept 2011, 1:49 a.m.

Re: 34S suggestions

*Message #23 Posted by **Walter B** on 30 Sept 2011, 2:28 a.m.,*
in response to message #22 by Paul Dale

:-) Changed the front page. Hope this helps though I didn't print it bold faced nor underscored :-/

Edited: 30 Sept 2011, 2:29 a.m.

Re: 34S suggestions

*Message #24 Posted by **Paul Dale** on 30 Sept 2011, 2:31 a.m.,*
in response to message #23 by Walter B

But did you keep the italic????

:-D

- Pauli

Re: 34S suggestions

*Message #25 Posted by **Walter B** on 30 Sept 2011, 2:37 a.m.,*
in response to message #24 by Paul Dale

Ooops, not really. Severe drawback! Hope it will be read nevertheless ;-)

Re: 34S suggestions

*Message #26 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 7:12 a.m.,*
in response to message #25 by Walter B

Walter, I asked Gene about his offer to write a Beginner's Guide and he told me he will only start off with your original document (fonts and all included) in his possession. Pauli has kindly asked you to put the information onto the SVN repository and I wholeheartedly second this proposal. Make the documentation a community effort, too!

Re: 34S suggestions

*Message #27 Posted by **Brian Walsh** on 30 Sept 2011, 9:26 a.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> Walter, I asked Gene about his offer to write a Beginner's Guide and he told me he will only start off with your original document (fonts and all included) in his possession. Pauli has kindly asked you to put the information onto the SVN repository and I wholeheartedly second this proposal. Make the documentation a community effort, too!

I could not agree more with this. Everyone will benefit. Everyone will have fun. More time for other things! THANK YOU, Marcus! And THANK YOU in advance, Walter!

Edited: 30 Sept 2011, 9:27 a.m.

Re: 34S suggestions

*Message #28 Posted by **Egan Ford** on 30 Sept 2011, 11:27 a.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> Make the documentation a community effort, too!

While I agree in principal, in practice this can be difficult, especially when using Word. I've had nothing but problems with collaborative Word projects.

XML vs compat mode docs, markup, and merge do not work as cleanly as one would like. I've lost so much time due to Word bugs that I now hand merge in changes.

If new works are going to be generated from Walters work that is one thing, but if others are going to contribute to Walters document then some standards need to be set in place first, and I'd expect Walter to be spending a lot of time proofreading and not documenting.

sf.net supports Wikis. If there is going to be a community documentation project that may be a good place to start. All changes are tracked. Wikis do not generate very good printed documentation however. But that can be addresses after this project stabilizes.

Re: 34S suggestions (a bit long)

*Message #29 Posted by **Walter B** on 30 Sept 2011, 4:56 p.m.,*
in response to message #28 by Egan Ford

Egan,

> Quote:
>
> I've had nothing but problems with collaborative Word projects. XML vs compat mode docs, markup, and merge do not work as cleanly as one would like. I've lost so much time due to Word bugs that I now hand merge in changes.

What you describe is exactly what I experienced also for many years in my professional life. Documents and structures, carefully assembled by few, then corrupted by (usually some more) people of good will but no clue - having fun, as Brian wrote. I'm not very keen on mending such a mess again.

Way back in April, there was a prominent member of this forum asking for my manual data file. He claimed he was planning some nice extensions of it. I offered him he may write whatever he thinks being appropriate straight ahead, send it to me, we'd discuss it and I'd insert it in the manual at a location we agree on, in a decently formatted way. No, that wasn't the way he wanted. He kept asking for data, and I eventually sent him my entire WORD file. Apparently then he or his mailbox wasn't prepared for it - I found out several weeks later by asking myself - I sent it again - then he complained these were old data etc. etc. Making a long story short, I never got back a single byte from there so far.

Despite this very frustrating experience, I am willing to offer such a collaboration once more. But please, don't you cry you want to have all and want it now. One basis of our WP 34S project turning out successfully is both of us, Pauli and me, have a common vision, we committed and delivered, each of us in his area of expertise, and we discussed the open points until we both could agree. We needed some time sometimes, and we also had some hard discussions, but I never felt our business lost balance, it was always a give and take. We then integrated two more people, and each of them brought his area of

expertise which wasn't covered sufficiently in our team before.

The manual was published quite early, together with the invitation for constructive critics, as you find in the archives. And IIRC, we've listened to almost every reasonable proposal and remark and took them into account. So it went pretty well, though the amount of active "beta reader" turned out being a bit less than I expected.

After all, now we've got a product, and I get the feeling all kind of folks are trying to hopp on the bandwagon now. Come on, contribute something useful yourself if you want to join late. All the tools and information are readily available. But don't claim you *will* do something, provided you get 100 pages for free first.

Personally, I'm not ready yet to sacrifice our work achieved so far to the cro..., hmmmh, community. I see this opinion is not popular, maybe out of time, but that's the way I think it's right - and that's how we reached this result. If you can't stand that, feel free to start your own project. I wish you good luck, may offer some support if you like and am looking forward to *your* results.

Ok, so now I will be grilled for that :-(

Re: 34S suggestions (a bit long)

*Message #30 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 5:18 p.m.,*
in response to message #29 by Walter B

Not grilled, just asked over and over again.

Putting up your work and its support files on SF would have the added benefit of creating a safe backup of the files. And authors of additional documentation would have a much better start, regarding formatting and style.

Re: 34S suggestions (a bit long) - wikis

*Message #31 Posted by **Dominic Richens** on 30 Sept 2011, 6:28 p.m.,*
in response to message #29 by Walter B

No grilling from me. Been there, done that.

I like the current reference manual the way it is.

I do think a separate, distinct, user guide would be nice. Everything is in the current manual, somewhere, just for us regular dummies it takes a bit more effort than we're used to, to find it and understand it.

We're all used to HP manuals which pretty much spell it out for you with nice pretty "button" icons along the left and explanation down the left.

I'm a big fan of wikis - my past and present employers have used these successfully for "HowTo" type stuff. There are many wiki

engines, some better than others: [ul]

- wiki4hp.com (DokuWiki) is on the primitive side.
- Twiki is better and
- Confluence ($$) has pretty good wiki to document publishing.
- MediaWiki (wikipedia) is also free and has a "create a book" thing.
- SourceForge Wiki - haven't looked at it.

Ultimately someone or a small group of editors has to keep stuff consistent, not only an army of contributors.

Want me to look at the sourceforge wiki?

Re: 34S suggestions (a bit long) - wikis

*Message #32 Posted by **Steve Simpkin** on 30 Sept 2011, 6:45 p.m.,*
in response to message #31 by Dominic Richens

> Quote:
>
> I do think a separate, distinct, user guide would be nice.

I would like to donate my time helping to write a WP34S User's Handbook that is written in the same style as the HP-25, HP-41C, HP-15C, HP-42S Handbooks. I think a printed copy would provide the finishing touch to make the "WP34s Package" a complete product that could be sold to anyone.

Re: 34S suggestions (a bit long) - wikis

*Message #33 Posted by **Dominic Richens** on 1 Oct 2011, 8:48 p.m.,*
in response to message #32 by Steve Simpkin

There, I think I have finished the WP-34s Users' Guide

:-)

okay, but it's a good start :-)

Re: 34S suggestions (a bit long) - wikis

*Message #34 Posted by **David Hayden** on 1 Oct 2011, 10:17 p.m.,*
in response to message #33 by Dominic Richens

Now THAT'S funny!!! Thanks for making me laugh.

Re: 34S suggestions (a bit long) - wikis

*Message #35 Posted by **Steve Simpkin** on 2 Oct 2011, 1:30 a.m.,*
in response to message #33 by Dominic Richens

Well... Yes. Yes, that is a great start but I think we need to... add just a bit more. I think with the collective effort of everyone here, we could double what you have written in less than six months :)

Re: 34S suggestions (a bit long) - wikis

*Message #36 Posted by **Walter B** on 2 Oct 2011, 2:45 a.m.,*
in response to message #33 by Dominic Richens

:-D

Anyway this label made it to the front page of the manual yesterday already. HTH.

WP 34s Users' Guide Wiki

*Message #37 Posted by **Dominic Richens** on 2 Oct 2011, 8:12 a.m.,*
in response to message #31 by Dominic Richens

Sourceforge's wiki is MediaWiki - which is good.

Pauli created the wiki and added me to the editor group so I moved my toung-in-cheek user's guide to the WP-34s project wiki.

I started on a guidelines page and added a (blank) Todo page. If you want to contribute signup and get added to the editors group.

First items of business is to come up with an outline (table of contents) and upload all the nice little graphics (keys) that Walter and Pauli created for the reference manual.

I have an HP48SX and HP-15C manual, as well as PDFs of the HP32sII, HP-33s and HP-35s to use as style examples.

Re: WP 34s Users' Guide Wiki

*Message #38 Posted by **Walter B** on 2 Oct 2011, 4:07 p.m.,*
in response to message #37 by Dominic Richens

> Quote:
>
> ... upload all the nice little graphics (keys) that Walter and Pauli created for the reference manual.

As a matter of fact, I created these "graphics" using Luiz Vieira's font - they are just plain and simple text. No witchwork :-)

Walter

Edited: 2 Oct 2011, 4:11 p.m.

Re: WP 34s Users' Guide Wiki

*Message #39 Posted by **Dominic Richens** on 2 Oct 2011, 6:36 p.m.,*
in response to message #38 by Walter B

Oh, very nice.

Nuts - don't think MediaWiki can use TTF - I guess that's a work item to cut an paste into little png files the keys so that they can be called up with [[File:f.png]][[File:H.d.png]]

Re: 34S suggestions

*Message #40 Posted by **Cristian Arezzini** on 30 Sept 2011, 3:46 a.m.,*
in response to message #20 by Walter B

I don't know about others, but another problem I had with the manual is this: it gets updated really often (fortunately) but there's no "changelog". And I'm not going to re-read the whole thing cover-to-cover every time an update is made. So sometimes I just miss some new information (I've been told RT(F)M myslef a while ago because I missed some info exactly this way). But then, I also understand that managing a detailed changelog would take too much time. Oh well... :(

Cristian

Re: 34S suggestions

*Message #41 Posted by **Paul Dale** on 30 Sept 2011, 3:47 a.m.,*
in response to message #40 by Cristian Arezzini

I've noticed this too :-)

- Pauli

Re: 34S suggestions

*Message #42 Posted by **Walter B** on 30 Sept 2011, 5:35 a.m.,*
in response to message #40 by Cristian Arezzini

Please see the very last page.

Walter

Re: 34S suggestions

*Message #43 Posted by **Cristian Arezzini** on 1 Oct 2011, 9:08 a.m.,*
in response to message #42 by Walter B

The last page is useful but I'm pretty sure (though not 100%) that the last page doesn't list *all* the changes; and anyway, if you skip updating for a few revisions, you definitely don't get all the changes. A simple changefile, updated rev by rev with what was changed in the latest rev, would be nice, again IMO.

Cristian

Re: 34S suggestions

*Message #44 Posted by **Dominic Richens** on 1 Oct 2011, 11:56 a.m.,*
in response to message #43 by Cristian Arezzini

it can be almost as much work to keep the changelog updated as it is to do the update. That's why we're moved to wikis for a lot of our design documentation where I work. You want to know what Fred changed when he did that update 3 months ago, just click on the record in the history.

You can do the same thing with Word, but it's a lot more work to implement and is usually geared to reviewing.

Re: 34S suggestions

*Message #45 Posted by **Ángel Martin** on 30 Sept 2011, 8:05 a.m.,*
in response to message #20 by Walter B

> Quote:
>
> "Objects in this mirror appear smaller than they really are"

From memory I think it's backwards:
"objects in mirrow are closer than they appear"

since the intent of the message it not to warn about the size of the object, but of the apparent sense of proximity - which is falsely interpreted by the person looking at the mirror.

What does this have to do with the posts, you may wonder? I think it's all a matter of perspective. I wrote the 41Z manual knowing that nobody would read it, yet I wanted to capture all possible information about the functionallity - not only the strict command description and staccatto instructions. Being a reference document makes it much more useful than a QRG or a dire enumeration of capabilities (and let it be clear that I'm not saying that's what the 34S manual is!).

I've read most of it even if I don't have any 34S yet - just because I wanted to learn more not about the machine, but about the project.

User manual vs. owners handbook - same precisions here in English...

Re: 34S suggestions

*Message #46 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 8:27 a.m.,*
in response to message #45 by Ángel Martin

Angél, writing documentation when one is involved in a project or even is the only person working on it is an integral part of the work because you have to rethink everything twice when you try to describe it in detail.

In our case the manual is not in the same hands as is the implementation which complicates thinks at times. Possible outcomes are changes to the code, changes to the documentation, or both.

Re: 34S suggestions

*Message #47 Posted by **Dave Shaffer (Arizona)** on 30 Sept 2011, 3:20 p.m.,*
in response to message #46 by Marcus von Cube, Germany

> Quote:
>
> Angél, writing documentation when one is involved in a project or even is the only person working on it is an integral part of the work because you have to rethink everything twice when you try to describe it in detail.

Hmmm....

In a small project like this, having the creators write the manual is probably inevitable.

However, I have a theory that manuals SHOULD NOT BE WRITTEN by the programmers, the makers, etc. of whatever - they are too close to the project, and may well assume too much. Even "thinking twice" may not be enough. A manual should be written by an outside, even naive, user. He'll need the insiders to help, of course, but he is more likely to stumble over the same problems that other new users will.

Similarly, software should be tested by somebody other than the programmer. That's why there are beta testers.

Guess a manual needs have beta readers!

Re: 34S suggestions

*Message #48 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 4:02 p.m.,*
in response to message #47 by Dave Shaffer (Arizona)

Dave, I disagree. You may be right for a Beginner's Guide but creating a reference at the same time you are creating the function is very helpful in rethinking what the function really does.

Re: 34S suggestions

*Message #49 Posted by **Dave Shaffer (Arizona)** on 30 Sept 2011, 4:18 p.m.,*
in response to message #48 by Marcus von Cube, Germany

I'll agree on the reference manual, but I think a users/beginners manual will benefit from being written by the user/beginner (under supervision!).

Re: 34S suggestions

*Message #50 Posted by **Paul Dale** on 30 Sept 2011, 8:51 a.m.,*
in response to message #45 by Ángel Martin

> Quote:
>
> I wrote the 41Z manual knowing that nobody would read it...

I've read it :-) Even most of the code.

- Pauli

Re: 34S suggestions

*Message #51 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 9:00 a.m.,*
in response to message #50 by Paul Dale

> Quote:
>
> I've read it :-) Even most of the code.

Stealing complex algorithms? ;-)

Re: 34S suggestions

*Message #52 Posted by **Paul Dale** on 30 Sept 2011, 9:06 a.m.,*
in response to message #51 by Marcus von Cube, Germany

Nope.

I wish I had culled a few complex algorithms however.

- Pauli

Re: 34S suggestions

*Message #53 Posted by **Ángel Martin** on 30 Sept 2011, 2:37 p.m.,*
in response to message #50 by Paul Dale

I feel honored! (and suddenly worried about the inaccuracies that no doubt plage the document...)

I very much doubt you had any need to steal any algorithm, let alone those I used. But you may be interested to know that after a long procrastinating time, I finally re-wrote the function launchers within the 41Z using MCODE tables - instead of the pedestrian code I'd used until now.

The relevance of this is that I freed-up 265 bytes, which immediately I filled-up with a complex ZETA function (yes, using Borwein - plagiarized from JM Baillard, only with the 41Z complex stack twist). Still on the testing bench, but looking great!

Best, 'AM.

Re: 34S suggestions

*Message #54 Posted by **M. Joury** on 30 Sept 2011, 9:12 a.m.,*
in response to message #20 by Walter B

I would hazard a guess that most Americans think the hot liquid warning is stupid. But then only in America would a plaintiff win a lawsuit because she got burned by said hot liquids. Blame the lawyers.

A former girlfriend of mine was in insurance and they got a monthly circular on litigation that was won and lost. One case involved several people trying to start a car. They could not get it started by pushing it so they had the brilliant idea to have two people sit on the hood of one car

with their feet on the trunk of the other while one drove that car and a fourth sat in the dead car and tried to start it when it got up to speed. The cars separated, bounced, whatever, and the two people on the hood fell in between the two vehicles and had their legs crushed. They were suing the auto companies because there was no warning on the vehicle specifically suggesting that this was a bad idea. This would have been laughed out of court in any other country in the world if it even got that far.

Some Americans are always looking for the fast buck. A way to get something for nothing and lawyers are always happy to help.

I have had that experience myself. Many years ago I was involved in a car accident when I was rear ended on the highway. Within 24 hours I had received 10 calls from lawyers wanting to take my case. This is considered ambulance chasing and I believe that most states have laws against it but it didn't stop them. I was fine except for a stiff back for a few days so of course I didn't sue.

I used to race bicycles and a friend of mine had a terrible accident during a race and was never the same again. Even though we all knew the risks involved and had signed waivers (generally not worth the cost of the ink used) lawsuits started flying. Every cycling organization involved in putting on the race was sued including the president of the club personally (the driver of the car involved and the police--those that should have had the biggest share of the blame--were *NOT* sued) and during pretrial information gathering I was contacted by a lawyer trying to get me to say that racing was unacceptably dangerous and that it was the fault of the organizers. I told her that, yes, I had been scared on occasion during races. That charging along at 30+ MPH (50+ KPH) in a pack with inches to spare on all sides with many people that you had never met before in your life was sometimes scary and that anyone who didn't feel that way was an idiot but that this was *not* the fault of the organizers it was just the name of the game, so to speak. At any rate she quickly lost interest in me and I never received another call. The point is that some people refuse to accept responsibility for the own actions and decisions and so the legal climate is such that you see silly warnings on coffee cups. I will say that my friend was not the one suing since at this point he was still in a coma and later, much later, had to relearn how to tie his shoes. BTW, just as an aside, after this event and the lawsuits, road racing was almost killed off in Dallas, TX and the surrounding area for a number of years with all racing being relegated to criterium style closed courses because of the fear of lawsuits and the inability to get insurance coverage for events.

Cheers,

-Marwan

Re: 34S suggestions

*Message #55 Posted by **Ángel Martin** on 30 Sept 2011, 2:30 p.m.,*
in response to message #54 by M. Joury

It's not about the US, it's human nature, afraid to say. That's all what it amounts to, if you reflect on it.

Edited: 30 Sept 2011, 2:30 p.m.

Re: 34S suggestions

*Message #56 Posted by **M. Joury** on 30 Sept 2011, 2:58 p.m.,*
in response to message #55 by Ángel Martin

Perhaps. But here in the US there are two things working against us. The number of lawyers and laws that allow said lawyers to bring (often) baseless cases without fear of retaliatory action. From the point of view of the lawyer it is often just way too easy to sue--the only loss is usually time. Also huge judgments make the practice very lucrative for some while costing the society as a whole.

Re: 34S suggestions

*Message #57 Posted by **Ángel Martin** on 1 Oct 2011, 4:51 a.m.,*
in response to message #56 by M. Joury

I totally share your point of view - but again, those "permissive" laws and opportunistic lawyers are just basking on people's wishes to either get even, or better yet obtain benefits from a certain adverse situation (in which they may or may have not been led by others). Lest not mention greed as another leiv-motif...

There are of course genuine cases of misconduct or abuse, and the law has always tried to protect subjects exposed to those. So I guess it's a balance, that it's now totally abused because (as you say) "there's nothing to lose, just sue and see if we win". If the plaintiff had to pay the full cost of a lost trial, I'm sure they'll think it twice, or thrice, or even more times.

In the old days we were told that with freedom comes responsibility, and that "you're responsible for your own mistakes", which implies don't put the blame (or liability) on others, or their omissions to provide a fool-proof environment where mistakes aren't possible. The way things are going - providing disclaimers and warnings for every feasible contingency one can foresee - will certainly lead to a paralysis in society, amongst a very uncomfortable enviroment to live on (namley: no freedom!)

My 0,00000000002 cents.

Edited to add: apologies for hijacking the original 34S thread :)

Edited: 1 Oct 2011, 4:52 a.m.

Re: 34S suggestions

*Message #58 Posted by **M. Joury** on 1 Oct 2011, 9:36 a.m.,*
in response to message #57 by Ángel Martin

Agree 100%!

Re: 34S suggestions

*Message #59 Posted by **Dominic Richens** on 29 Sept 2011, 4:31 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> This was rather frustrating and I think for a new user it would be really annoying. So my suggestion is to change FIX, SCI, and ENG to change the calculator back to real mode if it's in integer mode.

Yes, I would like to see how that would work. Let us know when you have submitted a patch:

See How to build a wp34s load

Re: 34S suggestions

*Message #60 Posted by **Dominic Richens** on 30 Sept 2011, 9:48 a.m.,*
in response to message #59 by Dominic Richens

In xeq.c cmddisp() I added add a call to op_float(NULL,NULL,OP_FLOAT) and my wp34s now resets to float mode when I enter any one of ALL, FIX, SCI or ENG.

I haven't yet figured out if there are any undesirable side effects as I don't use integer mode very much. Any ideas where I need to focus my testing? I'm very much a newbie with this code.

Re: 34S suggestions

*Message #61 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 10:03 a.m.,*
in response to message #60 by Dominic Richens

At least you were able to set-up a compiler environment. Have you done the emulator compile and the firmware compile? I'd be interested to know of any obstacles you had to pass during the installation of the tools. A short write-up of your way through it would be helpful for many here.

Re: 34S suggestions

*Message #62 Posted by **Dominic Richens** on 30 Sept 2011, 10:25 a.m.,*
in response to message #61 by Marcus von Cube, Germany

Windows environment was pretty simple - would have been even easier if I had seen your HHC slides before hand :-). I documented it here: wiki4help - howto build emulator

Attaching the debugger to wp34sgui_d and setting a break point to xeq() was a piece of cake.

I do not yet have a cable but once I do I will figure out and document the MinGW and Yagarto installation. When I said "my wp34s" I was referring to the windows emulator, which has become my favorite virtual calculator, replacing Free42 and Bill Menees RPNCalc.

Fortunately I still have a WinXP laptop with a serial port.

Edited: 30 Sept 2011, 10:31 a.m.

Re: 34S suggestions

*Message #63 Posted by **Paul Dale** on 29 Sept 2011, 5:40 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> So my suggestion is to change FIX, SCI, and ENG to change the calculator back to real mode if it's in integer mode.

As a rule, we've tried to shy away from functions that do multiple things. The function does what it does and nothing more.

- Pauli

Re: 34S suggestions

*Message #64 Posted by **Dominic Richens** on 29 Sept 2011, 6:14 p.m.,*
in response to message #63 by Paul Dale

> Quote:
>
> As a rule, we've tried to shy away from functions that do multiple things. The function does what it does and nothing more.

I don't think this is one of those cases though.

If the calculator is in integer mode and the user hits FIX 4, it means they want to do H.d, FIX 4. In cases like this where it is unambiguous the calculator should automatically do the intermediate step (if there is time and memory space to do it).

Re: 34S suggestions

*Message #65 Posted by **svisvanatha** on 29 Sept 2011, 6:53 p.m.,*
in response to message #63 by Paul Dale

It seems that executing SCI ENG or FIX in Integer mode does cause that display mode to take effect once you return to DECIMAL mode. Is that how the 16C functions as well? My only other reference is the 48sx, but that accomodates reals and integers on the stack simultaneously.

I think we are missing a key :-)

*Message #66 Posted by **Norman Dziedzic** on 29 Sept 2011, 6:57 p.m.,*
in response to message #63 by Paul Dale

Hmmmmmm Description of H.d:

> Quote:
>
> Takes x as hours or degrees in the format hhhh.mmssdd and converts them into a decimal time or angle.

Says nothing about changing the display or mode.

A while back we changed FIX to switch from fraction display back to decimal display. I don't see a problem or contradiction using it to leave integer or any other base back to decimal.

Re: 34S suggestions

*Message #67 Posted by **David Hayden** on 29 Sept 2011, 10:33 p.m.,*
in response to message #1 by David Hayden

Wow, I didn't mean to start a flame war. Let me respond to some of the things said here so far.

Pauli Wrote:

> Quote:
>
> As always, there are other issues to consider:

> * Do all these five commands need to switch out of integer mode? Should they?
>
> * Is making these functions have such a side effect a good thing or not? Simple functions are almost universally better than double barreled ones.
>
> * What other side effects will happen here? One I know of is that H.MS display will be lost.
>
> Changes like this usually have subtle side effects which aren't obvious.

and

> Quote:
>
> As a rule, we've tried to shy away from functions that do multiple things. The function does what it does and nothing more.

These are very valid points. A change like this could break programs that don't expect the side effect. It would have to thought through carefully.

At the same time, I think I've found another argument for making SCI, FIX and ENG change to decimal mode: the BASE function changes the integer base *and switches to integer mode*. I think one could argue that changing the integer base is somewhat analagous to changing the decimal display format, and thus all such functions should change the mode or none of them should.

Gene's "rant" (his word) about the manual is valid to a point. Clearly the documentation isn't what a "normal" calculator user would expect, but I don't fault Pauli or Walter for that at all. In fact, I'd encourage them to continue to produce this sort of terse-but-accurate reference guide. Frankly, I'd much rather have them working on the code than on the documentation. To me, it makes sense for someone (or a group) of other people to create a more user-friendly manual. I'd hope that the development team would allow this by releasing the keyboard font, but I don't think they really need to do more than this. Again, let them concentrate on the code. By the way, I have a Microsoft Word document that contains many of the elements of the Voyager series manuals. It would make a nice jumping off point for a 34C manual.

Egan writes:

> Quote:
>
> ".d" is neither clever nor obvious. On the 16C it's "FLOAT". Given the lack of space "FP" may have worked too.

For better or worse, I believe that the keyboard is practically set in stone at this point for the simple reason that many people have already purchased and applied Eric's overlays.

Brian Walsh writes:

> Quote:
>
> [Pauli's response to the original post] wasn't just RTM, it was RTFM, which in this forum where people are hopefully trying to help each other I find unacceptable.

For what it's worth, I'd just like to say that I wasn't at all offended by Pauli's response. I'm from New Jersey where hurling insults is considered casual banter. :)

Dave

Re: 34S suggestions

*Message #68 Posted by **Paul Dale** on 29 Sept 2011, 10:54 p.m.,*
in response to message #67 by David Hayden

> Quote:
>
> For what it's worth, I'd just like to say that I wasn't at all offended by Pauli's response. I'm from New Jersey where hurling insults is considered casual banter. :)

It was Walter not me who wrote that. I rarely if ever use that abbreviation. Please attribute things correctly :-)

BASE doesn't just change to integer mode. Read the manual :-) It can also change to floating point and fractions mode. More a side effect of the way commands with arguments are implemented than anything else but that is what it does.

Further food for thought: what about WSIZE or the four sign mode commands? Shouldn't these also cause a change to integer mode if executed? What about DEG/RAD/GRAD? Should they switch to real mode? D.MY, Y.MD and M.DY? They mandate reals as input, is a mode switch here in order? The complex prefix? SIN, COS, TAN? SL, SR, RRC? I'll stop myself at this point but I'm sure there are plenty more commands that could be defined as causing a mode switch and things would be a right mess if we did so for all of them.

Finally, to clarify what seems to be a misconception or lack of knowledge of the project's history, I was originally responsible for all of the code. Walter is in charge of the layout and the manual. I wrote originally because others have joined in on the coding side of things (Marcus predominately). I do, however, agree that a more user friendly manual would be nice.

- Pauli

Re: 34S suggestions

*Message #69 Posted by **Bruce Bergman** on 30 Sept 2011, 12:13 a.m.,*
in response to message #67 by David Hayden

Don't apologize. You're just saying things everyone else is thinking. That's totally okay!

Bruce

Re: 34S suggestions

*Message #70 Posted by **Paul Dale** on 30 Sept 2011, 12:33 a.m.,*
in response to message #69 by Bruce Bergman

:-)

I agree that *H .d* isn't the most obvious way back to real mode.

I'm just not sure that FIX et al are either.

- Pauli

Re: 34S suggestions

*Message #71 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 7:27 a.m.,*
in response to message #70 by Paul Dale

H.d and H.ms have a history, they were originally conceived as counterparts: Switch to H.ms mode and back. We eventually got rid of the only half heartedly implemented H.ms mode which left H.d a bit orphaned on the keyboard.

I think it's a good idea to let ALL, FIX, SCI and ENG return the calculator to DECM mode. At least it's what I tried first until I figured out about H.d.

Pauli has explained how the coding had been done for the most time of the project: just by him. When I started digging into his work I discovered many places where I would have done things differently. In the meantime I've had the chance to implement some of my suggestions myself but not without starting a discussion among us whether my changes (mostly keyboard related) were a good idea or not. It's a matter of "Let go!" to your baby when it grows up. (The same may hold for the documentation.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c data storage

*Message #1 Posted by **Michel Beaulieu** on 29 Sept 2011, 1:26 p.m.*

Hi, i'm new to the 15C. I read the manual i receive with my new 15cLE about data storage. I am able to change the memory allocation and add, say 25 extra data storage, but when using STO 0 to 9 or .0 to .9 you can only access 20 data; how can i access the other data i allocate in memory?

I tried, like on my 41CV, STO-22, but the 15c only accept one digit for data storage; what am i missing?

Re: HP-15c data storage

*Message #2 Posted by **Dave Britten** on 29 Sept 2011, 1:38 p.m.,*
in response to message #1 by Michel Beaulieu

Indirect addressing. Store the number of the register you want to access in I (which is on the TAN key), e.g. "30 STO I". Then if you do "STO (i)" or "RCL (i)" (which is on the COS key), you'll access the register according to the number stored in I. There are also some branching and formatting tricks you can do with I.

The other option would be to dimension a matrix and have a two-dimensional array that you index with R0 and R1.

Re: HP-15c data storage

*Message #3 Posted by **M. Joury** on 29 Sept 2011, 1:40 p.m.,*
in response to message #1 by Michel Beaulieu

Use indirect addressing through the I register. For example if you have 30 registers allocated you can store 25 in I (25 STO I) and access the 25th register (26th actually since it starts at 0) via STO (i) or RCL (i).

Cheers,

-Marwan

EDIT: Dave beat me to it <g>.

Edited: 29 Sept 2011, 1:41 p.m.

Re: HP-15c data storage

*Message #4 Posted by **Michael de Estrada** on 29 Sept 2011, 1:41 p.m.,*
in response to message #1 by Michel Beaulieu

You can access storage registers 20 through 65 indirectly by placing the register number in the I register and using the command STO (i) or RCL (i). For example, to access register number 30, store 30 in register I.

Edited: 29 Sept 2011, 1:42 p.m.

Re: HP-15c data storage

*Message #5 Posted by **Mike Morrow** on 29 Sept 2011, 2:28 p.m.,*
in response to message #1 by Michel Beaulieu

There's an echo in here! :-)

Re: HP-15c data storage

*Message #6 Posted by **Martin Pinckney** on 29 Sept 2011, 4:12 p.m.,*
in response to message #5 by Mike Morrow

This happens to me a lot. All three responses were recorded between 1:38 and 1:41 PM. So the respondents, like me, apparently type so slow that by the time my message is posted, others may have beat me to it.

Re: HP-15c data storage

*Message #7 Posted by **M. Joury** on 29 Sept 2011, 5:00 p.m.,*
in response to message #6 by Martin Pinckney

Actually it was not slow typing as much as having forgotten how to change the memory allocation. I'm actually a 41/42 user more than a 15C user. Love my 15C though!

I was in the middle of my response and then thought to myself: Better make sure this works the way I think it does and I had to go to the manual to look up the memory allocation function.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE in Berlin (Germany)

*Message #1 Posted by **Frido Bohn** on 29 Sept 2011, 11:28 a.m.*

HP 15C LE in Berlin (Germany)

Finally, my copy of the HP 15C made its way to Berlin (Europe! not Texas or equivalent).
Today in the morning I went to customs to get it from there. A notice from the parcel service arrived yesterday stating that the invoice was not accessible from outside of the parcel. However, I saw that it was clearly visible and suppose hat the parcel service (DHL) was too lazy to manage customs for me.
It has been a long time since I have ordered the calc at Samson Cables (16 Sep). I spent $99.99 for the machine and $40 for the delivery. For this kind of service German customs wanted 19% sales tax, i.e. $26.60 (what I can calculate easily with the 15C now :-), interestingly the transport costs were added to the costs of the item itself (luckily no additional fees for items below EURO 150).
This makes a total sum of $139.19 for the HP 15C LE getting from the Americas to my home.

Regards
Frido

Re: HP 15C LE in Berlin (Germany)

*Message #2 Posted by **Thomas Radtke** on 29 Sept 2011, 12:09 p.m.,*
in response to message #1 by Frido Bohn

Hallo Frido,

taxes include shipping from US to Europe, but not transport to the customs! If you file an objection, you'll get some money back (look up this matter on TSS).

Thomas

P.S.: I consider my parcel lost. It's not trackable on the DHL site and last USPS status update is from 9/16. Sent by SC as a 'letter'. Consider youself lucky, Frido ;-(.

Re: HP 15C LE in Berlin (Germany)

*Message #3 Posted by **Ángel Martin** on 30 Sept 2011, 8:11 a.m.,*
in response to message #2 by Thomas Radtke

Afraid mine is also MIA - same situation as yours. :-(

I was hopping it was hostage at customs but I've given up the idea - simply too much time has passed now.

Re: HP 15C LE in Berlin (Germany)

*Message #4 Posted by **Thomas Radtke** on 30 Sept 2011, 11:36 a.m.,*
in response to message #3 by Ángel Martin

I don't know how serious such reports are, but USPS is quite well known for lost packages in Germany. Never had any problems receiving something from Singapore or China, but then, quite some parcels successfully arrived from the US. All in all this is the 2nd lost parcel in my whole life - and the most expensive. Darn.

As an interesting note, USPS cannot be easily contacted by email as a non residential customer. I chose deliberately a wrong option to get at least heard, but aren't sure they will respond. Will wait for another week and then try my limited english knowlegde on the phone, but probably just to make a complete fool out of me. Oh well...

Re: HP 15C LE in Berlin (Germany)

*Message #5 Posted by **Michael de Estrada** on 30 Sept 2011, 12:19 p.m.,*
in response to message #4 by Thomas Radtke

Thomas,

I have never shipped to Germany, but I did ship once to Italy via USPS priority mail, and it took almost a full month to arrive. By contrast, I recently shipped the same way to Singapore, and it only took 6 days. Also, I always buy insurance so that a claim can be filed if the parcel is lost. Did SC buy insurance ? If so, I would contact them and let them make the claim for you.

Michael

Re: HP 15C LE in Berlin (Germany)

*Message #6 Posted by **Thomas Radtke** on 30 Sept 2011, 1:44 p.m.,*
in response to message #5 by Michael de Estrada

Michael,

it's not isured. When I preordered, I had no other choice than Priority Mail, so I wonder how others did the trick to get the express service, which is apparently insured. But then, I don't know if I had chosen it, for $18 I paid was quite a good deal as it seemd ;-(.

I drew my conclusions about the parcel being lost from the last sign of life from the US west coast, sorting station, on 9/16. I'd rather expected it to get to the east coast. Second, it was declared as 'letter', which is what I don't understand, and third, we've had lots of reports of successful deliveries to Germany (also Priority Mail, some after one week), and just one other person is also waiting for it.

Maybe it got homesick and took the next junk across the Pacific to China, don't know.

Thomas

Re: HP 15C LE in Berlin (Germany)

*Message #7 Posted by **Alexander Oestert** on 30 Sept 2011, 2:18 p.m.,*
in response to message #6 by Thomas Radtke

Don't worry - yet. If for some reason it was send as a letter, which your tracking number indicates, there is no tracking available beyond the US border. A letter takes considerably longer to deliver, I had one seemingly lost for six weeks before I finally got it from the Deutsche Post letterwoman - not the DHL truck. Mine came also via West coast, as a parcel. 'Letter' may have the bonus of skipping the customs inspection... ;) So, keep your fingers

crossed for a little longer!

Edited: 30 Sept 2011, 2:19 p.m.

Re: HP 15C LE in Berlin (Germany)

*Message #8 Posted by **Thomas Radtke** on 30 Sept 2011, 2:27 p.m.,*
in response to message #7 by Alexander Oestert

Thanks for bolstering! :-)

Re: HP 15C LE in Berlin (Germany)

*Message #9 Posted by **Michael de Estrada** on 30 Sept 2011, 2:26 p.m.,*
in response to message #6 by Thomas Radtke

Thomas,

Insurance is an available option for a USPS Priority Mail Medium Flat Rate Box, and the cost to Germany would be $50 USD including insurance for $200 USD. It sounds like it was never actually shipped as it could not possibly be a letter or cost only $18. SC has made mistakes with other orders, such as shipping only one unit when two were ordered and showing two on the invoice and customs form. If you bought from SC, I would demand a refund and buy from someone else.

Michael

Re: HP 15C LE in Berlin (Germany)

*Message #10 Posted by **Thomas Radtke** on 1 Oct 2011, 4:52 a.m.,*
in response to message #9 by Michael de Estrada

If it was rejected by USPS, it would show up on their status page, right? Could be as well that the tracking number SC gave me doesn't belong to my order.

Of course, I contacted SC and Chris ensured me it would arrive. We'll see.

Re: HP 15C LE in Berlin (Germany)

*Message #11 Posted by **Alexander Oestert** on 30 Sept 2011, 2:09 p.m.,*
in response to message #6 by Thomas Radtke

Don't worry - yet! If for some reason it was send as a letter than there is no tracking available beyond the US border. Letters take considerably longer to deliver - I had one seemingly lost for over six weeks before it was delivered by the letterman of Deutsche Post (a letterwoman in my case) and not by DHL's truck. This can have the bonus that it will skip customs inspection... ;)

Re: HP 15C LE in Berlin (Germany)

*Message #12 Posted by **Michael de Estrada** on 30 Sept 2011, 6:35 p.m.,*
in response to message #11 by Alexander Oestert

I don't undertand how a parcel that size can be sent as a "letter." A padded envelope is not considered a letter, but is classified as a parcel, just the same as if it had been packaged in a rigid box. The $18 fee seems low considering the size and weight of the

package. Anyway, I hope I'm wrong on this and Thomas receives his calculator, but it doesn't sound right to me.

Re: HP 15C LE in Berlin (Germany)

*Message #13 Posted by **Andreas Haack** on 29 Sept 2011, 12:17 p.m.,*
in response to message #1 by Frido Bohn

Hi Frido,

at which custom office (Kufsteiner Str.?) you pick up your 15c? How long you had to wait?

Andreas

Re: HP 15C LE in Berlin (Germany)

*Message #14 Posted by **Joerg Woerner** on 29 Sept 2011, 12:51 p.m.,*
in response to message #1 by Frido Bohn

I knew it!!!

My TI-30 with AOS:

$99.99 + $40.00 + $26.60 = $166.59

Your HP 15c returned according to your email:

$139.19

Want a spare TI-30???

Viele Gruesse aus Rochester,

Joerg

Re: HP 15C LE in Berlin (Germany)

*Message #15 Posted by **Frank Rottgardt** on 29 Sept 2011, 1:31 p.m.,*
in response to message #1 by Frido Bohn

Hello,

my 15c (also from SC) for 99 USD + 24+8 USD shiping + 46 USD swedish tax + handling fee, makes 178 USD in total.

So your baby was a real bargain.

Glueckwunsch, billig geschosen!

Greetings from Sweden

Re: HP 15C LE in Berlin (Germany)

*Message #16 Posted by **Frido Bohn** on 29 Sept 2011, 5:22 p.m.,*
in response to message #1 by Frido Bohn

To Thomas:

> Quote:
>
> taxes include shipping from US to Europe, but not transport to the customs! If you file an objection, you'll get some money back (look up this matter on TSS).

According to this site, taxes are accounted to price of item + transport + fees. Anyway, it would make a difference of +/- 5 Euros, and I think is it not worth the time you spend to get some bucks back.

Too bad that your 15C apparently got lost. Maybe you receive it on Christmas then ;-)

To Andreas:

> Quote:
>
> at which custom office (Kufsteiner Str.?) you pick up your 15c? How long you had to wait?

Yes ,it was there and it took about 2 hours to get my parcel :-(

To Joerg:

> Quote:
>
> Your HP 15c returned according to your email:
> $139.19

Well, you are completely right: it should have been $166.59.
I re-calculated this with the fingers of my 4-years old and got the correct answer :-)

To Frank:

> Quote:
>
> my 15c (also from SC) for 99 USD + 24+8 USD shiping + 46 USD swedish tax + handling fee, makes 178 USD in total.

Sweden is (in)famous for its taxes, isn't it? There is how you delivered a good example. Wasn't it Astrid Lindgren who claimed in the 1970ies to pay income taxes of about 103%?
Well, at least the transportation company seemed to be merciful with you as it was not as costly as for Germany. Or could it be that Sweden is closer to the States? ;-)

Regards
Frido

Re: HP 15C LE in Berlin (Germany)

*Message #17 Posted by **Andreas Haack** on 29 Sept 2011, 6:14 p.m.,*
in response to message #16 by Frido Bohn

Hi Frido,

I was also today there and picked up my 15c with the nice LE number of 00142. I had to wait only for round about 90 minutes to pay my Taxes.

Andreas

Re: HP 15C LE in Berlin (Germany)

*Message #18 Posted by **bill platt** on 30 Sept 2011, 12:30 a.m.,*
in response to message #17 by Andreas Haack

From time to time I hear these stories and find them quite baffling.

Re: HP 15C LE in Berlin (Germany)

*Message #19 Posted by **Jeroen Van Nieuwenhove** on 29 Sept 2011, 6:43 p.m.,*
in response to message #16 by Frido Bohn

This waiting time at the local customs office really baffles me. In Belgium, where I live, I can pay the VAT charged by the customs office directly to the postman or at the post office (when I am not at home when the postman tried to deliver the package). I only had to pay 10 euros, quite reasonable for a sale price of $99.99.
I have had my personal experiences (back when I was studying in Germany) with the stubborness of German administration, but this is really outreageous. Does this mean that for every purchase of goods in the US (e.g. books through amazon.com), you have to go through this ordeal?
OTOH, Andreas, your LE number of 142 more than makes up for this. Mine is 726 ;-)

Edited: 29 Sept 2011, 6:54 p.m.

Re: HP 15C LE in Berlin (Germany)

*Message #20 Posted by **Frido Bohn** on 30 Sept 2011, 4:07 a.m.,*
in response to message #19 by Jeroen Van Nieuwenhove

> Quote:
>
> Does this mean that for every purchase of goods in the US (e.g. books through amazon.com), you have to go through this ordeal?

For books and CDs I ordered from the U.S. the intervention of customs was not perceptible. May be, because you won't have to pay taxes for items below 22 Euros.
Years ago, I purchased a multimeter from the U.S. (value ~$200) and customs was managed by the transportation company. The argument of the company sending the HP 15C LE was that the invoice was not attached outside the parcel. As they were not allowed to open the parcel to search for an invoice they had no idea which taxed should be raised and therefore I had to pick up my parcel

personally. However, I could not follow that argument as there was a receipt form in which the price of the item was listed. Possibly, the parcel service (UPS + DHL) not willing to manage customs and refused to demand the taxes afterwards.

Other question in this general context: are there any signs that HP will distribute HP 15C LE to Europe?

BTW: my copy has LEN no. 01587, so there is room for 99999 calcs?

Re: HP 15C LE in Berlin (Germany)

*Message #21 Posted by **Jeff O.** on 30 Sept 2011, 8:23 a.m.,*
in response to message #20 by Frido Bohn

Actually there is room for 100000, as Cyrille reports that he has LE no. 00000.

Re: HP 15C LE in Berlin (Germany)

*Message #22 Posted by **Klaas (NL)** on 1 Oct 2011, 11:06 a.m.,*
in response to message #20 by Frido Bohn

> Quote:
>
> Other question in this general context: are there any signs that HP will distribute HP 15C LE to Europe?
>
> Quote:
>
> I'm likely to buy one or maybe two more if/when European sales finally start (November?) - but I wonder if they'll be much cheaper?

Yes, they will be available in Europe from january most probably, at SRP of €129.99. In case you need more information, send me a quick email. :)

Re: HP 15C LE in Berlin (Germany)

*Message #23 Posted by **Roger Blake** on 1 Oct 2011, 11:53 a.m.,*
in response to message #22 by Klaas (NL)

130 Euros - that is pretty steep - is that before or after VAT. I paid an absolute fortune to ship two from Samson by express UPS, but even so it was not so much more than that ! (It was less without the customs at this end)

130 Euros is $174 (Sorry I have no idea how to get a Euro symbol !)

Re: HP 15C LE in Berlin (Germany)

*Message #24 Posted by **Michael de Estrada** on 1 Oct 2011, 11:57 a.m.,*
in response to message #23 by Roger Blake

Using your numeric keypad with NumLk on, hold Alt and type 0128 €

Re: HP 15C LE in Berlin (Germany)

*Message #25 Posted by **Dieter** on 1 Oct 2011, 12:56 p.m.,*
in response to message #23 by Roger Blake

If you are using a standard UK keyboard simply try [AltGr] + [4].
Otherwise EUR, GBP and USD are fine as well. ;-)

Regarding prices: I do not know anything about the situation in other countries, but at least here in Germany all pricing information that addresses regular consumers has to include VAT. From what you write I see that even 129 Euros would be slightly less than the price you finally paid for your own US-import. Doesn't sound all too bad to me. ;-) IMHO the major problem is time: three more months... #-\

Dieter

Re: HP 15C LE in Berlin (Germany)

*Message #26 Posted by **Roger Blake** on 1 Oct 2011, 8:04 p.m.,*
in response to message #25 by Dieter

Thanks - the [AltGr]+[4} worked.

>>Doesn't sound all too bad to me. ;-)

But considering HP's shipping costs from China to Europe will be similar to those to the USA, before VAT is considered, we're being asked to pay about $145 against $99 in the USA. 'fraid I consider that a rip-off for European customers if that suggested price turns out to be correct :-(

Edited: 1 Oct 2011, 8:07 p.m.

Re: HP 15C LE in Berlin (Germany)

*Message #27 Posted by **Thomas Radtke** on 2 Oct 2011, 2:28 a.m.,*
in response to message #26 by Roger Blake

> Quote:
>
> But considering HP's shipping costs from China to Europe will be similar to those to the USA [...]

Is it a known fact that HP calculators for the european market are coming straight from China, not from the US? There's probably no european stock for this small market, but I have no clue about this.

For a LE calculator, I'd understand a different price. For each a couple of hundert calcs a translation of the manual into spanish, french, italian, german, BE(?) *g* and so on has to be made, adding to the costs.

Re: HP 15C LE in Berlin (Germany)

*Message #28 Posted by **Roger Blake** on 2 Oct 2011, 6:38 a.m.,*
in response to message #27 by Thomas Radtke

>>There's probably no european stock for this small market.

Huh ! The market's twice as big as the USA ! And HP will be shipping other stuff to Europe anyway, so will hardly be specially routing the HP15C/LE to the States and back !

And the manuals have already been translated apart from a few minor changes.

Edited: 2 Oct 2011, 6:43 a.m.

Re: HP 15C LE in Berlin (Germany)

*Message #29 Posted by **Thomas Radtke** on 2 Oct 2011, 6:52 a.m.,*
in response to message #28 by Roger Blake

> Quote:
>
> >>There's probably no european stock for this small market.
>
> Huh ! The market's twice as big as the USA !

'Market' doesn't just mean the number of citizens, but the number of potential customers. This (germany) is Casio/TI land, and I suspect it's no different in other european countries.

> Quote:
>
> And the manuals have already been translated apart from a few minor changes.

If you have no translation memory system-and all chaos I see in HPs documentation work indicates this-everything has to be done from scratch. From my own experience, a professional translation of one of the manuals is likely around $3000 - $5000. From the 10,000 15C LE, given most of them (to be) sold in the USA, how much do you think will go to any of the other countries? Cannot be more than a few hundred each. Put localization costs and support documentation on every calculator sold outside the US and you likely end up with the any reasonable price HP could take below self costs.

Re: HP 15C LE in Berlin (Germany)

*Message #30 Posted by **Roger Blake** on 2 Oct 2011, 8:35 a.m.,*
in response to message #29 by Thomas Radtke

Hmmm - perhaps I should concede this ! I just found this table attempting to prove my point, but unfortunately it doesn't ! :-(

http://hp15c.org/Countries.php

I must admit to being surprised at the low number of requests from the UK - 500 by 361 people, but greater surprise at differences in the number requested per person:

China 164.4/ea (are these web retailers I wonder ?) Australia: 48.0/ea UK: 1.4/ea USA 2.5/ea Angola 500/ea !!!! (2 individuals)

Australian total is about 80% American total ! I guess HP might have been a bit dubious about some of these figures !

And maybe you're right - taking UK requests these should have been at least 10x higher based solely on population numbers, although I would have originally thought HP would be just as popular (or not) over here as in USA.

Trouble is we have no way of knowing how much these figures have been skewed by large reseller requests, or even daft mistakes.

Edited: 2 Oct 2011, 9:20 a.m.

Re: HP 15C LE in Berlin (Germany)

*Message #31 Posted by **Dusan Zivkovic** on 2 Oct 2011, 5:08 p.m.,*
in response to message #30 by Roger Blake

361-500 for the UK. Not a surprise for me. I've recently had my 12C recognised at work for the first time in 3 years... By an American boss. And I happen to work for a leading investment bank in the UK. I can't even use my HP calcs to improve my arch-geek status at work - a contraption like 15C LE on my desk would easily go unnoticed. "An old calculator, big deal." And I am not talking about shiny happy young bank employees who wouldn't recognise a PlayStation 2 if they saw it, as it was "before their time". I am talking about a large team of diverse 40-to-50-somethings from the UK and the rest of the world, seasoned IT and financial professionals, who should at least be able to tell a 12C. Nope. So it goes. UK, probably not a good place for retro HP calc stuff.

Re: HP 15C LE in Berlin (Germany)

*Message #32 Posted by **Dieter** on 2 Oct 2011, 10:01 a.m.,*
in response to message #29 by Thomas Radtke

Are you sure there will be localized versions, i.e. containing a printed non-English manual? As of today I only know there will be a different item number for the European 15C LE, but the item itself will be the same - including the handbook. At least that's what I understand from previous posts. Looking at my "German" 35s manual I even think that's a good idea. ;-)

On the other hand there are EU regulations requiring a manual in the language of the country where the item is sold. So I assume there will be at least something like a localized quick reference guide.

Maybe "someone in the know" can shed a bit of light on this ?-)

Dieter

Re: HP 15C LE in Berlin (Germany)

*Message #33 Posted by **Thomas Radtke** on 2 Oct 2011, 11:44 a.m.,*
in response to message #32 by Dieter

> Quote:
>
> On the other hand there are EU regulations requiring a manual in the language of the country where the item is sold.

Exactly. In Germany, this regulation is reflected by the new 'Produktsicherheitsgesetz'. Ignore it and you're in for a fine of up to 100,000 EUR. Aren't we nice? ;-).

I was also thinking about call centers, placement on the Website and so on. A lot of things have to be done to bring a product to a specific country. Usually it wouldn't pay for just a few calculators imo.

Edited: 2 Oct 2011, 11:45 a.m.

Re: HP 15C LE in Berlin (Germany)

*Message #34 Posted by **Jeroen Van Nieuwenhove** on 3 Oct 2011, 3:09 p.m.,*
in response to message #29 by Thomas Radtke

> Quote:
>
> Put localization costs and support documentation on every calculator sold outside the US and you likely end up with the any reasonable price HP could take below self costs.

I agree. For instance, the HP 35s manual exists in Dutch, which perhaps explains why I paid 78.95 euros for it in a local retail store. The quality of the translation is reasonable.

Re: HP 15C LE in Berlin (Germany)

*Message #35 Posted by **Frank Rottgardt** on 30 Sept 2011, 3:50 a.m.,*
in response to message #16 by Frido Bohn

Transport via US Postal Service Priority Mail 24 USD plus 8 USD box upgrade.

The tax in Sweden is high if you are wealthy. The direct income tax depends on where you live, use to be around 33%. The sales tax is 25%. But the income tax increases once you pass a certain income limit. I don´t belong to this group :-(

Astrid Lindgren was then. I don´t think a tax of >100% is possible anymore. But this fine old lady will be put on new banknotes as a kind of compensation.

Re: HP 15C LE in Berlin (Germany)

*Message #36 Posted by **Borja** on 30 Sept 2011, 5:44 a.m.,*
in response to message #35 by Frank Rottgardt

Spain:

I preordered on July from Samson for $94.99.

In Spain you have to pay VAT, a couple of small fees (1 euro each or so) and 21 euro to have the paperwork done for you. The Spanish Post service, Correos, has really done an effort to do it better, and, even though they delayed processing for a week, I just had to answer a couple of emails sending a copy of the bill, accept a pro forma invoice and do send a bank transfer.

Total:

$94.99 + $40 shipping = $134.99

in euros, that's 99.

To that I have to add 18% VAT, 3.2% customs tariff -> 120 euros

And, the charge for the custom processing service, which is 21.80 (subject to VAT) -> 25.70

Total: 145 euro.

Seems the European Union has taken a hard stance on overseas purchases. I understand, of course, but the cost is rather hefty. Fortunately, at least in Spain I don't need to visit the customs.

Re: HP 15C LE in Berlin (Germany)

*Message #37 Posted by **Derek Walker (UK)** on 30 Sept 2011, 7:35 a.m.,*
in response to message #36 by Borja

I ordered from Samson at $99.99 + $40 for USPS tracked shipping. At this end, VAT was GBP15.97, and customs handling fee GBP13.50, so my total was just over GBP120, about $185. At least collection and customs payment at our local parcel depot only took a few minutes.

And all well worth it to finally have a new 15C in my hands after years of coveting one.

I'm likely to buy one or maybe two more if/when European sales finally start (November?) - but I wonder if they'll be much cheaper?

Re: HP 15C LE in Berlin (Germany)

*Message #38 Posted by **Dusan Zivkovic** on 30 Sept 2011, 8:41 a.m.,*
in response to message #37 by Derek Walker (UK)

When the good old British middle man goes in, I doubt we'll see 15C (LE or otherwise) for less than Â£200 online, if indeed it ever arrives to these shores. My 15C LE (00927, keyboard 1:0), which I ordered from SC some two weeks ago (thanks, SC!) arrived yesterday, after I paid online the VAT and a mysterious handling fee to Parcel Force, a fee which my wife eloquently described as "a small fee for providing the fee collection service". Then again, who am I to complain about the proverbial middle man and his mysterious fees? Without the middle man culture and abundance of such jobs in the UK, I wouldn't be here, let alone be able to afford to buy a totally unnecessary but oh-so-desired 15C :)

Re: HP 15C LE in Berlin (Germany)

*Message #39 Posted by **Bart (UK)** on 30 Sept 2011, 9:07 a.m.,*
in response to message #38 by Dusan Zivkovic

Quote:

> a mysterious handling fee to Parcel Force

The fee is for the priveledge of them taking your tax money and passing it onto HMRC. Royal Mail do the same.

Re: HP 15C LE in Berlin (Germany)

*Message #40 Posted by **Bart (UK)** on 30 Sept 2011, 9:02 a.m.,*
in response to message #37 by Derek Walker (UK)

> Quote:
>
> and customs handling fee GBP13.50

Interesting, Parcelforce charged me the standard GBP8.00

Re: HP 15C LE in Berlin (Germany)

*Message #41 Posted by **Derek Walker (UK)** on 30 Sept 2011, 9:58 a.m.,*
in response to message #40 by Bart (UK)

That's curious. It seems to be a flat fee, as I paid the same last year on a parcel of slide rules from Canada with a value of C$294, and the VAT then was GBP37.49.

Re: HP 15C LE in Berlin (Germany)

*Message #42 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 7:50 a.m.,*
in response to message #36 by Borja

The handling fee is astounding. Here in Germany you just pay for the VAT.

Re: HP 15C LE in Wehrheim (Germany)

*Message #43 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 7:49 a.m.,*
in response to message #1 by Frido Bohn

Same here (Wehrheim). I got the exact same message about the missing customs declaration on the front of the box (not a bubble envelope) and I payed the same taxes. All in, the calculator cost me around 120€.

The customs pickup is in Oberursel. I've been there for numerous occasions. From time to time, a package arrives without any duties or the customs are handled by the Deutsche Post. It seems to depend more on the weather than on anything else I can imagine.

Edit: Typo in title.

Edited: 30 Sept 2011, 9:04 a.m.

Re: HP 15C LE in Berlin (Germany)

*Message #44 Posted by **Bart (UK)** on 30 Sept 2011, 9:00 a.m.,*
in response to message #1 by Frido Bohn

> Quote:

> interestingly the transport costs were added to the costs of the item itself

Yes, here in the UK the Revenue services state that the value of the item(s) alone is used to determine if VAT payment is required (no VAT only if <£18), if it is then the transport costs are included in the calculation.

Re: HP 15C LE in Berlin (Germany)

*Message #45 Posted by **Bart (UK)** on 30 Sept 2011, 9:58 a.m.,*
in response to message #1 by Frido Bohn

Mine are in the UK! Received a notice from the local Parcelforce office. Nice printed notice detailing what I have to pay - exactly as I had calculated: 20% VAT on price + shipping, and an 8 pound "clearance fee" (AKA: what we charge you for taking your tax money and sending it to HMRC).

Re: HP 15C LE in Berlin (Germany)

*Message #46 Posted by **Bart (UK)** on 1 Oct 2011, 3:58 a.m.,*
in response to message #45 by Bart (UK)

Well, I have them now! a 15C LE # 01225 and 12C AE # 07362
Samson Cable price $99.99 each (ordered on 01 Sept '11), $35.00 combined shipping.

Charged to card = GBP 153.50 (includes bank fees) + GBP 36.51 (VAT + handling fees) = GBP 190.01 or GBP 95.005 each (I'll take a hacksaw to that penny ;-)).

I could have paid Parcelforce on the internet and they would have delivered, however I was impatient and went to get it in person. Took all of 5 mins at the depot to pay and collect.

For those interested, this is the import tax invoice from ParcelForce.

Edited: 1 Oct 2011, 4:27 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Choosing an HP-48

*Message #1 Posted by **E.Lub_EU** on 29 Sept 2011, 9:52 a.m.*

Hello all,

I am looking for a not-collectible, not pristine HP-48, as a "discovery machine" for this generation of calculators. [Is RPL *that evil*? :-)].

I looked on this site for a comparison table between S(x) and G(x) series, but as you know, the 48S are the last covered. (Nice tool anyway, thanks David)

The Gs are naturally more expensive, and I wonder if you could share your experiences with either/both series.

In no particular order, here are some basic interrogations

- is one series sturdier than the other? (they seem difficult to open/refurbish/repair)
- are 32k RAM useable, or should I target a 128k machine (SX+extRAM or G+ or GX), or should I expect to need even more?
- are -X versions that useful, since cards seem extinct?
- are the S- "fast enough", given the "typical" problem you throw at them?

I realize that for most of these, the short answer is "it depends"... I would appreciate personnal experience / typical cases reports, as I can't really relate the technical specifications to any real world experience.

Thanks for your help!

Etienne (Still waiting for bits & pieces to set up my WP34S "flashing station")

Re: Choosing an HP-48

*Message #2 Posted by **Cristian Arezzini** on 29 Sept 2011, 10:14 a.m.,*
in response to message #1 by E.Lub_EU

Hi Etienne, I'm going to try to answer your question - all is strictly "in my humble opinion" of course! :)

> Quote:
>
> I am looking for a not-collectible, not pristine HP-48, as a "discovery machine" for this generation of calculators. [Is RPL *that evil*? :-)].

I think they're great machines. I have never shared the "negative feelings" about the 48 series' complexity or unfriendliness, and I've always loved RPL - to the point that I just "put up" with RPN because I can't get RPL on a smaller machine! ;)

> Quote:
>
> The Gs are naturally more expensive, and I wonder if you could share your experiences with

> either/both series.

If you find a well-used one (see my recent post) the price difference isn't much. It all depends on the condition and on the seller's choices, but a good GX can be had for less than many sellers ask for a S/SX.

> Quote:
>
> - is one series sturdier than the other? (they seem difficult to open/refurbish/repair)

They *are* very difficult to open. It can be done, and I've done it several times, but especially the first time it's difficult to end up with a machine that looks (and especially feels) like new. And it's time consuming. Apart from that, as far as I can tell the build quality is exactly the same (though the later Gs, made in Indonesia, have painted keys instead of molded).

> Quote:
>
> - are 32k RAM useable, or should I target a 128k machine (SX+extRAM or G+ or GX), or should I expect to need even more?

32KB are not much. I started out with a G, and I found myself constantly moving things between the computer and the calculator. And most downloadable libraries (i.e. the wonderful speedui) simply *need* 128KB. So I'd say go for a GX, even though you'll probably never use the cards. If you buy a G, it's rather easy to replace its memory chip with a 128KB chip, turning it into a GX without the expansion ports, but again, you'd have to open it and you have to be good with a soldering iron.

> Quote:
>
> - are the S- "fast enough", given the "typical" problem you throw at them?

I honestly find the S series too slow. Not just in programs or complex calculations: all the UI is much much slower and unresponsive. And the G/GX also have added features and commands. I'd say, if you're not going to collect but use it, go for the G series.

So all in all, I'd just find a good, non-pristine GX or an expanded G if you can find it. Hope that helps, Cristian

Re: Choosing an HP-48

*Message #3 Posted by **aj04062** on 29 Sept 2011, 12:38 p.m.,*
in response to message #2 by Cristian Arezzini

With the right tools and technique I don't think these are hard to open.

I've repaired about 20 bad keyboard contact S, SX, G & GX's over the years. For sure the first one or two were butchered but after that I can barely tell they were opened.

Re: Choosing an HP-48

*Message #4 Posted by **Cristian Arezzini** on 29 Sept 2011, 12:47 p.m.,*
in response to message #3 by aj04062

I know, I too have done that, but the point is exactly that the first couple don't look that good after the procedure. And I don't think the OP wants to sacrifice a few 48's, he just wants to buy one and he would like to know which one... :)

Cristian

Re: Choosing an HP-48

*Message #5 Posted by **Lyuka** on 29 Sept 2011, 2:51 p.m.,*
in response to message #4 by Cristian Arezzini

Hi,

I happen to have repaired an HP-48G, which has intermittent key problem, yesterday.
It took half an hour to open the case, and another half an hour to fix the contacts and to replace a RAM and an electrolytic capacitor.

Though I have a 50g which have much RAM, I rather prefer 48G's look and feel.
However, 32KB of RAM of the 48G is too small to install some libraries, so I replaced the RAM with a 128KB chip.

Lyuka

Edited: 29 Sept 2011, 2:57 p.m.

Re: Choosing an HP-48

*Message #6 Posted by **allen** on 29 Sept 2011, 6:01 p.m.,*
in response to message #2 by Cristian Arezzini

> Quote:
>
> If you buy a G, it's rather easy to replace its memory chip with a 128KB chip, turning it into a GX without the expansion ports, but again, you'd have to open it and you have to be good with a soldering iron.

Have you considered the "HP48G+" it has 128K ram but no card slots. I have found that to be a good mix. For some extra money you could get a 48GX and 128KB ram card and Merge Page 0 with main memory. That works nicely too once you have all the libraries configured the way you want.

Re: Choosing an HP-48

*Message #7 Posted by **Dave Britten** on 29 Sept 2011, 10:18 a.m.,*
in response to message #1 by E.Lub_EU

Of the units I own, I find that the SX feels sturdier than the G or GX. Either way, it's almost impossible to open one without causing significant cosmetic damage (and possibly functional damage as well).

You can get by with 32 KB, but it's awfully tight if you plan to do any substantial programming, and you can forget about installing any large libraries. Even adding just a 32 KB card to an SX is a huge improvement. A GX with an extra 128 KB card is more than enough if you don't plan to run the heavy-weights like Alg, Erable, Metakernel, etc.

For the SX, the only difference over the S is the addition of the card slots. If you never want to track down cards, then it won't make a difference. For the GX, you get card slots plus 128 KB internal RAM vs 32 KB in the G, but the GX is just a hair slower than the G because it has to do more bank-switching to accommodate the extra RAM. You can still find secondhand RAM cards, but they rarely come cheap.

If you're doing just typical calculation, the S/SX is fine in terms of speed. It's visibly sluggish, mostly in the areas of display updating, but it makes excellent use of a keyboard buffer, so you don't need to be concerned with typing "too fast" for the machine. You can type ahead, and it will wait to update the display until it's finished working. I keep one on my desk for day-to-day use, and have no issues with it. Honestly, the G and GX are still fairly pokey as well.

Also worth mentioning is that there is a library for the S/SX called simply "GX" which adds a lot of the new functions from the GX (mostly list-based stuff). It's just under 2.5 KB.

Re: Choosing an HP-48

*Message #8 Posted by **Dave Britten** on 29 Sept 2011, 10:48 a.m.,*
in response to message #7 by Dave Britten

Oh, one important thing I forgot to mention about the G/GX, if you choose to get one:

NEVER, EVER TURN OFF LAST ARG.

Whoever designed the keyboard layout was apparently hopped up on cold medicines on the day that they decided where to put PURGE. It was moved to a key adjacent to EDIT, and both are left-shifted functions. It's very, very easy to accidentally delete a program/whatever that you intended to edit. Fortunately, if LAST ARG is enabled, you can *immediately* press ARG, STO to undelete.

On an S/SX, this isn't an issue, since VISIT is right-shifted, and PURGE is left-shifted, plus they are two keys away.

Re: Choosing an HP-48

*Message #9 Posted by **Peter Murphy (Livermore)** on 29 Sept 2011, 2:00 p.m.,*
in response to message #8 by Dave Britten

If I wanted to turn off LASTARG, how would I do that?

How could I check whether LASTARG was turned on or not?

And, for someone using a 48G for exploration (as the OP intends), where is all that information accessible?

Thanks.

Re: Choosing an HP-48

*Message #10 Posted by **Dave Britten** on 29 Sept 2011, 2:27 p.m.,*
in response to message #9 by Peter Murphy (Livermore)

It should be on by default, I think. If LAST ARG is enabled, flag -55 will be cleared. You can also press right-shift MODES, FLAG and scroll to 55. Make sure there's no check mark next to it. There are a bunch of other options in there you can change, too.

Re: Choosing an HP-48

*Message #11 Posted by **Dominic Richens** on 29 Sept 2011, 10:47 a.m.,*
in response to message #1 by E.Lub_EU

I have a real HP-48SX at my desk, where it stays. I find it plenty fast enough for what I use it, but I agree, for plotting and solving, it's reeeaaaally slow.

I have installed Emu48, which allows you to load either SX or GX - I have in the past used the Emu48GX for its TVM solver - which is nearly instant even when running in slow mode.

I would suggest you install Emu48 and compare the two, from a speed and functionality point of view, to decided it you want to spend the extra on the GX.

Re: Choosing an HP-48

*Message #12 Posted by **Pal G.** on 29 Sept 2011, 11:37 a.m.,*
in response to message #1 by E.Lub_EU

> Quote:
>
> The Gs are naturally more expensive, and I wonder if you could share your experiences with either/both series.

Yesterday, on craigslist, I saw a 48G in Santa Fe, NM, for $30! Posting was Sept 9.

Also, a few of my own observations (I own an SX and (2) Gs):

- The display on the G is lightyears better than the SX.
- The G is a bit faster than the GX.
- I cannot tell a difference in build quality between any of the above.
- The SX is very slow. Don't waste your time, literally.
- I bought both of my Gs for under $35 each.

HTH

Edited: 29 Sept 2011, 12:55 p.m. after one or more responses were posted

Re: Choosing an HP-48

*Message #13 Posted by **Dave Britten** on 29 Sept 2011, 12:29 p.m.,*
in response to message #12 by Pal G.

I would agree that the GX display contrast is generally better than the SX, but the SX has one advantage. Something about the design of the GX LCD causes the darkened pixels to cast shadows on the screen itself. You don't see this when viewing straight-on, but if you're at a shallow angle (such as with the calculator resting on a desk), you'll see a double-image that makes it very difficult to read. The SX has a definite advantage in readability in this regard.

You also don't see this shadowing effect on the 28C and 28S, but those two are excruciatingly slow, and in the case of the 28C, laughably ill-equipped with memory.

Re: Choosing an HP-48

*Message #14 Posted by **Mike Morrow** on 29 Sept 2011, 1:25 p.m.,*
in response to message #12 by Pal G.

> Quote:
>
> - The display on the G is lightyears better than the SX.

That's true only if you have one of the last 48G-series models ever made...the black display versions. Most 48G-series and all 48S-series have the poorest quality LCDs that *anyone* ever put on a calculator.

I have one HP 48SX and two HP 48GX units, all with various HP memory expansion cards installed, all purchased by me at retail cost and used for years. I was very happy to dump these dogs to basement storage when I got the HP 49G+, followed by the HP 50G. The **only** positive attribute of the 48S/G-series is the keyboard...and that's certainly not enough to make them worthwhile unless one can get them very very cheap, and can tolerate the many faults and limitations which were corrected with the HP 50G.

Re: Choosing an HP-48

*Message #15 Posted by **David Persinger (US)** on 29 Sept 2011, 1:33 p.m.,*
in response to message #1 by E.Lub_EU

Check the saginaw Michigan craigslist site for an SX for $10.

Re: Choosing an HP-48

*Message #16 Posted by **megarat** on 29 Sept 2011, 2:39 p.m.,*
in response to message #1 by E.Lub_EU

I'll add my own US$0.02:

-- 32k is really tight. I highly recommend getting more memory than this, just for the sake of trying out programs that require more memory.

-- Of all the 48-series models, my preference is the 48SX. In part these are for superficial reasons, e.g., I prefer the color scheme and the domestic build quality. Add me to the list: I believe the S-series feels more solid (although not in a way that is easy to qualify) than any of the G-series units I've owned.

-- Yes, the S-series is slow, although I this is mostly an issue with display-intensive operations (equation editor, matrix writer, plotting). For regular calculations and short programs, I'm content with the SX's speed (these are 20-year-old calculating devices, after all).

-- IMHO, the displays between the S-series and the G-series aren't that different, except the later G-series units that have the black LCD, which are very nice. (The units with these displays, alas, are in the minority.)

-- One difference that I haven't seen mentioned yet: battery life. The 3xAAA cells in an S-series calculator will last several times longer than those in a G-series calculator.

Re: Choosing an HP-48

*Message #17 Posted by **Martin Pinckney** on 29 Sept 2011, 4:06 p.m.,*
in response to message #16 by megarat

FWIW, I find megarat's summary to be the closest to my own experience and preferences. I have never quite understood the complaints about the 48SX display. It's very readable to me. I have compared it to a black screen GX, and find I prefer the SX screen.

Re: Choosing an HP-48

*Message #18 Posted by **Cristian Arezzini** on 29 Sept 2011, 5:01 p.m.,*
in response to message #17 by Martin Pinckney

This makes me wonder if maybe all my 48s/sx's are duds... All of them have a display that is much

much worse than any of my G/GX's. By worse, I mean that the contrast is much more marginal: the difference between an on-pixel and an off-pixel is small. If I increase the contrast, the numbers are nice and dark but the background is darkish too; if I lower the contrast to get a "invisible" background, then also the numbers look very "washed out". I may try taking some pictures tomorrow if someone is interested.

Cristian

Re: Choosing an HP-48

*Message #19 Posted by **Paul Berger (Canada)** on 29 Sept 2011, 6:27 p.m.,*
in response to message #18 by Cristian Arezzini

I agree my late production 48S (1992 vintage has a Yorke processor rather than the Clark) does not have the same display as any of my 48G and GX models. If I compare the displays with power off the 48S display is a darker shade of blue green than any of the Gs, and I too find the Gs display to be much improved, even though they are still the blue text screens. It seems both are made by Epson and are model LD-F8845A the 48S one has -22 on the end and the 48G one has -23. Maybe the difference is just a filter on the front that make it look different. I am tempted to swap the LCD from a dead G into the S while I have it apart and see what happens.

Re: Choosing an HP-48

*Message #20 Posted by **Eddie W. Shore** on 29 Sept 2011, 11:36 p.m.,*
in response to message #1 by E.Lub_EU

Go for as much memory as you can. 32K can be filled quickly if you do a lot of programming. Get a 48GX or 48SX.

The 48G series is faster and performs better despite the 48S having the better colors (IHMO - I am fan of the blue/orange with the a brown background).

RPL is not evil - just slightly different from RPN. For instance, the stack is infinite, so the roll commands are modified a bit. Also, ENTER only terminates number (or object) entry, there is no automatic duplication.

My first HP calculator was an HP48GX - got it in 2001.

Edited: 29 Sept 2011, 11:37 p.m.

Take a G+/GX with B/W LCD

*Message #21 Posted by **Raymond Del Tondo** on 30 Sept 2011, 3:56 a.m.,*
in response to message #1 by E.Lub_EU

All those people who are not sure about the LCD contrast differences between the different HP-48 types, please read the following archived thread, and take a look at the pics.

HP-48 LCD contrast comparison

The SX and older GX displays have very low contrast, but the GX displays have more contrast than those of the SX.
The late production GX displays have _much_ more contrast than both predecessors, period.

However Han showed that even the SX can be equipped with the high contrast LCD.
Just sacrifice one of those worthless 39g/40g units...

And about performance: A GX loaded with SpeedUI will make the unit much nicer to use, since nearly all user interface elements react much faster than the original ones.

Sorry, couldn't resist;-) But hey, SpeedUI is free of charge, so just try it.

Edited: 30 Sept 2011, 4:04 a.m.

Re: Take a G+/GX with B/W LCD

*Message #22 Posted by **Martin Pinckney** on 1 Oct 2011, 10:20 p.m.,*
in response to message #21 by Raymond Del Tondo

> Quote:
>
> All those people who are not sure about the LCD contrast differences between the different HP-48 types,
> please read the following archived thread, and take a look at the pics.
>
> HP-48 LCD contrast comparison
>
> The SX and older GX displays have very low contrast, but the GX displays have more contrast than those of the SX.
> The late production GX displays have _much_ more contrast than both predecessors, period.

I don't know, my 48SX's look more like the 48G in that photo, but contrastier in real life.

Re: Choosing an HP-48

*Message #23 Posted by **Frido Bohn** on 30 Sept 2011, 5:04 a.m.,*
in response to message #1 by E.Lub_EU

If you want to play around a little bit with RPL on a real piece of hardware an HP 48G will fit most situations.

However, as soon as you want to start with all those fine libraries stated above in this thread you have no chance with the memory shortcomings of a 32 kB HP 48G - you will have to upgrade to a 128 kB GX. But even then, some applications (e.g. SpeedUI) come with a bundle of libraries that will reduce the memory considerably.
Then you have to search for a 128 kB card which is in fact rare and may cost more than the HP 48GX itself. And if you want to expand the calc beyond the 256 kB threshold, you have to get expansion cards which are almost impossible to get. (Or you will have to be a master of the soldering iron and a PCB virtuoso to compose your own cards.)

What I highly recommend is the use of EMU48 (already mentioned somewhere above). This great emulator comes with different skins (KML Scripts, of which I like most Jemac's GX because of its quite realistic display of the HP 48G) and can be "upgraded" to any memory configuration that is possible for the original hardware. You can fill it with any available library and save different configurations, just as you like.
Over the serial port you can connect EMU48 to a flesh-and-blood HP 48 and transfer programs you developed in the emulator (given that you purchaded the calculator together with a transfer cable). The great advantage of the emulator is that you can save its current state and restore it easily in case of crashes. A crash in a real calculator is really annoying as it may take seemingly endless time to get it back to the previous condition because you have to load all back with 9600 bauds on the serial line (given that you made an backup beforehand).

But before getting too enthusiastic about EMU48 I will come back to my initial statement: for a little RPL, an

HP 48G is perfect. The programs you may develop initially won't put the memory reserves in danger.
At TAS they are usually sold in a decent condition at moderate prices.

Re: Choosing an HP-48

*Message #24 Posted by **Liord** on 1 Oct 2011, 6:14 p.m.,*
in response to message #1 by E.Lub_EU

Are you interested in a 48gii (4 batteries model) by any chance?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE - a personal review

*Message #1 Posted by **Alexander Oestert** on 29 Sept 2011, 8:52 a.m.*

I just want to share what my personal feelings and experiences are from one day of playing with the 15C LE. Others may see that differently, it's just my point of view.

+ The leather skin box is really looking and feeling great.

- The plastic bed in which the calculator sits is a pain. I needed three hands to get it out. Because I like the box I would like to place the calculator in it after every use, but that is near impossible without damaging the plastic inlay or the calc. So the way to go would be to get rid of the plastic thingy - which would render the window in the box useless, since you can't view the calculator through it anymore or only on the bottom of the box. Grrr!

+ The build quality of the calculator is superb. The keys feel absolutely great, way better than on my old original 15C. The f and g key are the exact same color as the original! **One of the two machines I bought will therefor be my daily-used calculator. I love it!**

- The protective sleeve is not what I want to put a "Limited Edition" in. I'm going to use a replacement. That could have been avoided by putting a real leather pouch in the package. And I would have gladly paid more for it.

+ The manual is nicely printed and although it has some flaws it is a nice companion to the 15C.

- Had the manual been spiral bound it would be 100% perfect. The original cover layout would have been nice, too.

- Had the Advanced Functions Handbook been included in a printed version I would have easily payed 20 bucks more. I find it to be a shame that it is not included. I remember reading from Tim that it was not up to some quality expectations and therefor not printed. That was a bad decision. A down-loadable flawless pdf copy does not make up for a printed manual even if it has some problems. Please, HP. make a printed version available!

- The PSE bug is bad. Imagining I were not a forum member sitting in front of my newly purchased 15C and couldn't get many of the manual's examples to work I would be deeply annoyed and thinking about returning the thing. This bug should be addressed as quick as possible. I'm sure HP will do that but in the meantime they should ask vendors to distribute an email to their customers explaining what the problem is and how HP aims to fix it. I assume most of 15C LE buyers up to now have bought their machine(s) via Internet and have left an email address. It should be easy to ask sellers for assistance.

- HP could use the same contact path to send a manual addendum out concerning the self test mess up.

- I don't fancy the silver plate on the back, I had liked it to be dark. But that's a minor point.

Overall I'm very happy with the 15C LE. But had it been announced only in 2012 but without any bugs and with both printed manuals and a leather pouch I would be even happier!

Re: HP 15C LE - a personal review

*Message #2 Posted by **Mike Morrow** on 29 Sept 2011, 2:11 p.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> + The leather skin box is really looking and feeling great.

I consider the elaborate packaging used for the HP 15C-LE to be a *complete waste* of material and money. One suspects that a significant portion of the production cost was squandered on what is of no value whatsoever. I'd have preferred a simple cheap package such as the Pioneer models used.

> Quote:
>
> + The build quality of the calculator is superb. The keys feel absolutely great, way better than on my old original 15C.

I disagree. I have several old Voyagers, including a couple of HP-15C units. There are absolutely no positive attributes to 15C-LE construction, compared to the original 15C (especially the more robust single-PCB 15C version).

Having said that, I find the 15C-LE construction quality to be acceptable

> Quote:
>
> - The PSE bug is bad.

I think what is bad is that changes were made in the firmware six months ago that are alleged to have introduced the bug, yet there was no minimal testing protocol executed following a firmware change of *any* sort that would have detected this type of problem, nor was there effective beta testing to detect it before production. I found the bug within an hour's use of the 15C-LE because I wanted to see how *anything* that involved timing performed on the emulated 15C. That sort of test should have been part of *any* minimum post-revision firmware testing protocol.

> Quote:
>
> Overall I'm very happy with the 15C LE. But had it been announced only in 2012 but without any bugs and with both printed manuals and a leather pouch I would be even happier!

The original Voyagers didn't use leather covers, why should the less expensive, lower quality 15C-LE? The thin cover that is included is entirely appropriate.

I agree about the value of delay in introduction. It would have been far better to have a *Limited Edition* introduced with some further delay, if such delay would have allowed time to find and correct the several consequential problems that were easily identified within a couple of days after gamma testers first got their machines. Since these are Limited Edition machines, I fear that the temptation will be to let the whole LE batch go to market, then be done with any further development.

Edited: 29 Sept 2011, 2:18 p.m.

Re: HP 15C LE - a personal review

*Message #3 Posted by **M. Joury** on 29 Sept 2011, 2:34 p.m.,*
in response to message #2 by Mike Morrow

While I can't comment on overall construction (I have never opened either the original or the new LE) I

can say that I do agree with Alexander on the keyboard. I have felt this way for quite some time--that the keyboard response of the new calculators is very nice and actually an improvement on the old. This, of course, is just personal preference but I just like the feel of the keys. As to whether they will hold up over time like the old ones did I can't answer yet. I guess if I had not been so lucky with my 12C+'s, 12C Plat's, and 15C LE's in that I have had no keyboard problems whatsoever I probably would not feel the way I do.

Cheers,

-Marwan

Re: HP 15C LE - a personal review

*Message #4 Posted by **Paul Berger (Canada)** on 29 Sept 2011, 6:52 p.m.,*
in response to message #3 by M. Joury

I too find the keyboard quite nice and all the keys respond to the same amount of pressure, and for the most part feel much the same as my early production 16C, except on the 16C the enter key takes considerably more force than the other keys, on the 15LE it is the same as all the others. When i got it I tried my best to make a key fail to register but I was unable to do that. The shift keys do move a little on it, but then they also move around a little on the 16C. The case it came with is almost identical in material and construction as the case that came with my 16C, I hope they used a better material to line it, one that does not disintegrate into black dust like the one that came with the 16C. I got a little surprise when I got the LE, coincidentally the LE number on it is the same as the year I was born.

Re: HP 15C LE - a personal review

*Message #5 Posted by **Paul Gaster** on 29 Sept 2011, 4:18 p.m.,*
in response to message #2 by Mike Morrow

> Quote:
>
> I think what is bad is that changes were made in the firmware six months ago that are alleged to have introduced the bug, yet there was no minimal testing protocol executed following a firmware change of any sort that would have detected this type of problem, nor was there effective beta testing to detect it before production. I found the bug within an hour's use of the 15C-LE because I wanted to see how anything that involved timing performed on the emulated 15C. That sort of test should have been part of any minimum post-revision firmware testing protocol.

Tim did say that the people who were given 15C prototypes last year at HHC were allowed access to a special forum where they could talk about the calculator and report issues. There had been a new firmware, yes, and the people with the calculators were allowed to download and flash the firmware. Supposedly many did flash the new firmware but did not report any issues or problems for over 4 months so HP went ahead into production.

Re: HP 15C LE - a personal review

*Message #6 Posted by **David Hayden** on 29 Sept 2011, 3:38 p.m.,*
in response to message #1 by Alexander Oestert

> Quote:
>
> + The manual is nicely printed and although it has some flaws it is a nice companion to the 15C.

I'm curious if you've found any flaws in the manual other than the self-test in the appendix.

Re: HP 15C LE - a personal review

*Message #7 Posted by **Alexander Oestert** on 29 Sept 2011, 4:10 p.m.,*
in response to message #6 by David Hayden

> Quote:
>
> I'm curious if you've found any flaws in the manual other than the self-test in the appendix.

- not being black and blue color printed

- not having the original cover picture

- not being spiral bound

- having programs in it that yield the PSE bug

Re: HP 15C LE - a personal review

*Message #8 Posted by **Mike Morrow** on 29 Sept 2011, 4:50 p.m.,*
in response to message #7 by Alexander Oestert

> Quote:
>
> - having programs in it that yield the PSE bug

What does this mean with respect to the Owner's Handbook? Nothing in the Handbook causes the PSE bug!

The programs in the Handbook *should* work. The existence of the PSE bug has no adverse reflection on the Handbook, unless one thinks that the Handbook should have been revised to work around a bug that was not known to exist when the Handbook was last edited. Personally, I'd prefer that the bug got fixed in the firmware. :-)

Edited: 29 Sept 2011, 4:54 p.m.

Re: HP 15C LE - a personal review

*Message #9 Posted by **Mike Morrow** on 29 Sept 2011, 4:38 p.m.,*
in response to message #6 by David Hayden

> Quote:
>
> I'm curious if you've found any flaws in the manual other than the self-test in the appendix.

There are several. Read this thread and this followup.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Which quadratic formula is use?

*Message #1 Posted by **Michel Beaulieu** on 29 Sept 2011, 8:47 a.m.*

I'm amaze by the fact that this quadratic formula is so short :

001- LBL E 002- ENTER 003- R^ 004- / 005- R^ 006- LSTx 007- / 008- 2 009- CHS 010- / 011- ENTER 012- ENTER 013- x^2 014- R^ 015- - 016- SQRT 017- - 018- x<>y 019- LSTx 020- + 021- RTN

I found this on a museum's archive 17 :

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=114345

My shortest program have 30 step. I realize that the formula use for this program is not the same old one we learn at high school.

I'm still learning the RPN stack and programming on the 15C. What is the "modified" formula use?

Thanks

Re: Which quadratic formula is use?

*Message #2 Posted by **Dave Britten** on 29 Sept 2011, 9:08 a.m.,*
in response to message #1 by Michel Beaulieu

It's probably the same formula in the end, it's just using a ton of RPN tricks to cram the computation into as short a program as possible.

Re: Which quadratic formula is use?

*Message #3 Posted by **Gerson W. Barbosa** on 29 Sept 2011, 9:47 a.m.,*
in response to message #1 by Michel Beaulieu

Here it is, courtesy of Allen:

$$x_{1/2} = -\frac{b}{2a} \pm \sqrt{\frac{b^2}{4a^2} - \frac{c}{a}}$$

On the HP-42S, 15 steps suffice:

```
00 { 28-Byte Prgm }
01 LBL "Q"
```

```
02 RCL/ ST Z
03 X<> ST Z
04 /
05 -2
06 /
07 STO ST Z
08 x^2
09 X<>Y
10 -
11 SQRT
12 RCL+ ST Y
13 X<>Y
14 RCL- ST L
15 END
```

Edited: 29 Sept 2011, 9:54 a.m.

Re: Which quadratic formula is use?

*Message #4 Posted by **Jeff O.** on 29 Sept 2011, 10:12 a.m.,*
in response to message #1 by Michel Beaulieu

Definitely the standard quadratic formula with optimum use of stack to provide both answers in x and y, as shown in the following listing which shows the stack contents after each function:

```
Step    Function             Stack Contents
-------------------------------------------------------
                         T:      --
                         Z:      A
                         Y:      B
1        LBL E           X:      C
-------------------------------------------------------
                         T:      A
                         Z:      B
                         Y:      C
2        ENTER           X:      C
-------------------------------------------------------
                         T:      B
                         Z:      C
                         Y:      C
3        R^              X:      A
-------------------------------------------------------
                         T:      B
                         Z:      B
                         Y:      C
4        /               X:      C/A
-------------------------------------------------------
                         T:      B
                         Z:      C
                         Y:      C/A
5        R^              X:      B
-------------------------------------------------------
                         T:      C
                         Z:      C/A
                         Y:      B
6        LSTx            X:      A
-------------------------------------------------------
                         T:      C
                         Z:      C
                         Y:      C/A
7        /               X:      B/A
-------------------------------------------------------
                         T:      C
                         Z:      C/A
                         Y:      B/A
8        2               X:      2
-------------------------------------------------------
                         T:      C
                         Z:      C/A
                         Y:      B/A
9        CHS             X:      -2
-------------------------------------------------------
                         T:      C
                         Z:      C
                         Y:      C/A
10       /               X:      -B/2A
-------------------------------------------------------
                         T:      C
```

		Z:	C/A
		Y:	-B/2A
11	ENTER	X:	-B/2A
		T:	C/A
		Z:	-B/2A
		Y:	-B/2A
12	ENTER	X:	-B/2A
		T:	C/A
		Z:	-B/2A
		Y:	-B/2A
13	x^2	X:	$B^2/4A^2$
		T:	-B/2A
		Z:	-B/2A
		Y:	$B^2/4A^2$
14	R^	X:	C/A
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A
15	-	X:	$B^2/4A^2$-C/A
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A
16	SQRT	X:	SQRT($B^2/4A^2$-C/A)
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A
17	-	X:	-B/2A-SQRT($B^2/4A^2$-C/A)
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A-SQRT($B^2/4A^2$-C/A)
18	x<>y	X:	-B/2A
		T:	-B/2A
		Z:	-B/2A-SQRT($B^2/4A^2$-C/A)
		Y:	-B/2A
19	LSTx	X:	SQRT($B^2/4A^2$-C/A)
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A-SQRT($B^2/4A^2$-C/A)
20	+	X:	-B/2A+SQRT($B^2/4A^2$-C/A)
		T:	-B/2A
		Z:	-B/2A
		Y:	-B/2A-SQRT($B^2/4A^2$-C/A)
21	RTN	X:	-B/2A+SQRT($B^2/4A^2$-C/A)

Of course SQRT($B^2/4A^2$-C/A) is equal to SQRT(B^2-4AC)/2A

listing edited to hopefully make it easier to read

Edited: 29 Sept 2011, 10:05 p.m. after one or more responses were posted

Re: Which quadratic formula is use?

*Message #5 Posted by **Michel Beaulieu** on 29 Sept 2011, 1:20 p.m.,*
in response to message #4 by Jeff O.

Very impressive use of the stack! I will study it tonight after work...

Re: Which quadratic formula is use?

*Message #6 Posted by **Jeff O.** on 29 Sept 2011, 1:57 p.m.,*
in response to message #5 by Michel Beaulieu

Agreed. I have edited the listing to hopefully make it easier to read. In case it is not clear, the stack contents on each line are as they will be after the function on that line is executed.

Re: Which quadratic formula is use?

*Message #7 Posted by **C.Ret** on 29 Sept 2011, 4:42 p.m.,*
in response to message #6 by Jeff O.

Thank you.

Usefull code. Here a more compact version of your code I have input into a personal note format:

```
Step  Function       t:                        z:                          y:
x:              Lastx:
----- --------   ------   ----------------------   ----------------------   ----
------------------             ------
01    LBL E           ~                          a                           b
c
02    ENTER           a                          b                           c
c
03    R^              b                          c                           c
a
04    /               b                          b                           c
c/a                  a
05    R^              b                          c                         c/a
b
06    LSTx            c                        c/a                           b
a
07    /               c                          c                         c/a
b/a                  a
08    2               c                        c/a                         b/a
2
09    CHS             c                        c/a                         b/a
-2                  -2
10    /                c                         c                         c/a
-b/2a                  -2
11    ENTER            c                       c/a                       -b/2a
-b/2a
12    ENTER          c/a                     -b/2a                       -b/2a
-b/2a
13    x^2            c/a                     -b/2a                       -b/2a
b²/4a²               -b/2a
14    R^          -b/2a                      -b/2a                      b²/4a²
c/a
15    -           -b/2a                      -b/2a                       -b/2a
b²/4a²-c/a                 c/a
16    SQRT        -b/2a                      -b/2a                       -b/2a
SQRT(b²/4a²-c/a)          b²/4a²-c/a
17    -           -b/2a                      -b/2a                       -b/2a   -
b/2a-SQRT(b²/4a²-c/a)   SQRT(b²/4a²-c/a)
18    x<>y        -b/2a                      -b/2a    -b/2a-SQRT(b²/4a²-c/a)
-b/2a
19    LSTx        -b/2a   -b/2a-SQRT(b²/4a²-c/a)                       -b/2a
SQRT(b²/4a²-c/a)
20    +           -b/2a                      -b/2a    -b/2a-SQRT(b²/4a²-c/a)   -
b/2a+SQRT(b²/4a²-c/a)   SQRT(b²/4a²-c/a)
21    RTN                                                                 x1
x2
----- --------   ------   ----------------------   ----------------------   ----
------------------             ------
```

where x_1 and x_2 are the real roots of equation $a.x^2+b.x+c=0$

Exemple :
Type 2 [ENTER] 10 [CHS][ENTER] 12 [GSB][E] to solve $2.x^2 - 10.x + 12=0$ and get $x_1 = 2$ and $x_2 = 3$

The calculator first display x_2, you have to press [x<->y]key to get x_1.

But you will be in trouble solving $2.x^2 - 8.x + 26=0$!

Note that on HP-15c, this code needs very few modifications to also produce real or complex solution(s) to any $a.x^2 + b.x + c = 0$ equation with real or complex coefficients *a*, *b* and *c*.

```
Step  Func
----- --------
01    LBL E
02    ENTER
03    R^
04    /
05    R^
06    LSTx
07    /
08    2
09    CHS
10    /
11    ENTER
12    ENTER
13    x^2
14    R^
15    -
16    TEST 2      @  ( x<=0 ? )
17    SF 8        @  (Complex mode ON)
18    SQRT
19    -
20    x<>y
21    LSTx
22    +
23    RTN
----- --------
```

To solve quadratic equation $2.x^2 - 8.x + 26 = 0$, y have to type :
[g][CF][8] to set complex mode OFF in order to enter real coefficients :
[2][ENTER^][8][CHS][ENTER^][2][6] to type in respectively $a=2$, $b=-8$ and $c=26$.
[GSB][E] to run code.

Note that the 'C' enunciator indicates complex solutions $z_1 = 2-3i$ and $z_2 = 2+3i$. Imaginary parts have to be displayed using [f][Re<->I] switchs or by holding [f][(i)] key.

To enter complex coefficients, simply enter *a*, *b* and *c* as complex using [f][I] or [f][Re<->Im] method.

Amazing HP-15c!

Edited: 29 Sept 2011, 4:54 p.m.

Re: Which quadratic formula is use?

*Message #8 Posted by **Jeff O.** on 29 Sept 2011, 10:17 p.m.,*
in response to message #7 by C.Ret

Thanks.
I considered laying the stack contents out horizontally. But I seem to visualize the stack in a vertical layout and find it easier to follow and/or develop how the contents move around if I present it that way. I'll have to do a layout for the complex version tomorrow to see how it works.

Which quadratic formula is use?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s bugfix

*Message #1 Posted by **fhub** on 29 Sept 2011, 5:57 a.m.*

I see a bugfix ("Fix ISG/DSE in integer mode") in SVN 1635 from **yesterday** but still no integration build ... :-(

Re: WP34s bugfix

*Message #2 Posted by **Paul Dale** on 29 Sept 2011, 6:18 a.m.,*
in response to message #1 by fhub

These two really aren't very useful in integer mode so there isn't a rush to get a fixed build out. Plus I didn't have access to the build machine when I made the change.

- Pauli

Re: WP34s bugfix

*Message #3 Posted by **Paul Dale** on 29 Sept 2011, 6:25 a.m.,*
in response to message #1 by fhub

Built now for what its worth.

I'd be interested in seeing a program where integer mode ISG is useful and ISZ isn't.

- Pauli

Re: WP34s bugfix

*Message #4 Posted by **fhub** on 29 Sept 2011, 6:45 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> Built now for what its worth.

Thanks!
And "for what its worth"? Well, a fixed bug is one bug less! ;-)
And a not correctly working loop command is indeed a critical bug IMO.

I'm a programmer myself and I really hate all kinds of bugs, so for me it's a must to fix every bug as soon as I'm aware of it, no matter how serious it is or not.

> Quote:
>
> I'd be interested in seeing a program where integer mode ISG is useful and ISZ isn't.

Well, if this command isn't useful then I'm wondering why you've implemented it at all. ;-)

Franz

Re: WP34s bugfix

*Message #5 Posted by **Paul Dale** on 29 Sept 2011, 5:27 p.m.,*
in response to message #4 by fhub

I implemented it because we had to have it in real mode where it is very useful. I supported it in integer mode also for consistency -- there are several commands where either the integer or real mode version isn't all that useful but supported nonetheless. I'm yet to see an example where these loop commands are *better* in integer mode than the alternatives. However, since I could reasonably define what they did and it was slightly different to the other available commands so they got supported.

BTW, I did fix the bug as soon as I heard of it, I just didn't kick off a build -- partly because I couldn't at the time and partly because the problem that was addressed didn't seem all that important -- YMMV of course. Anyway, fixed and happy now.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OpenRPN and the 41CL

*Message #1 Posted by **snaggs** on 29 Sept 2011, 2:03 a.m.*

I posted a question a while ago about whether a calculator could be made like those from "the old days".

Given someone has already gone to the trouble of developing the NEWT processor with the full set of ROMS etc, why not make a case for it and start there?

I found this;

http://www.instrument.com/60.html

Which is an industrial "human interface" which even has a RS-232 port on the back. They say they can supply it with whatever labels you like on the keys etc. It has a 2x40 screen, which can even be backlit.

What this be suitable for gutting? i.e.

CTM300 + NEWT + cloned HP-IL RS232 adapter internally wired to RS-232 port

= nearly a calculator?

Daniel.

Re: OpenRPN and the 41CL

*Message #2 Posted by **Monte Dalrymple** on 29 Sept 2011, 10:05 a.m.,*
in response to message #1 by snaggs

The issue with putting the 41CL hardware into anything other
than a 41C body is going to be the display driver.

Re: OpenRPN and the 41CL

*Message #3 Posted by **Ángel Martin** on 29 Sept 2011, 10:25 a.m.,*
in response to message #2 by Monte Dalrymple

Does "Anything other that a 41C body" include the "DIY5"? Rethorical question since I guess at this point only Eric has that information?

Re: OpenRPN and the 41CL

*Message #4 Posted by **Monte Dalrymple** on 29 Sept 2011, 10:57 a.m.,*
in response to message #3 by Ángel Martin

Yes. The display driver is not on the 41CL board, and any new display will require an interface that looks like the one in the 41C as far as signals and timing are concerned.

41CL and DIY4X/DIY5

*Message #5 Posted by **Eric Smith** on 29 Sept 2011, 11:48 a.m.,*
in response to message #3 by Ángel Martin

> Quote:
>
> Does "Anything other that a 41C body" include the "DIY5"?

The DIY4X already a high-performance 41-equivalent calculator. There would be no point to trying to put a 41CL board into a DIY4X or DIY5; it would take a huge amount of new engineering, and the result would be slower than the DIY5.

Currently the DIY4X at 14 MHz is 6-14x faster than the original 41, depending on the specific functions used, and at 28 MHz is about 10-20x faster. Doubling the clock frequency doesn't double the performance because it introduces a wait state on the flash memory, and because some overhead such as display updating does not get faster.

I haven't yet done any code optimization, and I think there will be at least 2x performance gain from that, and probably much more than that.

The DIY5 hardware will be able to run at 48 MHz, with two wait states on the flash memory. I have some plans for reducing the performance degradation caused by the wait states.

If someone wants to support engineering a *really* fast 41 replacement, I have a design for an FPGA datapath that runs more than 5000x faster than that of the 41. The idea is similar to Monte's NEWT processor in the 41CL, but is implemented as a 56-bit parallel data path rather than bit-serial. Some work is needed to finish the control portion. The actual speed would not be 5000x, just as the 41CL in Turbo50 mode isn't actually 50x faster than the original 41. It would also drain batteries much faster than the 41CL.

I designed that FPGA data path about ten years ago to satisfy my own curiosity as to how fast a Nut processor implemented in hardware could be. In an ASIC, it could easily be another factor of ten faster than the FPGA. I had no intention of using it in a product. However, once I have tooling for a DIY5 case, there is no reason why I couldn't at relatively low additional expense make a limited edition 41CMMMMM with the FPGA.

Re: 41CL and DIY4X/DIY5

*Message #6 Posted by **Howard Owen** on 29 Sept 2011, 3:28 p.m.,*
in response to message #5 by Eric Smith

> Quote:

> The DIY4X already a high-performance 41-equivalent calculator. There would be no point to trying to put a 41CL board into a DIY4X or DIY5; it would take a huge amount of new engineering, and the result would be slower than the DIY5.

The great thing about the 41CL is that it fits in a comfortable, familiar and well loved case. Your project is a brand new calculator, which has different design goals.

> Quote:
>
> If someone wants to support engineering a *really* fast 41 replacement, I have a design for an FPGA datapath that runs more than 5000x faster than that of the 41.

With that sort of tech, how about a massively parallel Nut consisting of hundreds of cores running multiple 41C images? Prime factorization might benefit from that.

Only 0.5 kidding. :)

edit: change radix to US standard.

Edited: 29 Sept 2011, 3:50 p.m.

Re: 41CL and DIY4X/DIY5

*Message #7 Posted by **Eric Smith** on 29 Sept 2011, 7:46 p.m.,*
in response to message #6 by Howard Owen

> Quote:
>
> the 41CL is that it fits in a comfortable, familiar and well loved case. Your project is a brand new calculator, which has different design goals.

Which doesn't contradict my point that it would make no sense to put a 41CL board into a DIY5 case.

Re: 41CL and DIY4X/DIY5

*Message #8 Posted by **snaggs** on 29 Sept 2011, 5:49 p.m.,*
in response to message #5 by Eric Smith

I hadnt heard of this! Are they available?

Daniel.

Re: 41CL and DIY4X/DIY5

*Message #9 Posted by **Eric Smith** on 29 Sept 2011, 8:17 p.m.,*
in response to message #8 by snaggs

Are what available?

Certainly the DIY4X, DIY5, and the entirely hypothetical calculator with a parallel data path in an FPGA are not available. The DIY5 might be available in the future if we can figure out a way to produce it without losing money.

Re: OpenRPN and the 41CL

*Message #10 Posted by **Hugh Evans** on 29 Sept 2011, 1:15 p.m.,*
in response to message #1 by snaggs

Please refrain from referencing OpenRPN in posts such as this. Especially since I'm considering a reboot of the project, and even maintain ownership of the domain, the name represents more than a concept.

This form factor doesn't make sense: it measures 5"x9"x1.5" which is a lot more space than my 48gx takes up.

The needs and desires I identified while managing the OpenRPN project are for pocket sized calculators of high build quality that are reliable, easy to use, maximize battery life, and nearly indestructible.

Before I formally announce a relaunch, I want to have at least one physical prototype (enclosure, clicky keys that work, and LCD) to show off. From there specs can be given for electronic hardware to be designed. $200 is the maximum price point I'm designing for. But one thing I specifically want to avoid this time is to start with a need for a platform. Hardware comes first, perhaps running ported code from WP34s, before any major public announcements are planned.

Re: OpenRPN and the 41CL

*Message #11 Posted by **Howard Owen** on 29 Sept 2011, 3:49 p.m.,*
in response to message #10 by Hugh Evans

> Quote:
>
> Please refrain from referencing OpenRPN in posts such as this.

A self-referential koan! OK, we need a euphemistic acronym then.

Re: OpenRPN and the 41CL

*Message #12 Posted by **Egan Ford** on 29 Sept 2011, 8:55 p.m.,*
in response to message #1 by snaggs

That'd make a great 71B or 75C clone.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Solving a cubic equation using trigonometry, but with a2 term?

*Message #1 Posted by **snaggs** on 29 Sept 2011, 1:44 a.m.*

Hi,

I read and entered this program here, after finding his Quadratic solver using ACOSH nice to use.

"Solving a cubic equation using trigonometry" by *Thomas Klemm*
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=180771

A general cubic equation can be transformed to the following form using a substitution;

$$x^3 + px + q = 0$$

```
00 { 31-Byte Prgm }
01>LBL "CuEq"
02 2
03 /
04 X<>Y
05 -3
06 /
07 /
08 LASTX
09 SQRT
10 /
11 LASTX
12 X<>Y
13 ASIN
14 3
15 /
16 SIN
17 *
18 2
19 *
20 END
```

```
00 { 34-Byte Prgm }
01>LBL "CuEqH"
02 2
03 /
04 X<>Y
05 3
06 /
07 /
08 LASTX
09 SQRT
10 /
11 LASTX
12 X<>Y
13 ASINH
14 3
15 /
16 SINH
17 *
18 -2
19 *
20 END
```

However, it doesn't work if you have an a2 term, unless I've made a typo. Having to do substitution before using the program seems to defeat the purpose.

Daniel.

Re: Solving a cubic equation using trigonometry, but with a2 term?

*Message #2 Posted by **Dieter** on 29 Sept 2011, 7:19 a.m.,*
in response to message #1 by snaggs

Sure there is no a2 term: That's why it says "A general cubic equation can be *transformed to* the following form using a substitution". ;-) For more details see below.

There are well-known standard methods for solving cubic equations. Just take a look at de.wikipedia.org - as well as the last link ("Leitfaden") on that page for a step-by-step solution. The entry on en.wikipedia.org is has some more details on the numerics.

Having read all this you may finally proceed to the actual algorithm. ;-) For instance by using Cardano's method as described on de.wikipedia.org. This is the method you will probably use.

Edit 1: Oops, I was a bit too fast. ;-) I didn't notice you're *not* Thomas so you probably don't read German. However, the mentioned Cardano method first reduces the cubic equation to a simplified form without "a2 term" and then this reduced equation is solved. The latter part is already done by the program you got. So you just have to provide the initial reduction (or transformation, as Thomas said) the way it is described in the wikipedia articles. The rest is already there.

Edit 2: All this has already been discussed in the thread you mentioned. Please read messages 3 - 5 there. ;-)

Dieter

Edited: 29 Sept 2011, 8:49 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S overlay

*Message #1 Posted by **Masaki Adachi** on 29 Sept 2011, 12:41 a.m.*

I seem to recall there was a overlay for wp34s without keyboard "caps" (i.e., everything was printed on the overlay) shown sometime ago. Is there a graphics available for that version? I would like to print out something until Eric can restock his overlay for sale again.

Edited: 29 Sept 2011, 12:42 a.m.

Re: WP34S overlay

*Message #2 Posted by **Walter B** on 29 Sept 2011, 12:52 a.m.,*
in response to message #1 by Masaki Adachi

Please look at sourceforge in directory named "artwork".

Re: WP34S overlay

*Message #3 Posted by **Marcus von Cube, Germany** on 29 Sept 2011, 6:46 a.m.,*
in response to message #2 by Walter B

Or in the ZIP file in the real directory. The "no_keys" file was originally used by me to label my first machines.

Re: WP34S overlay

*Message #4 Posted by **Masaki Adachi** on 29 Sept 2011, 12:13 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Thanks for quick answers, Walter and Marcus!

I have to apologize for not doing enough of my due diligence. The information was right under my uhmm, keyboard once you mentioned it.

Thanks again!

Re: WP34S overlay

*Message #5 Posted by **David E** on 1 Oct 2011, 4:21 p.m.,*
in response to message #1 by Masaki Adachi

The Overlays appear to be available again:: http://commerce.hpcalc.org/overlay.php

To Eric Rechlin

*Message #6 Posted by **Walter B** on 1 Oct 2011, 6:27 p.m.,*
in response to message #5 by David E

The download file on http://commerce.hpcalc.org/overlay.php needs an update for the shifted functions of '-'. And since you have a new design (actually two), why don't you show it (them) instead of the old one?

Re: To Eric Rechlin

*Message #7 Posted by **Eric Rechlin** on 1 Oct 2011, 9:09 p.m.,*
in response to message #6 by Walter B

Because I haven't gotten around to it yet. I just spent enough time to silently re-enable the purchasing link to let a trickle of orders in (I'm not yet ready to start selling them in volume).

I'll update the other stuff later, but right now I have more important things to do.

Eric

Re: To Eric Rechlin

*Message #8 Posted by **David E** on 1 Oct 2011, 9:39 p.m.,*
in response to message #7 by Eric Rechlin

Sorry if I ruined the "silently" part!

Re: To Eric Rechlin

*Message #9 Posted by **Paul Gaster** on 2 Oct 2011, 9:28 a.m.,*
in response to message #6 by Walter B

I have heard talk of adding matrix functions to the 34S. I know this isn't done yet, but would adding that functionality change the overlay? Just trying to decide if I want to get an overlay now or wait a bit.

Re: To Eric Rechlin

*Message #10 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 9:36 a.m.,*
in response to message #9 by Paul Gaster

No, it's all in the catalogs.

Re: To Eric Rechlin

*Message #11 Posted by **Walter B** on 2 Oct 2011, 9:46 a.m.,*
in response to message #9 by Paul Gaster

The overlay has to change when the keyboard changes. It was mentioned in another thread already we have at least one other keyboard modification waiting. And I know one of the trinity isn't quite happy with another assignment. At the bottom line, I'd say: yes, probability for a keyboard change is elevated, but don't hold your breath.

Don't know whether this helps you, however.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Spiral Binding

*Message #1 Posted by **db (martinez, ca.)** on 28 Sept 2011, 11:36 p.m.*

Someone here mentioned that the 15CLE manual is not spiral bound and that HP should have made it that way. I went to the Fed Ex copy place (formerly Kinko's). They cut the glued binding off and spiral bound my manual for about six and a half bucks.

Re: Spiral Binding

*Message #2 Posted by **Jim Yohe** on 29 Sept 2011, 2:17 a.m.,*
in response to message #1 by db (martinez, ca.)

Did you take another previously spiral "HP" bound manual to them so they could match it?

Re: Spiral Binding

*Message #3 Posted by **Michael Kussmaul** on 29 Sept 2011, 5:14 a.m.,*
in response to message #1 by db (martinez, ca.)

It's a bit of a mystery to me, why HP not just shipped a scanned version of the original manual (I guess only scanning would work, because at that time there was no digital-version of the manual).

This way a lot of typos in the new manual would have been ruled out. They could just have added a leaflet with additional information (e.g. broken self-test, regulatory terms, etc).

Re: Spiral Binding

*Message #4 Posted by **Lincoln R.** on 29 Sept 2011, 9:17 a.m.,*
in response to message #3 by Michael Kussmaul

If they shipped a scan people would complain about the image quality or something. Because they shipped it the way they did, people are complaining about typos. It would seem that for a lot of these issues, HP just can't win.

Re: Spiral Binding

*Message #5 Posted by **Paul Gaster** on 29 Sept 2011, 1:32 p.m.,*
in response to message #4 by Lincoln R.

Also you cannot search a scanned version of the manual to find things quickly.

I see HP now has the 15C manual for download: link

15C support page: link

Hope the Advanced Functions Handbook will follow soon.

(deleted post)

*Message #6 Posted by **deleted** on 29 Sept 2011, 2:00 p.m.,*
in response to message #5 by Paul Gaster

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Spiral Binding

*Message #7 Posted by **Brian Walsh** on 29 Sept 2011, 2:36 p.m.,*
in response to message #6 by deleted

> Quote:
>
> Google for
>
> hp15c.org advanced functions pdf

Why not save others time and post the link yourself?

Here it is.

Edited: 29 Sept 2011, 2:38 p.m.

Re: Spiral Binding

*Message #8 Posted by **Alexander Oestert** on 29 Sept 2011, 3:06 p.m.,*
in response to message #7 by Brian Walsh

> Quote:
>
> Why not save others time and post the link yourself?
>
> Here it is.

Why spoil all the fun of googling it yourself? ;)

Seriously, I posted from my iPhone 3G and found it quicker to write down the search terms than to copy the URL, that's all!

But what I'm asking myself is: would it really have been that much more expensive to print the new 15c LE handbook in black and *blue* like the newly released pdf is instead of only black?

Re: Spiral Binding

*Message #9 Posted by **David Hayden** on 29 Sept 2011, 3:43 p.m.,*
in response to message #8 by Alexander Oestert

> Quote:
>
> But what I'm asking myself is: would it really have been that much more

> expensive to print the new 15c LE handbook in black and *blue* like the newly released pdf is instead of only black?

Yes. apparently printing any color at all is substantially more expensive than plain black & white. The original Owners Handbook had blue on every page (in the header and footer).

I suppose a nice compromise might have been to change the headers and footers to black and then printed just the pages with images in color.

Dave

Re: Spiral Binding

*Message #10 Posted by **Katie Wasserman** on 29 Sept 2011, 8:13 p.m.,*
in response to message #9 by David Hayden

More than lack of color is the paper quality of the manual. The paper in 15C LE manaul is just a step above newsprint. The orignal 15C manual had very nice quality paper.

Re: Spiral Binding

*Message #11 Posted by **Jeroen Van Nieuwenhove** on 29 Sept 2011, 3:35 p.m.,*
in response to message #5 by Paul Gaster

The Advanced Functions Handbook is also included in the emulator. See Help > Advanced Functions Handbook. It is the same scan as the one on hp15c.org and the one on the HP Museum DVD.

Edited: 29 Sept 2011, 3:36 p.m.

Re: Spiral Binding

*Message #12 Posted by **Paul Gaster** on 29 Sept 2011, 4:11 p.m.,*
in response to message #11 by Jeroen Van Nieuwenhove

I think I should have been more clear. I hope they release a new Advanced Functions Handbook that is searchable and not a scan. I had seen the scanned version before, but there are times when it's nice to be able to search. HP would need to redo the whole thing for this to be possible though, so I am not sure it will happen.

Re: Spiral Binding

*Message #13 Posted by **Steve Simpkin** on 29 Sept 2011, 4:50 p.m.,*
in response to message #12 by Paul Gaster

> Quote:
>
> HP would need to redo the whole thing for this to be possible though, so I am not sure it will happen.

Tim had mentioned they were working on this but had not finished it before the 15LE was shipped. It should be available for downloading when it is finished.

Re: Spiral Binding

*Message #14 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:09 a.m.,*
in response to message #13 by Steve Simpkin

Both manuals are, as far as I know, a community effort conducted together with HP. Give them the time they need and you will get your Advanced Functions Manual. Then let it print and bind in a print shop for small money and you are lucky.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Prime Factorization for the HP15c?

*Message #1 Posted by **JamesT** on 28 Sept 2011, 11:02 p.m.*

I was wondering if anyone had a fast prime factorization routine for the HP1Xc calculators they could share? Thanks! James

Re: Prime Factorization for the HP15c?

*Message #2 Posted by **Dave Britten** on 29 Sept 2011, 7:07 a.m.,*
in response to message #1 by JamesT

Don't know if this is fast enough for you, but it seems reasonably quick on my 15c LE. (But then again, what doesn't?) I've adapted this from an old program - I think written for the 65 - which I found somewhere (probably on this site).

http://dave.brittens.org/HP15c/Prime%20Factors.html

Re: Prime Factorization for the HP15c?

*Message #3 Posted by **JamesT** on 29 Sept 2011, 10:29 a.m.,*
in response to message #2 by Dave Britten

Thanks Dave, I'll get it a try on my LE and Voyager 15c and let you know.

James

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Solve #25 available

*Message #1 Posted by **David Hayden** on 28 Sept 2011, 10:36 p.m.*

The October 2011 HP Solve newsletter is now available here. It was included in the HHC 2011 proceedings and I read it cover-to-cover on the plane back from San Diego. Thanks to Richard Nelson to putting this together.

Dave

Re: HP Solve #25 available

*Message #2 Posted by **Peter Murphy (Livermore)** on 29 Sept 2011, 1:44 a.m.,*
in response to message #1 by David Hayden

Not there, as far as I can tell.

Better link to HP solve newsletters

*Message #3 Posted by **gene wright** on 30 Sept 2011, 11:57 a.m.,*
in response to message #2 by Peter Murphy (Livermore)

HP Solve list

A few remarks and questions re. Solve #25

*Message #4 Posted by **Dieter** on 1 Oct 2011, 1:18 p.m.,*
in response to message #3 by gene wright

So, finally I have read through (almost) the complete last issue of HP Solve - this time with no less than 75 pages. Much information, many topics... and some thoughts and remarks I would like to discuss. ;-)

Page 7 has a picture showing a 15C LE in space being *"back by popular demand"* - in five different languages. According to the comment on the next page I assume this ad will be used internationally as a part of the "15c PR campaign". I cannot comment on the French, Spanish and Dutch version of "bring it back", but I can say that the German version has three errors in its three words: it's not "Bringe es zuruck!" but "Bringt ihn zurück!". Which leads to the question if there really is not a single person at HP that is familiar with these languages. I would also like to ask this because my German HP35s manual does not compare favorably with the ones I got with my 34C and 41C back then.

Page 26: *"The HP-41 SIGN function was “defined” differently, and they had to add two steps for each time it was used in the routines. (...) It makes you wonder what the HP-41 developers were thinking. Was there some hardware restriction?"*

There is no secret why the '41 has its sign-function implemented this way. The reason is found in the manual and it also has been discussed here a few weeks ago: a zero result is reserved for x containing alpha data. This way the '41 can distinguish between numeric and alpha values: "ABC" ASTO X SIGN returns 0.

Page 61: "Calculator Forensics". *"The idea is that the function-inverse is supposed to return the input, in this case 9 degrees. Supposedly the more accurate calculator (overall?) is the one that is closest to 9"*. But is this really true?

Even a perfect calculator with 10, 12 or 16 digits will not return the original input in simple cases like [9] [ln] [e^x] - the result will be "off" by several ULPs. And that's fine because this is the only correct answer. So there is a characteristic perfect result for the operation sequence used in the "calculator forensics" test, and this result usually is *not* 9... unless the calculator uses at least five additional guard digits it doesn't display. ;-)

For a 10-digit device the perfect result is 9,00 041 740 3 - and that's exactly what most 10-digit HPs will return.

For a 12-digit machine it's 8,99 999 864 267 as returned by the 32s, 42s and others. The 35s here returns 8,99 999 986 001 which is closer to 9 (BTW, the deviation is just 1,4 E-**7**). But in fact the accuracy is not better than that in the 32s/42s result, actually it is even slightly *worse* - the problem here is the inverse tangent where the correct result is 0,999 996 272 743 53... which should be rounded up to ...744 while instead the 35s rounds it down to ...743.

In other words: closer to 9 is not always better. It may be worse just as well. The actual accuracy can only be judged by comparing the result to a certain characteristic value for a n-digit machine (which usually is not exactly 9). This point is also mentioned by the "inventor" of the calculator forensics test himself: Mike clearly sees that after the cosine calculation there is always a loss of about five significant digits, which is independent of the calculator. So it's clear the perfect result usually is not 9. Okay, it can be 9 if the calculator uses at least five guard digits throughout the whole calculation. ;-)

Page 67: *"For 10 digit calculators the guard digits are usually two"*. As far as I know (except some early mid-seventies models) it's usually three digits for the 10-digit machines as well. The reason why only 12 digits of Pi are displayed simply is its 13th (rounded) digit which is zero: Pi ~= 3,14 159 265 359 0. ;-)

What I would like to ask here is this: on the one hand there is a limited number of digits the calculator works with. In most 10-digit machines that's 13 internal digits. On the other hand there is a certain number of digits of Pi stored internally, which may be 13, 24 or even 31 digits. How does this affect the accuracy of the trig functions? Why does sin(3,141592653) on a classic 10-digit HP return just 5,90 E-10? Does the internal algorithm simply evaluate Pi - x ? And, if the 35s actually uses 24 internal digits of Pi, why does it only return 6 digits for sin(3,14159265) = 3,58 979 E-7. Add just one more digit to the argument to get a full precision result: sin(3,141592653) = 5,89 793 238 463 E-10. Why?

Final question: the WP34s internally uses 39 digits, 16 digits are returned and usually 12 digits are visible in the display. How many guard digits does it have? ;-)

Dieter

Re: A few remarks and questions re. Solve #25

*Message #5 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:55 p.m.,*
in response to message #4 by Dieter

> Quote:
>
> Final question: the WP34s internally uses 39 digits, 16 digits are returned and usually 12 digits are visible in the display. How many guard digits does it have? ;-)

The answer is 4. Guard digits are available to the user but not shown in the display. The internal precision is independent from this. The 41C has no guard digits but can compute to more digits (13?) internally.

Re: A few remarks and questions re. Solve #25

*Message #6 Posted by **Dieter** on 2 Oct 2011, 10:09 a.m.,*
in response to message #5 by Marcus von Cube, Germany

If guard digits are available to the user but not shown in the display, most HPs do not use guard digits at all. This does not match the usual definition by HP who claim that (most of) their calculators use three "guard digits". Which definition now is correct? And why? ;-)

Dieter

Re: A few remarks and questions re. Solve #25

*Message #7 Posted by **Philippe Lasnier** on 3 Oct 2011, 5:58 a.m.,*
in response to message #4 by Dieter

> Quote:
>
> Page 7 has a picture showing a 15C LE in space being "back by popular demand" - in five different languages. According to the comment on the next page I assume this ad will be used internationally as a part of the "15c PR campaign". I cannot comment on the French, Spanish and Dutch version of "bring it back", but I can say that the German version has three errors in its three words: it's not "Bringe es zuruck!" but "Bringt ihn zurück!". Which leads to the question if there really is not a single person at HP that is familiar with these languages. I would also like to ask this because my German HP35s manual does not compare favorably with the ones I got with my 34C and 41C back then.

The French version is also wrong, and actually hilarious! "Retourné" means "turned over" (tarte Tatin anyone?); What it should have been is "De retour".

Funnies aside, this is a bit poor. If anyone should use "foreign" languages, they could at least check that it's correct. Oh well, at least they got the "é" right on "retourné", and it made me smile ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Keyboard Survey Results

*Message #1 Posted by **M. Joury** on 28 Sept 2011, 9:32 p.m.*

Thanks to all the forum members that have so far responded to this survey. The results are as follows:

```
104 respondents
188 calculators
22 with keyboard issues
"failure" rate: 11.70%
```

I was asked to keep the survey open until European buyers had access to the units. The individual that requested this appears to have actually received his units and responded. However, if people want to continue providing data I will continue to assimilate it.

As always, please provide the total number of units purchased and the number that have keyboard issues. Loose and/or rattly f and g function keys do not constitute a problem as long as the keys register correctly.

As an example 2 units purchased with 1 having a problem would be listed as: 2:1.

Cheers,

-Marwan

Re: HP15C LE Keyboard Survey Results

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 8:16 a.m.,*
in response to message #1 by M. Joury

My 15C LE has a very minor issue with the [times] key which clicks but not always registers. I need to watch the display or press slightly harder then on the other keys to make it register. Since it is an imported item I don't think the normal warranty channels will be of any help.

#00052, maybe one of the lower numbered calcs here. :-)

Re: HP15C LE Keyboard Survey Results

*Message #3 Posted by **Reth** on 2 Oct 2011, 7:42 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> ... Since it is an imported item I don't think the normal warranty channels will be of any help.

And why so? Doesn't that defect make the calculator useless?

BTW warranty information (application form) is missing on the accompanying CD contrary to what the enclosed sheet of paper indicates...

Can anyone shed some light on that e.g. are any warranty channels available?

Re: HP15C LE Keyboard Survey Results

*Message #4 Posted by **Thomas Radtke** on 2 Oct 2011, 8:20 a.m.,*
in response to message #3 by Reth

> Quote:
>
> Doesn't that defect make the calculator useless?

HP certainly knew why they advertized the 15C LE as a gift. With that nice display box where the calculator is difficult to get out, I conclude that it was never meant to be used. And so, it is *a very minor issue*.

Re: HP15C LE Keyboard Survey Results

*Message #5 Posted by **Reth** on 2 Oct 2011, 8:38 a.m.,*
in response to message #4 by Thomas Radtke

:) I take this as a joke ;)

Re: HP15C LE Keyboard Survey Results

*Message #6 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 9:01 a.m.,*
in response to message #3 by Reth

The defect is really minor. I applied some contact cleaner which made it even less noticeable. I'll stay with #52.

At HHC I saw (and tried) a much worth sample which was later collected by Tim for inspection. I wouldn't have kept this one.

Re: HP15C LE Keyboard Survey Results

*Message #7 Posted by **Reth** on 2 Oct 2011, 9:09 a.m.,*
in response to message #6 by Marcus von Cube, Germany

To me click without registering is a show stopper when talking about HP calculator, period.

I'm still curious what all the rest of us will do with their faulty LE calcs.

Re: HP15C LE Keyboard Survey Results

*Message #8 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 10:04 a.m.,*
in response to message #7 by Reth

> Quote:
>
> To me click without registering is a show stopper when talking about HP calculator, period.

I had the problem with my first 17bll+ but since it came from a German distributor there was no problem to send it back for replacement. With the 15C LE it's a different story:

If I send it back to SC for repair or replacement I have to pay the shipment in advance. On the way back I can most certainly assume that I'm charged customs a second time. The whole thing will cost me money despite of the warranty, will get me a different serial number (I'm happy with #52), and will not assure that the unit I get is really better than mine.

Re: HP15C LE Keyboard Survey Results

*Message #9 Posted by **Reth** on 2 Oct 2011, 10:21 a.m.,*
in response to message #8 by Marcus von Cube, Germany

I wouldn't be surprised if HP refuse all keyboard related claims based on the fact that they never said officially that "click = registered" ;)

If they are about to resolve the issue, they should come up with official acknowledgement of the problem, which is yet to be seen and I strongly doubt this will ever happen.

Re: HP15C LE Keyboard Survey Results

*Message #10 Posted by **Marcus von Cube, Germany** on 2 Oct 2011, 12:59 p.m.,*
in response to message #9 by Reth

I can assure you that Tim and Cyrille really care. If they have any influence, the issue will be resolved.

Re: HP15C LE Keyboard Survey Results

*Message #11 Posted by **Reth** on 3 Oct 2011, 6:53 a.m.,*
in response to message #10 by Marcus von Cube, Germany

I'm sure they do care, but it's hardly up to them...

It is sad, but most probably my HP-15C LE will head off to the TAS. Hopefully there are folks out there who don't care about such *marginal issues* as keys clicking but not registering ;)

Re: HP15C LE Keyboard Survey Results

*Message #12 Posted by **Michael Kussmaul** on 2 Oct 2011, 9:56 a.m.,*
in response to message #2 by Marcus von Cube, Germany

BTW how are you planning to "bring" your calculator over to HP support? I'm living in Europe (from your forum name I guess you are frm Germany :-) and I'm not sure if HP supports international warranty, so I guess we have to send them back to the U.S.?

Or does anybody know if I should just contact HP support in my country (Switzerland) - I doubt they have heard anything about the 15c LE yet, as it is not avail. yet...

Re: HP15C LE Keyboard Survey Results

*Message #13 Posted by **Nick R** on 30 Sept 2011, 3:29 p.m.,*
in response to message #1 by M. Joury

That would seem to be a high level of unreliability. I'd be interested to know if those calculators that were reported to have no initial key press problems will have developed them after a few months of use.

Re: HP15C LE Keyboard Survey Results

*Message #14 Posted by **M. Joury** on 30 Sept 2011, 3:45 p.m.,*
in response to message #13 by Nick R

That is exactly my concern. Although, given that the HP12C+ has the same keyboard and that problem has not been seen on those cals (to the best of my knowledge), I am hoping that failure will not occur with use.

Cheers,

-Marwan

Re: HP15C LE Keyboard Survey Results

*Message #15 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 4:05 p.m.,*
in response to message #14 by M. Joury

Maybe it's the until know undetected cause of the financial crisis.

;-)

Re: HP15C LE Keyboard Survey Results

*Message #16 Posted by **Michael de Estrada** on 30 Sept 2011, 4:14 p.m.,*
in response to message #14 by M. Joury

My experience with keys on vintage calcs that require harder than normal pressure to register has been oxidation or contaminants on either the key or circuit board contact that results in high resistance to current flow. Cleaning the contacts usually solves the problem. Perhaps during the manufacture and assembly process the contacts were contaminated in same way that has caused the reported problems.

Edited: 30 Sept 2011, 4:15 p.m.

Contacts? Contacts!

*Message #17 Posted by **x34** on 1 Oct 2011, 1:34 a.m.,*
in response to message #16 by Michael de Estrada

> Quote:
>
> My experience with keys on vintage calcs that require harder than normal pressure to register has been oxidation or contaminants on either the key or circuit board contact that results in high resistance to current flow. Cleaning the contacts usually solves the problem.

Thanks, Michael! Your post and Contact Cleaner 60 just fixed my 4-year old problem with R/S key on HP-35S :) I just spayed a tiny bit of it, and IT WORKS without any problem, while I had to press the key with triple force to register out of the box.

Re: Contacts? Contacts!

*Message #18 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 4:02 a.m.,*
in response to message #17 by x34

Will this help with my 15C LE? Where to spray it?

Re: Contacts? Contacts!

*Message #19 Posted by **x34** on 1 Oct 2011, 5:56 a.m.,*
in response to message #18 by Marcus von Cube, Germany

I sprayed just above the key, aiming straw to the slot, while sliding key down (opposite display, not like usual press) to make widest slot. The correct name of the spray is Kontakt 60.

Re: Contacts? Contacts!

*Message #20 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 6:17 a.m.,*
in response to message #19 by x34

> Quote:
>
> The correct name of the spray is Kontakt 60.

Well known here. I hope my bottle isn't empty.

Re: HP15C LE Keyboard Survey Results

*Message #21 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 30 Sept 2011, 11:39 p.m.,*
in response to message #1 by M. Joury

2:1 BAD CNA132093F [7] Key won't register unless press very hard

Re: HP15C LE Keyboard Survey Results

*Message #22 Posted by **M. Joury** on 1 Oct 2011, 9:40 a.m.,*
in response to message #21 by Kerem Kapkin (Silicon Valley, CA)

Hi Kerem,

Earlier you had responded with 1:0. Are these two new machines of which one is bad or one new machine that is bad?

Thanks,

-Marwan

Re: HP15C LE Keyboard Survey Results

*Message #23 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 2 Oct 2011, 6:49 p.m.,*
in response to message #22 by M. Joury

Sorry for the confusion: Bad one was just delivered, so it is total (2)

CNA132093F LE#00253 with bad [7] key, going back to HP for refund CNA1310K6Q LE#00725 works great!

Both are from HP Direct

Re: HP15C LE Keyboard Survey Results

*Message #24 Posted by **M. Joury** on 2 Oct 2011, 7:52 p.m.,*
in response to message #23 by Kerem Kapkin (Silicon Valley, CA)

Thanks Kerem.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Case for 20b/30b/34S?

*Message #1 Posted by **David Hayden** on 28 Sept 2011, 9:16 p.m.*

I have a 20b (now a 34S) that came without a protective case. Looking on the web I haven't been able to find a source of them. Does anyone know where I might get one? I suspect that there are others who might want them too.

Dave

Re: Case for 20b/30b/34S?

*Message #2 Posted by **Walter B** on 29 Sept 2011, 3:41 p.m.,*
in response to message #1 by David Hayden

Dave,

Besides the standard protective flap coming with the 30b, according to my experience the WP 34S fits very well into the case of the 17bii+ Silver. Old Pioneer *leather* cases are suitable as well, while the standard black fake leather sleeves are too wide.

HTH,
Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why does solver "iterate" when using S() function?

*Message #1 Posted by **JamesT** on 28 Sept 2011, 6:42 p.m.*

Hi All,

I have a simple unit conversion formulas that I use on my HP17BII /HP17BII+ and decided to consolodate 3 of these into a single menu using the S() function. I have 2 nested IF(S(nnn)... functions, with a total of 3 equations:

LENGTH: IF(S(MM) OR S(INCH): MM * 0.03937007874 – IN: IF(S(M) OR S(FEET):M * 3.280839895 – FT : KM * 1.609344 - MILE))

The equation on the left most runs instantiously (mm-inch), while the two on the right iterate though the solution for some reason! On the 17BII, you get calculating, and the 17BII+ shows the min max iterations.

Run as stand-alone equations, they run instantly. Any ideas on how to fix this behavior?

Re: Why does solver "iterate" when using S() function?

*Message #2 Posted by **Don Shepherd** on 28 Sept 2011, 8:35 p.m.,*
in response to message #1 by JamesT

Shouldn't IN be INCH and FT be FEET in your formula? I think the KM/Mile conversion factor should be 0.621371192 (per Google anyhow).

The 17bii+ solver is going to use the iterative solver in situations where the 17b or 17bii solver would use the direct solver. I think Cyrille told me one time that that is due to memory constraints in the 17bii+. The 17bii does say CALCULATING but it derives a solution within a second or two; the plusses and the iterative solver take several seconds generally.

Edited: 28 Sept 2011, 8:50 p.m.

Re: Why does solver "iterate" when using S() function?

*Message #3 Posted by **JamesT** on 28 Sept 2011, 9:37 p.m.,*
in response to message #2 by Don Shepherd

You're right...I had fixed that after keying. The miles->km formula is calculating the reverse factor as it's keyed, so it works.

Disappointing that the plus is SO much slower than the older unit. Oh well. It does validate the equation faster, so not all is bad.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Why does solver "iterate" when using S() function?

HP Forum Archive 20

[Return to Index | Top of Index]

[edited] from the HHC email list, what is the proper answer to 8 ENTER 3 divide 2 divide on 10 digit calc

*Message #1 Posted by **gene wright** on 28 Sept 2011, 4:08 p.m.*

[EDITED]

The email thread is going wild, but consider this:

8 ENTER 3 divide

shows 2.666666667 in the X register.

Now do a 2 divide.

What should be shown in FIX 9?

1.333333334 or 1.333333333 ?

Older generation calculators such as the 15c, 41c, etc. and calculators without guard digits give a 4 at the end. Isn't that as it should be?

After all, the calculator does not know you are really trying to get 1/3 --- all it knows is it has 2.666666667 in X and you divide by 2.

Thoughts?

Edited: 28 Sept 2011, 4:40 p.m. after one or more responses were posted

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #2 Posted by **Olivier De Smet** on 28 Sept 2011, 4:14 p.m.,*
in response to message #1 by gene wright

it's 2.000000000 ;)

for a working unit

Edited: 28 Sept 2011, 4:15 p.m.

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #3 Posted by **Werner** on 28 Sept 2011, 4:36 p.m.,*
in response to message #1 by gene wright

On a 10-digit calc without guard digits,

(1) 2.666666667 divided by 2 should yield 1.333333334
(2) as should 2.666666669 divided by 2 ...
round to even, and no 'cosmetic rounding', please.
of course, the 41C does not do (2). But the 42S does (with 12 digits)

Cheers, Werner

Re: [edited] from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #4 Posted by **Steve Simpkin** on 28 Sept 2011, 4:50 p.m.,*
in response to message #1 by gene wright

Gene,
As you stated in the HHC Digest emails, 1.333333334 is the correct answer "given the architecture being used". Other calculators have used guard digits to reduce this limitation but HP chose not to, at least in their typical classic BCD designs. The WP34S displays a 12 digit answer of 1.33333333333. Pressing "SHOW" displays the full 16 digit internal answer of 1333333333333334.

Re: [edited] from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #5 Posted by **Dieter** on 28 Sept 2011, 5:05 p.m.,*
in response to message #4 by Steve Simpkin

The result returned by the 34s depends from which of the seven rounding modes you chose. ;-)

Its default setting (RM 0) is "round 0.5 to even", so 1/3 divided by 2 will return 0,16...666, like most newer HP calculators.
Set it to "round 0.5 up" (RM 1) and it will return 0,16...667 like most classic HPs.

Dieter

Re: [edited] from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #6 Posted by **Steve Simpkin** on 28 Sept 2011, 5:30 p.m.,*
in response to message #5 by Dieter

Wow! I did not know about those options. I never cease to be amazed by what the WP34S can do.

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #7 Posted by **Dieter** on 28 Sept 2011, 4:55 p.m.,*
in response to message #1 by gene wright

Let's assume you first want to divide 8 by 3, not 2. ;-)

First of all, the calculator does not return 8/3 - instead it displays the rounded first ten digits of this result. This is what you said in your last sentence - the result is not 8/3 but 2,6666 66667 - the last digit is correctly rounded up.

So the next step does *not* divide 8/3 by 2. It divides 2,6666 66667 by two. The correct answer here is

1,3333 33333 5. Whether this result is rounded up or down depends on the rounding method implemented in the calculator. If it rounds to the closest digit, the usual approach is to round a 5 up to the next digit, i.e. ...334.

However, there are also strategies like "round to even" or "round to odd" for cases like this where the digits following the displayed result are exactly ...500. In this case the calculator rounds to the next even resp. next odd digit, resulting in ...334 resp. ...333. The idea behind this is to avoid error accumulation.

Anyway, I prefer the "classic" rounding strategy: 0 to 4 are rounded down, 5 to 9 are rounded up. At least that's what I would expect. I admit I was a bit puzzled when I found out that my (then) brand new 35s seemed to round to even: divide 1/3 by 2 and you'll see it round down to 0,16666 66666 66 instead of ...67.

Dieter

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #8 Posted by **C.Ret** on 29 Sept 2011, 5:59 p.m.,*
in response to message #7 by Dieter

Hello,

I don't know any things about internal mecanics of the calculators.

What really surprise me is that I get on my old 10-digits HP-41C different numeric approximations for the same computation.

The quantity 8/3/2 or (8/3)/2 or (8/2)/3 or 8/6 are all exactly 4/3. What is really surprising is that the way we drive the computation on your calculator give different numeric résults. I don't know any think about calculators internal macanis. I only understand that cascading numeric approximation (due to a limited number of digits used) lead to the different round-off results.

```
8[ENTER^] 3 [ / ] 2 [ / ]           returns    1.333333334
2[ENTER^] 3 [ x ][1/x] 8 [ x ]      returns    1.333333334
8[ENTER^] 3 [1/x][ x ] 2 [ / ]      returns    1.333333333
8[ENTER^] 3 [1/x][ x ] 2 [1/x][ x ] returns    1.333333333
8[ENTER^] 2 [ / ] 3 [ / ]           returns    1.333333333
8[ENTER^] 3 [ENTER^] 2 [ x ][ / ]   returns    1.333333333
3[ENTER^] 8 [ / ] 2 [ x ][1/x]      returns    1.333333333
Etc.
```

So the correct answer for a 10-digits calculator is 1.333...; It is the same for 12- 14- 24- 500-digits calculators.

Edited: 30 Sept 2011, 4:40 p.m. after one or more responses were posted

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #9 Posted by **Dieter** on 29 Sept 2011, 6:45 p.m.,*
in response to message #8 by C.Ret

The results you get are completely correct and that's also what I would have expected here:

```
8 [ENTER^] 3 [ / ] 2 [ / ]          returns    1.333333334
```

Sure. The first result is 2,6666666667, and 1/2 of that is 1,3333 33333 5 which is correctly rounded to ...334.

```
2 [ENTER^] 3 [ x ][1/8] 8 [ x ]      returns    1.333333334
```

I assume that's [1/x]. ;-)
Again, the result after this operation is 0,16666 66667 (correct) and 8x that is 1,3333 33333 6 which again is rounded correctly to ...334.

```
8 [ENTER^] 3 [1/x][ x ] 2 [ / ]      returns    1.333333333
```

Here you are multiplying 8 with 0,33333 33333 giving 2,6666 66666 4. Which then is correctly rounded to ..666, resp. ...333 after the final division by 2.

There is always the same basic idea: 8 [ENTER] 3 [÷] does not return 8/3. It returns *the first ten rounded digits* of this value. Every result of a single operation is correct (in its first ten significant digits), but in a series of numeric operations the rounding error will accumulate.

You may also try this:

```
2 [sqrt] 2 [÷]    => 0,7071067810
2 [sqrt] [1/x]    => 0,7071067814
0,5 [sqrt]        => 0,7071067812
[DEG]
45 [sin]          => 0,7071067812
45 [cos]          => 0,7071067812
[RAD]
[Pi] 4 [÷] [sin]  => 0,7071067813
[Pi] 4 [÷] [cos]  => 0,7071067811
```

Only the three results ending in ...812 show the expected value of sqrt(2)/2. In these three cases the *exact* argument is given. It is *exactly* 0,5 resp. *exactly* 45 degrees.

In all other cases, however, the argument was only an *approximation* - Pi/4 is *not* exactly 0,7853981635 and sqrt(2) is *not* exactly 1,414213562. That's where the different (yet correct) results come from. And that's why there are guard digits - but not for us users who only see the rounded 10-digit result. ;-)

Dieter

Edited: 30 Sept 2011, 9:06 a.m.

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #10 Posted by **Jake Schwartz** on 30 Sept 2011, 3:21 p.m.,*
in response to message #9 by Dieter

> Quote:
>
> You may also try this:
>
> 2 [sqrt] 2 [÷] => 0,7071067810
>
> 2 [sqrt] [1/x] => 0,7071067814
>
> 0,5 [sqrt] => 0,7071067812
>
> [DEG] 45 [sin] => 0,7071067812
>
> 45 [cos] => 0,7071067812
>
> [RAD] [Pi] 4 [÷] [sin] => 0,7071067813

> [Pi] 4 [÷] [cos] => 0,7071067811

Just as an added "celebration" of the 34S, for what it is worth, I wanted to report that

2 [sqrt] 2 [÷] => 0.70710678119, with SHOW yielding 0.7071067811865475

2 [sqrt] [1/x] => 0.70710678119, with SHOW yielding 0.7071067811865475

0,5 [sqrt] => 0.70710678119, with SHOW yielding 0.7071067811865475

[DEG] 45 [sin] => 0.70710678119, with SHOW yielding 0.7071067811865475

45 [cos] => 0.70710678119, with SHOW yielding 0.7071067811865475

[RAD] [Pi] 4 [÷] [sin] => 0.70710678119, with SHOW yielding 0.7071067811865474

[Pi] 4 [÷] [cos] => 0.70710678119, with SHOW yielding 0.7071067811865476

.....with only the final two computations differing from the others by one count in the 16th place. I am impressed.

Jake

Re: Ok, from the HHC email list, what is the proper answer to 8 ENTER 2 divide 2 divide on 10 digit calc

*Message #11 Posted by **Dieter** on 2 Oct 2011, 1:07 p.m.,*
in response to message #10 by Jake Schwartz

Jake,

> Quote:
>
> Just as an added "celebration" of the 34S, for what it is worth, I wanted to report that...
> (...)
> ...only the final two computations differing from the others by one count in the 16th place. I am impressed

I am afraid I have to pour some water into the wine. ;-)

While I really appreciate the accuracy of the results returned by the WP34s, the reason for its good results here (and the differences in the 10-digit results) mainly is the input value itself: Both sqrt(2), Pi and by the way also e happen to round very well to 16 digits, while on the other hand the error is quite large in 10 digit precision. Simply take a look at the correct values (blanks inserted after 10th, 12th and 16th significant digit):

```
sqrt(2) =  1,414213562 37 3095 048...
   Pi   =  3,141592653 58 9793 238...
   e    =  2,718281828 45 9045 235...
```

You see, rounding to 10 digits always causes an error of roughly 0,4 ULP, that's almost the worst case possible. On the other hand the rounded 16 digit value is only half that (roughly 0,2 ULP) or even merely 0,05 ULP for sqrt(2). Rounding to 12 digits also gives good results,

especially for Pi and e (less than 0,1 ULP).

It even gets better: Set the 34s rounding mode to RM 1 (i.e. round 0.5 up, like most classic HPs), and this happens:

```
  [Pi] 4 [÷] =  1/4 of 3,1415926535897932
             =  0,78539 81633 97448 25  exactly
             =  0,78539 81633 97448 2   in RM 0 (newer HPs)
             =  0,78539 81633 97448 3   in RM 1 (classic HPs)
```

which agrees to the exact value...

```
      Pi/4   =  0,78539 81633 97448 309...
```

...with an error of less than 0,1 ULP, i.e. less than 1 unit in the 17th (!) digit.

In other words, setting RM 1 (like the classic HPs) will even remove that last "inconsistency" in the (radians) trig functions:

```
  [rad]
  [Pi] 4 [÷] [sin]  =>  0,70710 67811 86547 5
  [Pi] 4 [÷] [cos]  =>  0,70710 67811 86547 5
```

By the way - as shown above, Pi/4 rounds very well to 10 digits (error less than 0,03 ULP). So you can do this in a classic 10-digit machine:

```
  [rad]
  45 [D->R] [sin]   =>  0,70710 67812
  45 [D->R] [cos]   =>  0,70710 67812
```

q.e.d. ;-)

Dieter

Edited: 2 Oct 2011, 1:18 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34s library program usage

*Message #1 Posted by **David Persinger (US)** on 28 Sept 2011, 2:53 p.m.*

I have looked through the forum in vain to find a description of the usage of the 34s library programs. Does this exist anywhere?

I was able to get them transferred, just looking for instructions on how to use.

Re: WP-34s library program usage

*Message #2 Posted by **Dominic Richens** on 28 Sept 2011, 7:40 p.m.,*
in response to message #1 by David Persinger (US)

The instructions can be found in the actual *.wp34s text files in the library directory.

Re: WP-34s library program usage

*Message #3 Posted by **David Persinger (US)** on 29 Sept 2011, 7:28 a.m.,*
in response to message #2 by Dominic Richens

Thank you, Dominic. I did not realize these were txt files.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE - PSE works and doesn't! Please explain!

*Message #1 Posted by **Alexander Oestert** on 28 Sept 2011, 2:48 p.m.*

Entering the PSE in a DSE loop yields the bug. The program from page 89 of the new handbook works just fine. Can someone explain?

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #2 Posted by **Michael de Estrada** on 28 Sept 2011, 2:57 p.m.,*
in response to message #1 by Alexander Oestert

That is probably because you don't execute another instruction between the consecutive pauses. If you try the example on pages 114-115, the display will only show the first result in the loop before ending the program. The bug will occur even if you don't use a DSE or ISG loop, for example 1 PSE 2 PSE 3 R/S will only display 1 and 3.

Edited: 28 Sept 2011, 3:04 p.m.

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #3 Posted by **Alexander Oestert** on 28 Sept 2011, 3:05 p.m.,*
in response to message #2 by Michael de Estrada

Unfortunately entering a second PSE in the page 114 progtam doesn't make it work. So there must be more to it than just two consecutive PSEs. I have already tested some different cases that don't work. But why DOES it work in the cited case?

Edited: 28 Sept 2011, 3:08 p.m.

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #4 Posted by **Michael de Estrada** on 28 Sept 2011, 3:20 p.m.,*
in response to message #3 by Alexander Oestert

Because, like I said, you are not executing the pause more that once, you are just extending it. Try 1 PSE PSE 2 PSE 3 R/S. You will still get the first pause and see 1 followed by 3.

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #5 Posted by **Mike Morrow** on 28 Sept 2011, 3:33 p.m.,*
in response to message #4 by Michael de Estrada

The bug problem is *always* present and *apparent* when two or more PSE commands are executed. It does not matter if the PSE commands are consecutive or separated by thousands of other executed instructions (i.e., a loop).

With 1 PSE PSE 2 PSE 3 R/S, the 15C-LE yields:

1 in display for one second (first PSE) (Everything is OK so far),
blank display for one second (second PSE) (BUG: 1 should still be in display),
blank display for one second (third PSE) (BUG: 2 should now be in display),
3 in display after program terminates.

Two consecutive PSE commands are two distinct executions of the PSE command. The second does not extend the first. The bug becomes apparent immediately with the execution of the second and subsequent PSE commands, until the program terminates.

Edited: 28 Sept 2011, 3:40 p.m.

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #6 Posted by **Mike Morrow** on 28 Sept 2011, 3:16 p.m.,*
in response to message #1 by Alexander Oestert

The program on page 89 is very definitely **not** working as it should, i.e., as it would on an original HP-15C.

After entering 45 in Y and 50 in X, then executing f A, the value 38.2683 should be displayed for the length of **two** pauses (about two seconds), after which the program terminates shortly showing 39.2699.

Instead, the PSE bug in the 15C-LE causes the following: After executing f A, the value 38.2683 is displayed for the length of the **first** pause (about one second), then the display blanks for the length of the **second** pause (about one second), after which the program terminates showing 39.2699. Bad!

This PSE bug that I reported here on September 10 only becomes apparent after *more than one* PSE is encountered in the program runstream, as it is in this program. The first PSE works OK, but subsequent PSE commands disrupt the LCD. It is immaterial whether the PSE commands are in any sort of loop, DSE or otherwise.

Re: 15c LE - PSE works and doesn't! Please explain!

*Message #7 Posted by **Alexander Oestert** on 28 Sept 2011, 3:23 p.m.,*
in response to message #6 by Mike Morrow

Ah, I didn't realize the 2-PSE-requirement for the bug to appear. Thanks for clarifying.

Edited: 28 Sept 2011, 3:39 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Problem with too-pristine calcs...

*Message #1 Posted by **Cristian Arezzini** on 28 Sept 2011, 12:27 p.m.*

I just realised a few days ago that, though I love most HP calcs, and though in my small bag I always carry a wp34s... the calculator I still love most is the 48G/GX. And I have several, of many variants - G, GX, G expanded, and so on. But the problem is they're all in pristine, near-mint conditions... and I don't really want to take them with me at work every day. And most 48's you find on TAS these days, are all near-mint and quite expensive. So my question is: where do you think I could source a perfectly working but "well-used" 48 in Europe - something I wouldn't feel bad "banging around" - and how much could it be worth?

Cristian

Re: Problem with too-pristine calcs...

*Message #2 Posted by **Martin Pinckney** on 28 Sept 2011, 2:01 p.m.,*
in response to message #1 by Cristian Arezzini

I think you are confused. Calculators were meant to be used. They were all pristine when they started life, right? If it bothers you, keep using them and sooner or later they won't be pristine anymore.

Re: Problem with too-pristine calcs...

*Message #3 Posted by **megarat** on 29 Sept 2011, 2:19 p.m.,*
in response to message #2 by Martin Pinckney

I relate to both sides of this fence: yes, calculators are tools, and tools are meant to be used. But now these vintage critters have become collectors' items, so when you have one in lovely cosmetic condition, that introduces the fear that by worsening its cosmetic condition, you somehow make it "less useful".

I had a beautiful, cherry, absolutely fresh-out-of-the-box 16c that I wanted to use regularly, but because it was so pristine I couldn't build up the nerve. I figured that a collector would value its pristineness more than I, so I found a buyer via TAS, then picked up a visibly used 16c via TAS for half the price. Win win!

My advice, w/r/t the 48 series ... heaps of engineering undergrads bought these calculators for a handful of classes and never used them again. Which is why the used market sees such a large number of these units in good condition. Since it sounds like you have multiple pristine units, designate the one in the least-best condition to be used as your daily carry, and keep the others pampered. If it gets any blemishes, you'll get over it soon enough.

Edited: 29 Sept 2011, 2:21 p.m.

Re: Problem with too-pristine calcs...

*Message #4 Posted by **Håkan Thörngren** on 28 Sept 2011, 2:29 p.m.,*
in response to message #1 by Cristian Arezzini

Do not worry, use them, that is what they are for.

My HP48GX is not perfect, I even ran it over with my scooter (130kg in total), it was an accident. It took sort of care of that problem, it squeaks a bit more when I push on it and it looks slightly more used, otherwise it is fine and that was >10 years ago..

I have an unused spare since I feared there would be no more decent calculator with proper ENTER key from HP. With that and a couple of HP-41s and Voyagers I think I will do fine for the rest of my life.

Re: Problem with too-pristine calcs...

*Message #5 Posted by **Cristian Arezzini** on 28 Sept 2011, 2:43 p.m.,*
in response to message #4 by Håkan Thörngren

I know they're meant to be used. I used my original 48GX very much, and it showed, and I was OK with that - then it was stolen. Now I've bought several more, and they're all so beautiful and new that I feel bad scratching and banging them... after all, there will be always less and less of them... you know, it would feel like scratching and denting a vintage-but-mint car... :D

Cristian

Re: Problem with too-pristine calcs...

*Message #6 Posted by **Matt Fegenbush** on 28 Sept 2011, 2:51 p.m.,*
in response to message #4 by Håkan Thörngren

But what about your children and grandchildren? Won't you think of them? What are they to do in 20 years when RPN calculators are hard to come by and demand is high?

Re: Problem with too-pristine calcs...

*Message #7 Posted by **Mike Morrow** on 28 Sept 2011, 4:05 p.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> So my question is: where do you think I could source a perfectly working but "well-used" 48 in Europe - something I wouldn't feel bad "banging around" - and how much could it be worth?

I'd suggest using a currently-made machine that is less expensive, far far more capable, has an easy firmware upgrade process, and has a display that is greatly superior. Of course, that can only be the HP 50G.

I was very happy to relegate my two NOS HP 48GX units with their nasty oddball battery-backed limited-capacity memory expansion cards to basement storage after obtaining the HP 50G five years ago. It's not perfect, but it's the best that's available right now. And rather inexpensive.

Re: Problem with too-pristine calcs...

*Message #8 Posted by **Cristian Arezzini** on 28 Sept 2011, 4:54 p.m.,*
in response to message #7 by Mike Morrow

I know, the 50g is what's in my work bag now. And I use it a lot, and I like it. But there's something with the 48's keyboard and its sturdy feel and beautiful looks, that the 50g just doesn't have... :) I wouldn't choose anything but the 50g for programming, but for simple tasks, I like the 48...

Cristian

Re: Problem with too-pristine calcs...

*Message #9 Posted by **Jean-Michel** on 28 Sept 2011, 5:42 p.m.,*
in response to message #8 by Cristian Arezzini

Hello Cristian

There are quite often nice 48 G/GX for about 15 to 20€ on LeBonCoin.fr. Give it a try. Shipping to Italy may not be that expensive.

Kind regards.

JM

Re: Problem with too-pristine calcs...

*Message #10 Posted by **Dave Britten** on 28 Sept 2011, 9:12 p.m.,*
in response to message #8 by Cristian Arezzini

I keep a 48SX (with 32kb RAM card) on my desk precisely for the reason that the keyboard layout and build quality are so much better than the 50g. I even put up with the much slower program editing because of this. If I need a bit more speed for something large, I pull out the 48GX.

And the 15c LE is qute the speed demon, with a nice keyboard too. :)

Re: Problem with too-pristine calcs...

*Message #11 Posted by **Les Wright** on 28 Sept 2011, 10:17 p.m.,*
in response to message #1 by Cristian Arezzini

I am an impatient bidder at TAS (or at least I used to be) and ended up with a too expensive but near mint 15C a few years back. Indeed, the only blemish is that the protective coating over the LCD plastic seems to be thinning just a touch. I have been afraid to worsen it by usage, and as such this grand-daddy of HPs has seen little use.

I got my 15C LE at a fraction of the cost of that original, and even though I am a little dainty with it I am actually using the machine and chagrined that I let the original sit on my shelf for such a long time without getting played with.

So now I am on the "calculators should be used" team. I don't collect as much any more, but I went through an acquisitive phase a few years back and I don't use most of the pieces now.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S Battery Questions

*Message #1 Posted by **svisvanatha** on 27 Sept 2011, 11:15 p.m.*

Hello,

I have a few questions on the batteries for the WP-34S.

1. At what BATT value (X.FCN->BATT) should the batteries be replaced at? I seem to be getting random resets of the calculator when BATT < 2.7.

2. Can the LIR2032 rechargaeble coin cells be used in place of the CR2032? The voltage per cell is 3.6V versus the 3V of the CR2032. Is there some limiter within the hardware which prevents damage from occuring with higher than spec voltage?

As an aside, I used the Serial I/O for the first time today, and was impressed by its functionality!

Edited: 28 Sept 2011, 6:39 a.m. after one or more responses were posted

Re: WP-34S Battery Questions

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Sept 2011, 1:51 a.m.,*
in response to message #1 by svisvanatha

The 3.6V might be too much as the power goes directly to the processor.

The crashes worry me. Try the SLOW command which reduces the speed. I might need to adopt a different approach at the low battery detection thresholds.

Re: WP-34S Battery Questions

*Message #3 Posted by **svisvanatha** on 28 Sept 2011, 6:41 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Yes, the SLOW command seems to prevent the resets from occurring. There does appear to be something going on at the lower battery levels. Let me know if I can assist in any way.

Re: WP-34S Battery Questions

*Message #4 Posted by **Paul Dale** on 28 Sept 2011, 7:32 a.m.,*
in response to message #3 by svisvanatha

My guess would be that we've not yet done enough calibration of the clock rates to the lower battery voltages. At some point we switch the 34S to slow mode. This point would seem to be too aggressive still.

The power management is Marcus's baby so I'm loathe to change much here.

- Pauli

Re: WP-34S Battery Questions

*Message #5 Posted by **E.Lub_EU** on 28 Sept 2011, 10:15 a.m.,*
in response to message #3 by svisvanatha

Hello again,

May I ask which activity caused the reset? (running a program, saving to flash, etc.)

And also: - what is the brand of your batteries?
- have you experienced the problem with other batteries?

Because the HP platform current draw at full speed is so much out of the specified region of these batteries, I suspect that there might be significant variations between brands.

Regards,
Etienne

Re: WP-34S Battery Questions

*Message #6 Posted by **svisvanatha** on 28 Sept 2011, 11:06 a.m.,*
in response to message #5 by E.Lub_EU

I was executing math operations with the top row. The batteries are Sony's, but I have seen it with Duracell as well at similar voltage levels. New batteries report BATT=3.0 or so, and no issues.

Re: WP-34S Battery Questions

*Message #7 Posted by **Bart (UK)** on 28 Sept 2011, 8:45 a.m.,*
in response to message #2 by Marcus von Cube, Germany

AT91SAM7L128 supply voltages spec:
Normal operating range: 1.8V to 3.6V
Maximum operating: 4.0V

The ususal note from the data sheet:
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or other conditions beyond those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

I do not know what other components there are and their operating limits (LCD voltage should be regulated by the AT91SAM7L128).

-Bart

Re: WP-34S Battery Questions

*Message #8 Posted by **E.Lub_EU** on 28 Sept 2011, 4:53 a.m.,*
in response to message #1 by svisvanatha

Hello,

In response to your battery question:

Looking for a datasheet, I found a source Here .

The only conclusion is that I would strongly advise aginst it!

These are standard Lithium-Ion chemistry, which means that they are charged at 4.2V. So a fresh battery will expose your calculator to a little less than 4.2V, and will only decrease to a safer level of around 3.6V after having used 80% of its capacity (see figs. 7.1 & 7.2). I believe there is a strong risk of damaging your calculator, even after only a single try.

Moreover, to protect the LIR batteries against overdischarge, you would have to monitor "manually" their voltage quite regularly and take them out of the calc as soon as they reach 3V. Note that this is nearly the fresh voltage of a CR2032, so the software will not warn you at that point. Overdischarging these cells will ruin them very fast, and might even be a real hazard.

You can also see that their capacity is quite modest (approx. 1/6 of the CR2032).
OTOH, they woud not suffer from the 20mA load from the calculator.

I would like to see what would be achievable with an LiFePO technology. That should be voltage-compatible, but might offer an even slightly lower capacity.

Regards, Etienne [edit] clarifications

Edited: 28 Sept 2011, 7:13 a.m. after one or more responses were posted

Re: WP-34S Battery Questions

*Message #9 Posted by **svisvanatha** on 28 Sept 2011, 6:42 a.m.,*
in response to message #8 by E.Lub_EU

Thank you for the response. I was curious whether there were rechargeable alternatives to CR2032 cells, and stumbled upon these. I'll stay away from them !

Re: WP-34S Battery Questions

*Message #10 Posted by **E.Lub_EU** on 28 Sept 2011, 7:26 a.m.,*
in response to message #9 by svisvanatha

You're welcome.

You have been misleaded by the claim "rechargeable alternative to CRnnnn".
While looking for the technical data, I've encountered a lot of sites claiming the same, in several languages.
To me, that's almost a lie, as many devices could be damaged.

Happy calculating with your WP34S!

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

Who Needs TAS When We Have Samson Cables?

*Message #1 Posted by **Les Wright** on 27 Sept 2011, 10:23 p.m.*

My 15C LE finally arrived and so far I am so impressed I want another to squirrel away as a collectible.

So I go back to the trusty Samson site, and not only is item back-ordered, BUT the seller has the cheekiness to pump the price up 20% over MSRP!

Ain't capitalism grand?

Maybe this demand will keep the unit in production as an HP standard?

Les

Re: Who Needs TAS When We Have Samson Cables?

*Message #2 Posted by **Michael de Estrada** on 27 Sept 2011, 11:14 p.m.,*
in response to message #1 by Les Wright

The reason they are OOS at their home website is that they are selling all their existing stock on TAS for 50% over MSRP.

Re: Who Needs TAS When We Have Samson Cables?

*Message #3 Posted by **Bruce Bergman** on 27 Sept 2011, 11:50 p.m.,*
in response to message #1 by Les Wright

Yeah, I have to say, I've lost a LOT of my respect for them. They used to be pretty much the last best calculator sales place (dedicated calculator sales), but lately they've taken to reaming the community for as much as they can get. Their prices vary day to day on the 15cLE, based on stock and demand. And over even the HP SMB price. Then, they resell for Buy.com (who is OOS also) at an even higher price.

Not cool, Samson. I doubt I will buy from you ever again.

:-(

Re: Who Needs TAS When We Have Samson Cables?

*Message #4 Posted by **Cristian Arezzini** on 28 Sept 2011, 4:53 a.m.,*
in response to message #3 by Bruce Bergman

Hmmm... I agree that it's frustrating (I wish I could buy them before the price increased), but isn't this just the essence of capitalism? As in, if people are willing to pay an higher price, why should they sell for less? :(

Re: Who Needs TAS When We Have Samson Cables?

*Message #5 Posted by **Michael de Estrada** on 28 Sept 2011, 8:45 a.m.,*
in response to message #4 by Cristian Arezzini

No, this isn't capitalism, which requires competition to set prices. SC has cornered the international market as the only "dealer" that can/will ship outside the USA. They are the only dealer that has charged over MSRP. Even Buy.com sold all their initial stock below MSRP, both through their website and on TAS. HP SMB initially charged above current MSRP, but agreed to credit customers who overpaid. IOW, everyone except SC has shown good business ethics. But, there's and old expression, "what goes around comes around," so short term profits may be offset by long term ill will.

Re: Who Needs TAS When We Have Samson Cables?

*Message #6 Posted by **Eric Rechlin** on 28 Sept 2011, 2:02 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> SC has cornered the international market as the only "dealer" that can/will ship outside the USA

But that's not even true. I've been shipping calculators outside the US since 2003.

Eric

Re: Who Needs TAS When We Have Samson Cables?

*Message #7 Posted by **Raymond Del Tondo** on 28 Sept 2011, 2:47 p.m.,*
in response to message #6 by Eric Rechlin

Mmmmm, how could I forget?

Just ordered some from you:-)

Regards

Raymond

Re: Who Needs TAS When We Have Samson Cables?

*Message #8 Posted by **Brian Walsh** on 28 Sept 2011, 2:19 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> But, there's and old expression, "what goes around comes around," so short term profits may be offset by long term ill will.

You are absolutely correct. Being a retailer myself (high end home audio) I am very sensitive to this. The HP handheld enthusiast community is small, so it doesn't take much to fall out of favor. The Golden Rule is a good guideline to follow.

Re: Who Needs TAS When We Have Samson Cables?

*Message #9 Posted by **Steve Fennell** on 28 Sept 2011, 8:03 p.m.,*

in response to message #5 by Michael de Estrada

Samson Cables took preorders for the 15C LE and charged $95 which is below MSRP. I do not know their reasons for charging higher prices except that is what the market would bear, or they assumed there were no additional shipments of the calculator.

buy.com also raised their prices from $79 to $85 shortly after it became available. Not a big increase, but still taking advantage of higher demand for a product in short supply.

Re: Who Needs TAS When We Have Samson Cables?

*Message #10 Posted by **Michael de Estrada** on 28 Sept 2011, 8:17 p.m.,*
in response to message #9 by Steve Fennell

Buy.com never went above $90 and shipped for free. They sold out their entire stock on both their website and on TAS at that price. I also bought from CostCentral in a pre-order for $80.52, back when the projected MSRP was $129. Meanwhile, SC has been as high as $200 + shipping. Frankly, if SC wants to price gouge, then so be it, but it seems like a very short-sighted business model. The 15C LE is already starting to flood TAS and prices are coming down significantly, so people now have other choices. It looks like so far only a small number of these have actually reached the market (highest LE# is less than 3000), and once HP gets them in stock with more consistency all this nonsense will be over.

Re: Who Needs TAS When We Have Samson Cables?

*Message #11 Posted by **Steve Fennell** on 28 Sept 2011, 8:55 p.m.,*
in response to message #10 by Michael de Estrada

Is this confirmed that HP is shipping more? I thought I read an earlier post that the question was posed at the HHC meeting and HP marketing would not confirm how many they planned to produce.

Re: Who Needs TAS When We Have Samson Cables?

*Message #12 Posted by **Michael de Estrada** on 28 Sept 2011, 9:02 p.m.,*
in response to message #11 by Steve Fennell

I'm just saying that it appears that so far no more than 3000 have shipped to distribution centers in the USA, and one can infer that at least 10000 units were planned based on past informal statements. The ones here now probably arrived in small shipments by air freight, and there may some yet to arrive by sea. I'm just doing some reasoning here, because I'm certainly on the outside. Anyway, I think it will clearer over the next couple of months.

Re: Who Needs TAS When We Have Samson Cables?

*Message #13 Posted by **Lincoln R.** on 28 Sept 2011, 10:01 p.m.,*
in response to message #12 by Michael de Estrada

HP said that some were destined for Europe. I imagine they may have put a hold on manufacturing while they're trying to deal with the keyboard/firmware issues.

Re: Who Needs TAS When We Have Samson Cables?

*Message #14 Posted by **Roger Blake** on 28 Sept 2011, 4:42 a.m.,*

in response to message #1 by Les Wright

They have been selling at $199.99 for the last few days ! so you've actually got a big discount :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Find the hidden path game for HP-32sii

*Message #1 Posted by **Don Shepherd** on 27 Sept 2011, 9:46 p.m.*

For those who would like to have some fun, and exercise their brain, with their 32sii, this article describes a find the hidden path game.

Enjoy.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"Smooth Scaled Deciduous Trees of the Southern Nordic Countries"

*Message #1 Posted by **Geoff Quickfall** on 27 Sept 2011, 7:53 p.m.*

Hello all and a special thanks to the attendees that sat through my 10 pm presentation.

The first day (Thursday) involved driving with Wlodek from Los Angeles to Guy Ball's house to see his collection and discuss book publishing. Wlodek also had to pick up copies of his book which has been revised to include the 12 Anniversary and 15C LE which were available to the attendees.

Guy is one interesting guy! Unfortunately we were three weeks to late to see the collection as it was sold in its entirety!

Then on to San Diego arriving at midnight thirty!

Friday stuffing proceedings envelopes with Günter Schink. Günter introduced me to "Weizen" beer during our stuffing break. Later in the evening there was more beer call as others arrived.

Hello Namir, Gene, Richard, Wlodek, Joe and his brother Jim and, well check out the list at:

attendees list

As for Saturday, excluding NDA topics, the WP34S with both Niel and Marcus stole the show. Then Erics demo and discussion on the overlay. Now for me, the more complex and CLUTTERED the keyboard the more I like it. The WP34S is a work of art and for me, the clutter discourages any one from borrowing it in the cockpit.

Andreas Möller talk HP 49G+ / 50G - O.S. Extension Pack is simply amazing. What Andreas has single handedly created with help menus and language modules on the 49G... is incredible.

For everyone out there, Joe Horns presentations are as informative as they are entertaining. No wonder he won the best speaker award, and no, it was not because he tallied the votes ;-)

Patrice again wowed us with his prowess in programming with his talk on "HP-15C Benchmark: The Devil is in the Details".

Eric Smiths DIY was simply amazing. I got to hold it and was allowed to turn it on. Of course being a 41C I felt right at home but was totally blown away by the LCD display. It looked so sharp you would have thought it was printed on a clear vinyl overlay and applied to the LCD panel!

Richard entertained us with his time keeping abilities and the discussion on the PPC ROM which turns out to relevant after 30 years. Appearing in the CL ROM library and the matrix routines form the base of the WP34S matrix solutions.

Jake Schwartz filled us in on the matrix/PPC ROM aspect of the WP34S mentioned above!

Yes DAVE, you are one lucky guy, and I don't mean your TI! HOWEVER the TI is fantastic, what a display to cart around from Reno! Yes bring the others, I may bring the 9825A with the chicklet keys if I can. By the way, I am looking into those glasses, who cares if you look like a muggle (Potter).

Wlodek and Dennis harms discussed the 12C and Wlodek brought and displayed his multiple variations of the 12C since its inception.

As far as the HP crew goes, Cyrille and Tim, many many thanks and I did not think I would learn so much MORE about trees, especially since my background is Botany/Forestry! Who knew.

There were more talkers but I have to refer to my notes which are still packed. Download some photos and etc.

Here is a youtube video I just uploaded. It was part of my talk and is relevant to a thread below about benchmarks and speeds vis a vis the 41CL.

Short explanation of what you are seeing:

There is a requirement to convert metric altitudes in various countries to foot altitudes for use in the cockpit. The standard slope has been arbitrarily altered to maintain aircraft separation at altitude. The two slopes can be regressed with a test as to which slope the metric altitude input belongs. Also a subroutine to round correctly so that three significant digits are used.

ex.

13,100 meters should convert to 43,000 feet. You can see simply multiplying by the conversion "1 meter = 3.2808399 feet" does not give the correct result. An alternative approach as a thinking exercise is to create a data base where the metric is paired with the feet measure. Search for the metric and display the associated feet.

Yes I know it is cumbersome but this is just for demo purposes and it works perfectly in the CL due to its speed.

CL to CX speed comparison on data base search in extended memory.

More posting to follow!

Cheers, Geoff

Edited: 27 Sept 2011, 8:04 p.m.

Re: "Smooth Scaled Deciduous Trees of the Southern Nordic Countries"

*Message #2 Posted by **Seth Morabito** on 27 Sept 2011, 8:56 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> Eric Smiths DIY was simply amazing. I got to hold it and was allowed to turn it on. Of course being a 41C I felt right at home but was totally blown away by the LCD display. It looked so sharp you would have thought it was printed on a clear vinyl overlay and applied to the LCD panel!

Now this is extremely exciting! I think I'm very much out of the loop, maybe Eric has posted about this already, but I don't remember seeing it. Has he tooled up a 41C-style case for his DIY calculator? Does it look like a 41C?

Do tell more!

Re: "Smooth Scaled Deciduous Trees of the Southern Nordic Countries"

*Message #3 Posted by **Eric Smith** on 27 Sept 2011, 10:07 p.m.,*

in response to message #2 by Seth Morabito

It's effectively a 41Cx with a display that can (optionally) show all four stack levels, in a nice high-resolution font. That makes it longer than a normal 41CX, though slightly shorter than a 41CX with a card reader.

I haven't had time to write up anything or take photos or video. I'll post something once I find the time.

Re: "Smooth Scaled Deciduous Trees of the Southern Nordic Countries"

*Message #4 Posted by **Ángel Martin** on 28 Sept 2011, 2:19 a.m.,*
in response to message #3 by Eric Smith

Very much looking forward to that! Do you have plans to produce it (however scale) or will it remain a DIY project for your own enjoyment?

DIY5 production plans

*Message #5 Posted by **Eric Smith** on 28 Sept 2011, 2:57 a.m.,*
in response to message #4 by Ángel Martin

We're trying to come up with a way that we can manufacture and sell the DIY5 without losing our shirts. The problem is that they will likely be fairly expensive, because we expect that we can only amortize the NRE over a relatively small number of units. How many people today would want to buy an improved -41 if it cost more than a new 50g? Not many, I would think.

On the other hand, Monte is apparently able to sell some 41CL boards for $235, and that is an upgrade rather than a complete calculator. And the 15C LE sells for almost as much as a 50g.

On the gripping hand, we can leverage the same design as a hardware platform for a derivative of Free42, or other community-developed firmware (similar to WP-34S project), so it isn't necessarily just an improved -41.

Re: DIY5 production plans

*Message #6 Posted by **Ángel Martin** on 28 Sept 2011, 7:41 a.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> How many people today would want to buy an improved -41 if it cost more than a new 50g?

I of course don't know the answer to that question, but sure enough the 50g price isn't that high to me for such a wonderful project. How much more is too much is the tricky part, and even that is relative.

But sure you didn't mean that price would be for a complete DIY5 calculator, but only the enhanced display? Not having seen the unit at HHC I'm clueless about your implementation, sorry.

On reflection I guess this won't be an upgrade - which would be hard if not impossible. I read your other post where you indicate 41CX+HEPAX capability into the unit, will it also be "upgradable" so that you could install the CL board to it?

Re: DIY5 production plans

*Message #7 Posted by **Eric Smith** on 28 Sept 2011, 2:30 p.m.,*
in response to message #6 by Ángel Martin

I only meant that the selling price of a DIY5 calculator is going to be more than the price of an HP 50g. Most likely a *lot* more, possibly more than double, but I don't really know at this point.

I expect that there is only a tiny market for calculators that cost more than the most expensive HP, TI, and Casio models. If there was actually a non-trivial market for $250 calculators, HP, TI, and Casio would be selling some.

If we could sell 10,000 units, it might be possible to sell them at a retail price under $130 each.

If we only sold direct, and not through wholesalers/distributors/retailers, we could price it lower at the same production quantity (or the same price at a lower production quantity) since the price only would need to include a margin for us, and not for the middlemen. That would work fine to sell to people here in the forum, but would we get sales from anywhere else?

There's somewhere between $25K and $100K of NRE for industrial design, mold tooling, and FCC testing that has to be amortized over the production run. If the production run is small, that's a *lot* of cost per unit.

And of course that NRE doesn't include paying us *anything* for the ten years of (part-time) effort we've already invested into the development of the electronics and software. If we had to amortize that over a small production run also, the calculator would be far too expensive even for the hard-core enthusiasts here. Fortunately that is a sunk cost that we don't expect to recoup.

I'm looking into CNC machining aluminum molds myself. That has the potential to reduce the NRE substantially, but since I don't have experience doing that it will take a long time with many attempts, and could ultimately end up costing more than paying a mold designer.

Edited: 28 Sept 2011, 2:31 p.m.

Re: DIY5 production plans

*Message #8 Posted by **Hugh Evans** on 29 Sept 2011, 4:27 p.m.,*
in response to message #7 by Eric Smith

I hope you respond to my email requesting more information. Since you have substantial time and money invested I will be more than happy to sign a NDA if necessary, but I can definitely help. For example: I know a bit about mold making and can get fabricate CNC aluminum for the cost of machine time ($35/hr.) The market for expensive calculators is out there, but build quality must be top notch.

Re: DIY5 production plans

*Message #9 Posted by **Paul Dale** on 29 Sept 2011, 5:38 p.m.,*
in response to message #8 by Hugh Evans

Machined aluminum cases? :-)

- Pauli

Edited: 1 Oct 2011, 8:21 p.m. after one or more responses were posted

Re: DIY5 production plans

*Message #10 Posted by **Hugh Evans** on 1 Oct 2011, 3:37 p.m.,*
in response to message #9 by Paul Dale

I think some machined cases would be fun as an option. Not to mention, once the tooling is set for CNC the cost is materials plus machine time. Want an extra nice case? I don't think I'm the only one around here who would throw in an extra $50 for it.

Re: DIY5 production plans

*Message #11 Posted by **Marcus von Cube, Germany** on 1 Oct 2011, 12:05 p.m.,*
in response to message #7 by Eric Smith

Without experience in injection molding you should not try to create your own mold. The plastic needs not only to be injected into the form at very high pressure to reach all corners, straps and edges, it must also be cooled down in a controlled manner and later removed from the mold by mechanical means. Then you need to prepare for shrinking which depends on the temperatures and thickness of the material. The results wouldn't be very appealing.

Maybe a mold for vacuum forming is a better option but the available shapes are restricted compared to injection molding.

Pauli's idea sounds interesting, though. :-)

Re: DIY5 production plans

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 28 Sept 2011, 8:46 a.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> How many people today would want to buy an improved -41 if it cost more than a new 50g? Not many, I would think.

Probably, but count me in!

Massimo

Re: DIY5 production plans

*Message #13 Posted by **M. Joury** on 28 Sept 2011, 9:23 a.m.,*
in response to message #5 by Eric Smith

Count me in (2 probably)

Re: DIY5 production plans

*Message #14 Posted by **NateB** on 28 Sept 2011, 10:06 a.m.,*

in response to message #5 by Eric Smith

You may want to look into doing a kickstarter. There is no risk. You set a funding goal and if the goal is not reached, no money is exchanged.
A few examples:
Coffee Joulies
Cosmonaut Stylus

Nice reference to Niven/Pournelle

*Message #15 Posted by **gene wright** on 28 Sept 2011, 10:40 a.m.,*
in response to message #5 by Eric Smith

How many forum members know what Eric was talking about? I did.

Re: Nice reference to Niven/Pournelle

*Message #16 Posted by **Werner** on 28 Sept 2011, 10:50 a.m.,*
in response to message #15 by gene wright

So did I. Unfortunately, one of the only books ever that I haven't finished..
while The Mote in God's Eye is still one of the best I ever read, and I've re-read it at least three times..

Werner

Re: Nice reference to Niven/Pournelle

*Message #17 Posted by **Glenn Dowdy** on 28 Sept 2011, 11:38 a.m.,*
in response to message #15 by gene wright

I just reread both "Mote" and "Gripping Hand" last month. Great stuff.

Re: Nice reference to Niven/Pournelle

*Message #18 Posted by **gene wright** on 28 Sept 2011, 11:50 a.m.,*
in response to message #17 by Glenn Dowdy

I enjoy listening to the unabridged audio of Mote while driving to/from work. Takes a couple of weeks. :-)

Re: Nice reference to Niven/Pournelle

*Message #19 Posted by **Thomas Radtke** on 28 Sept 2011, 12:51 p.m.,*
in response to message #17 by Glenn Dowdy

> Quote:
>
> I just reread both "Mote" and "Gripping Hand" last month. Great stuff.

I was once using the allegory of the King and the Thief without realizing at that moment that I had it from the Mote, and of course, the others had no clue what I was talking about. That must have been 10 years after I read it and I still think of it when the talk is about diplomats.

Re: Nice reference to Niven/Pournelle

*Message #20 Posted by **Ethan Conner** on 28 Sept 2011, 1:02 p.m.,*
in response to message #19 by Thomas Radtke

I missed it but then again hadn't read a niven book since 81 or so. At one time i had every paperback in current print. Lesson learned.....whatever you leave behind when heading out into the world is instantly trash! Lol

Re: Nice reference to Niven/Pournelle

*Message #21 Posted by **Werner** on 28 Sept 2011, 1:49 p.m.,*
in response to message #19 by Thomas Radtke

I came within an inch of including that in my post!
My favourite part of the book, too.
If anyone could teach a horse to sing hymns, it would be a Motie mediator. ;-)

Werner

Re: Nice reference to Niven/Pournelle (OT)

*Message #22 Posted by **Andrés C. Rodríguez (Argentina)** on 29 Sept 2011, 5:47 p.m.,*
in response to message #15 by gene wright

The "other hand" and "gripping hand" construct was frequently used by Jerry Pournelle in his "User's Column" in Byte Magazine, the column was renamed as "Computing at Chaos Manor" at some point in time, IIRC.

BTW, during the 90's I worked at a PC hardware supplier in Buenos Aires and was invited to write a short, technical feature in the local Novell Users monthly newsletter. I decided to use "Vendor's Row" as a title, intending a low-quality wordplay with "User's Column" and similar titles. Of course, some knowledge of matrices was needed for this pun to acquire the desired meaning.

While Pournelle used to mention Larry Niven's books and also their joint projects, the only one I read was "Inferno". Those were "pre-Amazon" and "pre-Internet for all" times (Pournelle made us envy with his frequent references to his ARPANet account and so); and that was the only one of their books I managed to find during one of my trips to the USA (BTW, HHC 2011 was my 32th visit to the USA).

I once mentined the "gripping hand" expression to my English instructor here. As knowledgeable as he indeed is, this particular expression was not familiar for him.

Re: DIY5 production plans

*Message #23 Posted by **Brian Walsh** on 28 Sept 2011, 2:39 p.m.,*
in response to message #5 by Eric Smith

Hi Eric, I LOVE the large display, the only exception being the typeface used for the zero with the dot in the middle which brings back painful memories of slaving away punching cards for the IBM mainframe on campus. How about prepending X: Y: Z: and T: in front of the stack register displays, and can you display LastX as well?

With the large display, would it be possible to emulate the printer with the upper part of the display, perhaps based on flags 21 and 55 status? The 41 app for the iPhone might serve as a

model.

I would certainly consider buying your 41-like machine, if it's comfortable in the hand. It has to be somewhat affordable, too.

Take your time and get it right.

Re: DIY5 production plans

*Message #24 Posted by **Eric Smith** on 28 Sept 2011, 3:35 p.m.,*
in response to message #23 by Brian Walsh

The font I used is "DejaVu Sans Mono" font, which is based on the Bitstream Vera fonts. I used this only because it was close at hand, and I had few other monospaced fonts available. I wrote a program to render bitmaps of the characters, and added a few HP-41 characters by manually creating editing the bitmaps.

I wanted some obvious distinction between the letter O and the numeral 0. The dot in the middle is just what that font happened to have; I probably would have preferred a slashed zero, which is what the actual -41 used.

There is no reason why a different font couldn't be used, and the source font doesn't have to be a monospaced font as long as you bear in mind that it will wind up monospaced on the calculator display. I plan to make it possible for the user to install different fonts. The current requirement for the bitmap font is that the character cell is exactly 32 pixels wide, which has to include the character, punctuation (period, comma, or colon) and inter-character spacing. I could change the font display code to allow for character cells less than 32 pixels wide.

I'll probably provide a 14-segment font for users that want the actual -41 display appearance.

I could prepend the stack level identifiers. I'll probably use another flag to enable that. The identifier will be in a much smaller font.

I didn't expect anyone to want to also display lastx, but certainly I could do it. I'll add a flag 57 for that as well. Do you want that shown above T, or below X?

I think I might like to use a smaller font for the Y, Z, T, and L displays than is used for X. Maybe another selectable option.

Printer emulation is certainly possible, but at the moment it's a low priority.

Affordable is the biggest challenge. What's your upper bound on affordable?

Re: DIY5 production plans

*Message #25 Posted by **David Ramsey** on 28 Sept 2011, 4:06 p.m.,*
in response to message #24 by Eric Smith

I thought the digit spacing was a bit wide, too, but I assume that's easily adjustable.

What's my upper bound on affordable? Quite high, actually, but I'm not a good demographic. Probably about what I'll pay you to fix my 9830 tape drive if I can't.

Re: DIY5 production plans

*Message #26 Posted by **Eric Smith** on 28 Sept 2011, 8:18 p.m.,*
in response to message #25 by David Ramsey

The character spacing has to allow for the period/comma/colon to fit between the characters.

Re: DIY5 production plans

*Message #27 Posted by **gene wright** on 28 Sept 2011, 4:10 p.m.,*
in response to message #24 by Eric Smith

I would think L above T would be less intrusive and allow for changes to the display behavior without having the X value jump around. My 2 cents, although I would pay more. ;-)

Re: DIY5 production plans

*Message #28 Posted by **Brian Walsh** on 28 Sept 2011, 6:19 p.m.,*
in response to message #24 by Eric Smith

> Quote:
>
> The font I used is "DejaVu Sans Mono" font, which is based on the Bitstream Vera fonts. I used this only because it was close at hand, and I had few other monospaced fonts available. I wrote a program to render bitmaps of the characters, and added a few HP-41 characters by manually creating editing the bitmaps.
>
> I wanted some obvious distinction between the letter O and the numeral 0. The dot in the middle is just what that font happened to have; I probably would have preferred a slashed zero, which is what the actual -41 used.
>
> There is no reason why a different font couldn't be used, and the source font doesn't have to be a monospaced font as long as you bear in mind that it will wind up monospaced on the calculator display. I plan to make it possible for the user to install different fonts. The current requirement for the bitmap font is that the character cell is exactly 32 pixels wide, which has to include the character, punctuation (period, comma, or colon) and inter-character spacing. I could change the font display code to allow for character cells less than 32 pixels wide.

Please stick with monospaced fonts. My quibble with the zero having a dot in the middle probably isn't worth worrying about. It just brings back the pain of re-typing punch cards ad infinitum for my freshman Fortran 66 class. Having survived that, it's been all downhill from there :-)

> Quote:
>
> I'll probably provide a 14-segment font for users that want the actual -41 display appearance.

That would be interesting, though not a requirement.

> Quote:
>
> I could prepend the stack level identifiers. I'll probably use another flag to enable that. The identifier will be in a much smaller font.
>
> I didn't expect anyone to want to also display lastx, but certainly I could do it. I'll add a flag 57 for that as well. Do you want that shown above T, or below X?

I agree with Gene: please put LastX above T.

> Quote:
>
> I think I might like to use a smaller font for the Y, Z, T, and L displays than is used for X. Maybe another selectable option.

The smaller font is a great idea. I don't care if the size is fixed or user selectable, but others may have a different opinion.

> Quote:
>
> Printer emulation is certainly possible, but at the moment it's a low priority.

Yes, please keep it on the to-do list.

> Quote:
>
> Affordable is the biggest challenge. What's your upper bound on affordable?

Hmm. Less than the cost of a 10" tablet?

DIY5 (41-equivalent) fonts

*Message #29 Posted by **Eric Smith** on 28 Sept 2011, 8:38 p.m.,*
in response to message #28 by Brian Walsh

The display will definitely be monospaced. My point was that the font used doesn't have to be designed to be monospaced, though it will always be rendered into a fixed-width cell. In other words, if you want to use Times Roman, you could do it, but the character size should be chosen such that the widest character (probably an upper-case W) would fit in the character cell.

A font designed for monospaced use will usually end up looking better, but there are relatively few monospaced fonts to choose from. I looked through the entire Adobe font library and didn't really find any monospaced font that I like.

If there are good font designers hanging around here, maybe they would care to try their hand a creating or modifying a font.

The calculator uses bitmap fonts in a custom format. I can convert them from BDF format. My preference is to use Opentype, Truetype, or Adobe Type 1 fonts, which I can render into the right size in BDF format. I've assigned code points for the special

41 characters from one of the "private use" regions of Unicode.

DIY5 price (upper bound)

*Message #30 Posted by **Eric Smith** on 28 Sept 2011, 8:53 p.m.,*
in response to message #28 by Brian Walsh

> Quote:
>
> Less than the cost of a 10" tablet?

According to Google, those start at $139 for an off-brand Chinese tablet. The iPad 2 has a 9.7 inch display, and pricing starts at $499.

Making a few assumptions:

- NRE of $50K
- CoGS of $70
- direct sales at $140 (same as cheap Chinese 10-inch tablet)

the minimum sales to break even would be 714 units.

At the opposite end of the spectrum, high price and low volume, the assumptions are:

- NRE of $50K
- CoGS of $100 (higher due to low volume)
- direct sales at $500 (same as iPad 2)

the minimum sales to break even would be 125 units.

Neither scenario includes making any profit or recouping any of the investment already made in development. I don't think I can actually sell 125 $500 calculators. The big question is whether there is somewhere between those scenarios that is viable.

Re: DIY5 price (upper bound)

*Message #31 Posted by **M. Joury** on 28 Sept 2011, 10:31 p.m.,*
in response to message #30 by Eric Smith

My 2 pennies is keep it south of $250. For me that is pretty close to the break point. At $250 or less I would buy two. Between that and $500 I would buy one. Any higher and I'm priced out of the market.

Again, just my 2 cents.

Cheers,

-Marwan

Re: DIY5 price (upper bound)

*Message #32 Posted by **Howard Owen** on 28 Sept 2011, 11:01 p.m.,*
in response to message #30 by Eric Smith

I'd think you should watch 15C LE sales as close as you can.

I'm dying to know how many of those sales are satisfying demand from people like us and how many are being bought by technical users who might not be enthusiasts to the degree common around here. Demand from the latter group ought to drop off sharply as the price goes up. Demand by the former group might be less elastic.

Re: DIY5 price (upper bound)

*Message #33 Posted by **Brian Walsh** on 28 Sept 2011, 11:45 p.m.,*
in response to message #30 by Eric Smith

I think at $500 you will have very few sales. At $140 or so you will sell a fair number, but would you sell over 700 of them? Some quick calculations indicate you would need to sell about 330 machines at $250 to break even, 250 machines at $300, or 500 machines at $200. The figures are at zero profit and no safety margin, which are unrealistic.

You have to be a little conservative and make a modest profit as well. I know you would be fair and don't think anyone expects you to work for free, especially considering the effort and expense you have already gone to.

Re: "Smooth Scaled Deciduous Trees of the Southern Nordic Countries"

*Message #34 Posted by **Bruce Bergman** on 27 Sept 2011, 11:52 p.m.,*
in response to message #1 by Geoff Quickfall

Here, here! The conference was amazing, as always.

Thanks to all the organizers, conference committee, HP geniuses and great speakers!

Bruce

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42S - Android 3.2 Scaled to full screen

*Message #1 Posted by **Bill (Smithville, NJ)** on 27 Sept 2011, 1:06 p.m.*

My Android tablet just updated to 3.2 software last night. I just ran Free42S for the first time after the update and was pleasanty surprised to see that it auto scaled to the full screen and looks really nice.

I now have 5.5 by 8.5 inch oversized HP-42S. I like it - very easy to use the oversized keyboard.

Portrait mode looks good - landscape mode pixelates a little too much for my taste. I haven't tried all the skins, so some may look better than others when stretched.

Bill

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is HP tech support clueless ?

*Message #1 Posted by **Michael de Estrada** on 27 Sept 2011, 11:50 a.m.*

I read this customer review of the HP 15C LE on the HP Home & Home Office webstore, and really have to wonder about the competence of HP tech support:

"Manufactured without a SELF TEST

boy finally a HP-15c..... everything seems great until I run the self test described in the manual for the limited edition. After an incredibly long ordeal on the phone with countless "customer service" people, I finally got a tech support guy who seemed to know what he was talking about and he said he had knowledge of several of the Limited Editions 15c calculators that did not have any of the self tests."

BTW, this customer gave the calc a 1 out of 5 rating because of this bad info from the tech support person.

Edited: 27 Sept 2011, 11:50 a.m.

Re: Is HP tech support clueless ?

*Message #2 Posted by **Eric Rechlin** on 27 Sept 2011, 12:04 p.m.,*
in response to message #1 by Michael de Estrada

Hopefully someone from HP will delete that useless (and harmful) review.

One star because of a tiny mistake in the manual? Someone has some serious issues.

Eric

Re: Is HP tech support clueless ?

*Message #3 Posted by **Michael de Estrada** on 27 Sept 2011, 12:08 p.m.,*
in response to message #2 by Eric Rechlin

Eric,

This would not have occured if the tech support person had provided the correct information in the first place. Just sayin'...

Michael

Edited: 27 Sept 2011, 12:09 p.m.

Re: Is HP tech support clueless ?

*Message #4 Posted by **Eric Rechlin** on 27 Sept 2011, 12:31 p.m.,*
in response to message #3 by Michael de Estrada

That's true, but I'm just pointing out that the customer overreacted.

From what I've heard, the HP calculator support people are actually a lot more competent than most support people. It wouldn't surprise me if the 50g is one of the most complicated products, if not the most complicated product, that HP sells, and while the 15C is certainly simpler, it's still vastly more complicated than most HP products. So they got a minor detail about the self tests wrong. That's just a training issue, compounded by a mistake in the manual and a hidden function that wasn't perfectly implemented, and none of it has anything to do with the normal operation of the calculator.

Eric

Re: Is HP tech support clueless ?

*Message #5 Posted by **Mike Morrow** on 27 Sept 2011, 2:07 p.m.,*
in response to message #4 by Eric Rechlin

> Quote:
>
> That's true, but I'm just pointing out that the customer overreacted.

Certainly true.

However, I wonder if any HP website to which a customer might refer for problems with the 15C-LE contains a listing of the bugs that were quickly found several weeks ago, like this 'old self-test' issue. The answer right now seems to be 'no', and the question becomes "why not...what is HP waiting on?" These problems will not magically go away with the passage of time.

> Quote:
>
> So they got a minor detail about the self tests wrong. That's just a training issue, compounded by a mistake in the manual and a hidden function that wasn't perfectly implemented, ...

I reported the self-test failures here on Friday, September 9. Apparently, that was the first report of such. The HP calculator support staff should have been advised of this by Monday, September 12 **at the very latest** in order to be able to respond intelligently to the customer questions that **were absolutely certain** to be arriving shortly when customers attempted the self-tests described in the manual on their new 15C-LEs. The fact that this notification did not occur displays an organizational attitude that is at best half-assed, and certainly non-professional.

> Quote:
>
> ...and none of it has anything to do with the normal operation of the calculator.

I'm going to disagree. I also reported on September 9 that 'ON plus *' or 'ON plus +' always fail **and corrupt program memory**. It is not improbable that someone familiar with the old Voyagers might pick up a 15C-LE and try one of these self-tests, and in the process disrupt subsequent normal operation of the calculator by corrupting program contents. *There should be nothing that the user can do from the keyboard, intentionally or inadvertently, that causes this type of un-publicized pathological behavior.* I suspect that HP calculator support hasn't been advised of this 'feature' either, nor of the other bugs that have been identified here.

Another issue is the old 'ON plus -' Pr Error reset. It apparently works OK, clearing the calculator completely. If the Owner's Handbook is simply revised to eliminate all mention of these old key

sequences that would still actually exist, one might clear his 15C-LE by inadvertent actuation of that key sequence.

It is not comforting that old self-test issues are being treated as of negligible importance. I would like to see the 15C-LE respond in a manner similar to the 12C+ for both the old and new self-tests. There's no valid reason for there to be a difference.

As long as these firmware problems exist, regardless of text modifications to the Owner's Handbook, normal calculator operation can be affected. I hope HP's solution (if there is to be one) to 15C-LE firmware issues will not be limited to revision of the documentation.

Edited: 27 Sept 2011, 2:34 p.m. after one or more responses were posted

Re: Is HP tech support clueless ?

*Message #6 Posted by **gene wright** on 27 Sept 2011, 2:34 p.m.,*
in response to message #5 by Mike Morrow

Methinks you're not quite as aware of how big HP really is to think that a problem reported here on 9/9 would be in the HP tech people's materials by 9/12.

I believe we are lucky that HP support people speak English.

As an example, even a company with such usual glowing reports as Ap*le computer will have people reporting problems in their forum that are not even officially recognized for quite some time.

While I would like for things to work the way you suggest, I'm not certain in a complex world with such large complex systems that it is likely.

Otherwise, the US Military would not buy $500 toilet seats.

Re: Is HP tech support clueless ?

*Message #7 Posted by **Mike Morrow** on 27 Sept 2011, 3:01 p.m.,*
in response to message #6 by gene wright

> Quote:
>
> Methinks you're not quite as aware of how big HP really is...

Maybe not HP...I was once a senior engineer for a small firm called General Electric.

I think the 15C-LE is a pretty good product.

But obvious problems within its firmware and its Owner's Handbook guarantee customer support will be talking to customers. The manual says "try these self tests" and the calculator says "Error 9" (and corrupts any programming). It's a "what could we do to assure there will be calls to customer support?" situation. How can the support people do their job? Those unfortunate people can do nothing without organizational support advising them *promptly* of issues discovered by gamma testers (early paying customers) of this or any other new product. How hard can that be? I hear there's something called e-mail now-a-days. :-)

And what about the Support section of HP calculator sales websites? Three weeks

afterwards...still no illuminating information anywhere unless one goes to hpmuseum.org before forum posts of problem discoveries have scrolled away.

I have great sympathy for the support staff, and the inquiring customer. Both are completely betrayed when known problem areas are not promptly communicated.

Edited: 27 Sept 2011, 3:06 p.m.

Re: Is HP tech support clueless ?

*Message #8 Posted by **Martin Pinckney** on 27 Sept 2011, 3:42 p.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> But obvious problems within its firmware and its Owner's Handbook guarantee customer support will be talking to customers. The manual says "try these self tests" and the calculator says "Error 9" (and corrupts any programming).

Certainly this must be true. And I fail to see how either the bigness of the company, or the insignificance of the product (from a revenue standpoint), is an excuse for not having a mechanism for dealing with such issues, or failing to use it.

Re: Is HP tech support clueless ?

*Message #9 Posted by **M. Joury** on 27 Sept 2011, 4:31 p.m.,*
in response to message #6 by gene wright

Ah, not to start a flame war, but Apple makes an art out of not telling it like it is.

Cheers,

-Marwan

Re: Is HP tech support clueless ?

*Message #10 Posted by **Mike Morrow** on 28 Sept 2011, 4:12 p.m.,*
in response to message #9 by M. Joury

> Quote:
>
> Ah, not to start a flame war, but Apple makes an art out of not telling it like it is.

And they always have been that way, even with the early Apple II in the l970s. But Apple has west coast religious cult appeal that logic can't penetrate.

Edited: 28 Sept 2011, 4:35 p.m.

Re: Is HP tech support clueless ?

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 28 Sept 2011, 10:13 p.m.,*
in response to message #10 by Mike Morrow

> Quote:
>
> And they always have been that way, even with the early Apple II in the l970s. But Apple has west coast religious cult appeal that logic can't penetrate.

An old TI guy suggests that H-P with RPN has religious cult appeal that algebraic logic can't penetrate.

Re: Is HP tech support clueless ?

*Message #12 Posted by **bill platt** on 29 Sept 2011, 12:12 a.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

> Quote:
>
> An old TI guy suggests that H-P with RPN has religious cult appeal that algebraic logic can't penetrate.

Yep.

Look at how short-lived the 27s was. That was a great design!

Imagine what a powerhouse it would have been if they had taken that design one step further and implemented a complete robust algebraic programming paradigm and complete advanced maths support (complex, matrices etc) in addition to the equations. IT would have blown everything away including the 42s, and it might have actually stolen TI buyers, maybe.

Looking back at the early HP computers that Dave describes on this website, one of them was Algebraic at the UI but stack-based internally, fully compiling from the algebraic inputs. Pretty sweet!

Edited: 29 Sept 2011, 12:13 a.m.

Re: Is HP tech support clueless ?

*Message #13 Posted by **Mike Morrow** on 29 Sept 2011, 1:17 a.m.,*
in response to message #12 by bill platt

> Quote:
>
> Looking back at the early HP computers that Dave describes on this website, one of them was Algebraic at the UI but stack-based internally, fully compiling from the algebraic inputs. Pretty sweet!

That sounds like the HP 9820A. Any algebraic logic machine, even a $1 calculator, must compile the entered values and operations into a internal stack representation as part of the execution process.

As far as the big machines go, the 1961 Burroughs B5000 was the ultimate stack machine, accessed using ALGOL-60. The old HP 3000 is also a stack machine.

Re: Is HP tech support clueless ?

*Message #14 Posted by **Howard Owen** on 27 Sept 2011, 12:41 p.m.,*
in response to message #1 by Michael de Estrada

The manual error is minor compared to the support lapse. Unfortunately, that degree of tech support cluelessness is standard today. To be fair, in the 15C LE we have a product that

1. is brand new (to tech support).
2. contains a bug that doesn't prevent most users from using the machine.
3. is used by a tiny fraction of a tiny minority of a marginalized subgroup of customers. (OK, maybe not marginalized. :)

Despite all that, nobody can be happy about losing a customer like that. It's a classic case of people doing what they feel like doing, rather than doing what you think they should. A Google search for "15C LE self test bug" yields this as the second link. The first link (starred!) points to the live forum index, which will at least get somebody plugged in to a group that can answer the question.)

Re: Is HP tech support clueless ?

*Message #15 Posted by **Tom Mathes** on 27 Sept 2011, 1:33 p.m.,*
in response to message #14 by Howard Owen

There's still no product support page for the 15C LE outside of a short description on the small business product pages. That part surprises me. A lot of ill will can be avoided by the company having a support page up and running when the product hits the shelves (or soon thereafter).

Re: Is HP tech support clueless ?

*Message #16 Posted by **Gerry Schultz** on 27 Sept 2011, 3:37 p.m.,*
in response to message #15 by Tom Mathes

I'm sorry to say that my recent experiences with HP Tech support have not been great either. I bought an HP laptop a few months ago and ran into problems with Tech support. It's not that their hardware is bad, it's the ability of their staff to handle customer problems in a timely manner.

Now, when I bought four 15C LEs and two of them had keyboard problems, I was lucky enough to be able to show them to Tim at the HHC conference and he has them for evaluation. I know that HP will resolve these HP 15C LE hardware and software issues, but from my experience, it will take a while for them to get the kinks worked out. The real question is when the software problems are resolved, will there be any new problems? I'm sure our group here will bang on them and find out real fast!

I should also mention that during one of the HP Q&As at the conference it was mentioned that if you have a 15C LE with keyboard issues, please contact HP's tech support to get the problem resolved. All I can say is Good Luck!

Gerry

Re: Is HP tech support clueless ?

*Message #17 Posted by **troy** on 27 Sept 2011, 3:20 p.m.,*
in response to message #1 by Michael de Estrada

but is it really true? are there units of the 15c LE that DOES NOT have a self test? or that merely, the self-test

described in the manual (ON-/) is just broken, and that a *real* self test exists (ON-g-ENTER)?

Re: Is HP tech support clueless ?

*Message #18 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Sept 2011, 4:23 p.m.,*
in response to message #17 by troy

troy,

I don't think there is a real self test on HP 15c LE. Ideally a real self test, tests CPU, RAM and other internal circuit components. If you have to watch the LCD to determine if a pixel is missing is NOT a self test, it is just a test.

As far as I can tell, HP 15C does NOT have a SELF test for checking RAM, CPU and other internal circuits, it only comes with a keyboard and LCD test. Also if you read other posts, there is a memory corruption reported by other users during this test.

Turn the calc. off Press and hold 'g' and 'ENTER' While still holding down 'g' and 'ENTER' press the 'ON' key Release 'ON', followed by 'g' and 'ENTER'

The test screen will display ' 1.L 2.C 3.H '

Press 1 to perform the LCD test

Press 2 to display the Copyright/Checksum message (I don't think this checksum real either, (ChE-FFFFh)looks like a pre-recorded number and not a result of a self-test calculated checksum)

Press 3 to perform the keyboard test

Press ON to exit the test.

Edited: 27 Sept 2011, 4:30 p.m.

Re: Is HP tech support clueless ?

*Message #19 Posted by **cyrille de brebisson** on 28 Sept 2011, 9:04 a.m.,*
in response to message #18 by Kerem Kapkin (Silicon Valley, CA)

Hello

> Quote:
>
> I don't think there is a real self test on HP 15c LE. Ideally a real self test, tests CPU, RAM and other internal circuit components. If you have to watch the LCD to determine if a pixel is missing is NOT a self test, it is just a test.

Actually, it does... before you get displayed with the 1, 2, 3 menu, the memory and important parts of the CPU are tested (timers, speed, 6KB of RAM, ROM checksum...)...

it just happen that you do not see it as it does not err...

Cyrille

Re: Is HP tech support clueless ?

*Message #20 Posted by **Michael de Estrada** on 28 Sept 2011, 9:15 a.m.,*
in response to message #19 by cyrille de brebisson

Thanks for the info. So, basically, the calc does a silent POST prior to displaying the "test" menu.

On a separate issue, what is the cause of the Pause command problem, and how easily can it be fixed?

Also, assuming there is a future firmware revision, could a stopwatch/timer feature be added?

Re: Is HP tech support clueless ?

*Message #21 Posted by **Katie Wasserman** on 28 Sept 2011, 12:31 p.m.,*
in response to message #20 by Michael de Estrada

Equal in importance to the pause issue, are the memory corrupting self tests and the 20ma continuous current drain when a key is pressed.

Re: Is HP tech support clueless ?

*Message #22 Posted by **Pal G.** on 28 Sept 2011, 12:38 p.m.,*
in response to message #19 by cyrille de brebisson

> Quote:
>
> it just happen that you do not see it as it does not err...

Curious.. What do we see if it does err?

Re: Is HP tech support clueless ?

*Message #23 Posted by **Mike Morrow** on 28 Sept 2011, 4:28 p.m.,*
in response to message #22 by Pal G.

> Quote:
>
> Curious.. What do we see if it does err?

That's a question I asked too. The **new** Voyager self tests are described *only* at the HP website for HP 12C support. There's nothing for the HP 15C-LE specifically.

That website contains this statement: **If the calculator detects an error at any point, it will display an error message.**

I would like to see a revised HP 15C-LE manual that describes:
1. What is actually tested when the new self-tests are executed.
2. What error messages can be generated.

This may have little *real* value to the customer, but the oddball customer base for the anachronistic HP 15C-LE would doubtless appreciate such information.

Re: Is HP tech support clueless ?

*Message #24 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 28 Sept 2011, 4:56 p.m.,*
in response to message #19 by cyrille de brebisson

Hi Cyrille,

I am not convinced that 15C LE is performing a self-test right before entering that menu: My reasons are following: 1- HP 12C P25AE also provides the menu and does not begin the test until #2 is pressed which takes about 25 seconds. On HP 15C LE the answers seems to be instant, no "running" display, etc. 2- Following a self-test with "running" display, HP 12C P25AE reports a check sum what seems like a number which has been calculated during the self-test. HP 15C reports FFFFh instantly. What are the odds having the checksum FFFFh as the very last bit in a 4 digit hex (next would be 10000h).

Edited: 28 Sept 2011, 6:17 p.m. after one or more responses were posted

Re: Is HP tech support clueless ?

*Message #25 Posted by **Mike Morrow** on 28 Sept 2011, 5:13 p.m.,*
in response to message #24 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> I am not convinced that 15C LE is performing a self-test right before entering that menu...HP 15C reports FFFFh instantly. What are the odds having the checksum FFFFh as the very last bit in a 4 digit hex ...

The time that it takes to perform any self testing on a HP 12C Platinum model, using a Sunplus 6502-based processor, would likely take much longer than equivalent self testing in the HP 12C+ or HP 15C-LE, which use the much much faster Atmel AT91SAM7L128 processor.

Last week I asked the question about what appears to me to be a fake checksum result (FFFFh) on the 15C-LE. I didn't get an authoritative response. Add me to the list of those doubting the validity of the firmware checksum reported by the 15C-LE. Related to that is whether the 15C-LE actually calculates a checksum, or is the checksum reported only a value that was stored during the firmware load process.

Edited: 28 Sept 2011, 7:35 p.m.

Re: Is HP tech support clueless ?

*Message #26 Posted by **Tim Wessman** on 28 Sept 2011, 8:48 p.m.,*
in response to message #25 by Mike Morrow

It is actually a 2 digit checksum value of 0-255. The first two should match the second two. FF==FF is good.

We have never seen any flashing issue or "bad" loads into the chip.

TW

Re: Is HP tech support clueless ?

*Message #27 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 28 Sept 2011, 8:58 p.m.,*
in response to message #26 by Tim Wessman

> Quote:

> It is actually a 2 digit checksum value of 0-255. The first two should match the second two. FF==FF is good.

Tim, HP 12CP 25AE gives a checksum "ChE--564Ah" so based on your description 56h(86d) <> 4Ah(74d) and therefore it is bad?

Re: Is HP tech support clueless ?

*Message #28 Posted by **Katie Wasserman** on 28 Sept 2011, 11:52 p.m.,*
in response to message #27 by Kerem Kapkin (Silicon Valley, CA)

This is confusing, I wonder if TW and company switched to a different checksum method at some point (around July 2009 ?). The old firmware (that the 12C 30th AE has) does not seem to follow the 2-byte checksum methodology nor does the 12CP 25th AE from years earlier.

BTW the 12CP 25th AE has a 4th "CPU" self test that returns a mysteries result, "3929188 h2". What's that?

Re: Is HP tech support clueless ?

*Message #29 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 29 Sept 2011, 12:17 a.m.,*
in response to message #28 by Katie Wasserman

> Quote:
>
> BTW the 12CP 25th AE has a 4th "CPU" self test that returns a mysteries result, "3929188 h2". What's that?

Yes, I was wondering about that too, everytime you run it, you get a different result, a lower one. Almost like an internal timer counting down.

Re: Is HP tech support clueless ?

*Message #30 Posted by **Tim Wessman** on 29 Sept 2011, 12:42 a.m.,*
in response to message #27 by Kerem Kapkin (Silicon Valley, CA)

Well, I assumed it worked the same way as on the 10bII+, 20/30b. Looks like I was wrong. Don't know what is going on there then.

TW

Re: Is HP tech support clueless ?

*Message #31 Posted by **Tim Wessman** on 29 Sept 2011, 2:45 p.m.,*
in response to message #30 by Tim Wessman

Ok, I misread what was written earlier. My statement was correct.

On any ARM based calc (10bII+,20/30b,12c,15c) it is a 1 byte checksum. The 15c correctly comes out with FF==FF. You only have 255 options for the checksum there, so it isn't completely unexpected. Flash is very reliable. The more reliable the medium, the less critical the checksum. In every unit HP has

ever built we have yet to see an issue with the flash.

The 12cp uses some other completely different method and it shouldn't be compared with any other unit.

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2011 was an absolute blast!

*Message #1 Posted by **Eddie W. Shore** on 27 Sept 2011, 9:36 a.m.*

Thank you to everyone who put the HHC conference together this year. To those whom I won door prizes - thank you!

Re: HHC 2011 was an absolute blast!

*Message #2 Posted by **Howard Owen** on 27 Sept 2011, 11:04 a.m.,*
in response to message #1 by Eddie W. Shore

I second that!

I haven't had so much fun in a long time. I'd go so far as to say it was a "peak geek" experience. :)

Re: HHC 2011 was an absolute blast!

*Message #3 Posted by **David Ramsey** on 27 Sept 2011, 12:26 p.m.,*
in response to message #2 by Howard Owen

Even my wife, who, although a programmer for decades, is decidedly not a calculator geek, enjoyed herself. She and Geoff Quickfall really bonded.

Not that I'm jealous.

The SR-60 actually survived the trip (it was DOA, but a chip press restored things) and was on display for folks to play with, which they seemed to enjoy (except, of course, for those darkly muttering "Heresy!" under their breaths). Perhaps next year I'll bring the 9810, then the 20, then the 30...

Re: HHC 2011 was an absolute blast!

*Message #4 Posted by **Howard Owen** on 27 Sept 2011, 12:46 p.m.,*
in response to message #3 by David Ramsey

That TI thing is cool! As far as correct HP partisanship, the fact that it's so difficult to keep running makes me feel comfortable enough. :)

I'd love to see more of your desktop collection!

Re: HHC 2011 was an absolute blast!

*Message #5 Posted by **Richard J Nelson** on 27 Sept 2011, 1:42 p.m.,*
in response to message #1 by Eddie W. Shore

The Conference was a sucess and very intense. We had so much to talk about and plan for the future. HP was very much involved and I believe we greatly increased the number of WP 34S machines because everyone was able to (at least) repurpose an HP 20b at the minimum. Eric had overlays and gave a great presentaton on how

they evolved and even showed how to best apply them. He continues to research materials and they just keep getting better and better. We worked hard to convince Cyrille and Tim the importance of having future machines overlay friendly.

I think we broke a record on the sheer number of presentations. I have collected the presentations and Joseph will be adding them to the website as soon as I build the file.

The future looks very good for HP Calculators even thougth such a "small" part of the business doesn't seem to be on Managements radar just yet. It is important to remember that what ever happens to calcualtors the HP Name may be licensed. Everyone agrees that to remove "HP" from calculators means THE END.

X < > Y, Richard

Re: HHC 2011 was an absolute blast!

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Sept 2011, 6:38 p.m.,*
in response to message #5 by Richard J Nelson

My presentation (and Neil's too) can be found on http://wp34s.sf.net

Re: HHC 2011 was an absolute blast!

*Message #7 Posted by **Dominic Richens** on 27 Sept 2011, 9:05 p.m.,*
in response to message #6 by Marcus von Cube, Germany

thanks!

But where? Here? http://sourceforge.net/projects/wp34s/files/HHC2011/ shows as being empty to me.

Re: HHC 2011 was an absolute blast!

*Message #8 Posted by **Marcus von Cube, Germany** on 28 Sept 2011, 2:00 a.m.,*
in response to message #7 by Dominic Richens

Sorry, must have been a SF glitch. I've uploaded the files again. One (the handout) is still on the way.

Edit: SF said "Done" but the last file is not there. I'll try again when I'm home. Sorry for the inconvenience.

I'll now shut down my MacBook and put it into my bag. I need to go up early tomorrow for the trip back to Germany.

I enjoyed it! :-)

Edited: 28 Sept 2011, 2:08 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 Battery Holder, made by additive manufacturing

*Message #1 Posted by **Ian Phillips** on 27 Sept 2011, 6:45 a.m.*

Some time ago a forum member (Jean-Michel Lecointre) lovingly created a model of his HP41 calculator using Solidworks. He posted a picture of it here in June 2007.

I had been looking for a battery holder for some time when a good friend mentioned that the company he works has there own 3D printing capability. I contacted Jean-Michel via his website and he very kindly sent me the file for the battery holder and gave me permission to use it.

The resulting battery holder function perfectly. I cobbled together my own version of the contact springs and also two anti-rattle shims. At the moment the holder is in white but I am sure it will be easy to apply some colour to the surface.

There is a picture of the part at, http://www.flickr.com/photos/55711638@N05/6188031129/in/photostream

The small website he created is at, http://xeq-41c.monsite-orange.fr/

Ian Phillips

Edited: 27 Sept 2011, 6:49 a.m.

Re: HP41 Battery Holder, made by additive manufacturing

*Message #2 Posted by **aj04062** on 27 Sept 2011, 8:14 p.m.,*
in response to message #1 by Ian Phillips

Sweet.

I created some latches for the Classics & others using the same method. I tried to get the battery cover for the Spice series operational, but I need to find a tougher plastic and tweak the model some more.

What is the plastic & printer manufacturer? There are a huge variety of plastics available now.

Edited: 27 Sept 2011, 8:14 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPN FLOOR and CEIL

*Message #1 Posted by **Werner** on 27 Sept 2011, 5:37 a.m.*

easy, short, no tests, valid for positive and negative arguments

```
1.using only FRC


    CEIL(x)  = x - FRC(FRC(x) - 1)
    FLOOR(x) = x - FRC(FRC(x) + 1)


(written 41C style, but easily portable)


*LBL"CEIL"
 ENTER
 FRC
 1
 -
 FRC
 -
 RTN


*LBL"FLOOR"
 ENTER
 FRC
 1
 +
 FRC
 -
 RTN


2.using MOD: (1 byte shorter for FLOOR..)


*LBL"CEIL"
 RCL X            (or ENTER ENTER)
 -1
 MOD
 -
 RTN


*LBL"FLOOR"
 RCL X
 1
 MOD
 -
 RTN
```

Cheers, Werner

Re: RPN FLOOR and CEIL

*Message #2 Posted by **Dieter** on 27 Sept 2011, 8:28 a.m.,*
in response to message #1 by Werner

Yes, as mentioned earlier, MOD can provide an elegant solution here. I especially like the idea with this

double FRC since it can be used on virtually all RPN machines, but there is one caveat: There is a numeric pitfall for arguments close to zero.

For values so small that numerically 1 ± x = 1 the method will simply return x. For instance, x = 1E-10 will return the correct result (1) on a 12-digit machine, but a 10-digit machine will return 1E-10. Otherwise your idea works well.

Dieter

Re: RPN FLOOR and CEIL

*Message #3 Posted by **Werner** on 27 Sept 2011, 9:28 a.m.,*
in response to message #2 by Dieter

smack on the head

You're absolutely right of course. Back to square one.

Werner

Re: RPN FLOOR and CEIL

*Message #4 Posted by **Dieter** on 28 Sept 2011, 7:58 a.m.,*
in response to message #3 by Werner

The FRC method is fine for the programming contest since for r =< 5000 there will be no fractional part less than frac(sqrt(4901)) = 0,00714. ;-)

For the record, here's another way to implement a CEIL resp. FLOOR function. It requires the same 7 bytes as yours, works for any argument and uses just two stack registers. However, SIGN is required. Or any other function that turns 0 < x < 1 into something between 1 and (less than) 2.

```
INT
LastX
FRC
X>0?     ; use X>0? for CEIL  or  X<0? for FLOOR
SIGN
INT
+
```

BTW - the test before the SIGN function is *not* required because of the special way the HP-41 evaluates this function. ;-)

Dieter

Re: RPN FLOOR and CEIL

*Message #5 Posted by **Werner** on 28 Sept 2011, 8:18 a.m.,*
in response to message #4 by Dieter

yes, that's what I used in my 41C program (found in another part of the forum - and lacking the second INT which is not needed for positive args.)

Some more CEIL stuff:

```
perfect function (i.e. LASTX contains X, no stack level used)
*LBL"CEIL"
 INT
 RUP
 X<> L
```

```
 X>Y?
 ISG Y
 LBL 00   (NOP)
 X<> L
 RDN
 END


and if we're not so picky:
*LBL"CEIL"
 ENTER
 INT
 X<Y?
 ISG X
 END


if you put the code inline, you need a NOP after ISG X of course.
(I tend to use LBL 00)
BTW these work for all arguments.
```

Cheers, Werner

[Return to Index | Top of Index]

Go back to the main exhibit hall

41CL Version of HP15C+ muscle-flexing exercise

*Message #1 Posted by **Ángel Martin** on 27 Sept 2011, 4:16 a.m.*

It occurred to me that all this (justified) attention and praise to the 15C_LE is having some side effects - namely the other fantastic news - like the 41CL - are not being covered in just measure. So here's one sweet and short note for your enjoyment.

Reference to Gene's article on the 15C+ "crazy" program to demonstrate both the 15C capabilities and the LE superior execution speed (no PSE lines in there :)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=195013#195013

I keyed in the following program on my CL, conveniently equipped with the SandMath and the Advantage (they're all included in the CL module library).

For comparison purposes, the code mimics Gene's for the 15C+, including the shortcomings listed at the end of his pdf.
Execution time is about 2.60 sec, or about 3x faster than the 15C+ (yes, I'm biased).

The result is (no surprisingly) identical. Use function VMANT to see the full mantissa.

I wonder how does the "production" LE compare to the pre-production 15C+. Probably just the same? My ordered LE is entangled in the customs cobwebs - anybody cares to complete the chart?

```
01 LBL "15C+"
02 RAD
03 "A"
04 3.003
05 MATDIM
06 0
07 MSIJA
08 2
09 MSR+
10 -3
11 MSR+
12 5
13 MSR+
14 7
15 MSR+
16 -1
17 MSR+
18 0
19 MSR+
20 1
21 MSR+
22 -2
23 MSR+
24 4
25 MSR+
26 MDET
27 10
28 /
29 STO 00
30 LASTX
31 ENTER^
32 3
33 NPR  - From the SandMath Module
34 1
```

```
35 E^X
36 10^X
37 /
38 PI
39 R-P
40 RCL 00
41 "SX/X"
42 SCI 6
43 INTEG
44 END
```

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #2 Posted by **Paul Dale** on 27 Sept 2011, 4:37 a.m.,*
in response to message #1 by Ángel Martin

My 15C LE is taking about 1.5 seconds to run Gene's program.

- Pauli

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #3 Posted by **gene wright** on 27 Sept 2011, 7:51 a.m.,*
in response to message #2 by Paul Dale

I believe it was a display blinking problem that was seen on the 15c+ while running the crazy test program that pointed out an issue with the display update routines.

That's the base cause of the 15c+ run times being slower than the production 15c LE times (again, I believe). However, the fix that sped up the run times appears to have contributed to the pause problems.

But, Angel...how long does a 15c equivalent of this HP 41 program take?

LBL A

"HI"

END

:-)

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #4 Posted by **From Hong Kong** on 27 Sept 2011, 8:21 a.m.,*
in response to message #3 by gene wright

Gene, do you know whether a firmware fix to address the PSE problems and other issues will be released soon?

Edited: 27 Sept 2011, 8:21 a.m.

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #5 Posted by **gene wright** on 27 Sept 2011, 11:36 a.m.,*
in response to message #4 by From Hong Kong

No word yet. I'm sure we will hear something soon.

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #6 Posted by **Ángel Martin** on 27 Sept 2011, 9:05 a.m.,*
in response to message #3 by gene wright

> Quote:
>
> But, Angel...how long does a 15c equivalent of this HP 41 program take?

Well, it'll take forever - I am no 15C expert but I struggle to know how you type "HI" in it?

On the other hand, it's easy enough to find out how long it takes on the CL if you use the Time_Module to do the time keeping :-)

But can you time it on the 15C_LE ???

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #7 Posted by **BruceH** on 28 Sept 2011, 1:58 p.m.,*
in response to message #3 by gene wright

> Quote:
>
> But, Angel...how long does a 15c equivalent of this HP 41 program take?
>
> LBL A
>
> "HI"
>
> END
>
> :-)

Gene,

This is really quite easy.

```
LBL A
14
RTN
```

The run time is pretty much instantaneous but it was a bit tricky trying to measure it while standing on my head.

;-)

Re: 41CL Version of HP15C+ muscle-flexing exercise

*Message #8 Posted by **gene wright** on 28 Sept 2011, 2:37 p.m.,*
in response to message #7 by BruceH

Ok, how about:

LBL A

"SMACK BRUCE"

RTN

? :-)

How good is the 41CL?

*Message #9 Posted by **snaggs** on 27 Sept 2011, 7:40 a.m.,*
in response to message #1 by Ángel Martin

Compared to a 42s, how does a 41CL stand-up? Are the keys on the 41 superior? With all the modules included the feature set should be good?What about speed?

Daniel.

Re: How good is the 41CL?

*Message #10 Posted by **Ángel Martin** on 27 Sept 2011, 9:13 a.m.,*
in response to message #9 by snaggs

> Quote:
>
> Compared to a 42s, how does a 41CL stand-up? Are the keys on the 41 superior?

As always, it's a matter of personal taste. To me the keys are definitely superior, and no soft-Alpha thank God.

> Quote:
>
> With all the modules included the feature set should be good?

It's as close to perfect as you can imagine.

> Quote:
>
> What about speed?

As fast as I need it to be, a joy. See benchmarking article at:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=1002

(BTW it'll be good to have all that data in a chart format, right Gene??? :-)

In my experience the real-life calculations are a better measure, but FWIW here are the results:

```
The NEWT 41CL logic board upgrade for the HP 41. Code: LBL 00 + GTO 00
1X mode: 1,055
2X Turbo mode: 1,913
5X Turbo mode: 4,153
10X Turbo mode: 6,538
20X Turbo mode: 9,179
50X Turbo mode: 12,022

HP-42s FAST MODE S/N 2849A with goose disabled
Count: 6,485


HP-42S with "goose" disabled. Non-fast mode.
```

```
Count: 3,067


HP-42S
Count: 2,115
Code: LBL 00 + GTO 00
```

Edited: added 42S data

Edited: 27 Sept 2011, 9:18 a.m.

Re: How good is the 41CL?

*Message #11 Posted by **Ángel Martin** on 27 Sept 2011, 9:27 a.m.,*
in response to message #10 by Ángel Martin

alright, so after I looked at the 42S different "configurations" data points I went ahead and performed the test on a goose-disabled 41CL - comparing apples to apples, as it should be.

Code: CLA AVIEW 1 LBL_00 + GTO_00

The TURBO-50 figure increases to 27,417 - more than double!

Time for an updated chart!

Re: How good is the 41CL?

*Message #12 Posted by **Juergen Keller** on 27 Sept 2011, 9:47 a.m.,*
in response to message #10 by Ángel Martin

I did another 41CL benchmark, and this article (sorry, in German).

1.5 or 2.6 sec makes not much difference to me, both is muuuch faster than the original calcs :-)

Re: How good is the 41CL?

*Message #13 Posted by **Ángel Martin** on 27 Sept 2011, 10:07 a.m.,*
in response to message #12 by Juergen Keller

wow!, fantastic article - amazingly exhaustive and authoritative! Definitely the definitive reference - and I agree, we're in the realms of hair-splitting and fringe-wandering.

You can write NUT assembler on the 41CL?

*Message #14 Posted by **snaggs** on 27 Sept 2011, 6:41 p.m.,*
in response to message #12 by Juergen Keller

Surely thats a big advantage if you have something complicated to implement.

Daniel.

Re: You can write NUT assembler on the 41CL?

*Message #15 Posted by **Ángel Martin** on 28 Sept 2011, 2:23 a.m.,*
in response to message #14 by snaggs

Yes you can - just use any of the available editors from all the modules included in its library (HEPAX, DAVID-ASM, ZENROM...) and the Quasi-RAM blocks also available there.

How does 41CL battery life compare to 12C and 15LE's?

*Message #16 Posted by **snaggs** on 28 Sept 2011, 11:49 p.m.,*
in response to message #12 by Juergen Keller

It states its standby (off) draw as 110 vs 10 of the original. So, its ten times worse, but then with a modern set of lithium AA's, that would probably compensate.

How does it compare to emulating on an ARM chip?

Is the battery usage a side effect of FPGA?

Daniel.

Re: How does 41CL battery life compare to 12C and 15LE's?

*Message #17 Posted by **Monte Dalrymple** on 29 Sept 2011, 10:03 a.m.,*
in response to message #16 by snaggs

The FPGA is powered down during sleep. But the CPLD, which contains the logic that must always remain active, draws over half of that sleep current. The RAM only requires about 2uA. The RS232 driver and 6V level shifter are about 5uA each, and the various power supplies and reference divider take the rest.

Re: How good is the 41CL?

*Message #18 Posted by **Howard Owen** on 27 Sept 2011, 12:53 p.m.,*
in response to message #9 by snaggs

The keys on the 41C set my personal standard for keyboard quality. They may or may not be the absolute best HP ever produced, but they are the ones my fingers got to know in my early days as a programmer. The 42S keys are quite good, but they just don't match my personal prejudice for "best."

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C 30th AE arrives in Malaysia

*Message #1 Posted by **hpnut** on 27 Sept 2011, 2:42 a.m.*

Got an email from my dealer:

Thanks for your always support.

HP12C Anniversary Edition will arrive nextweek , Your price is RM330.00. Market price :RM400.00 with limited quantity.

Thanks.

that's equal to US$105.

anyhow, I got mine from Samson, after USPS International Priority Mail, it's US$113

Re: HP 12C 30th AE arrives in Malaysia

*Message #2 Posted by **From Hong Kong** on 27 Sept 2011, 4:49 a.m.,*
in response to message #1 by hpnut

In Hong Kong, it is also selling for US$105!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Amtel SAM-BA download broken

*Message #1 Posted by **Howard Owen** on 27 Sept 2011, 1:05 a.m.*

I'm getting a vbscript error when I click on the email confirmation link after registering. I'v complained to the webmaster, butI'm impatient. :) Does anyone know of an alternate location where this software can be found?

Regards,
Howard

(Eagerly awaiting my chance to destroy the freebie 20B from HHC. :)

Re: WP 34S Amtel SAM-BA download broken

*Message #2 Posted by **gene wright** on 27 Sept 2011, 7:40 a.m.,*
in response to message #1 by Howard Owen

Here is a direct link to the windows .exe file for samba 2.10:

Samba!

Note: that link is to my public dropbox folder...

Re: WP 34S Amtel SAM-BA download broken

*Message #3 Posted by **Howard Owen** on 27 Sept 2011, 11:01 a.m.,*
in response to message #2 by gene wright

Thanks, Gene!

Re: WP 34S Amtel SAM-BA download broken

*Message #4 Posted by **E.Lub_EU** on 27 Sept 2011, 9:19 a.m.,*
in response to message #1 by Howard Owen

Howard,

Atmel provides also a SAM-BA patch for Atmel SAM7 series that was last revised on Aug 11th:

SAM7 Patch for SAM-BA® 2.10
(77 KB, revision 1.0, updated 8/11)
This patch fixes SAM7 flash programming issue in SAM-BA® 2.10.

I haven't seen it mentionned recently on the forum, and have not installed SAM-BA yet, so I can not tell how critical this is. I have seen in the archives that some have mentionned difficulties with SAM-BA, I wonder if this patch would improve things.

Can anyone comment?

Regards, Etienne

Re: WP 34S Amtel SAM-BA download broken

*Message #5 Posted by **sylvandb** on 27 Sept 2011, 5:46 p.m.,*
in response to message #1 by Howard Owen

> Quote:
>
> I'm getting a vbscript error when I click on the email confirmation link after registering. I'v complained to the webmaster,

Yeah, me too. Never heard back.

I did some looking about on the Atmel page and figured out these URLs:

release notes

win exe

linux zip

sam9g15 patch

sam 7 patch

sam9m10 patch

I don't have any details in my notes, so probably I was able to grab them with 'wget' which means the link from here should work.

Re: WP 34S Amtel SAM-BA download broken

*Message #6 Posted by **Howard Owen** on 27 Sept 2011, 6:32 p.m.,*
in response to message #5 by sylvandb

I tried it again this morning and it worked. Does anyone know what these patches are for and whether or not they impact the WP-34S flashing?

Re: WP 34S Amtel SAM-BA download broken

*Message #7 Posted by **Marcus von Cube, Germany** on 27 Sept 2011, 6:34 p.m.,*
in response to message #5 by sylvandb

Maybe I'll be able to get Cyrille's MySamba to work with the 34S again. This will be a vast improvement, especially speed wise. I just need a Pascal compiler or I will write my own (command line only) utility based on the MySamba code.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C-LE and 1981 12C in one day

*Message #1 Posted by **Keith Midson** on 26 Sept 2011, 10:40 p.m.*

What a day - my 15C Limited Editions finally arrived along with an original mint 12C made in 1981! So, i've updated the collection site accordingly:
HP COLLECTION
HP15C-LE & 1982 Original
HP protos and rare stuff
Enjoy! Cheers, Keith

Re: 15C-LE and 1981 12C in one day

*Message #2 Posted by **Keith Midson** on 26 Sept 2011, 11:12 p.m.,*
in response to message #1 by Keith Midson

... and of course not forgetting the 12C collection:
12C COLLECTION
and the non-HP collection:

NON HP COLLECTION

Edited: 26 Sept 2011, 11:14 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC2011 News

*Message #1 Posted by **Namir** on 26 Sept 2011, 8:28 p.m.*

Hello All,

The HHC2011 was a real success. HP, through the effort of Tim and Cyril, was generous and hosted our meeting, providing us with refreshments and meals.

It was really nice to see old friends and make a few new ones. The fellowship was absolutely lovely, funny, and fun!

The talks ere very nice and informative. Joe Horn won best speaker for his subject about rounding number (presented as continuous fractions) I gave my talk about comparing the speeds of the HP-15C vintage and the new HP-15C LE. Speakers like Denis Harms were very informative. He was the team leader for the HP-12C. There was also a panel of HP marketing people. I recognized one member from her YouTube video that introduced the HP-12C.

The door prizes were very nice. HP contributed several prizes. We got some extra new HP-20b that Cyril had obtained from the first production run.

The talks by Marcus von Cube and Neil Hamilton about the WP34S were very interesting. Many HP-20b and HP-30b machines were flashed into the latest version of the WP34S.

The last item we discussed was HHC2012 which definitely will be happening.

If you missed it, contact Jake Schwartz through his web site and buy the conference videos!!!

Edited: 26 Sept 2011, 8:32 p.m.

Re: HHC2011 News

*Message #2 Posted by **Pal G.** on 26 Sept 2011, 8:42 p.m.,*
in response to message #1 by Namir

Thank you for the update. Besides NDA info, does anyone have photos or other stories?

> Quote:
>
> The door prizes were very nice.

I am seeking one of those "HP 48SX" coffee mugs that I have seen on the door prize "brochure" for several years now. If anyone can assist please contact me.

green chile 505 at yahoo etc.... (no spaces).

Best regards.

Re: HHC2011 News

*Message #3 Posted by **Richard J. Nelson** on 27 Sept 2011, 6:53 p.m.,*
in response to message #2 by Pal G.

> Quote:
>
> I am seeking one of those "HP 48SX" coffee mugs that I have seen on the door prize "brochure" for several years now

The coffee mugs were given to me by Jim Carter and I have been giving them out at past conferences. The one on the prize table this year was the last one. I even checked my cuppord and I don't even have one. Sorry.

X < > Y,

Richard

Re: HHC2011 News

*Message #4 Posted by **Pal G.** on 28 Sept 2011, 10:22 a.m.,*
in response to message #3 by Richard J. Nelson

Thanks for looking, Richard!

Best regards.

Re: HHC2011 News

*Message #5 Posted by **BobVA** on 26 Sept 2011, 8:54 p.m.,*
in response to message #1 by Namir

> Quote:
>
> The last item we discussed was HHC2012 which definitely will be happening.

Any locations tossed out for discussion yet?

Cheers, Bob

Re: HHC2011 News

*Message #6 Posted by **Namir** on 26 Sept 2011, 9:11 p.m.,*
in response to message #5 by BobVA

Nashville, Chicago, San Diego, Phoenix, and Dallas.

Re: HHC2011 News

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 9:36 p.m.,*
in response to message #6 by Namir

The London group is planning for a European meeting Oct 2012. This is great for us overseas people.

Re: HHC2011 News

*Message #8 Posted by **Giancarlo** on 27 Sept 2011, 1:39 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Yes please, in Europe :+P

Re: HHC2011 News

*Message #9 Posted by **Walter B** on 27 Sept 2011, 1:42 a.m.,*
in response to message #8 by Giancarlo

Fog on the English Channel - the continent is cut off ;-P

Re: HHC2011 News

*Message #10 Posted by **Namir** on 27 Sept 2011, 11:09 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Indeed. I forgot to mention that event. Sorry. It is a special anniversary meeting, if I am not wrong.

Re: HHC2011 News

*Message #11 Posted by **BobVA** on 26 Sept 2011, 9:45 p.m.,*
in response to message #6 by Namir

> Quote:
>
> Nashville, Chicago, San Diego, Phoenix, and Dallas.

Thanks Namir! (I'm hoping they'll get ranked in inverse order of longitude...)

Cheers, Bob

Re: HHC2011 News

*Message #12 Posted by **Olivier (Wa)** on 26 Sept 2011, 10:11 p.m.,*
in response to message #6 by Namir

Vancouver, B.C. was also mentioned.

Re: HHC2011 News

*Message #13 Posted by **Martin Pinckney** on 26 Sept 2011, 10:29 p.m.,*
in response to message #12 by Olivier (Wa)

There is an East Coast, too, ya know.

Re: HHC2011 News

*Message #14 Posted by **Howard Owen** on 26 Sept 2011, 10:53 p.m.,*
in response to message #13 by Martin Pinckney

> Quote:
>
> There is an East Coast, too, ya know.

About 200 miles east of Yosemite, isn't it?

Re: HHC2011 News

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 27 Sept 2011, 10:41 p.m.,*
in response to message #14 by Howard Owen

There is an East Coast, too, ya know.

About 200 miles east of Yosemite, isn't it?

This reminds me of the early 1960's when I was working out on Long Island. I discovered that to most New Yorkers "out west" wasn't Pittsburg and beyond. It was the other side of the Hudson River.

In the 1980's I was in a conference in Boston when an Easterner couldn't remember whether a state that he was referring to was Ohio or Iowa and said "One of those states with too many vowels."

Re: HHC2011 News

*Message #16 Posted by **Howard Owen** on 27 Sept 2011, 11:32 p.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

> Quote:
>
> About 200 miles east of Yosemite, isn't it?
>
> This reminds me of the early 1960's when I was working out on Long Island. I discovered that to most New Yorkers "out west" wasn't Pittsburg and beyond. It was the other side of the Hudson River.

I took as my guide those wall posters that show a New Yorker's view of the world. New Jersey barely registers, let alone California.

> Quote:
>
> In the 1980's I was in a conference in Boston when an Easterner couldn't remember whether a state that he was referring to was Ohio or Iowa and said "One of those states with too many vowels."

What, like "M*ass*ch*usse*ts?"

Re: HHC2011 News

*Message #17 Posted by **Eddie W. Shore** on 27 Sept 2011, 9:40 a.m.,*
in response to message #6 by Namir

All the locations sound nice. Naturally, I'd vote for San Diego given where I live.

I am dying to ask, if the conference will be held in Chicago - which side of Chicago (North vs South)

Re: HHC2011 News

*Message #18 Posted by **Brian Walsh** on 27 Sept 2011, 11:00 a.m.,*
in response to message #17 by Eddie W. Shore

> Quote:
>
> I am dying to ask, if the conference will be held in Chicago - which side of Chicago (North vs South)

Eddie, I'm guessing you're a Southsider :-) But CHIP is pretty neutral when it comes to that sort of thing. The conference location would likely be Ace Metal in Bensenville, just west of O'Hare airport.

Re: HHC2011 News

*Message #19 Posted by **Jake Schwartz** on 27 Sept 2011, 11:07 a.m.,*
in response to message #17 by Eddie W. Shore

Eddie Shore wrote:

> Quote:
>
> I am dying to ask, if the conference will be held in Chicago - which side of Chicago (North vs South)

When Brian Walsh suggested that Chicago be considered, he was talking about the fact that we've had several past conferences at ACE Metal Crafts' facility in Franklin Park, IL, which is within a mile of the O'Hare airport. That would be northwest of the city. Those conferences have all been great, by the way.

Martin Pinckney wrote:

> Quote:
>
> There is an East Coast, too, ya know.

These conferences, having been held since 1979, are put on by volunteers (...now I'm beginning to sound like Walter <grin>) who do all the hard work "in their back yards" or elsewhere to organize them and make them happen. When locations for next year were discussed, they were considered based on people who would be willing to investigate getting things organized in their own areas. For instance, John Caddick talked about doing it near Dallas, where he lives. Gene Wright is near Nashville and he talked about looking there. Geoff Quickfall entertained the possibility of doing it near his home town of Vancouver BC, and so on. There have been a handful of them in the East in the past (Brian Walsh did the one in Atlanta in '85, Bill Kolb organized one in Rockville, MD in '81, Irv Weiner and his Rhode Island PPC chapter sponsored one in 1983 in Providence and I did conferences in the Philly area in '82 and '92, plus there was one in Orlando in '83). It takes a ton of work. Are you volunteering to organize one where you want it to be?

Jake

Re: HHC2011 News

*Message #20 Posted by **David Ramsey** on 27 Sept 2011, 12:33 p.m.,*

in response to message #19 by Jake Schwartz

I vote for Reno. And not just because I live there.

The nicest hotel in town, the Grand Sierra Resort, is 1/2 mile from the airport. It was *designed* for conventions like this and there's almost always one going on. There must be a dozen or more restaurants inside the hotel, ranging from fast food like Johnny Rockets to the typical Reno buffets to high-end stuff if you win big at the slots.

Lots of meeting rooms, of course, in any size we'd need.

Re: HHC2011 News

*Message #21 Posted by **Jake Schwartz** on 27 Sept 2011, 1:16 p.m.,*
in response to message #20 by David Ramsey

> Quote:
>
> I vote for Reno. And not just because I live there

I am sure that if you can do the "legwork" to research prices and rooms, etc. and then report it to Richard, it would definitely be in the running with the other places, if the costs are reasonable. Thanks in advance for your help.

Jake

Re: HHC2011 News

*Message #22 Posted by **David Ramsey** on 27 Sept 2011, 4:40 p.m.,*
in response to message #21 by Jake Schwartz

I shall do this thing.

Re: HHC2011 News

*Message #23 Posted by **Ángel Martin** on 27 Sept 2011, 2:28 a.m.,*
in response to message #1 by Namir

How about 15C-LE issue correction? New firmware coming soon?

Re: HHC2011 News

*Message #24 Posted by **Jim Horn** on 27 Sept 2011, 12:14 p.m.,*
in response to message #23 by Ángel Martin

As I understand their description of this, the 15CLE firmware bug apparently was introduced late in the game and caught them by surprise. They already know what is likely needed to fix it without introducing more. They are working to impliment the changes and test them thoroughly before releasing them.

In short, no release date for the firmware fix but stay tuned...

By the way, I continue to be impressed even more as time goes by with the skills, expertise, enthusiasm and quality of Cyrille, Tim and the rest of the HP Calculator team. Meeting them again in San Diego was an honor and a treat!

Re: HHC2011 News

*Message #25 Posted by **Tom Mathes** on 27 Sept 2011, 1:36 p.m.,*
in response to message #24 by Jim Horn

Any clues as how the fix will be distributed? Most of us don't have the special cable to re-flash the calc.

Re: HHC2011 News

*Message #26 Posted by **Brian Walsh** on 27 Sept 2011, 3:01 p.m.,*
in response to message #25 by Tom Mathes

I would anticipate the cables will be available (Gene Wright has been instrumental and a stalwart in this regard) and that the user community will come forward to help re-flash machines. Although the WP 34S is new to me, now that I have two of them as well as a 30th Anniv. 12C I will make an effort to get up to speed with re-flashing machines and be available to do it for people attending CHIP meetings, for instance, including released updates for the 15C LE.

Updates and cables...

*Message #27 Posted by **gene wright** on 27 Sept 2011, 4:42 p.m.,*
in response to message #26 by Brian Walsh

Lest anyone go "gaga" over Brian's comment, he meant updates for the 15c LE once they are available, which is not true yet.

Regarding cables, I now have more, but am reluctantly going to raise the price I ask to mail them out. I talked with people at HHC 2011 and when I told them what I did and how much time it was taking to fill out the forms, buy the mailing materials, etc., they pretty much all agreed with what I had been thinking.

I must ask for a bit more to mail out the cables. So, here we go:

To ship a cable to a USA address, I am now asking $6 and to a non-USA address, I am asking for $10.

Paypal is the preferred method.

I am sorry about this, but having mailed out 30 cables in the last month, it was beginning to impact the time I needed for other things for just barely covering my costs. :-(

Re: Updates and cables...

*Message #28 Posted by **Brian Walsh** on 28 Sept 2011, 12:04 a.m.,*
in response to message #27 by gene wright

Spot on regarding what I meant to say, Gene. I agree, charge what you need to on the cables.

Re: HHC2011 News

*Message #29 Posted by **Namir** on 27 Sept 2011, 11:17 a.m.,*
in response to message #1 by Namir

Also to mention:

1. Richard Nelson gave a talk Saturday night about the 30th anniversary of the PPC ROM. He explained the Herculean efforts done to track the orders and payments (especially overseas one) create each page of the manual, print the manuals, assemble the packages for each customer, and ship the packages.

I think the PPC ROM is but one special fruit of the genius of Richard as a User Community leader. He makes each HHC meeting seem easy to do. In reality there is a lot of work involved.

2. (father) Joe Horn won best speaker. I thought is was a bit unfair since as a priest he gets to practice public speaking (each Sunday and at special occasion) much more frequently and thus has perfected the art of public speaking and winning his audiences' attention, respect, and admiration. Oh well, life is not always fair. Of course he talk was very nice.

More reason to get the videos from Jake Schwartz.

Edited: 27 Sept 2011, 11:20 a.m.

Re: HHC2011 News

*Message #30 Posted by **Howard Owen** on 27 Sept 2011, 12:55 p.m.,*
in response to message #29 by Namir

Don't forget Eric's updated DIY

Re: HHC2011 News

*Message #31 Posted by **Steve Simpkin** on 27 Sept 2011, 1:45 p.m.,*
in response to message #30 by Howard Owen

Eric's latest DIY HP-41 calculator demo was amazing. The new high resolution display looked fantastic and the power used by the entire calculator when it was on was so shockingly low, even the HP engineers did a double take. He and his team did an incredible amount of work in a short time to have this prototype available for HHC2011. I hope he updates his site soon to show everyone their latest creation.

Re: HHC2011 News

*Message #32 Posted by **Richard J. Nelson** on 27 Sept 2011, 3:09 p.m.,*
in response to message #31 by Steve Simpkin

The location of HHC 2012 is one of the most difficult in terms of the hundreds of decisons that need to be made. The date, however, is easy. Just start with September 15 and consider the next weekend. If there is a major religious conflict pick the next weekend. For 2012 it is tenatively September 23 & 24.

The facilities decision is based on the total cost to the attendee such as: Travel costs, Hotel room costs, meal costs, meeting room costs, HP support costs (e.g. at an HP facility near zero).

This Conference was "overloaded" with presentations and fellowship time is always an important consideration. Starting at noon on Friday was suggested. For sure we willl have a Committee member present at the hotel in the future. We were 6 Commettee, 4 HP people, plus the HP Facilites crew - 14 total - and still it was a challenge to get everything set up in time.

The HHC List is the media we use for HHC's. http://lists.brouhaha.com/mailman/listinfo/hhc Sign up if you are interested.

X < > Y,

Richard

Edited: 27 Sept 2011, 6:39 p.m.

Re: HHC2011 News

*Message #33 Posted by **Peter Murphy (Livermore)** on 27 Sept 2011, 7:05 p.m.,*
in response to message #32 by Richard J. Nelson

Richard, please list all these people by name and HHC 2011 function, so that they can all get recognition here for their hard and successful work.

And thank you for yours. It was a great conference!

Re: HHC2011 News

*Message #34 Posted by **BruceH** on 28 Sept 2011, 4:37 a.m.,*
in response to message #32 by Richard J. Nelson

NO NO NO NO!!

The date is NOT easy. You keep holding it in September and you keep annoying those in the educational community who cannot attend during term time.

Anyone considering venues, PLEASE ask for costs for August as well, and perhaps we can finally put the canard of "it's cheaper out of season" to bed. That may have been true two or three decades ago but not now. Just find a business rather than tourist hotel and they will be short of customers in August.

Re: HHC2011 News

*Message #35 Posted by **Egan Ford** on 28 Sept 2011, 11:00 a.m.,*
in response to message #34 by BruceH

> Quote:
>
> The date is NOT easy. You keep holding it in September and you keep annoying those in the educational community ...

The principal market that calculators are made for.

> Quote:
>
> Anyone considering venues, PLEASE ask for costs for August as well, and perhaps we can finally put the canard of "it's cheaper out of season" to bed. That may have been true two or three decades ago but not now. Just find a business rather than tourist hotel and they will be short of customers in August.

For some reason I have to pay 2x as much for a room in NY after US Labor Day (Sept 5th this year). So I do not believe that after August is always cheaper.

Something to consider is what KFest (think HHC for Apple II users) does. Some

universities rent out their dorms + conference facilities for less than $100/person/day in the summertime. Cheaper if you double up in the dorm rooms. No cars or hotel needed.

Re: HHC2011 News

*Message #36 Posted by **Dave Shaffer (Arizona)** on 28 Sept 2011, 1:55 p.m.,*
in response to message #34 by BruceH

You can get resort rooms ($300-$400 in season = well after September) for ~$100 in Phoenix in August. The only problem - it's >110 F most days!! Of course, this crowd would all be in the meeting till 11 PM, at which point it may have cooled off to below 100.

Re: HHC2011 News

*Message #37 Posted by **Brian Walsh** on 28 Sept 2011, 2:05 p.m.,*
in response to message #34 by BruceH

Bruce, August 11-12 appears to be feasible, but the 18-19 does not due to Jewish holidays. The following weekend (25-26) isn't good for me since I have people in from out of town then and I *really* would like to attend next year's conference and possibly give a talk.

It would be great to see you!

Re: HHC2011 News

*Message #38 Posted by **BruceH** on 29 Sept 2011, 5:01 p.m.,*
in response to message #37 by Brian Walsh

Thanks for looking into it Brian, 11-12th August would be fine.

DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #39 Posted by **Eric Smith** on 27 Sept 2011, 5:16 p.m.,*
in response to message #31 by Steve Simpkin

Richard Ottosen and I have been working on this project for over ten years now. Last year at HHC2010 I showed our fifth-generation hardware, called DIY4, which uses ARM processor vs. the Microchip PIC microcontrollers we used in the earlier generations. However, at HHC2010 the DIY4 was only running a hardware diagnostic program, and was not functioning as a calculator.

We finally got the DIY4 working as a 41C-compatible calculator in mid August. However, at about the same time we discovered a new, significantly better LCD display, which is 2.7" diagonal with 400x240 pixels (173 dpi), with excellent contrast and very low power consumption. We kludged the new display onto on of our prototypes, and barely got it working in time to show at HHC2011 this past weekend. We call this version DIY4X.

Unfortunately in the mad rush to get the DIY4X working, I did not have time to prepare any slides for my presentation or a paper for the proceedings. I do hope to write up some information for a web page, and take some photos and videos, but school has me really busy, so it will take me a while. I'll certainly post a link here when I do.

The title of my presentation, "Scaled Reptiles of the Nordic Countries", was inspired by the titles of HP's presentations, including "Deciduous Trees of North America" and "Deciduous Trees of Europe". The microcontroller in the DIY4X is an EFM32G "Gecko" made by Energy Micro in Norway.

Geoff Quickfall took that one step further and titled his talk "Smooth Scaled Deciduous Trees of the Southern Nordic Countries".

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #40 Posted by **Howard Owen** on 27 Sept 2011, 6:19 p.m.,*
in response to message #39 by Eric Smith

That display is *awesome!* Your talk about the "Super Gecko" was exciting too. The prospect of double digit car insurance discounts guarantees that I will be back for HHC 2012.

:)

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #41 Posted by **Eric Smith** on 27 Sept 2011, 7:55 p.m.,*
in response to message #40 by Howard Owen

You're referring to the "Giant Gecko".

The DIY4X uses the EFM32**G**280F**128** "Gecko" with 128 KB of flash and 16 KB of RAM. The DIY4X already uses nearly all of that memory, so there currently isn't enough room for four -41 ROM modules, HEPAX support, and other features I want to provide.

The DIY5 will use the EFM32**GG**380F**1024** "Giant Gecko" part, which has 1 MB of flash and 128 KB of RAM. The Giant Gecko also adds USB support.

The Giant Gecko parts are said to be sampling now. I've requested a few samples for development but have not received them yet. We should be able to test a Giant Gecko (except for USB) on the DIY4X with a few cuts and jumps.

Regrettably we will not be able to arrange the car insurance discount for you. You'll have to negotiate that with your insurer.

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #42 Posted by **Howard Owen** on 27 Sept 2011, 9:10 p.m.,*
in response to message #41 by Eric Smith

> Quote:
>
> Regrettably we will not be able to arrange the car insurance discount for you. You'll have to negotiate that with your insurer.

No worries, mate! :)

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #43 Posted by **Jim Horn** on 27 Sept 2011, 10:55 p.m.,*
in response to message #41 by Eric Smith

Wow, that gives a whole new meaning to the concept of the calculator crashing...

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #44 Posted by **Howard Owen** on 27 Sept 2011, 11:44 p.m.,*
in response to message #43 by Jim Horn

> Quote:
>
> Wow, that gives a whole new meaning to the concept of the calculator crashing...

One does not want to mention "crashing" when there's a giant gecko insurance agent around.

Re: DIY4X, or Scaled Reptiles of the Nordic Countries.

*Message #45 Posted by **Ángel Martin** on 28 Sept 2011, 2:30 a.m.,*
in response to message #39 by Eric Smith

Looking forward to more details and pics. What are your plans for the project, just a DIY for your own enjoyment or some kind of commercialization/distribution?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I wonder what "Limited Edition" means

*Message #1 Posted by **j beede** on 26 Sept 2011, 8:28 p.m.*

Does anyone know of any evidence that the HP 15C Limited Edition is actually a limited production calculator? I am talking about evidence other than anecdotal evidence based on numbering or rumors, etc. Maybe I missed the memo or the press release.

When do we start petitioning for the HP-16C Limited Edition :)

Re: I wonder what "Limited Edition" means

*Message #2 Posted by **robertoataulfo** on 26 Sept 2011, 8:34 p.m.,*
in response to message #1 by j beede

```
I agree.
The China plant should be producing the number 102333652252
I think she is going to save HP
I believe that the production of 15 LE is greater than the Iphone.
And there are people who are keeping many HP-15LE at home .
Is putting out his wife, children and the dog to save the hp-15LE
```

Edited: 26 Sept 2011, 8:36 p.m.

Re: I wonder what "Limited Edition" means

*Message #3 Posted by **Steve Fennell** on 26 Sept 2011, 10:23 p.m.,*
in response to message #1 by j beede

The earliest mention I could find on this site was in March. The number 10000 was mentioned but I have not seen anything official to back that up. If the 15C is successful it may become less limited, but given HP's corporate gyrations there is every reason to believe this may be the only chance to get one.

Re: I wonder what "Limited Edition" means

*Message #4 Posted by **Lincoln R.** on 27 Sept 2011, 1:21 a.m.,*
in response to message #3 by Steve Fennell

Honestly, HP not admitting how many they made/will make may be a good thing for us. Not announcing the limit of the 'Limited' Edition may very well mean "We reserve the right to produce as many as we want." This means more 15Cs for everyone, and if enough of the things flood the market the TAS insanity should start cooling off.

Re: I wonder what "Limited Edition" means

*Message #5 Posted by **From Hong Kong** on 27 Sept 2011, 2:10 a.m.,*
in response to message #1 by j beede

As people can earn much money by selling their HP-15C LE on major auction sites, "Limited Edition" should

be renamed to "Lucrative Edition"! :P

Edited: 27 Sept 2011, 2:12 a.m.

Re: I wonder what "Limited Edition" means

*Message #6 Posted by **Bill (Smithville, NJ)** on 27 Sept 2011, 7:06 a.m.,*
in response to message #1 by j beede

"Limited Edition" can mean a lot of things. Here in the United States, we have many "collectable" items offered on late night TV. These are all described as "only a limited quanty produced", or "the mold will be destroyed". What they usually mean is "We will produce them until no one else wants to buy them". Limited to the amount that can be sold.

We can only hope that HP will limit it to the amount that can be sold.

Bill

Re: I wonder what "Limited Edition" means

*Message #7 Posted by **j beede** on 27 Sept 2011, 3:27 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

The reason I ask is that on their web site, HP says:

"HP 15c Scientific Calculator 4.0 out of 5 stars (6 reviews) • Limited collector's edition • Perfect gift for scientists and engineers on the go • Up to 100x faster than original edition • 120+ built-in functions with RPN"

I see people here claiming to have bought multiples of these calculators... speculating on RPN calculators? Imagine that!

I believe in a free economy but claiming that a product has limited availability when the truth is that the item is not limited at all seems unethical, or at least more typical of fast food marketeers--"at participating stores for a limited time only".

That said, I was pleased to buy a new HP-15C LE for way less than I paid for my "real" HP-15C ~30 years ago! Using the coupon I got a 15C LE from HP's on-line store for $85 with free shipping. Nice.

Re: I wonder what "Limited Edition" means

*Message #8 Posted by **sylvandb** on 27 Sept 2011, 5:53 p.m.,*
in response to message #7 by j beede

> Quote:
>
> I believe in a free economy but claiming that a product has limited availability when the truth is that the item is not limited at all seems unethical

There is always a limit.

If by some violation of the laws of physics an infinite quantity of new 15C's were to be planned, if nothing else the LE markings could be removed for all future production.

Re: I wonder what "Limited Edition" means

*Message #9 Posted by **Glenn Dowdy** on 27 Sept 2011, 5:24 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

For any definitions of "Limited Edition", I can only admit to Tim and Cyrille being "Limited Editions". The molds were definitely broken after those two were born.

Re: I wonder what "Limited Edition" means

*Message #10 Posted by **C.Ret** on 27 Sept 2011, 5:58 p.m.,*
in response to message #9 by Glenn Dowdy

How to remove it ?

In the case of an infinite production of it, better add an "Un", to get the HP-15c "UnLimited Edition" label.

Re: I wonder what "Limited Edition" means

*Message #11 Posted by **Howard Owen** on 27 Sept 2011, 10:29 p.m.,*
in response to message #10 by C.Ret

> Quote:
>
> In the case of an infinite production of it, better add an "Un", to get the HP-15c "UnLimited Edition" label.

Perhaps the 15C LE production is "finite but unbounded."

Re: I wonder what "Limited Edition" means

*Message #12 Posted by **Eric Smith** on 27 Sept 2011, 5:43 p.m.,*
in response to message #1 by j beede

It means absolutely nothing whatsoever.

At HHC 2011, someone asked the HP marketing people how many will be made, and they said that they were not willing to provide that information.

Normally when a company sells a numbered limited edition of something, they tell the public how many there are, so that the public can decide what value they place on "limited". Since HP has failed to conform to this standard practice for limited editions, in my opinion it is effectively not limited at all, since they can just keep making them and marking them "Limited Edition" as long as they like.

I think this is an example of a "marketing breakthrough". :-(

Re: I wonder what "Limited Edition" means

*Message #13 Posted by **Katie Wasserman** on 27 Sept 2011, 6:07 p.m.,*
in response to message #12 by Eric Smith

I agree that calling something a "limited edition" without saying how many will be made is meaningless. While the number of digits in the limited edition number seems to imply a maximum or 100,000 units even this does not have to be the limit -- letters in place of numbers could be used or numbers could be repeated.

Calling this the "15C LE" without saying what the "LE" means seems like the way to go.

Re: I wonder what "Limited Edition" means

*Message #14 Posted by **Martin Pinckney** on 27 Sept 2011, 6:11 p.m.,*
in response to message #12 by Eric Smith

> Quote:
>
> It means absolutely nothing whatsoever. ... Normally when a company sells a numbered limited edition of something, they tell the public how many there are, so that the public can decide what value they place on "limited". Since HP has failed to conform to this standard practice for limited editions, in my opinion it is effectively not limited at all, since they can just keep making them and marking them "Limited Edition" as long as they like.

The only thing we know for sure, is that "Limited Edition" means that a) it says that on the front, and 2) it has a "Limited Edition Number" on the back, separate from the normal serial number.

The 12c Platinum "25th Anniversary Edition" became the re-styled Platinum, sans any special edition marking, after a few months of marketing.

Re: I wonder what "Limited Edition" means

*Message #15 Posted by **Howard Owen** on 27 Sept 2011, 10:32 p.m.,*
in response to message #14 by Martin Pinckney

> Quote:
>
> The only thing we know for sure, is that "Limited Edition" means that a) it says that on the front, and 2) it has a "Limited Edition Number" on the back, separate from the normal serial number.

And a/3) we know that the packaging on this thing is more expensive than the fiendish razor proof sealed plastic that they usually use. If they are going to continue production, they'd likely change that, at least.

Re: I wonder what "Limited Edition" means

*Message #16 Posted by **bill platt** on 28 Sept 2011, 9:51 a.m.,*
in response to message #15 by Howard Owen

The only reason for the razor-proof is for retail stores. If they continue without any intention of stores, then they won't bother with that.

This 15C LE is a direct marketing initiative from a massively bloated Multinational Corporation. In a way, it is rather remarkable!

Re: I wonder what "Limited Edition" means

*Message #17 Posted by **Bill (Smithville, NJ)** on 27 Sept 2011, 6:58 p.m.,*
in response to message #12 by Eric Smith

> Quote:

> Normally when a company sells a numbered limited edition of something, they tell the public how many there are

and they number the items in sequence (i.e., 5 of 100) and give a letter of Authenticity. I have several items that meet this criteria. My favorite is:

A hand colored water color of the World Trade Center as seen from the Statue of Liberty. It was done by a well know artist that specializes in Architectural Etchings of Historic Buildings in New York. Signed by the Artist, Numbered and has a letter from the Artist.

I bought it many years ago. Since I used to work on the 92nd floor of Tower Two, I wouldn't take any amount of money for it and it proudly hangs in our living room and srvers as a rememberance of all the brave souls that were lost on that tragic day.

Bill

Edited: 27 Sept 2011, 8:21 p.m.

Re: I wonder what "Limited Edition" means

*Message #18 Posted by **Reth** on 28 Sept 2011, 3:12 a.m.,*
in response to message #1 by j beede

As Jerry Seinfeld once said: "...they are limited by the number they can sell"...

;)

Re: I wonder what "Limited Edition" means

*Message #19 Posted by **Martin Pinckney** on 28 Sept 2011, 8:24 a.m.,*
in response to message #1 by j beede

One wonders why HP wants to keep the production number a secret, since, at least HP in their own sales sites doesn't seem to be taking advantage of the buying frenzy by jacking up prices.

Perhaps the real reason HP won't divulge is that at this time there is no specified limit.

Or it could just be corporate policy not to divulge any production figures.

Re: I wonder what "Limited Edition" means

*Message #20 Posted by **Ethan Conner** on 28 Sept 2011, 12:56 p.m.,*
in response to message #19 by Martin Pinckney

HP is not completely stupid. If their first run sells quickly they leave the door open to crank out some more. Now whether they come in fancy boxes with printed manuals remains to be seen. As tough as the customers in this forum are i don't blame them for not saying the amount produced.

Re: I wonder what "Limited Edition" means

*Message #21 Posted by **sylvandb** on 28 Sept 2011, 11:54 p.m.,*
in response to message #19 by Martin Pinckney

> Quote:

> at least HP in their own sales sites doesn't seem to be taking advantage of the buying frenzy by jacking up prices.

The old HP (ca. 15 years ago, yet maybe the practice continues still) would often price products at intro based upon expected but not yet realized component cost reductions.

In other words, if the first 100,000 cost $300/ea but the next 1,000,000 only cost $200/ea then the intro price would be based on the $200/ea cost. If costs dropped below the $200/ea the price might be reduced after intro.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another order of 15c LE for me!

*Message #1 Posted by **jonathan G harris** on 26 Sept 2011, 8:14 p.m.*

I bought (3) HP 15C LE from Buy.com several weeks ago, back when there were posts that Buy.com had them in-stock on sale for 80 bucks. I just placed a new order with HP.com for 3 more (also for 80ish bucks... These calculators are not perfect, but they are pretty close with only trivial problems mentioned (trivial in my eyes...) with the exception of the current draw during keypresses. I ran self tests on all 3 of my current ones and I hope that the 3 new ones will also be of high quality. I am amazed and pleasantly surprised by the handsome display box that it comes in. I have bought many calculators in my time (finished school in 2006, EE) and everyone of them required nothing short of a light-saber/surgeon's scalpel to open. My "first string" 15c LE has been in my shirt pocket since they arrived. Hell it is in my shirt pocket right now along with my pentel 0.5 mechanical pencil and parker pen.

I am very happy that they decided to bring this calculator back and am more happy that it is selling so well! I've seen posts of folks buying 5-10 calculators. Hopefully they aren't trying to sell them on TAS and do the price gouging that I have heard about.

On a slightly different subject, I thought I remembered seeing (maybe back in 2004-2009???) on the HP site or a link they had for some very fancy calculator cases for the HP10C-16C. They had slipcases made of alligator, snakeskin, etc. Plus I think they did embroidery for a personalized touch... Does anyone remember this or am I just remembering a dream...

Re: Another order of 15c LE for me!

*Message #2 Posted by **Walter B** on 27 Sept 2011, 1:32 a.m.,*
in response to message #1 by jonathan G harris

Remember to take it out of your shirt pocket before washing ;-)

Re: Another order of 15c LE for me!

*Message #3 Posted by **Thomas Radtke** on 27 Sept 2011, 3:18 a.m.,*
in response to message #2 by Walter B

With some luck batteries are empty if he didn't.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE back in stock at HP Home Store

*Message #1 Posted by **Michael de Estrada** on 26 Sept 2011, 4:37 p.m.*

I just placed an order here for an HP 15C LE for $89.99 with an HPSAVE10 coupon with free shipping and 8.25% Texas sales tax for a total of $97.41. The order did complete successfully at checkout.

Re: HP 15C LE back in stock at HP Home Store

*Message #2 Posted by **Raymond Del Tondo** on 26 Sept 2011, 5:43 p.m.,*
in response to message #1 by Michael de Estrada

Hmm, doesn't seem to work from non-US addresses:-(

Re: HP 15C LE back in stock at HP Home Store

*Message #3 Posted by **Michael de Estrada** on 26 Sept 2011, 5:50 p.m.,*
in response to message #2 by Raymond Del Tondo

Unfortunately, I don't think any of the HP online stores in the USA will ship internationally, which is one of the reasons why outfits like SC can get away with their price gouging.

Re: HP 15C LE back in stock at HP Home Store

*Message #4 Posted by **bill platt** on 26 Sept 2011, 6:51 p.m.,*
in response to message #3 by Michael de Estrada

I'm not so sure I'd call it gouging. I am amazed he can make any money at all.

Re: HP 15C LE back in stock at HP Home Store

*Message #5 Posted by **Michael de Estrada** on 26 Sept 2011, 7:04 p.m.,*
in response to message #4 by bill platt

He's currently selling them for $199.99 + shipping and I'm sure he paid a lot less than retail for his stock, so sounds like gouging to me.

Re: HP 15C LE back in stock at HP Home Store

*Message #6 Posted by **bill platt** on 26 Sept 2011, 7:55 p.m.,*
in response to message #5 by Michael de Estrada

So he makes $100. After all the hassle and high maintenance to get them to market, he won't make a dime. It is a business not a hobby...

Re: HP 15C LE back in stock at HP Home Store

*Message #7 Posted by **Michael de Estrada** on 26 Sept 2011, 8:10 p.m.,*

in response to message #6 by bill platt

He should make a lot more than that, and it's pretty simple to run that type of business. There are plenty of other internet resellers that can manage to make out very well without making a >100% profit per unit. By buying up a lot of initial stock, he prevented buyers from getting them at lower pricers from other less greedy resellers. Heck, I could have bought 20 or so and turned them for a handsome profit. Throwing them in boxes and shipping them is pretty easy.

Re: HP 15C LE back in stock at HP Home Store

*Message #8 Posted by **bill platt** on 26 Sept 2011, 9:25 p.m.,*
in response to message #7 by Michael de Estrada

"easy" but time consuming. I like to make $100 for an hour's labor, not $10...

That's what I mean by this.

Re: HP 15C LE back in stock at HP Home Store

*Message #9 Posted by **Quan** on 26 Sept 2011, 7:00 p.m.,*
in response to message #1 by Michael de Estrada

The coupon SAVE15HP also works!

Re: HP 15C LE back in stock at HP Home Store

*Message #10 Posted by **Michael de Estrada** on 26 Sept 2011, 7:40 p.m.,*
in response to message #9 by Quan

Good catch ! I didn't think to google on hp coupon codes. It's good through 9/30. I would have saved another $5.41.

Edited: 26 Sept 2011, 7:41 p.m.

Re: HP 15C LE back in stock at HP Home Store

*Message #11 Posted by **Howard Owen** on 26 Sept 2011, 8:10 p.m.,*
in response to message #9 by Quan

Thanks! I just ordered my 3rd 15C LE for 84.99 plus $7.01 CA tax and free shipping.

Re: HP 15C LE back in stock at HP Home Store

*Message #12 Posted by **Michael de Estrada** on 26 Sept 2011, 8:21 p.m.,*
in response to message #11 by Howard Owen

Sounds like California state sales tax is the same as Texas, namely 8.25%.

Re: HP 15C LE back in stock at HP Home Store

*Message #13 Posted by **Roger Blake** on 26 Sept 2011, 8:43 p.m.,*
in response to message #12 by Michael de Estrada

Quote:

> Sounds like California state sales tax is the same as Texas, namely 8.25%.

think of us poor Brits - after all the hassle of having it shipped from USA we are stung for 20% tax + a few extra quid for handling fees !

Even if the HP-15C/LE eventually appeared over here we'd still be paying that extra 20% :-(

Re: HP 15C LE back in stock at HP Home Store

*Message #14 Posted by **Michael de Estrada** on 26 Sept 2011, 8:56 p.m.,*
in response to message #13 by Roger Blake

Is that your VAT ? Whenever I ship a calc to someone in Europe, I always show it as a "gift" on the customs form with a value of $0.

Re: HP 15C LE back in stock at HP Home Store

*Message #15 Posted by **Maximilian Hohmann** on 27 Sept 2011, 3:46 a.m.,*
in response to message #14 by Michael de Estrada

Good morning!

> Quote:
>
> > Is that your VAT ? Whenever I ship a calc to someone in Europe, I always show it as a "gift" on the customs form with a value of $0.

Please don't do that without talking to your buyer first! Our customs officers are not stupid! Whenever I collect parcels from overseas at customs, they ask to be shown either printouts of eBay transactions, invoices, credit card slips, or PayPal invoices. If I can't produce any of these of if they have any doubt about them, they will determine the value of the goods by themselves. Usually much higher than what I actually paid.

Declaring something as "gift" does not help at all because taxation on gifts is exactly the same as for purchased items. For customs and taxation, it does not matter at all who paid for the item in the first place! And if the value declared on the parcel is lower than the actual value (like your 0$ statement) they may actually accuse me of attempted tax fraud which is a serious criminal offence.

Another good reason for declaring the real value is the package insurace. If ever something gets lost (has not happened to me yet) you will be reimbursed the declared value. 0$ does not really help.

And regarding that "awful" VAT: For me, this is one of the best and fairest taxes. A direct tax on consumation. People who can afford more expensive goods and services pay more than those who can't. No loopholes for the rich and smart. In return for these taxes, we (at least here in Germany) pay nothing to send our children to school, college and university, have roads with very few potholes, get excellent medical services at moderate cost (for everybody!) and so on. I rather pay VAT on my toys than heaps of money for all these things!

Regards, max

Re: HP 15C LE back in stock at HP Home Store

*Message #16 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 9:45 p.m.,*
in response to message #13 by Roger Blake

> Quote:
>
> think of us poor Brits - after all the hassle of having it shipped from USA we are stung for 20% tax + a few extra quid for handling fees !

Poor Brits? That's because you don't know the outrageous Brazilian taxes. As an example, in April I received two serial cables from HP with an enclosed no charge invoice. The declared value had been $4.00 ($2.00 each). There was a notice on the bottom of the invoice that read "NO CHARGE INVOICE: Value for Customs purpose only". Despite of this, that's what I've been charged:

```
Declared value: US$  4.00
    Import tax: US$  2.40   (60 %)
    ICMS (VAT): U$$  0.72   (18 %)
          GNRE: U$$  0.68
  Customs fees: U$$ 15.00
         Total: U$$ 18.80
```

Items are charged over the declared value even they are declared as gifts. I was lucky once, when I received a $150.00 HP-50g from Samson Cables and wasn't charged anything. I guess there was an important soccer game going on when it arrived at Customs :-)

Re: HP 15C LE back in stock at HP Home Store

*Message #17 Posted by **Artur-Brazil** on 27 Sept 2011, 8:38 a.m.,*
in response to message #16 by Gerson W. Barbosa

Hi, Gerson

In Brazil, our Customs do this: - by sampling they add the shipping costs to the items value and apply just 60% over the total - this is the Federal tax; - so, they apply another 22% (I believe this is the correct percentual) over the total added to the Federal tax; so, once more the same percentual over all;

At the final, you will pay 94% of Federal and local tax; and more something on your Credit Card international transaction, completing almost exact 100% !!!!

Very nice, don't you agree?

Re: HP 15C LE back in stock at HP Home Store

*Message #18 Posted by **Gerson W. Barbosa** on 27 Sept 2011, 5:08 p.m.,*
in response to message #17 by Artur-Brazil

Olá Artur,

> Quote:
>
> At the final, you will pay 94% of Federal and local tax; and more something on your Credit Card international transaction, completing almost exact 100% !!!!

I can't help thinking about our hero from Minas who risked his neck (and lost it) because he was not pleased with the 20% tax Portugal charged on gold extraction...

Libertas quae sera tamen

Gerson.

Re: HP 15C LE back in stock at HP Home Store

*Message #19 Posted by **Michael de Estrada** on 27 Sept 2011, 12:22 a.m.,*
in response to message #11 by Howard Owen

I went ahead and ordered my 4th with the SAVE15HP coupon for a total of $92 even, including Texas sales tax. Now I can have a second one for use when I travel without fear of losing or breaking it.

Edited: 27 Sept 2011, 12:38 a.m.

Re: HP 15C LE back in stock at HP Home Store

*Message #20 Posted by **Howard Owen** on 27 Sept 2011, 1:11 a.m.,*
in response to message #19 by Michael de Estrada

I wish I could come up with as plausible a reason for buying mine. :)

Re: HP 15C LE back in stock at HP Home Store

*Message #21 Posted by **Geoffrey Wang** on 27 Sept 2011, 2:54 a.m.,*
in response to message #1 by Michael de Estrada

OOS

Re: HP 15C LE back in stock at HP Home Store

*Message #22 Posted by **Michael de Estrada** on 27 Sept 2011, 10:00 a.m.,*
in response to message #21 by Geoffrey Wang

Wow ! Looks like the profiteers were watching. Well, I guess we'll be seeing a bunch more TAS listings. -(

Re: HP 15C LE back in stock at HP Home Store

*Message #23 Posted by **Jim Johnson** on 27 Sept 2011, 1:06 p.m.,*
in response to message #22 by Michael de Estrada

As noted before the HP-15cLE is "Out Of Stock" at the HP Home site (but is curiously available on their business site for $99.99). This seems to be rather insane. HP receives stock. Within a few days (or 24 hours) sells out. The OOS message goes up for a week or two. Then more stock arrives and the same cycle repeats itself. I'm curious about why the Chinese contract manufacturer is having difficulty keeping these in stock since they seem to be "selling like hotcak.."...er, HP calculators!

It still seems a bit unfair that some "entreprenuers" are profitting purely from the fact that HP's Chinese CM can't simply deliver about 500,000 of these calculators to about 10 distributors.

Re: HP 15C LE back in stock at HP Home Store

*Message #24 Posted by **Michael de Estrada** on 27 Sept 2011, 1:20 p.m.,*

in response to message #23 by Jim Johnson

They might not be available at the business site, but not indicate this until you attempt to complete checkout. Also, the business site does not offer free shipping, and coupons don't always work unless you are a "partner". I'm not quite sure what's going on with this on again off again business at the home site, but I suspect that more are on the way and perhaps in another month there will be sufficient stock to prevent this problem. Anyways, the prices are already starting to come down on TAS as it's been getting flooded with listings lately.

Re: HP 15C LE back in stock at HP Home Store

*Message #25 Posted by **Geoffrey Wang** on 27 Sept 2011, 10:55 p.m.,*
in response to message #24 by Michael de Estrada

I bought one from SMB a couple of days ago and shipped the next day. More expensive than the Home site by $15-$20 out the door, but at least they have it available.

Re: HP 15C LE back in stock at HP Home Store

*Message #26 Posted by **Michael de Estrada** on 27 Sept 2011, 11:06 p.m.,*
in response to message #25 by Geoffrey Wang

The two that I ordered yesterday with free shipping are already in my city and due to be delivered tomorrow. They were drop shipped from the same distribution centers in Memphis, TN and Olive Branch, MS as all the other online stores. So, I think they come from common stock, and when they are OOS for one store they are probably OOS for all others. It's probably a FIFO stocking system.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Original 15C Keyboard Test Works With 15C LE!!!

*Message #1 Posted by **DigiGal** on 26 Sept 2011, 4:21 p.m.*

Thanks to Geoff Quickfall who originally posted it in this thread...

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=197269#197269

You have to be quick and press all the keys in the sequence order fairly rapidly or you will get [ERROR 9].

Edited: 26 Sept 2011, 4:24 p.m.

Re: Original 15C Keyboard Test Works With 15C LE!!!

*Message #2 Posted by **Martin Pinckney** on 26 Sept 2011, 4:35 p.m.,*
in response to message #1 by DigiGal

He's not called *Quick*fall for nothin'...

But he wasn't the first to point this out. It was Marwan, on Sept. 19.

Re: Original 15C Keyboard Test Works With 15C LE!!!

*Message #3 Posted by **DigiGal** on 26 Sept 2011, 5:17 p.m.,*
in response to message #2 by Martin Pinckney

No disrespect to Marwan, must have missed his post.

At any rate the discovery deserves it's own [Subject] line for archival purposes so it will be easier for others to find.

Edited: 26 Sept 2011, 5:21 p.m.

Re: Original 15C Keyboard Test Works With 15C LE!!!

*Message #4 Posted by **M. Joury** on 26 Sept 2011, 5:24 p.m.,*
in response to message #3 by DigiGal

I wasn't the first either <g>. Mike Morrow mentioned this on Sep. 9th and Tim Wessman mentioned it at some earlier time. I can't remember why I brought it up again but it was probably in response to someone saying that it didn't work.

Cheers,

-Marwan

Re: Original 15C Keyboard Test Works With 15C LE!!!

*Message #5 Posted by **bill platt** on 26 Sept 2011, 6:55 p.m.,*

in response to message #4 by M. Joury

The difference between a politician and an HP collector:

The politician will take credit for good ideas that weren't his, The HP collector will pas along credit even when he might get away with keeping it :-)

Re: Original 15C Keyboard Test Works With 15C LE!!!

*Message #6 Posted by **M. Joury** on 26 Sept 2011, 7:33 p.m.,*
in response to message #5 by bill platt

LOL. Thank you! I don't think that I would ever be mistaken for a politician :).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] HP cable vs USB adapters compatibility question

*Message #1 Posted by **E.Lub_EU** on 26 Sept 2011, 4:10 p.m.*

Hello all,

I am looking for suitable USB-serial cable/adapters for the 20b/30b.

Looking at the photo of the DE9 pinout on page 2 in the document "Interfacing to the HP20b V3", I am surprised to see the Gnd (labeled Gnd2) on pin 9, where I expect a signal: RI (Ring Indicator).

The FTDI cables & adapters feature a Gnd connection on pin 5. I have checked the following documentations at FTDI:

Adapter: USB-COM232-PLUS1

Cables UC232R, UT232R-200(500) US232R-10(R-100/500)

I would like to know
- Can people using one of these confirm that they work,
- Can somebody with a HP serial cable confirm the cabling on the RS232 side ?

Thanks in advance

Regards, Etienne

(Edit) changed title

Edited: 26 Sept 2011, 6:34 p.m.

Re: [WP34S] HP cable vs USB adapters compatibility question

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 7:58 p.m.,*
in response to message #1 by E.Lub_EU

There are several possible solutions:

1.) Straightforward: Get an FTDI equipped USB / Serial dongle with a 9 pin male D-type connector and connect the HP programming cable to it. This should work out of the box.

2.) Make your own, bypassing the current drawing level-shifters:

a) Get an FTDI TTL-232R-3V3 cable which ends in an 8pin connector or just 8 wires. See this page: http://www.ftdichip.com/Products/Cables/USBTTLSerial.htm

b) Open the HP flashing cable, remove the RS232 cable from it (the side with the 9 pin D-connector) and attach the corresponding wires of your FTDI cable to the far end (directly to the cable going to the calculator.) You should disconnect the power from the level shifter IC or desolder it completely. The ERASE switch needs the 3V connection because the erase input is active high so you need to cut the trace at the right position. I

plan to do this myself and will document it when it's working.

Re: [WP34S] HP cable vs USB adapters compatibility question

*Message #3 Posted by **E.Lub_EU** on 27 Sept 2011, 6:00 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hello Marcus,

Thanks for your elaborate response.

I have come exactly to the same conclusion, and am preparing an order from FTDI on the same line: - one "plain" USB-RS232 to use with an unmodified HP cable, - one USB-"3V-TTL-serial" with an open end cable.

I had come to the same implementation idea (cutting the wide trace between the switch and the level shifter), cabling direct from the FTDI cable to the calculator side of the HP cable. Big advantage is that there is no need for another PCB inside the HP "button box".

Some possible caveats could be:

- the 3V3 signals from the FTDI chip will exceed hte Vih spec, being above the Vbat level.
Probably just ok with fresh batteries, unless the 20mA drain causes them to sag significantly. Has this been measured already?
With partly depleted batteries, one would actually offset the SAM7 internal Vdd plane value through the Vddio (bit of speculation here, as the internals of the SAM7 are not that detailed), I believe that keeping this condition for a long time might even damage the chip.
There might also be a problem with the reverse (charging) current spec of the batteries, like when leaving the calc in low-power state with the cable connected (USB powered)

This does leave the calculator running from ts own batteries, and it was mentionned here that they drain fast under these conditions.

So I was toying with the idea of actually powering the calc through the cable (same work on the cable PCB, plus connect Vbat to the 3V3 from FTDI).

This implies some constraints on the user:

- removing both batteries before plugging in the cable, so saving RAM to flash is mandatory befor starting a serial session,

- same before exiting the serial session, as the cable has to be disconnected before any battery can go in,

- a slight risk of losing power to the usb if/when the PC goes into standby. Aprat from changing the PC settings, this can be avoided easily by powering the USB cable through a powered hub.

This solution might appeal more to a developper (long sessions with a PC connection), that an "normal" WP34S user.

Sorry for the lenth of this repliy!
I am still puzzled by the Gnd on pin 9 in the mentionned document though. Will check when I get mine.

Thanks for your help, Etienne

Re: [WP34S] HP cable vs USB adapters compatibility question

*Message #4 Posted by **Marcus von Cube, Germany** on 27 Sept 2011, 6:17 p.m.,*
in response to message #3 by E.Lub_EU

According to my measurements, the FTDI output is always below 3V3, more around 3V. You can add a small resistor on the transmit line. Powering the calc through the cable will definitely be an option for my development device.

Re: [WP34S][Solved] HP cable vs USB adapters compatibility question

*Message #5 Posted by **E.Lub_EU** on 27 Sept 2011, 11:18 a.m.,*
in response to message #1 by E.Lub_EU

Hi all,

I just tested the cables I received from Gene today. They are naturally compatible with the standard 9pin serial pinout.

Anybody interested in these details, please amend your copy of the pdf document "Interfacing to the HP20b V3". On page 2, look for the photo of the connector (bottom right) and change the Gnd indication so that it points to pin 5 (top row, leftmost).

Hope this helps!

Regards, Etienne

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Price Reduction at HP S&M Business

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 26 Sept 2011, 2:10 p.m.*

This morning HP reduced their list price for HP 15C LE from $129.99 to $99.99 on their Small and Medium Business Web Store.I think it was an error in the first place when they asked for $129.99, but seems like took almost three weeks to correct it.

Re: HP 15C LE Price Reduction at HP S&M Business

*Message #2 Posted by **gonzalo fernandez** on 26 Sept 2011, 3:21 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

In TAS it sells for 4.5X more, seelink

Hope HP will not sell calculators in auction format, with $1 starting price (the HP CEO was the CEO of TAS), because HP15C LE prices would escalate to $300-$500

Re: HP 15C LE Price Reduction at HP S&M Business

*Message #3 Posted by **Martin Pinckney** on 26 Sept 2011, 3:33 p.m.,*
in response to message #2 by gonzalo fernandez

> Quote:
>
> Hope HP will not sell calculators in auction format, with $1 starting price (the HP CEO was the CEO of TAS), because HP15C LE prices would escalate to $300-$500

Maybe that would be a good thing if Meg then decided to expand the calculator division because of the high profit margins!

Re: HP 15C LE Price Reduction at HP S&M Business

*Message #4 Posted by **Steffen VN** on 26 Sept 2011, 6:24 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Hmm, interesting. I have an order pending through the SMB store (according to phone support, it is backordered with expected shipping next week). I paid the $129 price; I wonder if they'll price-match themselves since the order has not yet been charged/shipped...

Re: HP 15C LE Price Reduction at HP S&M Business

*Message #5 Posted by **linear** on 26 Sept 2011, 6:40 p.m.,*
in response to message #4 by Steffen VN

Yes, they will refund the $30 difference!

I ordered an HP-15c on Sept 16 from HP S&M Business and I paid $129. I received the unit on Sept 20. I just called HP and they are crediting my credit card for $30. Thanks HP!

Re: HP 15C LE Price Reduction at HP S&M Business

*Message #6 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 26 Sept 2011, 6:46 p.m.,*
in response to message #4 by Steffen VN

I am sure HP will refund. Also you can consider canceling it and tring the following link to the HP home store and get it for 89.99+tax (free shipment). Use coupon HPSAVE10 for 10% or The coupon SAVE15HP also works for 15%!

HP home store for 15C

Edited: 26 Sept 2011, 7:20 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

digits displayed by HP 15c LE

*Message #1 Posted by **Masao Kinoshita** on 26 Sept 2011, 1:25 p.m.*

I apologize if this has been discussed already. I am wondering how many digits the HP 15c LE's LCD really displays. The reason that I ask is because the picture of an HP 15c LE at www.shopping.hp.com shows 10 digits, but the spec sheet at the same site says that the display size is 12 digits. Thank you in advance.

Re: # digits displayed by HP 15c LE

*Message #2 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 26 Sept 2011, 2:16 p.m.,*
in response to message #1 by Masao Kinoshita

Interesting question. Answer first, it is 10 digits. I noticed the same thing, contacted HP sales and tech support, spoke with two different people at each site, and all four insisted that spec was correct and display digits were 12 despite I reminded them the photos, manual as well as the specs for the original HP 15C.

I received my 15C LE a few days ago and I do confirm it is 10 digits. HP seriously needs to examine their customer service, portfolio, product development, product introduction, etc.

Re: # digits displayed by HP 15c LE

*Message #3 Posted by **Martin Pinckney** on 26 Sept 2011, 2:34 p.m.,*
in response to message #2 by Kerem Kapkin (Silicon Valley, CA)

> Quote:
>
> HP seriously needs to examine their customer service, portfolio, product development, product introduction, etc.

Wishful thinking, I'm afraid. There just doesn't seem to be much incentive for large companies to "get things right" with mass-produced consumer goods. Sad state of affairs.

Re: # digits displayed by HP 15c LE

*Message #4 Posted by **bill platt** on 26 Sept 2011, 3:48 p.m.,*
in response to message #3 by Martin Pinckney

Have you noticed that nowadays we buy from them because we have to rather than because we want to...

Re: # digits displayed by HP 15c LE

*Message #5 Posted by **Sondre K. Selnes** on 26 Sept 2011, 4:20 p.m.,*
in response to message #1 by Masao Kinoshita

My original HP-15C from 1984 has 10 digits in the display.

Re: # digits displayed by HP 15c LE

*Message #6 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 9:40 p.m.,*
in response to message #5 by Sondre K. Selnes

The new one is running the same firmware as the old so the precision is the same.

Re: # digits displayed by HP 15c LE

*Message #7 Posted by **Paul Gaster** on 27 Sept 2011, 9:05 a.m.,*
in response to message #1 by Masao Kinoshita

It is just a typo. An unfortunate one that should not happen, but still a typo only. That typo is in many places I see, so that makes it even worse:

home shopping site says 12

small business says 12

The full data sheet from this page is correct and says 10:

data sheet link is to the right of the price, and it is in PDF format

I did not check the rest of the data sheet for accuracy, but at least it got the number of display characters correct.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's "Calculator Club"

*Message #1 Posted by **megarat** on 26 Sept 2011, 1:25 p.m.*

So, what is HP's new (?) "HP Calculator Club"?

http://h30248.www3.hp.com/calcclub/

Is it actually worth signing up for?

Re: HP's "Calculator Club"

*Message #2 Posted by **Roger Blake** on 26 Sept 2011, 2:08 p.m.,*
in response to message #1 by megarat

Probably not ! you get a bundle of "calculator ttf fonts" (keys and suchlike) which seem pretty naff, and some unexciting special offers of no use to most people. The forum seems to have disappeared into a reorganisation of HP support forums - I can't find it, but wouldn't have thought it's got anything that this one hasn't)

Re: HP's "Calculator Club"

*Message #3 Posted by **megarat** on 26 Sept 2011, 4:18 p.m.,*
in response to message #2 by Roger Blake

Do you know how old the Calculator Club is? This is the first I've heard of it, but I'm also not that plugged in.

I wonder if HP uses the Calculator Club as a method for collecting data w/r/t decision support. E.g., if all of us signed up, just seeing the large headcount might encourage them to invest more in R&D.

Re: HP's "Calculator Club"

*Message #4 Posted by **Howard Owen** on 26 Sept 2011, 5:57 p.m.,*
in response to message #3 by megarat

I think that a more effective message could be sent by buying up 15C LEs by the handful :)

The engineers responsible for calculator design at HP read this forum and are more our less sympathetic to concerns expressed here. But decisions about what sort of machine to produce are made on the basis of sales figures, projected or actual. Even if the 15C is not your ideal calculator, if you like keystroke programmable RPN calculators, buying a 15C could send a louder message than all the entreaties you might make on a calculator forum.

Re: HP's "Calculator Club"

*Message #5 Posted by **Eric Rechlin** on 26 Sept 2011, 6:00 p.m.,*
in response to message #3 by megarat

Not sure exactly, but I think it's been around for at least a few years.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Profit and TAS

*Message #1 Posted by **Joerg Woerner** on 26 Sept 2011, 1:00 p.m.*

Yes, I'm selling a HP 15c on eBay under my nick name Datamath-Calculator-Museum.

No, it is NOT for the profit.

Please let me share some facts with you:

The Datamath Calculator Museum is not for profit, it is a hobby. But it is not a cheap hobby, every collector knows that the last 10 items you are looking for are pretty expensive.

I decided long time ago to avoid any Google Ads or similar advertisements on my website and to make all scanned and PDF'd manuals available for free download.

I'm on eBay since 1999 and changed my ID in 2007 to built up a good reputation in selling calculators to COLLECTORS (not bargain hunters). In the past 12 years of buying calculators on eBay, I received a lot of crap. I could easily sell dozens of boxes of 25 trash calculators, each.

Each USED calculator I sell is tested and cleaned twice: The day I receive it and when I take the pictures for the auction. I describe every flaw I notice and take crisp pictures of each calculator. I accept returns and the rate is far less than 1%. The last one was an ADLER with a non-working [4] key. No idea how I could miss this...

I received from other "Pro" calculator sellers multiple requests in the past two years:

1) Sell only for a (high) BUY-IT-NOW price 2) Let's agree on minimum prices for some "rare" calculators

I still sell my calculators auction style - but changed recently the minimum price from $9 to $19. I had a lot of calculators ending up at $9.50 or so averaging my "profit" (w/o eBay fees!) around an hourly rate LESS than MINIMUM WAGE in Upstate NY!

I received a lot of emails from buyers, too:

3) Can you make a BUY-IT-NOW for this calculator?

Answer is always the same: NO - and a few names are already blocked from my auctions for this reason.

And the HP 15c you might ask now?

Four of my international collector friends asked me for some assistance in purchasing HP 12c and 15c's and SHIP them. I simply purchased two each, more - expecting some change for my next great purchase of either the Exactra 100 prototype (asking price is two grands!!!) or a TI-88 in the transparent housing (no asking price so far).

Thanks for your time reading through this message.

Best regards, Joerg

Re: Profit and TAS

*Message #2 Posted by **Geoffrey Wang** on 26 Sept 2011, 1:30 p.m.,*
in response to message #1 by Joerg Woerner

Great post!

I really don't understand the TAS bashing going on in this forum, especially regarding sellers. I too have considered reselling some of my extra HP15CLE's for some profit, but just haven't. Would that make me a bad guy?

IMHO, Joerg's success with unique inventory, great photos, accurate descriptions, and stellar track record INCREASES his final prices as the best calculator seller on TAS.

Although I have never bought anything from Joerg, I would not think twice about doing so.

Geoffrey

Edited: 26 Sept 2011, 1:31 p.m.

Re: Profit and TAS

*Message #3 Posted by **Joerg Woerner** on 26 Sept 2011, 1:40 p.m.,*
in response to message #2 by Geoffrey Wang

Thanks - makes you a good guy!!!

Multiple calculator collectors asked me to sell THEIR calculators under MY name.

I never did. Makes me a good guy? Probably not, but a stupid one'

Real life: I am an engineer, not in sales...

Cheers, Joerg

BTW: Top bidders on the two 12c and 15c auction are from France, Israel and Brazil. All but one are returning customers!

Re: Profit and TAS

*Message #4 Posted by **Philippe Lasnier** on 27 Sept 2011, 7:47 p.m.,*
in response to message #2 by Geoffrey Wang

I'd like to add my voice to Geoffrey's (and everybody else's), and come to the defence of Joerg. I have bought a few things from Joerg over the years, and I have always received excellent service, above and beyond. Before I did, and outside of TAS, Joerg has always been helpful, and has a good sense of humour. Because he is well-known, and trusted, his calculators would indeed go for higher prices, but that's worth paying for (I wish that when I trim my collection I get as good prices as he does).

As for the re-selling of his surplus HP-15C LE (and HP-12C 30A), I bet he was as surprised as I was to see them go at such a premium!

Why so much? I don't know for sure, but I would hazard that quite a few people are not aware of Samson Cables or the very few other people who would currently ship these calculators outside of the USA, and go to TAS simply because that's the best place they would know.

Carry on Joerg! (oh, and can I have a discount next time ;-))

Philippe

Re: Profit and TAS

*Message #5 Posted by **robertoataulfo** on 26 Sept 2011, 2:19 p.m.,*
in response to message #1 by Joerg Woerner

```
Joerg you're my Hero !!!! :-)
But though we could have bought 123652 15LE :-)))
Let's stop being an engineer to be 15LE seller :-))))
You're a great friend we should respect and thanks to you
Hugs from Singapore
```

Re: Profit and TAS

*Message #6 Posted by **Howard Owen** on 26 Sept 2011, 6:42 p.m.,*
in response to message #1 by Joerg Woerner

I don't like the idea of buyers being victimized by people like Coburlin, *but you don't do that!*. As long as the item is fairly described, then how could I possibly object to an open auction? I think I even stand on dubious ground when I criticize Coburlin, though I just can't get a bad taste out of my mouth with him. I think the problem is that he's obviously not an aficionado and he's taking advantage of people who might be aficionados. Just as obviously, it's clear that you *are* an aficionado. You fairly describe and document what you sell. If your auctions go higher than what I would pay, it's none of my business.

And good for you for not agreeing to collusion on prices. We who haven't filled the last 50 slots in out collections appreciate it. :)

Best of luck,
Howard

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: 34s: TVM problem?

*Message #1 Posted by **Dominic Richens** on 26 Sept 2011, 12:40 p.m.*

I actually had a need to do TVM so I thought I would try out the wp34s library routine.

I believe it is broken by the fact that LBL 00 is used twice in segment 1, step 15 for TVM and 368 as part of the vector functions.

It doesn't seem to matter if I load that segment into RAM or try to run it from the XROM.

I can get it work if I delete step 368 after the PRCL 1

Re: 34s: TVM problem?

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 1:59 p.m.,*
in response to message #1 by Dominic Richens

Ma fault. You can rebuild the libraries yourself if you have the cable. I'll change the label in one of the functions or use Niel's assembler for this. Stay tuned.

Re: 34s: TVM problem?

*Message #3 Posted by **Dominic Richens** on 26 Sept 2011, 7:47 p.m.,*
in response to message #2 by Marcus von Cube, Germany

oh good, I'm not crazy :-)

I only just got my 20b - when Neil gets back to Ottawa I'm going to borrow his cable (unless he got me my own) to flash this puppy.

Is the cableless alternative to change the 2nd LBL00 and calls to it to something else and then save the RAM back to segment 1?

Re: 34s: TVM problem?

*Message #4 Posted by **Paul Dale** on 26 Sept 2011, 7:58 p.m.,*
in response to message #3 by Dominic Richens

You should be able to PRCL 1 to copy the flash segment to RAM, edit it there and PSTO to write it back to flash.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Praise for the 34S

*Message #1 Posted by **Egan Ford** on 26 Sept 2011, 12:19 p.m.*

Hi,

I've been a 34S user for about 24 hours. I've had lukewarm interest in the 34S from that start because it didn't fulfill any of my needs. I often asked myself, "why?" Anyway, I took my freebie skinless 30b beta unit to the conference and had it flashed so that I could see what all the excitement was about. Then I ignored it.

Saturday night I completed my 15C "Legacy Edition" solution for the RPN programming contest. It was slow--too slow. Any RPN was permitted, but only speed was considered. I had no choice. I had to use the 34S.

Sunday morning I sat down with my blank-faced 34S, and using the excellent docs on my iPad I started to port over my 15C program. CEIL was there! Woo hoo! I think what impressed me the most was that even without Eric's designer labels I was able to quickly enter the program because much of the layout was conventional or perhaps commonsense. I found myself looking at the iPad rendered PDF less and less.

Later I scored a proper 34S at the conference (GA level 30b with Eric's handiwork performed by Eric himself!) and spent the evening reading the manual. This machine is awesome and I will be building at least two backups.

After 27 years of using my 15C I think I can safely retire it. I thought I could retire my 15C with the 42S, but I always preferred overloaded keys and stuck with the 15C (although Free42 is my default iPhone 4-banger).

I cannot stress enough how awesome the 34S is. Get two while you can. And, if you are lazy like me, you can order them pre-built and skinned from Eric (http://www.hpcalc.org).

Thanks team 34S!

Edited: 26 Sept 2011, 12:23 p.m.

Re: Praise for the 34S

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 2:04 p.m.,*
in response to message #1 by Egan Ford

The WP 34S was the most discussed topic on HHC and you may get an idea why, now.

Re: Praise for the 34S

*Message #3 Posted by **Walter B** on 26 Sept 2011, 4:53 p.m.,*
in response to message #1 by Egan Ford

Thanks, Egan, for your kind words. We wouldn't have made it, however, if HP hadn't teased us repeatedly by launching only financial calcs (now we know why they need them ;-) but we couldn't imagine then). So we wanted to show we can adequately fill a sector HP was once famous for but apparently didn't (doesn't?) want to anymore. Knowing this is a very critical audience here discussing a lot (which are *positive* values where I was educated), we are simply happy you enjoy the WP 34S :-)

There is, of course, still space for improvement - but some people will probably kill us when/if we change the keyboard labels once more [:-(

Thanks again d:-)

Walter

Re: Praise for the 34S

*Message #4 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 6:37 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> There is, of course, still space for improvement - but some people will probably kill us when/if we change the keyboard labels once more [:-(

I know I shouldn't look a gift horse in the mouth, but if you ever decide to make some improvement don't forget to change [g] [OFF] to [h] [OFF]. This is my only complaint regarding the keyboard layout. I am still using mine without an overlay, so no problem here :-)

Gerson.

Re: Praise for the 34S

*Message #5 Posted by **Walter B** on 26 Sept 2011, 6:49 p.m.,*
in response to message #4 by Gerson W. Barbosa

That's on top of my list :-) but don't hold your breath.

Cumprimentos,
Walter

Re: Praise for the 34S

*Message #6 Posted by **Paul Dale** on 26 Sept 2011, 7:19 p.m.,*
in response to message #4 by Gerson W. Barbosa

That change is the first on the list of pending changes for the keyboard. The difficulty being the number of overlays that are already in the wild. We'd prefer to not waste all that effort.

- Pauli

Re: Praise for the 34S

*Message #7 Posted by **E.Lub_EU** on 27 Sept 2011, 7:40 a.m.,*
in response to message #6 by Paul Dale

This might be a silly question, as I do not have a large HP calculators culture, and have not practised a lot writing math.
I am curious about the choice of key presses for the reciprocal (or should I say inverse?) hyperbolic trig functions, i.e.:

{HYP^{-1}} {SIN}

as opposed to

{HYP} {SIN^{-1}}

which would free the {g-shift}{A} position on the keyboard.

Legacy from the past HP machines, maths "standard" or developpers' preferences?

Edited: 27 Sept 2011, 7:40 a.m.

Re: Praise for the 34S

*Message #8 Posted by **Paul Dale** on 27 Sept 2011, 7:45 a.m.,*
in response to message #7 by E.Lub_EU

g HYP^{-1} SIN is three key presses.

f HYP g SIN is four.

The second also requires two different shift keys to be pressed which is something we've (mostly) avoided.

- Pauli

Re: Praise for the 34S

*Message #9 Posted by **E.Lub_EU** on 27 Sept 2011, 9:30 a.m.,*
in response to message #8 by Paul Dale

Ah, Right.

I had overlooked the fact that SIN would not need the f-prefix, when used after the HYP. Back to re-re-re-reading that fine manual....

Thanks, Paul

Re: Praise for the 34S

*Message #10 Posted by **Marcus von Cube, Germany** on 27 Sept 2011, 5:58 p.m.,*
in response to message #9 by E.Lub_EU

Both combinations work. So if you press f HYP and then decide you need the inverse, g will switch to HYP^-1 and f will switch back. :-)

Re: Praise for the 34S

*Message #11 Posted by **Walter B** on 27 Sept 2011, 6:19 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I won't say that's as advertised. But since we all grow older I may call it "focussed to our customers"? Oooh, shall I take the inverse or its inverse? So hard to decide ... ;-)

Re: Praise for the 34S

*Message #12 Posted by **Paul Dale** on 27 Sept 2011, 6:46 p.m.,*
in response to message #11 by Walter B

Better than advertised in fact ;-)

- Pauli

Re: Praise for the 34S

*Message #13 Posted by **Eric Rechlin** on 27 Sept 2011, 10:49 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> The difficulty being the number of overlays that are already in the wild. We'd prefer to not waste all that effort.

If you ever do change it, the longer you wait, the more there will be. The first ~60 that I sent out in June were arguably of prototype quality, so those could largely be discounted. The new ones I made for HHC 2011 (close to 50) are definitely better, but only time will tell if they are good for long term use.

I will be making a bunch more soon, though, so we probably are coming close to reaching the point where too many are out there.

Eric

Re: Praise for the 34S

*Message #14 Posted by **Didier Lachieze** on 27 Sept 2011, 11:32 a.m.,*
in response to message #13 by Eric Rechlin

I got one of these early overlays for my wp-34s and I can say they are great! However, after 3 months of usage I've noticed some key wear out, specially on the [h] key which seems to be used a lot more than the other ones. How difficult would it be to replace this overlay with a new one? Or do I need to consider a new 30b to go with the new overlay?

Re: Praise for the 34S

*Message #15 Posted by **Eric Rechlin** on 28 Sept 2011, 2:10 p.m.,*
in response to message #14 by Didier Lachieze

I'm now putting a clear spray on the overlays in the hope of making them more durable. Time will tell whether that actually helps.

Eric

Re: Praise for the 34S

*Message #16 Posted by **Cristian Arezzini** on 28 Sept 2011, 3:45 p.m.,*
in response to message #15 by Eric Rechlin

Is it a matte or shiny spray? If it's shiny, I'm a little concerned about the reflections...

Cristian

Re: Praise for the 34S

*Message #17 Posted by **Eric Rechlin** on 28 Sept 2011, 3:58 p.m.,*
in response to message #16 by Cristian Arezzini

I'm concerned about reflections, too.

It's satin with a thin coat, or glossy with a heavy coat. I am trying a thin coat for now to see how well that works.

Eric

Re: Praise for the 34S

*Message #18 Posted by **Paul Dale** on 26 Sept 2011, 5:53 p.m.,*
in response to message #1 by Egan Ford

Thank you very much for the very kind words.

You are correct about the keyboard layout, that is the bit I'm most happy with on the 34S. Everything is logically arranged. Once you get over the initial clutter, it is easy to find almost every function quickly. Walter is mostly to blame for this :-)

- Pauli

Re: Praise for the 34S

*Message #19 Posted by **Howard Owen** on 26 Sept 2011, 8:02 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> After 27 years of using my 15C I think I can safely retire it.

Wow, Egan! That's an awesome endorsement. Changing a preference like that is no easy or minor matter.

Re: Praise for the 34S

*Message #20 Posted by **Pal G.** on 26 Sept 2011, 8:54 p.m.,*
in response to message #19 by Howard Owen

Indeed. I would have thought the easy switch would have been to a 15C LE, which is ~100x faster than his original.

Perhaps the love affair with his "new girl" will be short lived once he realizes he misses his "old wife" who had plastic surgery and has been to the gym :)

Re: Praise for the 34S

*Message #21 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Sept 2011, 3:10 a.m.,*
in response to message #20 by Pal G.

The old wife has some issues with the "Me:No-PAUSE"...

Re: Praise for the 34S

*Message #22 Posted by **Egan Ford** on 27 Sept 2011, 10:36 a.m.,*
in response to message #20 by Pal G.

> Quote:
>
> Wow, Egan! That's an awesome endorsement. Changing a preference like that is no easy or minor matter.
>
> Quote:
>
> Indeed. I would have thought the easy switch would have been to a 15C LE, which is ~100x faster than his original.

It would have if the 15C also had 16C capabilities. Although the 15C was my desk calculator, I still had to use Free42 for hex math.

Re: Praise for the 34S

*Message #23 Posted by **Miguel Toro** on 27 Sept 2011, 8:35 a.m.,*
in response to message #1 by Egan Ford

And do not forget costumer service :

- Fast and kind feedback

- Always listening and always reachable

- Fast updates (software and documentation)

- Costumer with bad English? ...Not a problem!

Thanks WP-34s Team!

Miguel

Edited: 27 Sept 2011, 9:12 a.m.

Re: Praise for the 34S

*Message #24 Posted by **Steve Simpkin** on 27 Sept 2011, 2:17 p.m.,*
in response to message #1 by Egan Ford

> Quote:
>
> I cannot stress enough how awesome the 34S is.

For once the word "Awesome" is actually an understatement.....
It was great seeing Marcus discuss the 34S in person. I am sorry Pauli and Walter could not be there but they were well represented by Marcus and the applause he received was for all of you.
Thank you very much Pauli, Walter and Marcus.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can't this forum's outdated format be updated?

*Message #1 Posted by **mr-scorpio** on 26 Sept 2011, 11:37 a.m.*

Where each Thread starter is permanently shown & any replies are merely noted as a number etc, UNTIL you actually enter the thread & see the replies properly.

All this zig-zagging is very wasteful & inefficient? It also means that a thread that would still otherwise be a few lines down from the top, gets shoved off the bottom of the screen, thus potentially being 'out of sight, out of mind', to anyone who might have replied, but no longer sees the thread, and thus forgets about it.

How much effort might be involved in migrating this Forum (& its archive) to a current style Bulletin Board system, say phpBB for example?

Please do not view this thread as a 'moan', but more as a constructive critisism in potentially kick-starting ideas for positive change.

Re: Can't this forum's outdated format be updated?

*Message #2 Posted by **Randy** on 26 Sept 2011, 12:18 p.m.,*
in response to message #1 by mr-scorpio

I like the format, far less visual noise than phpBB. IMO, the paging needed with long threads in phpBB is very annoying.

Re: Can't this forum's outdated format be updated?

*Message #3 Posted by **Garth Wilson** on 26 Sept 2011, 3:14 p.m.,*
in response to message #2 by Randy

> Quote:
>
> I like the format, far less visual noise than phpBB. IMO, the paging needed with long threads in phpBB is very annoying.

I'm a moderator on 6502.org's phpBB forum. One of the few things I don't like about phpBB is that for example if you do a search and your search term appears only in page 6 of a 10-page topic, it won't put on on page 6. You have to still go through that pages until you find the one where it exists and is highlighted.

Re: Can't this forum's outdated format be updated?

*Message #4 Posted by **Jonathan Eisch** on 26 Sept 2011, 12:45 p.m.,*
in response to message #1 by mr-scorpio

While I like the format, and find it very intuitive, but I can see how others might want to see it any number of other ways.

Fortunately, the html is very clean (just nested lists) so it would be relatively simple to just parse it with HTMLParser in python or something similar, and make your own version.

I would assume you could use greasemonkey or similar to add your own css and a little javascript to collapse it down, but I don't know so much about that.

-Jonathan

Re: Can't this forum's outdated format be updated?

*Message #5 Posted by **Dominic Richens** on 26 Sept 2011, 12:52 p.m.,*
in response to message #1 by mr-scorpio

I quite like the current forum for just browsing - I like the context of new article with the old. However it does fall quite short when it comes to looking for information.

The search function doesn't really work - at least I can never get it to work, especially with anything older than a couple of weeks.

Also, once you find that old article, you can't post a follow-up, you need to start a new thread.

Not sure how easy it would be to import all old articles into something more modern like phpBB or WordPress "mingle"

Re: Can't this forum's outdated format be updated?

*Message #6 Posted by **Garth Wilson** on 26 Sept 2011, 3:21 p.m.,*
in response to message #5 by Dominic Richens

+1

> Quote:
>
> The search function doesn't really work - at least I can never get it to work, especially with anything older than a couple of weeks

Ditto here. I've gone to using the web search engine (ixquick.com, not Google, but it works the same).

> Quote:
>
> Also, once you find that old article, you can't post a follow-up, you need to start a new thread.

Some people think you shouldn't dig up old ones and post new material on them. As a moderator on another forum, I encourage people to do just that. It makes it more difficult if the old is separated from the new and background or answers already given have to be repeated, and even then, some of the value in the old is lost. Keep it all together! This goes especially for cases where our projects may go years, even going dormant for a period when life gets in the way.

Re: Can't this forum's outdated format be updated?

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 2:15 p.m.,*
in response to message #1 by mr-scorpio

You can set-up the layout to different formats from the search page. What I don't like is:

1. The information about new articles (the date of the last visit) is stored on the browsing machine, not in the database per user.
2. The limit of 500 active messages is a bit on the low side at times.
3. The JavaScript (buttons below the reply window) does not apply formatting to the currently selected text, id always adds the tags at the end and scrolls the input window back to top.
4. If you edit an older post, you cannot preview it.

Otherwise I like it very much being here.

Re: Can't this forum's outdated format be updated?

*Message #8 Posted by **Garth Wilson** on 26 Sept 2011, 3:24 p.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> The JavaScript (buttons below the reply window) does not apply formatting to the currently selected text, id always adds the tags at the end and scrolls the input window back to top.

Yes, it absolutely drives me nuts!! I do not write from beginning to end.

Re: Can't this forum's outdated format be updated?

*Message #9 Posted by **Michael Kussmaul** on 26 Sept 2011, 5:38 p.m.,*
in response to message #1 by mr-scorpio

I don't mind the formatting, I just have one thing I would change:

Because I access the forum by using multiple computers (Mac, iPad, iPhone, ...) it seems my read count is not shared across the computers - even when I log in using my username... It seems the read-count is just saved as a cookie and is not stored server side.

It would be great to store the read-count on the server side, so I could continue reading on whatever computer I'm currently logged in :-)

Re: Can't this forum's outdated format be updated?

*Message #10 Posted by **Howard Owen** on 26 Sept 2011, 7:58 p.m.,*
in response to message #1 by mr-scorpio

I agree with every point (so far) raised here. But I also know that the forum ticks along quite well with a single admin, and he's the guy that would have to transition to something new, and to live with supporting it. I also don't mind playing with outdated technology. :)

Re: Can't this forum's outdated format be updated?

*Message #11 Posted by **Kevin Brown** on 27 Sept 2011, 12:04 p.m.,*
in response to message #1 by mr-scorpio

The biggest deficiency I see is the archiving mechanism. It causes threads which should be continuous to be broken up. This makes it significantly more difficult to see the context of some of the responses to a thread than it should be, because the context lives in an archive while the active part of the thread does not.

Other than that, I like the way the forum displays threads.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Nothing says I Love You like a 15C LE!

*Message #1 Posted by **Todd Garabedian** on 26 Sept 2011, 10:52 a.m.*

Received my two 15C LE units on Saturday. One was for me and the other was a gift for my wife who is a college professor. She has an original 15C she purchased as an undergrad in 1982, but its keyboard has been having problems for the last few years (sometimes numbers get entered and sometimes they do not). It got to a point where the original 15C just sat in a drawer most of the time. I got her a 32SII back in the late 90s... she uses it, but wasn't thrilled with it.

Well, she was very happy to receive the new 15C LE. She loves the keyboard layout, and since she is familiar with all the functions and where they are located, she can speed through calculations much faster. She says I did good!

Re: Nothing says I Love You like a 15C LE!

*Message #2 Posted by **Eddie W. Shore** on 26 Sept 2011, 11:20 a.m.,*
in response to message #1 by Todd Garabedian

Awesome!

Re: Nothing says I Love You like a 15C LE!

*Message #3 Posted by **Artur-Brazil** on 26 Sept 2011, 1:06 p.m.,*
in response to message #1 by Todd Garabedian

If you want the keyboard of your original HP-15C restored, please, send an email to arturmariojr at gmail dot com. Don't let such great calculator rest on a drawer. Best regards, Artur

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

are the keys of the HP15C LE molded?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 26 Sept 2011, 10:18 a.m.*

Are the keys of the new HP 15C LE made of molding two plastics of different colors or painted? The first HP calculator that went from molded keys to painted keys was the HP48G line made in Indonesia. I have seen prices of HP15C LE in the TAS ridiculous (more than $400, see link) Is not forbidden by law to sell one new product more than the MSRP price? HP can put a claim to TAS for selling his products 4x its value?

Re: are the keys of the HP15C LE molded?

*Message #2 Posted by **Michael de Estrada** on 26 Sept 2011, 10:36 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

There is no law preventing resellers to chose any price they wish. A manufacturer has no control over the price that a private citizen can choose to sell their products. The only control that a manufacturer may have is over the price chosen by a primary distributor or retail outlet, and even then it's not a legal issue. Products are rarely sold at MSRP, although the retail price is usually below MSRP. TAS is a completely open marketplace, and people are free to be complete idiots by paying absurd prices if they so desire. BTW, the high bidder on the auction you have linked is not in the USA, and probably European.

Re: are the keys of the HP15C LE molded?

*Message #3 Posted by **Todd Garabedian** on 26 Sept 2011, 10:39 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> TAS is a completely open marketplace, and people are free to be complete idiots by paying absurd prices if they so desire.

Hey, as a seller on "TAS", I like those folks! :)

Re: are the keys of the HP15C LE molded?

*Message #4 Posted by **Todd Garabedian** on 26 Sept 2011, 10:37 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

I don't believe there are any laws on this, but apparently HP doesn't have any policy about its authorized resellers selling for a certain amount. Buy.com and Sampson are selling the 15C LE for significantly more than the price on the HP website.

As for end user/purchasors, they can sell their goods for whatever they want. If some dolt wants to spend $400 on a calculator they can buy elsewhere for $99, I say let them. That's the free market, baby!

Re: are the keys of the HP15C LE molded?

*Message #5 Posted by **Michael de Estrada** on 26 Sept 2011, 10:41 a.m.,*
in response to message #4 by Todd Garabedian

It's not Buy.com that's selling the 15C LE for a high price, but Samson Innovations, which is the same outfit as Samson Cables. Buy.com is sold out of the 15C LE, and never sold it for more than $89.99. I got mine for only $73.99 from them with a $5 coupon. :).

Re: are the keys of the HP15C LE molded?

*Message #6 Posted by **Martin Pinckney** on 26 Sept 2011, 3:11 p.m.,*
in response to message #4 by Todd Garabedian

> Quote:
>
> I don't believe there are any laws on this, but apparently HP doesn't have any policy about its authorized resellers selling for a certain amount.

There are laws (or at least court precedents) that *prohibit* HP from controlling the final selling prices. It's called "restraint of trade" in the U.S.

Long gone are the days when manufacturers set retail prices, and sanctioned retailers who didn't tow the line. That's why you'll see MSRP listed, with the emphasis on "Suggested."

Re: are the keys of the HP15C LE molded?

*Message #7 Posted by **Roger Blake** on 26 Sept 2011, 10:52 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

> Quote:
>
> Are the keys of the new HP 15C LE made of molding two plastics of different colors or painted? The first HP calculator that went from molded keys to painted keys was the HP48G line made in Indonesia.

I've just had a look under a microscope and the original has very sharp edges to the lettering. The letters are also bigger and wider than on the LE. The LE has fuzzy outlines as do the blue and yellow labels on both old and new, so I reckon the LE has painted keys :-(

Re: are the keys of the HP15C LE molded?

*Message #8 Posted by **gonzalo fernandez (spain)** on 26 Sept 2011, 10:58 a.m.,*
in response to message #7 by Roger Blake

So the keys of the old HP calculators were better made? What a pity, it seems to me that the last HP calculator with best manufacturing quality (keys, materials) was the HP48G models. From there on, quality was worse (HP49g, 50g,,)

Re: are the keys of the HP15C LE molded?

*Message #9 Posted by **megarat** on 26 Sept 2011, 12:04 p.m.,*
in response to message #8 by gonzalo fernandez (spain)

Some might disagree w/you about this point as well, as I think all (or at least some) of the 48G* line had painted keys, and the calculators were no longer being manufactured domestically. (The domestic-

to-abroad transition happened during the middle of the 48S* line.)

Re: are the keys of the HP15C LE molded?

*Message #10 Posted by **Jose Poyan** on 26 Sept 2011, 1:48 p.m.,*
in response to message #8 by gonzalo fernandez (spain)

I totally agree that it's a pitty that the keys are painted. In the HP48G series I could clearly see the difference between the molded Singapore made keys and the painted Indonesia made keys. They felt the same but they certainly didnt look the same and, in my case, I didnt need glasses to see the difference. This was much more noticeable with the Pioneer series. The keys looked like fake cheap ones, and even the plastic was different comparing Sing and Ind made units. I hope the HP 15C LE is made in high quality plastic. I can not wait for them to buid more, and start distributing them in Europe.

I hope they decide the LE was a "selling succede" and they start producing the standard 15C again.

Re: are the keys of the HP15C LE molded?

*Message #11 Posted by **Hugh Evans** on 26 Sept 2011, 12:35 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Usually, the problem is minimum advertised pricing (MAP) out of concern that distributors will have trouble competing with companies who can survive short term losses. However, there is no legal upper limit and "You will never go broke underestimating the intelligence of the American public."

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] [Manual] Date - Day functions

*Message #1 Posted by **E.Lub_EU** on 26 Sept 2011, 9:45 a.m.*

Hello all,

Browsing through the manual specifically to understand the date manipulation functions, I have stumbled on something that I find strange:

- p. 34, I found the DAY function. At that time, still wondering about its output content (expecting day of the month, in numéric form). Just above and and below, the DATE and DAYS+ cases seem quite clear (really need to get the other calcs manuals to understand the nitty-gritty).

- p. 53, WDAY description seems perfect. Makes me think that, in contrast, DAY would probably return the day of the month.

But

- p. 27, the example display 10. shows the output of the DAY function with the data and in the format that I expect for the WDAY function.

Unless I did miss something, I would suggest that - p27 shows the WDAY function, - the description of the DAY function would be clearer if modified as "... and extracts the day of the month."

Nothing being mentionned about stack changes for DAY, MONTH & YEAR, I assume there is none. Is that correct?

Thanks again for your nice manual!

Regards, Etienne

PS. I nearly forgot, I believe that the footer 3) on page 11 refers to a page 8 that could have morphed into a page 10 (the Greek alpha keyboard)

Re: [WP34S] [Manual] Date - Day functions

*Message #2 Posted by **Walter B** on 26 Sept 2011, 3:39 p.m.,*
in response to message #1 by E.Lub_EU

Bonsoir Etienne,

merci pour votres observations. You're right, there's an error in the documentation on page 27: it should refer to WDAY. With respect to DAY, MONTH, and YEAR: each of these three extracts the respective part of an arbitrary date, so for today DAY returns 26, MONTH 9, and year 2011. All these are one-number functions as described on page 12, replacing the date in x by the value they return.

And also your observation concerning the footnote on page 11 is correct.

Both items are corrected now and will be committed with an updated manual soon.

Merci encore une fois,

Walter

Re: [WP34S] [Manual] Date - Day functions

*Message #3 Posted by **E.Lub_EU** on 26 Sept 2011, 5:04 p.m.,*
in response to message #2 by Walter B

Guten Abend Walter,

Thanks for your quick answer. I can see the consistency of DAY - MONTH - YEAR operations now, probably as you do, as a group. It was less obvious for a newbie, discovering the alphabetical organisation of the function list, to isolate the DAY function from its neighbours.

Sorry for not realizing that they were obvious one argument operations (I had read it though!), I am still in the information overload period.

The more I read, the more I am in awe of the quality of your work.

Chapeau bas, gentlemen!

Regards, Etienne

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

H to HMS Bug in HP 15C LE?

*Message #1 Posted by **Eddie W. Shore** on 26 Sept 2011, 9:43 a.m.*

```
My apologizes if this has been talked about before:


HP 15C LE in Radians Mode:
Converting sqrt(5) to HMS gives 2.140984472  (2°14'9.84472")
Going back to H gives 2.400188825  [I believe this is wrong]


HP 15C LE in Degrees Mode:
Converting sqrt(5) to HMS gives 2.140984472
Going back to H gives 2.236067978
```

Not a bug!

*Message #2 Posted by **Namir** on 26 Sept 2011, 9:52 a.m.,*
in response to message #1 by Eddie W. Shore

Eddie,

My machine does these calculations correctly!

If you execute conversion to H TWICE, back from 2.14098, you get 2.40019!!! That is,

2.23607 ->H gives 2.40019

Namir

Edited: 26 Sept 2011, 10:06 a.m.

Re: Not a bug!

*Message #3 Posted by **Eddie W. Shore** on 26 Sept 2011, 11:22 a.m.,*
in response to message #2 by Namir

Thanks Namir, it was operator error on my part.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Update from HHC2011?

*Message #1 Posted by **Jim Johnson** on 26 Sept 2011, 7:32 a.m.*

We are highly anticipating an exciting update from the attendees of the HHC2011. No tweets to speak of (dang internet!). And while we followed the twists and turns of the HP15cLE (sticky keys and no PSE's), we still haven't heard anything that is earth shattering from HP, HHC or San Diego chattering.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE arrivals in Europe?

*Message #1 Posted by **Thomas Radtke** on 26 Sept 2011, 7:09 a.m.*

Ordered from SC via USPS priority, sent 9/13, last sign of live 9/16 as per tracking information. I know it takes time, but I'm getting nervous.

Anyone here in EU got his 15C LE already except by express mail?

Thanks,

Thomas

Re: 15C LE arrivals in Europe?

*Message #2 Posted by **Michael Kussmaul** on 26 Sept 2011, 7:13 a.m.,*
in response to message #1 by Thomas Radtke

I live in Switzerland and ordered by Samson - I received mine last Friday, I think it was shipped by Sep 16 and arrived Sep 22. I used standard shipping (+ $8 for a box) with no tracking.

Re: 15C LE arrivals in Europe?

*Message #3 Posted by **Didier Lachieze** on 26 Sept 2011, 7:41 a.m.,*
in response to message #1 by Thomas Radtke

Mine was ordered also from SC via USPS Priority mail, sent 9/13, delivered 9/23 (last Friday) in France.
I paid $24 for the shipment without tracking, but was not offered the possibility to add $8 for a box, so my 15C LE was send in a bubble bag. Fortunately it arrived in good shape...
All in all for $123.99 (no custom fees) and no keyboard issue excepted the f and g keys a bit loose I'm pretty happy with my new 15C LE :-)

Edited: 26 Sept 2011, 7:45 a.m.

Re: 15C LE arrivals in Europe?

*Message #4 Posted by **Javier Goizueta** on 26 Sept 2011, 7:42 a.m.,*
in response to message #1 by Thomas Radtke

I received mine from Samson in Spain last wednesday (2011-09-21); was shipped on 2011-09-13 (No box, and wasn't warned/given an option about that, but luckily the package was intact)

Re: 15C LE arrivals in Europe?

*Message #5 Posted by **Julián Miranda (Spain)** on 26 Sept 2011, 7:58 a.m.,*
in response to message #1 by Thomas Radtke

Ordered two from SC, sent Priority Mail on Sept. 13, received Sept. 21. I wasn't asked for a box but they came

in a card box. No problem withe the calculators. Unfortunately I had to pay 40 euros at the customs.

Re: 15C LE arrivals in Europe?

*Message #6 Posted by **Andreas Haack** on 26 Sept 2011, 8:10 a.m.,*
in response to message #1 by Thomas Radtke

Hi Thomas

I ordered also one from SC via USPS, sent on 9/14 and still waiting.

Andreas Berlin-Germany

Re: 15C LE arrivals in Europe?

*Message #7 Posted by **Dusan Zivkovic** on 26 Sept 2011, 8:17 a.m.,*
in response to message #1 by Thomas Radtke

My parcel from Samson is waiting for me to pay the customs duty and pick it up at the notorious North West London Parcel Force depot. Who knows when I will have time to get there during their working hours. Probably only on Saturday. Grrr.

Re: 15C LE arrivals in Europe?

*Message #8 Posted by **Vladan Dugaric** on 26 Sept 2011, 8:33 a.m.,*
in response to message #1 by Thomas Radtke

My SC parcel was sent on 9/13 and I am still waiting for it. I presume it is in a depot waiting for customs clearance, but I haven't got a card to tell me to pick it up yet.

Vladan

Re: 15C LE arrivals in Europe?

*Message #9 Posted by **Dusan Zivkovic** on 26 Sept 2011, 8:44 a.m.,*
in response to message #8 by Vladan Dugaric

You won't get the card; they can't be asked. Parcel Force are awful. I worked out that it was in their depot through the US tracking number which Samson gave me. Now the question is - which depot is your local one? Good luck.

Re: 15C LE arrivals in Europe?

*Message #10 Posted by **Bart (UK)** on 26 Sept 2011, 9:19 a.m.,*
in response to message #9 by Dusan Zivkovic

My depot usually sends a card, it's just a question of when they feel like sending the card. I expect I will have to pay 20% VAT + the £8 for "admin costs" of them collecting the VAT and sending it to HMRC.

Re: 15C LE arrivals in Europe?

*Message #11 Posted by **hpnut** on 26 Sept 2011, 10:07 a.m.,*
in response to message #10 by Bart (UK)

I sympathise with you Europeans, your governments seem to be collecting tax at every opportunity.

Government of Malaysia does not collect tax on computer products, so my packages from SC arrived in about 7-11 days. they opened one for inspection though, but the contents were intact.

hpnut in Malaysia

Re: 15C LE arrivals in Europe?

*Message #12 Posted by **Bart (UK)** on 26 Sept 2011, 9:18 a.m.,*
in response to message #1 by Thomas Radtke

SC posted mine on 13 Sept. too. I ordered 1x 15C-LE and 1x 12C AE, using the cheaper USPS Priority, and it hasn't arrived yet. I expect it is in the depot. I was not asked about a box either, so I expect it will be in bubble wrap or similar - hope it will be undamaged.

Re: 15C LE arrivals in Europe?

*Message #13 Posted by **Derek Walker (UK)** on 26 Sept 2011, 9:20 a.m.,*
in response to message #1 by Thomas Radtke

Ordered from SC on Sep 12, dispatched via USPS Express (with tracking) on Sep 14, arrived in UK Sep 16, approx 1 week taken up by UK customs processing, arrived at local Parcelforce depot Sep 23 and collected today. Sent in cardboard outer box which didn't seem to have suffered any ill effects in transit.

Re: 15C LE arrivals in Europe?

*Message #14 Posted by **Alexander Oestert** on 26 Sept 2011, 7:26 a.m.,*
in response to message #1 by Thomas Radtke

Copy and paste your USPS tracking code to the DHL tracking site. You will most certainly learn that your parcel has been handed over to German customs in the destination town on Saturday. It might now take another fortnight due to some ingenious plot that all deliveries from overseas have to be shipped to a central customs office in Leipzig... :-(

Re: 15C LE arrivals in Europe?

*Message #15 Posted by **Thomas Radtke** on 26 Sept 2011, 10:22 a.m.,*
in response to message #14 by Alexander Oestert

I learned that DHL doesn't know about the number.

Highly strange is that it's recorded to be a *letter*:

Priority Mail International Parcels
Processed through Sort Facility
September 16, 2011, 1:54 pm
LOS ANGELES, CA 90009
International Letter

Re: 15C LE arrivals in Europe?

*Message #16 Posted by **Alexander Oestert** on 26 Sept 2011, 1:39 p.m.,*
in response to message #15 by Thomas Radtke

Quote:

> I learned that DHL doesn't know about the number.

Strange! Mine is also Priority Mail International - but 'Parcel'. Tracking number starts with CJ and ends in US. From the moment on that it arrived in Frankfurt Airport, DHL tracking showed it in all details.

Re: 15C LE arrivals in Europe?

*Message #17 Posted by **Thomas Radtke** on 26 Sept 2011, 2:26 p.m.,*
in response to message #16 by Alexander Oestert

I was given this number: LN840122429US. Guess it's not needed to keep this secret.

Re: 15C LE arrivals in Europe?

*Message #18 Posted by **Lutz Jacob** on 26 Sept 2011, 11:57 a.m.,*
in response to message #1 by Thomas Radtke

Same here, sent from SC on 9/13 and still no sign of it. But I think 2..3 weeks are usual for USPS shipment to Germany.

Re: 15C LE arrivals in Europe?

*Message #19 Posted by **Thomas Radtke** on 26 Sept 2011, 12:05 p.m.,*
in response to message #18 by Lutz Jacob

I had some hope since I've recently read about deliveries in 4 to 7 days but obviously that doesn't take into account german customs.

Few days to travel thousands of miles, two weeks of waiting for a german officer to wake up.

Re: 15C LE arrivals in Europe?

*Message #20 Posted by **Hubert Weikert** on 26 Sept 2011, 12:41 p.m.,*
in response to message #1 by Thomas Radtke

I live in Munich, Germany. My 15C LE arrived Friday last week at customs, I picked it up this morning. Had to pay the VAT. Samson cables shipped it Sept 13th, so it took 10 days to cross the pond. Standard USPS shipping, in a bubble envelope. No damage.

Hubert

Edited: 26 Sept 2011, 12:46 p.m.

Re: 15C LE arrivals in Europe?

*Message #21 Posted by **Borja** on 27 Sept 2011, 5:11 a.m.,*
in response to message #20 by Hubert Weikert

I preordered two from Samson Cables on July 27th. It has just gone through customs and I expect it this week.

Samson shipped them on Sept 13th, but Spanish customs are a pain in the ass lately.

Re: 15C LE arrivals in Europe?

*Message #22 Posted by **poehsve** on 28 Sept 2011, 4:05 a.m.,*
in response to message #20 by Hubert Weikert

> Quote:
>
> I live in Munich, Germany. My 15C LE arrived Friday last week at customs,

Same here for my two units in Berlin, Germany. Had to pay VAT to be glad, what I am now for sure.

Sven

Re: 15C LE arrivals in Europe?

*Message #23 Posted by **Borja** on 28 Sept 2011, 6:23 a.m.,*
in response to message #22 by poehsve

Here they are, finally! (I ordered two).

I have no problem to pay my taxes, I'm a law abiding citizen, but the delay has been intolerable for an express shipping.

Re: 15C LE arrivals in Europe?

*Message #24 Posted by **Andreas Haack** on 28 Sept 2011, 10:21 a.m.,*
in response to message #22 by poehsve

Hi Sven,

was your order with USPS Priority Mail or Express ?

Thanks, Andreas Berlin-Germany

Re: 15C LE arrivals in Europe?

*Message #25 Posted by **Borja** on 28 Sept 2011, 11:15 a.m.,*
in response to message #24 by Andreas Haack

Express. Took just 5 days to reach customs, several days for clearance.

Re: 15C LE arrivals in Europe?

*Message #26 Posted by **poehsve** on 28 Sept 2011, 11:40 a.m.,*
in response to message #24 by Andreas Haack

IIRC, it was just USPS Priority Mail from samsoncables. I paid $ 35 for shipping the two units, that were packaged in a quite solid box.

regards Sven

PS: made my whole office crazy with my new toy and everyone was very excited.

Re: 15C LE arrivals in Europe?

*Message #27 Posted by **Jeroen Van Nieuwenhove** on 28 Sept 2011, 4:09 a.m.,*

in response to message #1 by Thomas Radtke

Mine arrived Monday Sept. 26. Standard USPS shipping in a bubble envelope, luckily no damage. Had to pay the VAT (10 euros) in addition to the $123.99 I paid to SC. I think that whenever this calculator appears in European retail stores, it will be more expensive than what I paid now.

Re: 15C LE arrivals in Europe?

*Message #28 Posted by **Borja** on 28 Sept 2011, 6:33 a.m.,*
in response to message #27 by Jeroen Van Nieuwenhove

Amazing. They have sent JUST ONE!

BILLED TWO. SENT THE PARCEL WITH AN INVOICE FOR TWO CALCULATORS

WHICH MEANS I HAVE PAYED TAX FOR TWO

NOW, IF THEY SEND A REPLACEMENT IT WILL BE IMPOSSIBLE TO CONVINCE SPANISH CUSTOMS THAT I ALREADY PAID FOR THE IMPORT DUTIES AND TAX!

Re: 15C LE arrivals in Europe?

*Message #29 Posted by **Borja** on 28 Sept 2011, 6:44 a.m.,*
in response to message #28 by Borja

So, to summarize:

Placed an order on 26th July for TWO units, USPS express shipping.

The unit price was $94.99. Total for two, $189.98

Shipping: $40

Total: $229.

On Sept. 13th they charged 173.78 euro to my VISA card (229 dollars).

The package that has arrived contains just one, it hasn't been stolen from the box, as it's a small box with the exact size of the box, and the shipping manifesto declares just one calculator with a declared value of $94.99 plus $45.08 in postage and fees.

I declared two calculators to customs, of course, as I didn't have a clue it contained just one, so I have paid a 18% VAT for two, plus import taxes, etc, which totals 60 euro.

As I said, amazing job, Samson. Now let's see how you fix it.

Re: 15C LE arrivals in Europe?

*Message #30 Posted by **Ethan Conner** on 28 Sept 2011, 12:37 p.m.,*
in response to message #29 by Borja

This is surprising. Due to Samson giving a vague response on my first preorder i placed another one. They initially sent two tracking numbers and then right away cancelled one. However the package did arrive with two calculators. In my case they realized two seperate orders going to the same address and combined them.

Re: 15C LE arrivals in Europe?

*Message #31 Posted by **Borja** on 28 Sept 2011, 1:00 p.m.,*
in response to message #30 by Ethan Conner

They have answered (I sent a complaint once I opened the box, obviously) and they will send a replacement.

However, I'm afraid that Spanish customs will want to charge $40 in VAT and import duties again unless I'm willing to waste about 10 hours in paperwork and arguing.

Re: 15C LE arrivals in Europe?

*Message #32 Posted by **Ethan Conner** on 28 Sept 2011, 1:10 p.m.,*
in response to message #31 by Borja

Do you know someone who knows somebody in customs? When i lived in southern Louisiana i never paid a ticket,fine or a deposit without first checking to see if a coworker knew someone who could "take care of it".

Re: 15C LE arrivals in Europe?

*Message #33 Posted by **Eric Rechlin** on 28 Sept 2011, 2:09 p.m.,*
in response to message #32 by Ethan Conner

That's just the sad state of corruption in Louisiana, a third world country stuck inside the US. The rest of the US, and most of the first world, do not work that way.

Eric

Re: 15C LE arrivals in Europe?

*Message #34 Posted by **Borja** on 29 Sept 2011, 5:35 a.m.,*
in response to message #33 by Eric Rechlin

I pay my taxes, so that's not an option.

For now I've sent a polite email to customs, and they have told me to present all the documentation when the next package arrives. We will see... And I told Samson Cables to specify that it's a replacement unit on the customs manifest.

We'll see.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2011 Programming Puzzle SPOILERS

*Message #1 Posted by **Paul Dale** on 26 Sept 2011, 2:14 a.m.*

Since the conference is well and truly over, I thought I'd post my solutions and see what other people have come up with and what other improvements are possible.

Let the discussions and optimisations begin :-)

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #2 Posted by **Paul Dale** on 26 Sept 2011, 2:15 a.m.,*
in response to message #1 by Paul Dale

For the WP 34S.

A basic routine that runs over each value of X in the positive quadrant and solves the circle equation to get the number of pixels set in that column.

```
001  [cmplx]DROP     Ignore centre
002  0               Accumulator
003  RCL Y
004  STO[times] Z    Keep r^2
005  LBL 00
006  DEC X
007  x<0?
008  GTO 01          Check for loop finish
009  ENTER[^]
010  x[^2]
011  RCL- T
012  +/-
013  [sqrt]          sqrt(r^2 - x^2)
014  CEIL
015  STO+ Z          Accumulated
016  DROP
017  GTO 00
018  LBL 01          Exit code -- multiply by 4
019  DROP
020  4
021  [times]
```

This program takes 6.5 seconds for a radius of 999. For a radius of 5,000 it takes 32.7 seconds. Execution time is is linear in the radius. It might be possible to tweak this a bit more and save a few fractions of a second, however the execution time will remain linear in the radius.

- Pauli

Edited: 26 Sept 2011, 2:17 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #3 Posted by **Paul Dale** on 26 Sept 2011, 2:15 a.m.,*
in response to message #1 by Paul Dale

For the WP 34S.

Again running of the value of x and solving the circle equation but in integer mode results in a faster program.

```
001  [cmplx]DROP     Ignore centre
002  BASE 10
003  0               Accumulator
004  RCL Y
005  STO[times] Z    Keep r^2
006  LBL 00
007  DEC X
008  x<0?
009  GTO 01          Check for loop finish
010  ENTER[^]
```

```
011  x[^2]
012  RCL- T
013  +/-
014  [sqrt]          sqrt(r^2 - x^2)
015  FS? C
016  INC X
017  STO+ Z          Accumulated
018  DROP
019  GTO 00
020  LBL 01          Exit code -- multiply by 4
021  DROP
022  SL 02
023  DECM
```

Timings in this case are 7.6 seconds for a radius of 5,000 and 1.4 seconds for a radius 999. Again, these timings are linear in the radius of the circle.

One problem here. The integer square root code is incorrectly rounding for some input values. Since a new firmware image was not permitted by the rules of the contest, this solution is invalid. A fixed firmware image has been committed but not yet moved into a release package.

It should be possible to rectify the problem with the square root by squaring the result and comparing against the initial value. The error only occurs when the square root isn't exact and it only seems to round the result up. Even with the extra steps involved, this method would likely be faster than the floating point equivalent.

- Pauli

Edited: 26 Sept 2011, 2:29 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #4 Posted by **Paul Dale** on 26 Sept 2011, 2:15 a.m.,*
in response to message #1 by Paul Dale

For the WP 34S.

Rather than solving the circle equation each time, an incremental approach is also possible. Bresenham's circle algorithm manages to generate the outer points on a circle using only integer shifts and additions. The following program implements Bresenham's circle algorithm, however the results are slightly off because it is using the pixel centre points rather than their extremes. This error is almost certainly correctable without introducing a performance loss.

```
001  [cmplx]DROP     Ignore centre
002  BASE 10         Integer mode
003  STO 00          Save radius as X coordinate
004  +/-
005  STO I           Error accumulator
006  0
007  STO 01          Y coordinate
008  STO J           Area accumulator
009  LBL 00
010  RCL 00
011  x<? 01          Check for loop termination
012  GTO 01
013  STO+ J          Accumulate column
014  RCL 01          Update Y coordinate
015  SL 01
016  STO+ I          Error = Error + 2 Y + 1
017  INC I
018  INC 01          Y = Y + 1
019  RCL I
020  x<0?            Check for change in X
021  GTO 00
022  DEC 00          X = X - 1
023  RCL 00
024  SL 01           Error = Error â&#128;&#147; 2 X
025  STO- I
026  GTO 00
027  LBL 01          Finish up
028  RCL J           Area in octant
029  SL 01           Area in quadrant plus duplicated overlap
030  RCL 01
031  x[^2]           Correct the duplicated overlap
032  -
033  SL 02           Quadruple to full circle
034  DECM            Switch mode back
```

Running time for a radius of 999 is 0.9 seconds, for a radius of 5,000 it is 4.7 seconds. Again this approach will give time linear in the radius but each iteration is very fast.

- Pauli

Edited: 26 Sept 2011, 2:18 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #5 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 3:37 p.m.,*
in response to message #4 by Paul Dale

Paul,

I was aware of this method. It was used in the Microsoft BASIC in my old MSX 8-bit computer. Great to see an implementation, even if the results are slightly diffent.

Gerson.

From the MSX Red Book:

```
------------------------------------------------------------------------------


    Address... 5BBDH


    This is the circle mainloop. Because of the high degree of
symmetry in a circle it is only necessary to compute the
coordinates of the arc from zero to forty-five degrees. The
other seven segments are produced by rotation and reflection of
these points. The parametric equation for a unit circle, with T
the angle from zero to PI/4, is:


        X=COS(T)
        Y=SIN(T)


    Direct computation using this equation, or the corresponding
functional form X=SQR(1-Y^2), is too slow, instead the first
derivative is used:


         dx
        ---- = -Y/X
         dy


    Given that the starting position is known (X=RADIUS,Y=0), the X
coordinate change for each unit Y coordinate change may be
computed using the derivative. Furthermore, because graphics
resolution is limited to one pixel, it is only necessary to
know when the sum of the X coordinate changes reaches unity and
then to decrement the X coordinate. Therefore:


        Decrement X when (Y1/X)+(Y2/X)+(Y3/X)+... => 1
        Therefore decrement when (Y1+Y2+Y3+...)/X => 1
        Therefore decrement when     Y1+Y2+Y3+... => X


    All that is required to identify an X coordinate change is to
totalize the Y coordinate values from each step until the X


- 150 -


5. ROM BASIC INTERPRETER


coordinate value is exceeded. The circle mainloop holds the X
coordinate in register pair HL, the Y coordinate in register
pair DE and the running total in CRCSUM. An equivalent BASIC
program for a circle of arbitrary radius 160 pixels is:


        10 SCREEN 2
        20 X=160:Y=0:CRCSUM=0
        30 PSET(X,191-Y)
        40 CRCSUM=CRCSUM+Y :Y=Y+1
        50 IF CRCSUM<X THEN 30
        60 CRCSUM=CRCSUM-X:X=X-1
        70 IF X>Y THEN 30
        80 CIRCLE(0,191),155
        90 GOTO 90


    The coordinate pairs generated by the mainloop are those of a
"virtual" circle, such tasks as axial reflection, elliptic
squash and centre translation are handled at a lower level
(5C06H).
------------------------------------------------------------------------------
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #6 Posted by **Paul Dale** on 26 Sept 2011, 5:13 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:

> Great to see an implementation, even if the results are slightly diffent.

I'm sure the algorithm can be corrected to give the correct results. It is a matter of reworking the maths and changing the update part of the loop. I might do this if I get really keen, but I've already spent more time than I can afford on this interesting little challenge.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #7 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 5:46 p.m.,*
in response to message #6 by Paul Dale

That was not a criticism. Actually, the way the circles are drawn have been simplified to make the challenge easier, as Walter has noticed. I guess both algorithms produce smoother circles, therefore no need to change them. The point is the existence of such algorithms, which were created in a time when speed really mattered.

Gerson.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #8 Posted by **Paul Dale** on 26 Sept 2011, 6:16 p.m.,*
in response to message #7 by Gerson W. Barbosa

No criticism was taken :-)

Definitely stick to integer mode and avoiding expensive operations is a win although a lot less so that when these algorithms were first discovered.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #9 Posted by **Paul Dale** on 26 Sept 2011, 2:17 a.m.,*
in response to message #1 by Paul Dale

Some other semi-random comments.

- I couldn't identify an explicit formula for the result. Such a formula will almost certainly be fastest.
- I tried using the integration command. It isn't very accurate on the 34S but it is very very fast. On a 15C LE, it took ages.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #10 Posted by **C.Ret** on 26 Sept 2011, 3:38 a.m.,*
in response to message #9 by Paul Dale

HI,

I come first to an algorithm real close to your code.

Here is a version for HP-41C:

```
01 LBL"HHC2011  13 -            25 +
02 0            14 SQRT         26 ST+ 00
03 *            15 RCL Z        27 CLx
04 *            16 *            28 1
05 STO 00       17 INT          29 +
06 LBL 00       18 LASTx        30 x<y?
07 ENTER^       19 FRC          31 GTO 00
08 R^           20 x=0?         32 4
09 /            21 GTO 01       33 RCL 00
10 x^2          22 CLx          34 *
11 1            23 1            35 END
12 x<->y        24 LBL 01
```

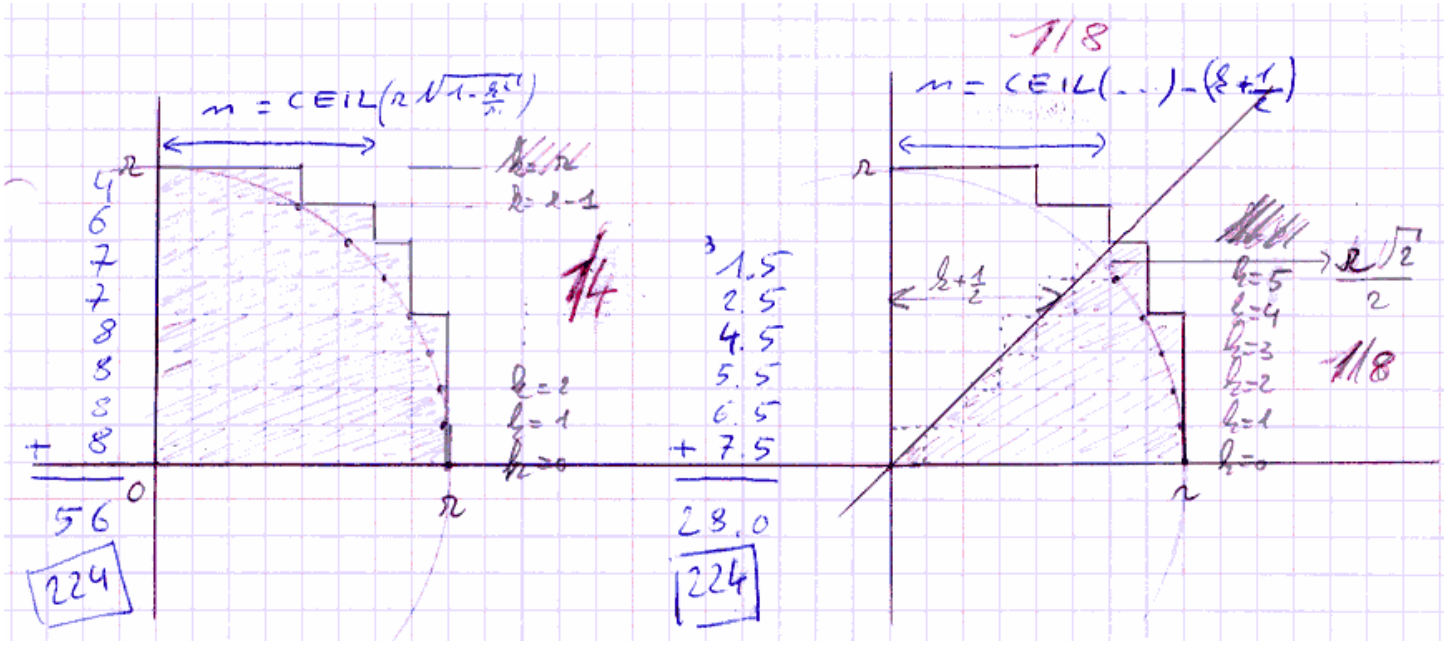
Some detail perhaps needs an optimization.

For RPL user, here a version for HP-28S calculator, which is basic enough to be used with out modification on any RPL system.

```
« ->  r x y                 @ input three arguments as specified
   « 0                      @ initiate number of pixel in circle
     0 r 1 - FOR k          @ main loop k=0 to r-1
        1                   @ 1^2 is 1 !
        k r / SQ - SQRT     @ x = sqrt(1 -(k/r)^2)
        r * CEIL            @ n = CEIL(x.r) at row where y=k/r
        +                   @ add to number of pixel
     NEXT
     4 *                    @ multiply by 4 to get full cricle
   »
»
'HHC2011' STO
```

Only one quadrant of the circle is investigated, total number of pixels is 4 times the quadrant count.

I may suggest that a version using only an half-quadrant may speed up the process and is coherent with symmetry. The total number of pixels will be 8 times one half-quadrant count.




```
                            @ version 2.0
« ->  r x y                 @ input three arguments as specified
   « 0                      @ initiate number of pixel in circle
     0 r 2 SQRT / FOR k     @ main loop k=0 to r/SQRT(2)
        1                   @ 1^2 is 1 !
        k r / SQ - SQRT     @ x = sqrt(1 -(k/r)^2)
        r * CEIL            @ n = CEIL(x.r) at row where y=k/r
        .5 k + -            @ remove (k+0.5) pixels
        +                   @ add to number of pixel
     NEXT
     8 *                    @ multiply by 8 to get full cricle
   »
»
'HHC2011b' STO
```

Here a proposed code for HP-15C and any other great classic HP calculators.

```
# ------------------------------------------
# Tcl/Tk HEWLETT·PACKARD 15C Simulator program
# Created with version 1.2.13
# ------------------------------------------
   000 {           }
   001 {    42 21 11 } f LBL A
   002 {          0 }   0
   003 {         20 }   ×
   004 {         20 }   ×
   005 {         34 }   x<->y
   006 {          2 }   2
   007 {         11 }   \/¯x
   008 {         10 }   ÷
   009 {       43 44 } g INT
   010 {       44  0 }   STO 0
   011 {    42 21  0 } f LBL 0
   012 {       43 33 } g R^
   013 {         10 }   ÷
   014 {       43 11 } g x²
   015 {          1 }   1
   016 {         34 }   x<->y
   017 {         30 }   -
   018 {         11 }   \/¯x
   019 {       43 33 } g R^
```

```
   020 {           20 }   x
   021 {        43 44 } g INT
   022 {        43 36 } g LSTx
   023 {        42 44 } f FRAC
   024 {        43 20 } g x=0
   025 {        22  1 }   GTO 1
   026 {        43 35 } g CLx
   027 {           1  }   1
   028 {     42 21  1  } f LBL 1
   029 {           40 }   +
   030 {           2  }   2
   031 {           15 }   1/x
   032 {           30 }   -
   033 {        45  0 }   RCL 0
   034 {           30 }   -
   035 {           40 }   +
   036 {     42  5  0  } f DSE 0
   037 {     43  5  0  } g CF 0
   038 {        45  0 }   RCL 0
   039 {     43 30  3  } g TEST 3 (x >= 0 ?)
   040 {        22  0 }   GTO 0
   041 {           33 }   R_dwn
   042 {           8  }   8
   043 {           20 }   x
   044 {        43 32 } g RTN
# ----------------------------------------
```

Comments and suggestions are welcome.

Edited: 26 Sept 2011, 6:28 a.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #11 Posted by **Paul Dale** on 26 Sept 2011, 3:49 a.m.,*
in response to message #10 by C.Ret

Interesting. I did do just an octant for the Bresenham approach. This algorithm generates just an octant of a circle and relies on symmetry to get the rest of the points on the circumference.

Rather than keeping track of the diagonal, I accumulated the total area under the octant, doubled this and removed the duplicate area which is a perfect square. This allowed everything to be kept in integer mode.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #12 Posted by **Dieter** on 26 Sept 2011, 8:11 a.m.,*
in response to message #10 by C.Ret

Hi C.Ret,

> Quote:
>
> I come first to an algorithm real close to your code.
> Here is a version for HP-41C:
> (... 35 step program ...) Some detail perhaps needs an optimization.

At least it can be done shorter and faster. ;-)

Here's basically the same algorithm with some improvements. R was moved under the root and a more elegant CEIL emulation was used. For positive arguments, ceil(x) equals int(x + sign(frc(x)). Due to the special sign-implemenation in the 41-series an additional test for non-zero x was required. All this makes the program shorter and faster. Add a label and rtn if you prefer. ;-)

```
  01 RDN
  02 RDN
  03 STO 00
  04 STO 01
  05 DSE 00
  06 GTO 01
  07 GTO 02
  08 LBL 01
  09 RCL 01
  10 x^2
  11 RCL 00
  12 x^2
  13 -
  14 SQRT
  15 ENTER
  16 FRC
  17 x>0?
```

```
18 SIGN
19 +
20 INT
21 +
22 DSE 00
23 GTO 01
24 LBL 02
25 4
26 *
```

For r > 1 steps 06, 07 and 24 can be omitted.

The next improvement is an update of the user instructions, telling the user not to enter the center coordinates but just the radius. This would save two more steps. ;-)

Dieter

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #13 Posted by **C.Ret** on 26 Sept 2011, 9:45 a.m.,*
in response to message #12 by Dieter

Hello

Thank you for the much more elegant CEIL way :

```
n INT Lastx FRAC SIGN +
```

(will run whith any classic except special cas of SIGN of HP-41).

I was trying to adapt my code for Hp-15c, but I was unable to lacate any SIGN function.

May the sequence be used instead :

```
FIX 0 n RND
```

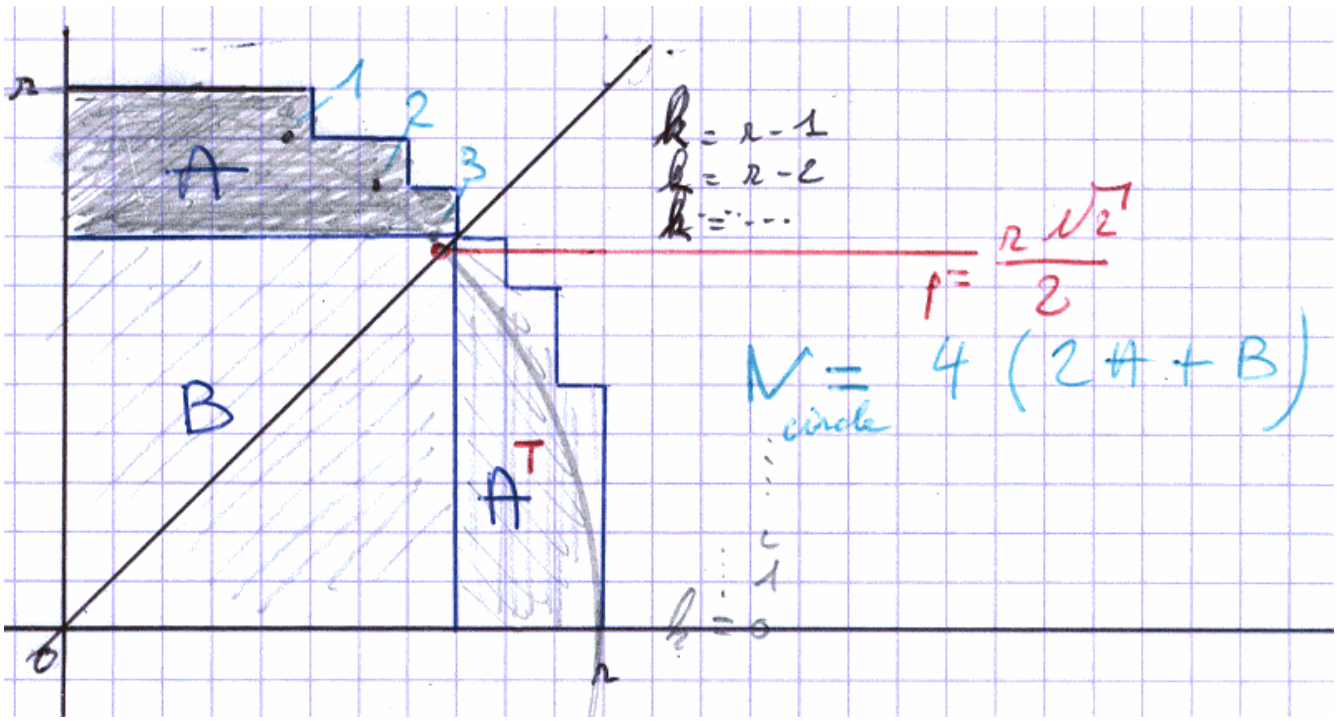
?

I will try it later and spare steps in HP-15 listing as you demonstre it to me.

Considering only a quadrant was a good idea.
Considering only an octrant will be a good one toot, if I had not made thinks the worst way. By scaning from 0 to r/sqrt(2), I spare about 30% of running time.

But, I only realize that it is possible to spare 70% of the loops by scanning k from (r-1) to r/sqrt(2) !
And using symetry to count this small octrand part two time and adding the "common" square.

A picture better than words :




```
« ->  r x y                    @ input three arguments
   « r 2 SQRT / CEIL -> p      @ compute upper limit p
      « 0                      @ initiate number of pixel in octant
        p  r 1 -  FOR k        @ main loop k from r-1 downto p
           1                   @ 1^2 is 1 !
           k r / SQ - SQRT     @ x = sqrt(1 -(k/r)^2)
           r * CEIL            @ n = CEIL(x.r) at row where y=k/r
           +                   @ add to number of pixels (in region A)
        NEXT
        2 *                    @ add symetric/transpose part (region A')
        p SQ +                 @ add inside square of p.p pixels (region B)
        4 *                    @ multiply by 4 to get full cricle
      »
   »
»
'HHC2011c' STO
```

I hope this last approache will be the more efficient, especially for large circles, concerning number of loops.
Now 5000,0,0 HHC2011c returns result in less than 1'25" on HP-28S

I still using a complex computation at each step, the solution propose by *Paul Dale* based on a Bresemhan method trigger me. Have to found a way to spare operations and tests. Using an 'error' or 'indicator' counter is already tracked.

Edited: 27 Sept 2011, 12:17 p.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #14 Posted by **Dieter** on 26 Sept 2011, 10:58 a.m.,*
in response to message #13 by C.Ret

> Quote:
>
> Thank you for the much more elegant CEIL way :
> n INT Lastx FRAC SIGN +

Or also

```
ENTER
FRC
SIGN
+
INT
```

> Quote:

> (will run whith any classic except special cas of SIGN of HP-41).

Well, the 41 was the first HP (pocket) calculator I know of that featured a SIGN function.
So none of the classics (and many later models as well) offered that function and this approach cannot be used there.

> Quote:
>
> I was trying to adapt my code for Hp-15c, but I was unable to lacate any SIGN function.

There you are. ;-)

> Quote:
>
> May the sequence be used instead :
>
> FIX 0 n RND
>
> ?

No, this won't work. It simply rounds the argument to the next higher or lower (!) integer. CEIL always rounds up.
But since sign(x) = x / abs(x) for x<>0, it could be accomplished this way:

```
ENTER
FRC
ENTER
ABS
x=0?
+
x<>0?
/
+
INT
```

This works for x >= 0.

And finally, a more tricky version:

```
ENTER
FRC
x<>0?
e^x
SQRT
INT
+
INT
```

This also works for negative x.

Ah, those were the good old days where calculators were so slow that using transcendental functions didn't matter much. ;-)

Dieter

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #15 Posted by **Eamonn** on 27 Sept 2011, 1:32 a.m.,*
in response to message #13 by C.Ret

Hi C.Ret,

My solution for the HP-15C also used the optimization that you posted, where it is only necessary to find the number of pixels in ~30% of the lines. The total number of pixels is then 4 * (s1 + 2 * s2) where s1 = (INT(r/sqrt(2)+1))^2 and s2 is the number sum of the number of pixels on each line above the square on the main diagonal as shown in your picture.

Lines 29 to 34 are yet another variant on the CEIL function.

For the radius=5000 case on the HP-15C LE the program below computes the number of pixels in 16 seconds.

Best regards,

Eamonn.

```
001 LBL C
002 Rv
003 Rv
004 STO 0  // Radius (r) -> Reg 0
005 x^2
006 STO 3  // r^2 -> Reg 3
007 RCL 0
008 2
009 SQRT
010 /
011 1
012 STO -0 // r-1 -> Reg 0
013 +
014 INT
015 STO 1  // y1 -> Reg 1
016 X^2
017 STO 2  // s1 -> Reg 2
018 CLX
019 STO 4  // 0 -> s2
020 LBL A
021 RCL 0  // (r-1)
022 RCL 1  // y
023 TEST 7 // x<y?
024 GTO B
025 x^2
026 CHS
027 RCL +3 // r^2-y^2
028 SQRT
029 FRAC
030 TEST 0 // x<>0
031 1
032 LAST X
033 +
034 INT    // X = ceil(r^2-y^2)
035 STO +4 // s2 = s2 + x
036 1
037 STO +1
038 GTO A
039 LBL B
040 2
041 RCL *4
042 RCL +2
043 4
044 *
045 RTN
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #16 Posted by **Olivier De Smet** on 27 Sept 2011, 2:48 a.m.,*
in response to message #13 by C.Ret

Here is an HP41 program with your idea (take R in X)

```
01  *LBL'Y
02   ENTER^
03   X^2
04   STO 00
05   2
06   /
07   STO 01
08   X<>Y
09   CF 00      ***
10   0
11   DSE Y
12   GTO 00     ***
13   1          ***
14   GTO 01     ***
15  *LBL 00
16   RCL 00
17   RCL Z
18   X^2
19   -
20   RCL 01
21   X<=Y?
22   SF 00
23   FS? 00
24   X<>Y
25   RDN
26   SQRT
27   INT
28   LASTX
29   FRC
30   X#0?
31   SIGN
32   +
33   FS?C 00
34   GTO 01
35   +
36   DSE Y
37   GTO 00
38  *LBL 01
39   X^2
40   X<>Y
41   ENTER^
```

```
42   +
43   +
44   4
45   *
46   END
```

*** step are for R=1 case (can be removed)

for the rounding in 'old' classic you can use

```
INT
LASTX
FRAC
X#0?          *** SIGN calculate
ENTER^        *** duplicate if not zero
X#0?          *** still the same to test at
/             *** can divide as not zero an give a real SIGN function :)
+
```

as a plus it does not perturb the stack too much

I use this on an HP97 :)

Olivier

Edited: 27 Sept 2011, 2:51 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #17 Posted by **Olivier De Smet** on 27 Sept 2011, 3:35 a.m.,*
in response to message #16 by Olivier De Smet

A faster one (shorter loop no R=1 special case, R still in X)

```
01  *LBL'Y (53 bytes)
02   ENTER^
03   STO 00
04   STO 01
05   STOx 01
06   2
07   SQRT
08   /
09   INT
10   LASTX
11   FRC
12   X#0?
13   SIGN
14   +
15   X^2
16   LASTX
17   RCL Z
18   -
19   X<>Y
20  *LBL 00
21   RCL 00
22   RCL Z
23   +
24   X^2
25   RCL 01
26   -
27   CHS
28   SQRT
29   INT
30   LASTX
31   FRC
32   X#0?
33   SIGN
34   +
35   STO+ X
36   +
37   ISG Y
38   GTO 00
39   4
40   *
41   END

Some timings   50 ->     8024 in  8 sec
              100 ->    31796 in 16 sec
              540 ->   918168 in 82 sec
             1000 ->  3145520 in 150 sec
             5000 -> 78559640 in 750 sec (should be 30 sec with a CL ...)
```

HP42S one, better use of stack and recall arithmetic

```
01  *LBL"Y"
02   ENTER
03   STO 00
```

```
04   STO 01
05   STOx 01
06   2
07   SQRT
08   /
09   IP
10   LASTX
11   FP
12   X#0?
13   SIGN
14   +
15   X^2
16   LASTX
17   RCL- ST Z
18   X<>Y
19  *LBL 00
20   RCL 01
21   RCL 00
22   RCL+ ST T
23   X^2
24   -
25   SQRT
26   INT
27   LASTX
28   FRC
29   X#0?
30   SIGN
31   +
32   RCL+ ST X
33   +
34   ISG ST Y
35   GTO 00
36   4
37   *
38   END
```

sorry, no timing ...

Edited: 28 Sept 2011, 6:58 a.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #18 Posted by **Olivier De Smet** on 28 Sept 2011, 4:09 a.m.,*
in response to message #17 by Olivier De Smet

A stack only version for hp42s

```
00 { 58-Byte Prgm }
01>LBL "X"
02 ENTER
03 ENTER
04 STO+ ST Y
05 2
06 SQRT
07 ÷
08 IP
09 LASTX
10 FP
11 X!=0?
12 SIGN
13 +
14 X^2
15 LASTX
16 RCL- ST T
17 +/-
18 X<>Y
19>LBL 00
20 RCL ST Z
21 RCL- ST Z
22 RCL× ST Z
23 SQRT
24 FP
25 X!=0?
26 SF 00
27 X<> ST L
28 IP
29 FS?C 00
30 ISG ST X
31>LBL 01          *** as NOP
32 STO+ ST X
33 +
34 DSE ST Y
35 GTO 00
36 4
37 ×
38 END
```

start with a default state (as said) so flag 0 reset

A faster one for HP41

```
01>LBL "W"
02 ENTER^
03 STO 00
04 STO+ 00
05 2
06 SQRT
07 ÷
08 INT
09 LASTX
10 FRC
11 X!=0?
12 SIGN
13 +
14 X^2
15 STO 01
16 X<>Y
17 LASTX
18 -
19 0
20>LBL 00
21 RCL 00
22 RCL Z
23 -
24 LASTX
25 *
26 SQRT
27 INT
28 LASTX
29 FRC
30 X!=0?
31 SIGN
32 +
33 +
34 DSE Y
35 GTO 00
36 ST+ X
37 RCL 01
38 +
39 4
40 ×
41 END


timing (not the same machine, here a 41C, before a 41CX)
  50 in   7 sec
 540 in 68 sec
1000 in 126 sec
5000 in 620 sec
```

Edited: 28 Sept 2011, 6:08 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #19 Posted by **Werner** on 28 Sept 2011, 3:04 p.m.,*
in response to message #18 by Olivier De Smet

I did it slightly differently, with about the same timings:
41C 34 bytes, 5000: 10m 11.56s 78'559'640
Original with explanation (still at 37 byes) here

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #20 Posted by **Olivier De Smet** on 28 Sept 2011, 3:25 p.m.,*
in response to message #18 by Olivier De Smet

A better one for 42S (shorter loop)

```
01 >LBL "X"
02  STO 00
03  STO+ 00
04  STO 01
05  2
06  SQRT
07  ÷
08  IP
09  LASTX
10  FP
11  X!=0?
12  SIGN
13  +
14  X^2
15  X<> 01
16  RCL- ST L
17  0
18 >LBL 00
19  RCL 00
20  RCL- ST Z
21  RCL× ST Z
22  SQRT
```

```
23  IP
24  LASTX
25  FRAC
26  X!=00?
27  SIGN
28  +
29  DSE ST Y
30  GTO 00
31  RCL+ ST X
32  RCL+ 01
33  4
34  ×
35  END
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #21 Posted by **Wes Loewer** on 26 Sept 2011, 8:23 a.m.,*
in response to message #10 by C.Ret

I haven't written a program for the 41 since 1987 when I got my 28C, but I can't pass up a good contest. I dusted off my calculator and manual and here's what I came up with:

```
01 LBL"PC   Program Contest
02 RDN      drop center values
03 RDN
04 STO 00   radius -> 00
04 STO 01   loop index -> 01
06 X^2
07 STO 02   r^2 -> 02 for faster loop
08 0        sum on stack
09 LBL 00
10 RCL 02   r^2
11 RCL 01   r^2, i+1
12 1        r^2, i+1, 1
13 -        r^2, i
14 X^2      r^2, i^2
15 -        r^2-i^2
16 SQRT     sqrt(r^2-i^2)
17 INT      17-24 is my CEIL function
18 LASTX
19 FRC
20 CHS
21 SIGN
22 X>0?
23 CLX
24 -        end of CEIL function
25 +        add to running total
26 DSE 01
27 GTO 00
28 4        times 4 quadrants
29 *
30 END
```

(Surely there's a better way to do the CEILING function. ???)

This program would have been even more interesting if we did not assume that the circle fit on the display panel. Also, about the idea of only counting pixels that are at least 50% covered, is there an easy way to do that without integrals?

-Wes L

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #22 Posted by **Dieter** on 26 Sept 2011, 10:34 a.m.,*
in response to message #21 by Wes Loewer

> Quote:
>
> (Surely there's a better way to do the CEILING function. ???)

At least there's another option (as well as that using SIGN mentioned in other posts). ;-)
The '41 features a MOD function, so a true CEIL function can be setup like this:

```
ENTER
ENTER
-1
MOD
-
```

That -1 may be stored somewhere beforehand to increase execution speed.

Once again, tricks like these are not required on the 35s since it features an INTG function (equivalent to FLOOR elsewhere):

CEIL(x) = -INTG(-x).

```
+/-
INTG
+/-
```

In our case, instead of adding CEIL(x) we can simply subtract INTG(-x):

```
...
+/-
INTG
-
...
```

Dieter

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #23 Posted by **Gilles Carpentier** on 28 Sept 2011, 5:37 p.m.,*
in response to message #10 by C.Ret

Another RPL solution :

```
« DROP2 -> r '4*Sum(n=0,r-1,CEIL(Sqrt(1-(n/r)^2)*r))' »
```

DROP2 is just to ignore x and y. Sum and Sqrt are the special symbols for

Very simple but takes ~ 75s. for 5000 radius in aprox mode

Edited: 28 Sept 2011, 5:49 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #24 Posted by **C.Ret** on 29 Sept 2011, 5:31 p.m.,*
in response to message #23 by Gilles Carpentier

Salut Gilles,

A better solution :

```
« DROP2 -> r
   « r 2 SQRT / CEIL -> p '4*Sum(k=p,r-1,p*p+2*CEIL(Sqrt(1-(k/r)^2)*r))'
    »
»
```

This version spare execution time for large radious r. For explanations see posts HHC 2011 Programming Pulzze - Spoiler -

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #25 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 8:35 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> - I couldn't identify an explicit formula for the result. Such a formula will almost certainly be fastest.

I've found this approximation empirically from my results:

```
n ~ r*(pi*r + 4)
```

Gerson.

Edited: 26 Sept 2011, 8:37 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #26 Posted by **Paul Dale** on 26 Sept 2011, 5:03 p.m.,*
in response to message #25 by Gerson W. Barbosa

I also figured out a couple of approximations but they aren't good enough :-(

On the 34S using integrate results in a very fast and approximate answer:

```
001  [cmplx]DROP
002  x^2
003  STO 00
004  0
005  RCL L
006  [integrate] 00
007  4
008  *
009  RTN
010  LBL 00
011  x^2
012  RCL- 00
013  +/-
014  [sqrt]
015  CEIL
```

An equivalent program on the 15C LE caused the integrator to run for ages -- I gave up after quite a few minutes.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #27 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 8:22 a.m.,*
in response to message #1 by Paul Dale

Here's mine. I hope there are no other HP-12C program so I can win in the fastest HP-12C program category :-)

Cheers,

Gerson.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #28 Posted by **Olivier De Smet** on 26 Sept 2011, 12:30 p.m.,*
in response to message #27 by Gerson W. Barbosa

40 bytes for Hp 42S (or HP 41) and 2 registers, rouding ok

```
01 * LBL "Z"
02   RCL ST Z
03   STO 00
04   STO 01
05   STOx 01
06   DSE 00
07   GTO 00            ***
08   GTO 01            ***
09  *LBL 00
10   RCL 01
11   RCL 00
12   X^2
13   -
14   SQRT
15   INT
16   LAST X
17   FRC
18   X#0?                 new rounding
19   SIGN
20   +
21   +
22   DSE 00
23   GTO 00
24  *LBL 01            ***
25   4
26   x
27   END
```

Steps with *** can be removed for r > 1

Less register for 42 bytes, HP 42 or 41, rounding ok

```
01 * LBL "Z"
02   RCL ST Z
03   ENTER
04   ENTER
05   STO 00
06   STOx 00
07   DSE ST Y
08   GTO 00    ***
09   GTO 01    ***
10  *LBL 00
11   RCL 00
12   RCL ST Z
13   X^2
14   -
15   SQRT
16   INT
```

```
17   LAST X
18   FRC
19   X#0?                new rounding
20   SIGN
21   +
22   +
23   DSE ST Y
24   GTO 00
25  *LBL 01    ***
26   4
27   x
28   END
```

Only stack !!! only for HP 42 and 44 bytes (if we count a reg as 7 bytes it's a winner: now the rounding is correct :))

```
01 * LBL "Z"
02   Rv
03   Rv
04   ENTER
05   ENTER
06   ENTER
07   STOx ST Z
08   DSE ST Y
09   GTO 00    ***
10   GTO 01    ***
11  *LBL 00
12   RCL ST Y
13   RCLx ST Z
14   RCL- ST T
15   +/-
16   SQRT
17   +
18   IP
19   LAST X
20   FP
21   X#0?                new rounding
22   SIGN
23   +
24   DSE ST Y
25   GTO 00
26  *LBL 01    ***
27   4
28   x
29   END
```

(FIX 00 RND doesn't work :(need to work a bit more harder. But I have no stack left ... see later)

Rounding for the 2 first programs is ok now :)

And for the third also :)

Olivier

Edited: 26 Sept 2011, 3:21 p.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #29 Posted by **Dieter** on 26 Sept 2011, 2:21 p.m.,*
in response to message #28 by Olivier De Smet

The first two versions will not work correctly. The CEIL function here was implemented by adding 0,5 and rounding to the next integer. This is basically the same as a simple 1 + INT. That's why the routine causes as error if the argument of the CEIL function is an integer. For instance, for r = 5 there are two points where the sqrt is exactly 3 resp. 4. At that point adding 0,5 will cause the value to get rounded up to 4 resp. 5 (instead of leaving it at 3 resp. 4). So the returned result is not 88 (correct), but 96 instead.

Dieter

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #30 Posted by **Olivier De Smet** on 26 Sept 2011, 3:21 p.m.,*
in response to message #29 by Dieter

You were right, I see the bug just after posting.

The correction is now done for the three programs :)

Olivier

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #31 Posted by **Dieter** on 27 Sept 2011, 8:02 a.m.,*
in response to message #28 by Olivier De Smet

The basic approach is similar to my suggestion for the '41, so both can be improved this way: Instead of starting the loop with x = r - 1 (which is done by the first DSE) let's begin with x = r. This will not change the result since the first loop will add sqrt(r^2 - r^2), i.e. a plain zero. But it can handle the case r = 1 without any additional code, thus saving four steps, while on the other hand one more loop has no perceivable effect on execution time. It even handles r = 0 correctly. ;-)

Here are two versions of this algorithm. It's very basic and for sure not optimized for speed, but I like it for its compact code and readability. Especially the 35s version. ;-)

```
  HP-41/42                    HP35s

01 LBL "HHC"                H001 LBL H
02 STO 00                   H002 STO R
03 x^2                      H003 STOx R
04 STO Z (42s: STO ST Z)    H004 STO X
05 LastX                    H005 RCL R
06 LBL 01                   H006 RCL X
07 R^                       H007 x^2
08 RCL 00                   H008 -
09 x^2                      H009 sqrt
10 -                        H010 +/-
11 SQRT                     H011 INTG
12 ENTER^                   H012 -
13 FRC                      H013 DSE X
14 X#0?                     H014 GTO H005
15 SIGN                     H015 4
16 +                        H016 x
17 INT                      H017 RTN
18 +
19 DSE 00
20 GTO 01
21 4
22 *
23 END
```

R is assumed in to be entered X. Add 2x RDN if you want to do it according to the original rules.

Dieter

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #32 Posted by **Gerson W. Barbosa** on 27 Sept 2011, 9:37 p.m.,*
in response to message #28 by Olivier De Smet

Here's the second version of my 12C program. No attempt to optimize it for least numbered registers usage has been made. Actually, I should be doing my homework instead :-)

```
-----------------------------------------------


Keystrokes      |Display       |
[f][P/R]        |              |
[f]CLEAR[PRGM]  |00-           |
[ENTER]         |01-        36 |
[STO]0          |02-    44   0 |
[ENTER]         |03-        36 |
[ENTER]         |04-        36 |
[x]             |05-        20 |
[STO]1          |06-    44   1 |
[CLx]           |07-        35 |
[STO]2          |08-    44   2 |
[RDN]           |09-        33 |
2               |10-         2 |
[g][SQRT]       |11-    43  21 |
[/]             |12-        10 |
[-]             |13-        30 |
[g][INTG]       |14-    43  25 |
[-]             |15-        30 |
[STO]4          |16-    44   4 |
[x<>y]          |17-        34 |
[STO]3          |18-    44   3 |
[g][x<=y]       |19-    43  34 |
[g][GTO]36      |20- 43,33  36 |
1               |21-         1 |
[STO][-]3       |22- 44 30   3 |
[RCL]0          |23-    45   0 |
[RCL]1          |24-    45   1 |
[RCL]3          |25-    45   3 |
[ENTER]         |26-        36 |
[x]             |27-        20 |
[-]             |28-        30 |
[g][SQRT]       |29-    43  21 |
[-]             |30-        30 |
```

```
[g][INTG]       |31-    43  25 |
[STO][-]2       |32- 44 30   2 |
[RCL]4          |33-    45   4 |
[RCL]3          |34-    45   3 |
[g][GTO]19      |35- 43,33  19 |
[RCL]2          |36-    45   2 |
[ENTER]         |37-         36 |
[+]             |38-         40 |
[RCL]1          |39-    45   1 |
[+]             |40-         40 |
[RCL]4          |41-    45   4 |
[RCL]0          |42-    45   0 |
[-]             |43-         30 |
[ENTER]         |44-         36 |
[x]             |45-         20 |
[+]             |46-         40 |
4               |47-          4 |
[x]             |48-         20 |
[g][GTO]00      |49- 43,33  00 |
[f][P/R]        |               |


     1 R/S ->           4       (   -   )
     5 R/S ->          88       (   -   )
   540 R/S ->     918,168       (  3.1 s)
  5000 R/S ->  78,559,640       ( 25.5 s)


(timings on the 12C+, firmware date 2008-06-28)


------------------------------------------------


 5 CLS
10 INPUT R
15 R2 = R * R
20 L = R - INT(R * (1 - 1 / SQR(2)))
30 I = R: S = 0
35 IF I <= L THEN 70
40   I = I - 1
50   S = S - INT(R - SQR(R2 - I * I))
60 GOTO 35
70 N = 4 * ((L - R) ^ 2 + R * R + 2 * S)
80 PRINT R, N
90 GOTO 10


------------------------------------------------
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #33 Posted by **Gerson W. Barbosa** on 29 Sept 2011, 12:29 a.m.,*
in response to message #32 by Gerson W. Barbosa

HP-41CX, HP-42S and wp-34s versions

```
------------------------------------------------------------


HP-41CX:


01>LBL'CR
02 STO 00
03 ENTER^
04 ENTER^
05 ENTER^
06 2
07 SQRT
08 /
09 -
10 INT
11 STO 01
12 STO 02
13 CLX
14 STO 03
15 CLX
16 RCL Y
17 *
18>LBL 00
19 DSE 00
20 RCL X
21 RCL 00
22 X^2
23 -
24 SQRT
25 RCL Z
26 -
27 IP
28 STO+ 03
29 RDN
30 DSE 01
```

```
31 GTO 00
32 RCL 03
33 STO+ X
34 +
35 RCL 02
36 X^2
37 +
38 4
39 *
40 .END.


     1 XEQ CR ->           4       (         1.7 s )
     5    R/S ->          88       (         1.9 s )
   540    R/S ->     918,168       (  1 min 18.7 s )
  5000    R/S ->  78,559,640       ( 12 min 12.1 s )


------------------------------------------------------------


HP-42S:


00 { 57-Byte Prgm }
01>LBL "CR"
02 STO 00
03 ENTER
04 ENTER
05 ENTER
06 2
07 SQRT
08 ÷
09 -
10 IP
11 STO 01
12 STO 02
13 CLX
14 STO 03
15 RCL+ ST Y
16 ×
17>LBL 00
18 DSE 00
19 RCL 00
20 X^2
21 RCL- ST Y
22 +/-
23 SQRT
24 RCL- ST Z
25 IP
26 STO+ 03
27 Rv
28 DSE 01
29 GTO 00
30 RCL 03
31 STO+ ST X
32 +
33 RCL 02
34 X^2
35 +
36 4
37 ×
38 X<0?
39 +/-
40 .END.


     1 XEQ CR ->           4       (         1.0 s )
     5    R/S ->          88       (         1.1 s )
   540    R/S ->     918,168       (        45.6 s )
  5000    R/S ->  78,559,640       (  6 min 58.3 s )


------------------------------------------------------------


wp-34s:


001 LBL C
002 STO 00
003 FILL
004 2
005 SQRT
006 /
007 -
008 IP
009 STO 01
010 STO 02
011 CLx
012 STO 03
013 RCL+ Y
014 ×
015 DEC 00
016 RCL 00
017 x^2
018 RCL- Y
```

```
019 +/-
020 SQRT
021 RCL- ST Z
022 IP
023 STO+ 03
024 Rv
025 DSE 01
026 BACK 11
027 RCL 03
028 STO+ X
029 +
030 RCL 02
031 x^2
032 +
033 4
034 ×
035 RTN


     1 XEQ C  ->           4       (  -    )
     5    R/S ->          88       (  -    )
   540    R/S ->     918,168       ( 1.2 s )
  5000    R/S ->  78,559,640       ( 8.7 s )
-------------------------------------------------------------
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #34 Posted by **Reth** on 29 Sept 2011, 2:01 a.m.,*
in response to message #33 by Gerson W. Barbosa

42S on iPhone 3.1.3 brings:

```
5000 -> 78,559,640 -> 0.5 sec
```

;)

Edited: 29 Sept 2011, 2:03 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #35 Posted by **Werner** on 29 Sept 2011, 7:38 a.m.,*
in response to message #33 by Gerson W. Barbosa

```
41C 37 bytes
 r= 100     8.75s     31'796
 r=5000 6m 58.66s 78'559'640


*LBL"PX"
 RDN
 RDN
 STO 01
 CLST
*LBL 02          X       Y       Z       T
 INT             n       x       s
 ST+ Z
 SIGN
 +               x       s
 RCL 01
 ST+ X           2r      x       s
 RCL Y           x       2r      x       s
 -
 LASTX
 *
 SQRT
 CHS
 RCL 01
 +
 X>Y?            can never be equal
 GTO 02
 SIGN            1       x       s       s
 -               x-1     s       s       s
 X^2             x-1^2
 -
 +               2*s-(x-1)^2
 RCL 01
 X^2
 -
 -4
 *
 END


I move the center of the circle to (r,r) and consider only the quadrant where x,y <= r.
Then a pixel (x,y) is *dark* when it is below the arc, or:


    y <= r - sqrt(x*(2*r-x))
```

```
The number of dark pixels below the arc for a given x is:

    n(x) = INT(r - sqrt(x*(2*r-x)))

And I'm finally rid of that pesky CEIL ;-)
I determine s = sum of all n(x) till n<x, then the total number of dark pixels in the quadrant is:

    2*s - (x-1)^2
```

Well Gene, that was a good one. Endless fun.
Cheers, Werner

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #36 Posted by **Olivier De Smet** on 29 Sept 2011, 4:21 p.m.,*
in response to message #35 by Werner

Very nice idea to count the non lit pixels ...

PS: Werner, you have a strange 41C, timing your program on my 41CX give me 13.6 sec for 100, 1min10 for 540 and 10min52 for 5000 ??

Some variation

HP41

```
{54 BYTES}
01>LBL'V
02 STO 00
03 STO 01
04 ST+ 01
05 RCL 00
06 2
07 SQRT
08 /
09 -
10 INT                  add after 10: X=0?
11 RCL 00                             SF 00
12 X^2
13 RCL Y
14 X^2
15 +
16 2
17 /                    add after 17: FS?C 00
18>LBL 00                             GTO 01
19 RCL 01
20 RCL Z
21 -
22 LASTX
23 *
24 SQRT
25 RCL 00
26 -
27 INT
28 +
29 DSE Y
30 GTO 00             add after 30: LBL 01
31 8                  to have a good result for R=1,2,3
32 *
33 END
```

a bit faster : 540 in 1min02, 5000 in 9min26

For HP42, not timed but the inner loop is shorter :)

```
00 {47 BYTES}
01>LBL'V
02 STO 00
03 ST+ ST X
04 RCL 00
05 RCL 00
06 2
07 SQRT
08 /
09 -
10 INT
11 RCL 00
12 X^2
13 RCL Y
14 X^2
15 +
16 2
17 /
```

```
18>LBL 00
19 RCL ST Z
20 RCL- ST Z
21 RCL* ST Z
22 SQRT
23 RCL- 00
24 INT
25 +
26 DSE ST Y
27 GTO 00
28 8
29 *
30 END
```

apply the same correction to get good result for R=1,2,3

Edited: 29 Sept 2011, 4:49 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #37 Posted by **Werner** on 1 Oct 2011, 2:15 p.m.,*
in response to message #36 by Olivier De Smet

My CV died a few years ago, so I rely on the excellent simulator found on TOS. I had no idea the timings were off, though.

Cheers, Werner

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #38 Posted by **Egan Ford** on 29 Sept 2011, 8:03 p.m.,*
in response to message #33 by Gerson W. Barbosa

Quote:

```
wp-34s:


001 LBL C
002 STO 00
003 FILL
004 2
005 SQRT
006 /
007 -
008 IP
009 STO 01
010 STO 02
011 CLx
012 STO 03
013 RCL+ Y
014 ×
015 DEC 00
016 RCL 00
017 x^2
018 RCL- Y
019 +/-
020 SQRT
021 RCL- ST Z
022 IP
023 STO+ 03
024 Rv
025 DSE 01
026 BACK 11
027 RCL 03
028 STO+ X
029 +
030 RCL 02
031 x^2
032 +
033 4
034 ×
035 RTN


     1 XEQ C  ->           4       (  -    )
     5    R/S ->          88       (  -    )
   540    R/S ->     918,168       ( 1.2 s )
  5000    R/S ->  78,559,640       ( 8.7 s )
-------------------------------------------------------------
```

Same idea, but less steps, and all stack (and I think a bit faster):

```
001 RCL Z
002 FILL
```

```
003 STO+ Z
004 2
005 SQRT
006 /
007 CEIL
008 STO Z
009 STOx Z
010 -
011 RCL T
012 RCL- Y
013 RCLx Y
014 SQRT
015 CEIL
016 STO+ Z
017 STO+ Z
018 DROP
019 DSE X
020 BACK 09
021 4
022 RCLx Z
```

Instead of using y=sqrt(r^2-x^2), I moved the center of the circle to 0,r and used y=sqrt(x*(2r-x)). This made it easier to use DSE to catch the edge between the y-axis and the r/sqrt(2) square. I have not read all the other solutions, so this may have been covered.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #39 Posted by **Gerson W. Barbosa** on 29 Sept 2011, 9:26 p.m.,*
in response to message #38 by Egan Ford

> Quote:
>
> Same idea, but less steps, and all stack (and I think a bit faster)

Very nice! It's a bit faster indeed:

```
  540    R/S ->     918,168       (* 1.1 s )
 5000    R/S ->  78,559,640       (* 8.2 s )
```

(*) with a chronometer

Or, using the built-in TICKS command, 8 and 71 ticks, respectively, which multiplied by my unit's correction factor 1/9 gives 0.9 s and 7.9 s. Mine takes 8 and 75 ticks, respectively. A built-in quartz would be handy.

```
001 LBL A
002 TICKS
003 STO 00
004 x<>y
005 XEQ C (your program)
006 TICKS
007 RCL- 00
008 x<>y
009 RTN
```

> Quote:
>
> I have not read all the other solutions,

Same here, except for Werner's solution, from which I borrowed the idea of checking r*(1 - 1/sqrt(2)) columns instead of r/sqrt(2). I wrote my first draft as soon as I saw Gene's post and stuck to my first idea. I've computed the dark pixels too, so I never needed the CEIL function.

Gerson.

Edited: 29 Sept 2011, 9:30 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #40 Posted by **Paul Dale** on 29 Sept 2011, 9:36 p.m.,*
in response to message #39 by Gerson W. Barbosa

> Quote:
>
> Or, using the built-in TICKS command, 8 and 71 ticks, respectively, which multiplied by my unit's correction factor 1/9 gives 0.9 s and 7.9 s

On a crystal unit, it would be 7.1 s.

TICKS remains constant regardless of the correction factor. The time, however, doesn't unless a crystal is installed.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #41 Posted by **Egan Ford** on 29 Sept 2011, 9:43 p.m.,*
in response to message #40 by Paul Dale

I tried to create a BASE 10 version, but got some errors, perhaps it is the SQRT bug you mentioned. Perhaps you can give it a try. It should run in about 1s.

Edited: 29 Sept 2011, 9:44 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #42 Posted by **Paul Dale** on 29 Sept 2011, 10:37 p.m.,*
in response to message #41 by Egan Ford

I've not reflashed my 34S for ages so it still has the sqrt bug.

The bug, when it occurs, gives a result 1 too high and only when carry is set. So a sequence that checks carry and if it is set squares the number and compares against the original...

Or reflash with the latest from the sourceforge site and get a working integer SQRT.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #43 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 9:33 a.m.,*
in response to message #40 by Paul Dale

> Quote:
>
> TICKS remains constant regardless of the correction factor. The time, however, doesn't unless a crystal is installed.

RTFS (Read The Fine Sources): In a non crystal equipped calculator, the PLL runs at a higher multiplication factor and the interrupts are scaled up slightly to compensate for a slower R/C clock:

```
if ( Xtal ) {
        /*
         *  Schedule the next one so that there are 50 calls in 5 seconds
         *  We need to skip 3 ticks in 128 cycles
         */
        if ( Heartbeats ==  40 || Heartbeats ==  81 || Heartbeats == 122 ) {
                UserHeartbeatCountDown = 6;
        }
        else {
                UserHeartbeatCountDown = 5;
        }
}
else {
        /*
         *  Without a crystal a less accurate timing is good enough
         */
        UserHeartbeatCountDown = Heartbeats & 1 ? 4 : 5;
}
```

The code is executed from the LCD refresh interrupt occurring every 640 slow clock cycles (roughly 50 Hz). TICKS are counted when the UserHeartbeatCountDown value reaches zero. In a R/C environment, the frequency is assumed to be about 15% slower.

Why all this? The slow clock outputs a 32KHz nominal clock but the rate is typically 15 to 20% less then that without the crystal. The PLL multiplies this value to derive the processor clock. I use higher values for the PLL when no crystal is installed. The periodic interrupt is not controlled by the PLL but directly by the 32KHz oscillator through the LCD controller and needs a separate correction algorithm.

In short: The TICKS results should be similar with or without a crystal but they typically don't exactly match. Also the resulting execution speed should be roughly the same between devices with or without the crystal.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #44 Posted by **Egan Ford** on 29 Sept 2011, 9:39 p.m.,*
in response to message #39 by Gerson W. Barbosa

> Quote:
>
> ... dark pixels ...

Sounds ominous. :-) Kinda like dark matter--you cannot see it, but you can measure it, or so it is argued.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #45 Posted by **Gerson W. Barbosa** on 2 Oct 2011, 10:17 p.m.,*
in response to message #38 by Egan Ford

This is my third (and last) attempt. More steps, one register and slightly slower than yours. Center of the circle at (0,r) and y=sqrt[(r+(r+x))*(r-(r-x))], with no simplication.

```
001 LBL C
002 FILL
003 2
004 SQRT
005 /
006 CEIL
007 STO 00
008 -
009 0
010 Rv
011 Rv
012 RCL- T
013 RCL+ Y
014 RCL* T
015 SQRT
016 CEIL
017 STO+ Z
018 DROP
019 ENTER
020 DSE T
021 BACK 09
022 RCL 00
023 x^2
024 R^
025 STO+ X
026 +
027 4
028 *
029 RTN


    1 XEQ C  ->           4       (   -    )
    5    R/S ->          88       (   -    )
  540    R/S ->     918,168       ( 1.1 s *)
 5000    R/S ->  78,559,640       ( 8.3 s *)

(*) Or, using TICKS, 0.9 s and 8.0 seconds (8 and 72 TICKS respectively)
```

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #46 Posted by **Gerson W. Barbosa** on 3 Oct 2011, 12:58 a.m.,*
in response to message #45 by Gerson W. Barbosa

> Quote:
>
> my third (and last) attempt

Next to last, I mean :-)

Nothing but the stack. Well, it looks like Egan's, only somewhat less efficient. Currently I cannot experiment with CLx (which perhaps could be useful inside the loop) because it does not disable stack lift (outdated firmware here).

```
001 LBL C
002 FILL
003 2
004 SQRT
005 /
006 CEIL
007 -
008 RCL L
009 x^2
010 Rv
011 Rv
012 RCL- T
013 RCL+ Y
014 RCL* T
015 SQRT
016 CEIL
017 STO+ X
018 STO+ Z
019 DROP
020 ENTER
021 DSE T
022 BACK 10
023 RCL Z
024 4
025 *
026 RTN

8 and 73 TICKS for r=540 and r=5000, respectively.
```

Thanks, Egan, for the free RPN programming lesson!

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #47 Posted by **Gerson W. Barbosa** on 3 Oct 2011, 2:25 a.m.,*
in response to message #46 by Gerson W. Barbosa

> Quote:
>
> Next to last, I mean :-)

Antepenultimate attempt, that was!

A little trick to save a sum inside the loop (steps 10, 11, then final multiplication by 8 instead of 4). It's possible this has already been used, however.

```
001 LBL C
002 FILL
003 2
004 SQRT
005 /
006 CEIL
007 -
008 RCL L
009 x^2
010 2
011 /
012 Rv
013 Rv
014 RCL- T
015 RCL+ Y
016 RCL* T
017 SQRT
018 CEIL
019 STO+ Z
020 DROP
021 ENTER
022 DSE T
023 BACK 09
024 8
025 RCL* T
026 RTN

Now 8 and 72 TICKS for r=540 and r=5000, respectively.
```

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #48 Posted by **Olivier De Smet** on 4 Oct 2011, 2:50 a.m.,*
in response to message #47 by Gerson W. Barbosa

Stack only but for a real HP made by HP (software too) ;)

```
00 {48 BYTES}
01>LBL'Y
02 RCL ST X
03 RCL ST X
04 2
05 SQRT
06 /
07 -
08 IP
     X=0?
     SF 00
09 ENTER
10 X^2
11 R^
12 X^2
13 +
14 2
15 /
     FS?C 00
     GTO 01
16>LBL 00
17 RCL ST Z
18 RCL+ ST T
19 RCL- ST Z
20 RCL* ST Z
21 SQRT
22 RCL- ST T
23 IP
24 +
25 DSE ST Y
26 GTO 00
     LBL 01
27 8
28 *
29 END
```

non working for R=1,2,3 correction in steps not numbered (add some step, but don't slow the inner loop)

The trick was not to use CEIL but INT (see other posts, counting 'black' dots)

Edited: 4 Oct 2011, 2:58 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #49 Posted by **Werner** on 4 Oct 2011, 3:42 a.m.,*
in response to message #48 by Olivier De Smet

some remarks:

1.replace

```
 RCL ST X
 RCL ST X
```

by

```
 ENTER
 STO ST Z
```

saving a byte

2.you need a CF 00 instruction at the beginning, of course, bringing the byte count to 10 to cater for the exceptions.

3.replace

```
 RCL ST Z
 RCL+ ST T
```

with (shorter by one byte):

```
 RCL ST Z
 STO+ ST X
```

Here's my 41C version, with only 8 bytes overhead (but a bit more stack handling as the 41 does not have register recall arithmetic)

```
*LBL"PIXELS"
 ENTER
 STO Z          r       r       r
 2
 SQRT
 /
```

```
 -
 INT             x       r       r       r
 ENTER
 X^2
 RUP
 X^2
 +
 2
 /               s       x       r       r
 X<>Y            x       s       r       r
 X=0?
 GTO 00
 STO T
 RDN
         L       X       Y       Z       T
*LBL 02          s       r       x
 RCL Y           r       s       r       x
 ST+ X           2r      s       r       x
 RUP             x       2r      s       r
 ST- Y           x       2r-x    s       r
 ST* Y           x       x(2r-x) s       r
 X<>Y            x(2r-x) x       s       r
 SQRT
 RUP
 ST- Y           r       -n      x       s
 X<>Y
 INT             [-n]    r       x       s
 RUP
 +
 DSE Z
 GTO 02
 0
*LBL 00
 +
 8
 *
 END
```

Cheers, Werner

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #50 Posted by **Olivier De Smet** on 4 Oct 2011, 8:08 a.m.,*
in response to message #49 by Werner

Thanks for the optimization, but no need for CF 00, you start the program in a default state (see the puzzle post) so it's useless ;)

Olivier

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #51 Posted by **Gerson W. Barbosa** on 4 Oct 2011, 1:10 p.m.,*
in response to message #48 by Olivier De Smet

RPL stack only (HP-50g):

```
%%HP: T(3)A(D)F(,);
\<< DUP DUP 2, \v/ / CEIL - DUP2 - SQ 2, / UNROT
  WHILE DUP
  REPEAT DUP2 - PICK3 SWAP + LASTARG - * \v/ CEIL 4, ROLL + UNROT 1, -
  END DROP2 8, *
\>>


22.76 seconds, for r=5000 (timed with TEVAL)
```

It uses the same formula in my *last* wp34s program above, probably not the best one in this case, both speedwise and sizewise.

> Quote:
>
> non working for R=1,2,3 correction in steps not numbered (add some step, but don't slow the inner loop)

In order to fix the same problem in the first version of the RPL program above, I simply moved the test to the beginning of the loop, by replacing DO UNTIL with WHILE REPEAT.

"Endless fun", as Werner already said.

Gerson.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #52 Posted by **Jeff O.** on 5 Oct 2011, 1:16 p.m.,*
in response to message #51 by Gerson W. Barbosa

I have been fooling around with the challenge since Sept. 25. I think I have reached the point of diminishing returns, or at least should stop spending time on it. So I'll present some results, maybe that will stop the obsessive tweaking.

Using the inscribed square reduction depicted here (which I did develop on my own on Sept. 26 before looking at any of the solutions), the following listing is about the best I can come up with for wp34s. It returns 78,528,204 for a radius of 4999 in about 8.20 seconds.

```
001     LBL B
002     RCL Z           Recall stack Z, since radius is there per rules
003     ENTER           Get another copy of the radius on the stack
004     STO 08          Store radius for future use
005     STO + 08        double the stored value of the radius for future use
006     x^2             square the radius
007     2               enter 2 to compute area of square inscribed in a quarter
circle
008     /               divide 2 into radius squared to determine area of square
inscribed in quarter circle
009     SQRT            take square root to determine side length of square
inscribed in quarter circle
010     CEIL            go up to next whole pixel
011     STO 06          store side length in register that will accumulate area
012     STO x 06        multiply side length by stored side length to compute
area of inscribed square in whole pixels
013     -               subtract size of square from radius to determine how
many remaining columns must be summed
014     STO I           store in register I for looping to compute height of
remaining columns
015     RCL 8           Recall twice the radius
016     RCL - I         Recall index and subtract from twice the radius
017     RCL x I         Recall I, multiply times above to form 2xRadiusxIndex-
Index^2
018     SQRT            square root to compute square root of 2xRadiusxIndex-
Index^2
019     CEIL            compute height of row in full pixels if any part is
touched by a circle of the given radius
020     STO + 06        add to summation of area
021     STO + 06        add again for area of upper wedge
022     DSE I           decrement index, skip when less than zero
023     BACK 8          loop back if more columns
024     4               enter 4
025     RCL x 06        multiply times 4 to compute the area of the full circle
in whole
                        pixels if any part of a pixel is within the circle of
the given radius
026     STOP            done
```

Summing the area in the stack appears to be a popular option, so I created the listing below. It is one step longer, and also seems to run ever-so-slightly slower, returning the result for 4999 in about 8.35 seconds.

```
001     LBL B
002     RCL Z           Recall stack Z, since radius is there per rules
003     ENTER           Get another copy of the radius on the stack
004     STO 08          Store radius for future use
005     STO + 08        double the stored value of the radius for future use
006     x^2             square the radius
007     2               enter 2 to compute area of inscribed square
008     /               divide 2 into radius squared to determine area of square
inscribed in quarter circle
009     SQRT            take square root to determine side length of square
inscribed in quarter circle
010     CEIL            go up to next whole pixel
011     x^2             square side length to compute area of inscribed square in
whole pixels
012     x<>y            swap to get radius
013     RCL - L         subtract size of square from radius to determine how
many remaining columns must be summed
014     STO I           store in register I for looping to compute height of
remaining columns
015     x<>y            swap to get area of square to stack X for area sum start
016     RCL 8           Recall twice the radius
017     RCL - I         Recall index and subtract from twice the radius, forms
2xRadius-Index
018     RCL x I         Recall I, multiply times above to form 2xRadiusxIndex-
Index^2
019     SQRT            square root to compute square root of 2xRadiusxIndex-
Index^2
020     CEIL            compute height of row in full pixels if any part is
touched by a circle of the given radius
021     +               add to summation of column heights
022     RCL + L         add again for area of upper wedge
023     DSE I           decrement index, skip when less than zero
024     BACK 08         loop back if more columns
```

```
025     4               enter 4
026     x               multiply times 4 to compute the area of the full circle
in whole
                        pixels if any part of a pixel is within the circle of
the given radius
027     STOP            done
```

Observations - I don't claim the above to be the best possible, just likely the best I can do with reasonable effort.

I have of course also worked on versions for the 15c LE, the latest of which returns the answer for 4999 in about 19 seconds. I may have to keep working on that one...

...

Edited: 6 Oct 2011, 8:42 a.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #53 Posted by **Egan Ford** on 5 Oct 2011, 3:05 p.m.,*
in response to message #52 by Jeff O.

I posted this a while back, but it has be archived:

```
001 RCL Z
002 FILL
003 STO+ Z
004 2
005 SQRT
006 /
007 CEIL
008 STO Z
009 STOx Z
010 -
011 RCL T
012 RCL- Y
013 RCLx Y
014 SQRT
015 CEIL
016 STO+ Z
017 STO+ Z
018 DROP
019 DSE X
020 BACK 09
021 4
022 RCLx Z
```

Gerson has been building on it and timing it, but I think it runs in less than 8 s for r=5000. To make the programing smaller and to also deal with small r I moved the circle origin to r,0 and then used y=sqrt(x*(2r-x)). That with a bit of gym*stack*tics help reduce the number of instructions and the use of x^2. I would like to get it down to 1 sec with the use of integer mode, however my firmware still has the isqrt bug and I cannot flash (tried 3 different machines and 3 different OSes) until I get a machine with a real serial port.

Edited: 7 Oct 2011, 10:12 a.m.: Changed 0,r to r,0 in description

Edited: 7 Oct 2011, 10:12 a.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #54 Posted by **Jeff O.** on 5 Oct 2011, 9:21 p.m.,*
in response to message #53 by Egan Ford

> Quote:
>
> I posted this a while back, but it has be archived:

I recall seeing it, but did not study it closely. Not much fun to use somebody else's idea(s) to improve your own program, after all.

> Quote:
>
> Gerson has been building on it and timing it, but I think it runs in less than 8 s for r=5000

I get about 8.2 seconds, which is virtually the same as my versions. Not too surprising, since even though your method is more elegant, it still requires the same number of loops.

> Quote:
>
> I moved the circle origin to 0,r and then used y=sqrt(x*(2r-x)).

Are you sure that you did not move the origin to r,0? Either way, a clever approach.

> Quote:
>
> I would like to get it down to 1 sec with the use of integer mode,

I am running v2.2 1674. In BASE10 integer mode, when I take the square root of a non-perfect square, it returns the square root of the largest perfect square less than the original argument. Is this the behavior you are after? I tried a kludgy modification to your code to use this, and it returns 78,528,204 for a radius of 4999 in about 1.9 seconds. Unfortunately, it also returns the wrong answers for radii that produce perfect squares at certain points in the process, so it needs work. But it is fast!

...

Edited: 6 Oct 2011, 8:55 a.m. after one or more responses were posted

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #55 Posted by **Paul Dale** on 5 Oct 2011, 9:55 p.m.,*
in response to message #54 by Jeff O.

> Quote:
>
> Unfortunately, it also returns the wrong answers for radii that produce perfect squares at certain points in the process, so it needs work. But it is fast!

Try checking the carry flag (C). This is cleared if the square root was of a perfect square and set otherwise -- a very handy feature of integer mode.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #56 Posted by **Jeff O.** on 5 Oct 2011, 10:13 p.m.,*
in response to message #55 by Paul Dale

I figured there must be a feature to make this work. I'll give it a try.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #57 Posted by **Egan Ford** on 6 Oct 2011, 12:04 a.m.,*
in response to message #56 by Jeff O.

Change:

```
SQRT
CEIL
```

to:

```
SQRT
FS? C
INC X
```

Re: HHC 2011 Programming Puzzle SPOILERS, nothing

but stack!
*Message #58 Posted by **Marcus von Cube, Germany** on 6 Oct 2011, 2:17 a.m.,*
in response to message #57 by Egan Ford

I have a useful modification in mind: CEIL in integer mode should add the carry and clear it thereafter. Pauli, any ideas?

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!
*Message #59 Posted by **Paul Dale** on 6 Oct 2011, 2:51 a.m.,*
in response to message #58 by Marcus von Cube, Germany

An interesting idea. CEIL is already defined in integer mode but doesn't do anything very interesting.

I'm not sure CEIL is the right command for this. A pair of *add carry* and *subtract carry* instructions would be more general and meaningful I think.

We'd really do best by having *add with carry* and *subtract with borrow* instructions.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!
*Message #60 Posted by **Marcus von Cube, Germany** on 6 Oct 2011, 3:37 a.m.,*
in response to message #59 by Paul Dale

My idea was to make CEIL behaving similarly in DECM and integer modes. If all functions that would normally return a non integer result (such as 1 ENTER 2 /) set the carry, CEIL would be working the same in both environments.

ADC and SBB seem natural for integer mode. I will have to learn ARM assembly to port this stuff to native ARM code.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!
*Message #61 Posted by **Paul Dale** on 6 Oct 2011, 3:46 a.m.,*
in response to message #60 by Marcus von Cube, Germany

> Quote:
>
> My idea was to make CEIL behaving similarly in DECM and integer modes. If all functions that would normally return a non integer result (such as 1 ENTER 2 /) set the carry, CEIL would be working the same in both environments.

I believe most operations that can return a fractional result do set carry appropriately. If any don't (and the 16C did), please let me know.

The problem here is that there are plenty of other ways to set it. Addition and subtraction set it for overflow & borrow and shifts and rotates set it as well.

As things stand CEIL does work the same in both integer and floating point modes -- it rounds up to the nearest integer. In

integer mode this means the number doesn't change which is correct.

> Quote:
>
> ADC and SBB seem natural for integer mode. I will have to learn ARM assembly to port this stuff to native ARM code.

Do this and we'll save more than a bit of space in the integer support -- simulating the CPU flags in C is a huge consumer of code space. My ARM assembly is passable but not great.

- Pauli

Edited: 6 Oct 2011, 3:47 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #62 Posted by **Jeff O.** on 6 Oct 2011, 7:45 a.m.,*
in response to message #57 by Egan Ford

Yes, that is what I did for the second use of SQRT. For the first, I think you need to change:

```
2
SQRT
/
CEIL
```

to:

```
RCLx X (or x^2)
2
/
SQRT
INC X
```

Your program, with the above changes, now looks like this:

```
001 BASE 10
002 RCL Z
003 FILL
004 STO+ Z
005 RCLx X
006 2
007 /
008 SQRT
009 INC X
010 STO Z
011 STOx Z
012 -
013 RCL T
014 RCL- Y
015 RCLx Y
016 SQRT
017 FS? C
018 INC X
019 STO+ Z
020 STO+ Z
021 DROP
022 DSE X
023 BACK 10
024 4
025 RCLx Z
026 DECM
```

The above clocks in at right about 2 seconds for 4999.

Edited: 6 Oct 2011, 8:07 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #63 Posted by **Egan Ford** on 6 Oct 2011, 11:28 a.m.,*
in response to message #62 by Jeff O.

If

```
019 STO+ Z
```

is changed to

```
019 SL 1
```

Does it help?

Edited: 6 Oct 2011, 11:28 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #64 Posted by **Jeff O.** on 6 Oct 2011, 12:27 p.m.,*
in response to message #63 by Egan Ford

It is getting hard to say since I am timing things with my running watch, but it seems to get the time for 4999 down to about 1.9 seconds.

...

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #65 Posted by **Paul Dale** on 6 Oct 2011, 5:49 p.m.,*
in response to message #63 by Egan Ford

Shifts are faster than addition or multiplication in integer mode. Dealing with carry and overflow consumes lots of cycles.

The 2 / sequence could be replaced with SR 01 which is shorter and faster.

- Pauli

Edited: 6 Oct 2011, 5:49 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #66 Posted by **Jeff O.** on 7 Oct 2011, 10:07 a.m.,*
in response to message #65 by Paul Dale

Pauli,
Although I would not expect a measurable improvement in execution time in this particular instance (since the 2 / sequence is executed only once), shorter is better so I made the change. But, since the SR 01 function divides by 2 in-situ, it messes with Egan's clever gym*stack*tics, so the program returns incorrect answers if only that change is made. Some other change(s) would have to be made, for example following the SR 01 with ENTER DROP. Of course that takes more steps than are saved by the SR 01 instruction. Probably possible to use SR 01 and save the step, but I will leave that as an exercise for the reader.

...

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #67 Posted by **Egan Ford** on 6 Oct 2011, 12:03 a.m.,*
in response to message #54 by Jeff O.

Quote:

> Are you sure that you did not move the origin to r,0? Either way, a clever approach.

Typo, yes, I moved it to r,0.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #68 Posted by **Gerson W. Barbosa** on 5 Oct 2011, 8:05 p.m.,*
in response to message #52 by Jeff O.

You can use the built-in TICKS command instead of a chronometer. The latter adds about a 200 ms delay, no matter how fast you think you are (most likely your program takes 8 seconds or less for r=5000 as well). For times in seconds, you have to find the correction factor unless your wp34s has a built-in crystal. Or simply compare the number of TICKS returned by program A to determine which program is faster.

```
001 LBL C       001 LBL D
002 FILL        002 FILL
003 STO+ Z      003 STO+ Z
004 2           004 2
005 SQRT        005 SQRT
006 /           006 /
007 CEIL        007 CEIL
008 STO Z       008 STO Z
009 STOx Z      009 STO* Z
010 -           010 -
011 RCL T       011 .
012 RCL- Y      012 5
013 RCLx Y      013 STO* Z
014 SQRT        014 DROP
015 CEIL        015 RCL T
016 STO+ Z      016 RCL- Y
017 STO+ Z      017 RCL* Y
018 DROP        018 SQRT
019 DSE X       019 CEIL
020 BACK 09     020 STO+ Z
021 4           021 DROP
022 RCLx Z      022 DSE X
023 RTN         023 BACK 08
                024 8
                025 RCL* Z
                026 RTN


027 LBL A
028 TICKS
029 STO 10
030 X<>Y
031 XEQ B
032 TICKS
033 RCL- 10
034 RTN


TICKS for 5000 XEQ A


C:   71    (7.9 seconds )
D:   70    (7.8 seconds )


C is Egan Ford's original program, except for the first step, which has been
suppressed.
D is a slightly modified version of his program, no significant gain however.
```

I wasn't able to time your programs because my wp34s lacks DSL (it needs a firmware update).

Gerson.

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #69 Posted by **Paul Dale** on 5 Oct 2011, 8:32 p.m.,*
in response to message #68 by Gerson W. Barbosa

With a crystal installed, taking the difference of two TICKS calls should be fairly accurate.

Without a crystal, the difference of two TICKS calls will still returns the same duration, it just won't necessarily match with real time so well.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS, nothing but stack!

*Message #70 Posted by **Marcus von Cube, Germany** on 6 Oct 2011, 2:20 a.m.,*
in response to message #69 by Paul Dale

> Quote:
>
> Without a crystal, the difference of two TICKS calls will still returns the same duration, it just won't necessarily match with real time so well.

The way it's implemented the two scenarios might differ. I tried to get TICKS right in either environment but the accuracy is dependent on the actual R/C frequency.

Edited: 6 Oct 2011, 2:20 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #71 Posted by **gene wright** on 26 Sept 2011, 9:25 p.m.,*
in response to message #1 by Paul Dale

These are all great, and I thank all of you for your interest in this problem.

I plan to write-up the winning entries from the conference as well as including the entries here. I will need a bit of time to key them in and time them with my sample input values for comparison to the conference results.

For what it is worth, this contest was open to all RPN machines.

I now have a solution running on the HP 67. :-)

It is a bit slow...

And the HP *67* (not 65) gets the correct answer...

*Message #72 Posted by **gene wright** on 26 Sept 2011, 11:12 p.m.,*
in response to message #71 by gene wright

to a radius of 4999 in about 1.4 hours. :-)

78,528,204.

Edited: 27 Sept 2011, 12:28 p.m. after one or more responses were posted

Re: And the HP 65 gets the correct answer...

*Message #73 Posted by **Olivier De Smet** on 27 Sept 2011, 11:41 a.m.,*
in response to message #72 by gene wright

To reduce time, this one can be faster ... (I don't have my 97 at hand)

```
001  STOI      *** I Index register
002  STO0
003  STO1      *** one register
004  STx1      *** one register
005  2
006  SQRT
007  /
008  INT
009  LSTX
010  FRC
011  X#0?
012  ENT^
013  X#0?
014  /
015  +
016  X^2
017  LSTX
018  RCLI      *** I Index register
019  -
020  STOI      *** I Index register
021  Rv        *** R down
022 *LBL0
023  RCL1      *** one register
024  RCL0
025  RCLI      *** I Index register
026  +
```

```
027  X^2
028  -
029  SQRT
030  INT
031  LSTX
032  FRC
033  X#0?
034  ENT^
035  X#0?
036  /
037  +
038  ENT^
039  +
040  +
041  ISZI
042  GTO0
043  4
044  x
```

on a 97 it should be around 50 minutes for 4999

Just timed it it is more like 30 minutes :) (an hp41 is 12 minutes, so it's not too bad)

(but a 32SII is 3 minutes with the same program ...)

BUG on HP97: don't work for R < 3 : ISZI peculiarity : changes

```
change old 21 by
  CF0
  X=0?
  SF0
  Rv
  F?0
  GTO1
add before old 43
  LBL1
```

it is not needed for HP32SII (use ISG instead of ISZ)

Edited: 28 Sept 2011, 4:17 a.m. after one or more responses were posted

Re: And the HP 65 gets the correct answer...

*Message #74 Posted by **Olivier De Smet** on 28 Sept 2011, 5:24 a.m.,*
in response to message #73 by Olivier De Smet

Faster one ? (shorter loop, need timing)

```
001  ENT^
002  STO0
003  ST+0
004  2
005  SQRT
006  /
007  INT
008  LSTX
009  FRC
010  X#0?
011  ENT^
012  X#0?
013  /
014  +
015  X^2
016  X<>Y
017  LSTX
018  -
019  STOI      *** I Index register
020  X=0?
021  SF2
022  CLX
023  0
024  F2?
025  GTO2
026 *LBL0
027  RCL0
028  RCLI      *** I Index register
029  -
030  LSTX
031  x
032  SQRT
033  INT
034  LSTX
035  FRC
036  X=0?
037  GTO1
038  CLX
039  EEX
040 *LBL1
041  +
```

```
042  +
043  DSZI
044  GTO0
045  ENT^
046  +
047 *LBL2
048  +
049  4
050  x
```

Edited: 28 Sept 2011, 11:51 a.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #75 Posted by **Paul Dale** on 27 Sept 2011, 7:42 a.m.,*
in response to message #71 by gene wright

> Quote:
>
> I now have a solution running on the HP 67. :-)
>
> It is a bit slow...

Anyone going to try on the HP 25 or 10C :-)

I might see if my Elektronika MK-61 is still functioning and up to the task. It will win the slowness stakes I'm sure.

- Pauli

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #76 Posted by **Gerson W. Barbosa** on 27 Sept 2011, 9:47 p.m.,*
in response to message #75 by Paul Dale

> Quote:
>
> Anyone going to try on the HP 25 or 10C :-)

What about the HP-33C? Under half an hour, even less if the loop is optimized to use the stack whenever possible.

Gerson.

```
-----------------------------------------------

Keystrokes      |Display       |
                |              |
[f]CLEAR[PRGM]  |00-           |
[ENTER]         |01-        31 |
[STO]0          |02-    23   0 |
[ENTER]         |03-        31 |
[ENTER]         |04-        31 |
[x]             |05-        61 |
[STO]1          |06-    23   1 |
[CLx]           |07-        34 |
[STO]2          |08-    23   2 |
[RDN]           |09-        22 |
2               |10-         2 |
[f][SQRT]       |11-    14   0 |
[/]             |12-        71 |
[-]             |13-        41 |
[g][INTG]       |14-    15  32 |
[-]             |15-        41 |
[STO]4          |16-    23   4 |
[x<>y]          |17-        21 |
[STO]3          |18-    23   3 |
[f][x<=y]       |19-    14  41 |
[GTO]35         |20-    13  35 |
1               |21-         1 |
[STO][-]3       |22- 23 41   3 |
[RCL]0          |23-    24   0 |
[RCL]1          |24-    24   1 |
[RCL]3          |25-    24   3 |
[g][x^2]        |26-    15   0 |
[-]             |27-        41 |
[f][SQRT]       |28-    14   0 |
[-]             |29-        41 |
[g][INTG]       |30-    15  32 |
[STO][-]2       |31- 23 41   2 |
[RCL]4          |32-    24   4 |
[RCL]3          |33-    24   3 |
```

```
[GTO]19          |34-    13  19 |
[RCL]2           |35-    24   2 |
[ENTER]          |36-         31 |
[+]              |37-         51 |
[RCL]1           |38-    24   1 |
[+]              |39-         51 |
[RCL]4           |40-    24   4 |
[RCL]0           |41-    24   0 |
[-]              |42-         41 |
[g][x^2]         |43-    15   0 |
[+]              |44-         51 |
4                |45-          4 |
[x]              |46-         61 |
[GTO]00          |47-    13  00 |



     1 R/S ->           4       (          2.7 s )
     5 R/S ->          88       (          3.8 s )
   540 R/S ->     918,168       (   3 min 14.1 s )
  4999 R/S ->  78,528,204       ( 29 min 36.7 s )


-----------------------------------------------
```

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #77 Posted by **Egan Ford** on 28 Sept 2011, 7:03 p.m.,*
in response to message #1 by Paul Dale

My solutions:

15C:

```
001 -        33  Rv
002 -        33  Rv
003 - 42, 7, 0  FIX 0
004 -    44  1  STO 1
005 - 42, 5, 1  DSE 1
006 -    22  2  GTO 2
007 -    22  3  GTO 3
008 - 42,21, 2  LBL 2
009 -    44  0  STO 0
010 -    43 11  x^2
011 -    44  2  STO 2
012 - 42,21, 1  LBL 1
013 -    45  2  RCL 2
014 -    45  1  RCL 1
015 -    43 11  x^2
016 -        30  -
017 -        11  SQRT
018 -        36  ENTER
019 -    43 44  INT
020 - 44,40, 0  STO+ 0
021 - 43,30, 6  TEST 6
022 - 42, 6, 0  ISG 0
023 -    43  7  DEG
024 - 42, 5, 1  DSE 1
025 -    22  1  GTO 1
026 -    45  0  RCL 0
027 - 42,21, 3  LBL 3
028 -         4  4
029 -        20  x
```

34S (as submitted at HHC2011. NOTE: I was in a hurry and directly ported over my 15C program with the exception of using CEIL.):

```
001 Rv
002 Rv
003 STO 01
004 DSE 01
005 GTO 02
006 GTO 03
007 LBL 02
008 STO 00
009 X^2
010 STO 02
011 LBL 01
012 RCL 02
013 RCL 01
014 X^2
015 -
016 SQRT
017 CEIL
018 STO+00
019 DSE 01
020 GTO 01
021 RCL 00
022 LBL 03
023 4
024 x
```

34S do-over after talking to Marcus, Ari, and reading the manual a bit more:

```
001 RCL Z
002 STO 00
003 STO 01
004 x^2
005 STO 02
006 SKIP 07
007 RCL 02
008 RCL 01
009 x^2
010 -
011 SQRT
012 CEIL
013 STO+ 00
014 DSE 01
015 BACK 08
016 RCL 00
017 4
018 x
```

The 34S is a remarkably fun machine. The SKIP and BACK functions rock.

Edited: 28 Sept 2011, 7:09 p.m.

Re: HHC 2011 Programming Puzzle SPOILERS

*Message #78 Posted by **Jeff O.** on 28 Sept 2011, 9:41 p.m.,*
in response to message #77 by Egan Ford

Egan's 34s program was the winner, in the "pure RPN" category. I don't want to steal Gene's thunder, I'll let him give full results and explain the category issue. (I don't think he has posted the results yet, but I could have missed it. If so, ignore this message.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Calculator Newsletter Up on hp.com

*Message #1 Posted by **Norman Dziedzic** on 25 Sept 2011, 9:22 p.m.*

http://h20331.www2.hp.com/Hpsub/cache/580500-0-0-225-121.html

Re: New Calculator Newsletter Up on hp.com

*Message #2 Posted by **Paul Dale** on 25 Sept 2011, 11:15 p.m.,*
in response to message #1 by Norman Dziedzic

There is a mistake in the 34S's PI value in the Calculating PI article (sorry Richard).

PI SIN in radians mode gives: 2.384626433832795 E -16. Adding these 16 digits to the 16 from PI gives 32 correct digits, not the 28 mentioned. Use SHOW to see them all. In fact the 33rd digit is correct too since it is a zero. To get 28 correct, I suspect a 12 digit value of PI was entered.

The 34S has 450 decimal places of 2 * PI internally for the modulo reduction step for trig operations in radians. For degrees and grads, the modulo reduction is done before conversion to radians.

I don't know of a way to extract these however.

- Pauli

Re: New Calculator Newsletter Up on hp.com

*Message #3 Posted by **Ángel Martin** on 26 Sept 2011, 3:42 a.m.,*
in response to message #1 by Norman Dziedzic

Link isn't working for me...

Re: New Calculator Newsletter Up on hp.com

*Message #4 Posted by **Dominic Richens** on 26 Sept 2011, 6:20 a.m.,*
in response to message #3 by Ángel Martin

I think the presence of the work "cache" in the URL is the problem. Here is a link that I hope is permanent

http://h20331.www2.hp.com/hpsub/downloads/HP_Calculator_eNL_09_September_2011.pdf

Re: New Calculator Newsletter Up on hp.com - HP-12C batteries

*Message #5 Posted by **x34** on 26 Sept 2011, 7:46 a.m.,*
in response to message #1 by Norman Dziedzic

HP-12C article by Gene Wright and Richard J. Nelson says (in the notes): "Early HP-12Cs used 3 Lithium or Silver button cells." But in the same article they say that it used Alkaline or Silver. I wonder if Lithium cells were widely available in 1981. I think that it should say Alkaline instead of Lithium in the notes' picture boxes.

Re: New Calculator Newsletter Up on hp.com - HP-12C batteries

*Message #6 Posted by **Katie Wasserman** on 26 Sept 2011, 8:57 a.m.,*
in response to message #5 by x34

Then as now, there was/is no such thing as 1.5 volt lithium button cells (equivalent to the 357 silver oxide). It definitely should say "alkaline".

Re: New Calculator Newsletter Up on hp.com - HP-12C batteries

*Message #7 Posted by **Gene wright** on 26 Sept 2011, 11:01 a.m.,*
in response to message #6 by Katie Wasserman

Well I am certainly guilty of typos from time to time but 98% of that article is Richards and he kindly added my name for the programs shown. :-)

Those are not the best 12c games but the author of the best ones was adamant a few years ago that they only appear in Datafile, which (sadly) limits their distribution quite a bit. Oh well.

Re: New Calculator Newsletter Up on hp.com - HP-12C batteries

*Message #8 Posted by **Dieter** on 26 Sept 2011, 11:19 a.m.,*
in response to message #5 by x34

The original 12C used three button cells known as LR44, SR44, A76, V76PX, S76, 357, AG13, V13GA, LR1154 and many others. These cells are approx. 11,6 mm (d) x 5,4 mm (h). They are available as alkaline, silver oxide and mercury oxide cells (now banned in most countries of the western world). There are also zink-air cells, but these don't make much sense here. All these button cells have a common nominal voltage of 1,35...1,55 Volts.

On the other hand, lithium button cells usually are $LiMnO_2$ cells with a nominal voltage of 3 Volts or even slightly more. Therefore they are usually not available in the same size as other batteries with half that voltage. I never heard of a A76-sized 3 V lithium cell.

So it's alkaline and (preferably) silver oxide cells that are used in the 12C.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How Is the 15C LE Emulator Activatied?

*Message #1 Posted by **Ed Look** on 25 Sept 2011, 7:11 p.m.*

When I click on the .exe file, it asks for an activation code. Where would one be available? Am I entitled to run the emulator on my PC if I bought the physical calculator?

Re: How Is the 15C LE Emulator Activatied?

*Message #2 Posted by **Martin Pinckney** on 25 Sept 2011, 7:18 p.m.,*
in response to message #1 by Ed Look

Ed, I think this subject is covered in this thread.

Re: How Is the 15C LE Emulator Activatied?

*Message #3 Posted by **Ed Look** on 25 Sept 2011, 7:34 p.m.,*
in response to message #2 by Martin Pinckney

Ah, thank you.

It turns out, my code worked, but there is some good information on that thread.

Re: How Is the 15C LE Emulator Activatied?

*Message #4 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 25 Sept 2011, 7:36 p.m.,*
in response to message #1 by Ed Look

The activation code was printed on a label on the CD ROM which the emulator came with.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Keyboard Survey Take 3 (last round)

*Message #1 Posted by **M. Joury** on 25 Sept 2011, 7:08 p.m.*

All,

So far I have gotten responses for 147 calculators. Of those 18 have been reported as having keyboard problems. So at this moment we have a "failure" rate of 12.24%.

For those that have not responded to this survey and would care to do so please let me know how many HP-15C LE's you have purchased and how many of those (if any) have bad keys. Loose or "rattly" f and g keys don't qualify as bad keys for the purposed of this survey as long as they register correctly when pressed.

So, for example, if you have 3 calcs and 1 is bad please respond with: 3:1.

Thanks to everyone that has responded so far!

Cheers,

-Marwan

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #2 Posted by **Martin Pinckney** on 25 Sept 2011, 7:15 p.m.,*
in response to message #1 by M. Joury

1:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #3 Posted by **John B. Corley** on 25 Sept 2011, 7:22 p.m.,*
in response to message #1 by M. Joury

1:0 LEN 00341

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #4 Posted by **Eamonn** on 25 Sept 2011, 11:25 p.m.,*
in response to message #1 by M. Joury

1:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 26 Sept 2011, 3:29 a.m.,*
in response to message #1 by M. Joury

I have one 15C LE and the keyboard shows no problems, is useable enough.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #6 Posted by **Todd Garabedian** on 26 Sept 2011, 6:25 a.m.,*
in response to message #1 by M. Joury

2:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #7 Posted by **Dave Mabry** on 26 Sept 2011, 6:27 a.m.,*
in response to message #1 by M. Joury

1:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #8 Posted by **Frank Rottgardt** on 26 Sept 2011, 6:44 a.m.,*
in response to message #1 by M. Joury

Got mine today from SC

1:0

CNA 132090Q LE# 00133

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #9 Posted by **Alexander Oestert** on 26 Sept 2011, 7:30 a.m.,*
in response to message #1 by M. Joury

Please, keep the survey open until the German lot has been delivered. Ours are hanging around at the customs, probably for another two weeks.

Edited: 26 Sept 2011, 7:31 a.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #10 Posted by **M. Joury** on 26 Sept 2011, 10:25 a.m.,*
in response to message #9 by Alexander Oestert

Ok. Only reason I was going to close it was I figured people were getting a little tired of seeing it keep popping up <g>. I'll keep it open (or reopen it) when I see that Europe has their delivery.

Cheers,

-Marwan

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #11 Posted by **Julián Miranda (Spain)** on 26 Sept 2011, 8:11 a.m.,*
in response to message #1 by M. Joury

I've two from Samson Cables, serials in the 1500s. No problem with keyboards.

2:0

Edited: 26 Sept 2011, 8:18 a.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #12 Posted by **Derek Walker (UK)** on 26 Sept 2011, 10:04 a.m.,*
in response to message #1 by M. Joury

1:0
LE no 2966 from Samson - no key press issues found yet
Keyboard feel is subjectively slightly better than HP12c from 2007

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #13 Posted by **Juergen Keller** on 26 Sept 2011, 12:53 p.m.,*
in response to message #1 by M. Joury

5:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #14 Posted by **Paulo MO** on 26 Sept 2011, 2:29 p.m.,*
in response to message #1 by M. Joury

2:0 Cheers P

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #15 Posted by **Ken Shaw** on 26 Sept 2011, 3:17 p.m.,*
in response to message #1 by M. Joury

1:0

#02977

Passes all the (new) self-tests.

No problem with the keys.

Edited: 26 Sept 2011, 3:18 p.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #16 Posted by **Neil Carlson** on 26 Sept 2011, 3:53 p.m.,*
in response to message #1 by M. Joury

3:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #17 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 27 Sept 2011, 12:06 a.m.,*
in response to message #16 by Neil Carlson

1:0 00725

Edited: 27 Sept 2011, 12:07 a.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #18 Posted by **James Grenert** on 27 Sept 2011, 1:08 a.m.,*
in response to message #1 by M. Joury

1:0 Bought from Buy.com

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #19 Posted by **Evan Gates** on 27 Sept 2011, 2:09 a.m.,*
in response to message #1 by M. Joury

2:1

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #20 Posted by **Jeff O.** on 27 Sept 2011, 8:41 a.m.,*
in response to message #1 by M. Joury

2:0

Above two units received direct from hp in addition to the four reported previously from buy.com. Not all for me, I just seem to be the local distributor at work :-)

Edited: 27 Sept 2011, 8:41 a.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #21 Posted by **Neil Gruending** on 27 Sept 2011, 11:46 a.m.,*
in response to message #1 by M. Joury

My 1 is fine.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #22 Posted by **Bernhard Ott** on 27 Sept 2011, 4:13 p.m.,*
in response to message #1 by M. Joury

0:1 #00135 CNA132091B from Samson Cable

The "2" Key is not working sometimes after a normal press (and click). Works with stronger press. Quite reproduceable, I will sent it back to HP. Just waiting for a signal from Tim Wessman if he wants it for analysis.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #23 Posted by **Timothy Roche** on 27 Sept 2011, 8:04 p.m.,*
in response to message #1 by M. Joury

I purchased my HP 15C from Samson Cables at the beginning of the month. Limited Edition Number: 02883.

Subtraction function key is intermittent.

I would like to know whom I should contact to resolve this issue.

Tim

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #24 Posted by **M. Joury** on 27 Sept 2011, 8:49 p.m.,*
in response to message #23 by Timothy Roche

Take a look at this thread.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #25 Posted by **Dale Reed** on 27 Sept 2011, 9:40 p.m.,*
in response to message #1 by M. Joury

Marwan,

I think I may have sent you this information via direct e-mail (so please don't duplicate), but I'll post here for everyone's benefit.

3:1 LE#02173 (good), LE#02196 (good), LE#02198 (bad divide key, doesn't register with a "normal" click, registers with a "forceful" click).

I also got one 12C 30thAE with keyboard OK.

I was able to contact HP calculators support (by phone) and register a case number. If I remember correctly what was said, I am to expect a package from HP with a replacement unit and a box for mailing in the defective unit so they can diagnose.

At least that's what I am expecting.... ;-) I'll let all know what actually happens!

Dale

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #26 Posted by **Jeroen Van Nieuwenhove** on 28 Sept 2011, 4:21 a.m.,*
in response to message #1 by M. Joury

1:0 - f and g keys are a bit loose, but they do not rattle at all.

[edited to add info about f and g keys]

Edited: 28 Sept 2011, 5:07 p.m.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #27 Posted by **Borja** on 28 Sept 2011, 9:26 a.m.,*
in response to message #1 by M. Joury

1:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #28 Posted by **Reth** on 30 Sept 2011, 10:38 p.m.,*
in response to message #27 by Borja

1:1

"." bad key, LEN 02943, CNA 13208K6

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #29 Posted by **Bart (UK)** on 1 Oct 2011, 4:34 a.m.,*
in response to message #28 by Reth

Just received my 15C LE. Originally the COS key didn't register with the click, but after a few tries, it now seems to register fine and directly with every click.
So I will say:

1:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #30 Posted by **Ernst Fueloep** on 2 Oct 2011, 11:53 a.m.,*
in response to message #29 by Bart (UK)

1:1

STO has to be pushed harder to register.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #31 Posted by **Roland Kaufmann** on 2 Oct 2011, 5:52 p.m.,*
in response to message #30 by Ernst Fueloep

Hi, I received two hp15c LE on 2011-09-28 (ordered at Samson Cables 09-12, shipped 09-19).
CNA13207R6 LE# 01649 CNA13207YJ LE# 02328

Both keyboards are working fine.

2:0.

Thanks to everyone at HP who made the these beautiful machines possible!

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #32 Posted by **Alexander Oestert** on 28 Sept 2011, 1:38 p.m.,*
in response to message #1 by M. Joury

2:0

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #33 Posted by **Paul Berger (Canada)** on 28 Sept 2011, 2:03 p.m.,*
in response to message #1 by M. Joury

1:0 Finally made it here from Samson Cables came in an envelope but is undamaged, even trying really hard I cannot get a key to miss. LE number 01957 coincidentally same as the year I was born.

Re: HP15C LE Keyboard Survey Take 3 (last round)

*Message #34 Posted by **Michael de Estrada** on 28 Sept 2011, 2:28 p.m.,*
in response to message #1 by M. Joury

Two additional units from HP H&HO, LE 878 & 1229. No bad keys, but f,g keys are loose and rattle on 1229,

especially g key, which moves noticeably right-left when calc is tilted slightly right-left.

2:0

Edited: 28 Sept 2011, 4:15 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48GX Erable etc ever to be updated /revised etc?

*Message #1 Posted by **mr-scorpio** on 25 Sept 2011, 5:25 p.m.*

Hi there, Given that the last version of Erable for the 48GX dates from the late 90's, after which it was updated & integrated into the 49 & 50 calcs.

Might we ever see an updated version of Erable or something similar (CAS48 perhaps) to refresh/renew the 48GX?

Or perhaps might there be someone out there creating a whole new CAS system for the 48 from scratch? :-)

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #2 Posted by **bill platt** on 25 Sept 2011, 5:32 p.m.,*
in response to message #1 by mr-scorpio

Look up Raymond del Tondo's speed UI. I dont know about the CAS aspect but the UI he's the man...

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #3 Posted by **mr-scorpio** on 25 Sept 2011, 5:36 p.m.,*
in response to message #2 by bill platt

Yes, i've heard of that. Speaking of which.. Which is best? - MetaKernal or Speed UI? I understand that MK 'does' implement a better symbolic entry capability? that SUI has yet to do? or is this incorrect? - But MK is dated as well, along with Erable?

Still as i originally posted.. An updated & optimised CAS for the 48 would be great?

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #4 Posted by **Martin Pinckney** on 25 Sept 2011, 6:19 p.m.,*
in response to message #3 by mr-scorpio

Like you, I wish for updates to the 48, but I am still stuck on the SX! Frankly, I doubt we will see much activity, even on the 48GX front, since these machines are so dated now. Just my opinion.

If HP releases an updated 50G, even I may bite on that one.

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #5 Posted by **mr-scorpio** on 25 Sept 2011, 6:25 p.m.,*
in response to message #4 by Martin Pinckney

"If HP releases an updated 50G, even I may bite on that one."

It's possibly overdue that they did.. Both Casio & TI have brought our machines with higher res screens, that are not only colour, but back lit as well. - But whilst complete in their capabilities, are

aimed at the education market.

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #6 Posted by **Martin Pinckney** on 25 Sept 2011, 6:44 p.m.,*
in response to message #5 by mr-scorpio

Based on the questions and comments from Mr. Wessman, I think HP has certainly considered backlit color, but perhaps has also dismissed it because of power factors.

Since "leaks" about a restyled 39gii with higher resolution screen appeared, I think it is likely that is the direction HP will go in - if they do anything at all regarding the 50g.

Edited: 25 Sept 2011, 8:22 p.m.

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #7 Posted by **Raymond Del Tondo** on 26 Sept 2011, 4:17 a.m.,*
in response to message #3 by mr-scorpio

The latest version of SpeedUI supports RainEQ, an extremely fast EquationWriter replacement.
"Pretty Print" support (show expressions and matrices grapically on the stack) is in SpeedUI for years;-)

Erable and Alg48 are math-oriented applications with more or less specialized UI (if at all).
SpeedUI accelerates all the general UI stuff, but has no influence on closed applications.
Most well-behaved applications should run w/o problems with SpeedUI active,
but I have to confess I didn't try Erable or Alg48 so far;-)

I didn't follow the Erable development, but I think the Erable
updates for the FHB were mainly related to exact mode support.

And while we're at updates: I'm just preparing a new version of SpeedUI, with some bug fixes and optimisations.
Hopefully it will be released during the next 1 or 2 weeks.

Ray

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #8 Posted by **mr-scorpio** on 26 Sept 2011, 4:54 a.m.,*
in response to message #7 by Raymond Del Tondo

Hi Ray, Many thanks for the response, & excellent news on the new version of Speed UI.

Regarding CAS's ... Would you consider/be able to create a completely new CAS for the 48GX yourself, where your ability to create obviously excellent & efficient code would work well - Possibly some of the CAS logic could be taken from an existing system like CAS48 by Jaime Fernando Meza with his permission... (If still contactable, as his last version was in 2001) (CAS48: 10 years old. Erable: 13 years old)

My thinking is that a single packaged install that was the combination of Speed UI with a CAS, would be fantastic, tidy & efficient?

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #9 Posted by **Raymond Del Tondo** on 27 Sept 2011, 3:30 a.m.,*
in response to message #8 by mr-scorpio

I wouldn't want to write a new CAS from scratch, since my interests are in other areas.
But I'll check if it's possible to interface between one of the existing CAS's and SpeedUI, and if related changes to the CAS are needed at all.
After all it's a matter of time and motivation, so it may take some time until I can make a statement regarding the above;-)

Re: 48GX Erable etc ever to be updated /revised etc?

*Message #10 Posted by **mr-scorpio** on 27 Sept 2011, 4:33 a.m.,*
in response to message #9 by Raymond Del Tondo

HI, Understand completely the rationale for not wanting to write a CAS from scratch. But also very pleased that you think there might be some merit in cross interfacing with an existing CAS via SpeedUI - Could be an exciting proposition. As i mentioned above, the other CAS to Erable appears to be CAS48 .. which seems to still be a fairly trim but powerful CAS system. However there doesn't seem to be anywhere a direct assessment / comparison between CAS48 & Erable though. I'm thinking of conducting a feature by feature check list, so as to offer such a comparison..

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C 30th Anniversary Bugs?

*Message #1 Posted by **Kevin Kitts** on 25 Sept 2011, 12:32 p.m.*

Does the 12c 30th Anniversary have the same PSE and other bugs that the 15c Limited Edition has or is it relatively bug free?

Also, in terms of key-click feel and functionality which of the available 12c releases is "the best". What about the 12c Platinum - is it as fast as the 12c Anniversary? Of course... the 12c Platinum color scheme may be a bit of an acquired taste... ;-) but it has more programmable steps, right?

Kevin

Re: HP 12C 30th Anniversary Bugs?

*Message #2 Posted by **Katie Wasserman** on 25 Sept 2011, 12:54 p.m.,*
in response to message #1 by Kevin Kitts

The 12c 30th AE was mistakenly released with old firmware (2009-07-02) that does have some bugs. There is newer, mostly bug-free, firmware but apparently this didn't make it into production. The most obvious bug is that SST won't show you the instruction when it's held down in run mode. Also, SST and BST won't auto repeat in program mode.

-Katie

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Lunar Lander for HP-15C?

*Message #1 Posted by **Gerardo Rincon** on 25 Sept 2011, 12:23 p.m.*

Where can I find a Lunar Lander Program for the HP 15C?

Edited: 25 Sept 2011, 12:26 p.m.

Re: Lunar Lander for HP-15C?

*Message #2 Posted by **bill platt** on 25 Sept 2011, 12:51 p.m.,*
in response to message #1 by Gerardo Rincon

I think it is in my 11c manual, or maybe my 11c user applications handbook. *edit* "Solutions Handbook".

IT is also in some HP-67 and may e 65 stuff. I first played it on one of those cool machines as a kid!

Edited: 25 Sept 2011, 2:06 p.m. after one or more responses were posted

Re: Lunar Lander for HP-15C?

*Message #3 Posted by **Michael de Estrada** on 25 Sept 2011, 1:04 p.m.,*
in response to message #2 by bill platt

I looked in my 11C manual and the only game I could find is "Submarine Hunt."

Re: Lunar Lander for HP-15C?

*Message #4 Posted by **Bill (Smithville, NJ)** on 25 Sept 2011, 1:08 p.m.,*
in response to message #3 by Michael de Estrada

It's in the HP-11C Solutions Book. Progam is called "Moon Rocket Lander".

You might want to try the following version which was for the HP-19C/29C:

Moon Rocket Lander

or try the one for the HP-12C in following forum thread:

Moon Rocket Lander for HP-12C

Bill

Edited: 25 Sept 2011, 1:14 p.m.

[Return to Index | Top of Index]

Lunar Lander for HP-15C?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE: Emulator runs on Mac, too! :-)

*Message #1 Posted by **Juergen Keller** on 25 Sept 2011, 12:16 p.m.*

I've just installed the emulator coming with the 15C LE on my MacBook using CrossOver (the commercial Wine product), and it runs fine! :-)

Re: 15C LE: Emulator runs on Mac, too! :-)

*Message #2 Posted by **DigiGal** on 25 Sept 2011, 12:57 p.m.,*
in response to message #1 by Juergen Keller

I'm interested in this, more info please.

- Thanks

Re: 15C LE: Emulator runs on Mac, too! :-)

*Message #3 Posted by **Juergen Keller** on 25 Sept 2011, 2:16 p.m.,*
in response to message #2 by DigiGal

Well, not much more to say, check http://www.codeweavers.com/products/crossover/ or the non-commercial version http://www.winehq.org/.

From their web site:

> Quote:
>
> CrossOver allows you to install many popular Windows applications on your Mac or Linux computer. You can think of it as an emulator, but it's different, because there's no Windows OS license required. Your applications integrate seamlessly in OS X or Linux; just click and run. No rebooting, no switching to a virtual machine, and no Windows Operating System license required!

I would try Wine first, as it is free.

Re: 15C LE: Emulator runs on Mac, too! :-)

*Message #4 Posted by **DigiGal** on 25 Sept 2011, 5:13 p.m.,*
in response to message #3 by Juergen Keller

Thanks, just never heard of it or even needed such a program before.

[Return to Index | Top of Index]

15C LE: Emulator runs on Mac, too! :-)

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My small tribute to the HP-15C LE

*Message #1 Posted by **Juergen Keller** on 25 Sept 2011, 11:18 a.m.*

See here

Re: My small tribute to the HP-15C LE

*Message #2 Posted by **Walter B** on 25 Sept 2011, 12:16 p.m.,*
in response to message #1 by Juergen Keller

A very nice picture of a very good looking calc :-) At the bottom line the only thing spoiling the party is the 30 year old display ...

Re: My small tribute to the HP-15C LE

*Message #3 Posted by **Roger Blake** on 25 Sept 2011, 12:27 p.m.,*
in response to message #2 by Walter B

Nice picture. Nice calculator ! IMO the display is much better than any modern dot matrix display. It's very readable and all you need. To be honest I find all the advanced functions of the HP-15C now a bit of a gimmick - very nice at the time but all I want now is a fast readable scientific with limited programmability for the occasional times it's useful, and a decent keyboard. Anything else I'd use a computer these days. Maybe the odd complex calc, or matrix determinant but that's about it. The hp-15c scores over the 35S in its nice convenient size and layout, and the display !

Re: My small tribute to the HP-15C LE

*Message #4 Posted by **Thomas Radtke** on 25 Sept 2011, 12:36 p.m.,*
in response to message #1 by Juergen Keller

That's a picture of one of the prototypes? I learned today the actual version on sale has no special 'on' key.

Re: My small tribute to the HP-15C LE

*Message #5 Posted by **Walter B** on 25 Sept 2011, 12:48 p.m.,*
in response to message #4 by Thomas Radtke

What else does it have?

Re: My small tribute to the HP-15C LE

*Message #6 Posted by **Thomas Radtke** on 25 Sept 2011, 1:26 p.m.,*
in response to message #5 by Walter B

A huge lever on one side ;-p.

Re: My small tribute to the HP-15C LE

*Message #7 Posted by **Juergen Keller** on 25 Sept 2011, 12:52 p.m.,*
in response to message #4 by Thomas Radtke

No prototype. The ON key is a little higher than that of the original one, but still a little lower than the other keys of the 15C LE. Mine does not show any of the quality issues reported on the forum (except the bugs of course). Overall I'm very satisfied with the 15C LE (OK, my opinion is a little biased).

Re: My small tribute to the HP-15C LE

*Message #8 Posted by **JamesT** on 25 Sept 2011, 12:46 p.m.,*
in response to message #1 by Juergen Keller

Nice! I especially like the Anita and Omron units featured in your gallery...great specimens.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repairing HP 41C screw posts

*Message #1 Posted by **Fouad M. Kaadou** on 25 Sept 2011, 9:18 a.m.*

Hello all,

I have a beloved Hp-41CX who eventually suffered the unavoidable fate of its screw posts breaking after years of pressure. I need help and techniques to solve the problem, please help.

Thanks in advance,

Fouad

Re: Repairing HP 41C screw posts

*Message #2 Posted by **bill platt** on 25 Sept 2011, 9:55 a.m.,*
in response to message #1 by Fouad M. Kaadou

Search the archives. Look back many years--early 2000s. Look fr names such as Vieira, Luiz C. (Brazil)

I hope that helps.

Edited: 25 Sept 2011, 9:58 a.m.

Re: Repairing HP 41C screw posts

*Message #3 Posted by **bill platt** on 25 Sept 2011, 10:20 a.m.,*
in response to message #1 by Fouad M. Kaadou

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=2

Re: Repairing HP 41C screw posts

*Message #4 Posted by **Randy** on 25 Sept 2011, 7:02 p.m.,*
in response to message #3 by bill platt

> Quote:
>
> http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=2

I wish we could pull that from the archives. Some really bad ideas in there.

1) *Never* use cyanoacrylates for plastic repair on HP's, especially on screw posts. Styrene plastic welding solvent only. Replace 1/4" screws with 3/8" screws on the lower posts. #2 sheet metal screws work okay, tri-lobular plastic screws are best but very hard to find in small quantities. #2 metal screws are available in hobby shops.

2) *Never* use the described method to attach the logic board to keyboard. You might as well just throw it

away now if that is your plan.

Re: Repairing HP 41C screw posts

*Message #5 Posted by **bill platt** on 25 Sept 2011, 7:32 p.m.,*
in response to message #4 by Randy

Hi Randy,

Maybe Dave can let you put red pen glosses on it:-)

It is a probem--propagation of bad ideas.

Maybe an edited version should be entered in the Archives.

Re: Repairing HP 41C screw posts

*Message #6 Posted by **Paul Berger (Canada)** on 25 Sept 2011, 10:48 a.m.,*
in response to message #1 by Fouad M. Kaadou

I just repaired one replacing the broken post on the CPU end with a metal standoff. I cut off the broken post near the back of the keyboard and threaded the standoff into the remaining hole. I then chucked the standoff in a drill and filed it down to fit the hole in the CPU board, and adjusted the length of the screw on the bottom and the height of the standoff. Result another great working CX. I have also read that others have glued in metal posts using epoxy.

Re: Repairing HP 41C screw posts

*Message #7 Posted by **db (martinez, ca.)** on 25 Sept 2011, 12:30 p.m.,*
in response to message #1 by Fouad M. Kaadou

I got great results by slipping a spring over the split post to keep it together and usable. This has the added advantage of being able to slip the coil connector (and spring) off in the future. The glue and wire-wrap method works fine though.

Re: Repairing HP 41C screw posts

*Message #8 Posted by **Randy** on 25 Sept 2011, 8:19 p.m.,*
in response to message #7 by db (martinez, ca.)

> Quote:
>
> I got great results by slipping a spring over the split post to keep it together and usable. This has the added advantage of being able to slip the coil connector (and spring) off in the future. The glue and wire-wrap method works fine though.

While the wire-wrap method works, a card-reader o-ring makes a great clamp while the solvent cures.

That said, I really don't understand all the angst over cracked posts as longer screws (3/8") fix 95% of the issues with lower posts on the 41. We beat this to death, IIRC, back in 2003/4. A cracked post is no big deal if the 1/4" screw is discarded and replaced with 3/8". HP did this as a production change in about 1983 and on all 41's that were received for service.

A post that has sheared off can usually be repaired with little drama if all the pieces are there. Styrene plastic welding solvent puts it back together, leave overnight to cure and a 3/8" screw completes the job.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPN Tutorial

*Message #1 Posted by **Eddie W. Shore** on 25 Sept 2011, 1:49 a.m.*

RPN Tutorial (basic)

In light of the HP 15C LE, it is my hope that there are new users of RPN calculators, either through the HP 15C, or by an Andriod (sp?) or iPhone/iPad app. This is a short "do by example" tutorial on basic RPN that I posted on my blog. It is not towards any specific calculator in hopes that newbies can learn from it whatever RPN machines/emulators they have.

I am thinking of doing a basic keystroke programming tutorial (15C, 12C, or if anyone has a request, I'll try cater to that calculator instead - note my 41C is in repairs, I don't have a 42 (but I have Free42), and I don't have an Andriod device). Please check out the blog and me know what you think.

Eddie

Edited: 25 Sept 2011, 1:56 a.m.

Re: RPN Tutorial

*Message #2 Posted by **Xavier A. (Brazil)** on 25 Sept 2011, 9:39 a.m.,*
in response to message #1 by Eddie W. Shore

Hello Eddie,

Nice. You may include this graph: RPN STACK PERMUTATIONS

See this thread: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=184373

Regards.

Re: RPN Tutorial

*Message #3 Posted by **Dieter** on 25 Sept 2011, 11:47 a.m.,*
in response to message #1 by Eddie W. Shore

Hi Eddie,

I think it's a good idea to familiarize others with the benefits of RPN. However, some errors should be removed:

RPN uses **one** stack that consists of (usually) four **registers** X, Y, Z and T.
Your text however says:
*"Typically, RPN calculators uses **four** stacks, named X, Y, **Y, and Z**."*
Instead, it should read:
"Typically, RPN calculators use a stack consisting of four registers, named X, Y, Z, and T."

So, X, Y, Z and T are four *registers* (not stacks), each register stacked on top of the other. That's why the whole arrangement is called a stack.

Maybe an RPN novice will get the idea behind the stack more quickly if the examples show intermediate results. For instance like this (example #5):

```
2  [1/x]            0,5000
3 [ENTER] 7 [÷]     0,4286
[+]                 0,9286
25 [ENTER] 64 [÷]   0,3906
[sqrt]              0,6250  ; use the symbol instead - there is no key labelled "sqrt"
[-]                 0,3036  ; do not omit the leading zero - it's displayed
```

Re. Enter: about 30 years ago I had a book on RPN that described the idea behind the ENTER key in two-argument calculations this way: ENTER is required to tell the calculator that you have completed number entry. So 5 ENTER 3 enters two numbers five and three instead of a 53, thus separating the 5 from the 3. This also means that an ENTER is *not* required before or after a numeric operation, before or after a STO or RCL, before or after Pi, etc.: in all these cases it's clear that the current number resp. result is complete, and everything keyed in next will belong to a new number. So the first ENTER in your example #5 is obsolete since after 1/x the calculator knows that the result (1/2) is complete and the following 3 belongs to a new number.

This idea was very helpful for me in the first weeks after I aquired my brand new 34C back then. Maybe you will find it useful as well. I really like the idea to help new RPN users the way you intended. That's why I suggest these improvements. :-)

Dieter

Re: RPN Tutorial

*Message #4 Posted by **Eddie W. Shore** on 26 Sept 2011, 1:34 a.m.,*
in response to message #3 by Dieter

Thanks Dieter and Xaiver not only for the suggestions but also finding the errors. Xaiver, I want to study the diagram closer so I can understand it.

RPN Tutorial Take 2

Re: RPN Tutorial

*Message #5 Posted by **Walter B** on 26 Sept 2011, 1:54 a.m.,*
in response to message #4 by Eddie W. Shore

Nice work :-) For the example with the square root of the sum of squares, however, I'd prefer

```
3
ENTER
x
4
ENTER
x
+
[sqrt]
```

instead of using y^x.

Re: RPN Tutorial

*Message #6 Posted by **Marcus von Cube, Germany** on 27 Sept 2011, 12:15 a.m.,*
in response to message #5 by Walter B

... which will not work on the 20b or 30b in RPN mode.

Re: RPN Tutorial

*Message #7 Posted by **Walter B** on 27 Sept 2011, 1:50 a.m.,*
in response to message #6 by Marcus von Cube, Germany

One more reason why I dislike RP**L**, also camouflaged.

Re: RPN Tutorial

*Message #8 Posted by **Eddie W. Shore** on 27 Sept 2011, 9:34 a.m.,*
in response to message #7 by Walter B

However, the above method (3 ENTER X etc...) works on the WP-34S.

Re: RPN Tutorial

*Message #9 Posted by **Walter B** on 27 Sept 2011, 2:43 p.m.,*
in response to message #8 by Eddie W. Shore

Since we did our best to make it RP**N** :-)

Re: RPN Tutorial

*Message #10 Posted by **Dieter** on 27 Sept 2011, 11:11 a.m.,*
in response to message #5 by Walter B

Eight keystrokes!!! That's way too complicated, Walter. ;-)
In cases like these I usually type

```
3 ENTER 4  R-P
```

or even

```
  3 i 4  ABS
```

Both suggested methods also provide better precision than a manual calculation. So this rectangular-polar conversion stuff (which I don't use at all otherwise) finally makes some sense to me. ;-)

Dieter

Re: RPN Tutorial

*Message #11 Posted by **Walter B** on 27 Sept 2011, 2:49 p.m.,*
in response to message #10 by Dieter

You're right absolutely, Dieter :-) Please compare, however, also with the ten keystrokes in Eddie's original tutorial, take 2. After all, your solution is the best :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

GTO

HP Forum Archive 20

[Return to Index | Top of Index]

More 15C LEs appearing on TAS

*Message #1 Posted by **Lincoln R.** on 25 Sept 2011, 1:30 a.m.*

Several more 15C LEs are appearing from different sellers. There are some expensive Buy It Nows but a few people actually auctioning them off. Should be interesting to see what this does to prices, or if the ridiculous bidding frenzy is still on.

Re: More 15C LEs appearing on TAS

*Message #2 Posted by **Geoffrey Wang** on 25 Sept 2011, 10:29 a.m.,*
in response to message #1 by Lincoln R.

What's interesting is the 15C LE currently at $350 from datamth-calculator-museum (who runs a great TI calculator website -- no forum though).

Re: More 15C LEs appearing on TAS

*Message #3 Posted by **Michael de Estrada** on 25 Sept 2011, 11:00 a.m.,*
in response to message #1 by Lincoln R.

One seller has 3 separate auctions going, the one finishing soonest has already been bid to $300. The listings have photos of the calc back showing very low LE numbers. It looks like a lot of people bought a bunch of the early ones at cheap pricing with the sole intent of reselling them at a big profit. This makes me think that less than half of the total "limited" production has even reached the USA and that there will still be an opportunity to buy these at normal retail price. Currently, you can buy the 15C LE from the HP business online site for $99.99 + shipping and sales tax.

Edited: 25 Sept 2011, 11:05 a.m.

Re: More 15C LEs appearing on TAS

*Message #4 Posted by **joerg Woerner** on 25 Sept 2011, 11:24 a.m.,*
in response to message #3 by Michael de Estrada

Are you sure? We have an account with HP and last week I tried to secure two for a friend in Germany (hi Michi) but we couldn't check out. I ended up on Amazon ;-;

Re: More 15C LEs appearing on TAS

*Message #5 Posted by **Michael de Estrada** on 25 Sept 2011, 11:39 a.m.,*
in response to message #4 by joerg Woerner

I'm not sure, since I didn't attempt to complete the checkout process. I only tested it by placing one in my basket and estimating the shipping and sales tax amounts. All I know is that the price has been lowered from $129.00 to $99.99.

Here

Re: More 15C LEs appearing on TAS

*Message #6 Posted by **Kevin Kitts** on 25 Sept 2011, 12:15 p.m.,*
in response to message #5 by Michael de Estrada

I actually purchased from the link above at the $99.00 price and it did go through. Also, I used a coupon code of "HPSAVE10" and got $10 off the $99.00 price. So the price I paid was $89.00 plus shipping and taxes.

It seems silly to buy from eBay when you can get it for $89.00 directly from HP. I placed my order last night so I have not yet received it.

Re: More 15C LEs appearing on TAS

*Message #7 Posted by **Roger Blake** on 25 Sept 2011, 12:38 p.m.,*
in response to message #6 by Kevin Kitts

Samson Cables price has now gone up from $149.99 to $199.99 ! I paid $99.99/ea for two ten days ago, which I received last Monday. Glad I didn't delay ordering ...

HP home user site still won't let you order one. No sign of them to order in Europe yet either, although they have been promised us.

Re: More 15C LEs appearing on TAS

*Message #8 Posted by **Michael de Estrada** on 25 Sept 2011, 12:46 p.m.,*
in response to message #7 by Roger Blake

The home site won't, but the business site apparently will for the same $99.99 price.

Re: More 15C LEs appearing on TAS

*Message #9 Posted by **M. Joury** on 25 Sept 2011, 7:13 p.m.,*
in response to message #7 by Roger Blake

I have to say that I am *VERY* disappointed at how Samson cables is handling this. I will *NEVER* purchase from them after this episode.

Just my 2 pennies...

Cheers,

-Marwan

Re: More 15C LEs appearing on TAS

*Message #10 Posted by **Michael de Estrada** on 25 Sept 2011, 12:44 p.m.,*
in response to message #6 by Kevin Kitts

I think the vast majority of buyers on TAS are oblivious to the HP business site. Also, some buyers are outside the USA, and the HP site only ships domestically. Only some of the TAS sellers ship internationally. For example, the high bidder here appears to be outside the USA.

Re: More 15C LEs appearing on TAS

*Message #11 Posted by **Geoffrey Wang** on 25 Sept 2011, 1:03 p.m.,*
in response to message #5 by Michael de Estrada

Just ordered one that way for $99 + shipping + tax. I guess HP Home/Home Office is run separately than HP Small/Medium Business.

You have to wonder if the HP15C LE will continue on forever like the HP12C which will drop the perceived value of the HP15C.

Re: More 15C LEs appearing on TAS

*Message #12 Posted by **bill platt** on 25 Sept 2011, 2:13 p.m.,*
in response to message #11 by Geoffrey Wang

If it makes money, surely they will do it again...

Look at the plymouth Viper. Started as a $1000000 concept and became prodution becoaus of deaman

Re: More 15C LEs appearing on TAS

*Message #13 Posted by **bill platt** on 25 Sept 2011, 12:55 p.m.,*
in response to message #3 by Michael de Estrada

I don't understand why anyone would pay all that money for one. It is still in production!

Totally bizarre.

Re: More 15C LEs appearing on TAS

*Message #14 Posted by **bill platt** on 25 Sept 2011, 12:54 p.m.,*
in response to message #1 by Lincoln R.

Maybe I was stoooopid not to buy a dozen or more. I could have paid off my kids college education with the scalped profits from turning them!

I stood back like a dunce and didn't buy one becasue I already have two 15c and over $1000 worth of different old HPs.

Re: More 15C LEs appearing on TAS

*Message #15 Posted by **Michael de Estrada** on 25 Sept 2011, 12:58 p.m.,*
in response to message #14 by bill platt

You only have $1000 worth of old HPs ?

Re: More 15C LEs appearing on TAS

*Message #16 Posted by **bill platt** on 25 Sept 2011, 2:07 p.m.,*
in response to message #15 by Michael de Estrada

Yes, I have about 20 of them. I got to that point and said, "WT%^$% am I *doing*!!!"

:-)

Re: More 15C LEs appearing on TAS

*Message #17 Posted by **Michael de Estrada** on 25 Sept 2011, 2:37 p.m.,*
in response to message #16 by bill platt

My collection is much more extensive, and nearly half are non-HP. About 30% of my RPN calcs are non-HP. Currently, my HP "collection" is complete, and most of my collecting at this point is rare non-HP RPN calcs. Unless HP comes out with something interesting in the future, it's doubtful I will buy any more, and will probably sell a few duplicates as well.

Re: More 15C LEs appearing on TAS

*Message #18 Posted by **Don Shepherd** on 25 Sept 2011, 2:42 p.m.,*
in response to message #14 by bill platt

I wouldn't shoot myself for failing to buy a new calculator with bugs present right out of the box. Anyone who bought these as investment vehicles will, I predict, be sadly disappointed.

A year from now they may be finally available from HP for $50. EBay prices probably much less than that.

Re: More 15C LEs appearing on TAS

*Message #19 Posted by **Roger Blake** on 25 Sept 2011, 3:57 p.m.,*
in response to message #18 by Don Shepherd

> Quote:
>
> A year from now they may be finally available from HP for $50. EBay prices probably much less than that.

I wish !

Can I ask an idiot question - what is TAS ? - not being in USA I just assumed it was another auction site, but my web searches haven't come up with anything ...

Re: More 15C LEs appearing on TAS

*Message #20 Posted by **Michael de Estrada** on 25 Sept 2011, 4:13 p.m.,*
in response to message #19 by Roger Blake

TAS = That Auction Site = eB**. It is considered the same as 666.

Re: More 15C LEs appearing on TAS

*Message #21 Posted by **PAtrick Rendulic** on 25 Sept 2011, 1:07 p.m.,*
in response to message #1 by Lincoln R.

What's going out there simply is dirty and plain business where maximizing profit rules.

Just check at Samsonc. $199.99 is the current price for a pre-order. I paid $94.99 for mine with the scratched #4 key.

Seems that dealing with HP calculators (even with the new ones) must make some people very rich.

Re: More 15C LEs appearing on TAS

*Message #22 Posted by **Todd Garabedian** on 25 Sept 2011, 1:41 p.m.,*
in response to message #21 by PAtrick Rendulic

> Quote:
>
> What's going out there simply is dirty and plain business where maximizing profit rules.
>
> Just check at Samsonc. $199.99 is the current price for a pre-order. I paid $94.99 for mine with the scratched #4 key.
>
> Seems that dealing with HP calculators (even with the new ones) must make some people very rich.

Same thing happened with iPads when they came out. Give it some time, let the supply catch up to the demand, and the price will level out back at $99.

I got my two yesterday (purchased from the HP Home store). I ordered a 12C LE last week too, but it hasn't arrived yet.

Re: More 15C LEs appearing on TAS

*Message #23 Posted by **Michael de Estrada** on 25 Sept 2011, 1:50 p.m.,*
in response to message #22 by Todd Garabedian

The difference is that iPads were not limited production, whereas the HP 15C LE has been arbitrarily limited to presumably 10000 units, and the ultimate demand appears to be higher. Right now people are buying these up to prey on others who are freaking out without using a little common sense. Ultimately, the market will stabilize, but it's hard to predict exactly where it will settle. Had I not obtained mine at the normal price, I would never have bought them.

Re: More 15C LEs appearing on TAS

*Message #24 Posted by **bill platt** on 25 Sept 2011, 2:11 p.m.,*
in response to message #23 by Michael de Estrada

The price will certainly come down.

The originals were only going for abourt $100 to $150 except for unusual auctions. Nothing has seen the highs of 5 years ago except the rise in price with some of the others such as NIB 41CX and old 1970s in great shape. The pioneers and voyagers were significantly levelled off by the appearance of the 35 and 33s or some other causes. The Champagnes went from $300+ to low 100 with the release of the 50G...

So I expect we'll see this all level off.

The big difference between the old old stuff and the voyagers is the sheer number ofgood voyagers out there. THere's nowehre near as many 67 machines as 15C in circulation

Re: More 15C LEs appearing on TAS

*Message #25 Posted by **Michael de Estrada** on 25 Sept 2011, 2:23 p.m.,*
in response to message #24 by bill platt

Actually the 10C has always sold for considerably more than the original 15C. Just like the 70 is

the most pricey Classic, with the exception of a Red Dot 35. The current situation with the $300+ 15C LEs on TAS is totally ridiculous. I think in October when the next boatload of 15c LEs arrive, there will be some normalizing like you said although prices won't come down as much as the current 12Cs.

Re: More 15C LEs appearing on TAS

*Message #26 Posted by **megarat** on 26 Sept 2011, 12:22 p.m.,*
in response to message #24 by bill platt

I completely agree with Bill. We are witnessing a micro-bubble. While it's possible that some of the high-bidding eBayers are just ordinary schmoes who never learned that HP came out with the 15c LE, don't know that it's apparently still in production, and think they've missed the boat, I expect that the frenzy will wear down shortly, and the value of these calculators will drop to MSRP, whatever that turns out to be.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC2012 programming challenge??

*Message #1 Posted by **Pal G.** on 24 Sept 2011, 3:47 p.m.*

Gene, did you have time to include us in the programming challenge?

Re: HHC2012 programming challenge??

*Message #2 Posted by **Walter B** on 24 Sept 2011, 4:11 p.m.,*
in response to message #1 by Pal G.

hehe, they claim having discovered particles travelling faster than light, but not *as* fast! A whole year, omg ;-)

Re: HHC2011! programming challenge??

*Message #3 Posted by **Pal G.** on 24 Sept 2011, 4:19 p.m.,*
in response to message #2 by Walter B

Walter, it was you who caught my last error calling the conference from five years ago HHC1997..

I don't need any more calculators, I need a good watch..

Edited: 24 Sept 2011, 4:21 p.m.

Re: HHC2011 programming challenge. Here you go!

*Message #4 Posted by **Egan Ford** on 24 Sept 2011, 5:31 p.m.,*
in response to message #1 by Pal G.

From Gene, "Sorry for being late. No WiFi or network access here."

http://xmission.com/~egan/2011_Programming_Contest.pdf

Edited: 24 Sept 2011, 5:35 p.m.

Re: HHC2011 programming challenge?? Here you go!

*Message #5 Posted by **Gene wright** on 24 Sept 2011, 5:35 p.m.,*
in response to message #4 by Egan Ford

Thanks for posting this

This morning was much more hectic than I had predicted

So far no corrections have been seen to the information in the document ... So the contest is now open

Remember ... Please do not post solutions and probably don't post many questions publicly either! :-)

Sorry for the delay and thanks again Egan!

Re: HHC2011 programming challenge?? Here you go!

*Message #6 Posted by **Thomas Radtke** on 25 Sept 2011, 4:32 a.m.,*
in response to message #5 by Gene wright

Hi Gene,

where to post the programs? I used your email address, hope that's ok.

Thomas

Re: HHC2011 programming challenge?? Here you go!

*Message #7 Posted by **Gerson W. Barbosa** on 25 Sept 2011, 3:17 p.m.,*
in response to message #6 by Thomas Radtke

Hello Thomas,

Here are my results, no spoiler:

```
    1 R/S ->           4       (   -  ,    2.2 s)
    5 R/S ->          88       (   -  ,    5.6 s)
  540 R/S ->      9#8#6#       ( 6.8 s,  407.0 s)
 5000 R/S ->    #8#5#6#0       (60.3 s,    -    )
```

(timings on the 12C+ and 12C, respectively)

If they are correct, the following is a nice approximation:

```
n = r*(pi*r + 4)
```

Regards,

Gerson.

Edited: 25 Sept 2011, 3:31 p.m.

Re: HHC2011 programming challenge?? Here you go!

*Message #8 Posted by **Werner** on 25 Sept 2011, 3:38 p.m.,*
in response to message #7 by Gerson W. Barbosa

Would posting the result for 540 constitute a spoiler? The number of pixels is what it is. Whether you reach that answer in 10 seconds or in 1000 seconds is more of a spoiler ;-)

Werner

Re: HHC2011 programming challenge?? Here you go!

*Message #9 Posted by **Thomas Radtke** on 25 Sept 2011, 3:40 p.m.,*
in response to message #7 by Gerson W. Barbosa

Hi Gerson,

the 32SII does R=5 in a fraction of a second. It's quite a fast baby :-). Just tried R=540 w/o precise timing, might be about 40s, same digits as you got.

Ah, why couldn't HP just produce the Pionieers and Voyagers forever... ;-(

Thomas

Re: HHC2011 programming challenge?? Here you go!

*Message #10 Posted by **Dieter** on 25 Sept 2011, 4:28 p.m.,*
in response to message #7 by Gerson W. Barbosa

But Gerson, what about the center coordinates? The text of the challenge says that the radius as well as x_center and y_center must be entered. :-)))

Anyway, I do not know if your results are correct but at least I get the same on the 35s. ;-)
Running times are quite exactly 10x those of the fast 12C+, resp. the 35s is 6x as fast as the original 12C.

Dieter

Re: HHC2011 programming challenge?? Here you go!

*Message #11 Posted by **Gerson W. Barbosa** on 25 Sept 2011, 4:41 p.m.,*
in response to message #10 by Dieter

> Quote:
>
> But Gerson, what about the center coordinates?

That's something I haven't understood. Because of the statement "assume that all circles fit on the display panel even if in reality they would not" it appears to me the coordinates are irrelevant. If only the pixels that fit on the screen should be computed, then the coordinates would be important. I may be wrong however.

Cheers,

Gerson.

Re: HHC2011 programming challenge?? Here you go!

*Message #12 Posted by **Dave Shaffer (Arizona)** on 25 Sept 2011, 4:48 p.m.,*
in response to message #11 by Gerson W. Barbosa

I agree with Gerson - the center coords don't matter for counting (theoretical) pixels.

Re: HHC2011 programming challenge?? Here you go!

*Message #13 Posted by **Dieter** on 25 Sept 2011, 4:51 p.m.,*
in response to message #11 by Gerson W. Barbosa

Well, I understood it that way either. So any solution should start with 2x RDN or DROP. ;-)
Either we miss something here ...or we are simply too clever. :-)

Dieter

Re: HHC2011 programming challenge?? Here you go!

*Message #14 Posted by **Gerson W. Barbosa** on 25 Sept 2011, 5:02 p.m.,*
in response to message #13 by Dieter

> Quote:
>
> So any solution should start with 2x RDN or DROP. ;-)

You're right. This makes my 12C program two steps longer (48 instead of 46). I thought of including Rv Rv in the beginning, but as it worked with the sample cases I just ignored it. Now checking the rules I see the radius should be entered first... That's how I got B- instead of B at school, by not reading the questions carefully :-)

Edited: 25 Sept 2011, 5:04 p.m.

Re: HHC2011 programming challenge?? Here you go!

*Message #15 Posted by **Paul Dale** on 25 Sept 2011, 5:06 p.m.,*
in response to message #13 by Dieter

Definitely agreed here. In the case of the 34S, a complex roll down or complex drop at the start.

- Pauli

Re: HHC2011 programming challenge?? Here you go!

*Message #16 Posted by **Jeff O.** on 27 Sept 2011, 7:25 p.m.,*
in response to message #15 by Paul Dale

Or a RCL Z?

Re: HHC2011 programming challenge?? Here you go!

*Message #17 Posted by **Paul Dale** on 27 Sept 2011, 7:39 p.m.,*
in response to message #16 by Jeff O.

Yes. Or complex x<>y; complex R^ (default state being specified which is 4 level stack) or even x<> Z. I've probably still missed some options.

They'll all run sufficiently fast to make no noticeable difference to the execution time.

- Pauli

Re: HHC2011 programming challenge?? Here you go!

*Message #18 Posted by **Paul Dale** on 25 Sept 2011, 8:52 p.m.,*
in response to message #7 by Gerson W. Barbosa

34S after an integer mode bug fix to the firmware and I'm getting 7.6 seconds for r = 5,000. Without the fix and sticking to the same algorithm in floating point mode, 32.7 seconds for r = 5,000.

My best attempt (which is slightly broken but not due to a firmware issue and likely in a fixable

way) 4.7 seconds for r = 5,000.

- Pauli

Re: HHC2011 programming challenge. Here you go!

*Message #19 Posted by **Paul Dale** on 24 Sept 2011, 7:37 p.m.,*
in response to message #4 by Egan Ford

Time to add a special integral area of a circle function to the 34S ;-)

- Pauli

Re: HHC2011 programming challenge. Here you go!

*Message #20 Posted by **Gene wright** on 24 Sept 2011, 8:16 p.m.,*
in response to message #19 by Paul Dale

Nope, the contest rules specifically prohibit new code or binaries including new functions not present yesterday

:-)

Re: HHC2011 programming challenge. Here you go!

*Message #21 Posted by **Paul Dale** on 24 Sept 2011, 8:57 p.m.,*
in response to message #20 by Gene wright

I noticed that but had to say it anyway :)

I might have found another bug in the firmware too :-(Still investigating. Sigh. This task never ends.

- Pauli

Re: HHC2011 programming challenge. Here you go!

*Message #22 Posted by **Marcus von Cube, Germany** on 25 Sept 2011, 3:24 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> I might have found another bug in the firmware too :-(Still investigating. Sigh. This task never ends.

Can you elaborate on this?

Re: HHC2011 programming challenge. Here you go!

*Message #23 Posted by **Paul Dale** on 25 Sept 2011, 3:34 a.m.,*
in response to message #22 by Marcus von Cube, Germany

Nope. Not without revealing things that will help others :-)

- Pauli

Re: HHC2011 programming challenge. Here you go!

*Message #24 Posted by **Marcus von Cube, Germany** on 25 Sept 2011, 3:36 a.m.,*
in response to message #23 by Paul Dale

Off to bed...

Re: HHC2011 programming challenge. Here you go!

*Message #25 Posted by **Walter B** on 25 Sept 2011, 11:55 a.m.,*
in response to message #4 by Egan Ford

Just a remark: IMHO, 8 pixels less would give a better circle in the case shown in the picture. But it would complicate the challenge, so take it just FWIW.

Re: HHC2011 programming challenge. Here you go!

*Message #26 Posted by **Thomas Radtke** on 25 Sept 2011, 12:17 p.m.,*
in response to message #25 by Walter B

For a certain feature, it could even be a square package of pixels to be as much a circle as the fit given ;-).

Re: HHC2011 programming challenge. Here you go!

*Message #27 Posted by **Walter B** on 25 Sept 2011, 12:23 p.m.,*
in response to message #26 by Thomas Radtke

Yeah, I think any pixel should be lit only if the circle covers more than 50% of it, but - as mentioned above - this condition would raise the level of complexity significantly.

Re: HHC2011 programming challenge. Here you go!

*Message #28 Posted by **Thomas Radtke** on 25 Sept 2011, 12:29 p.m.,*
in response to message #27 by Walter B

I know what you meant, I was just fooling around to compensate the frustration for not being at the HHC :-/.

Re: HHC2011 programming challenge. Here you go!

*Message #29 Posted by **Paul Dale** on 25 Sept 2011, 5:02 p.m.,*
in response to message #27 by Walter B

I don't believe it complicates the problem all that much.

My fastest solution does just this and since I've put too much time into this little puzzle already, I'm not planning on fixing it.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone 'tweeting' from HHC2011?

*Message #1 Posted by **Pal G.** on 24 Sept 2011, 1:09 p.m.*

Please let us know, so we can listen in.

Thanks.

Re: Anyone 'tweeting' from HHC2011?

*Message #2 Posted by **Bruce Bergman** on 24 Sept 2011, 6:42 p.m.,*
in response to message #1 by Pal G.

There's ZERO wifi available, so it would have to be via phone, and cell coverage out in this area is crummy.

It's almost like they're TRYING to block us from getting to the net. ;-)

Re: Anyone 'tweeting' from HHC2011?

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Sept 2011, 2:20 a.m.,*
in response to message #2 by Bruce Bergman

And we have an NDA to obey too...

Re: Anyone 'tweeting' from HHC2011?

*Message #4 Posted by **Marcus von Cube, Germany** on 25 Sept 2011, 3:10 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

At least it was a full day...

I'm just back but after having emptied a bottle of wine with my wife I'm not very good at reporting. We saw interesting stuff from the community (new non HP hardware is on the horizon), very serious programming efforts for existing platforms, and some enlightening reports about the new 15C (benchmarks and such) or the 41CL. I'm pretty sure the non HP efforts will soon be published by the respective persons. I'm posting my and Neil's presentations on SF.

Re: Anyone 'tweeting' from HHC2011?

*Message #5 Posted by **hpnut** on 25 Sept 2011, 5:03 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Hi Marcus, pls share with us.

Re: Anyone 'tweeting' from HHC2011?

*Message #6 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 2:28 p.m.,*
in response to message #5 by hpnut

The second day was far less exciting (and exhausting) as day one but it had its highlights, too. I very much enjoyed Richard Nelson talking about how the PPC ROM was put together by the community before the Internet and what huge effort was necessary to mail out the boxes to the PPC members. Richard should do a wright-up on this.

BTW, the folks at the conference are a nice crowd. I felt very comfortable with them.

Re: Anyone 'tweeting' from HHC2011?

*Message #7 Posted by **Eric Smith** on 25 Sept 2011, 8:49 p.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

You mean we can't tell them about the HP 51g?

Re: Anyone 'tweeting' from HHC2011?

*Message #8 Posted by **Marcus von Cube, Germany** on 26 Sept 2011, 2:23 p.m.,*
in response to message #7 by Eric Smith

I forgot the model number, was 51 or 15? ;-)

NDA is NDA is NDA is...

Re: Anyone 'tweeting' from HHC2011?

*Message #9 Posted by **Martin Pinckney** on 26 Sept 2011, 3:15 p.m.,*
in response to message #7 by Eric Smith

I would not want to be one of you guys who knew something terrific about a new release, but had to keep it secret for ... a year, in the case of the 15c LE.

Re: Anyone 'tweeting' from HHC2011?

*Message #10 Posted by **Steve Simpkin** on 27 Sept 2011, 2:00 p.m.,*
in response to message #7 by Eric Smith

Of course in Eric's case, if HP doesn't make the calculator he wants, he will "simply" make it himself, from scratch. I thoroughly enjoyed all of the presentations at HHC2011, but Eric's was astounding....

Re: Anyone 'tweeting' from HHC2011?

*Message #11 Posted by **David Hayden** on 25 Sept 2011, 8:05 p.m.,*
in response to message #1 by Pal G.

We just finished up and it was another great conference. The attendance was quite high (I think Gene said 67) and the talks were wonderful.

We heard from Dennis Harms, Product Manager (I think that was his title) of the HP 12C. He had some great stories. In the introductions, he said "if you press a math key on an HP calculator, that's probably some of my code you're running."

I think the highlight for me was the WP 34S. Marcus von Cube gave a great talk about it, Jake Schwartz talked about the 16C functionality in it, and Eric Rechlin explained his keyboard overlays, complete with a demonstration on installing them. I sat across from Eric and he spent most of the conference flashing 20b's and

30b's into 34S's. This is certainly an exciting machine.

Of course we heard lots of great stuff from HP also, including a Q&A session with the developers, marketing, product management etc. Information from HP is covered under the NDA that we must all sign, but trust me, it's very interesting and for me, the confidential information is reason enough to attend the conferences.

There were many other talks but I don't have time right now to go into them. Joe Horn won the Best Speaker prize.

Dave

Re: Anyone 'tweeting' from HHC2011?

*Message #12 Posted by **Walter B** on 26 Sept 2011, 1:24 a.m.,*
in response to message #11 by David Hayden

Now we who could not attend are all waiting for the proceedings to be published. Also individual files are appreciated :-)

Edited: 26 Sept 2011, 1:28 a.m.

Re: Anyone 'tweeting' from HHC2011?

*Message #13 Posted by **Olivier (Wa)** on 26 Sept 2011, 1:55 a.m.,*
in response to message #11 by David Hayden

I believe it was higher, in the mid-70, as we had at least a #74 ticket called during the door prizes drawing. Richard did mention something like 88 people signed-up and maybe 76 ended-up showing-up.

Re: Anyone 'tweeting' from HHC2011?

*Message #14 Posted by **Eric Rechlin** on 27 Sept 2011, 10:53 a.m.,*
in response to message #13 by Olivier (Wa)

I think 74 was the highest ticket, and there were another 4 or so HP people who came by but did not have to register, for a total of about 78.

Eric

Re: Anyone 'tweeting' from HHC2011?

*Message #15 Posted by **gene wright** on 27 Sept 2011, 11:35 a.m.,*
in response to message #14 by Eric Rechlin

74 was the highest ticket - Jeremy Smith, but he came after the HP people. I think we had 68 total non-HP attendees this year.

Re: Anyone 'tweeting' from HHC2011?

*Message #16 Posted by **Jake Schwartz** on 27 Sept 2011, 1:25 p.m.,*
in response to message #15 by gene wright

> Quote:
>
> 74 was the highest ticket - Jeremy Smith, but he came after the HP people. I think we had 68 total non-HP attendees this year

I believe that the total including HP folks was 69 or 70 back in 2007 when we were last in San Diego with the intro of the 34S, so this one beats that and easily is the largest attendance in a couple of decades. FYI, the 8/22/1981 conference in Corvallis when the 41 series was "fresh", attracted 180 people. This not only included a barbecue on the HP grounds, but a plant tour, where we got to see the manufacturing area as well as the R&D area. A few of us got early glimpses of the HP11C and 12C machines, to be officially announced only 3 weeks later. Ultimately, that manufacturing area built Voyager machines on an assembly line with robots controlled over HP-IL by HP71Bs. Is that cool, or what?

Jake

Re: Anyone 'tweeting' from HHC2011?

*Message #17 Posted by **Jake Schwartz** on 27 Sept 2011, 1:26 p.m.,*
in response to message #16 by Jake Schwartz

> Quote:
>
> ...last in San Diego with the intro of the 34S,

I actually meant 35S. I have "34S" on the brain!!!

Jake

Re: Anyone 'tweeting' from HHC2011?

*Message #18 Posted by **Walter B** on 27 Sept 2011, 2:56 p.m.,*
in response to message #17 by Jake Schwartz

> Quote:
>
> I have "34S" on the brain!!!

Feel free to continue this way - you're welcome :-)
Actually, "Imagine" was in 2008 IIRC.

Edited: 27 Sept 2011, 2:58 p.m.

Re: Anyone 'tweeting' from HHC2011?

*Message #19 Posted by **Egan Ford** on 27 Sept 2011, 4:05 p.m.,*
in response to message #16 by Jake Schwartz

> Quote:
>
> Ultimately, that manufacturing area built Voyager machines on an assembly line with robots controlled over HP-IL by HP71Bs.

So what you are saying is that the 71B created the Voyager line in it's own image? Fascinating. :-)

> Quote:

> Is that cool, or what?

That is awesome. I would have loved to have seen that (or video's or pictures).

Re: Anyone 'tweeting' from HHC2011?

*Message #20 Posted by **hpnut** on 28 Sept 2011, 8:56 p.m.,*
in response to message #16 by Jake Schwartz

> Quote:
>
> a plant tour, where we got to see the manufacturing area as well as the R&D area. A few of us got early glimpses of the HP11C and 12C machines, to be officially announced only 3 weeks later. Ultimately, that manufacturing area built Voyager machines on an assembly line with robots controlled over HP-IL by HP71Bs. Is that cool, or what?
>
> Jake

now that's a factory tour that I would love to go!

Re: Anyone 'tweeting' from HHC2011?

*Message #21 Posted by **Dominic Richens** on 29 Sept 2011, 11:27 a.m.,*
in response to message #16 by Jake Schwartz

> Quote:
>
> Ultimately, that manufacturing area built Voyager machines on an assembly line with robots controlled over HP-IL by HP71Bs. Is that cool, or what?

Maybe someone should talk to James Cameron - perhaps the HP-15C can make a cameo in Terminator 5!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp48 mechanical engineering card

*Message #1 Posted by **Giancarlo** on 24 Sept 2011, 1:00 p.m.*

Hello, I would like to buy a mechanical engineering card for my beloved hp48gx. I remember the sparcom card and i don't remember if other ME cards were available.

Do you know where i can find the manual so that i can understand the topics covered in detail?

I also remember that the sparcom card had two flavors: the ME and the ME reference card...

Then i hope to find one here or eventually on TAS...

Thanks

Giancarlo

Re: Hp48 mechanical engineering card

*Message #2 Posted by **NateB** on 24 Sept 2011, 3:26 p.m.,*
in response to message #1 by Giancarlo

I sent you mail

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cleaning HP97 body

*Message #1 Posted by **Olivier De Smet** on 24 Sept 2011, 12:30 p.m.*

Using alcohol on the uper part of the calculator lead to white trace. Was could be used to clean such plastic ?

What did you use to clean you old calculators ?

Olivier

Re: Cleaning HP97 body

*Message #2 Posted by **Katie Wasserman** on 24 Sept 2011, 3:54 p.m.,*
in response to message #1 by Olivier De Smet

Novus polish #1 (just for dirt) and #2 (for light scratches and dirt), never #3.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cleaning HP-97 Print Head

*Message #1 Posted by **Fouad M. Kaadou** on 24 Sept 2011, 10:25 a.m.*

Hello,

I need to clean my HP-97 print head, but I have no idea how to get to it and with what to clean it with. Any ideas?

Thanks in advance,

Fouad

Re: Cleaning HP-97 Print Head

*Message #2 Posted by **Michael de Estrada** on 24 Sept 2011, 10:31 a.m.,*
in response to message #1 by Fouad M. Kaadou

You can run a red cleaning card through to do a reasonably good job unless it is badly gummed up. The card is abrasive and will wear a small amount of material off the head, so you want to use it sparingly. Direct access to the head itself requires complete disassembly of the card reader.

Re: Cleaning HP-97 Print Head

*Message #3 Posted by **Fouad M. Kaadou** on 24 Sept 2011, 11:40 a.m.,*
in response to message #2 by Michael de Estrada

Michael,

I am talking about the printer head not the card reader. Thanks anyway for looking.

Regards,

Fouad

Re: Cleaning HP-97 Print Head

*Message #4 Posted by **Olivier De Smet** on 24 Sept 2011, 12:26 p.m.,*
in response to message #3 by Fouad M. Kaadou

I had the same problem of bad printing with my HP97, it was solved by buying actual thermal paper (black). The old paper wasn't working good for printing and for advancing too.

HP97 use normal 57mm wide thermal paper.

Olivier

Re: Cleaning HP-97 Print Head

*Message #5 Posted by **Fouad M. Kaadou** on 24 Sept 2011, 1:24 p.m.,*
in response to message #4 by Olivier De Smet

I tried the same paper on my hp 82143a printer and works great. I also read on the museum that using black thermal paper on an HP97 wears out the print head.

-Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Original HP15C article from HP Journal, May 1983

*Message #1 Posted by **JamesT** on 23 Sept 2011, 8:44 p.m.*

With all of the "renewed" interest in the 15C with the release of the limited edition, thought you might get a kick out of this issue of HP Journal from May, 1985. It has a very interesting feature (page 25) on the 15C and 16C calculators, which had just been released.

http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1983-05.pdf

It is refreshing to see how enduring a truly great design can be, even after nearly 30 years, and the article reinforces what a great engineering company HP was in those days.

Re: Original HP15C article from HP Journal, May 1983

*Message #2 Posted by **John B. Smitherman** on 23 Sept 2011, 10:02 p.m.,*
in response to message #1 by JamesT

Thanks James. That's some great stuff.

I doubt that Meg or any of the other board members could understand any of the articles.

John

Re: Original HP15C article from HP Journal, May 1983

*Message #3 Posted by **JamesT** on 24 Sept 2011, 12:52 a.m.,*
in response to message #2 by John B. Smitherman

Here's another one I found, featuring the 9100A...lots of cool stuff out there if you dig a little...

http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1968-09.pdf

Re: Original HP15C article from HP Journal, May 1983

*Message #4 Posted by **Dwight Sturrock** on 24 Sept 2011, 1:39 a.m.,*
in response to message #1 by JamesT

Great engineers in those days.

Now we can't even match up the right batteries with the new circuit. Isn't there anyone left in the calculator division that knows the difference between 20mA and .18mA?

Dwight

Re: Original HP15C article from HP Journal, May 1983

*Message #5 Posted by **Thomas Radtke** on 24 Sept 2011, 3:26 a.m.,*

in response to message #4 by Dwight Sturrock

For sure there is. I know myself how hard it is to get everything right if administration doesn't really care for things you're working on. You simply get too little funding. That's all.

Edited: 24 Sept 2011, 3:26 a.m.

Re: Original HP15C article from HP Journal, May 1983

*Message #6 Posted by **Paul Gaster** on 24 Sept 2011, 10:43 a.m.,*
in response to message #5 by Thomas Radtke

All sorts of crazy things happen in just about any company these days.

For an example I am now working as a temp engineer at a company, and my job is to get a new bench/workstation product launched. I will try to avoid the company name, etc. The company has been in business for decades and does great work. However they were bought out by a larger company about 2 years ago, and this parent company wanted them to have a new more modern looking bench/workstation with more features. The parent company paid a design firm over a quarter million dollars for development. There are more design problems and issues than you could imagine. The design firm never worked with the small company on details.

The workstation surface was supposed to be be available in two heights. There are some parts missing in the CAD files for one height, plus there is an interference problem if you drop the working surface and associated parts to the lower height. Oh, and some electrical wiring has no openings to run through for the lower height option.

On top of that the entire workstation was designed to use metric steel and fasteners and the company I am working with makes everything in house now and they don't have a metric wrench or tool in the place. There are other design issues and potential problems too. The workstation has a board and wire harness, but of course it doesn't look like the company's standard UL approved harness will be able to be re-used in this design, so we need to deal with that too. It really is a mess.

Anyway, back to reality here and HP calculators. I am encouraged about some recent things in HP like the new 15C LE, the 30B and overall the use of ARM processors. Also it's great to see support, input and help from HP people here.

Re: Original HP15C article from HP Journal, May 1983

*Message #7 Posted by **Dominic Richens** on 24 Sept 2011, 11:42 a.m.,*
in response to message #6 by Paul Gaster

> Quote:
>
> All sorts of crazy things happen in just about any company these days.

Tell me about it! I used to work for Bell Northern Research, then Nortel. I'm one of the lucky ones that got a job with the engineering minded company that bought out our line of business. In BNR days us engineers could spent 10% of our time doing whatever we wanted. Sometimes those little skunkwork projects turned into a product/feature. Nortel did away with that. The new company has brought that back - it's awesome!

Hopefully HP's calculator team will be as lucky.

Re: Original HP15C article from HP Journal, May 1983

*Message #8 Posted by **Kiyoshi Akima** on 24 Sept 2011, 8:32 p.m.,*
in response to message #6 by Paul Gaster

If you think companies are bad, try governments.

I was once involved (somewhat peripherally) with the design of a radio tuner for the Air Force. This was a box to fit into an existing rack-mount unit, but with a new frequency range. The prototype worked fine, survived the vibration, heat, cold, and other tests. Then they initially rejected the unit because it weighed two pounds (that's about one kilogram, for those outside the US) LESS than the old unit it was replacing. Since our new digital design was so much more compact than the older analog circuit, we solved the problem by bolting two pounds of lead inside the case and raising the price accordingly.

This was for a radio intended for use aboard a Boeing 707. The two pounds were supposedly necessary to maintain aircraft balance during a twelve-hour flight.

Re: Original HP15C article from HP Journal, May 1983

*Message #9 Posted by **Dave Johnson** on 24 Sept 2011, 5:59 p.m.,*
in response to message #1 by JamesT

Others of interest?

1968-09 hp9100A 1972-06 hp35 1972-12 hp9800 1973-05 hp80 1974-06 hp65 1975-11 hp 21/22/25 1976-06 hp1925A 1976-11 hp67/97 1977-05 calc sort 1977-06 calc trig functions 1977-10 hp92 1977-11 calc inv trig functions 1977-12 hp-01 1978-04 hp9845A log functions 1980-03 hp41 1983-02 hp-41 hpil 1983-06 hp-75 1984-07 hp71B

Re: Original HP15C article from HP Journal, May 1983

*Message #10 Posted by **DigiGal** on 26 Sept 2011, 4:07 p.m.,*
in response to message #9 by Dave Johnson

Museum CD/DVD - Approximately 1400 scanned HP manuals, applications pacs, HP Digests, HP Journals, HP Keynotes, programs and brochures in Adobe Acrobat (PDF)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC--- be patient tomorrow please

*Message #1 Posted by **Gene wright** on 23 Sept 2011, 6:11 p.m.*

Hi all. We are setting up the conference location and are running into a few interesting challenges. We will be packed tighter than usual with perhaps the largest crowd in years.

There will be no Internet access in the conference room.

The chairs may not be as comfy as previous years.

We are doing our best as we set up now but wanted to let people know early

The presentations are going to be great but please be patient this weekend!

Re: HHC--- be patient tomorrow please

*Message #2 Posted by **Seth Morabito** on 23 Sept 2011, 6:55 p.m.,*
in response to message #1 by Gene wright

First Prize for the programming contest should be a comfy chair and Internet access. You'll get full participation!

;-)

Re: HHC--- be patient tomorrow please

*Message #3 Posted by **Paul Dale** on 23 Sept 2011, 7:05 p.m.,*
in response to message #2 by Seth Morabito

Decided at the end of the conference of course.

- Pauli

Re: HHC--- be patient tomorrow please

*Message #4 Posted by **John B. Smitherman** on 23 Sept 2011, 7:39 p.m.,*
in response to message #3 by Paul Dale

You can collect your winnings at next year's conference. ;-)

John

Re: HHC--- be patient tomorrow please

*Message #5 Posted by **Raymond Del Tondo** on 23 Sept 2011, 8:13 p.m.,*
in response to message #1 by Gene wright

Hi all,

have fun at the HHC2011:-)
Wish I could participate, hopefully next year...

Best wishes from Germany

Raymond

Re: HHC--- be patient tomorrow please

*Message #6 Posted by **Marcus von Cube, Germany** on 24 Sept 2011, 12:20 a.m.,*
in response to message #5 by Raymond Del Tondo

I just returned from the shake-hands in the Elephant Bar. This was my first encounter with the group and I must say it was a very warm welcome. Namir has kept his promise to buy me beer. :-)

I'm looking forward to the meeting tomorrow.

Re: HHC--- be patient tomorrow please

*Message #7 Posted by **Paul Dale** on 24 Sept 2011, 12:35 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Sigh :-(

- Pauli

Re: HHC--- be patient tomorrow please

*Message #8 Posted by **Walter B** on 24 Sept 2011, 8:14 a.m.,*
in response to message #7 by Paul Dale

Double-sigh :-(

Walter

Re: HHC--- be patient tomorrow please

*Message #9 Posted by **Bruce Bergman** on 24 Sept 2011, 1:54 a.m.,*
in response to message #6 by Marcus von Cube, Germany

You guys were supposed to let me know if there was a dinner... :-(

Re: HHC--- be patient tomorrow please

*Message #10 Posted by **Marcus von Cube, Germany** on 24 Sept 2011, 9:11 a.m.,*
in response to message #9 by Bruce Bergman

It was discussed in the HHC mailing list.

Re: HHC--- be patient tomorrow please

*Message #11 Posted by **Howard Owen** on 24 Sept 2011, 2:53 a.m.,*
in response to message #1 by Gene wright

Just touched down at Lindbergh Field. See you all too early in the morning. :)

Re: HHC--- be patient tomorrow please

*Message #12 Posted by **zork750** on 27 Sept 2011, 12:51 a.m.,*
in response to message #1 by Gene wright

hello,

I'm sorry to post here, I did not know where I could apply, I would like to order a cable to connect my HP 15C to a PC in order to make updates.

In advance thank you, my mail contact zork750@yahoo.fr to tell me how.

Sincerely,

Zork750

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12C Article in the Financial Times

*Message #1 Posted by **Charles** on 23 Sept 2011, 4:04 p.m.*

Front page and page 14!

Re: HP12C Article in the Financial Times

*Message #2 Posted by **Peter Murphy (Livermore)** on 23 Sept 2011, 5:04 p.m.,*
in response to message #1 by Charles

Here:

http://www.ft.com/intl/cms/s/0/01e3a93a-e510-11e0-9aa8-00144feabdc0.html

Re: HP12C Article in the Financial Times

*Message #3 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 23 Sept 2011, 6:53 p.m.,*
in response to message #2 by Peter Murphy (Livermore)

Can't read, must be a registered user :(

Found this link which works:

http://www.ft.com/intl/cms/s/0/01e3a93a-e510-11e0-9aa8-00144feabdc0.html#axzz1Yopjn4b3Link

Edited: 23 Sept 2011, 6:55 p.m.

Error in article?

*Message #4 Posted by **x34** on 24 Sept 2011, 8:34 a.m.,*
in response to message #1 by Charles

"It is one of only two calculators permitted to be used in Chartered Financial Analyst examinations, the other being the cheaper Texas Instruments Business Analyst II Plus. Both offer reverse polish notation, an initially counter-intuitive way of entering sums that analysts swear by to calculate cash flows, amortisation, time value of money and mortgage payments. "

I wonder if TI Business Analyst II Plus actually has RPN input.

Edited: 24 Sept 2011, 2:22 p.m.

Re: Error in article?

*Message #5 Posted by **Mark Harman** on 24 Sept 2011, 6:54 p.m.,*
in response to message #4 by x34

It doesn't. It only offers AOS and Chain.

Mark

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Doom and Gloom

*Message #1 Posted by **Howard Owen** on 23 Sept 2011, 12:58 p.m.*

OMG!

HP is going to sell the huge division that includes the group that makes the calculators we obsess over. It's all coming to an end! Our hopes for new calculators that sort of work like the old calculators will be cast into the wilderness of crass corporatism to wander voicelessly for all time!

But wait!

There's a new CEO! Maybe ... but no. Meg hates computers too. OMG OMG.

Calculators are profitable. Although sales volume is tiny compared to to PCs, margins are almost certainly better. Wherever the calculator group ends up, they are likely to survive the transition based on the bottom line. We can worry that the our priorities won't be taken into account as much as in recent years, but this is the age of social networking. User communities like this one are considered in marketing plans now. We may excoriate the new calculator models, or HP's business practices, but more than half of us will give 4 star ratings to machines we like. We'll gush about the old quality, and we'll recommend that our friends and family buy a new machine. If the 15C LE is selling as well as it seems to be, there's a concrete measure of the influence we have. There's no guarantee that possible new owners will treat us as well as our current friends have, (*The 15C LE is an **astounding** gesture towards people like us*,) but it's unlikely we will be discounted completely. It's even possible we might get more love directed our way under new owners.

The current turmoil at HP presents us with uncertainty, not armageddon. The worst case scenario is going back to status quo before Sam Kim, with a company that pays no attention to the HP heritage of excellent quality calculators,* only now we have flashable platforms in both landscape and portrait formats. We can produce the machines we dream about now. Talk about empowerment!

But, hold the presses, I've just heard a rumor that Leo Apotheker has been handed the calculator group as part of his golden parachute. OMG OMG!

*** edit: This is not meant to disrespect our friends in the calculator division who have always cared about quality. My comment refers to managerial attention to those old values.**

Edited: 23 Sept 2011, 1:09 p.m.

Re: Doom and Gloom

*Message #2 Posted by **troy** on 23 Sept 2011, 1:30 p.m.,*
in response to message #1 by Howard Owen

i don't know much about this issue, but does that mean that HP is the new TAS? :)

Re: Doom and Gloom

*Message #3 Posted by **Howard Owen** on 23 Sept 2011, 1:40 p.m.,*

in response to message #2 by troy

FCC (Former Calculator Company)
XHP (nt)
AET (Agilent Evil Twin)
CCC (Compaq Calculator Company)
MRV (Meg's Reentry Vehicle)

Stop me before I acronym all over myself.

Re: Doom and Gloom

*Message #4 Posted by **Ángel Martin** on 23 Sept 2011, 3:11 p.m.,*
in response to message #3 by Howard Owen

LOL !!!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c LE Bad Keys

*Message #1 Posted by **Gerry Schultz** on 23 Sept 2011, 12:54 p.m.*

I received two more 15C LEs last night (ordered from HP's website) and one of them has a 'CHS' key that is hard to push but does register according to the keyboard test. That prompted me to recheck my two original 15C LEs that I got from Samson Cables last week and the 'GTO' button on one of them doesn't have that 'positive tactile feedback' but registers fine on the keyboard test. That means that two of the four calculators that I've bought have a keyboard issue.

I'm bummed about this and will bring them to the HHC meeting to see what you guys think. I'm hoping that HP can tell me what I need to do to either get these calcs repaired or replaced. Other than they work fine as far as I can tell.

Gerry

Re: HP-15c LE Bad Keys

*Message #2 Posted by **Lincoln R.** on 23 Sept 2011, 1:24 p.m.,*
in response to message #1 by Gerry Schultz

Have you e-mailed Tim Wessman at HP? He wanted to know about any defective 15Cs so HP could deal with them.

Re: HP-15c LE Bad Keys

*Message #3 Posted by **Gerry Schultz** on 23 Sept 2011, 6:07 p.m.,*
in response to message #2 by Lincoln R.

Well, I'm here at the hotel. Thanks, Lincoln. I have sent Tim an email but haven't herard back.

Gerry

Re: HP-15c LE Bad Keys

*Message #4 Posted by **Tim Wessman** on 23 Sept 2011, 11:38 p.m.,*
in response to message #3 by Gerry Schultz

That's because I've been busy running around doing stuff.

And the internet isn't all that great at the hotel either. . . :-(

TW

Re: HP-15c LE Bad Keys

*Message #5 Posted by **Paul Dale** on 23 Sept 2011, 11:40 p.m.,*
in response to message #4 by Tim Wessman

Let us hope the *stuff* results in updated firmware for our beloved 15C LEs :-)

- Pauli

Re: HP-15c LE Bad Keys

*Message #6 Posted by **Gerry Schultz** on 24 Sept 2011, 2:50 a.m.,*
in response to message #4 by Tim Wessman

I understand and it's not a problem. I know you will do whatever you can for all of us. I'll see you tomorrow. We are here to have fun and I'm not going to let this issue spoil it.

Gerry

Re: HP-15c LE Bad Keys

*Message #7 Posted by **Michel Beaulieu** on 23 Sept 2011, 1:32 p.m.,*
in response to message #1 by Gerry Schultz

I have a US made 15C that hasn't been use a lot and if i compare the keyboard to the new 15C, i prefer the new one.

The tactile feel is better on the LE and on my old one the color of keys is too shinny compare to my new LE.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP200LX's Calc under Win7

*Message #1 Posted by **Mike (Stgt)** on 23 Sept 2011, 6:53 a.m.*

Hi connoisseurs of HP calculators!

There goes the saying that the calculator within the HP200LX was a migration of a HP19Bii to DOS. Anyway, it's graphing capability was quite good. There had been some migrations to M$ Windos arround.

2 Questions: i) is there one that still works on Win7 (or is the Connectivity Pack und DOSbox the prefered way to go)? ii) Where may I get it?

TIA

Ciao.....Mike

Re: HP200LX's Calc under Win7

*Message #2 Posted by **Dave Britten** on 23 Sept 2011, 8:15 a.m.,*
in response to message #1 by Mike (Stgt)

The HP200LX mostly uses a non-standard display mode, so getting the original to work on Windows would be difficult or impossible. I don't recall if the connectivity pack included the calculator, or if it did, whether there were any graphical capabilities (the whole thing may have been entirely text-mode).

I believe some older OmniBooks came with Windows 3.1 and some form of HP Calculator application. You might try tracking that down.

Or just keep a 200LX on your desk. :)

Re: HP200LX's Calc under Win7

*Message #3 Posted by **Bill (Smithville, NJ)** on 23 Sept 2011, 10:10 a.m.,*
in response to message #1 by Mike (Stgt)

Mike,

The connection pack called CPACK will work in most windows in a DOS Window. CPACK diplays exactly like the HP-200 screen and you can do eveything on it that you will do on a real 200lx, including all the features of the calculator. While it is NOT a windows application and displays as a realativey low quality resolution when compared to today's windows programs, it is very usable.

I have used CPACK to develop more complicated solver programs. Must easier to do than using a HP-19BII or HP-17BII. Once debugged, then I can transfer to the calculator.

As to Windows migrations, HP furnished a couple of Windows programs on their Omnibook computers:

HPCALC - This calcuator had many of the features of the calculator in the 200LX BUT it is missing the L()

ad G() commands which are really required for more complex solver programs.

HPPIM - Phone Book and Calendar program that used the same data files as the HP_200LX so you could take the Phone Book from the Calculator and use it with HPPIM on a Windows machine and vice versa.

Just noticed that you mentioned Windows 7. HPPPIM and HPCALC should run in 32 bit Windows 7, but will not run in 64 bit windows 7. There may be a way around this.

You probally will need to run DOSBOX to get the CPACK to to run on a 64 bit windows.

<edit> I just tried CPACK200 on a Windows 7 64 bit and it ran fine in DOSBOX.

Bill

Edited: 23 Sept 2011, 12:19 p.m.

Re: HP200LX's Calc under Win7

*Message #4 Posted by **fhub** on 23 Sept 2011, 3:22 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

After a long internet search I've finally found this HPPIM package, which also contains HPCALC.EXE:
http://super.hplx.net/anonftp/pub/hppim.zip

Unfortunately I couldn't find CPACK200 anywhere, it's full LX200 emulator would of course be much more interesting.
Does anyone here know if and where this CPACK200 could be downloaded?

Franz

Re: HP200LX's Calc under Win7

*Message #5 Posted by **Mike (Stgt)** on 26 Sept 2011, 10:58 a.m.,*
in response to message #4 by fhub

Thanks everybody for his reply. A Emu200LX would be a dream.

I suppose you can not download the CPACK200 as it was a commercial product and HP did not releas it.

Ciao.....Mike

Re: HP200LX's Calc under Win7

*Message #6 Posted by **fhub** on 29 Sept 2011, 11:27 a.m.,*
in response to message #5 by Mike (Stgt)

> Quote:
>
> A Emu200LX would be a dream.

Well, every dream comes true - someday! ;-)

Finally I've got all files from the CPACK200 and put together a complete HP200LX emulator package.

If anyone is interested, let me know and I'll upload it ...
(I've to use a free filehoster, because the server of my own website has serious problems again since weeks)

Franz

Re: HP200LX's Calc under Win7

*Message #7 Posted by **M. Joury** on 29 Sept 2011, 12:56 p.m.,*
in response to message #6 by fhub

I'm definitely interested!

Cheers,

-Marwan

Re: HP200LX's Calc under Win7

*Message #8 Posted by **Gerson W. Barbosa** on 29 Sept 2011, 1:19 p.m.,*
in response to message #6 by fhub

Very interested. Thanks!

Gerson.

Re: HP200LX's Calc under Win7

*Message #9 Posted by **fhub** on 29 Sept 2011, 1:53 p.m.,*
in response to message #8 by Gerson W. Barbosa

Ok, here you go:
http://www.spaadyshare.net/569fgojaq6cf/HP200LX.zip

I've removed the Laplink files which are only needed for filetransfers between the real 200LX and PCs.

For starting the full 200LX emulator just run the first file HP200LX.BAT in the package, if you only want the integrated calculator then use the file HPCALC.BAT.

Have fun, :-)
Franz

Edited: 29 Sept 2011, 1:54 p.m.

Re: HP200LX's Calc under Win7

*Message #10 Posted by **M. Joury** on 29 Sept 2011, 2:01 p.m.,*
in response to message #9 by fhub

Thank you very much!

Re: HP200LX's Calc under Win7

*Message #11 Posted by **Pal G.** on 29 Sept 2011, 2:41 p.m.,*
in response to message #9 by fhub

When I try to run the HP Calc or the Filer applications, I get "RUNTIME ERROR R6009 - Not enough space for environment".

Any hints?

Re: HP200LX's Calc under Win7

*Message #12 Posted by **fhub** on 29 Sept 2011, 3:37 p.m.,*
in response to message #11 by Pal G.

> Quote:
>
> When I try to run the HP Calc or the Filer applications, I get "RUNTIME ERROR R6009 - Not enough space for environment".
>
> Any hints?

In what OS do you try to run it?
Since all apps are DOS programs, they don't run in Win7, so maybe trying them under DosBox would be an idea.

And try to delete the following 3 files:

```
APPMGRCP.DAT
SETUP.ENV
CALC.ENV
```

These are configuration files and have been created under my Win98, so maybe they aren't compatible with your OS.

And another idea:
try to run the emulation with APP200.BAT, this batchfile makes some tests before calling the emulator, so maybe you get an error message from this batchfile which tells a bit more!?

Edited: 29 Sept 2011, 3:40 p.m.

Re: HP200LX's Calc under Win7

*Message #13 Posted by **Pal G.** on 29 Sept 2011, 4:29 p.m.,*
in response to message #12 by fhub

I don't know why I even bothered to run it under XP on Parallels. DOSBox in OSX is fine.

Thank you.

(Must try running it in DOSBox on Android).

Edited: 30 Sept 2011, 11:58 a.m.

Re: HP200LX's Calc under Win7

*Message #14 Posted by **Marcus von Cube, Germany** on 30 Sept 2011, 10:42 a.m.,*
in response to message #11 by Pal G.

Adding a few lines to the batch files did it for me:

```
SET ALLUSERSPROFILE=
SET APPDATA=
SET CLASSPATH=
SET CommonProgramFiles=
SET include=
SET lib=
SET MSDevDir=
SET Path=.;C:\WINDOWS;C:\WINDOWS\SYSTEM32
SET PROCESSOR_ARCHITECTURE=
SET PROCESSOR_IDENTIFIER=
SET PROCESSOR_LEVEL=
SET PROCESSOR_REVISION=
```

Just get rid of most of the unnecessary environment variables. Just do a SET >clrenv.bat and see all the variables in your environment. Then add SET in front of each line and remove the text after the = sign for the variables which take up space. Some may be necessary for CMD.EXE to find the executables so just try which may be deleted. Start with the long entries first.

Re: HP200LX's Calc under Win7

*Message #15 Posted by **Pal G.** on 30 Sept 2011, 11:58 a.m.,*
in response to message #14 by Marcus von Cube, Germany

Thank you, Marcus.

Re: HP200LX's Calc under Win7

*Message #16 Posted by **Gerson W. Barbosa** on 29 Sept 2011, 3:08 p.m.,*
in response to message #9 by fhub

It works with Vista and DosBox. Thanks again!

Gerson.

Re: HP200LX's Calc under Win7

*Message #17 Posted by **fhub** on 30 Sept 2011, 11:11 a.m.,*
in response to message #9 by fhub

> Quote:
>
> Ok, here you go:
> http://www.spaadyshare.net/569fgojaq6cf/HP200LX.zip

WOW, already 45 downloads! :-)

I would have never imagined that so many here are interested in this old stuff!

But it seems we calculator lovers are indeed a very 'special kind of people' ... ;-)

Franz

Re: HP200LX's Calc under Win7

*Message #18 Posted by **Thomas Radtke** on 2 Oct 2011, 9:20 a.m.,*
in response to message #17 by fhub

> Quote:
>
> WOW, already 45 downloads! :-)

Mine one of them. Thank you very much!

Thomas

Re: HP200LX's Calc under Win7

*Message #19 Posted by **Mike (Stgt)** on 4 Oct 2011, 9:31 a.m.,*
in response to message #18 by Thomas Radtke

Wait-wait-wait! Did I miss something? Last week I asked for it and got two answers, now I find only your append even I look in the HP forum, not the link restricted to the last two days. Was there some more discussion?

Ciao.....Mike

Re: HP200LX's Calc under Win7

*Message #20 Posted by **fhub** on 4 Oct 2011, 10:26 a.m.,*
in response to message #19 by Mike (Stgt)

> Quote:
>
> Wait-wait-wait! Did I miss something? Last week I asked for it and got two answers, now I find only your append even I look in the HP forum, not the link restricted to the last two days. Was there some more discussion?

Hi Mike,

the full thread is in the archive:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=197421#197421

Here's again the link to my HP200LX emulator package:
http://www.spaadyshare.net/569fgojaq6cf/HP200LX.zip

And a tip from me:
If you ask here something you shouldn't go away for such a long time! ;-)

Franz

Edited: 4 Oct 2011, 10:28 a.m.

NT: TNX

*Message #21 Posted by **Mike (Stgt)** on 5 Oct 2011, 9:15 a.m.,*
in response to message #20 by fhub

.

Re: HP200LX's Calc under Win7

*Message #22 Posted by **Pal G.** on 29 Sept 2011, 1:52 p.m.,*
in response to message #6 by fhub

Interested.

Re: HP200LX's Calc under Win7

*Message #23 Posted by **Didier Lachieze** on 26 Sept 2011, 11:49 a.m.,*
in response to message #4 by fhub

A search of CPACK100.zip should bring you to the 100LX version.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Error in wikipedia article on HP-35s (Solver)

*Message #1 Posted by **x34** on 23 Sept 2011, 1:13 a.m.*

wikipedia article http://en.wikipedia.org/wiki/HP_35s says "Equation solver (a feature first seen on the HP-34C)". While it is true that HP-34C was the first with RPN Solve, what was the first calculator with algebraic ALG EQN Solver?

Karl Schneider's article http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556 does not give the exact answer, what model was the first with EQN Solver? HP-17B?

Re: Error in wikipedia article on HP-35s (Solver)

*Message #2 Posted by **Thomas Radtke** on 23 Sept 2011, 1:14 a.m.,*
in response to message #1 by x34

HP-18C

Re: Error in wikipedia article on HP-35s (Solver)

*Message #3 Posted by **x34** on 23 Sept 2011, 1:24 a.m.,*
in response to message #2 by Thomas Radtke

Thomas, you seem to be right according to http://www.hpmuseum.org/hp18c.htm#solver .

Re: Error in wikipedia article on HP-35s (Solver)

*Message #4 Posted by **Kevin Brown** on 23 Sept 2011, 9:26 p.m.,*
in response to message #3 by x34

Fixed!

That's the beauty of Wikipedia: we can fix errors like this if we find them and, especially, if we can include references backing up our changes.

Edited: 23 Sept 2011, 9:27 p.m.

Re: Error in wikipedia article on HP-35s (Solver)

*Message #5 Posted by **bill platt** on 23 Sept 2011, 9:39 p.m.,*
in response to message #4 by Kevin Brown

I generally won't waste my time with that abortion of a project

Re: Error in wikipedia article on HP-35s (Solver)

*Message #6 Posted by **Thomas Radtke** on 24 Sept 2011, 4:27 a.m.,*
in response to message #5 by bill platt

You're referring to the 35s and not Wikipedia, right?

Re: Error in wikipedia article on HP-35s (Solver)

*Message #7 Posted by **bill platt** on 24 Sept 2011, 9:44 a.m.,*
in response to message #6 by Thomas Radtke

No, wiki. If you write something, it just gets scribbled off and replaced by garbage. And it takes time. I'd rather generally get paid for using my real expertise :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Card Reader Error

*Message #1 Posted by **aj04062** on 22 Sept 2011, 11:36 p.m.*

I recently rebuilt my Card Reader. The card runs smoothly, but I consistently get Card Err or Malfunction or Checksum Error.

Some threads point to the 2 contacts. I swapped and checked to make sure they are flat. I applied contact cleaner as well.

I tried a different calculator, but that didn't work.

Suggestions?

Re: HP-41 Card Reader Error

*Message #2 Posted by **John Robinson** on 23 Sept 2011, 5:33 p.m.,*
in response to message #1 by aj04062

Hi Adam,

If you get inconsistent results, then I'd say there is hope. And I presume you had never seen such errors before the rebuild /

My guess is that you need to spend more time adjusting the roller pressure.

Is the motor struggling ?

Cheers, John

Re: HP-41 Card Reader Error

*Message #3 Posted by **aj04062** on 24 Sept 2011, 9:41 p.m.,*
in response to message #2 by John Robinson

I swapped the rebuilt drive assy with another card reader I had.

This assembly works great. So, I presume from browsing older posts, the cause of these errors/malfunctions could be the capacitor adjacent to the sense amplifier chip. I will try this next after I rebuild another drive unit.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Opening the HP49g+

*Message #1 Posted by **AdrianT** on 22 Sept 2011, 10:53 a.m.*

Good Day,

Does any know how to open this calculator? My decimal point button has broken off from the skeleton it's attached to and I want to replace the keyboard. The keyboard is on order after a long mission with HP... I've read one needs to drill (4mm bit) through the six heat stakes in the battery compartment but I only see 2 diagonally across from each other, and the two white looking things (rivets?) at the top. Any ideas?

Is the keyboard skeleton just like on cheapy calcs? A simple plastic part?

Thanks in advance :)

Thanks, Adrian

Re: Opening the HP49g+

*Message #2 Posted by **hpnewbie** on 22 Sept 2011, 7:15 p.m.,*
in response to message #1 by AdrianT

I imagine the hardware of the hp 49g+ is quite similar to that of the 50g. The enter key on my 50g went mushy, which is really annoying on an rpn/rpl calc where you're constantly mashing the thing. I asked for advice on this forum to fix the issue and successfully repaired my enter key with some glue and the advice in this thread - http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=171784 . Basically the post under the enter key and some of the other keys had punched clean through the foam backing that goes underneath the keyboard so they weren't getting the rebound that they were designed to. but on to how to open the calc...

To open the 50g up use a suction cup (you might need to moisten it to get maximum grip) to slowly pull the screen cover off, then find a small screwdriver to unscrew the screws behind the screen cover, then pull the two halves of the calculator apart with your hands (this is pretty hard, and will probably take a while.) Be careful not to pull it apart too hard or else you will break the wire that goes to your speaker, which is glued to the back cover of the calc. What I did was pull the speaker off the back cover so I could open the calc fully and lay it open. Then you need to unscrew a bunch of screws that go into the motherboard inside the calc, and use a drill bit to wear away the caps on the heat sticks (is that what they're called, the little plastic things that run through the motherboard to hold everything in position?). Once you've done this properly, you'll be able to separate the motherboard from the front side of the calc case, and access the keyboard.

On the 50g, I think all the keys were attached to a plastic framework thing except for the right and left shift things which are by themselves. The keyboard itself looks quite cheap honestly when you take it apart - the posts behind the keys are TINY.

Hope at least some of this is applicable to the 49g+, or someone else down the road looking to fix their 50g.

Re: Opening the HP49g+

*Message #3 Posted by **Bart (UK)** on 23 Sept 2011, 5:53 a.m.,*
in response to message #1 by AdrianT

Hi,

The drilling you describe is for the 48S/G series. As HPnewbie described, it is easier for the 49G+/50G. For a photo to see how to remove the screen, see here. There are two screws on the top of the screen. Once these are removed, you can carefully pry the calculator apart. I used plastic levers from what is commonly known as "mobile phone tools" (see this example)

Edited: 23 Sept 2011, 5:58 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Whitman Is Named Hewlett-Packard Chief

*Message #1 Posted by **Peter Murphy (Livermore)** on 22 Sept 2011, 4:31 p.m.*

New York Times:

Meg Whitman, eBay's former chief executive, was named to lead Hewlett-Packard on Thursday, the company said.
Meg Whitman, the former chief executive of eBay, lost in her recent bid to become governor of California.

http://www.nytimes.com/2011/09/23/technology/whitman-expected-to-be-named-at-hp.html

Edited: 22 Sept 2011, 4:32 p.m.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #2 Posted by **NateB** on 22 Sept 2011, 4:45 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Whitman at H.P.? The Idea Distresses the Tech World.

Link

Re: Whitman Is Named Hewlett-Packard Chief

*Message #3 Posted by **Eric Smith** on 22 Sept 2011, 6:11 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

If Whitman reverses the plan to spin off personal systems, it will make me wonder whether the whole thing wasn't a short-and-distort operation (the opposite of pump-and-dump).

Re: Whitman Is Named Hewlett-Packard Chief

*Message #4 Posted by **Howard Owen** on 22 Sept 2011, 6:35 p.m.,*
in response to message #3 by Eric Smith

The sort of official unofficial word is that the board approved of the plan to radically shift toward software and services, but didn't like Apotheker's way of selling it to Wall Street, or his ability to lead the charge in that direction. But who knows? Cringely thought Meg was scheming on the top job way back in February. I wouldn't be surprised if they went into carpet cleaning at this point.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #5 Posted by **Namir** on 22 Sept 2011, 6:16 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

That is indeed good news!!!

Re: Whitman Is Named Hewlett-Packard Chief

*Message #6 Posted by **Walter B** on 22 Sept 2011, 6:41 p.m.,*
in response to message #5 by Namir

?!? Did I miss anything?

Re: Whitman Is Named Hewlett-Packard Chief

*Message #7 Posted by **Mark Harman** on 22 Sept 2011, 8:31 p.m.,*
in response to message #5 by Namir

Not really. Maybe for shareholders who get a temporary boost to their share value from the irrational exuberance that follows this announcement. However, I think HP is playing the last card out of their deck and it is going to land straight in the toilet.

Regards,

Mark

The epitaphy Hewlett-Packard Chief

*Message #8 Posted by **Artur - Brazil** on 22 Sept 2011, 8:27 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Well, I can't understand how a group of idiots can lead such a historical company to the bankrupt!

First, the complete ignorant on tech - Ms. Karly. A celebrity of business!!! Ha,ha,ha ...

She starts the fall down of HP, putting the tech production - the real fundaments of HP - to a new enterprise, Agilent.

Each new CEO brings with him/her a home work from last firm the incumbence of making HP buying some putrid part of old job.

It's unbelievable how HP is far from its origin. How could such genious factory be quartered by ganancy and easy profit.

I really believe their own employees should buy each part that is still standing up and make new Agilents ... but in USA, all production line. Looking for low costs and producing everything in China (or wathever) is what I call: a shoot on own feet.

Re: The epitaphy Hewlett-Packard Chief

*Message #9 Posted by **Eric Smith** on 23 Sept 2011, 10:47 a.m.,*
in response to message #8 by Artur - Brazil

HP made plenty of stuff overseas in their heyday, and it wasn't a big problem. I don't think moving production lines to the USA would solve any of HP's current problems, but it would hurt their bottom line, either by a significant decrease to their profit margin, or increased list prices, either of which hurt the bottom line.

How overseas production is managed is another story. It can be done well, or it can be done poorly.

Re: The epitaphy Hewlett-Packard Chief

*Message #10 Posted by **Artur-Brazil** on 23 Sept 2011, 1:21 p.m.,*
in response to message #9 by Eric Smith

Hi, Eric

My feeling about producing something abroad is the basis on this is done: HP (and other inventors) is giving its technology to be copied. Also, when they privileges other to make all the service, I believe that they are loosing the capability of doing it at home...

HP calculators were always more expensive than others, I believe even TI ones, but this was compensated by their quality. You can operate your 11C, 15C or 41C until today, try do this with a TI-59 - it probably will have serious keyboard problems.

HP have produced its calculators here in Brazil too, but, at that time, there was no transfer of details or it would almost be impossible to replicate its hardware as it is today.

Well, any way, this is just my modest opinion. I really don't have all information to judge a big CEO or predict something. I just don't want to see people loosing their job due to bad administrators.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #11 Posted by **Mark Harman** on 22 Sept 2011, 8:29 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Worst. Decision. Ever.

Fiorina was horrible and destroyed the HP Way. Apotheker was a huge mistake and would have given away HP's cash cow if kept on board. However, Whitman? I think they would have been better off picking up someone who actually has vision and also gives a darn about engineering good products. Good luck, HP. It was nice knowing you.

Mark

Wall Street Journal: H-P Defends Hasty Whitman Hire

*Message #12 Posted by **Peter Murphy (Livermore)** on 22 Sept 2011, 8:40 p.m.,*
in response to message #11 by Mark Harman

H-P ousted CEO Leo Apotheker and replaced him with Meg Whitman, but it won't immediately back away from Apotheker's strategy to separate the PC business.

http://online.wsj.com/article/SB10001424053111903703604576586753827390510.html

Re: Whitman Is Named Hewlett-Packard Chief

*Message #13 Posted by **Eddie W. Shore** on 23 Sept 2011, 4:06 a.m.,*
in response to message #11 by Mark Harman

I agree, Mark. I don't trust Whitman at all.

I'm just glad we got the 10bii+, 12C 30th Yr Anniversary, and a 15C re-release before it all went down.

This should make for interesting, if not disturbing talk at this year's HHC.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #14 Posted by **Calum Tait** on 22 Sept 2011, 8:53 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

What a shame!

Re: Whitman Is Named Hewlett-Packard Chief

*Message #15 Posted by **David Hayden** on 22 Sept 2011, 9:14 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I don't see this as bad. Whitman has a proven record with ebay. Not may people can claim in increase in revenue of 8000% The articles slam her for not being a good politician. They'd slam her even worse if she was a former governor ("HP hires politician to save company").

Re: Whitman Is Named Hewlett-Packard Chief

*Message #16 Posted by **Dave Shaffer (Arizona)** on 22 Sept 2011, 10:24 p.m.,*
in response to message #15 by David Hayden

> Quote:
>
> I don't see this as bad. Whitman has a proven record with ebay.

I think ebay was in the right place at the right time - anybody with some experience could have grown it. The easy growth is done - just think of all the bitching and moaning that has occurred here with regard to their recent trends to try for more revenue by nickel and diming the sellers.

HP was different: they once had unquestioned superiority in test and measurement equipment (except, perhaps, oscilloscopes and niche equipment such as picoammeters). Every engineer in the US (if not the world) dreamt of the latest HP instrument for his lab. They spun that off (Agilent) and, IMHO, have been going downhill ever since.

You can sell only so many PCs and printers - so HP may be closer to ebay than one might think, in terms of stagnant product and marketplace. If she didn't turn ebay around, what is she going to do differently at HP.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #17 Posted by **Dan W** on 22 Sept 2011, 11:14 p.m.,*
in response to message #16 by Dave Shaffer (Arizona)

eBay can nickel and dime people, and generally be as annoying as they want because they have no real competition. That's why we loath it so much, but we use it. Running a business without competition is going to be very different than HP. Having real concerns about customers, quality, and efficiency might be new concepts for Whitman.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #18 Posted by **Paul Gaster** on 23 Sept 2011, 5:44 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

"Is HP's board the worst ever?"

CNN link

"HP's Board of Directors Is Pathetic"

Forbes Link

"These guys are a bunch of clowns, surpassed in incompetence only by Yahoo!’s (YHOO) board."

Re: Whitman Is Named Hewlett-Packard Chief

*Message #19 Posted by **Dan W** on 23 Sept 2011, 10:07 a.m.,*
in response to message #18 by Paul Gaster

> Quote:
>
> "These guys are a bunch of clowns, surpassed in incompetence only by Yahoo!’s (YHOO) board."

Or perhaps Motorola. Sell off all your core competencies, and pat yourself on the back for the brilliant strategic moves.

Re: Whitman Is Named Hewlett-Packard Chief

*Message #20 Posted by **Steffen VN** on 23 Sept 2011, 2:33 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Anybody has to be better than Fiorina was...but I don't have high hopes. Can't say I would be surprised if the PC/handheld division were saved/restored, though they've already lost a lot of consumer goodwill.

HP stock hits 6-year low after Whitman named CEO

*Message #21 Posted by **Peter Murphy (Livermore)** on 23 Sept 2011, 3:33 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Associated Press

NEW YORK - Hewlett-Packard Co.'s stock sank Friday to its lowest level in six years, as investors worried that new CEO Meg Whitman isn't the right person to turn the company's fortunes around.

http://online.wsj.com/article/AP56756aea195f42608f26847847708281.html

Re: HP stock hits 6-year low after Whitman named CEO

*Message #22 Posted by **Eddie W. Shore** on 24 Sept 2011, 8:25 a.m.,*
in response to message #21 by Peter Murphy (Livermore)

Way to go Meg. (sarcaism). She does not inspire any confidence in anyone.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(sigh) I don't understand (TAS revisited)

*Message #1 Posted by **Jim Johnson** on 22 Sept 2011, 3:45 p.m.*

How can someone bid an HP-15C Limited Edition up to $300.00??! . I just don't understand the logic behind the auction of a product that you can purchase brand new for between $99.99 and $149.99. There's some psychology in action here that doesn't make sense to me. LINK Thank goodness I had the sense to purchase 2 units when Buy.com had them for under $100.

Re: (sigh) I don't understand (TAS revisited)

*Message #2 Posted by **Michael de Estrada** on 22 Sept 2011, 3:58 p.m.,*
in response to message #1 by Jim Johnson

Many buyers are not aware of product sources beyond TAS and Amazon. Many have never heard of this forum. I didn't even know that Buy.com existed until I read a post about it on this forum. I also found out about CostCentral on this forum back in June, and was able to preorder, before they stopped taking orders. Also, many buyers live outside the USA and are limited in sources that will ship to them. For example, the auction that you linked will ship worldwide, but many others won't.

Re: (sigh) I don't understand (TAS revisited)

*Message #3 Posted by **Todd Garabedian** on 22 Sept 2011, 8:18 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> Many buyers are not aware of product sources beyond TAS and Amazon. Many have never heard of this forum. I didn't even know that Buy.com existed until I read a post about it on this forum. I also found out about CostCentral on this forum back in June, and was able to preorder, before they stopped taking orders. Also, many buyers live outside the USA and are limited in sources that will ship to them. For example, the auction that you linked will ship worldwide, but many others won't.

You would think that potential buyers would check out the HP website store.

Re: (sigh) I don't understand (TAS revisited)

*Message #4 Posted by **Michael de Estrada** on 22 Sept 2011, 8:37 p.m.,*
in response to message #3 by Todd Garabedian

If they check the home store, it is out of stock, and most are not aware of the alternate business store. Some don't know anything other than TAS.

Re: (sigh) I don't understand (TAS revisited)

*Message #5 Posted by **Steve Simpkin** on 22 Sept 2011, 4:26 p.m.,*

in response to message #1 by Jim Johnson

But they are a "Limited Edition"! They are going fast! If you don't buy now you may be missing out! Pay any price! Just buy it!

Re: (sigh) I don't understand (TAS revisited)

*Message #6 Posted by **Michael de Estrada** on 22 Sept 2011, 4:30 p.m.,*
in response to message #5 by Steve Simpkin

Yes, and if you look at TAS today, there are many more listings now, and many at a lower price. For example, one listing is for 3 units at a $175 BIN price each with free shipping. Funny how a competitive market works.

Edited: 22 Sept 2011, 4:31 p.m.

Re: (sigh) I don't understand (TAS revisited)

*Message #7 Posted by **Geoffrey Wang** on 22 Sept 2011, 5:01 p.m.,*
in response to message #6 by Michael de Estrada

Since I'm a newbie, why is the acronym TAS used? It's not mentioned in the terms and conditions or in a FAQ.

BTW, there's only 2 left of the $175 BIN and the rest of the lower priced ones are gone.

Would you sell one of your stashed 15CLEs for $175 with the possibility that HP won't make more than 10K?

Re: (sigh) I don't understand (TAS revisited)

*Message #8 Posted by **Martin Pinckney** on 22 Sept 2011, 5:08 p.m.,*
in response to message #7 by Geoffrey Wang

Forum rules: if you mention an eB** auction, you have to list your own eB** handle in the post.

Re: (sigh) I don't understand (TAS revisited)

*Message #9 Posted by **Michael de Estrada** on 22 Sept 2011, 5:10 p.m.,*
in response to message #7 by Geoffrey Wang

TAS stands for "That Auction Site" and refers to eB*y. It is a matter of political correctness on this site not to refer to it directly. As to selling prices, the one referenced in the OP started out at $9, but has been rapidly bid up to $300. As to the risk that HP won't make more than 10K, I didn't buy mine to speculate, but to keep for all eternity, so what I could get for them is irrelevant.

Re: (sigh) I don't understand (TAS revisited)

*Message #10 Posted by **Michael Kussmaul** on 23 Sept 2011, 2:55 a.m.,*
in response to message #9 by Michael de Estrada

Funny :-) Now as former TAS CEO is taking over HP... Perhaps we should teach the media to replace eB** with TAS on every news outlet :-)

Re: (sigh) I don't understand (TAS revisited)

*Message #11 Posted by **Steve Leibson** on 22 Sept 2011, 7:22 p.m.,*
in response to message #7 by Geoffrey Wang

TAS is to eB** as "He who must not be named" is to Voldemort in Harry Potter.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Equivalent generic part # for HP cold-cathode displays...

*Message #1 Posted by **Nick de Smith** on 22 Sept 2011, 3:29 p.m.*

Hi,

HP used an internal scheme for number display devices used in old test equipment and calculators.

I'm looking for an equivalents (i.e. to generic part numbers) list for cold-cathode display tubes (nixie & panaplex displays etc.).

HP used a numbering scheme of the form "1970-xxxx" for these parts. I've found partial lists out there (e.g. at Sphere), but not a complete one.

Any help appreciated,

Nick

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Best wishes for a great HHC 2011!

*Message #1 Posted by **Seth Morabito** on 22 Sept 2011, 1:43 p.m.*

I just wanted to wish everyone a great time at HHC 2011.

This year more than any other I really wish that I could have gone, but budget and timing just didn't work out. I will miss it. So have an extra fun time for me!

-Seth

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Meg Whitman announces stunning strategy shift at HP

*Message #1 Posted by **Howard Owen** on 22 Sept 2011, 1:00 p.m.*

> Quote:
>
> Egan Ford:
>
> Meg probably rolled into the boardroom and amazed the board with the profits of HP calc's on eBay.

In related news, HP's soon to be not yet CEO Meg Whitman announced a plan to spin off every line of business in HP's portfolio but calculators. "We see a tremendous opportunity in handheld calculating devices," Whitman stated, in a not actually quite yet a CEO interview with selected members of an online calculator forum. "The value of physical buttons cannot be over-emphasized. Take that, iPhone!"

In separate interview, almost pre-announced HP CEO Meg Whitman announced a patent suite against Google, Oracle, Microsoft, Facebook and IBM. Two patents are at issue. The first describes a "method and apparatus for summing two numbers." The second concerns "A cookbook recipe for making calculator keys feel nice and clicky without necessarily indicating a successful registering of the keystroke."

The announcement was coupled with a new video depicting Google CEO Eric Schmidt as a bizarrely garbed wolf among a flock of hapless calculator toting sheep.

ROFL! Thanks, Howard! (nt)

*Message #2 Posted by **Brian Walsh** on 22 Sept 2011, 1:04 p.m.,*
in response to message #1 by Howard Owen

No Text

Great! d:-D (nt)

*Message #3 Posted by **Walter B** on 22 Sept 2011, 1:07 p.m.,*
in response to message #1 by Howard Owen

nt

Re: Meg Whitman announces stunning strategy shift at HP

*Message #4 Posted by **Glenn Dowdy** on 22 Sept 2011, 2:53 p.m.,*
in response to message #1 by Howard Owen

Great. Another leak of our strategery.

Re: Meg Whitman announces stunning strategy shift at HP

*Message #5 Posted by **Walter B** on 22 Sept 2011, 4:17 p.m.,*

in response to message #4 by Glenn Dowdy

> Quote:
>
> Another leak of our strategery.

Maybe HP's problem is they have a "strategery"
(sorry, I couldn't let that go ;-)

Re: Meg Whitman announces stunning strategy shift at HP

*Message #6 Posted by **Glenn Dowdy** on 22 Sept 2011, 5:12 p.m.,*
in response to message #5 by Walter B

How can we be a strategerific company without a strategery? ;)

Re: Meg Whitman announces stunning strategy shift at HP

*Message #7 Posted by **Calum Tait** on 22 Sept 2011, 9:01 p.m.,*
in response to message #6 by Glenn Dowdy

Surely a stratergy of paying lawyers millions and spending years of time and all the company's effort in court fighting patent suits is completely stratergificacious?

Re: Meg Whitman announces stunning strategy shift at HP

*Message #8 Posted by **Howard Owen** on 22 Sept 2011, 10:47 p.m.,*
in response to message #7 by Calum Tait

That's not a strategy HP is defining on its own. That's the result of a broken system that allows patents to be used as anticompetitive weapons. The system is such that you have to pay those lawyers and engage in litigation whether you think it's a good idea or not. HP certainly isn't the worst offender in that column either.

I just thought patents on addition and clicky keys would add to the joke. :)

Re: Meg Whitman announces stunning strategy shift at HP

*Message #9 Posted by **Walter B** on 23 Sept 2011, 4:00 p.m.,*
in response to message #8 by Howard Owen

May well be the system is broken at more than one end. By the mere rumor of L.A. been fired, HP's stock raised by 10% IIRC, by the knowledge of M.W. been chosen it dropped by 6%. Gives a nice math problem: Assume the rating is now as it was before the rumor, find how high it is ;-)

Seriously: When do we stop those casino players controlling our business? And ruining world economy? The longer I observe this and think about it the more I become a friend of Tobin tax.

Edited: 23 Sept 2011, 4:08 p.m.

OMG, Too Funny!!! :)

*Message #10 Posted by **DigiGal** on 22 Sept 2011, 3:42 p.m.,*

in response to message #1 by Howard Owen

nt

Its Official: Meg Whitman is announced as the new CEO of HP

*Message #11 Posted by **Steve Simpkin** on 22 Sept 2011, 4:30 p.m.,*
in response to message #1 by Howard Owen

And it is now official.
Meg Whitman is announced as the new CEO of HP

Edited: 22 Sept 2011, 4:31 p.m.

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #12 Posted by **Howard Owen** on 22 Sept 2011, 4:52 p.m.,*
in response to message #11 by Steve Simpkin

I don't know if that spoils the joke or not. :)

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #13 Posted by **Steve Simpkin** on 22 Sept 2011, 5:26 p.m.,*
in response to message #12 by Howard Owen

I am thinking Meg Whitman is the joke :)

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #14 Posted by **Howard Owen** on 22 Sept 2011, 6:25 p.m.,*
in response to message #13 by Steve Simpkin

Well, she's certainly an easy target, having been exposed to public scrutiny as a candidate for governor. OTOH, I wish her good luck at doing the right thing by the calculator group. Unfortunately, it's probable calculators have zero visibility at the CEO level.

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #15 Posted by **Todd Garabedian** on 22 Sept 2011, 8:23 p.m.,*
in response to message #13 by Steve Simpkin

> Quote:
>
> I am thinking Meg Whitman is the joke :)

Actually, it's the whole HP Board that is the joke. They've got through, what, 7 CEOs in 10 years? Apoetheker lasted less than a year. Not a good track record. IMHO, the entire Board should be replaced. As a shareholder, I'm peeved!

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #16 Posted by **Walter B** on 23 Sept 2011, 1:53 a.m.,*
in response to message #15 by Todd Garabedian

Took the opportunity and checked the board. Some "statistics":

Of 13 people listed, 1 is member of the board since 2002, 1 since 2005, 2 since 2006, 2 since 2009, and 7 since 2011.

The vast majority seems to qualify by a background in "private equity/venture capital" and/or "counselling/consulting". Found very little traces of tech bases only. And I love Meg's record ;-)

Looks pretty desperate :-(Time to abandon the ship heading to floral business, and create/found/establish something new in the spirit of Bill and Dave? Maybe even in a country where case law doesn't rule? Really hard to tell :-/

Re: Its Official: Meg Whitman is announced as the new CEO of HP

*Message #17 Posted by **Todd Garabedian** on 23 Sept 2011, 6:42 a.m.,*
in response to message #16 by Walter B

> Quote:
>
> Took the opportunity and checked the board. Some "statistics":
>
> Of 13 people listed, 1 is member of the board since 2002, 1 since 2005, 2 since 2006, 2 since 2009, and 7 since 2011.
>
> The vast majority seems to qualify by a background in "private equity/venture capital" and/or "counselling/consulting". Found very little traces of tech bases only. And I love Meg's record ;-)

And in light of those folks, all the nutty decisions in recent years make sense. First they decide to make a tablet, then they abruptly stop. Then they decide to get out of the personal computing business, then they abruptly reverse course. There appears to be no direction and no adult in the room to point the way. I hope Meg can do that.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 97 faint printer

*Message #1 Posted by **Fouad M. Kaadou** on 22 Sept 2011, 10:35 a.m.*

Hello HP Museum, I have an HP-97 with faint printing, what can I do to fix this? possibly a capacitor or resistor change. The printing is variable. Take a look.

Thanks in advance,

Fouad

Re: Hp 97 faint printer

*Message #2 Posted by **Fouad M. Kaadou** on 22 Sept 2011, 10:38 a.m.,*
in response to message #1 by Fouad M. Kaadou

If you don't see the pictures here are the links:

Picture 1

Picture 2

Re: Hp 97 faint printer

*Message #3 Posted by **Katie Wasserman** on 22 Sept 2011, 11:08 a.m.,*
in response to message #2 by Fouad M. Kaadou

The two recommended fixes for this are:

1) Try new paper. You can buy it a most office supply stores or on-line.

2) There is a resistor (R8) on the 97 printer controller board that can be changed to control the print intensity. See page 2-4 of the service manual. From my experiments this doesn't have a huge effect, but some.

Edited: 22 Sept 2011, 11:08 a.m.

Re: Hp 97 faint printer

*Message #4 Posted by **Fouad M. Kaadou** on 22 Sept 2011, 11:42 a.m.,*
in response to message #3 by Katie Wasserman

Hello Katie,

I have tried different paper and have tried the same paper on my HP-41c printer and printing was excellent so I am pretty sure the paper is not the problem.

I do not own the HP-97 service manual. Can you email me the necessary pages to do this resistor upgrade?

Regards,

Fouad

Re: Hp 97 faint printer

*Message #5 Posted by **Dan W** on 22 Sept 2011, 2:25 p.m.,*
in response to message #3 by Katie Wasserman

That really does look like the result of old paper to me. I would first try new paper.

It could be a build up of some gunk on the print head I suppose. I have repaired a lot of HP-97 printers and they have all responded well to a good cleaning. I have never had to change the resistor. Take it apart, clean everything and rebuild it. The really good news is the paper appears to be advancing evenly, a common problem that is a bit more difficult to fix.

Rebuilding the printer is intimidating at first but really isn't difficult. Get the technical manual from the museum DVD - it is an excellent investment and not expensive.

Side question: Is there any source of modern blue printing thermal paper?

Re: Hp 97 faint printer

*Message #6 Posted by **Fouad M. Kaadou** on 22 Sept 2011, 3:23 p.m.,*
in response to message #5 by Dan W

Hello Dan,

I have tested the same paper on a HP-82143a thermal printer for the HP-41c and it works fine. Could it be that the 82143a printer has just better printing power than the HP-97 and works better on old paper? I will definitely take your suggestion and try to clean the print head.

Thanks,

Fouad

Re: Hp 97 faint printer

*Message #7 Posted by **Fouad M. Kaadou** on 23 Sept 2011, 1:28 p.m.,*
in response to message #6 by Fouad M. Kaadou

Hello Dan,

I have heard that staples sell thermal paper.

How can I clean the print head? How do I get to it?

Regards,

Fouad

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HCC2011 and some 15LE observations

*Message #1 Posted by **geoff quickfall** on 22 Sept 2011, 9:56 a.m.*

Sitting at the airport waiting for my early morning flight. For all those travelling to HCC; by car or air, have a safe journey and see you there.

Wlodek and I are meeting in LAX, then a slow drive to San Diego and at the hotel by Thursday night. See you in the lobby.

My two HP 15LE arrived yesterday, serial numbers at the 500 level. No crooked or loose keys.

Interestingly enough: if you are QUICK, you can get the classic keyboard test to work:

Invoke the test with "/ and the ON key" and then quickly press the square root key and then each succesive key as with the 15C.

You just have to get to the square root key quickly or you get error 9. Once completed the classic 15 will show in the centre of the display.

Of course the new tests are similar to the HP 12:

"g" + "ENTER" pressed together then the "ON"key.

And in case it has not been explained well enough, the flashing porcedure for the 15LE is the same as flashing the 34S. Cable, Samba and away you go.

Cheers, Geoff

Cheers, Geoff

Re: HCC2011 and some 15LE observations

*Message #2 Posted by **Katie Wasserman** on 22 Sept 2011, 10:35 a.m.,*
in response to message #1 by geoff quickfall

> Quote:
>
> And in case it has not been explained well enough, the flashing procedure for the 15LE is the same as flashing the 34S.

But there's no new firmware available to flash it with as far as I know, is there?

Re: HCC2011 and some 15LE observations

*Message #3 Posted by **gene wright** on 22 Sept 2011, 11:09 a.m.,*
in response to message #2 by Katie Wasserman

Correct. Nothing yet. Don't know if there will be some firmware at the conference or not. If there is new firmware, I would doubt it will be anything that is under NDA.

Re: HCC2011 and some 15LE observations

*Message #4 Posted by **Alexander Oestert** on 22 Sept 2011, 11:39 a.m.,*
in response to message #2 by Katie Wasserman

Would last year's beta testers be allowed to share the firmware versions they received in the meantime? I understand it did not have the PSE problem, so it could be an intersting alternative.

Edited: 22 Sept 2011, 11:40 a.m.

Re: HCC2011 and some 15LE observations

*Message #5 Posted by **DigiGal** on 23 Sept 2011, 9:21 p.m.,*
in response to message #1 by geoff quickfall

Neat discovery Geoff, thanks for sharing, it does indeed work if you are quick.

-- I'll add that you need to press all the keys in sequence fairly rapidly or you will get [ERROR 9]

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Free42 - A Complex glitch?

*Message #1 Posted by **fhub** on 22 Sept 2011, 7:59 a.m.*

> Quote:
>
> The bug in this case is in the code that calculates the complex square root in the log(x+sqrt(x^2+1)) evaluation; it returns the wrong root because the imaginary part of its argument is -0.
>
> In a word: aargh! I'm sure there are good reasons why IEEE-754 has negative zero, but in this case it (or maybe I should say, the way atan2() treats it) is biting me in the ass. It's easy to fix, but I'll have to check all occurrences of atan2() to see if they have the same potential problem. Fortunately, there aren't all that many...

Hi THomas,

can we expect a fix for this new bug, too? ;-)

Franz

Re: Free42 - A Complex glitch?

*Message #2 Posted by **hugh steers** on 22 Sept 2011, 2:48 p.m.,*
in response to message #1 by fhub

Hi,

i'm just going to add another twist here.

a bit late to the party, but i just tried the same acos(cos((200+200i)) on my reckon calculator. unfortunately it fails too. i am using an equally lame formula.

i changed my acos(z) routine to use this:

```
acos(z) = -2i*log(sqrt((1+z)/2) + i*sqrt((1-z)/2))
```

it's from Kahan 1987, but i dont have the paper with the theory behind it. anyhow it works fine for this problem. i've changed reckon to use this way of calculating acos and asin.

```
> acos(cos(200+200i))
1.06192982974676726160917 8-199.99999999999999999999i
```

my 2c.

-- hugh.

Re: Free42 - A Complex glitch?

*Message #3 Posted by **Ángel Martin** on 22 Sept 2011, 3:56 p.m.,*
in response to message #2 by hugh steers

looks like my test case is getting a lot of attention :-)

thanks for the formulas, it's an interesting approach.

Best, 'AM.

Re: Free42 - A Complex glitch?

*Message #4 Posted by **Thomas Okken** on 22 Sept 2011, 9:36 p.m.,*
in response to message #1 by fhub

I'll fix the complex ASIN and ASINH in the Binary version this weekend, and check if any of the other code that uses atan2() in the Binary version is affected by the "negative zero" issue.

The "negative zero" thing only affects the Binary versions, so that doesn't affect my iPhone and Android builds, which are Decimal only. (Is anyone aware of problems with Free42's complex ACOS/ACOSH?)

Edited: 23 Sept 2011, 2:08 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another 15C LE speed test

*Message #1 Posted by **Katie Wasserman** on 22 Sept 2011, 12:45 a.m.*

I know that you've all been waiting for my pi calculation test so here it is (scroll to the bottom). :) 306 decimal digits of pi in a bit over 16 minutes. This works out to about 160 times as fast as the original 15C, nice!

Edited: 22 Sept 2011, 12:47 a.m.

Re: Another 15C LE speed test

*Message #2 Posted by **hpnut** on 22 Sept 2011, 4:18 a.m.,*
in response to message #1 by Katie Wasserman

thanks Katie. I'll put my 15C LE to the torture test tonight and share the results here.

Re: Another 15C LE speed test

*Message #3 Posted by **Marcus von Cube, Germany** on 22 Sept 2011, 10:39 a.m.,*
in response to message #2 by hpnut

You all should measure the battery voltage before and after the test. It would be interesting to know how much we can get out of the batteries with heavy use. @20mA and a rating of 220mAh per cell it will not be more then 22 hours.

Re: Another 15C LE speed test

*Message #4 Posted by **Katie Wasserman** on 22 Sept 2011, 11:21 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> @20mA and a rating of 220mAh per cell it will not be more then 22 hours.

Actually it's much, much less than this.

The 240mAh (Energizer's) rating is based on a continuous current draw of 0.19mA. At higher current the capacity drops off very rapidly. They give a pulse rating of 200mAh based on 12 2-second long pulses per day of 6.9mAh. The pi program is a 960 second long "pulse" at 3 times this current (but drawn from 2 cells, so really 1.5x this current). This simply destroys the cells. I'd estimate only a couple of hours running long programs on the calculator at best.

Edited: 23 Sept 2011, 2:14 a.m. after one or more responses were posted

Re: Another 15C LE speed test

*Message #5 Posted by **DigiGal** on 22 Sept 2011, 11:39 a.m.,*
in response to message #4 by Katie Wasserman

Hope they address this with an update.

~ btw, where can the flash cables be purchased and are they USB or serial interface?

Re: Another 15C LE speed test

*Message #6 Posted by **M. Joury** on 22 Sept 2011, 11:55 a.m.,*
in response to message #5 by DigiGal

Gene has a few left apparently. He has asked for a moratorium on requests until after HHC. He sends them out for the cost of shipping and I don't know what is going to happen when they are all gone.

They are serial cables and they are finicky about the USB-Serial converter you use (if you have to use one). Someone else will be better able to tell you which converter or adapter to use.

Hope this helps a little.

Cheers,

-Marwan

Re: Another 15C LE speed test

*Message #7 Posted by **digigal** on 22 Sept 2011, 8:16 p.m.,*
in response to message #6 by M. Joury

> Quote:
>
> Gene has a few left apparently. He has asked for a moratorium on requests until after HHC. He sends them out for the cost of shipping and I don't know what is going to happen when they are all gone.
>
> They are serial cables and they are finicky about the USB-Serial converter you use (if you have to use one). Someone else will be better able to tell you which converter or adapter to use.
>
> Hope this helps a little.
>
> Cheers,
>
> -Marwan

Thanks for this info, hopefully there may be some news of an update that will come out of the conference. I'm on a mac, it only has USB/Firewire but could access a pc with a serial port if necessary for the update.

Seems if the cables are finicky and scarce perhaps HP will establish update centers or maybe a forum member may offer the service. Since HP has lots of uncertainty at the moment this is most certainly a low priority for them now. Appears we're just lucky they released the 15C LE, thanks to some dedicated folks within.

Fortunately, I've got my original 15C for daily use so my 15C LE is a secondary unit which will help maintain it's battery life until a solution unfolds.

Re: Another 15C LE speed test

*Message #8 Posted by **Marcus von Cube, Germany** on 22 Sept 2011, 10:23 p.m.,*
in response to message #5 by DigiGal

The current draw is a direct function of speed. So the 20mA while a program is running cannot be addressed by a firmware update without severely lowering the speed.

Re: Another 15C LE speed test

*Message #9 Posted by **Katie Wasserman** on 23 Sept 2011, 2:12 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> The current draw is a direct function of speed. So the 20mA while a program is running cannot be addressed by a firmware update without severely lowering the speed.

The 20ma during a key press is certainly fixable in firmware, the 12C+ uses only 0.5ma when a key is held down.

The current draw when running a program is nearly perfectly linear with clock speed. Indeed the "L" in the chip's part number (AT91SAM7L128) is there to indicate that the current draw is 0.5mA/MHz. The maximum advertised clock rate is 36MHz and there's not much else in the calculator that consumes appreciable power. So the 15C LE must be running at maximum speed.

They could keep the clock at full speed for say, the first second or two of running a program or function and throttle is back to 5 Mhz or less and still advertise the 100x speed up, I think.

Better still would be a self test-mode function (number 4, for example) that would allow the use to toggle between full clock speed and 1/10 speed (or so). Running at 4MHz translates to 1ma/cell and would give you around 300 hours of run time on a set of batteries.

Marcus, you've got a SLOW/FAST toggle in the 34s, what are the corresponding clock rates? I think all ARM-based HP calculators should have this toggle.

Re: Another 15C LE speed test

*Message #10 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 11:00 a.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> Indeed the "L" in the chip's part number (AT91SAM7L128) is there to indicate that the current draw is 0.5mA/MHz.

It's more in the range of 1mA/MHz according to my measurements.

Re: Another 15C LE speed test

*Message #11 Posted by **Katie Wasserman** on 23 Sept 2011, 11:37 a.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> It's more in the range of 1mA/MHz according to my measurements.

That's pretty far out of spec from what I can tell. Even if all the peripherals are on it shouldn't be that high. Maybe HP got a deal on out-of-spec raw chips.

In looking at the original schematic in the hp-20b SDK I see that they apparently planned to run this on a single 2016 cells with a second one optional, ha! They must have been thinking at running this at a much lower clock rate originally.

Re: Another 15C LE speed test

*Message #12 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 12:27 p.m.,*
in response to message #11 by Katie Wasserman

I obviously haven't recalled my own measurements correctly. At full speed, WP 34S consumes 20mA. See here. It's not running at 40 MHz though so 0.5mA/MHz is a bit on the optimistic side.

Re: Another 15C LE speed test

*Message #13 Posted by **Mike Morrow** on 23 Sept 2011, 12:44 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> Indeed the "L" in the chip's part number (AT91SAM7L128) is there to indicate that the current draw is 0.5mA/MHz.

I thought (wrongly) that the "L" just indicates that it has on-chip LCD display driver circuitry. The AT91SAM7S128 is almost identical except that it lacks such circuitry. NOTE: Edited to correct wrong information.

> Quote:
>
> They could keep the clock at full speed for say, the first second or two of running a program or function and throttle is back to 5 Mhz or less and still advertise the 100x speed up, I think.

That would then constitute a dishonest claim, IMHO.

A program that takes five seconds on the 15C-LE would take ten minutes on the original 15C. Such programs, if they are to run at all, should not be slowed after an arbitrary time elapse. And if such programs will never be run, then there is no real battery life issue.

I want the SAM7L in my 15C-LE running at maximum capacity. That is, after all, the *only* characteristic that is an improvement over the original HP-15C.

Quote:

> Better still would be a self test-mode function (number 4, for example) that would allow the use to toggle between full clock speed and 1/10 speed (or so).

Excellent idea!

Edited: 23 Sept 2011, 2:02 p.m. after one or more responses were posted

Re: Another 15C LE speed test

*Message #14 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 12:56 p.m.,*
in response to message #13 by Mike Morrow

The L stands for the low power modes. The chip can power down each and every single component and can even reduce the kernel voltage below 1.8V if set to a lower speed. It has wake up pins which enable the "being dead but looking alive" mode used in the latest HP calculators. The chip is powered down except the LCD and some wake-up logic tied to the keyboard while the calculator is waiting for user input.

Re: Another 15C LE speed test

*Message #15 Posted by **Mike Morrow** on 23 Sept 2011, 1:00 p.m.,*
in response to message #14 by Marcus von Cube, Germany

I was wrong drawing assumptions from the block diagrams of the SAM7L vs. the SAM7S.

Thanks. My apologies!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Credit card and 15C

*Message #1 Posted by **Mark Storkamp** on 21 Sept 2011, 10:46 p.m.*

Just a heads up to those who purchased the 15C LE. I purchased two, one each at two different merchants mentioned here. That's the only time I've used my credit card in the last two or more months. The day after one of the charges went through, I started getting fraudulent charges. Could be a coincidence, might not be. You might want to carefully review your next statements.

Re: Credit card and 15C

*Message #2 Posted by **bill platt** on 21 Sept 2011, 10:54 p.m.,*
in response to message #1 by Mark Storkamp

It is most likely not a coincidence. I *never* had a fraudulent charge on a card, ever* until the internet. $19000 (yes 3 zeros) a year ago (that happened while using a Mexican computer in a hotel) and also a few thousand in New Jersey, after buying an ANSI standard.

I am convinced that many of these so called "secure" sites are totally hacked. I also fail to understand how there can be useful "encryption" when the key obviously has to travel with the rest of the data--it isn't like there is a password coming by US mail first!

(* years ago, 1992, I had an item, one item, charged in Michigan, on a card which I had just received in the mail and never yet used at all. I think it was an account number screw-up!)

Edited: 21 Sept 2011, 10:55 p.m.

Re: Credit card and 15C

*Message #3 Posted by **Paul Dale** on 21 Sept 2011, 11:17 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> I am convinced that many of these so called "secure" sites are totally hacked.

Most likely they are. Likewise for your PC.

I've heard several times that the time until hacked for a Windows machine on the Internet is in the 30 - 45 *seconds* range. This matches the the times we saw reported back when I was doing computer security incidence response work.

The crooks have the latest antivirus software. They code around it. If you machine is hacked these days, you won't and quite possible can't detect it.

> Quote:
>
> I also fail to understand how there can be useful "encryption" when the key obviously has to

> travel with the rest of the data--it isn't like there is a password coming by US mail first!

With some rather clever mathematics there are ways to set up an encrypted session without transferring the key information. This only protects the data in transit between your computer and the vendor's. At either end, the information is unencrypted and that is where it will be stolen.

- Pauli

Edited: 21 Sept 2011, 11:18 p.m.

Re: Credit card and 15C

*Message #4 Posted by **Howard Owen** on 22 Sept 2011, 1:03 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> This only protects the data in transit between your computer and the vendor's. At either end, the information is unencrypted and that is where it will be stolen.

Bingo. Most credit card numbers get stolen by malware on a user's PC. This can be as simple as an email directing the user to what looks like a merchant site or a bank. Once you follow the link, it looks very, very similar to what you are used to seeing. You enter your credit card info and *poof* you are toast. (Checking the address bar to verify the site is what it should be is a good defense against this sort of thing. Another is to be very wary when following links from email.)

Another type of credit stealing malware is a "key logger." This logs the keystrokes you type, thus stealing passwords or CC numbers directly. This lovely beast is sometimes the payload of a virus. Regular scans with up-to-date virus definitions can help minimize this, as can software designed to find malware. The antivirus companies can't know about every threat. They do their best, but there's usually a lag between a new threat showing up and deploying an updated scan definition. Never, ever transact business on a shared PC. Those things can be accessed by anyone sitting in front. It's child's play to install malware when you have physical access to the machine.

If you have anything really valuable, none of those precautions will help. Billion dollar inside information and national secrets get subjected to attacks that beggar belief. (You only rarely hear about the existence of such things, let alone the technical details of how they are implemented, but some details of how information warfare is conducted have leaked out in the last couple of years.) So it's good to be ordinary in this regard. The strength of the herd is reasonably good protection. Unless you are targeted, normal precautions and expensive resource stealing software (read: AV) keep you mostly safe.

Re: Credit card and 15C

*Message #5 Posted by **Egan Ford** on 22 Sept 2011, 12:23 p.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> Most credit card numbers get stolen by malware on a user's PC. This can be as simple as an email directing the user to what looks like a merchant site or a bank...
>
> Another type of credit stealing malware is a "key logger."

Don't for get used HDs. A while back I caught a documentary on e-waste. Long-story-short, your HDs end up in Africa where they extract any remaining data for fraud purposes.

All of my old floppies, HDs, CDs, flash memory, and tape are in a large box in the basement waiting for me to take them to the shredders. I've got stuff back to the '80s.

> Quote:
>
> The antivirus companies can't know about every threat. They do their best, but there's usually a lag between a new threat showing up and deploying an updated scan definition...

The best antivirus programs kill the user. :-) I've never had a problem with this using OS/X, Linux, or Windows (for 15 years). Commonsense and mistrust is your best defense.

Re: Credit card and 15C

*Message #6 Posted by **Howard Owen** on 22 Sept 2011, 1:13 p.m.,*
in response to message #5 by Egan Ford

Yipe!

Yet another thing to be paranoid about, after that darned mail carrier. :)

Re: Credit card and 15C

*Message #7 Posted by **David Hayden** on 22 Sept 2011, 9:29 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> Don't forget used HDs. A while back I caught a documentary on e-waste. Long-story-short, your HDs end up in Africa where they extract any remaining data for fraud purposes.

I have a great story along these lines but I won't share it electronically. Ask me at HHC. The bottom line is that corporate security and privacy policies are a joke and nothing more than "security theater" - a show to make you feel secure.

Re: Credit card and 15C

*Message #8 Posted by **megarat** on 23 Sept 2011, 1:36 p.m.,*
in response to message #5 by Egan Ford

I work in the domain of federally funded research medicine. To achieve federal compliance with data management regulations, we need to destroy our hard disks after using them. For obvious reasons, I recommend adopting this policy with your personal hard drives as well.

W/r/t destruction tools, most people employ a hammer and screwdriver. I personally recommend a 12-gauge shotgun and a pair of safety goggles.

Edited: 23 Sept 2011, 1:36 p.m.

Re: Credit card and 15C

*Message #9 Posted by **Dave Shaffer (Arizona)** on 23 Sept 2011, 1:55 p.m.,*
in response to message #8 by megarat

> Quote:
>
> W/r/t destruction tools, most people employ a hammer and screwdriver

If you do use a screwdriver (a small Torx - 8 or 9 - is necessary, in my experience), you can get the platters out quite easily - and smash them with your hammer if so inclined. You SHOULD save the very nice platter ball bearing for some home project. If you don't want it, please send it to me! You also get a couple of very strong magnets to play with.

Cryptography and security

*Message #10 Posted by **Eric Smith** on 22 Sept 2011, 1:12 a.m.,*
in response to message #3 by Paul Dale

Diffie-Hellman Key Exchange doesn't by itself give you much security, because there could be a man-in-the-middle that is separately negotiating DH with both parties. This is why the SSL and TLS secure session protocols need certificates, which are digitally signed proof of identity of the server.

Of course, there can still be problems. For instance, a certificate authority might be compromised, as recently happened with DigiNotar . That was serious enough that the company was taken over by the Dutch government, and the owners declared the company bankrupt.

Or the SSL/TLS protocol might have flaws, such as some that were just discovered in SSL version 3.0 and TLS version 1.0: Hackers break SSL encryption used by millions of sites (Versions 1.1 and 1.2 of TLS are not affected, but no common browsers or web servers support them.)

Cryptography is hard to get right. Anyone who tells you otherwise is a fool. The actual cipher (e.g., AES) may not seem to complicated, and it might not be too hard to implement it, but the cipher is only the beginning of what is necessary for secure cryptography. Getting the protocols right is incredibly difficult even for the experts, which is why SSL 3.0 and TLS 1.0 have this flaw.

You can't get security just by buying a product that is advertised as being secure. Any salesman that tells you otherwise is a liar and a thief. As Bruce Schneier says, security is a process, not a product.

Re: Cryptography and security

*Message #11 Posted by **Paul Dale** on 22 Sept 2011, 1:38 a.m.,*
in response to message #10 by Eric Smith

I definitely agree here. It is possible to circumvent such key exchanges. However, the easiest line of attack is to simply compromise an end point. I don't remember ever seeing a man in the middle attack or even hearing of one taking place. Theoretically possible for sure but not worth the effort.

Even with a perfect cryptographic system in place, a couple of thugs and a wooden stick and you'll divulge your passwords in time. Very well expressed in this web comic: http://xkcd.com/538/.

Attackers will always choose the weakest link. That isn't the key exchange or a man in the middle or the cryptographic algorithms for the kind of transactions we're likely to be doing.

- Pauli

Re: Cryptography and security

*Message #12 Posted by **Howard Owen** on 22 Sept 2011, 2:26 a.m.,*
in response to message #11 by Paul Dale

Why do cryptography at all? Obviously, without end-to-end encryption, commerce on the Internet would not exist as we know it. It's a matter of trust. Yes, it's hard to do cryptographic protocols, period. Doing it with untrusted endpoints makes it tougher. Given that, how hard should we try to get transport security right? Hard enough to offer sufficient protection at a bearable cost. What is sufficient protection? Enough protection to ensure that transactions are not subverted to the point that people stop trusting the transport. What is a bearable cost? A low enough cost that those who pay it can afford the transport security, and the trust it brings. What is that trust worth? A **lot,** so merchants who depend on that trust pay a lot to maintain it. That's the economics of TLS at scale. It's all about trust.

Keeping something absolutely safe is very, very tough. End points are vulnerable. People do things they shouldn't with passwords and the like. If somebody wants a piece of information stored on my laptop badly enough, they can get it for a some amount of effort and expense. If they don't mind me knowing about it, they can burglarize my apartment. If they want to keep their interest secret, they can get malware on my machine. (I hope that will cost them a little more than doing the burglary, but I'm probably fooling myself. :)

Do I shop on the Internet? Of course! Why? Because *I've never been ripped off, and I'm like almost everybody out there!* I maintain some minimum level of client security. I have different passwords for different sites. I'm careful about what I click on. I use a Mac, which helps a little. Given all that, the trust paid for by Internet merchants is enough to convince me it's "good enough." I do this in spite of the knowledge that practically any bad guy anywhere can pwn my Mac if only they care to spend enough time and/or money. *I don't have anything worth that much time and effort!* So practicality cuts both ways. It is impractically expensive to achieve "perfect" security. But it's also impractical to put out too much effort to get through a prudent set of precautions. There's just too much lower hanging fruit out there. :)

Re: Cryptography and security

*Message #13 Posted by **Les Bell** on 22 Sept 2011, 2:55 a.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> Keeping something absolutely safe is very, very tough. End points are vulnerable. People do things they shouldn't with passwords and the like.

As Gene Spafford memorably said, "Using encryption on the Internet is the equilvant of arranging an armored car to deliver credit card information from someone living in a cardboard box to someone living on a park bench."

;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Cryptography and security

*Message #14 Posted by **Howard Owen** on 22 Sept 2011, 4:58 a.m.,*
in response to message #13 by Les Bell

> Quote:
>
> As Gene Spafford memorably said ...

Spaf is one of my heros. :)

Re: Cryptography and security

*Message #15 Posted by **Les Bell** on 22 Sept 2011, 2:49 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> I don't remember ever seeing a man in the middle attack or even hearing of one taking place. Theoretically possible for sure but not worth the effort.

Come to one of my classes - I demonstrate them quite often. ;)

The reason they work is that the software concerned usually pops up a warning dialog or message along the lines of "Danger, Will Robinson! This site/server is possibly fake! It doesn't seem to know the correct private key! Danger! Danger! Do you want to proceed [Yes] [No]"

And guess which button the [*&^%$$%^&] user presses?

But I agree - rubber hose cryptography is usually faster, cheaper and less risky for the attacker.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Cryptography and security

*Message #16 Posted by **Eric Smith** on 22 Sept 2011, 4:12 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> the easiest line of attack is to simply compromise an end point.

Sometimes it is, sometimes it isn't. It depends on the specific circumstances.

> Quote:
>
> I don't remember ever seeing a man in the middle attack or even hearing of one taking place. Theoretically possible for sure but not worth the effort.

Man-in-the-middle attacks happen all the time. They're not just theoretical. There was a serious problem with MITM attacks against SSL in 2007, and software vendors offered

patches/upgrades to protect against it. Part of the problem is that many people do not install such patches/upgrades.

Most likely the motivation for compromising DigiNotar to obtain fraudulent certificates (e.g., for google.com) was to enable criminals to more easily do man-in-the-middle attacks, since fraudulent certificates make that even easier than the recently discovered SSL/TLS vulnerability.

> Quote:
>
> Even with a perfect cryptographic system in place, a couple of thugs and a wooden stick and you'll divulge your passwords in time.

The existence of that threat model exists does not excuse being lax about making systems and networks secure.

Re: Cryptography and security

*Message #17 Posted by **Egan Ford** on 22 Sept 2011, 12:28 p.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> Very well expressed in this web comic: http://xkcd.com/538/.

That one always cracks me up. And people say brute-force attacks take too long. :-)

Re: Credit card and 15C

*Message #18 Posted by **Les Bell** on 21 Sept 2011, 11:50 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> I am convinced that many of these so called "secure" sites are totally hacked. I also fail to understand how there can be useful "encryption" when the key obviously has to travel with the rest of the data--it isn't like there is a password coming by US mail first!

Most merchants who accept credit card payment online have to comply with the PCI DSS (Payment Card Industry Data Security Standard) requirements. These are fairly prescriptive, rather than talking in general terms - e.g.

> Quote:
>
> "3.4 Render PAN unreadable anywhere it is stored (including on portable digital media, backup media, and in logs) by using any of the following approaches: * One-way hashes based on strong cryptography (hash must be of the entire PAN) * Truncation (hashing cannot be used to replace the truncated segment of PAN) * Index tokens and pads (pads must be securely stored) * Strong cryptography with associated key-management processes and procedures

(PAN = Primary Account Number = credit card number)

Most small merchants can self-audit, but would find the compliance requirements too burdensome, while larger merchants have to undergo and audit by a qualified assessor. For these reasons, many merchants prefer not to handle credit card numbers at all, but instead hand off the payment processing to an external provider (their bank, PayPal or some other service provider) whose pages may (or may not) be branded with the merchant's logo & color scheme, etc.

I ordered a 15CLE from Samson Cables, but didn't notice whether they did this; however, I did just check and see that they provide a "secure contact form" via an external provider and expect that they handle CC processing the same way.

As a result, even if a small site is "totally hacked", there are generally no credit card details there to be compromised.

As to what is known as "the key exchange problem" (how does Alice get a key to Bob without Eve [the eavesdropper) getting it?), public key cryptography solves that. When your browser enters SSL/TLS mode, it fetches a certificate from the web site which contains the site's public key, checks out the certificate and extracts the public key. It can then do one of two things:

a) either generate a short-term session key and encrypt it with the web site's public key and send it to the site (where the private key is used to decrypt it, or

b) use the Diffie-Hellman Key Agreement Protocol to arrange for both ends to come up with the same session key, while an observer can't deduce it.

Which technique is used really depends upon what the web server software is and how it is configured. Either way, all subsequent data is transferred using symmetric cryptography (for speed) in both directions. (I've simplified the actual TLS protocol, but this is basically how it works).

(I teach this stuff at the university where I'm doing my PhD).

So, I wouldn't panic, and I wouldn't worry too much about shopping online. It certainly wouldn't stop me ordering another 15CLE if I needed one urgently!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Credit card and 15C

*Message #19 Posted by **Ed Look** on 22 Sept 2011, 1:01 a.m.,*
in response to message #18 by Les Bell

Les, your post is impressively knowledgeable and therefore, comforting. It also reinforces my belief that the encryption on these sites are generally acceptable, rendering any transactions, in themselves, safe.

But I agree with other posters who have said that it is the relative insecurity at the other end of the transaction that permits the theft of credit card numbers or passwords, and the like. I have had some circumstantial hints that personnel at commerce sites and banks do not always observe or adhere to secure protocols. Years past, when checks were processed by banks, I suppose, with more people involved, some employee of my bank mailed back to me, in a handwritten envelope with a handwritten note, some checks that had been written by me and found by the unidentified person unattended at an improper location somewhere in their offices. (Complaints to the bank elicited little response.) I have seen in news reports that store and bank employees have been caught and arrested for stealing credit

card numbers along with other information.

It is possible that some of the fraudulent charges on the accounts of some here could have arisen in this way, i.e., either by sloppy handling or outright theft at that end, and not during the electronic transaction.

Re: Credit card and 15C

*Message #20 Posted by **Les Bell** on 22 Sept 2011, 2:37 a.m.,*
in response to message #19 by Ed Look

Ed, I agree that most people aren't particularly security-conscious; that's why the processes for dealing with credit-card payments are increasingly designed to keep the CC# away from people. ;) For example, in the scenarios I described, the clerical people at the merchant never see the CC# - they just get an "approved" indication (by email, a web interface, etc.) from their bank or payment gateway. Their systems never see the number, either.

Which leaves the other parties who do actually handle the CC# - the payment processors and the customer themselves. PCI DSS compliance of payment processors is no guarantee - remember Heartland Payment Systems (think I've got the name right - I'm going on memory here) who were breached while having passed audit. However, the publicity - not to mention direct and indirect costs - associated with such breaches means that senior management is getting the message and the situation has been improving. Gradually.

At the customer end, a malware infection on the computer or a hardware keystroke logger can capture all data entered via keyboard. The only defences here are use of good, frequently-updated antivirus or anti-spyware programs, and being alert. However, even that won't always protect you. One example I've been discussing with my students is the "osCommerce willysy mass infection incident" (I can't reveal too much here, as my students are doing an exercise on it, due in 10 days' time (!) but Googling will turn up info). In this case, vulnerabilities in an open-source merchant server product were used by attackers to inject two different malware exploits onto the Windows PC's of any shoppers who visited infected stores. It took a few days before the antivirus vendors caught up with that one, and at its peak a few weeks ago, Google was reporting approximately 8 million web pages infected with the malware. :(

The other mechanism that leads to breaches is credit card skimming, either by devices attached to the front of ATM's, or hand-held devices used by people who physically handle your card - and I think that's what you're alluding to. However, that mechanism probably doesn't apply in the case of these particular purchases.

In summary, for a reasonably switched-on user with a half-way decent antivirus program (and there are some good free ones) the risk of credit card fraud (particularly in this market) remains very low.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Credit card and 15C

*Message #21 Posted by **Paul Dale** on 22 Sept 2011, 2:52 a.m.,*
in response to message #20 by Les Bell

Having been the one who implemented the PCI DSS compliance in my previous employer's products, I'd even do as far as saying PCI DSS is way less than a guarantee. It is a set of

policies and procedures that have to be followed that really don't achieve all that much.

Better than nothing, definitely. Able to prevent attacks? Not really.

Yes, I'm feeling very cynical at the moment.

- Pauli

Re: Credit card and 15C

*Message #22 Posted by **Les Bell** on 22 Sept 2011, 2:58 a.m.,*
in response to message #21 by Paul Dale

Shhhh! Not in front of the children!

(I'm somewhat in agreement - it raised the bar off the floor for the bottom end of the market, but many merchants were already doing the right thing. Ultimately, it's a risk transference exercise for the card brands.)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Credit card and 15C

*Message #23 Posted by **Ed Look** on 22 Sept 2011, 11:37 a.m.,*
in response to message #22 by Les Bell

"... One example I've been discussing with my students is the "osCommerce willysy mass infection incident" (I can't reveal too much here, as my students are doing an exercise on it, due in 10 days' time (!) but Googling will turn up info). In this case, vulnerabilities in an open-source merchant server product were used by attackers to inject two different malware exploits onto the Windows PC's of any shoppers who visited infected stores. It took a few days before the antivirus vendors caught up with that one, and at its peak a few weeks ago, Google was reporting approximately 8 million web pages infected with the malware. :(... "

Perhaps I am a bit naive, but I would have thought that online merchants would be very vigilant against this type of attack from something deposited on their end, since, as you and Paul mentioned, the publicity is quite negative and may be a huge blow to their business. Of course, such systems vigilance does sound expensive...

Re: Credit card and 15C

*Message #24 Posted by **Steve Fennell** on 21 Sept 2011, 10:59 p.m.,*
in response to message #1 by Mark Storkamp

Thanks for the heads up. I ordered from buy.com and SC but no fraudulent charges have been posted. I will keep my eye on it in any case.

I had a Chase card several years ago that I got from Amazon and had several fraudulent charges, but that is the only time. Otherwise I've been using a CC on the internet since 1995 with no issues.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Who has the highest 15c LE number?

*Message #1 Posted by **MBlount** on 21 Sept 2011, 4:05 p.m.*

Might be a good indication of how many have been sold and how many are left to be delivered. I've got 2306 purchased from buy.com on the first day of availablity. That's one of the highest numbers I've seen. It would appear there are still in excess of 7,000 units that have not made it to retail yet which should help on the $200+ prices they are currently commanding.

Seems like they are trickling in on the slow boats from China.

Re: Who has the highest 15c LE number?

*Message #2 Posted by **Glenn Dowdy** on 21 Sept 2011, 4:06 p.m.,*
in response to message #1 by MBlount

We did use a mix of air and ocean shipment, and I have the highest number at 888,888, which is not indicative of the total number produced.

Re: Who has the highest 15c LE number?

*Message #3 Posted by **Katie Wasserman** on 21 Sept 2011, 4:29 p.m.,*
in response to message #2 by Glenn Dowdy

> Quote:
>
> which is not indicative of the total number produced

Would you indicated what that number is? 10,000 has been assumed here by some, but has HP stated that officially that I know of.

-Katie

Re: Who has the highest 15c LE number?

*Message #4 Posted by **Glenn Dowdy** on 21 Sept 2011, 5:12 p.m.,*
in response to message #3 by Katie Wasserman

Unfortunately, I can't share that information.

Re: Who has the highest 15c LE number?

*Message #5 Posted by **Martin Pinckney** on 21 Sept 2011, 6:20 p.m.,*
in response to message #4 by Glenn Dowdy

No one expects HP to reveal the amount, but at least you had the guts to ask, Katie.

I started thinking. Googling revealed that standard shipping containers are either 1172 CF or 2390

CF. The 15c LE presentation box is approximately 2.7"x6.3"x8.7", or 0.0856 CF each (calc'd on 15c, verified with attached units on 48sx). I'm going to add 15% to account for corrugated shipping box and dead space in the container. (0.0984 CF/15c).

That indicates full containers might hold either about 11,900 or 24,300 calculators. What does this tell us? Nothing, basically. But I had fun doing it.

Re: Who has the highest 15c LE number?

*Message #6 Posted by **Katie Wasserman** on 21 Sept 2011, 6:58 p.m.,*
in response to message #5 by Martin Pinckney

Not really "guts", I just want to have some idea of what "Limited" means in HP's corporate head.

(Unfortunately that head seems to be rather variable these days. Make the Tocuhpad, drop the Touchpad. Hire Apotheker, fire Apotheker. Buy Compaq for their PC business, sell the whole thing.)

Re: Who has the highest 15c LE number?

*Message #7 Posted by **Glenn Dowdy** on 22 Sept 2011, 10:35 a.m.,*
in response to message #6 by Katie Wasserman

Tim, Cyrille and I were not involved in any of the above decisions, except as passengers.

Re: Who has the highest 15c LE number?

*Message #8 Posted by **NateB** on 21 Sept 2011, 7:25 p.m.,*
in response to message #5 by Martin Pinckney

When the 888,888 number was mentioned in this thread, I went fishing and got a half-answer about the number of units produced.

I ordered a unit from HP. It arrived today. #01436

Edited: 21 Sept 2011, 7:30 p.m.

Re: Who has the highest 15c LE number?

*Message #9 Posted by **Martin Pinckney** on 21 Sept 2011, 9:00 p.m.,*
in response to message #8 by NateB

> Quote:
>
> When the 888,888 number was mentioned in this thread, I went fishing and got a half-answer about the number of units produced.

You mean the half answer is:

> Quote:
>
> Message #6 Posted by Glenn Dowdy on 11 Sept 2011, 9:03 p.m., in response to message #5 by Tim Wessman

Highest: me, at 888,888

Message #7 Posted by NateB on 11 Sept 2011, 10:31 p.m., in response to message #6 by Glenn Dowdy

At least they've made more than 10,000 units.

Message #8 Posted by Tim Wessman on 11 Sept 2011, 10:38 p.m., in response to message #7 by NateB

That was a single, special one on request.

TW

Do you mean that *by inference* Tim was saying (at least not denying) that in fact, 10,000 *is* the number?

Re: Who has the highest 15c LE number?

*Message #10 Posted by **Ethan Conner** on 21 Sept 2011, 4:37 p.m.,*
in response to message #1 by MBlount

I have 2852 but i believe someone posted a high 2900 number on here.

Re: Who has the highest 15c LE number?

*Message #11 Posted by **Michael de Estrada** on 21 Sept 2011, 5:15 p.m.,*
in response to message #10 by Ethan Conner

2953

Re: Who has the highest 15c LE number?

*Message #12 Posted by **Geoffrey Wang** on 21 Sept 2011, 6:27 p.m.,*
in response to message #11 by Michael de Estrada

2990 (from buy.com via ebay)

Re: Who has the highest 15c LE number?

*Message #13 Posted by **Derek Walker (UK)** on 26 Sept 2011, 9:24 a.m.,*
in response to message #12 by Geoffrey Wang

02966 from Samson, dispatched on Sep 14th

Re: Who has the highest 15c LE number?

*Message #14 Posted by **Ken Shaw** on 26 Sept 2011, 3:05 p.m.,*
in response to message #13 by Derek Walker (UK)

02977 from Samson.

Shipped on 14th; received here in the Toronto area on the 23rd.

As we know, mail to Canada from the USA takes longer than it does to Europe, and just about

anywhere else.

Re: Who has the highest 15c LE number?

*Message #15 Posted by **hpnut** on 26 Sept 2011, 8:08 p.m.,*
in response to message #14 by Ken Shaw

yup, it takes quite a while on the Elk Express :-)

Re: Who has the highest 15c LE number?

*Message #16 Posted by **Alexander Oestert** on 28 Sept 2011, 12:17 p.m.,*
in response to message #13 by Derek Walker (UK)

555 and 579 from SC.

Shipped on 13., collected from customs on 28.

Re: Who has the highest 15c LE number?

*Message #17 Posted by **Paul Dale** on 21 Sept 2011, 6:59 p.m.,*
in response to message #1 by MBlount

There is actually a decent way to estimate this under the assumption that serial numbers are allocated sequentially (which means we'd discount the #888,888 unit).

If the highest serial number seen is s in a sample of n serial numbers, then the estimate for the total number produced is s + s/n - 1. From memory, this is the minimum variance unbiased estimator -- i.e. it has some good optimality properties.

For those interested, this is known as the "German tank problem" and it came about because the (Western) allied forces in the second World War needed to know how many tanks the Germans had. German tanks being better meant that a significant numeric superiority was required. However, the method is applicable to just about any problem were you have a sequential numbering to sample from.

- Pauli

Re: Who has the highest 15c LE number?

*Message #18 Posted by **Katie Wasserman** on 21 Sept 2011, 9:07 p.m.,*
in response to message #17 by Paul Dale

Interesting stuff and good to know if we're ever at war with the HP calculator division!

The problem with this method of analysis is that it only tells you how many calculators (or tanks, whatever) have been distributed up to this point or projecting into the future at a constant rate. But we know that the future is "limited" and I don't see how this will help until all the calculators that will be distributed are distributed.

Re: Who has the highest 15c LE number?

*Message #19 Posted by **Paul Dale** on 21 Sept 2011, 9:13 p.m.,*
in response to message #18 by Katie Wasserman

It only estimates the number distributed if they are distributed starting from number one onwards. I very much doubt this is the case, they'll most likely be distributed a little more randomly than that but

not completely at random -- cases will be opened and units shipped from that case but a new case won't be opened until the old one is finished.

If the units are being shipped out at random then it will provide an estimate of the total number shipped. However, it breaks down once all of them have been shipped and sold and the sample size gets large in proportion to the total.

Still it might be a start...

- Pauli

Re: Who has the highest 15c LE number?

*Message #20 Posted by **Paul Guertin** on 23 Sept 2011, 4:57 a.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> There is actually a decent way to estimate this under the assumption that serial numbers are allocated sequentially [...] "German tank problem"

Unfortunately, the estimators used in the German tank problem assume a uniformly random sampling of serial numbers. This does not seem to be the case here.

Edited: 23 Sept 2011, 4:57 a.m.

Re: Who has the highest 15c LE number?

*Message #21 Posted by **Keith Midson** on 26 Sept 2011, 5:47 a.m.,*
in response to message #1 by MBlount

My two 15C's arrived today - got quite early numbers: 560 & 575. So excited I feel like a big kid!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Android: 15C Scientific Calculator

*Message #1 Posted by **Howard Owen** on 21 Sept 2011, 3:49 p.m.*

The first and only 15C emulator on Android is from Vicinno Soft. They also have a 12C emulator on Android. With all the talk of the GSB -I bug, I figured it would be a good test to try to try on the Android app. I wrote the following test program:

```
001    42,21,11      LBL A
002    0             0
003    43,30, 0      TEST 0
004    43  32        RTN
005    3             3
006    16            CHS
007    44 25         STO[I]
008    32 25         GSB[I]
009    31            R/S
```

edit: align columns properly.

On my classic 15C in FIX 4, I run the program like this:

```
[f][A]    - see "-3.0000"
[g][P/R]  - see "000 -"
```

We load zero in line 2, then test for != 0. This is false, so we skip the return instruction. Lines 005 through 007 load -3 into [I]. After line 008, a branch is taken to line 3, which tests for !=0. This time the test is true, and the calculator executes a RTN. In line with the observed bug, this transfers execution to the line immediately after line 003, the GSB-I target. In other words, the RTN is executed again. When we switch to program mode, we see the PC is at line 000, just as if we had executed RTN without a pending GSB call.

I get identical results on the Android app. So this program is an emulator, rather than a simulator.

Edited: 21 Sept 2011, 5:26 p.m. after one or more responses were posted

RTN two levels!

*Message #2 Posted by **Howard Owen** on 21 Sept 2011, 5:20 p.m.,*
in response to message #1 by Howard Owen

ahem This is a return stack pop, right? Might be useful after all.

Re: RTN two levels!

*Message #3 Posted by **Howard Owen** on 21 Sept 2011, 7:00 p.m.,*
in response to message #2 by Howard Owen

I'm nested in two levels of self-reply calls. :)

```
001    42,21,11      LBL A
002    32 1          GSB 1
003    31
004    42,21, 2      LBL 2
```

```
005    0              0
006    43,30, 0       TEST 0
007    43  32         RTN
008    6              6
009    16             CHS
010    44 25          STO[I]
011    32 25          GSB[I]
012    42,21, 1       LBL 1
013    22  2          GTO 2
```

[f][A] then [g][P/R] and see "004 42,21, 2 ".

Single step reveals that this works:

```
001    42,21,11       LBL A
002    32 1           GSB 1
012    42,21, 1       LBL 1
013    22  2          GTO 2
004    42,21, 2       LBL 2
005    0              0
006    43,30, 0       TEST 0
008    6              6
009    16             CHS
010    44 25          STO[I]
011    32 25          GSB[I]
007    43,30, 0       TEST 0       Incorrect line number - really line 6.)
008    43  32         RTN          Really line 7 and it returns to one past the GSB
target
                                   instead of one past where GSB was called
007    43  32         RTN          Right line#
003    31             R/S          Second RTN behaves correctly.
```

edit: change conclusion. It doesn't pop, it sizzles. :)

Conclusion: You only ever need one RTN instruction in a program! GSB [I] to the line before the RTN. The RTN will execute twice, and you will end up at the proper place for the GSB pending when you called GSB[I].

Bleh - trading RTNs for GSBs. Bet it's a net loss in memory.

Edited: 21 Sept 2011, 7:20 p.m. after one or more responses were posted

Re: Android: 15C Scientific Calculator

*Message #4 Posted by **Todd Garabedian** on 21 Sept 2011, 5:48 p.m.,*
in response to message #1 by Howard Owen

I'll be impressed when I see a decent HP emulator for the iPad. So far, the best one I've found is i41CX,and it's very cool since it also implements the keyboard overlays and plugin modules. The premium version also adds an emulator of the HP 82240B IR printer, complete with sound.

I'd love to find a good Voyager emulator that takes advantage of the iPad screen. The iPhone apps like this one let you enlarge the screen to fit the iPad, but the display is all pixelated. I don't like pixelated. :)

Re: Android: 15C Scientific Calculator

*Message #5 Posted by **Howard Owen** on 21 Sept 2011, 7:04 p.m.,*
in response to message #4 by Todd Garabedian

I have three 15C emulators on my iPod. I haven't been using it much for the last year, so there may well be more than that in the app store.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Offer of rides between SD airport and conference hotel

*Message #1 Posted by **Brian Walsh** on 21 Sept 2011, 3:18 p.m.*

I arrive at San Diego airport Friday morning just before 9am and have a rental car reserved for pickup at 10am (National Car Rental). I will return the car on Monday the 26th by 10am. I have room for up to two other people wanting rides. I can be reached at the number below any time (I may answer it with my business name).

Brian Walsh 773-809-4434

Re: Offer of rides between SD airport and conference hotel

*Message #2 Posted by **Howard Owen** on 21 Sept 2011, 3:59 p.m.,*
in response to message #1 by Brian Walsh

If you can hang out until midnight, I'll take you up on that offer. :)

Re: Offer of rides between SD airport and conference hotel

*Message #3 Posted by **Brian Walsh** on 21 Sept 2011, 5:12 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> If you can hang out until midnight, I'll take you up on that offer. :)

You can't afford it, Howard :-)

Re: Offer of rides between SD airport and conference hotel

*Message #4 Posted by **Howard Owen** on 21 Sept 2011, 5:16 p.m.,*
in response to message #3 by Brian Walsh

Heh. I'd charge a lot myself. :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

More drama at HP

*Message #1 Posted by **Michael de Estrada** on 21 Sept 2011, 3:00 p.m.*

Here

Re: More drama at HP

*Message #2 Posted by **Namir** on 21 Sept 2011, 3:08 p.m.,*
in response to message #1 by Michael de Estrada

And be run by a former big wig at eBay (yes I can spell it out right here because I am talking about a corporation)!! How about that! I hope they will *eject* Apotheker's *behind*!!!

Edited: 21 Sept 2011, 3:08 p.m.

Re: More drama at HP

*Message #3 Posted by **Raymond Del Tondo** on 21 Sept 2011, 3:18 p.m.,*
in response to message #1 by Michael de Estrada

I'm sure Bill and Dave would be rotating in their graves, if they knew what those overpaid manager *ssh*les are doing to their once proud company...

Re: More drama at HP

*Message #4 Posted by **Tim Wessman** on 21 Sept 2011, 3:23 p.m.,*
in response to message #3 by Raymond Del Tondo

> Quote:
>
> I'm sure Bill and Dave would be rotating in their graves

It's part of the HP Going Green (tm) strategy. They've hooked up a generator and are using it to power corporate facilities. Dontcha know.

TW

PS - 7 months ago - Even got the "replacement" right.

Re: More drama at HP

*Message #5 Posted by **Oliver Unter Ecker** on 21 Sept 2011, 3:36 p.m.,*
in response to message #4 by Tim Wessman

Great link, thanks!

> Quote:

> Apotheker certainly qualified on those terms with the only downsides being his lack of hardware experience and that he'd been fired from SAP after only seven months.

I hadn't known that. This guy is incredible. A regular bomb.

Well, now that this is half out, I think it's almost a certainty.

I hope they will reverse the switch to SW and services idea, stop the insane Autonomy deal, and get back to what they're good at.

Sounds like it bodes well for the calculator group, too. Yay!

(I'm surprised how unprofessionally this is all conducted. Publicly announcing they *may* sell the PC business, they *may* fire the CEO..)

Re: More drama at HP

*Message #6 Posted by **Thomas Radtke** on 22 Sept 2011, 11:57 a.m.,*
in response to message #5 by Oliver Unter Ecker

> Quote:
>
> [...] and get back to what they're good at.

What might that be? No rant intended, I'm asking seriously. The highest failure rate I had with consumer electronics was with HP. Marketing certainly doesn't belong to HPs strengths as well as cost cutting while preserving some level of quality isn't working for them. Also, I haven't seen any interesting inventions lately. What apparently remains is an attractive brand with not much behind it.

Please point out what's left.

:-(

Re: More drama at HP

*Message #7 Posted by **Oliver Unter Ecker** on 22 Sept 2011, 5:38 p.m.,*
in response to message #6 by Thomas Radtke

> Quote:
>
> > Quote:
> >
> > [...] and get back to what they're good at.
>
> What might that be? No rant intended, I'm asking seriously.

As you're asking seriously, I shall not respond with "calculators, of course."

I meant making and selling hardware.

HP is the #1 PC manufacturer in the world. By and large customers must approve of their

products, or else HP wouldn't occupy that spot. It should be fair to call them "good at" something, based on this alone.

HP may not be the innovation engine it once was, but, as any technology company of their size, has deep pockets of innovation here and there. (One of them, arguably, the calculators group.)

I don't know much about HP's product lines, but I'm sure they're pushing the state of the art in a number of fields.

Also, HP has surely something left of the "HP Way".

Wikipedia tells us
"In September 2009, Newsweek ranked HP No.1 on its 2009 Green Rankings of America's 500 largest corporations"
and other things that indicate that HP is a "green" company.

If they're good at being green, they're good at their business, in my book, even if the business would be in boring commodity goods devoid of any innovation.

If you're doubtful that HP lives up to its potential with CEOs that knows zilch of technology and think about money before anything else, I'm with you. But this, of course, is the state of affairs with most big companies.

Re: More drama at HP

*Message #8 Posted by **Thomas Radtke** on 23 Sept 2011, 7:29 a.m.,*
in response to message #7 by Oliver Unter Ecker

> Quote:
>
> It should be fair to call them "good at" something [...]

Yes, I admitted already they have an excellent brand name. You know both german idioms: "auf seinen Lorbeeren ausruhen" and "Straßen benennt man nach Toten". That fits it best.

Re: More drama at HP

*Message #9 Posted by **Namir** on 21 Sept 2011, 3:36 p.m.,*
in response to message #4 by Tim Wessman

HP can still get into the software business a-la IBM, but they can do it slowly and gradually without axing existing business units. As the new software BU do well, they can transfer managers from the hardware BUs. At one point they can have a choice of keeping all of the BUs or selling the hardware-related ones (way down the road). Rushing into things is seldom the smart thing for huge corporations.

Edited: 21 Sept 2011, 3:37 p.m.

Re: More drama at HP

*Message #10 Posted by **Howard Owen** on 21 Sept 2011, 4:31 p.m.,*
in response to message #4 by Tim Wessman

Wow! Cringley really nailed that one!

So whatever happens to HP under Meg will be Jerry Brown's fault? :)

Re: More drama at HP

*Message #11 Posted by **Brian Walsh** on 21 Sept 2011, 3:22 p.m.,*
in response to message #1 by Michael de Estrada

An article on Slashdot today includes this link in a comment posted: http://www.cringely.com/2011/02/why-leo-apotheker-will-be-fired-from-hewlett-packard/

If the ax is going to fall, let it fall now.

Re: More drama at HP

*Message #12 Posted by **Walter B** on 21 Sept 2011, 3:43 p.m.,*
in response to message #1 by Michael de Estrada

Quite popular method: raise the frequency of CEO changes to stabilize a tumbling company :-/ I doubt Mark Hurd would have had to resign in any other big economy of the western world for the reasons heard - but ok, it's the decision of the board. Nor is it up to me to judge Leo's performance - simply too short to see any major footprints at HP. But the apparent new choice needs a lot of explanations: a failed candidate for gouvernor, having no idea of neither SW nor HW - she's the best the board could find?!? Good luck, HP, you'll need it!

Re: More drama at HP

*Message #13 Posted by **Michael de Estrada** on 21 Sept 2011, 3:54 p.m.,*
in response to message #12 by Walter B

But she understands the internet, marketing and sales. What else does she need to know ?

Edited: 21 Sept 2011, 3:55 p.m.

Re: More drama at HP

*Message #14 Posted by **Walter B** on 21 Sept 2011, 3:58 p.m.,*
in response to message #13 by Michael de Estrada

Remember Carly? :-(

Re: More drama at HP

*Message #15 Posted by **Howard Owen** on 21 Sept 2011, 3:56 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Wall Street wasted no time in roaring its approval, sending shares in the largest U.S. technology company by sales up more than 11 percent for a market value gain of nearly $5 billion.

HP employees at all levels must be feeling quite dizzy at this point. That's not good for business, but Wall Street **really** hated Apotheker's recent moves. Let's hope Meg Whitman's similarity to Carly Fiorina goes no farther than being the second ex-CEO Republican politician to lose in California last year.

Re: More drama at HP

*Message #16 Posted by **Eddie W. Shore** on 21 Sept 2011, 11:40 p.m.,*

in response to message #15 by Howard Owen

Agree. However, it seems like the current CEO is a real "winner".

$35 million for failing - what a joke.

And NO to Meg Whitman either.

Edited: 21 Sept 2011, 11:40 p.m.

Re: More drama at HP

*Message #17 Posted by **DaveJ** on 21 Sept 2011, 9:37 p.m.,*
in response to message #1 by Michael de Estrada

$35M for 11 month work, where do I sign up?

http://blogs.wsj.com/digits/2011/09/21/h-p-ceo-apotheker-could-walk-away-with-35-million/

Dave.

Re: More drama at HP

*Message #18 Posted by **bill platt** on 22 Sept 2011, 8:00 a.m.,*
in response to message #17 by DaveJ

That is salary and benefits for over 200 college educated employees...

Re: More drama at HP

*Message #19 Posted by **Steve Simpkin** on 22 Sept 2011, 12:22 p.m.,*
in response to message #18 by bill platt

> Quote:
>
> That is salary and benefits for over 200 college educated employees...

That may seem like a lot but keep in mind that a bad CEO can do far, far more damage to HP than 200 bad employees. So if you look at it that way, he is totally worth it :P

Re: More drama at HP

*Message #20 Posted by **Egan Ford** on 22 Sept 2011, 12:37 p.m.,*
in response to message #1 by Michael de Estrada

Meg probably rolled into the boardroom and amazed the board with the profits of HP calc's on eBay.

Forgot the :-)

Edited: 22 Sept 2011, 12:37 p.m.

Its Official: Meg Whitman is announced as the new CEO of HP

*Message #21 Posted by **Steve Simpkin** on 22 Sept 2011, 4:29 p.m.,*
in response to message #1 by Michael de Estrada

And it is officially announced.
Meg Whitmand is announced as new CEO of HP

Edited: 22 Sept 2011, 4:32 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

First honest true auction on TAS for an HP 15C LE

*Message #1 Posted by **Michael de Estrada** on 21 Sept 2011, 2:23 p.m.*

So far all we've seen on TAS has been price gouging for the the HP 15C LE in BIN (Buy it Now) "auctions", but this one is a true auction with a low $9 start price and no reserve. It has already been bid up to well over $100 with 4 days to go, but at least it will get a fair market price. Brought to you courtesy of that German guy who normally sells TI calcs. It will be interesting to see the nationality of the winning bidder.

Edited: 21 Sept 2011, 2:24 p.m.

Re: First honest true auction on TAS for an HP 15C LE

*Message #2 Posted by **Juergen Keller** on 21 Sept 2011, 2:34 p.m.,*
in response to message #1 by Michael de Estrada

I live in Switzerland and have bought 5 HP-15C LE at Samson Cables. Final price including shipping and custom taxes was around $160 per calc. Now enter some numbers in your new gadget and you'll see that buying it directly in the US is cheaper than buying it on eBay.

Re: First honest true auction on TAS for an HP 15C LE

*Message #3 Posted by **Thomas Radtke** on 21 Sept 2011, 2:48 p.m.,*
in response to message #2 by Juergen Keller

Grüezi Jürgen,

I conclude you already got your calculators. How long did it take? I'm still waiting for mine, also ordered from SC.

Thomas

Re: First honest true auction on TAS for an HP 15C LE

*Message #4 Posted by **Juergen Keller** on 21 Sept 2011, 3:42 p.m.,*
in response to message #3 by Thomas Radtke

It took a week (shipped Tuesday, arrived Monday).

Re: First honest true auction on TAS for an HP 15C LE

*Message #5 Posted by **Michael de Estrada** on 21 Sept 2011, 2:49 p.m.,*
in response to message #2 by Juergen Keller

> Quote:
>
> Final price including shipping and custom taxes was around $160 per calc.

Not any more. Here

Edited: 21 Sept 2011, 2:51 p.m.

Re: First honest true auction on TAS for an HP 15C LE

*Message #6 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 3:15 p.m.,*
in response to message #5 by Michael de Estrada

Mine have been charged $94.99 each, which looks now a low price to me :-)

Back to the auction, I sincerely hope the seller hasn't actually computed the square root of 8 on the 15 LE.

Re: First honest true auction on TAS for an HP 15C LE

*Message #7 Posted by **Joerg Woerner** on 21 Sept 2011, 8:04 p.m.,*
in response to message #6 by Gerson W. Barbosa

Just look at the Datamath Calculator Museum - I always enter 2.8284271... on my calcs. Helps me to recognize my pictures on auctions ;-))

I calculated it multiple times on real calculators, aka AOS machines and memorized bout 14 digits of it.

Cheers, Joerg

Re: First honest true auction on TAS for an HP 15C LE

*Message #8 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 10:00 p.m.,*
in response to message #7 by Joerg Woerner

It's just there's a discrepancy in the last two digits: ...56 instead of ...25. One might think the HP-15 LE answer is wrong... Fortunately it appears this minor detail will not affect the final price :-)

Cheers,

Gerson.

Re: First honest true auction on TAS for an HP 15C LE

*Message #9 Posted by **Michael de Estrada** on 21 Sept 2011, 10:21 p.m.,*
in response to message #8 by Gerson W. Barbosa

But, did you know that on the HP 15C LE that 8.000000000 Sqrt x^2 yields 8.000000001 ?

Re: First honest true auction on TAS for an HP 15C LE

*Message #10 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 10:45 p.m.,*
in response to message #9 by Michael de Estrada

Yes, like on the original HP-15C. That's an expected result, considering the way the HP-15C rounds the results:

```
sqrt(8) = 2.828427124746
          2.828427125
```

```
2.828427125^2 = 8.000000001436
                8.000000001
```

Re: First honest true auction on TAS for an HP 15C LE

*Message #11 Posted by **Joerg Woerner** on 21 Sept 2011, 10:31 p.m.,*
in response to message #8 by Gerson W. Barbosa

Where was the link about keyboard quality?

Just kidding...

Joerg

Re: First honest true auction on TAS for an HP 15C LE

*Message #12 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 10:57 p.m.,*
in response to message #11 by Joerg Woerner

> Quote:
>
> Just kidding...

Of course! I had checked it upon the 14-digit result. Furthermore, if there were any keyboard issue this would have been mentioned in the ad, knowing the seller as we do :-)

Something similar happened when the first official HP-15C LE image "leaked". It showed 3.141592653 instead of the rounded value of pi, which led to speculations about the HP-15C LC not replicating the answers of the original one.

Gerson.

Re: First honest true auction on TAS for an HP 15C LE

*Message #13 Posted by **Namir** on 21 Sept 2011, 2:56 p.m.,*
in response to message #2 by Juergen Keller

The seller is forum member/friend Joerg Werner (Mr DataMath) and YES HE IS VERY HONEST!!! I am sorry that he is not attending HHC2011. I remember sitting right next to him at HHC2007 at HP's offices in San Diego. I recall teasing him about his TI calculators that he brought. I picked up my H-35S and challenged one of his TI prototypes in the style of the old west sheriff that tells an unwelcome intruder "This town ain't big enough for the both of us! You must leave town by sunset!"

This all reminds me of the lyrics of an old Seals & Croft song "We will never pass this way again!"

Edited: 21 Sept 2011, 3:10 p.m.

Re: First honest true auction on TAS for an HP 15C LE

*Message #14 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 4:31 p.m.,*
in response to message #13 by Namir

> Quote:
>
> I picked up my H-35S and challenged one of his TI prototypes in the style of the old west

> sheriff that tells an unwelcome intruder "This town ain't big enough for the both of us! You must leave town by sunset!"

Since you were the challenger, he might choose the weapons and easily win the duel. Too many weak points in your gun for your opponent to take advantage of :-)

Re: Yes, it is me - the guy form the DARK SIDE aka TI

*Message #15 Posted by **Joerg Woerner** on 21 Sept 2011, 4:58 p.m.,*
in response to message #13 by Namir

Namir and All,

I'm really sorry to miss this great event - unfortunately I have to attend on Sunday/Monday the Pack-Expo in Las Vegas. I tried hard to combine at least Saturday in San Diego (my favorite city so far in North America) with Sunday in Las Vegas, but it didn't work out.

Hope to see you guys next year!!

I bought five of the HP 15c (missed the lowest price by a few days) to help my collector friends in Brazil, Switzerland, Germany and Portugal and couldn't resist.

I had no idea that they sell on eBay for $300 but I'm always short with calculator money. Had to split my living expenses from the Texas Instruments calculator expenses some years ago (I'm married and have four kids, two of them are already on colleges here in the US) and you know how expensive the last 10 calculators in every collection are. Looking for a CC 40 prototype, a TI-88 in the transparent housing...

Cheers and have fun on the HHC 2011!

Joerg

Re: Yes, it is me - the guy form the DARK SIDE aka TI

*Message #16 Posted by **Michael de Estrada** on 21 Sept 2011, 5:05 p.m.,*
in response to message #15 by Joerg Woerner

What are you going to do with the Konkret 600 ?

Re: Yes, it is me - the guy form the DARK SIDE aka TI

*Message #17 Posted by **Joerg Woerner** on 21 Sept 2011, 8:05 p.m.,*
in response to message #16 by Michael de Estrada

Trading with db for five TI-30's!

Cheers, Joerg

Re: First honest true auction on TAS for an HP 15C LE

*Message #18 Posted by **bill platt** on 21 Sept 2011, 4:17 p.m.,*
in response to message #1 by Michael de Estrada

I think some people are going crazy.

Re: Nationalities

*Message #19 Posted by **Joerg Woerner** on 21 Sept 2011, 5:02 p.m.,*
in response to message #1 by Michael de Estrada

Michael,

So far on both auctions ONLY US bidders.

Regards, Joerg

Re: Nationalities - and Soccer

*Message #20 Posted by **Joerg Woerner** on 22 Sept 2011, 7:30 a.m.,*
in response to message #19 by Joerg Woerner

At the end of the day, eh auction it will be like soccer in the good old days:

The ball is round and the game lasts 90 minutes. At the end Germany wins!

Cheers,

Joerg

(Currently its more like Mexico vs Norway)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE Synthetics

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Sept 2011, 1:48 p.m.*

Has anyone tried Synthetics on the new 15C LE? Does it work?

Here is some reference on Synthetics on the original 15C.

15C Synthetics

-Kerem

Re: 15C LE Synthetics

*Message #2 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 1:57 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

It should work on the HP-15C LE. It has on Michael Steinmann's DM-15C:

https://picasaweb.google.com/lh/photo/daRgFTSpGs0xkqIRPrw_OM-1Zt5lehVuSAVUkPdAHzU?feat=directlink

Gerson.

Edited: 21 Sept 2011, 2:10 p.m.

Re: 15C LE Synthetics

*Message #3 Posted by **Eric Smith** on 21 Sept 2011, 2:51 p.m.,*
in response to message #2 by Gerson W. Barbosa

It does NOT work on the 15C LE. I had strong reason to suspect that it wouldn't, and just verified it on an actual calculator.

The way synthetics on the 15C worked depended on an obscure hardware feature of the chip that is totally unrelated to the Nut instruction set, so most microcode-level simulators will NOT support it. If it works on Michael's DM-15C, it is because he went out of his way to support it.

The ON-y^x key combination of the original 15C (and the same combination of physical keys on the other original Voyagers) forces a hardware reset. The firmware has no control over this. It is mentioned in the original manual as something to try if the calculator is unresponsive, with the note that the X register will be altered and should be cleared afterward. The specific change to the X register is that it is rotated 22 bit positions. This can result in an NNN ("non-normalized number"), which on the 15C can be an invalid matrix descriptor.

I have reason to believe that other portions of the calculator internal state are also modified, but have not verified this. Probably the A,B,C,M, and N registers are all rotated by 22 bits, and the F, G, and S registers are probably also rotated by some amount. The P register might or might not be changed.

For example, press the key sequence 1 0 1 7, then the ON-y^x combo. On an original 15C this gives an invalid matrix descriptor, while on the 15C LE it just turns the calculator off, and turning it on again shows an unmodified value 1017 in the X register.

Re: 15C LE Synthetics

*Message #4 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 3:25 p.m.,*
in response to message #3 by Eric Smith

Thanks for the clarification. Still, it's amazing that Michael has minded simulating an obscure hardware feature just to run the "hello PPC" program. Unless he needed this for something else, of course.

Re: 15C LE Synthetics

*Message #5 Posted by **Howard Owen** on 21 Sept 2011, 5:15 p.m.,*
in response to message #3 by Eric Smith

Eric, did you know that [ON] [SQRT] also appears to perform a 22 bit rotate right? I just discover this via dyslexia. I tried it with 1.000000044 and got the same descriptor display as for [ON]Y^X

(deleted post)

*Message #6 Posted by **deleted** on 21 Sept 2011, 5:42 p.m.,*
in response to message #5 by Howard Owen

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 15C LE Synthetics

*Message #7 Posted by **Howard Owen** on 21 Sept 2011, 6:42 p.m.,*
in response to message #6 by deleted

Certainly. Working through the examples on Eric's site, I entered 1.000000044, turned the calculator off, then pressed SQRT, then ON, then released, I saw the same synthetic matrix descriptor as for when Y^X is pressed. Looking at the text, it seems to me that only a 22-bit rotate right would produce exactly that display, so I think that's what is happening with the SQRT case.

I wonder if [ON][SQRT] will reset the calc like [ON]Y^X does?

Re: 15C LE Synthetics

*Message #8 Posted by **Eric Smith** on 22 Sept 2011, 1:26 a.m.,*
in response to message #7 by Howard Owen

If it causes the 22-bit rotate, then it is doing a hard reset.

Re: 15C LE Synthetics

*Message #9 Posted by **Mike Morrow** on 21 Sept 2011, 3:37 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

You might be able to get something useful from the program memory corruption that occurs when the old *ON*

plus * or *ON plus* + self tests are attempted.

I reported the memory corruption problem and gave an example before and after the self tests in this thread.

Some bizarre results can be seen after the self tests. Do the self tests again and more program memory changes will take place.

Re: 15C LE Synthetics

*Message #10 Posted by **Eric Smith** on 21 Sept 2011, 3:44 p.m.,*
in response to message #9 by Mike Morrow

On the original 15C, interrupting the self-tests, or self-test failure, can result in the same sort of memory corruption.

[When composing this message, I started to write "On the real 15C", but obviously the 15C LE is a "real 15C".]

Re: 15C LE Synthetics

*Message #11 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Sept 2011, 4:18 p.m.,*
in response to message #10 by Eric Smith

This emulator concept, reminds me a movie, where two engineers in order to boost hybrid car sales, put a hybrid engine into a muscle car look a like body and used "high power speakers" to sound like one. I guess when we live in a make believe world, everything makes sense.

Edited: 21 Sept 2011, 4:19 p.m.

Re: 15C LE Synthetics

*Message #12 Posted by **Paul Dale** on 21 Sept 2011, 6:46 p.m.,*
in response to message #9 by Mike Morrow

I was thinking the same thing but haven't got to experimenting with the self test corruption in detail yet.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S : RMDR remark in the manual

*Message #1 Posted by **Miguel Toro** on 21 Sept 2011, 1:25 p.m.*

Hi,

I think that, what is implemented in the WP 34s is RMDR(y/x) = y-x*IP(y/x).

The HP 42s implements MOD(y/x) = y-x*INT(y/x), where INT(A) is the greater integer less than or equal to A.

For example:

42S: 7, +/-, ENTER 3 MOD -> 2

34S: 7, +/-, ENTER 3 RMDR -> -1

The HP 71b implements both functions. So maybe the remark could say : "Equals RMD on HP 71B and HP 16C".

Saludos,

Miguel

Edited: 21 Sept 2011, 1:27 p.m.

Re: WP34S : RMDR remark in the manual

*Message #2 Posted by **Gerson W. Barbosa** on 21 Sept 2011, 1:44 p.m.,*
in response to message #1 by Miguel Toro

Hola Miguel,

This was discussed recently here. See message #42.

Cheers,

Gerson.

Edited: 21 Sept 2011, 1:45 p.m.

Re: WP34S : RMDR remark in the manual

*Message #3 Posted by **Miguel Toro** on 21 Sept 2011, 2:03 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thank you Gerson

So I suppose that the manual should be updated then. An I read that maybe MOD could be implemented in the future.

Regards and thanks again,

Miguel

Edited: 21 Sept 2011, 2:14 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Current Consumption and Program Performance HP15CLE

*Message #1 Posted by **Thomas Chrapkiewicz** on 21 Sept 2011, 1:03 p.m.*

Test Units:

15CHHC2010 CNA02130778, Code:2009-08-03

15CLE CNA1310KH3/02290, Code:2011-04-15

External 3V power supply, CR2032 Cells. Fluke 8060 Multimeter

---

I have verified that both the HP15CLE and the HP15C2010HHC draw about 20mA when any key is pressed. I tested this with both an external power supply and an externally applied CR2032 cell. They both draw about 20mA when a program (the LBL A + GTO A loop) is running.

Also, when the ON key is pressed to turn the calc off and held, it continues to draw 20mA until released.

Program execution time Performance:

The 15CLE is about 20% faster than the 15C2010HHC unit (also running the LBL A + GTO A loop). I wonder if this is due to code differences or manufacturing/component tolerances.

TomC

Re: Current Consumption and Program Performance HP15CLE

*Message #2 Posted by **Mike Morrow** on 21 Sept 2011, 3:52 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

It would be interesting to see the results of the Savage Benchmark for your examples. See message 68 in this thread for a listing for the 15C-LE and instructions.

My 15C-LE does the standard 2500 iteration test in about 48 seconds. The original 15C takes 5840 seconds.

Re: Current Consumption and Program Performance HP15CLE

*Message #3 Posted by **Thomas Chrapkiewicz** on 21 Sept 2011, 4:56 p.m.,*
in response to message #2 by Mike Morrow

I'll look into that.

Further tests have shown a great variance in timing tests. I have not yet determined which machine (or machine) is varying, but the difference now is closer to 1%.

TomC

Re: Current Consumption and Program Performance HP15CLE

*Message #4 Posted by **Thomas Chrapkiewicz** on 21 Sept 2011, 5:20 p.m.,*
in response to message #2 by Mike Morrow

Both my 15CLE and 15CHHC2010 complete the Savage Benchmark in 50 seconds with 2499.969898.

TomC

Re: Current Consumption and Program Performance HP15CLE

*Message #5 Posted by **DaveJ** on 21 Sept 2011, 9:41 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

If I designed a battery powered product that worked like that, I would have got the arse!

And I'll say it again, the HP design team were well aware of the issue 2 years ago, so no excuse.

Thankfully it could be fixed with a firmware upgrade.

Dave.

Edited: 21 Sept 2011, 9:41 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New -to me- Calculators, including WP-34s

*Message #1 Posted by **Dan M (Vermont, USA)** on 21 Sept 2011, 12:49 p.m.*

New calculators.

OK, the 15C LE is nice enough. THANK YOU HP!!!

But, as I may have said elsewhere, I personally do not like and have not gotten used to the "horizontal" layout style of this calculator. I don't think there is anything wrong with it, I just don't like it -- I'm an old dog and I learned calculators from the HP-45 on up, never using one of the "horizontal" models. This is likely a problem with me, not with the calculator.

So... I just now got onto the WP-34s bandwagon. THANK YOU PAULI and WALTER and ANYBODY ELSE WHO HELPED OUT (IS HELPING OUT) ON THIS!!!

This is a way cool device, I am looking forward to using it a lot!

Thanks, Gene, for sending out a cable. I got it at the same time as I got a couple of HP 30b calculators, and I must say that the calculators as they came out-of-the-box were a HUGE motivation to get the cable and the flashing program going in a hurry, because (sorry, HP), really, what a dog. Yes, I am very far removed from the target consumer for the HP 30b, but wth, I couldn't find anything within it to motivate me to delay the reflashing in the slightest. Wow. The hardware seems to be OK within reason, except for the IMO stupid trapezoidal shape to the base, and the case that doesn't look like it was designed to fit, and the colors that I don't like (and don't care about, and will be covered up by WP 34s soon anyway, so it doesn't really matter) and the battery cover that the mfr had to put some sticky goo inside because I think they fear it will fall off on its own, and the country of origin, and the consistently crooked sn sticker, and the on button that seems to click-but-not-register about 1 in 20 times. Yeah, that's about it. For now. I guess I have to maintain the reputation of people in this forum being hard-to-please.

But anyway -- I am liking the look and feel of the WP-34s so far!

And, it cannot be said enough, thank you HP for the 15C LE (and for the flashing connection available in the hardwares that have it). It is nice enough, and it has motivated me to start re-using calculators that I have and like (42s, 32sii, 97, 41, WP-34s, etc).

Oh and HP -- even though I called it a dog, please keep the HP 30b around and inexpensive/plentiful on the shelves, I think there is some volume potential for it as a hardware-source for the WP-34s. Would hate to see it disappear.

Everybody have fun in San Diego this weekend!

happy calculating,

Dan M.

Edited: 21 Sept 2011, 12:58 p.m.

Re: New -to me- Calculators, including WP-34s

*Message #2 Posted by **Tim Wessman** on 21 Sept 2011, 1:03 p.m.,*
in response to message #1 by Dan M (Vermont, USA)

> Quote:
>
> REPLACE THIS TEXT WITH THE QUOTEOh and HP -- even though I called it a dog, please keep the HP 30b around

Too late. They saw your comment a while back and said, "Well, gosh! I guess Dan thinks it is a dog. Might as well discontinue it now."

:-P

TW

Re: New -to me- Calculators, including WP-34s

*Message #3 Posted by **Steve Simpkin** on 21 Sept 2011, 3:00 p.m.,*
in response to message #2 by Tim Wessman

Dammit Dan! You have to be careful what you say on this forum :)

Re: New -to me- Calculators, including WP-34s

*Message #4 Posted by **Dan M (Vermont, USA)** on 22 Sept 2011, 7:37 a.m.,*
in response to message #2 by Tim Wessman

> Quote:
>
> Too late. They saw your comment a while back and said, "Well, gosh! I guess Dan thinks it is a dog. Might as well discontinue it now."
>
> :-P
>
> TW

Hey Tim, if I knew that was all it took to get HP's ear, I would have waxed poetic about the HP-42s (re-issue would be fun, and likely to create a lot to complain about!) :-)

But you should know about my 100% no-fail guarantee: any/all of my opinions are **GUARANTEED** to be worth **TWICE** what you paid for them.

Have a great weekend. If I wanted to hear about trees I would be there too.

Best regards, Dan M.

Re: New -to me- Calculators, including WP-34s

*Message #5 Posted by **Dan W** on 21 Sept 2011, 9:57 p.m.,*
in response to message #1 by Dan M (Vermont, USA)

Well I just got the 30B today, with intent to flash to the 34S.

This is the first new calc I have bought from HP since my 42S in 1989, and I must say it is quite nice. The keyboard is crisp and solid, exactly what I would expect from HP. Very pleased with the hardware, though not a fan of the champagne color.

I might even buy a second one to retain as a financial calc, retiring my HP-80. ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C ; keys not registering

*Message #1 Posted by **Miguel Toro** on 21 Sept 2011, 12:19 p.m.*

I received my 15C LE and found that 10^x and GSB keys should be pressed really hard to register. If you put normal pressure like on the other keys, nothing is registered, even if you hear a nice click. So I wonder what the cause of this problem is. How does this mechanism works and why is there this kind of issue?

Any keyboards for dummies, please? The dummy being me :)

Thanks,

Miguel

Re: HP 15C ; keys not registering

*Message #2 Posted by **Lincoln R.** on 21 Sept 2011, 12:30 p.m.,*
in response to message #1 by Miguel Toro

E-mail Tim Wessman. See this thread -- archived already due to the large amount of posting that's been going on lately.

Re: HP 15C ; keys not registering

*Message #3 Posted by **Miguel Toro** on 21 Sept 2011, 12:53 p.m.,*
in response to message #2 by Lincoln R.

Thank you Lincoln, I already did.

I was rather looking for a technical explanation,thus to know what is causing the trouble.

Regards,

Miguel

The gift that keeps on giving

*Message #4 Posted by **Michael de Estrada** on 21 Sept 2011, 1:41 p.m.,*
in response to message #3 by Miguel Toro

Don't forget to add it to this thread.

Re: HP 15C ; keys not registering

*Message #5 Posted by **Thomas Radtke** on 21 Sept 2011, 1:57 p.m.,*
in response to message #3 by Miguel Toro

Miguel,

this is or will be under investigation, if I understood correctly what Tim said. I guess someone will take a keyboard contact apart and put it under the microscope or someting like that. Maybe it's just oil & dust residue if we're lucky. Could be corrosion or some kind of misalignment also, which would be fatal.

I really hope Tim is allowed to present the results they get.

Thomas

Re: HP 15C ; keys not registering

*Message #6 Posted by **Miguel Toro** on 21 Sept 2011, 2:24 p.m.,*
in response to message #5 by Thomas Radtke

Thank you all, for your answers,

I hope there will be a solution, even for those outside the USA.

Regards from Montréal,

Miguel

Re: HP 15C ; keys not registering

*Message #7 Posted by **Lincoln R.** on 21 Sept 2011, 2:39 p.m.,*
in response to message #5 by Thomas Radtke

DISCLAIMER: You probably shouldn't take apart your 15C. We need to let HP handle this so they can work with the factory to correct the issue.

I believe the problem (in some cases) may be heat stakes not being staked down far enough. My 15C had a bad divide key, there's a heat stake right next to that and it was a bit loose on mine. Pressing the back of the PCB closer to the front of the case made the key work right while pressure was being held. I'm not 100% sure, I don't know the mechanical design of this keyboard, but if that's the cause of most of these, it would be trivial to rework.

Re: HP 15C ; keys not registering

*Message #8 Posted by **Dale Reed** on 21 Sept 2011, 4:49 p.m.,*
in response to message #7 by Lincoln R.

First post.... Hello, everybody!

I bought 3 at CostCentral, two are good, and I have one with the Divide key requiring significantly more pressure. (I already reported this, and have received an e-mail back instructing me to start a case with HP tech support, which I will do shortly.) It makes starting the keyboard test a bit more interesting.... ;-)

And when I do get the keyboard test to start, I also have a key in the third row (the Two or Three key, somewhere near there...) that doesn't always "catch".

The heat stakes thing is an interesting theory, and one I think should be pursued further. I have a 32Sii you have to press down on right below the center of the the display in order to turn it on and have all the keys work, and I have seen at least one other Pioneer on TAS that was described as needing the same "lean" on it to make it work.

I'll try the "lean-on" trick with my 15C LE when I get home and see if it acts similarly.

For those keeping track (and looking for possible correlations between LE #s and Serial #s), I have: 15C LE #1: LE#02173, S/N CNA1310KC1 15C LE #2: LE#02196, S/N CNA1310KBH 15C LE #3: LE#02198, S/N CNA1310KBQ 12C 30th: #05965, S/N CNA13007NQ

I can't remember whether it's #02196 or #02198 that has the bad divide key. Gotta go home and dig them out of the boxes again to check...

Re: HP 15C ; keys not registering

*Message #9 Posted by **Lincoln R.** on 21 Sept 2011, 5:32 p.m.,*
in response to message #8 by Dale Reed

The Pioneer problem of which you speak isn't a heat stake issue, it's a problem with the interconnect between the keyboard flex PCB and the CPU rigid PCB. These two circuits are held together by a piece of foam material that degrades over time, then you start having keyboard issues.

If you're feeling adventurous, this can be fixed by opening up the calculator (there's an article about that in the Articles section), removing the rigid PCB, scraping out the foam and replacing it with something else.

The 15C LE shouldn't be able to suffer from that problem, all the electronics are on one PCB except for the display, which is connected with a ribbon cable.

Re: HP 15C ; keys not registering

*Message #10 Posted by **Thomas Radtke** on 22 Sept 2011, 12:32 p.m.,*
in response to message #7 by Lincoln R.

Do we already know the 15c LE has heat stakes? I thought I read about them having been replaced by screws ..?

Re: HP 15C ; keys not registering

*Message #11 Posted by **Lincoln R.** on 22 Sept 2011, 2:27 p.m.,*
in response to message #10 by Thomas Radtke

The one I disassembled had heat stakes, as did the one that Katie disassembled.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Crossing my fingers

*Message #1 Posted by **David Ramsey** on 21 Sept 2011, 10:57 a.m.*

Ran through my SR-60 presentation with the wife last night; tweaked a few things. Fired up the SR-60 and loaded the "Threez" program, which calculates all three digit numbers equal to the sums of the cubes of their digits. (This takes a 15C LE about 10 seconds, total, and takes the SR-60 about 15-20 minutes. But at least it can print out each one!)

The program should print "THREEZ", then 153, 370, 371, 407, and then "DONE".

Came back about half an hour later and found it had printed up through "407" and was sitting there with no display. Turned it off and left it for an hour, but it still wouldn't turn back on.

Opened it up, reseated every socketed chip, sprayed display connector and cable with contact cleaner, turned it on again...PROMPTING DESIRED?

Verified operation of printer and card reader, etc.

Let's just hope it holds together over the next few days.

There's visible corrosion on the legs of some of the socketed ICs. This has happened once before; I suspect some chip or two is getting slightly warm and losing contact with its socket...but it's just a guess.

In any case I'll be bringing the tools I need to open it up, contact cleaner, and a wrist strap. 'cause you never know.

Re: Crossing my fingers

*Message #2 Posted by **Namir** on 21 Sept 2011, 11:17 a.m.,*
in response to message #1 by David Ramsey

I hate to be the village idiot, but what is an SR60 exactly? Sounds to me like an old Texas Instrument calculator model.

Re: Crossing my fingers

*Message #3 Posted by **Katie Wasserman** on 21 Sept 2011, 12:00 p.m.,*
in response to message #2 by Namir

That it is. It's a big desktop machine and quite nice.

Re: Crossing my fingers

*Message #4 Posted by **hpnut** on 21 Sept 2011, 12:20 p.m.,*
in response to message #3 by Katie Wasserman

this is heresy! the article should not be here ;-)

hpnut in Malaysia

Re: Crossing my fingers

*Message #5 Posted by **Steve Simpkin** on 21 Sept 2011, 12:19 p.m.,*
in response to message #2 by Namir

Here is some information about the SR60. It was very advanced for 1976!
http://oldcalculatormuseum.com/tisr-60.html

Re: Crossing my fingers

*Message #6 Posted by **hpnut** on 21 Sept 2011, 12:23 p.m.,*
in response to message #5 by Steve Simpkin

it's horrible! there's a big = key and it's in sickly yellow too!

it's an HP 97 wannabe!

Re: Crossing my fingers

*Message #7 Posted by **David Ramsey** on 21 Sept 2011, 12:42 p.m.,*
in response to message #6 by hpnut

> Quote:
>
> it's an HP 97 wannabe!

...with a full alphanumeric display. The 97 couldn't even *print* alpha.

But I confess I like my 97s better. I don't, for example, have to worry about them dying if I look at them cross-eyed.

Edited: 21 Sept 2011, 12:43 p.m.

Re: Crossing my fingers

*Message #8 Posted by **Namir** on 21 Sept 2011, 1:28 p.m.,*
in response to message #5 by Steve Simpkin

Thanks for the link! The machine is beautiful!!

Re: Crossing my fingers

*Message #9 Posted by **Martin Pinckney** on 21 Sept 2011, 1:34 p.m.,*
in response to message #5 by Steve Simpkin

From the article we know it displays alpha characters, and at least question marks. Does anyone know if it displays the parentheses?

Re: Crossing my fingers

*Message #10 Posted by **David Ramsey** on 21 Sept 2011, 2:07 p.m.,*
in response to message #9 by Martin Pinckney

Sure, it displays parentheses...

Re: Crossing my fingers

*Message #11 Posted by **David Ramsey** on 21 Sept 2011, 12:21 p.m.,*
in response to message #2 by Namir

Namir, it's a big desktop programmable calculator from T.I. AFAIK it's the only desktop programmable they ever made. Unlike the rugged HP desktops of the era, the SR-60 is delicate, like a butterfly's wing.

Why am I bringing it to HHC? It was Gene's idea. He swears you'll all be *fascinated.*

Edited: 21 Sept 2011, 12:43 p.m. after one or more responses were posted

Re: Crossing my fingers

*Message #12 Posted by **hpnut** on 21 Sept 2011, 12:25 p.m.,*
in response to message #11 by David Ramsey

Yes! pls bring it to HHC at San Diego and donate it to the speaker who exceeds his/her time limit!

Gene would be happy :-)

Re: Crossing my fingers

*Message #13 Posted by **gene wright** on 21 Sept 2011, 1:32 p.m.,*
in response to message #12 by hpnut

If so, when I get up to speak, I may never quit! :-)

Re: Crossing my fingers

*Message #14 Posted by **Namir** on 21 Sept 2011, 1:26 p.m.,*
in response to message #11 by David Ramsey

Thanks for the clarification! It looks [bold]VERY NICE[/bold\. Too bad Joerg Werner (Mr TI DataMath web site) won't be at the meeting. I look forward to seeing it!!

I thought it was a little handheld calculator!!!

:-)

Namir

Re: Crossing my fingers

*Message #15 Posted by **Howard Owen** on 21 Sept 2011, 1:28 p.m.,*
in response to message #11 by David Ramsey

I'm looking forward to seeing this thing. From the writeup you linked to, it sounds like a highly capable programmable calculator.

> Quote:
>
> A fully-optioned SR-60A could hold programs up to 5760 steps in length, and offered 430 memory registers.

Alphanumerics are a big differentiator too. So is reliability, apparently. I love the HP-97. It's my third favorite old calculator behind the 41C and 42S, but it's not in the same class as this machine. The SR-60 is a full size desktop calculator. I think a comparison with HP's desktop calculators of the time would be more fair.

Re: Crossing my fingers

*Message #16 Posted by **David Ramsey** on 21 Sept 2011, 2:07 p.m.,*
in response to message #15 by Howard Owen

> Quote:
>
> I think a comparison with HP's desktop calculators of the time would be more fair.

I'll cover some of this in my presentation.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S complex RCL

*Message #1 Posted by **John Abbott (S. Africa)** on 21 Sept 2011, 9:54 a.m.*

Hi, I don't have a real WP34S yet, so I was using the emulator and doing some complex RCL's (RCL- , RCL+ etc) while running a test program, and noticed the following: Lets say I have stored a complex number say 2+i1 in register 16. If on the stack I have in [stack]Y, 1 and in [stack]X, 2.002. Now I perform the following: [cpx]RCL-16. I should get 0.002 in X and 0 in Y (ie [2.002+i1]-[2+i1]). Instead I get -.002 in X and 0 in Y (ie [2+i1]-[2.002+i1]). This seems to contradict the manual as well. If I have misinterpreted something, I apologise. Revision of emulator with VERS is: 34S 2.1 1610. Regards John

Re: WP34S complex RCL

*Message #2 Posted by **fhub** on 21 Sept 2011, 10:19 a.m.,*
in response to message #1 by John Abbott (S. Africa)

> Quote:
>
> Hi, I don't have a real WP34S yet, so I was using the emulator and doing some complex RCL's (RCL- , RCL+ etc) while running a test program, and noticed the following: Lets say I have stored a complex number say 2+i1 in register 16. If on the stack I have in [stack]Y, 1 and in [stack]X, 2.002. Now I perform the following: [cpx]RCL- 16. I should get 0.002 in X and 0 in Y (ie [2.002+i1]-[2+i1]). Instead I get -.002 in X and 0 in Y (ie [2+i1]-[2.002+i1]). This seems to contradict the manual as well. If I have misinterpreted something, I apologise. Revision of emulator with VERS is: 34S 2.1 1610. Regards John

Yes you're right, I've just tried it and unfortunately I can confirm this bug! :-(

I've also tried CPX RCL/ nn and got the same result, so the complex register arithmetic with RCL is incorrectly implemented, it does reg-/stk instead of stk-/reg (of course CPX RCL+/RCL* doesn't matter).

The other direction CPX STO- or STO/ seems to be correct at least ...

Franz

Edited: 21 Sept 2011, 10:22 a.m.

Re: WP34S complex RCL

*Message #3 Posted by **John Abbott (S. Africa)** on 21 Sept 2011, 10:23 a.m.,*
in response to message #2 by fhub

Hi fhub, yes, apologies for not reporting the other cases, but STO operation are OK. Regards John

Re: WP34S complex RCL

*Message #4 Posted by **Paul Dale** on 21 Sept 2011, 7:19 p.m.,*

in response to message #1 by John Abbott (S. Africa)

I thought I checked this when I originally coded it :-(

Oh well, the fix is in. We've lost a flash segment though :-(12 bytes over.

- Pauli

Re: WP34S complex RCL

*Message #5 Posted by **fhub** on 22 Sept 2011, 6:14 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> I thought I checked this when I originally coded it :-(
>
> Oh well, the fix is in. We've lost a flash segment though :-(12 bytes over.

Although I don't fully know your complex implementation, but I don't understand your changes for this cpxRCL- and cpxRCL/ bug:

Why was it necessary to introduce this new 'rev' argument and the additional code for those 2 cpxRCL ? If the argument order for these 2 functions was wrong, then why not just swap those arguments? And this could also be done for cpxRCL+ and cpxRCL*, because + and * are of course commutative.

So I don't get it why this extra code is really needed (?) - and you won't have lost a flash region ...

Franz

Re: WP34S complex RCL

*Message #6 Posted by **Paul Dale** on 22 Sept 2011, 7:03 a.m.,*
in response to message #5 by fhub

I'm not passing the full arguments to the complex sto/rcl operation function. I pass the two register pointers in only. The other arguments are the results returned from the function which will either go into the register pair of the stack depending on the caller. The complex sto/rcl function itself handles the two values from the stack.

For STO, it is registers op stack. For RCL it is stack op registers. Thus the order of the arguments to the operation have to be reversed. Hence the rev argument. BTW, this is the same as the rev argument for non-complex STO and RCL with arithmetic operator.

So yes, the extra code is necessary. Either I reverse things inside the operation routine (easy) or pass the extra arguments in and reverse them on the outside (larger but also easy).

I could spend some effort squeezing back the bytes elsewhere but that hardly seems worthwhile if we're about to add a couple of kb of matrix support.

- Pauli

Re: WP34S complex RCL

*Message #7 Posted by **fhub** on 22 Sept 2011, 7:26 a.m.,*

in response to message #6 by Paul Dale

Ahhh, now I got it:
When I saw this "if(rev)" I first thought this reversing would be for - and / only, but now after a closer look I see that the difference is between STO and RCL - that makes sense of course! :-)

BTW, what's your guess about how long until we'll have those matrix feature included? ;-)

Franz

Re: WP34S complex RCL

*Message #8 Posted by **Paul Dale** on 22 Sept 2011, 8:45 a.m.,*
in response to message #7 by fhub

> Quote:
>
> BTW, what's your guess about how long until we'll have those matrix feature included? ;-)

No idea sorry. Very early days at the moment.

Still shuffling between C and FOCAL code. This all takes time which is in short supply at the moment :-(

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Pictures of the HP15C LE and HP 12C 30th Year Anniversary Edition

*Message #1 Posted by **Eddie W. Shore** on 21 Sept 2011, 9:12 a.m.*

Please check out my blog:

Eddie's Calculator Blog: HP15C LE and HP 12C

Thanks for the advice on the pictures everyone. Taking the pictures outside made a big difference in the quality of the pictures.

Edited: 21 Sept 2011, 9:16 a.m.

Re: Pictures of the HP15C LE and HP 12C 30th Year Anniversary Edition

*Message #2 Posted by **hpnut** on 21 Sept 2011, 12:31 p.m.,*
in response to message #1 by Eddie W. Shore

nice blog, Eddie. are you a teacher?

I think you need to improve your photography. reflections of you and your camera can be seen in the photos of the new HP calculator boxes :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-19c battery pack replacement (again...)

*Message #1 Posted by **Xavier A. (Brazil)** on 21 Sept 2011, 8:28 a.m.*

Hello there,

I acquired a few weeks ago an old full-working HP-19c, delivered with 4 'new' - in box - *Clartech Ni-Cad 800 mAh cells* ; it seems to be a French brand, since user's instructions are in french only.

The first instruction recommends to "charge before use", which is obvious, but I am wondering if it is possible to charge them within the calculator, with the official HP adapter. I already charged the cells out of the calc and everything works perfectly.

Of course I read a lot of threads on the subject in this forum, Katie's recommendations included; it seems that some cheap Ni-Cad cells are not recommended, but **is it a risk to dammage the calc charging it (with my cells) directly from HP adapter?**

Any feedback will be appreciated, thank you.

(edited to correct my english!)

Edited: 22 Sept 2011, 9:46 a.m. after one or more responses were posted

Re: HP-19c battery pack replacement (again...)

*Message #2 Posted by **Katie Wasserman** on 21 Sept 2011, 12:06 p.m.,*
in response to message #1 by Xavier A. (Brazil)

It's fine to charge the cells inside the calculator while the calculator is off. The risk comes into play when running the calculator with the AC adulator and the batteries not making contact with the prongs from on the PCB inside the batter compartment.

So, charge indies the calculator when it's off and unplug from the AC to run it and you'll always be fine.

HP never made a charging cradle for this battery pock so the only easy option is to charge the battery pack inside the calculator.

Re: HP-19c battery pack replacement (again...)

*Message #3 Posted by **Xavier A. (Brazil)** on 21 Sept 2011, 12:19 p.m.,*
in response to message #2 by Katie Wasserman

Thank you so much, Katie.

Re: HP-19c battery pack replacement (again...)

*Message #4 Posted by **Tony Duell** on 22 Sept 2011, 4:22 a.m.,*
in response to message #2 by Katie Wasserman

Are you sure that's correct?

The 19C has continuous memory, which means the RAM chip is powered even when the machine is turned off. The battery pack acts as a shunt regulator and limits the voltage applied to the RAM when the charger is connected.

If the battery is missing or open-circut, the voltage applied across the RAM chip can be high enough to do damage.

However, when the machine is turned on, the current drawn by the rest of the logic is normally enough to pull the voltage from the charger down (the official HP transformer has a deliberately high internal resistance) and normally no damage is done.

So I believe that -C models are more at risk from charger damage when turned off than when turned on. Non-C models are totally safe when turned off because none of the electronics is powered in that state.

AFAIK you're right, there never was a 'reserve power pack' for the Sting models. There is for all the others, including the Spice series (that one is probably the hardest to find).

Re: HP-19c battery pack replacement (again...)

*Message #5 Posted by **Xavier A. (Brazil)** on 22 Sept 2011, 9:45 a.m.,*
in response to message #4 by Tony Duell

Thank you Tony for this new advice.

Well, the best is perhaps to charge the cells outside the calc, which unfortunately can not be applied for long computing - my goal actually.

Re: HP-19c battery pack replacement (again...)

*Message #6 Posted by **Katie Wasserman** on 22 Sept 2011, 10:50 a.m.,*
in response to message #5 by Xavier A. (Brazil)

I agree with Tony, partially. You're still at risk powering the any "C" Woodstock off an AC supply even when it's off. But I'm not sure that the risk is greater than when it's on. Even though the voltage is higher when off it's power is only going to one chip not all of them.

At any rate, charging outside the calculator -- however difficult -- is the safest way to go. I power almost all my calculators with primary cells of one type or another so never deal with charging. The Woodstock battery packs (2x series, 19C, 10A) lend themselves to this pretty well because of the built in springs. I use Energizer lithium cells for this because they have near zero self discharge and as far as I can tell never leak.

Re: HP-19c battery pack replacement (again...)

*Message #7 Posted by **Xavier A. (Brazil)** on 22 Sept 2011, 12:36 p.m.,*
in response to message #6 by Katie Wasserman

I do agree with you, Katie: charging outside is safer. Any idea about average computing time (before batteries fail) with my 800 mAh cells? How can this time be calculated?

Re: HP-19c battery pack replacement (again...)

*Message #8 Posted by **Katie Wasserman** on 22 Sept 2011, 1:55 p.m.,*

in response to message #7 by Xavier A. (Brazil)

It all depends on how much you use the printer. That requires a huge amount of current. I haven't measured the current draw, but without using the printer I'd guess around 6 hours of use on a charge.

Re: HP-19c battery pack replacement (again...)

*Message #9 Posted by **Xavier A. (Brazil)** on 22 Sept 2011, 4:41 p.m.,*
in response to message #8 by Katie Wasserman

Thank you Katie.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g - Good tutorials

*Message #1 Posted by **François Vanzeveren** on 21 Sept 2011, 4:48 a.m.*

Hello all,

Looking for tutorials to use my new HP 50g, I found these nice ressources: http://www.thiel.edu/mathproject/

Hope this might interest some of you.

François

Re: HP 50g - Good tutorials

*Message #2 Posted by **Namir** on 21 Sept 2011, 8:23 a.m.,*
in response to message #1 by François Vanzeveren

Thanks François! The Thiel COllege web pages have an interesting HP calculator tutorial and instructions for using it in solving different family of problems!

Namir

Re: HP 50g - Good tutorials

*Message #3 Posted by **Crawl** on 21 Sept 2011, 9:53 a.m.,*
in response to message #1 by François Vanzeveren

Vaguely related, I sometimes save formulas to my HP50g's SD card. But sometimes it's not so easy to do. Example, let's say I want to save a matrix formula, like

```
[a b] [x] = [m]
[c d] [y]   [n]
```

or even worse,

```
[x] = ([a b])^-1 [m]
[y]    [c d]     [n]
```

How do you do that? If you enter this stuff on the stack, it's just evaluated immediately.

Then I though, Aha! In algebraic mode, after you enter an expression, the original expression is displayed, then the evaluated version! I can copy that original expression, go back to RPN mode, paste it, and save it!

By the way, it turns out that if you enter matrix equations like that, you'll probably get an error (it probably tries to evaluate the equation to a Boolean value, but it's indeterminate since it's symbolic). But it doesn't matter if the second line is an error; the first, which is what I want, is correct.

So there's a use for algebraic mode after all!

It turns out that when you save expressions that way, they're considered to be "tags". There's probably a way to

enter them as tags directly in RPN mode, but for now this might be easier for me.

This is why I wish this calculator had a product (capital Pi) function. Yes, in terms of computation, you can do it with the Sum function and logs. But if you want to save a formula so it would look nice, you'd want Product.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Engraving

*Message #1 Posted by **Russ Dill** on 21 Sept 2011, 4:35 a.m.*

Is any official or unofficial engraving offered?

Re: HP 15C LE Engraving

*Message #2 Posted by **Paul Dale** on 21 Sept 2011, 4:39 a.m.,*
in response to message #1 by Russ Dill

Get a Dremel or equivalent and start engraving :-)

- Pauli

Re: HP 15C LE Engraving

*Message #3 Posted by **Ed Look** on 21 Sept 2011, 12:26 p.m.,*
in response to message #2 by Paul Dale

LOL! & Ha ha ha ha!

Decades ago, I engraved a friend's original 15C... manually with either a diamond tipped stylus or some kind of small tool bit... I forget!

He thought I did a better job on my own 34C than his 15C. Oh, well!

Re: HP 15C LE Engraving

*Message #4 Posted by **MBlount** on 21 Sept 2011, 9:25 a.m.,*
in response to message #1 by Russ Dill

Not directly by HP. You can take it to one of the jewlery shops or gift shops in your local mall and have it engraved. A store called "Things Remembered" does it around where I live.

Re: HP 15C LE Engraving

*Message #5 Posted by **Michael de Estrada** on 21 Sept 2011, 10:14 a.m.,*
in response to message #4 by MBlount

Where exactly are you supposed to engrave it ? I don't see any blank area on the rear label plate to do so. Perhaps you were confusing this with the HP 12C 30th AE that presumably has a blank area for engraving ?

Re: HP 15C LE Engraving

*Message #6 Posted by **MBlount** on 21 Sept 2011, 11:54 a.m.,*
in response to message #5 by Michael de Estrada

Yep, I was looking at the back of my 12c AE. There is a place on the back for you to engrave your name.

Re: HP 15C LE Engraving

*Message #7 Posted by **Glenn Dowdy** on 21 Sept 2011, 11:20 a.m.,*
in response to message #1 by Russ Dill

Not from HP.

Re: HP 15C LE Engraving

*Message #8 Posted by **Lincoln R.** on 21 Sept 2011, 12:08 p.m.,*
in response to message #7 by Glenn Dowdy

Yeah, there honestly isn't space. However, this would seem to be because HP included all the information on the original back label at a readable font size, a lot of industry certifications (likely required for importing to various countries), French and English country-of-origin labeling (Is this for importing to Canada, or just Cyrille having a laugh?), the LE number, and an HP logo. The HP logo and LE number are probably the only non-mandatory things on here, but the LE number was wanted, and the HP logo is in a small enough space to not be useful for much else.

Re: HP 15C LE Engraving

*Message #9 Posted by **Mike Morrow** on 21 Sept 2011, 12:26 p.m.,*
in response to message #8 by Lincoln R.

> Quote:
>
> The HP logo and LE number are probably the only non-mandatory things on here...

Plus the table entry for Error 9, if it was intended that the old self tests were never to be performed.

Why would there be ANY desire to engrave a calculator? I used Dymo Label tape in the designated recess on the back of my 1997 HP 48GX that remains today, and that can easily be removed if someone else saves it from a landfill. The last $10 HP-15C I bought had the owner's initials engraved on the metal to the right of the LCD. Blah...permanent defacement! (But, still worth $10 I think.)

Edited: 21 Sept 2011, 12:29 p.m.

Re: HP 15C LE Engraving

*Message #10 Posted by **Michael de Estrada** on 21 Sept 2011, 1:17 p.m.,*
in response to message #9 by Mike Morrow

> Quote:
>
> Why would there be ANY desire to engrave a calculator?

Non-removable identification in case it is stolen.

Re: HP 15C LE Engraving

*Message #11 Posted by **Martin Pinckney** on 21 Sept 2011, 1:41 p.m.,*

in response to message #10 by Michael de Estrada

> Quote:
>
> Non-removable identification in case it is stolen.

Yep. Unfortunately (for collectors, at least) there was a time period in the U.S. where police crime-prevention bureaus recommended engraving any item of value. A lot of fine vintage cameras were ruined because of this.

Re: HP 15C LE Engraving

*Message #12 Posted by **Mike Morrow** on 21 Sept 2011, 3:57 p.m.,*
in response to message #10 by Michael de Estrada

> Quote:
>
> Non-removable identification in case it is stolen.

That's not worth much. Not too many calculators are being stolen now-a-days. And none are worth the effort to recover (not even my HP-35 red dot, which I'm thankful the original owner did not engrave).

Re: HP 15C LE Engraving

*Message #13 Posted by **Norman Dziedzic** on 21 Sept 2011, 1:08 p.m.,*
in response to message #8 by Lincoln R.

There is a space on the back of the 15CLE between the battery cover and the rubber foot,just above the X Y column headings where you could fit a small engraving.

Or, if the engraver is good, they could do something on the side...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Old habits

*Message #1 Posted by **Ed Look** on 20 Sept 2011, 11:51 p.m.*

My first HP calc was the 34C, you know, with the three (3- count 'em) shift keys, gold f, blue g, and black h. I used it exclusively, and at times heavily, for over twenty years. (And then it got sick, and then slowly died.)

Many of the shifted functions that were on the h group in the 34C are, in the 15C(LE), a two shift key calculator, are redistributed between the f and g keys.

So, when I start using the 15C LE, I find myself either silently mouthing or thinking specifically things like "h PSE" (f, for 15C), "h SST" (unshifted), "h 1/x" (unshifted) "h LBL A" (f)... and continues even with other functions like SIN, COS, and TAN, which were f-shifted in the 34C. I actually did and still do this with other HP calculators, too that may have similar commands or functions, like ISG or DSE, but when I came to the RPL machines, since the keyboards and program paradigms were so different, that didn't happen! But when the 33s and 35s came out, even though their shift keys were not named by letters, it began to bubble back out from the depths of my memory... those calculators are similar enough to the old Spice machines, I guess...)

I hope this does not cause a confusion that will in turn cause dementia or insanity!

I guess riding a HP calculator is like riding a bicycle- you don't forget! But they might change the position of the shift levers, or reduce the three shift levers of your old bike to two! (Yes, yes, I know, no real bicycle has had three shift levers!)

Re: Old habits

*Message #2 Posted by **Lincoln R.** on 21 Sept 2011, 12:06 a.m.,*
in response to message #1 by Ed Look

63 speed bicycle I'd imagine this had 3 shifters from reading about the design.

Re: Old habits

*Message #3 Posted by **Ed Look** on 21 Sept 2011, 1:21 a.m.,*
in response to message #2 by Lincoln R.

> Quote:
>
> 63 speed bicycle I'd imagine this had 3 shifters from reading about the design.

LOL! And I was only joking!

Re: Old habits

*Message #4 Posted by **bill platt** on 21 Sept 2011, 12:42 a.m.,*
in response to message #1 by Ed Look

I know exactly what you mean. I have had similar awareness.

Re: Old habits

*Message #5 Posted by **megarat** on 21 Sept 2011, 1:24 p.m.,*
in response to message #1 by Ed Look

> Quote:
>
> I guess riding a HP calculator is like riding a bicycle- you don't forget! But they might change the position of the shift levers, or reduce the three shift levers of your old bike to two! (Yes, yes, I know, no real bicycle has had three shift levers!)

Indeed. I've been using my HP 15c for such a long time, I have operations intimately wired into my muscle memory. I can literally use much of it blindfolded.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Does anyone have 15C LE dissection pics?

*Message #1 Posted by **Hugh Evans** on 20 Sept 2011, 9:26 p.m.*

I'm curious if anyone has done this yet. HP seems to have taken a liking to screws over heat stakes in recent years. If that is indeed the case with the 15C LE, I will take a stab at improving a couple of minor issues involving the keys. The first step will be that of taking the wiggle out of f and g. Then I will move on to filling them, probably with some polyurethane reactive hot melt to minimize downtime.

Re: Does anyone have 15C LE dissection pics?

*Message #2 Posted by **Lincoln R.** on 20 Sept 2011, 10:05 p.m.,*
in response to message #1 by Hugh Evans

I've opened the back of one. It's heat-staked, there's foam tape behind the LCD to keep it from bouncing around in the case, and the Atmel CPU is in an LQFP package instead of being a raw die underneath epoxy like my 12C+ is. I have a picture but the quality's not that great, I'll see if I can clean it up a bit.

Re: Does anyone have 15C LE dissection pics?

*Message #3 Posted by **Katie Wasserman** on 20 Sept 2011, 10:49 p.m.,*
in response to message #2 by Lincoln R.

It's the same as the 12C+. I've posted these pictures before:

Re: Does anyone have 15C LE dissection pics?
*Message #4 Posted by **Eric Smith** on 21 Sept 2011, 1:14 a.m.,*
in response to message #3 by Katie Wasserman

Nice pictures of the 12C, but if Lincoln R. is correct, the 15C LE does NOT look the same. That seems rather surprising since there isn't any need for the hardware to differ.. I haven't opened mine, though, so I can't confirm.

Re: Does anyone have 15C LE dissection pics?
*Message #5 Posted by **Tim Wessman** on 21 Sept 2011, 1:28 a.m.,*
in response to message #4 by Eric Smith

I believe the 15c uses a packaged IC. That is the only difference IIRC.

TW

Edited: 21 Sept 2011, 1:28 a.m.

Re: Does anyone have 15C LE dissection pics?
*Message #6 Posted by **Thomas Radtke** on 21 Sept 2011, 1:35 a.m.,*
in response to message #5 by Tim Wessman

Does the AE 12C have bad keys, too?

Re: Does anyone have 15C LE dissection pics?
*Message #7 Posted by **Katie Wasserman** on 21 Sept 2011, 3:32 a.m.,*
in response to message #5 by Tim Wessman

Indeed, the PCB on the 15C LE doesn't have the potted chip on board, it's got the real packaged Atmel chip in all it's glory showing.

15C PCB

and the back of the case

If I'm reading this correctly the date code on this chip is from September 2009, ancient!

Why the switch away from the potted chip on board? Is this the same in the 12C 30th AE and newer 12C+ calculators too?

Edited: 21 Sept 2011, 3:34 a.m.

Re: Does anyone have 15C LE dissection pics?

*Message #8 Posted by **Thomas Chrapkiewicz** on 21 Sept 2011, 8:56 a.m.,*
in response to message #7 by Katie Wasserman

Katie:

Nice work!

This is indeed good news in enabling any potential hardware modifications or studies.

TomC

Re: Does anyone have 15C LE dissection pics?

*Message #9 Posted by **Masaki Adachi** on 21 Sept 2011, 12:01 p.m.,*
in response to message #7 by Katie Wasserman

Are there instructions to open up the 12C+/15C LE posted somewhere?

Edited: 21 Sept 2011, 12:02 p.m.

Re: Does anyone have 15C LE dissection pics?

*Message #10 Posted by **Katie Wasserman** on 21 Sept 2011, 12:08 p.m.,*
in response to message #9 by Masaki Adachi

There are 6 screws to remove, one under each foot and two inside the battery compartment (one of these is smaller than the other 5). Once you do this it prys apart quite easily.

Re: Does anyone have 15C LE dissection pics?

*Message #11 Posted by **Thomas Chrapkiewicz** on 21 Sept 2011, 12:41 p.m.,*
in response to message #10 by Katie Wasserman

The only mechanical constraints appear to be along the top and bottom edges of the case.

ALSO BE CAREFUL: Try to have the calc face down as you pry it apart as there are three springs in plastic collars in the keyboard half of the calc which can fall out. (These are used to electrically connect the keyboard to the metal plate on the battery compartment half of the calc - for ESD protection.)

TomC

Re: Does anyone have 15C LE dissection pics?

*Message #12 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 21 Sept 2011, 12:49 p.m.,*
in response to message #7 by Katie Wasserman

Spec details on Atmel AT91SAM7L128

A member of the Atmel SAM7L series of microcontrollers based on the 32-bit ARM7TDMI processor. It operates at a maximum speed of 36MHz and features 128KB of flash and 6KB of SRAM. The peripheral set includes a 40-segment LCD controller, two USARTs, UART, SPI, TWI (I2C), three 16-bit timers, RTC and four 10-bit ADC. The SAM7L128 operates in single-supply mode down to 1.8V and consumes 0.5mA/MHz typical in active mode when executing code out of its flash memory, and a mere 100nA in power-down mode. The SAM7L128 is supplied in a 128-pin LQFP and 144-pin LFBGA packages.

It is the SAME Chip on HP20b Calculator: HP20b Calculator using ATMEL 91SAM7L128 Chip

Another good article about the 15c and ATMEL Processor EDA360 15C and ATMEL AT91SAM7L128 (BTW, I think that's where the "inmate" discussion started in the forums.)

Edited: 21 Sept 2011, 1:26 p.m.

Re: Does anyone have 15C LE dissection pics?

*Message #13 Posted by **hpnut** on 21 Sept 2011, 12:52 p.m.,*
in response to message #7 by Katie Wasserman

Katie,

is that lipstick on the Atmel chip? LOL!

Re: Does anyone have 15C LE dissection pics?
*Message #14 Posted by **Katie Wasserman** on 21 Sept 2011, 3:59 p.m.,*
in response to message #13 by hpnut

Yes, but not mine. Probably whoever did the assembly in China was kissing it goodbye.

If it were an HP-16C+, that might be another story.

Re: Does anyone have 15C LE dissection pics?
*Message #15 Posted by **DaveJ** on 21 Sept 2011, 9:46 p.m.,*
in response to message #7 by Katie Wasserman

I haven't checked, but if there is a bigger memory chip in the same package, it could be replaced fairly easily.

Dave.

Re: Does anyone have 15C LE dissection pics?
*Message #16 Posted by **Katie Wasserman** on 22 Sept 2011, 12:52 a.m.,*
in response to message #15 by DaveJ

> Quote:
>
> if there is a bigger memory chip in the same package

There isn't one with a larger non-volatile RAM at least last time I checked.

Re: Does anyone have 15C LE dissection pics?
*Message #17 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 22 Sept 2011, 2:19 a.m.,*
in response to message #15 by DaveJ

I remember seeing an AT91SAM7L256, I think that is double the memory. I will confirm and check on the packaging.

Re: Does anyone have 15C LE dissection pics?
*Message #18 Posted by **Katie Wasserman** on 22 Sept 2011, 3:48 a.m.,*
in response to message #17 by Kerem Kapkin (Silicon Valley, CA)

There's a AT91SAM7S256 with lots of RAM, but without the LCD driver and requires higher voltage and more power.

Re: Does anyone have 15C LE dissection pics?
*Message #19 Posted by **Paul Dale** on 22 Sept 2011, 3:57 a.m.,*
in response to message #18 by Katie Wasserman

Flash isn't the big problem. RAM is.

The 34S could use more RAM. Lots more.

I know how to squeeze more into flash. It will require recoding many of the mathematics routines but it is possible.

Oh and the display needs to be a lot better. 400 segments isn't enough to do the hardware justice.

- Pauli

Re: Does anyone have 15C LE dissection pics?
*Message #20 Posted by **Katie Wasserman** on 22 Sept 2011, 11:02 a.m.,*
in response to message #19 by Paul Dale

There are a few spare i/o pins that are made available on the 20b and 30b PCBs. Have you experimented with adding a small serial non-volatile RAM chip? Such RAM wouldn't be in the calculator's memory space but you could write routines to page it in as needed or it might be fast enough to use for all memory access.

Re: Does anyone have 15C LE dissection pics?
*Message #21 Posted by **Paul Dale** on 23 Sept 2011, 5:00 a.m.,*
in response to message #20 by Katie Wasserman

We've not experimented but this possibility has been mentioned :-)

- Pauli

Re: Does anyone have 15C LE dissection pics?

*Message #22 Posted by **uhmgawa** on 22 Sept 2011, 11:37 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> Indeed, the PCB on the 15C LE doesn't have the potted chip on board, it's got the real packaged Atmel chip in all it's glory showing.
>
> 15C PCB

Very nice indeed.

> Quote:
>
> Why the switch away from the potted chip on board? Is this the same in the 12C 30th AE and newer 12C+ calculators too?

The change to (and developemnt cost of) a new board layout with an lqfp package is puzzling. Maybe a design/layout modification was pending for whatever reason and the projected volumes didn't justify the setup cost for COB a this stage.

Frankly I'm still not sure how a bare sam7l die ended up in the 12c+ version. There isn't a motivation due to high die pin count. Perhaps it was an early attempt to discourage reverse engineering over a concern of using an off the shelf commercial SoC. Hard to see an economic motivation but Atmel doesn't appear to openly sell the part in bare die form so that's inconclusive.

Re: Does anyone have 15C LE dissection pics?

*Message #23 Posted by **Eric Smith** on 22 Sept 2011, 11:52 a.m.,*
in response to message #22 by uhmgawa

Cost. In the quantities that HP makes the 12C, they are able to buy the bare die, attach and bond it, and encapsulate it, for less than what it costs to buy the packaged part.

The reason Atmel doesn't "openly sell" the part in bare die form is that they don't want to sell it that way to anyone that isn't buying a large volume and prepared to deal with the complexity of chip-on-board assembly. If you design a high-volume product, you can negotiate a bare die contract with Atmel too.

Re: Does anyone have 15C LE dissection pics?

*Message #24 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 22 Sept 2011, 12:13 p.m.,*
in response to message #23 by Eric Smith

Packaged chips go through extensive relaibility and retention tests including at high temperatures. Sometime the defects are not detectible until a high temperature test is performed. However bare die only goes through a simple probbing test. Testing becomes much more complex and difficult once the bare SoC chip is sureface mounted on a board, and some tests such as high temperature testing are not possible.

Therefore I would argue that 15C could be more reliable than 12C at least as far as the reliability of the SoC is concerned.

Re: Does anyone have 15C LE dissection pics?

*Message #25 Posted by **uhmgawa** on 22 Sept 2011, 4:44 p.m.,*
in response to message #23 by Eric Smith

> Quote:
>
> Cost. In the quantities that HP makes the 12C, they are able to buy the bare die, attach and bond it, and encapsulate it, for less than what it costs to buy the packaged part.

Possibly, but I believe the answer is only known to HP. There is also the need for precision die handling, die adhesion to pcb, wire welding, and encapsulation which add to the manufacturing process cost traded off against the uneventful alternative of reflowing a 128 pin lqfp on a board to be printed and reflow processed anyway.

> Quote:
>
> The reason Atmel doesn't "openly sell" the part in bare die form..

Apparently they do but through specialized die distributors and wafer processing third parties rather than directly.

Re: Does anyone have 15C LE dissection pics?

*Message #26 Posted by **Eric Smith** on 22 Sept 2011, 5:45 p.m.,*
in response to message #25 by uhmgawa

> Quote:
>
> There is also the need for precision die handling, die adhesion to pcb, wire welding, and encapsulation which add to the manufacturing process cost

I stated that, less precisely. However, they don't add very much to the manufacturing cost, because the ODM in China is already equipped to do all of that, and does it routinely for many products.

This is why if you open up just almost any sub-$50 electronic item, you'll find that it uses CoB assembly. SMT assembly in low-cost items is the exception.

This is what makes it particularly bizarre that the 15C LE has moved to SMT assembly.

Re: Does anyone have 15C LE dissection pics?

*Message #27 Posted by **Mike Morrow** on 22 Sept 2011, 6:33 p.m.,*
in response to message #26 by Eric Smith

> Quote:
>
> This is why if you open up just almost any sub-$50 electronic item, you'll find that it uses CoB assembly.

An interesting (to me) example of that is the Casio fx-115/991ES. It has a 204-connection chip die under the black epoxy blob, most of which go to the 31x96 dot-matrix LCD with 18 annunciators (2994 elements). It sells for less than $13 at some US major retailers.

Re: Does anyone have 15C LE dissection pics?

*Message #28 Posted by **uhmgawa** on 22 Sept 2011, 8:45 p.m.,*
in response to message #27 by Mike Morrow

> Quote:
>
> An interesting (to me) example of that is the Casio fx-115/991ES. It has a 204-connection chip die under the black epoxy blob, most of which go to the 31x96 dot-matrix LCD with 18 annunciators (2994 elements). It sells for less than $13 at some US major retailers.

Most contemporary graphic lcd controllers of such density are as well only available in die form due to the sheer number of pins present on the device. But obviously a valid argument as the process must be economical at that price point.

Re: Does anyone have 15C LE dissection pics?

*Message #29 Posted by **uhmgawa** on 24 Sept 2011, 9:17 a.m.,*
in response to message #26 by Eric Smith

> Quote:
>
> This is what makes it particularly bizarre that the 15C LE has moved to SMT assembly.

After a chat with an Atmel die reseller today it isn't quite as intuitive as I'd expected. The pricing is all over the map and in some cases singulated die will have an OEM cost greater than its packaged counterpart due to "market forces". Even if you're interested in buying full wafers from a semi vendor you may be stuck going through a reseller due to a vendor's traceability and liability concerns of the die ending up in unapproved hands, or being packaged for resale via unapproved parties. Other lesser logistical issues exist such as vendors only shipping full wafers so if your production pipe isn't continuous you may need to warehouse unbonded die in a nitrogen bath to avoid atmospheric contamination of the die's metalization.

No idea if any of the above applies to the 15c le's manufacturing disposition. However this tends to confirm the suspicion a few other variables exist in the equation concerning the economics of bare vs. package die use.

Re: Does anyone have 15C LE dissection pics?

*Message #30 Posted by **sylvandb** on 22 Sept 2011, 5:03 p.m.,*
in response to message #22 by uhmgawa

> Quote:
>
> The change to (and developemnt cost of) a new board layout with an lqfp package is puzzling. Maybe a design/layout

> modification was pending for whatever reason and the projected volumes didn't justify the setup cost for COB a this stage.

speculation follows...

The lqfp might be the new design/layout.

Has anyone opened a recent 12c (30th AE or similar vintage) to see if it is still using the COB?

Perhaps the bare chip contract ended, and rather than extend it the board was redesigned for the lqfp.

Maybe the lqfp price was near enough the COB not to matter?

Maybe the 12c volume has declined so that the COB was no longer justified/cost-effective?

Re: Does anyone have 15C LE dissection pics?

*Message #31 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 12:45 p.m.,*
in response to message #7 by Katie Wasserman

This opens up opportunities to connect the missing JTAG connector and crystal for repurposing.

Re: Does anyone have 15C LE dissection pics?

*Message #32 Posted by **Katie Wasserman** on 23 Sept 2011, 3:30 p.m.,*
in response to message #31 by Marcus von Cube, Germany

Yes it does if you're good at doing some very precise soldering, it's a 0.5mm lead pitch.

Re: Does anyone have 15C LE dissection pics?

*Message #33 Posted by **uhmgawa** on 24 Sept 2011, 9:05 a.m.,*
in response to message #32 by Katie Wasserman

> Quote:
>
> Yes it does if you're good at doing some very precise soldering, it's a 0.5mm lead pitch.

0.5mm pitch gull wing packages aren't too formidable. You can have at it relatively comfortably using a 5x jeweler's loupe and fine point soldering tip. Assuming the rework will be done in place with the pcb mounted, one caution would be to keep the typical flux drenching in check to avoid contamination via creepage through vias into the key matrix. Then again IIRC the vias may be small enough to have been closed by the solder mask. If so this may prevent the flux from migrating.

Alternatively (judging from the autopsy above) the 15c le as well uses hollow studs securing the pcb to the frame. I'd assume as for the 12c+ the ID of the stud bore is just under 1.2mm. So after cutting the heat staked heads the pcb could be reattached with 1.2~1.4mm self threading, flange head screws -- a *major* simplification relative to the trauma of pcb replacement for legacy voyagers.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34S] [Manual] Units conversion question

*Message #1 Posted by **E.Lub_EU** on 20 Sept 2011, 8:03 p.m.*

Hello all,

In the manual dated 2011-09-15, p. 75, the "amplitude ratio to dB" formula is writen as 10 * lg (R) Page 76 shows the reciprocal conversion (is that the correct wording?) as using a multiplying factor of 20.

The dB <-> power conversions seem consistant (pp. 76 & 77), and use the 10 factor I am familiar with in EE.

Would anybody know of a field of engineering or science, in which something called an amplitude, would actually have a "dimension" akin to a power (using a dB factor of 10), therefore causing a confusion?

Re: [WP34S] [Manual] Units conversion question

*Message #2 Posted by **David Persinger (US)** on 20 Sept 2011, 9:29 p.m.,*
in response to message #1 by E.Lub_EU

I am a EE, but haven't used these units much.

I do know that electrical power can be in peak values, or RMS average values. I don't know if this comes into play here.

But here is a units website that deals with dB values and there seem to be some agreement with these conversion, but you have to know if you are basing the conversion on peak (full scale), or average.

http://www.unc.edu/~rowlett/units/dictD.html

decibels don't have units, per se, but there are different scales.

Re: [WP34S] [Manual] Units conversion question

*Message #3 Posted by **E.Lub_EU** on 21 Sept 2011, 5:01 a.m.,*
in response to message #2 by David Persinger (US)

Hi David,

Thanks for the link. I knew there were units I had never heard about :-)

About electrical power "varieties", they do not come into play (they do "behave" in the same way), but one has to be consistant (peak / peak or RMS / RMS) between the two values being evaluated, in order to keep the scaling factor being meaningful.

Thanks Etienne

Re: [WP34S] [Manual] Units conversion question

*Message #4 Posted by **Masaki Adachi** on 21 Sept 2011, 12:14 a.m.,*
in response to message #1 by E.Lub_EU

This comes into play when talking about gain of, say amplifier, since power ratio is a square of input/output voltage ratio

p1/p2=(v1/v2)^2

G=20log(y/x)[dB]=2x10log(y/x)=10log(y/x)^2[dB]

Something like that (its been decades..)

Re: [WP34S] [Manual] Units conversion question

*Message #5 Posted by **E.Lub_EU** on 21 Sept 2011, 4:20 a.m.,*
in response to message #4 by Masaki Adachi

Hello,

First let me apologize for not not knowing how to address you, I am not familiar with your mother tongue & culture, so even if I recognized your frst from your last name, I would not be sure which one to use.

Thanks for your input, you are indeed correct.

Re: [WP34S] [Manual] Units conversion question

*Message #6 Posted by **Walter B** on 21 Sept 2011, 1:59 a.m.,*
in response to message #1 by E.Lub_EU

Bonjour Etienne,

deziBel denote ratios of two measurements of equal kinds. Such ratios are dimensionless (or unit-free). So no problem with a logarithmic scale. Confusing - maybe. But useful e.g. assessing noise, amplifiers, damping, etc.

Edit: The factor on page 75 must be 20, of course. Thanks for pointing to that! Will be corrected in next edition. Merci!

Edited: 21 Sept 2011, 2:44 a.m.

Re: [WP34S] [Manual] Units conversion question

*Message #7 Posted by **E.Lub_EU** on 21 Sept 2011, 5:36 a.m.,*
in response to message #6 by Walter B

Hello Walter,

It seems I was not entirely clear.

As you noted, my point was that I thought there was an inconsistency in the manual. Not being able to read the code, I could not decide which scale factor was correctly documenting the function you had actually implemented. That is now solved.

Bieteschön...

Etienne

Re: [WP34S] [Manual] Units conversion question

*Message #8 Posted by **Dominic Richens** on 21 Sept 2011, 6:36 a.m.,*
in response to message #7 by E.Lub_EU

Thank you for posting the question Etienne. I learnt something today!

Re: [WP34S] [Manual] Conference edition

*Message #9 Posted by **Walter B** on 22 Sept 2011, 2:21 a.m.,*
in response to message #7 by E.Lub_EU

Hi all,

FYI, I committed an updated manual at sourceforge some minutes ago. Hope all glitches are treated.
But don't nail me for the number of flash pages - it keeps changing all the time.

To those happy few who go: Enjoy the conference!
To the rest of us: Hope we'll get some overlays from Eric nevertheless.

Walter

[WP34S] Release Package Updated

*Message #10 Posted by **Marcus von Cube, Germany** on 22 Sept 2011, 11:24 p.m.,*
in response to message #9 by Walter B

I've updated the release package with the recent changes.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Keyboard Survey Redux

*Message #1 Posted by **M. Joury** on 20 Sept 2011, 4:58 p.m.*

Back again...

As of Tuesday afternoon I have responses for 72 calculators of which 9 have keyboard issues giving a "failure" rate of 12.5%.

I have to say that I am surprised that there are only 72 from 42 people (including myself). I was hoping for many more to make this a meaningful exercise.

So in the hope that I can get some more responses I am pushing this back to the top of the forum.

For those of you that did not see the earlier post: I am trying to get a feeling for the seriousness of the keyboard problems being reported on the 15C LE. The more responses I can get the more meaningful the exercise. If you have not responded yet and you have received a 15C please let us know how the keyboard is. I only care about non-working (requires extra pressure, does not register, etc.) keys. I don't care about the state of the f and g keys as to alignment and looseness/rattle as long as they are responding properly to user input. If you would like to participate just provide the number of units you have purchased and tested and how many of those failed the test. 2:1 would mean that you tested 2 units and 1 failed.

Thanks,

-Marwan

Re: HP 15C LE Keyboard Survey Redux

*Message #2 Posted by **Lincoln R.** on 20 Sept 2011, 5:11 p.m.,*
in response to message #1 by M. Joury

OK. I bought 2, one is perfect, the other has a divide key that needs to be pushed hard to register.

Re: HP 15C LE Keyboard Survey Redux

*Message #3 Posted by **Dave** on 20 Sept 2011, 5:12 p.m.,*
in response to message #1 by M. Joury

4:0

Re: HP 15C LE Keyboard Survey Redux

*Message #4 Posted by **Paul Dale** on 20 Sept 2011, 5:28 p.m.,*
in response to message #3 by Dave

I've two good and no bad.

- Pauli

Re: HP 15C LE Keyboard Survey Redux

*Message #5 Posted by **Peter Murphy (Livermore)** on 20 Sept 2011, 5:41 p.m.,*
in response to message #1 by M. Joury

Bought two, zero keyboard problems per Self-Test 3.

Re: HP 15C LE Keyboard Survey Redux

*Message #6 Posted by **Crawl** on 20 Sept 2011, 5:51 p.m.,*
in response to message #1 by M. Joury

> Quote:
>
> Back again...
>
> As of Tuesday afternoon I have responses for 72 calculators of which 9 have keyboard issues giving a "failure" rate of 12.5%.
>
> I have to say that I am surprised that there are only 72 from 42 people (including myself). I was hoping for many more to make this a meaningful exercise.

42 respondents doesn't seem like it's very few. I don't think it's like a thousand people regularly visit (or at least post) at this board.

I'd estimate the error as 1/sqrt(72), so the failure rate is about 0.72%-24.28%.

You'd need many *times* the number of respondents, not just *additional* respondents, to tighten up that estimate.

Re: HP 15C LE Keyboard Survey Redux (edited)

*Message #7 Posted by **M. Joury** on 20 Sept 2011, 6:48 p.m.,*
in response to message #6 by Crawl

Agreed. But more is better (if only a little). I actually made the same point elsewhere. I was hoping that with this new calculator available and all the people on this forum that wanted one that I would get at least 100 respondents with 200+ calculators. Maybe unreasonable but that was my hope.

Cheers,

-Marwan

Edited: 20 Sept 2011, 6:54 p.m.

Re: HP 15C LE Keyboard Survey Redux

*Message #8 Posted by **M. Joury** on 20 Sept 2011, 9:41 p.m.,*
in response to message #6 by Crawl

Maybe I am missing something but wouldn't it be:

1/sqrt(72) = 11.79% range giving me a failure rate of between 6.61% and 18.39%? Or am I missing something? Is it really 11.79% either side of my observed rate or is it 11.79%/2 either side of my observed rate?

Admittedly still a wide range but lets say we get 200 samples we get down to 7.07% range or (if the observed failure rate at that point was the same) 8.96% - 16% which definitely indicates a problem even if we assume the very lowest possibility. In other words the experiment becomes meaningful. Or am I missing something again?

BTW, as the sample size goes up the observed failure rate appears to be going down--the squeaky wheel gets reported theory that I have espoused previously. People with bad units are going to step up and report their problems before we get a good handle on all the good units out there--at least that is my expectation.

Thanks,

-Marwan

Re: HP 15C LE Keyboard Survey Redux

*Message #9 Posted by **VMai** on 20 Sept 2011, 6:09 p.m.,*
in response to message #1 by M. Joury

2 Good 1 Bad: EEX key

Re: HP 15C LE Keyboard Survey Redux

*Message #10 Posted by **Steve Fennell** on 20 Sept 2011, 7:10 p.m.,*
in response to message #1 by M. Joury

Received four, no keyboard problems, passed all working self tests

Lowest LE # I got was 00918

Re: HP 15C LE Keyboard Survey Redux

*Message #11 Posted by **Nicholas Winterer** on 20 Sept 2011, 7:16 p.m.,*
in response to message #1 by M. Joury

Bought one, no keyboard problems.

Re: HP 15C LE Keyboard Survey Redux

*Message #12 Posted by **Dan M (Vermont, USA)** on 20 Sept 2011, 7:18 p.m.,*
in response to message #1 by M. Joury

Received 2:0 bad

Re: HP 15C LE Keyboard Survey Redux

*Message #13 Posted by **Jeff Fontaine Canada** on 20 Sept 2011, 7:50 p.m.,*
in response to message #1 by M. Joury

Hi

I just received my two 15C LE from Samson. I just test them, with the keyboard test. Both are fine, the F & G rattle slightly for one, and are very good for the other one.

2 good, 0 Bad

Very happy, thanks a lot HP !

Jeff

PS : Samson changed teir price today. It's now : retail price 99.99, our price 149.99 !!!

Re: HP 15C LE Keyboard Survey Redux

*Message #14 Posted by **DigiGal** on 20 Sept 2011, 8:19 p.m.,*
in response to message #13 by Jeff Fontaine Canada

> Quote:
>
> PS : Samson changed teir price today. It's now : retail price 99.99, our price 149.99 !!!

Another Classic Blunder!

Someone referred to the release as a circus in another post. All things considered it is really headed that way. Just glad HP finally re-released it.

Re: HP 15C LE Keyboard Survey Redux

*Message #15 Posted by **Michael de Estrada** on 20 Sept 2011, 8:43 p.m.,*
in response to message #14 by DigiGal

Samson Cables / Innovations has been all over the place with their pricing. Even if they were to lower their price to HP retail, I would never buy anything from such a sleezy outfit.

Re: HP 15C LE Keyboard Survey Redux

*Message #16 Posted by **Lincoln R.** on 20 Sept 2011, 8:41 p.m.,*
in response to message #13 by Jeff Fontaine Canada

Wow. It was 119 yesterday. I guess they're really trying to milk every last dime out of this.

Re: HP 15C LE Keyboard Survey Redux

*Message #17 Posted by **Dan G** on 20 Sept 2011, 8:01 p.m.,*
in response to message #1 by M. Joury

Have two, no problems with the keyboard.

Re: HP 15C LE Keyboard Survey Redux

*Message #18 Posted by **Paul Gaster** on 20 Sept 2011, 8:54 p.m.,*
in response to message #1 by M. Joury

How many responses do you really think are necessary?

If you look at an AQL level chart like here, I think we have more than what we need. link

If we pick the most stringent Inspection Level of 3, and we assume this was a 10,000 piece production run, then that falls under the "M" on the chart, which calls for 315 samples.

Yes, it calls for 315 samples, but the number of rejects to reject the whole lot, if we just use AQL of 1.0, is just 8. We are beyond that already, not counting the new rejects in this thread.

If you pick a Level 2 which calls for 200 samples, and the same AQL of 1.0 then you can only have 6 rejects, so playing around with this chart doesn't help you much unless of course you really open up the AQL level. I don't think most HP calculator owners are the type who accept much in the way of defects so that does not seem very acceptable to me.

Edited: 20 Sept 2011, 8:57 p.m.

Re: HP 15C LE Keyboard Survey Redux

*Message #19 Posted by **Hugh Evans** on 20 Sept 2011, 9:07 p.m.,*
in response to message #1 by M. Joury

Two good, zero bad. Since it is known that 10,000 units are being produced it would be more fair to calculate failure rate from that population size. You're much more likely to get responses from people experiencing keyboard problems.

From a standpoint of production quality control: Presuming the 15C and 12C come off the same production line, where are the complaints about the latter?

Re: HP 15C LE Keyboard Survey Redux

*Message #20 Posted by **Olivier (Wa)** on 20 Sept 2011, 9:40 p.m.,*
in response to message #1 by M. Joury

Received 3, bad:0.

Re: HP 15C LE Keyboard Survey Redux

*Message #21 Posted by **Miguel Toro** on 20 Sept 2011, 9:42 p.m.,*
in response to message #1 by M. Joury

Hi

Received one. one bad :(

Miguel

Re: HP 15C LE Keyboard Survey Redux

*Message #22 Posted by **Mark Storkamp** on 20 Sept 2011, 9:51 p.m.,*
in response to message #1 by M. Joury

2:0

Re: HP 15C LE Keyboard Survey Redux

*Message #23 Posted by **Mark Hardman** on 20 Sept 2011, 9:56 p.m.,*
in response to message #22 by Mark Storkamp

Also 2:0

Re: HP 15C LE Keyboard Survey Redux

*Message #24 Posted by **Dave Shortt** on 20 Sept 2011, 10:10 p.m.,*
in response to message #1 by M. Joury

Bought one, and it has two keys which need greater pressure (1/x and x (times)).

Re: HP 15C LE Keyboard Survey Redux

*Message #25 Posted by **Eddie W. Shore** on 20 Sept 2011, 10:58 p.m.,*
in response to message #1 by M. Joury

I have two 15C LE calculators, and both seem to work fine, Marwan. 2:0

Eddie

Re: HP 15C LE Keyboard Survey Redux

*Message #26 Posted by **James Sterbenz** on 20 Sept 2011, 11:23 p.m.,*
in response to message #1 by M. Joury

S/N 01664 received; all keys fine; passes self-test.

Re: HP 15C LE Keyboard Survey Redux

*Message #27 Posted by **Jim Johnson** on 20 Sept 2011, 11:35 p.m.,*
in response to message #26 by James Sterbenz

Two (2) HP-15cLE's 2 good: 0 bad

Re: HP 15C LE Keyboard Survey Redux

*Message #28 Posted by **hpnut** on 21 Sept 2011, 3:05 a.m.,*
in response to message #27 by Jim Johnson

15C LE #01216 from Samsons. Passed keyboard test 3.

Re: HP 15C LE Keyboard Survey Redux

*Message #29 Posted by **Eric Rechlin** on 21 Sept 2011, 9:21 a.m.,*
in response to message #1 by M. Joury

I got one 15C (from the same Mississippi warehouse that many of you got yours from), unit #00888, and the keyboard is perfect.

Eric

Re: HP 15C LE Keyboard Survey Redux

*Message #30 Posted by **Javier Goizueta** on 21 Sept 2011, 9:49 a.m.,*
in response to message #1 by M. Joury

1:0

Re: HP 15C LE Keyboard Survey Redux

*Message #31 Posted by **Walker Pendleton** on 21 Sept 2011, 9:51 a.m.,*
in response to message #1 by M. Joury

2 good, 0 bad

Re: HP 15C LE Keyboard Survey Redux

*Message #32 Posted by **David Hayden** on 21 Sept 2011, 10:24 a.m.,*
in response to message #1 by M. Joury

I have one. The keyboard is fine.

Re: HP 15C LE Keyboard Survey Redux

*Message #33 Posted by **NateB** on 21 Sept 2011, 6:43 p.m.,*
in response to message #1 by M. Joury

I have one. Keys are great.

Re: HP 15C LE Keyboard Survey Redux

*Message #34 Posted by **nick lidakis** on 21 Sept 2011, 6:53 p.m.,*
in response to message #1 by M. Joury

I ordered 4 total.

Ran the keyboard test on all 4 with no issues on any keys; all read 15 firmware. Only the slightest movement on the function keys. No rattle when shaken.

hpcalculators.com

cna1310kbb - 02201 cna1310krs - 01951

buy.com

cna1310k8y - 01038 cna1310k8z - 00857

Re: HP 15C LE Keyboard Survey Redux

*Message #35 Posted by **Steve Cote** on 22 Sept 2011, 7:50 a.m.,*
in response to message #1 by M. Joury

2:0

Re: HP 15C LE Keyboard Survey Redux

*Message #36 Posted by **Jandro Kirkish** on 22 Sept 2011, 7:21 p.m.,*
in response to message #1 by M. Joury

S/N 158: STO key needs extra pressure; 1:1

Re: HP 15C LE Keyboard Survey Redux

*Message #37 Posted by **dbatiz** on 23 Sept 2011, 2:12 a.m.,*
in response to message #1 by M. Joury

Purchased 1 15C LE from Samson Cables. Shipped in protective cardboard box.

CNA132087Z

LEN: 01581

No keyboard issues. Very welcome addition to my small collection!!

Re: HP 15C LE Keyboard Survey Redux

*Message #38 Posted by **Masaki Adachi** on 23 Sept 2011, 1:01 p.m.,*
in response to message #1 by M. Joury

2 good : 0 bad

Re: HP 15C LE Keyboard Survey Redux

*Message #39 Posted by **Paul Guertin** on 23 Sept 2011, 10:32 p.m.,*
in response to message #1 by M. Joury

Received 2 calculators from Samson Cables, and there are no keyboard problems at all. Thank you HP!

Re: HP 15C LE Keyboard Survey Redux

*Message #40 Posted by **Daniel Greenidge** on 24 Sept 2011, 11:13 a.m.,*
in response to message #1 by M. Joury

From Samson Cables:

Received 1 Bad 0

Re: HP 15C LE Keyboard Survey Redux

*Message #41 Posted by **Didier Lachieze** on 24 Sept 2011, 12:15 p.m.,*
in response to message #40 by Daniel Greenidge

1:0, from SC LEN 00129, f and g keys are a bit loose but still register well.

Edited: 24 Sept 2011, 12:16 p.m.

Re: HP 15C LE Keyboard Survey Redux

*Message #42 Posted by **Djj** on 25 Sept 2011, 12:53 a.m.,*
in response to message #40 by Daniel Greenidge

Bought six, one has a bad "4" key.

Re: HP 15C LE Keyboard Survey Redux

*Message #43 Posted by **Gerry Schultz** on 25 Sept 2011, 1:29 a.m.,*
in response to message #42 by Djj

I need to amend my original response. Instead of 2 purchased and zero problems, it's now 4 15c LEs and 2 with bad keys.

Gerry

Re: HP 15C LE Keyboard Survey Redux

*Message #44 Posted by **PAtrick Rendulic** on 24 Sept 2011, 1:36 p.m.,*
in response to message #1 by M. Joury

I bought one, the keys are good, but quality control is bad.

I have a big scratch on the number 4 key ... .

As I will use the calculator at work, I don't bother. But for a collector, this would have been pure horror.

Re: HP 15C LE Keyboard Survey Redux

*Message #45 Posted by **MK-52** on 24 Sept 2011, 1:56 p.m.,*
in response to message #44 by PAtrick Rendulic

I bought two. One is almost flawless except sloppy shift keys. However, another has some scratches and dents. I think a factory worker dropped it and unconcernedly shipped. :-(

Re: HP 15C LE Keyboard Survey Redux

*Message #46 Posted by **Roger Blake** on 25 Sept 2011, 7:40 a.m.,*
in response to message #44 by PAtrick Rendulic

2/2 Good (but one f/g keys loose and rattle)

Bought two from Samson Cables and shipped to UK - I got fast two day shipping which was very expensive but no problems and I did get the $99 (now $149 !))price which probably balanced out the shipping cost. Hoping they will eventually appear over here in which case I'll buy another, hopefully much cheaper.

The first with serial 1881 has firm-ish function keys which normally I wouldn't have noticed were any different to the others. The second, opened a couple of days later, surprisingly had a serial in the 500s and had noticeably looser function keys with a slight rattle.

Neither calculator has any other problems - keyboard test passed just fine. And I do actually like the keyboard on the limited edition better than the original. I found that the original's feel was not tbat positive with its much more limited key travel, and in particular the [Enter] key was attrocious], although it worked fine in practice. On the limited edition the only concern I have is that it seems the display easily acquires very fine scratches - as does the 35S. The original voyagers don't have this problem. Pity they couldn't run to a harder protective plastic like on the 50G.

Re: HP 15C LE Keyboard Survey Redux

*Message #47 Posted by **Michael Kussmaul** on 25 Sept 2011, 8:58 a.m.,*
in response to message #44 by PAtrick Rendulic

Bought: 1, Good:0

Bought one and it had a defective EEX key. When firmly pressed it works, but out of 10 clicks, 5 or so are missed, even when I hear the "click" sound of the key. Also the g-key rattles quite a lot. Bought mine at Samson and had it shipped to Switzerland, so I'm not that keen to send it back because of the high shipping cost... Serial CNA1320910, Limited Edition Nummer: 121 (wow, quite a low one :-)

Btw, the ON key is full height? On the picture on the manual (and as written in the manual itself) it seems the ON key should be a smaller/half-height key?

Edited: 25 Sept 2011, 9:52 a.m. after one or more responses were posted

Re: HP 15C LE Keyboard Survey Redux

*Message #48 Posted by **Michael de Estrada** on 25 Sept 2011, 9:24 a.m.,*
in response to message #47 by Michael Kussmaul

> Quote:
>
> 1/0 good

Seems like that should be "0/1 good."

> Quote:
>
> Btw, the ON key is full height? On the picture on the manual (and as written in the manual itself) it seems the ON key should be a smaller/half-height key?

The ON key on the original 15C is significantly lower than the other keys, however, on the 15C LE it is the same. The manual is an exact copy of the original manual, such that it does not reflect differences in the new 15C LE. They even copied the original self-test incorrectly, although ironically it was the one for the original 12C. No doubt over time we will discover other minor differences as well. What concerns me a lot more are the bugs in the calc itself, such as the disfunctional PSE command. Personally, if I had a defective keyboard I'd demand a replacement, and that HP pay return postage. Absolutely no excuse or justification for all these problems.

Edited: 25 Sept 2011, 9:30 a.m.

Re: HP 15C LE Keyboard Survey Redux

*Message #49 Posted by **Michael Kussmaul** on 25 Sept 2011, 9:57 a.m.,*
in response to message #48 by Michael de Estrada

Sorry, was a little confused with 0/1 which is which :-) so I edited it to make it more clear.

For the ON-key: it's just funny, because on the manual they have clearly written "Limited Edition" on the image on the front cover, but as you said, the actual image is probably an original 15c, just photoshopped with this badge. That confused me a bit.

Re: HP 15C LE Keyboard Survey Redux

*Message #50 Posted by **Michael de Estrada** on 25 Sept 2011, 10:32 a.m.,*
in response to message #49 by Michael Kussmaul

I don't think the cover image is photoshopped, since all the keys have the dull finish of the new models, whereas the original keys are glossy. What may have happened is that the prototype had a lower ON key design that didn't make it into production. The cover on the original manual has a totally different image, which does not even include a calculator. The text in the new manual is the same, however, which was what I meant. There is a note at the bottom of page 18 on both the original manuals that states "*Note that the ON key is lower than the other keys to help prevent its being pressed inadvertently." They even repeated the spelling error of "its" instead of "it".

Edited: 25 Sept 2011, 10:33 a.m.

Re: HP 15C LE Keyboard Survey Redux

*Message #51 Posted by **Dave Shaffer (Arizona)** on 25 Sept 2011, 4:55 p.m.,*

in response to message #50 by Michael de Estrada

> Quote:
>
> They even repeated the spelling error of "its" instead of "it".

Nope - that is correct. "being pressed" here is a gerund, thus acting as a noun, and requiring the possessive "its" (usually mispelled, even in this erudite forum, as "it's" - which is ONLY the contraction for "it is").

Re: HP 15C LE Keyboard Survey Redux

*Message #52 Posted by **Dave Shaffer (Arizona)** on 25 Sept 2011, 4:57 p.m.,*
in response to message #51 by Dave Shaffer (Arizona)

So, of course, while spouting proper English usage, I just misspelled "mispelled"!

Re: HP 15C LE Keyboard Survey Redux

*Message #53 Posted by **Thomas Radtke** on 26 Sept 2011, 11:53 a.m.,*
in response to message #51 by Dave Shaffer (Arizona)

Is it equivalent to "to prevent its pressing down"? Would that work?

The sentence in question sounds quite weird.

Re: HP 15C LE Keyboard Survey Redux

*Message #54 Posted by **Dave Shaffer (Arizona)** on 26 Sept 2011, 3:30 p.m.,*
in response to message #53 by Thomas Radtke

> Quote:
>
> Is it equivalent to "to prevent its pressing down"? Would that work?

Not quite: a native English speaker would interpret that to mean that you are talking about the key DOING the pressing (perhaps due to its own weight), not being pressed BY something (someone) else.

While perhaps a bit convoluted, I think the meaning is clear - the key is lower so there is less likelihood that it would be pressed by mistake.

Re: HP 15C LE Keyboard Survey Redux

*Message #55 Posted by **Geoffrey Wang** on 25 Sept 2011, 9:59 a.m.,*
in response to message #48 by Michael de Estrada

Bought 2 Good 2

Anyone compare HP15CLE key presses against a NIB or very lightly used HP1XC? Just wondering if age or usage makes the keys get less snappy with higher activation pressure...

Re: HP 15C LE Keyboard Survey Redux

*Message #56 Posted by **Roger Blake** on 25 Sept 2011, 1:00 p.m.,*
in response to message #55 by Geoffrey Wang

The originals have always had lousy keyboards - although obviously others disagree greatly with my view. As I've said in previous posts I've found the original's [Enter] key especially bad, and I don't think they've changed much over time. I still have a 16C which has been lightly used over the years, and my much used 15C (which got dropped a couple of years back :-( ) felt similar. Having said that - in use they never gave any problem - and hopefully the limited edition with its IMO much superior keyboard, apart from any f/G wobble, will last just as long. I find the new keyboard much like the older HP LED Scientifics in feel. In fact I distictly remember when first buying the voyager series, of being slightly disappointed that the keys didn't have the same feel of earlier HP calculators. And now they finally have !

Re: HP 15C LE Keyboard Survey Redux

*Message #57 Posted by **hpnut** on 25 Sept 2011, 11:02 a.m.,*
in response to message #47 by Michael Kussmaul

very sharp observation, Michael. I didn't notice that the HP 15C LE and also the HP 12C 30AE ON keys are full height.

Re: HP 15C LE Keyboard Survey Redux

*Message #58 Posted by **db (martinez, ca.)** on 25 Sept 2011, 4:03 p.m.,*
in response to message #44 by PAtrick Rendulic

00303 - perfect, no issues
00354 - perfect, no issues
00540 - perfect, no issues
all from buy.com, delivered in 5 days instead of eight, in a box with padding inside.

I cant figure out what happened. Almost everything computerized that i buy is shit: my garbage android phone, the worthless cell provider, the epson printer, my first laptop, the Ubuntu disc and book i bought for this one, the wireless i tried from fry's, the american brand-but made in china DVD player..... Yet when i get an hp calculator or an IBM laptop; they work.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12c LE - same calculator as original?

*Message #1 Posted by **Frank Rottgardt** on 20 Sept 2011, 3:36 p.m.*

Have a look on this youtube film. She is a hp-official. Does she tell the truth. Colour injected keys? Almost same electronics? Good battery life? As sturdy as original? Did I miss something?

from 1:29 on it becomes cool! Enjoy...

12c LE youtube film

Re: 12c LE - same calculator as original?

*Message #2 Posted by **Eric Smith** on 20 Sept 2011, 7:07 p.m.,*
in response to message #1 by Frank Rottgardt

I don't think they are using the double-shot molded keys any more.

The electronics is definitely NOT "almost same", as it is entirely different. There is not a single electronic component in common with the original.

Re: 12c LE - same calculator as original?

*Message #3 Posted by **Gerson W. Barbosa** on 20 Sept 2011, 8:54 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> I don't think they are using the double-shot molded keys any more.

She says "color injected plastic":

"The keys are all color injected plastic and that hasn't changed, they never wear down..."

This appears to be a simplified and cheaper process. Indeed, I haven't noticed any wearing down so far, but I may just not have used my 12C+ enough. *"That hasn't changed"* is wrong, however.

Re: 12c LE - same calculator as original?

*Message #4 Posted by **uhmgawa** on 20 Sept 2011, 8:21 p.m.,*
in response to message #1 by Frank Rottgardt

> Quote:
>
> Did I miss something?

Of course you did. Couldn't you tell it is a comedy escaped from the marketing department? :P

Edited: 20 Sept 2011, 9:59 p.m. after one or more responses were posted

Re: 12c LE - same calculator as original?

*Message #5 Posted by **Paul Gaster** on 20 Sept 2011, 8:59 p.m.,*
in response to message #4 by uhmgawa

I was just going to say she must be from sales or marketing. That's all that really needs to be said here.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Rationale for 15C L.R. result order?

*Message #1 Posted by **Mike Fikes** on 20 Sept 2011, 3:31 p.m.*

I suspect that, in most scenarios, the *slope* of a given line is more "meaningful" than the value of its *y*-intercept, yet the L.R. operation on the 15C returns the slope in the Y register.

(A criticism of this choice is made in "HP-15C: FIRST IMPRESSIONS OF AN HP-41 USER" attached by Gene Wright to Some 15c files from HHC 2010 recently.)

Is there a logical argument that can be used to defend the choice that HP made for the 15C? Perhaps it facilitates certain use cases?

Edited: 20 Sept 2011, 4:09 p.m. after one or more responses were posted

Re: Rationale for 15C L.R. result order?

*Message #2 Posted by **Walter B** on 20 Sept 2011, 4:00 p.m.,*
in response to message #1 by Mike Fikes

Can't tell you a logical argument but only an historical. L.R. returns the regression parameters in this order since the HP-32E at least. So we did keep it this way for the WP 34S, too.

Addendum:

> Quote:
>
> A criticism of this choice is made in "HP-15C: FIRST IMPRESSIONS OF AN HP-41 USER"

Hmmh, the author of that article only claims the reverse order would be "more natural" without giving any rationale for this claim :-/ Looks like there are simply just two ways and HP chose one :-)

Edited: 20 Sept 2011, 4:09 p.m.

Re: Rationale for 15C L.R. result order?

*Message #3 Posted by **Mike Fikes** on 20 Sept 2011, 4:14 p.m.,*
in response to message #2 by Walter B

Right. With respect to being more "natural" I would argue that (to me at least) it would have been more natural, in the following sense:

In algebra class, you learn the formula for a line is $y = mx + b$. Because of this, I expect m to be "first" (in the X register), followed by b in the Y register.

Re: Rationale for 15C L.R. result order?

*Message #4 Posted by **Walter B** on 20 Sept 2011, 5:05 p.m.,*

in response to message #3 by Mike Fikes

Well, what's pushed on the stack first ends higher up :-) So what you see may be the consequence of m ENTER b . BTW, what's the rationale behind the abbreviations "m" and "b"?

Re: Rationale for 15C L.R. result order?

*Message #5 Posted by **Mike Fikes** on 20 Sept 2011, 5:19 p.m.,*
in response to message #4 by Walter B

Good question :) Evidently even John Conway put forth a conjecture on this one. (Presumably the John Conway.)

Edited: 20 Sept 2011, 5:28 p.m.

Re: Rationale for 15C L.R. result order?

*Message #6 Posted by **Martin Pinckney** on 20 Sept 2011, 10:08 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> BTW, what's the rationale behind the abbreviations "m" and "b"?

It has always been thus...

Re: Rationale for 15C L.R. result order?

*Message #7 Posted by **Gerson W. Barbosa** on 20 Sept 2011, 11:14 p.m.,*
in response to message #6 by Martin Pinckney

http://askville.amazon.com/slope-intercept-formula-y%3Dmx%2Bb-letter-chosen-represent/AnswerViewer.do?requestId=6061505

Re: Rationale for 15C L.R. result order?

*Message #8 Posted by **Walter B** on 21 Sept 2011, 2:12 a.m.,*
in response to message #7 by Gerson W. Barbosa

Olá Gerson, obrigado! Interesting article :-)

Re: Rationale for 15C L.R. result order?

*Message #9 Posted by **Dieter** on 21 Sept 2011, 1:21 p.m.,*
in response to message #6 by Martin Pinckney

Well, of course real statisticians (tm) know that simple linear regression is just a warm-up for the real thing (multiple linear and nonlinear regression). They usually think further and use models with a larger number of variables. And so we finally get

$$y = a_0 + a_1x_1 + a_2x_2 + a_3x_3 + \ldots$$

So it's fine that a_0 is returned in X and a_1 in Y. :-)

Dieter

Re: Rationale for 15C L.R. result order?

*Message #10 Posted by **Crawl** on 20 Sept 2011, 5:59 p.m.,*
in response to message #1 by Mike Fikes

My guess: For estimating x.

There already is an estimating y function, but not for x.

To estimate x, you'd do

1. LR

2. CHS

3. y

4. +

5. Swap

6. divide

If the m, b order was different, it seems you'd want to do the same steps, but add an extra swap to get it to what it currently is. So why not have the swap built in?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE available as of 9/20 at ...

*Message #1 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 20 Sept 2011, 3:01 p.m.*

Following HP shopping site states that it is available and for $129
http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20037-215351-33532.html

Comes with Calculator emulator on CD as well. However the spec says it has 12 digit display, called sales and technical support they both claim, spec is true it is 12 digit display. Well, picture shows only 10 and the original 15C is 10 digits. Technical support even claimed that earlier product sheets for 15C LE stated 10 digits and they updated it with 12 digit. Doesn't make sense. Any comments?

-Kerem

Edited: 20 Sept 2011, 3:02 p.m.

Re: HP 15C LE available as of 9/20 at ...

*Message #2 Posted by **Lincoln R.** on 20 Sept 2011, 3:14 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

It's 10 digits. Same LCD used in modern 12Cs, looks almost exactly like original Voyager LCDs.

Re: HP 15C LE available as of 9/20 at ...

*Message #3 Posted by **Michael de Estrada** on 20 Sept 2011, 3:20 p.m.,*
in response to message #2 by Lincoln R.

Hello, may I help you ? My name is Peggy.....

Re: HP 15C LE available as of 9/20 at ...

*Message #4 Posted by **Lincoln R.** on 20 Sept 2011, 4:37 p.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Hello, may I help you ? My name is Peggy.....

I'm not really sure I get this one...

Re: HP 15C LE available as of 9/20 at ...

*Message #5 Posted by **Michael de Estrada** on 20 Sept 2011, 5:14 p.m.,*
in response to message #4 by Lincoln R.

It's a dumb commercial about inept outsourced customer support, where the person answering the phone adopts a westernized name. Just a joke, that's all.

Re: HP 15C LE available as of 9/20 at ...

*Message #6 Posted by **Steve Simpkin** on 20 Sept 2011, 7:34 p.m.,*
in response to message #4 by Lincoln R.

Here is an example on one of the "Hello my name is Peggy" commercials Michael is referring to. They are pretty funny.
http://www.youtube.com/watch?v=uFXHEApQ7hA

Re: HP 15C LE available as of 9/20 at ...

*Message #7 Posted by **James Sterbenz** on 21 Sept 2011, 9:15 a.m.,*
in response to message #6 by Steve Simpkin

The current supervisor transfer ad is my favourite: http://www.youtube.com/watch?v=yZXZAlfykpo

Re: HP 15C LE available as of 9/20 at ...

*Message #8 Posted by **megarat** on 20 Sept 2011, 3:41 p.m.,*
in response to message #1 by Kerem Kapkin (Silicon Valley, CA)

Hey, you never know, they might be including the "f" and "g" annunciators.

If you count all the annunciators, the 15c displays *way* more than 12 digits.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Instructions for building WP-34s loads.

*Message #1 Posted by **Dominic Richens** on 20 Sept 2011, 11:34 a.m.*

Is this documented somewhere?

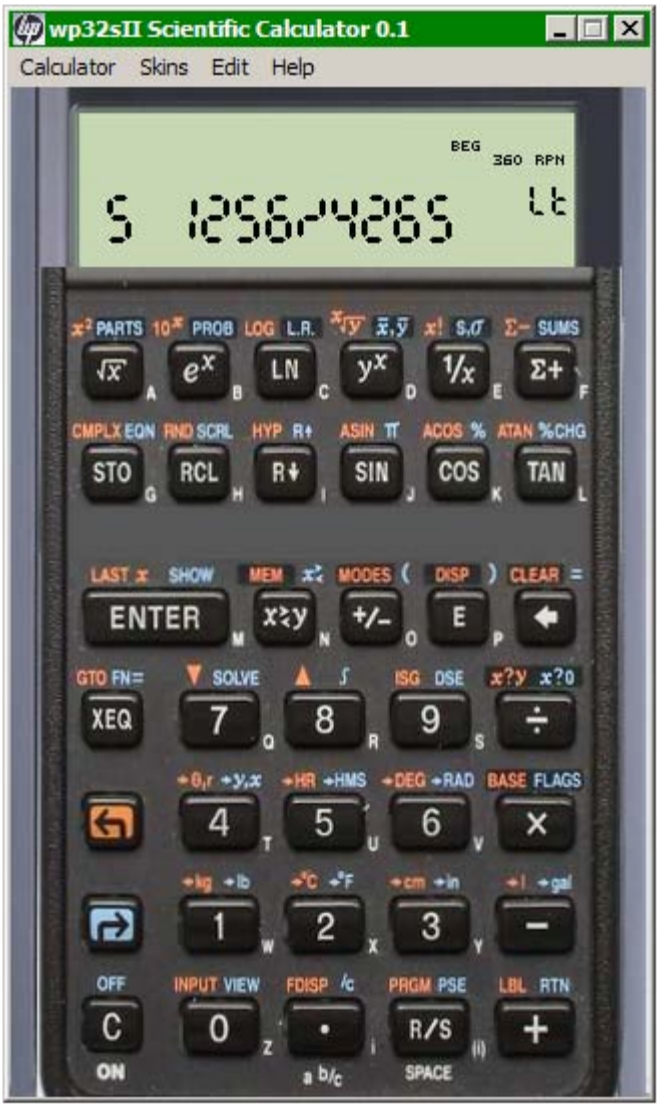
I figured it out by reading the source and perusing forum postings since January, and then a lot of trial and error.

Should I document what I did and what free tools I used? Where would be the best place to put it? Is wiki4hp.com the best place?

I haven't tried to cross-compile an actual firmware load yet, but I will get to that eventually when my 20b shows up and I get a cable.

cheers!

wp32sII anyone?



Edited: 20 Sept 2011, 2:32 p.m. after one or more responses were posted

Re: Instructions for building WP-34s loads.

*Message #2 Posted by **Bart (UK)** on 20 Sept 2011, 1:03 p.m.,*
in response to message #1 by Dominic Richens

See article 1060.

Re: Instructions for building WP-34s loads.

*Message #3 Posted by **Dominic Richens** on 20 Sept 2011, 3:02 p.m.,*
in response to message #2 by Bart (UK)

Thanks Bart, but I don't have permission to add the windows build instructions to your article. If you want, this is what I wanted to add:

Building the wp43s windows emulator from source
First you need to get and install some tools:

1. **SVN client**: I used Silk's subversion client http://www.sliksvn.com/en/download - I did a custom install of only the svn command line tool.
2. **Perl**: I used ActivePerl's package for windows http://www.activestate.com/activeperl/downloads

3. **MS Visual C++ Express**: thanks to Pauli's inclusion of libraries, MS's basic free C++ development environment will work - this is the latest 2010 version: http://www.microsoft.com/visualstudio/en-us/products/2010-editions/visual-cpp-express

Building a windows binary
Bring up a windows console (Run->cmd) and change to a directory path that doesn't have any spaces in the name.

1. Run the subversion command to get the latest software:

> Quote:
>
> svn co https://wp34s.svn.sourceforge.net/svnroot/wp34s wp34s

2. Change to "wp34s" directory and run makewin.cmd
3. In windows explorer, find and double cilck on wp34s\trunk\windows\wp34s_express.sln to startup Visual C++ Express.
4. In the "Solution Explorer" sub-window, click on wp34s_express and hit "F7" to build.

If all goes well, you should have a wp34sgui_d.exe in the bin directory.

Edited: 20 Sept 2011, 4:04 p.m.

Re: Instructions for building WP-34s loads.

*Message #4 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 7:25 p.m.,*
in response to message #3 by Dominic Richens

Steps 3. and 4. repeat what step 2 does: They build the executable. I've put some effort into splitting the emulator GUI from the rest because the GUI is MFC based and cannot be built using the free VC Express. The subversion windows/bin directory contains all files necessary to build and even debug the rest of the code.

Makewin.cmd just calls the command line build engine that comes with the VC installation. It's essentially the same process that is triggered by pressing F7 in the VC IDE.

I've setup a build system for Pauli which is a Windows XP box with just the tools you mention: SVN, Perl, VC++. In order to build the flash file you will need some tools from MinGW and the Yagarto.de ARM toolchain. Good luck!

BTW, I don't like the shifted arrow keys on your picture. ;-)

Re: Instructions for building WP-34s loads.

*Message #5 Posted by **Dominic Richens** on 20 Sept 2011, 9:09 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> Steps 3. and 4. repeat what step 2 does

That's what I tried at first, but SvnRevision was undefined. I'll wipe it out and see what happens if I try again.

> Quote:

> BTW, I don't like the shifted arrow keys on your picture. ;-)

Yeah - I'm not going for a true replica, I'll be "improving" a few things :-)

Re: Instructions for building WP-34s loads.

*Message #6 Posted by **Marcus von Cube, Germany** on 21 Sept 2011, 12:15 a.m.,*
in response to message #5 by Dominic Richens

> Quote:
>
> That's what I tried at first, but SvnRevision was undefined. I'll wipe it out and see what happens if I try again.

That's a problem with your SVN client. SVNVERSION is used during the build to determine the revision number for the VERS screen. If it is not found a blank revision number should be created.

Edited: 21 Sept 2011, 12:37 a.m.

Re: Instructions for building WP-34s loads.

*Message #7 Posted by **Bart (UK)** on 21 Sept 2011, 5:22 a.m.,*
in response to message #3 by Dominic Richens

Sorry, I mis-read the post, I thought it was about programming a physical 34s :(

I will add your instructions :-)

Edit: could you just confirm steps 2, 3 & 4 as discussed with Marcus? Thanks.

Edited: 21 Sept 2011, 5:28 a.m.

Re: Instructions for building WP-34s loads.

*Message #8 Posted by **Dominic Richens** on 21 Sept 2011, 2:25 p.m.,*
in response to message #7 by Bart (UK)

I figured out the missed step.

Change step 2 to say:

2. Make sure the solution configuration is set to "Release" and not "Debug" in the toolbar drop down menu.

Debug seems to be the default when I open the solution and it doesn't run create_version.exe properly...it creates an empty revision.h file.

Also, just running the old step 2 builds everything - I thought it wasn't because I was looking in the wrong place for the binaries.

Re: Instructions for building WP-34s loads.

*Message #9 Posted by **Bart (UK)** on 22 Sept 2011, 10:15 a.m.,*
in response to message #8 by Dominic Richens

OK, I have updated the article. Can you check I have got it right?

Thanks
Bart

Re: Instructions for building WP-34s loads.

*Message #10 Posted by **Dominic Richens** on 22 Sept 2011, 10:46 a.m.,*
in response to message #9 by Bart (UK)

Bart,

you did exactly what I told you to - but it's wrong :-/

Building a windows binary
Bring up a windows console (Run->cmd) and change to a directory path that doesn't have any spaces in the name.

1. Run the subversion command to get the latest software:

   Quote:

   svn co https://wp34s.svn.sourceforge.net/svnroot/wp34s wp34s

2. To build from the command line, change to "wp34s" directory and run makewin.cmd.
3. To build from the GUI, do the next 3 steps:
   1. In windows explorer, find and double cilck on wp34s\trunk\windows\wp34s_express.sln to startup Visual C++ Express.
   2. Make sure the solution configuration is set to "Release" and not "Debug" in the toolbar drop down menu.
   3. In the "Solution Explorer" sub-window, click on wp34s_express and hit "F7" to build.

If all goes well, you should have a new wp34sgui.exe in the trunk\windows\bin directory.

Re: Instructions for building WP-34s loads.

*Message #11 Posted by **Bart (UK)** on 22 Sept 2011, 11:33 a.m.,*
in response to message #10 by Dominic Richens

That's OK, got it updated now ;-)

Re: Instructions for building WP-34s loads.

*Message #12 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 10:42 a.m.,*
in response to message #8 by Dominic Richens

I changed the default for the VC Express solution file to Release.

Re: Instructions for building WP-34s loads.

*Message #13 Posted by **Paul Dale** on 21 Sept 2011, 6:48 p.m.,*

in response to message #1 by Dominic Richens

Doesn't the 34S do everything the 32sii does already?

This was one of the model we wanted a feature super set of. Hence the fraction modes.

- Pauli

Re: Instructions for building WP-34s loads.

*Message #14 Posted by **Dominic Richens** on 21 Sept 2011, 10:44 p.m.,*
in response to message #13 by Paul Dale

Absolutely, and I don't intend to add any features. My impression of the very good keyboard layout of the wp-34s is that it is aimed at power users that do a lot of programming and use the calculator mostly to run those programs. Also, it puts most functions visible on the face-plate through multiple shift keys.

I tend to use my HP-48SX and HP-15C (before I lost it) mostly as a plain scientific calculator: trig, logs, stats. I usually have about 5 programs that I use occasionally (optical power/OSNR stuff). As a result I want most of the scientific and stack functions on un-shifted keys and I don't mind shifting or scrolling through catalogs for everything else.

When I get my cable and (hopefully) overlay I'll convert my 20b to a wp34s and use it for a while. Meanwhile I'll work on an alternate "scientific" layout on the emulator if it doesn't grow on me :-)

Re: Instructions for building WP-34s loads.

*Message #15 Posted by **Paul Dale** on 21 Sept 2011, 11:06 p.m.,*
in response to message #14 by Dominic Richens

I find the opposite, there are many programming functions missing from the keyboard. The number of programming functions on the keyboard isn't great: XEQ, GTO, LBL, RTN, ISG, DSE, R/S, x=, x!=, PSE and all but two are shifted. There are a few more keys with support stuff P/R, CLP, P.FCN, TEST, all of these are shifted. Solve, integrate, product and sum are programming related I guess but I tend to think of them more as maths functions. Likewise, up and down arrow have a programming meaning but aren't really programming keys. In all about an eighth of the stuff on the keyboard is programming related and nearly all of it is shifted. No doubt I've missed a few but the number is in the right ball park at least.

I agree it would be nice for some scientific keys to be unshifted but we couldn't figure out where to put them -- what loses the unshifted position to make way? I don't see anything less important. As an aside, integer mode fared far worse, most of its special functions are in a catalogue and much of the keyboard stops working.

I'd also hazard a guess that there are more functions in the various catalogues than are on the keyboard. We've packed a lot of functionality into the 34S :-)

- Pauli

Re: Instructions for building WP-34s loads.

*Message #16 Posted by **Walter B** on 22 Sept 2011, 2:04 a.m.,*
in response to message #14 by Dominic Richens

Quote:

Meanwhile I'll work on an alternate "scientific" layout on the emulator if it doesn't grow on me :-)

Enjoy! :-)

Re: Instructions for building WP-34s loads.

*Message #17 Posted by **Dominic Richens** on 22 Sept 2011, 7:30 a.m.,*
in response to message #16 by Walter B

Don't hold your breath :-)

I was enjoying myself for about 45 minutes, editing keys.h and keys.c to remap all the primary keys (include f and g) to match the 32sII. Then it came time to decide which shifted keys to ditch and I wasn't enjoying myself anymore :-)

I did figure out that for scrolling through the menus, I could put the up/down keys as un-shifted modal keys on "X" and "/", since that column of keys doesn't do anything when in a menu. Of course these would have to be shifted keys to SST and BST :-(

Re: Instructions for building WP-34s loads.

*Message #18 Posted by **Walter B** on 22 Sept 2011, 12:57 p.m.,*
in response to message #17 by Dominic Richens

Tja, it looks so easy when it's done ;-)

Re: Instructions for building WP-34s loads.

*Message #19 Posted by **Paul Dale** on 23 Sept 2011, 5:01 a.m.,*
in response to message #17 by Dominic Richens

Far better to figure the layout out on paper or in a cad package and then start coding.

- Pauli

Re: Instructions for building WP-34s loads.

*Message #20 Posted by **Dominic Richens** on 23 Sept 2011, 6:35 a.m.,*
in response to message #19 by Paul Dale

...powerpoint - I can move the little keys and labels around without them falling on the floor :-)

functions dropped from keys:
- DEG/RAD/GRAD -> MODE menu
- FILL
- A, B, C, D
- ALL, FIX, SCI, ENG -> MODE menu
- AND, OR, XOR, NOR > P.FCM
- CLP, CLx, CLα, CLΣ -> CLEAR menu
- Cy,x and Py,x -> PROB menu

Menus
- MODE
- CAT
- CONV
- CONST
- PROB
- STAT
- TEST
- P.FCN
- X.FCN
- CLEAR

Re: WP-34s overlays

*Message #21 Posted by **megarat** on 26 Sept 2011, 1:14 p.m.,*
in response to message #13 by Paul Dale

I've been reading so much about the 34s that I decided to join the fun and ordered a 30b today.

(On Amazon, the 30b is less expensive than the 20b. How strange, this world of retail.)

I already have a cable from Gene, so the only obstacles are my own time and effort. Well ... that, and an overlay. As an only occasional visitor to the forum, is there anyway I can be notified (mailing list, &c.) when the next batch of overlays are available?

Thanks!

Edited: 26 Sept 2011, 1:14 p.m.

Re: WP-34s overlays

*Message #22 Posted by **Jurrie Lulofs** on 26 Sept 2011, 2:48 p.m.,*
in response to message #21 by megarat

All I could suggest is to send an email to Eric. See this page for contact info.

I did that last month but have not heard back yet.

Re: WP-34s overlays

*Message #23 Posted by **Dan M (Vermont, USA)** on 26 Sept 2011, 3:35 p.m.,*
in response to message #21 by megarat

I did the same as you (inexpensive calculator from Amazon, cable from Gene), and am quite pleased with the operation of the WP-34s.

Don't get me started on the intermittent operation of the keys that came with the hardware platform or the as-designed built-in applications and operation of the hardware platform.

That would just tend to generate random useless opinions from me :-)

For overlay, I printed out the actual-size PNG in color on ordinary paper, aligned it over the keys, then wrapped it around the hardware body and secured it in place with tape on the back of the calculator. Not the most elegant, but it works for me and it works for now. I should be able to repeat this process indefinitely when the paper wrapper gets worn out. I think I saw somewhere that somebody did this with printing on plastic or laminating a printed paper, but I am content with my plain paper version. I can feel the keys under it well enough.

Someday soon, I believe that there will be "commercially available" nicely-produced stick-on overlays again.

Good luck, and happy calculating!

Dan M.

Re: WP-34s overlays

*Message #24 Posted by **Walter B** on 26 Sept 2011, 3:55 p.m.,*
in response to message #21 by megarat

So far, I've only heard that Eric distributed overlays at HHC recently. So there must have been some ;-) though I've no idea how to get them - besides what my preposters said already.

Re: WP-34s overlays

*Message #25 Posted by **Eric Rechlin** on 26 Sept 2011, 5:57 p.m.,*
in response to message #24 by Walter B

Yes, last week I made another 50 or so, all of which went to HHC 2011 attendees.

I will be making more in the coming weeks. My plan is to first offer them to people on this forum (I will make a post), and once demand is satisfied there, I will make them available on my web site.

Eric

Re: WP-34s overlays

*Message #26 Posted by **Cristian Arezzini** on 26 Sept 2011, 6:46 p.m.,*
in response to message #25 by Eric Rechlin

Hi Eric, Did you read my email of several weeks ago about the wear I'm starting to see? Do you have an idea why it's happening and how to prevent it?

Cristian

Re: WP-34s overlays

*Message #27 Posted by **Eric Rechlin** on 26 Sept 2011, 7:31 p.m.,*
in response to message #26 by Cristian Arezzini

Yes, and I may have a solution. Hopefully I will get some feedback from HHC attendees as to whether it is better now.

Eric

Re: WP-34s overlays

*Message #28 Posted by **Walter B** on 27 Sept 2011, 1:39 a.m.,*
in response to message #27 by Eric Rechlin

Hope you gave Marcus two extra overlays for the other team members ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Forum HHC Programming contest idea / possible rules

*Message #1 Posted by **gene wright** on 20 Sept 2011, 9:52 a.m.*

Hi all.

I think I have the final RPN programming problem figured out in my head at least and thought about trying to have a contest here at the forum this weekend for those who cannot attend the HHC in San Diego.

Here's what I was thinking:

1) Post the problem here early Saturday morning San Diego time.

2) Post the rules here as well, one of which will be for anyone in the forum who is working on the problem NOT to post their solutions, etc. here in the forum until after the end time of the contest. That would not be cool. :-)

3) Solutions should be emailed to my email address by the end time of the contest (which would be Sunday afternoon San Diego time).

4) I determine the winner of the forum submissions.

5) After the deadline... post away here at the forum with your solutions. :-)

This would require discipline not to search the internet for help, not to post solutions here early, etc.

The winner of the forum contest would receive world-wide fame and fortune and some sort of prize from me. :-)

What do all of you think?

Re: HP Forum HHC Programming contest idea / possible rules

*Message #2 Posted by **Thomas Radtke** on 20 Sept 2011, 11:37 a.m.,*
in response to message #1 by gene wright

I's a good idea to compete in the dark, so to say. I'll be there on Saturday with my 32SII between my teeth.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #3 Posted by **gene wright** on 20 Sept 2011, 11:42 a.m.,*
in response to message #2 by Thomas Radtke

Well, the HHC attendees will be competing against each other, but those who cannot attend often want to compete too.

As long as people respect the goal of the contest which is to figure out your best effort on your own and not to publicize anything until after the contest is over!

Re: HP Forum HHC Programming contest idea / possible rules

*Message #4 Posted by **Pal G.** on 20 Sept 2011, 12:02 p.m.,*
in response to message #1 by gene wright

I think this would be fun for those of us who cannot attend. Thanks for thinking of us non-attendees.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #5 Posted by **David Ramsey** on 20 Sept 2011, 5:51 p.m.,*
in response to message #1 by gene wright

When would we have time to work on the problem? The Saturday conference goes until 10PM!

Re: HP Forum HHC Programming contest idea / possible rules

*Message #6 Posted by **gene wright** on 20 Sept 2011, 6:19 p.m.,*
in response to message #5 by David Ramsey

But we don't start again until Sunday at 9am or so.

?

Re: HP Forum HHC Programming contest idea / possible rules

*Message #7 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 7:29 p.m.,*
in response to message #6 by gene wright

Hey, I've brought my wife and she will not be on the conference! No chance to win the contest. :-(.
.
.
.
.
.
.
.
.
.
.

;-)

Re: HP Forum HHC Programming contest idea / possible rules

*Message #8 Posted by **Eric Smith** on 21 Sept 2011, 1:41 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Have her write contest entry for you. (Or would that violate the rules?)

Re: HP Forum HHC Programming contest idea / possible rules

*Message #9 Posted by **C.Ret** on 22 Sept 2011, 4:05 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:

> [...]No chance to win the contest. :-([...]

Not sure, there is a lot of distractions in San Diego:
Shopping, ZOO, The Bay, The GasLamp Quarter, The Beach, The Surfers, The Navy, Sun Sea & S...

Not sure your wife will be concentrate enought on the contest to make you win [;-)]

Having the opportunity to participate at real-time and world-while to the contest will a be truly great !
I already set my wall-clock to California Est Time. I will not miss start time or deliver any result too late ...

P.S.: I mess up with the winter/summer hours shift. Is 10:00 am at Paris (France), 01:00 am at San Diego ?

Edited: 22 Sept 2011, 4:23 a.m.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #10 Posted by **Howard Owen** on 22 Sept 2011, 4:50 a.m.,*
in response to message #9 by C.Ret

> Quote:
>
> P.S.: I mess up with the winter/summer hours shift. Is 10:00 am at Paris (France), 01:00 am at San Diego ?

Yes, you are 9 hours ahead when we are both on summer or both on winter time. We are still on summer (daylight savings) time here. I think you are as well?

Re: HP Forum HHC Programming contest idea / possible rules

*Message #11 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 10:54 a.m.,*
in response to message #10 by Howard Owen

The 9 hours is correct. I'm still fighting the jet lag.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #12 Posted by **Dave Shaffer (Arizona)** on 22 Sept 2011, 6:44 p.m.,*
in response to message #9 by C.Ret

> Quote:
>
> P.S.: I mess up with the winter/summer hours shift. Is 10:00 am at Paris (France), 01:00 am at San Diego ?

Alternatively (since I don't know what time Paris is on), when on Daylight Savings Time compared to GMT, San Diego is 7 hours different (I can't decide whether this should be called "later" or "earlier"!). i.e. at GMT midnight (beginning of the new day), it is 5 PM (the previous

day) in San Diego. During regular time, the offset is 8 hours.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #13 Posted by **Walter B** on 22 Sept 2011, 6:53 p.m.,*
in response to message #12 by Dave Shaffer (Arizona)

> Quote:
>
> I don't know what time Paris is on

Like most of the EU, also Paris claims to see the sun 1h earlier than Greenwich. Portugal's the only country on the continent joining British time.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #14 Posted by **Dave Shaffer (Arizona)** on 22 Sept 2011, 9:24 p.m.,*
in response to message #13 by Walter B

I am under the impression that not even Britain is on GMT (?) but an hour (or two in the summer) different.

Re: HP Forum HHC Programming contest idea / possible rules

*Message #15 Posted by **C.Ret** on 23 Sept 2011, 6:40 a.m.,*
in response to message #12 by Dave Shaffer (Arizona)

Thank you, all this is of great help.

I am now sure not to miss start and end of the contest :-)

I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #16 Posted by **gene wright** on 22 Sept 2011, 7:42 a.m.,*
in response to message #1 by gene wright

I have (inefficiently) programmed the problem on a 15c LE and on the 34S so I know it can be done. lol.

Speed is of course important, but I hope people will try the problem on other, not-quite-as-fast machines.

I also hope you will enjoy thinking through the problem.

But remember --- please respect the rules by NOT searching the internet for hints on how to solve it AND by not posting solutions here to the forum until AFTER 5p.m. Sunday San Diego time.

Everyone agree? :-)

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #17 Posted by **Werner** on 25 Sept 2011, 2:12 p.m.,*
in response to message #16 by gene wright

Agree. No solution, no hint.

41C 58 bytes, r=100, (x,y)=(1,1) in 21.38 secs

Let's see how I fared.. Werner

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #18 Posted by **Thomas Radtke** on 25 Sept 2011, 2:31 p.m.,*
in response to message #17 by Werner

32SII, r=100: 45 byte, 10s. Not really optimized, I fear.

This was very much fun, and brought back a lot of the old fascination in this particular calculator. Thanks for it, Gene! :-)

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #19 Posted by **Werner** on 25 Sept 2011, 4:29 p.m.,*
in response to message #18 by Thomas Radtke

41C, 39 bytes, r=100 in 14.75s

I can only hope the 32SII is much faster than the 41C ;-)

Werner

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #20 Posted by **Paul Dale** on 25 Sept 2011, 5:03 p.m.,*
in response to message #19 by Werner

34S 21 steps, r=100 sub 1 second :-)

My fastest version is twice the size and about seven times faster but sadly incorrect.

- Pauli

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #21 Posted by **Dave Shaffer (Arizona)** on 25 Sept 2011, 5:12 p.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> My fastest version is twice the size and about seven times faster but sadly incorrect.

A bit like the joke at NASA about spacecraft missions a while ago:

"Better, Faster, Cheaper - pick two out of three!"

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #22 Posted by **Paul Dale** on 25 Sept 2011, 5:50 p.m.,*
in response to message #21 by Dave Shaffer (Arizona)

:-)

In this case I'm sure the program can be fixed to give the expected results without any time penalty. I spent way too long fiddling around with the problem already and have real life things to get done. So yes, that quote applies.

- Pauli

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #23 Posted by **Dieter** on 25 Sept 2011, 5:25 p.m.,*
in response to message #20 by Paul Dale

35s: just 19 steps including LBL and RTN.
But r=100 takes ...a tiny bit longer: 13 seconds ;-)

Dieter

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #24 Posted by **Gerson W. Barbosa** on 25 Sept 2011, 5:39 p.m.,*
in response to message #19 by Werner

HP-12C: 48 steps, r=100 -> 97 seconds (equivalent to about 43 seconds on the 41C).

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #25 Posted by **Werner** on 26 Sept 2011, 2:19 a.m.,*
in response to message #24 by Gerson W. Barbosa

By my reckoning it's 11PM San Diego time, so I can post a solution:

```
41C 37-byte prgm (excluding label and end)
timing 100:    13.00s    31'796
       540: 1m 09.12s   918'168
      1000: 2m 07.44s 3'145'520


pixels in a circle
------------------


 observations:
 - input parameters x and y are superfluous. We will assume a circle with
centre (0,0)
 - solution is symmetric in every quadrant. We'll count the pixels in
quadrant 1 and multiply by four
 - a pixel(x,y) is lit when (x-1)^2 + (y-1)^2 < r^2


 Let's start by assuming all pixels of the quadrant are lit, and then
determine which ones are dark,
```

```
as follows (take r=10 as an example):

1. determine the first dark pixel in the top row:

   (m-1)^2 + (10-1)^2 >= 10^2
 or
    m = CEIL(sqrt(10^2 - 9^2) + 1) = 6

 so p(x,10) are lit, x=1..5
    p(x,10) are dark, x=6..10

 then, because of symmetry, we know these 9 pixels are dark:

  x x x x x . . . . .
  x x x x x x x x x .
  x x x x x x x x x .
  x x x x x x x x x .
  x x x x x x x x x .
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x

2. determine the first dark pixel in the second row:

   (m-1)^2 + (9-1)^2 >= 10^2
 or
    m = CEIL(sqrt(10^2 - 8^2) + 1) = 7

 so p(x,9) are lit, x=1..6
    p(x,9) are dark, x=7..10 - but 10 we knew already

 and we can darken the following 7 pixels, too:

  x x x x x . . . . .
  x x x x x x . . . .
  x x x x x x x x . .
  x x x x x x x x . .
  x x x x x x x x x .
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x
  x x x x x x x x x x

3. determine first dark pixel on row three

   (m-1)^2 + (8-1)^2 >= 10^2
 or
    m = CEIL(sqrt(10^2 - 7^2) + 1) = 9

this means (x,8) is dark for x=9..10, and we are done

in pseudocode this reads:

p := r^2;
y := r;
do
  y := y - 1;
  m := CEIL(sqrt(r^2 - y^2) + 1);
  t := (m-y)*2 - 3;
  if t<0 then p := p + t;
until t>=0;
```

```
41C 37-byte prgm (excluding label and end)
timing 100:    13.00s    31'796
       540: 1m 09.12s   918'168
      1000: 2m 07.44s 3'145'520


01*LBL"PX"
02 RDN
03 RDN
04 STO 03               -- y
05 X^2
06 STO 01               -- r^2
07 STO 02               -- p
08*LBL 02
09 RCL 01
10 RCL 03
11 1
12 -
13 STO 03
14 X^2
15 -
16 SQRT
17 INT
18 LASTX
19 FRC
20 X#0?
21 SIGN
22 +                    -- m
23 RCL 03
24 -
25 ST+ X
26 1
27 -
28 X<0?
29 ST+ 02
30 X<0?
31 GTO 02
32 RCL 02
33 4
34 *
35 END
```

Cheers, Werner

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #26 Posted by **Paul Dale** on 26 Sept 2011, 2:30 a.m.,*
in response to message #25 by Werner

Nice idea counting dark pixels. Will terminate sooner than counting lit ones.

- Pauli

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #27 Posted by **Paul Dale** on 26 Sept 2011, 6:43 a.m.,*
in response to message #26 by Paul Dale

Thinking about this some more, it won't terminate much sooner for large radii. e.g. At a radius of 250, it stops 10% sooner. Still a neat way to approach the problem.

Working with octants instead of quadrants should save more.

- Pauli

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #28 Posted by **Werner** on 26 Sept 2011, 7:25 a.m.,*
in response to message #27 by Paul Dale

But I work with octants already..
I determine the size of a 'corner' every time, and move in diagonally.
For r=100, I only go through the loop 29 times to determine all 31796 pixels..

Cheers, Werner

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #29 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 8:15 a.m.,*
in response to message #28 by Werner

> Quote:
>
> For r=100, I only go through the loop 29 times to determine all 31796 pixels.

On the other hand, mine loops 71 times, exactly the complement. At least, it returns the same result :-)

Cheers,

Gerson.

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #30 Posted by **Paul Dale** on 26 Sept 2011, 4:55 p.m.,*
in response to message #28 by Werner

> Quote:
>
> But I work with octants already..

Oops, sorry I missed that :-(

The best of both options then.

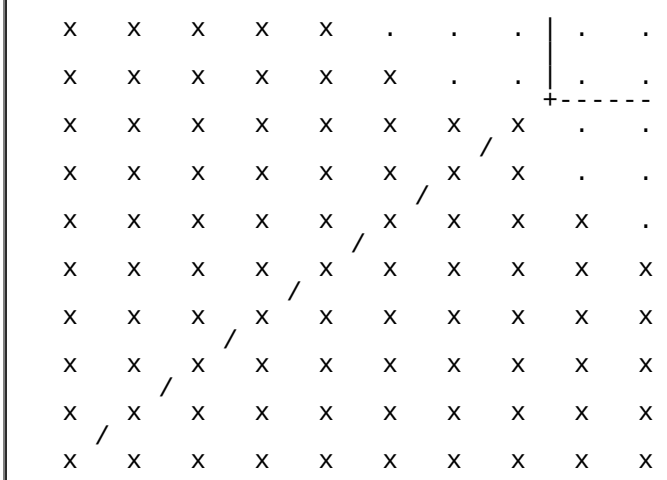
- Pauli

Re: I will post the RPN HHC Programming problem here Saturday A.M. San Diego time...

*Message #31 Posted by **Gerson W. Barbosa** on 26 Sept 2011, 8:07 a.m.,*
in response to message #25 by Werner

Very well explained!

Here's my approach, with much less detailed explanations:



Starting from the first column up to the 8th column (int[10*sqrt(2) + 1]), we check the number of dark pixels in each one. Using simmetry, the number of dark pixels in the quadrant is

```
d = 2*5 + 2^2 = 14
```

The total number of lit pixels is

```
n = 4*(r^2 - d^2) = 4*(100 - 14) = 344
```

That's the same number returned by your program.

The HP-12C program is almost a direct translation of the following BASIC program, hence its inefficiency:

```
 5 CLS
10 INPUT R
15 R2 = R * R
20 L = INT(R / SQR(2)): D = R - L - 1
30 I = 0: S = 0
35 IF I >= L THEN 70
40   I = I + 1
50   S = S + INT(R - SQR(R2 - I * I))
60 GOTO 35
70 PRINT 4 * (R * R - 2 * S - D * D)
80 GOTO 10
```

HP-12C program

```
Keystrokes       |Display        |
[f][P/R]         |               |
[f]CLEAR[PRGM]   |00-            |
[ENTER]          |01-         36 |
[STO]0           |02-    44    0 |
[x]              |03-         20 |
[STO]1           |04-    44    1 |
[CLx]            |05-         35 |
[STO]2           |06-    44    2 |
[STO]3           |07-    44    3 |
[RCL]0           |08-    45    0 |
2                |09-          2 |
[g][SQRT]        |10-    43   21 |
[/]              |11-         10 |
[g][INTG]        |12-    43   25 |
[STO]4           |13-    44    4 |
[g][x<=y]        |14-    43   34 |
[g][GTO]31       |15- 43,33   31 |
1                |16-          1 |
[STO][+]3        |17- 44 40    3 |
[RCL]0           |18-    45    0 |
[RCL]1           |19-    45    1 |
```

```
[RCL]3          |20-     45   3 |
[ENTER]         |21-          36 |
[x]             |22-          20 |
[-]             |23-          30 |
[g][SQRT]       |24-     43   21 |
[-]             |25-          30 |
[g][INTG]       |26-     43   25 |
[STO][-]2       |27- 44  30    2 |
[RCL]3          |28-     45    3 |
[RCL]4          |29-     45    4 |
[g][GTO]14      |30- 43,33   14  |
[RCL]2          |31-     45    2 |
[ENTER]         |32-          36 |
[+]             |33-          40 |
[RCL]1          |34-     45    1 |
[+]             |35-          40 |
[RCL]0          |36-     45    0 |
[RCL]4          |37-     45    4 |
[-]             |38-          30 |
1               |39-           1 |
[-]             |40-          30 |
[ENTER]         |41-          36 |
[x]             |42-          20 |
[-]             |43-          30 |
4               |44-           4 |
[x]             |45-          20 |
[g][GTO]00      |46- 43,33   00  |
[f][P/R]        |                |


The center coordinates shouldn't be entered.


     1 R/S ->           4       (   -  ,    2.2 s)
     5 R/S ->          88       (   -  ,    5.6 s)
   540 R/S ->     918,168       ( 6.8 s,  407.0 s)
  5000 R/S ->  78,559,640       (60.3 s,    -    )

(timings on the 12C+ and 12C, respectively)
```

It should run faster on the 12C+ with the latest firmware.

Regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Experience (Learning) Curve Program for HP-41C/CV/CX

*Message #1 Posted by **Chris Catotti** on 20 Sept 2011, 8:59 a.m.*

Help! I desperately need a copy of the Experience (Learning) Curve for Manufacturing Cost Program for HP-41C/CV/CX. I know I have it at home (somewhere), and I thought it was on the MUSEUM DVD version 5.00, but I could not locate it. I believe it is in the Business Statistics / Marketing / Sales 00041-90094 Library Solutions Book.

Can anyone email or fax Toll-free 1-855-248-4533 a copy to me?

I would greatly appreciate it!

kd4ace@earthlink.net

Best Wishes,

Chris Catotti Toll-free Fax 1-855-248-4533

Re: Experience (Learning) Curve Program for HP-41C/CV/CX

*Message #2 Posted by **Frido Bohn** on 20 Sept 2011, 1:46 p.m.,*
in response to message #1 by Chris Catotti

Hi Chris,

you got an email.

Regards

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 11C suddenly won't turn on

*Message #1 Posted by **Antonio Petri (UK)** on 20 Sept 2011, 6:36 a.m.*

I have an HP 11C that I use very rarely. I was doing a simple calculation and the display suddenly started flashing; The calculator became unresponsive and I had to take the batteries out to turn it off. When I put back the batteries the only thing that the calculator did was to display the message "Pr Error", and it was still unresponsive at any key press, including the "on" key. I then removed the batteries again and waited a few minutes before to put them back, and the result is now that the calculator doesn't even display the "Pr Error" message and it doesn't turn on at all. The batteries are ok as I have tested them on my 15C. I wonder whether what this problem is and most importantly, whether I can get my 11C working again.

Antonio

Re: HP 11C suddenly won't turn on

*Message #2 Posted by **uhmgawa** on 20 Sept 2011, 8:57 a.m.,*
in response to message #1 by Antonio Petri (UK)

> Quote:
>
> I have an HP 11C that I use very rarely. I was doing a simple calculation and the display suddenly started flashing; The calculator became unresponsive and I had to take the batteries out to turn it off. When I put back the batteries the only thing that the calculator did was to display the message "Pr Error", and it was still unresponsive at any key press, including the "on" key. I then removed the batteries again and waited a few minutes before to put them back, and the result is now that the calculator doesn't even display the "Pr Error" message and it doesn't turn on at all. The batteries are ok as I have tested them on my 15C. I wonder whether what this problem is and most importantly, whether I can get my 11C working again.

Does the "Pr Error" still persist on the display when the 11c appears otherwise unresponsive? It may be the LC oscillator failing to start up coming out of power off. If you have access to an oscilloscope you can check for activity of the LC tank when the ON key is depressed.

I've seen the r2d2 lock up on occasion and give the external appearance the unit as a whole is defunct. The dropout voltage for the cmos process used in voyager silicon is phenomenally low (a good thing). Removing the batteries for even a few minutes I've often found insufficient to cold reset the device. Shorting the battery terminals however will discharge the bypass capacitor and do the job.

Other than this there isn't too much which can commonly go wrong with a voyager to make it appear defunct. Grab a 5-10x jeweler's loupe and have a look at the SMD solder joints on the lqfp packages. It is possible an intermittent connection has developed. In that event pressing down on any suspect lqfp leads with a wooden toothpick while trying to bring the 11c back to life would be my suggestion.

Re: HP 11C suddenly won't turn on

*Message #3 Posted by **Antonio Petri (UK)** on 20 Sept 2011, 3:30 p.m.,*

in response to message #2 by uhmgawa

Thank you for your detailed diagnosis. It happens that after about 8 hours since I removed the batteries the calculator is working ok again, I haven't done anything but putting the batteries back in. Yes, the "Pr Error" message stayed even when the calculator wouldn't respond to any key press; it disappeared when I removed the batteries for the first time. After putting back the batteries after about 15 minutes the calculator didn't turn on at all. So, I understand that, if it happens again, I will have to short the batteries' contacts, as you suggest, or... wait 8 hours again! Thank you again, Antonio

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[BUG] HP 50g SOLVE/SOLVR menu does not display unknown var

*Message #1 Posted by **François Vanzeveren** on 20 Sept 2011, 5:01 a.m.*

Hello

I think I found a bug in the SOLVER application. This bug is reproducible also in the HP 50g emulator.

My VERSION:

Version HP50-C

Revision #2.15

Copyright HP 2009

Description of the bug

1. Put an equation into the variable EQ (eg. COS(X)).

2. If the variable 'X' exists, purge it.

3. Enter the SOLVE/SOLVR menu.

At that point everything seems ok, the menu displaying two items: 'X' and 'EXPR='

4. Enter a real number into 'X' (ex: 2) and press 'EXPR='. You get -.4161...

5. Press the VAR key to return to your home directory. You see the 'X' variable created.

6. Return to the SOLVE/SOLVR menu. No problem, both items ('X' and 'EXPR=' are still visible)

7. Now enter the symbolic value '2*pi' (using the greek letter for pi) into 'X' and press 'EXPR='. You get 1.

8. Press the VAR key to return in you home directory.

9. Return back to the SOLVE/SOLVR menu.

SURPRISE!!! The 'X' variable is no more displayed and accessible...

If you want to have it displayed and accessible, you have to enter non symbolic value!

I guess it has been already noted by some... Anyone knows if this has been notified to HP?

Regards

François

Edited: 20 Sept 2011, 6:13 a.m.

Re: [BUG] SOLVE/SOLVR menu does not display unknown var

*Message #2 Posted by **C.Ret** on 20 Sept 2011, 6:20 a.m.,*
in response to message #1 by François Vanzeveren

Bonjour François,

It's not a 'bug', it is a feature of the RPL solver.

The [X] disappear from the solver menu as soon as there no more adjustable variable in the expression.

If you store '2*PI*n' in variable 'X' instead of just '2*PI', you will see that [X] menu is replace by [n]. The solver menu only list variable, no constant of the stored EQ-expression.

Oppositely, if you store in the variable 'X' [... edited ...] a program (i.e. « 2 PI * ») you will observe again that the [x] disappear from the solver menu. If you PURGE the variable ‘X’, the [X] will immediately reappearing in the Solver menu.

In Hp-28C/S, the change fro [x] to [n] (or disappearance) is immediate, perhaps the 'bug' on HP-50g is due to display latency (or a missing refresh cycle is this case). Is that why you notice it only by swapping from and back to the solver menu?

Edited: 20 Sept 2011, 7:00 a.m. after one or more responses were posted

Re: [BUG] SOLVE/SOLVR menu does not display unknown var

*Message #3 Posted by **François Vanzeveren** on 20 Sept 2011, 6:28 a.m.,*
in response to message #2 by C.Ret

Thanks C.Ret

Looks as a functionality, indeed :)

Nevertheless, if I store in the variable 'X' a non symbolic constant, the [X] appears well in the solvr menu...

It is only when I store symbolic constant that it does not appear.

Cheers

François

Edited: 20 Sept 2011, 6:33 a.m.

Re: [BUG] SOLVE/SOLVR menu does not display unknown var

*Message #4 Posted by **C.Ret** on 20 Sept 2011, 6:56 a.m.,*
in response to message #3 by François Vanzeveren

Your right, I miss this point, using a constant, the [x] remain in the menu.

This is a trick I often used, to make physical or chemistry constant out of the solver menu, you simply have to enter the constant quote by « and ».

For example, suppose you have to investigate pressure and volume changes of a gas-phase reactor. Admitting your gas is considered as ideal, you may use the equation of state :

$$PV = nRT$$

As soon as you enter this equation, [P][V][n][R][T] show up in the solver menu. As the gas constant R will not change and you will only consider change in pressure, volum and temperature. The trick is to store «8.314 » in 'R' so that you may input P, V, n and T in respectively Pa, m^3, mol and °K. [R] disappear from the solver menu.

Storing '273.15+t' in 'T' makes [t] to replace [T] in solver menu and allow you to use temperature in Celsius.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OpenRPN: How about a desktop HP-42S?

*Message #1 Posted by **Dan W** on 20 Sept 2011, 12:34 a.m.*

A problem with the OpenRPN calculator is more of a hardware problem than a software problem.

But I'm looking at my HP-97 and thinking, with a desktop calculator, size isn't a problem, neither is power really. Find a case, 37 switches (or more!) and a large dot-matrix LCD screen. I'm sure there is probably some DIY thermal printer we could interface with too (if not, it isn't a big deal if we can interface with a PC). Add a USB or perhaps an SD slot, use code derived from Free42S, an Atmel or PIC based motherboard, and we're in business.

Just thinking out loud here. A desktop size model might reduce a lot of complexity, making it easier to get our feet wet.

Re: OpenRPN: How about a desktop HP-42S?

*Message #2 Posted by **DaveJ** on 20 Sept 2011, 1:00 a.m.,*
in response to message #1 by Dan W

Complexity of a desktop is not that much less than a handheld.
The main difference being that the keypad would be easier with off the shelf keyboard PCB mount switches. But key legend problems still remain.

If you want a desktop, then great, go for it. But if it's just to "get your feet wet" then I don't see any advantage in it. Most of the construction/production techniques are fairly different between the two.

Dave.

Re: OpenRPN: How about a desktop HP-42S?

*Message #3 Posted by **Walter B** on 20 Sept 2011, 1:38 a.m.,*
in response to message #1 by Dan W

IMHO, the market for this desktop is even smaller than for the pocket edition. YMMV

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE - weird self-test behavior

*Message #1 Posted by **Katie Wasserman** on 19 Sept 2011, 11:52 p.m.*

The ON+g+ENTER self test menu has 3 options the first of which turns on all the display segments. If you next press the roll-down key it will turn off half of them. Press it again to turn on the other half. The next press will turn them all back on again. This is all documented.

What's undocumented is what happens if you press and hold the roll-down key. On the 12C+ the display will rapidly cycle through the 3 displays a couple of times then terminate the self test showing the X register. On the 15C LE it will do the same then show the current program line. When you release the roll-down key it will run the program starting at that point.

This is pretty weird and a little scary, what's the self test doing running a program? I haven't seen anything like the other self tests that corrupt program memory but I haven't done much testing of this yet.

-Katie

Edited: 19 Sept 2011, 11:52 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

A program for Normal Distribution on the 42s

*Message #1 Posted by **snaggs** on 19 Sept 2011, 8:50 p.m.*

I couldn't find one on the net, so I converted the one on my 35s for the 42s. It's my first 42s program.

```
SET = Set mean and std dev.
LT = Lower Tail
LTI = Lower Tail Inverse (put in probability, get X)
UT = Upper Tail
UTI = Upper Tail Inverse



00 { 372-Byte Prgm }
01 LBL "NRML"
02 CLMENU
03 "SET"
04 KEY 1 XEQ "NRMSET"
05 "LT"
06 KEY 2 XEQ "NRMLT"
07 "UT"
08 KEY 3 XEQ "NRMUT"
09 "LTI"
10 KEY 4 XEQ "NRMLTI"
11 "UTI"
12 KEY 5 XEQ "NRMUTI"
13 MENU
14 STOP
15 GTO "NRML"
16 LBL "NRMSET"
17 CLMENU
18 0
19 STO "M"
20 INPUT "M"
21 1
22 STO "S"
23 INPUT "S"
24 RTN
25 LBL "NRMUT"
26 CLMENU
27 INPUT "X"
28 XEQ "NRMQ"
29 STO "Q"
30 VIEW "Q"
31 RTN
32 LBL "NRMLT"
33 CLMENU
34 INPUT "X"
35 XEQ "NRMQ"
36 +/-
37 1
38 +
39 STO "Q"
40 VIEW "Q"
41 RTN
42 LBL "NRMUTI"
43 CLMENU
44 INPUT "Q"
45 RCL "M"
46 STO "X"
47 XEQ "NRMT"
48 RTN
49 LBL "NRMLTI"
```

```
50 CLMENU
51 INPUT "Q"
52 1
53 RCL "Q"
54 -
55 STO "Q"
56 RCL "M"
57 STO "X"
58 XEQ "NRMT"
59 RTN
60 LBL "NRMT"
61 XEQ "NRMQ"
62 RCL- "Q"
63 RCL "X"
64 STO "D"
65 ROLLDOWN
66 XEQ "NRMF"
67 RCL/ "T"
68 /
69 STO+ "X"
70 ABS
71 0.0001
72 X<Y?
73 GTO "NRMT"
74 RCL "X"
75 VIEW "X"
76 RTN
77 LBL "NRMQ"
78 RCL "M"
79 STO "LLIM"
80 RCL "X"
81 STO "ULIM"
82 PGMINT "NRMF"
83 INTEG "D"
84 2
85 PI
86 x
87 SQRT
88 RCLx "S"
89 STO "T"
90 \
91 +/-
92 0.5
93 +
94 RTN
95 LBL "NRMF"
96 MYVAR "D"
97 RCL "D"
98 RCL- "M"
99 RCL\ "S"
100 X^2
101 2
102 \
103 +/-
104 e^X
105 RTN
```

Re: A program for Normal Distribution on the 42s

*Message #2 Posted by **Ángel Martin** on 21 Sept 2011, 1:32 a.m.,*
in response to message #1 by snaggs

Very interesting. You could add this as an article in the museum so it doesn't get lost in the heaps of forum archives.

No I remember why the 42 is great and also how painful typing all these lines can be!

Re: A program for Normal Distribution on the 42s

*Message #3 Posted by **Dieter** on 21 Sept 2011, 1:48 p.m.,*
in response to message #1 by snaggs

Honestly, I would suggest a different approach, i.e. rational approximations. Expecially for the quantiles. A

mid-precision (3;4) type is able to return a result with absolute error less than 5 E-6 within one second (!) on the 35s. The 42s should be able to do the same.

Would you try the following examples with your program and see how long it takes?
Mean = 0 and standard deviation = 1.

```
p = 0,1     =>   z =  1,28155
p = 0,01    =>   z =  2,32635
p = 0,0001  =>   z =  3,71902
p = 1E-10   =>   z =  6,36134
p = 1E-400  =>   z = 42,81023
```

Dieter

Re: A program for Normal Distribution on the 42s

*Message #4 Posted by **snaggs** on 21 Sept 2011, 6:46 p.m.,*
in response to message #3 by Dieter

Will do, but it is quite slow, 10's of seonds. Can you link me to some theory or an algorithm on rational approximations? Faster would be. Better!

Also, the programmable menus is a big bonus of the 42s in comparison to the 35s.

Daniel.

Re: A program for Normal Distribution on the 42s

*Message #5 Posted by **Paul Dale** on 21 Sept 2011, 7:25 p.m.,*
in response to message #4 by snaggs

Dieter and I had a long long discussion about ways to implement the quantile (& other statistical) functions. I archived many of the tidbits as part of the documentation for the 34S.

- Pauli

Re: A program for Normal Distribution on the 42s

*Message #6 Posted by **Dieter** on 22 Sept 2011, 2:19 p.m.,*
in response to message #4 by snaggs

As Pauli already pointed out, some of the information that went into the 34s for the statistical distributions is documented, both here in the forum and in the text files that come with the software package.

However, for everyday use on the 35s I designed a simple (3;4) rational approximation with a a maximum absolute error of approx. 5 E-6 so that it will return five valid decimals (+/- 1 ULP). It was designed for p down to 1E-500, i.e. the full working range of the 35s, 42s and others. With a different set of coefficients even higher precision over a smaller range may be achieved. I currently use the following program (slightly modified, that is) to evaluate the quantile: input p, output z.

```
LBL Z
STO P
ENTER
SGN
RCL-P
x>y?
x<>y      ; r := min(p, 1-p)
LN
ENTER
```

```
+
+/-
SQRT
STO T      ; t := sqrt(-2 ln r)
0,010285   ; user Horner's method
RCL*T      ; for polynomial in t
0,694738
+
RCL*T
4,629359
+
RCL*T
2,94666537818
+          ; nominator of rat. approx.
0,0014392
RCL*T
0,158567
+
RCL*T
1,87944
+
RCL*T
3,47987
+
RCL*T
1
+          ; denominator of rat. approx.
/
-
0,5        ; set negative sign for p > 0,5)
RCL-P      ; (or the other way round, if you prefer)
SGN
*
FIX 5
RND        ; make sure that only valid digits are returned ;-)
RTN
```

The normal cdf itself can easily be calculated with the well-known series expansion for smaller z and a continued fraction approach for larger z. On a 12-digit calculator the result in most cases is correct to 11 digits, often even 12. On my 35s the algorithm usually takes between 1 and 4 seconds. IF you don't need that level of precision, there are polynomial and rational approximations for this case as well.

The result of the cdf routine can be used to improve the quantile so that with one single iteration usually 10-12 correct digits are returned. Instead of good old Newton's method I'm using one step of a Hastings iteration for this, so that finally the near-full-precision quantile is returned in 5 seconds or less. The details of this approach have been discussed here as well.

So there are three normal distribution routines on my 35s: One that returns the (almost) exact cdf, a second that returns a more-than-adaequate five-digit approximation for the quantile, and finally a third one that turns this mid-precision result into one with (almost) full precision. The latter two can be combined to return the (almost) exact quantile in 5 seconds or less.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unusual HP 15C on TAS

*Message #1 Posted by **Michael de Estrada** on 19 Sept 2011, 8:35 p.m.*

This is an unusual HP 15C on TAS.

Re: Unusual HP 15C on TAS

*Message #2 Posted by **Michael Meyer** on 19 Sept 2011, 8:40 p.m.,*
in response to message #1 by Michael de Estrada

Looks like an ordinary 11C to me.

Re: Unusual HP 15C on TAS

*Message #3 Posted by **Michael de Estrada** on 19 Sept 2011, 8:45 p.m.,*
in response to message #2 by Michael Meyer

Exactly. I wonder if the high bidder, who has two bids placed, realizes this. The entire description states that it's an HP 15C, and the logo is either missing or blurred to the point that one can't see the model number.

Re: Unusual HP 15C on TAS

*Message #4 Posted by **Peter Murphy (Livermore)** on 19 Sept 2011, 8:58 p.m.,*
in response to message #1 by Michael de Estrada

It looks as though the hp logo is missing.

I've asked the seller to consider running the ON/divide test and report the result, which should of course be "15."

There may be too little time for seller's response (if any) to affect the sale, which ends about 2 hours from the time of my message.

Re: Unusual HP 15C on TAS

*Message #5 Posted by **Michael de Estrada** on 19 Sept 2011, 9:09 p.m.,*
in response to message #4 by Peter Murphy (Livermore)

Look at the front and back photos. It's clearly an 11C.

Re: Unusual HP 15C on TAS

*Message #6 Posted by **Lincoln R.** on 19 Sept 2011, 9:19 p.m.,*
in response to message #4 by Peter Murphy (Livermore)

It's obviously an 11C. 15Cs have "MATRIX" as the orange-shifted function of CHS, not pi.

Re: Unusual HP 15C on TAS

*Message #7 Posted by **Peter Murphy (Livermore)** on 19 Sept 2011, 10:16 p.m.,*
in response to message #4 by Peter Murphy (Livermore)

Seller got "11" as his ON/divide result, and realizes it's an 11C. I said that if it were me I'd cancel the auction. We'll see -- my bet is seller cancels.

Re: Unusual HP 15C on TAS

*Message #8 Posted by **Jeff Kearns** on 19 Sept 2011, 10:53 p.m.,*
in response to message #7 by Peter Murphy (Livermore)

He didn't cancel... Just sold!

Re: Unusual HP 15C on TAS

*Message #9 Posted by **Paul Gaster** on 19 Sept 2011, 10:55 p.m.,*
in response to message #8 by Jeff Kearns

You beat me to it. I told him it was a 11C too. I guess he hopes that the buyer will not care and will want it anyway, which is probably not the case at all.

Re: Unusual HP 15C on TAS

*Message #10 Posted by **Dan W** on 19 Sept 2011, 11:01 p.m.,*
in response to message #9 by Paul Gaster

I also sent him a message, about an hour before closing.

Re: Unusual HP 15C on TAS

*Message #11 Posted by **Michael de Estrada** on 19 Sept 2011, 11:05 p.m.,*
in response to message #10 by Dan W

Actually, I sent the seller a message before posting this thread over 2 hours ago, stating that it was an 11c and not a 15c. I never received a reply and doubt she cares.

####### Re: Unusual HP 15C on TAS

*Message #12 Posted by **Martin Pinckney** on 19 Sept 2011, 11:45 p.m.,*
in response to message #11 by Michael de Estrada

What makes you think it's a woman? [;-)

######## Re: Unusual HP 15C on TAS

*Message #13 Posted by **Michael de Estrada** on 19 Sept 2011, 11:49 p.m.,*
in response to message #12 by Martin Pinckney

What makes you think it's a man ? ;)

Edited: 19 Sept 2011, 11:49 p.m.

Re: Unusual HP 15C on TAS

*Message #14 Posted by **Bart (UK)** on 20 Sept 2011, 4:25 a.m.,*
in response to message #9 by Paul Gaster

> Quote:
>
> I guess he hopes that the buyer will not care....

The buyer might be aware and hope to haggle a discount or partial refund from the buyer once he/she has the calculator. It's not only sellers that can be sly...

Re: Unusual HP 15C on TAS

*Message #15 Posted by **Neil Hamilton (Ottawa)** on 20 Sept 2011, 5:15 a.m.,*
in response to message #1 by Michael de Estrada

This same unit went up for auction about a month ago as well. I suspect that whoever purchased it last time -- for indeed it was purchased -- realized the deception and either returned it or refused to pay.

We'll see what happens this time...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Who has the lowest 15C LE Limited Edition Number?

*Message #1 Posted by **Jandro Kirkish** on 11 Sept 2011, 7:19 p.m.*

Are the Limited Edition numbers sequential? Assuming they are, I thought we could do a rather silly poll: Who has the lowest number? Mine is 00158. (Also this could be a sign that indeed HP might indeed be making only 10,000 of these.)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #2 Posted by **Namir** on 11 Sept 2011, 7:41 p.m.,*
in response to message #1 by Jandro Kirkish

Jandro,

Getting ready to brag about your serial number for the HHC2011??? Well ... that's alright! You can have your 15 minutes of celebrity!!

Namir

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #3 Posted by **Jandro Kirkish** on 11 Sept 2011, 9:30 p.m.,*
in response to message #2 by Namir

Guilty as charged, Namir ;) But truly I am enjoying the front side even more. I missed out on buying the original so it's a real treat playing around with this machine. Not to mention it is the first HP calculator I've owned that actually fits in my pocket!

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #4 Posted by **Namir** on 11 Sept 2011, 10:12 p.m.,*
in response to message #3 by Jandro Kirkish

I am glad you are happy with your HP-15 LE. I am sure it's a nice machine. I will find out for myself tomorrow! An who knows, maybe even brag about my serial number.

:-)

Namir

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #5 Posted by **Tim Wessman** on 11 Sept 2011, 8:42 p.m.,*
in response to message #1 by Jandro Kirkish

Cyrille - 00000
Tim - 00042

:-)

TW

Edited: 11 Sept 2011, 8:43 p.m.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #6 Posted by **Glenn Dowdy** on 11 Sept 2011, 9:03 p.m.,*
in response to message #5 by Tim Wessman

Highest: me, at 888,888

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #7 Posted by **NateB** on 11 Sept 2011, 10:31 p.m.,*
in response to message #6 by Glenn Dowdy

At least they've made more than 10,000 units.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #8 Posted by **Tim Wessman** on 11 Sept 2011, 10:38 p.m.,*
in response to message #7 by NateB

That was a single, special one on request.

TW

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #9 Posted by **hpnut** on 12 Sept 2011, 6:44 a.m.,*
in response to message #5 by Tim Wessman

Hey! 00000 is not a serial number!

talk about one-upmanship, we'll never beat the HP boys :-)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #10 Posted by **Paul Dale** on 12 Sept 2011, 6:58 a.m.,*
in response to message #9 by hpnut

Why not get a punch and add a minus sign to the start of your serial number? Or precede it with a decimal mark?

- Pauli

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #11 Posted by **Dave Britten** on 11 Sept 2011, 10:05 p.m.,*
in response to message #1 by Jandro Kirkish

I'm hoping for a non-integer value myself. Or better yet, complex or irrational.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #12 Posted by **Ed Look** on 12 Sept 2011, 11:04 a.m.,*
in response to message #11 by Dave Britten

That's sort of like the Three Stooges' numbers on the back of their football jerseys...

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #13 Posted by **Mike Morrow** on 12 Sept 2011, 12:56 p.m.,*
in response to message #1 by Jandro Kirkish

I was hoping for 666. Alas, 1577 and 1614 were received.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #14 Posted by **Bruce Bergman** on 14 Sept 2011, 12:32 a.m.,*
in response to message #13 by Mike Morrow

Mike, yours and mine are brothers -- mine is 01578.

Bruce

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #15 Posted by **David E** on 15 Sept 2011, 4:33 a.m.,*
in response to message #14 by Bruce Bergman

Mine is 00236.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #16 Posted by **Philip Reagan (Texas)** on 12 Sept 2011, 1:18 p.m.,*
in response to message #1 by Jandro Kirkish

#2277 from Buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #17 Posted by **Dave** on 12 Sept 2011, 2:34 p.m.,*
in response to message #1 by Jandro Kirkish

My 4 units from buy.com are all in the 2000 range.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #18 Posted by **Ethan Conner** on 12 Sept 2011, 3:36 p.m.,*
in response to message #17 by Dave

I got s/n 01623 from buy dot com.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #19 Posted by **James Sterbenz** on 12 Sept 2011, 5:03 p.m.,*
in response to message #18 by Ethan Conner

S/N 01664 from buy.com. Would be more appropriate for an HP-16C LE ;-) Fortunately I own a 16C I

bought new, cause I doubt there is the market for a rerun of these.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #20 Posted by **Michael de Estrada** on 12 Sept 2011, 5:58 p.m.,*
in response to message #19 by James Sterbenz

S/N 01640 from Buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #21 Posted by **sylvandb** on 13 Sept 2011, 9:06 p.m.,*
in response to message #20 by Michael de Estrada

LE 02261

SN 1310

from buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #22 Posted by **Jurrie Lulofs** on 12 Sept 2011, 5:47 p.m.,*
in response to message #1 by Jandro Kirkish

00693 from buy.com

I confirmed that the 34s flashing cable plugs in just fine. Maybe there'll be a holiday present in the form of a firmware update.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #23 Posted by **Howard Owen** on 13 Sept 2011, 11:39 p.m.,*
in response to message #1 by Jandro Kirkish

I have LE 0336 from buy.com.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #24 Posted by **Thomas Chrapkiewicz** on 14 Sept 2011, 12:51 p.m.,*
in response to message #23 by Howard Owen

Received today from buy.com (shipped 12sept)

LE2290 LE2269

TomC

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #25 Posted by **Gerson W. Barbosa** on 14 Sept 2011, 12:59 p.m.,*
in response to message #24 by Thomas Chrapkiewicz

A prime number! Anyone got twin 2267?

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #26 Posted by **megarat** on 15 Sept 2011, 10:44 p.m.,*
in response to message #23 by Howard Owen

Just got mine today from SC. LE number: 00070.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #27 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:33 p.m.,*
in response to message #26 by megarat

15C: 00911 (I plan just to keep this one in the box as a collector's item) 01535

12C 30th YR Edition: 03938 (this may just stay in the box for a collector's item)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #28 Posted by **Howard Owen** on 13 Sept 2011, 11:41 p.m.,*
in response to message #1 by Jandro Kirkish

If buy.com received sequentially numbered machines, then the numbers reported here might indicate they have sold close to 2000 units!

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #29 Posted by **M. Joury** on 14 Sept 2011, 2:19 p.m.,*
in response to message #28 by Howard Owen

They claimed that their initial stock was 1,000.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some pictures of anniversary 12c

*Message #1 Posted by **Jose Gonzalez Divasson** on 19 Sept 2011, 6:00 p.m.*

Waiting until my 15c sample arrives, some close-ups of my First encounter with the anniversary 12c

Has anyone considered that is a calculator that you can really give as a gift without appearing geek? (provided the receiver is finance-related)

I guess that it could appear in many jubilee, graduation, etc. parties!

Re: Some pictures of anniversary 12c

*Message #2 Posted by **DigiGal** on 19 Sept 2011, 6:46 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I just don't get the 12C Anniversary Edition at all because they've thankfully never stopped making 12C's. This makes 3 different flavors of 12C's for sale now.

Without a 12C form factor the 15C LE's would most likely never have happened. Hopefully given the instant success they'll permanently add a non LE 15C down the line.

Edited: 19 Sept 2011, 6:48 p.m.

Re: Some pictures of anniversary 12c

*Message #3 Posted by **Todd Garabedian** on 20 Sept 2011, 6:41 a.m.,*
in response to message #2 by DigiGal

Frankly, I think the case for the 30th anniversary edition is a little chintzy. I have the 12C 25th anniversary edition, and it comes with a much better leather case, much like a cell phone case you can clip on your belt. It even has an embossed 25th Anniversary logo.

Why can't these 30th anniversary models have better cases?!?!?!?

Re: Some pictures of anniversary 12c

*Message #4 Posted by **Katie Wasserman** on 20 Sept 2011, 11:36 a.m.,*
in response to message #3 by Todd Garabedian

> Quote:
>
> I think the case for the 30th anniversary edition is a little chintzy.

I agree. I was hoping for something different with the 12C 30th AE. The display box is nice but you're not going to keep you calculator in there. A nice slim leather slip case would have been great. The only printed manual is a tiny quick start guide. Then there's the fact that old, buggy firmware made it into 12C 30th AE, that's the worst part.

Re: Some pictures of anniversary 12c

*Message #5 Posted by **Tim Wessman** on 20 Sept 2011, 2:29 p.m.,*
in response to message #4 by Katie Wasserman

Leather? As in real leather?

Big problem with using that. Makes the animal people angry and 1/2 the time it turns our to be from a puppy or something like that. . .

TW

P.S. I tried. . . :-(

Re: Some pictures of anniversary 12c

*Message #6 Posted by **Katie Wasserman** on 20 Sept 2011, 2:41 p.m.,*
in response to message #5 by Tim Wessman

But the 12CP 25th AE case is real leather, have costs gone up that much in the past 5 years? You could use less leather than that case used and it would be nicer and less bulky. Just get ride of the cardboard and use one layer of leather.

Edited: 20 Sept 2011, 2:43 p.m.

Re: Some pictures of anniversary 12c

*Message #7 Posted by **Tim Wessman** on 20 Sept 2011, 3:16 p.m.,*
in response to message #6 by Katie Wasserman

I didn't say cost was the concern. . .

TW

Re: Some pictures of anniversary 12c

*Message #8 Posted by **Martin Pinckney** on 20 Sept 2011, 2:41 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> Leather? As in real leather?
>
> Big problem with using that. Makes the animal people angry and 1/2 the time it turns our to be from a puppy or something like that. . .

The case for 12cP 25AE is real leather...

Re: Some pictures of anniversary 12c

*Message #9 Posted by **Paul Gaster** on 20 Sept 2011, 12:08 p.m.,*
in response to message #3 by Todd Garabedian

Maybe HP got some complaints about how bulky the 25th anniversary case was so this time they went

back to the classic case style.

Re: Some pictures of anniversary 12c

*Message #10 Posted by **DigiGal** on 20 Sept 2011, 12:41 p.m.,*
in response to message #9 by Paul Gaster

I picked up a surplus 25th anniversary case a few years back thinking it would be nice for my original 15c but never use it because the standard case just works much better imho.

The 25th anniversary case was pretty bulky and the sides were only elastic making it a bit awkward to slide the calculator in and out of it.

Glad they only used the standard case for the 15c LE. As Katie pointed out a leather slip case in the style of the standard case would have been nice.

Edited: 20 Sept 2011, 12:58 p.m.

Re: Some pictures of anniversary 12c

*Message #11 Posted by **Katie Wasserman** on 20 Sept 2011, 2:47 p.m.,*
in response to message #10 by DigiGal

Many years ago HP made such a thin leather case for the voyagers. It was really soft and had a tuck in flap to keep the calculator securely in the case.

Re: Some pictures of anniversary 12c

*Message #12 Posted by **Glenn Dowdy** on 20 Sept 2011, 2:51 p.m.,*
in response to message #9 by Paul Gaster

We did select the new case based on the material of the 12c PT with the style and ease of use of the 12c case. I couldn't get the puppyskin spec past the Marketing Department, though.

Re: Some pictures of anniversary 12c

*Message #13 Posted by **gene wright** on 20 Sept 2011, 4:13 p.m.,*
in response to message #12 by Glenn Dowdy

Those puppy lovers...

Re: Some pictures of anniversary 12c

*Message #14 Posted by **Lincoln R.** on 20 Sept 2011, 5:08 p.m.,*
in response to message #12 by Glenn Dowdy

I for one approve of the case. I think it's a very faithful reproduction of the slipcovers that originally came with Voyagers.

Yes, I compared it to one from a circa-1993 12C. It is slightly thinner material, and the HP logo looks slightly different, but on the plus side the inside feels softer, and the case is stitched together as opposed to being heat-welded like my old 12C case.

Re: Some pictures of anniversary 12c

*Message #15 Posted by **Paul Berger (Canada)** on 20 Sept 2011, 6:17 p.m.,*

in response to message #14 by Lincoln R.

My 1982 vintage 16C SN00153 came with a plastic slip case embossed to look like leather the sides are stitched and it is lined with that lovely black material that disintegrates into black dust... I don't use it anymore and have ordered two cases from a TAS seller that are reputed to be leather one for the 16C and one for my hopefully soon to arrive 15C LE. Item number 170659088441.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Day Late, Dollar short.

*Message #1 Posted by **William L. Drylie** on 19 Sept 2011, 5:58 p.m.*

Wow!! Looked Friday at hp store, 15C LE not available yet, looked tonight and already out of stock. Probably never get one, short of watching that site every half hour.

I have waited patiently for years to see that calculator run again just to buy one to replace my demised original for work. With the calculator in production again, I was not expecting to have to scramble to buy just one.....really disappointing, probably see a load of them turn up on you know what bid site at 4 times the price.

I think at this point, if there are any left, someone can have mine. This run of the 15C is a bust as far as I can see as I am not constantly watching hp shopping, and not buying anywhere else.

Re: Day Late, Dollar short.

*Message #2 Posted by **Ethan Conner** on 19 Sept 2011, 6:29 p.m.,*
in response to message #1 by William L. Drylie

That's too bad because it appears Bach still has them at 99.99$ At least it let me add one to my shopping cart.

Re: Day Late, Dollar short.

*Message #3 Posted by **Paul Gaster** on 19 Sept 2011, 8:15 p.m.,*
in response to message #2 by Ethan Conner

I ordered from them and got a call within the hour saying that they do not have any in stock. I need to call back tomorrow to let them know if I want to wait to see if they can get more or just cancel the order.

Re: Day Late, Dollar short.

*Message #4 Posted by **DigiGal** on 19 Sept 2011, 7:00 p.m.,*
in response to message #1 by William L. Drylie

Sure is a bummer, hopefully though given the instant success they'll be permanently adding a non LE 15C to their scientific calculator lineup.

They were available to add to cart on the HP Home website over the weekend.

Re: Day Late, Dollar short.

*Message #5 Posted by **Dan M (Vermont, USA)** on 19 Sept 2011, 7:40 p.m.,*
in response to message #1 by William L. Drylie

Couple of points:

1. I don't think I've seen a "LE#" (on this site anyway) over 5000, so maybe there is still another container somewhere in the supply chain.

2. If you want to make a case, it would be very easy to talk me out of my unused one at cost (I bought 2 total), because as much as I want to, I just don't like the "landscape" layout format. And if nothing else, this dislike inspired me to bring a 42s and 32sii back into current calculator circulation (and get a WP-34s) because I like that layout style a lot more.

good luck comes to those who wait(?)

Dan M.

Re: Day Late, Dollar short.

*Message #6 Posted by **Dan Grelinger** on 19 Sept 2011, 10:26 p.m.,*
in response to message #1 by William L. Drylie

The HP-15C LE is back in HP's store... for $129.99.

Re: Day Late, Dollar short.

*Message #7 Posted by **Paul Gaster** on 19 Sept 2011, 10:53 p.m.,*
in response to message #6 by Dan Grelinger

You don't understand. HP has 2 different stores: Home and also the Small and Medium Business store

The Home store is out of stock but has the $99.99 price showing. link

The Small and Medium Business store is in stock with the $129.99 price showing.

Re: Day Late, Dollar short.

*Message #8 Posted by **Michael de Estrada** on 19 Sept 2011, 10:58 p.m.,*
in response to message #7 by Paul Gaster

Actually, it's $129.00 HP 15C LE

Re: Day Late, Dollar short.

*Message #9 Posted by **Jim Johnson** on 20 Sept 2011, 6:55 a.m.,*
in response to message #8 by Michael de Estrada

Appears that the HP "Home & Home Office Store" has re-opened the HP-15C Limited Edition for orders again at $99.99. It notes "in stock".

Re: Day Late, Dollar short.

*Message #10 Posted by **Namir** on 20 Sept 2011, 7:37 a.m.,*
in response to message #9 by Jim Johnson

I get "Out of Stock" at 4:36 am Pacific Time.

Re: Day Late, Dollar short.

*Message #11 Posted by **M. Joury** on 20 Sept 2011, 10:42 a.m.,*
in response to message #10 by Namir

It appeared to be available for a few hours. It showed in stock at around 3:00 AM Eastern

and now at 10:41 AM Eastern it is out of stock.

Re: Day Late, Dollar short.

*Message #12 Posted by **NateB** on 20 Sept 2011, 10:50 a.m.,*
in response to message #8 by Michael de Estrada

The HP Business store shows an estimated ship date of 9-25-2011. Perhaps they have more stock on the way.

The 15c LE I ordered from HP shipped from Olive Branch, MS. Looks like they are all coming from the same distribution center.

Re: Day Late, Dollar short.

*Message #13 Posted by **David Hayden** on 20 Sept 2011, 1:11 p.m.,*
in response to message #1 by William L. Drylie

I have to believe that if the 15C LE really does sell out quickly, then HP will make a "not so limited edition." It would be free money.

Dave

Re: Day Late, Dollar short.

*Message #14 Posted by **Namir** on 20 Sept 2011, 2:13 p.m.,*
in response to message #13 by David Hayden

It's a supply and demand issue. If HP declares, for example, that they are making 10 million HP-15C LE units, then the frenzy to buy one will die out!!

I guess you remember what happened with the HP-32SII when we heard that HP will no longer make RPN calculators. The HP-32SII sold on TAS for $200+, up from the going price of $75. When the HP-33S came along the prices for the HP-32SII went down.

Edited: 20 Sept 2011, 2:14 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE selling at $349

*Message #1 Posted by **hpnut** on 19 Sept 2011, 4:56 p.m.*

I was right when I wrote earlier that 10,000 units was not enough to meet demand!

http://www.amazon.com/gp/offer-listing/B005EIG3MW/ref=dp_olp_new?ie=UTF8&condition=new

Re: HP 15C LE selling at $349

*Message #2 Posted by **Howard Owen** on 19 Sept 2011, 5:15 p.m.,*
in response to message #1 by hpnut

They are being sold by a brand new seller - "Lafontaine." I can tell at a glance that is not a rebus for "Coburlin," but perhaps there's some other transform that could be applied to establish the relationship. :)

Re: HP 15C LE selling at $349

*Message #3 Posted by **Tom Mathes** on 19 Sept 2011, 5:30 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> They are being sold by a brand new seller - "Lafontaine." I can tell at a glance that is not a rebus for "Coburlin," but perhaps there's some other transform that could be applied to establish the relationship. :)

With all of 1 item for sale. I love it.

Since the production line is operational and HP proved there is a market for this calc, I'd fully expect a non 'limited edition' calc to show up in the next 6-9 months.

I wonder if a non-LE model will fix the bugs reported so far and what happens to those of us who bought the LE model. I for one don't have the special cable to attempt the fix (if firmware were ever released to do so) and am not sure I'd even try. In the past HP offered a swap for calcs/plug-ins with bugs (my 32SII was handled that way as was the Math I Pack for my dearly departed 41C).

I wonder how (or even if) HP will handle it today. My guess is it was predicted by The Beatles many moons ago: "Let It Be'....

Re: HP 15C LE selling at $349

*Message #4 Posted by **Howard Owen** on 19 Sept 2011, 6:05 p.m.,*
in response to message #3 by Tom Mathes

If a production 15C comes out with bugs fixed, I'll buy one as a beater and shelve both my 15C LEs complete with bugged firmware. Something less than 10,000 units in initial circulation, reduced by

normal attrition, would guarantee the collectable status of these machines.

If they don't follow on with a production 15C, but release fixed firmware, I'll patch my workaday unit and leave the shelved unit untouched.

I really do wonder how many they have sold so far. I'm sure Tim will be grilled over this next week. :)

Re: HP 15C LE selling at $349

*Message #5 Posted by **Namir** on 19 Sept 2011, 8:52 p.m.,*
in response to message #2 by Howard Owen

Howard,

My blind guess is that the Amazon "Lafontaine" seller is TAS's fontainebleu123, since both are in VA and share common parts of their names. He sells calculators and accessories in very good shape. Buyer have to pay for that. It's a supply and demand thing.

Namir

Re: HP 15C LE selling at $349

*Message #6 Posted by **Michael de Estrada** on 19 Sept 2011, 9:01 p.m.,*
in response to message #5 by Namir

Apples and oranges. The original vintage calcs that he / she sells are very clean and always in good working condition. This is very important with certain models like Woodstocks, which are hard to find in decent condition. There is no excuse to charge 3X as much for the new HP 15C LE, since they are all in the same NIB condition.

Re: HP 15C LE selling at $349

*Message #7 Posted by **bill platt** on 19 Sept 2011, 9:40 p.m.,*
in response to message #6 by Michael de Estrada

Hey, we take what we can get in this world....:-)

He obviously doesn't have any pressing need to sell them, but if someone would really like one, now, then he can provide.

Seems reasonable enough to me.

Edited: 19 Sept 2011, 9:41 p.m.

Re: HP 15C LE selling at $349

*Message #8 Posted by **Michael de Estrada** on 19 Sept 2011, 9:50 p.m.,*
in response to message #7 by bill platt

Except that you can find them considerably cheaper from several other vendors.

Re: HP 15C LE selling at $349

*Message #9 Posted by **DaveJ** on 19 Sept 2011, 10:42 p.m.,*
in response to message #8 by Michael de Estrada

> Quote:
>
> Except that you can find them considerably cheaper from several other vendors.

Not his problem.

I don't see any issue at all, apart from the amazement at people who are willing to pay those prices.

Dave.

Re: HP 15C LE selling at $349

*Message #10 Posted by **Dave Britten** on 19 Sept 2011, 5:53 p.m.,*
in response to message #1 by hpnut

Have all 10,000 actually sold that fast?

Maybe there's hope yet for a 16c LE. I'd drop another hundred bucks for one!

Re: HP 15C LE selling at $349

*Message #11 Posted by **hpnut** on 19 Sept 2011, 5:59 p.m.,*
in response to message #10 by Dave Britten

AFAIK, HP is out of stock ;-)

http://www.shopping.hp.com/store/product/product_detail/NW250AA%2523ABA/

Maybe not sold out

*Message #12 Posted by **Howard Owen** on 19 Sept 2011, 6:48 p.m.,*
in response to message #10 by Dave Britten

> Quote:
>
> Have all 10,000 actually sold that fast?

The sudden unavailability could be due to something else. Let's say a bunch of retailers noticed that someone with the right coupon code could get an HP15C LE for 85 bucks. Perhaps that's not too far above the wholesale price those retailers pay. Maybe they got HP to listen when they complained.

The business site still has the 15C LE for $129, *in stock.*

Re: Maybe not sold out

*Message #13 Posted by **DigiGal** on 19 Sept 2011, 7:12 p.m.,*
in response to message #12 by Howard Owen

$129 is sure better than $349, however, when they first appeared on HP's Home site before stock even became available they were originally listed as $79.

Perhaps the unavailability has something to do with the initial reports of flaws in some of the units that people have already received.

Edited: 19 Sept 2011, 7:15 p.m.

Re: Maybe not sold out

*Message #14 Posted by **Michael de Estrada** on 19 Sept 2011, 7:21 p.m.,*
in response to message #13 by DigiGal

Actually, back in June when some retailers started taking orders before they stopped, the MSRP basis was shown as $129. I placed one of my orders with CostCentral and that's how they took my order and then applied a discount to bring the price down to a little over $80. I'd be willing to bet we're going to see more show up for under $100 before this whole circus is over.

Re: Maybe not sold out

*Message #15 Posted by **Howard Owen** on 19 Sept 2011, 7:28 p.m.,*
in response to message #13 by DigiGal

> Quote:
>
> Perhaps the unavailability has something to do with the initial reports of flaws in some of the units that people have already received.

But HP continues to sell it. "You can't buy a bugged calculator from us for $99.00, but we'll sell you one for $129.00" :)

I just had a BFO that the reason the 15C shows up at $129 on the business site is because companies negotiate discounts off MSRP with their sales critters.

Re: Maybe not sold out

*Message #16 Posted by **DigiGal** on 19 Sept 2011, 7:38 p.m.,*
in response to message #15 by Howard Owen

> Quote:
>
> But HP continues to sell it. "You can't buy a bugged calculator from us for $99.00, but we'll sell you one for $129.00" :)

I was thinking maybe the flawed units were narrowed down to a range of S/N's and pulled from the HP Home site for re-work while the good ones are still made available at HP's Business site only but at a higher price.

Re: HP 15C LE selling at $349

*Message #17 Posted by **Martin Pinckney** on 19 Sept 2011, 8:43 p.m.,*
in response to message #10 by Dave Britten

> Quote:
>
> Have all 10,000 actually sold that fast?

Has anyone ever verified that this number floating around has any validity? I for one have not seen any "official" statement attributed to HP in any way, including Tim.

AFAIK this number came from a speculative online magazine article at the beginning of this summer's 15c madness.

The LE numbers are 5-digit, which allows 100,000 units total, if they used all available numbers.

I'm not saying I *think* they are making that many, I'm only saying that if the LE numbers were 4-digit, then we'd be pretty sure it was only 10,000. Therefore, it *could* be more.

Re: HP 15C LE selling at $349

*Message #18 Posted by **CAD_Jockey** on 19 Sept 2011, 9:39 p.m.,*
in response to message #17 by Martin Pinckney

Well, I've been having some email conversations with HP, regarding my 12c in 15c LE clothing. If I were to send my 15c to them for exchange, it would take 8-12 weeks. Reason I was told, is that some units were shipped by air to the US to vendors, and the rest are coming by cargo ship.

Re: HP 15C LE selling at $349

*Message #19 Posted by **M. Joury** on 19 Sept 2011, 9:51 p.m.,*
in response to message #18 by CAD_Jockey

Seems to me that HP should just be able to flash it for you. Assuming that is all that is wrong with it--no bad keys, etc.

Cheers,

-Marwan

Re: HP 15C LE selling at $349

*Message #20 Posted by **CAD_Jockey** on 19 Sept 2011, 10:10 p.m.,*
in response to message #19 by M. Joury

> Quote:
>
> Seems to me that HP should just be able to flash it for you. Assuming that is all that is wrong with it--no bad keys, etc.
>
> Cheers,
>
> -Marwan

That's the plan, after HHC.

Re: HP 15C LE selling at $349

*Message #21 Posted by **Michael de Estrada** on 19 Sept 2011, 9:52 p.m.,*
in response to message #18 by CAD_Jockey

Slow boat from China. lol.

Re: HP 15C LE selling at $349

*Message #22 Posted by **M. Joury** on 19 Sept 2011, 11:11 p.m.,*

in response to message #18 by CAD_Jockey

Would that be a sheep in wolf's clothing?

Re: HP 15C LE selling at $349

*Message #23 Posted by **Paul Gaster** on 19 Sept 2011, 9:56 p.m.,*
in response to message #17 by Martin Pinckney

You have a good point about the number of digits. I did find this:

link

Buy a 30th Anniversary Edition 12c Financial Calculator and receive a download code by email for a FREE Virtual 12c (valued at $19.99) for your PC.(1)

(1) Offer valid to first 10,000 orders. Expires 10/31/11.

Maybe the limit is for the 12C LE only, or at least we will all hope.

Re: HP 15C LE selling at $349

*Message #24 Posted by **DaveJ** on 19 Sept 2011, 10:45 p.m.,*
in response to message #23 by Paul Gaster

> Quote:
>
> You have a good point about the number of digits. I did find this:
>
> link
>
> Buy a 30th Anniversary Edition 12c Financial Calculator and receive a download code by email for a FREE Virtual 12c (valued at $19.99) for your PC.(1)
>
> (1) Offer valid to first 10,000 orders. Expires 10/31/11.
>
> Maybe the limit is for the 12C LE only, or at least we will all hope.

"Limited Edition" is limited to how many they can sell :->

Dave.

Re: HP 15C LE selling at $349

*Message #25 Posted by **hpnut** on 19 Sept 2011, 11:27 p.m.,*
in response to message #24 by DaveJ

what if I bought my 12C LE from non-HP sources? can't I get the virtual 12C?

Re: HP 15C LE selling at $349

*Message #26 Posted by **hpnut** on 19 Sept 2011, 11:34 p.m.,*
in response to message #25 by hpnut

actually I filled up the form but i don't know if they will honor my request .... they never

asked my 12C LE serial no.

http://www.hp.com/cgi-bin/sbso/campaigns/smb_form.cgi?promoID=272

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c: "GSB I" bug?

*Message #1 Posted by **Dave Britten** on 19 Sept 2011, 3:28 p.m.*

The 15c supports indirect branching, by storing either a label index in I, or a line number (as a negative number) in I, then calling GTO/GSB I.

When I do this with GTO I and a negative number in I, it seems to work fine. Execution transfers to the line specified by I.

However, after I do GSB I with a negative number in I, as I'm stepping through the program, the line numbers are displayed as one higher than they actually are. Then when the program hits RTN it actually returns to line -1 * I + 1, rather than back to the instruction that called GSB I. Then the program keeps going until it hits RTN a second time, and moves up another level in the call stack. The end result is if LBL A calls GSB B, and LBL B calls GSB I, then the LBL B execution stops after the GSB I target returns (twice, mysteriously), and goes back to LBL A.

Am I missing something obvious, or is this actually a bug? This is a 15c LE, but I'm guessing this would be present in the original model.

Are there any good workarounds that won't increase the size of the program by more than 4 bytes? That's all I've got to work with at the moment. :)

Re: 15c: "GSB I" bug?

*Message #2 Posted by **Dave Britten** on 19 Sept 2011, 4:01 p.m.,*
in response to message #1 by Dave Britten

Here's a sample program that demonstrates it concisely. Note that this has to start at line 001 in order to line up properly with the GSB I target.

```
001- LBL A
002- 3
003- GSB B
004- RTN


005- LBL B
006- 1
007- 4
008- CHS
009- STO I
010- RDown
011- GSB I
012- x^2
013- RTN


014- 1
015- -
016- RTN
```

Obviously, this program should return 4. What you *actually* get is -2.

The execution sequence goes like this:

```
001- LBL A
002- 3
003- GSB B


005- LBL B
006- 1
007- 4
008- CHS
009- STO I
010- RDown
011- GSB I


014- 1 (Displays as line 015)
015- - (Displays as line 016)
016- RTN (Displays as line 017)


015- - (Should have returned to 012- x^2)
016- RTN


004- RTN
```

Weird.

Re: 15c: "GSB I" bug?

*Message #3 Posted by **Mark Hardman** on 19 Sept 2011, 4:14 p.m.,*
in response to message #2 by Dave Britten

This example works exactly the same way on the original HP 15c.

No GSB I bug on 11c

*Message #4 Posted by **Alexander Oestert** on 20 Sept 2011, 3:29 a.m.,*
in response to message #2 by Dave Britten

On my 11c it does return 4. Serial is USA 22...

Edited: 20 Sept 2011, 8:06 a.m.

Re: 15c: "GSB I" bug?

*Message #5 Posted by **David Hayden** on 20 Sept 2011, 1:22 p.m.,*
in response to message #2 by Dave Britten

Does it really go to the wrong line number, or is it a byte location? What I'm getting at is whether this opens the door to a type of synthetic programming on the 15C. Is it possible to make it go to the middle of a two-byte instruction?

Re: 15c: "GSB I" bug?

*Message #6 Posted by **M. Joury** on 20 Sept 2011, 3:35 p.m.,*
in response to message #5 by David Hayden

It appears to go to the correct instruction but the line is numbered incorrectly. I have not tried GSB I to a 2 byte instruction.

Re: 15c: "GSB I" bug?

*Message #7 Posted by **Mark Hardman** on 19 Sept 2011, 4:05 p.m.,*

in response to message #1 by Dave Britten

This looks like a bug in the original HP 15C!

I enter the following:

```
001 LBL A
002 1
003 2
004 3
005 4
006 5
007 6
008 7
009 8
010 RTN
011 LBL B
012 GSB I
013 1
014 2
015 R/S
```

If I put -9 in the I register and hit GTO B, pressing SST shows:

```
011 LBL B
012 GSB I
010 8           <-- ???? SB: 009 8 !!
011 RTN
010 RTN
```

Again, this is on an original HP 15c.

Wow! After all these years, a bug in the original 15c?

*Message #8 Posted by **gene wright** on 19 Sept 2011, 4:08 p.m.,*
in response to message #7 by Mark Hardman

Amazing!

Re: Wow! After all these years, a bug in the original 15c?

*Message #9 Posted by **Dave Britten** on 19 Sept 2011, 4:15 p.m.,*
in response to message #8 by gene wright

> Quote:
>
> Amazing!

I guess this is what happens when you give a CS major a 29 year old computer. :)

I noticed on page 109 of the 15c LE manual, it mentions you can use GTO I and GSB I with a positive number to branch to a label, or GTO I with a negative number to branch to a specific line. Note that it makes no mention of GSB I with a negative number. Hmm. I wonder if it was never intended to work that way in the first place, or they didn't get it to work in time for release (or found a bug in late testing) and just amended the manual.

In any case, it appears to weird out *consistently*, so there may be some insane practical use for it.

Re: Wow! After all these years, a bug in the original 15c?

*Message #10 Posted by **M. Joury** on 19 Sept 2011, 4:24 p.m.,*
in response to message #9 by Dave Britten

GTO I with a negative number works fine.

Re: Wow! After all these years, a bug in the original 15c?

*Message #11 Posted by **Michael de Estrada** on 19 Sept 2011, 4:29 p.m.,*
in response to message #9 by Dave Britten

It seems perfectly logical, because line numbers are absolute addresses, but subroutines are based on labels, which are relative addresses. So, in effect you have moved into the program area and overwritten it.

Re: Wow! After all these years, a bug in the original 15c?

*Message #12 Posted by **Dave Britten** on 19 Sept 2011, 4:34 p.m.,*
in response to message #11 by Michael de Estrada

Either way, you're just pushing the return address onto the call stack, then branching off to your subroutine, so there's no reason it couldn't work (unless the implementation happens to be broken, which appears to be the case here).

Re: Wow! After all these years, a bug in the original 15c?

*Message #13 Posted by **M. Joury** on 19 Sept 2011, 4:42 p.m.,*
in response to message #11 by Michael de Estrada

Sorry, I don't follow. Wouldn't that mean that GTO I should also not work right?

Re: Wow! After all these years, a bug in the original 15c?

*Message #14 Posted by **Michael de Estrada** on 19 Sept 2011, 4:50 p.m.,*
in response to message #13 by M. Joury

No, because a simple GTO can reference either an absolute address (line number) or a relative address (label), whereas a subroutine can only be based on a label. Otherwise, if you add or delete program lines prior to the location of the subroutine start point, then you could not call it based on a line number, since it would have moved.

Re: Wow! After all these years, a bug in the original 15c?

*Message #15 Posted by **Howard Owen** on 19 Sept 2011, 5:08 p.m.,*
in response to message #14 by Michael de Estrada

If line numbers above the one targeted by GTO change, then the GTO will go awry too. I don't see the distinction with GSB.

Re: Wow! After all these years, a bug in the original 15c?

*Message #16 Posted by **Michael de Estrada** on 19 Sept 2011, 5:16 p.m.,*
in response to message #15 by Howard Owen

The difference is that a GTO can transfer to a label or to a line number, but a subroutine is defined by a label so that a return point can be established. I'll bet you'd have the same problem if you tried to do this on an 11c or 34c or 29c. None of the manuals for those calcs show GSB calls with negative I values either.

Re: Wow! After all these years, a bug in the original 15c?

*Message #17 Posted by **Dave Britten** on 19 Sept 2011, 5:31 p.m.,*
in response to message #16 by Michael de Estrada

Programs on the 15c aren't able to modify themselves while running, so I don't see how the target could change mid-execution. You don't have to worry about your return target moving a few bytes up or down in memory during execution.

When returning from a subroutine in most languages, you only care about where you came *from*. For most HP calculators, this will always be an absolute line number (RTN can bring you anywhere, not just to a LBL instruction, in other words). The only way I could see this failing is if the original developers messed up the routine that pushes the return address onto the call stack before carrying out the branching during GSB I with a negative number.

I'd definitely be interested in finding out what happens when you try this on other models. Everything I have is newer than the 15c, though.

Re: Wow! After all these years, a bug in the original 15c?

*Message #18 Posted by **Michael de Estrada** on 19 Sept 2011, 5:59 p.m.,*
in response to message #17 by Dave Britten

I don't own an 11C, but I do have a 34C. I looked this up in the 34C manual (bottom of page 151), and you appear be correct on this, because it states that you can do a GSB I with a negative number in the I-register to transfer to a line number that is the absolute value of the number in I. It further states that the RTN instruction transfers back to the line following the GSB instruction. However, neither the 11C or 15C manuals make any mention of this capability, so it's probably not implemented in them. It's really not very useful, though, once you begin nesting subroutine calls.

"GSB I" with negative I works on the 11C

*Message #19 Posted by **Didier Lachieze** on 19 Sept 2011, 6:49 p.m.,*
in response to message #17 by Dave Britten

In my 11C French manual rev C from August 1985, GTO I and GSB I are documented as working with negative values in I, and transferring execution to the line number specified by the absolute value of I.

When I try the above program in my 11C it works fine: GSB I transfers execution to line 14 (displayed as line 14) and upon return it returns to line 12 as expected. The final result is 4.

EDIT: I've checked my 15C French manual dated September 1982 and it also says that for negative values of I, GTO I and GSB I transfer execution to the line number:
"Si le contenu de RI est négatif, GTO I et GSB I transfèrent l'exécution à la ligne identifiée par ce nombre. Le calculateur utilise la valeur absolue de la partie entière du contenu de RI."

Edited: 19 Sept 2011, 7:04 p.m.

Re: "GSB I" with negative I works on the 11C

*Message #20 Posted by **Michael de Estrada** on 19 Sept 2011, 7:06 p.m.,*
in response to message #19 by Didier Lachieze

Tres interessant. However, the English language manuals for the 11C and 15C do not state that a negative value can be used with GSB I to transfer to a line number. Do you have a French labelled 15C ?

Re: "GSB I" with negative I works on the 11C

*Message #21 Posted by **Didier Lachieze** on 19 Sept 2011, 7:15 p.m.,*
in response to message #20 by Michael de Estrada

Which revision of the 11C and 15C English manuals are you consulting?

Re: "GSB I" with negative I works on the 11C

*Message #22 Posted by **Michael de Estrada** on 19 Sept 2011, 7:39 p.m.,*
in response to message #21 by Didier Lachieze

11C - November 1985

15C - June 1987

Page 109, third paragraph, To Line Numbers. If the RI value is negative, GTO I ...

No mention of GSB I.

Re: "GSB I" with negative I works on the 11C

*Message #23 Posted by **Didier Lachieze** on 20 Sept 2011, 2:33 a.m.,*
in response to message #22 by Michael de Estrada

In this 11C English manual (November 1985 - Rev. G) page 131, GSB I is clearly documented as working the same way than GTO I for labels and line numbers:

"**Indirect Subroutine Label or Line Number.** In a running program, [GSB][I] indirectly transfers execution to a subroutine in
the same way that [GTO][I] indirectly transfers execution to a branch."

(Thanks to Gerson for the link to the HP-11C manual on the HP web site)

It's menioned in the 15C Japanese manual Rev.B

*Message #24 Posted by **Lyuka** on 19 Sept 2011, 9:52 p.m.,*
in response to message #19 by Didier Lachieze

In my 15C Japanese manual Rev.B-3/86 p.110

It's mentioned as a note that you cannot use [GSB][I] if the value of the R_I is negative.

Lyuka

edit: add link to the online manual.

Edited: 20 Sept 2011, 2:47 a.m. after one or more responses were posted

Re: It's menioned in the 15C Japanese manual Rev.B

*Message #25 Posted by **Masaki Adachi** on 20 Sept 2011, 11:48 p.m.,*
in response to message #24 by Lyuka

So far Japanese manual is the only one that explicitly states GSB with negative I will not work. Shall I say, um, very Japanese?

Re: It's menioned in the 15C Japanese manual Rev.B

*Message #26 Posted by **Lyuka** on 21 Sept 2011, 12:01 a.m.,*
in response to message #25 by Masaki Adachi

Hi Masaki,

IMHO, the difference is that it had been sold as a product of Yokogawa-Hewlett-Packard, with additional Yokogawa's quality control.

Lyuka

Edited: 21 Sept 2011, 12:06 a.m.

Re: Wow! After all these years, a bug in the original 15c?

*Message #27 Posted by **gene wright** on 19 Sept 2011, 5:39 p.m.,*
in response to message #8 by gene wright

and, how interesting that the 15c LE faithfully emulates this NEWLY discovered bug in the original 15c.

If that ain't proof that the 15c LE is running the original 15c rom (and we had already been told it was by HP here), then I don't know what is. :-)

Re: Wow! After all these years, a bug in the original 15c?

*Message #28 Posted by **Howard Owen** on 19 Sept 2011, 5:54 p.m.,*
in response to message #8 by gene wright

Quote:

Amazing!

You are in a position to know, Gene, but it seems incredible nobody tumbled to this one in the early days. The manual, by omission, says that GSB I for I<0 isn't supported. For someone a lot smarter than me, it seems like that should have stood out. I also think GSB to a line number would be incredibly useful for saving labels in a large program, so someone might have tried it regardless of what the manual says.

Edited: 19 Sept 2011, 5:56 p.m.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #29 Posted by **Thomas Chrapkiewicz** on 19 Sept 2011, 6:01 p.m.,*
in response to message #8 by gene wright

Nowhere in either the original HP15 manual nor the reprinted one does it mention that GSB I with I being negative should work.

Thus, while 'we've' stumbled into an interesting quirk in the internal architecture of the HP15, this is not a documented function working improperly, therefore NOT a bug (and it IS an interesting insight into the internal architecture of this machine).

TomC ps: One can get some crazy and unexpected results by using other well documented and used systems (such as the computer language C)by sending functions unsupported data types!

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #30 Posted by **Dave Britten** on 19 Sept 2011, 6:15 p.m.,*
in response to message #29 by Thomas Chrapkiewicz

Yup, check my 4:15 post above.

It's probably one of two things.

1. This wasn't meant to work in the first place, and they forgot/didn't bother to make GSB throw an error when you try it.

2. It was meant to work this way, but for whatever reason, wasn't working in time for manufacturing, so it was simply stricken from the manual. This feature is unimportant enough that it would be better NOT to fix it in a later revision, since you could end up with some 15c units mysteriously unable to run some programs correctly.

I think 2 is more likely, but that's just an educated guess.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #31 Posted by **Didier Lachieze** on 19 Sept 2011, 7:10 p.m.,*
in response to message #30 by Dave Britten

I also think 2. is more likely as GSB I with a negative value in I is described as working in my 15C French manual from September 1982.
It would be interesting to check an early version of the 15C English manual to see if this was also initially included and then removed in later editions.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #32 Posted by **Dave Britten** on 19 Sept 2011, 7:19 p.m.,*
in response to message #31 by Didier Lachieze

Yeah, I wonder if somebody has an English 1982 manual sitting around that they could check. The plot thickens!

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #33 Posted by **Forrest Switzer** on 19 Sept 2011, 11:01 p.m.,*
in response to message #32 by Dave Britten

Feb 1983 Owner's Handbook

"To Line Numbers. If the R1 value is negative, GTO I and GSB I cause branching to that line number (using the absolute value of the interger portion of the value in R1).

For instance, if R1 contains -20.00500, then a GTO I instruction will transfer program execution to program line 020."

Third and forth paragraph - Page 109

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #34 Posted by **Gerson W. Barbosa** on 19 Sept 2011, 7:42 p.m.,*
in response to message #31 by Didier Lachieze

Translating from my Portuguese Manual from September 1982:

"**Indirect Branching to Numbered Lines.** If the content of $\mathbf{R_I}$ is *negative* then [GTO] [I] and [GSB] [I] will transfer the execution to the *line* whose *number* is the integer part of the absolute value of the content of $\mathbf{R_I}$.

For instance, if $\mathbf{R_I}$ contains -20.00500, an instruction [GTO] [I] would transfer the execution the program line 020."

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #35 Posted by **Howard Owen** on 19 Sept 2011, 8:06 p.m.,*
in response to message #34 by Gerson W. Barbosa

Interesting! That's quite different from the English text starting on p. 108 of both the newly reprinted manual and my classic manual with a print date of 1/85. Comparing your translated text with what I have, it seems plausible that yours is from an earlier draft. The later text expands the explanation quite a bit, and removes any reference to GSB I with I<0.

If that's so, it would lend credence to the idea that the feature was dropped at some point after development of the HP-15C started.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #36 Posted by **Gerson W. Barbosa** on 19 Sept 2011, 8:45 p.m.,*
in response to message #35 by Howard Owen

Just a correction to the second paragraph:

"For instance, if $\mathbf{R_I}$ contains -20.00500, a [GTO] [I] instruction would transfer the execution to program line 020."

Your manual probably reads:

"**To Line numbers.** If the $\mathbf{R_I}$ value is *negative*, [GTO] [I] causes branching to that *line number* (using the absolute value of the integer portion of the value in $\mathbf{R_I}$).

For instance, if $\mathbf{R_I}$ contains -20.00500, then a [GTO] [I] instruction will transfer program execution to program line 020."

(From the HP-15C Manual in the Museum DVD)

Edited: 19 Sept 2011, 8:50 p.m.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #37 Posted by **Howard Owen** on 20 Sept 2011, 12:54 a.m.,*
in response to message #36 by Gerson W. Barbosa

From my original HP-15C Owner's Handbook, having "Printed in U.S.A 1/85" on the back:

Indirect Branching With [I]

The [I] key--but *not* the [(i)] key--can be used for *indirect* branching ([GTO][I]) and subroutine calls ([GSB][I]). (Only the integer portion of the number in R_I is used.) ([(i)] is *only* used for indirect *addressing* of storage registers.)

To Labels. If the R_I value is *positive*, [GTO][I] and [GSB][I] will transfer execution to the *label* which corresponds to the number in the Index register (see the above table).

For instance, if the Index register contains 20.00500, then a [GTO][I] instruction will transfer program execution to [f][LBL][A]. See the chart on page 107.

To Line Numbers. If the R_I value is *negative*, [GTO][I] causes branching to that *line number* (using the absolute value of the integer portion of the value in R_I).

For instance, if R_I contains -20.00500, then a [GTO][I] instruction will transfer program execution to program line 020.

This text is identical to that in the newly released HP-15C Owner's Handbook. Having different text in earlier versions of the Handbook seems to me to be a smoking gun indicating that [GSB][I] was intended to work as you would expect when the HP-15C was released. It also means that this bug was known to HP at least by 1985 and *they did nothing to fix it back then* but simply changed the documentation. So perhaps the HP of 1985 had clay feet, like every other human enterprise ever undertaken?

If HP knew about the bug, surely many users of the calculator must have known about it too. Is there any indication in the historical record that would confirm or deny this?

Edited: 20 Sept 2011, 12:56 a.m.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #38 Posted by **Alexander Oestert** on 20 Sept 2011, 2:22 a.m.,*
in response to message #37 by Howard Owen

My German HP-15C Benutzerhandbuch, printed in Singapore 10/82, states on page 109:

"**Verzweigung zu einer Zeilennummer.** Wenn RI eine *negative* Zahl enthält, bewirken die Anweisungen [GTO][I] und [GSB][I] einen Sprung zu derjenigen *Zeilennummer*, die durch den Betrag des ganzzahligen Anteils des Wertes in RI spezifiziert wird."

Also, my USA made 15c with serial 23.... replicates the "bug".

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #39 Posted by **Dave Britten** on 20 Sept 2011, 7:10 a.m.,*
in response to message #37 by Howard Owen

I would think a non-working minor feature like this is better left unfixed after that much time. Otherwise you'll start getting all the support calls about why newly published programs that use the feature aren't working properly on older units.

Since GSB I can be emulated using a spare label and two bytes of program memory, it seems like this would be the the most likely case.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #40 Posted by **Alexander Oestert** on 20 Sept 2011, 7:46 a.m.,*
in response to message #39 by Dave Britten

> Quote:
>
> this is better left unfixed ...start getting all the support calls about...older units.

I opt for fixing the 15c LE firmware.

If it is fixed HP might get a few calls from owner's of old units about new programs not working on them (very unlikely; those guys are all here and know why these programs wouldn't work).

BUT: If HP does not fix it, they will get many calls from new owner's of

machines under warranty who found the feature in their handbook and complain about it not working!

Edited: 20 Sept 2011, 7:46 a.m.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #41 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 10:05 a.m.,*
in response to message #40 by Alexander Oestert

Alexander, do you really think HP has the resources to fix the old code? I doubt it.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #42 Posted by **Tim Wessman** on 20 Sept 2011, 10:23 a.m.,*
in response to message #41 by Marcus von Cube, Germany

It's not fixing the old code at this point, but .using a hex editor on a binary and hoping something else doesn't break . . .

TW

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #43 Posted by **Bart (UK)** on 20 Sept 2011, 10:38 a.m.,*
in response to message #42 by Tim Wessman

Unlike Tom C. I believe this **is** a bug. However, I agree it should **not** be fixed. As it is the current manual (and later original manuals) do not mention that GSB I should work for negative values in R_I anyway. It would be bad enough trying to trace it with original (possibly undocumented) source code, but having only the binary - forget it, it's not worth the effort & risk.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #44 Posted by **Alexander Oestert** on 20 Sept 2011, 12:04 p.m.,*
in response to message #42 by Tim Wessman

Make a programming challenge out of it at HHC!

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #45 Posted by **robert rozee** on 20 Sept 2011, 2:34 p.m.,*
in response to message #42 by Tim Wessman

one could always trap it in the emulation and turn it into something 'harmless'. like, for instance, causing the sign of I to be ignored. but even that would be tricky...

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #46 Posted by **Dave Britten** on 20 Sept 2011, 3:54 p.m.,*
in response to message #45 by robert rozee

Yeah, it really wouldn't be worth the trouble and risk. It would be much more practical to mention in the manual that GSB I with negative values does not behave as expected, and show how to code around it:

```
LBL A
GSB 9
...
LBL 9
GTO I
(end)
```

Only costs you one label and two bytes (or three bytes plus one extra byte per invocation if you have no choice but to use one of the "high" labels). You only need a single one of these two-line wrapper functions in memory to cover all use of GSB I.

Re: Wow! After all these years, a bug in the original 15c? NOT!

*Message #47 Posted by **Alexander Oestert** on 20 Sept 2011, 11:57 a.m.,*
in response to message #41 by Marcus von Cube, Germany

> Quote:
>
> Alexander, do you really think HP has the resources to fix the old code? I doubt it.

For 100 bucks apiece I expect it to be fixed. But not having mine delivered yet, I only assumed from the OP's first post that the feature in question was actually mentioned in the LE's manual. If this is not the case, I will also opt for not fixing it.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #48 Posted by **Bart (UK)** on 20 Sept 2011, 10:24 a.m.,*
in response to message #29 by Thomas Chrapkiewicz

> Quote:

> Nowhere in either the original HP15 manual nor the reprinted one does it mention that GSB I with I being negative should work.

From posts here, it was stated in the manual in 1982 & 1983:
"To Line Numbers. If the R1 value is negative, GTO I and **GSB I** cause branching to that line number (using the absolute value of the interger portion of the value in R1)."

We've all read about Dave Packard's reply about the HP-35 2.02 ln e^x bug. So, by the time this 15c bug was discovered, the man that responded "don't tell" to Dave Packard had been put in charge and decided to quietly alter the manual and pretend it wasn't supposed to work anyway ("oh, and tell customer support to reply 'misprint in the original manual' when costomers query it"). But the give-away is that it works on the 11C (as per the 1985 Rev. G manual linked by Didier Lachieze p137/138 states: "When an indirect branch or subroutine instruction is executed with a *negative* nnnnn value in R_I..."). Why would this feature work in a lower spec calc. and be deliberately dropped in the top model of the voyager line-up?

Edit: to TomC: I am just stating my feelings on the case, no intention to argue or flame. I respect your view, but just *think* that the evidence points the other way.

Edited: 20 Sept 2011, 10:42 a.m.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #49 Posted by **Michael de Estrada** on 20 Sept 2011, 11:29 a.m.,*
in response to message #48 by Bart (UK)

I think this is a very unimportant "bug", because there are an abundance of labels available in the HP 25C to identify the start points of subroutines. This is a much more reliable way to program multiple programs / subroutines, and to edit programs with addition and deletion of lines. The HP 11C has 15 labels, whereas the HP 15C has 25 (A-E, 0-9, .0-.9), as well as more than twice the memory so conservation of memory by eliminating labels is less of an issue.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #50 Posted by **Bart (UK)** on 20 Sept 2011, 1:07 p.m.,*
in response to message #49 by Michael de Estrada

> Quote:
>
> I think this is a very unimportant "bug"

Agreed, see my response to Tim's post.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #51 Posted by **Howard Owen** on 20 Sept 2011, 1:10 p.m.,*
in response to message #49 by Michael de Estrada

I agree that the bug is minor. I'm just fascinated with the sociology of it all.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #52 Posted by **M. Joury** on 20 Sept 2011, 3:37 p.m.,*

in response to message #51 by Howard Owen

I don't know. GSB I to a line number is a very basic form of self-modifying code. There may be some interesting things that someone could do with that ability.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #53 Posted by **Alexander Oestert** on 20 Sept 2011, 12:01 p.m.,*
in response to message #48 by Bart (UK)

I actually tested and confirmed it on a real 11c.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #54 Posted by **Howard Owen** on 20 Sept 2011, 1:07 p.m.,*
in response to message #48 by Bart (UK)

This aspect is what interests me from a historical perspective. From today's perspective, Dave Packard's edict that "it would be better to never make a dime of profit than to have a product out there with a problem" is nothing short of astonishing. I suspect it was unusual back in 1972. By 1985 at least* we have evidence of a more "normal" corporate outlook at HP.

It still bothers me that nobody in the user community knew about this bug back then. The fact that the manual changed is another fact that should have tipped off an observant user.

*Challenge: what is the earliest manual version that includes the altered description? Mine is dated on the back at 1/85.

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #55 Posted by **C.Ret** on 20 Sept 2011, 3:56 p.m.,*
in response to message #54 by Howard Owen

I have to admit that I share your point of view.

And considering that users have only discovered this issue after more than 26 years, let me think that the “corporate” decision to leave it uncorrected it was a good one. Why, may they have spent any time and involve any resources to fix an issue that nobody will discover before several decades?

At the time, every one receives only one manual. Who can have compare two version and discover the change? A few.

During the last 30 years, how many people use a HP-15c? Many.
How many of the many user of an Hp-15c have never program it ? A majority. But, how many of these users have program the HP-15c for something else that entering the function to be root finding, solving or integrating? A fraction.
How many people from this fraction have used HP-15c to make advance and complex program code? A bunch. Since the great advantage of the HP-15c is complex, matrix, root finding, numerical integrating, etc… It is not especially dedicated to advanced programming tool – even if it is a capable advanced unit –
From this bunch of advanced programming coders, how many have used any of the two indirect branching instruction GTO I or GSB I ? A few, since most of the problems needs conditional branching and a few algorithms need indirect branching.
From this few of indirect branching advanced program coders, how many have used branching to label (I >0) compare to line number (i<0)? A rare, since using label is far

easier to program since you to worry about exact line counts. Correct line addressing is a serious challenge.
From this rare indirect line branching advanced program coders using I<0, how many have used GTO I compare to GSB I ? A half.

Conclusion, during the last 30 years, people who have used GSB I (with i<0) on an HP-15c in program are certainly a rare half of a few bunch from a fraction of the minority of the many HP-15c users.

I am not surprise nobody discover this issue before we have many people sharing manual, documentation and experiences on Internet, own several models and collectors, compare versions and survey serial numbers, compare original material performance with new release, play and try to use modern program paradigm on vintage systems.

A last question, just to survey and infirm/confirm my statistics:

During these last 30 years, how many of you people reading this post have already used or program the GSB I instruction with I<0 on an Hp-15C ?

Please! Hand up ! Don't be scared !

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #56 Posted by **Howard Owen** on 20 Sept 2011, 4:08 p.m.,*
in response to message #55 by C.Ret

> Quote:
>
> **Conclusion,** during the last 30 years, people who have used GSB I (with i<0) on an HP-15c in program are certainly a rare half of a few bunch from a fraction of the minority of the many HP-15c users.

That's why this bug is minor, one might even say microscopic. I think the obvious time GSB to a line number might be needed is if you have run out of labels in a program, or are trying to minimize memory when it is extremely tight. Clearly, as you state, this situation doesn't come up very often. Dave Brittan is to be congratulated not only for finding this bug, but for trying to milk the most out of the 15C's resources. :)

> Quote:
>
> During these last 30 years, how many of you people reading this post have already used or program the GSB I instruction with I<0 on an Hp-15C ?

You'll have to exclude the last few days from the "last 30 years." :)

Re: Wow! After all these years, a bug in the original 15c? YES IT IS!

*Message #57 Posted by **Martin Pinckney** on 20 Sept 2011, 4:09 p.m.,*
in response to message #55 by C.Ret

> Quote:
>
> ...a rare half of a few bunch from a fraction of the minority of the many...

You nailed it.

Re: 15c: "GSB I" bug?

*Message #58 Posted by **M. Joury** on 19 Sept 2011, 4:21 p.m.,*
in response to message #7 by Mark Hardman

Yup. Unless I am miss-reading the original manual this *should* work. It doesn't. It goes to the correct *instruction* initially (but that instruction has the wrong line number) and executes correctly until the first return. At this point (in the example I am trying) it returns to the line number *after* the initial call.

e.g.

```
001  LBL 8    I have no other labels abailable
002  7
003  CHS
004  STO I
005  GSB I
006  RTN
007  1
008  ENTER
009  1
010  +
011  RTN


When run it proceeds to the GSB and then:


008  1
009  ENTER
010  1
011  _
012  RTN
008  ENTER
009  ...
```

Cheers,

-Marwan

EDIT: Just tried GTO in place of GSB. That works fine.

Edited: 19 Sept 2011, 4:25 p.m.

Re: 15c: "GSB I" bug?

*Message #59 Posted by **Dave Britten** on 19 Sept 2011, 4:31 p.m.,*
in response to message #1 by Dave Britten

Seems like the obvious solution would be to create a "wrapper function" that calls GTO I instead. This version of the sample program works perfectly. Change line 11, and add lines 17 and 18.

```
001- LBL A
002- 3
003- GSB B
004- RTN


005- LBL B
006- 1
007- 4
008- CHS
009- STO I
010- RDown
011- GSB C
```

```
012- x^2
013- RTN


014- 1
015- -
016- RTN


017- LBL C
018- GTO I
```

But the program I've got is already using all labels A-E and 0-9, so those two lines would take an extra 3 bytes, and the call to the new label will be 2 bytes. I've got 4 bytes free, so I'm going to have to clear out an extra byte or two somewhere to make this fit. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP97 charger

*Message #1 Posted by **Olivier De Smet** on 19 Sept 2011, 3:20 p.m.*

I was looking at the service manual of the HP97 from the DVD set

By looking at different schematics, I have the strange feeling that the HP 82031A charger (see page 5-1) is only a 220V to 12.8V AC transformer.

See also the figure 5-10 for HP 82037A schematic diagram page 5-3/5-4

Can someone confirm this or I completly mis-read this doc ?

Thanks in advance

Re: HP97 charger

*Message #2 Posted by **Paul Berger (Canada)** on 19 Sept 2011, 4:26 p.m.,*
in response to message #1 by Olivier De Smet

Yes the charger is just a transformer see schematic figure 4-10 on page 4-15 you will see the charger input goes directly to a bridge rectifier. I use the North American 110V charger 82059 the output of it is rated for 8VAC 3VA.

Re: HP97 charger

*Message #3 Posted by **Olivier De Smet** on 19 Sept 2011, 4:50 p.m.,*
in response to message #2 by Paul Berger (Canada)

In page 2-5, and figure 2-10 it is said that

"the ac adapter/recharger is a transformer that drops the line voltage to 12.8 Vac at the input terminals of the calculator"

So is it 8 Vac or 12.8 Vac ?

Elsewhere we can find other reference for topcat adapter such as 82066B 8 Vac for 7 Watt

A 220 V to 12 Vac rated 1A is easy to get, a 8 Vac isn't ...

Re: HP97 charger

*Message #4 Posted by **Paul Berger (Canada)** on 19 Sept 2011, 9:47 p.m.,*
in response to message #3 by Olivier De Smet

Near as I can tell the chargers all have a rated output of 8VAC 3VA. The unloaded output is about 12.8VAC but drops to about 9.7 VAC when connected to a 97 with a good battery pack and drops to about 8.7VAC when the 97 is turned on.

Re: HP97 charger

*Message #5 Posted by **Olivier De Smet** on 20 Sept 2011, 5:03 a.m.,*
in response to message #4 by Paul Berger (Canada)

Thanks for the info,

I will try with a linear 9 V ac 3,5 VA adapter. The drop from the transformer at 8,7 V under load should be ok ?

It's a mascot 8310 (see http://www.mascot.no/?CatID=1179)

Re: HP97 charger

*Message #6 Posted by **Paul Berger (Canada)** on 20 Sept 2011, 6:53 a.m.,*
in response to message #5 by Olivier De Smet

I would suspect that will be ok, it is a little lower than what I observed with the HP charger. A lower input voltage would be better than higher at worst it would not be able to maintain the battery voltage and charge the batteries, but with 8.7Vac input that should not be a problem. A fully charged battery pack with good cells should be about 5.5 to 6 VDC.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I waited 25 years for this?

*Message #1 Posted by **Casey Drew** on 19 Sept 2011, 3:15 p.m.*

My order for the HP15C LE came in and I immediately fired the calculator up. After my first computation, I ran the self test for the heck of it. Display comes back immediately reading "ERROR 9"

Not happy.

Re: I waited 25 years for this?

*Message #2 Posted by **Lode** on 19 Sept 2011, 3:23 p.m.,*
in response to message #1 by Casey Drew

That's normal! It is the firmware of the original being emulated, and it's normal that the self test doesn't work because it is designed for the original hardware.

There is a different self test, I don't know from the top of my head how it works but I'm sure someone here will post it soon :)

15C LE test Re: I waited 25 years for this?

*Message #3 Posted by **troy** on 19 Sept 2011, 3:29 p.m.,*
in response to message #2 by Lode

1. turn off calculator 2. press g+ENTER together, do not release. 3. press ON then release. 4. release g+ENTER.

Re: I waited 25 years for this?

*Message #4 Posted by **Peter Murphy (Livermore)** on 19 Sept 2011, 3:32 p.m.,*
in response to message #2 by Lode

There are three 15C LE self tests, all different from those that apply to the original 15C; the manual revision process failed to reflect this.

An authoritative HP person says this about the LE tests, quote:

[url:http://h10025.www1.hp.com/ewfrf/wc/document?docname=c01788371&tmp_task=solveCategory&cc=us&dlc=en&lc=en&product=81575]

This also applies here to the 15.

--

Tim Wessman

End quote.

Re: I waited 25 years for this?

*Message #5 Posted by **Casey Drew** on 19 Sept 2011, 4:12 p.m.,*
in response to message #2 by Lode

> Quote:
>
> That's normal! It is the firmware of the original being emulated, and it's normal that the self test doesn't work because it is designed for the original hardware.
>
> There is a different self test, I don't know from the top of my head how it works but I'm sure someone here will post it soon :)

Whew! Great to hear!

Re: I waited 25 years for this?

*Message #6 Posted by **M. Joury** on 19 Sept 2011, 3:50 p.m.,*
in response to message #1 by Casey Drew

BTW, the original keyboard self-test still works as long as you are *FAST*. The calculator speedup causes a time-out otherwise.

Cheers,

-Marwan

Edited: 19 Sept 2011, 4:26 p.m. after one or more responses were posted

Re: I waited 25 years for this?

*Message #7 Posted by **Martin Pinckney** on 19 Sept 2011, 4:13 p.m.,*
in response to message #6 by M. Joury

If I am very "fast" on ON-X, I get 2.00. What does that mean?

Always get error 9 on ON-+.

Re: I waited 25 years for this?

*Message #8 Posted by **M. Joury** on 19 Sept 2011, 4:38 p.m.,*
in response to message #7 by Martin Pinckney

Haven't a clue <g>. The only one that appears to make sense at all is "ON /" (keyboard test).

Cheers,

-Marwan

Re: I waited 25 years for this?

*Message #9 Posted by **Mike Morrow** on 19 Sept 2011, 8:22 p.m.,*
in response to message #1 by Casey Drew

You can review postings to this list since September 9 (when gamma testers first got their 15C-LE) to see all

the issues thus far identified. I identified this failure of the **original** self tests within five minutes of receiving mine that date.

More serious, however, is the other problem that I identified that date with the original self tests: Performing the **ON plus *** or the **ON plus +** self tests will corrupt program memory!

While we're at it, my other and most serious discovery on September 10 was the display irregularities that occur after two or more PSE commands are executed in a program's runstream.

The HP 15C-LE's new self tests are the same as those for the HP-12C+. Start them by turning the calculator OFF, push and hold g and ENTER keys, push ON, then release all keys.

Enjoy.

Re: I waited 25 years for this?

*Message #10 Posted by **DigiGal** on 20 Sept 2011, 5:20 p.m.,*
in response to message #1 by Casey Drew

Real Self Test for 15C LE linked here

No idea why this procedure was left out of the printed manual that came with the 15C LE. As others have noted it is the same as the new 12C's in fact the link actually indicates 12C.

I printed a copy and included it with the 15C LE's print manual.

Re: I waited 25 years for this?

*Message #11 Posted by **Michael de Estrada** on 20 Sept 2011, 5:24 p.m.,*
in response to message #10 by DigiGal

> Quote:
>
> No idea why this procedure was left out of the printed manual that came with the 15C LE.

The manual was printed in China. That's why.

Re: I waited 25 years for this?

*Message #12 Posted by **DigiGal** on 20 Sept 2011, 5:42 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> The manual was printed in China. That's why.

Ahh, SNAFU!

Re: I waited 25 years for this?

*Message #13 Posted by **Howard Owen** on 20 Sept 2011, 5:57 p.m.,*
in response to message #11 by Michael de Estrada

The problem isn't with the printing, but the *editing.*

Re: I waited 25 years for this?

*Message #14 Posted by **Michael de Estrada** on 20 Sept 2011, 6:05 p.m.,*
in response to message #13 by Howard Owen

It is when the Chinese printer ignores the US editor.

Re: I waited 25 years for this?

*Message #15 Posted by **Mike Morrow** on 20 Sept 2011, 9:36 p.m.,*
in response to message #13 by Howard Owen

All this is putting emphasis on the wrong things. Even IF the manual had been printed as desired, which was to have NO reference to any type of self test at all:

(1) That leaves in existence a couple of keyboard actions that can corrupt program memory that should NOT corrupt anything (ON plus * and ON plus +). A properly edited manual would NOT cause those problems to go away!

(2) The real self tests would NOT be described in the manual. That is certainly a deficiency.

(3) An unnecessary deficiency and difference between the HP 12C+ and the HP 15C-LE exists. The HP 12C+ apparently tolerates performance of BOTH the old self tests AND the new self tests without any problems arising. One wonders why that doesn't also apply to its doppelgaenger, the 15C-LE.

Edited: 20 Sept 2011, 10:05 p.m.

Re: I waited 25 years for this?

*Message #16 Posted by **Ángel Martin** on 21 Sept 2011, 1:40 a.m.,*
in response to message #15 by Mike Morrow

You nailed it - the manual is the symptom, the real issue is what you describe.

Re: I waited 25 years for this?

*Message #17 Posted by **Walter B** on 20 Sept 2011, 6:38 p.m.,*
in response to message #11 by Michael de Estrada

Taking into account the Chinese talent in copying, I bet they printed *exactly* what was given to them. Textbook example for GIGO I guess.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 67 Black Box

*Message #1 Posted by **Fouad M. Kaadou** on 19 Sept 2011, 1:05 p.m.*

Hello,

I have not seen many discussions around here about he HP 67 black box. I was wondering where I can get one? or How to make one? Do any of you have any schematics of the black box?

thanks in advance,

Fouad

Re: HP 67 Black Box

*Message #2 Posted by **Martin Pinckney** on 19 Sept 2011, 1:38 p.m.,*
in response to message #1 by Fouad M. Kaadou

If its a classic "black box", then no one knows what's inside. [;-)

Re: HP 67 Black Box

*Message #3 Posted by **Jake Schwartz** on 19 Sept 2011, 1:40 p.m.,*
in response to message #1 by Fouad M. Kaadou

> Quote:
>
> I was wondering where I can get one? or How to make one? Do any of you have any schematics of the black box?

The Volume-4 Number-5 (June 1977) issue of "65 Notes" covers it in fair detail on pages 1 and 2, with Lou Cargile's landmark article "Zen And the Art of HP-67 Maintenance" starting on page 4. This might be considered the origin of "synthetic programming" in the user community.

Jake

Re: HP 67 Black Box

*Message #4 Posted by **Jim Horn** on 19 Sept 2011, 1:40 p.m.,*
in response to message #1 by Fouad M. Kaadou

You'll find the details in the PPC Journal circa 1978/1979. It was a very simple device: a small circuit board was plugged into the power jack on the back of the '67 between the spring plate and the outer two pins. It had a section of the copper removed down its middle and a short cable attached. In the box was a potentiometer (actually, just a variable resistor) and a normally-closed pushbutton in parallel with it.

When the board was inserted, power from the 67's battery had to travel through the box to the rest of its circuitry. By pushing the button, the resistance was added to the battery. IF the resistance was close to zero,

nothing happened. If it was large, the '67 saw its power drop to where it turned off while the button was pushed. But if the resistance was just right, the '67 would stop operating *but* its power-on reset circuit wouldn't be triggered.

The result was the 67's registers, being dynamic circuits, would forget their contents but not get reinitialized. This allowed access to making all sorts of non-normalized numbers, exploring around the CPU's address space, etc. Again, check the PPC Journals for the details.

I used this trick to create arbitrary bit patterns in the '67 registers and write them to magnetic cards. By reading them into the then-brand-new HP-41C, the 41's use of memory could be explored, leading to my talk on same at the 1979 Conference in Santa Clara a month after the '41 came out. As I recall, it took about 20,000+ keystrokes that weekend to map out the data for that presentation.

Yes, I agree with others on the quality of early HP calculator keys!

Re: HP 67 Black Box

*Message #5 Posted by **Jim Horn** on 19 Sept 2011, 1:42 p.m.,*
in response to message #4 by Jim Horn

Jake is right - it was before the HP-65 Users Club had been renamed to PPC. My error.

Re: HP 67 Black Box

*Message #6 Posted by **Howard Owen** on 19 Sept 2011, 3:03 p.m.,*
in response to message #4 by Jim Horn

> Quote:
>
> As I recall, it took about 20,000+ keystrokes that weekend to map out the data for that presentation.
>
> Yes, I agree with others on the quality of early HP calculator keys!

And the fanatic durability of they key puncher. :)

Re: HP 67 Black Box

*Message #7 Posted by **Jim Horn** on 19 Sept 2011, 5:01 p.m.,*
in response to message #6 by Howard Owen

Thank you - small potatoes compared to the wonderful things others here have done!

But typical of my earlier days, including sitting in Hawaii on the US Air Force's pay in December 1976 working on my HP-67 to explore its use of non-normalized numbers in division as timers, etc. instead of chasing wahinis and drinks. Youth is wasted on the young...

Re: HP 67 Black Box

*Message #8 Posted by **Fouad M. Kaadou** on 20 Sept 2011, 10:13 a.m.,*
in response to message #7 by Jim Horn

Hello Guys,

Do you know where I can get a copy of the HP-65 Notes Volume-4 Number-5 (June 1977) issue ?

Regards,

Fouad

Re: HP 67 Black Box

*Message #9 Posted by **Fouad M. Kaadou** on 20 Sept 2011, 10:56 a.m.,*
in response to message #8 by Fouad M. Kaadou

Great work Jim...I wish I was around the HP golden age. I know this might surprise some of you but I am only 15 years old who has inherited his father's HP-41CX, since then my eyes have opened to the world of possibilities surrounding HP calculators.

SURPRISE!!

FOUAD

Re: HP 67 Black Box

*Message #10 Posted by **Jim Horn** on 20 Sept 2011, 11:29 a.m.,*
in response to message #9 by Fouad M. Kaadou

Jake Schwartz has done the herculean job of capturing all the old user journals and such on a set of disks. You'll find them at:

<http://www.pahhc.org/ppccdrom.htm>

The users groups of the past have been supplanted by the Web - something of a loss as the journals were a delight to receive and the mailing sessions at Richard Nelson's home (and later, the PPC Office) were a great gathering of enthusiasts. But we could never have imagined the real-time communications with others around the world, not just the Los Angeles area.

Good old days? Not nearly like the ones we have now!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

First post & a question re:20b/30b

*Message #1 Posted by **E.Lub_EU** on 19 Sept 2011, 12:46 p.m.*

Hello all,

I've come here after reading about the WP34S project, and, well, fell for it. That will be my first own "WP" programmable!

I am French, so not an native speaker of English, so please excuse my clumsiness and mistakes. Do not hesitate to ask for clarifications, should you need any. Professionnally, I have worked as an EE, both in maintenance and design, (currently between jobs, alas). My main experience has been with hardware, my embedded software skills are limited to 8bit assembly, C being a really foreign language...

As for HP calculators, I've never owned one, though I have used several, starting with the HP35 then 45, 91, 21, ending with the HP41CV. I loved that one. I've been without a "real" calculator for a long time, but this is about to change!

Which brings me to my interrogations about the 20b/30b:

1. I intended to start with a 30b (will get one later) but have found an good deal for a 20b. I think that I would not mind is "inferior" keyboard, as long as it is working well (no missed keypresses, a decent durability). What do you think?

2. I have read that their internals were identical. But looking at a photo sent by Marcus van Cube (search for "WP34S and USB"), I noticed that it did not match the PCB shown in Richard Nelson's document named "Interfacing to the HP20b V3.pdf". Specifically, Marcus' calculator seems to miss the 10pins I/O connector (J8 on the 20b schematics). I would like to have it, just in case there is a development involving these resources (interface, memory, whatever). I can't find out whether this a difference between models, or early/late versions of the same machine. Can someone shed some light on this ?

Thanks for your assistance!

Regards, Etienne

Re: First post & a question re:20b/30b

*Message #2 Posted by **Walter B** on 19 Sept 2011, 1:39 p.m.,*
in response to message #1 by E.Lub_EU

Bonsoir Etienne,

soyez bienvenu! This place is full of people with English as their second, third or whatever language, and some more where you think it can't be their mother tongue. So no need for excuses :-)

Referring to your questions, I can answer the first one immediately: Besides the (clearly inferior) keyboard feeling, the 20b is as suitable for repurposing as the 30b. Missed keystrokes can't happen, since you don't know when a key should register. For assessing durability, my 20b is not with me long enough yet.

Your question 2 needs an hardware guy to answer. That's my area no more.

HTH

Walter

Re: First post & a question re:20b/30b

*Message #3 Posted by **E.Lub_EU** on 19 Sept 2011, 6:37 p.m.,*
in response to message #2 by Walter B

Hi Walter,

Thanks for your welcome.

I have to say that I feel very unhappy being helpless on the code side, but hopefully, I 'll find some way to contribute. I am not familiar with the ARM family, but , for my own culture and in order to help, would like to comprehend how things work at the hardware level, i.e. uC initialisation (including the possibility of Xtal detection, if that's useful) and power usage optimisation. Don't hold your breath, though...

I have ordered a 20b right away (and am awaiting cables from Gene Wright), so I should be ready to start torturing the poor beast soon.

I don't know how to express my gratitude for your -and that of your fellow musketeers- continued involvement in this amazing project.

Bye for now Regards Etienne

Re: First post & a question re:20b/30b

*Message #4 Posted by **Martin Pinckney** on 19 Sept 2011, 1:45 p.m.,*
in response to message #1 by E.Lub_EU

Etienne, I know almost nothing of the WP 34s, but I do know English pretty well, and yours is near perfect!

Re: First post & a question re:20b/30b

*Message #5 Posted by **E.Lub_EU** on 19 Sept 2011, 6:38 p.m.,*
in response to message #4 by Martin Pinckney

Thanks for the kind words, Martin!

Re: First post & a question re:20b/30b

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 19 Sept 2011, 2:02 p.m.,*
in response to message #1 by E.Lub_EU

Hi Etienne,

Your English is better than mine!

You are correct that they are not identical inside (compare Richard's photo of the 20b to the guts of my 30b at http://web.ncf.ca/njsdham/photos/calculators/wp34s/dscn0598.jpg). However, from the WP 34S F/W point-of-view, they are sufficiently the same as to not matter.

Note that the original 30b flash image does **not** run as a 30b when installed into a 20b chassis so there is some minor difference that HP uses to differentiate the 2. Interestingly, the 30b image in a 20b chassis seems to run virtually identically to a 20b! The 30b specific functions do not work.

(I tried the above experiment of *very* temporarily loading the 30b F/W into my 20b chassis for fun one day and had the wonderfully awkward experience of looking for the 30b key meanings under my 34S overlay! I had to resort to the 30b manual to figure where the keys were. For people without a 34S overlay, the experience is most definitely reversed :-) Ten minutes later, the 20b was reset to its *natural* state as a 34S.)

Re: First post & a question re:20b/30b

*Message #7 Posted by **E.Lub_EU** on 19 Sept 2011, 6:57 p.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

Hi Neil,

Great photos! Thanks a bunch, they answer some interrogations I had. The case of the missing I/O connector is solved: on the 30b, it lies alonside the JTAG pads at the bottom of the PCB, so out of the field of view of Marcus' shot.

I also noticed that the machines seem to differ in the way the PCB is assembled with the keyboard/front plate assembly. That would be a disappointment, as I had hoped that we could have somehow married the 30b nice keyboard/PCB to the 20b faceplate (I feel black is a nice match to the overlays, and it might have allowed to get past the "black S" problem in moving towards a semi-custom WP34S faceplate).

Let's wait to see the units "in the flesh"...

And indeed, thanks a lot for your work on the assembler. Much appreciated.

Regards, Etienne

Re: First post & a question re:20b/30b

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 20 Sept 2011, 4:43 p.m.,*
in response to message #7 by E.Lub_EU

Hi Etienne,

Thanks for the note.

This photo was taken just before I installed my 32KHz crystal. I did such an ugly job soldiering the caps in place that I did not want to post the "after" photo. :-) Is it just me and my aging eyes or do things seem to be getting smaller?

BTW: As can be seen in the photo, rather than use the often suggested jeweler's screw driver to pry the case open, I used heavy gauge guitar picks. These worked marvelously!! No scratches or dings at all!

As you noted, the pitch of the connectors is coarser in the 30b than the 20b but I think they are all present and accounted for.

It never occurred to me to swap the face plates. The black 20b might look nicer but I suspect that too many things are different on the mechanical side.

Personally I have absolutely no problem with the black overlay on the silvery 30b. In fact, I have no real problems with the overlays at all. I know many have complained about the *concept* of an overlay but it certainly works well as far as I am concerned.

I think you will be very much more pleased with the snappy 30b keyboard over the mushy 20b.

Re: First post & a question re:20b/30b

*Message #9 Posted by **E.Lub_EU** on 20 Sept 2011, 7:26 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

Hi Neil,

> Quote:
>
> BTW: As can be seen in the photo, rather than use the often suggested jeweler's screw driver to pry the case open, I used heavy gauge guitar picks.

Thanks, that's precious!

> Quote:
>
> Personally I have absolutely no problem with the black overlay on the silvery 30b

Neither do I, actually. But as I had seen argued in a previous thread that the 30b faceplate, as it is now, was kind of incompatible with an evolution towards a WP34S specific design (the "black S" problem), I had hoped that starting with the 20b would be easier. Well, not so, unfortunately...

Re: First post & a question re:20b/30b

*Message #10 Posted by **bill platt** on 19 Sept 2011, 8:08 p.m.,*
in response to message #1 by E.Lub_EU

Votre anglais est perfectement-superior à mon français :-)

Re: First post & a question re:20b/30b

*Message #11 Posted by **E.Lub_EU** on 20 Sept 2011, 2:36 p.m.,*
in response to message #10 by bill platt

That'ok Bill. As nobody's perfect, the rest must be pretty darn good :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

14 flash cables mail today and a moratorium please? :-)

*Message #1 Posted by **gene wright** on 19 Sept 2011, 10:13 a.m.*

I am mailing 14 additional cables just to people in the USA today. Wow.

I have 7 cables going out tomorrow to non-USA addresses.

That should cover everyone who has asked for a cable through yesterday.

Please let me have a moratorium until AFTER the HHC conference this week. Plus...I am almost out of cables! :-)

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #2 Posted by **Thomas Radtke** on 19 Sept 2011, 11:19 a.m.,*
in response to message #1 by gene wright

Is this in anticipation of a revised 15C LE firmware, or still for wp34?

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #3 Posted by **gene wright** on 19 Sept 2011, 11:26 a.m.,*
in response to message #2 by Thomas Radtke

Some of each. The cables work for multiple purposes, so tough to tell.

Apparently, quite a few people are unable to send email through the forum's normal channels and when I put a fairly clear indicator of my email address in the body of a post, I received a large number of "Hey, I want a cable too!".

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #4 Posted by **troy** on 19 Sept 2011, 11:40 a.m.,*
in response to message #3 by gene wright

> Quote:
>
> ... my email address in the body of a post, I received a large number of "Hey, I want a cable too!".

guilty as charged. thanks gene.

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #5 Posted by **Dan W** on 19 Sept 2011, 10:26 p.m.,*
in response to message #1 by gene wright

> Quote:

> Plus...I am almost out of cables! :-)

So Gene, what is it about these cables that makes them unique from any Serial/JTAG cable? Is it just the two buttons?

If so is there a procedural workaround where the buttons would not be necessary? Or a simple mod to add switches to another cable.

I'm thinking about when you do run out. But also considering the idea Marcos posted earlier where he soldered in a small stereo audio jack (Tx, Rx, Gnd only). With this set up, a cable like those used to program the PICAXE would work (like the AXE027).

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #6 Posted by **sylvandb** on 19 Sept 2011, 11:58 p.m.,*
in response to message #5 by Dan W

> Quote:
>
> > So Gene, what is it about these cables that makes them unique from any Serial/JTAG cable? Is it just the two buttons?
> >
> > If so is there a procedural workaround where the buttons would not be necessary? Or a simple mod to add switches to another cable.
> >
> > I'm thinking about when you do run out. But also considering the idea Marcos posted earlier where he soldered in a small stereo audio jack (Tx, Rx, Gnd only). With this set up, a cable like those used to program the PICAXE would work (like the AXE027).

The two buttons (ERASE and RESET) are needed to get into the bootloader on the calc in order to flash the new firmware.

The HP cable is a 3v to RS232 level shifter, plus the two buttons. It uses six pogo pins to connect to the calculator (2x3 pads underneath the battery cover).

In "Interfacing to the HP20b V3.pdf" Richard Nelson shows some good close up pictures of the guts of the cable. I think there is enough detail you could wire up your own two buttons on any common level shifter. Then you just need the pogo pins or reasonable facsimile thereof.

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #7 Posted by **Katie Wasserman** on 20 Sept 2011, 1:13 p.m.,*
in response to message #6 by sylvandb

> Quote:
>
> > Then you just need the pogo pins or reasonable facsimile thereof.

But this is the hard part - 6 pogo pins with 2mm spacing in a 2x3 arrangement with the asymmetric locking clips on the sides. This is incredibly difficult to make without the right molding machinery. You might be able to make a 2x3 grid of pogo pins and hold them in place but that's not reliable and you'd need a third hand to run the computer.

Edited: 22 Sept 2011, 1:05 a.m. after one or more responses were posted

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #8 Posted by **Masaki Adachi** on 21 Sept 2011, 9:01 p.m.,*
in response to message #7 by Katie Wasserman

Received mine this morning. Thanks Gene! TN to MI in two days. Not bad, USPS!

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #9 Posted by **sylvandb** on 22 Sept 2011, 12:04 a.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> But this is the hard part - 6 pogo pins with 2mm spacing in a 2x3 arrangement with the asymmetric locking clips on the sides.

Tell me about it. :(

I have mailed all the cables I have been paid for ... I will start taking requests again next week..

*Message #10 Posted by **gene wright** on 22 Sept 2011, 7:44 a.m.,*
in response to message #9 by sylvandb

Sorry for the delay, but HHC is calling and I need to have a few days off before accumulating more requests!

Next week!

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #11 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 9:01 a.m.,*
in response to message #1 by gene wright

I've just received a query from someone in Germany and I may want to build some custom USB cable from the guts of the original programming cable, so it seems like a good idea to me if you set aside a bunch of them for me to carry home.

Re: 14 flash cables mail today and a moratorium please? :-)

*Message #12 Posted by **E.Lub_EU** on 20 Sept 2011, 2:33 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Hello Marcus,

I am a newcomer to this community, with working experience as a hardware engineer (won't be a great asset for software development...), and have been thinking on the same line.

I have ordered 2 cables from Gene Wright for that exact purpose, keeping one in its original form, and hacking the second to make it a USB cable, possibly powering the calculator during these long sessions of

yours :-)

Interested in sharing ?

Regards, Etienne

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE on HP Web Site is OoS

*Message #1 Posted by **Namir** on 19 Sept 2011, 10:07 a.m.*

I checked the HP website just a moment ago and it is "Out Of Stock". Looks like customer ordered a lot of machines.

Edited: 19 Sept 2011, 10:32 a.m.

Yes, they should all be arriving this week...

*Message #2 Posted by **gene wright** on 19 Sept 2011, 10:39 a.m.,*
in response to message #1 by Namir

I have to fund my retirement some how!

(ha)

Re: HP 15C LE on HP Web Site is OoS

*Message #3 Posted by **M. Joury** on 19 Sept 2011, 10:43 a.m.,*
in response to message #1 by Namir

That was quick! Glad I got mine!

Namir,

How are the keyboards on the units you received? Could you add you input to the survey I started?

Thanks,

-Marwan

Re: HP 15C LE on HP Web Site is OoS

*Message #4 Posted by **Namir** on 19 Sept 2011, 11:34 a.m.,*
in response to message #3 by M. Joury

Done!

Re: HP 15C LE on HP Web Site is OoS

*Message #5 Posted by **x_25** on 19 Sept 2011, 10:51 a.m.,*
in response to message #1 by Namir

Finnaly ordered one last night when I saw the price on buy.com had gone up. I am glad I did. I have been envious of my fathers 15c for a whole now (born in 89 so I never had a chance to get one). It will be nice to finnaly have one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Two new blog posts of interest to members of this forum

*Message #1 Posted by **Steve Leibson** on 19 Sept 2011, 10:04 a.m.*

I've just published two blog posts that might be of interest to members of this forum. The first, inspired by recent discussions on this forum is about the processor inside of the new HP 12C and 15C reissues. There's a block diagram of the Atmel processor in case you've not seen it.

The second post is a discussion of the contributions Dave Cochran made to HP calculators. If you don't know Dave, he's the HP Labs engineer who developed most of the code for the original HP 9100 Scientific Calculator and he was instrumental in making the HP 35 a reality.

Here are the two blog URLs:

EDA360 and the brand new Hewlett-Packard 15C Limited Edition RPN pocket scientific calculator

1972: When scientific calculators truly went low power

And be sure to see Dave Cochran's personal history of his career at HP:

http://www.hpmemory.org/timeline/dave_cochran/a_quarter_century_at_hp_00.htm

--Steve Leibson

Re: Two new blog posts of interest to members of this forum

*Message #2 Posted by **Mike Morrow** on 19 Sept 2011, 10:42 a.m.,*
in response to message #1 by Steve Leibson

Interesting. However, none of the Voyagers (including the HP-15C) were Saturn-based as stated in the EDA360 article, and I thought the HP 15C-LE processor was the SAM7L series, not the SAM7S whose data sheet is referenced there when the link is executed.

Edited: 19 Sept 2011, 11:02 a.m.

Re: Two new blog posts of interest to members of this forum

*Message #3 Posted by **Steve Leibson** on 19 Sept 2011, 12:33 p.m.,*
in response to message #2 by Mike Morrow

Sorry, the info about being based on Saturn comes from here:

http://www.hpcc.org/calculators/hp15.html

If that's incorrect, I'm happy to change the blog. Is the processor in the Voyager series not derived from the Saturn architecture?

Also, thanks for catching the bad link to the wrong data sheet. I've fixed that in the blog.

--Steve

Re: Two new blog posts of interest to members of this forum

*Message #4 Posted by **Steve Simpkin** on 19 Sept 2011, 12:47 p.m.,*
in response to message #3 by Steve Leibson

Steve,
The CPU used in the Voyager models was based on the CPU used in the HP-41C. It included 61Kbits of ROM, 2.2Kbits of RAM, an LCD driver and a low-battery detector on-chip.
See: http://www.hpmuseum.org/tech10.htm

Re: Two new blog posts of interest to members of this forum

*Message #5 Posted by **Steve Leibson** on 19 Sept 2011, 1:56 p.m.,*
in response to message #4 by Steve Simpkin

Steve,

Thanks for the info. I have changed the blog to say that the Voyager CPU was based on the HP 41C processor architecture. However, I find the page you referenced to be somewhat confusing because it talks about the Saturn processing being developed, then is ambiguous about the processor used in the Voyager series. Perhaps that's why the page on HPCC.org is worded incorrectly.

--Steve Leibson

Re: Two new blog posts of interest to members of this forum

*Message #6 Posted by **Eric Smith** on 19 Sept 2011, 4:55 p.m.,*
in response to message #4 by Steve Simpkin

The CPU used in the original Voyager calculators did NOT include any ROM, RAM, or LCD driver on-chip. There was a second chip, "R2D2", which contained the RAM, ROM, and Display Driver. The CPU was a minor variant of the one used in the 41C.

The HP-15C had more RAM and ROM than the other Voyager models, so it contained two R2D2 chips. The second R2D2 was in a smaller, lower pin-count package, with the display driver not bonded out.

It wasn't until many years later that they did a cost reduction, putting the CPU and R2D2 functions into one chip. The 15C still needed an additional R2D2.

Re: Two new blog posts of interest to members of this forum

*Message #7 Posted by **Steve Simpkin** on 19 Sept 2011, 5:12 p.m.,*
in response to message #6 by Eric Smith

Thanks Eric for clarifying that fact. I should have noticed this from the internal picture of the original HP-15C.
http://www.hpmuseum.org/10cmbb.jpg

Re: Two new blog posts of interest to members of this forum

*Message #8 Posted by **Mike Morrow** on 19 Sept 2011, 1:58 p.m.,*
in response to message #3 by Steve Leibson

The hpcc.org page on the HP 15C-LE is incorrect stating that the LE is running an emulator of the Saturn processor. If it were, then the original firmware of the 15C would not be usable in any form, since the original 1982 15C did not use the yet-to-be-invented Saturn.

The 1984 HP-71B, 1986 HP 18C, and the 1987 HP 28C were the first Saturn machines.

Edited: 19 Sept 2011, 2:00 p.m.

Re: Two new blog posts of interest to members of this forum

*Message #9 Posted by **Mark Hardman** on 19 Sept 2011, 4:38 p.m.,*
in response to message #3 by Steve Leibson

Technically the CPU would be a 1LF5-0301 or a 1LM2-0001.

Lots of details on the CPU chips' specifics can be found on Eric's site at:

HP Voyager Calculator Variants

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Inmates at the hpmuseum?

*Message #1 Posted by **hpnut** on 19 Sept 2011, 9:15 a.m.*

check out this article, they call us inmates!

https://eda360insider.wordpress.com/2011/09/17/eda360-and-the-hewlett-packard-15c-limited-edition-calculator/

Re: Inmates at the hpmuseum?

*Message #2 Posted by **Martin Pinckney** on 19 Sept 2011, 9:21 a.m.,*
in response to message #1 by hpnut

That's about the size of it. Ever tried to break free from this obsession?

Re: Inmates at the hpmuseum?

*Message #3 Posted by **Steve Simpkin** on 19 Sept 2011, 12:53 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> That's about the size of it. Ever tried to break free from this obsession?

Inmate is such an ugly term and infers that my obsession with HP calculators is against my will and society must be protected against me. On the other hand, my obsession was completely voluntary and I don't want to be cured :)
As for the part about protecting society against me, well I have no comment....

Re: Inmates at the hpmuseum?

*Message #4 Posted by **Les Bell** on 19 Sept 2011, 9:23 a.m.,*
in response to message #1 by hpnut

It's OK - Steve's one of us, and posts occasionally.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Inmates at the hpmuseum?

*Message #5 Posted by **Steve Leibson** on 19 Sept 2011, 10:00 a.m.,*
in response to message #1 by hpnut

Well, you beat me to it. I just arrived to post the pointers to the blogs. "Inmates" did indeed seem to me to be the precisely correct term. After all, is this not an asylum for people afflicted with the HP Calculator meme? Have we not all committed ourselves in some way or another?

--Steve Leibson

Re: Inmates at the hpmuseum?

*Message #6 Posted by **Meindert Kuipers** on 19 Sept 2011, 1:33 p.m.,*
in response to message #5 by Steve Leibson

More appropriate, as we all came here by our own choice:

You can check out any time you like, but you can never leave ...

Re: Inmates at the hpmuseum?

*Message #7 Posted by **Walter B** on 19 Sept 2011, 1:45 p.m.,*
in response to message #6 by Meindert Kuipers

I do prefer rising suns over setting ones as well :-)

Re: Inmates at the hpmuseum?

*Message #8 Posted by **C.Ret** on 19 Sept 2011, 2:30 p.m.,*
in response to message #7 by Walter B

From your special CNN reporter in California: a piture of a bunch of HPmuseum inmates during mornig out-walk.

Hich security agents surveying HPmuseum forumers.

Despite efforts of major IT compagnies and consumer industries, thousands of fanatics still persist in using a reverse polish notation (sigle RPN) or language (sigle RPL) for computation and programming. Same of them still using equipements more than 30 years old or acquired during President Richard M. Nixon, or US President James E. "Jimmy" Carter mandat (in all case before previous or actual President mandat !).

The government has promised to end such activities and is already taking all measures necessary to retort and to stem the impact of these highly reprehensible acts in order to protect the civilian population from such individuals.

Re: Inmates at the hpmuseum?

*Message #9 Posted by **Steve Leibson** on 19 Sept 2011, 2:34 p.m.,*
in response to message #8 by C.Ret

Thanks for the photo! A good Monday morning laugh.

Re: Inmates at the hpmuseum?

*Message #10 Posted by **Katie Wasserman** on 19 Sept 2011, 2:43 p.m.,*
in response to message #8 by C.Ret

I'm switching to algebraic mode, I look terrible in yellow!

Re: Inmates at the hpmuseum?

*Message #11 Posted by **Walter B** on 19 Sept 2011, 4:16 p.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> I'm switching to algebraic mode

La donna è mobile ... !

Re: Inmates at the hpmuseum?

*Message #12 Posted by **John B. Smitherman** on 19 Sept 2011, 5:33 p.m.,*
in response to message #11 by Walter B

la donna è flessibile

John

Re: Inmates at the hpmuseum?

*Message #13 Posted by **Les Bell** on 19 Sept 2011, 11:43 p.m.,*
in response to message #5 by Steve Leibson

> Quote:
>
> Have we not all committed ourselves in some way or another?

You've probably all heard it, but remember the old line about the difference between involvement and commitment?

They're like bacon and eggs: the chicken is involved, but the pig is committed.

Oink,

--- Les
[http://www.lesbell.com.au]

Re: Inmates at the hpmuseum?

*Message #14 Posted by **Walter B** on 20 Sept 2011, 1:54 a.m.,*
in response to message #13 by Les Bell

LOL - good explanation!

I thought you meant audioasylum

*Message #15 Posted by **snaggs** on 19 Sept 2011, 6:18 p.m.,*
in response to message #1 by hpnut

Im already committed. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Integration in a program on 42s?

*Message #1 Posted by **snaggs** on 19 Sept 2011, 7:27 a.m.*

Ive nearly finished a normal distribution program for my 42s. However, I cant work out how to programatically specify the upper and lower integration limits. On the 35s you just load them in the stack.

Daniel.

Re: Integration in a program on 42s?

*Message #2 Posted by **MK-52** on 19 Sept 2011, 8:20 a.m.,*
in response to message #1 by snaggs

Hi. Here is an example.

```
01 LBL "PINTG"
02 PGMINT "ND"
03 0
04 STO "LLIM"
05 1
06 STO "ULIM"
07 1E-5
08 STO "ACC"
09 INTEG "X"
10 2
11 PI
12 *
13 SQRT
14 /
15 END

01 LBL "ND"
02 MVAR "X"
03 RCL "X"
04 X^2
05 +/-
06 2
07 /
08 E^X
09 END
```

Re: Integration in a program on 42s?

*Message #3 Posted by **snaggs** on 19 Sept 2011, 11:28 a.m.,*
in response to message #2 by MK-52

> Thanks just what I needed!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Does it really have to have keys?

*Message #1 Posted by **Oliver Unter Ecker** on 19 Sept 2011, 6:36 a.m.*

Regarding the hardware base for the "ultimate RPN" calc, does it *really* have to have physical keys?

What about capacitive touchscreens?

For an RPL graphics calc with a large visible stack, I'm thinking the nook comes close to perfect hardware. One month rechargeable battery life; huge matrix display to display equations, stack, graphics, etc.

To me, having something like 30 soft-keys with labels on them and a stack I can move and interact with (pick an entry for editing by tapping it, etc.) easily beats the loss of tactile feedback.

For programming, I'm finding myself typing *a lot* faster and freer of stress on an on-screen keyboard (such as on iPhone/iPad), than on small real keys like on an 28S or an N810 (smallish keys with an QWERTY layout). I confess that, by now, I actually *like* that there's no noise or physical resistance, when I type.

The perfect dedicated calc to me would be half the size of a nook, aluminum-clad and razor thin, with shirt-pocket portability, and still sporting an Eink display. There're no EInk matrix displays smaller than 5", so I'm not holding my breath for it to come along by itself. This kind of form factor would make for a suitable base for the more classical RPN calc sought by most on this forum, with the graphics display and menus traded for lots of dedicated keys, I reckon.

Notwithstanding the question of feasibility, what do people think? Are physical keys really what the ultimate RPN calc (be it like a 42S successor, or more like a 50g successor) must have?

Re: Does it really have to have keys?

*Message #2 Posted by **Walter B** on 19 Sept 2011, 7:08 a.m.,*
in response to message #1 by Oliver Unter Ecker

Yes. No tactile feedback without keys. YMMV

Re: Does it really have to have keys?

*Message #3 Posted by **DaveJ** on 19 Sept 2011, 7:59 a.m.,*
in response to message #1 by Oliver Unter Ecker

> Quote:
>
> The perfect dedicated calc to me would be half the size of a nook, aluminum-clad and razor thin, with shirt-pocket portability, and still sporting an Eink display. There're no EInk matrix displays smaller than 5", so I'm not holding my breath for it to come along by itself. This kind of form factor would make for a suitable base for the more classical RPN calc sought by most on this forum, with the graphics display and menus traded for lots of dedicated keys, I reckon.

That's not a bad idea actually.

The Sharp Memory LCD's offer extremely low power consumption. There is a 3" version. I'm using a smaller one on my new uWatch Mk2 design.

The problem is the touch screen that draws considerable power compared to the display and processor.

But designing such a hardware platform would not be too hard. I'd imagine a thin machined aluminium case with a screw on front cover to hold all the guts in, an ultra thin rechargable lithium poylmer battery with micro USB connector for charging, and maybe a micro SD card slot. Or maybe standard coin cell lithium batteries depending upon the power budget, but there goes your thickness...

Such a design would slip in a shirt pocket real easily, and would not be that hard to prototype into a really usable form I suspect.

Dave.

Edited: 19 Sept 2011, 8:00 a.m.

Re: Does it really have to have keys?

*Message #4 Posted by **Oliver Unter Ecker** on 19 Sept 2011, 11:11 a.m.,*
in response to message #3 by DaveJ

> Quote:
>
> The problem is the touch screen that draws considerable power compared to the display and processor.

That's an interesting aspect I hadn't known about. Any ideas how the nook can still offer two months claimed battery life? (I don't think they completely exaggerating because they'd be called out for that, as enough people compare it to the touchscreen-less Kindle, which claims a month and does 2 weeks.) Might the digitizer enter a drawing-almost-no-power mode, while not tracking?

Are there SoCs that include the necessary logic to drive/read a touchscreen? (I imagine there are.)

> Quote:
>
> But designing such a hardware platform would not be too hard. I'd imagine a thin machined aluminium case with a screw on front cover to hold all the guts in, an ultra thin rechargable lithium poylmer battery with micro USB connector for charging, and maybe a micro SD card slot.

Yes, lovely. Your comment that it wouldn't be too hard is intriguing.

> Quote:
>
> Such a design would slip in a shirt pocket real easily, and would not be that hard to prototype into a really usable form I suspect.

Could you quantify this somewhat? What do you think it would take in dollars and time to get to prototype and final HW stage for an aluminum-clad touchscreen ARM SoC-based thing, with a micro USB (and maybe micro SD) and sole power button? (Very rough estimate to give me a ballpark idea would be much appreciated.)

My question may be grossly naive, but I'm a SW guy.

Thanks.

Re: Does it really have to have keys?

*Message #5 Posted by **DaveJ** on 19 Sept 2011, 9:03 p.m.,*
in response to message #4 by Oliver Unter Ecker

> Quote:
>
> That's an interesting aspect I hadn't known about. Any ideas how the nook can still offer two months claimed battery life? (I don't think they completely exaggerating because they'd be called out for that, as enough people compare it to the touchscreen-less Kindle, which claims a month and does 2 weeks.) Might the digitizer enter a drawing-almost-no-power mode, while not tracking?

The usual resistive touch screens take significant power all the time. Although you could shut them off under software control. Maybe some form of capacitive touch screen instead, I'd have to investigate.

> Quote:
>
> Are there SoCs that include the necessary logic to drive/read a touchscreen? (I imagine there are.)

Some I believe, but in any case it's fairly trivial to add capability.

> Quote:
>
> Quote: But designing such a hardware platform would not be too hard. I'd imagine a thin machined aluminium case with a screw on front cover to hold all the guts in, an ultra thin rechargable lithium poylmer battery with micro USB connector for charging, and maybe a micro SD card slot. Yes, lovely. Your comment that it wouldn't be too hard is intriguing.

It shouldn't be, I've gone through the motions with my calc watch projects. It's just a matter of getting a suitably thin case machined.

> Quote:
>
> Quote: Such a design would slip in a shirt pocket real easily, and would not be that hard to prototype into a really usable form I suspect. Could you quantify this somewhat? What do you think it would take in dollars and time to get to prototype and final HW stage for an aluminum-clad touchscreen ARM SoC-based thing, with a micro USB (and maybe micro SD) and sole power button? (Very rough estimate to give me a ballpark idea would be much appreciated.)

I can give you a reasonably accurate ballpark.
Rather than guess, I did a quick case design in eMachine shop, and the price comes out at $265 for 10 cases custom machined in 6063 aluminium, not including a backing panel. Includes shipping to Australia. $175 without shipping.
But that is a crude model, lets up that to say $300 for a more refined one with tapped holes for the backing panel, clear annodised etc.

The PCB would cost about $150 from pcbcart.com, cheaper from someone like iTead Studious, as little as $50.

The LCD screen would cost a bit, I don't have a price on the 3" model, but the 6" model is $200 from Mouser, so let's guess $150 that.

Other parts, let's say $50.

Battery from PowerStream.net come in thicknesses down to 0.5mm. But the 303040 model is 3mm thick 320mAh one costs $10.

Touch screen I don't know yet, haven't looked.

Time wise, a couple of days to select components and lay out the PCB, another day or two to design the case. You wait a month for the case prototype, but quicker if you knew someone with a suitable CNC machine. A day to assemble, and then another day to get a hello world running.

So really, apart from lead times, I estimate I could get a prototype working with 1 weeks worth of work, and under $700. That is fairly accurate because I've done the same thing before with the uWatch and uWatch projects, only difference is they didn't have the custom case.

The case I have shown is close to actual size of 45mm x 80mm x 5mm thick for the 3" display (not including backing plate). Actual thickness I'd need to tweak depending upon various available parts. The LCD itself is less than 1mm thick.

This isn't pie-in-the-sky stuff, those are real figures. The only unknown for me is how well someone like eMachineshop can machine such an aluminium case.

Dave.

Edited: 19 Sept 2011, 9:29 p.m.

Re: Does it really have to have keys?

*Message #6 Posted by **Oliver Unter Ecker** on 20 Sept 2011, 8:54 a.m.,*
in response to message #5 by DaveJ

Wow. Thank you for all the detail! You got me very interested.

I'm taking this off-line and sent you email.

feedback

*Message #7 Posted by **Frank Boehm (Germany)** on 19 Sept 2011, 8:15 a.m.,*
in response to message #1 by Oliver Unter Ecker

I really hate to have to type on something without feedback (like my mobile phone).
Since I have to write plenty of emails, I often have to think while typing, carelessly touching one key and having a row of ooooooooooooooooooooooooo typed would be really annoying. Same with a calculator - I need to know if a keystroke has been registered or not.

Re: feedback

*Message #8 Posted by **Todd Garabedian** on 19 Sept 2011, 8:30 a.m.,*
in response to message #7 by Frank Boehm (Germany)

> Quote:
>
> I really hate to have to type on something without feedback (like my mobile phone.

Does that feedback have to be tactile? What about audible?

I have an iPad where I've installed i41CX+ from AL Software (very cool app, BTW). It offers several audible tones for keystrokes, which I find are quite acceptable for confirming data entry.

Re: Does it really have to have keys?

*Message #9 Posted by **Hugh Evans** on 19 Sept 2011, 9:50 a.m.,*
in response to message #1 by Oliver Unter Ecker

There's no getting around tactile feedback, otherwise I would be satisfied with using the emulators on my phone alone. I've considered a system based on the iPhone/iPod Touch that would fit around the devices like a case. By using traditional keys and making sure the snap domes interact with the capacitive touchscreen you get the best of both worlds. However, it's still inconvenient.

Re: Does it really have to have keys?

*Message #10 Posted by **uhmgawa** on 19 Sept 2011, 10:22 a.m.,*
in response to message #9 by Hugh Evans

> Quote:
>
> I've considered a system based on the iPhone/iPod Touch that would fit around the devices like a case. By using traditional keys and making sure the snap domes interact with the capacitive touchscreen you get the best of both worlds. However, it's still inconvenient.

That's a clever idea. And for example the elastomeric "domes" in the pioneer series are so close to voyager metal domes w/r/t tactile feedback, I didn't realize they weren't until I had need to do a repair. So carrying around a dome skin is feasible. But regrettably it fails the "grab the box and calculate" immediate gratification which likely most will find objectionable.

Re: Does it really have to have keys?

*Message #11 Posted by **Oliver Unter Ecker** on 19 Sept 2011, 11:19 a.m.,*
in response to message #9 by Hugh Evans

That does sound vaguely cool. I'd like to see something like this. I'd fear it might be clunky and unwieldy in practice.

Re: Does it really have to have keys?

*Message #12 Posted by **hpnut** on 19 Sept 2011, 10:06 a.m.,*
in response to message #1 by Oliver Unter Ecker

Real HP calculators have physical buttons, period.

Re: Does it really have to have keys?

*Message #13 Posted by **Oliver Unter Ecker** on 19 Sept 2011, 11:15 a.m.,*
in response to message #12 by hpnut

Yes, understood.

It wouldn't be an HP. ;-)

Having no keys seems to side-steps the three biggest problems with pulling such a project off the ground, if I can believe the OpenRPN thread: case, keys, legends.

There's "no one size fits all" in calculators, most likely.

Re: Does it really have to have keys?

*Message #14 Posted by **Calum Tait** on 19 Sept 2011, 4:29 p.m.,*
in response to message #12 by hpnut

I agree. In fact I still miss the mechanical keys of my old comptometer. Crunch, crunch!

Seriously though, has anyone who argues for capacitive screens ever tried to use one with gloves on or for that matter with any sort of keying reliability? Resistive screens at least work with gloves but have even worse registration reliability and of course, neither offers proper feedback.

Re: Does it really have to have keys?

*Message #15 Posted by **Garth Wilson** on 19 Sept 2011, 9:38 p.m.,*
in response to message #14 by Calum Tait

The grime and the paralax drive me away from touch screens. The grime (really just smears from skin oils) aren't bad if the display puts out its own light, but then we're back to something that consumes a lot of battery power. I want to be able to go many months without having to recharge or replace batteries.

Re: Does it really have to have keys?

*Message #16 Posted by **Oliver Unter Ecker** on 20 Sept 2011, 8:59 a.m.,*
in response to message #1 by Oliver Unter Ecker

Thanks to everyone who responded!

Twasn't enough voices to draw a decisive conclusion, but it sounds like people really want keys.

My reality distortion field lets through Walter's "YMMV" as take-away.

Re: Does it really have to have keys?

*Message #17 Posted by **DigiGal** on 20 Sept 2011, 5:54 p.m.,*
in response to message #16 by Oliver Unter Ecker

Tactile feedback of physical keys is essential for me.

I have an iPhone 15C app emulator called [SCI 15C] and it just isn't the same. It does offer sound click as feedback but that is annoying, thankfully you can turn the sound off for the emulator that I have.

Original 15C keys are better than 15C LE keys but the LE keys are very much welcome.

Edited: 20 Sept 2011, 7:53 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 71B LE?

*Message #1 Posted by **Keith Midson** on 19 Sept 2011, 6:15 a.m.*

Come on, let's bring this classic back too!! ;) Keith

Edited: 19 Sept 2011, 6:26 a.m.

Re: HP 71B LE?

*Message #2 Posted by **From Hong Kong** on 19 Sept 2011, 9:01 a.m.,*
in response to message #1 by Keith Midson

It's impossible. Re-release of HP-71B means re-release of its peripherals and plug-in modules. HP has so many things to do!

I like this machine very much, though.

Re: HP 71B LE?

*Message #3 Posted by **fhub** on 19 Sept 2011, 9:17 a.m.,*
in response to message #1 by Keith Midson

> Quote:
>
> Come on, let's bring this classic back too!! ;) Keith

Well, it **is** already back! ;-)

Here's the (original) emulator by Christoph:
http://hp.giesselink.com/emu71.htm

And here my complete ready-to-use package (incl. ROMs and very comfortable KML-script):
http://fhub.110mb.com/HP71B.zip

Franz

Re: HP 71B LE?

*Message #4 Posted by **Namir** on 19 Sept 2011, 10:16 a.m.,*
in response to message #3 by fhub

Franz,

Again, your HP-71B emulator is **super awesome**. It is excellent especially you can load more memory and various ROMs.

BTW, Any chance seeing the Curve Fitting ROM for emulators?

Namir

Re: HP 71B LE?

*Message #5 Posted by **fhub** on 19 Sept 2011, 10:24 a.m.,*
in response to message #4 by Namir

> Quote:
>
> BTW, Any chance seeing the Curve Fitting ROM for emulators?

Not from me, Namir.
All ROMs I have (and I've included in this package) are from Jeff's website:
http://www.jeffcalc.hp41.eu/emu71/index.html

I've no idea from where we could get other 71B ROMs. :(

Franz

Re: HP 71B LE?

*Message #6 Posted by **Namir** on 19 Sept 2011, 10:31 a.m.,*
in response to message #5 by fhub

I stand corrected. The ROMs are not from you. You just put every together to work with the picture of the HP-17B.

Namir

Re: HP 71B LE?

*Message #7 Posted by **fhub** on 19 Sept 2011, 10:40 a.m.,*
in response to message #6 by Namir

> Quote:
>
> I stand corrected. The ROMs are not from you. You just put every together to work with the picture of the HP-17B.

Well, my (small) part on this package was making these very comfortable KML scripts, but that was already more than enough work. ;-)

Franz

Re: HP 71B LE?

*Message #8 Posted by **Keith Midson** on 19 Sept 2011, 10:42 a.m.,*
in response to message #3 by fhub

That is awesome! I will download the emulator. Thanks, Keith

Edited: 19 Sept 2011, 10:42 a.m.

Re: HP 71B LE?

*Message #9 Posted by **Namir** on 19 Sept 2011, 11:29 a.m.,*
in response to message #8 by Keith Midson

Keith,

You love that emulator especially when you configure the various ports to load more memory and the ROM files. Use the **Edit | Port Configuration ...** menu commands to bring up the **Port Configuration** dialog box. You can select the port using the list box located in the upper right corner of the dialog box. The Add button allows you to add a module to the port.

Loading the JPC ROM is especially nice because it extends the BASIC dialect allowing for better looping and decision-making structures than the bare BASIC of the machine. The additional constructs reduce the reliance of the code on line numbers or labels. The resulting code is easier to read and bit more up to par with structured languages.

Namir

Edited: 19 Sept 2011, 11:33 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Needing more advice with my HP-48S

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 18 Sept 2011, 10:18 p.m.*

On 14 May I reported:

> Quote:
>
> I left the cells in my 48S longer than I should have. One of the cells leaked. The leakage got into the foam that provides the spring for the cell contacts. The leakage dissolved (if that is the correct word) the adhesive that attached the cell contacts to the foam. I have cleaned the compartment and have demonstrated that the calculator still works by simply holding the contact against the foam while inserting the cells.
>
> I think that some of the leakage is still in the foam. How can I remove the leakage safely? What adhesive should I use to attach the contact to the foam? If I replace the foam where do I find foam that does not deteriorate in a few years?

I now find that I have a new problem with my HP48S. If I press either the 2 or the 3 key the number 23 appears in the screen. Similar effects occur with the 5 and 6 keys, the 8 and 9 keys, and the . and SPC keys. Similar effects also occur with pairs of keys which are not part of the numeric keyboard. For example, if I enter 9 at level 2 and 2 at level 1 and press y^x I would expect to see 81, Instead I see 22.36159094 which indicates that the calculator took the square root of two and then raised 9 to the square root of two power. Similar effects appear with other adjacent pairs of keys such as EEX and DEL, etc.

If I place the calculator under a reading lamp for a couple of hours it will operate properly for a few minutes and then will return to the operation described above. I think this means that some of the cell leakage may have gone into the electronics compartment, perhaps under the keyboard. This is certainly possible since the cell compartment is not a bathtub as was the case with the HP-35, HP-45 and HP-80. So, my questions are:

How do I open the the device to inspect for cell leakage and to clean if necessary?

Or, am I better off simply keeping the calculator warm?

Re: Needing more advice with my HP-48S

*Message #2 Posted by **aj04062** on 18 Sept 2011, 10:42 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

You can search the internet for methods to open this or the 48G series. I have found good luck using the method HERE

However, fixing corrosion in the keyboard is a whole other thing. It requires a lot of work to take the keyboard assy apart.

Edited: 18 Sept 2011, 11:03 p.m.

Re: Needing more advice with my HP-48S

*Message #3 Posted by **Martin Pinckney** on 18 Sept 2011, 10:50 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> How do I open the the device to inspect for cell leakage and to clean if necessary?

Palmer, here is some information I downloaded a couple of years ago. But be advised I have not tried it myself, so you are better off listening to someone who has!

Re: Needing more advice with my HP-48S

*Message #4 Posted by **Bart (UK)** on 19 Sept 2011, 4:38 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi Palmer,

I recently opened a 48SX to the point of taking the two halves apart. That is do-able, although I still have to take the faceplate off to re-sit the big heat stakes.

However, I have noted that the keyboard is put in place with a metal backing plate that is held in with dozens of small short heat stakes, and I think it almost impossible to put back together if taken apart (about 1/3 of them are visible in TOPWORK.JPG from Martin Pinckney's reference). I don't know if maybe the keyboard can be cleaned in-situ (once the electronics is removed) as per Geoff Quickfall's Voyager method (as described in this thread, Geoff's message on 10 Dec 2010, 9:31 p.m).

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #1 Posted by **Tim Wessman** on 18 Sept 2011, 10:10 p.m.*

Hello,

Can anyone that feels they have a problematic keyboard you are not happy with, that has 1) keys not registering or 2) very noticeable differences in key pressure, please email me at my full name as written below connected to @hp.com? We definitely would like to get those for examination. May need to smack some heads or put a new process in place. There have not been things like this for quite a long time on the 12c units and they come off the same assembly line. There is quite a bit of puzzlement about the whole situation. . . :-(

Nobody can figure out how the 12c firmware could have slipped in there either. Should be impossible as every unit has the full tests run before it goes out. . .

A "loose" function key is not a keyboard issue. As the steel molds wear towards replacement, the tolerances for those two keys are not as tight and they become a bit looser. You have wear on the key molds, and then on the upper case. Thus two parts wear and the design of the mold takes that into account for the projected life of both molds.

This is normal. Those function keys essentially have a "barrel" at the bottom that rotates in a slot on the upper mold. All they other keys are in a keyboard tree which is why they don't have any movement.

timwessman

Edited: 18 Sept 2011, 11:27 p.m. after one or more responses were posted

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #2 Posted by **hpnut** on 18 Sept 2011, 11:21 p.m.,*
in response to message #1 by Tim Wessman

Yay! Tim is gonna bring out the whacking stick :-)

hpnut in Malaysia still waiting for his 12C and 15C

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #3 Posted by **Walter B** on 19 Sept 2011, 1:26 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> Tim is gonna bring out the whacking stick

Sounds more like they're going to analyze the problem :-) Far better approach IMHO. Thanks, Tim, for listening!

Walter

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #4 Posted by **Dan Grelinger** on 19 Sept 2011, 10:17 p.m.,*
in response to message #1 by Tim Wessman

Tim, I sent you an email about my HP-15C LE.

Dan Grelinger

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #5 Posted by **Dan Grelinger** on 21 Sept 2011, 9:58 a.m.,*
in response to message #4 by Dan Grelinger

Tim, I received a FedEx Label notification for shipment of my HP-15C to Charlie RadmanHP in Fort Collins. Is this for your investigation, or is it a result of my open ticket with HP from my Monday call with their normal support group?

Dan

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #6 Posted by **G Clark** on 19 Sept 2011, 10:20 p.m.,*
in response to message #1 by Tim Wessman

Tim, I sent you an email about my HP-15C LE 02228.

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #7 Posted by **Paul Gaster** on 19 Sept 2011, 10:34 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> A "loose" function key is not a keyboard issue. As the steel molds wear towards replacement, the tolerances for those two keys are not as tight and they become a bit looser. You have wear on the key molds, and then on the upper case. Thus two parts wear and the design of the mold takes that into account for the projected life of both molds.

With all due respect, I disagree with this statement. I worked as a project engineer at a contract manufacturing company for 10 years, and I was mostly working on plastic projects. Our factory was in China and I was there 3 times over the years working on project launches. Each time I was there for 2 weeks to a month.

As tools wear, typically the overall size of a part will get larger, not smaller. Of course I would like to see a tool drawing or the tool itself to know for sure, but I can't see how these keys would get smaller over time. Outside to outside measurements grow as the steel wears.

I know from experience that our factory always did everything very steel safe, which seems to be the situation with these function keys. The tool maker is either slightly out of tolerance on the key sizes now, or right at the lower limit, but the tools will wear into spec over time, and eventually the keys will get too large and out of spec. Then it's time for new tools.

Of course the housings are obviously very steel safe too, and that magnifies this issue. Let me explain. The

steel features that create the key openings in the housing are bosses or posts that stick out. They will wear smaller over time. When the tools are new, the key openings are the largest they will ever be. For the keys, as I said, they are the smallest they will be when new. This makes for loose keys when both sets of tools are new, which may be the situation here. Over time this will get better, and this strategy gives you the most tool life, but also the most complaints when your new products are launched.

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #8 Posted by **robert rozee** on 19 Sept 2011, 11:09 p.m.,*
in response to message #7 by Paul Gaster

could it be the issue with the f and g keys is in fact a slight warping of the PCB, such that the bottom edge curves backwards slightly allowing those two keys to sit loose?

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #9 Posted by **Paul Gaster** on 20 Sept 2011, 9:25 p.m.,*
in response to message #8 by robert rozee

I don't think so. The PCB could warp, yes, but I believe the board is held down by some screws. That would take any warpage out of the equation. Plus some have said those keys rotate a bit in the openings, indicating that they are just a bit on the small side.

Re: 15C Keyboard Issues [EMAIL ME - INFO BELOW]

*Message #10 Posted by **Hugh Evans** on 20 Sept 2011, 11:43 a.m.,*
in response to message #1 by Tim Wessman

I might have to get nerdy with this key pressure issue and stick my 15C LE in one of the Instrons at work, LOL. Everything looks and feels great so far on #02226.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Order Page Has Gone Live

*Message #1 Posted by **Steve S** on 18 Sept 2011, 7:07 p.m.*

Just checked and the order page at HP.com has gone live.

Re: HP-15C LE Order Page Has Gone Live

*Message #2 Posted by **Daniel Greenidge** on 18 Sept 2011, 8:44 p.m.,*
in response to message #1 by Steve S

It might be worth mentioning that the HP Store has a much more generous return policy (21 days) than Samson Cables, which does not have a return policy at all on opened electronics.

Re: HP-15C LE Order Page Has Gone Live

*Message #3 Posted by **Todd Garabedian** on 18 Sept 2011, 9:53 p.m.,*
in response to message #1 by Steve S

> Quote:
>
> Just checked and the order page at HP.com has gone live.

Old news, Stevie. But thanks.

I got an email from HP telling me that the order I placed this morning on the HP website is shipping tomorrow by matter-energy conversion beaming (aka Fedex) and will be arriving Wednesday. Can't wait to fondle the new keys!

Re: HP-15C LE Order Page Has Gone Live

*Message #4 Posted by **Michael de Estrada** on 18 Sept 2011, 10:00 p.m.,*
in response to message #3 by Todd Garabedian

Did you use a $10 discount coupon per the original post on this ? Anyways, glad to see a few more folks are picking these up at non gouge pricing. I've already got my allotment of 2 so I'm not ordering any more from HP.

Re: HP-15C LE Order Page Has Gone Live

*Message #5 Posted by **M. Joury** on 18 Sept 2011, 10:28 p.m.,*
in response to message #4 by Michael de Estrada

There is also the OFFERS15 code that takes $15 off an order of $75 or more and supposedly good through 10/31 (31/10 for you non-US types). Don't know if it works for the HP15C as I too have my quota but thought that I would mention it.

There are also offers for $10 off a purchase of %50 or more and for those that want two an offer of $30 off %150 or more. Here is the link.

Cheers,

-Marwan

Re: HP-15C LE Order Page Has Gone Live

*Message #6 Posted by **Todd Garabedian** on 19 Sept 2011, 8:21 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> Did you use a $10 discount coupon per the original post on this ?

Yes, I mentioned this in my original post in another thread. The $10 discount almost covered all the state sales tax. I used one of the two codes that were mentioned.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp-28S Does not Turn On

*Message #1 Posted by **aj04062** on 18 Sept 2011, 6:27 p.m.*

I recently cleaned my HP-28 taking care not to get too wet (used damp cloth etc).

Now when I install the batteries, all that I get is a slightly dimmed screen when I press on. No combination of keys that I have done so far has reset it.

An suggestions?

Re: Hp-28S Does not Turn On

*Message #2 Posted by **Namir** on 18 Sept 2011, 7:13 p.m.,*
in response to message #1 by aj04062

HP-50g?

Re: Hp-28S Does not Turn On

*Message #3 Posted by **Frank Rottgardt** on 19 Sept 2011, 6:06 a.m.,*
in response to message #2 by Namir

The 50g as well as the 48 series are IMHO overwhelming with to many functions and menues. In college many mates had the 48SX while I prefered the 28s because of a more straight forward approach. Today I have both calculators, but still I am a lot faster on my 28s. But the lack of I/O is of course a problem.

Re: Hp-28S Does not Turn On

*Message #4 Posted by **Dave Britten** on 18 Sept 2011, 8:56 p.m.,*
in response to message #1 by aj04062

If the screen appears to get power and darken just slightly, but nothing is displayed, it may be a stuck key. I have a 32s that did the same thing, and was able to fix it.

Also, you've tried adjusting the contrast already, right? (Hold On, press + or -.)

Re: Hp-28S Does not Turn On

*Message #5 Posted by **aj04062** on 18 Sept 2011, 9:38 p.m.,*
in response to message #4 by Dave Britten

Tried to find stuck keys, can't find one.

Interestingly, On - or + DOES ALTER the contrast.

Re: Hp-28S Does not Turn On

*Message #6 Posted by **Eric Smith** on 18 Sept 2011, 10:53 p.m.,*
in response to message #5 by aj04062

That means that the processor is running correctly.

Re: Hp-28S Does not Turn On

*Message #7 Posted by **Lincoln R.** on 18 Sept 2011, 10:02 p.m.,*
in response to message #1 by aj04062

This will sound obvious, but make sure you put the batteries in right. I once had my 48g doing some very weird things, turned out I had reversed one of the batteries.

Re: Hp-28S Does not Turn On

*Message #8 Posted by **aj04062** on 18 Sept 2011, 10:29 p.m.,*
in response to message #7 by Lincoln R.

I did and did not make that mistake.

Re: Hp-28S Does not Turn On

*Message #9 Posted by **Bart (UK)** on 19 Sept 2011, 4:44 a.m.,*
in response to message #8 by aj04062

Tried another set of batteries? (just because they came new out of a packet doesn't always mean they're good).

Re: Hp-28S Does not Turn On

*Message #10 Posted by **aj04062** on 19 Sept 2011, 7:02 a.m.,*
in response to message #9 by Bart (UK)

I've tried several sets that work okay in my 41. I'll buy a new set and try them out.

Re: Hp-28S Does not Turn On

*Message #11 Posted by **Bart (UK)** on 19 Sept 2011, 8:15 a.m.,*
in response to message #10 by aj04062

I was more thinking a dead cell, but if they work OK in the 41 then there's probably some other reason for not working.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

That NIB 15C (LE) went for $356

*Message #1 Posted by **Peter Murphy (Livermore)** on 18 Sept 2011, 5:48 p.m.*

You remember the story:

http://www.ebay.com/itm/150662671735

We're unlikely to learn the Rest of the Story, however.

Unless some hardy soul wants to contact the seller and ask?

Re: That NIB 15C (LE) went for $356

*Message #2 Posted by **troy** on 18 Sept 2011, 5:53 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

amazing! bidder could have bought 4 at the hp store.

Re: That NIB 15C (LE) went for $356

*Message #3 Posted by **fhub** on 18 Sept 2011, 5:57 p.m.,*
in response to message #2 by troy

> Quote:
>
> amazing! bidder could have bought 4 at the hp store.

HP-15C: edition = limited
bidder: stupidity = unlimited ;-)

Re: That NIB 15C (LE) went for $356

*Message #4 Posted by **MK-52** on 18 Sept 2011, 6:20 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

LOL Is this a practical joke by bidders?

Edited: 18 Sept 2011, 6:41 p.m.

Re: That NIB 15C (LE) went for $356

*Message #5 Posted by **Steve Fennell** on 18 Sept 2011, 6:26 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

The winner has feedback over 1000. They should know better.

Re: That NIB 15C (LE) went for $356

*Message #6 Posted by **Michael de Estrada** on 18 Sept 2011, 6:36 p.m.,*
in response to message #5 by Steve Fennell

1) Winning bidder is German.

2) Germany bailed out Greece.

3) Stupid world.

Re: That NIB 15C (LE) went for $356

*Message #7 Posted by **bill platt** on 18 Sept 2011, 7:33 p.m.,*
in response to message #6 by Michael de Estrada

How can you determine the Bidder's location?

Re: That NIB 15C (LE) went for $356

*Message #8 Posted by **Michael de Estrada** on 18 Sept 2011, 7:44 p.m.,*
in response to message #7 by bill platt

I can infer it from the winner's bid history, which uses the German language from the German TAS website. It's not certainty, since anyone can bid at any site, however, it's the most likely conclusion.

Bid history

Edited: 18 Sept 2011, 7:44 p.m.

Re: That NIB 15C (LE) went for $356

*Message #9 Posted by **Howard Owen** on 18 Sept 2011, 7:33 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

How can you tell how a BIN auction ended? The one you linked to was an auction, so it shows the ultimate price. But I was watching this one, and I can't even tell whether it sold or not.

Edited: 18 Sept 2011, 7:33 p.m.

Re: That NIB 15C (LE) went for $356

*Message #10 Posted by **Martin Pinckney** on 18 Sept 2011, 7:46 p.m.,*
in response to message #9 by Howard Owen

This was a BIN with Make Offer option. Look over on the right side, it has a link "2 sold".

Re: That NIB 15C (LE) went for $356

*Message #11 Posted by **Michael de Estrada** on 18 Sept 2011, 7:49 p.m.,*
in response to message #9 by Howard Owen

Look on the right side. It states "2 sold". Click on it and you can see the aliases of the buyers and when they were bought.

I also do not agree with this price !

*Message #12 Posted by **robertoataulfo** on 18 Sept 2011, 8:38 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

```
I also do not agree with this price !

Price !!!!!
```

Re: I also do not agree with this price !

*Message #13 Posted by **bill platt** on 18 Sept 2011, 9:15 p.m.,*
in response to message #12 by robertoataulfo

Hey! That's not your ordinary G-shock. It is a Takashi Murakami!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OpenRPN Reboot Interest?

*Message #1 Posted by **Hugh Evans** on 18 Sept 2011, 4:58 p.m.*

Since the topic has been broached: Is anyone interested in giving this concept another shot? I know it will sell when finished, so this question is directed more towards technical development people. As I see it, even if the only goal was to use existing plastic parts we can give software such as WP-34s a better environment to operate within. At least one complete machine would be fantastic, but in the short term it would be best to get a development board in production (all I need are PC boards and components because I have a good friend who owns a commercial reflow oven.)

I'm not looking for a flame war, I'm sincerely looking for expressions of interest. This would be a full reboot, making use of lessons learned and taking the original concept forward. We don't have to start from scratch, and I feel much better prepared this time around personally.

Who's up for it?

Re: OpenRPN Reboot Interest?

*Message #2 Posted by **Paul Dale** on 18 Sept 2011, 6:24 p.m.,*
in response to message #1 by Hugh Evans

I'd likely be interested again.

- Pauli

Re: OpenRPN Reboot Interest?

*Message #3 Posted by **Marcus von Cube, Germany** on 19 Sept 2011, 4:03 a.m.,*
in response to message #2 by Paul Dale

We are three. But I'm a software guy. :-)

Re: OpenRPN Reboot Interest?

*Message #4 Posted by **DaveJ** on 19 Sept 2011, 7:00 a.m.,*
in response to message #1 by Hugh Evans

Out of curiosity as a designer of calculator hardware myself, what were the important lessons learned from all the Open RPN effort you mentioned?

Do you really only just need a PCB to move this project forward?
If this was the case then that would presumably mean that you have a housing and key solution in place?

Because as I see it, and I've probably mentioned this before, a physical calculator design is an exercise in housing, keypad, legend, and ergonomic and manufacturing design - any PCB design is a fairly trivial aspect of it all.

BTW, reflow ovens are usually not needed for prototype PCB assembly.

Dave.

Edited: 19 Sept 2011, 7:06 a.m. after one or more responses were posted

Re: OpenRPN Reboot Interest?

*Message #5 Posted by **Paul Dale** on 19 Sept 2011, 7:01 a.m.,*
in response to message #4 by DaveJ

Figure out the hardware and case first.

- Pauli

Re: OpenRPN Reboot Interest?

*Message #6 Posted by **Paul Dale** on 19 Sept 2011, 7:07 a.m.,*
in response to message #4 by DaveJ

I'll go one further and say that even with okay to decent hardware, the software is by no means a given. The 20b languished for quite a while with nobody (publicly) repurposing it seriously with new firmware.

the production of a new calculator will be a combined effort of hardware designers, firmware writers, application software guys and production people. I very much doubt anyone here is capable of all of these tasks and in many/most cases folks will be limited to but one.

- Pauli

Re: OpenRPN Reboot Interest?

*Message #7 Posted by **DaveJ** on 19 Sept 2011, 7:42 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> I'll go one further and say that even with okay to decent hardware, the software is by no means a given. The 20b languished for quite a while with nobody (publicly) repurposing it seriously with new firmware.
>
> the production of a new calculator will be a combined effort of hardware designers, firmware writers, application software guys and production people. I very much doubt anyone here is capable of all of these tasks and in many/most cases folks will be limited to but one.

For sure.
But "if you build it, software will come".
With a handheld calculator, the hardware design is essentially everything. It is the thing that costs real money, commitment, and is hard to change and tweak, it "locks you in" in many ways. It is the heart and soul of the product, if it wasn't, OpenRPN would have been released years ago as a jiffy box with a bunch of tact switches and a 16x2 LCD (and failed as result of such poor hardware implementation of course).
Firmware on the other hand only takes time, and has great flexibility, it can be tweaked until the cows come home. And at a general level, firmware is fairly hardware agnostic.

The reason people like us want to design calculator hardware is because we want a physical product form factor and "look'n'feel" that is not available elsewhere. Hardware is the basis for everything. Yes, it needs software too, but I wouldn't really consider that before you have a solid physical implementation.

For example, I did not write a line of code until I had my uCalc or uWatch projects in a usable form factor, there was simply no point. The same will go for the uWatch Mk2 as well.

The reason anyone would consider a new calc design like OpenRPN, or my uWatch or uCalc, is because the current hardware platforms available are not deemed adequate. Otherwise, we'd all think the holy grail has arrived with the 20B re-purposing project.

The only reason OpenRPN has not gotten off the ground before, is solely because of a lack of actual hardware, I'm sure everyone will agree?

Also, since the last Open RPN project was floated, there has been a boon in crowd source funding via the likes of Kick Starter. So money to get projects like this off the ground is easier to get these days, which is great, but it does come with real commitments that must be met.

Dave.

Edited: 19 Sept 2011, 7:45 a.m.

Re: OpenRPN Reboot Interest?

*Message #8 Posted by **bill platt** on 19 Sept 2011, 8:01 a.m.,*
in response to message #7 by DaveJ

yes.

Re: OpenRPN Reboot Interest?

*Message #9 Posted by **Artur-Brazil** on 19 Sept 2011, 8:35 a.m.,*
in response to message #7 by DaveJ

Well, I have to agree that the problem in creating a new calculator is very complex. See the problems a giant like HP and it's facilities at China are facing to. The software, as I could see with the great WP-34S is not the biggest problem.

I just can't understand is why people that are hooked to RPN logic or RPL just not integrate to WP-34S project and try to make a bridge to HP people, in order they incorporate this project.

HP needs to be an open organization - at least in the calculators division - and pay more attemption to what their brilliant customers are doing with HP calculators.

HP 30B is an excellent starting point hardware, as I can see: it has two line display, seems to have a decent keyboard and is reprogrammable. Just HP forgoten to make add a simple connector.

Instead of trying to make each key from scratch and so the case, membranes, steel domes, case, battery compartment, face plate and all other parts I'm probably forgoting, it's so much easier to take a 40US$ still ready hardware and improve its software?

Just for bringing more clear the difficulties: remember the keyboard problems of new HP-15C and of the 50G when it was released? How many thousand dollars were and will be invested on the solution of this very simple problem? Do a group of people have the money and time to make such

correction?

Doing a real thing, that you can press its keys is far more complicated than having it drawn on CAD software - that is what I believe in...

I have seen other dreams like this one in this forum: HP has just released our long time waiting 15C. The new hardware (and software) has some important bugs to fix, but people, instead off making pressure on HP to fix them, just dream for a release of another calculator model - like 71 or 42. It wouldn't be better fix this one we have on hands first??? Once solved, HP may bring to us the 16C model or 11C model. My apologies for my poor English .... Artur - Brazil

Re: OpenRPN Reboot Interest?

*Message #10 Posted by **robert rozee** on 19 Sept 2011, 9:27 a.m.,*
in response to message #7 by DaveJ

how about a little less ambitious starting point - a DESKTOP calculator?

i'm going to suggest (as i have before) an ATmega1284p all-in-one processor, which comes in a DIP package that most anyone can solder. it has 128k of flash, 16k ram, 4k eeprom and 32 I/O lines (including 2 serial ports).

there are several varieties of key switches that one can buy on ebay out of china for less than us$10 for a bag of 100 - some with full keytops, some with just a 1/8" stud to press on.

for an LCD, just use something standard that can be talked to down a 4-bit bus, say 24 columns x 4 lines? for batteries use 4x AA cells.

at a pinch, folks can assemble their own complete claculator on veroboard, while later on we can get some PCB kits made.

THEN, once that phase is completed, look at making it all fit inside a case the size and thickness of a credit card...

http://www.nixiebunny.com/malmbergcalc/calc.html

Edited: 19 Sept 2011, 11:38 a.m.

Re: OpenRPN Reboot Interest?

*Message #11 Posted by **uhmgawa** on 20 Sept 2011, 2:15 a.m.,*
in response to message #10 by robert rozee

> Quote:
>
> how about a little less ambitious starting point - a DESKTOP calculator?

I'm not quite clear what the benefit would be as target hardware isn't the limitation and supporting the development host itself as a "target" in some form is a practical necessity. If prospective participants would benefit from having the actual target SoC handy just leverage one of the many simulators available. For example I'd used simavr for early development on both the AVR m328p and m1284p KINOMI modules, but just to validate execution performance of KEMU on these underpowered SoCs was worth continuing the effort.

> Quote:
>
> i'm going to suggest (as i have before) an ATmega1284p all-in-one processor, which comes in a DIP package that most anyone can solder. it has 128k of flash, 16k ram, 4k eeprom and 32 I/O lines (including 2 serial ports).

May the force be with you.

But honestly you may want to consider an architecture a bit higher up the food chain. I've laid out simple eval/break_out boards for the at91sam7l and lpc1114 (both lqfp package versions)

for which I'm happy to provide the source/gerbers. These days you can find quite inexpensive board houses to build more than you're likely to need for US$10-20.

> Quote:
>
> for an LCD, just use something standard that can be talked to down a 4-bit bus, say 24 columns x 4 lines?

If you are intent on rejoining 1974 with a desktop calculator project, and I can fully appreciate the motivation from a novelty/retro perspective, go for broke and use one of these for a display Futaba 20x2 VFD. Doing so at least you'll have something of lasting conversation value for your effort.

Re: OpenRPN Reboot Interest?

*Message #12 Posted by **robert rozee** on 20 Sept 2011, 5:46 a.m.,*
in response to message #11 by uhmgawa

when i was working for trimble a few years back, we had a (just released) radio product that contained a 20x2 VFD matrix module, sitting right next to a bluetooth module in the front panel. the VFD was the appropriate technology for the application.

i'm keen on the 1284p because it is ACCESSIBLE to the average constructor. the average constructor has at their disposal a 40w soldering iron with a 2mm tip, veroboard, and whatever they can buy from digikey or farnell (or on ebay) in 1-off quantities.

the average constructor does **NOT** have access to PCB fabrication, SMT placement equipment, a quality soldering iron, or the money to pay for any of the above. they lack even the ability to solder 0804 SMD resistors and capacitors.

i'd like to see a project that the average constructor can build. if you can find an arm7 SoC processor in a DIP package, then i'm all ears...

Re: OpenRPN Reboot Interest?

*Message #13 Posted by **uhmgawa** on 20 Sept 2011, 8:30 a.m.,*
in response to message #12 by robert rozee

> Quote:
>
> i'd like to see a project that the average constructor can build. if you can find an arm7 SoC processor in a DIP package, then i'm all ears...

Ah, I see -- my misunderstanding. I didn't realise you were trying to remove pcb construction entirely from the effort.

Sorry I'm not aware of arm SoCs in DIP packages, however you can find ready made eval boards which may get you to the same starting point (or further). NXP had a deal running (perhaps still do) where they were giving away LPC1114 arm eval boards to anyone and everyone with a good marketing story concerning prospective application for the board. I think it would be worth a look.

Re: OpenRPN Reboot Interest?

*Message #14 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 9:33 a.m.,*
in response to message #13 by uhmgawa

Look at the MBED project for this. http://mbed.org

Re: OpenRPN Reboot Interest?

*Message #15 Posted by **Meindert Kuipers** on 20 Sept 2011, 12:56 p.m.,*
in response to message #14 by Marcus von Cube, Germany

This is indeed a great proto platform, add an SPI display and a keyboard from an old HP41 or another machine and you can start working on software

Re: OpenRPN Reboot Interest?

*Message #16 Posted by **uhmgawa** on 20 Sept 2011, 5:54 p.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> Look at the MBED project for this. http://mbed.org

Yes that's what I was getting at. No hostility to the archaic dip format intended. I as well find smd to dip (or more generally 100mil pitch) adapter boards occasionally handy for SoC prototype usage and usually just lay out whatever I happen to need. The cost to spin a two layer PCB is amazingly cheap of late and CAD tool choices abound. Furthermore 99.9% of the real engineering has been accomplished on die and such SoC boards are little more than customized low speed interconnect and bypass. Here's a few typical examples tossed to soak up otherwise unused flat-rate space with the first round of KINOMI boards.

Re: OpenRPN Reboot Interest?

*Message #17 Posted by **robert rozee** on 20 Sept 2011, 4:04 p.m.,*
in response to message #13 by uhmgawa

the problem with eval boards is that they are invariably a short-run item, so of little use in an open-source project - a year or two down the line and the hardware is no longer available, leaving the project at a dead end.

for an open-source hardware project to be successful it needs to fulfil the following requirements:
1. people need to want the item,
2. people need to be able to construct the item with relative ease and certainty of success,
3. people need to be able to get the necessary bits both now and tomorrow.

i'm not thinking of a project where a handful of developers make a few dozen units, while other folks just look on and make comments on a feedback form saying how cool it all is. i'd like to see something where 5000 or more folks decide to have a go and use the open-source plans to make their own calculator - and learn from their experiences in a positive way. it is all about mass participation, rather than just observation.

how do others feel about a primary goal of openRPN being:
"5000 hobbyists building their own calculator"?

Re: OpenRPN Reboot Interest?

*Message #18 Posted by **DaveJ** on 21 Sept 2011, 10:06 p.m.,*
in response to message #17 by robert rozee

> Quote:
>
> for an open-source hardware project to be successful it needs to fulfil the following requirements:
> 1. people need to want the item,
> 2. people need to be able to construct the item with relative ease and certainty of success,
> 3. people need to be able to get the necessary bits both now and tomorrow.

Whilst I don't necessarily disagree with that, #2 and #3 are not necessary for a project to be a massive success.

Take the worlds most successful OSHW product, the Arduino. Almost everyone buys the ready made version instead of buying a kit version.

I found the same thing with my uWatch project. Hardly anyone wanted a kit, they all wanted the fully assembled version. But of course they really like that it's all open source - not that most will do anything with it, but they just like the feeling that it's open source!

> Quote:
>
> i'm not thinking of a project where a handful of developers make a few dozen units, while other folks just look on and make comments on a feedback form saying how cool it all is. i'd like to see something where 5000 or more folks decide to have a go and use the open-source plans to make their own calculator - and learn from their experiences in a positive way. it is all about mass participation, rather than just observation.
>
> how do others feel about a primary goal of openRPN being:
> "5000 hobbyists building their own calculator"?

Whilst that would be nice, and is possible in theory, I don't think it's going to work in practice. The reason is most people just don't find a calculator that interesting.

Successful kits being built by the tens of thousands by the hacker/maker communities to teach kids (and big kids) soldering and basic electronics etc are usually something more exciting than a calculator. Like a TV-B-GONE, a LED POV kit, a simple quadcopter etc.

Dave.

Re: OpenRPN Reboot Interest?

*Message #19 Posted by **Garth Wilson** on 22 Sept 2011, 12:42 a.m.,*
in response to message #18 by DaveJ

> Quote:
>
> Whilst that would be nice, and is possible in theory, I don't think it's going to work in practice. The reason is most people just don't find a calculator that interesting.

They would probably find it more interesting if it can act as a controller too and not just a calculator. It would be in a league different from something like a BASIC Stamp, but a lot of little controllers like that seem quite successful. This one would have the added advantage of being able to do more with data in floating-point and programming right on the device itself instead of on a host computer.

Edited: 22 Sept 2011, 12:43 a.m.

Re: OpenRPN Reboot Interest?

*Message #20 Posted by **robert rozee** on 22 Sept 2011, 2:30 p.m.,*
in response to message #19 by Garth Wilson

> Quote:
>
> They would probably find it more interesting if it can act as a controller too and not just a calculator [...] with data in floating-point and programming right on the device itself instead of on a host computer.

well the 1284p does have two serial ports, and i'm sure free42 could be easily extended to interact with these to become a useful [instrument] controller too.

harping on more about assembly methods (sorry all!), as engineers we do all tend to overestimate the complexity - and dexterity - of the general public / average hobbyist. personally, i have no trouble with placing the smallest leaded packages, even hand-constructing pretty complex prototype items with 0402 sized components, but i have had many years practice working at that level. i don't even need a fine soldering iron, just a suitable loupe, just the right flux, good solder, and LOTS of heat.

BUT, despite online tutorials being available, and assurances from the folks on here, i still maintain that even given a quality PCB, and a 100-pin QFP SoC, the vast majority of would-be constructors WILL end up with a mess that they will never be able to recover a working finished item from.

and as for buying a ready-built, why on earth would someone? no denying that the uWatch is impressively cool, but whipping it out and showing it to someone is pointless unless you can claim you built it

yourself! as a built-item, an HP-11 or HP-15 is far cooler (not intending any offence, Dave. and certainly not wanting to detract from what an impressive accomplishment the uWatch is). saying "hey, look at this neat calculator watch that SOMEONE ELSE built and sold to me" doesn't ring true as a good conversation starter at parties...

Re: OpenRPN Reboot Interest?

*Message #21 Posted by **uhmgawa** on 23 Sept 2011, 12:03 p.m.,*
in response to message #20 by robert rozee

> Quote:
>
> ..and as for buying a ready-built, why on earth would someone? no denying that the uWatch is impressively cool, but whipping it out and showing it to someone is pointless unless you can claim you built it yourself!

I suppose it is a matter of perspective. In general I find the accomplishment of getting 48 pins of a 0.5mm pitch smd package reliably tacked down to a board to be astronomically dwarfed by the feat of beaming ions at a slab of silicon, realizing a SoC design into 1e5 transistors, implementing an economical manufacturing process, and selling it to me at a profit for US$5.

Not to diminish the accomplishment of rolling your own "hardware". But as stated a conservative 99.9% of the engineering has completed before the device ever arrives in a users hands. And given the extreme simplicity of closed bus SoCs, the opportunity for design errors is generally limited to power rail bypass/sequencing and perhaps clock/pll layout.

So I'd offer the actual value add in such a prospective project begins when the reset vector is fetched. But agreed that may be too esoteric to carry the same "bragging rights" impact.

Re: OpenRPN Reboot Interest?

*Message #22 Posted by **Garth Wilson** on 20 Sept 2011, 1:26 p.m.,*
in response to message #12 by robert rozee

Skill is definitely a factor, but you don't need expensive equipment to solder SMT parts. Take an SOIC for example. A lot of flux is helpful but not imperative, and you can do it with an iron that covers three pins at once. A 1/8" chisel tip will be fine since you won't solder just one pin at a time. To start, solder just the end pins on one side, just enough to hold the IC in place. Bridges are ok for now. Then solder down the other row of pins, using lots of solder. It may be all one huge solder bridge, but that's ok to start. Then you hold the board vertically and slowly run the soldering iron from top to bottom, re-melting all the solder on that side. The excess will stay on the iron, not the IC, and there will be no bridges. Now go back and do the first side which until now was only tacked. Clean off the flux, and it looks like it was done by machine. Perfect. It really is surprisingly easy.

Soldering 1206 chip capacitors and resistors is very easy. 0805 is ok with a tiny soldering iron but still nothing special. 0402 is getting a bit ridiculous.

VFDs are quite power-hungry and won't always be sunlight-visible. They tend to make a lot of electrical noise too. LCDs don't have any of these problems.

Re: OpenRPN Reboot Interest?

*Message #23 Posted by **DaveJ** on 21 Sept 2011, 9:59 p.m.,*
in response to message #22 by Garth Wilson

> Quote:
>
> Skill is definitely a factor, but you don't need expensive equipment to solder SMT parts. Take an SOIC for example. A lot of flux is helpful but not imperative, and you can do it with an iron that covers three pins at once. A 1/8" chisel tip will be fine since you won't solder just one pin at a time. To start, solder just the end pins on one side, just enough to hold the IC in place. Bridges are ok for now. Then solder down the other row of pins, using lots of solder. It may be all one huge solder bridge, but that's ok to start. Then you hold the board vertically and slowly run the soldering iron from top to bottom, re-melting all the solder on that side. The excess will stay on the iron, not the IC, and there will be no bridges. Now go back and do the first side which until now was only tacked. Clean off the flux, and it looks like it was done by machine. Perfect. It really is surprisingly easy.
>
> Soldering 1206 chip capacitors and resistors is very easy. 0805 is ok with a tiny soldering iron but still nothing special. 0402 is getting a bit ridiculous.
>
> VFDs are quite power-hungry and won't always be sunlight-visible. They tend to make a lot of electrical noise too. LCDs don't have any of these problems.

I have an SMD soldering tutorial video:

http://www.youtube.com/watch?v=b9FC9fAlfQE

It is indeed easy.

Dave.

Re: OpenRPN Reboot Interest?

*Message #24 Posted by **Garth Wilson** on 22 Sept 2011, 12:48 a.m.,*
in response to message #23 by DaveJ

nice

Re: OpenRPN Reboot Interest?

*Message #25 Posted by **Paul Dale** on 19 Sept 2011, 9:51 a.m.,*
in response to message #7 by DaveJ

While I definitely agree that a hardware first approach is essential, I'm not at all sure I agree that "if you build it, software will come".

The 20b platform was available to repurpose for several years before we released the 34S. The firmware only became reality because of a labour of love from two people. Believe me it was a long and arduous process. We've had some very able assistance this year but again it was predominately one extra dedicated person.

Apart from the 34S there really hasn't been a serious attempt to produce firmware for the platform. An emulator of old firmware and a four function hex calculator are the only two I am aware of.

- Pauli

Re: OpenRPN Reboot Interest?

*Message #26 Posted by **Oliver Unter Ecker** on 19 Sept 2011, 10:54 a.m.,*
in response to message #25 by Paul Dale

>While I definitely agree that a hardware first approach is essential, I'm not at all sure I agree that "if you build it, software will come".

I guess the thinking is the WP34S team is around and will be around... ;-)

It's harder to find $10k in funding for a HW project than $100k in SW development. That's because people will donate time more readily than money, and with HW you have nothing to show for until it's done, whereas SW can be improved incrementally.

Of course, I agree with you. SW shouldn't be taken for granted. But it seems that there's a base to built upon out there. Not the least thanks to your (WP34S team) donations of time and effort.

Re: OpenRPN Reboot Interest?

*Message #27 Posted by **svisvanatha** on 19 Sept 2011, 11:48 a.m.,*
in response to message #25 by Paul Dale

It is an interesting avenue. Alternatively, why not we try to lobby the current people at HP to include more keys and a better display in their next business calculator, so it can be repurposed with an evolution of the WP-34s firmware? That would give a repurposing platform that could be used for years to come. The current HP calculator people seem to have an ear to the ground, so it is a possibility at least.

$0.02 CAD

Re: OpenRPN Reboot Interest?

*Message #28 Posted by **DaveJ** on 19 Sept 2011, 9:24 p.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> While I definitely agree that a hardware first approach is essential, I'm not at all sure I agree that "if you build it, software will come".

I agree, there is no guarantee, unless you do it yourself. But it's infinitely more likely getting

software people involved in existing hardware, than it is to get hardware people involved in existing software. That's just the way the world works. The entire Open Source Hardware (OSWH) industry is built on this.
It's been proven over and over again, that all you need is the hardware, and some initial software drivers to make firmware development easy, and chances are the project will take off.

My idea with the uCalc and uWatch Mk2 is to build say half a dozen prototypes (it doesn't cost much more to make 6 than it takes to make 1) and give them away to interested software developers who are better at software than I am, hope\ing that they would be keen enough to develop for it if they find the hardware platform compelling enough. The fallback plan would be I simply write it myself.

Of course, I understand how important core routines are that handle things like the display and keyboard, so I would write those to help "bootstrap" 3rd party development. I thin that's vital.

One thing is for sure though, without real pre-production hardware, a calculator project does not exist.

Dave.

Re: OpenRPN Reboot Interest?

*Message #29 Posted by **Hugh Evans** on 19 Sept 2011, 10:25 p.m.,*
in response to message #28 by DaveJ

Your statements are spot on.

Re: OpenRPN Reboot Interest?

*Message #30 Posted by **Hugh Evans** on 19 Sept 2011, 1:30 p.m.,*
in response to message #4 by DaveJ

The biggest lesson learned hands down: Build the hardware first. It's fine to get software rolling early on, but people need something physically real to believe in it. That in turn will generate a great deal of confidence that a physical product will be the end result.

When I first started OpenRPN my resources were much more limited, and so were those of the world in general. While still far from trivial, making a few prototype enclosures is much more feasible than it was 5 years ago. Now I actually have equipment available to me for mold making/prototyping.

A little bit more will be required beyond just a PCB, it needs to be a working development kit with a display. Ideally, enough prototypes could be assembled for distribution to a few of the big contributing developers in the project. Showing them off as a finished product would be enough to drive pre-orders to fund production. Or will be helpful to convince a few investors to bankroll a sure thing. As my current connections go, I know someone who is a co-owner of a plastic and rubber molding company.

Yes, I understand that reflow may not be necessary. It will come in handy if any BGAs are used, though.

I will elaborate more on these topics when I have a few more spare minutes.

Re: OpenRPN Reboot Interest?

*Message #31 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 9:39 a.m.,*
in response to message #30 by Hugh Evans

The crux with WP 34S was that Pauli and Walter were busily writing software and documentation which nobody really cared about because it did not make it to the hardware until I chimed in.

The project really took off when people started to play around with it (emulator first then real hardware). You will need something to toy around with to attract more developers, testers, and, last but not least, users and customers.

Re: OpenRPN Reboot Interest?

*Message #32 Posted by **Paul Dale** on 20 Sept 2011, 5:27 p.m.,*
in response to message #31 by Marcus von Cube, Germany

I agree completely here.

I'd have got around to the hardware port eventually. So much code to write and debug and only one me. So many changes along the way too.

Still, Marcus did this bit faster and better than I would have :-)

- Pauli

Re: OpenRPN Reboot Interest?

*Message #33 Posted by **Marcus von Cube, Germany** on 22 Sept 2011, 1:05 a.m.,*
in response to message #32 by Paul Dale

Thanks for the flowers! :-)

Re: OpenRPN Reboot Interest?

*Message #34 Posted by **Paul Dale** on 22 Sept 2011, 1:42 a.m.,*
in response to message #33 by Marcus von Cube, Germany

Not at all, they are well deserved.

You certainly did the hardware port faster than I would have. You did the power management better than I would have too I suspect.

You've also provided much useful input and implementation since then.

Then there are the 55 bytes of semi-volatile memory you uncovered that I'd completely missed and HP had too :-)

- Pauli

Re: OpenRPN Reboot Interest?

*Message #35 Posted by **Marcus von Cube, Germany** on 23 Sept 2011, 10:48 a.m.,*
in response to message #34 by Paul Dale

> Quote:
>
> Then there are the 55 bytes of semi-volatile memory you uncovered that I'd completely missed and HP had too :-)

If I'm not mistaken it's exactly 50 bytes for the 400 bits.

HP needs them for blinking the cursor. So they didn't forget them.

Why not start with a case for 41CL Newt?

*Message #36 Posted by **snaggs** on 24 Sept 2011, 1:28 a.m.,*
in response to message #32 by Paul Dale

Someone has already made a processor, has all the backwards compatability worked out etc, boards.

All is needed is a case, LCD and a keyboard, and your guaranteed a working calculator.

After this milestone, anyone can of course write/port a completely modern software set on it.

Daniel

Re: OpenRPN Reboot Interest?

*Message #37 Posted by **Thomas Radtke** on 19 Sept 2011, 1:51 p.m.,*
in response to message #1 by Hugh Evans

Simply redo the 42S and get Thomas Okken into the boat.

Re: OpenRPN Reboot Interest?

*Message #38 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 9:41 a.m.,*
in response to message #37 by Thomas Radtke

Thomas has already stated here that his software is not designed with limited hardware resources in mind. But his experience is well worth being asked for in a new project.

Re: OpenRPN Reboot Interest?

*Message #39 Posted by **robert rozee** on 20 Sept 2011, 4:09 p.m.,*
in response to message #38 by Marcus von Cube, Germany

> Quote:
>
> Thomas has already stated here that his software is not designed with limited hardware resources in mind. But his experience is well worth being asked for in a new project.

if all the graphics stuff was ripped out (it wouldn't, after all, be needed), how resource-hungry would free42 actually be? the biggest hog, i'd imagine, would on the scarce onboard RAM. this could be alleviated somewhat by shifting the user program space and registers onto external storage.

Re: OpenRPN Reboot Interest?

*Message #40 Posted by **Thomas Radtke** on 21 Sept 2011, 3:23 a.m.,*
in response to message #38 by Marcus von Cube, Germany

That's what I meant, Marcus. Take a proven concept and a developer of a proven software.

The 15C LE apparently attracted several thousand customers in few weeks. With some clever

marketing, the same can be done with a 42S remake. Places where potential customers lurk are known and easily accessible.

Doing something completely new and hoping for the big success is daydreaming. Do it after you have a selling product.

Re: OpenRPN Reboot Interest?

*Message #41 Posted by **Hugh Evans** on 19 Sept 2011, 9:14 p.m.,*
in response to message #1 by Hugh Evans

Alright, I'm feeling crazy. Site backups are being pulled as we speak for reference purposes. I want to keep things as simple as possible this time around with respect to the project page. Is anyone interested in taking on webmaster responsibility? If anyone has space for hosting it would be appreciated, although otherwise I'll figure something else. I think it makes sense to keep subversion on sourceforge either way.

Within the next week I will gather the conceptual designs for review. I think ground up re-evaluation of project goals is worthwhile: for example, is the *fix system still the best approach? Hardware will need to start from scratch, and that will be a good thing.

This will not be a completely blank slate, but it won't be far from it. I firmly believe the technology needed to facilitate such a project, even at low to moderate production levels, now exists and we should pursue it.

Time to have some fun!!!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Ride or Room Sharing to San Diego for HHC2011

*Message #1 Posted by **Jim Horn** on 18 Sept 2011, 4:53 p.m.*

HHC 2011 is only days away. Does anyone wish to share rides to or from San Diego for this event?

I'll be coming down US Interstate 5 from the Portland, Oregon area but can divert throught the San Francisco Bay area if needed. My van holds eight.

Anyone need a ride? Any others wish to share trips? Or rooms?

See y'all there!

x<>y... (spoke in '79; made it to '81, '83, '00, '04, '06, '08)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

PSE bug also in Integrate and Solve

*Message #1 Posted by **Namir** on 18 Sept 2011, 4:05 p.m.*

Hi All,

The PSE bug also appears when you use the Integrate or Solve command and the targeted label has a PSE command (usually put there to trace the X values used by either command). The first time the machine encounters the PSE command it pauses and displays the value in the X register. Subsequent iterations will cause the LCD to blank out until the Integrate or Solve command has finished its task.

Namir

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : issue disassembling with latest version

*Message #1 Posted by **Miguel Toro** on 18 Sept 2011, 2:44 p.m.*

Hello,

I have issues trying to disassemble any program with three alpha characters (using wp34s_asm.exe, wp34s build 1610) :

A program like :

```
LBL 'INW'
<instructions>
RTN
```

will produce the following error message :

ERROR : Opcode 'f049' does not exist at line 2 .....

if I change for a single letter or numeric label like this :

```
LBL A
<instructions>
RTN


 or


LBL 00
<instructions>
RTN
```

No error is produced and the file is genereted.

Even the simplest :

```
LBL 'INW'
RTN
```

...causes the problem. I have yet to try with older versions.

What could be the proble here?

Regards,

Miguel

Re: WP 34S : issue disassembling with latest version

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 18 Sept 2011, 3:24 p.m.,*
in response to message #1 by Miguel Toro

Hi Miguel,

I suspect what is happening is that you are disassembling an older binary with the latest 'wp34s.op' table.

Last week(?) a bunch of op-codes moved to avoid an issue Pauli discovered.

The thing to try is to get the appropriate table for when the binary was created and disassemble using that table. Check out section 5 of the Assembler document. You will want to use the '-op the_older_wp34s.op' switch.

As for getting the table, go to http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/tools/wp34s.op?view=log and track down the version tat most closely matches the WP 34S F/W when you wrote the program.

Let me know if: 1) that works, or 2) doesn't work. :-) We'll go from there.

Re: WP 34S : issue disassembling with latest version

*Message #3 Posted by **Miguel Toro** on 18 Sept 2011, 4:40 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Thanks Neil for your answer, but here is what I did :

1. I downloaded the wp34s build 1610 on a different machine.

2. I did not use old code but simply created a new program with only :

```
LBL 'TST'
RTN
```

3. I stored in library 5 with PSTO 5. That created wp34s-5.dat

4. I tried to disassemble with :

wp34s_asm.exe -dis wp34s-5 -o prb.wp34s

and the error occurs :-(

So this is not using any old .DAT file. Could you please follow the same steps to see if you have the same result.

Thank you,

Miguel

Edited: 18 Sept 2011, 4:43 p.m.

Re: WP 34S : issue disassembling with latest version

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 18 Sept 2011, 5:24 p.m.,*
in response to message #3 by Miguel Toro

Hi Miguel,

Actually, what Franz mentioned is important -- just not in this case. There can be no space between the "LBL" and the first single quote.

I have just *down-dated* to 1610 (BTW thanks for giving that level of detail!) and entered a simple 3-line program:

```
LBL'ABC'
STO 01
RTN
```

Saved it out and disassembled on a Windows box using:

```
$ wp34s_asm.exe -dis wp34s-0.dat
```

And it worked just as expected.

Your unrecognized 'f049' is telling me that the wrong op-code table is being used. The tool is probably issuing a few commented lines before it is crapping out. These should tell you which op-code table it was using. Can you check that and let me know if it is the expected one?

Another thing to try is to *force* the tool to use the correct table (the one in the same directory as EXE is located) by using the '-op' switch.

Are you using a package that came from SVN or somewhere else (like the .zip)?

BTW: I will note that if you are the latest, bleeding edge from SVN, that the duplicate op-code warning has resurfaced :-(The first 2 messages are definitely harmless but I will have to check on the brand new 3rd one. When I get an email from the team telling me they have finalized the RLCS/STOS/?? data, we will fix this once and for all.

Re: WP 34S : issue disassembling with latest version

*Message #5 Posted by **Miguel Toro** on 18 Sept 2011, 5:46 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

I think that the official ZIP file comes with the wrong Op table (1519). Once I updated with the files from your link, everything worked as usual.

Many thanks for your help,

Miguel

Re: WP 34S : issue disassembling with latest version

*Message #6 Posted by **Marcus von Cube, Germany** on 19 Sept 2011, 4:00 a.m.,*
in response to message #5 by Miguel Toro

My fault. I'm just uploading a new ZIP.

Re: WP 34S : issue disassembling with latest version

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 18 Sept 2011, 5:30 p.m.,*
in response to message #3 by Miguel Toro

Another thing...

Are you positive that the emulator and the wp34s.op table are exactly the same SVN revision? (The wp34s.op table is located in the .\trunk\tools\ directory -- same as the wp34s_asm.exe program).

Open it in notepad (or equiv). The SVN should appear in the 1st line.

Re: WP 34S : issue disassembling with latest version

*Message #8 Posted by **Miguel Toro** on 18 Sept 2011, 5:11 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Hi Neil,

This is what I get when doing the disassembling:

```
C:\Users\Miguel\Documents\wp34s-B\wp34s\tools>wp34s_asm -dis wp34s-5.dat -o tst.
wp34s
// NOTE: Detected running EXE version.
         Adjusting child preprocessor script name from 'wp34s_pp.pl' to 'wp34s_pp.exe'
// Opcode map source: wp34s.op (local directory)
// Opcode SVN version: 1519
// wp34s_asm.exe: Source file(s): wp34s-5.dat
ERROR: Opcode 'f049' does not exist at line 2 at print_disassemble_normal


C:\Users\Miguel\Documents\wp34s-B\wp34s\tools>
```

This is from the environment that comes in the wp34s.zip file. As you can notice the SVN version is 1519 (?). So I followed the link and downloaded version 1610...and that did the trick. Now my file is recognized and the text file produced.

Thanks and regards,

Miguel

Re: WP 34S : issue disassembling with latest version

*Message #9 Posted by **Paul Dale** on 18 Sept 2011, 6:16 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

> Quote:
>
> Last week(?) a bunch of op-codes moved to avoid an issue Pauli discovered.

A bad bad bad bug :-(

The "Opcode 'f049'" in the message is the start of one of the moved op-codes. The fact that is has been truncated is a sure indicator that the incorrect op-code table is being used.

- Pauli

Re: WP 34S : issue disassembling with latest version

*Message #10 Posted by **fhub** on 18 Sept 2011, 4:21 p.m.,*
in response to message #1 by Miguel Toro

> Quote:
>
> LBL 'INW'

Remove the space between LBL and the quoted label (i.e. LBL'INW'), wp34s_asm doesn't like that!

Franz

Re: WP 34S : issue disassembling with latest version

*Message #11 Posted by **Miguel Toro** on 18 Sept 2011, 4:41 p.m.,*
in response to message #10 by fhub

Hi Franz,

I am not assembling, but disassembling, so taking a generated wp34s-5.dat from the emulator and converting it into text file

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C LE Keyboard Survey

*Message #1 Posted by **M. Joury** on 18 Sept 2011, 1:06 p.m.*

All,

I would like to try to get some idea of how bad the keyboard quality on the 15C LE really is. If you have received one (or more) and tested it/them please indicate number received and number bad. By bad I mean keys that do not register, take more force to register, double register (repeat) etc. I am *NOT* interested in the f/g loose key/alignment/rattle condition. If the f/g keys work (register correctly) they are working for the purposes of this survey.

Cheers,

-Marwan

EDIT: Thanks to all that have responded so far. As of Tuesday morning I have data for 71 calculators (including 3 that two friends of mine that do not post to this forum purchased) of which 9 have had keyboard problems reported. That is a failure rate of just over 12.5%. At this point I still view the numbers as meaningless and they will remain so until the sample gets a lot larger.

Edited: 20 Sept 2011, 10:47 a.m. after one or more responses were posted

Re: HP15C LE Keyboard Survey

*Message #2 Posted by **M. Joury** on 18 Sept 2011, 1:06 p.m.,*
in response to message #1 by M. Joury

I'll start:

Received 3. Bad 0.

Re: HP15C LE Keyboard Survey

*Message #3 Posted by **DigiGal** on 18 Sept 2011, 1:23 p.m.,*
in response to message #2 by M. Joury

I am new to posting on this forum, lurked on and off for several years looking for news of HP bringing back the 15C.

Received 1 Bad 0 *though of course the keys are not as nice as my original 15C! I'll continue to carry and use the original for everyday use and the LE will be a secondary unit that sits at home.* Limited Edition Number 02220

Self Test Procedure for HP 15C LE

Edited: 19 Sept 2011, 6:08 p.m. after one or more responses were posted

Re: HP15C LE Keyboard Survey

*Message #4 Posted by **Xavier A. (Brazil)** on 18 Sept 2011, 8:51 p.m.,*
in response to message #3 by DigiGal

So, welcome!

Re: HP15C LE Keyboard Survey

*Message #5 Posted by **Martin Pinckney** on 18 Sept 2011, 9:26 p.m.,*
in response to message #3 by DigiGal

Is it correct to infer from your handle that you are female? If so, AFAIK you would be only No. 2 (besides Katie) at least that posts regularly.

Re: HP15C LE Keyboard Survey

*Message #6 Posted by **Dave Britten** on 18 Sept 2011, 1:26 p.m.,*
in response to message #1 by M. Joury

Bought one, works fine.

Re: HP15C LE Keyboard Survey

*Message #7 Posted by **MK-52** on 18 Sept 2011, 1:44 p.m.,*
in response to message #1 by M. Joury

I bought two. **GOOD:2 BAD:0** I will buy another 15C.

Edited: 18 Sept 2011, 2:03 p.m.

Re: HP15C LE Keyboard Survey

*Message #8 Posted by **Howard Owen** on 18 Sept 2011, 2:04 p.m.,*
in response to message #1 by M. Joury

2:0

Re: HP15C LE Keyboard Survey

*Message #9 Posted by **gene wright** on 18 Sept 2011, 2:10 p.m.,*
in response to message #8 by Howard Owen

Of the ones I have opened:

Good 3, Bad 0.

Re: HP15C LE Keyboard Survey

*Message #10 Posted by **troy** on 18 Sept 2011, 2:11 p.m.,*
in response to message #1 by M. Joury

one ordered thru buy.com; one bad key: COS. emailed buy.com for replacement---which means will have to part with it for 15-25 days! :(

LE number: 00528

Re: HP15C LE Keyboard Survey

*Message #11 Posted by **Gerardo Rincon** on 18 Sept 2011, 2:16 p.m.,*
in response to message #10 by troy

4 HP 15C calculators - 0 bad

Re: HP15C LE Keyboard Survey

*Message #12 Posted by **Katie Wasserman** on 18 Sept 2011, 2:23 p.m.,*
in response to message #11 by Gerardo Rincon

2 good : 0 bad

Re: HP15C LE Keyboard Survey

*Message #13 Posted by **Ethan Conner** on 18 Sept 2011, 2:24 p.m.,*
in response to message #12 by Katie Wasserman

Good:3 Bad:0

Re: HP15C LE Keyboard Survey

*Message #14 Posted by **Dan Grelinger** on 19 Sept 2011, 12:22 p.m.,*
in response to message #10 by troy

Don't send you HP-15C LE back to buy.com if you ever want to see one again (for reasonable $). I called them on Friday about a defective unit, and they told me all stock is gone, there are none for replacements, and they expect to get no more, which is why the unit isn't even listed as a buy.com product anymore. They would be happy to give a refund though.

Re: HP15C LE Keyboard Survey

*Message #15 Posted by **Quan** on 18 Sept 2011, 2:28 p.m.,*
in response to message #1 by M. Joury

```
2 good
0 bad
```

Re: HP15C LE Keyboard Survey

*Message #16 Posted by **Dan W** on 18 Sept 2011, 2:33 p.m.,*
in response to message #15 by Quan

1 good 0 bad Bought thru SC

Re: HP15C LE Keyboard Survey

*Message #17 Posted by **Eddie W. Shore** on 18 Sept 2011, 3:01 p.m.,*
in response to message #1 by M. Joury

Received 2, both are good

Re: HP15C LE Keyboard Survey

*Message #18 Posted by **Gerry Schultz** on 18 Sept 2011, 3:50 p.m.,*
in response to message #17 by Eddie W. Shore

2 received, 0 bad.

Re: HP15C LE Keyboard Survey

*Message #19 Posted by **Dwight Sturrock** on 18 Sept 2011, 4:23 p.m.,*
in response to message #1 by M. Joury

The "7" key clicks before it actually registers, so it requires a little more force.

Quality is about comparable to the original 15C I purchased in 1983 (and still have).

Re: HP15C LE Keyboard Survey

*Message #20 Posted by **Seth Morabito** on 18 Sept 2011, 5:05 p.m.,*
in response to message #1 by M. Joury

I received two calculators. No keyboard issues at all on either of them.

Received: 2

Bad Keys: 0

Edited: 18 Sept 2011, 5:06 p.m.

Re: HP15C LE Keyboard Survey

*Message #21 Posted by **G Clark** on 18 Sept 2011, 6:16 p.m.,*
in response to message #20 by Seth Morabito

Received 1 calculator. 1 Bad key. (The "4" key clicks but does not register unless I press it very firmly)

Re: HP15C LE Keyboard Survey

*Message #22 Posted by **Crawl** on 18 Sept 2011, 7:06 p.m.,*
in response to message #1 by M. Joury

I bought one and haven't noticed any problems yet.

Re: HP15C LE Keyboard Survey

*Message #23 Posted by **Jesse Dodd** on 18 Sept 2011, 10:25 p.m.,*
in response to message #1 by M. Joury

I purchased two and one has a stubborn square root key. It clicks without registering unless pressed firmly. The other appears to work correctly.

Re: HP15C LE Keyboard Survey

*Message #24 Posted by **Bill Carter** on 18 Sept 2011, 10:44 p.m.,*
in response to message #1 by M. Joury

2 received, 0 bad

Re: HP15C LE Keyboard Survey

*Message #25 Posted by **Ed Look** on 18 Sept 2011, 11:17 p.m.,*
in response to message #1 by M. Joury

I received one (1).

And, it was perfectly fine, no problematic keys.

Re: HP15C LE Keyboard Survey

*Message #26 Posted by **Jeff Brower** on 18 Sept 2011, 11:36 p.m.,*
in response to message #1 by M. Joury

Purchased (4) and (2) have keyboard issues, one requires way too much pressure to register the 7 key, the other one clicks before registering the 3 key so the feedback on it is unreliable.

Re: HP15C LE Keyboard Survey

*Message #27 Posted by **Pal G.** on 18 Sept 2011, 11:53 p.m.,*
in response to message #1 by M. Joury

1 received : 1 bad key ('3')

All other keys ok.

Re: HP15C LE Keyboard Survey

*Message #28 Posted by **Michael de Estrada** on 18 Sept 2011, 11:59 p.m.,*
in response to message #1 by M. Joury

2 units, all good.

Re: HP15C LE Keyboard Survey

*Message #29 Posted by **John Keith** on 19 Sept 2011, 7:34 a.m.,*
in response to message #28 by Michael de Estrada

Received 2 units, only opened one (the other is a gift). No keyboard issues, all keys feel fine. LE #1124.

John

Re: HP15C LE Keyboard Survey

*Message #30 Posted by **Jno. Greenslet** on 19 Sept 2011, 8:31 a.m.,*
in response to message #1 by M. Joury

I have two HP15C LE units and both keyboards are fine.

However, my original 15C has two SST keys (the second one is where the TAN key should be).

Cheers,

Jno.

Re: HP15C LE Keyboard Survey

*Message #31 Posted by **Katie Wasserman** on 19 Sept 2011, 1:02 p.m.,*
in response to message #30 by Jno. Greenslet

> Quote:
>
> However, my original 15C has two SST keys (the second one is where the TAN key should be).

Now that's a collectible!

Re: HP15C LE Keyboard Survey

*Message #32 Posted by **E Walsh** on 19 Sept 2011, 9:26 a.m.,*
in response to message #1 by M. Joury

Received one from Buy.com: keyboard completely OK, all keys register and feel correct, 'f' and 'g' are aligned correctly, limited edition number #01089.

Re: HP15C LE Keyboard Survey

*Message #33 Posted by **MBlount** on 19 Sept 2011, 9:58 a.m.,*
in response to message #1 by M. Joury

Received 1, no bad keys. Both f & g keys are nice and tight.

Re: HP15C LE Keyboard Survey

*Message #34 Posted by **Namir** on 19 Sept 2011, 11:25 a.m.,*
in response to message #33 by MBlount

I opened one and the keyboard is good.

Re: HP15C LE Keyboard Survey

*Message #35 Posted by **M. Joury** on 19 Sept 2011, 9:46 p.m.,*
in response to message #34 by Namir

Thanks Namir,

I thought that you mentioned buying several for friends and testing them before you shipped. Did they test ok? Or where you not looking for keyboard issues.

Cheers,

-Marwan

Re: HP15C LE Keyboard Survey

*Message #36 Posted by **megarat** on 19 Sept 2011, 11:25 a.m.,*
in response to message #1 by M. Joury

Received: 1 Bad: 0

Re: HP15C LE Keyboard Survey

*Message #37 Posted by **Tom Mathes** on 19 Sept 2011, 12:01 p.m.,*
in response to message #1 by M. Joury

Received one from buy.com last Monday. No bad keys I could find, all of them pass the self-check test with normal keystrokes.

Re: HP15C LE Keyboard Survey

*Message #38 Posted by **Jeff O.** on 19 Sept 2011, 12:18 p.m.,*
in response to message #1 by M. Joury

4 units received
0 bad keyboards or other issues.

Re: HP15C LE Keyboard Survey

*Message #39 Posted by **Dan Grelinger** on 19 Sept 2011, 12:27 p.m.,*
in response to message #1 by M. Joury

1 unit purchased, from buy.com, Limited Edition Number 02368.

Two (2) bad keys: The '6' key, and the 'SST' key. Keys feel the same as the others, but do not register when the key goes down. They will only register if I press them with about twice the force necessary to make the key go down.

I got my unit on Thursday, found the issue immediatly, called buy.com Friday morning, and was told refund would be gladly made, but there were no units available for replacement, and they expected to receive no more units from HP.

I called HP support this morning. They said they sent all their stock to the retailers, and have none for replacement either, at this time. I will have to wait 8-12 weeks for a repair/replacement.

Re: HP15C LE Keyboard Survey

*Message #40 Posted by **M. Joury** on 19 Sept 2011, 1:19 p.m.,*
in response to message #39 by Dan Grelinger

Did you see Tim Wessman's email about contacting him directly?

Re: HP15C LE Keyboard Survey

*Message #41 Posted by **Dan Grelinger** on 19 Sept 2011, 10:22 p.m.,*
in response to message #40 by M. Joury

Just did, and emailed him. Glad to see that someone cares to find out what is going wrong. Dan

Re: HP15C LE Keyboard Survey

*Message #42 Posted by **Tommy** on 19 Sept 2011, 12:51 p.m.,*
in response to message #1 by M. Joury

My friend in the US bought 2 units (#02449 #02799) from amazon.com. I have seen them on skype and the self test worked fine as far as we could see. Have to wait for a couple of days more before I can touch…

So: 2:0

/Tommy

Re: HP15C LE Keyboard Survey

*Message #43 Posted by **Adam Vaughn** on 19 Sept 2011, 2:38 p.m.,*
in response to message #1 by M. Joury

Received one, no bad keys. -Adam

Re: HP15C LE Keyboard Survey

*Message #44 Posted by **Thomas Scott** on 19 Sept 2011, 3:09 p.m.,*
in response to message #1 by M. Joury

Received one unit with all keys working fine. Great calculator!

Re: HP15C LE Keyboard Survey

*Message #45 Posted by **Peter Murphy (Livermore)** on 19 Sept 2011, 3:44 p.m.,*
in response to message #44 by Thomas Scott

Got one, ran the three self tests.

(I googled <hp 12c self tests error 9> to find the official HP version of tests, which are the same as those for the new-model 12c).

The press-all-the-keys test was satisfactory.

Score 1/0.

Re: HP15C LE Keyboard Survey

*Message #46 Posted by **Woody Larkin** on 19 Sept 2011, 5:07 p.m.,*
in response to message #45 by Peter Murphy (Livermore)

I have LE Number 00054 from Samson Cables. The "REAL" Self-Test was passed with no errors. All keys work silky smooth. It is very fast (as is the 12C+ and 12C LE). Compare 69! with the original 12C or 15C. I am very impressed with the overall quality of this calculator. Thank You, HP!

Re: HP15C LE Keyboard Survey

*Message #47 Posted by **Gerson W. Barbosa** on 19 Sept 2011, 5:19 p.m.,*
in response to message #46 by Woody Larkin

> Quote:
>
> Compare 69! with the original 12C or 15C.

You might want to compare -69.5! with the original 15C to see the difference.

Re: HP15C LE Keyboard Survey

*Message #48 Posted by **sylvandb** on 19 Sept 2011, 5:33 p.m.,*
in response to message #1 by M. Joury

1 good (0 bad)

Both old and new keyboard tests pass 1st attempt, with no tactile or observed issues.

somewhat off topic:

12c 30th AE purchased at the same time has 99% keyboard (if a key was non-functional it would be 97.5%). Once in a while, rare enough that it could be my fault, I'm pretty certain I 'clicked' a key but the calc did not register. Never able to repro on demand.

Re: HP15C LE Keyboard Survey

*Message #49 Posted by **Morten Nygaard Åsnes** on 20 Sept 2011, 2:52 a.m.,*
in response to message #1 by M. Joury

Received 1, bad 0

Re: HP15C LE Keyboard Survey

*Message #50 Posted by **Les Bell** on 20 Sept 2011, 3:49 a.m.,*
in response to message #1 by M. Joury

Received LE 00932 from Samson Cables today. All keys good.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP15C LE Keyboard Survey (long)

*Message #51 Posted by **j beede** on 20 Sept 2011, 12:28 p.m.,*
in response to message #1 by M. Joury

Just got my 15C LE yesterday. Used it for an hour+ of physics tutoring last night. I have used a 45 at home for 36 years and a 15C in my office for ~25 years. The fancy LE package had no seal and the plastic tray holding the 15C had quite a grip on the calculator. The 15C LE is heavier than my original (124g v 118g). The LE screen has same contrast but has a slight green/yellow tint. The LE battery cover is too easily opened in my opinion. The LE keys seem to have slightly more travel and are a bit noisier than the vintage unit. The LE keys have a "chalky" feel as they are pressed. No bad keys detected and I did not experience any "typos" while working at normal speed. The LE key labels are brighter or my original has faded. I paid $89 with free shipping and am pleased.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HEPAX Focal program "Jump"

*Message #1 Posted by **Jeff Davis** on 18 Sept 2011, 12:37 p.m.*

Does anyone already have a mcode version of this program? Before trying to write one, if it is possible, I wanted to see if it is already done. Thanks

Re: HEPAX Focal program "Jump"

*Message #2 Posted by **Ángel Martin** on 18 Sept 2011, 1:44 p.m.,*
in response to message #1 by Jeff Davis

Yes. Doug Wilder wrote such routines, initially published in the DISASM4C module. They were dropped in the 4E revision, but 4C is still available at TOS.

I also included them in the ToolBox-II rom, also available at TOS.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Available in UK?

*Message #1 Posted by **jacksonconsult** on 18 Sept 2011, 11:31 a.m.*

Any idea when the HP15C LE will be available in the UK and Europe?

The 15C does not seem to be available on Amazon UK or the HP UK online store here.

Thanks

Ian J

Re: HP-15C LE Available in UK?

*Message #2 Posted by **SteveH** on 18 Sept 2011, 2:38 p.m.,*
in response to message #1 by jacksonconsult

There didn't seem too be any information available on this when I tried to find the out too.

In the end I went with an order through Samson Cables, shipping to the UK.

Re: HP-15C LE Available in UK?

*Message #3 Posted by **jacksonconsult** on 18 Sept 2011, 3:11 p.m.,*
in response to message #2 by SteveH

okay, thanks Steve

Ian J

Re: HP-15C LE Available in UK?

*Message #4 Posted by **Jose Gonzalez Divasson** on 19 Sept 2011, 4:27 p.m.,*
in response to message #1 by jacksonconsult

Definitely will be available in Europe, presented to the distributor network on Sept 22 together with the 12c Anniversary

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can we make'em like Bill and David? An open RPN?

*Message #1 Posted by **snaggs** on 18 Sept 2011, 9:51 a.m.*

I had a grandeouse idea the other night. Theres at least a thousand people who would buy a calculator built like they used to. Maybe the answer is just that, like they used to.. Amongst the people here we have programmers, electrical engineers and Im sure we have some senior engineers who long ago became project managers.

Given the large catalogues of pre-produced IC's etc, is it not possible we could put together a "built like a battleship" piece of hardware, that coders like myself, and Paul etc could build on.

Start with a well thought out design which is extendable, and dont try everything all at once. First release build something with 34C feature list. It might only have trig functions etc, but each one lovelingy slaved over in 128bit precision (i learnt these algorithms in scientific computing 15 years ago, theyre in books).

Then, just grow it over time. There is still a company that bought the rights to IBM's old clickety clack keyboards, surely their are other companies that can ma,e nice buttons. There may even be an off-the-shelf generic peice of hardware thats used for remote data collection that fits the bill amd can be hijacked.

I know the wp34s software is good, but stickers on a OK keyboard dont do it justice. The hard bit is the nice package + keys, then the coders cam take over. The nut processor was reerse engineered and remade by one guy, who thought that would be possible?

Im not sure its as mad as it sounds, its how HP started, two guys in a shed, expecting only low volume.

Daniel.

Given the crazy prices on TAS, and the dema

Re: Can we make'em like Bill and David? An open RPN?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 18 Sept 2011, 10:16 a.m.,*
in response to message #1 by snaggs

Wow! That's a novelty here...
;-)

openrpn

Edited: 18 Sept 2011, 10:17 a.m.

Re: Can we make'em like Bill and David? An open RPN?

*Message #3 Posted by **David Ramsey** on 18 Sept 2011, 11:26 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Yeah, too bad the project appears to be dead (project home page gives a 404)...

Re: Can we make'em like Bill and David? An open RPN?

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 18 Sept 2011, 12:17 p.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> too bad the project appears to be dead

Yeah, old news...

I'll leave the explanation of failure to someone more involved than me in this project.

Hint: we now now have 34S because only two (later on three) people were developing it.

Massimo

Re: Can we make'em like Bill and David? An open RPN?

*Message #5 Posted by **Walter B** on 18 Sept 2011, 2:31 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

Well, OpenRPN is dead for long. Great ideas, nice texts, promising drawings, little action hardware-wise, poor coordination. IIRC there were no more than some five regular project team members, but IMHO it eventually died due to suboptimal project and team management. Though the originator of OpenRPN was able to write English correctly, at least. Good luck!

"Those who don't learn from history are condemmned to experience it once more" (unknown author).

Re: Can we make'em like Bill and David? An open RPN?

*Message #6 Posted by **Howard Owen** on 18 Sept 2011, 3:36 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> Those who cannot remember the past are condemned to repeat it

George Santayana

Re: Can we make'em like Bill and David? An open RPN?

*Message #7 Posted by **Lyuka** on 18 Sept 2011, 5:32 p.m.,*
in response to message #6 by Howard Owen

What Santayana actually said is

> Quote:
>
> Those who cannot remember the past are condemned to **fullfill** it.

It's slight difference, though, last few digits/words are important to us :-)

e.g.

```
in RADian mode,
35s : Tan(1e-4) = 1.00000000330e-4
42S : Tan(1e-4) = 1.00000000333e-4
50g : Tan(1e-4) = 1.00000000333e-4
```

It's a trigonometric bug not related to the range deduction.

Lyuka

Edited: 18 Sept 2011, 5:38 p.m.

Re: Can we make'em like Bill and David? An open RPN?

*Message #8 Posted by **Howard Owen** on 18 Sept 2011, 7:19 p.m.,*
in response to message #7 by Lyuka

There are actually multiple versions of that aphorism floating around, as I discovered today preparing the above post. The quote comes from "The Life of Reason," Volume I, chapter VII. I'm not scholar enough to know if Santayana wrote in his native Spanish or not, but English translations often give "Those who cannot remember the past are condemned to repeat it." (See, for example, The Santayana Edition's FAQ.)

Re: Can we make'em like Bill and David? An open RPN?

*Message #9 Posted by **Hugh Evans** on 18 Sept 2011, 4:08 p.m.,*
in response to message #5 by Walter B

Guilty as charged, OpenRPN was my crazy idea and there were many reasons why it never panned out. The physical manufacturing challenges are becoming much more manageable... In fact, I even have ready access to a couple of CNC machines. Team size never reached the critical mass needed to reach fruition. I also simply didn't have enough free time to manage anywhere near my potential.

In my mind, WP-34s has fulfilled many of the ideals (in a different embodiment) of the OpenRPN project. Both Walter and Pauli were instrumental to that project, and I'm not at all surprised that when opportunity presented itself they accomplished what they have.

I do have the original site fully backed up, and will talk to one of my cohorts to see if we can at least put it back up for reference.

If I ever choose to resurrect OpenRPN, it would be more hardware centered. Every time I found someone to help with electronic design, it fizzled out quickly for one reason of another. I order to avoid production and tooling costs, imagine the potential held by giving a machine such as the 30b a new set of guts. Even a modern 12C with rebuilt electronics could be a lot of fun.

One more thing: bringing back a project like OpenRPN can't come through a simple announcement. Something tangible must accompany the announcement. I think a working circuit board/development kit would be about right.

I'm at a good point in my life again to consider such an endeavor. But it would, in my eyes be more of an extension of WP-34s. There are ways existing products can be improved, and we have reasonable hardware to work with as a starting point.

This should be more than sufficient to start some flaming, but if anyone is interested in doing something crazy, let me know.

Re: Can we make'em like Bill and David? An open RPN?

*Message #10 Posted by **Marcus von Cube, Germany** on 19 Sept 2011, 3:33 a.m.,*
in response to message #9 by Hugh Evans

OpenRPN will get a mention in my WP 34S history presentation at HHC. It was a pity not to have had access to the original designs when I prepared it but Walter has helped me out with one of the proposed keyboards. In fact, WP 34S has inherited some code from OpenRPN.

I would love to see and help with another project in line with WP 34S.

Re: Can we make'em like Bill and David? An open RPN?

*Message #11 Posted by **Paul Dale** on 19 Sept 2011, 4:09 a.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> In fact, WP 34S has inherited some code from OpenRPN.

More code than the presentation says :-)

- Pauli

Re: Can we make'em like Bill and David? An open RPN?

*Message #12 Posted by **DaveJ** on 19 Sept 2011, 8:32 a.m.,*
in response to message #9 by Hugh Evans

> Quote:
>
> If I ever choose to resurrect OpenRPN, it would be more hardware centered. Every time I found someone to help with electronic design, it fizzled out quickly for one reason of another. I order to avoid production and tooling costs, imagine the potential held by giving a machine such as the 30b a new set of guts. Even a modern 12C with rebuilt electronics could be a lot of fun.

Sorry, I don't see how changing the electronics in the existing already open products would be of much benefit? Don't they already have decent amounts of processing power and memory for their given user interface?

(I'm not up on the 30B repurposing project, so I'm only guessing they have plenty of resources, but it's likely I'm wrong...)

> Quote:
>
> One more thing: bringing back a project like OpenRPN can't come through a simple announcement. Something tangible must accompany the announcement. I think a working circuit board/development kit would be about right.

Sorry, but I have to disagree strongly on that one, a prototype board would not accomplish or prove anything. A PCB with a processor, a bunch of switches, and a display hacked up to work is bordering on trivial. It is in fact a common practical project in microcontroller

classes.

I really think people want/need to see attempts at actual housings and keyswitch designs.

I know that's the "hard part", but that's kinda the point...

Dave.

Re: Can we make'em like Bill and David? An open RPN?

*Message #13 Posted by **Paul Dale** on 19 Sept 2011, 9:59 a.m.,*
in response to message #12 by DaveJ

> Quote:
>
> I'm not up on the 30B repurposing project, so I'm only guessing they have plenty of resources, but it's likely I'm wrong...)

Yes and no.

- The CPU is fast. Very fast. Pretty much any space/time trade off is made in favour of space.
- There is a lot of flash (128kb). We've filled this several times but that is due to cramming extra functions in.
- There isn't a lot of persistent RAM (2kb). The is 100% full. One *bit* left currently.
- There isn't a lot of volatile RAM (4kb) but this seems adequate. We've only run out a few times and each time it could be coded around.
- The keyboard is adequate.
- The display is very marginal. The CPU LCD driver can only handle 400 segments. This means the dot matrix portion is tiny.

The most pressing limitation is the display. The next is the shortage of non-volatile RAM.

- Pauli

Re: Can we make'em like Bill and David? An open RPN?

*Message #14 Posted by **bill platt** on 18 Sept 2011, 10:32 a.m.,*
in response to message #1 by snaggs

I recognize the Hugh of this proposal.

Re: Can we make'em like Bill and David? An open RPN?

*Message #15 Posted by **Mike Morrow** on 18 Sept 2011, 10:52 a.m.,*
in response to message #1 by snaggs

Is English your first language?

Re: Can we make'em like Bill and David? An open RPN?

*Message #16 Posted by **Mark Hardman** on 18 Sept 2011, 11:44 a.m.,*
in response to message #15 by Mike Morrow

> That's not bad English—it’s a bad pun!

Re: Can we make'em like Bill and David? An open RPN?

*Message #17 Posted by **Michael Kussmaul** on 18 Sept 2011, 12:34 p.m.,*
in response to message #1 by snaggs

You could start a project at www.kickstarter.com - but for that you already need to formalize your project a bit and put a price-tag there.

I guess the "platform" needs to be quite open, as key-to-function mapping might change, so perhaps using exchangeable keys. Or allow to place plastic labels inside crystal-clear keys?

I also would like to see a calculator with an e-ink or other hires display (aka retina-display on the iPhone), it does not need to be large, but those low-res LCD dot-matrix displays as found on the HPs are quite outdated technology. E.g. one could then place three lines (smaller-font) or two lines (larger-font) text on them, etc.

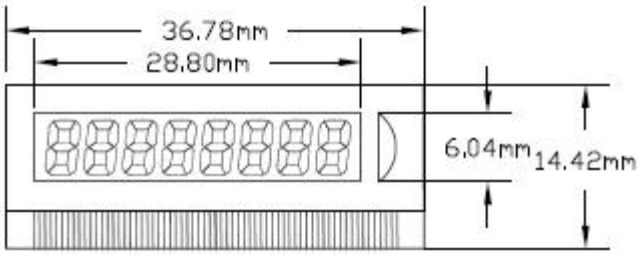
I would buy such an calculator instantly :-)

Re: Can we make'em like Bill and David? An open RPN?

*Message #18 Posted by **nick lidakis** on 18 Sept 2011, 1:21 p.m.,*
in response to message #1 by snaggs

I really like this idea.

Someone mentioned E-ink displays. One can order, from E-Ink, development samples here:
http://store.nexternal.com/eink/8-x-7-p19.aspx



8x7 segmented display:

Nice thing is, power is only used when refreshing the E-Ink.

If this really gets going I'm willing to donate for development.

Edited: 18 Sept 2011, 1:28 p.m.

Re: Can we make'em like Bill and David? An open RPN?

*Message #19 Posted by **uhmgawa** on 18 Sept 2011, 1:56 p.m.,*
in response to message #1 by snaggs

> Quote:
>
> I had a grandeouse idea the other night.

Welcome to the club.

> Quote:
>
> Theres at least a thousand people who would buy a calculator built like they used to.

Which is a woefully insufficient number to merely break even given the engineering cost to "make'em like Bill and David". Don't you think if modern HP could do so given their engineering and manufacturing resources and economy of scale they might be tempted to take a stab?

> Quote:
>
> Given the large catalogues of pre-produced IC's etc, is it not possible we could put together a "built like a battleship" piece of hardware, that coders like myself, and Paul etc could build on.

You perhaps are missing the point. The issues aren't programming nor finding an SoC platform able to support it and this application. Rather the big rocks are in estimate of decreasing cost/complexity:

```
1.  Locating or manufacturing a suitable display
2.  Enclosure manufacturing
3.  Key cap manufacturing
4.  Creation of any legend plates (secondary key legends, etc..)
```

The above issues have substantial up-front tooling/engineering costs and don't lend themselves to an "eventual progress with available resources" development model as do firmware and electrical/SoC/other_mechanical tasks.

If you've found some other way to recover the above up-front expenses which don't rely on volume sales, you certainly have my ear.

Re: Can we make'em like Bill and David? An open RPN?

*Message #20 Posted by **Garth Wilson** on 18 Sept 2011, 4:18 p.m.,*
in response to message #19 by uhmgawa

1. Off-the-shelf LCDs are in the $5-$10 range even in singles. Custom LCDs, when we looked into them in the late 1980's, were a couple thousand dollars to tool up for.

2. We just this year looked into a custom enclosure requiring molds to be made, with a lot of complex curves-- not a simple design at all. The quote was $50,000.

3. Along with #1 above, we looked into a set of double-shot keys similar to the HP-71's. NRE was a few thousand-- I don't remember exactly, but it was under $5,000.

4. We made a lexan panel with dead-front annunciators in 1994 and the tool-up was $2,000.

All together, it's well under $100,000, and the custom case takes most of it. For low volumes, if you can be satisfied with an off-the-shelf case from a company like PacTec and get them custom machined, the per-piece cost will be much higher but there will be almost no up-front cost.

I've designed and brought many electronic products to market myself (but not calculators). See my post at message #10 at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=79592 to get an idea of how cheaply it can be done. If the calc is developed by a bunch of enthusiasts who don't expect to get paid, it gets even less expensive. This is not that difficult! It seemed pretty clear to me that the reason OpenRPN failed was because of all the nay-saying and discouragement that came from those who insisted that it couldn't be done and kept expecting prototypes to come out as quickly as some of the consumer-market products have to like cell phones and iPods which last only a short time and are out of date before

they're introduced if you don't do a blitzkrieg development schedule. This is different. We're hanging onto favorites that are *decades* old. What's the problem if it takes two or three years for an OpenRPN calc to go from concept to first hardware? If someone takes up the project again, let's give them our encouragement (and help if we have something to offer). Those taking up the project will probably be working on it in the evenings and when they don't have to mow the lawn. It's not their livelihood, so we can't complain.

Re: Can we make'em like Bill and David? An open RPN?

*Message #21 Posted by **uhmgawa** on 18 Sept 2011, 8:43 p.m.,*
in response to message #20 by Garth Wilson

> Quote:
>
> 1. Off-the-shelf LCDs are in the $5-$10 range even in singles.

You can certainly find lcd modules in surplus for that price -- mostly COB text modules. But they aren't typically suitable for this application due to footprint bulk, excessive current consumption, incompatible voltage rail, and being of less than preferable transreflective design. Text only modules IMHO are somewhat of an unenthusiastic compromise as, well you're limited to that rigid format.

The last point may be workable as the lower polarizer could be retrofitted. Even the current consumption could be managed if due to a brute force resistive voltage divider by removing the chain and substituting a high impedance equivalent feeding ultra-low current voltage followers. But the form factor bulk of typical modules tends to be the impasse.

In any case if substantial resources are expended on an enclosure design, the display supply needs to be reliable.

> Quote:
>
> Custom LCDs, when we looked into them in the late 1980's, were a couple thousand dollars to tool up for.

I wouldn't assume too much from that data point given the intervening time and changes in technology. Also price varies with topology, form factor, controller, etc.. so that figure by itself doesn't offer much guidance.

I sent a quote request out last week for custom/semi-custom 32x160 and 32x192 STN reflective formats in COG, COF, and bare glass. Unfortunately a bundled glass + controller unit may be a practical non-negotiable here as contemporary controllers able to support these densities are not really feasible to provide in reflowable packages.

> Quote:
>
> 2. We just this year looked into a custom enclosure requiring molds to be made, with a lot of complex curves-- not a simple design at all. The quote was $50,000.
>
> 3. Along with #1 above, we looked into a set of double-shot keys similar to the HP-71's. NRE was a few thousand-- I don't remember exactly, but it was under $5,000.

Was the 55K up-front simply NRE or was some production volume included in this cost?

> Quote:

> 4. We made a lexan panel with dead-front annunciators in 1994 and the tool-up was $2,000.

I investigated UV resistant polyester recently and IIRC the tooling cost was around US$500. Lexan/polycarbonate besides being more expensive was actually claimed to be less durable in this service. But I do like the durable under-printed matte-upper surface design of these panels for legend use.

> Quote:
>
> All together, it's well under $100,000, and the custom case takes most of it. For low volumes, if you can be satisfied with an off-the-shelf case from a company like PacTec and get them custom machined, the per-piece cost will be much higher but there will be almost no up-front cost.

I wasn't even considering use of such utility enclosures. For an initial prototype nearly anything will do. But I doubt a pocket calculator sporting pactec aesthetics would attract much of a following. I'd even speculate a professionally 3D printed enclosure would do better in this respect.

CNC milling may also be feasible for limited production and opens up the possibility of using a cast aluminum blank.

> Quote:
>
> If someone takes up the project again, let's give them our encouragement (and help if we have something to offer).

To be clear, I'm certainly not discouraging the effort. Far from it -- I'd encourage it and would be interested to contribute assuming the direction appeals to me.

But if we're looking at a design which can compare functionally *and* aesthetically with say, a legacy HP product, there will be substantial NRE involved. Leveraging funding and patience of interested parties needs to happen in the context of some type of business model and have a realistic execution strategy and schedule.

I'm not saying it can't be done, but rather substantial engineering and logistical challenges exist on the path to getting there. No one would be happier than I for this assumption to be proven wrong.

[edited for clarity]

Edited: 19 Sept 2011, 8:54 a.m. after one or more responses were posted

Re: Can we make'em like Bill and David? An open RPN?

*Message #22 Posted by **DaveJ** on 19 Sept 2011, 8:43 a.m.,*
in response to message #21 by uhmgawa

> Quote:
>
> You can certainly find lcd modules in surplus for that price -- mostly COB text modules. But they aren't typically suitable for this application due to footprint bulk, excessive current consumption, incompatible voltage rail, and being of less than

> preferable transreflective design. Text only modules IMHO are somewhat of an unenthusiastic compromise as, well you're limited to that rigid format.

Try the Sharp Memory LCD's:
http://www.sharpmemorylcd.com/index.html

> Quote:
>
> I'm not saying it can't be done, but rather substantial engineering and logistical challenges exist on the path to getting there.

They do, but if you are clever about the design and physical implementation, the hurdles can be quite small indeed.

My uWatch Mk2 calc watch project I'm working on looks to be do-able for under $1000 in development costs, complete with fully custom case. And for that price you get half a dozen of them as a bonus.

Dave.

Re: Can we make'em like Bill and David? An open RPN?

*Message #23 Posted by **uhmgawa** on 19 Sept 2011, 9:46 a.m.,*
in response to message #22 by DaveJ

> Quote:
>
> Try the Sharp Memory LCD's: http://www.sharpmemorylcd.com/index.html

None of their standard product offerings appear to be of high aspect ratio normally used for a compact calculator display. Also at horizontal graphic resolutions of interest the active area sizes run about half of that optimum for this application. So at this point it is likely a custom glass proposition. Although given the pricing for standard product thus far it certainly is promising.

Note AFAICT there appears to be a mix of reflective and transreflective product in that overview.

Re: Can we make'em like Bill and David? An open RPN?

*Message #24 Posted by **Hugh Evans** on 18 Sept 2011, 4:15 p.m.,*
in response to message #1 by snaggs

Feel free to contact me if you want to talk about such madness, because I've been down this road. If you are interested in resurrecting OpenRPN, I'm not opposed to it in any way.

The last crazy thought I had on the topic was to build a case that would enclose an iPhone and use physical keys with snapdomes that could interact with the touchscreen. This is one of this less crazy concepts I have. Rapid prototyping is a much more viable option than 6 or 7 years ago, and I have access to CNC equipment.

Shoot me an email and let's talk.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some HP 97 Questions

*Message #1 Posted by **Fouad M. Kaadou** on 18 Sept 2011, 7:47 a.m.*

Hello,

I got an HP 97 from eBay and I noticed some things I want to try to fix.

1. The printing is very faint - could it be a resistor problem?

2. The card reader does not write data and I'm assuming the card reader assumes all cards as clipped because it reads properly, so is their any way to by pass the write protection?

Thanks in advance, Fouad

Re: Some HP 97 Questions

*Message #2 Posted by **Olivier De Smet** on 18 Sept 2011, 10:36 a.m.,*
in response to message #1 by Fouad M. Kaadou

I also have some questions,

I just got a working (tested with 3 AA batteries) HP97 with manuals, cards and pouch for 2 euros at a flea market (yes 2 euros)

But the deal is that there is no charger (the battery pack was re-done with sanyo battery) ...

Did someone near Paris (France) have a topcat charger ?

(I need to clean the card reader anyway)

Olivier

Edited: 18 Sept 2011, 10:37 a.m.

OT: French Movie

*Message #3 Posted by **Namir** on 18 Sept 2011, 10:59 a.m.,*
in response to message #2 by Olivier De Smet

Hello Olivier,

I was watching a relatively new French movie about 10 days ago. One of the characters had your full name!! How about that! I thought of you when I heard the name.

Cheers,

Namir

Re: Some HP 97 Questions

*Message #4 Posted by **Michael de Estrada** on 18 Sept 2011, 11:18 a.m.,*
in response to message #2 by Olivier De Smet

> Quote:
>
> I just got a working (tested with 3 AA batteries) HP97

So the French market Topcats run on 4.5 vdc ?

Re: Some HP 97 Questions

*Message #5 Posted by **Olivier De Smet** on 18 Sept 2011, 12:17 p.m.,*
in response to message #4 by Michael de Estrada

The battery block is 4 1.2 V NiCd battery so 3 1.5 V AA works with the red led (charging needed) on.

It's enough to test the 97 and even the printer.

I dismantled the card reader and should replace the goed capstan :(But I don't have the right rubber tubing ...

Olivier

Re: Some HP 97 Questions

*Message #6 Posted by **Didier Lachieze** on 18 Sept 2011, 1:19 p.m.,*
in response to message #2 by Olivier De Smet

Hi Olivier,

If you're looking for someone near Paris, you should try this forum:
http://www.silicium.org/forum/viewforum.php?f=46

Re: Some HP 97 Questions

*Message #7 Posted by **aj04062** on 18 Sept 2011, 11:47 a.m.,*
in response to message #1 by Fouad M. Kaadou

Printing "could" be old paper. Have you tried different paper to see if that helps?

There is a contact within the card reader that determines if the card is clipped or not. Perhaps it needs cleaning. If it does not make contact, logic assumes it is clipped.

Re: Some HP 97 Questions

*Message #8 Posted by **Fouad M. Kaadou** on 18 Sept 2011, 12:53 p.m.,*
in response to message #7 by aj04062

I have tried different paper and I have also tried the same paper on my HP-41CX printer and printing was great. I am pretty sure the paper is not the issue.

Re: Some HP 97 Questions

*Message #9 Posted by **BobVA** on 18 Sept 2011, 12:50 p.m.,*
in response to message #1 by Fouad M. Kaadou

Have a look at this thread regarding troubleshooting the write protect system and this one on how to bypass the write protect entirely.

Regards, Bob

Re: Some HP 97 Questions

*Message #10 Posted by **Fouad M. Kaadou** on 18 Sept 2011, 2:04 p.m.,*
in response to message #9 by BobVA

I have by passed the two pins on the logic and it seems to have worked. What happens if one of the nylon balls in the card reader is missing?

Thanks,

Fouad

Re: Some HP 97 Questions

*Message #11 Posted by **Dan W** on 18 Sept 2011, 2:37 p.m.,*
in response to message #10 by Fouad M. Kaadou

If the ball is missing, that switch won't work.

I have found replacement polished Delrin balls at smallparts.com (1/8 inch diameter, part BDLR02 works).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

42s questions and 42s vs 35s

*Message #1 Posted by **snaggs** on 18 Sept 2011, 6:45 a.m.*

Had the 42s a week now, and enjoying it.

Questions ---------- 1. Cant seem to find a Normal distribution program for the 42s? 2. Once I get my head around it, will I be able to do the equivalent of the equation solver on the 35s on the 42s? I have to write an RPN program instead right? Is it fast? 3. Has anybody run out of ram?

42s vs 35s ---------- 1. The 42s manual doesn't seem as good as the 35s, not as many examples/programmes. 2. Has anybody run out of ram of the 42s? 3. Is the accuracy on solve and integration as good as 35s? 4. The keys on the 42s arnt light years better than the 35s, infact he sloped keys are nice. 5. The menu system and polish on the 42s is awesome

Re: 42s questions and 42s vs 35s

*Message #2 Posted by **Paul Dale** on 18 Sept 2011, 6:56 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> 1. Cant seem to find a Normal distribution program for the 42s?

Try the software library on this site. Either the 41 or the rest, both have normal and inverse normal distributions. Conversion is straightforward.

> Quote:
>
> 2. Once I get my head around it, will I be able to do the equivalent of the equation solver on the 35s on the 42s? I have to write an RPN program instead right? Is it fast?

Yes, yes and how fast? It is fast enough for most purposes. It is as fast as a modern fast CPU -- no.

> Quote:
>
> 3. Has anybody run out of ram?

I haven't but I'm sure you could if you tried. 8kb is heaps for most purposes. If it isn't enough for you, search for the 32kb expansion and get your soldering iron out. You can also double the speed at the same time if you are keen.

> Quote:
>
> 1. The 42s manual doesn't seem as good as the 35s, not as many examples/programmes.

I'd have said it was far and away better. It covers everything, the printed manual I got with my 35s was very very thin in comparison. Do they even ship the printed manual anymore.

> Quote:
>
> 3. Is the accuracy on solve and integration as good as 35s?

Yes, if not better -- I trust the results from the 42s, I don't for the 35s.

> Quote:
>
> 5. The menu system and polish on the 42s is awesome

The menu system is the weak point in my opinion :-) The polish is definitely there.

- Pauli

Re: 42s questions and 42s vs 35s

*Message #3 Posted by **snaggs** on 18 Sept 2011, 7:17 a.m.,*
in response to message #2 by Paul Dale

When i said is it fast, I meant fast to type in compared to the equation editor.

Ps. Why does this forum software keep stripping out my carriage returns, my post is close to unreadable.

Daniel.

Re: 42s questions and 42s vs 35s

*Message #4 Posted by **Paul Dale** on 18 Sept 2011, 7:30 a.m.,*
in response to message #3 by snaggs

Try putting [nl] at the end of the lines or wrap it up in [pre]...[/pre].

I enter equations faster as RPN than I do into an equation edition but that is a personal thing.

- Pauli

Edited: 18 Sept 2011, 7:46 a.m.

Re: 42s questions and 42s vs 35s

*Message #5 Posted by **Gerson W. Barbosa** on 18 Sept 2011, 1:09 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> > Quote:
> >
> > 5. The menu system and polish on the 42s is awesome
>
> The menu system is the weak point in my opinion :-) The polish is definitely there.

The HP-42S is slightly more usable than the HP-41 (as a calculator), IMHO. Not only because of its menu system, but also because there is only one shift key. I'd rather have more functions directly available from the keyboard, like in the HP-15C.

Wasicki :-)

Re: 42s questions and 42s vs 35s

*Message #6 Posted by **M. Joury** on 18 Sept 2011, 1:55 p.m.,*
in response to message #5 by Gerson W. Barbosa

I never found the single shift a problem with the 41. Probably in part due to it's fully implemented user mode keyboard. The HP42S implementation is only partial (top row menu).

I don't mind menus too much as long as they are logical and relatively flat.

Cheers,

-Marwan

Re: 42s questions and 42s vs 35s

*Message #7 Posted by **MK-52** on 18 Sept 2011, 7:45 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> 1. The 42s manual doesn't seem as good as the 35s, not as many examples/programmes.

HP provided "HP-42S Programming Examples and Techniques." This book is very useful.

Re: 42s questions and 42s vs 35s

*Message #8 Posted by **Dieter** on 18 Sept 2011, 8:08 a.m.,*
in response to message #1 by snaggs

Please use the Enter key twice (!) to create a new paragraph. Or insert a "nl" tag in square brackets. Or, even better, use the tags for numbered lists, as stated in the advanced formatting section on this site.

> Quote:
>
> 1. Cant seem to find a Normal distribution program for the 42s?

Programs for the Gaussian CDF and its inverse (quantile) are a very weak point in HP software. The one or other program even may be used as an example for errors and pitfalls that have to be avoided in numeric software. Most even resort to the good old Hastings approximation from the Fifties which is only good for three decimals.

Of course you can do both the CDF and the quantile using the 42s' Integrate and Solve, but there are far better options here. Some of them have been discussed for the 34s project.

What precision do you need? And what range of z resp. p has to be covered?

> Quote:

> 2. Once I get my head around it, will I be able to do the equivalent of the equation solver on the 35s on the 42s?

Since there is no equation mode on the 42s you will have to use RPN. While speed may be comparable in general terms, there is something the 42s cannot do: solving your equation symbolically. The 35s (in most cases) can do that if (!) the variable to solve for appears only once. A very simple example for the Pythagorean theorem on the 35s:

```
[EQN]
A^2 + B^2 = C^2
```

You now can solve for any variable and the 35s will return the result *immediately*. No inital guesses required, no iteration, no nothing. Press SOLVE A. You are prompted for B and C, and the value for A is returned within a fraction of a second. In fact, the 35s rearranges the equation and evaluates A as the square root of C^2 - B^2.

Or, try the example in the 15C manual, a stone dropped from the Eiffel tower: $h = g/2\ t^2$

```
[EQN]
H = g / 2 * T^2
```

Yes, the 35s also knows the value for g. ;-)
Solve T, enter H and get the result instantly. Replace the constant g by a variable G and you can also solve for that. I really like that. ;-)

> Quote:
>
> Is the accuracy on solve and integration as good as 35s

I assume both use the same or at least very similar algorithms, so there should not be much difference. The nice thing on the 35s however is that you can also solve and integrate equations.

There may be a difference if the 35s uses the mentioned feature and solves an equation symbolically. Consider X^2 = 8. The iterative approach on the 42s should return two adjacent results 2,82842712475 and ...474 (the exact value is somewhere in between), while the 35s evaluates X = SQRT(8) and returs only that result (...475).

This example also shows that you will always get one single result, so in this case the negative root will not be returned. In theses cases it's easy to force an iterative calculation: simply add 0*X to the equation so that X appears twice. ;-)

> Quote:
>
> The menu system and polish on the 42s is awesome

There are several things on the 42s that are awesome. ;-) However, it does not offer any kind of mass storage or communication with something other than a printer. A 42s with a 41C-style keyboard (and alpha entry) with a simple SD(HC/XC) slot - that would be something that made (not only) my dreams come true.

Dieter

Re: 42s questions and 42s vs 35s

*Message #9 Posted by **snaggs** on 18 Sept 2011, 8:50 a.m.,*

in response to message #8 by Dieter

Well, The 35s came with a program in the manual, and its as accurate as my tables book. I dont want to have to put in Z-scores, i can just put in mean and sd (once) and then find the upper tail or inverse. Real easy.

Ive got all the 42s manuals from the DVD set from this site. Theyre ok, but have less programs in them.

Matrices is very nice on the 42s, but te equation editor on the 35s is good for quickly putting in a solution or Euler for an ODE. Im wondering if I persevere with RPN I can be fast enough to code in exams.

The most amazing thing about the 42s in comparison is the catalog for programs.

Daniel.

Re: 42s questions and 42s vs 35s

*Message #10 Posted by **Alexander Oestert** on 18 Sept 2011, 9:18 a.m.,*
in response to message #9 by snaggs

> Quote:
>
> The most amazing thing about the 42s in comparison is the catalog for programs.

The 35s has some program catalog function as well:

Left Shift - MEM - 2PGM

With the up and down arrow keys you can browse the available program labels, not too much different from the 42s.

Re: 42s questions and 42s vs 35s

*Message #11 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 9:11 a.m.,*
in response to message #10 by Alexander Oestert

> Quote:
>
> not too much different from the 42s

Except for the possible length of the program names.

Re: 42s questions and 42s vs 35s

*Message #12 Posted by **John B. Smitherman** on 18 Sept 2011, 10:07 a.m.,*
in response to message #1 by snaggs

snaggs, if you're going back for a degree in applied math(s) you might consider adding an HP 50g to your toolbox. There's vast numbers of programs available and with the cable/SD card options it's easy to add programs to the libraries.

Regards,

John

No one ring to bind them all!

*Message #13 Posted by **snaggs** on 19 Sept 2011, 2:32 a.m.,*
in response to message #12 by John B. Smitherman

I had a 49g, which I dont like the look off. So I've bought three calculators in the past 2 months and are trying to decide between them;

35s : Great programs available, easy to find things (printed on buttons), no matrices!!!

42s : No fractions, which is annoying when working with Matrices with fractions in them!

48g+ : Read the manual, forget stuff, still have no idea how to do stuff on it and get lost. I got as far as the teach command, tried to store something in N, but its not lower case N so the fibon program error, and now the "left shift" Clear shows me no options and I can't delete variable "N". Press "on" button as many times as you like, and it doesnt let you run away and go back to home. 20 minutes has ellapsed and I've worked out that I created a program and deleted it. Maybe I just need to spend more time. Still can't run the FIBON example, it just beeps at me with "undefined name". Its not very encouraging!

> Quote:
>
> snaggs, if you're going back for a degree in applied math(s) you might consider adding an HP 50g to your toolbox. There's vast numbers of programs available and with the cable/SD card options it's easy to add programs to the libraries.
>
> Regards,
>
> John

Edited: 19 Sept 2011, 2:33 a.m.

Fractions into Matrices on HP48?

*Message #14 Posted by **snaggs** on 19 Sept 2011, 2:44 a.m.,*
in response to message #13 by snaggs

Tried typing '3/2' into a cell and it came up with an error. Is this illegal?

Daniel.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE COS key

*Message #1 Posted by **troy** on 18 Sept 2011, 2:50 a.m.*

ok, so my unit does not have the wiggly f and g key, but the COS key requires more force to get it to work. i had to press it several times before it would work. quite annoying because it clicks everytime i press, even though it did not actually performed the operation; the clicking sound makes you think it worked, and if you are not looking, you might get the wrong answer in the calculation.

this also occurs when doing the g-ENTER-ON test.

all other keys work fine, though.

Re: HP 15C LE COS key

*Message #2 Posted by **Lincoln R.** on 18 Sept 2011, 3:07 a.m.,*
in response to message #1 by troy

It's a bad key. A few random 15C LEs with keys that don't work right seem to have gotten through QA. You should probably call HP tech support and try to get them to fix or exchange it unless the place you bought it from has more in stock and you can exchange it there easier.

Re: HP 15C LE COS key

*Message #3 Posted by **Paul Gaster** on 18 Sept 2011, 9:35 a.m.,*
in response to message #1 by troy

That is 5 reports now, and I am not counting the f and g key reports. Considering that there are probably less than 100 calculators bought and thoroughly tested by people on this forum that is a pretty high percentage of rejects for modern manufacturing.

Re: HP 15C LE COS key

*Message #4 Posted by **Gerardo Rincon** on 18 Sept 2011, 10:30 a.m.,*
in response to message #3 by Paul Gaster

The f and g keys on the unit I use for everyday work #1598 do have a notably left-right rocking. Much more pronounced than the rest of the keys. They work perfectly OK when pressed vertically, normal feel, good click. But I can tell they are not as solidly in place as the rest of the keys. They are not as tight.... but maybe within manufacturing acceptable tolerance???

Edited: 18 Sept 2011, 10:33 a.m.

Re: HP 15C LE COS key

*Message #5 Posted by **Lincoln R.** on 18 Sept 2011, 12:00 p.m.,*
in response to message #4 by Gerardo Rincon

The f and g keys rock more than the others because the other keys are made on one large assembly, while f and g are individual pieces of plastic. This is because they are molded out of different colors. The assembly for the other keys provides a bit more stability.

So, this isn't really a manufacturing defect unless your f and g keys honestly don't work right when pushed.

Re: HP 15C LE COS key

*Message #6 Posted by **John B. Smitherman** on 18 Sept 2011, 11:42 a.m.,*
in response to message #3 by Paul Gaster

This might be acceptable for a $20 calculator but is certainly disappointing considering that the 15cle sells for $100.

John

Re: HP 15C LE COS key

*Message #7 Posted by **From Hong Kong** on 18 Sept 2011, 12:05 p.m.,*
in response to message #6 by John B. Smitherman

> Quote:
>
> This might be acceptable for a $20 calculator but is certainly disappointing considering that the 15cle sells for $100.
>
> John

I don't know whether I'm lucky or not. I have never got a brand-new US$20 calculator with such unacceptable problem.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Home shopping site has 15c in stock now

*Message #1 Posted by **sav** on 18 Sept 2011, 12:02 a.m.*

Hurry!

http://www.shopping.hp.com/store/product/product_detail/NW250AA%2523ABA/

Use codes SVN7795 or SVN7798 to get $10 off ...

Update: it appears you must have an EPP account to be able to add the item to the cart, otherwise it shows "coming soon" for general public accounts...

Update: the item is reportedly available to general public now.

Edited: 18 Sept 2011, 8:24 a.m. after one or more responses were posted

Re: HP Home shopping site has 15c in stock now...

*Message #2 Posted by **Martin Pinckney** on 18 Sept 2011, 12:15 a.m.,*
in response to message #1 by sav

I still only see "Coming Soon" @ 99.99 on Home Office or "Add to Cart" @ 129.99 on Small Business.

Can you direct us to the site you saw?

I see you added the link while I was writing my post, but it still says "Coming Soon" for me!

Edited: 18 Sept 2011, 12:17 a.m. after one or more responses were posted

Re: HP Home shopping site has 15c in stock now...

*Message #3 Posted by **sav** on 18 Sept 2011, 12:16 a.m.,*
in response to message #2 by Martin Pinckney

I just checked the link in my post and it allows me to add the item and go to checkout...

I do have EPP account though, may be this makes a difference?

Edited: 18 Sept 2011, 1:02 a.m. after one or more responses were posted

Re: HP Home shopping site has 15c in stock now...

*Message #4 Posted by **Martin Pinckney** on 18 Sept 2011, 12:19 a.m.,*
in response to message #3 by sav

Well, they must have sold out very quickly!

Re: HP Home shopping site has 15c in stock now...

*Message #5 Posted by **sav** on 18 Sept 2011, 12:22 a.m.,*
in response to message #4 by Martin Pinckney

No, it's still available for me. I guess, you need to have an EPP account... I've just placed another order.

This is strange though; I've never seen this kind of "discrimination" from HP...

Edited: 18 Sept 2011, 12:28 a.m.

Re: HP Home shopping site has 15c in stock now...

*Message #6 Posted by **Michael de Estrada** on 18 Sept 2011, 12:33 a.m.,*
in response to message #5 by sav

What's an "EPP" account ? I don't plan on buying any more, but just curious.

Re: HP Home shopping site has 15c in stock now...

*Message #7 Posted by **Brandon Poindexter** on 18 Sept 2011, 12:37 a.m.,*
in response to message #6 by Michael de Estrada

Is it "Employee Purchase Program"? I'm not really an employee for HP so. . .

EDIT: I like how under the price it says "In stock: Can ship within 24 hours." but still insists its "coming soon". But for some reason you can buy it (supposedly) from here. I haven't tried it though since $129 for me is kinda high.

Edited: 18 Sept 2011, 12:40 a.m.

Re: HP Home shopping site has 15c in stock now...

*Message #8 Posted by **sav** on 18 Sept 2011, 12:39 a.m.,*
in response to message #6 by Michael de Estrada

Basically, it's a discount program for HP partner companies. Most large companies usually have it.

Edited: 18 Sept 2011, 1:02 a.m. after one or more responses were posted

Re: HP Home shopping site has 15c in stock now...

*Message #9 Posted by **Michael de Estrada** on 18 Sept 2011, 12:46 a.m.,*
in response to message #8 by sav

So I gather you have to log in to get it ?

Re: HP Home shopping site has 15c in stock now...

*Message #10 Posted by **sav** on 18 Sept 2011, 12:55 a.m.,*
in response to message #9 by Michael de Estrada

It appears this way. Can someone with a regular, non-EPP account log in first and see if it makes a difference?

Re: HP Home shopping site has 15c in stock now...

*Message #11 Posted by **Michael de Estrada** on 18 Sept 2011, 1:06 a.m.,*
in response to message #10 by sav

I just created an account and logged in with no success.

Re: HP Home shopping site has 15c in stock now...

*Message #12 Posted by **sav** on 18 Sept 2011, 1:13 a.m.,*
in response to message #11 by Michael de Estrada

Well, I guess, this confirms my theory then. I've updated my initial post so not to give people false hopes. :(

Re: HP Home shopping site has 15c in stock now...

*Message #13 Posted by **Michael de Estrada** on 18 Sept 2011, 1:24 a.m.,*
in response to message #12 by sav

It seems like the best deal for now to the general public is $129 at the HP Business Store HP 15C LE

Re: HP Home shopping site has 15c in stock now...

*Message #14 Posted by **Todd Garabedian** on 18 Sept 2011, 7:06 a.m.,*
in response to message #13 by Michael de Estrada

> Quote:
>
> It seems like the best deal for now to the general public is $129 at the HP Business Store HP 15C LE

Well, I just ordered two from the HP Home store for $99 each with free shipping. I used coupon code SVN7798 posted above (which applied a $10 discount to the total). I have an account at the HP Home store (for printer stuff), but I'm just a regular customer AFAIK!

Give it a try again, boys (and girls in Katie's case)!

Edited: 18 Sept 2011, 7:32 a.m.

Re: HP Home shopping site has 15c in stock now...

*Message #15 Posted by **MBlount** on 18 Sept 2011, 8:18 a.m.,*
in response to message #14 by Todd Garabedian

The website has the "add to cart" button for me and I don't have any kind of account with HP.

Re: HP Home shopping site has 15c in stock now...

*Message #16 Posted by **Michael de Estrada** on 18 Sept 2011, 8:22 a.m.,*
in response to message #14 by Todd Garabedian

They must have changed it overnight. It now shows an "add to cart" button for me as well.

Edited: 18 Sept 2011, 8:22 a.m.

Re: HP Home shopping site has 15c in stock now...

*Message #17 Posted by **sav** on 18 Sept 2011, 8:25 a.m.,*
in response to message #16 by Michael de Estrada

I have updated my original post to indicate general availability.

Re: HP Home shopping site has 15c in stock now...

*Message #18 Posted by **Donald Ingram** on 18 Sept 2011, 11:16 a.m.,*
in response to message #17 by sav

Thanks for the heads up on hp's site. Agilent EPP so got the small discount.

Re: HP Home shopping site has 15c in stock now...

*Message #19 Posted by **sav** on 18 Sept 2011, 2:24 p.m.,*
in response to message #18 by Donald Ingram

Did the coupons work? It's unusual that they allow to use coupons with EPP discount.

Re: HP Home shopping site has 15c in stock now...

*Message #20 Posted by **Masaki Adachi** on 18 Sept 2011, 11:20 p.m.,*
in response to message #19 by sav

The coupon code worked for me

Re: HP Home shopping site has 15c in stock now...

*Message #21 Posted by **Donald Ingram** on 19 Sept 2011, 3:51 a.m.,*
in response to message #19 by sav

I did not try any coupon codes other than my in house one - it did not take any more off than the minimal 10% off as shown on EPP page. After tax added not really any savings.

If you place an order, try SAVE15HP code

*Message #22 Posted by **Quan** on 19 Sept 2011, 8:02 a.m.,*
in response to message #19 by sav

I tried this without actually buying one. It would save me $15 USD off the price before tax. Shipping is free.

Were I to order one, it would cost me $90.94

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

33S times off in 4 seconds

*Message #1 Posted by **designnut** on 17 Sept 2011, 11:39 p.m.*

I opened a 33s I had stored, no display. I replaced the cells, still shuts off. It passes keyboard test and self running test. I tried the pinhole reset both on and off, still fails. Have I lost a calculator?

Re: 33S times off in 4 seconds

*Message #2 Posted by **Michael de Estrada** on 18 Sept 2011, 12:00 a.m.,*
in response to message #1 by designnut

I hated my 33s and sold it. Good riddance to bad rubbish. Consider this a blessing in diguise. Now that I've got a couple of HP 15C LEs to keep company with my original 15C, 32S and 32SII, maybe my junky 35s isn't too far behind.

Re: 33S times off in 4 seconds

*Message #3 Posted by **Ed Look** on 18 Sept 2011, 12:00 a.m.,*
in response to message #1 by designnut

I don't know, but I do know that I've had to change batteries at least twice on my 33S. Even medium usage seems to run them down more often than I'd like.

But are you sure the cells get run down?? Did you take the batteries afterward to a meter?

Re: 33S times off in 4 seconds

*Message #4 Posted by **designnut** on 18 Sept 2011, 12:41 a.m.,*
in response to message #3 by Ed Look

Didn't check the old cells, but no display. It's pdd it kept it's display setting. With newer cells stays running during manual kepboard and several cycles of self running teest so the cells are adequate. I recalled the pinhole reset, nothing.

Re: 33S times off in 4 seconds

*Message #5 Posted by **Frank Rottgardt** on 18 Sept 2011, 12:55 p.m.,*
in response to message #3 by Ed Look

Yes, battery drain is a problem. Use my 33s on a daily basis. Often a small program involving the solve command. Anyway, it "eats" cells.

[Return to Index | Top of Index]

Go back to the main exhibit hall

33S times off in 4 seconds

HP Forum Archive 20

[Return to Index | Top of Index]

More 15C Manual Errata

*Message #1 Posted by **Lincoln R.** on 17 Sept 2011, 11:28 p.m.*

Page 261, describing the self-tests that don't actually work. The footnote indicates that the ON + Divide keyboard test should display a 12 when finished, not a 15.

Re: More 15C Manual Errata

*Message #2 Posted by **Michael de Estrada** on 17 Sept 2011, 11:44 p.m.,*
in response to message #1 by Lincoln R.

That was copied incorrectly from page 221 of the original HP-12C Owner's Handbook instead of page 264 of the original HP-15C Owner's Handbook. So it's an error of an error. That whole page should be X-ed out, and replaced with the correct tests for the two CR2032 battery models.

Re: More 15C Manual Errata

*Message #3 Posted by **Thomas Chrapkiewicz** on 18 Sept 2011, 7:53 a.m.,*
in response to message #2 by Michael de Estrada

p. 110 Top of Page: Arrows/parentheses not aligned properly on nnnnn.xxxyy. Same in .pdf copy.

p.75 Calculator picture: The highlighted ('TAN') key not too obvious (was color in original manual).

TomC

Re: More 15C Manual Errata

*Message #4 Posted by **Peter Murphy (Livermore)** on 18 Sept 2011, 11:16 a.m.,*
in response to message #1 by Lincoln R.

Note that this footnote is *not* an erratum if you are CAD_Jockey.

But that's because you actually have a 12C in there, and that makes almost everything else in your manual errata.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Made in China, 50G, 35S, 33S

*Message #1 Posted by **designnut** on 17 Sept 2011, 8:53 p.m.*

Hanen't heard any critics of this build quality. 32SII made in Singapore. Hey HPNUT, isn't one made in Malaysia?

Re: Made in China, 50G, 35S, 33S

*Message #2 Posted by **Lincoln R.** on 17 Sept 2011, 10:11 p.m.,*
in response to message #1 by designnut

HPs made in Singapore are generally no worse than USA-made ones. Even some HP-35 calculators (The original, not to be confused with the 35S) were made in Singapore. I know some 12C's and possibly some 32sII models were made in Malaysia. The last-production 32sII and 48G/GX were made in Indonesia by a contract manufacturer (Rumored to be NatSteel Electronics) and had issues with paint wearing off the keys.

Re: Made in China, 50G, 35S, 33S

*Message #3 Posted by **Michael de Estrada** on 17 Sept 2011, 10:17 p.m.,*
in response to message #1 by designnut

I have a 50g and 35s, and had a 33s which I sold. The quality of the 50g IMO is excellent and light years better than the 33s and 35s. I have a 32SII made in Indonesia, which is about the same quality as the 50g, and a 32S made in Singapore that is better than all of them. The best quality ever were the original Voyagers, even better than the Classics. All of this is IMHO.

Re: Made in China, 50G, 35S, 33S

*Message #4 Posted by **bill platt** on 17 Sept 2011, 11:38 p.m.,*
in response to message #3 by Michael de Estrada

USA Voyagers were simply the best made ever. Period. No doubt about it.

HP 41 machines from the same time period are a PITA with broken posts, zebra connector issues etc. Obviously not all the time, but after 30 years, the voyagers turn out to be essentially unaffected by age and wear!

However, the pioneers aren't far behind the voyaers in robust construction. There seems to be a higher likelyhood of keyboard issues (the same issue woth the champagnes) but other htan that they seem to hold up like a voyager,

Re: Made in China, 50G, 35S, 33S

*Message #5 Posted by **Ed Look** on 18 Sept 2011, 12:03 a.m.,*
in response to message #4 by bill platt

You may be right; my 32SII is still going strong. But it's high market value and my love of it keeps me from using it much anymore.

(So I thought I'd instead beat down my 33S. But it turns out that I love that calc a whole lot too! Unfortunately, it's basically by day-to-day scientific now. But it seems to be holding up so far.)

Re: Made in China, 50G, 35S, 33S

*Message #6 Posted by **Lincoln R.** on 18 Sept 2011, 12:56 a.m.,*
in response to message #5 by Ed Look

This is why I own a very battered-looking 32S that's already been disassembled to fix the keyboard foam problem. I know USA made 32S models are worth a lot of $, but I don't think a collector would want mine, there are a lot of scratches on the metal faceplate, and the plastic case is very worn in some places, to the point that the texturing from the mold is worn off. I bought it on TAS for cheap because of the keyboard issue, it even came with an original spiral-bound manual. The 32S is pretty much the perfect calculator for most of the work I do, it has all the functions that I want and no nested menu mess.

Re: Made in China, 50G, 35S, 33S

*Message #7 Posted by **Michael de Estrada** on 18 Sept 2011, 1:20 a.m.,*
in response to message #6 by Lincoln R.

The HP 32S is a great calc for sure, although I'm not sure the USA made ones are worth that much more to collectors than the ones made in Singapore. Certainly, there's no difference in quality. But you are definitely correct that only calcs that are near mint will be worth much anyway. I picked up a mint Singapore 32S complete in its box with all packaging etc. for a bit over $100.

Re: Made in China, 50G, 35S, 33S

*Message #8 Posted by **hpnut** on 18 Sept 2011, 2:40 a.m.,*
in response to message #1 by designnut

AFAIK, only the HP 12C was once made in Malaysia. i have one, it's still working.

hpnut in Malaysia

Edited: 18 Sept 2011, 2:40 a.m.

Re: Made in China, 50G, 35S, 33S

*Message #9 Posted by **Lincoln R.** on 18 Sept 2011, 2:51 a.m.,*
in response to message #8 by hpnut

Hm. Apparently at least 1 32sII was.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=86005

Does your Malaysian 12C have the double-shot keys or painted ones?

Edited: 18 Sept 2011, 2:51 a.m.

Re: Made in China, 50G, 35S, 33S

*Message #10 Posted by **hpnut** on 18 Sept 2011, 11:13 a.m.,*
in response to message #9 by Lincoln R.

how do I know if it is a double shot key? appreciate to know the difference with a painted key.

Re: Made in China, 50G, 35S, 33S

*Message #11 Posted by **Lincoln R.** on 18 Sept 2011, 11:48 a.m.,*
in response to message #10 by hpnut

If you look closely at a surface-painted key, sometimes you can see that the paint is on top of the key, whereas the lettering would be at the same level as the plastic on a double-shot one. Sometimes you can tell by seeing if letters like X or a capital N aren't perfectly straight, but that seems to work better on Pioneers for some reason.

Re: Made in China, 50G, 35S, 33S

*Message #12 Posted by **hpnut** on 18 Sept 2011, 11:55 a.m.,*
in response to message #11 by Lincoln R.

thanks. the Malaysian 12C has double shot keys then.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Most sophisticated 15c games?

*Message #1 Posted by **Dave Britten** on 17 Sept 2011, 8:34 p.m.*

Now, I don't expect to be able to play chess against the 15c, but it seems like with its capabilities (subroutines, matrices, complex math, random numbers, lots of logical tests, indirect addressing and branching, a fair amount of memory, etc.) it ought to be able to do something more interesting than Nim, or Guess the Number.

I know it has the needed funcionality, but is there enough memory to do a simple grid-based Star Trek kind of game? Or even a very simple adventure game?

Re: Most sophisticated 15c games?

*Message #2 Posted by **Paul Dale** on 17 Sept 2011, 8:41 p.m.,*
in response to message #1 by Dave Britten

> Quote:
>
> I know it has the needed funcionality, but is there enough memory to do a simple grid-based Star Trek kind of game? Or even a very simple adventure game?

I never tried a Star Trek game but it might be possible.

I did write several simple adventure games for the 34C back in the early 80s so they are definitely possible.

I did a tic-tac-toe game (alpha-beta minimax search base) for the Casio FX602P when I had one of them and its (storage) capabilities are only a bit greater than the 15c's so this might be possible too. There are also simpler algorithms to play this game that should be smaller.

Oware/Awari might be possible -- certainly moderating the game and maybe even playing it.

- Pauli

Re: Most sophisticated 15c games?

*Message #3 Posted by **Dave Britten** on 17 Sept 2011, 9:34 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> I never tried a Star Trek game but it might be possible.

It would definitely have to be pretty simple. Maybe a 4x4 "galaxy" (or a bit bigger if there's leftover memory), and a specific amount of enemy ships - user selectable - sprinkled around the sectors. Then you would have to move around and get a reading of the number of adjacent enemies, and fire into an adjacent space to defeat them. Moving and firing would cost energy, but not as much as accidentally moving into a space with enemies. It would kind of be like Minehunt meets Star Trek.

I'll try it tomorrow if I'm bored sitting around the house. I've got a few ideas for clever use of indirect branching to handle the 8-way movement/firing.

Re: Most sophisticated 15c games?

*Message #4 Posted by **gene wright** on 17 Sept 2011, 10:03 p.m.,*
in response to message #3 by Dave Britten

That's one thing I did not find much of when I scanned the PPC Journal issues looking for 15c material ... and that is a shame! :-)

Some of the games for the 19c/29c found a bit down on my old site here could probably be modified. I know BlackJack should work with just a few changes.

My old site lol

Re: Most sophisticated 15c games?

*Message #5 Posted by **Paul Dale** on 18 Sept 2011, 5:50 a.m.,*
in response to message #3 by Dave Britten

Pack the sectors into the registers and a 10x10 might be possible. i.e. use each digit as a cell and 10x10 takes ten registers. Using the exponent allows 12 digits per register. Using a base less than 10 allows more to be packed in.

- Pauli

Re: Most sophisticated 15c games?

*Message #6 Posted by **Gerson W. Barbosa** on 17 Sept 2011, 10:00 p.m.,*
in response to message #1 by Dave Britten

From HP-11C Owner's Manual, page 194:

"**Submarine Hunt**

Using your destroyer, try to locate the position of the enemy submarine in a 10 x 10 grid, then destroy it with a depth charge."

Isn't this interesting enough?

Re: Most sophisticated 15c games?

*Message #7 Posted by **Dave Britten** on 18 Sept 2011, 11:10 a.m.,*
in response to message #6 by Gerson W. Barbosa

Sounds promising. Is a listing available online? I don't own an 11c manual, and the program doesn't appear to be on this site.

Re: Most sophisticated 15c games?

*Message #8 Posted by **Gerson W. Barbosa** on 19 Sept 2011, 2:03 a.m.,*
in response to message #7 by Dave Britten

Enjoy!

http://h10032.www1.hp.com/ctg/Manual/c00503576.pdf

Re: Most sophisticated 15c games?

*Message #9 Posted by **Pal G.** on 17 Sept 2011, 10:46 p.m.,*
in response to message #1 by Dave Britten

Before owning a 15CLE, I found a good moon landing sim for my 12C here at the museum and entered it in. It is a turn based lander. I would like to have this on my 15CLE. I don't know yet if it needs modification - I am an RPL programmer, not RPN ;)

Moon Landing Simulator for HP-12c again

Edited: 17 Sept 2011, 10:48 p.m.

Re: Most sophisticated 15c games?

*Message #10 Posted by **Ed Look** on 17 Sept 2011, 11:37 p.m.,*
in response to message #9 by Pal G.

Pal G., I tried to type in the Moon Lander from the HP-34C. But that program uses heavily the PSE command. Of course, it didn't work.

Now, I'm going to try yours!

* * *

EDIT-

Wait a minute! This one uses a lot of PSE steps, too! How's it going work given this PSE bug in the 15C LE??

'nuther EDIT-

Oops. Sorry. You were asking, too!

Well, I guess we'll have to figure a workaround for the PSE thing.

Edited: 18 Sept 2011, 12:11 a.m.

Re: Most sophisticated 15c games?

*Message #11 Posted by **Thomas Radtke** on 18 Sept 2011, 5:29 a.m.,*
in response to message #10 by Ed Look

The 25 manuals contain a lunar lander program w/o using PSE.

Re: Most sophisticated 15c games?

*Message #12 Posted by **From Hong Kong** on 18 Sept 2011, 8:29 a.m.,*
in response to message #11 by Thomas Radtke

If HP had implemented the PSE command in the HP-15 LE the same way as Casio did in FX-502P, FX-602P and FX-603P, we would have had more interesting games!

Edited: 18 Sept 2011, 8:30 a.m.

Re: Most sophisticated 15c games?

*Message #13 Posted by **Thomas Radtke** on 18 Sept 2011, 10:17 a.m.,*
in response to message #12 by From Hong Kong

Every device has an unlimited number of omitted features ;-).

Re: Most sophisticated 15c games?

*Message #14 Posted by **Gilles Carpentier** on 18 Sept 2011, 8:34 a.m.,*
in response to message #1 by Dave Britten

Hi

I think there is a lot of interesting games you can do on a 15C and even more on a 15C LE. Here is an example of a 'sophisticate' game that can be possible (i think it's possible for a 15 c) and some tips for this sort of calculators :

Isola game on Casio 602P and HP97

(sorry, it is in french but you can found my FX602P version and a HP97 version from C.RET page '4-5 - I have a news ideas for a far better algorithm but no time to do). The game is very easy to understand, you just have to move your 'king' like in chess and then to push a place in the game board, the first player who can't move lose

Mastermind is possible and more fun than just "guess the number"...

Easy to do is a 'one dimension 'demineur' (Minesweeper in english ?) like in windows.

here are some ideas (for a 602P and in french sorry)you can adapt on a 15C

.... http://www.ledudu.com/casio602p/programmes.htm

Edited: 18 Sept 2011, 9:34 a.m. after one or more responses were posted

Re: Most sophisticated 15c games?

*Message #15 Posted by **Dave Britten** on 18 Sept 2011, 9:07 a.m.,*
in response to message #14 by Gilles Carpentier

> Quote:
>
> Hi
>
> I think there is a lot of interesting games you can do on a 15C and even more on a 15C LE. Here is an example of a 'sophisticate' game that can be possible (i think it's possible for a 15 c) and some tips for this sort of calculators :
>
> Isola game on Casio 602P and HP97
>
> (sorry, it is in french but you can found my FX602P version and a HP97 version from C.RET page 5 - I have a news ideas for a far better algorithm but no time to do). The game is very easy to understand, you just have to move your 'king' like in chess and then to push a place in the game board, the first player who can't move lose

Looks kind of cool. I'll have to see if it can be comverted.

> Quote:
>
> Mastermind is possible and more fun than just "guess the number"...

I think I've seen a version for the 15c (and other models), possibly on this site. I may have to try that out, even if only to pick up on programming tricks.

Re: Most sophisticated 15c games?

*Message #16 Posted by **Kalevipoeg** on 18 Sept 2011, 10:39 a.m.,*
in response to message #15 by Dave Britten

I found the MasterMind Game for the 15C here:

MasterMind for the 15c

and Superbagels for the 12C here:

Eight Hp-12C Games

The Super Bagels (Mastermind) for the 12C! Hard to believe but it's true! 98 lines.

Re: Most sophisticated 15c games?

*Message #17 Posted by **megarat** on 19 Sept 2011, 11:44 a.m.,*
in response to message #1 by Dave Britten

I apologize if this is semi-off-topic, as it doesn't deal with 15c games, but:

Back in the Woodstock and earlier LED days, when the calculator would print a scramble of random graphics while it was working on long calculations, a friend's dad had figured out that the pattern on the screen wasn't a true random scramble, but was caused by the information that was in the calculator's memory (or was passing through the CPU, or something else ... I'm sure other people on the forum know more about this than I do).

Anyway, this guy had mapped out the exact relationship between the display and its technical cause, learned how to manipulate it, and then used it to create a driving game. IIRC, obstacles would scroll from right to left, and you had a car (as a single horizontal LED segment) that you moved up and down to dodge the incoming obstacles. He was going to extend this into another type of game that involved shooting (shooting obstacles? shooting at an AI at the other side that shot back?), but I never heard about it beyond that.

Granted, I was really young, but I really hope I'm not confusing this with something else, because I still regard this as one of the most inspired accomplishments I've seen.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Free42 - A Complex glitch?

*Message #1 Posted by **Thomas Okken** on 17 Sept 2011, 6:23 p.m.*

> Quote:
>
> You may be right. In fact I remember well that fix since it was me who pointed it out to Thomas. I ran into it during my 41Z testing, as I was using Free42 as a reference.

Ángel, do you remember what the test case was? I confirmed that changing the arcsin algorithm back to -i*arcsinh(i*z) fixes the branch cut bug that started the recent thread, but I forget the exact problem that I tried to fix in 1.4.67.

Thanks,

- Thomas

Re: Free42 - A Complex glitch?

*Message #2 Posted by **Namir** on 17 Sept 2011, 7:41 p.m.,*
in response to message #1 by Thomas Okken

perhaps it was arcsin(2.4)?

Re: Free42 - A Complex glitch?

*Message #3 Posted by **Thomas Okken** on 17 Sept 2011, 7:47 p.m.,*
in response to message #2 by Namir

No, that's the bug that started *this* thread. I'm asking about the older bug, that Ángel reported to me, that I tried to address in Free42 release 1.4.67. It had something to do with large arguments, but I don't remember what the problem was, exactly.

Re: Free42 - A Complex glitch?

*Message #4 Posted by **Namir** on 17 Sept 2011, 7:51 p.m.,*
in response to message #3 by Thomas Okken

Ah ok!!

Re: Free42 - A Complex glitch?

*Message #5 Posted by **Ángel Martin** on 18 Sept 2011, 2:44 a.m.,*
in response to message #1 by Thomas Okken

Yes, it was "large arguments" - meaning large Re and Im parts of course. I think it all started with 50+50i, and from then on up to the precision limit of the calc.

Here's one test case from our emails back then:

> Quote:
>
> z=200+200i
>
> asin(sin(z)) is not correct.
>
> Free42 returns 0-162i, whilst the correct answer is -1,62+200i (as returned by the real 42S, and double-checked on the Wolfram site http://www.wolframalpha.com/input/?i=asin%28sin%28200%2B200i%29%29

Hope this refreshes your memory. Best,'AM

Re: Free42 - A Complex glitch?

*Message #6 Posted by **Thomas Okken** on 18 Sept 2011, 11:35 a.m.,*
in response to message #5 by Ángel Martin

Ah, I got it. The problem occurs when z is large while Re(z)<0; in that case, sqrt(z^2+1) approaches -z because of the limited precision, and so ln(z+sqrt(z^2+1)) becomes noise. It seems that the fix is to simply avoid Re(z)<0 altogether, instead computing asinh(z)=-asinh(-z) whenever Re(z)<0. (I guess I should do something similar for acosh.)

Re: Free42 - A Complex glitch?

*Message #7 Posted by **Thomas Okken** on 18 Sept 2011, 2:23 p.m.,*
in response to message #6 by Thomas Okken

OK, I fixed complex ASINH and ACOSH. ASINH now calculates -arcsinh(-x) if Re(x)<0, and in the ACOSH implementation, I replaced the subexpression sqrt(z^2-1) with sqrt(z+1)*sqrt(z-1).
This fixes complex ASIN and ACOS, too, since they use ASINH and ACOSH underneath.
I uploaded 1.4.70 to my web site and to Android Market. It hasn't appeared on the Market yet; that can take a few hours. I'll update Free42 on iTunes shortly; that will probably take about a week to appear.

Re: Free42 - A Complex glitch?

*Message #8 Posted by **fhub** on 18 Sept 2011, 6:06 p.m.,*
in response to message #7 by Thomas Okken

> Quote:
>
> I uploaded 1.4.70 to my web site

Many thanks for the update, Thomas! :)

Re: Free42 - A Complex glitch?

*Message #9 Posted by **Ángel Martin** on 19 Sept 2011, 2:40 a.m.,*
in response to message #6 by Thomas Okken

Hi THomas, that's basically what I also did in the 41Z code, for ACOSH. I like your method for ASINH more than what I concocted, will look into it as it'll probably save me some bytes.

Free42 Decimal now works great, however I'm still getting different results on Free42 Binary 1.4.70 for:

asin(2.404) = 1.571 - i1.524
asin(2.404+0i) = 1.571 + i1.524

Did you apply the fix to both?

Edited: 19 Sept 2011, 2:51 a.m.

Re: Free42 - A Complex glitch?

*Message #10 Posted by **Thomas Okken** on 19 Sept 2011, 10:20 a.m.,*
in response to message #9 by Ángel Martin

The fix is automatically applied to both, because it's the same code in both cases, just compiled with a different definition of the 'phloat' type depending on which version is built.

The bug in this case is in the code that calculates the complex square root in the log(x+sqrt(x^2+1)) evaluation; it returns the wrong root because the imaginary part of its argument is -0.

In a word: aargh! I'm sure there are good reasons why IEEE-754 has negative zero, but in this case it (or maybe I should say, the way atan2() treats it) is biting me in the ass. It's easy to fix, but I'll have to check all occurrences of atan2() to see if they have the same potential problem. Fortunately, there aren't all that many...

- Thomas

Re: Free42 - A Complex glitch?

*Message #11 Posted by **Miguel Toro** on 19 Sept 2011, 12:54 p.m.,*
in response to message #5 by Ángel Martin

Hi Ángel,

And a little OT : WP-34s give a Domaine Error with this example.

Regards,

Miguel

Re: Free42 - A Complex glitch?

*Message #12 Posted by **Paul Dale** on 19 Sept 2011, 6:50 p.m.,*
in response to message #11 by Miguel Toro

The

```
asin(sin(200+200i))
```

example?

My 34S is not generating an error -- it isn't getting the correct result though :-(Something to look into.

- Pauli

Re: Free42 - A Complex glitch?

*Message #13 Posted by **Ángel Martin** on 20 Sept 2011, 5:46 a.m.,*
in response to message #12 by Paul Dale

ok, so how about adding a check in the code for the case:

if Re(z^2+1) =~ Re(z^2) - within the precision of the CPU, that is

and if so, simply use Ln(2z) instead?

This works well for me on the 41Z, can't believe a humble 10-digit mantissa CPU handles it better ?

Cheers, ÁM.

Re: Free42 - A Complex glitch?

*Message #14 Posted by **fhub** on 20 Sept 2011, 6:20 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> The
>
> `asin(sin(200+200i))`
>
> example?
>
> My 34S is not generating an error -- it isn't getting the correct result though :-(Something to look into.

Well, at least the emulator gives "Domain Error" on ASIN for this example in DEG/360 mode.

Franz

Re: Free42 - A Complex glitch?

*Message #15 Posted by **Paul Dale** on 20 Sept 2011, 7:03 a.m.,*
in response to message #14 by fhub

Interesting. This doesn't error in the same place on the real device or the console emulator, however the results are incorrect.

Anyway, I think I've fixed it now. Commit coming soon.

As a bonus, I believe I've also fixed the numeric issues as well.

Not what other problems have I just introduced :-(

Thanks for the clarification.

- Pauli

Re: Free42 - A Complex glitch?

*Message #16 Posted by **fhub** on 20 Sept 2011, 7:44 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Anyway, I think I've fixed it now. Commit coming soon.

Ok, tried it now with SVN1619 and the error has gone!

Now for something different:
After a long time I've now also downloaded wp34stest.exe again and tried it, but other than a few months ago it just gives a bunch of error messages instead of calculated values.
Here's the output (continuously running):

```
NaN     MAPM Warning: 'm_apm_set_string', Non-digit char found in parse
MAPM Warning: Text =
MAPM Warning: NaN
1.0000000000000000000000000000E+0
```

Something broken?

Edited: 20 Sept 2011, 7:45 a.m.

Re: Free42 - A Complex glitch?

*Message #17 Posted by **Paul Dale** on 20 Sept 2011, 5:15 p.m.,*
in response to message #16 by fhub

No idea sorry. Hugh wrote this program to help him test the numeric accuracy of my routines. Not having ready access to any Windows machine, I can't easily run it.

- Pauli

Re: Free42 - A Complex glitch?

*Message #18 Posted by **Paul Dale** on 20 Sept 2011, 6:50 a.m.,*
in response to message #11 by Miguel Toro

The domain error looks like it was a problem with the hyperbolic sinh of large negative reals. Fixed now.

Introduced when I increased the accuracy of this function for near zero arguments.

- Pauli

Re: Free42 - A Complex glitch?

*Message #19 Posted by **Michael Kussmaul** on 18 Sept 2011, 4:49 a.m.,*
in response to message #1 by Thomas Okken

BTW, is there a way to interact with the Free42 from an external program and read back the LCD output? This way you could implement some kind of unit tests to assure correct calculation behavior.

Re: Free42 - A Complex glitch?

*Message #20 Posted by **Dan W** on 18 Sept 2011, 11:39 a.m.,*
in response to message #19 by Michael Kussmaul

> Quote:
>
> BTW, is there a way to interact with the Free42 from an external program and read back the LCD output? This way you could implement some kind of unit tests to assure correct calculation behavior.

The Free42s output can be sent to the emulated printer, which can be output to a text file. (the PC version)

Then one could have an external program, like Excel, read and parse the text output.

Re: Free42 - A Complex glitch?

*Message #21 Posted by **Thomas Okken** on 18 Sept 2011, 11:41 a.m.,*
in response to message #19 by Michael Kussmaul

Any regression testing tool or scripting language that is capable of sending keystrokes to an application can be used to drive Free42. Reading the display can be accomplished by sending Control-C and then reading the clipboard.
Writing all those unit tests will be a bear of a job, though. Besides, once I fix ASIN/ASINH/ACOS/ACOSH, there will be no bugs left in Free42 anyway. ;-)

Re: Free42 - A Complex glitch?

*Message #22 Posted by **Michael Kussmaul** on 18 Sept 2011, 12:45 p.m.,*
in response to message #21 by Thomas Okken

You are right, but you don't need to write all regression tests up-front, just add them over time :-)

I used to work for a telecom company and we only started using regression-tests, when it was really easy to write them. So I guess the approach of "GUI-scripting" and emulating mouse-clicks on keys could be quite cumbersome. It would be easier, if you could just supply a text-file with input-keys and the result is validated agains a certain expected output, e.g.:

SIN 3 COS 5 +
1.04853065433

(so each key-press could be separated by a space, expected result is on following line)

Of course "someone" could build a wrapper, to parse such a file, does "GUI-Scripting" and reads back the result.

BTW, I like your implementation on the iPhone, it just rocks!

Re: Free42 - A Complex glitch?

*Message #23 Posted by **Thomas Okken** on 18 Sept 2011, 2:27 p.m.,*
in response to message #22 by Michael Kussmaul

Since Free42 just happens to be programmable itself, you could write all the regression tests using plain old HP-42S user code...

Free42 complex ASIN/ASINH/ACOS/ACOSH redux

*Message #24 Posted by **Thomas Okken** on 18 Sept 2011, 9:10 p.m.,*

in response to message #1 by Thomas Okken

To summarize the whole Free42 complex ASIN saga:

Earlier this year, Ángel Martin reported to me that Free42 returned an incorrect result for arcsin(sin(200+200i)).
I thought I'd fixed that bug by changing the implementation of complex arcsin from -i*arcsinh(i*x) to conj(-i*arcsinh(conj(-i*x))).
I'm kicking myself now for ever making that change. The original algorithm and the revised one are equivalent, except for the edge case of |Re(x)|>1 and Im(x)=0, and the problem that Ángel reported had nothing to do with that edge case. The 1.4.67 change didn't fix the problem with arcsin(sin(200+200i)); it merely moved it to a different part of the complex plane: instead of returning wrong results for 200+200i and -200+200i, it now returned wrong results for 200-200i and -200-200i.

The problem with arcsin(2.404+0i) that two people reported to me via email, and that also started this thread (or, rather, the original thread that got moved to the archive a couple of days ago!), was caused by my non-fix to the arcsin(sin(200+200i)) bug. Undoing that non-fix made the arcsin(2.404+0i) bug go away, but of course it didn't do anything about the arcsin(sin(200+200i)) bug, other than moving it back to its original spot.
The problem with arcsin(sin(200+200i)) turned out to be that my naive implementation of arcsinh(x)=ln(x+sqrt(x^2+1)) fails when |x| is large while Re(x)<0. In that case, the sqrt(x^2+1) part becomes -x+epsilon, and so x+sqrt(x^2+1) becomes noise.
Changing the arcsinh algorithm to -arcsinh(-x) when Re(x)<0 causes the sqrt(x^2+1) part to approach x instead of -x for large |x|, and this avoids the loss of precision in x+sqrt(x^2+1).

So, I fixed the arcsin(2.404+0i) bug I introduced in 1.4.67 by simply reverting back to the 1.4.66 code, and I fixed the arcsin(sin(200+200i)) bug by changing the arcsinh algorithm so as to avoid the loss of precision in x+sqrt(x^2+1) for Re(x)<0.

Note that the reason that Free42 1.4.(67,68,69) did return the correct result for arcsin(2.404) but not for arcsin(2.404+0i) is that the case for real X in ASIN is handled by completely different code than the case for complex X. The "real X" code was right all along.
Also note that there was a bug in ACOS and ACOSH, caused by the same loss of precision issue, in the arccosh code, in the x+sqrt(x^2-1) subexpression for large |x| and Re(x)<0. Nobody reported that bug, and it wasn't affected by the 1.4.67 changes, but that code should be OK now, too.

Whew. :-)

Thank you to Franz Huber and Miguel Toro-Alvarez for contacting me about the arcsin(2.404+0i) bug, and to Ángel Martin for bringing the arcsin(sin(200+200i)) case to my attention, and to everyone who weighed in on the HP Forum!

- Thomas

Edited: 18 Sept 2011, 10:24 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

It has nothing to do with China

*Message #1 Posted by **From Hong Kong** on 17 Sept 2011, 11:54 a.m.*

I see so many messages stating that China is to blame for the poor quality of HP's calculators. I think it's better to think twice before making similar statements. The products of Casio and Texas are being made in China but nearly no problems relating to the keyboard and firmware have been reported so far in local Chinese/Cantonese forums. Anyway, HP is the only one to blame!!!

Re: It has nothing to do with China

*Message #2 Posted by **Egan Ford** on 17 Sept 2011, 12:02 p.m.,*
in response to message #1 by From Hong Kong

> Quote:
>
> The products of Casio and Texas are being made in China

Apple too. IMHO, Apple is making some of the highest quality consumer devices out there.

Re: It has nothing to do with China

*Message #3 Posted by **From Hong Kong** on 17 Sept 2011, 12:27 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Apple too. IMHO, Apple is making some of the highest quality consumer devices out there.

Right! There are also thousands of millions of products made in China. Quality control rests on the outsourcing company.

Re: It has nothing to do with China

*Message #4 Posted by **Dan W** on 17 Sept 2011, 2:26 p.m.,*
in response to message #2 by Egan Ford

> Quote:
>
> Apple too. IMHO, Apple is making some of the highest quality consumer devices out there.

Perhaps so, but one reason I don't buy Apple products is they are mainly made by FOXCONN. Atrocious working conditions, leading to high suicide rates.

Re: It has nothing to do with China

*Message #5 Posted by **Eric Rechlin** on 17 Sept 2011, 2:31 p.m.,*
in response to message #4 by Dan W

Foxconn has a lower suicide rate than the Chinese average. Seems to me that they are doing something right, not wrong.

I'd never buy an Apple product, either, but for different reasons.

Eric

Re: It has nothing to do with China

*Message #6 Posted by **Gerson W. Barbosa** on 18 Sept 2011, 5:41 p.m.,*
in response to message #4 by Dan W

Looks like they don't appreciate criticism about that:

http://www.guardian.co.uk/technology/appsblog/2011/sep/14/apple-phone-story-rejection

Re: It has nothing to do with China

*Message #7 Posted by **Paul Gaster** on 17 Sept 2011, 12:14 p.m.,*
in response to message #1 by From Hong Kong

Casio and TI keyboards are nowhere near the quality of the typical HP keyboard. They have much cheaper designs and construction. Nobody expects them to perform perfectly, so of course you won't see complaints.

China gets blamed for a reason. Melamine in milk, ethylene glycol in toothpaste, lead paint on kids toys, the list goes on and on.

I worked for a contract manufacturing company for over 10 years. We had a factory in China. I know they lied to us and faked documents sometimes. Once a customer received a batch of brittle plastic parts for a lifesaving device. The device had to be approved by various regulatory agencies and needed the parts to be traceable. The plastic was made here in the US, and the manufacturer added some element for tracing purposes. A lab could test the parts for this tracer material to make sure we used the correct material. Our brittle parts did not have the tracer. The plastic manufacturer's retained sample of material from the lot they shipped us had the tracer. China insisted they used the right material, but clearly they were not telling the truth.

We do not know the whole story here for the calculator that had the wrong firmware, but if it was an HP mistake in telling China how to make these, then the whole batch would be wrong, not one.

Re: It has nothing to do with China

*Message #8 Posted by **Lincoln R.** on 17 Sept 2011, 12:29 p.m.,*
in response to message #7 by Paul Gaster

Also "China" is not a giant manufacturing plant. There are tons of companies in China, all delivering varying degrees of quality and making different products. HP and TI both seem to be using the same two Taiwanese manufacturing contractors who have factories in China. I would venture a guess that Casio has their own factories, they're a large Japanese manufacturer who moved into other Asian countries early on.

The fact is, HP calculators are more difficult to make than TIs, and this difficulty is largely in the keyboard. Everything else (PCBs, injection-molded cases, plastic keys, manuals, etc.) is a commodity that could easily be made alongside toilet scrubbers and plastic cups.

Re: It has nothing to do with China

*Message #9 Posted by **bill platt** on 17 Sept 2011, 1:15 p.m.,*
in response to message #8 by Lincoln R.

But the communist Chinese government *is* a monoithically anti-free trade organization. They believe in--support--stealing, counterfieting, cheating, lying. There is a huge chasm between American (and European) business practice, and Chinese practice.

It seems that the only way to get results in China, is to put a HUGE amount of effort OVER THERE with Americans. Otherwise, you get crap crap crap!

Re: It has nothing to do with China

*Message #10 Posted by **x34** on 17 Sept 2011, 5:15 p.m.,*
in response to message #9 by bill platt

> Quote:
>
> But the communist Chinese government *is* a monoithically anti-free trade organization. They believe in--support--stealing, counterfieting, cheating, lying. There is a huge chasm between American (and European) business practice, and Chinese practice.
>
> It seems that the only way to get results in China, is to put a HUGE amount of effort OVER THERE with Americans. Otherwise, you get crap crap crap!

The same could be applied to ANY country in some time period. Chinese are not unique.

Doc: No wonder this circuit failed. It says "Made in Japan". Marty McFly: What do you mean, Doc? All the best stuff is made in Japan. Doc: Unbelievable.

Re: It has nothing to do with China

*Message #11 Posted by **bill platt** on 17 Sept 2011, 7:17 p.m.,*
in response to message #10 by x34

Of course. But we are talking about now.

Re: It has nothing to do with China

*Message #12 Posted by **Martin Pinckney** on 17 Sept 2011, 7:22 p.m.,*
in response to message #10 by x34

> Quote:
>
> @Bill: They believe in--support--stealing, counterfeiting, cheating, lying.
>
> @x34: The same could be applied to ANY country in some time period.

Not.

Edited: 17 Sept 2011, 7:24 p.m.

Re: It has nothing to do with China

*Message #13 Posted by **Martin Pinckney** on 17 Sept 2011, 1:17 p.m.,*
in response to message #8 by Lincoln R.

Quote:

> Also "China" is not a giant manufacturing plant. There are tons of companies in China, all delivering varying degrees of quality and making different products.

True enough. "From Hong Kong" you are only partially correct when you state "Quality control rests on the outsourcing company." I would say it depends on the arrangement. In most cases, the *specifications* rests with the outsourcing company, but manufacturing QC may be the responsibility of the plant.

However, there are products coming from China that originate there; they are not outsourced from USA, Europe, or Japan. There have been significant problems over the years with counterfeit bolts and hardware that were extremely substandard; I know of a man who was almost killed by a Chinese shackle that parted.

Not to mention counterfeit books, CD's, etc. that violate copyright laws.

China does get a black name sometimes, even though we get most our consumer goods there, and most of it is at least of adequate quality, some excellent.

So ultimately, yes, it does have something to do with China.

Edited: 17 Sept 2011, 1:21 p.m.

Re: It has nothing to do with China

*Message #14 Posted by **Thomas Radtke** on 17 Sept 2011, 1:49 p.m.,*
in response to message #7 by Paul Gaster

Quote:

> Casio and TI keyboards are nowhere near the quality of the typical HP keyboard.

What's the typical HP keyboard today? 35s? 20b?

Usually, Casio keyboards offer nearly no tactile feedback, but I never had problems with keystrokes not registered.

This 'rotate & click' thing is great, if it works. If not, it turns into a nightmare. No feedback is better than false feedback, imo.

I see the durability of HPs and Casios on par. HPs always shined when it comes to the firmware (with the 35s the exception from the rule, but only due to the bugs). Allthough I started in life with a Casio fx-81p and got used to it, HPs are much less cumbersom.

Re: It has nothing to do with China

*Message #15 Posted by **From Hong Kong** on 17 Sept 2011, 2:12 p.m.,*
in response to message #14 by Thomas Radtke

> Quote:
>
> What's the typical HP keyboard today? 35s? 20b?
>
> Usually, Casio keyboards offer nearly no tactile feedback, but I never had problems with keystrokes not registered.
>
> This 'rotate & click' thing is great, if it works. If not, it turns into a nightmare. No feedback is better than false feedback, imo.
>
> I see the durability of HPs and Casios on par. HPs always shined when it comes to the firmware (with the 35s the exception from the rule, but only due to the bugs). Allthough I started in life with a Casio fx-81p and got used to it, HPs are much less cumbersom.

Some folks here are talking about a 'typical' or 'classic' HP keyboard but it's gone already! We cannot deny that a modern HP keyboard isn't robust and accurate enough. It's even unusable at the outset.

Yes, you're right. Nobody care about what keyboard technology HP is using. Users just need a reliable and durable keyboard.

Re: It has nothing to do with China

*Message #16 Posted by **M. Joury** on 17 Sept 2011, 4:21 p.m.,*
in response to message #15 by From Hong Kong

You know, I see all this talk about poor keyboards and inaccurate keyboard response and I simply have not experienced this. I have a 10bii, multiple 10bii+'s, multiple 12C+'s, multiple 12C Platinum's, multiple 15C LE's, multiple 33S's, multiple 35S's, multiple 30b's, multiple 17bii+ Silver's, a 49g+, and two 50g's and not one of these machines has ever had a keyboard problem. In fact the only recent HP machine that I have had a keyboard problem with has been the 20b and that seems to be (and hopefully will remain) a one-off design.

Now I may be one of the lucky ones. And maybe I no longer use my machines as frequently as I used to, but it seems to me, with the range of calculators I have and with every second or third person on this forum complaining about HP keyboard quality, I *SHOULD* have one that has problems.

And when that does happen I'll be the first to admit it. But I would also say, as others have, that no production line is perfect and that some units are going to come out with issues. The question to ask is what is the failure rate?

Cheers,

-Marwan

Edited: 17 Sept 2011, 4:41 p.m.

Re: It has nothing to do with China

*Message #17 Posted by **Katie Wasserman** on 17 Sept 2011, 6:17 p.m.,*

in response to message #16 by M. Joury

I have quite a number of the same machines that you list as well and generally have had good quality units. However the F and G keys on one of my 15C LE's do rattle and one key on a 12CP does not register when I feel the click.

I do think that there are production quality control issues in the current Voyager line. There are too many reports to ignore them and I think that HP should be doing something about this -- perhaps they already are.

-Katie

Re: It has nothing to do with China

*Message #18 Posted by **M. Joury** on 17 Sept 2011, 6:43 p.m.,*
in response to message #17 by Katie Wasserman

One of my HP15C LE's does have a very slight keyboard rattle. But so does one of my original 15C's and one of my original 12C's. I do wish that the f and g keys were better aligned and didn't rattle but I have not had a problem with them not registering.

There might be a problem with quality control. But sometimes I have to wonder if this is not a case of the squeaky wheel getting the oil, so to speak. Is it just that we hear all the complaints but none of the praise? As I have mentioned before, the only way to get a real feel for the QC of current products is to be able to calculate a failure rate and with the information on hand we are simply unable to do this.

It might actually be possible with the new HP15C LE. We have a large number purchased in a short time frame and if everyone were to report their findings we might be able to obtain some meaningful results. So far I think that I have seen 2 posters say that they have keyboard issues with many, many more stating that their machines are fine. So, what is an "acceptable" failure rate? 1/10? 1/50? 1/100? 1/1000? Obviously the optimum would be none but that is not going to happen. Even my original HP41CV bought new back in '82 had a failure soon after I purchased it and I had to send it back for repairs. It has worked great ever since but the point is that even in their heyday HP was not absolutely foolproof.

Cheers,

-Marwan

Re: It has nothing to do with China

*Message #19 Posted by **Thomas Radtke** on 18 Sept 2011, 4:33 a.m.,*
in response to message #18 by M. Joury

> Quote:
>
> So far I think that I have seen 2 posters say that they have keyboard issues with many, many more stating that their machines are fine.

IIRC, I have counted six bad units thus far (please don't have me quote the reports) and probably less than 100 delivery reports. This is alarming.

Edited: 18 Sept 2011, 4:34 a.m.

Re: It has nothing to do with China

*Message #20 Posted by **M. Joury** on 18 Sept 2011, 9:11 a.m.,*
in response to message #19 by Thomas Radtke

If those are the correct numbers it is alarming.

Re: It has nothing to do with China

*Message #21 Posted by **bill platt** on 18 Sept 2011, 11:48 a.m.,*
in response to message #20 by M. Joury

There is apt to be a strong skewing of negative delivery reports.

Re: It has nothing to do with China

*Message #22 Posted by **Thomas Radtke** on 18 Sept 2011, 12:20 p.m.,*
in response to message #21 by bill platt

I know, but this is likely compensated for by false positive reports (bad units not sufficiently tested, if at all).

However, it develops a 35s taste :-(.

Edited: 18 Sept 2011, 12:21 p.m.

Re: It has nothing to do with China

*Message #23 Posted by **Lincoln R.** on 18 Sept 2011, 12:34 p.m.,*
in response to message #22 by Thomas Radtke

Yes, exactly. We're not a very good random sampling. Perhaps we need a "Who here has a 15C LE that *doesn't* have hardware issues" thread?

Re: It has nothing to do with China

*Message #24 Posted by **Katie Wasserman** on 18 Sept 2011, 12:37 p.m.,*
in response to message #22 by Thomas Radtke

> Quote:
>
> However, it develops a 35s taste :-(.

I'm sensing the same thing. There are an incredible number of problems with the 15C LE that are being reported in a very short time in every area (except the very deluxe packaging).

- non-registering keys (at least not registering coincidentally with the click) (several cases)

- key alignment/loose keys (f and g on virtually all units)

- wrong firmware loaded (only 1 case so far)

- firmware bugs (PSE, self-tests, improper display flashing)

- bad power management (20ma continuously when a key is down)

- large number of errata in the manual

This just stinks for a calculator that sells for $100 and had a development period that lasted for at least a year. Further this was based on the exsiting 12C+.

Re: It has nothing to do with China

*Message #25 Posted by **Michael de Estrada** on 18 Sept 2011, 12:54 p.m.,*
in response to message #24 by Katie Wasserman

Let me add some occasional repeating (double entry) of some keys. This is bothersome as in the past it has been a precendent to key failure.

Edited: 18 Sept 2011, 12:56 p.m.

Re: It has nothing to do with China

*Message #26 Posted by **Thomas Radtke** on 18 Sept 2011, 2:36 p.m.,*
in response to message #25 by Michael de Estrada

> Quote:
>
> Let me add some occasional repeating (double entry) of some keys.

Ah, HP uses the old TI keyboard blue prints. Great. Coming up: The HP LOGPit.

Re: It has nothing to do with China

*Message #27 Posted by **From Hong Kong** on 18 Sept 2011, 1:33 p.m.,*
in response to message #24 by Katie Wasserman

> Quote:
>
> I'm sensing the same thing. There are an incredible number of problems with the 15C LE that are being reported in a very short time in every area (except the very deluxe packaging).
>
> - non-registering keys (at least not registering coincidentally with the click) (several cases)
>
> - key alignment/loose keys (f and g on virtually all units)
>
> - wrong firmware loaded (only 1 case so far)
>
> - firmware bugs (PSE, self-tests, improper display

flashing)

- bad power management (20ma continuously when a key is down)

- large number of errata in the manual

This just stinks for a calculator that sells for $100 and had a development period that lasted for at least a year. Further this was based on the exsiting 12C+.

When I bought my HP-15C for about US$100 in 1985 in Hong Kong, I never thought the above problems would happen in an HP calculator. In those days, a popular Casio FX-3600P sold for less than US$20. However, the world order changed after HP-49G came out. A calculator buyer needs to risk himself in buying an HP calculator. What's going on in HP?

Edited: 18 Sept 2011, 1:59 p.m.

Re: It has nothing to do with China

*Message #28 Posted by **Howard Owen** on 18 Sept 2011, 3:16 p.m., in response to message #24 by Katie Wasserman*

I recall that, after the flashable 12C came out, an argument for bringing back the 15C was that producing it would be much cheaper because the 12C PCB could be used, and because the documentation wouldn't have to be changed. Now that the 15C LE has arrived, I notice some interesting things about price and production. It seems to me that producing 10K units of anything in consumer electronics is pretty remarkable. That's a very small stock to try to make any sort of profit on. Selling those units wholesale for something less than $80.00 (based on the early street prices) makes it even more astonishing. The total theoretical upside is something less than 800K bucks, and a realistic estimate is no doubt substantially lower. What does it cost to design and implement an emulator, redesign and implement a replica keyboard, pay setup and production costs, (hopefully reduced, but certainly not nil,) transportation costs and marketing costs? (What else? I bet I've missed a few.)

The only way I can imagine this project could have been sold inside HP would be something like this: "This machine will be cheaper to produce than a new calculator. A limited run has a chance of selling out, based on the market research. The slight profit in this proposal has to be seen in the light of creating good will with our most ardent fans. That represents marketing value of (fill in guesstimate dressed up as fact.) Oh, and it might actually take off with general users, though we aren't counting on that." OK, so maybe HP's most ardent fans are also their most severe critics, but I'm sure that wasn't a featured item in the proposal.

With a shoestring budget, problems are more likely to occur. With a

shoestring budget, fixes for those problems will be harder to sell internally. The keyboard problems don't seem to be (that) widespread. We now have a 15C body that actually isn't too bad. As to the firmware problems, the 15C LE is flashable. *We can build replacement firmware.* That won't help the average user, but the 15C LE isn't aimed at them, *it's aimed at us!* The 15C LE will never be as big a dud as the 35s, because the really unforgivable problems with that machine are firmware bugs - in a machine that can't be reflashed.

I am pleased as punch with my 2 units. Neither one is a 12C under the hood, and neither one has poorly registering keys. I think the census thread will show that a majority of units received by forum members are in that category. In any event, I'll leave it to the stat-heads to tell me whether we represent a valid sample for purposes of estimating the overall defect rate of this machine. Intuitively I'd guess we aren't, but I don't have a good head for statistics. :)

Re: It has nothing to do with China

*Message #29 Posted by **DaveJ** on 19 Sept 2011, 10:52 p.m.,*
in response to message #24 by Katie Wasserman

> Quote:
>
> This just stinks for a calculator that sells for $100 and had a development period that lasted for at least a year. Further this was based on the exsiting 12C+.

Why didn't they just get several key enthusiasts under NDA to test it?

Dave.

Re: It has nothing to do with China

*Message #30 Posted by **Ethan Conner** on 19 Sept 2011, 11:24 p.m.,*
in response to message #29 by DaveJ

They did. I believe it was something like 100 people.

Re: It has nothing to do with China

*Message #31 Posted by **DaveJ** on 20 Sept 2011, 12:48 a.m.,*
in response to message #30 by Ethan Conner

> Quote:
>
> They did. I believe it was something like 100 people.

And nobody measured the battery consumption?

Dave.

Re: It has nothing to do with China

*Message #32 Posted by **Katie Wasserman** on 20 Sept 2011, 1:38 a.m.,*
in response to message #31 by DaveJ

Apparently not.

Re: It has nothing to do with China

*Message #33 Posted by **robert rozee** on 20 Sept 2011, 5:59 a.m.,*
in response to message #32 by Katie Wasserman

but every one of the testers **did** check that the colours of the f and g keys were a suitably faithful match to the original product. and that the LCD contrast was just right, not to forget the shine on the 15C badge.

i've worked for companies with 200+ page test manuals for products - where every new firmware release requires 6 weeks of 8-hour days spent working through those tests one by one. it requires a certain tenacity, and a determination not just to use the product, but to misuse it in every conceivable way.

it would appear that with the 15C LE, quite simply the folks doing the testing were not checking for those things that mattered. not by any fault of the testers personally, but because they were in awe of the absolute awesomeness (from their perspective) of the product...

Re: It has nothing to do with China

*Message #34 Posted by **Paul Gaster** on 20 Sept 2011, 8:18 a.m.,*
in response to message #33 by robert rozee

There were reports that HP handed out 15C LE prototypes last year at the HHC to at least certain people. The key word there is prototypes. There have been posts explaining that the firmware changed since then, so what the testers could check was not the final product that we see now. Also, since they were prototypes, the tools used to mold the keys and housings may be different now. There could be some different PCBs as well and other different internal parts that could explain the key issues.

Re: It has nothing to do with China

*Message #35 Posted by **Tim Wessman** on 20 Sept 2011, 10:29 a.m.,*

in response to message #34 by Paul Gaster

Everyone who had the units from last year also received an invite to a private forum to discuss any issues. They also received cables and training on how to use them. The firmware was posted in that forum and quite a few people downloaded it, installed and used for quite a while. That firmware was resolving issues people had found and identified. In the 4+ months before production we did not receive any reports of issues on the shipping firmware.

There is 0 difference between the molds of the original, and the production ones (apart from a few months of wear).

TW

Re: It has nothing to do with China

*Message #36 Posted by **Paul Gaster** on 20 Sept 2011, 9:30 p.m.,*
in response to message #35 by Tim Wessman

Wow, that was a lot of testing and an impressive plan overall.

Re: It has nothing to do with China

*Message #37 Posted by **hpnut** on 20 Sept 2011, 9:01 a.m.,*
in response to message #30 by Ethan Conner

that is not a representative sample. they forgot to give a test unit to hpnut ;-)

hpnut in Malaysia, owner of 12C AE no. 00245 from Samson. now waiting for 15 LE

Re: It has nothing to do with China

*Message #38 Posted by **DigiGal** on 20 Sept 2011, 8:30 p.m.,*
in response to message #29 by DaveJ

> Quote:
>
> Why didn't they just get several key enthusiasts under NDA to test it?
>
> Dave.

Dave, Apparently they did just too bad they didn't get a pre-release unit over to you or to Katie who has measured the current

draw.

PS: Would love to see a 15C LE tear down in the eevblog ;)

Edited: 20 Sept 2011, 9:24 p.m.

Re: It has nothing to do with China

*Message #39 Posted by **DaveJ** on 21 Sept 2011, 9:52 p.m.,*
in response to message #38 by DigiGal

> Quote:
>
> Dave, Apparently they did just too bad they didn't get a pre-release unit over to you or to Katie who has measured the current draw.
>
> PS: Would love to see a 15C LE tear down in the eevblog ;)

Well, if they did send me one, I would have been happy to do a teardown and a review to 10,000+ people on the release day, and generated a lot of hype (as I've done for Agilent and Tektronix under NDA). And of course would have found the battery consumption issue, as I have exposed it on a previous calculator.

Oh well.

Dave.

Re: It has nothing to do with China

*Message #40 Posted by **Lincoln R.** on 17 Sept 2011, 12:23 p.m.,*
in response to message #1 by From Hong Kong

I'll agree on most counts, because most of the real problems with the 15C are software bugs. HP wrote the software. On the random other mistakes we've seen, however:

12C firmware on a 15C: This was almost certainly a factory screwup. HP would be supplying the firmware images to the manufacturer, but the manufacturer would be responsible for flashing it onto calculators. Anyhow, assuming they're made on the same production line, this is probably an easy enough mistake to make, I just hope there aren't too many of these floating around.

Random intermittent keyboards: I wouldn't assign blame to anyone here. Defective units happen. The mechanical design seems to be OK because there are a ton of 12C+'s, and even 15Cs (The ones that work so nobody ever complained about them on the internet) with keyboards that work fine. You probably don't hear about bad Casio or TI keyboards because they're not as complex to make (rubber dome sheet like a TV remote) and because the kind of person who buys a defective $5 Casio is far more likely to return the thing to the store and get another than they are to post a scathing review on casiomuseum.org or something.

All in all, I agree that we shouldn't be nailing HP's manufacturing contractor to the wall. If they made a few defective units, that happens, this is why you build extras and have a warranty. If they flashed a few with wrong firmware, this is an easy and correctable mistake, hopefully HP's contract requires them to reimburse

HP for the cost of this rework. Really, the 15C LE is not that bad. When the new firmware gets released, and the handful of defective units get exchanged, this will be a great product.

Re: It has nothing to do with China

*Message #41 Posted by **Ethan Conner** on 17 Sept 2011, 1:39 p.m.,*
in response to message #40 by Lincoln R.

Let me give you a perspective of someone who has and still does work on an assembly line. Deisel trucks, cell phones, helicopters, biz jet wings and supersonic fighters are some of the things i have built. It does not surprise me one bit to see that a 15c le got flashed with 12c rom. Here is why. First off the people on the line in general do not have a love or devotion to the product. Second these places all have policies in place to terminate employees who do not make quota or keep up. So if you have to put in a board with 12c rom to keep up so be it.Third i have seen examples of fellow employees who were denied raises,time off etcetera deliberately screw up a product to get revenge. Many of which made it to the customer. Also assembly lines are usually dull windowless environments and the human spirit screams for some relief. It may have been done as a prank. Also employees are usually graded against each other and it may have been done to try and bring a coworker down a notch. Quite frankly even in a small run there are lots of opportunity for error and to have only heard one malfunctioning so far is pretty good.

Re: It has nothing to do with China

*Message #42 Posted by **Katie Wasserman** on 18 Sept 2011, 12:46 p.m.,*
in response to message #40 by Lincoln R.

> Quote:
>
> When the new firmware gets released

Do you know that this will happen? I wouldn't be so sure. There are many thousands of 12C+ calculators out there (aside form the 12C 30th AE's) with older buggy firmware and HP has still not released the fixed firmware, or even acknowledged these bugs on their site. If you read this forum and ask, you can get a copy of the fixed firmware, but that's not a "release" in my view.

Re: It has nothing to do with China

*Message #43 Posted by **Didier Lachieze** on 18 Sept 2011, 1:12 p.m.,*
in response to message #42 by Katie Wasserman

I have the programming cable for the WP-34S and I hope than an updated 15C LE firmware will be made available for the forum participants.

Then I'm looking for firmware parties where people will bring their 15C LEs to be reflashed :-)

Re: It has nothing to do with China

*Message #44 Posted by **robert rozee** on 18 Sept 2011, 2:22 p.m.,*
in response to message #43 by Didier Lachieze

given the complexity of reprogramming, i'd consider a blanket recall more appropriate - especially from a company such as HP and the supposed status of a 'limited edition' product.

Re: It has nothing to do with China

*Message #45 Posted by **Michael Kussmaul** on 18 Sept 2011, 4:15 p.m.,*
in response to message #44 by robert rozee

A recall would be quite expensive for foreign buyers like me I guess... Because they are not yet available in Europe I ordered mine from the U.S - that's $32 just for shipping :-) so another roundtrip to HP for a repair would cost another $64.

With that money, I should have bought a vintage one on TAS...

Re: It has nothing to do with China

*Message #46 Posted by **Raymond Del Tondo** on 17 Sept 2011, 12:27 p.m.,*
in response to message #1 by From Hong Kong

The difference could be that for most users, Casios and TI calcs are just that: calculators.
No one really cares about the keyboard of a TI calc, since they grew better over the decades,
and thus are "good enough" for normal use.
The opposite happened with the keyboards of HP calcs, when they changed production _and_ calc type in the late nineties.
Anyone remembers the FHB? or the 49g+ ;-)
At least those users of HP calcs which are lucky enough to have used the high quality keyboards of older HP calcs,
may be somewhat more picky regarding keyboard reliability.

Re: It has nothing to do with China

*Message #47 Posted by **bill platt** on 17 Sept 2011, 1:16 p.m.,*
in response to message #46 by Raymond Del Tondo

Yes.

Re: It has nothing to do with China

*Message #48 Posted by **From Hong Kong** on 17 Sept 2011, 1:53 p.m.,*
in response to message #46 by Raymond Del Tondo

> Quote:
>
> The difference could be that for most users, Casios and TI calcs are just that: calculators.
> No one really cares about the keyboard of a TI calc, since they grew better over the decades,
> and thus are "good enough" for normal use.
> The opposite happened with the keyboards of HP calcs, when they changed production _and_ calc type in the late nineties.
> Anyone remembers the FHB? or the 49g+ ;-)
> At least those users of HP calcs which are lucky enough to have used the high quality keyboards of older HP calcs,
> may be somewhat more picky regarding keyboard reliability.

In the recent years, Casio, TI and HP calculators are made in China. However, HP's calculators are far more problematic than of Casio and TI. Why? I have been using Casio calculators (nearly 10 models so far) for over 30 years but I haven't got one with missing keystrokes, defective keyboard or buggy firmware at the outset! HP sets a new era of producing defective calculators!

Re: It has nothing to do with China

*Message #49 Posted by **Walter B** on 17 Sept 2011, 3:56 p.m.,*
in response to message #48 by From Hong Kong

> Quote:
>
> I have been using Casio calculators (...) for over 30 years but I haven't got one with missing keystrokes, defective keyboard or buggy firmware at the outset! HP sets a new era of producing defective calculators!

HP has known to make some millions of reliable calculators in the past. Their keyboards were the gold standard of reliabiltity for decades. If they should have lost this knowledge :-(they are sentenced to learn it again or they will vanish from the market >:-(
Anyway, it would have been more cost effective keeping this knowledge ... :-/

Re: It has nothing to do with China

*Message #50 Posted by **M. Joury** on 17 Sept 2011, 4:34 p.m.,*
in response to message #48 by From Hong Kong

Maybe you have been as unlucky as I have been lucky (see my posting above). But I have to say that if a Casio keyboard feels and acts anything like that of a 20b I'll never own one. Because, as far as I am concerned the 20b is nearly unusable--even with WP34S firmware on-board.

I have not owned a non-HP calculator in so many years that I could not even tell you what one feels like so maybe I am wrong about the key feel. But from what I have read I would expect a Casio or TI to feel like a 20b. Sometimes I consider buying one or the other or both just to see how they feel but I can never quite get myself to do so.

After all, I wouldn't have a clue how to use one--they use something called.. darn, it's right there on the tip of my tongue... Oh, that's right! They are algebraic entry!

Cheers,

-Marwan

Re: It has nothing to do with China

*Message #51 Posted by **Lincoln R.** on 17 Sept 2011, 5:33 p.m.,*
in response to message #50 by M. Joury

As a former TI-89 Titanium owner, I'd describe modern TI keys like this: They feel like the buttons on a television remote, except there's a piece of plastic pushing the rubber dome instead of your finger pushing the rubber dome. The keys are somewhat firm, but don't give much in the way of tactile feedback. I definitely made mistakes on my TI-89 before because I didn't push the buttons far enough for it to register, usually in digit entry.

Re: It has nothing to do with China

*Message #52 Posted by **Howard Owen** on 17 Sept 2011, 5:31 p.m.,*
in response to message #46 by Raymond Del Tondo

With regard to QC, it seems to me totally insane to expect quality control to occur everyplace in the chain but the factory. You have to have quality measures there. Chinese factories are no exception. Whether

given Chinese factories are better or worse at QC in a given situation is immaterial. That's because companies who outsource their manufacturing are responsible for setting QC standards, and for checking the resulting products against those standards. It is those companies, and their customers, who will decide whether the quality level is sufficient to make a successful product.

As others have noted here, this forum is populated by some rather tough customers when it comes to judging quality. Having started my computing career with an HP-41C, I more or less share those values. But I also know the impact and implication of the Walmart effect. It turns out that people have low standards for what is "good enough" quality. I find this maddening, but unfortunately true. As long as customers tolerate shoddy products, the QC in the plant that produced them will match that tolerance level.

Having said all that, I have to say that HP has usually met *my* "good enough" expectations in recent years. The newer "rotate and click" keyboards seem designed to recapture some of the classic feel of the old machines. For me, that works. I like the feel of the 15C LE keyboard, for example. The reason I got to like that feedback on my 41C was because the "click" meant the key had registered. People have reported problems with that on new machines, but even on my two 35S calculators, I've never seen it. So color me happy with my newer keyboards. The firmware on the 35S is another matter.

Re: It has nothing to do with China

*Message #53 Posted by **Walter B** on 18 Sept 2011, 1:06 a.m.,*
in response to message #52 by Howard Owen

> Quote:
>
> ... companies who outsource their manufacturing are responsible for setting QC standards, and for checking ... against those standards.

Fullheartedly agree. Quality-wise, it's nothing less than manufacturing in-house. BTW we're not alone with our opinion in this matter - see e.g. ISO 9001.

Re: It has nothing to do with China

*Message #54 Posted by **Thomas Radtke** on 18 Sept 2011, 4:39 a.m.,*
in response to message #53 by Walter B

In a recent audit, I was told that doing anything beyond the standards is 'happy engineering'. I learn something new every day :-).

Re: It has nothing to do with China

*Message #55 Posted by **Calum Tait** on 17 Sept 2011, 8:24 p.m.,*
in response to message #1 by From Hong Kong

If HP outsource their production to an area of the world not known for its quality control then they are responsible for the results. It is HP who decide what is an acceptable quality level for their products and decide what they pay for product and where they buy from.

[Return to Index | Top of Index]

Go back to the main exhibit hall

It has nothing to do with China

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Confused simple accountant: TMV HP17 v HP12

*Message #1 Posted by **Paul** on 17 Sept 2011, 7:39 a.m.*

I've got myself confused with TVM results when using my HP19bii+ v my HP12CP and non-interger "n" (my wife just says, "why have two calculators" - which is a reasonable point however my secret is that I have three (also a HP10b - which gives the same results as the HP17bii+).

For instance if I run a scenario of: P/YR = 1 n = 2.5 iP/YR = 10% (those were the days!) PV = 100 PMT = 10 END MODE HP17 bii+ FV = -153.81

This seems quite reasonable as it is approximately the same as replicating the inputs for 30 months (slight compounding difference I can cope with that).

If I run the same inputs for my HP12CP I get FV = -148.05

Now, reading the manual, I thought this was because the 12CP would take the "0.5" of "n" and consider it as half a month, ie 15 days. But if I try to model a 15 day period (ie P/YR = 24 and PMT = 10/24) followed by a two year period I get FV = -142.99 (which feels about right, but is a country mile away from the 12CP).

Can anyone shed a little light on this for me.

Thanks in anticipation.

Re: Confused simple accountant: TMV HP17 v HP12

*Message #2 Posted by **MBlount** on 17 Sept 2011, 9:39 a.m.,*
in response to message #1 by Paul

When you enter a non-integer value for n in the 12c it enters odd-period mode and doesn't assume a payment until the first full period. In your example using 1 payment per year the 12c gives you 1/2 of a year interest, then one-year interest plus a payment, and finally another year's interest plus a payment.

The calculation looks like this

Beg End

Bal Int Pmt Bal

100.00 5.00 0.00 105.00

105.00 10.50 10.00 125.50

125.50 12.55 10.00 148.05

The 17bii doesn't do odd periods like that. When you key in 2.5 periods, it gives you 2.5 payments. You get an additional $5 at the end of the partial period that you don't get with the 12c.

edit: Sorry, I don't do tables well. The column headings should be Beginning Balance, Interest, Payment, and Ending Balance

Edited: 17 Sept 2011, 9:46 a.m.

Re: Confused simple accountant: TMV HP17 v HP12

*Message #3 Posted by **bill platt** on 17 Sept 2011, 9:55 a.m.,*
in response to message #2 by MBlount

Beg Bal	Int	Pmt	End Bal
100.00	5.00	0.00	105.00
105.00	10.50	10.00	125.50
125.50	12.55	10.00	148.05

Re: Confused simple accountant: TMV HP17 v HP12

*Message #4 Posted by **MBlount** on 17 Sept 2011, 10:04 a.m.,*
in response to message #3 by bill platt

Perfect, thanks.

Re: Confused simple accountant: TMV HP17 v HP12

*Message #5 Posted by **Paul** on 17 Sept 2011, 10:12 a.m.,*
in response to message #4 by MBlount

Brilliant - I had tried putting the half-period at the end (after all the HP12 was set to "end"....) but with your helpful table I can now clearly see what the result means - mystry solved. Many thanks.

Paul

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g trilogy. The new HP 50g Blue (and II)

*Message #1 Posted by **Pablo P (Spain)** on 17 Sept 2011, 7:30 a.m.*

Hi all! Probably this information is interesting for some collectors. A year ago I posted the HP 50g blue here http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=173119
Now, one year later, it seems that HP has released a new blue layout. At least here in Spain. The source is from an official HP dealer in Spain: http://www.ict-iberia.com/datosftp/calculadoras/imf_1-ListaPreciosCalculadorasHP_sept2011_web.pdf

Note that the new blue has the same model number that the old one. What do you think?

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #2 Posted by **bluesun08** on 17 Sept 2011, 8:44 a.m.,*
in response to message #1 by Pablo P (Spain)

What kind of innovation!

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #3 Posted by **Chris Randle (UK)** on 17 Sept 2011, 8:50 a.m.,*
in response to message #1 by Pablo P (Spain)

Just to clarify, I think the new blue one is the one on the right, not the one that says "NUEVA". Correct?

I've got one of the old blue ones and it's rather grown on me. Based on the images above, I prefer it to the new blue one. Having said that, the old blue looks better in the flesh than in pictures, IMO, so perhaps the new ones are equally attractive.

Must resist urge to buy another bloody calculator.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #4 Posted by **Namir** on 17 Sept 2011, 10:20 a.m.,*
in response to message #3 by Chris Randle (UK)

<with a smooth convincing voice>Go ahead .. get a another calculator. A calculator is your friend. It will not judge you or tell you lies. It is always truthful to you and does what you ask. So come on .... just one more calculator. No harm in that!!

<G>

Edited: 17 Sept 2011, 10:21 a.m.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #5 Posted by **Egan Ford** on 17 Sept 2011, 10:28 a.m.,*
in response to message #4 by Namir

> Quote:
>
> It will not ... tell you lies ...

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=735

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #6 Posted by **Lyuka** on 17 Sept 2011, 12:50 p.m.,*
in response to message #5 by Egan Ford

The 50g is one thing, and the 35s is another.

Lyuka

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #7 Posted by **Pablo P (Spain)** on 17 Sept 2011, 1:05 p.m.,*
in response to message #3 by Chris Randle (UK)

> Quote:
>
> Just to clarify, I think the new blue one is the one on the right, not the one that says "NUEVA". Correct?

Correct, it is the bloody one on the right.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #8 Posted by **Martin Pinckney** on 17 Sept 2011, 11:38 a.m.,*
in response to message #1 by Pablo P (Spain)

I have a feeling that a re-styled 50g is in the works.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #9 Posted by **John Stark** on 17 Sept 2011, 12:21 p.m.,*
in response to message #8 by Martin Pinckney

To all:

Sure hope an upgraded 50G is in the pipeline.

Two things I'd like to see:

- Backlit screen like TI Nspire and Casio Prizm

- Large ENTER key in the "correct" place (as in "Classics" and the HP.35S).

My $.02 for now.

John

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #10 Posted by **Dan W** on 17 Sept 2011, 1:10 p.m.,*
in response to message #9 by John Stark

Pivoting slant front keys!

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #11 Posted by **Martin Pinckney** on 17 Sept 2011, 6:07 p.m.,*
in response to message #10 by Dan W

And traditional lines rather than "TI curves."

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #12 Posted by **M. Joury** on 17 Sept 2011, 6:44 p.m.,*
in response to message #11 by Martin Pinckney

I would definitely buy one, or more.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #13 Posted by **Steve Fennell** on 17 Sept 2011, 6:20 p.m.,*
in response to message #8 by Martin Pinckney

That would be great. I never liked the small enter key on the 50g. I really liked the 48g keyboard.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #14 Posted by **Jose Gonzalez Divasson** on 17 Sept 2011, 5:44 p.m.,*
in response to message #1 by Pablo P (Spain)

For some unknown reason, I have sold so far some more blues than blacks - but then I might have been lucky.

Here's how they look like in reality:

HP 50g Blue and black

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #15 Posted by **David Ramsey** on 18 Sept 2011, 12:27 a.m.,*
in response to message #14 by Jose Gonzalez Divasson

Just ordered a blue one from you. I'll bet we never see them over here...

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #16 Posted by **Walter B** on 18 Sept 2011, 1:17 a.m.,*
in response to message #14 by Jose Gonzalez Divasson

> Quote:
>
> For some unknown reason, I have sold so far some more blues than blacks - but then I might have been lucky.
>
> Here's how they look like in reality:
>
> HP 50g Blue and black

If statistically significant, this looks like another victory of fashion over ergonomical design.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #17 Posted by **Mike Morrow** on 18 Sept 2011, 11:28 a.m.,*
in response to message #1 by Pablo P (Spain)

Those blue models are absolutely terrible!

They seem to be motivated by the same sort of idiotic "artistic" nonsense that places no value on contrast, legibility, and usability. In other words, the same sort of U.S. West Coast decadence that produced the ugly ineffective color schemes of the Pioneers, HP-48G, and HP-38G, to name but a few. Now we can add the European HP 50g. No surprise there!

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #18 Posted by **Tim Wessman** on 18 Sept 2011, 12:07 p.m.,*
in response to message #17 by Mike Morrow

Have you actually held one?

The blue is actually extremely legible including for those with Protanopia and Deuteranopia - which, yes, I tested against.

Just because you don't like the color doesn't mean it does not have legibility, contrast or usability. A crappy jpg with low color calibration will not be a good stick to measure against.

Having never seen the so called "new" one on the right I can't say anything about it. You can blame me for exact color combination on the blue one, but not for the desire to do it. It was demanded that "we need an Avatar Blue calculator" and so I had to do something.

I just tried to make the best of a bad situation. :-|

TW

Edited: 18 Sept 2011, 12:13 p.m.

Re: HP 50g trilogy. The new HP 50g Blue (and II)

*Message #19 Posted by **BruceH** on 19 Sept 2011, 3:08 a.m.,*
in response to message #18 by Tim Wessman

I second this having bought one [1] from Jose - it is really clear and legible. I find myself starting to prefer the "white keys" models: I just picked up a 39gs[2] in the light grey color and it is better, IMHO, than the dark grey 40gs.

[1] 4 actually, for friends, which might party explain why he has sold so many!
[2] which is astonishingly good value for money

Edited: 19 Sept 2011, 3:10 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #1 Posted by **Miguel Toro** on 17 Sept 2011, 5:48 a.m.*

Please be aware of what is discussed in this thread. It is a good idea to test the calculator for the correct firmware :(

Regards,

Miguel

Edited: 17 Sept 2011, 5:50 a.m.

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #2 Posted by **Michael de Estrada** on 17 Sept 2011, 7:30 a.m.,*
in response to message #1 by Miguel Toro

So, are you another proud owner of a 12C AE disguised as a 15C LE ?

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #3 Posted by **Miguel Toro** on 17 Sept 2011, 7:43 a.m.,*
in response to message #2 by Michael de Estrada

Not yet ;-)

Mine arrives this monday hopefully with the good firmware. I just noticed several posts made after this discovery where people talk about not opening their boxes. So just to make them check.

Regards,

Miguel

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #4 Posted by **aj04062** on 17 Sept 2011, 9:11 a.m.,*
in response to message #3 by Miguel Toro

are yours sealed in some manner?

My unit arrived and you wouldn't be able to tell if was opened before or not as there was nothing sealing it.

Did Samson send me an opened box?

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #5 Posted by **M. Joury** on 17 Sept 2011, 9:35 a.m.,*
in response to message #4 by aj04062

No. They are not sealed in any way.

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #6 Posted by **Namir** on 17 Sept 2011, 10:22 a.m.,*
in response to message #4 by aj04062

Indeed. No sealing. That made it easier to check some units that I shipped for a friend overseas. I did not want him to get DOA units.

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #7 Posted by **M. Joury** on 17 Sept 2011, 10:44 a.m.,*
in response to message #6 by Namir

Interestingly, the 12C 30th AE is sealed by a little piece of tape across the plastic outer packaging.

Re: HP 15C LE: For anyone who intend to keep theirs unopened in box

*Message #8 Posted by **sylvandb** on 19 Sept 2011, 6:00 p.m.,*
in response to message #7 by M. Joury

> Quote:
>
> Interestingly, the 12C 30th AE is sealed by a little piece of tape across the plastic outer packaging.

Mine wasn't.

The bottom flaps open without even slightly disturbing the seal. And close again.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Who knows me better...

*Message #1 Posted by **kc** on 17 Sept 2011, 12:16 a.m.*

...than my wife?

Me: I've bought myself a birthday present. (PS: HP 15C LE)
Wife: What's that?
Me: I bought it from overseas. You'll know when it arrives.
Wife: A calculator?

Luckily, my wife didn't complain about me having many calculators already and still bought another one, like some of the forum members' wives did...

Regards,
KC

Re: OT: Who knows me better...

*Message #2 Posted by **Howard Owen** on 17 Sept 2011, 1:37 a.m.,*
in response to message #1 by kc

I would never suggest anyone here knows you any better than your wife, but some of us might have guessed the correct answer to that one. :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any relation between 15C LE numbers and serial numbers?

*Message #1 Posted by **Howard Owen** on 16 Sept 2011, 11:42 p.m.*

I have my second 15C LE now. Since I intend not to open the box, I can't tell what its LE number is. The serial number is printed on the outside of the package however. Is there any simple mapping between the two numbers? Perhaps we could post many examples and see if a pattern emerges?

My first one has serial# CNA1320813 and LE# 00336, My second one has serial# CNA1310KBP

Re: Any relation between 15C LE numbers and serial numbers?

*Message #2 Posted by **M. Joury** on 16 Sept 2011, 11:54 p.m.,*
in response to message #1 by Howard Owen

I would suggest that you should open the box to remove the batteries.

Cheers,

-Marwan

Re: Any relation between 15C LE numbers and serial numbers?

*Message #3 Posted by **Michael de Estrada** on 17 Sept 2011, 12:05 a.m.,*
in response to message #2 by M. Joury

Maybe he should run the self test to make he doesn't have a 12C ROM.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #4 Posted by **Lincoln R.** on 17 Sept 2011, 12:08 a.m.,*
in response to message #3 by Michael de Estrada

Has that actually happened?

Re: Any relation between 15C LE numbers and serial numbers?

*Message #5 Posted by **Michael de Estrada** on 17 Sept 2011, 12:12 a.m.,*
in response to message #4 by Lincoln R.

Yes. Read the threads below this one.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #6 Posted by **Lincoln R.** on 17 Sept 2011, 12:35 a.m.,*
in response to message #5 by Michael de Estrada

Oh dear. Cyrille and Tim must really be wanting to smack someone in manufacturing right

now.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #7 Posted by **Lincoln R.** on 17 Sept 2011, 12:04 a.m.,*
in response to message #1 by Howard Owen

I own two: CNA1310KBJ, LE#02195. CNA13208KX, LE#02922.

I'd assume the serial number breakdown goes something like this:

CNA - Some China plant code (I think CNA is Kinpo and 4CY is Inventec) 1 - Made in 2011 (normal mid-97 and up HP Datecode) 31 - Week 31 (Sounds about right for late august/early septemberish) 0KBJ - Production number. It looks like they've gone to using numbers instead of digits. Since our production numbers are close together, it'd be interesting to see what LE number you have. If they go in order, I think your CNA1310KBP would be LE#02201, but it would seem that they don't, since your unit that was built a week later has LE#00336 and mine that was built a week later has LE#02922.

If I may propose a theory, I might guess that all the metal back plates were printed, sent to the manufacturing plant, and then placed onto calculators in no particular order.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #8 Posted by **Howard Owen** on 17 Sept 2011, 12:32 a.m.,*
in response to message #7 by Lincoln R.

Ah. Batteries of course. Just the excuse I needed :)

My CNA1310KBP has LE #02193. Perhaps the process for applying back labels and the process for applying serial numbers are not connected.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #9 Posted by **Michael de Estrada** on 17 Sept 2011, 12:45 a.m.,*
in response to message #8 by Howard Owen

The S/N is a tacky stick-on label that often isn't even straight. I removed mine and stuck it on the first page of the manual for safekeeping. I doubt there is any relationship between it and the LE #.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #10 Posted by **Mike Morrow** on 18 Sept 2011, 11:37 a.m.,*
in response to message #9 by Michael de Estrada

For all China-made HPs it appears that machinery is in use to apply the serial number strip crookedly, by design. If the strips were applied manually, at least some should occasionally be correctly applied, just by chance. Has anyone *ever* observed otherwise?

Re: Any relation between 15C LE numbers and serial numbers?

*Message #11 Posted by **Lincoln R.** on 18 Sept 2011, 11:56 a.m.,*
in response to message #10 by Mike Morrow

I've seen them at different angles on the same model, so I'd imagine the labels are either applied by humans working very fast (quite likely in the land of 25 cent/hour labor) or a very poorly

calibrated machine (also somewhat likely since serial number labels aren't really a critical part).

Although one thing I am curious about: We're pretty sure we know that HP and TI use largely the same contract manufacturers. I haven't seen a TI with a stick-on label, so the companies probably have the equipment for engraving serial numbers, unless TI does something ridiculous like engrave serial numbers when they get the calculators at their warehouse. This could be possible, the last TI I bought was in around 2005 or 2006, the calculator was made in China, but the batteries and manual were both made in the USA. I doubt TI would waste money shipping batteries and paper overseas only to be shipped back inside calculator boxes.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #12 Posted by **Dan W** on 18 Sept 2011, 11:02 p.m.,*
in response to message #10 by Mike Morrow

> Quote:
>
> For all China-made HPs it appears that machinery is in use to apply the serial number strip crookedly, by design. If the strips were applied manually, at least some should occasionally be correctly applied, just by chance. Has anyone *ever* observed otherwise?

Mine is very nearly perfectly straight.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #13 Posted by **Howard Owen** on 18 Sept 2011, 12:26 p.m.,*
in response to message #9 by Michael de Estrada

My 15C LE SN sticker is only slightly misaligned.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #14 Posted by **sylvandb** on 19 Sept 2011, 5:25 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> My 15C LE SN sticker is only slightly misaligned.

Mine was significantly misaligned. Now it is removed to the interior of the battery compartment.

Re: Any relation between 15C LE numbers and serial numbers?

*Message #15 Posted by **M. Joury** on 17 Sept 2011, 8:51 a.m.,*
in response to message #8 by Howard Owen

While you are at it, as Michael suggested, verify that you have a 15C and not a 12C in 15C's clothing.

Any relation between 15C LE numbers and serial numbers?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Classic HP LED failure diagnosis

*Message #1 Posted by **aj04062** on 16 Sept 2011, 9:51 p.m.*

I have a 65 that has a non-lighting minus sign. Upon dis-assembly, it can be observed that the Cathode 1 segment does seem to light very faintly when the CHS key is pressed. The minus sign does not light.

Upon additional testing, when the battery drains and all the decimal points light up, the Cathode 1 decimal point DOES LIGHT UP. This leads me to believe that it is likely the LED Module and not the Cathode driver.

does anyone concur with this diagnosis?

Re: Classic HP LED failure diagnosis

*Message #2 Posted by **Kees van der Sanden** on 17 Sept 2011, 3:21 p.m.,*
in response to message #1 by aj04062

Hi aj4062

I agree with your diagnosis. If the Cathode 1 digit decimal point lights up at low voltage conditions, the cathode driver does his job. A failing LED segment in the module can be the root course. The module contains only a matrix of LED diodes and no control electronics. The specifications can be found here. Desolder the module and check all segments with the diode test of a multimeter. Failing segments in classic series LED modules is a common problem.

Re: Classic HP LED failure diagnosis

*Message #3 Posted by **aj04062** on 17 Sept 2011, 5:28 p.m.,*
in response to message #2 by Kees van der Sanden

Thanks for the confirmation Kees!

Just wanted to see if anyone else comes to this conclusion before I spend the time to desolder and replace that module.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any good way to take pictures of calculators?

*Message #1 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:48 p.m.*

I am able to get decent pictures but sometimes I get flashes on top of the keyboards. Thanks.

Re: Any good way to take pictures of calculators?

*Message #2 Posted by **db (martinez, ca.)** on 16 Sept 2011, 10:04 p.m.,*
in response to message #1 by Eddie W. Shore

IIRC, Dave Hicks made a tent with white sheets in his driveway to get non-directional light with no reflections.

Re: Any good way to take pictures of calculators?

*Message #3 Posted by **Bill (Smithville, NJ)** on 16 Sept 2011, 10:21 p.m.,*
in response to message #1 by Eddie W. Shore

I've only photographed a few of my calculators, but have spent some time photographing my transistor radios.

I've used a separate flash from the camera aimed backward into a white umbrella. It diffuses the light. You have to be careful of shadows. I use a remote trigger for the camera to eliminate any shadows I might make from pressing the shutter. You can also try putting a diffuser over the flash. You can make your own out of a half sphere of white plastic. Just tape the diffuser over the flash.

Another method is to aim the camera slightly off-perpendicular, This will keep the flash from coming directly back into the camera lens. But you need to have some manual control over the camera to get the required depth of field to keep it all in focus. A camera with manual foucusing is helpful.

You can also try a polarizing filter over the lens. If the light is bouncing back at a different angle, then a polarizer can help filter some of the reflection out. But the polarizer may also filter out the display, if you are trying to show what the display looks like.

The background you use is also important. Also how you suspend the object you wish to photograph. Sometimes I'll balance the radios so they are floating above the background. It gets rid of the hard edges that can appear or hard shadows at the edges.

The nice thing about digital cameras, you can experiment with hundreds if not thousands of photo arrangements.

Bill

Re: Any good way to take pictures of calculators?

*Message #4 Posted by **David Ramsey** on 16 Sept 2011, 10:22 p.m.,*
in response to message #1 by Eddie W. Shore

Although generally your camera is the least important factor in making a good photograph, a DSLR helps a lot. As noted, avoiding flash is the key, but the tiny sensors in point-and-shoot cameras require more light to get decent photos. Outdoors in bright cloudy weather is your best bet...

Re: Any good way to take pictures of calculators?

*Message #5 Posted by **Peter Murphy (Livermore)** on 17 Sept 2011, 12:34 a.m.,*
in response to message #1 by Eddie W. Shore

Back in February I watched a nice 15C go for about $400 on TAS.

I asked the seller how he had made is superb photographs, which I thought had been a strong factor in his realizing such a high price. (I don't think that I saved those photographs, but perhaps they're somewhere on my hard drive. I'd have to do some learning before I could post them here, but be assured that they were very good indeed.)

Here's what he said in reply:

"On the camera, I am using a Nikon 12.1 megapixel DSLR mounted on a tripod. My lens is a manual focus Zeiss 100mm makro-planar T* f/2.0 lens. I usually shoot at f/16 or so on a 6-10 second exposure which is no problem on the tripod. I could shoot with less time, but I would need a brighter light and that might case more shadows - putting it farther away or putting a diffuser on it helps the light be more even. I have three foot wide black paper for the background from a roll that I've placed along the table and gently curved up onto the wall. The key of all of this has been manually focusing my lens, in my case a 100mm Makro-lens. Using live-view on the camera, I can get 100% of my images razor sharp. This can be done with autofocus lenses too I am sure, but to get it perfect every time, I would switch it to manual focus, then use the Live-View feature and LCD screen on the back of the camera to get the focus perfect. I hope this helps."

The black background to which he refers was the background to the 15C itself. The image was quite dramatic because of it.

Re: Any good way to take pictures of calculators?

*Message #6 Posted by **Dan W** on 17 Sept 2011, 1:13 a.m.,*
in response to message #1 by Eddie W. Shore

I bought one of these cube light tents. It usually comes with the tent, some base to put the item on, and a couple of lights, and a small tripod.

The tent gives very good even illumination, but the camera needs to be on a tripod, mainly because I stop it down all the way to get a good depth of field.

Also, adjust the white balance manually, and clean clean clean the calculator. Bracket the exposures.

Here's an example. Note all the specks of dust and lint. I didn't clean this one all that well. Some of this can be cleaned up in PSP or Photoshop, but its best to start as clean as possible.

Re: Any good way to take pictures of calculators?

*Message #7 Posted by **Alexander Oestert** on 17 Sept 2011, 3:22 a.m.,*
in response to message #1 by Eddie W. Shore

Google or search YouTube for

product photography tutorial

or

tabletop photography

You get plenty of suggestions and this will start a new infection of incurable I-need-to-buy-this-and-this-and-this-electronic-product-itis!

I have it! I know!

Contact Photoholic Anonymous! ;)

Re: Any good way to take pictures of calculators?

*Message #8 Posted by **Calum Tait** on 17 Sept 2011, 6:19 a.m.,*
in response to message #1 by Eddie W. Shore

I used to do quite a bit of product photography. If you have a DSLR (or even better, a proper film camera :-)) then as some other members have said, a tent type soft cube works well. These can be expensive for larger ones though useful if you want a group of items in the shot. I prefer to use continuous light with these lighting from both sides. A roll background and studio flash with a softbox is nearly as good but doesn't totally eliminate reflections. If you have a simpler camera with built-in flash then you can make a diffuser very easily by placing a paper handkerchief or similar thin white paper over the flash unit to create a diffuse light. This can work surprisingly well. A white sheet can be suspended over the subject to make a simple tent to eliminate reflections from the side while bouncing light around the subject to give fill in for the shadows. I hope this gives you some ideas.

Re: Any good way to take pictures of calculators?

*Message #9 Posted by **Dieter** on 17 Sept 2011, 7:02 a.m.,*
in response to message #1 by Eddie W. Shore

As already discussed here, the key to suceess is proper lighting. Direct, frontal light (either flash or continuous light) is not an option. The problem is not the flash - that's a great light source with many advantages, virtually every professional product photo is lit by (studio) flash. The point is: you must not use a tiny in-camera flash that points directly onto a shiny surface. ;-)

However, there is a another option that has not been mentioned yet: Want a plain vanilla picture of your calculator? Simple put it on your scanner. Most devices have sufficient depth of field to keep the whole device in focus.

Dieter

Re: Any good way to take pictures of calculators?

*Message #10 Posted by **Dave Shaffer (Arizona)** on 17 Sept 2011, 7:31 a.m.,*
in response to message #1 by Eddie W. Shore

Are you hoping to do just a few calculators, or is this likely to be an on-going project?

If the latter, then some modest effort to put together a good set up will be worth your while. You want the most diffuse light possible, mostly from the sides and top - and just a bit from the front.

The suggestions by Alexander Oestert would be a good start. There is lots of stuff on the web about how to do

this.

You can make it all yourself. I use PVC piping to make frames that hold diffusing cloth (which can be white fabric of various sorts bought at Walmart or sewing supply stores). Plain light bulbs (in a reflector from the hardware store) work fine.

As noted by somebody: white balance is very critical for the best shots. Small apertures are best for good depth of field. (but generally not the very smallest: below about f/11 or f/16 diffraction actually starts to make resolution worse - this is hardly ever mentioned in the photo magazines or elswhere!! For a given camera, this is also INDEPENDENT of lens focal length, despite occasional claims to the contary. It does depend on the actual image size in the camera - the bigger the image frame, the smaller aperture you can use before diffraction effects start to get you. An 8 by 10 view camera will do fine at f/44 or even f/64, a la Ansel Adams!!!!!)

Polarizing filters might help - but to get the best benefit, you also need polarized light sources, and diffusers wreck the polarization. I'd skip this.

(From an occasional teacher of Intro to Digital Photography, at the university level.)

Re: Any good way to take pictures of calculators?

*Message #11 Posted by **Alexander Oestert** on 17 Sept 2011, 7:42 a.m.,*
in response to message #10 by Dave Shaffer (Arizona)

> Quote:
>
> or is this likely to be an on-going project?

If you really, really want to learn a bit, immerse yourself in Lighting 101 on the Strobist website!

Re: Any good way to take pictures of calculators?

*Message #12 Posted by **Dieter** on 17 Sept 2011, 12:35 p.m.,*
in response to message #10 by Dave Shaffer (Arizona)

I do not think white balance is crucial. All digital SLRs I know of support a raw image format. In this case the white balance can be set and fine-tuned in the raw image processor - without the slightest disadvantage compared to setting WB on the camera beforehand. It may work even better.

The more crucial point is exposure. White backgrounds may lead to underexposure if the user relies on auto exposure. However, within certain limits even this can be corrected afterwards when the camera is set to raw.

Diffraction, on the other hand, is a common subject in photography groups. ;-) As you mentioned, the critical f-stop depends from the image format, i.e. the size of the image sensor in a digital camera.

For those who are not familiar with all this: it's quite simple. As the lens is stopped down, depth of field increases. In other worde, f/16 will render a wider area in the image in sharp focus than f/8. That's fine for this kind of photography, where more sharp details of the subject mean more information.

However, there is a downside. As the lens is stopped down, another effect become more and more dominant - diffraction. In simple words: at small apertures the picture becomes more and more blurred. First you barely notice it, then some fine detail is lost, and finally the picture is evenly sharp from the front to the background, but the *level of sharpness* is so low that it can hardly be considered sharp *anywhere*.

So, there must be an optimum somewhere. Up to a certain point depth of field increases, then the whole picture gets less sharp until it's no longer acceptable. This point, the critical aperture, depends from the image size. As a general rule of thumb you can say that the maximum f-number should be roughly the (diagonal) imsage size in millimeters, or, if possible, preferably only half that.

So, if you're using a regular 35 mm camera (film or digital "full frame") where the image size 24x36 or 43,3 mm diagonally, the absolute limit is something like f/45. But if possible don't stop down further than f/22. Most digital SLRs use smaller sensors with a diagonal size of 27 or 28 mm, so it is best to keep the aperture below f/16. Typical compact (point and shott) cameras finally have extremely small sensors, usually something like 7 mm, which means that you should not stop down further than f/4. But since most of their lenses are not good enough to be limited by diffraction, f/5,6 or in some cases even f/8 do not make much difference. That's exactly the reason why virtually all compact cameras with manual aperture setting do not allow the user to stop down further than f/5,6 or f/8.

The interesting point finally is this: Yes, you should keep the aperture wider open the smaller your camera's image sensor is. But, and that's important, although the aperture now is wider, *you will not lose any depth of field*. Due to certain physical reasons, f/16 in a typical digital SLR and f/4 in a common point and shoot camera do not only show the same amount of diffraction, they also (ceteris paribus) will produce *the same depth of field*. In other words: you do not gain or lose anything, regardless which format you use. The same result (in terms of both DOF and diffraction) is only obtained at different aperture settings.

That's also the reason why 8x10" field cameras have no problem with f/64 or more. Since their image format is roughly 8x as wide and high as that of a "usual" camera, f/64 results in the same amout of diffraction (and also the same depth of field) as f/8 with the latter.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE sqr and sqrt problems

*Message #1 Posted by **CAD_Jockey** on 16 Sept 2011, 9:08 p.m.*

Anyone having issues with their HP 15c LE, regarding the square and square root keys? I'm getting different (incorrect) results on the 15c, compared to my 33s, using the same key strokes.

Example on the 15c:

25 sqrt results in 25.00

25 g x^2 results in 300.00 (33s and pc emulator say 625)

Any thoughts on this? I have an email into HP support also.

Thanks, Dave

Re: 15c LE sqr and sqrt problems

*Message #2 Posted by **Michael de Estrada** on 16 Sept 2011, 9:11 p.m.,*
in response to message #1 by CAD_Jockey

I don't have a problem on my 15C LE. Sounds like a faulty chip. Did you do the checksum self test #2 ?

Re: 15c LE sqr and sqrt problems

*Message #3 Posted by **CAD_Jockey** on 16 Sept 2011, 9:53 p.m.,*
in response to message #2 by Michael de Estrada

How do you know if the check sum (test #2) works? I don't get an error message, just "ChE--A3A3h", then "2009-07-02", and "C 2008 hP". Second two screens are the copyright info...not sure what screen 1 is.

Also, is the self test (X and ON keys) almost instant? manual says 23-25 seconds of the word "running", but all I see is it flash by nearly instantly, going to all segments lit.

Thanks, Dave

Re: 15c LE sqr and sqrt problems

*Message #4 Posted by **Michael de Estrada** on 16 Sept 2011, 10:13 p.m.,*
in response to message #3 by CAD_Jockey

Wierd. Everyone else gets checksum ChE--FFFFh and the date should be something like 2011-04-15. I wonder if the chip was flashed with the wrong ROM like for the 12c+.

Re: 15c LE sqr and sqrt problems

*Message #5 Posted by **Jeff O.** on 16 Sept 2011, 10:20 p.m.,*

in response to message #3 by CAD_Jockey

That is the wrong check sum and date for the 15C LE. It sounds like the data for the 12C AE. Maybe your 15C LE got flashed with the wrong ROM. That would also explain your other odd results. I believe that the upper left key on the 12C is N, when you enter a number and press N, nothing happens to the display. I believe that g, N is "x12", multiplying the keyed in value by 12.

Re: 15c LE sqr and sqrt problems

*Message #6 Posted by **Martin Pinckney** on 16 Sept 2011, 10:27 p.m.,*
in response to message #5 by Jeff O.

> Quote:
>
> That is the wrong check sum and date for the 15C LE. It sounds like the data for the 12C AE. Maybe your 15C LE got flashed with the wrong ROM.

Don't send it back. You have a rare collectible!

Re: 15c LE sqr and sqrt problems

*Message #7 Posted by **Dave Britten** on 16 Sept 2011, 9:23 p.m.,*
in response to message #1 by CAD_Jockey

Do you have USER turned on? Pressing those 5 keys will run programs A through E if you do, and you can get some rather unexpected results if you aren't paying attention. If it's on, press USER (f RCL) again to turn it off. I'm getting correct results on my machine.

Re: 15c LE sqr and sqrt problems

*Message #8 Posted by **Michael de Estrada** on 16 Sept 2011, 9:28 p.m.,*
in response to message #7 by Dave Britten

Not if you type a shift key first. So 25 g x^2 will still result in 625. Also 25 f A will reverse and give 5.

Re: 15c LE sqr and sqrt problems

*Message #9 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:46 p.m.,*
in response to message #1 by CAD_Jockey

I get the correct answers.

Re: 15c LE sqr and sqrt problems

*Message #10 Posted by **Jeff O.** on 16 Sept 2011, 10:11 p.m.,*
in response to message #1 by CAD_Jockey

Are you sure you are not in complex mode? (Is there a little "C" annunciator in the lower right corner of the display?) If so, press g, 5, 8. (g, CF, 8)

Sorry if you are well aware of complex mode, but inadvertantly being in complex mode and getting unexpected results is a common problem expressed here.

If this is not your problem, I'd try resetting your calculator via the reset hole under the battery cover, or with the calculator off, press and hold the minus key, press ON, then release both. Either action will clear memory

and reset the calculator to its default state.

Re: 15c LE sqr and sqrt problems

*Message #11 Posted by **Michael de Estrada** on 16 Sept 2011, 10:18 p.m.,*
in response to message #10 by Jeff O.

It won't matter, unless there is a non-zero value in the y stack register. See above, sounds like it's a firmware problem.

Re: 15c LE sqr and sqrt problems

*Message #12 Posted by **Jeff O.** on 16 Sept 2011, 10:29 p.m.,*
in response to message #11 by Michael de Estrada

I don't believe that is his problem, see my other post (I think he got the 12C AE firmware.) But I will point out that the stack y value value does not matter with the 15C in complex mode for sqrt or x^2, that is the 32S, 32sii, 33s and 34s paradigm. (I'm sure you knew this :-)) With a bit of calculation, I found that sqrt(25.0000 + i 1224.744872) is 25.0000 + i24.4949, which of course would just show 25.00 in the display. Pretty unlikely that he would have accidentally gotten that complex value entered.

Edited: 18 Sept 2011, 1:58 p.m.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #13 Posted by **Miguel Toro** on 16 Sept 2011, 10:29 p.m.,*
in response to message #1 by CAD_Jockey

I found what the problem is!!!

You have a 12c+ with the skin of a 15c :-(

Those are the results if you make the same operation with the same key in a 12c

25 [n] = 25

25 [g] [12x] = 300

So the wrong firmware

Miguel

Edited: 16 Sept 2011, 10:30 p.m.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #14 Posted by **CAD_Jockey** on 16 Sept 2011, 10:34 p.m.,*
in response to message #13 by Miguel Toro

Sure sounds like it's the firmware...good grief.

Thanks guys, I'll be talking to HP soon.

-Dave

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #15 Posted by **Steve Fennell** on 16 Sept 2011, 10:44 p.m.,*
in response to message #14 by CAD_Jockey

I'd be interested to hear about your experience with HP customer support. I've never dealt with them before.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #16 Posted by **Katie Wasserman** on 16 Sept 2011, 11:00 p.m.,*
in response to message #14 by CAD_Jockey

I'd say it's 100% that you have the 12c AE firmware, everything you noted is consistent with that. Assuming that this came straight from the factory this is sign that quality control has gone to pot there.

Is TW following this thread?

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #17 Posted by **Paul Gaster** on 16 Sept 2011, 11:12 p.m.,*
in response to message #16 by Katie Wasserman

He probably follows and reads just about everything but cannot comment all of the time.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #18 Posted by **CAD_Jockey** on 17 Sept 2011, 6:23 a.m.,*
in response to message #16 by Katie Wasserman

Maybe it's not a "bug", just an "undocumented feature", which is why it's a Limited Edition.

I'll keep you posted, once I get hold of HP.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #19 Posted by **bill platt** on 16 Sept 2011, 11:02 p.m.,*
in response to message #14 by CAD_Jockey

If this turns out to be the only one like it, it is indeed a "rare collectible"! ;-P

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #20 Posted by **Katie Wasserman** on 16 Sept 2011, 11:24 p.m.,*
in response to message #19 by bill platt

Not really, since anyone with a cable, access to an old copy of old 12C+ firmware and SAMBA can crank out a ton of these and there would be no way to know that they weren't factory defects.

I'm starting up my production line now ..... :)

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #21 Posted by **bill platt** on 16 Sept 2011, 11:37 p.m.,*
in response to message #20 by Katie Wasserman

Hi KAtie,

ona more serious note: the 15c firmwatre has never been released before...so to update any of these machines will essentially result in HP publishing that? Or am I confused...for instance tat thread smetime bsk with close-up photos f 15c boards, somehow figuring our the ROM from the physical board?? some of this stuff os just magic.

Edited: 16 Sept 2011, 11:38 p.m.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #22 Posted by **Katie Wasserman** on 17 Sept 2011, 1:17 a.m.,*
in response to message #21 by bill platt

> Quote:
>
> ..for instance tat thread smetime bsk with close-up photos f 15c boards, somehow figuring our the ROM from the physical board?? some of this stuff os just magic.

Looks like your cat was walking on the keyboard while you were typing this. :)

You're correct though, the 15c firmware has never been released and HP would have to make that available to anyone that wants to upgrade to a bug-fixed version -- if that ever happens. The only alternatives would be for HP to set up some place to send calculators to for the upgrade OR some group of people here decide to write their own firmware for the 15C and make that freely available.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #23 Posted by **Thomas Radtke** on 17 Sept 2011, 4:08 a.m.,*
in response to message #22 by Katie Wasserman

One question: The firmware appears not to be protected (might be a wrong assumtion). So, if a 15C LE goes bad, one could take a 12C+, reflash it, and give keys and bezel of the 15C LE to it? Would that work?

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #24 Posted by **Katie Wasserman** on 17 Sept 2011, 8:07 a.m.,*
in response to message #23 by Thomas Radtke

I think that you're asking if there is small hardware difference in the 12C+/AE vs the 15C LE that the firmware looks at and will only run on the proper hardware. If so, I suspect not since we have one reported case where the factory appears to have sent out a 15C LE with 12C+ firmware. Probably the check would be there either way but maybe not.

Until HP releases a fixed firmware for the 15C LE this is a moot point since only beta testers would have a copy of the firmware anyway and as far as I know there is no way to extract the firmware from an existing 15C LE and save a copy of it.

-Katie

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #25 Posted by **Martin Pinckney** on 18 Sept 2011, 12:03 a.m.,*
in response to message #22 by Katie Wasserman

> Quote:
>
> Looks like your cat was walking on the keyboard while you were typing this. :)

You've read *The Silent Meow*?

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #26 Posted by **Paul Dale** on 16 Sept 2011, 10:37 p.m.,*
in response to message #13 by Miguel Toro

This would be extremely worrying if it is true. Seems like a major lapse in quality control and a somewhat bizarre production run.

At least it is fixable by reflashing, or one would hope so.

- Pauli

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #27 Posted by **M. Joury** on 16 Sept 2011, 11:29 p.m.,*
in response to message #13 by Miguel Toro

So, I wonder if any 12C+ AE calcs got the 15C LE firmware?

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #28 Posted by **Howard Owen** on 16 Sept 2011, 11:34 p.m.,*
in response to message #27 by M. Joury

Since there are presumably a lot more of the former than the latter, it's likely we'd never hear about it if they did.

Re: 15c LE sqr and sqrt problems * THE ANSWER *

*Message #29 Posted by **M. Joury** on 17 Sept 2011, 12:00 a.m.,*
in response to message #28 by Howard Owen

I thought that the 12C+ AE was also a pretty limited run. Of course if you throw in the regular 12C+...

Re: 15c LE sqr and sqrt problems

*Message #30 Posted by **Gerardo Rincon** on 17 Sept 2011, 7:55 a.m.,*
in response to message #1 by CAD_Jockey

What's your unit number?

Re: 15c LE sqr and sqrt problems

*Message #31 Posted by **CAD_Jockey** on 17 Sept 2011, 9:02 a.m.,*

in response to message #30 by Gerardo Rincon

> Quote:
>
> What's your unit number?

#02187

Re: 15c LE sqr and sqrt problems

*Message #32 Posted by **Gerardo Rincon** on 17 Sept 2011, 9:46 a.m.,*
in response to message #31 by CAD_Jockey

What doesn't make sense is why would a machine be flashed differently mid production run. I have units 1081, 1200, 1598 and 2970 and they all calculated 25^2 correctly. Your unit is in between my units.

Edited: 17 Sept 2011, 9:47 a.m.

Re: 15c LE sqr and sqrt problems

*Message #33 Posted by **MBlount** on 17 Sept 2011, 10:01 a.m.,*
in response to message #32 by Gerardo Rincon

I would think the boards are all flashed and tested before heading to assembly. If a 12c board accidentally fell into the 15c bin it would simply be picked up and fitted into a 15c case. It would just be random as to which (un)lucky person got the wrong board.

Re: 15c LE sqr and sqrt problems

*Message #34 Posted by **Gerardo Rincon** on 17 Sept 2011, 10:11 a.m.,*
in response to message #33 by MBlount

That makes sense... so could he take a 12c on the side, make calculations using the same keys of his (un)lucky 15c and see if they give the same answers...?

Edited: 17 Sept 2011, 10:15 a.m.

Re: 15c LE sqr and sqrt problems

*Message #35 Posted by **Paul Gaster** on 17 Sept 2011, 10:13 a.m.,*
in response to message #33 by MBlount

It could have been just one board got mixed up, but what are the odds that just one got from a tray or bin of 12C+ boards to a 15C tray or bin? I think it would be very unlikely. More likely would be that one whole bin or tray would be confused. Of course we don't know exactly how they do things, but I bet there are more like this.

Re: 15c LE sqr and sqrt problems

*Message #36 Posted by **John B. Smitherman** on 17 Sept 2011, 10:27 a.m.,*
in response to message #35 by Paul Gaster

After WWII we sent Drs. Deming and Juran to Japan to teach them about quality control. Is there anyone we can send to China?

John

Re: 15c LE sqr and sqrt problems

*Message #37 Posted by **Martin Pinckney** on 17 Sept 2011, 11:48 a.m.,*
in response to message #36 by John B. Smitherman

> Quote:
>
> After WWII we sent Drs. Deming and Juran to Japan to teach them about quality control. Is there anyone we can send to China?

The Japanese.

Re: 15c LE sqr and sqrt problems

*Message #38 Posted by **Mike Morrow** on 18 Sept 2011, 11:43 a.m.,*
in response to message #37 by Martin Pinckney

That didn't work too well in 1937.

Re: 15c LE sqr and sqrt problems

*Message #39 Posted by **robert rozee** on 17 Sept 2011, 10:43 a.m.,*
in response to message #35 by Paul Gaster

given the back labels are likely shuffled semi-randomly (put on in no particular order) it is no surprise that the unit's limited edition number appears between closely numbered ok units.

my own manufacturing experience is with firmware being loaded right at the end of the production line just before units are boxed up for shipping (CB430 winCE boxes loaded with o/s and machine control software). in that way completed units can be stockpiled in the factory and the absolute latest firmware added just before they go out the door. in the case of HP calculators, this would mean final testing and loading firmware would be combined into a single step on a single jig.

so it could be a whole run of calculators have had the wrong firmware loaded. i'd certainly like to see photos of the unit in question to verify:
- back label markings (12c or 15c)
- keyboard escutcheon (12c or 15c)
- key labelling (12c or 15c)
- badge next to LCD (12c or 15c)

including two different firmwares, that gives 32 possible assembly combinations. if the unit in question has mismatched physical components (like 12c key labelling and 15c escutcheon) then it COULD be a rare collectable unit indeed.

btw, i must ask anyone at HP who is listening: how many times in the past has HP shipped a calculator with the firmware or PCBs or ROMs for a different model fitted? i'm picking this instance is probably the absolute FIRST...

Edited: 17 Sept 2011, 11:16 a.m.

Re: 15c LE sqr and sqrt problems

*Message #40 Posted by **CAD_Jockey** on 17 Sept 2011, 2:26 p.m.,*
in response to message #39 by robert rozee

Here are a couple shots of the front, and back:

Re: 15c LE sqr and sqrt problems

*Message #41 Posted by **CAD_Jockey** on 17 Sept 2011, 4:38 p.m.,*
in response to message #40 by CAD_Jockey

After a few emails with HP tech support, which I mentioned the suspicion of a firmware issue, I got this reply:

> Quote:
>
> Please try running the following self test for the calculator: -Turn calculator off; -Press and hold key ON; -Press and hold key [divide]; -Release ON; -Release [divide]; -Press all the keys. Starting with key [n] and one by one towards the right until [divide]. Go to the next row, staring with key [yx] until [x]. (Note: that key [Enter] must be pressed twice, when doing the third and fourth row.)
>
> If after pressing all the keys the result on the display is "12", then this is using 12C firmware. Please let us know the result you get after completing this test.

Guess what mine displays? "12"

Shall I go buy lottery tickets tonight?

Re: 15c LE sqr and sqrt problems

*Message #42 Posted by **Katie Wasserman** on 17 Sept 2011, 4:44 p.m.,*
in response to message #41 by CAD_Jockey

No news here. Your firmware date and checksum already confirmed that you have 12C firmware in ROM. Please let us know what HP tells you to do with the calculator and if you follow their suggestion.

-Katie

p.s. Where did you get this calculator from, Buy.com?

Edited: 17 Sept 2011, 4:45 p.m.

Re: 15c LE sqr and sqrt problems

*Message #43 Posted by **CAD_Jockey** on 17 Sept 2011, 4:57 p.m.,*
in response to message #42 by Katie Wasserman

I will keep everyone posted on what happens next.

Latest email says they will review the situation on monday, since calculator specific tech support is only a m-f operation.

Yes, buy.com

-Dave

Re: 15c LE sqr and sqrt problems

*Message #44 Posted by **Eddie W. Shore** on 17 Sept 2011, 11:31 p.m.,*
in response to message #43 by CAD_Jockey

Please do. I hope you get a correct replacement (no charge I shipping). I got one of my two from buy.com and it worked correctly. What a bummer!

Re: 15c LE sqr and sqrt problems

*Message #45 Posted by **CAD_Jockey** on 19 Sept 2011, 9:41 a.m.,*
in response to message #44 by Eddie W. Shore

HP tech support has advised me to return the unit to my place of purchase, in this case buy.com.

I'm a bit surprised, considering the unusual issue, that they didn't want it returned directly to them.

At least buy.com provides a return label, I just hope it doesn't take forever, and that they don't run out in the mean time.

-Dave

Re: 15c LE sqr and sqrt problems

*Message #46 Posted by **Michael de Estrada** on 19 Sept 2011, 10:04 a.m.,*
in response to message #45 by CAD_Jockey

I think if I were in your position, I'd simply buy another unit directly from the HP store, and have Buy.com issue a refund. Now that you can get one from HP for about $85 with a discount coupon, you probably won't lose much in the transaction.

Edit: Never mind. I just checked the HP site and they're already out of stock. Back to price gouging on TAS I guess.

Edited: 19 Sept 2011, 10:15 a.m.

Re: 15c LE sqr and sqrt problems

*Message #47 Posted by **Katie Wasserman** on 19 Sept 2011, 1:06 p.m.,*
in response to message #45 by CAD_Jockey

Instead of returning it to buy.com, you should contact Tim per his post above.

Re: 15c LE sqr and sqrt problems

*Message #48 Posted by **CAD_Jockey** on 19 Sept 2011, 1:37 p.m.,*
in response to message #47 by Katie Wasserman

I will do that right now, thanks!!

Re: 15c LE sqr and sqrt problems

*Message #49 Posted by **Michael de Estrada** on 17 Sept 2011, 9:59 p.m.,*
in response to message #41 by CAD_Jockey

But, you don't have an "n" key and the first key on the left side of the second row is "SST", not "y^x", so how did you do this ? ;)

(deleted post)

*Message #50 Posted by **deleted** on 19 Sept 2011, 4:02 p.m.,*
in response to message #41 by CAD_Jockey

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 15c LE sqr and sqrt problems

*Message #51 Posted by **CAD_Jockey** on 19 Sept 2011, 4:08 p.m.,*
in response to message #50 by deleted

It has 2 batteries in it, and contacts in both battery pockets.

Re: 15c LE sqr and sqrt problems

*Message #52 Posted by **Lincoln R.** on 17 Sept 2011, 5:40 p.m.,*
in response to message #40 by CAD_Jockey

Wow, this was probably only made a few units after mine (CNA1310KBJ, LE #02195) if I'm correct about the last part of the serial number being a sequential production code. So at least maybe this means that not an entire production run got misprogrammed.

Re: 15c LE sqr and sqrt problems

*Message #53 Posted by **Paul Gaster** on 17 Sept 2011, 6:13 p.m.,*
in response to message #52 by Lincoln R.

Maybe they ran the 15C calculators first, then switched the machine over to flashing the 12C firmware before all the 15C units were through the line somehow.

Re: 15c LE sqr and sqrt problems

*Message #54 Posted by **Masaki Adachi** on 17 Sept 2011, 8:03 p.m.,*
in response to message #39 by robert rozee

I first thought its odd that factory's EOL (end of the line) test did not catch this. But further thinking, this makes sense. The line was originally set up to produce 12C only therefore all they needed to test at the final inspection was if the machine fires up. For the same reason, firmware was probably flashed at the PCB assy level, or even at the chip level.

When they brought in variable (hp-15C) they probably did not bother to update the quality process...

Edited: 17 Sept 2011, 9:24 p.m. after one or more responses were posted

Re: 15c LE sqr and sqrt problems

*Message #55 Posted by **Howard Owen** on 17 Sept 2011, 8:24 p.m.,*
in response to message #54 by Masaki Adachi

Along those lines, they could have had a 12C+ PCB lying around, already flashed. I'm trying to get a grip on how this could be a one-off. This might be one plausible explanation.

Re: 15c LE sqr and sqrt problems

*Message #56 Posted by **Kerem Kapkin (Silicon Valley, CA)** on 19 Sept 2011, 4:55 p.m.,*
in response to message #55 by Howard Owen

There is one more thing puzzles me. HP 15C LE has two (2) 2032 batteries vs HP12C+ (Platinum)has only one (1) 2032 battery. How did they get a 12C board into a 15C case with two batteries? So is it running on a single battery, and there are no contacts for the second?

Re: 15c LE sqr and sqrt problems

*Message #57 Posted by **gene wright** on 19 Sept 2011, 5:02 p.m.,*
in response to message #56 by Kerem Kapkin (Silicon Valley, CA)

The black and gold 12c+ has two batteries.

Re: 15c LE sqr and sqrt problems

*Message #58 Posted by **Jeff O.** on 19 Sept 2011, 8:51 p.m.,*
in response to message #56 by Kerem Kapkin (Silicon Valley, CA)

"12C+" is an informal name for the current production 12C. It is an emulation of the original 12C rom on a modern processor. The 12C Platinum is totally different hardware and software. (I am not a hardware or software expert, the preceding is based on my more or less layperson perspective regarding what I have read here over the years.)

Re: 15c LE sqr and sqrt problems

*Message #59 Posted by **Michael de Estrada** on 19 Sept 2011, 9:17 p.m.,*
in response to message #58 by Jeff O.

Correct. It's confusing, because HP never documented the changeover from 12C to 12C+. The extra large battery cover is the sign that it's a 12C+ and not an 12C. AFAIK the 12C 25th AE is the same as the original 12C and the 12C 30th AE is the same as the 12C+. The 12CP is its own animal. You are paying an extra $10 for a fancy gift box. Ironically, it appears that HP flashed the 30th AE ROM with an older buggy version of the code than the regular 12C.

Edited: 19 Sept 2011, 9:21 p.m.

Re: 15c LE sqr and sqrt problems

*Message #60 Posted by **Martin Pinckney** on 20 Sept 2011, 9:49 a.m.,*
in response to message #59 by Michael de Estrada

> Quote:
>
> AFAIK the 12C 25th AE is the same as the original 12C...

Michael, it,s actually a 12c Platinum 25th Anniversary Edition, which is a dual RPN/ALG version that was a re-design of the all-silver 12c Platinum. i.e it is a little faster than the original 12c, and has the greater number of program steps, uses 1 cell.

Re: 15c LE sqr and sqrt problems

*Message #61 Posted by **M. Joury** on 19 Sept 2011, 9:42 p.m.,*
in response to message #56 by Kerem Kapkin (Silicon Valley, CA)

As noted by another poster the 12C+ is not the same beast as the 12C Platinum. All 12C+'s (AFAIK) have 2 x 2032 batteries in parallel. You change one at a time to prevent data loss. Unlike the original 12C and 15C with 3 batteries, the removal of both batteries *WILL* result in memory loss no matter how quickly you do it--at least I certainly have never managed it.

That said, the newer 12C Platinums also have 2 x 2032 batteries in parallel. Mine certainly does. These are still labeled as "New Design" on the HP web site.

Cheers,

-Marwan

Re: 15c LE sqr and sqrt problems

*Message #62 Posted by **Bart (UK)** on 20 Sept 2011, 4:39 a.m.,*
in response to message #61 by M. Joury

> Quote:
>
> That said, the newer 12C Platinums also have 2 x 2032

> batteries in parallel. Mine certainly does. **These are still labeled as "New Design" on the HP web site.**

That's probably because they are comparing it to the the "old" design as the all-silver Platinum without the parenthesis. I think the 2 cell Platinum adaption was a silent roll-out just to stay in-line with the 12C+ *for production purposes*, which makes sense from a production point of view (why have two different moulds if you don't need to?).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

USB to Serial Cable for WP-34S

*Message #1 Posted by **Dan W** on 16 Sept 2011, 4:51 p.m.*

This comes up a lot so I searched the forums and this is a summary of specific cables people have said work. Probably any FTDI based cable will work. Avoid cheap Chinese cables. Win7 and Vista have native drivers for FTDI USB-serial devices. Samba 2.10 runs fine under Windows 7.

Examples:

Digitus (FTDI) USB-to-Serial-Adapter

ES-U-1001-R100 USB-to-RS232 (FTDI) adapter (Based on the latest FTDI "R" series chip set technology). Sold by EasySync, but this is the FTDI cable product.

USB-COM232-PLUS1 (This is an FTDI adapter from USB to RS232, no cable)

FTDI US232R-10 (Same as the EasySync product)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

It had to happen sooner or later revisited

*Message #1 Posted by **Martin Pinckney** on 16 Sept 2011, 4:36 p.m.*

The TAS 15c LE we discussed yesterday now over $300. Apparently the bidders are unaware of the new model, they did not take the out offered by the seller, and they don't read this forum.

He will now be able to claim that he forewarned them that they were not getting an original.

So, unfortunately, we (who emailed him) have unwittingly aided his original fraud attempt.

Re: It had to happen sooner or later revisited

*Message #2 Posted by **Michael de Estrada** on 16 Sept 2011, 4:52 p.m.,*
in response to message #1 by Martin Pinckney

What makes you think the seller is a "he" ?

Regardless, the original HP 15C retains its value

*Message #3 Posted by **Michael de Estrada** on 16 Sept 2011, 5:39 p.m.,*
in response to message #2 by Michael de Estrada

Original HP 15C auction on TAS

Re: It had to happen sooner or later revisited

*Message #4 Posted by **Martin Pinckney** on 16 Sept 2011, 5:52 p.m.,*
in response to message #2 by Michael de Estrada

Hunch.

Re: It had to happen sooner or later revisited

*Message #5 Posted by **Paul Gaster** on 16 Sept 2011, 6:01 p.m.,*
in response to message #1 by Martin Pinckney

> Quote:
>
> He will now be able to claim that he forewarned them that they were not getting an original.

I understand, and he can claim that, but his claim would be BS in my opinion. The top bidder may have put in a high top bid and has not come back to check on the auction. Ebay will automatically increase the buyer's bid and let him know by email if he has been outbid. Even if the person came back to check on things, how would you catch that something changed in the auction? The main picture is the same and if you are bidding on multiple items you probably won't go into each item to read it again. You would typically just look at your list of items you are bidding on. You read the listing the first time before bidding and don't expect people to make

radical changes to their listings later. You shouldn't have to watch people like a hawk to make sure you don't get screwed.

Keep in mind my little rant here isn't directed at you. I am upset with the seller for how this has been handled.

Re: It had to happen sooner or later revisited

*Message #6 Posted by **Lincoln R.** on 16 Sept 2011, 6:03 p.m.,*
in response to message #5 by Paul Gaster

And now the slightly more honest, but nonetheless annoying scalpers have arrived:
http://www.ebay.com/itm/HP-15C-Limited-Edition-Scientific-Calculator-/170697671543?pt=Calculators&hash=item27be5fc377

Re: It had to happen sooner or later revisited

*Message #7 Posted by **Ethan Conner** on 16 Sept 2011, 6:18 p.m.,*
in response to message #6 by Lincoln R.

Did you happen to notice that seller's approval rating? Most companies and or politicians would be pleased with 97 % but imo that's borderline for TAS.

Re: It had to happen sooner or later revisited

*Message #8 Posted by **Michael de Estrada** on 16 Sept 2011, 6:27 p.m.,*
in response to message #7 by Ethan Conner

That's bogus, though. Just one red in the last year, and does not seem justified. When you have very few sales, one red can drastically affect your rating. Sometimes people leave reds when they shouldn't.

Edited: 16 Sept 2011, 6:27 p.m.

Re: It had to happen sooner or later revisited

*Message #9 Posted by **Ethan Conner** on 16 Sept 2011, 6:41 p.m.,*
in response to message #8 by Michael de Estrada

That's why i used the term "borderline" to leave a little wiggle room to judge on it's merits.

Re: It had to happen sooner or later revisited

*Message #10 Posted by **Lincoln R.** on 16 Sept 2011, 7:27 p.m.,*
in response to message #1 by Martin Pinckney

Ouch. this is almost painful to watch. Some buyer is going to be very sorely disappointed. Others may disagree, but I wouldn't pay the current bid amount for a new in box original 15C.

Re: It had to happen sooner or later revisited

*Message #11 Posted by **Ethan Conner** on 16 Sept 2011, 7:54 p.m.,*
in response to message #10 by Lincoln R.

356.00 dollars worth of disapointed when they find an le in the box.

Re: It had to happen sooner or later revisited

*Message #12 Posted by **Bart (UK)** on 17 Sept 2011, 6:40 a.m.,*
in response to message #11 by Ethan Conner

Or worse, the buyer thinks it's a LE from the 1980's (in the line of like the 32S & 14B), and is totally unaware that it is a current release.

Re: It had to happen sooner or later revisited

*Message #13 Posted by **Bart (UK)** on 17 Sept 2011, 6:46 a.m.,*
in response to message #10 by Lincoln R.

> Quote:
>
> Ouch. this is almost painful to watch. Some buyer is going to be very sorely disappointed. Others may disagree, but I wouldn't pay the current bid amount for a new in box original 15C.

These are the kind of buyers that sellers like Co* feed on. Unfortunately.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What other retailers will get 15c LE?

*Message #1 Posted by **MBlount** on 16 Sept 2011, 3:58 p.m.*

We've heard that 10,000 would be produced. Apparently buy.com got either 1,000 or 2,000 units based on the serial numbers people have received. Samson Cables has sold out of how ever many they got.

Surely other retailers are going to get some too. The press release was featured on many of the electonic websites I frequent. I can't imagine HP limiting it to just two online stores. I would have figured that Best Buy, Office Max, Office Depot, and Amazon.com would get at least 1,000 units each. Hopefully more will show up shortly.

Re: What other retailers will get 15c LE?

*Message #2 Posted by **Jim Johnson** on 16 Sept 2011, 4:21 p.m.,*
in response to message #1 by MBlount

Also, Fry's Electronics was slated to get some of the HP-15cLE's too.

Re: What other retailers will get 15c LE?

*Message #3 Posted by **Eddie W. Shore** on 16 Sept 2011, 10:01 p.m.,*
in response to message #2 by Jim Johnson

Fry's - yes. The others (Best Buy, Target, etc) I don't expect they will sell the 15c

Re: What other retailers will get 15c LE?

*Message #4 Posted by **Adam Vaughn** on 16 Sept 2011, 6:10 p.m.,*
in response to message #1 by MBlount

I just got my HP 15C LE from buy.com, and the edition number is 02103. So I'm guessing they either got more than 2000, or I got one of the very last ones from the run they bought (which is entirely possible). -Adam

Re: What other retailers will get 15c LE?

*Message #5 Posted by **M. Joury** on 16 Sept 2011, 6:16 p.m.,*
in response to message #4 by Adam Vaughn

Or serial numbers were not sequential. For what it's worth buy.com told me that they had 1,000 in stock the very first morning they went on sale.

Cheers,

-Marwan

Re: What other retailers will get 15c LE?

*Message #6 Posted by **Eric Rechlin** on 16 Sept 2011, 10:03 p.m.,*
in response to message #5 by M. Joury

Buy.com didn't stock anything. They just use the same drop shipper that ships for a bunch of other big companies.

Re: What other retailers will get 15c LE?

*Message #7 Posted by **Michael de Estrada** on 16 Sept 2011, 10:30 p.m.,*
in response to message #6 by Eric Rechlin

Exactly. Both my Buy.com and CostCentral orders shipped from "Distribution Center, Olive Branch, MS." Even the internal packing lists have the same source.

Re: What other retailers will get 15c LE?

*Message #8 Posted by **Steve Fennell** on 16 Sept 2011, 10:42 p.m.,*
in response to message #7 by Michael de Estrada

I had a pre-order with SC and it also shipped from Olive Branch, MS. Same as the 12C and 15C I ordered from buy.com. Didn't realize they all used the same distribution center.

Re: What other retailers will get 15c LE?

*Message #9 Posted by **Michael de Estrada** on 16 Sept 2011, 10:36 p.m.,*
in response to message #6 by Eric Rechlin

See above post. Better check all your calcs before shipment to make they aren't a 12C AE ROM in a 15C LE skin.

Re: What other retailers will get 15c LE?

*Message #10 Posted by **M. Joury** on 16 Sept 2011, 11:16 p.m.,*
in response to message #6 by Eric Rechlin

If that is the case why are some out of stock and some just beginning to ship?

I know that this was discussed before but that never got explained to my satisfaction. If they are dropped shipped, as it appears, then is there stock set aside for each retailer? That would of course explain it but it would still allow individual retailers to list "stock on hand" and retain some meaning to the numbers.

What I am getting at is that buy.com knew that they had a certain amount of units to sell and that when they were done they pulled the listing. Other retailers using the same drop shipper started actually "shipping" units after buy.com was apparently all out of stock. If everyone drop ships out of the same stock why isn't it simply first come first served and whoever sells the most wins? Seems to me that retailers have stock reserved for them. If that is the case saying that they have x number of units on hand does provide some idea of how many have been sold. Since I am not in retail this is obviously all guesswork from seeing how things played out from the moment buy.com posted the 15C through when they pulled the listing and said that they were out of stock, followed by other retailers beginning to ship.

At any rate it would appear that serial number are even more meaningless as a guide to how many a retailer had available since they can be pulled off the shelf in any order by the drop shipper.

Cheers,

-Marwan

Re: What other retailers will get 15c LE?

*Message #11 Posted by **Michael de Estrada** on 16 Sept 2011, 11:49 p.m.,*
in response to message #10 by M. Joury

I think this is common practice with many online stores that do not have a physical brick and mortar store or warehouse. I recently wanted to buy a particular US branded bicycle that is made in Taiwan. It was listed at several online stores as out of stock, but this one store claimed to have it in stock. After placing the order they emailed me that they had made a mistake and did not have one available. When I inquired further they told me that they and all the other "stores" get their stock from one distributor in the USA, such that once the inventory was depleted, then it was unavailable to everyone.

It's clear, however, that some of the HP 15C LE stock has found its way to the sellers themselves like Samsom Inovations, who are proceeding to price gouge.

Re: What other retailers will get 15c LE?

*Message #12 Posted by **Dwight Sturrock** on 16 Sept 2011, 11:57 p.m.,*
in response to message #1 by MBlount

I just received serial # 2612 from Samson Cables (ordered through Amazon on 9/10/11). Price was $99, shipped USPS from Indianapolis, IN.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Process For Getting a Flashing Cable for WP 34S

*Message #1 Posted by **Dan M (Vermont, USA)** on 16 Sept 2011, 1:08 p.m.*

So the WP 34S bug has bitten me, and I want to jump on that train.

But I don't have a cable, and apparently I don't understand the process of how to get one...

I've sent Gene email 2x via this forum's email capabilities, but have not heard from him to (1) acknowledge the receipt of my request and that I am in the queue and (2) let me know his PayPal info so I can give him the reimbursement that he deserves.

So...what has happened? a. I did something really stupid or wrong, or just don't have enough patience (quite probable, even likely) b. Gene is extremely busy and will get to me eventually (very believable) c. This Forum's email capabilities are not 100% reliable (certainly possible) d. Something completely different (that could happen as well)

...and what should I do in order to obtain a cable, and know that I will get one in due time?

PS: I am unable to make it to the conference next weekend.

Thanks,

Dan M.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #2 Posted by **Dan W** on 16 Sept 2011, 2:56 p.m.,*
in response to message #1 by Dan M (Vermont, USA)

Once those technical issues are resolved, the next step, probably for most of us, is a USB to RS232 converter, since the cable Gene provides is serial, and most of up probably no longer have a serial port.

Is there s known good solution for a specific converter? I read earlier the FTDI was working well. I have one such converter, the AXE027 but unfortunately it terminates in a 3.5mm audio plug (Tx, Tx, Gnd only).

Re: Process For Getting a Flashing Cable for WP 34S

*Message #3 Posted by **Gerry Schultz** on 16 Sept 2011, 5:54 p.m.,*
in response to message #2 by Dan W

The USB to RS232 adapter that I use is an ES-U-1001-R100 and SAMBA 2.10 with my Windows 7 laptop. It is an FTDI adapter and works fine with re-flashing the WP-34S. So google it and you'll find a vendor for it. I bought mine from Amazon.

Gerry

Re: Process For Getting a Flashing Cable for WP 34S

*Message #4 Posted by **Bart (UK)** on 17 Sept 2011, 7:06 a.m.,*
in response to message #2 by Dan W

See the recommendation in point 1 of the article:
How to get started with a WP-34s

Native USB flashing cable for HP 15c LE and WP34s?!

*Message #5 Posted by **Alexander Oestert** on 17 Sept 2011, 8:11 a.m.,*
in response to message #2 by Dan W

> Quote:
>
> most of us probably no longer have a serial port.

Wouldn't it be super cool if HP provided a native USB flashing cable with the fixed firmware for the HP 15c LE? Buyers that don't have the cable yet would be pleased to learn that they don't have to purchase a port adapter to obtain a flawless calculator.

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #6 Posted by **Namir** on 17 Sept 2011, 8:31 a.m.,*
in response to message #5 by Alexander Oestert

Getting the cable is the easy part. USING the cable with the software and various Windows version is very very difficult and frustrating!!!

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #7 Posted by **Alexander Oestert** on 18 Sept 2011, 4:32 a.m.,*
in response to message #6 by Namir

> Quote:
>
> Getting the cable is the easy part.

Well, for someone not knowing this forum and the WP34s project, it's not easy at all.

I assume the normal way for a 15c LE customer would be to stumble upon the firmware bug and contacting HP service. They should have a USB flashing cable and an easy to use software readily available to send out. I think the only acceptable way for a non-geek customer would be to plug the cable in at both ends, start the software and have it take care of the rest, i.e. download the latest firmware from the Internet and install it on the calculator automatically. Ideally, even the erasing and resetting would be done by that software. Anything more complicated than syncing an iPhone to iTunes is not ok.

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #8 Posted by **Marcus von Cube, Germany** on 18 Sept 2011, 2:42 p.m.,*
in response to message #7 by Alexander Oestert

HP has some software replacing SAM-BA, called MySamba. It hasn't worked for WP 34S. I don't know why but it may have to do with the fact that out firmware is shorter than 128KB and

that we don't clear the flash before writing it again. But for a replacement firmware for the 15C LE, MySamba might be the best solution.

A cable which directly plugs into USB instead of a serial port would have been much easier to design and wouldn't have the power draw problems of the current offering. It's basically a single FTDI chip.

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #9 Posted by **Jeff O.** on 18 Sept 2011, 7:22 p.m.,*
in response to message #8 by Marcus von Cube, Germany

I almost always use MySamba for flashing wp34s. I create the full rom, back-up regions and all, according to instructions you provided (copy /b wp34s.bin+wp34s.dat+ etc.).

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #10 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 3:18 a.m.,*
in response to message #9 by Jeff O.

Jeff, a good trick!

We need the MySamba sources from HP to modify them properly for WP 34S!

Tim? Cyrille?

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #11 Posted by **Tim Wessman** on 20 Sept 2011, 10:25 a.m.,*
in response to message #10 by Marcus von Cube, Germany

I have offered it at least twice now. There was one individual I sent it to and was interested in making a command line version.

TW

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #12 Posted by **robert rozee** on 20 Sept 2011, 6:03 a.m.,*
in response to message #7 by Alexander Oestert

i did find myself thinking the other day that without too much effort the 15C LE (as well as 12C) could have been provided with software USB support on the processor, and a mini USB socket positioned within the battery compartment.

but then hindsight is a great thing!!

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #13 Posted by **Alexander Oestert** on 20 Sept 2011, 8:36 a.m.,*
in response to message #12 by robert rozee

Quote:

but then hindsight is a great thing!!

Oh well, not too much hindsight needed on this one, in my opinion.

The 50G has a USB port and an SD slot that can be used for firmware upgrades. I keep reading on this forum for quite a long time how wonderful the 35s could have been if it only had a USB port. Bot no one ever asked for a weird pogo stick thingy! ;)

Re: Native USB flashing cable for HP 15c LE and WP34s?!

*Message #14 Posted by **Marcus von Cube, Germany** on 20 Sept 2011, 8:43 a.m.,*
in response to message #13 by Alexander Oestert

The trouble is that the pogo connector comes for free: no components on the board, just the pads, and just a whole in the back of the calculator. If HP had added an FTDI converter chip and a USB socket, manufacturing costs would have been seriously affected. They could have made the proper pads on the board but then the soldering and cutting of the case would be customer's homework.

Native USB inside the processor is not an option because the SAM-BA boot loader expects a serial device. The boot code is in the masked ROM part of the chip and cannot be changed.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #15 Posted by **Artur-Brazil** on 16 Sept 2011, 2:57 p.m.,*
in response to message #1 by Dan M (Vermont, USA)

I would like to add my comment to Dan's one: but I would like to try making the cables here in Brazil. If I remember, Gene is not making any profit with them beyond a lot of work! So, I could help in at least one cable - the my one - and may be for other Brazilians. I just need the connection schema... Best wishes! Artur

Oooppss! I received a link to how to make the cables! Isn't as trivial as I thought! Gene, my congratulations!!!! If I still can help, let me know how! ----------

Edited: 16 Sept 2011, 3:03 p.m.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #16 Posted by **Katie Wasserman** on 16 Sept 2011, 3:03 p.m.,*
in response to message #15 by Artur-Brazil

I don't think that Gene actually makes these (does he?) I thought that they are made in China and he's sending them out.

I've posted the link to all the info you need several times on this forum here it is once again (with a big string of search terms) 20b, 30b, 34s, 10bii, 12c+ 15c le ARM flash programming cable schematic

Edited: 16 Sept 2011, 3:06 p.m.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #17 Posted by **gene wright** on 16 Sept 2011, 3:08 p.m.,*
in response to message #16 by Katie Wasserman

And, nope, I certainly don't make them. I just send out cables from some very large bags HP gave me.

If they had given me postage money :-) I would not ask for the $3/$5 to send them out, but alas... they did not.

I think I'm within $0.25 one way or the other on average with the cables so eh...

Re: Process For Getting a Flashing Cable for WP 34S

*Message #18 Posted by **troy** on 16 Sept 2011, 3:10 p.m.,*
in response to message #16 by Katie Wasserman

thanks, katie, for the link. i have it saved and printed, but it's too much electronics for me. i can do the plug and software stuff, but i don't think i can make one one myself. my soldering skills is zero to none.

maybe somebody (in the us; i'm in reno, nv) would be willing to lend their cable for a couple weeks, then i could return it?

Re: Process For Getting a Flashing Cable for WP 34S

*Message #19 Posted by **gene wright** on 16 Sept 2011, 3:19 p.m.,*
in response to message #18 by troy

The cable will only cost you $3. Costs you $1.70 to ship there and back. :-)

Re: Process For Getting a Flashing Cable for WP 34S

*Message #20 Posted by **Katie Wasserman** on 16 Sept 2011, 3:22 p.m.,*
in response to message #18 by troy

> Quote:
>
> i can do the plug

Have you seen this plug before, or could you make one?

I can do the electronics, the plug is the real problem. I've never seen anything like it before and the best I could do would be to come up with something you'd need to hold in place while re-flashing. Given the flaky nature of SAMBA and the ARM boot loader, introducing a shaky handed person into the mix is going to be bad news.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #21 Posted by **troy** on 16 Sept 2011, 3:29 p.m.,*
in response to message #20 by Katie Wasserman

oh, no, what i meant was, i can plug the cable to the computer and calculator...that's as much hardware i know. i'm more of a software guy... :)

Re: Process For Getting a Flashing Cable for WP 34S

*Message #22 Posted by **Dan W** on 16 Sept 2011, 3:46 p.m.,*
in response to message #16 by Katie Wasserman

> Quote:
>
> I don't think that Gene actually makes these (does he?) I thought that they are made in China and he's sending them out.
>
> I've posted the link to all the info you need several times on this forum here it is once again (with a big string of search terms) 20b, 30b, 34s, 10bii, 12c+ 15c le ARM flash programming cable schematic

Hi Katie,

I new it was posted but couldn't find it in a search. I first tried to search on the file name itself "Interfacing to the HP20b V3.pdf". So I'm posting that too.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #23 Posted by **Bart (UK)** on 17 Sept 2011, 7:26 a.m.,*
in response to message #22 by Dan W

I have now included it in the How to get started with a WP-34s article as well.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #24 Posted by **gene wright** on 16 Sept 2011, 3:06 p.m.,*
in response to message #15 by Artur-Brazil

Heh. I'm a popular guy!

Dan, I'm sorry but although I have had about 15 requests for cables in the last week, I do not believe I have seen one from you!

But, send me an email to the stuff that is capitalized in the rest of my post.

GENE is the WRIGHT 143 to send the HOTMAIL cables out DOT COM.

Be sure to include the three digit number after my last name.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #25 Posted by **Dan M (Vermont, USA)** on 16 Sept 2011, 3:57 p.m.,*
in response to message #24 by gene wright

Thanks, Gene.

Re: Process For Getting a Flashing Cable for WP 34S

*Message #26 Posted by **troy** on 16 Sept 2011, 3:04 p.m.,*
in response to message #1 by Dan M (Vermont, USA)

i, too, sent gene an email, but did not get a reply. so i don't know if my email ever got to him, or if it's lost in cyberspace, or if he's quite busy. so i wait...

Re: Process For Getting a Flashing Cable for WP 34S

*Message #27 Posted by **gene wright** on 16 Sept 2011, 3:07 p.m.,*

in response to message #26 by troy

Troy, please do the same thing. Weird stuff across the internet!

Re: Process For Getting a Flashing Cable for WP 34S

*Message #28 Posted by **Jake Schwartz** on 16 Sept 2011, 3:20 p.m.,*
in response to message #27 by gene wright

Hey Gene,

Perhaps you can convince HP to distribute cables at HHC2011?

Jake

Cables at HHC and I just got for the first time emails from 3 of you! :-)

*Message #29 Posted by **gene wright** on 16 Sept 2011, 3:24 p.m.,*
in response to message #28 by Jake Schwartz

HP / Tim should have quite a few cables at the conference.

Those are free (no postage). Get one there...that's FINE by me. :-)

The postal workers all know me by name. When I walk in, they all shout "Gene!"

(allusion to a TV show implied there).

Re: Process For Getting a Flashing Cable for WP 34S

*Message #30 Posted by **Tim Wessman** on 16 Sept 2011, 3:26 p.m.,*
in response to message #28 by Jake Schwartz

They were there last year. Everybody got at least 1 and I announced several times if you wanted more you just needed to grab some from the open bag. . .

TW

Re: Process For Getting a Flashing Cable for WP 34S

*Message #31 Posted by **Jake Schwartz** on 16 Sept 2011, 3:31 p.m.,*
in response to message #30 by Tim Wessman

> Quote:
>
> They were there last year.

That was then and this is now and I bet that 50% or more of this year's attendees will not have been there last year....just sayin'...

Jake

Re: Process For Getting a Flashing Cable for WP 34S

*Message #32 Posted by **From Hong Kong** on 17 Sept 2011, 9:03 a.m.,*

in response to message #28 by Jake Schwartz

Quote:

Hey Gene,

Perhaps you can convince HP to distribute cables at HHC2011?

Jake

No, not only HHC2011 attendees but also any other HP-15C LE owners! :P

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Bug Reports

*Message #1 Posted by **Katie Wasserman** on 16 Sept 2011, 11:25 a.m.*

I've started a bug report article for the 15C LE. I'll try my best to keep this current but please let me know if I miss something or have any inaccuracies.

-Katie

Re: HP-15C LE Bug Reports

*Message #2 Posted by **John B. Smitherman** on 16 Sept 2011, 12:37 p.m.,*
in response to message #1 by Katie Wasserman

Thanks Katie. Have you had a chance to look at the 15cle trig functions to see if there are any improvements over the 33s and 35s?

Regards,

John

Re: HP-15C LE Bug Reports

*Message #3 Posted by **gene wright** on 16 Sept 2011, 12:57 p.m.,*
in response to message #2 by John B. Smitherman

The 15c LE trig functions are the 15c trig functions. The ONLY bugs really ought to be limited to handling the placement of an emulator running 150-175X faster than the original into the 15c LE shell.

Display updates fall into that category.

Computing sine, cosine, LN, etc. should not be affected in any way, since the code to computer those is the 15c code. Period.

Really.

Re: HP-15C LE Bug Reports

*Message #4 Posted by **John B. Smitherman** on 16 Sept 2011, 2:31 p.m.,*
in response to message #3 by gene wright

> Quote:
>
> Computing sine, cosine, LN, etc. should not be affected in any way, since the code to computer those is the 15c code. Period

Did you mean "should not" or "is not" affected... Not knowing how the 15cle was created puts me in the "Trust but verify" mindset.

John

Re: HP-15C LE Bug Reports

*Message #5 Posted by **Artur-Brazil** on 16 Sept 2011, 2:51 p.m.,*
in response to message #4 by John B. Smitherman

Hi, John

Please, as I didn't receive my HP 15C yet, couldn't you make some simple tests on Complex numbers and matrices? By the way, are the labels Cx,y and Px,y printed on + key or face plate?
Artur

Re: HP-15C LE Bug Reports

*Message #6 Posted by **Tim Wessman** on 16 Sept 2011, 2:56 p.m.,*
in response to message #4 by John B. Smitherman

Is not.

TW

Re: HP-15C LE Bug Reports

*Message #7 Posted by **gene wright** on 16 Sept 2011, 3:10 p.m.,*
in response to message #6 by Tim Wessman

Verify all anyone wants. IS NOT is the proper response.

The 15c rom is inside this thing. Only the links in or out to the new hardware are different as well as the chip the code is running on.

I am not aware of ANY bug ever found in beta testing that was not somehow related to the speed differential...which is almost certainly the cause of the display craziness.

So, 99.9999999% sure all can relax. Test away! :-)

Re: HP-15C LE Bug Reports

*Message #8 Posted by **Katie Wasserman** on 16 Sept 2011, 3:29 p.m.,*
in response to message #7 by gene wright

I'll agree. It's very unlikely that any math error exists in the 15C LE that does not exist in the 15C. However it's not impossible as there could be a bug in the emulator, the compiler used to generate the object code for the emulator, or the ARM chip itself.

I would not agree with Gene's nine 9's of certainty, I'd only give it 5 nines.

-Katie

Re: HP-15C LE Bug Reports

*Message #9 Posted by **uhmgawa** on 16 Sept 2011, 5:55 p.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> I'll agree. It's very unlikely that any math error exists in the 15C LE that does not exist in the 15C. However it's not impossible as there could be a bug in the emulator..

Guess what? That's where most, if not all, of my KEMU bugs existed. Although there were some bugs in AVR gcc I needed to work around -- but admittedly I'm surprised that toolchain works as well as it does in the first place. Anyway being hosted on several platforms helped knock out such issues.

There is a deceptive amount of functionality which can perform correctly as some instructions appear infrequently, see little coverage, and may only be exposed on some rom versions. One weird problem I only found on the 16c was of the window scroll indicator (left "." in the ".b" radix indicator) not being enabled. I traced this to a bug in the NUT "C=-C-1" instruction where effectively the carry bit is always set as a result of the operation, but wasn't due to my interpretation of the HP documentation.

Many other NUT instruction semantic dark corners exist in the original HP docs. And regrettably I keep forgetting to credit Monte Dalrymple's NEWT specification as an excellent reference which helped disambiguate numerous points. Monte himself was also quite helpful and always responsive to my questions.

-john

Re: HP-15C LE Bug Reports

*Message #10 Posted by **bill platt** on 16 Sept 2011, 3:30 p.m.,*
in response to message #7 by gene wright

REmember all that conjecture about the "lost" ROM? I guess the good news is, it was never lost after all!

Re: HP-15C LE Bug Reports

*Message #11 Posted by **Martin Pinckney** on 16 Sept 2011, 4:19 p.m.,*
in response to message #10 by bill platt

If the discussion you refer to, Bill, is the same one I remember, I think Tim stated that it was the "source code" (high level, I suppose) he did not have, rather than "binaries" (ROM image, I imagine).

I am definitely out of school on this; I just remember the discussion because I had made some incorrect assumptions about what was meant by "missing" code.

Re: HP-15C LE Bug Reports

*Message #12 Posted by **Eric Smith** on 16 Sept 2011, 3:48 p.m.,*
in response to message #7 by gene wright

Actually I'm fairly certain that the display blinking problem is totally unrelated to the speed increase. In the original 15C the display blink was done in hardware using a clock completely asynchronous to the instruction execution. If the microcode told the display to blink, it didn't affect the blink phase. In the new 12C and 15C LE, it appears that the

simulation of the instruction to make the display blink effectively resets the blink phase. This would cause "display craziness" even at normal speed.

However, I haven't studied the actual code used in the new 12C and 15C LE, so I could be entirely mistaken.

Also, there definitely were other bugs found in beta testing that were unrelated to the speed differential. I provided instruction traces to Cyrille to help track down some of them.

IMNSHO, "is not" is too strong a statement. It definitely was the case during testing that there were bugs that affected computations in subtle ways. The known bugs have been resolved, but it is not impossible that there are others still lurking. I'll concede that it is somewhat unlikely that a serious computational bug remains at this point.

Edited: 16 Sept 2011, 3:51 p.m.

Re: HP-15C LE Bug Reports

*Message #13 Posted by **Artur-Brazil** on 16 Sept 2011, 3:57 p.m.,*
in response to message #12 by Eric Smith

My concern is that a simple Cx,y was causing troubles, so, I can imagin when Complex stacks or complex matrices were created in programs or directly from keyboard. Another important point to test: the i addresser (i)...

Re: HP-15C LE Bug Reports

*Message #14 Posted by **Dave Britten** on 16 Sept 2011, 4:08 p.m.,*
in response to message #13 by Artur-Brazil

The results I was getting from Cy,x were never incorrect, numerically. Just for some reason, if my program received parameters that would cause it to loop through the Cy,x instruction exactly three times, the screen would flash as though there had been an error. The results were always correct, though. It's probably some silly race condition.

I've been doing a few little programs with matrices and indirection, and haven't found any issues with those yet.

Re: HP-15C LE Bug Reports

*Message #15 Posted by **Eric Smith** on 16 Sept 2011, 4:41 p.m.,*
in response to message #14 by Dave Britten

Actually that does sound like an outright bug in the simulation code rather than just a race condition. It sounds like something in the code is setting the internal CPU flag (not user flag 9) that tells the main microcode loop to use flash mode. While it didn't give incorrect numeric results in this case, a bug that results in an incorrect CPU flag setting could cause all manner of other problems.

I'll try your code on my own simulator, which is unrelated to HPs, and see what I get.

Re: HP-15C LE Bug Reports

*Message #16 Posted by **Gerry Schultz** on 16 Sept 2011, 5:41 p.m.,*
in response to message #12 by Eric Smith

To add to Eric's comments; the bugs reported, so far, are not in the 15C+ issued last October at HHC2010. So they are probably not related to the speed increase but induced by patches made to the firmware since last October.

Gerry

Re: HP-15C LE Bug Reports

*Message #17 Posted by **Michael de Estrada** on 16 Sept 2011, 12:38 p.m.,*
in response to message #1 by Katie Wasserman

Perhaps you can add related documentation errors, e.g.:

1) Back label shows ERROR 9 ON / X self test, which does not work. This should be blanked out on the label or replaced with N/A.

Re: HP-15C LE Bug Reports

*Message #18 Posted by **Katie Wasserman** on 16 Sept 2011, 2:32 p.m.,*
in response to message #17 by Michael de Estrada

> Quote:
>
> 1) Back label shows ERROR 9 ON / X self test, which does not work. This should be blanked out on the label or replaced with N/A.

I'll mention this, thanks.

Re: HP-15C LE Bug Reports

*Message #19 Posted by **Dan W** on 16 Sept 2011, 4:53 p.m.,*
in response to message #18 by Katie Wasserman

Is there an alternative self-test that does work?

Re: HP-15C LE Bug Reports

*Message #20 Posted by **Michael de Estrada** on 16 Sept 2011, 4:58 p.m.,*
in response to message #19 by Dan W

Yes

Re: HP-15C LE Bug Reports

*Message #21 Posted by **Mike Morrow** on 16 Sept 2011, 7:24 p.m.,*
in response to message #18 by Katie Wasserman

I cited this several days ago. However, rather than locking out the buggy old tests that can generate Error 9, it would be much more desirable to make them work on the 15C-LE, without always generating the Error 9 condition, *and without corrupting memory*.

The original self tests appear to actually test some things. The program memory corruption that I noted

last week when **ON plus *** or **ON plus +** tests are performed seem to occur as memory is tested. It's not obvious why the old tests should be corrupting program memory. The problem could be potentially serious and it could still lurk, if the only solution to correct the problems with the old self tests is to prevent their initiation.

The **new** tests don't appear to test anything except:
1. All LCD segments can be activated, and
2. The firmware date, checksum, and copyright texts can be read from the firmware, and
3. The keyboard contacts can be tested.

With respect to the checksum shown in new self test 2, I wonder if that is a result of the test, or just a value stored in the firmware? What is shown for the 2011-04-15 firmware is FFFFh. (How likely is that?) It seems to be a number stored in firmware that has *no real* significance as a test. Especially when the checksum is a bogus and arbitrary FFFFh!

Re: HP-15C LE Bug Reports

*Message #22 Posted by **Lincoln R.** on 16 Sept 2011, 7:49 p.m.,*
in response to message #21 by Mike Morrow

1 in 2^16, so still better than your chances of winning the lottery. Including a fake checksum display wouldn't make sense, why would someone bother coding that?

Re: HP-15C LE Bug Reports

*Message #23 Posted by **Dave Britten** on 16 Sept 2011, 8:56 p.m.,*
in response to message #22 by Lincoln R.

Maybe it isn't a checksum. Maybe the calculator is making rude noises because it's tired of running the self-tests.

Re: HP-15C LE Bug Reports

*Message #24 Posted by **Mike Morrow** on 16 Sept 2011, 10:56 p.m.,*
in response to message #22 by Lincoln R.

I don't believe that performing new self "test" 2 initiates a firmware memory scan that generates a checksum each time the self test is performed. I believe that self "test" 2 does nothing more than look at some pre-loaded text with the pre-stored checksum, the pre-stored firmware date, and the pre-stored copyright date, without actually testing **anything**. It appears that a checksum is supposed to be determined in the firmware generation process, then stored for recall whenever new self "test" 2 is performed.

It is *not* very probable that the real firmware checksum is FFFFh. That looks more like a dummy value that never got changed to reflect the real checksum of the firmware installed.

Now with respect to why there would be a fake checksum, just answer the question "What difference would it make?"

I certainly *wish* that self test 2 actually performed a checksum of the firmware image...but I doubt that's what is taking place. I will be happy to learn differently from knowledgeable people from the 15C-LE design team.

Edited: 16 Sept 2011, 11:07 p.m.

Re: HP-15C LE Bug Reports

*Message #25 Posted by **Bart (UK)** on 17 Sept 2011, 8:05 a.m.,*
in response to message #24 by Mike Morrow

> Quote:
>
> Now with respect to why there would be a fake checksum, just answer the question "What difference would it make?"

A lot! The checksum is *usually* used to determine if a bit (or bits) has changed in the ROM/Flash. So it should be calculated on what's actually there *every time* the test run. If it is not the expected value, you know that what's in the ROM/Flash is not what is supposed to be.

BUT now if it just always returns the same value, irrespective of what's actually calculated on the ROM/Flash image, you would never know if there was an error in your firmware. This is even more inportant now with Flash than with ROM.

So how do they know if the production line flashing was successful? (Not that production checks it anyway given that a 15C LE has benn shipped with 12C+ code!! - in my company there'd be hell raised, I for one would be crapping all over my MD)

Re: HP-15C LE Bug Reports

*Message #26 Posted by **Mike Morrow** on 18 Sept 2011, 12:01 p.m.,*
in response to message #25 by Bart (UK)

> Quote:
>
> A lot! The checksum is *usually* used to determine if a bit (or bits) has changed in the ROM/Flash.

There are people who read this list that know the answer to the question:

"Does new self test 2 actually calculate a checksum of the stored firmware image, or does test 2 simply report a stored checksum that was calculated when the firmware image was compiled externally?"

A second question would be:

"Is FFFFh the checksum of the existing 15C-LE firmware, or some dummy value? "

Re: HP-15C LE Bug Reports

*Message #27 Posted by **Eddie W. Shore** on 18 Sept 2011, 3:56 p.m.,*
in response to message #1 by Katie Wasserman

The PSE is acting weird. When I programmed the sample program on page 93 and tried the sample problem on page 94, I only got the final answer displayed without any of the intermediate steps.

Re: HP-15C LE Bug Reports

*Message #28 Posted by **Katie Wasserman** on 18 Sept 2011, 4:18 p.m.,*
in response to message #27 by Eddie W. Shore

This bug has been reported and documented here along with other bugs.

Edited: 18 Sept 2011, 6:52 p.m.

Re: HP-15C LE Bug Reports

*Message #29 Posted by **Mike Morrow** on 18 Sept 2011, 4:44 p.m.,*
in response to message #27 by Eddie W. Shore

You can examine the postings to this forum since September 9, when the first 15C-LE units reached the gamma testers, to see if particular issues have already been identified.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C Presentation box

*Message #1 Posted by **M. Joury** on 16 Sept 2011, 9:21 a.m.*

I just noticed that the presentation box has a magnetic closure. Not a big deal but I think it is a nice attention to detail.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Simple TVM Routines for HP-15C

*Message #1 Posted by **Chris Mccormack** on 16 Sept 2011, 8:55 a.m.*

I just posted an article with simple time value of money routines for the HP15C. (I've also ported these to my wife's HP11C and the HP33S.) While not as fancy as the program in the *HP-15C Advanced Functions Handbook*, they only take up 23 program steps, three labels, and two memory registers. Combine this program with the equation for compounded interest (PVF = (1+r)^N) and the adjustment to the present value annuity factor when payments are made at the **beginning** of the month ($PVAF_{beginning} = PVAF_{end}(1+r\}$) and you can handle the book examples.

Edited: 16 Sept 2011, 1:14 p.m. after one or more responses were posted

Re: Simple TVM Routines for HP-15C

*Message #2 Posted by **gene wright** on 16 Sept 2011, 11:26 a.m.,*
in response to message #1 by Chris Mccormack

Here's a link to another TVM program that allows for the solution of the 5 TVM variables. From the PPC Journal in 1980. Longer than 33 lines :-) but more like using a "real" financial calculator.

TVM program

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #1 Posted by **nick lidakis** on 16 Sept 2011, 8:20 a.m.*

This is from an idiot savant who is not an expert in all that is RPN, or calculators, or math...

Now that we have the 15c LE, is there any chance of seeing a basic RPN calculator for HP? It's difficult to justify the high price of the 15C LE to someone who needs a basic scientific calculator.

For instance, I've seen the Casio fx-260 being sold (http://www.casio.com/products/Calculators_%26_Dictionaries/Scientific_%26_Financial/FX-260Solar/) on most CUNY college campuses and it does suffice for things like general chemistry. Though, it was a lot easier working out calculations after getting a used RPN (hp 48g) that with an algebraic.

But teaching and expounding on the benefits of RPN to a calc or math newbie and then having to recommend a $89 HP calc for them to use is a major fail on HP's part.

Why isn't there a simple RPN scientific from HP as a gateway drug to other RPN calcs in HP's line?

P.S. The fx-260 fits nicely in my paramedic work shirt pocket with room to spare for my protocol notes. The HP 15c, alas, does not. A small, basic RPN scientific shirt pocket calc sure would be nice...

Edited: 16 Sept 2011, 7:17 p.m. after one or more responses were posted

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #2 Posted by **Chris McCormack** on 16 Sept 2011, 8:59 a.m.,*
in response to message #1 by nick lidakis

A simple calculator would be nice. My high school sophomore was told he couldn't have a programmable calculator for the exams. That disqualifies the HP11C, HP15C, HP33S, HP35S, HP49G, HP49G+, and HP50G he could have used!
(Of course, I suspect if the teacher was pressed the non-graphical models would be allowed.)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #3 Posted by **Paul Guertin** on 17 Sept 2011, 1:16 a.m.,*
in response to message #2 by Chris McCormack

> Quote:
>
> Of course, I suspect if the teacher was pressed the non-graphical models would be allowed.

In my introductory calculus class, I explicitly allow programmable, non-graphing calculators. Only a very small minority of students ever bother.

I regularly impress students by showing them how their calculator can convert fractional hours to hours:min:sec, or even how to store a number in memory instead of writing it down on paper and typing it in again later. No kidding, a lot of them really do that, and they fight you tooth and nail when you try to teach them about "STO" and "RCL".

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #4 Posted by **Jurrie Lulofs** on 16 Sept 2011, 9:02 a.m.,*
in response to message #1 by nick lidakis

I believe they thought the 35s would fill that role. Unfortunately, it has not gone over well (for various reasons) with long time HP users.

The best/easiest bet appears to be if HP were to put a 32sII or 42s (functionality wise) in the current 30b form factor. This is the calculator that is the basis for the wp34s. A somewhat nicer, expanded, display and a few more buttons would be nice... but the 30b hardware is there today which just leaves some programming and a new faceplate/buttons.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #5 Posted by **nick lidakis** on 16 Sept 2011, 9:20 a.m.,*
in response to message #4 by Jurrie Lulofs

> Quote:
>
> I believe they thought the 35s would fill that role. Unfortunately, it has not gone over well (for various reasons) with long time HP users.
>
> The best/easiest bet appears to be if HP were to put a 32sII or 42s (functionality wise) in the current 30b form factor. This is the calculator that is the basis for the wp34s. A somewhat nicer, expanded, display and a few more buttons would be nice... but the 30b hardware is there today which just leaves some programming and a new faceplate/buttons.

What I'm trying to say is that there is no *basic* RPN scientific calc from HP. More basic than the 35s, 32s or 42s. Basic and inexpensive. Inexpensive for the high school kids and college kids on a budget. Inexpensive enough for them to give RPN a try.

See, now when I explain to someone (which I occasionally do) in detail why RPN exists, why it matters even for basic algebra and why it's the better way to go, the person that might want to try RPN only has 2 options. A 50 dollar HP 35s or a ~90 dollar HP 15c LE.

Also, for people I truly care about, I would spend the 12 to 20 bucks if a basic RPN was available at that price and give it to them. Give it to them and spend a couple of minutes showing them the elegance of RPN.

My frustration mirrors this gentleman's angst if you replaced the iPhone with any TI/Casio/Sharp and the Nokia with a RPN HP:
http://www.thebestpageintheuniverse.net/c.cgi?u=iphone

Some profanity in the above link.

Edited: 16 Sept 2011, 5:59 p.m. after one or more responses were posted

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #6 Posted by **Miguel Toro** on 16 Sept 2011, 9:30 a.m.,*
in response to message #5 by nick lidakis

Hi,

What about the 20b. Well, I know...the keyboard, but it is not programmable and it has a good set of math functions. My daughter has one as a backup in her locker, in the event that she forgets her 35s at home, something that happens oh so frequently :-).

Miguel

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #7 Posted by **Jurrie Lulofs** on 16 Sept 2011, 9:46 a.m.,*
in response to message #6 by Miguel Toro

I was going to suggest the same thing.

Actually, there's something better.... the 30b. It's only $24 from Amazon. This is what I'm using for my wp34s.

Amazon HP-30B for $23.95

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #8 Posted by **nick lidakis** on 16 Sept 2011, 9:51 a.m.,*
in response to message #6 by Miguel Toro

Isn't this (HP 20b) a financial calculator? I see, from the photo on HP's site, that the basic functions on the keys are financial related.

And, at $40 (even at Amazon) can you say that it competes with a Casio fx-260 ($11) or fx-300 ($12-$15)?

Casio fx-260:

Slide cover. Dimensions: 5.25" L x 3" W x 3/4" D

It's small, lightweight, inexpensive and designed as a basic scientific.

Like this. But RPN.

Edited: 16 Sept 2011, 10:04 a.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #9 Posted by **Miguel Toro** on 16 Sept 2011, 10:22 a.m.,*
in response to message #8 by nick lidakis

See the manual here (pages 6 and 16), to have a look of the Math library and the functions that you can reach directly from the keyboard. the features seem comparable and you can find the 20b cheap enough on TAS.

Edited: 16 Sept 2011, 10:23 a.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #10 Posted by **nick lidakis** on 16 Sept 2011, 10:47 a.m.,*
in response to message #9 by Miguel Toro

> Quote:
>
> See the manual here (pages 6 and 16), to have a look of the Math library and the functions that you can reach directly from the keyboard. the features seem comparable and you can find the 20b cheap enough on TAS.

"I wanna show you this cool way of doing math with a scientific using a method called RPN, --but err, could you go win an auction on eBay first? Umm, I mean TAS; the geeks on HP Calc forum don't like people saying "eBay". They says God kills a kitten *and* and a RPN calculator when you say that...

Ok, now... Wait, don't mind that it says Financial Calculator /cough/ on the label here--, so where was I? Oh, yes, RPN. Okay, but before we get started, we have to read page 6 and 16 to learn the "scientific functions" on this "financial calculator" so you don't get confused by all the labels on the face of the calculator before we... Hey, wait! Where are you going? Wait! Sweetheart, I didn't get a chance to show you my *stack*!!

Umm, well, I guess I'll go update my Debian box using apt or shake my 4 HP 15c LE calculators (AGAIN) and make sure the f and g keys aren't rattling. /mumbling to self/ I told HP that if they discontinue the 15c again or take my red stapler I'm going to burn the building down..."

I kid! I kid!

Edited: 16 Sept 2011, 10:51 a.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #11 Posted by **Miguel Toro** on 16 Sept 2011, 12:41 p.m.,*
in response to message #10 by nick lidakis

> Quote:
>
> But teaching and expounding on the benefits of RPN to a calc or math newbie and then having to recommend a $89 HP calc for them to use is a major fail on HP's part.

I just was answering to your question about a simpler, less costly HP RPN calculator with scientific capabilities. I gave you a suggestion that covers all those "requirements". there is even a better version (30b) that cost even less in amazon.

Well, I was just trying to help. I think there is no need to mock.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #12 Posted by **nick lidakis** on 16 Sept 2011, 1:12 p.m.,*
in response to message #11 by Miguel Toro

I apologize. My intent was not to mock. Honestly, I was just making a joke, and not at your expense.

I was trying to highlight, with some (maybe not so funny) humor what I fantasized would happen in trying to introduce someone to RPN via the financial calc route.

The point is, HP doesn't have a basic, inexpensive, introductory RPN calc for the uninitiated. The student/person who hears about RPN and then checks HP's website will probably not check the Financial Calc section for a Scientific Calculator. Or scout through forums when they should be doing homework. Or looking through the PDF manuals of the 20b to figure out the scientific functions.

Again, I'm sorry if you misunderstood my humor. But you seemed to have misunderstood what I was getting at: Getting more RPN calculators in the hands of people who start using calculators would probably make them more long term users of RPN calcs in general. You can do that by offering the uninitiated a decently priced basic scientific calc that is *labeled* as such and *advertised* as such and put under the URL link called Scientific Calculator. Something like the HP 10s (as someone else noted) available in RPN to help whet the appetite. Get them while they're young.

P.S. I came across RPN by accident when I took my first chemistry class at a CUNY college. The professor said (to save us money)

that the fx-260 was all the calc that we needed; no fancy TI graphing calcs need apply. So I got one for $12. But I hated the mushy keys and that fact that I had to right down intermediate results or use memory. When I got my hands on a used 48g for $20 via craigslist, I realized just how much easier it was to do messy, multi-stepped chem problems with RPN and a stack in about 10 minutes flat.

So, I find it strange that HP has no RPN calc in the same vein as the casio fx-260 or the like.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #13 Posted by **Martin Pinckney** on 16 Sept 2011, 2:05 p.m.,*
in response to message #12 by nick lidakis

> Quote:
>
> Getting more RPN calculators in the hands of people who start using calculators would probably make them more long term users of RPN calcs in general...

One wonders why they would even be interested...

Remember, this group is not typical. I believe most of the world these days would expect calculators to use an algebraic model.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #14 Posted by **nick lidakis** on 16 Sept 2011, 6:39 p.m.,*
in response to message #13 by Martin Pinckney

> Quote:
>
> One wonders why they would even be interested...
>
> Remember, this group is not typical. I believe most of the world these days would expect calculators to use an algebraic model.

Words like that are kinda like a self fulfilling prophecy, no? The group that uses RPN will never get bigger if there isn't a low barrier to entry to bring in new blood.

My soon to be wife has this crazy idea that our soon to be son will be some kinda physicist. My soon to be nephew in law of 7 years has already asked that I bring back my Icom 730 HF transceiver so that he can hear morse code and SSB transmissions, in addition to being excited about the model rocket he's expecting. So, 2 of the 4 HP 15C LE I purchased are going into the safe deposit box (sans batteries) for future use by future evil geniuses.

I am 1/10th the geek of most people here, in regards to the math that is discussed here. Does that make me even more atypical? Is my logic skewed for not understanding why HP doesn't offer a basic scientific calc as an upgrade path to more profitable RPN models?

Edited: 16 Sept 2011, 7:16 p.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #15 Posted by **Martin Pinckney** on 16 Sept 2011, 9:22 p.m.,*
in response to message #14 by nick lidakis

> Quote:
>
> Words like that are kinda like a self fulfilling prophecy, no? The group that uses RPN will never get bigger if there isn't a low barrier to entry to bring in new blood. ... Is my logic skewed for not understanding why HP doesn't offer a basic scientific calc as an upgrade path to more profitable RPN models?

You're just about 10-20 years late, that's all. After HP curtailed, then dropped the Pioneers, original 48 series, things started going downhill rapidly.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #16 Posted by **nick lidakis** on 16 Sept 2011, 9:46 p.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> You're just about 10-20 years late, that's all. After HP curtailed, then dropped the Pioneers, original 48 series, things started going downhill rapidly.

:/

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #17 Posted by **Don Davis** on 16 Sept 2011, 3:20 p.m.,*
in response to message #12 by nick lidakis

> Quote:
>
> I apologize. My intent was not to mock. Honestly, I was just making a joke, and not at your expense.

Pretty funny actually. And not too far off from what would happen if I tried to move the typical university student away from a Casio to HP...

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #18 Posted by **Jurrie Lulofs** on 16 Sept 2011, 10:32 a.m.,*
in response to message #8 by nick lidakis

Oops... missed the "scientific" part of your request. My brain only registered "basic RPN".

An RPN version of the 10s or 300s would be it.

The 33s/35s are the lowest end RPN calculators that I could find.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #19 Posted by **Pal G.** on 16 Sept 2011, 11:01 a.m.,*
in response to message #8 by nick lidakis

Nick, do you own a Voyager series calculator? Have you tried putting one in your pocket? You wrote:

> Quote:
>
> .. The fx-260 fits nicely in my paramedic work shirt pocket with room to spare for my protocol notes. The HP 15c, alas, does not.

How come?

```
15C:          5.07" x 3.11" x 0.60"
fx-260:       5.25" x 3.00" x 0.75"
```

Just wondering.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #20 Posted by **nick lidakis** on 16 Sept 2011, 6:51 p.m.,*
in response to message #19 by Pal G.

> Quote:
>
> Nick, do you own a Voyager series calculator? Have you tried putting one in your pocket? You wrote:
>
> How come?
>
> ```
> 15C:          5.07" x 3.11" x 0.60"
> fx-260:       5.25" x 3.00" x 0.75"
> ```
>
> Just wondering.

Pal,

The HP 15c LE fits in the work pocket of my current shirt without the pen sleeve stitching. I can't even jam it in the other pocket. But this is all really a small pet peeve.

I'd still like to see a *basic* RPN calc offered for under $30 bucks. Thinking about this more after the release of the 15c LE, it just doesn't make sense that an introductory RPN calc isn't offered.It makes less sense that HP doesn't tout/advertise the benefits of their RPN calcs more that the 2 web pages offered on their website.

Perhaps the RPN groupies can come with a slogan that can be put on t-shirts or stickers? Something like this:

"Let *me* tell you about RPN because HP is too busy _____"

But I would need help filling in the blank.

Edited: 16 Sept 2011, 7:08 p.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #21 Posted by **Kiyoshi Akima** on 16 Sept 2011, 7:33 p.m.,*
in response to message #20 by nick lidakis

Back in the 70s there was a t-shirt that said "ENTER > =" (with a double-wide ENTER key, of course). I think I still have one in a closet at home.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #22 Posted by **nick lidakis** on 16 Sept 2011, 8:02 p.m.,*
in response to message #21 by Kiyoshi Akima

> Quote:
>
> Back in the 70s there was a t-shirt that said "ENTER > =" (with a double-wide ENTER key, of course). I think I still have one in a closet at home.

Was this a HP t-shirt? Can you elaborate a bit?

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #23 Posted by **Kiyoshi Akima** on 17 Sept 2011, 4:10 p.m.,*
in response to message #22 by nick lidakis

As far as I know, HP was never in the shirt business. I believe these shirts did have the HP logo on them somewhere, and they were available at university campus bookstores, so I assumed they were part of an HP marketing campaign.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #24 Posted by **Jake Schwartz** on 17 Sept 2011, 7:29 p.m.,*
in response to message #22 by nick lidakis

Perhaps that's the one Gary Tenzer was wearing at the Great Wall on the cover of the V3N1 HP Key Notes:

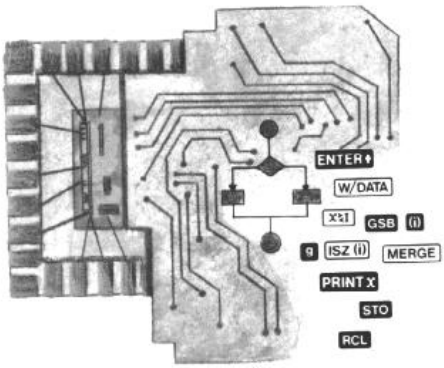
[img:http://www.pahhc.org/2011/ENTER greater equals.jpg]

Jake

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #25 Posted by **Jake Schwartz** on 17 Sept 2011, 7:30 p.m.,*
in response to message #24 by Jake Schwartz

Let's try this again:



Featuring, this issue:
Watzin the Registers? 3
The "Other" Software? 3
Anti Subroutines **and** Ersatz Memory? ... 4
HP-67/97 Looped Program Merge 4
"25 Words" (More or Less!) 5, 6, 9
KEY NOTES Order Form 7, 8
The Iddi Wizard of Id! 10
Let's Hear it Again for RPN 11
Free Software Offer 12

February 1979 Vol. 3 No. 1

HEWLETT hp PACKARD

HP Key Notes

And The Walls Came Tumbling Down ...

Yes, that *is* the Great Wall of China in the accompanying photograph! And the person in the photo is **Gary M. Tenzer,** of Pacific Palisades, California. Mr. Tenzer recently visited China on his vacation and took with him his HP-67. Here's a letter from him about this unusual experience.

Dear Henry:

With all of the attention given to the Peoples Republic of China in the past few months, I thought that it might be interesting to share with your readers some of my experiences on a recent trip to China with my trusty traveling companion, my HP-67.

My tour of China was limited to 16 days and three cities: Canton (Kwangchow), Shanghai, and Peking (Beijing). The Chinese people are very solicitous and warm but the language barrier forclosed much verbal communication.

As you know, China's technological progress has been minimal over the last 30 years. It is indeed odd to walk into a department store in Canton (yes, they do have department stores!) and see the electronic equipment for sale. The TV sets and radios are all the vacuum tube variety, the type sold in this country 25 years ago. It is of little wonder that, when the Chinese people interact with Americans, a cultural shock takes place.

It is impossible for an American to walk the streets of a Chinese city or through a store without being mobbed by literally hundreds of people curious about visitors from the West and their sophisticated American gadgets. Often, I was approached by people anxious to examine my camera equipment and my digital watch. They were particularly excited when I showed them my HP-67 in order to share an example of superior American technology. They were awed! I would then do some arithmetic calculations, communicating in the universal language of mathematics. Several of the young people around were familiar with algebra, as it is required in the secondary schools. They were most excited about the machine's potential for use in their studies.

The Chinese interpreter for out group had some knowledge of engineering and math. Because he spoke English, I was able to demonstrate some of the programmable features of my HP-67 by programming some simple arithmetic functions and some branching routines. He was especially impressed by the "Polynomial Evaluation" and the "Matrix Operations" programs as well as some mathematical games such as "Bagels."

The experience of visiting a country on the verge of a technological revolution was like a trip back in time. The Chinese people are fascinated with American technology and are eager to grasp its wonders. I look forward to visiting China again to view the effects of further Westernization and technological progress.

I have enclosed a photograph that was taken of me standing on the "Great Wall of China," proudly wearing my Hewlett-Packard, *ENTER GREATER THAN EQUALS T-shirt.*

Kindest regards,
Gary M. Tenzer

(Mr. Tenzer holds an AB degree in Economics from the University of California (Berkeley) and two Masters degrees (MBA and MSBA) in Finance and Real Estate Finance from the University of Southern California. He also holds a California Real Estate Broker's license. Currently he is entering a career in the Real Estate Development industry. Gary spends much of his spare time putting his HP-67 and HP-97 to work for him in investment analysis as well as in consulting with businesses to help them get the most beneficial use from their HP programmables. He is an active member of PPC, the calculator user's club, as well as a regular contributor to the PPC Journal, *the club's newsletter. Ed.)*

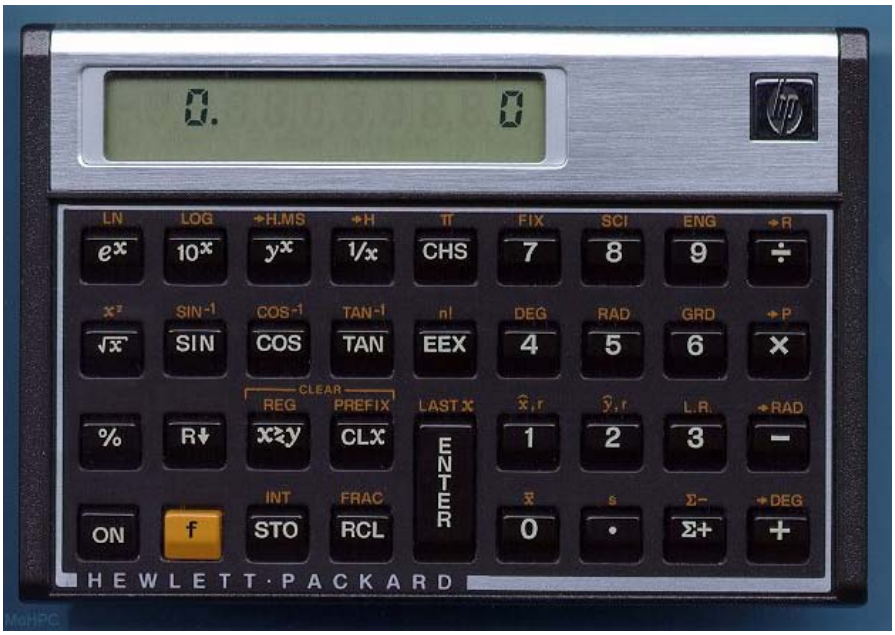
All prices in this newsletter are suggested retail prices excluding applicable state and local taxes–Continental U.S.A., Alaska and Hawaii

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
Message #26 Posted by ***db (martinez, ca.)*** *on 16 Sept 2011, 10:57 p.m.,*
in response to message #20 by nick lidakis

..or the old "HP has no Equal" could become "RPN has no Equal"

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
Message #27 Posted by ***robert rozee*** *on 16 Sept 2011, 1:05 p.m.,*
in response to message #8 by nick lidakis

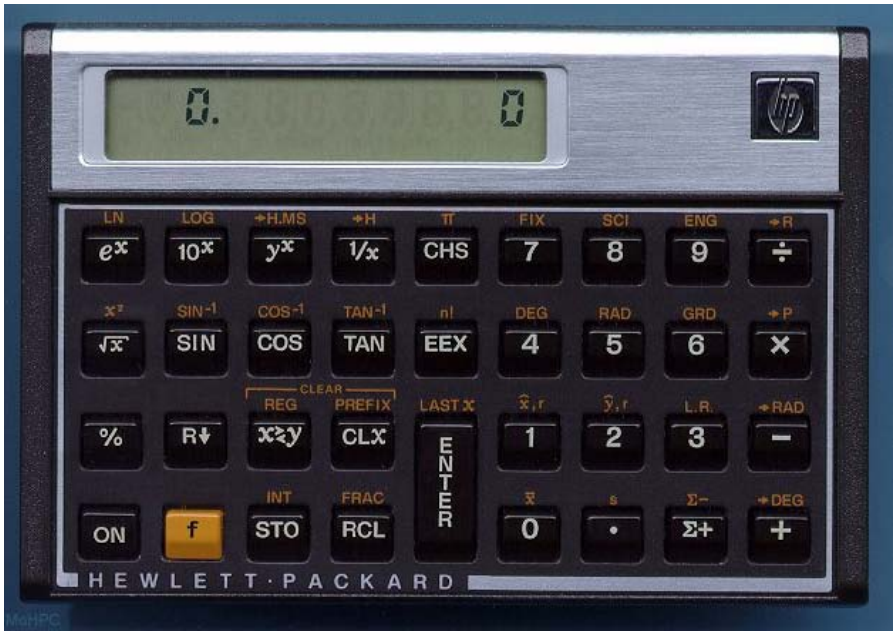
would this model fill the bill?



Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #28 Posted by **nick lidakis** on 16 Sept 2011, 1:16 p.m.,*
in response to message #27 by robert rozee

Quote:

would this model fill the bill?



Hell yes. If they could sell it for 15 to 25 bucks. Isn't that a HP 10c?

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #29 Posted by **robert rozee** on 16 Sept 2011, 2:11 p.m.,*
in response to message #28 by nick lidakis

it's a 10C with the programmability removed - count the keys across and you'll see one column has been deleted. the non-programming

functions on that column have been distributed onto other keys (->R and ->P placed above divide and multiply, square root moved to below e^x). the display hasn't been moved across because the space to the right is still needed for the 2x 2032 batteries.

at the same time i also re-engineered the key frame so the f key is co-moulded in with the rest of the keys to prevent wobble. and there is space above the % and R-down keys for two more functions if anyone wishes.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #30 Posted by **Eric Smith** on 18 Sept 2011, 3:04 p.m.,*
in response to message #29 by robert rozee

> Quote:
>
> i also re-engineered the key frame so the f key is co-moulded in with the rest of the keys to prevent wobble

How did you accomplish that?

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #31 Posted by **robert rozee** on 18 Sept 2011, 3:48 p.m.,*
in response to message #30 by Eric Smith

> Quote:
>
> How did you accomplish that?

[chuckles] i wondered if anyone would notice that... using the same virtual factory that manufactured the calculator pictured - of course!

btw, i have seen keyframes with different coloured plastics for some keys in real life. takes a little ingenuity, but certainly far from impossible. i'd have thought HP would be able to do it with ease.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #32 Posted by **Howard Owen** on 18 Sept 2011, 3:41 p.m.,*
in response to message #29 by robert rozee

> Quote:
>
> ... the display hasn't been moved across because the space to the right is still needed for the 2x 2032 batteries.

The battery compartment on the 15C LE overlaps (underlaps?) the display.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #33 Posted by **Ed Look** on 16 Sept 2011, 1:33 p.m.,*
in response to message #27 by robert rozee

Do any of you guys remember or have heard of or have seen the old (Spice series) HP-31E or 32E?

They were basic scientific NONprogrammable calculators, the latter with statistical functions. I think these would make excellent calculators for late middle/junior high, most of high school students, and many college students that have to deal with science courses. (Unfortunately for hard science majors) They had no continuous memory, but that would make them good for many exams, including stuff like SATs, engineering licensing exams, etc.

They are like the (Voyager series) HP-10C and HP-11C, but portrait layout instead of landscape and nonprogrammable.

If HP could come up with inexpensive RPN calcs that did what any of these did, say, one with and one without continuous memory, it may begin to eat into TI's, Casio's student markets.

Edited: 16 Sept 2011, 1:33 p.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #34 Posted by **Martin Pinckney** on 16 Sept 2011, 1:42 p.m.,*
in response to message #33 by Ed Look

> Quote:
>
> Do any of you guys remember or have heard of or have seen the old (Spice series) HP-31E or 32E?

You're kidding, right? Has Dr. Phil ever heard of neuroses?

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #35 Posted by **Masaki Adachi** on 16 Sept 2011, 2:13 p.m.,*
in response to message #8 by nick lidakis

Basic RPN calculators

Chip in the Casio FX is probably a dedicated calculator chip that is used in bulk. Most of the newer HP calclator is run by Arm processor. Economy of scale will also affect the cost of LCD and keypads. so as long as HP sticks to current way of designing RPN calculators, I dont see anyway of making the RPN machine with sub $10 price range. HP-10s to me looks like re-badged Sharp or Casio.

So here is my proposal to HP if they are interested in striking back into mass calculator business. Take 33S, redo the keyboard graphics so there is no hint of programmability on the front face, remove manual and case from the package and add a folded sheet of paper that only describe the basics of RPN, repackage and sell them for less than $20 each. I blieve the tool and development cost for the 33s is already paid for. its probably a doable pricing.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #36 Posted by **Tim Wessman** on 16 Sept 2011, 2:58 p.m.,*
in response to message #35 by Masaki Adachi

>sell them for less than $20 each

Giggle.

>tool and development cost for the 33s is already paid for

You mean not done by us, nor do we have any of the tools, nor ability to develop of modify any existing code on the sunplus chips. . .

TW

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #37 Posted by **Martin Pinckney** on 16 Sept 2011, 4:24 p.m.,*
in response to message #36 by Tim Wessman

OK, then, just issue a 10c LE. You should have the ROM image. We'll even pay a little more than $20!

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #38 Posted by **gene wright** on 16 Sept 2011, 5:04 p.m.,*
in response to message #37 by Martin Pinckney

Ah, but keys would have to be redone. Production line time would have to be scheduled. Line switchovers would have to be paid for. Approvals sought..."Why should we do this? How many will we sell? What will you not work on while this is being debugged? What will not be worked on while suppliers will be worked into this picture...etc."

If the $$ is not high enough (no idea what $$ that is), then management will likely not put resources on it because they have higher absolute $$ projects to put people to work on.

Not to mention... the time this takes is time not spent on the 67CXi model.

Besides, there is no need at all for the 10C if the 15c is out.

(But I for one really would like a cheap RPN calculator...in addition to the 20b/30b which are the cheapest RPN models out).

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #39 Posted by **Jeroen Van Nieuwenhove** on 16 Sept 2011, 6:49 p.m.,*
in response to message #38 by gene wright

> Quote:
>
> Besides, there is no need at all for the 10C if the 15c is out.

That.

Furthermore: it will be impossible for HP to make any profit from a 10C that would sell around $20. Even assuming that the production/marketing costs are less than that, you would need to sell a staggering amount of these calcs to make any profit.

Also: if your objective is promoting RPN among youngsters, you really should be promoting free RPN calc apps for smartphones (and quite a few good ones already exist, like Free42). THAT is the way to showcase RPN to youngsters.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #40 Posted by **nick lidakis** on 16 Sept 2011, 7:01 p.m.,*
in response to message #39 by Jeroen Van Nieuwenhove

> Quote:

> That.
>
> Furthermore: it will be impossible for HP to make any profit from a 10C that would sell around $20. Even assuming that the production/marketing costs are less than that, you would need to sell a staggering amount of these calcs to make any profit.
>
> Also: if your objective is promoting RPN among youngsters, you really should be promoting free RPN calc apps for smartphones (and quite a few good ones already exist, like Free42). THAT is the way to showcase RPN to youngsters.
>
> ---

Yes (emphatically), I agree about the economics of reintroducing a 10c.

No. (politely) Smart-phones can't be used during exams. Phones can be a distraction to some. The downsides of smart-phones (battery life, back light annoyance, etc.) have been mentioned here before (I lurk). Also, don't assume every "young" person even wants or expects smart-phone.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #41 Posted by **Martin Pinckney** on 16 Sept 2011, 9:25 p.m.,*
in response to message #40 by nick lidakis

Guys, before this thread gets too too long, my comment about the 10c was made tongue-in-cheek.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #42 Posted by **Jurrie Lulofs** on 16 Sept 2011, 5:45 p.m.,*
in response to message #36 by Tim Wessman

One would hope that a scientific version of the 20b/30b would be possible.

Of course, a 30s would be competing with the 35s which is probably not feasible from a product placement standpoint. Oh well.

Generating a simpler version of the wp34s would be fine, but that doesn't help the desire of some here to see such a product readily available in stores. Then again, enlightening those around us is better than nothing at all.

We're all just guessing here. I'm sure it's a tough market when such a product competes with $10-$15 (nearly) disposables. We don't know how many would sell at a $25-$35 price point. Some (many?) here are just frustrated that there isn't such an option. Even the 35s could be OK if they were done "right".

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #43 Posted by **Bart (UK)** on 16 Sept 2011, 9:51 a.m.,*
in response to message #5 by nick lidakis

Yes, I agree. Something like the current HP-10s but RPN.

PS I am a Nokia fan also. Found a basic RPN calc app for my N8, has the functionality of the original HP-35, but with a 17-level stack. Perfect for quick calculations.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #44 Posted by **Tommy** on 16 Sept 2011, 12:25 p.m.,*
in response to message #5 by nick lidakis

I fully agree! I would like to see a cheap, reliable, basic scientific RPN calculator.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #45 Posted by **Crawl** on 16 Sept 2011, 10:07 a.m.,*
in response to message #1 by nick lidakis

I'd consider getting that Casio if only it had 2 variables statistics with linear regression.

It's been on the shelves for a LONG time. Years, at least. It's had surprising longevity for a "cheap" calculator.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #46 Posted by **Paul Gaster** on 16 Sept 2011, 10:25 a.m.,*
in response to message #45 by Crawl

There is a reason it has been produced for so long. It is the only calculator allowed for use on GED tests.

http://www.passged.com/articles/21_The_GED_Math_Test_Know_the_Calculator.php

Yes, I want the HP-10C back

*Message #47 Posted by **Håkan Thörngren** on 16 Sept 2011, 2:25 p.m.,*

in response to message #1 by nick lidakis

Please bring the HP-10C back, it is a wonderful small simple RPN instrument that will fit my daily hand calculation needs nicely.

Re: Yes, I want the HP-10C back

*Message #48 Posted by **Michael de Estrada** on 16 Sept 2011, 2:42 p.m.,*
in response to message #47 by Håkan Thörngren

It would cost the same amount to replicate it as the HP 15C LE, and gain you nothing in ease of use. Same primary key functions and same shifted key functions. I see no advantage in this at all.

Re: Yes, I want the HP-10C back

*Message #49 Posted by **Håkan Thörngren** on 16 Sept 2011, 4:40 p.m.,*
in response to message #48 by Michael de Estrada

Less cluttered keyboard and half the rattle? :)

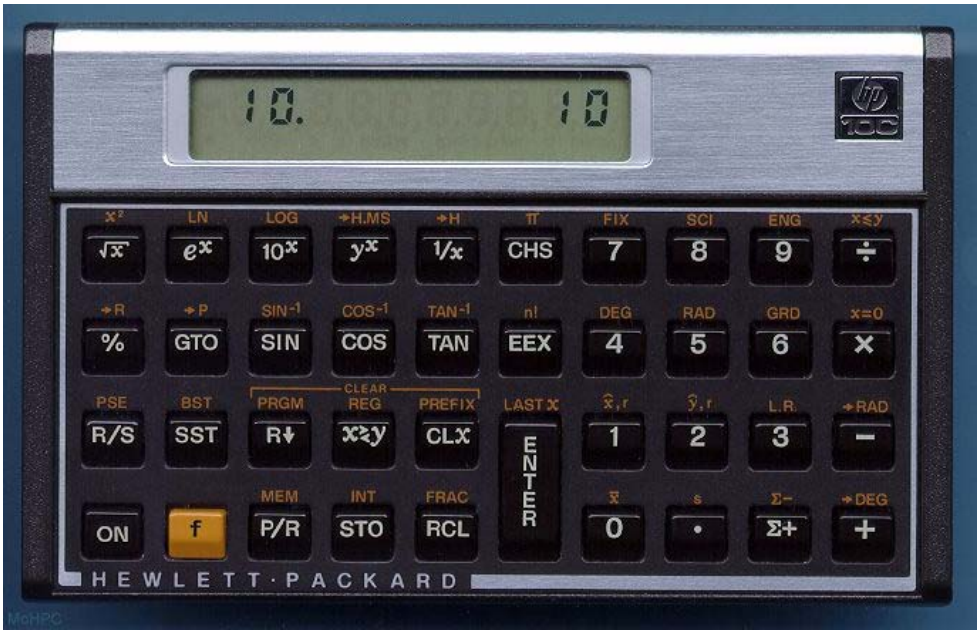
I am hoping it could sell for a lower price, and for basic daily calculations it should be fine enough.

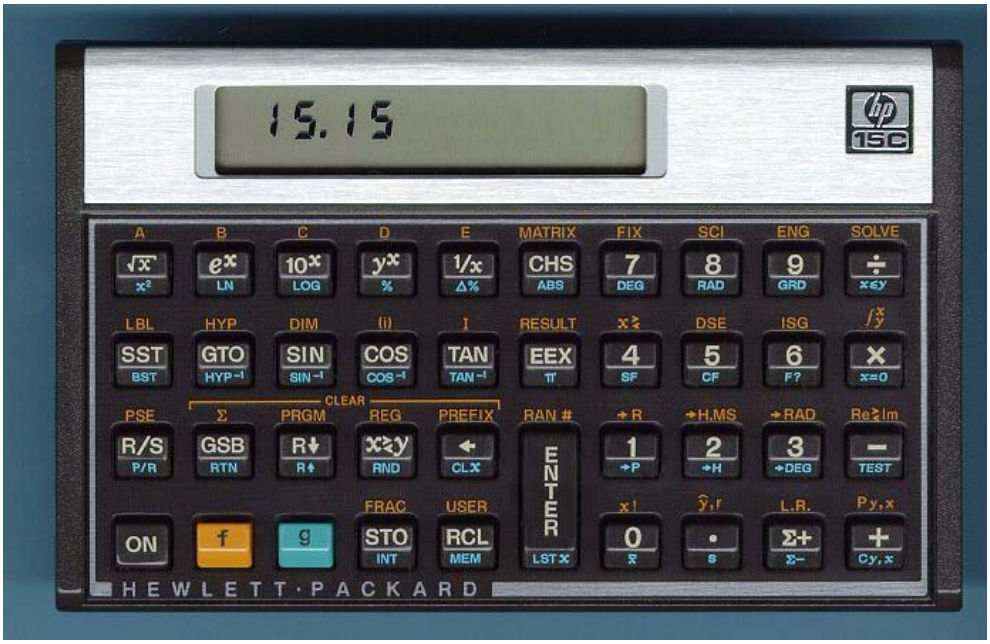
The 10C is less intimidating than a 15C, and for doing more advanced things I would pick up a 41 or a 48.

Re: Yes, I want the HP-10C back

*Message #50 Posted by **Michael de Estrada** on 16 Sept 2011, 5:06 p.m.,*
in response to message #49 by Håkan Thörngren

What rattle ? Mine doesn't. As to clutter, since the shifted functions are above and below, there really is no added clutter. I really don't agree with you that it would somehow be "less intimidating." And I don't see how it could be much cheaper either. When HP brought out the original HP 10C it was an attempt to capture market that was lost by the very expensive HP 15C, and I'm certain it cost them in profits to do so.





Edited: 16 Sept 2011, 5:32 p.m.

Re: Yes, I want the HP-10C back

*Message #51 Posted by **uhmgawa** on 16 Sept 2011, 6:45 p.m.,*
in response to message #50 by Michael de Estrada

> Quote:
>
> And I don't see how it could be much cheaper either. When HP brought out the original HP 10C it was an attempt to capture market that was lost by the very expensive HP 15C, and I'm certain it cost them in profits to do so.

The only resource difference between the 10c and 15c is the 10c has half of the ROM footprint and half the RWM requirement of the 15c. In round numbers that's a difference of under 8KB ROM and 256B RWM -- essentially in the noise cost wise by today's standards. And if for some reason that somehow was a concern I'd opt for the 11c instead which can live within the same budget.

Disclaimer: I don't own a 10c nor have examined a rom image so the portion of ROM actually used in the 10c r2d2 may be considerably less than its actual capacity.

It is a wild guess but I don't think I'd be too far off to suspect the manufacturing cost difference of a legacy 15c vs. any other voyager model to have been about US$1-2.

Edited: 16 Sept 2011, 6:50 p.m.

Re: Yes, I want the HP-10C back

*Message #52 Posted by **Michael de Estrada** on 16 Sept 2011, 6:52 p.m.,*
in response to message #51 by uhmgawa

About the only way I could see some savings would be to eliminate the printed manual and fancy gift box as they now do with the HP 35s. Also, it would take less time to do the initial programming and manual preparation for the CD.

Re: Yes, I want the HP-10C back

*Message #53 Posted by **nick lidakis** on 16 Sept 2011, 7:05 p.m.,*
in response to message #52 by Michael de Estrada

> Quote:
>
> About the only way I could see some savings would be to eliminate the printed manual and fancy gift box as they now do with the HP 35s. Also, it would take less time to do the initial programming and manual preparation for the CD.

This.

Eco cardboard? Simple one page compostable instruction sheet and packaging?

Re: Yes, I want the HP-10C back

*Message #54 Posted by **Jeroen Van Nieuwenhove** on 16 Sept 2011, 7:02 p.m.,*
in response to message #51 by uhmgawa

That is true, but sometimes it pays to simply "dumb down" an existing model and sell it at a lower price, even if the manufacturing costs are the same. Everything depends on your profit margin. But, of course, in the case of the 10C, this strategy did not work. There's a reason why these calcs are so rare ;-)

Re: Yes, I want the HP-10C back

*Message #55 Posted by **Michael de Estrada** on 16 Sept 2011, 7:27 p.m.,*
in response to message #54 by Jeroen Van Nieuwenhove

Same could be said for the HP 31E, 37E and 70. In any case today's maket would not support a "dumbed down" Voyager at any price, and the 15C market is largely legacy. The basic features of the HP 15C LE are just as easy to access and use as the 10C.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #56 Posted by **Paul Dale** on 16 Sept 2011, 7:44 p.m.,*
in response to message #1 by nick lidakis

A scientific 4-banger using RPN was tossed around as an idea here a few years back. If something like this were available, I'd buy plenty.

By adding a single shift key, amazing amounts of functionality can be put into a twenty key device. There were designs with lots of scientific functions and others that were programmable...

- Pauli

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #57 Posted by **Paul Guertin** on 17 Sept 2011, 1:22 a.m.,*
in response to message #56 by Paul Dale

> Quote:
>
> A scientific 4-banger using RPN was tossed around as an idea here a few years back.

Here is the archive of that thread from 2007:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=116869

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #58 Posted by **Paul Dale** on 17 Sept 2011, 1:38 a.m.,*
in response to message #57 by Paul Guertin

That's the one!

- Pauli

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #59 Posted by **Jurrie Lulofs** on 17 Sept 2011, 9:47 a.m.,*
in response to message #57 by Paul Guertin

Here's the proposed model (The 4 Banger+, aka 4sII) that was most heavily discussed:

There were comments about it having too many shifted combinations. It would be good to see that level of functionality running on 20b/30b hardware. The hardware has more keys than the proposed model so one would hope for fewer awkward shifted key combinations.

Imagine if HP were to produce a 30b with replaceable keycaps (these would snap on over a smaller base key mechanism). You could get dummy caps and print/paint them, or use clear caps with printed inserts. Although not possible with the current design, if the bezel included slots at the top & bottom to facilitate overlays you'd have a truly "re-purposable" calculator.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #60 Posted by **robert rozee** on 17 Sept 2011, 10:56 a.m.,*
in response to message #59 by Jurrie Lulofs

absolutely beautiful - lets build it!!

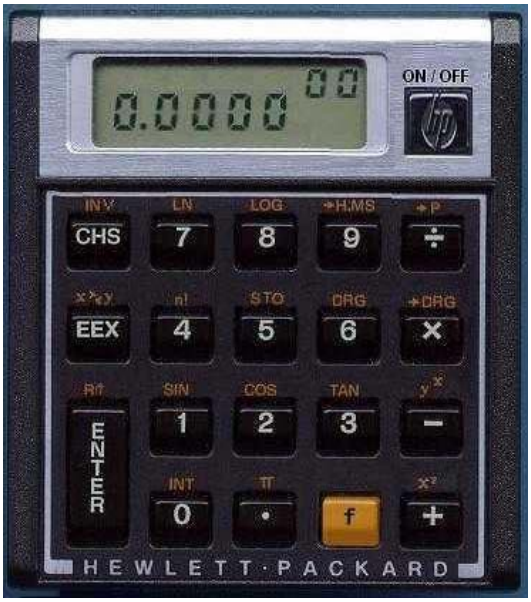
and can we make the case just 2" wide?

btw, you can put pi onto the EEX key (like casio do): if EEX is pressed while entering a number it performs as expected, if pressed prior to starting number entry it produces pi.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #61 Posted by **C.Ret** on 18 Sept 2011, 9:15 a.m.,*
in response to message #59 by Jurrie Lulofs

Here is another propostion à la HP-10c :



Note that : - The HP logo is the ON/OFF switch, auto power OFF still exist, - The Shift+CHS produce an INV fonction which invert next fonction. This make possible $\sin^{-1}$, $\cos^{-1}$ and $\tan^{-1}$ function, as well as R_{down} or RCL operations, etc.

Despite classic HP-10c or 15c, which are limited to only fit one calculator per pocket, this half-size landscape model allow you to store **two** calculators per shirt pocket.

This is the greatest advantage of this new concept.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #62 Posted by **Howard Owen** on 18 Sept 2011, 11:41 a.m.,*
in response to message #61 by C.Ret

Some of my reactions:

- This thing looks too small and crowded for comfortable operation in my clumsy hands
- I'd switch INV to primary and CHS to shifted. Given the importance of the INV key, it's likely it would be used much more frequently.
- I would make X<>Y primary and EEX shifted, just because X<>Y is primary on every classic RPN HP calculator, and my brain refuses to accept any other arrangement, :)
- Along the same lines, I would make the shifted R^ a shifted Rv. On the classic calcs, Rv was on a primary key and R^ was a shifted function.
- Did I mention this layout looks hopelessly cluttered and non-ergonomic?

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #63 Posted by **uhmgawa** on 18 Sept 2011, 11:42 p.m.,*
in response to message #62 by Howard Owen

> Quote:
>
> Did I mention this layout looks hopelessly cluttered and non-ergonomic?

I'd have to agree. Also I think if that display became reality it would have potential users screaming into their pillow.

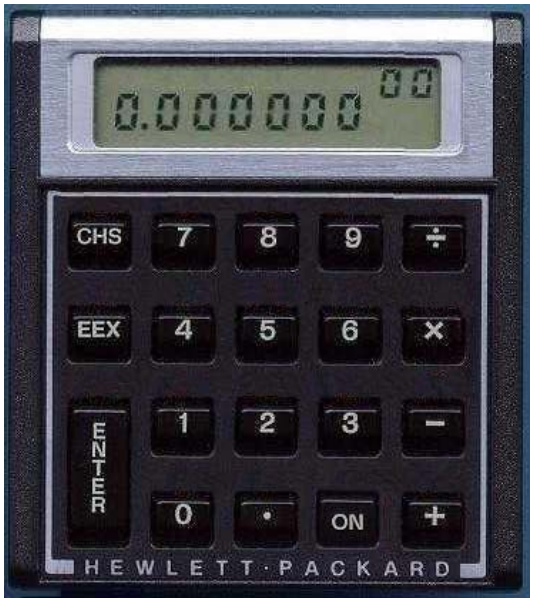
If what you really want is a scientific voyager with that in-pocket footprint, why not size the display to the full 10.5 digits and use the original 15c key layout & pitch but in a clamshell format? Downgrading functionality to a 10c or even 11c doesn't really buy you anything significant.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #64 Posted by **C.Ret** on 19 Sept 2011, 4:53 a.m.,*
in response to message #63 by uhmgawa

Agree, to avoid any cluter display and keyboard, I propose a larger display and removing shift and INV key.

Following the first HP 4 banger which two fit in one shirt pocket: having two calc in one pocket double power for computation. With a litte training, one can use both hands, each on one of these HP 4-bangers:



Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #65 Posted by **Paul Dale** on 19 Sept 2011, 5:00 a.m.,*
in response to message #64 by C.Ret

At least give us an x<>y or Rv key....

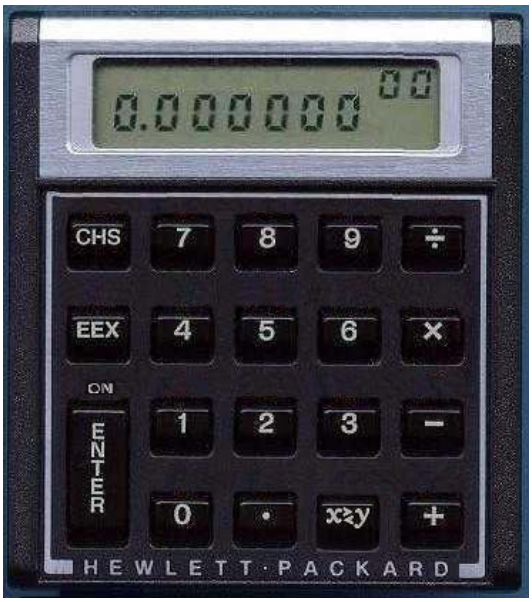
Unless this device is going to have a two level stack :)

- Pauli

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #66 Posted by **C.Ret** on 19 Sept 2011, 9:10 a.m.,*
in response to message #65 by Paul Dale

That's true, I have to add the [x><y] exchange key, since as any HP calculator this compact version have at least 4 levels of stack.



But no LAST register. This is perhaps a problem because if one user misskey a value, he have to start his computation from start.

Perhaps, is this design not optimal. I may have better to add one colum of keys for ON/OFF and stack manipulations.

Edited: 19 Sept 2011, 9:31 a.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #67 Posted by **Walter B** on 19 Sept 2011, 4:01 p.m.,*
in response to message #66 by C.Ret

You must admit layouting calculators is some fun, isn't it? :-)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #68 Posted by **Howard Owen** on 19 Sept 2011, 6:12 p.m.,*
in response to message #67 by Walter B

> Quote:
>
> You must admit layouting calculators is some fun, isn't it? :-)

I wonder where you got that impression? :)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #69 Posted by **Howard Owen** on 19 Sept 2011, 5:37 a.m.,*
in response to message #64 by C.Ret

> Quote:
>
> ... having two calc in one pocket double power for computation.

LOL! Pretty slow memory bus between those two processors. :)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?
*Message #70 Posted by **C.Ret** on 19 Sept 2011, 11:47 a.m.,*
in response to message #69 by Howard Owen

Yes :-)

It's the HP's dual-core system. And no stack will be stack due to cascading process or services !

The true dual HP-calculator cores;
- one HP-15c LE at right hand (faster at right),
- one HP-15c original at left hand (I am not as fast on left hand).

(Note that gooffy peoples may surf on the true dual-core HP calculator system the opposite way whith no loss of power, if for any reason they prefer speed at left hand.

Edited: 19 Sept 2011, 11:48 a.m.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #71 Posted by **Eric Smith** on 18 Sept 2011, 3:02 p.m.,*
in response to message #61 by C.Ret

I'd rather store just one calculator per shirt pocket.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #72 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:03 p.m.,*
in response to message #1 by nick lidakis

Yes. Maybe a re-release of the 1970's 21 or 25, only solar powered with statistics.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #73 Posted by **Dominic Richens** on 17 Sept 2011, 12:12 a.m.,*
in response to message #1 by nick lidakis

<fantasy> It would be cool if HP just sold just 1 or 2 calculators - say a 20b (cheap and mass produced) and 30b (better physical design for a premium) - with the a USB cable, sticky overlays and a CD-ROM with different firmwares that you can burn it with: - basic scientific/statistics - business/finance - programmable scientific - do everything calculator or perhaps with all 4 FW already in flash and you just pick which one from a mode menu and put the appropriate overlay on it. </fantasy>

I've been using a wp-34S emulator while I wait for my HP-20B to arrive in the mail and already I'm thinking about how I'd like to re-do some of it. Probably push more stuff to menus (stats) to eliminate 1 or 2 shift keys and get sin/cos/tan back as un-shifted keys.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #74 Posted by **Paul Dale** on 17 Sept 2011, 1:38 a.m.,*
in response to message #73 by Dominic Richens

> Quote:
>
> Probably push more stuff to menus (stats) to eliminate 1 or 2 shift keys and get sin/cos/tan back as un-shifted keys.

Feel free to modify the sources and submit patches ;-)

Have fun getting sin/cos/tan at the top level and in a row. We dropped that idea quite early. If the hot-keys disappear, it would be possible. There really isn't much on the un-shifted plane that doesn't demand to be there.

Removing a shift key or even two wouldn't be too difficult, the catalogues are quite functional now -- they were less so when originally devised.

Regardless, have fun.

- Pauli

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #75 Posted by **Dominic Richens** on 17 Sept 2011, 8:03 a.m.,*
in response to message #74 by Paul Dale

> Quote:
>
> Feel free to modify the sources and submit patches ;-)

What tool-chain are you using? I see reference in the source to Sorcery G++ (free "Lite" version) and MinGW, but I also see references to Eclipse and MS Visual C++, which I assume is needed to build the emulator?

Sorry if there is an article already describing this - I find the forum search a little flaky (date constraint only goes up to 2010!)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #76 Posted by **Walter B** on 17 Sept 2011, 3:11 a.m.,*
in response to message #73 by Dominic Richens

I'm looking forward to your design. Though I won't hold my breath ;-)

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #77 Posted by **Michael Kussmaul** on 17 Sept 2011, 8:07 a.m.,*
in response to message #1 by nick lidakis

I know, to make volume, a calculator these days has to be tailored to education/school - as they probably buy plenty...

But I'm wondering, what about all those engineers out there? Is there no market for those professionals? My dream calculator would be like this:

Tailored for engineering professionals, who like to have a quality calculator

small and thin (aka 15c but thinner, or 42s)
- alway with me in shirt or pocket
- two line dot-matrix display
- should be programmable, it would be sufficient to program on computer and store programs over to calculator, so I could use them for my daily work - e.g. To calculate basic values in a meeting
- no graphics capability (if I need that, I can use my computer)
- no symbolic calculation (same here: if needed I use Mathematica or such)
- it does not need to be cheap, I'm happy to pay $200/$300 if quality is right.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #78 Posted by **Michael de Estrada** on 17 Sept 2011, 8:21 a.m.,*
in response to message #77 by Michael Kussmaul

I bought a very nice HP 42s with spiral bound printed manual on TAS for circa $200. Problem solved.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #79 Posted by **Michael Kussmaul** on 17 Sept 2011, 8:56 a.m.,*
in response to message #78 by Michael de Estrada

I like the 42s too (I don't have one) - but it's 20 years old... there should be a more modern one, one which can connect to my computer to transfer programs (or "Apps" as you would probably called it nowadays :-)

And it's still too thick&heavy, half of it would be nice.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #80 Posted by **John Noble** on 17 Sept 2011, 1:11 p.m.,*
in response to message #79 by Michael Kussmaul

there should be a more modern one, one which can connect to my computer to transfer programs

Indeed. MicroSD would be cool, actually, and please tell "them" to make the programming language a simple script-like deal that any goof with a text editor can hack.

In the meantime, I really like my 35S. It's dedicated to some astronomy programs I wrote, and it fills that role far better than a smartphone ever could: no backlight to kill dark adaptation and it works great with gloves. If it had a reasonably accurate clock and the means to push the time and date into the stack I'd be overjoyed.

Re: After the 15c LE, better chance of a basic RPN calc from HP now?

*Message #81 Posted by **snaggs** on 18 Sept 2011, 8:15 a.m.,*
in response to message #77 by Michael Kussmaul

The 35s really is good, only using the 42s makes you realise theres that last level of polish missing.. However, the 42s was the peak of the Pioneer line.

Given the 35s is approved for surveyor exams, it will get updated, and version 2 has little to fix.

Also, whats good for engineers is good for maths students, as most applied maths is engineering.

Daniel.

Ps. Theres also lots of 35s programs on the net.

> Quote:
>
> I know, to make volume, a calculator these days has to be tailored to education/school - as they probably buy plenty...
>
> But I'm wondering, what about all those engineers out there? Is there no market for those professionals? My dream calculator would be like this:
>
> Tailored for engineering professionals, who like to have a quality calculator
>
> - small and thin (aka 15c but thinner, or 42s)
> - alway with me in shirt or pocket
> - two line dot-matrix display
> - should be programmable, it would be sufficient to program on computer and store programs over to calculator, so I could use them for my daily work - e.g. To calculate basic values in a meeting
> - no graphics capability (if I need that, I can use my computer)
> - no symbolic calculation (same here: if needed I use Mathematica or such)
> - it does not need to be cheap, I'm happy to pay $200/$300 if quality is right.

[Return to Index | Top of Index]

After the 15c LE, better chance of a basic RPN calc from HP now?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

No complaints about the HP-12C AE?

*Message #1 Posted by **From Hong Kong** on 16 Sept 2011, 1:55 a.m.*

Many problems of the HP-15C LE have been reported so far. However, I don't see any complaints about the HP-12C AE. I wonder if the HP-12C AE is nearly perfect.

Re: No complaints about the HP-12C AE?

*Message #2 Posted by **Katie Wasserman** on 16 Sept 2011, 2:07 a.m.,*
in response to message #1 by From Hong Kong

It got released with old firmware. See this thread.

Somehow this thread got lost in the Forum archives. The essential fact is that the 12C 30th AE got released with firmware dated 2009-07-02 and has bugs in it that were fixed in later releases back in 2009.

Re: No complaints about the HP-12C AE?

*Message #3 Posted by **From Hong Kong** on 16 Sept 2011, 2:31 a.m.,*
in response to message #2 by Katie Wasserman

Thanks, Katie! :)

It seems that the HP-12C AE users are 'luckier' than the HP-15C LE users. The HP-15C LE's key and current draw problems are not fixed easily!

Re: No complaints about the HP-12C AE?

*Message #4 Posted by **Katie Wasserman** on 16 Sept 2011, 3:33 a.m.,*
in response to message #3 by From Hong Kong

I don't understand the key problems on the 15C LE, I would have thought that they were made on the same production line as the 12C+ machines are, perhaps not.

However, the current draw, PSE and self-test problems on the 15C LE should be relatively easy to fix using the same patching techniques that were used to create the 12C+.

I think the hardest part of fixing the 12C AE and the 15C LE will be getting new firmware to the existing and future owners. Will HP recall these, make cables and new firmware easily available to all who want them (and don't read this forum), something else, or just ignore the problem?

I sure hope it's not that last option.

-Katie

Re: No complaints about the HP-12C AE?

*Message #5 Posted by **From Hong Kong** on 16 Sept 2011, 3:58 a.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> Will HP recall these, make cables and new firmware easily available to all who want them (and don't read this forum), something else, or just ignore the problem?
>
> I sure hope it's not that last option.
>
> -Katie

The chance of recalling the defective units is very slim. I think they may fix the not-yet-shipped units and probably ignore the shipped ones. As Gene has been making cables for power users, they may not bother to provide cables in the short term. In the long term, they may consider including a cable to every unit just like the HP-50G package.

Re: No complaints about the HP-12C AE?

*Message #6 Posted by **gene wright** on 16 Sept 2011, 7:47 a.m.,*
in response to message #5 by From Hong Kong

And if I need to send out cables to 10,000 people, I'm sorry to say but my price will have to go up! lol

I believe the $3 / $5 I charge comes within $0.25 of covering my costs. Paypal takes 10% off the top. Then postage. Then the envelopes, then gas to get to the post office (which is no longer trivial). Then since I'm now doing this roughly 3 times a week, I value my time at the remaining $0.25 per 1/2 hour. :-) That time is time putting all this stuff into the envelopes, getting the addresses right, filling out the customs forms (wow, a lot of you guys live overseas from me!), etc. :-)

But, if the volume continues to go up (I have sent 15 in the last week), I might have to adjust...just a little bit. I can still promise that doing this is not contributing to my retirement fund.

Cable for update firmware

*Message #7 Posted by **Artur-Brazil** on 16 Sept 2011, 11:16 a.m.,*
in response to message #6 by gene wright

Gene,

I missed out the thread about this cable but would like to know if you have posted any pictures or schematic about it, so, for us living far abroad, may be we could make our own cables. Best regards Artur - Brazil

Edited: 16 Sept 2011, 11:41 a.m.

Re: Cable for update firmware

*Message #8 Posted by **Miguel Toro** on 16 Sept 2011, 12:52 p.m.,*
in response to message #7 by Artur-Brazil

Hello,

Please, see this post, message #12 from Katie Wasserman.

Regards,

Miguel

Re: Cable for update firmware

*Message #9 Posted by **Artur-Brazil** on 16 Sept 2011, 3:04 p.m.,*
in response to message #8 by Miguel Toro

Great Miguel!

Isn't a so simple task and the cables are very well done!!!

Many thanks! Artur

Re: No complaints about the HP-12C AE?

*Message #10 Posted by **Seth Morabito** on 16 Sept 2011, 1:57 p.m.,*
in response to message #6 by gene wright

> Quote:
>
> I believe the $3 / $5 I charge ...

Well there's your problem! ;)

I'd gladly pay $10 for one of these cables, plus shipping, and I'd still feel like I was getting a bargain. Heck, compared to the prices I've paid SOME vendors in the past (*cough*Cisco and DEC*cough*) for proprietary cables, $10 feels like a rounding error.

By the way, I really would like to buy one of these cables, but unfortunately I will not be making it to HHC this year. I'm extraordinarily bummed out about that, too. This seems like a year not to miss, but there's just no way I can do the trip this time. Sigh.

Re: No complaints about the HP-12C AE?

*Message #11 Posted by **gene wright** on 16 Sept 2011, 3:12 p.m.,*
in response to message #10 by Seth Morabito

Ah, but HP did not give me these cables to get rich. They gave them to me to take a load off their day-to-day activities.

A big corporation might not have to worry about allocating postage to individual mailings, but I think it better if the HP calculator team is not sending out cables one at a time. So, I offered to help.

HP would not be happy if I started selling these on ebay, of course. :-)

Re: No complaints about the HP-12C AE?

*Message #12 Posted by **Calum Tait** on 16 Sept 2011, 8:43 a.m.,*
in response to message #5 by From Hong Kong

> Quote:
>
> The chance of recalling the defective units is very slim. I think they may fix the not-yet-shipped units and probably ignore the shipped ones. As Gene has been making cables for power users, they may not bother to provide cables in the short term. In the long term, they may consider including a cable to every unit just like the HP-50G package.

That's a shame. When the 35 and 11C were discovered to have bugs they were recalled and users given a new calculator. Bill apparently thought that customers should have confidence in the HP name. What an old fashioned way of thinking that now seems!

Re: No complaints about the HP-12C AE?

*Message #13 Posted by **Seth Morabito** on 16 Sept 2011, 2:01 p.m.,*
in response to message #12 by Calum Tait

Though to be fair, adjusted for inflation the HP-35 cost US $2,000.00 when it was introduced, and the HP-11C cost US $317.00. I'm not at all happy with reports of poor quality, but I wouldn't expect a recall for a $90.00 product, either.

Re: No complaints about the HP-12C AE?

*Message #14 Posted by **Calum Tait** on 17 Sept 2011, 6:44 a.m.,*
in response to message #13 by Seth Morabito

I don't think the price should be the main issue. At $90 it is still quite an expensive calculator anyway but it is more a matter of the company showing that it offers quality products and has good customer service. In other words, that it cares about its customers. The fact that everything nowadays seems to boil down to cost without thinking about the lost future sales from a bad service experience encapsulates everything that has gone wrong with companies like HP. A faulty $90 calculator could tarnish someone's confidence in a company enough to affect a much bigger purchase in the future.

Re: No complaints about the HP-12C AE?

*Message #15 Posted by **Martin Pinckney** on 16 Sept 2011, 7:38 a.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> I don't understand the key problems on the 15C LE, I would have thought that they were made on the same production line as the 12C+ machines are, perhaps not.

There's no key problem! The blue and yellow shift keys just wiggle a tiny amount.

Re: No complaints about the HP-12C AE?

*Message #16 Posted by **Katie Wasserman** on 16 Sept 2011, 10:36 a.m.,*
in response to message #15 by Martin Pinckney

A few users have reported keys that are stuck and/or not registering when clicked on the 15C LE.

Edited: 16 Sept 2011, 10:37 a.m.

Re: No complaints about the HP-12C AE?

*Message #17 Posted by **Martin Pinckney** on 16 Sept 2011, 12:55 p.m.,*
in response to message #16 by Katie Wasserman

I completely missed those reports.

Re: No complaints about the HP-12C AE?

*Message #18 Posted by **Paul Gaster** on 16 Sept 2011, 1:03 p.m.,*
in response to message #17 by Martin Pinckney

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=195423#195423

It is up to 4 reports now.

Re: No complaints about the HP-12C AE?

*Message #19 Posted by **Crawl** on 16 Sept 2011, 7:53 a.m.,*
in response to message #4 by Katie Wasserman

Yes, I just hope they do something. Sending it back or patching it myself (assuming I can do it; I don't have a cable yet) would both be palatable to me.

Re: No complaints about the HP-12C AE?

*Message #20 Posted by **gene wright** on 16 Sept 2011, 3:14 p.m.,*
in response to message #19 by Crawl

You can do it. Cable is available for cost of postage and the procedure really is simple enough that all can do it. You DO need a serial port or a usb to serial adapter of a special type.

I found a $50 laptop on ebay with a serial port that I use for this stuff.

If I can flash a unit...

Re: No complaints about the HP-12C AE?

*Message #21 Posted by **Bart (UK)** on 16 Sept 2011, 4:49 a.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> Somehow this thread got lost in the Forum archives.

The live forum has a limit of 501 messages, there's so much activity right now that messages are moving into the archive within 2 days :-)

Re: No complaints about the HP-12C AE?

*Message #22 Posted by **Lincoln R.** on 16 Sept 2011, 2:07 a.m.,*
in response to message #1 by From Hong Kong

Probably. My impression of the 12C AE is that it's most likely just a regular-production 12C with a "30th Anniversary" script and a limited edition number printed on it. There was 1 report of a 12C AE coming with out-of-date firmware on it, but that's probably just an assembly plant screwup that should be easy to fix.

HP has been building 12Cs continuously since 1981, while this is the first time they've tried to make a 15C since 1989, so it's perfectly reasonable for a few minor, correctable software bugs to turn up. Also, at least some of the making fun of the build quality is probably coming from people who have no use for a financial calculator and never owned a modern 12C.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c finally available from HP for $129.00 US

*Message #1 Posted by **Quan** on 16 Sept 2011, 1:21 a.m.*

Here is the link:

http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20037-215351-33532.html

I wonder if the online stores will raise the price to match.

Re: 15c finally available from HP for $129.00 US

*Message #2 Posted by **Howard Owen** on 16 Sept 2011, 1:30 a.m.,*
in response to message #1 by Quan

HP usually charges full price in order not to undercut their retailers. Of course, at $200.00+ on eBay, they may undercut them anyway!

Actually, I think this will put a stop to the gouging - for now.

edit: clickable link

Edited: 16 Sept 2011, 1:37 a.m.

Re: 15c finally available from HP for $129.00 US

*Message #3 Posted by **Lincoln R.** on 16 Sept 2011, 1:59 a.m.,*
in response to message #2 by Howard Owen

That's the business store, where prices seem to be higher. It's still listed as $99.99, but 'coming soon' on the home/home office one. Although I imagine this means that HP has them in stock, and whoever's responsible for managing the home user store just needs to update the site.

Re: 15c finally available from HP for $129.00 US

*Message #4 Posted by **Jake Schwartz** on 16 Sept 2011, 11:36 a.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> HP usually charges full price in order not to undercut their retailers.

I beg to differ. Back in the early-to-mid 1990s timeframe, Jim Lawson, a member of our local Philadelphia Area HP Handheld Club (founded in 1978 as the Philly chapter of the PPC club) had a one-man HP dealership called "Handi-Calc". He was an avid HP fan and put out his own 2-to-8-page newsletter periodically over several years, explaining how to use HP machines and announcing new ones. When HP began undercutting his prices by discounting below their own MSRP, Jim couldn't compete and had to fold up shop. We complained to the new head of HP's ACO (Chris Wallin) and only got useless answers. This

told us that despite his plea at the 1997 British HPCC Club's 15th-Anniversary conference in London (which I attended and videotaped) that he was interested in our concerns, this was merely "lip service".

Moving to the present day, Eric Rechlin (from hpcalc.org) mentioned recently that the prices of the HP machines from the distributors which he would resell, are not as low as the price that he can purchase them RETAIL from Amazon.com, and thus he can't really compete domestically with the large Internet retailers in the U.S. I'm not sure what HP can do, but they didn't consider their small dealers 15 years ago and I don't think they are taking care of them now either.

Jake

Re: 15c finally available from HP for $129.00 US

*Message #5 Posted by **Howard Owen** on 16 Sept 2011, 5:49 p.m.,*
in response to message #4 by Jake Schwartz

Past is prologue, I suppose. But as of now, HP is not undercutting their channel with the 15C LE.

Companies that have a retail channel often try to ensure their partners have a crack at selling their wares at a profit, however slight. That is, if they want to retain the channel. Sometimes companies decide to forego, or deemphasize a retail channel for various reasons. HP clearly hasn't gone that route with calculators. The 12C, for example, sells in lots of brick and mortar stores, and on the web. Taking a look at one giant discount retailer, Amazon currently has the 12C for $61.19, whereas HP is charging $69.99.

Here's a table of price comparisons between HP and Amazon. These do not take shipping or tax into account. All prices are below MSRP.

Calculator	HP Price	Amazon Price
HP-12C 12C#ABA	$69.99	$61.19
HP-12C Platinum	$79.99	$67.39
HP-12C 30th Anniversary	$79.99	$68.66
HP-17BII+	$99.99	$78.99
HP-30B	$49.99	$23.95
HP-35S	$59.99	$51.15
HP-50G	$149.99	$99.99

I took the prices from HP's Home/Home Office site and from Amazon search. Some of the calculators are from Amazon stock and some are from retail partners. In either case, the third column figures should represent valid street prices. As far as MSRP goes, obviously the *real* benchmark is what HP charges customers directly. The higher MSRPs don't count for much, except they give retailers a large number to claim large discounts against.

So it appears HP isn't systematically undercutting its retailers. The 15C LE is interesting in that regard. The business site still lists it at $129.99 in stock, while the Home/Home Office site has it at $99.99 "coming soon." The latter price might undercut some retailers, except HP isn't actually selling it for that price.

I'm not saying that HP never undercuts their retailers. I'm just saying that they seem to be happy having a retail channel, and aren't currently going out of their way to destroy it, at least with calculators.

[Return to Index | Top of Index]

15c finally available from HP for $129.00 US

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE - Two bad keys

*Message #1 Posted by **Dan Grelinger** on 16 Sept 2011, 12:04 a.m.*

I received my HP-15C LE from buy.com today ($89.99 + free shipping), Limited Edition Number 02368, and low and behold it has two bad keys. The SST key requires much more effort than a normal keypress to register, and the '6' key will go down and click with a light touch and not register the press. Is this common? Since buy.com seems to be out, I guess I will have to go the route of warranty service through HP.

Re: HP-15C LE - Two bad keys

*Message #2 Posted by **Howard Owen** on 16 Sept 2011, 12:17 a.m.,*
in response to message #1 by Dan Grelinger

It's not the case with my unit, and I haven't heard anyone else complain of keys registering poorly like that. That's definitely grounds for returning it. Why not ask buy.com id they can exchange it? If not, then HP would be the right way to go.

Re: HP-15C LE - Two bad keys

*Message #3 Posted by **Jesse Dodd** on 16 Sept 2011, 12:58 a.m.,*
in response to message #1 by Dan Grelinger

Mine also was from buy.com #00549 and the square root key will click without registering unless pressed with additional force.

Re: HP-15C LE - Two bad keys

*Message #4 Posted by **Howard Owen** on 16 Sept 2011, 1:40 a.m.,*
in response to message #3 by Jesse Dodd

Wow. That's two reports now. :(

Re: HP-15C LE - Two bad keys

*Message #5 Posted by **Thomas Radtke** on 16 Sept 2011, 2:52 a.m.,*
in response to message #4 by Howard Owen

And that's not an acceptable problem :-(. At least I wouldn't want to live with that.

Re: HP-15C LE - Two bad keys

*Message #6 Posted by **Dan Grelinger** on 16 Sept 2011, 11:25 a.m.,*
in response to message #5 by Thomas Radtke

Yes, this condition is unacceptable. I normally press keys consistently with just the force necessary to depress them, and the '6' key is a pretty important key. To use the calculator in this state, one must watch the display carefully to ensure that each keypress of the affected keys has registered.

Very inconvenient, and unacceptable. I bought a used HP-41C advertised as 'works perfectly' a few years ago on TAS with this same problem (most likely developed over time with much use) and returned it for a refund.

I called buy.com this morning and found that they are completely sold out of HP-15C LEs, and will not be getting anymore. They informed me that they would be happy to take the return and refund my purchase. But I will not accept that offer as I want to end up with a unit, and it appears likely these are close to selling out. I wonder if HP will have any for sale on their own web site. I certainly hope that they have enough replacements for defective units that they must warranty.

Re: HP-15C LE - Two bad keys

*Message #7 Posted by **Thomas Radtke** on 16 Sept 2011, 12:09 p.m.,*
in response to message #6 by Dan Grelinger

> Quote:
>
> [...] and it appears likely these are close to selling out.

It's probably of not much help, but there's still a batch of european calculators to be sold.

I wonder if the problem is dirt from the production process or a problem with the contact itself. The former might by resolved by just cleaning using Randys procedure. I very much hope for it.

Edited: 16 Sept 2011, 12:13 p.m.

Re: HP-15C LE - Two bad keys

*Message #8 Posted by **Miguel Valenzuela** on 16 Sept 2011, 2:07 a.m.,*
in response to message #1 by Dan Grelinger

I received by unit from buy.com with a LE #00506.

The "g" function button must be pressed with much more force than any other key in order to register. If I slide the key a bit toward the screen (upward) and press down, it is much more likely to register. If I slide it the opposite direction (downward) and press, it rarely ever registers.

This makes things difficult, since the "g" key is used very often... When I am calculating quickly, I find I forget to press the key with greater force than the rest. The result is incorrect calculations.

Re: HP-15C LE - Two bad keys

*Message #9 Posted by **John Pierce** on 16 Sept 2011, 8:24 a.m.,*
in response to message #1 by Dan Grelinger

My HP-15C LE serial # 02364 has an identical problem with the '6' key. The '6' key takes about twice as much force to produce a result. I havn't noticed any other key problems. Since the serial numbers are only four apart this might be a manufacturing defect that affects many calculators.

Re: HP-15C LE - Two bad keys

*Message #10 Posted by **Seth Morabito** on 16 Sept 2011, 1:51 p.m.,*
in response to message #9 by John Pierce

Very strange indeed.

Mine is #02391 (CNA1310K9L), and I have encountered no keyboard problems at all. I wonder if I should feel lucky?

I intend to post a full review of my unit some time over the weekend.

Re: HP-15C LE - Two bad keys

*Message #11 Posted by **Lincoln R.** on 16 Sept 2011, 2:31 p.m.,*
in response to message #10 by Seth Morabito

I got 2 with perfectly good keyboards. You're pretty much only going to see the complaints on the internet. It is inevitable that you get a few defective units when doing volume manufacturing, and it simply isn't possible to catch all of them. I would imagine the manufacturing tests are largely automated, and would be very surprised if I discovered that somebody at the factory had to run the keyboard test on every single calculator. It is far more likely that some get randomly spot-checked.

Re: HP-15C LE - Two bad keys

*Message #12 Posted by **Michael de Estrada** on 16 Sept 2011, 3:01 p.m.,*
in response to message #11 by Lincoln R.

Even in the "good old days" when HPs were made in the USA and cost many times more than they do today, defective units found their way into the hands of consumers. I have a totally mint HP-80 with a faulty LED array in a digit, that undoubtedly left the factory that way. It looks like it is unused, so perhaps that is why it was never returned to the factory for warranty repair / replacement.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Such a beautiful sight

*Message #1 Posted by **Eric Rechlin** on 15 Sept 2011, 10:33 p.m.*

Hmm...I wonder what is in here?

Let's open it.

Such a beautiful sight

Maybe I should decorate my wall with them?

Eric

Re: Such a beautiful sight

*Message #2 Posted by **Michael de Estrada** on 15 Sept 2011, 10:39 p.m.,*
in response to message #1 by Eric Rechlin

Only 16 ?

Re: Such a beautiful sight

*Message #3 Posted by **Ethan Conner** on 15 Sept 2011, 10:43 p.m.,*
in response to message #2 by Michael de Estrada

Yeah.....don't hold back! Lol

Re: Such a beautiful sight

*Message #4 Posted by **Eric Rechlin** on 15 Sept 2011, 10:44 p.m.,*
in response to message #2 by Michael de Estrada

The rest are still in the possession of FedEx and UPS. But these will be gone before those arrive, so there will be no reunion. I also am expecting ten of the 12c 30th Anniversary units to arrive on Monday.

Re: Such a beautiful sight

*Message #5 Posted by **Dave Shaffer (Arizona)** on 15 Sept 2011, 10:44 p.m.,*
in response to message #2 by Michael de Estrada

From a box labelled "quantity 10", that's pretty good!

Re: Such a beautiful sight

*Message #6 Posted by **Eric Rechlin** on 15 Sept 2011, 10:49 p.m.,*
in response to message #2 by Michael de Estrada

These 16 (plus two more not pictured) I bought on the secondary market, since the second-tier distributors didn't have them yet. My next shipment will be from a second-tier distributor.

I opened up one of them to photograph it, and I was lucky enough to get unit # 00888!

Eric

Re: Such a beautiful sight

*Message #7 Posted by **Namir** on 15 Sept 2011, 11:11 p.m.,*
in response to message #6 by Eric Rechlin

Eric!! You didn't!!! Door prizes for the HHC2011??!!! How generous of you!!! You are the man!!!

<in a loud cheering voice>Eric Eric ... he's our man! If he can't do it, no one can!!!

Not to mean to change the subject. Are you printing more overlays for the wp34s?

Edited: 15 Sept 2011, 11:13 p.m.

Re: Such a beautiful sight

*Message #8 Posted by **Walter B** on 16 Sept 2011, 1:11 a.m.,*
in response to message #7 by Namir

> Quote:
>
> Eric Eric ... he's our man! If he can't do it, no one can!!!
>
> Not to mean to change the subject. Are you printing more overlays for the wp34s?

Why "change the subject"? It still fits ;-)

Re: Such a beautiful sight

*Message #9 Posted by **Hugh Evans** on 16 Sept 2011, 1:15 a.m.,*
in response to message #1 by Eric Rechlin

Nice!!! Which ones are mine? I can't wait for them to arrive, although I have one regret about having them fedex'd to my office: concentration will be difficult with such a perfect distraction! Our most recent hire showed up on his first day with a 12c, bringing the total number of RPN users in our labs to 5. Anyways, great pic! Also, thanks again for your exceptionally prompt and helpful service. Anyone who hasn't purchased through hpcalc should!

Re: Such a beautiful sight

*Message #10 Posted by **Johnny Bjoern Rasmussen** on 16 Sept 2011, 6:39 a.m.,*
in response to message #9 by Hugh Evans

Any of them for sale?

Re: Such a beautiful sight

*Message #11 Posted by **robertoataulfo** on 16 Sept 2011, 7:06 a.m.,*
in response to message #10 by Johnny Bjoern Rasmussen

```
How sad.
All failed in the function pse.
Will have a value here some 30 years.
This is the hp does not produce it again :-)
Those who live will be able to buy.


HP-15 LE - Two (or more) bad keys


You have forgotten that this HP today is not that we met in the past?


" HP sets a new era of producing defective calculators! "
```

Edited: 17 Sept 2011, 4:03 p.m. after one or more responses were posted

Re: Such a beautiful sight

*Message #12 Posted by **Lincoln R.** on 16 Sept 2011, 10:19 a.m.,*
in response to message #11 by robertoataulfo

The HP that many people here seem to believe in would have never even *made* a 15C reissue. The fact is, they did it. Whether engineers convinced management it would be a cool idea, someone had a revelation in a dream, or whatever, it is once again possible to buy an HP 15C.

The PSE function is a *software* bug which can be fixed. The 12C+ had some bugs when it first came out too, and those have been fixed. I'm certain that once HP fixes the bugs, even if they don't offer to reflash calculators for people, they will at least provide the new firmware image to people like us.

As for the "bad keys," the wobbly f and g keys simply aren't a big deal. As far as keys that actually don't work or have to be pushed excessively hard are concerned, manufacturing defects happen. Even when HPs were made exclusively in the US and Singapore, defective calculators slipped past QA. I have an almost perfect-looking USA made 32s 50th Anniversary with a top row of keys that feel mushier than the rubber keys on my Casio FX-7000g. If you have a legitimately bad keyboard, exchange the calculator, HP put a warranty on these things for a reason.

Re: Such a beautiful sight

*Message #13 Posted by **Thomas Radtke** on 16 Sept 2011, 11:34 a.m.,*
in response to message #12 by Lincoln R.

I fear all 15C LE keyboards will develop this problem sooner or later. My 35s was at first ok in this respect, but last time I tried one key had a tactile feedback from *not* registering the keystroke ;-(. It's just not possible to have a durable keyboard and save 25ct/unit at the same time. Sharholder value always win, of course.

I'm so sorry for Tim et al. for doing a great job messed up by HP. Time for them to build some startup company ;^).

Anyway, my sample-if it arrives-is a good investment, and certainly will sell on TAS. But that was not what I was hoping for :-(.

Re: Such a beautiful sight

*Message #14 Posted by **Michael de Estrada** on 16 Sept 2011, 12:20 p.m.,*
in response to message #13 by Thomas Radtke

Fortunately, the one that I bought doesn't have any keyboard issues. Still, even if it does develop them down the road, it will serve its main purpose of saving wear and tear on my original HP 15C, which works perfectly although it's a bit scuffed up from heavy use from when I was still working. I have a second unit arriving today, which I will store away as backup in case this one fails. Hopefully, additional units at normal prices will reappear for those of you that have had problems.

Edited: 16 Sept 2011, 12:21 p.m.

Re: Such a beautiful sight

*Message #15 Posted by **Lincoln R.** on 16 Sept 2011, 1:24 p.m.,*
in response to message #13 by Thomas Radtke

To me, 35s keyboards felt noticeably bad. I can push a 35s key hard and get a lot of flex. Not true with the 15c LE. See also: The hardware (keyboard included) of the 15c LE has been used in 12cs since 2009 and at least I haven't read too many reports of keyboard failures on those. The fact is, keyboard construction materials aren't that expensive, so it *is* possible to produce a quality keyboard at a reasonable manufacturing cost.

Re: Such a beautiful sight

*Message #16 Posted by **Thomas Radtke** on 17 Sept 2011, 3:48 a.m.,*
in response to message #15 by Lincoln R.

> Quote:
>
> The hardware (keyboard included) of the 15c LE has been used in 12cs since 2009 and at least I haven't read too many reports of keyboard failures on those.

Ok, but there are quite some reports about 15C LE failures. I don't know the exact bad/good ratio, but it seems larger than 1% (from observations about delivery reports). They may have changed something for the LE/AE calculators.

Re: Such a beautiful sight

*Message #17 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:34 p.m.,*
in response to message #1 by Eric Rechlin

Yes it is! I have two 15C LEs myself.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #1 Posted by **Dave Britten** on 15 Sept 2011, 8:57 p.m.*

My 15c LE arrived today. (Whee!) Part of putting it through the initial paces has involved converting my typical binomial probability distribution program. It's nothing fancy - it just takes a few input parameters, and returns a probability:

t: Number of trials
z: Probability of individual success
y: Min number of successes desired
x: Max number of successes desired

If I run it with inputs 3, 1/3, 1, 3, I get the correct result, but the display flashes like there was an overflow somewhere. If I step through the program, using the same inputs, this doesn't happen, and I still get the same correct result..

I'm not quick to shout "BUG!" so what dumb thing am I likely doing wrong?

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #2 Posted by **Jeff O.** on 15 Sept 2011, 9:09 p.m.,*
in response to message #1 by Dave Britten

Could we see your program listing?

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #3 Posted by **Dave Britten** on 15 Sept 2011, 9:22 p.m.,*
in response to message #2 by Jeff O.

Here's a hasty transcription. The program still needs some optimization, obviously.

```
LBL B
STO 4
RDown
STO 3
STO 0
RDown
STO 2
RDown
STO 1
CLx
ENTER
ENTER
ENTER
LBL 7
RDown
RDown
RCL 1
RCL 0
Cy,x
RCL 2
RCL 0
y^x
```

```
*
1
RCL- 2
RCL 1
RCL- 0
y^x
*
+
1
RCL+ 0
STO 0
RCL 4
x>=y
GTO 7
CLx
RDown
CLx
RDown
RTN
```

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #4 Posted by **From Hong Kong** on 15 Sept 2011, 11:42 p.m.,*
in response to message #3 by Dave Britten

Is 0.7037 the correct result?

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #5 Posted by **Dave Britten** on 16 Sept 2011, 6:55 a.m.,*
in response to message #4 by From Hong Kong

Yes, I'm pretty sure that's correct. I get that result whether I run the program, or step through it, but the display only flashes if you run it normally.

And this is even weirder. If you run it with these inputs, the display doesn't flash: 3, 1/3, 0, 3

Try as I might, I can't find any overflow happening in the program.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #6 Posted by **From Hong Kong** on 16 Sept 2011, 7:40 a.m.,*
in response to message #5 by Dave Britten

I used my classic HP-15C to run your program. No flashing display!

This may be another known bug.

Anyway, I got 1 from your input.

Edited: 16 Sept 2011, 7:46 a.m.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #7 Posted by **Dave Britten** on 16 Sept 2011, 8:26 a.m.,*
in response to message #6 by From Hong Kong

Just to clarify my tests a bit...

3, 1/3, 1, 3: Result: .703, flashing display
3, 1/3, 0, 3: Result: 1, no flashing display

The flashing display "error" will only happen if I run the program with "f B" (or just "B" in USER mode), or "GSB B". If I run it by pressing "GTO B R/S", the display does NOT flash after executing. Nor does the display flash if I step through the entire program with SST.

So, am I screwing something up, or is it a calculator bug? I tried this with the included 15c emulator for Windows, and the results appear the same.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #8 Posted by **Jeff O.** on 16 Sept 2011, 8:27 a.m.,*
in response to message #5 by Dave Britten

I also confirm the behavior, and also do not get it on my 15C Classic. I note that if I set the program pointer to Label B with GTO B, then press R/S, the flashing display does not occur (with the 3, 1/3, 1, 3 inputs). I do not believe there is any overflow in your program. For a true overflow, say tan(90), you get a 9.999999 e99 flashing display. Pressing the back-arrow key stops the flashing but does not clear the display. With your program, pressing the back-arrow key stops the flashing and clears the display. Perhaps this is related to the flashing display behavior reported by Katie a day or two ago, i.e., if that problem is found and fixed maybe this one will also go away.

Edited: 16 Sept 2011, 8:27 a.m.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #9 Posted by **Dave Britten** on 16 Sept 2011, 8:38 a.m.,*
in response to message #8 by Jeff O.

Here's a much simpler test case that exhibits the same behavior.

```
LBL A
STO 0
LBL 9
8
ENTER
3
Cy,x
DSE 0
GTO 9
RTN
```

If you put 3 on the stack and run it with "f A" or "GSB A", the screen will flash. Other integer inputs don't seem to cause this. Something about running Cy,x or Py,x exactly 3 times in a loop that's started with GSB seems to cause it.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #10 Posted by **Katie Wasserman** on 16 Sept 2011, 10:53 a.m.,*
in response to message #9 by Dave Britten

This is definitely a new bug you've found.

I think we need to start a bug report list for the 15C LE and put it somewhere that's accessible. Are these all of them so far:

1) PSE run more than once in a program blanks display and run even once causes display flashing issues.

2) When Cx,y/Px,y are run in a program multiple times with certain values (e.g., 8 ,3) it

causes display flashing issues.

3) Executing the self tests documented in the manual can corrupt program memory.

-Katie

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #11 Posted by **Bart (UK)** on 16 Sept 2011, 11:06 a.m.,*
in response to message #10 by Katie Wasserman

Also the current draw you found:

4) High current draw during key press/hold

-B

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #12 Posted by **Katie Wasserman** on 16 Sept 2011, 11:14 a.m.,*
in response to message #11 by Bart (UK)

Thanks.

I'll put this in an article and edit it as needed.

-Katie

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #13 Posted by **Dave Britten** on 16 Sept 2011, 11:06 a.m.,*
in response to message #10 by Katie Wasserman

Fortunately, the known bugs mostly seem to be minor cosmetic issues so far, with the exception of the self-test hosing memory (and with only a few hundred bytes of RAM, even the impact of that one is limited).

The PSE bug is annoying, but I personally don't use that instruction much when programming. I prefer to have a flag switch the program between "run as fast as possible until completion", and "stop and show intermediate results until R/S is pressed to continue".

So, how can I get a cable to flash the firmware when an update is inevitably released? :)

(Just found another one: Do 90!, ENTER. The display will keep flashing even if you start entering other numbers.)

Edited: 16 Sept 2011, 11:07 a.m.

Re: 15c(LE): Will the display flash for reasons besides overflow,

SF9?

*Message #14 Posted by **Katie Wasserman** on 16 Sept 2011, 11:12 a.m.,*
in response to message #13 by Dave Britten

> Quote:
>
> (Just found another one: Do 90!, ENTER. The display will keep flashing even if you start entering other numbers.)

This is normal.

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #15 Posted by **Dave Britten** on 16 Sept 2011, 11:20 a.m.,*
in response to message #14 by Katie Wasserman

Okay. Then not a bug - just odd. :)

Katie movement

*Message #16 Posted by **Artur-Brazil** on 16 Sept 2011, 11:27 a.m.,*
in response to message #14 by Katie Wasserman

I believe Katie is right!

HP should be advised about the bugs on HP 15C AE.

I ordered one from Samson Cables, but, sincerely, I almost removed my order yesterday, when I saw the bug concerning Cx,y and factorial functions and even the printing of these functions on calculator's face plate. I only did not remove my order because my name was also in that list of buyers for Bring HP15C Back movement.

I live in Brazil and if I have to send the calculator back to HP, it will be very expensive and a dangerous operation.

After all, I believe that a calculator on which you can't trust the results doesn't worth one little penny - I apologize the effort spent on it, but it is useless. Very hard and heavy words, sorry...

I was very inclined to buy one 30B and rewrite it with WP34S and wait or help (as I can) on developing matrices routines for it.

Edited: 16 Sept 2011, 11:47 a.m.

Re: Katie movement

*Message #17 Posted by **Dave Britten** on 16 Sept 2011, 1:27 p.m.,*
in response to message #16 by Artur-Brazil

> Quote:
>
> HP should be advised about the bugs on HP 15C AE.

Yes, then we can get a firmware update.

> Quote:
>
> After all, I believe that a calculator on which you can't trust the results doesn't worth one little penny - I apologize the effort spent on it, but it is useless. Very hard and heavy words, sorry...

Not by a long shot. The known bugs so far are largely just goofy cosmetic issues. So far I don't believe anybody has found a way to make the 15c LE produce wrong results. Cy,x and Py,x appear to work perfectly fine - it's just that for some reason, calling them three times within a loop can make the display flash as though there had been an overflow error (even though the results are still correct).

The memory loss from running the self test should be addressed, but it's not nearly as bad as it sounds. For one, you only stand to lose a few hundred bytes of memory, and secondly, what are the chances of running the self test *accidentally*? Compare this to the freeze/memory loss problem in the 35s, which could rear its head as the result of a poorly coded loop. And in that case, you stand to lose up to 32 KB of programs and data. Not fun! (I speak from experience there.)

Re: Katie movement

*Message #18 Posted by **Artur-Brazil** on 16 Sept 2011, 4:02 p.m.,*
in response to message #17 by Dave Britten

Thanks, Dave! I really hope not be disappointed with this so long time waited reborn ... Artur

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #19 Posted by **Kiyoshi Akima** on 16 Sept 2011, 2:11 p.m.,*
in response to message #9 by Dave Britten

Just to complicate the issue, I don't get a flashing display no matter how I run this program on my HHC2010 15C+.

I'm glad I hadn't gotten around yet to reflashing my 15C+ with the ROM image Gene sent me. (Thanx, Gene. I'm still holding on to that file.)

Re: 15c(LE): Will the display flash for reasons besides overflow, SF9?

*Message #20 Posted by **Katie Wasserman** on 16 Sept 2011, 2:44 p.m.,*
in response to message #19 by Kiyoshi Akima

> Quote:
>
> Just to complicate the issue, I don't get a flashing display no matter how I run this program on my HHC2010 15C+.

I'm not surprised and there may be other beta-test versions around as well. That's why I put the firmware date at the top of bug list article, it's very important to cite the firmware version when claiming a bug. (I just hope that there is never more than one version released per day.)

-Katie

Edited: 16 Sept 2011, 2:45 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Updated my Calculator Collection Website

*Message #1 Posted by **Gerardo Rincon** on 15 Sept 2011, 8:27 p.m.*

Updated my calculator collection website after receiving my HP-12C 30th Edition and three HP-15C LE.

http://www.rinconcentral.com/

I hope you all like it.

Gerardo Rincon

Re: Updated my Calculator Collection Website

*Message #2 Posted by **hpnut** on 15 Sept 2011, 9:27 p.m.,*
in response to message #1 by Gerardo Rincon

Hi Gerardo,

I don't see any printed manual. Is that a thin quick start guide?

Re: Updated my Calculator Collection Website

*Message #3 Posted by **Lincoln R.** on 15 Sept 2011, 10:19 p.m.,*
in response to message #2 by hpnut

There is a printed manual with the 15c. It's a real full manual. It's not spiral bound, but the printing and binding is at least as good as the 48g manual is. I bought 2 15cs, each box contained the following:

1 HP 15c Limited Edition calculator
1 Vinyl slip case that looks quite similar but not exactly like the original Voyager cases
1 CD containing a PDF manual and the emulator software, with a printed license key sticker stuck to the disc
1 folded piece of paper with warranty info for random countries that require printed warranties (not the USA).
1 genuine paper HP 15c owner's handbook containing 283 pages of actual content plus some assorted FCC and RoHS info.

Edited: 15 Sept 2011, 10:21 p.m.

Re: Updated my Calculator Collection Website

*Message #4 Posted by **hpnut** on 15 Sept 2011, 10:33 p.m.,*
in response to message #3 by Lincoln R.

thanks. is the printed manual in color?

Re: Updated my Calculator Collection Website

*Message #5 Posted by **Gerardo Rincon** on 15 Sept 2011, 10:41 p.m.,*
in response to message #4 by hpnut

The manual is in Black & White. Print quality could be better, but it's a nice full manual. It has some updated pages which refer specifically to the HP 15C LE. I wish the advanced functions handbook would be re-issued.

Re: Updated my Calculator Collection Website

*Message #6 Posted by **Lincoln R.** on 15 Sept 2011, 11:50 p.m.,*
in response to message #5 by Gerardo Rincon

As others have said, there's a scan of the original on the emulator CD. Also, I believe Tim Wessman said there'd be an updated AFH released online at some point.

Re: Updated my Calculator Collection Website

*Message #7 Posted by **Dan W** on 15 Sept 2011, 10:33 p.m.,*
in response to message #3 by Lincoln R.

> Quote:
>
> There is a printed manual with the 15c. It's a real full manual. It's not spiral bound, but the printing and binding is at least as good as the 48g manual is. I bought 2 15cs, each box contained the following:
>
> 1 HP 15c Limited Edition calculator
> 1 Vinyl slip case that looks quite similar but not exactly like the original Voyager cases
> 1 CD containing a PDF manual and the emulator software, with a printed license key sticker stuck to the disc
> 1 folded piece of paper with warranty info for random countries that require printed warranties (not the USA).
> 1 genuine paper HP 15c owner's handbook containing 283 pages of actual content plus some assorted FCC and RoHS info.

The emulator install also provides the "HP_15c_Advanced_Functions_Handbook.pdf" file. It is a scan of the original.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sampson Cable HP-15C Arrived Today

*Message #1 Posted by **Dan W** on 15 Sept 2011, 7:47 p.m.*

My wife called me at work and said some package had arrived, saying something about a calculator.

So I say, yea, it's a new calculator.

"Do you really need a new calculator?" she says.

"Um, well, actually, no, not really. But it's a really great calculator..."

At any rate, the one I pre-ordered from SC arrived. I have to say, the box really is quite nice. The manual is nice, but not color.

And the calculator looks very good. No rattling. ;) #02631 The orange/blue keys even look better than I expected.

Thanks HP.

When can I get a HP-42S LE?

Re: Sampson Cable HP-15C Arrived Today

*Message #2 Posted by **hpnut** on 15 Sept 2011, 7:57 p.m.,*
in response to message #1 by Dan W

ummm, I was wondering if it is the same situation with Katie:

KW: yea, it's a new calculator.

Spouse: "Do you really need a new calculator?"

KW: "Um, well, actually, no, not really. But it's a really great calculator..."

LOL!

hpnut in Malaysia

Re: Sampson Cable HP-15C Arrived Today

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Sept 2011, 4:17 a.m.,*
in response to message #2 by hpnut

My wife will just say, "Marcus, you need a new shelf!".

Re: Sampson Cable HP-15C Arrived Today

*Message #4 Posted by **Mike Maiorana** on 16 Sept 2011, 6:52 a.m.,*
in response to message #1 by Dan W

I've been talking about this for the last month since I pre-ordered from SC. When it arrived yesterday (number 2627) I showed it off to my 17 year old daughter. She said "Is this like some old-person calculator? It's lame". I told her that she just didn't understand :)

I want to say thank you to HP and to those that made this happen. It is beautiful, solid and feels like an HP. I was tempted to put it back in the box and never touch it. Maybe I should buy another?

Regards, Mike M.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Battery-less 128K ram card for HP 48GX

*Message #1 Posted by **mr-scorpio** on 15 Sept 2011, 7:02 p.m.*

Hi there, I recently purchased a 128K memory card at a reasonable price. After installing it, I've managed to merge it with the 48GX internal ram, so I now have a lovely 256KB.

The intriguing thing about the card is that it DOESN'T use any kind of replacement battery. There is certainly no way to open the card, & no removable opening to insert a battery. It only has a write protect switch. The card is made by: Microcards ?

Does anyone have an idea how this card functions power-wise? Does it draw a tiny amount of juice from the calculator batteries to run it? - Even when the 48GX is OFF? Does it contain a rechargeable 'battery' of some kind? OR does it have some sort of persistent memory, that once written to remains resident until it is written to again, even if the card is removed? - OR if i were to remove the card, would anything stored on it would be lost?

It seems to be a professionally made card with a metal chassis.

Look forward to your insights.

Edited: 15 Sept 2011, 7:04 p.m.

Re: Battery-less 128K ram card for HP 48GX

*Message #2 Posted by **Dave Britten** on 15 Sept 2011, 9:26 p.m.,*
in response to message #1 by mr-scorpio

I think most of them have some kind of rechargeable battery inside the casing that trickle charges using power from the 48 while it's turned on. The 48 only supplies power to cards while it's turned on, so if you can power it off without losing data, the card battery at least isn't totally shot.

Re: Battery-less 128K ram card for HP 48GX

*Message #3 Posted by **Howard Owen** on 15 Sept 2011, 9:29 p.m.,*
in response to message #1 by mr-scorpio

The battery "door"is often hard to see on those things. If you press along the top edge of the card, you should find a inset drawer that contains the backup battery.

Re: Battery-less 128K ram card for HP 48GX

*Message #4 Posted by **Martin Pinckney** on 15 Sept 2011, 9:33 p.m.,*
in response to message #3 by Howard Owen

Well, if there truly is no battery, then probably the card can only be used to augment system RAM while it is plugged in.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reminders: If you're coming to HHC 2011...

*Message #1 Posted by **gene wright** on 15 Sept 2011, 3:24 p.m.*

1) You need to be registered. You will have to sign in at HP security and we need a list in advance. Those who show up at the last minute without registering will simply cause a delay for yourself. We WANT you to come :-) but we need you to register.

2) Registration affects the food budget. Please register if you are going to attend and do so before 9/21/2011 (next Wednesday).

3) You will probably need to sign a Non-disclosure agreement.

4) DOOR PRIZES. There is a long history and tradition of attendees bringing some exciting item (or items!) to go on the door prize table. At the end of the day Sunday, we start drawing for the door prize giveaway. Most years, people get 2, 3, or more items. One year, an attendee got an HP 70 (yes, the red LED HP 70) as a door prize! But, this means if you are attending, we ask that you dig through your closet, drawers and find interesting items for the door prize table. I usually bring 4-5 items at least. :-)

5) This year, we will be more time crunched than usual. We are thinking of enforcing stricter time limits on presentations. If you are given 30 minutes to present, we will limit you to 30 minutes. Really.

6) Please be patient with the committee members. Something may not go as we planned but we all try to arrange things to be informative, interesting and fun!

So, if you are anywhere near San Diego or can come, see item one above and join us!

Re: Reminders: If you're coming to HHC 2011...

*Message #2 Posted by **Jim Horn** on 15 Sept 2011, 3:37 p.m.,*
in response to message #1 by gene wright

Is there a proper way to look for or offer ride sharing to and from this event?

Re: Reminders: If you're coming to HHC 2011...

*Message #3 Posted by **Egan Ford** on 15 Sept 2011, 9:25 p.m.,*
in response to message #2 by Jim Horn

> Quote:
>
> Is there a proper way to look for or offer ride sharing to and from this event?

There is a shuttle from the hotel to the event.

If you need to get from the airport to the hotel there is info on the HHC site. Or you can just start walking, but hold up a calc with a big ENTER key instead of your thumb and I am sure one of us will pick you up.

:-)

Re: Reminders: If you're coming to HHC 2011...

*Message #4 Posted by **Jim Horn** on 16 Sept 2011, 1:15 a.m.,*
in response to message #3 by Egan Ford

Hi, Egan! I don't have a big ENTER^ key but I do have other things for you that are *long* past due delivery! I hope to make it there so you can get them in person.

Will have to dig through storage to find other old HP stuff to bring as door prizes or trivia for other certified nerds like me.

Re: Reminders: If you're coming to HHC 2011...

*Message #5 Posted by **Egan Ford** on 16 Sept 2011, 11:14 a.m.,*
in response to message #4 by Jim Horn

I'll be there.

Re: Reminders: If you're coming to HHC 2011...

*Message #6 Posted by **Brian Walsh** on 15 Sept 2011, 10:35 p.m.,*
in response to message #2 by Jim Horn

> Quote:
>
> Is there a proper way to look for or offer ride sharing to and from this event?

Hi Jim! In all likelihood I will be renting a car. My flight arrives at 8:53am on Friday, and my flight home takes off at 12:30pm on Monday. So if either or both of your flights are within say an hour or so of those times, I'll be happy to give you a lift. I should have room for one or two more, first come first served.

Re: Reminders: If you're coming to HHC 2011...

*Message #7 Posted by **Jim Horn** on 16 Sept 2011, 1:12 a.m.,*
in response to message #2 by Jim Horn

Sorry to have to clarify: Is there a way to arrange ride sharing from *far away*? For instance, I may be driving from Portland, Oregon by way of US Interstate 5 with side trips possible to the San Francisco Bay area. My van has eight seats. Or, conversely, I may like to ride with someone else from up here (or Seattle, Washington, Boise, Idaho (Hi, Vern!), etc.). (By the way, just 'cause I love RPN doesn't mean I can't use parentheses (see!)).

There must be others who could benefit by combining their trips as well...

Re: Reminders: If you're coming to HHC 2011...

*Message #8 Posted by **Namir** on 15 Sept 2011, 4:16 p.m.,*
in response to message #1 by gene wright

It was Richard Nelson who won the HP-70 calculator a few years ago. My own personal guess is that Richard never had an HP-70. I had the chance to win that machine **OR** get a voucher from Eric for his single unit that is switchable replica of various vintage machines. Richard chose the good prize. I chose the voucher and **have yet to see my prize after all these years**!!!

:-)

Namir

Edited: 15 Sept 2011, 11:16 p.m. after one or more responses were posted

Re: Reminders: If you're coming to HHC 2011...

*Message #9 Posted by **Eric Smith** on 15 Sept 2011, 4:58 p.m.,*
in response to message #8 by Namir

I think you're going to want to claim that voucher this year! And you'll probably be happy to have waited!

Edited: 15 Sept 2011, 4:59 p.m.

Re: Reminders: If you're coming to HHC 2011...

*Message #10 Posted by **Namir** on 15 Sept 2011, 5:42 p.m.,*
in response to message #9 by Eric Smith

Yessssssssssssssss!! Thank you Thank you Thank you!!!

:-)

Re: Reminders: If you're coming to HHC 2011...

*Message #11 Posted by **Namir** on 15 Sept 2011, 7:05 p.m.,*
in response to message #9 by Eric Smith

I found the voucher and am packing it in my backpack.

Re: Reminders: If you're coming to HHC 2011...

*Message #12 Posted by **David Ramsey** on 15 Sept 2011, 6:30 p.m.,*
in response to message #8 by Namir

I was glad to donate the HP-70. That thing is too ugly to exist...

Re: Reminders: If you're coming to HHC 2011...

*Message #13 Posted by **Namir** on 15 Sept 2011, 7:39 p.m.,*
in response to message #12 by David Ramsey

That was very generous of you given the fact that auctions on TAS sell them between $300 to $700. I suspect the price nowadays i son the low side.

Re: Reminders: If you're coming to HHC 2011...

*Message #14 Posted by **David Ramsey** on 16 Sept 2011, 12:24 p.m.,*
in response to message #13 by Namir

This year I am contributing an unopened Windows 1.0 in a somewhat tatty box, as well as some other stuff, computer cases and the like.

Hopefully we can find some falafels for lunch as we did in 2006. I like Reno, but ethnic food's

kinda thin on the ground here.

Lunch and dinner at HHC...

*Message #15 Posted by **gene wright** on 16 Sept 2011, 3:16 p.m.,*
in response to message #14 by David Ramsey

will be at the site. No travel. Might be cheap stuff, but we really cannot afford the time to leave and come back. Plus, the logistics of getting 80+ people out and back in a short amount of time is awful.

We are going to have such a full schedule, I may not give a talk at all.

(Hey, quiet down the applause and cheers there...)

:-)

And there will be a conference donation for HHC ... asked for when you sign in Saturday morning ...

*Message #16 Posted by **gene wright** on 16 Sept 2011, 5:11 p.m.,*
in response to message #15 by gene wright

Greater than $0 but less than $50 for sure.

Please come prepared. :-)

Re: Reminders: If you're coming to HHC 2011...

*Message #17 Posted by **Jake Schwartz** on 15 Sept 2011, 4:26 p.m.,*
in response to message #1 by gene wright

Hi,

I would suggest everyone bring their 15Cs in all their "incarnations" so we can hold them up in the group photo...

And DEFINITELY bring 20bs and 30bs for flashing into the 34S units, or perhaps existing 34S units to get re-flashed with the most updated firmware.

Jake

Re: Reminders: If you're coming to HHC 2011...

*Message #18 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 4:50 p.m.,*
in response to message #17 by Jake Schwartz

I just made sure that I'm able to compile the 34S software on my MacBook which I will bring to the conference. So we may even create new versions there. I don't have an FTDI equipped single port USB/RS232 adapter, so one of you should bring one. I'll bring my special FTDI cable (USB to 2.5mm stereo) for my modified 30b.

My main development unit is broken: The serial port no longer works and thus SAM-BA won't work any longer :-(. I've just won another 20b for less then 30€ which will be modified to replace the broken one when I'm back.

Re: Reminders: If you're coming to HHC 2011...

*Message #19 Posted by **Namir** on 15 Sept 2011, 7:41 p.m.,*
in response to message #17 by Jake Schwartz

I am bringing two 30b and two 20b. Only one of the 30b models has a version of the wp34s. But I will need to flash them all!!! I also want to see the process up close. I recently got an old laptop with a serial port and Windows XP. I installed SAM-BA 2.10 and used Gene's cable and followed the process. Still no success. I played withe cable took the batteries out and then put them back in ... nothing going! So I will need to get my learning cap on!

Re: Reminders: If you're coming to HHC 2011...

*Message #20 Posted by **Brian Walsh** on 15 Sept 2011, 10:39 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> 5) This year, we will be more time crunched than usual. We are thinking of enforcing stricter time limits on presentations. If you are given 30 minutes to present, we will limit you to 30 minutes. Really.

Somebody be ready to get the hook out for Richard :-)

Re: Reminders: If you're coming to HHC 2011...

*Message #21 Posted by **gene wright** on 16 Sept 2011, 7:35 a.m.,*
in response to message #20 by Brian Walsh

We are thinking of bringing back Eric Vogel's StopLight that will go red when time is up.

The worst violator who goes beyond their time or won't heed the redlight may be given a Texas Instruments calculator.

Re: Reminders: If you're coming to HHC 2011...

*Message #22 Posted by **troy** on 16 Sept 2011, 12:04 p.m.,*
in response to message #21 by gene wright

don't you think that's punishing the poor fellow too much?

i wish i could attend this and meet all you people, but alas, too poor and too little time.

Re: Reminders: If you're coming to HHC 2011...

*Message #23 Posted by **Jake Schwartz** on 16 Sept 2011, 3:28 p.m.,*
in response to message #21 by gene wright

> Quote:
>
> The worst violator who goes beyond their time or won't heed the redlight may be given a Texas Instruments calculator.

I'll blab all day so I can be first in line for a TI-88 :-) :-)

Jake

Re: Reminders: If you're coming to HHC 2011...

*Message #24 Posted by **Jeroen Van Nieuwenhove** on 16 Sept 2011, 7:09 p.m.,*
in response to message #21 by gene wright

> Quote:
>
> Eric Vogel's StopLight that will go red when time is up.

I want RED LED's !!!!!!!! THEY ARE MORE BEAUTIFUL THAN A ROW OF COLLEGE FOOTBALL CHEERLEADERS. ;-)

Re: Reminders: If you're coming to HHC 2011...

*Message #25 Posted by **Marcus von Cube, Germany** on 16 Sept 2011, 6:35 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> 5) This year, we will be more time crunched than usual. We are thinking of enforcing stricter time limits on presentations. If you are given 30 minutes to present, we will limit you to 30 minutes. Really.

I can shorten my presentation from four hours to three if that helps. ;-)

Re: Reminders: If you're coming to HHC 2011...

*Message #26 Posted by **Paul Dale** on 16 Sept 2011, 7:47 p.m.,*
in response to message #25 by Marcus von Cube, Germany

Don't you dare. If you shorten it you'll leave something vital out :-)

- Pauli

Re: Reminders: If you're coming to HHC 2011...

*Message #27 Posted by **Walter B** on 17 Sept 2011, 3:18 a.m.,*
in response to message #25 by Marcus von Cube, Germany

Remember video starts becoming reasonable at 18 pictures per second ;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cost Central shipping HP15C LE?

*Message #1 Posted by **M. Joury** on 15 Sept 2011, 12:33 p.m.*

Hi,

When the info that buy.com had sold out showed up I called Cost Central to see what they had to say. I was one of those that had an order with them originally until buy.com beat them to it. I was told that they had them in stock (they are not showing up on their web page yet).

So those of you that have an order in with them may be getting your units soon.

Cheers,

-Marwan

Edited: 15 Sept 2011, 12:34 p.m.

Re: Cost Central shipping HP15C LE?

*Message #2 Posted by **Howard Owen** on 15 Sept 2011, 12:41 p.m.,*
in response to message #1 by M. Joury

Did you ask how many units they have?

Re: Cost Central shipping HP15C LE?

*Message #3 Posted by **M. Joury** on 15 Sept 2011, 12:55 p.m.,*
in response to message #2 by Howard Owen

Oops. No I did not. Sorry. I will say that they did not seem very sure of any of the answers they gave me so I would not hold my breath just yet.

Cheers,

-Marwan

Re: Cost Central shipping HP15C LE?

*Message #4 Posted by **Michael de Estrada** on 15 Sept 2011, 2:56 p.m.,*
in response to message #3 by M. Joury

I checked my account, and apparently a unit has shipped to me via FEDEX, and it is due to arrive tomorrow. The interesting thing is that it has shipped from the same Olive Branch, Miss. location as the one I received from Buy.com. So this begs the question as to whether this is actually a true distribution center for HP products and CostCentral and Buy.com are simply soft sellers with no actual warehouses of their own. Essentially, the calcs are being drop shipped from the common warehouse. I sure hope this one is properly shipped in an outer box and not simply a padded bag.

Re: Cost Central shipping HP15C LE?

*Message #5 Posted by **Eric Smith** on 15 Sept 2011, 5:02 p.m.,*
in response to message #4 by Michael de Estrada

CostCentral, Buy.com, and MANY other online merchants use drop shipping from the same wholesale distribution centers. I often find that if I search for computer products, a bunch of these online merchants claim to have exactly the same number of the items in stock, because they're querying the wholesaler's database.

Re: Cost Central shipping HP15C LE?

*Message #6 Posted by **M. Joury** on 15 Sept 2011, 5:06 p.m.,*
in response to message #5 by Eric Smith

Ok, makes sense, but that begs the question: Why does buy.com no longer have any units available and Cost Central has just started shipping?

If the above were the case, and it does make sense to me, why are both not taking orders? Did cost central reserve a number of units based on orders or request a certain inventory that is held in reserve for it? And if the same warehouse is shipping for both retailers why didn't cost central start shipping a week ago? Just wondering.

Cheers,

-Marwan

Re: Cost Central shipping HP15C LE?

*Message #7 Posted by **Eric Smith** on 15 Sept 2011, 5:50 p.m.,*
in response to message #6 by M. Joury

Possibly Cost Central has a business relationship with another wholesale distribution center that Buy.com does not.

Re: Cost Central shipping HP15C LE?

*Message #8 Posted by **Lincoln R.** on 15 Sept 2011, 5:46 p.m.,*
in response to message #5 by Eric Smith

SYNNEX Corporation is apparently the actual owner of that warehouse. They list HP as one of their suppliers, which is probably how Buy.com got 15cs so fast.

Re: Cost Central shipping HP15C LE?

*Message #9 Posted by **Namir** on 15 Sept 2011, 8:21 p.m.,*
in response to message #1 by M. Joury

I just got an email from CostCentral. It says that they have shipped my order. SO that is good news. the email offers a tracking number.

When I track the order on Fedex's web site it says that the package was dropped off at OLIVE BRANCH, MS ... same place where the orders of BUY.COM were dropped off. Very interesting!

Namir

Edited: 15 Sept 2011, 8:23 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE: Will 10K units get sold quickly?

*Message #1 Posted by **Howard Owen** on 15 Sept 2011, 11:41 a.m.*

I think that there are people who are passionate about calculators at HP and that we can thank them for the impetus to deliver the 15C LE into our eager though ungrateful hands. On the other hand, I don't believe HP as a corporation would have built the machine without a solid expectation of profit. I believe they have done market research that told them an initial run of 10K units would probably sell out. If they did that, It appears to me they were correct. Buy.com has sold northward of 2K units, and has reportedly jacked the price up to $199.95. I'm betting they are looking at the end of their allocation. How many did they get? I'm guessing it's around 3K. Other dealers in the US received units too, and we haven't accounted for EMEA or Asia. Surely there are units earmarked for those regions as well.

The great question in my mind is whether this apparently brisk sales volume is due mainly to enthusiasts like us, or if ordinary calculator users are snapping it up, perhaps due to the cachet and reputation earned by HP in the 1980s, but kept alive by enthusiasts over the years. If a more general customer base remains interested in the 15C, then we could see it reenter normal production. This would be great news for us, since engineering costs for things like bug fixes could be spread out over a wider base.

I also think that enthusiasts like us are a great guerrilla marketing resource for HP. In my wish fulfilling imagination, I see the 15C LE as a scheme to fire us up in preparation for the launch a new high end calculator. *sigh*

Re: 15C LE: Will 10K units get sold quickly?

*Message #2 Posted by **Dave Britten** on 15 Sept 2011, 12:01 p.m.,*
in response to message #1 by Howard Owen

Do you think we can nag them enough to do a 200LX LE? Does MS still license DOS 5.0? :)

Re: 15C LE: Will 10K units get sold quickly?

*Message #3 Posted by **M. Joury** on 15 Sept 2011, 12:05 p.m.,*
in response to message #2 by Dave Britten

Their are options for a DOS replacement.

Re: 15C LE: Will 10K units get sold quickly?

*Message #4 Posted by **Howard Owen** on 15 Sept 2011, 12:24 p.m.,*
in response to message #2 by Dave Britten

They'll probably do it if you ask, but it'll run WebOS. :)

Re: 15C LE: Will 10K units get sold quickly?

*Message #5 Posted by **MikeT.** on 15 Sept 2011, 5:39 p.m.,*
in response to message #4 by Howard Owen

And it will just over a quarter of an inch thick with a 10" screen and made of unobtainium...

Edited: 15 Sept 2011, 5:40 p.m.

Re: 15C LE: Will 10K units get sold quickly?

*Message #6 Posted by **M. Joury** on 15 Sept 2011, 12:04 p.m.,*
in response to message #1 by Howard Owen

A question and a statement:

1. Where did you get your numbers from for units that buy.com had? When I asked them early the very first morning their listing went up they told me they had 1,000 in stock.

2. Buy.com is apparently sold out. They did not boost their price. It is another seller, Sampson Innovations selling through their store that is selling the 15C LE for 199.99.

Cheers,

-Marwan

Re: 15C LE: Will 10K units get sold quickly?

*Message #7 Posted by **Howard Owen** on 15 Sept 2011, 12:23 p.m.,*
in response to message #6 by M. Joury

> Quote:
>
> 1. Where did you get your numbers from for units that buy.com had? When I asked them early the very first morning their listing went up they told me they had 1,000 in stock.

I noticed that my first unit from buy.com had a LE number of 336, and that later units sold by them were in the 2200's. While it's true they could have received two or more lots with discontinuous numbers, there's at least a chance that the difference in numbers could represent actual units sold.

> Quote:
>
> 2. Buy.com is apparently sold out. They did not boost their price. It is another seller, Sampson Innovations selling through their store that is selling the 15C LE for 199.99.

I didn't know that. I guess it remains to be seen if the new street price will hold up.

If they started with 1000 units, as you were told, it would still represent 10% of the total production run. Selling that many units quickly is remarkable enough.

Re: 15C LE: Will 10K units get sold quickly?

*Message #8 Posted by **M. Joury** on 15 Sept 2011, 12:27 p.m.,*
in response to message #7 by Howard Owen

> Quote:
>
> If they started with 1000 units, as you were told, it would still represent 10% of the total production run. Selling that many units quickly is remarkable enough.

No argument there.

If they really did sell 1,000 units in under a week and Sampson Cables has already sold out their first shipment wouldn't this be a reason for HP to consider turning this into a regular item in their lineup?

I can't quite decide if the very quick sellout is good news or bad--are we just going to see a new round of price gouging or is HP going to come through for us and make it a standard item?

Cheers,

-Marwan

Re: 15C LE: Will 10K units get sold quickly?

*Message #9 Posted by **Neil Gruending** on 15 Sept 2011, 12:46 p.m.,*
in response to message #8 by M. Joury

Th 15C has a lot of competition from current models. I personally would not choose it based on features/dollar. Instead I want one because I think it's neat, but once everyone like me has one I can't see many more selling.

Re: 15C LE: Will 10K units get sold quickly?

*Message #10 Posted by **M. Joury** on 15 Sept 2011, 12:54 p.m.,*
in response to message #9 by Neil Gruending

I really don't see that the 15C has any current competition. The 35S is not terribly well regarded, most people here don't particularly like the 33S, and all other options are large graphing calculators.

That is not to say that the 15C is the best calculator HP has ever built. I would have to choose the 41 (for it's I/O) or the 42 (power and convenience) for that distinction. But the 15C has no current competition.

What would you buy instead?

Cheers,

-Marwan

Re: 15C LE: Will 10K units get sold quickly?

*Message #11 Posted by **Thomas Radtke** on 15 Sept 2011, 2:05 p.m.,*
in response to message #10 by M. Joury

The 35s could have been something great, and the first reactions were very positive. I still think that the 3*S (\30S) series is easy to use but powerful, and the concept of the 35s brought it to a new level. But the bugs and the problematic keyboard killed it for professional use. Very sad story since it seems to sell well.

To me, the 15C appears to have all the features I need and more, while having a good form factor. A 42S would be overkill for me, in terms of power and cost. I bet I'm not alone with this opinion.

Re: 15C LE: Will 10K units get sold quickly?

*Message #12 Posted by **Howard Owen** on 15 Sept 2011, 1:29 p.m.,*
in response to message #9 by Neil Gruending

> Quote:
>
> I personally would not choose it based on features/dollar.

Reading this forum, you can tell that opinions vary on this. I lean toward your view, but then I wonder if the advantages the modern RPN machines have over the 15C are maybe not a concern for the largest number of potential customers. A two line display and alphanumerics might be not much help to some users. With regard to programming, I recall some discussion here about how many 12C users actually program their machines. I think the consensus was that probably few users did that. The 30B comes with an overlay for programming functions precisely because most users don't want those functions. Those are business calculators, and the technical market probably has a larger percentage of users who could program their calculators. But maybe those folks save their programming for their computers, and instead use their calculators to um.. calculate? All of is preamble to say that the advantages the 35s, say, has in programming may not actually matter to a modern 15C buyer.

This is all speculation though. I honestly don't know what's true one way or the other. However I think the interesting thing is letting the marketplace figure out which opinion matches the buying public's requirements.

Re: 15C LE: Will 10K units get sold quickly?

*Message #13 Posted by **Martin Pinckney** on 15 Sept 2011, 2:01 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> All of is preamble to say that the advantages the 35s, say, has in programming may not actually matter to a modern 15C buyer.

I think you nailed it, there.

Re: 15C LE: Will 10K units get sold quickly?

*Message #14 Posted by **Tom Mathes** on 15 Sept 2011, 11:22 p.m.,*
in response to message #7 by Howard Owen

The $199.95 and $6.67 for shipping at buy.com (actually Samson Cables):

http://www.buy.com/prod/hp-15c-scientific-calculator/223173356.html

And to think I ordered mine last week for $73.99 last week. Free market at work. Must be a lot of demand for the supply.

Re: 15C LE: Will 10K units get sold quickly?

*Message #15 Posted by **Martin Pinckney** on 15 Sept 2011, 12:06 p.m.,*
in response to message #1 by Howard Owen

I think all this talk about "enthusiasts" misses a large point. There are many thousands of engineers, scientists,

even draftsmen, for crying out loud, of a certain age range, who used Voyagers (not to mention other types) in their careers, and who will want a 15c LE, if they find out about it.

Re: 15C LE: Will 10K units get sold quickly?

*Message #16 Posted by **Howard Owen** on 15 Sept 2011, 12:13 p.m.,*
in response to message #15 by Martin Pinckney

Good point. I sort of lumped them together under "ordinary calculator users," but I can see that segment deserves consideration on its own.

edit: On further reflection, for many purposes, an engineer who used Voyagers in school and still wants a 15C could be thought of as an "enthusiast." People like that might or might not read this forum or go to HHC, but they could still be influential in spreading the idea that the 15C was something special.

Edited: 15 Sept 2011, 12:39 p.m.

Re: 15C LE: Will 10K units get sold quickly?

*Message #17 Posted by **Jim Horn** on 15 Sept 2011, 1:01 p.m.,*
in response to message #15 by Martin Pinckney

I agree. When the engineer next to me at work saw my WP-34S he was intrigued but mentioned what he really wanted was the HP calculator he had used years ago. After some head scratching, we realized it was the HP-15C. When the 15CLE came out, he ordered one in minutes and is eagerly awaiting its arrival.

He's never been on any HP group sites. He just wanted a tool that served him very well again. I suspect there are many in that catagory...

Re: 15C LE: Will 10K units get sold quickly?

*Message #18 Posted by **hpnut** on 15 Sept 2011, 1:16 p.m.,*
in response to message #1 by Howard Owen

although made in Asia (China), i don't trust that the 15C LE will ever reach Malaysia. Hence my early decision to buy from Samson. still waiting for the consignment to arrive.

Re: 15C LE: Will 10K units get sold quickly?

*Message #19 Posted by **LMMT** on 15 Sept 2011, 3:14 p.m.,*
in response to message #1 by Howard Owen

Maybe, but just for us, collectors, aficionados and sort of. I have two children (17 and 14) and they want an Ipad, a Blackberry and, if at all they ask me for a pocket calculator, a Casio fx 991 ES will do absolutely well. If I give then an HP 15C they will ask me for the tactile screen. Do you really think that an LCD screen from the 80s can compare to the dot matrix one of the Casio or let alone the retina screen of the Iphone? For me, I would love to own an HP 15C to turn it on for a while and then back to my drawer!. Using it for programming, solving engineering problems and so on is impossible when you compare with other HP calcs like, lets say, the HP 48 GII. That's my point of view. HP will no sell ten of thousands of this machine like the HP 12C.

Re: 15C LE: Will 10K units get sold quickly?

*Message #20 Posted by **Martin Pinckney** on 15 Sept 2011, 3:40 p.m.,*
in response to message #19 by LMMT

I think all this talk about "enthusiasts, collectors, aficionados" misses a large point. There are many thousands of engineers, scientists, even draftsmen, for crying out loud, of a certain age range, who used Voyagers (not to mention other types) in their careers. They probably don't know anything about this forum, or the ups and downs of HP's calculator division in recent years, but they will want a 15c LE, if they find out about it.

Think Baby Boomers (US). They're buying all sorts of stuff these days for nostalgic or similar reasons.

Besides, the 15c is a well-implemented, compact, good-looking, useful calculator.

Re: 15C LE: Will 10K units get sold quickly?

*Message #21 Posted by **Walter B** on 15 Sept 2011, 5:03 p.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> Besides, the 15c is a well-implemented, compact, good-looking, useful calculator

... but featuring an outdated display for a programmable scientific of 2011. Given the costs to get the 15C LE in/to this part of the planet and the bugs reported so far, I'll probably refrain from buying one here. It's a very nice calc, but the antecessor of the 42S only :-/

Just my 20m€ as usual. Ceterum censeo: HP, launch an up-to-date 43S!

Walter

Re: 15C LE: Will 10K units get sold quickly?

*Message #22 Posted by **Martin Pinckney** on 15 Sept 2011, 7:11 p.m.,*
in response to message #21 by Walter B

> Quote:
>
> ... but featuring an outdated display for a programmable scientific of 2011.

Agreed. It is not state of the art, but my point is, that's beside the point. Because even though it is *not* state of the art, it *is* a useful calculator in its own right, and it will have wider appeal than just a few "enthusiasts."

Re: 15C LE: Will 10K units get sold quickly?

*Message #23 Posted by **Walter B** on 16 Sept 2011, 1:31 a.m.,*
in response to message #22 by Martin Pinckney

Agreed. But it could have a much wider appeal ... d:-/

Re: 15C LE: Will 10K units get sold quickly?

*Message #24 Posted by **Lincoln R.** on 15 Sept 2011, 5:07 p.m.,*
in response to message #19 by LMMT

Don't be so quick to judge. I'm 22 and keep an HP 32s in my bag. I don't own an iPhone, I have an iPod touch, and I honestly don't like trying to use the touchscreen for a calculator. Calculators with real buttons

are honestly more efficient for quick back-of-the envelope math (especially if they're tactile buttons like HP instead of mushy Casio or TI ones). Even at work, I found my 32s more convenient for doing a quick decimal to hex conversion than clicking buttons on my computer, which probably has more compute power in the microcontroller for the battery pack than my calculator.

Re: 15C LE: Will 10K units get sold quickly?

*Message #25 Posted by **Patrick Rendulic** on 16 Sept 2011, 4:56 a.m.,*
in response to message #1 by Howard Owen

I informed 2 european friends who don't collect HPs, but who still use a 11C and a 32S because they like RPN and there is no decent replacement.

They ordered 4. I hope they will not get disappointed by the bugs and the bad keys which some of us reported.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: HP 15C LE at buy.com price skyrockets!

*Message #1 Posted by **Jim Johnson** on 15 Sept 2011, 10:37 a.m.*

WOW! The $89.99 that I paid for my two HP-15cLE's from Buy.com now looks pretty good! Hmmmmm, if list one on TAS today and sell it for +$200, then when HP finally opens up their inventory, I can buy two more!

Re: HP 15C LE at buy.com price skyrockets!

*Message #2 Posted by **Jim Johnson** on 15 Sept 2011, 11:57 a.m.,*
in response to message #1 by Jim Johnson

My ethics prevent me from price gouging and the $199.99 price is neither fair or reasonable. I'm hopeful that HP will flood the market with new HP-15cLE's and that everyone can enjoy this wonderful tool at a fair price.

Re: HP 15C LE at buy.com price skyrockets!

*Message #3 Posted by **Masaki Adachi** on 15 Sept 2011, 11:24 p.m.,*
in response to message #2 by Jim Johnson

If I recall correctly, there were two sources listed on that page. One was from Buy.com and another by Samson Enterprise. The listing from Samson was $199 as of last Sunday, when I picked Buy.com listing and placed an order for $89. Now the link to buy.com is gone. It appears they sold out their allocation of the units.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c: Need good programs for Mod, nCr, nPr

*Message #1 Posted by **Dave Britten** on 15 Sept 2011, 11:15 a.m.*

From the look of the tracking info, my 15c LE will be showing up this afternoon. I noticed from staring at photos of a 15c keyboard, that it's lacking Mod, nCr, and nPr functions, which I do use on a fair basis on my 48SX. Are there any good implementations of these functions for a 15c? I'd like something that will produce results without overflowing during an intermediate step if one of the inputs is relatively large (the 48SX will compute COMB(3000, 4) with ease, for example, and that won't fly with a naive implementation). Speed won't be an issue with the LE model, I presume. :)

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #2 Posted by **Martin Pinckney** on 15 Sept 2011, 11:20 a.m.,*
in response to message #1 by Dave Britten

The 15c has them. Cy,x Py,x. "+" key.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #3 Posted by **Dave Britten** on 15 Sept 2011, 11:44 a.m.,*
in response to message #2 by Martin Pinckney

Ah, excellent. Can't believe I missed that.

It appears I'm still in need of a Mod function, however.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #4 Posted by **Don Asmus** on 15 Sept 2011, 1:22 p.m.,*
in response to message #3 by Dave Britten

Here is a small 15C MOD routine that works if both arguments have the same sign.

/ LSTx x<>y FRAC *

It was verified against 48GX results. If the signs of both arguments do not match, it does not return the correct result. If you are like me, and only use arguments of the sign sign, it will be fine. I suspect that a proper algorithm uses the Floor function, or something similar that is also not natively available on the 15C.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #5 Posted by **Gerson W. Barbosa** on 15 Sept 2011, 9:10 p.m.,*
in response to message #4 by Don Asmus

> Quote:

> I suspect that a proper algorithm uses the Floor function, or something similar that is also not natively available on the 15C.

You are right. Some Floor function implementations for the HP-32SII here. They might work on the HP-15C as well.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #6 Posted by **x34** on 15 Sept 2011, 1:23 p.m.,*
in response to message #3 by Dave Britten

HP-15C has INT(IP) and FRAC(FP). So, X MOD Y could be X-Y*IP(X/Y) (depending on modulo function definition).

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #7 Posted by **Dave Britten** on 15 Sept 2011, 1:58 p.m.,*
in response to message #3 by Dave Britten

Just found the Mod routine I made for the 32s/32sii (and had forgotten about). It's got the interesting quality that it preserves stack contents, and only needs one storage register. It's also a little more impervious to precision issues than the implementations that use FRAC *. This ought to work with only minimal conversion effort.

```
M01     LBL M
M02     x<>y
M03     STO T
M04     x<>y
M05     /
M06     LASTx
M07     x<>y
M08     IP
M09     *
M10     RCL- T
M11     +/-
M12     RTN
```

Anybody want to take a stab at making it better?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #8 Posted by **Egan Ford** on 15 Sept 2011, 2:47 p.m.,*
in response to message #7 by Dave Britten

```
LBL 0
-
LSTx
x<=y
GTO 0
Rv
RTN
```

This will just subtract off until it cannot. Slow, but short, no registers, probably very fast on 15LE. y > x.

Edited: 15 Sept 2011, 2:54 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #9 Posted by **Thomas Radtke** on 15 Sept 2011, 3:11 p.m.,*
in response to message #8 by Egan Ford

Very impressive demonstration of the beauty of RPN (and your knowledge of it).

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #10 Posted by **C.Ret** on 15 Sept 2011, 3:50 p.m.,*
in response to message #8 by Egan Ford

> Quote:
>
> This will just subtract off until it cannot. Slow, but short, no registers, probably very fast on 15LE. y > x.

Really nice, thank you, much better thant the one I proposed ! Of course, this way may be a bit slow on original HP-15c , especially with large intergers.

```
# ------------------------------------------
   000 {              }
   001 {    42 21 11 } f LBL A
   002 {          30 } -
   003 {       43 36 } g LSTx
   004 {       43 10 } g x<=y?
   005 {       22 11 } GTO A
   006 {          33 } R_dwn
   007 {       43 32 } g RTN
# ------------------------------------------
```

But, don't try *789456123 MOD 9* on an original HP-15c, it's so looooooong for a really expected result !

Edited: 15 Sept 2011, 4:06 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #11 Posted by **Katie Wasserman** on 15 Sept 2011, 3:29 p.m.,*
in response to message #7 by Dave Britten

I came up with this one on the 32sii a long while back, it's not so obvious but is short and sweet and doesn't need more than the stack.

for y mod x:

```
0
enter
CMPLX+
/
IP
*
-
```

-Katie

Edited: 15 Sept 2011, 3:30 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #12 Posted by **fhub** on 15 Sept 2011, 4:31 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:

> I came up with this one on the 32sii a long while back, it's not so obvious but is short and sweet and doesn't need more than the stack.

This is even a bit shorter:

```
RCL Y
RCL/ Y
INT
*
-
```

I hope the 32s has RCL Y and RCL/ Y, I don't know this calculator. ;-)

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #13 Posted by **Katie Wasserman** on 15 Sept 2011, 4:40 p.m.,*
in response to message #12 by fhub

> Quote:
>
> I hope the 32s has RCL Y and RCL/ Y, I don't know this calculator. ;-)

I wish it did, but no it doesn't have those operations.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #14 Posted by **fhub** on 15 Sept 2011, 4:44 p.m.,*
in response to message #13 by Katie Wasserman

> Quote:
>
> I wish it did, but no it doesn't have those operations.

That's strange, because in message #6 Dave has used STO T and RCL- T in a 32s program, so I couldn't imagine that such commands won't exist for register Y !?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #15 Posted by **Don Shepherd** on 15 Sept 2011, 4:52 p.m.,*
in response to message #14 by fhub

But your Y is stack Y. Dave's T is regular register T (of A-Z).

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #16 Posted by **fhub** on 15 Sept 2011, 4:55 p.m.,*
in response to message #15 by Don Shepherd

> Quote:
>
> But your Y is stack Y. Dave's T is regular register T (of A-Z).

Ahhh, now I got it: then this 32s doesn't have the usual 4 register stack XYZT !?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #17 Posted by **Katie Wasserman** on 15 Sept 2011, 5:06 p.m.,*
in response to message #16 by fhub

Wow this is an unnecessarily confusing discussion.

Let's call x,y,z,t the stack and the non-stack registers A, B, C, ... X, Y, Z.

The routine I wrote uses the x,y,z,t stack registers only. The routine that Dave wrote uses the stack resisters plus register T. Although it preserves the stack registers, while mine does not.

On the 32s/ii there are no STO/RCL functions that allow you directly address x,y,z,t like there are in the 42s, for example.

Does that clear things up?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #18 Posted by **C.Ret** on 15 Sept 2011, 5:19 p.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> for y mod x:
>
> ```
> 0
> enter
> CMPLX+
> /
> IP
> *
> -
> ```

Katie, can you be king enough to just explain a bit more your code. I only know a few about HP-32sii and I am unable to understand your trick with CMPLX+. As the HP-15c also have complex calculation capability,perhaps may your way lead to a feasible solution on HP-15c ?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #19 Posted by **Massimo Gnerucci (Italy)** on 15 Sept 2011, 5:56 p.m.,*
in response to message #18 by C.Ret

> Quote:
>
> Katie, can you be king enough...

Well, maybe "queen" enough would be more appropriate!

Sorry: could not resist. :)
Massimo

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #20 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 6:03 p.m.,*
in response to message #18 by C.Ret

If I understand it correctly, 0 ENTER pushes a complex zero to X,Y and the arguments for mod to Z,T. The COMPLX+ just adds 0 to Z and 0 to T, placing the "sum" in X, Y without dropping Z and T. So the result of the operation is that you have the arguments twice on the stack. In RPL you would do DUP2 instead.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #21 Posted by **Katie Wasserman** on 15 Sept 2011, 6:12 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Exactly how I think of it: 0, ENTER, CMPLX+ is the DUP2 operation, a function in RPL and often defined in Forth. I wish it would have been an RPN function too, I'd certainly use it more than roll-up.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #22 Posted by **Paul Dale** on 15 Sept 2011, 6:26 p.m.,*
in response to message #21 by Katie Wasserman

It is there on the 34S :-)

- Pauli

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #23 Posted by **Walter B** on 16 Sept 2011, 1:45 a.m.,*
in response to message #21 by Katie Wasserman

Simply use ^{C}ENTER on the WP 34S. And yes, it's RPN :-)

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #24 Posted by **Katie Wasserman** on 16 Sept 2011, 1:55 a.m.,*
in response to message #23 by Walter B

Thanks for that guys! But I did say

> Quote:
>
> would have been an RPN function

I really needed this for the past 39 years, every since I had my HP-35.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #25 Posted by **Howard Owen** on 16 Sept 2011, 2:10 a.m.,*
in response to message #24 by Katie Wasserman

> Quote:
>
> I really needed this for the past 39 years, every since I had my HP-35.

No problem! Set up a loop with the 34S AT (alter time) function. Decrement

the current date until you reach the desired time, leave off a 34S (not the one you are using!) for your former self, and execute BTF (back to future.)

There's very little RPN isn't capable of. :)

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #26 Posted by **Walter B** on 16 Sept 2011, 2:15 a.m.,*
in response to message #25 by Howard Owen

No need for loops - the counterpart of BTF is ATP (Advance To Past, please see page -17 of the well known manual) :-)

Edit: Almost forgot - there's also a command Stay At Present time ;-)

Edited: 16 Sept 2011, 2:28 a.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #27 Posted by **Howard Owen** on 16 Sept 2011, 2:38 a.m.,*
in response to message #26 by Walter B

> Quote:
>
> Almost forgot - there's also a command Stay At Present time ;-)

How does that differ from the 41C stop time (STOPT) x function?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #28 Posted by **Walter B** on 16 Sept 2011, 2:52 a.m.,*
in response to message #27 by Howard Owen

AFAIK you cannot compare SAP with anything else ...

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #29 Posted by **Walter B** on 16 Sept 2011, 2:11 a.m.,*
in response to message #24 by Katie Wasserman

Apologize I didn't have the knowledge then already d:-)

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #30 Posted by **C.Ret** on 16 Sept 2011, 4:47 a.m.,*
in response to message #21 by Katie Wasserman

Thank you Katie and Marcus.

It’s now clear for me, and I realize that there is no chance that complex-calculus capabilities of the HP-15c will help there.

Katie’s code translate to RPL will be same sort of :

```
« DUP2 / IP * -»
```

Here follow illustration of the various clever stack moves induce by RPN and RPL code:

At first consider the clever stack manipulation from Katie's contribution:

```
[ 0 ][ Enter ][Cmplx][ + ][ / ][ IP ][ * ][ - ]
```

Suppose we have $y = x.q + r$,
where integer q is the multiplicand and integer r the modulus of interest.
We have $r = y\ MOD\ x$. And I also need posing $f = (y/x) – INT(y/x) = FRAC(y/x)$.

I like the clever way of managing the RPN stack:

```
t:    ~   |   ~   |   y   |   y   |   y   |   y   |   y   |   y   |
z:    ~   |   y   |   x   |   x   |   y   |   y   |   y   |   y   |
y:    y   |   x   |   0   |  y+0  |   x   |   x   |   y   |   y   |
x:    x   |   0   |   0   |  x+0  |  y/x  |   q   |  x.q  | y MOD x |
        [0]   [ENTER] [Cplx+]   [/]    [IP]    [*]    [-]
```

It's really close to what may be done in RPL (without the built-in MOD function.

```
4:        |   y   |       |       |       |       |       |
3:        |   x   |   y   |   y   |       |       |       |
2:    y   |   y   |   x   |   x   |   y   |       |       |
1:    x   |   x   |  y/x  |   q   |  x.q  | y MOD x |
«       [DUP2]   [/]    [IP]    [*]    [-]       »
```

The version proposed by **flsh**, which look really close to a HP-41C style with stack register manipulation.It spare one step through memory recall and operation combine in one [RCL/ IND Y] instruction.

```
t:    ~~~   |    ~    |    ~    |    ~    |    ~    |    ~    |
z:     ~    |    y    |    y    |    y    |    ~    |    ~    |
y:     y    |    x    |    x    |    x    |    y    |    ~    |
x:     x    |    y    |   y/x   |    q    |  x.q    | y MOD x |
  [RCl ST Y][RCL/ ST Y]       [IP]      [*]       [-]
```

But as RPL devices, the HP-41C (and HP-42S) calculator has built-in MOD function.

Here a version for the great WP-34S which have no built-in MOD function (or I am missing something?):

```
t:     ~    |    y    |    y    |    y    |    y    |    y    |
z:     ~    |    x    |    y    |    y    |    y    |    y    |
y:     y    |    y    |    x    |    x    |    y    |    y    |
x:     x    |    x    |   y/x   |    q    |  x.q    | y MOD x |
     [CENTER]     [ / ]   [FLOOR]       [*]       [-]
```

How to produce with short code the same stack manipulations on the HP-15C is another storie.

Here is for comparison the way proposed by **Gerson**:

```
l:  ~  |  ~  |  ~  |  ~  |  ~  |  x  |  x  |  x  |  x  |  x  | y/x |
y/x | y/x |

t:  ~  |  ~  |  ~  |  y  |  y  |  y  |  y  |  ~  |  y  |  y  |  y  |
y  |  y  |
z:  ~  |  ~  |  x  |  ~  |  ~  |  y  |  y  |  y  |  y  |  y  |  y  |
y  |  y  |
y:  y  |  x  |  y  |  x  |  y  |  ~  | y/x |  y  | y/x |  x  |  x  |
y  |  y  |
x:  x  |  y  |  y  |  y  |  x  | y/x |  ~  | y/x |  x  | y/x |  q  |
```

```
q.x |  r  |
    x<>y ENTER  Rdwn  x<>y     /  x<>y  Rdwn LASTx  x<>y   INT     *
-
```

Obviously HP-15C lacks same stack manipulation command. But that's what makes the charm of this old-style true RPN calculator. In daily use of it, did this lack of complex stack manipulations miss any users?

A way to mimic the DUP2 stack manipulation style will be to use statistic function. But, even if this is short, this solution will clear (and use) registers R2 to R7. Perhaps it is not a convenient way ?

```
R2:    ~   |    0    |    0   |    0   |    1   |   1    |  1  |  1
|  1  |  1  |  1  |
R3:    ~   |    0    |    0   |    0   |    x   |   x    |  x  |  x
|  x  |  x  |  x  |
R4:    ~   |    0    |    0   |    0   |   x.x  |  x.x   | x.x | x.x
| x.x | x.x | x.x |
R5:    ~   |    0    |    0   |    0   |    y   |   y    |  y  |  y
|  y  |  y  |  y  |
R6:    ~   |    0    |    0   |    0   |   y.y  |  y.y   | y.y | y.y
| y.y | y.y | y.y |
R7:    ~   |    0    |    0   |    0   |   x.y  |  x.y   | x.y | x.y
| x.y | x.y | x.y |

t :    ~   |    0    |    0   |    0   |    0   |    0   |  y  |  y
|  y  |  y  |  y  |
z :    ~   |    0    |    0   |    0   |    0   |    y   |  x  |  y
|  y  |  y  |  y  |
y :    ~   |    0    |    y   |    y   |    y   |    y   |  y  |  x
|  x  |  y  |  y  |
x :    ~   |    0    |    y   |    x   |    1   |    x   |  x  | y/x
|  g  | g.x |  r  |
[CLEAR Sig]  y [ENTER]        x   [Sig+][RCL Sig][RCL Sig]   [/]
[IP]   [*]   [-]
```

Since this last solution use so much memory register and clearing statistic also clear the stack, it is not a valid code. I would prefer a simple one normaly using only one register and making the job straighforward.

I greatly prefer not to try to manipulate stack on an HP-15c, and using an approximative MOD function, only valid for *y* and *x* both positive :

```
l:      ~   |   x   |   x   |   x   | y/x | y/x |


t:      ~   |   ~   |   ~   |   ~   |  ~  |  ~  |
z:      ~   |   ~   |   ~   |   ~   |  ~  |  ~  |
y:      y   |   ~   |  y/x  |   x   |  x  |  ~  |
x:      x   |  y/x  |   x   |  y/x  |  f  |  r  |
[FIX 0] [ ÷ ] [LASTx]  [x<>y]  [FRAC] [ × ]
```

Edited: 16 Sept 2011, 4:51 p.m. after one or more responses were posted

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #31 Posted by **Paul Dale** on 16 Sept 2011, 4:59 a.m.,*
in response to message #30 by C.Ret

For the 34S:

```
cmplx ENTER
/
FLOOR
*
-
```

Which is a direct copy of the 32sii version changing IP for FLOOR (the 34S having both).

The 34S has a remainder function that is the same as MOD for positive arguments but slightly different for negative.

- Pauli

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #32 Posted by **Marcus von Cube, Germany** on 16 Sept 2011, 5:21 a.m.,*
in response to message #31 by Paul Dale

Some incarnations of the 34S software have a bug that make cENTER unreachable from the keyboard. It's fixed in both the zip and SVN now.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #33 Posted by **C.Ret** on 16 Sept 2011, 5:59 a.m.,*
in response to message #31 by Paul Dale

Thank you.

I just revised my previous post incorporating the WP34S version. After I have re-read manual, since I still not fill confortable with this new calculator.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #34 Posted by **Paul Dale** on 16 Sept 2011, 6:10 a.m.,*
in response to message #33 by C.Ret

The 34S RMDR operation (h-shift divide) behaves the same as C's MOD operator (for both integer and real modes). For example:

```
 7  3 RMDR =  1
 7 -3 RMDR =  1
-7  3 RMDR = -1
-7 -3 RMDR = -1
```

There was mention a while ago of this not being the correct behaviour for *MOD*. I don't remember the exact details though. What should the values be here?

- Pauli

Edited: 16 Sept 2011, 6:13 a.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #35 Posted by **C.Ret** on 16 Sept 2011, 6:57 a.m.,*
in response to message #34 by Paul Dale

Quote:

```
 7  3 RMDR =  1
 7 -3 RMDR =  1
-7  3 RMDR = -1
```

```
     -7 -3 RMDR = -1
```

Hepp! That what I missed; the "remainder" fonction of 34S, 42S and 16C tools !

```
 7  3 RMDR =  1     RMDR is MOD correct since   7 =  2 × 3  +  1   and  0 < 1 < 3                                  7 3 MOD =  1


 7 -3 RMDR =  1     RMDR isn't MOD despite of   7 =(-2)×(-3) +  1 due to 1 being greater than (-3).
                    In this case we have to consider   7 =(-3)×(-3) +(-2) where remainder (-2) is between (-3) and 0.
So  7 -3 MOD = -2


-7  3 RMDR = -1     RMDR isn't MOD despite of (-7)=(-2)×3  +(-1) due to (-2) being out of range.
                    In this cas we have to consider  (-7)=(-3)×3  +  2 so that 2 is between 0 and 3 :  0 < 2 < 3    So -7  3 MOD =  2


-7 -3 RMDR = -1    RMDR is MOD correct since  (-7)=  2 ×(-3) +(-1) where -3 < -1 < 0
-7 -3 MOD = -1
```

Sametime I wonder myself, why and how simple idea became so complicated in the mathematic world ?

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #36 Posted by **Paul Dale** on 16 Sept 2011, 7:48 a.m.,*
in response to message #35 by C.Ret

Isn't the code above doing the remainder instead of MOD then?

-7 mod 3 is -1 according to the code above:

```
[RCl ST Y][RCL/ ST Y]  [IP]      [*]       [-]
(changing the INT  to IP and the IND to ST).
```

You need FLOOR instead of IP or INT to get a MOD don't you?

- Pauli

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #37 Posted by **Dieter** on 16 Sept 2011, 2:27 p.m.,*
in response to message #36 by Paul Dale

Well...

> Quote:
>
> You need FLOOR instead of IP or INT to get a MOD don't you?

...the 35s has them both: IP and INTG. And RMDR, of course. ;-)

```
REGY-REGX*IP(REGY/REGX)
```

resp.

```
REGY-REGX*INTG(REGY/REGX)
```

will return the one or the other result.
The second version is equivalent to the 35s RMDR function.

Dieter

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #38 Posted by **Dieter** on 16 Sept 2011, 4:59 p.m., in response to message #37 by Dieter*

By the way...

> Quote:
>
> Well...
>
> > Quote:
> >
> > You need FLOOR instead of IP or INT to get a MOD don't you?
>
> ...the 35s has them both: IP and INTG. And RMDR, of course. ;-)

FLOOR (or INTG on the 35s) really is a very useful function. However, most devices only offer INT or IP which simply cuts off the decimals.

But there is a way - for instance on the '41:

```
ENTER^
ENTER^
 1
MOD
 -
```

You can also try this with -1 and see what you get.

Dieter

Edited: 16 Sept 2011, 5:01 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #39 Posted by **C.Ret** on 16 Sept 2011, 5:03 p.m., in response to message #37 by Dieter*

Let make a table to check which fonction for which result :

```
  y  x : y MOD x   y RMDR x : y-x.INT(y/x)   y-
x.FLOOR(y/x)   y-x.CEIL(y/x)
                                 y-x.IP(y/x)
  7  3 :       1          1 :             1
1              -2
  7 -3 :      -2          1 :             1
-2                1
 -7  3 :       2         -1 :            -1
2              -1
 -7 -3 :      -1         -1 :            -1
-1                2
```

Obviously, MOD is obtained from FLOOR and RMDR from IP or INT. CEIL lead to a third type of modulus.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #40 Posted by **Dieter** on 18 Sept 2011, 6:53 a.m.,*
in response to message #39 by C.Ret

I think it's important to say *which* MOD or RMDR you refer to. For instance, the results of MOD on the 41 and RMDR on the 35s are exactly the same.

Regarding CEIL: usually this is an easy one as CEIL(x) = -FLOOR(-x).
On a '41 this can be accomplished by

```
ENTER^
ENTER^
-1
MOD
 -
```

On a 35s, use RDMR instead. ;-) Or simply CHS INTG CHS. That's one of the things I like on the 35s.

Dieter

Edited: 18 Sept 2011, 6:54 a.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #41 Posted by **Gerson W. Barbosa** on 16 Sept 2011, 7:34 a.m.,*
in response to message #34 by Paul Dale

My (outdated) wp34s manual says:

RMDR Equals MOD on *HP-42S* and RMD on *HP-16C*.

However, on the HP-42S we have:

```
 7  3 MOD =  1
 7 -3 MOD = -2
-7  3 MOD =  2
-7 -3 MOD = -1
```

Gerson.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #42 Posted by **Paul Dale** on 16 Sept 2011, 7:52 a.m.,*
in response to message #41 by Gerson W. Barbosa

The manual is incorrect. It is the same as RMD on the 16C. It honours the sign of the numerator. To get MOD, add the denominator to the result if the signs of the two numbers are different.

Maybe I should just implement MOD as well although it will eat up a bit of space to do so. RMDR works with integers, reals and complex numbers and double precision integers -- MOD should also.

- Pauli

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #43 Posted by **Dieter** on 16 Sept 2011, 2:13 p.m.,*
in response to message #30 by C.Ret

Of course there must be no RCL IND Y commands in any of these routines. This would recall the register whose *address* is in y.
The correct sequence, as stated by Franz "fhub", actually is

```
RCL Y
RCL/ Y
INT
 *
 -
```

Although not required on a **HP-41** (MOD is available), a double RCL Y will match the DUP2 of RPL:

```
RCL Y
RCL Y
 /
INT
 *
 -
```

Of course you can also do it on a **classic HP machine**. The following code is two steps shorter than Gerson's and uses the t-duplication on stack drop:

```
ENTER^
ENTER^
CLX
 +
RDN
 /
INT
R^
 *
 -
```

The **HP35s** finally has a RMDR function and can also access the stack registers directly. It features both IP as well as INTG. It even offers a command for integer division, similar to DIV in some programming languages. Very handy in many cases. Using equation mode one could do it this way:

```
REGY-REGX*IDIV(REGY,REGX)
```

Dieter

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #44 Posted by **C.Ret** on 16 Sept 2011, 4:04 p.m.,*
in response to message #43 by Dieter

Thank you for your attentive reading and pointing out the “IND” error.

Of course, there’s no indirect access there. My intention was to make HP-41C "STO Y - where Y is in stack " notation not confused with HP-32 alphabetic name f register (where "STO Y" means store in register named Y). Using reserved keyword IND is my own mistake.

I have to correct this in my post.

I like your code using a dump zero addition " Clx + " to realize the DUP2 style algorithm on classic. It is a triky way.

```
t:    ~   |   ~   |   y   |   y   |   y   |   x   |   x   |   x
|   x   |   x   |   x   |
z:    ~   |   y   |   x   |   x   |   y   |   y   |   x   |   x
|   y   |   x   |   x   |
y:    y   |   x   |   x   |   x   |   x   |   y   |   y   |   y
|   q   |   y   |   x   |
x:    x   |   x   |   x   |   0   |   x   |   x   |  y/x  |   q
|   x   |  x.q  |   r   |
   [ENTER^][ENTER^]   [Clx]   [ + ] [R dwn]   [ ÷ ]   [INT]  [R
up]   [ × ]   [ - ]
```

Nice shot ! Achievable on all the classic !

Edited: 16 Sept 2011, 4:24 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #45 Posted by **Dieter** on 18 Sept 2011, 7:12 a.m.,*
in response to message #44 by C.Ret

C.Ret wrote:

> Quote:
>
> Of course, there’s no indirect access there. My intention was to make HP-41C "STO Y - where Y is in stack " notation not confused with HP-32 alphabetic name f register (where "STO Y" means store in register named Y).

There indeed is a special keyword on those calculators that feature both lettered registers and stack access, e.g. the 42s. Here, a simple "ST" distinguishes between stack and variables:

Recall variable (data register) "Y":

```
RCL Y
```

Recall stack register y:

```
RCL ST Y
```

On other calculators RCL Y is unambiguous since it can have only one meaning: There are no lettered data registers or variables on the 41, so RCL Y refers to the stack. On the 32s, there is no direct stack access, so it's clear that RCL Y refers to the variable (data register) with that name.

BTW, the 34s does it in a very special way: the content of the stack registers is stored in registers with the same letter. So RCL Y means both "recall variable Y" *and* "recall stack register Y". ;-)

Dieter

Edited: 18 Sept 2011, 7:21 a.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #46 Posted by **Alexander Oestert** on 16 Sept 2011, 8:50 a.m.,*
in response to message #11 by Katie Wasserman

Quote:

```
0
enter
CMPLX+
/
IP
*
-
```

-Katie

Katie's code kind of 'ported' to the 15C:

```
001 LBL A
002 f I
003 ENTER
004 ENTER
005 ENTER
006 f Re<>Im
007 R down
008 R down
009 f Re<>Im
010 g CF 8
011 /
012 g INT
013 *
014 -
015 RTN
```

A bit longer but an implementation of the same idea... ;)

Edited: 16 Sept 2011, 9:19 a.m. after one or more responses were posted

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #47 Posted by **Gerson W. Barbosa** on 16 Sept 2011, 9:21 a.m.,*
in response to message #46 by Alexander Oestert

This is the remainder of the integer division, however, not the modulus function. MOD can be defined as

```
MOD(x,y) = x - y * Floor(x/y)
```

where

```
Floor(x) = INT(x) + INT(FRAC(x) + 1) - 1

IP, FP: same as INT and FRAC, on the HP-15C
```

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #48 Posted by **Alexander Oestert** on 16 Sept 2011, 9:28 a.m.,*
in response to message #47 by Gerson W. Barbosa

As I wrote, my code was just an implementation of Katie's very elegant 32s-idea ported to the 15c, whether it yields modulo or remainder - I didn't investigate. After I read the modulo article on wikipedia I'm not sure if I still know the difference between modulo and remainder... ;) .

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #49 Posted by **Gerson W. Barbosa** on 16 Sept 2011, 9:36 a.m.,*
in response to message #48 by Alexander Oestert

Yes, there is some confusion. On the HP-33s, for instance, they have implemented the modulus function, and yet they name it Rmdr. When the signs of the arguments are the same, they are equivalent:

```
 7  3 RMDR =  1
 7 -3 RMDR =  1
-7  3 RMDR = -1
-7 -3 RMDR = -1


 7  3 MOD =  1
 7 -3 MOD = -2
-7  3 MOD =  2
-7 -3 MOD = -1
```

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #50 Posted by **C.Ret** on 15 Sept 2011, 1:53 p.m.,*
in response to message #2 by Martin Pinckney

Yes.

Only missing the MOD function which may be easy to program.

```
# ------------------------------------------
# Tcl/Tk HEWLETT·PACKARD 15C Simulator program
# Created with version 1.2.13
# A Simulator written in Tcl/Tk
# COPYRIGHT © 1997-2010, Torsten Manz
# ------------------------------------------


   000 {             }
   001 {    42 21 11 } f LBL A
   002 {          10 } ÷
   003 {       43 36 } g LSTx
   004 {          34 } x<->y
   005 {       42 44 } f FRAC
   006 {          20 } ×
   007 {       43 32 } g RTN


# ------------------------------------------
# This is only a suggested programm for MOD
```

```
# Only accurate due to display rounding.
#
# USAGE :  Enter y and x in
# -----    respective stack position and press [ f ][ A ]
#          to get y MOD x display.
#
# Note: accuracy is only a result of display rounding process !
#       another code might be used to get a true (& right) integer
#       result.
```

Thank you to **Torsten** for pointing me out to his HP-15C emulator (it makes easy to copy-paste program listing).

Please note that this code use no register and leave the contents of t and z register intact in the stack (only moved down one step).

Edited: 15 Sept 2011, 2:30 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #51 Posted by **Egan Ford** on 15 Sept 2011, 2:43 p.m.,*
in response to message #50 by C.Ret

You'll need to FIX 0 first, e.g. 10 3 MOD is not 1, its .9999999999.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #52 Posted by **C.Ret** on 15 Sept 2011, 3:21 p.m.,*
in response to message #51 by Egan Ford

> Quote:
>
> You'll need to FIX 0 first, e.g. 10 3 MOD is not 1, its .9999999999.

You are right, but FIX 4 may give in most cases the right integer result. Only FIX 9 may encounter a wrong result in rare occasions (like the one you give in your exemple).

Since there is no STD display format, most FIX *n* may be OK with n less than 9.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #53 Posted by **Gerson W. Barbosa** on 15 Sept 2011, 2:44 p.m.,*
in response to message #50 by C.Ret

> Quote:
>
> ```
> # Note: accuracy is only a result of display rounding process !
> #       another code might be used to get a true (& right) integer
> #       result.
> ```

```
001 LBL B
002 x<>y
003 ENTER
004 Rv
005 x<>y
006 /
007 g LSTx
008 x<>y
009 g INT
010 *
011 x<>y
```

```
012 Rv
013 CHS
014 g x<=y
015 +
016 g TEST 7
017 +
018 g RTN
```

This needs some simplification and stack preserving, but you've got the idea.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #54 Posted by **C.Ret** on 15 Sept 2011, 3:39 p.m.,*
in response to message #53 by Gerson W. Barbosa

Hi,

Yes, you are right, the first version of my code return an approximate *y MOD x* since it is not (or in rare situation) an integer, as expected.

So, I propose a second version which returns the correct integer result as long as both arguments are both positives. My new version use one register to store a the small value $eps = 5\times 10^{-7}$ used to correctly round-up results. This *eps* constant have to be adjusted for larger result than 10000.

```
# ------------------------------------------
   000 {              }
   001 {    42 21 11  } f LBL A
   002 {           10 } ÷
   003 {       43 36  } g LSTx
   004 {           34 } x<->y
   005 {       42 44  } f FRAC
   006 {           20 } ×
   007 {    45 40  0  } RCL + 0
   008 {       43 44  } g INT
   009 {       43 32  } g RTN
# ------------------------------------------
```

USAGE :
Initiate register R0 with a small positive value (i.e. 5×10^{-7}),
Enter integer *y* and *x* into the HP-15 LE stack,
Press [f][A] to run the code. The integer result *y MOD x* is return and displayed.

Edited: 15 Sept 2011, 4:07 p.m.

Re: 15c: Need good programs for Mod, nCr, nPr

*Message #55 Posted by **x34** on 15 Sept 2011, 5:01 p.m.,*
in response to message #54 by C.Ret

Better use INT instead of FRAC, no need to round.

MOD(y,x) as equivalent to MOD on the HP-41/42S and Rmdr on the HP-33s

*Message #56 Posted by **Gerson W. Barbosa** on 15 Sept 2011, 8:48 p.m.,*
in response to message #54 by C.Ret

```
001 LBL A
002 x<>y
003 ENTER
004 Rv
005 x<>y
006 /
```

```
007 x<>y
008 Rv
009 g LSTx
010 x<>y
011 g INT
012 g LSTx
013 f FRAC
014 g TEST 2
015 f HYP COS
016 g INT
017 -
018 *
019 -
020 g RTN
```

MOD(y,x) = x - y * Floor(x/y)

Perhaps someone might want to do some optimization.

Edited: 15 Sept 2011, 8:55 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE in europe?

*Message #1 Posted by **Bart K.** on 15 Sept 2011, 6:13 a.m.*

Hi all,

anybody already found a reliable shop to order a 15c LE in Europe? Or an American store that ships to Europe?

Kind regards,

Bart

Re: 15c LE in europe?

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 10:58 a.m.,*
in response to message #1 by Bart K.

I've ordeed one at Samson Cables (hpcalculators.com). Shipping is $40.

Re: 15c LE in europe?

*Message #3 Posted by **Bart K.** on 15 Sept 2011, 11:16 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> I've ordeed one at Samson Cables (hpcalculators.com). Shipping is $40.

Ouch, $40 for shipping. That's not cheap...

Re: 15c LE in europe?

*Message #4 Posted by **Thomas Radtke** on 15 Sept 2011, 1:02 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Have you had any shipping options? When I preordered, there was only USPS priority international, and I was charged $18.

Edited: 15 Sept 2011, 1:07 p.m.

Re: 15c LE in europe?

*Message #5 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 1:33 p.m.,*
in response to message #4 by Thomas Radtke

It was just USPS.

Re: 15c LE in europe?

*Message #6 Posted by **Thomas Radtke** on 15 Sept 2011, 2:48 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Ok, I guess they mislabeled my parcel. There was a thread about it, so now I wonder if it will arrive :-(. Yours likely will.

Re: 15c LE in europe?

*Message #7 Posted by **Bart (UK)** on 15 Sept 2011, 3:41 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Samson Cables seems to have wildly varying postage prices.
When it first came up it was $16 to UK, later it was $24.
On 1st September I ordered both the 15C LE and 12C 30th Ann., and paid $35 for both to UK. (Got an email yesterday saying it was shipped).
Now I looked and indeed they quote $40 postage for 1 unit!! That another 40% of the calculator price!

Edit:
However, at the time the 12C 30th was listed at $99.99, which is what I was charged. Thus I paid $234.98 for both with postage. (Of course taxes and Royal Mail charges will come on top of that when it arrives in the UK).

Edited: 15 Sept 2011, 3:48 p.m.

Re: 15c LE in europe?

*Message #8 Posted by **Bart (UK)** on 15 Sept 2011, 10:58 a.m.,*
in response to message #1 by Bart K.

Hi,

TheCaclulatorStore (in Spain, I believe) has promised to supply Europe.

Samson Cables in the US ships to Europe.

Regards
Bart

Re: 15c LE in europe?

*Message #9 Posted by **Bart K.** on 15 Sept 2011, 11:18 a.m.,*
in response to message #8 by Bart (UK)

> Quote:
>
> Hi,
>
> TheCaclulatorStore (in Spain, I believe) has promised to supply Europe.

Thanks, I'll have a look.

Re: 15c LE in europe?

*Message #10 Posted by **Bart (UK)** on 15 Sept 2011, 3:45 p.m.,*
in response to message #9 by Bart K.

I don't think they have stock yet though. However, in an email the owner of TheCalculatorStore mentioned that there was a separate batch destined for Europe with their own product number different from the US product no.

Re: 15c LE in europe?

*Message #11 Posted by **Jose Gonzalez Divasson** on 15 Sept 2011, 3:53 p.m.,*
in response to message #9 by Bart K.

Hi,

Both units (15c LE and 12c AE) will be presented to European distributors on Friday next week in a meeting in France. Latest news are that the 12c will be in October, 15c even later, in European version (not within the US batch, and we might have the known bugs sorted out by then)

Please consider that the number of calculators involved are extremely small compared with other more mainstream models. We are not important in the HP scheme of things. We do not know how much we have to thank Tim and Co. who spent their time for calcs of such low volume. Think that the revenues for HP for this model migh be around 250-300 k€ in total - contribution much lower than that. Compare that with the fact that China has decided that their students shall have graphical calcs as standard tool in school, starting next year!

Re: 15c LE in europe?

*Message #12 Posted by **Jose Gonzalez Divasson** on 15 Sept 2011, 3:56 p.m.,*
in response to message #11 by Jose Gonzalez Divasson

By the way, while no European distributor has been given info on these calcs, the latest price list show 3 other calcs as "obsolete". One of them surprises me...

Re: 15c LE in europe?

*Message #13 Posted by **bluesun08** on 15 Sept 2011, 4:47 p.m.,*
in response to message #11 by Jose Gonzalez Divasson

Is the chinese graphical calc market to small for HP?

Re: 15c LE in europe?

*Message #14 Posted by **hpnut** on 15 Sept 2011, 6:25 p.m.,*
in response to message #8 by Bart (UK)

Educalc in Asia http://www.educalc.net/ is still sleeping. the website still talks about new HP models launched in 2008!

hellooo..... you lost my business to Samsoncables.

hpnut in Malaysia

Re: 15c LE in europe?

*Message #15 Posted by **Borja** on 16 Sept 2011, 4:20 a.m.,*
in response to message #1 by Bart K.

Quote:

anybody already found a reliable shop to order a 15c LE in Europe? Or an American store that ships to Europe?

I'm in Spain, and I ordered two from Samson Cables.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE Now listed at $199.99 on Buy.com

*Message #1 Posted by **NateB** on 15 Sept 2011, 10:09 a.m.*

Buy.com must be out of stock. The price gouging begins...

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #2 Posted by **Paul Gaster** on 15 Sept 2011, 10:38 a.m.,*
in response to message #1 by NateB

@#^%$^%$%^&^&*)&*

Buy ended their TAS listing too. I was waiting until I got paid this week to buy one. Now I am too late.

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #3 Posted by **Quan** on 15 Sept 2011, 11:04 a.m.,*
in response to message #2 by Paul Gaster

For now, HP still lists it for $99.99 US with "coming soon". The stock is surely slooooooow coming!!!

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #4 Posted by **Howard Owen** on 15 Sept 2011, 11:06 a.m.,*
in response to message #3 by Quan

Only 10K units. I think HP has a hit on their hands.

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #5 Posted by **Bart (UK)** on 15 Sept 2011, 11:11 a.m.,*
in response to message #2 by Paul Gaster

Samson Cables still lists for $99.99 at the time of writing this post. Samson Cables 15C LE

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #6 Posted by **Neil Gruending** on 15 Sept 2011, 11:15 a.m.,*
in response to message #5 by Bart (UK)

Samson Cables is now temporarily sold out with more stock coming apparently.

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #7 Posted by **M. Joury** on 15 Sept 2011, 11:19 a.m.,*
in response to message #6 by Neil Gruending

One would think that if they sell out in under a month HP might consider turning this into a regular non-limited edition model?

Cheers,

-Marwan

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #8 Posted by **Ethan Conner** on 15 Sept 2011, 11:09 a.m.,*
in response to message #2 by Paul Gaster

They probably also saw the misrepresented one with a bid over 200 dollars and said "why not?". After all the market will adjust itself accordingly. As for those who have not jumped there's still hope for the HP website. For all those who do wait consider this.....right now there will be 10,000 released.....to be divided among six billion people. Not very good odds. lol

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #9 Posted by **Howard Owen** on 15 Sept 2011, 11:56 a.m.,*
in response to message #8 by Ethan Conner

Properly identified 15C LE for US$220.00 on TAS

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #10 Posted by **M. Joury** on 15 Sept 2011, 12:07 p.m.,*
in response to message #9 by Howard Owen

This is exactly what worried some of us on this forum. Speculators grabbing a large number of units and then selling them for a very large profit!

Edited: 15 Sept 2011, 12:37 p.m. after one or more responses were posted

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #11 Posted by **Howard Owen** on 15 Sept 2011, 12:30 p.m.,*
in response to message #10 by M. Joury

> Quote:
>
> This is exactly what worried some of us on this. Speculators grabbing a large number of units and then selling them for a very large profit!

It's a shame. But if people are paying those prices, it's a strong indication HP has a hit. On the other hand, it's also possible speculators bought large numbers from buy.com or other retailers. In either case, I've got that item on my watch list. Whether it sells or not should be enlightening.

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #12 Posted by **Hugh Evans** on 15 Sept 2011, 6:33 p.m.,*
in response to message #2 by Paul Gaster

Hpcalc.org has them in stock, I just ordered two today (one for my dad's birthday.) I may get a spare, but I'm in decent shape for work calculators. At the moment I'm using my 48gx and 42s. I scored a mint

condition 42s through craigslist a few months ago with case and manual. The owner hadn't used it since college, was shocked that I knew how it worked, and sold it to me for $20! It's the only calculator I have a true backup for.

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #13 Posted by **Marcelo Vanti(brasil)** on 15 Sept 2011, 11:28 a.m.,*
in response to message #1 by NateB

And they said that the calculator is "Ships from and sold by Samson Innovations ". Is the same Samson Cables?
Marcelo

Re: 15c LE Now listed at $199.99 on Buy.com

*Message #14 Posted by **Neil Gruending** on 15 Sept 2011, 12:52 p.m.,*
in response to message #13 by Marcelo Vanti(brasil)

Samson Innovations has the same physical address as Samson Cables so I think they are the same.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-65 clear body!!

*Message #1 Posted by **robertoataulfo** on 15 Sept 2011, 9:26 a.m.*

```
There is an HP-97 with the transparent body like this?

HP-65 Clear Body !!!!
```

Re: HP-65 clear body!!

*Message #2 Posted by **Martin Pinckney** on 15 Sept 2011, 10:26 a.m.,*
in response to message #1 by robertoataulfo

Two grand?? I'd rather leave the inner workings to my imagination!

Re: HP-65 clear body!!

*Message #3 Posted by **Dan M (Vermont, USA)** on 15 Sept 2011, 11:02 a.m.,*
in response to message #1 by robertoataulfo

Yes, there is (HP-97). Except with top AND bottom.

Re: HP-65 clear body!!

*Message #4 Posted by **Jake Schwartz** on 15 Sept 2011, 1:14 p.m.,*
in response to message #3 by Dan M (Vermont, USA)

> Quote:
>
> Yes, there is (HP-97). Except with top AND bottom.

In the final (Aug, 1983) issue of HP Key Notes (Vol. 8 No. 2) on the cover is a photo of Key Notes editor Henry Horn with part of his HP collection and front and center is his clear HP-97. Back in 1981 after the HP Calc conference in Corvallis had wrapped up, Richard Nelson and I visited Henry at his house there, and one of the things he did was pull out all his clear machines to show off. That was impressive.

Jake

Re: HP-65 clear body!!

*Message #5 Posted by **Brian Walsh** on 15 Sept 2011, 12:12 p.m.,*
in response to message #1 by robertoataulfo

It would be more desirable if the top half of the case were clear, too.

I have a one of a kind blue (think blue shift key) HP-41 case. The entire case. I've never used it but am

considering transplanting my 41CX into it when the 41CL arrives.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: New Release on SF

*Message #1 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 8:29 a.m.*

I've put up version 2.1 of the software on SourceForge.

Remarks:

1. Before you update: Use the wp34s_asm tool to transform your programs to text form. We've made changes that force a memory clear on the update. Flash libraries need to be recreated, too.

2. The number of flash regions is now 10 (0-9), including the backup. This will most probably change in later versions when we add more functions.

Please report back any findings. I'll be off to San Diego from Monday on till end of September with limited opportunities to fix bugs.

Re: WP 34S: New Release on SF

*Message #2 Posted by **gene wright** on 15 Sept 2011, 8:38 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Thanks Marcus! See you in San Diego next week!

Re: WP 34S: New Release on SF

*Message #3 Posted by **fhub** on 15 Sept 2011, 9:19 a.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> I've put up version 2.1 of the software on SourceForge.

Marcus, why is the matrix stuff not included yet?
Is it still not ready?
There's a matrix.wp34s in the SVN/library folder, but without the matrix stuff compiled in it's of course useless. :-(

Franz

Re: WP 34S: New Release on SF

*Message #4 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 10:07 a.m.,*
in response to message #3 by fhub

> Quote:
>
> Marcus, why is the matrix stuff not included yet?

> Is it still not ready?
> There's a matrix.wp34s in the SVN/library folder, but without the matrix stuff compiled in it's of course useless. :-(

You got it. The matrix stuff is for version 2.2. It's not yet ready for a release because Pauli is still working on it. There will eventually be versions in SVN with the routines built in. One major drawback is space: They cost us several K which reduces the number of user flash regions so it doesn't make sense to include them before they are finished.

Re: WP 34S: New Release on SF

*Message #5 Posted by **gene wright** on 15 Sept 2011, 10:08 a.m.,*
in response to message #3 by fhub

From what I believe, it is not ready yet.

At HHC next week, I hope to show the PPC ROM translated matrix routines for the 34s, but I know the 34s native changes that will eventually be unveiled will be better.

So... Patience! It isn't quite ready yet. :-)

Re: WP 34S: New Release on SF

*Message #6 Posted by **Paul Dale** on 15 Sept 2011, 5:42 p.m.,*
in response to message #5 by gene wright

The native matrix code isn't necessarily better. It is different.

To start with, the space cost for them will be (much) larger than the keystroke programs. For the space of the internal versions you can easily have keystroke equivalents plus lots of other stuff in the lost flash pages. The keystroke versions would be less flexible but sufficiently functional.

The PPC ROM routines (M1 - M3) are utilities that allow easy row operations on matrices. We've not decided if the internal versions of these are worthwhile space wise or not -- the PPC code is very compact and quite usable. The internal code for these three routines is equivalent to many more steps than the PPC code requires. The internal code for M3 will be more accurate than a straight translation -- it is a vector multiply add -- but the keystroke program could be updated to match. On the plus side, the internal equivalents to these, if included, won't change the stack when run.

The PPC ROM routines M4 and M5 will likely exist as internals. I'm using a different format for matrix descriptors and having stack friendly ways to manage these makes any keystroke programs using them much simpler. Again, the keystroke code would be smaller but in this case flexibility is definitely more important. There will be a couple of other routines to manipulate matrix descriptors easily -- to build ISG or DSE loops for rows and columns e.g.

The internal code will also support matrix addition and multiplication. Both of these are missing from the PPC ROM. Multiplication in particular will benefit from the extended internal precision (although cases that exceed even this are possible). I've also done an in place transpose which might be better suited as a keystroke program.

I've not implemented a matrix inverse or determinant routine yet but I suspect the PPC example RRM code will be the way to go here.

Then there will need to be a pile of utility routines (matrix norms, min and max elements etc). These will best be done as keystroke code I suspect.

Anyway, lots of balancing to go.

- Pauli

Re: WP 34S: New Release on SF

*Message #7 Posted by **Ángel Martin** on 16 Sept 2011, 6:19 a.m.,*
in response to message #6 by Paul Dale

I understand the real life constrains and practical reasons to consider using the M1-M5 routines - yet it's a pity that the 42 code couldn't be leveraged.

Sure being MCODE doesn't make it an easy (suitable?) candidate for direct translation, and I suppose the same issue exists with the CCD/Advantage matrix implementation. However I for one would not touch the M1-M5 with a 12-ft pole after having used the "real" stuff.

I'm not trying to create controversy here, just my individual opinion.

ÁM

Edited: 16 Sept 2011, 6:20 a.m.

Re: WP 34S: New Release on SF

*Message #8 Posted by **Paul Dale** on 16 Sept 2011, 7:38 a.m.,*
in response to message #7 by Ángel Martin

Don't worry, I'm still thinking about how best to do the matrix code. We can't do it exactly like the 42. We don't have a matrix type for starters. Leave that for the WP 43S :-) I'm quite happy to take suggestions for matrix operations and the primitives needed to support them. We're pretty much working with a blank slate here.

The M1-M3 routines are very useful when you're doing a row operations and no matter how many matrix decompositions I code, there will be more and many of these are done using such operations. So having these in some form kind of makes sense -- they really are basic low level routines. Think of them as the BLAS support code for the features in LAPACK or similar.

M4 and M5 are useful by themselves to convert x, y coordinates to register location and back. Again handy as a building block rather than a high level function. Even though I do like the 42's matrix/matrix an matrix/vector operations, I don't much like the 42's I and J access into matrices.

I've also supplied routines to create loop counters for row/column/entire matrix access. Again useful low level commands. Want an iterator to go down the third column of a matrix -- done.

These basic commands could be put into a keystroke library but then higher level routines that call them will become more complicated and need more temporaries.

I'd like to provide lots of higher level functions as well. Matrix inverse, determinant, eigen decomposition, Cholesky decomposition, LU decomposition, SVD, least squares, Jordan normal form, ... There are lots of possibilities here and a case could be made for any or all of them. Given that flash is quite tight, what subset makes most sense? Given that they will be smaller as keystroke code, what is the best suite of support routines to implement them with? Despite this which should be internal?

Although the low level functions might be annoying to use, XEQ'M^-1' which inverts the matrix from a descriptor on the stack won't be. Some of the above matrix operation might also merit coding in C where there are more resources available for temporary storage. e.g. an in-situ inverse or an eigen decomposition that doesn't require extra registers for temporary storage.

I've coded a matrix multiply internally for precision reasons. This will stay in C since doing it as a keystroke would be very hard without losing accuracy. Calling this is easy: matrix descriptors in Y and Z and a base register for the result in X. Mt* gives a matrix descriptor in X. Almost as good as the 42 and likely the best we can do on the 34S.

I've done a scalar multiply / matrix add operation. This could be coded via keystroke programming and would be smaller done that way. I might yet change it over. The in-situ transpose is another one that might change to key stroke for space reasons. the point is everything here is a space/usability tradeoff. Matrix support is not going to be a core 34S feature so I'm willing to lose a bit on the usability side.

Things are very much in a state of flux at the moment -- these functions are not in the firmware we're putting in the release archive and aren't documented. That will only change when we're happy with the basic suite of operations, if there ever even occurs.

Now if people want to volunteer to code the missing matrix commands as keystroke programs (or even doing them in C), please let us know. If, while doing so, a need appears for more basic operations, they will be implemented. This isn't going to be a trivial effort. I have several thick and heavy books dedicated to the numerical evaluation of matrix functions.

Still people have asked for matrix support and we're trying.

- Pauli

Re: WP 34S: New Release on SF

*Message #9 Posted by **Ángel Martin** on 16 Sept 2011, 11:05 a.m.,*
in response to message #8 by Paul Dale

Pauli, I just read your post - got no time at this moment for a more elaborate answer but if FOCAL routines are a possible avenue, I'd suggest taking a detailed look at JM-Baillard's matrix libary:

http://hp41programs.yolasite.com/eigen.php
http://hp41programs.yolasite.com/matrixop.php
http://hp41programs.yolasite.com/determinant.php

Obviously all my Matrix modules are not useful, since it's all based on the CCD/Advantage foundation.

Cheers, ÁM

Re: WP 34S: New Release on SF

*Message #10 Posted by **Paul Dale** on 16 Sept 2011, 7:30 p.m.,*
in response to message #9 by Ángel Martin

I've looked at JM-Baillard's matrix code in some detail. I've been basing some of the decisions involved on his implementations -- he seems to have done the most key stroke matrix operations of anyone and has a rich suite available already.

I did change the matrix descriptor format to better match the 34S's memory layout and to improve the easy of use a little. There are utility routines to create and disassemble these currently, there will likely be a few more.

FOCAL is definitely the path to matrix functionality -- we don't have enough spare flash for a full implementation in C. We might have enough flash for key stroke programs even though they won't be as easy to use.

- Pauli

Re: WP 34S: New Release on SF

*Message #11 Posted by **Marcus von Cube, Germany** on 17 Sept 2011, 1:09 p.m.,*
in response to message #10 by Paul Dale

XROM may hide the differences.

Re: WP 34S: New Release on SF

*Message #12 Posted by **Ángel Martin** on 17 Sept 2011, 2:25 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Specially if the CPU is fast enough :)

Re: WP 34S: New Release on SF

*Message #13 Posted by **fhub** on 16 Sept 2011, 9:35 a.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> Please report back any findings.

Hi Marcus, not sure if this is a new issue:

IIRC then after opening any catalog (e.g. [h][P.FCN]) you were able to quickly jump to the functions by pressing their initial letters, and this even worked if you pressed another letter (e.g. if you've used a wrong one first) - at least I can remember that it has been so in previous versions.
But now only the first pressed/clicked letter is accepted, after this you can't access any other letter anymore!?
Is this a new bug introduced in the last few versions?

Franz

Re: WP 34S: New Release on SF

*Message #14 Posted by **Walter B** on 16 Sept 2011, 4:53 p.m.,*
in response to message #13 by fhub

Grüßdi Franz,

> Quote:
>
> ... after opening any catalog (e.g. [h][P.FCN]) you were able to quickly jump to the functions by pressing their initial letters, and this even worked if you pressed another letter (e.g. if you've used a wrong one first) ... But now only the first pressed/clicked letter is accepted, after this

> you can't access any other letter anymore!?

Just tested build 1610 on the emulator: AFAICS it works as advertised. Please see page 70 of the manual and make sure you read the footnote, too. This page didn't change for many months.

Walter

Re: WP 34S: New Release on SF

*Message #15 Posted by **fhub** on 16 Sept 2011, 5:03 p.m.,*
in response to message #14 by Walter B

> Quote:
>
> ... and make sure you read the footnote, too.

Ahhh, thanks!

Didn't know that I would need a stopwatch (3 sec) for navigating through the menus. ;-)

Franz

Re: WP 34S: New Release on SF

*Message #16 Posted by **Marcus von Cube, Germany** on 16 Sept 2011, 6:33 p.m.,*
in response to message #15 by fhub

It's just a way to navigate to the second or third letter of the name if you type fast enough. The arrow keys reset the search as does the 3 seconds delay.

Re: WP 34S: New Release on SF

*Message #17 Posted by **Walter B** on 17 Sept 2011, 3:21 a.m.,*
in response to message #16 by Marcus von Cube, Germany

As mentioned, reading the manual may help sometimes - more often than you may expect 8-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE Wobbly F/G Keys

*Message #1 Posted by **DaveJ** on 15 Sept 2011, 3:46 a.m.*

I don't know if this has been mentioned before, but someone posted this video on my forum:
http://www.youtube.com/watch?v=rF5-e-ZY1Rw

Dave.

Re: 15C LE Wobbly F/G Keys

*Message #2 Posted by **hpnut** on 15 Sept 2011, 8:09 a.m.,*
in response to message #1 by DaveJ

that is one (no, two) wonky key, totally unacceptable to me. this is not the HP quality that i know.

Re: 15C LE Wobbly F/G Keys

*Message #3 Posted by **db (martinez, ca.)** on 15 Sept 2011, 9:21 a.m.,*
in response to message #2 by hpnut

Some of you people would complain if you got hung with a new rope.

Sam, Cyrille, Tim and every one involved in the new 15c deserve a medal for finding a way to make this improbable and unprofitable pipe dream into a reality, as does anyone that finds a fixable problem in the firmware.
I bought 3 because i said i would on that online petition and i'm in the bad habit of keeping my word. However: what i'd really like to see and use is that 42 clone-on-the-17b platform that people have been talking about. But that will never happen if all we do is bitch them out for unimportant or correctable flaws in this one.

Re: 15C LE Wobbly F/G Keys

*Message #4 Posted by **hpnut** on 15 Sept 2011, 9:31 a.m.,*
in response to message #3 by db (martinez, ca.)

> Quote:
>
> unimportant or correctable flaws in this one.

Pray tell me how to input data? Does the new calcs come with touch screens?

Re: 15C LE Wobbly F/G Keys

*Message #5 Posted by **Thomas Radtke** on 15 Sept 2011, 10:00 a.m.,*
in response to message #4 by hpnut

I haven't read any review stating that the shift keys represent a significant problem. I think you *want* to exaggerate here.

Re: 15C LE Wobbly F/G Keys

*Message #6 Posted by **Lincoln R.** on 15 Sept 2011, 10:09 a.m.,*
in response to message #4 by hpnut

The shift keys work fine. Sure, the pieces of plastic feel a little bit loose, but the actual key action is fine.

Here here

*Message #7 Posted by **snaggs** on 15 Sept 2011, 6:33 p.m.,*
in response to message #3 by db (martinez, ca.)

Just waiting for someone to say its for fools and so real engineer could use it.

I mean, you could be building a skyscraper, and at the critical task of ensuring the steel is straight and orthogonal, using your 'f' and 'g' keys as a set square could destroy the project as one of them was a few degrees out.

Daniel

> Quote:
>
> Some of you people would complain if you got hung with a new rope.
>
> Sam, Cyrille, Tim and every one involved in the new 15c deserve a medal for finding a way to make this improbable and unprofitable pipe dream into a reality, as does anyone that finds a fixable problem in the firmware.
> I bought 3 because i said i would on that online petition and i'm in the bad habit of keeping my word.
> However: what i'd really like to see and use is that 42 clone-on-the-17b platform that people have been talking about. But that will never happen if all we do is bitch them out for unimportant or correctable flaws in this one.

Re: Here here

*Message #8 Posted by **Walter B** on 15 Sept 2011, 6:47 p.m.,*
in response to message #7 by snaggs

Hear, hear here? ;-) Playing the game "what does the author want to tell us with his writing?"?

Re: Here here

*Message #9 Posted by **snaggs** on 16 Sept 2011, 4:38 a.m.,*
in response to message #8 by Walter B

> Quote:
>
> Hear, hear here? ;-) Playing the game "what does the author want to tell us with his writing?"?

I have a firmware bug and must be put on TAS immediately ;)

Daniel

Re: Here here

*Message #10 Posted by **Howard Owen** on 15 Sept 2011, 9:25 p.m.,*
in response to message #7 by snaggs

> Quote:
>
> I mean, you could be building a skyscraper, and at the critical task of ensuring the steel is straight and orthogonal, using your 'f' and 'g' keys as a set square could destroy the project as one of them was a few degrees out.

LOL!

A new use for the classic Voyagers, it seems.

Re: 15C LE Wobbly F/G Keys

*Message #11 Posted by **Martin Pinckney** on 15 Sept 2011, 10:09 a.m.,*
in response to message #2 by hpnut

> Quote:
>
> that is one (no, two) wonky key, totally unacceptable to me. this is not the HP quality that i know.

If you read the several posts on this subject over the last day or two, you will find that several have said their original 15c's also have keys that are a little loose.

In any event, this is really a non-problem, IMO. There just isn't that much movement.

Re: 15C LE Wobbly F/G Keys

*Message #12 Posted by **Steve Simpkin** on 15 Sept 2011, 10:40 a.m.,*
in response to message #11 by Martin Pinckney

Here is the thread that discussed loose keys on the LE and past HP-15C production runs.
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=194818#194818

Re: 15C LE Wobbly F/G Keys

*Message #13 Posted by **M. Joury** on 15 Sept 2011, 11:11 a.m.,*
in response to message #11 by Martin Pinckney

I gave both my original and the new one the good old shake test and there was more rattle from the original--none from 2/3 new ones, the third had a very slight rattle.

Admittedly my original is many years old but it has led a pretty sheltered life. I certainly don't have any complaints about the quality of the LE.

Cheers,

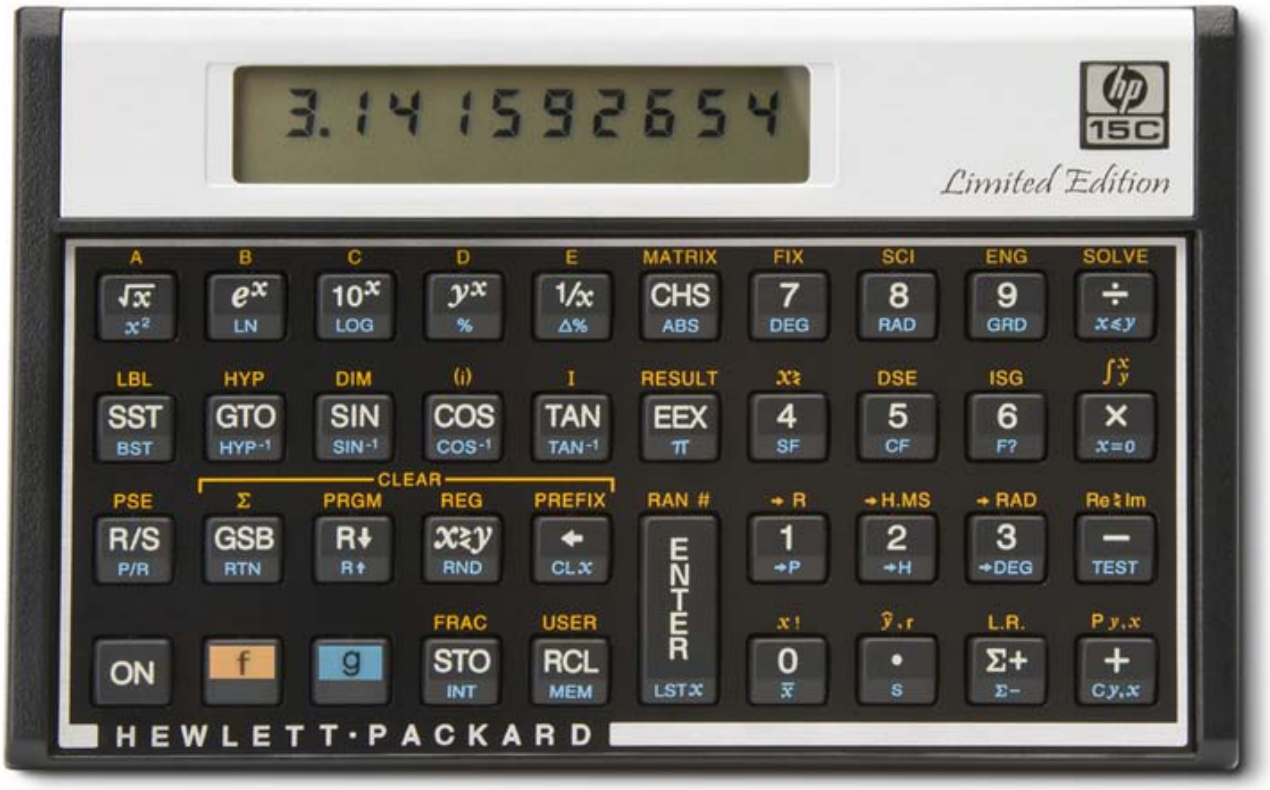
-Marwan

Re: 15C LE Wobbly F/G Keys

*Message #14 Posted by **robert rozee** on 15 Sept 2011, 10:18 a.m.,*
in response to message #2 by hpnut

the solution to this would have been incredibly easy - make the f and g keys the same colour (brown) as the rest, then print them with a gold/blue block with the f/g in reverse (ie, the brown of the underlying plastic).

this would have the added advantage of providing the LE calculators with a very clear discerning feature to differentiate it from the originals, as well as producing an overall simpler product to assemble.



Edited: 15 Sept 2011, 10:41 a.m.

Re: 15C LE Wobbly F/G Keys

*Message #15 Posted by **Quan** on 15 Sept 2011, 10:58 a.m.,*
in response to message #14 by robert rozee

If this were done, I wonder how long before the paint rubbed off.

Re: 15C LE Wobbly F/G Keys

*Message #16 Posted by **Bart (UK)** on 15 Sept 2011, 11:05 a.m.,*
in response to message #15 by Quan

It's that way on the 35s. Also, the white numbering/lettering is printed on anyway, so the numbers are likely to wear off before the function keys (assuming the same "toughness" paint is used).

Re: 15C LE Wobbly F/G Keys

*Message #17 Posted by **Martin Pinckney** on 15 Sept 2011, 11:32 a.m.,*
in response to message #14 by robert rozee

No, I like the solid color keys as implemented. More true to the original.

Re: 15C LE Wobbly F/G Keys

*Message #18 Posted by **Mike Morrow** on 15 Sept 2011, 11:44 a.m.,*
in response to message #14 by robert rozee

Horrible idea! Painted shift keys *would definitely* have kept me from purchasing the 15C-LE units I have. It looks very cheap, and very ugly. Did I mention cheap?

This "wobbly keys" issue is bullshit. Some could instead find better better use of their time looking for *real* issues in need of improvement.

As a *gamma-tester, :-)* I found several substantial *but fixable* problems (self-tests, memory corruption, PSE bugs) that I documented here last week. Still, I am quite happy with product value after spending five hours using it since Friday.

Is it an original 15C? No. Is it a 42S? Not even close. It is just a very servicable and attractive machine the likes of which HP will doubtless not be eager to waste time on in the future. I could easily have lived without a HP 15C re-issue. The 15C was far from being my favorite HP from 34 years of HP usage, so the 15C-LE won't replace my 42S or 50g.

But I'm damned happy to own two.

Re: 15C LE Wobbly F/G Keys

*Message #19 Posted by **bill platt** on 15 Sept 2011, 12:07 p.m.,*
in response to message #14 by robert rozee

Yuk.

Give me a wobbly key any day, over that.

Re: 15C LE Wobbly F/G Keys

*Message #20 Posted by **Lincoln R.** on 16 Sept 2011, 2:27 a.m.,*
in response to message #14 by robert rozee

We already have a good way to tell them apart from the front: the "Limited Edition" script. If a seller is dishonest enough to photoshop that out, what's to stop them from copy/pasting keys from another picture onto a TAS auction or something?

Re: 15C LE Wobbly F/G Keys

*Message #21 Posted by **Quan** on 15 Sept 2011, 10:55 a.m.,*
in response to message #1 by DaveJ

Despite the small imperfection, I am happy with the new 15c that many have worked hard to bring it back, even in a small production run.

I now have 2 in my hand. No more wishing and hoping that HP would bring it back.

I also like the advantage of the new 15c over the old one: the firmware is upgradable which I would like to see happen soon to correct some of the issues reported here.

Not a problem for me.

Re: 15C LE Wobbly F/G Keys

*Message #22 Posted by **Seth Morabito** on 15 Sept 2011, 1:33 p.m.,*
in response to message #1 by DaveJ

I got my two 15C calculators last night. My first impressions are quite good, actually. The f and g keys are nowhere near that wobbly on the two I received.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Message concerning shipment from Samson Cables

*Message #1 Posted by **kc** on 15 Sept 2011, 1:17 a.m.*

I just got a message from Samson Cables concerning the shipment of my ordered HP 15C LE (I am from Hong Kong):

Your order is ready to ship but I need a clarification on shipping.

When we originally listed the 15C we estimated the 15C as 1 lb but it is actually 2 lbs shipping weight which limits our shipping options. With the $24 you paid we can send the calculator in a USPS Priority Flat Rate Padded Mailer. If you would like it shipped in a box, which is safer, the rate is higher. To complicate matters, due to the popularity of the 15C, we have temporarily run out of USPS Priority Flat Rate Padded Mailers.

Please choose from one of these options:

1) Pay an additional $8 and have it shipped in a box USPS Priority Mail (no tracking). 2) Pay an additional $16 and have it shipped in a box USPS Express Mail (with tracking, 3-5 business day delivery) 3) No extra charge, ship in USPS Priority Flat Rate Padded Mailer (no tracking, 1 week wait for shipment of padded mailers)

We can charge the extra payment to your order credit card or you may PayPal the difference to orders@samsoncables.com.

I apologize for the delay and thank you for your understanding. We will wait for your direction before shipping.

Chris

Anyone else also got the above message?

Re: Message concerning shipment from Samson Cables

*Message #2 Posted by **Neil Gruending** on 15 Sept 2011, 1:45 a.m.,*
in response to message #1 by kc

I got the same message, even though I was charged $16 for shipping not $24. I would've been upset if the calculator showed up in a padded mailer and I told them so.

Re: Message concerning shipment from Samson Cables

*Message #3 Posted by **Howard Owen** on 15 Sept 2011, 2:23 a.m.,*
in response to message #2 by Neil Gruending

Nice they asked, then. It's still you paying for their mistake, however.

Re: Message concerning shipment from Samson Cables

*Message #4 Posted by **Frank Rottgardt** on 15 Sept 2011, 6:12 a.m.,*
in response to message #1 by kc

Same here. Paid additional 8 bugs for a box. So shipment costs are up to 1/3 of the calculators price. Initinally I was charged 24 USD for transport. Now it is 32 making the final price being 132 USD.

So all guys "over there" should be happy with 79-85 USD from buy.com :-) In Europe it has always been a bit more expensive being a HP-enthusiast...

Re: Message concerning shipment from Samson Cables

*Message #5 Posted by **Neil Gruending** on 15 Sept 2011, 11:12 a.m.,*
in response to message #1 by kc

Yes, it is nice that they asked first and I did authorize them to charge the extra $8. $24 to ship from the US to Canada is about right. I remember thinking that the original $16 was too cheap.

Re: Message concerning shipment from Samson Cables

*Message #6 Posted by **Paul Berger (Canada)** on 15 Sept 2011, 11:51 a.m.,*
in response to message #5 by Neil Gruending

hmmm they never asked me, charged me $16 for shipping claim it went out Tuesday.

Re: Message concerning shipment from Samson Cables

*Message #7 Posted by **Neil Gruending** on 15 Sept 2011, 12:15 p.m.,*
in response to message #6 by Paul Berger (Canada)

Their web page said it was shipped on Tuesday for me too, but it didn't actually leave until today. I bet yours has shipped in a padded envelope instead of a box because I think part of the problem was that they ran out of envelopes.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C package

*Message #1 Posted by **Quan** on 14 Sept 2011, 6:19 p.m.*

I ordered a 15c on the 9/8/2011 and it arrived in a thin plastic bubble bag. No damage.

I ordered another 15c on the 9/9/2011, but this time it arrived in a box. No damage either.

LE number 915 and 2152.

Did yours come in a bag or a box? Any damage if it arrived in a bag?

Just curious.

Re: 15C package

*Message #2 Posted by **gene wright** on 14 Sept 2011, 6:22 p.m.,*
in response to message #1 by Quan

They are all supposed to be in a box.

Who did you order from? call them and complain. Loudly.

Re: 15C package

*Message #3 Posted by **uhmgawa** on 14 Sept 2011, 6:49 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> They are all supposed to be in a box.
>
> Who did you order from? call them and complain. Loudly.

Couldn't agree more.

Many moons ago I ordered a 35s (don't ask) from buy.com only to have it shipped in a thin plastic bag which appeared it was used to mop the floor, and resulting in the blister pack being crushed. As it only cost me US$15 I didn't make a fuss over it. Reading some here state they were shipping the 15c as such made me cringe. Fortunately mine arrived in a substantial box sealed curiously enough with "tamper evident" tape.

I suppose it is fair to say buy.com's shipping procedure is inconsistent.

Re: 15C package

*Message #4 Posted by **Quan** on 14 Sept 2011, 6:51 p.m.,*

in response to message #2 by gene wright

I suspect someone already complained, hence the change from bag to box.

BTW, thank you very much for the cable.

Re: 15C package

*Message #5 Posted by **Martin Pinckney** on 14 Sept 2011, 7:05 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> They are all supposed to be in a box.

I got mine from Buy.com. It came in the "lizard skin" presentation box, but the box was shipped in a bubble bag. I think that was what Quan meant.

Re: 15C package

*Message #6 Posted by **Quan** on 14 Sept 2011, 7:10 p.m.,*
in response to message #5 by Martin Pinckney

Exactly!

One box in a bag and one box in a bigger box.

:)

Re: 15C package

*Message #7 Posted by **BruceH** on 15 Sept 2011, 4:40 p.m.,*
in response to message #6 by Quan

Good thing it was only Buy.com doing the packaging and not HP.
http://www.theregister.co.uk/2008/07/18/hp_packaging/

:-)

Re: 15C package

*Message #8 Posted by **Katie Wasserman** on 15 Sept 2011, 5:13 p.m.,*
in response to message #7 by BruceH

I used to run a a few HP3000 systems and the documentation was routinely delivered to us in a series of nested boxed, although not quite as many levels deep as this. Does HP own a paper company, if not they should it would help with their ink sales too.

Re: 15C package

*Message #9 Posted by **Tim Wessman** on 15 Sept 2011, 5:54 p.m.,*
in response to message #7 by BruceH

I have an even better one.

Ordered a large, flexible cutting mat from Amazon to aid with kite construction. I think it is about 1m by 1.5m. It came in a box the size of a 3/4 sized refrigerator and was completely empty except for the flexible mat loose at the bottom. The delivery person asked me if I'd open it up so he could see what was in it. He throught it was an empty box!

I guess they didn't want to roll it up. . . :-|

TW

Edited: 15 Sept 2011, 5:55 p.m.

Re: 15C package

*Message #10 Posted by **Dave Shaffer (Arizona)** on 15 Sept 2011, 10:42 p.m.,*
in response to message #9 by Tim Wessman

I think I have seen the real world record - at least for packaging volume to product volume: an FET chip (not a complete transistor in its three-lead housing, but just the naked silicon chip itself) certainly less than a mm square and a few hundred microns thick, delivered in a shoe-box size package.

This was for a specialized radio astronomy receiver.

The outside box did help keep the product from getting lost along the way!

Re: 15C package

*Message #11 Posted by **M. Joury** on 14 Sept 2011, 6:27 p.m.,*
in response to message #1 by Quan

My first one arrived in a bag and the outer box was damaged. The next two arrived in a box in perfect condition. I actually mentioned it to buy.com as an aside in my back and forth about availability (which at that stage was a moot point since I already had mine) and they immediately (without my asking) offered either:

1. An exchange or 2. A $15 credit

Since I had 2 perfect ones I took the credit. Got that $5 off per unit after all!

I was actually pleasantly surprised by their immediate response and offer to correct the problem. Specially after all the negative feedback flying around on this forum when we were still unsure if buy.com actually had the units at all.

Cheers,

-Marwan

Edited: 14 Sept 2011, 6:28 p.m.

Re: 15C package

*Message #12 Posted by **Jim Johnson** on 14 Sept 2011, 6:31 p.m.,*
in response to message #1 by Quan

My two (2) HP-15cLE's arrived today in boxes. They were ordered from Buy.com. Packing was good with a sturdy outer brown cardboard box with heavy brown paper inside as cushion and the HP-15cLE box sitting inside. Very impressive shipping using FedEx ground to ship from Olive Branch, Mississippi to Indianapolis,

Indiana in just two days. Ordered on Saturday, shipped Monday and arrived early Wednesday morning.

Re: 15C package

*Message #13 Posted by **troy** on 14 Sept 2011, 7:19 p.m.,*
in response to message #1 by Quan

it wasn't actually the buy.com packaging that annoyed me. it was fedex.

first, they said (last friday on the tracking data) the package will arrive on monday. so i waited almost the whole day monday only for them to change the date at around lunchtime to tuesday. then on tuesday, i was ready to wait some more when the date changed again.

the suspense almost killed me, but i finally got it.

Re: 15C package

*Message #14 Posted by **Lincoln R.** on 15 Sept 2011, 11:16 a.m.,*
in response to message #1 by Quan

My buy.com order came in a pretty sturdy box sealed with tamper tape. Shipped 09/12/11, Delivered to Pittsburgh, PA 09/14/11 (with the free shipping no less). I have Limited Edition number 02195, arrived with no damage.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12C 30th Anniversary

*Message #1 Posted by **Keith Midson** on 14 Sept 2011, 5:36 p.m.*

Well my 12C 30th anniversary edition arrived yesterday - very impressed with the quality and packaging! I've included it in my 12C set which is now complete: 12C-Link
Now i'm waiting for my 2 15C's to arrive ;)
Cheers, Keith

Re: HP12C 30th Anniversary

*Message #2 Posted by **Martin Pinckney** on 14 Sept 2011, 5:40 p.m.,*
in response to message #1 by Keith Midson

Keith,

Would you compare the build quality of the 12c 30th with the 12c Platinum (the newest black one).

Thanks.

Re: HP12C 30th Anniversary

*Message #3 Posted by **Keith Midson** on 15 Sept 2011, 7:33 p.m.,*
in response to message #2 by Martin Pinckney

Hi Martin, the build quality is very similar. I prefer the keys in the 30th anniversary model - they have a similar feel, but the Platinum keys seem a little more 'plastic' - very hard to distinguish (maybe it's just the colour). The 12C 30th should be the faster ARM processor. I also prefer the 'traditional' 12C logo on the 30th model. I still prefer the more rounded edges of the original 80's 12C.
Just added a couple of extra photos of comparison in the set HERE
Cheers, Keith

Edited: 15 Sept 2011, 7:34 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Shipment

*Message #1 Posted by **Eddie W. Shore** on 14 Sept 2011, 3:10 p.m.*

Hopefully on Friday I will get a 30th year edition 12c (from HP) and one of the 15 LE from buy.com.

I decided to keep my other order at Bach and that 15 LE will get to my house when it gets there. I may keep the second one in the box for collective purposes, who knows.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C re-release may be a good time to remind..

*Message #1 Posted by **Pal G.** on 14 Sept 2011, 2:43 p.m.*

.. folks about this great paper, written by W Kahan:

Mathemtics Written in Sand.

```
"ABSTRACT:  Simplicity  is a  Virtue;  yet we
continue to cram ever more complicated circuits
ever more densely into silicon chips,  hoping all
the while that their internal  complexity  will
promote  simplicity  of use.  This paper exhibits
how well that hope has been fulfilled by several
inexpensive devices widely used nowadays for
numerical computation.  One of them is the
Hewlett-Packard  hp-15C  programmable shirtpocket calculator ..."
```

http://www.cs.berkeley.edu/~wkahan/MathSand.pdf

Re: 15C re-release may be a good time to remind..

*Message #2 Posted by **Howard Owen** on 14 Sept 2011, 3:25 p.m.,*
in response to message #1 by Pal G.

Simplicity! LOL

```
[The paper] had been typeset on an  IBM PC  and printed on an  EPSON FX-80  at
draft speed with an unreadable type-font of the author's devising,
and then photo-reduced.
```

Re: 15C re-release may be a good time to remind..

*Message #3 Posted by **Mike Morrow** on 14 Sept 2011, 3:44 p.m.,*
in response to message #1 by Pal G.

The advanced features of the HP 15C are not very simple to use, but in 1983 (the date of the cited paper) the 15C was the best thing out there for complex domain, matrix, integrate, and solve functions. Not even the HP-41 series with Advantage Module matched it.

But...having spent more time since Friday with the 15C/15C-LE than I have since a HP 42S replaced my 15C 15 years ago, I can say honestly that I'd forgotten *how terribly awkward and convoluted* it is to use those features. But...it is pretty, and isn't that the *most* important thing? :-)

Simplicity of use had to wait for the HP 42S, a monumental and stunning advancement over the 15C. It is bizarre that some fall head-over-heels for 30 year old *yet oddly immature* technology, as opposed to 20 year old mature technology.

Edited: 14 Sept 2011, 4:00 p.m. after one or more responses were posted

Re: 15C re-release may be a good time to remind..

*Message #4 Posted by **Howard Owen** on 14 Sept 2011, 3:51 p.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> It's bizarre that we're still falling head-over-heels for 30 year old technology.

I believe it's not as much a matter of the head than of the heart. Fans of the 15C's power as a calculator might disagree.

Re: 15C re-release may be a good time to remind..

*Message #5 Posted by **bill platt** on 14 Sept 2011, 4:18 p.m.,*
in response to message #4 by Howard Owen

If you go back over Valentins's excellent stuff, even he minced no words in the superior nature of the 42s over the 15c.

But to me, neither is worth much programming effort: no I/O = No Start.

Re: 15C re-release may be a good time to remind..

*Message #6 Posted by **uhmgawa** on 14 Sept 2011, 5:21 p.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> But...it is pretty, and isn't that the *most* important thing? :-)

Especially the box -- don't forget the box. I mean can you recall when you've seen before (if ever) so much thought and design go into a cardboard box for a consumer electronic device? I'm afraid to touch the thing with an ungloved human hand for fear I may affect its perceived value. Plastic overwrap designer cover too for that matter.

Re: 15C re-release may be a good time to remind..

*Message #7 Posted by **Howard Owen** on 14 Sept 2011, 5:46 p.m.,*
in response to message #6 by uhmgawa

Apple.

Re: 15C re-release may be a good time to remind..

*Message #8 Posted by **Lincoln R.** on 15 Sept 2011, 12:57 a.m.,*
in response to message #7 by Howard Owen

One could argue that people like us (and probably RPN users in general) have the same sort of fanaticism for HP calculators that Apple fans do for the latest iPhone. Admittedly, my first reaction when I found out the 15C reissue was real was "where can I get one?" shortly followed by "will it be priced such that I can afford one?"

And I'm quite thankful that I didn't have to stand in line at an HP store (which I know does not actually exist) for hours to get one either :-P

15C re-release may be a good time to remind..

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE -- fun with the PSE

*Message #1 Posted by **Katie Wasserman** on 14 Sept 2011, 1:01 p.m.*

The PSE bug results in some interesting displays, try this little program:

```
LBL A
PSE
SF 9
RTN
```

and run it.

or this:

```
LBL A
PSE
PSE
SF 9
RTN
```

and run the with a number greater than 1000.

-Katie

Re: 15C LE -- fun with the PSE

*Message #2 Posted by **Howard Owen** on 14 Sept 2011, 1:33 p.m.,*
in response to message #1 by Katie Wasserman

Annunciators blink too. Try it with RAD and USER modes enabled.

Re: 15C LE -- fun with the PSE

*Message #3 Posted by **uhmgawa** on 14 Sept 2011, 6:13 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> Annunciators blink too. Try it with RAD and USER modes enabled.

The display driver in the original r2d2 disables the annunciators when it is in blink mode. So that needs to be explicitly addressed in an emulation scenario.

Re: 15C LE -- fun with the PSE

*Message #4 Posted by **Thomas Chrapkiewicz** on 14 Sept 2011, 2:12 p.m.,*
in response to message #1 by Katie Wasserman

Curious!

Running on the HP15CLE, the display alternates between 'running' and the number in X. With the double-pause code only the 'USER' or GRAD or RAD annunciators blink.

Single Pause code: Running on an original 15C, the display is blinking. Of course, clearing flag 9 stops this blinking - returning to a normal display.

Running on the 15C2010HHC (with code received there), the display totally blanks; but briefly reappears when a key is hit. Again, clearing flag 9 returns the display to normal.

TomC

Re: 15C LE -- fun with the PSE

*Message #5 Posted by **Eddie W. Shore** on 14 Sept 2011, 3:11 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

Sounds like we need to avoid PSE with the new 15c. LOL

Re: 15C LE -- fun with the PSE

*Message #6 Posted by **Mike Morrow** on 14 Sept 2011, 3:24 p.m.,*
in response to message #5 by Eddie W. Shore

er...yes.

Re: 15C LE -- fun with the PSE

*Message #7 Posted by **Katie Wasserman** on 14 Sept 2011, 4:04 p.m.,*
in response to message #4 by Thomas Chrapkiewicz

Quote:

With the double-pause code only the 'USER' or GRAD or RAD annunciators blink.

... and the radix mark and the thousands separators.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some 15c files from HHC 2010

*Message #1 Posted by **gene wright** on 14 Sept 2011, 12:07 p.m.*

This was a reference document containing goodies for the 15c as well as some speed reports:

15c reference

This was the 15c example I gave at HHC 2010. The crazy program problem was entirely my warped idea. :-)

15c Example PDF

Re: Some 15c files from HHC 2010

*Message #2 Posted by **Eddie W. Shore** on 14 Sept 2011, 3:22 p.m.,*
in response to message #1 by gene wright

This is going to be good reading. Thanks, Gene.

Re: Some 15c files from HHC 2010

*Message #3 Posted by **gene wright** on 14 Sept 2011, 3:35 p.m.,*
in response to message #2 by Eddie W. Shore

Well, very little of the 15c reference file is original!

I simply went through as much of the PPC Journal and Datafile as possible and pulled out articles, programs, etc. related to the 15c.

The quick reference guide was very nice and came from an online source.

I did get a laugh with my example integral in the second file, which was entirely original. :-)

Re: Some 15c files from HHC 2010

*Message #4 Posted by **Howard Owen** on 14 Sept 2011, 4:21 p.m.,*
in response to message #3 by gene wright

As I said before, this document is priceless. Great editorial selection, Gene!

Re: Some 15c files from HHC 2010

*Message #5 Posted by **Frank Rottgardt** on 16 Sept 2011, 3:48 p.m.,*
in response to message #1 by gene wright

Gene, these links don´t work for me. Download interupts after 1 sec.

Re: Some 15c files from HHC 2010

*Message #6 Posted by **gene wright** on 16 Sept 2011, 3:52 p.m.,*
in response to message #5 by Frank Rottgardt

Both just worked fine for me. I'm using Dropbox and some companies / firewalls might not like it.

Sorry.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Annunciators on the 15c LE

*Message #1 Posted by **troy** on 14 Sept 2011, 11:55 a.m.*

Hi:

This is my first 15c, ever. I never even heard of it until ~15 years ago when I saw one of my professors using it. I was so intrigued that I bought the 32sii, got hooked on RPN, and got the 33s, 35s, 2 49g+ (one given to a friend), 50g, 28s, and a couple of slide rules. Back in college, all I know of calculators are casios and tis. But ever since that fateful day with my prof, I've always wanted a 15c. And it's finally here!

So, pardon my ignorance for asking this question. I haven't finished going through the manual yet, but the old timers here might know.

On the 15c, the f and g show an indication that you've pressed it. but the fix, sci, eng does not? is this right? So how do you know that you've pressed it (the FIX, SCI, ENG)? or perhaps accidentally pressed it? Perhaps it only takes getting used to. I'm just so used to my 32sii.

Thanks all!

Re: Annunciators on the 15c LE

*Message #2 Posted by **gene wright** on 14 Sept 2011, 12:04 p.m.,*
in response to message #1 by troy

Yes, that is correct. The annunciators show up on about page 60 of the manual.

Re: Annunciators on the 15c LE

*Message #3 Posted by **troy** on 14 Sept 2011, 5:56 p.m.,*
in response to message #2 by gene wright

thanks gene!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C-LE Pause (PSE) Command Bug

*Message #1 Posted by **Mike Morrow** on 10 Sept 2011, 12:44 p.m.*

I tried out the PSE command on the 15C-LE to see if there were timing problems with it. I found a surprising and unhappy result.

The following simple loop counts down from 10 to 1, pausing to display before each decrement. That's what happens in the original 15C, but not the 15C-LE.

001 LBL E
002 1
003 0
004 STO 0
005 LBL 9
006 RCL 0
007 PSE
008 DSE 0
009 GTO 9
010 RTN

On the 15C-LE, the program pauses for the first time and displays 10.0000. For the remainder of the program, the display blanks completely, the program pauses each time the PSE is executed (determined by long program run time), **but nothing is shown in the display until execution terminates.**

This is a firmware bug that could be very inconvenient. Essentially the PSE command is non-functional on the 15C-LE.

Edited with some additional observations below.

I added a 1000-iteration sub-loop to see what the display looks like when a great number of other steps are taking place between PSE commands:

001 LBL E
002 1
003 0
004 STO 0
005 LBL 9
006 RCL 0
007 PSE
008 1
009 0
010 0
011 0
012 STO 8
013 LBL 8
014 DSE 8

015 GTO 8
016 DSE 0
017 GTO 9
018 RTN

In FIX 4 display, after starting the program with f E, I see 10.0000 paused in display, then a couple of seconds of blinking "running" displays, then simply a "runn" in mid-LCD that blinks every few seconds, presumably when the next PSE command is encountered, until program terminates and normal display appears.

In FIX 9 display, the same occurs, except that "runn00000" instead of "runn" appears in the display until the program terminates and normal display appears.

Edited: 10 Sept 2011, 7:24 p.m. after one or more responses were posted

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #2 Posted by **Namir** on 10 Sept 2011, 12:52 p.m.,*
in response to message #1 by Mike Morrow

I guess you found bug ONE!!! Kinda reminds me of the "bug one" on the HP-41C (of course it was of a different nature).

A pause command that does not work right is very irritating!

Let's hope that HP can provide us with an updated firmware at HHC2011.

Namir

Edited: 10 Sept 2011, 12:54 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #3 Posted by **Mike Morrow** on 10 Sept 2011, 12:58 p.m.,*
in response to message #2 by Namir

Bug 2.

Bug 1 was the self-tests that don't work, and that also corrupt program memory.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #4 Posted by **bill platt** on 10 Sept 2011, 1:18 p.m.,*
in response to message #3 by Mike Morrow

Isn't that more an un-wrong-documented feature rather than a bug?

Quibbling ...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #5 Posted by **Mike Morrow** on 10 Sept 2011, 1:59 p.m.,*
in response to message #4 by bill platt

I think the old self test issue fully qualifies as a bug because:
1. It is a feature that is described in the manual that does not work.
2. If the "ON plus *" or the "ON plus +" tests are attempted by an unwary user following the

manual instructions, program memory will likely be corrupted (something the self tests should never do).

If the issue is addressed only by a change to manual appendix F, and firmware remains unaltered, program corruption can take place through indavertent initiation of the old self tests.

Since firmware changes are required to correct this, it more than qualifies as a bug and not a documentation issue.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #6 Posted by **MK-52** on 10 Sept 2011, 1:01 p.m.,*
in response to message #1 by Mike Morrow

Does no one test before releasing? I hope HP provide a new firmware...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #7 Posted by **Jake Schwartz** on 10 Sept 2011, 1:36 p.m.,*
in response to message #6 by MK-52

> Quote:
>
> Does no one test before releasing?

You've got to be kidding. I assure you that there was lots of testing on this machine. Just because something got missed doesn't mean that testing was not done. In addition, just because one hasn't been found yet does not guarantee that any HP calculator model is completely bug free.

Jake

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #8 Posted by **Alexander Oestert** on 10 Sept 2011, 1:48 p.m.,*
in response to message #7 by Jake Schwartz

> Quote:
>
> I assure you that there was lots of testing on this machine.

Did none of the 2010 conference recipients of the HP 15C LE ever try a program with PSE in it? Or does PSE work in some cases and just doesn't in this one?

I'm seriously thinking about canceling my order of two units. Or is it likely that a fixed firmware will be released and also be flashable with the HP 30b cable (that I already have!)?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #9 Posted by **Kiyoshi Akima** on 10 Sept 2011, 4:27 p.m.,*
in response to message #8 by Alexander Oestert

> Quote:

> Did none of the 2010 conference recipients of the HP 15C LE ever try a program with PSE in it? Or does PSE work in some cases and just doesn't in this one?

The PAUSE worked fine in my Towers of Hanoi program on my HHC2010 15C+, so I had no cause to report a bug.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #10 Posted by **Mike Morrow** on 10 Sept 2011, 1:48 p.m.,*
in response to message #7 by Jake Schwartz

I agree. Even old firmware technology is complex and nothing is ever perfect (except the Apollo Lunar Modules!). I'm happy with my two 15C-LE units...though this PSE problem does need correction.

I think it's worth repeating that the 15C-LE is only about one-quarter the cost of the original in terms of real dollars. I believe it offers a very good value.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #11 Posted by **Thomas Radtke** on 10 Sept 2011, 2:16 p.m.,*
in response to message #7 by Jake Schwartz

Well, I also find it odd that this hasn't been tested. If anything can fail in an emulation that seems to work otherwise, it is likely based on timing. Guess that's what Mike was looking for when testing PSE.

@Alexander, I'm sure there will be an update. I wouldn't cancel my order now. Even if this bug remains, I bet the 15C LE can be sold on TAS anytime for more than the 100 Euros we'll likely have to pay for it.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #12 Posted by **MK-52** on 10 Sept 2011, 2:46 p.m.,*
in response to message #7 by Jake Schwartz

You're right. I really spoke too harshly and it was offensive to the testers and developers. I've ordered three units and had unrealistic expectations.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #13 Posted by **bill platt** on 10 Sept 2011, 1:19 p.m.,*
in response to message #1 by Mike Morrow

what happens if you insert more than one pse at each pause? Will this slow it down enough to work?

What happens if you insert R/S instead of pse? Does it work correctly?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #14 Posted by **Mike Morrow** on 10 Sept 2011, 1:37 p.m.,*
in response to message #13 by bill platt

Adding a second PSE only increases the execution time in which a blank display appears. The program above takes 11 second to end with one PSE, and 22 seconds with two PSE. The PSE is in fact pausing execution. But the LCD is completely blanked...there isn't even a "running" display after the first PSE.

Of course, R/S will stop everything.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #15 Posted by **uhmgawa** on 10 Sept 2011, 1:32 p.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> On the 15C-LE, the program pauses for the first time and displays 10.0000. For the remainder of the program, the display blanks completely, the program pauses each time the PSE is executed (determined by long program run time), **but nothing is shown in the display until execution terminates.**
>
> This is a firmware bug that could be very inconvenient. Essentially the PSE command is non-functional on the 15C-LE.

Sounds like there may be a problem with the logic used to simulate the display blink mode (which in NUT voyagers is a hardware function) along with normal rendering to the sam7l display.

I'm unsure what approach would cause that to occur unless the emulator is attempting to factor out the spurious/partial display updates emitted by the voyager firmware. KEMU rendering to a graphic display when running on the AVR needed to factor out these updates which although themselves are generally imperceptible to the user, also occur when a user is entering key strokes and cause an objectionable lag in interactivity.

The display rendering correctly at the termination of the program would seem to support this theory as when coalescing display updates a push out of pending data needs to happen when the firmware pauses with a POWOFF instruction.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #16 Posted by **Lincoln R.** on 10 Sept 2011, 1:59 p.m.,*
in response to message #15 by uhmgawa

It should be fixable. I imagine 15C LEs are reflashable, because as Tim Wessman has repeatedly told us, they're the same hardware as the 12C+. HP may have to do something like have people send their calculators back to be reflashed (for dealing with folks who don't have access to reprogramming cables), but I can't imagine they would leave this unfixed, especially since it sounds like the 12C/15C code was developed in-house unlike the 35S.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #17 Posted by **Katie Wasserman** on 10 Sept 2011, 2:24 p.m.,*
in response to message #16 by Lincoln R.

I don't understand why this has any bugs at all, there's no reason for them. The 2009-11-19 version of the emulator in the 12C+ has PSE working fine as well as the self tests. I helped debug this with Cyrille, publicly on this forum after it's release. Didn't HP learn from developing that how to get these things right?

-Katie

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #18 Posted by **uhmgawa** on 10 Sept 2011, 2:54 p.m.,*
in response to message #17 by Katie Wasserman

> Quote:
>
> I don't understand why this has any bugs at all, there's no reason for them. The 2009-11-19 version of the emulator in the 12C+ has PSE working fine as well as the self tests. I helped debug this with Cyrille, publicly on this forum after it's release. Didn't HP learn from developing that how to get these things right?

Again the 15c firmware has additional emulation requirements to successfully pass the native firmware self test. And in general HP is either patching the firmware, or adapting emulator behavior on a firmware specific basis. So none of this seems surprising except for the fact it hadn't been caught in alpha/beta testing.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #19 Posted by **Katie Wasserman** on 11 Sept 2011, 5:54 a.m.,*
in response to message #18 by uhmgawa

I understand that the specific patches to the firmware might be different for the 12c and the 15c while the emulator changes should be pretty similar if not identical. I was more questioning not learning from past mistakes of having the same self test issues on the 12C+.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #20 Posted by **Thomas Klemm** on 10 Sept 2011, 2:34 p.m.,*
in response to message #1 by Mike Morrow

Simple solution, don't use it. :-)

Thomas

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #21 Posted by **Walter B** on 10 Sept 2011, 3:08 p.m.,*
in response to message #20 by Thomas Klemm

Hmmh, PSE isn't something so arcane you won't need it. So IMHO this must be fixed.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #22 Posted by **Gerry Schultz** on 10 Sept 2011, 3:07 p.m.,*
in response to message #1 by Mike Morrow

I found something different. I pulled out the 15C+ we got last year at HHC and out of curosity, I typed in Mike's program and it counts and displays the countdown 10 to 0 just fine. It appears that this bug could be the result of firmware changes made after last October. I don't have my 15c LEs yet so please confirm this result.

Thanks, Gerry

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #23 Posted by **Jake Schwartz** on 10 Sept 2011, 5:25 p.m.,*
in response to message #22 by Gerry Schultz

...And the good news is that HP can release a new firmware version and these units can be reflashed. Hopefully, it will be considered important enough to fix and there will be a new file to download in a reasonable amount of time.

Jake

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #24 Posted by **Namir** on 10 Sept 2011, 6:25 p.m.,*
in response to message #23 by Jake Schwartz

Now we really need reliable and easy to use software and USB cables to update the firmware easily in Windows 7.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #25 Posted by **Katie Wasserman** on 11 Sept 2011, 5:59 a.m.,*
in response to message #23 by Jake Schwartz

This should be fine for those of use who read this forum and have cables (or can get them from Gene) and SAMBA. But what about the non-HP calculator fanatic who just wants to buy a calculator that works correctly and won't corrupt memory when running the self tests documented in the manual?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #26 Posted by **Martin Pinckney** on 11 Sept 2011, 12:20 p.m.,*
in response to message #25 by Katie Wasserman

> Quote:
>
> This should be fine for those of use who read this forum and have cables (or can get them from Gene) and SAMBA. But what about the non-HP calculator fanatic who just wants to buy a calculator that works correctly and won't corrupt memory when running the self tests documented in the manual?

Exactly. What about those who read this forum but *do not have* cables or SAMBA (whatever *that* is) because we don't do 34s.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #27 Posted by **Reth** on 11 Sept 2011, 12:21 p.m.,*
in response to message #25 by Katie Wasserman

Excellent point. Still whoever bought the LE would be HP calc fanatic and they would know. That explains the "LE" in a way, after they are sold, a fixed non-LE edition will be emitted.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #28 Posted by **Norman Dziedzic** on 10 Sept 2011, 11:41 p.m.,*
in response to message #1 by Mike Morrow

Just curious, does this bug also occur in the windows emulator that comes with the 15C LE?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #29 Posted by **From Hong Kong** on 11 Sept 2011, 12:20 a.m.,*
in response to message #1 by Mike Morrow

Compared with Casio's FX-502P, FX-602P and FX-603P, the classic HP-15C's implementation of the pause command is quite limited. The pause command of Casio's calculators can display something and accept keyboard input temporarily. Some games were developed using this feature. However, HP-15C only allows values to be displayed.

Edited: 11 Sept 2011, 12:21 a.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #30 Posted by **Paul Dale** on 11 Sept 2011, 12:25 a.m.,*
in response to message #29 by From Hong Kong

Agreed. Being able to input values during a pause is great for games.

- Pauli

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #31 Posted by **Ángel Martin** on 11 Sept 2011, 1:48 a.m.,*
in response to message #30 by Paul Dale

Yes, that's where the 41's workaround using flag 22 and flag 23 was mainly used - does the 15C have something similar perhaps?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #32 Posted by **From Hong Kong** on 11 Sept 2011, 1:59 a.m.,*
in response to message #31 by Ángel Martin

> Quote:
>
> Yes, that's where the 41's workaround using flag 22 and flag 23 was mainly used - does the 15C have something similar perhaps?

Unfortunately, there's no such workaround for HP-15C! :(

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #33 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Sept 2011, 8:53 a.m.,*
in response to message #31 by Ángel Martin

Just to add that "input during PAUSE" started with the 67/97 and certainly was most useful on the 41. Note that the 42S PAUSE works differently, IIRC.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #34 Posted by **Dieter** on 11 Sept 2011, 9:21 a.m.,*
in response to message #31 by Ángel Martin

No, it hasn't, just as it predecessor, the 34C. The 15C cannot be compared to top-of-the-line devices like the 67/97, let alone the 41. These not only allowed keyboard data entry during the PSE

instruction, even magnetic cards could be read. In either case the calculator could check whether data had been entered or not.

The 34C, as well as its successor 15C, and even the current 35s cannot do that. Like some other things that are/were possible on the higher-end models. I think it's fine that way.

Dieter

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #35 Posted by **From Hong Kong** on 11 Sept 2011, 2:31 a.m.,*
in response to message #1 by Mike Morrow

Mike:

In your first program, could you replace 10 with 10.00001 and run it again?

I would like to see whether the PSE command works after specifying explicitly the yy value to 01.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #36 Posted by **HrastProgrammer** on 11 Sept 2011, 3:33 a.m.,*
in response to message #1 by Mike Morrow

To be honest, it surprises me that such obvious bug hasn't been noticed during beta testing because PSE isn't some obscure used-once-in-a-year feature. Something like LBL 01 1 + PSE GTO 01 is the first thing I was checking while developing all my emulators ...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #37 Posted by **Patrick Rendulic** on 11 Sept 2011, 4:54 a.m.,*
in response to message #36 by HrastProgrammer

Pfffffffffff.

I ordered an HP15C-LE, because I want a new and working RPN calculator. My HP-35s is unusable because of too many bugs. So HP it seems that you have spoiled it again.

How does that firmware update work? Do you have to take the calculator apart? Will HP provide free cables?

I have noticed that many people must have known about this new calculator for more than a year. Wouldn't it have been wiser to imply more people from the community for serious debugging? That keep it top secret stuff is pure nonsense. What's the use op HHC when the final product is C*R*A*P?

No longer want that calculator.

Edited: 11 Sept 2011, 4:59 a.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #38 Posted by **Thomas Radtke** on 11 Sept 2011, 5:03 a.m.,*
in response to message #37 by Patrick Rendulic

Connector is accessible from within the battery compartement, if I identified it correctly in Katies pictures. Gene Wright offers appropriate cables for shipping costs only. You'll need a serial port and

some patience for the new firmware to be written ;-).

Can I make the cable easily?

*Message #39 Posted by **MK-52** on 11 Sept 2011, 11:19 a.m.,*
in response to message #38 by Thomas Radtke

Can I make the reprogramming cable easily? In Japan, Nihon-Hewlett-Packard decided to stop selling their calculators and outsource their customer service to Sykes Co, Ltd(China) several years ago. I don't think they provide firmware flashing service. So I may have to fix the problem myself.

Re: Can I make the cable easily?

*Message #40 Posted by **Thomas Radtke** on 11 Sept 2011, 11:38 a.m.,*
in response to message #39 by MK-52

Sorry, I don't know the internals of this cable. Thus far, people got them for free, some just paying shipping costs (it isn't much, even for oversea shipment). Wait some time for HP to present a solution, a new firmware won't be out tomorrow anyway ;-).

Re: Can I make the cable easily?

*Message #41 Posted by **MK-52** on 11 Sept 2011, 12:39 p.m.,*
in response to message #40 by Thomas Radtke

Thank you for giving me a information. Okay, I've wait more than 5 years and I'll wait for a while. :)

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #42 Posted by **gene wright** on 11 Sept 2011, 7:52 a.m.,*
in response to message #37 by Patrick Rendulic

As was pointed out, this bug is not present in the firmware on machines given out at last year's HHC conference.

Extract firmware from HHC 15c LE?

*Message #43 Posted by **Alexander Oestert** on 11 Sept 2011, 8:11 a.m.,*
in response to message #42 by gene wright

> Quote:
>
> As was pointed out, this bug is not present in the firmware on machines given out at last year's HHC conference.

Might it be possible to extract said firmware from these machines, make it available for download and flash it to the ones that are now sold?

Re: Extract firmware from HHC 15c LE?

*Message #44 Posted by **Thomas Radtke** on 11 Sept 2011, 8:20 a.m.,*
in response to message #43 by Alexander Oestert

What if it was replaced for a reason? It might contain different bugs :-(. The calculator folks

should sort it out and offer one _working_ firmware when it's ready and tested.

@Gene, BTW., do the stock of cables last for a few thousand customers? I imagine also it is asked a little too much to have them send out by just one person.

Edited: 11 Sept 2011, 8:21 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #45 Posted by **Alexander Oestert** on 11 Sept 2011, 9:06 a.m.,*
in response to message #44 by Thomas Radtke

> Quote:
>
> What if it was replaced for a reason? It might contain different bugs

Oh my...I hadn't thought of that... :-(

But, considering the fact that no bugs in this earlier firmware have been reported by HHC testers, my question remains: would that be doable?

Edited: 11 Sept 2011, 9:33 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #46 Posted by **Jeff Fontaine (Canada)** on 11 Sept 2011, 9:37 a.m.,*
in response to message #44 by Thomas Radtke

I would like to get a cable from Gene, hoping I will be able to flash my 15CLE when I get it (should be sent next Tuesday).

But, IMHO, HP has to manage that bug, and maybe some others that will appear, crossing my fingers the number is limited.

First, as said, Gene has probably not enough cables for thousands of people, and sending them would be a huge job.

Second, HP has to fix that and it is pretty easy to work with resellers who have lists of buyers and the organisation for managing large shippings of cable + CD with software and image. This is also probably cheaper for HP rather than to have users sending their calcs somewhere, flashing them and returning them to their owners, especially in case of bugs appearing later...

Jeff

Re: Extract firmware from HHC 15c LE?

*Message #47 Posted by **Pal G.** on 11 Sept 2011, 9:53 a.m.,*
in response to message #46 by Jeff Fontaine (Canada)

Are the reprogramming cables manufactured in China, or are they homemade by Gene and / or a group of volunteers?

If they are made in China, why not let ER sell them on his site? If they are free to those who ask (by HP?), I will gladly pay USPS cost to have one.

If they are homemade can we get a diagram or schematic so we can make our own??

If they are homemade and the cable diagram is already on the internet, could someone provide a link. I will go searching in the meantime..

Thanks!

Edited: 11 Sept 2011, 9:56 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #48 Posted by **Katie Wasserman** on 11 Sept 2011, 11:35 a.m.,*
in response to message #47 by Pal G.

Here are the details needed to make your own cable. I'm pretty sure that these cables are made in China but are not available for purchase, only free from Gene.

I think that the main problem is making them more available is that they are really quite difficult to use. I've reprogrammed of all the ARM-based machines many times and still have a hard time using them. The cables themselves are not at fault, the SAMBA software and the ARM chip are -- they're very temperamental.

-Katie

Edited: 11 Sept 2011, 11:36 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #49 Posted by **uhmgawa** on 11 Sept 2011, 2:50 p.m.,*
in response to message #48 by Katie Wasserman

> Quote:
>
> Here are the details needed to make your own cable.

I sketched a configuration for a flat profile connector before Tim was kind enough to send a full cable my way.

I've built a similar configuration (left hand board) to reflash a KINOMI module although the pitch here was 0.8mm rather than the sam7l's 2.0mm grid. So the task is relaxed considerably.

But unless you are doing quite a bit of reflashing such a jig is likely overkill. A more simple approach would be to scrounge phosphor bronze music wire (0.4~0.5mm should be fine) which has both suitable spring temper and is solderable.

I've even used paper clips, hot glue and popsicle sticks in a pinch as the steel has enough temper to maintain sufficient tension and can be soldered directly with a little ambition. In any case be sure to grind/sand/wire_brush the tips of the probes to a smooth convex surface so they don't excessively scuff up the gold plating on the sam7l PCB.

My thoughts

*Message #50 Posted by **gene wright** on 11 Sept 2011, 1:43 p.m.,*
in response to message #46 by Jeff Fontaine (Canada)

Well, I don't have thousands of cables now, but I'm sure HP will be taking a look at this and talking about it this next week. Remember, this wasn't found until after close of business on Friday. :-)

The firmware from HHC contained a few bugs related to timing of the display flashing (errors, etc) and these were fixed in an update. I don't believe the PSE error was present then, but another update was done that appears to have re-introduced them.

Patience, please. I'm not happy that the 15c LE has these minor issues, and it shouldn't have had any. However, I'm confident a fix will be forthcoming and something will be done to fix it.

Remember, HP did not have to redo this machine *at all*. It was done as a bow to those who really wanted this machine brought back. It won't budge HP's bottom line at all. It is and was a labor of love of many people. Those same people are *also* not happy with these two issues either, I'm sure.

Just my thoughts. Patience. :-)

Re: My thoughts

*Message #51 Posted by **Martin Pinckney** on 11 Sept 2011, 4:04 p.m.,*
in response to message #50 by gene wright

> Quote:
>
> Patience, please. I'm not happy that the 15c LE has these minor issues, and it shouldn't have had any. However, I'm confident a fix will be forthcoming and something will be done to fix it.

Like how the 35s was fixed? I would like to have such confidence...

Quite different...

*Message #52 Posted by **gene wright** on 11 Sept 2011, 5:20 p.m.,*
in response to message #51 by Martin Pinckney

The 15c LE can be flashed through a firmware update.

The 35s cannot.

Several orders of a magnitude difference between correcting one and not the other. One requires creating firmware and distributing it over the internet with no change to production lines, manufacturing processes, inventory, blah blah blah. The other requires a great deal more.

Your statement also shows a lack of awareness of firmware updates already created for the 49g, 49g+, 50g, 12c+, etc.

So, please give us all a break. No one will force you to buy a 15c LE...until they are all sold and you can buy one off ebay at > original cost. :-)

Re: Quite different...

*Message #53 Posted by **Howard Owen** on 11 Sept 2011, 5:25 p.m.,*
in response to message #52 by gene wright

Not to mention the numbers. Despite the real and perceived flaws celebrated here, the 35s has stayed in HP's catalog for years. I'd guess there are high six figures in circulation, at least.

You guys are a tough audience. :)

Re: Quite different...

*Message #54 Posted by **Martin Pinckney** on 11 Sept 2011, 7:51 p.m.,*
in response to message #52 by gene wright

> Quote:
>
> Your statement also shows a lack of awareness of firmware updates already created for the 49g, 49g+, 50g, 12c+, etc.

I have read some references to firmware updates on this forum. I should point out that the four you listed above are regular production calculators, not "Limited Edition" offerings.

> Quote:
>
> So, please give us all a break.

Who are you including in "all"?

> Quote:
>
> No one will force you to buy a 15c LE...

What does that have to do with this discussion?

Re: Quite different...

*Message #55 Posted by **gene wright** on 11 Sept 2011, 10:22 p.m.,*
in response to message #54 by Martin Pinckney

Yes, they were regular production calculators that could take a firmware update.

You seem to have missed that point for the second time now.

Say this out loud...

The HP 35s is not firmware upgradable, but every calculator HP has made that CAN be firmware upgradable has had a bug fix.

Sigh.

And, now to your questions:

2) All includes me, myself and I. Three.

3) If you feel that HP will never fix anything ala your view of the HP 35s, then don't ever buy a 15c LE and you won't have to worry about it. Just a suggestion.

Re: Quite different...

*Message #56 Posted by **Martin Pinckney** on 11 Sept 2011, 10:46 p.m.,*
in response to message #55 by gene wright

> Quote:
>
> Yes, they were regular production calculators that could take a firmware update.
>
> You seem to have missed that point for the second time now.

Rather, I *made* that point (that the others were regular production, and the 15cLE presumably isn't).

> Quote:
>
> The HP 35s is not firmware upgradable, but every calculator HP has made that CAN be firmware upgradable has had a bug fix.

I never said anything contrary to that. You're missing my point, which was, that HP has not shown much interest in fixing one-off models with problems.

> Quote:
>
> 3) If you feel that HP will never fix anything ala your view of the HP 35s, then don't ever buy a 15c LE and you won't have to worry about it. Just a suggestion.

I never made that statement, you have assumed that. See above.

Re: My thoughts

*Message #57 Posted by **Jake Schwartz** on 11 Sept 2011, 5:25 p.m.,*
in response to message #51 by Martin Pinckney

> Quote:
>
> Like how the 35s was fixed? I would like to have such confidence...

This isn't intended as any sort of excuse, but the 35S cannot be re-flashed, and thus had a ROM revision been made available, you'd have to obtain a new unit one way or another. I can only imagine the cost to the company if they offered a no-cost swap of an old one for a new one....that would have to be at least an order of magnitude more than simply putting a firmware revision on their web site for downloading. But I agree that there should have appeared a ROM revision in the sales pipeline at some point in the past four years.

Jake

Re: My thoughts

*Message #58 Posted by **Howard Owen** on 11 Sept 2011, 5:22 p.m.,*
in response to message #50 by gene wright

Man with free horse: "Gee, that left molar looks suspicious!"

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #59 Posted by **Lincoln R.** on 11 Sept 2011, 12:27 p.m.,*
in response to message #37 by Patrick Rendulic

Patrick,

Apparently the prototypes that got handed out at HHC last year didn't contain this bug. I'm not sure if any members of the community got to test the firmware version that shipped on the production 15C LEs. I do think that HP will fix this though, for the simple reason that this firmware was in-house as opposed to the 35S that was developed entirely by a 3rd party.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #60 Posted by **Namir** on 11 Sept 2011, 1:16 p.m.,*
in response to message #36 by HrastProgrammer

As a programmer I have, on a few occasions, created unforeseen new bugs by doing last minute tweaks to my code. And yes it was embarrassing if the code went to someone else. My guess is that this is what happened with the HP-15C LE. From what I read the beta version given at HHC2010 had the PSE command working properly. So, drawing from my own experience, a last minute tweak of the 15C LE code is the culprit.

Namir

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #61 Posted by **Tim Wessman** on 11 Sept 2011, 2:18 p.m.,*
in response to message #60 by Namir

It was probably the fix that was put in to speed up integration. The HHC version from last year had serious speed issues during integration due to the display updating so frequently. It was around 15x the speed of the original instead of the current speed.

Cyrille fixed this in the last version that was given to beta testers in April. Nobody reported any issues with it so. . . :-(

TW

Edited: 11 Sept 2011, 2:20 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #62 Posted by **uhmgawa** on 11 Sept 2011, 11:01 a.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> In FIX 4 display, after starting the program with f E, I see 10.0000 paused in display, then a couple of seconds of blinking "running" displays, then simply a "runn" in mid-LCD that blinks every few seconds, presumably when the next PSE command is encountered, until program terminates and normal display appears.
>
> In FIX 9 display, the same occurs, except that "runn00000" instead of "runn" appears in the display until the program terminates and normal display appears.

That sounds quite familiar. Communication with the LCD controller residing in the r2d2 is via two 56-bit registers located in the address map. The voyager firmware can only modify these registers serially but in the case of an r2d2 sniffing the ISA bus, modifications are realized immediately which masks the gratuitous updates made by the firmware. Under emulation it is possible (and potentially necessary) to factor out these excessive updates. But in doing so you'd need to synchronize the display register state to the display device after the firmware has set fully coherent display data in the corresponding registers.

From the above description it is possible the emulator isn't getting this quite right as it appears to be rendering at a transition point before the firmware has coherently modified both display registers. At least that is one explanation for the half-updated half-stale LCD display cited above and admittedly a scenario I needed to address in KEMU when driving a display other than the ISA r2d2.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #63 Posted by **Geoff Quickfall** on 11 Sept 2011, 2:23 p.m.,*
in response to message #62 by uhmgawa

I use the same cable and Samba for the 34S as I do for the 15C.

My pause display was tested with the latest firmware but not in an interative loop. Only for pause between two separate answers.

As far as firmware updates go, I have flashed through 3 of them so far with Samba and the cable with no problems at all.

I ordered one 15C+ from SC and have one 15C+ Beta unit. Nice thing is the Beta has a different bezel and harser colours diffentiating it from the 15C+ sales unit. Thus it will always be a stand alone 'collectable' unit.

I currently have 10 programs loaded for aviation and have not found any bugs on the latest version of software. The calc is unbelievably fast, compared especially to the 15C of course, but favourably to the 42S and 41CL for the same routine using similar code.

Fits in the pocket and is used as backup to the 41CL which I carry with me to work.

I think you will all enjoy it, and with cable, Samba and updates hopefully available, it will make a great package.

Cheers, Geoff

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #64 Posted by **Alexander Oestert** on 11 Sept 2011, 2:43 p.m.,*
in response to message #63 by Geoff Quickfall

> Quote:
>
> I use the same cable and Samba for the 34S as I do for the 15C.
>
> As far as firmware updates go, I have flashed through 3 of them so far with Samba and the cable with no problems at all.

Thanks for stating this with such clarity! This might have been obvious for you beta testers, but I needed this assurance to calmly go to sleep tonight and happily await the delivery, hopefully in a week or two!

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #65 Posted by **Mike Morrow** on 11 Sept 2011, 3:05 p.m.,*
in response to message #62 by uhmgawa

> Quote:
>
> That sounds quite familiar...
>
> From the above description it is possible the emulator isn't getting this quite right as it appears to be rendering at a transition point before the firmware has coherently modified both display registers.

Not to beat this to death, but here's another short program for the 15C-LE that demonstrates display oddities following PSE:

```
001 LBL E
002 5
003 0
004 0
005 0
006 STO 0
007 PSE
008 R/S
009 PSE
010 LBL 9
011 DSE 0
012 GTO 9
013 RTN
```

With a FIX 9 display, when this is executed (f E), the 15C-LE can be seen pausing (step 7) with 5000.000000 in display, then halting (step 8) with 5000.000000 in display. So far, so good.

When R/S then is pushed to restart execution at step 9, within a fraction of a second the display shows *alternating* 5000.000000 followed by runn00000 images (with less than 1 second period), until execution

ends about ten seconds later and the display returns to normal.

If the R/S (step 8) and second PSE (step 9) are deleted, then all appears normal...5000.000000 is shown in display by the PSE (step 7), followed by blinking "running" in display until execution ends.

It appears that **two** or more PSE commands must be executed during a program's runtime for problems to be observed afterwards. The PSE commands do not have to be consecutive.

Edited: 11 Sept 2011, 3:21 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #66 Posted by **Graham D. Wilson** on 11 Sept 2011, 4:34 a.m.,*
in response to message #1 by Mike Morrow

Oh dear!

I fear what other more obscure but more harmful bugs may have escaped detection given that PSE is itself such a common programming instruction for debugging programs.

Reports like this make me mistrust the accuracy and reliability of the LE, and I hate that feeling.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #67 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 2:33 a.m.,*
in response to message #66 by Graham D. Wilson

All the algorithms are exactly the same as in the original 15C. What you see here (the PSE bug) is in the emulation layer that mimics the original hardware. It's just a display glitch and does not affect the accuracy of the results in any way.

Nonetheless, the bug needs to be fixed. I assume Cyrille and Tim had some bad nights recently.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #68 Posted by **Tim Wessman** on 12 Sept 2011, 10:14 a.m.,*
in response to message #67 by Marcus von Cube, Germany

More like past few months of nights. . .

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

It had to happen sooner or later

*Message #1 Posted by **Michael de Estrada** on 14 Sept 2011, 10:54 a.m.*

Well, I guess the HP 15C fraud had to begin sooner or later, so here it is:

HP 15C LE on TAS misrepresented as an HP 15C

Edited: 14 Sept 2011, 11:00 a.m.

Re: It had to happen sooner or later

*Message #2 Posted by **bill platt** on 14 Sept 2011, 11:00 a.m.,*
in response to message #1 by Michael de Estrada

Man, I am such a sucker. If I thought like a businessman instead of an engineer, instead of questioning my need for a new 15c LE, I would have bought a bunch and turned them for a handsome 100% profit!

Re: It had to happen sooner or later

*Message #3 Posted by **M. Joury** on 14 Sept 2011, 11:01 a.m.,*
in response to message #1 by Michael de Estrada

LOL...

Michael,

How many times have you come across products you are familiar with on eBay and said to yourself: "What idiot would pay that much when they can get the same product brand new from a regular retailer with free shipping for X% less"?

The other day I saw a listing for an HP-12C Plat for some ridiculous amount. He had 4 for sale each at that price. I sent him a message asking him to confirm that the quoted BIN price was for all 4 because why else would I spend that much. Never got an answer of course.

Cheers,

-Marwan

Re: It had to happen sooner or later

*Message #4 Posted by **Michael de Estrada** on 14 Sept 2011, 11:05 a.m.,*
in response to message #3 by M. Joury

Yeah, but in this case the seller is misrepresenting a HP 15C LE as an original HP 15C. I think this is intentional fraud. Note that the main listing photo shows a HP 15C, not a HP 15C LE. Only one photo shows the correct model.

Re: It had to happen sooner or later

*Message #5 Posted by **M. Joury** on 14 Sept 2011, 11:12 a.m.,*
in response to message #4 by Michael de Estrada

Ohhhhh.... I glanced at it real quick and missed that. One of us should report the listing to eBay as fraudulent!

Re: It had to happen sooner or later

*Message #6 Posted by **bill platt** on 14 Sept 2011, 11:06 a.m.,*
in response to message #1 by Michael de Estrada

It is actually a fraudulent listing. Some of the photos show a 15C, while others show a 15C LE in LE packaging.

But there is *no category* in the Ebay reporting system to capture this and report it properly!

Re: It had to happen sooner or later

*Message #7 Posted by **M. Joury** on 14 Sept 2011, 11:17 a.m.,*
in response to message #6 by bill platt

I reported it anyway under "Fraudulent Listing".

Re: It had to happen sooner or later

*Message #8 Posted by **bill platt** on 14 Sept 2011, 12:39 p.m.,*
in response to message #1 by Michael de Estrada

I can't find anything in Ebay rules making it illicit to make a false claim as to what the product is. Apparently it is simply "caveat emptor" which makes sense, as ebay doesn't want to have anything to do with the truth of a listing. That would open them up to liability.

So chalk it up to "there is a sucker born every minute"

and "honest folk are suckers"

Re: It had to happen sooner or later

*Message #9 Posted by **Jim Johnson** on 14 Sept 2011, 12:48 p.m.,*
in response to message #8 by bill platt

```
I did send the HP-15cLE seller a message yesterday indicating that he was
misrepresenting the HP-15cLE and that he needed to CLEARLY state that it was a "Limited
Edition" version.
Of course, no answer from this seller.
I noticed that the high bidder, for the misrepresented calculator, had bid on other
German items.  Does that mean that someone in Germany can't buy the HP-15cLE yet?
```

Edited: 14 Sept 2011, 12:49 p.m.

Re: It had to happen sooner or later

*Message #10 Posted by **Martin Pinckney** on 14 Sept 2011, 3:12 p.m.,*
in response to message #9 by Jim Johnson

I sent him a direct email (I think), by inferring from his eB** I.D. what his email address is.

We shall see.

Re: It had to happen sooner or later

*Message #11 Posted by **Michael de Estrada** on 14 Sept 2011, 12:51 p.m.,*
in response to message #8 by bill platt

Actually, they do worry when they can be sued by manufacturers for fake brand name items. Like fake Gucci bags etc. This isn't a fake HP, just one that has been grossly misrepresented. The buyer can still go after the seller if they figure it out. Before TAS made aliases of the bidder user names, a good samaritan could send a warning message to the bidder before the auction ended. The current high bidder appears to be outside the USA, and probably has no idea that this is a total fraud.

Re: It had to happen sooner or later

*Message #12 Posted by **bill platt** on 14 Sept 2011, 1:08 p.m.,*
in response to message #11 by Michael de Estrada

Ebay is all geared towards big sellers now. I hate ebay. I have lost about $10 even trying to sell stuff the last 2 years. I haven't bought anything on ebay since a beat up 27s about 2 or 3 years ago. I just think it is the pits now.

Re: It had to happen sooner or later

*Message #13 Posted by **Michael de Estrada** on 14 Sept 2011, 1:20 p.m.,*
in response to message #12 by bill platt

I stopped selling anything with them, since they changed their selling fee to include the shipping cost as part of the sale amount. I sold some calcs privately to overseas addresses, and the shipping costs were over $50, which would have meant an additional $4.50 fee in a TAS listing.

Re: It had to happen sooner or later

*Message #14 Posted by **Howard Owen** on 14 Sept 2011, 5:16 p.m.,*
in response to message #12 by bill platt

The balance of power has shifted toward sellers in recent years. Hiding identities of bidders has prevented buyers from banding together in various ways. Some of those strategies could be described as abusive, but many just give buyers the advantage of the wisdom of the crowd. What eBay has come up with is the opposite of social networking. eBay's customers are the sellers. eBay's products are the buyers. You don't let your products conspire against your customers. That's no doubt how they see it.

I still find it worthwhile to bid on eBay occasionally. I keep strict discipline, bidding only what I am willing to pay, and disregarding other bidders. I no longer go to the effort to make last second bids for items, although that remains a viable strategy in the face of buyers who compulsively outbid anyone that comes along. I simply don't care as much about most things I see on eBay now, so I make many fewer bids. I find I'm much happier with the results if I follow those rules.

Re: It had to happen sooner or later

*Message #15 Posted by **Paul Gaster** on 14 Sept 2011, 9:39 p.m.,*
in response to message #14 by Howard Owen

I somewhat disagree with you. Ebay for several years now does not allow sellers to leave

negative or neutral feedback for a buyer, no matter what. I have sold several non-calculator items to just clean up my place, and several people have bid, won, and never paid. It was a shock to find out that I could not leave any negative feedback, and not even neutral either. And after you go through the unpaid item process and that is closed, you can't even leave any feedback. You can't even leave a positive with a warning to others that this guy never paid. Also, others have mentioned this, but now ebay takes a cut from even your shipping dollars. Yes, they take their percentage off that too. They keep squeezing sellers more and more all the time.

Edited: 14 Sept 2011, 10:04 p.m. after one or more responses were posted

Re: It had to happen sooner or later

*Message #16 Posted by **bill platt** on 14 Sept 2011, 9:59 p.m.,*
in response to message #15 by Paul Gaster

It is really a bad deal all around. They used to be the most amazing bargain. Now they are marginal at best.

If you are selling, you have to sell big ticket items to make it worthwhile. They expenses on $20 to$50 items runs close to $30% of sale price in the end.

Back in the 1999 period, it was less than 10%--gee, it might have been 5%!

Re: It had to happen sooner or later

*Message #17 Posted by **Michael de Estrada** on 14 Sept 2011, 10:19 p.m.,*
in response to message #16 by bill platt

Don't forget 3% for PayPal, which they own.

Re: It had to happen sooner or later

*Message #18 Posted by **M. Joury** on 14 Sept 2011, 10:44 p.m.,*
in response to message #15 by Paul Gaster

I thought that non-payment was the only case in which a seller could leave negative feedback these days. Has that changed as well?

The logic behind this was to prevent sellers from posting retaliatory feedback (that was the theory in any case) but the whole feedback system is worthless if it does not work both ways.

Re: It had to happen sooner or later

*Message #19 Posted by **Paul Gaster** on 14 Sept 2011, 11:21 p.m.,*
in response to message #18 by M. Joury

> Quote:
>
> I thought that non-payment was the only case in which a seller could leave negative feedback these days. Has that changed as well?
>
> The logic behind this was to prevent sellers from posting retaliatory feedback (that was the theory in any case) but the whole feedback system is

worthless if it does not work both ways.

Yes, it changed, and it was way back in 2008.

http://contact.ebay.com/ws/eBayISAPI.dll?CustomerSupport

Search Results:Here's what we found for "cannot leave negative feedback"[Previous] While sellers can leave a positive Feedback rating and a comment for buyers, they can't leave negative or neutral Feedback.

-------- http://cybernetnews.com/sellers-cant-leave-negative-feedback-on-ebay/

"eBay has really got their work cutout for themselves this time. They have decided, as expected, that it's time to block sellers from leaving neutral or negative feedback for buyers. Oh, and to make matters even worse they are now counting neutral feedback left by buyers as a negative when calculating the feedback score, which is sure to drop the score of many sellers. A lot of sellers have turned the other cheek when eBay has jacked up their fees, but I think this move could very well be the tipping point."

---

edit: one more thing I should mention... I have had about a dozen people in the last year not pay for items they won and it's a major pain to deal with. Ebay's policy for these situations is frustrating to say the least. You have to wait 4 full days before you can open a case for non-payment. Then you have to wait 4 more full days before you can close the case. The math is simple, but I want to stress that this is 8 full days. And that is if you open the case promptly after the 4 days, then close the case quickly 4 days later. Then you have to relist your item again, typically for a week, and wait. So in summary, you list an item and you wait a week for it to sell, then 8 days because someone doesn't pay, then another week for it to sell again. Now we are over 3 weeks for what should take 1. Major pain.

Edited: 14 Sept 2011, 11:30 p.m.

Re: It had to happen sooner or later

*Message #20 Posted by **M. Joury** on 15 Sept 2011, 7:14 a.m.,*
in response to message #19 by Paul Gaster

I found the passage which states: Note: Buyers can leave sellers negative, neutral, or positive Feedback. Sellers can leave buyers positive Feedback or choose not to leave Feedback.

So what the heck is the point of the buyers even having a feedback rating. It is meaningless.

Re: It had to happen sooner or later

*Message #21 Posted by **Bart (UK)** on 15 Sept 2011, 8:02 a.m.,*
in response to message #20 by M. Joury

Hmmm, recently I was going through someone's feedback and saw a positive, but the comments were in capitals and in the line of "buyer doesn't pay...". I wondered why someone would leave a positive with negative comment, this

explains it.

Re: It had to happen sooner or later

*Message #22 Posted by **bill platt** on 15 Sept 2011, 9:46 a.m.,*
in response to message #21 by Bart (UK)

That is actually quite clever. It is the only way to actually leave negative feedback!

Re: It had to happen sooner or later

*Message #23 Posted by **Namir** on 15 Sept 2011, 8:19 a.m.,*
in response to message #20 by M. Joury

The TAS rules about feedback in either case (old and new rules) allow abuse. A two-way positive-neutral-negative allows buyers and sellers to blackmail each other! The current feedback rule allows buyers to abuse sellers and blackmail them.

I agree the current system that allows sellers only positive feedback or no feedback is not much. TAS wants to encourage people to buy, since there are plenty of sellers. So they are biased towards buyers.

Of course buyers are even more craftier in sham descriptions that seem encouraging about the item, but include "sold as is" and "no return or refund" behind which the seller hides when you get a dud.

Namir

Re: It had to happen sooner or later

*Message #24 Posted by **Martin Pinckney** on 15 Sept 2011, 10:02 a.m.,*
in response to message #15 by Paul Gaster

You guys must trade in product areas with a lot of shifty customers. I have about 650 transactions, and I only experienced one non-paying buyer and one non-shipping seller (a minor item).

But most of my dealing has been in only two product areas: collectible Nikon film camera stuff and Unimat miniature machining stuff. Perhaps a higher class of traders?

Re: It had to happen sooner or later

*Message #25 Posted by **uhmgawa** on 14 Sept 2011, 1:50 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Well, I guess the HP 15C fraud had to begin sooner or later, so here it is:
>
> HP 15C LE on TAS misrepresented as an HP 15C

And the seller has a 100% positive feedback rating! This stunt should put a dent in that assuming the eventual

buyer realises they've been scammed.

Re: It had to happen sooner or later

*Message #26 Posted by **Eddie W. Shore** on 14 Sept 2011, 3:17 p.m.,*
in response to message #25 by uhmgawa

Agree. The seller is banking on that the buyer does not know the difference. Apparently the seller missed that episode on Judge Judy where a scammer tried to pass pictures of cell phones as actual cell phones.

Re: It had to happen sooner or later

*Message #27 Posted by **Paul Berger (Canada)** on 14 Sept 2011, 7:24 p.m.,*
in response to message #25 by uhmgawa

Seller has added a further note saying that first picture is a stock picture and not the actual item, that was obvious to me as that picture is in focus and on a white background unlike the other 3 pictures, seller goes on to make it clear item is the limited edition version.

Re: It had to happen sooner or later

*Message #28 Posted by **Martin Pinckney** on 14 Sept 2011, 8:49 p.m.,*
in response to message #27 by Paul Berger (Canada)

But notice he states:

> Quote:
>
> Any bids prior to 9/14/2011 at 7:00 pm EST are welcome to be retracted. Bids after this time are expected to be fulfilled.

So he still hopes to rip someone off.

Re: It had to happen sooner or later

*Message #29 Posted by **Martin Pinckney** on 14 Sept 2011, 7:13 p.m.,*
in response to message #1 by Michael de Estrada

I Too sent a message through eB**, and actually got a reply:

Me: You have listed a 15c LE as if it were an original 15c. Please change your description.

Answer: The pictures accurately show the product.

However, he has since revised his description. I wonder how long before he gets bid retractions?

Re: It had to happen sooner or later

*Message #30 Posted by **Nick R** on 14 Sept 2011, 7:47 p.m.,*
in response to message #29 by Martin Pinckney

It's probably worth checking the serial numbers, as sooner or later one of these bottom-feeders might figure out a way to carefully erase the "Limited Edition"

Re: It had to happen sooner or later

*Message #31 Posted by **Michael de Estrada** on 14 Sept 2011, 8:52 p.m.,*
in response to message #30 by Nick R

The back of the calc looks completely different, anyways, and says "Product of China". So it won't make any difference unless the buyer is totally clueless.

Re: It had to happen sooner or later

*Message #32 Posted by **Michael de Estrada** on 14 Sept 2011, 8:35 p.m.,*
in response to message #29 by Martin Pinckney

Not only have there been no bid retractions so far, but the price has been pushed up by the second bidder, and the top bidder still has two bids placed, so it could go a lot higher.

Re: It had to happen sooner or later

*Message #33 Posted by **Martin Pinckney** on 14 Sept 2011, 8:53 p.m.,*
in response to message #32 by Michael de Estrada

Yes, notice he states:

> Quote:
>
> Any bids prior to 9/14/2011 at 7:00 pm EST are welcome to be retracted. Bids after this time are expected to be fulfilled.

So he will still rip someone off unless they wise up and file a complaint with eB**. Or just refuse to pay.

In the old eB** days one could email the bidders and warn them.

Re: It had to happen sooner or later

*Message #34 Posted by **Paul Gaster** on 14 Sept 2011, 9:29 p.m.,*
in response to message #29 by Martin Pinckney

I sent him a message too. Here is a cut and paste of what he told me:

"You are rude for your statement. I have no intent to deceive. Look at the pictures. I have revised the listing however."

On the other hand ...

*Message #35 Posted by **Howard Owen** on 14 Sept 2011, 8:29 p.m.,*
in response to message #1 by Michael de Estrada

Here's an auction of a vintage 15C by a seller who is aware of the LE.

edit: I want to point out that this guy is being honest. What was interesting to me is evidence of the impact the LE is having on auctions.

Edited: 14 Sept 2011, 8:46 p.m.

Re: On the other hand ...

*Message #36 Posted by **Michael de Estrada** on 14 Sept 2011, 8:56 p.m.,*
in response to message #35 by Howard Owen

I agree. The originals should still command a higher price, because of the quality difference and where they were made. Even where the quality is the same, I've seen made in USA calcs command a premium over made in Singapore calcs.

Re: On the other hand ...

*Message #37 Posted by **Peter Murphy (Livermore)** on 14 Sept 2011, 9:11 p.m.,*
in response to message #35 by Howard Owen

The seller must have been jolted into action by severe words from Forum members, but his response is still well short of ideal. His listing title still reads, "HP 15C HP-15C Scientific Calculator New In Box," for example, with the words "Limited Edition" conspicuous by their absence. Starting over from scratch would have been the right thing to do.

Bidders who do not retract their bids (as might be the case if they do not revisit the listing and discover the seller's revision of it) may end up paying well more than they should: bids before the retraction deadline were over $224, well more than the $89.99 at which Buy.com had sold 43 LEs on TAS as of a few minutes ago.

Edited: 14 Sept 2011, 9:17 p.m.

Re: On the other hand ...

*Message #38 Posted by **Michael de Estrada** on 14 Sept 2011, 10:24 p.m.,*
in response to message #37 by Peter Murphy (Livermore)

In fairness to the seller, IIRC you can't change the title of a listing once bidding has begun. You would have to end the listing, which cancels the bids, and start an all new listing.

Re: On the other hand ...

*Message #39 Posted by **Paul Gaster** on 14 Sept 2011, 10:29 p.m.,*
in response to message #38 by Michael de Estrada

How about the stock picture? That should be removed if possible. I still think he could do better.

Re: On the other hand ...

*Message #40 Posted by **Cristian Arezzini** on 15 Sept 2011, 3:50 a.m.,*
in response to message #39 by Paul Gaster

I agree about removing the picture, but I think that the description is pretty honest now... He states very clearly that the first picture is to be disregarded, and that he sells the Limited Edition. Of course we can't expect him to say "I'm selling a lower quality, made in China copy", but the listing, as it is now, couldn't "fool" anyone... I hope! :)

Cristian

Re: On the other hand ...

*Message #41 Posted by **Gerson W. Barbosa** on 15 Sept 2011, 6:56 a.m.,*

in response to message #40 by Cristian Arezzini

> Quote:
>
> Of course we can't expect him to say "I'm selling a lower quality, made in China copy"

Especially because this would not be true altogether. It is an original HP calculator, not a copy.

Re: On the other hand ...

*Message #42 Posted by **Cristian Arezzini** on 15 Sept 2011, 8:01 a.m.,*
in response to message #41 by Gerson W. Barbosa

> Quote:
>
> Especially because this would not be true altogether. It is an original HP calculator, not a copy.

I know, I wasn't implying anything negative. I myself bought two of them. It's that the "purists" here wouldn't consider the LE on par with the original 15c, and I believe someone here called it a "copy" a few days ago...

Re: On the other hand ...

*Message #43 Posted by **Gerson W. Barbosa** on 15 Sept 2011, 1:26 p.m.,*
in response to message #42 by Cristian Arezzini

Ciao Cristian,

Well, the word "copy" sounds somewhat belittling to me, considering the effort HP has put into the project to bring it back at a competitive price. In a sense, however, every unit except the first working prototype is a copy.

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp-67 Power life

*Message #1 Posted by **Fouad M. Kaadou** on 14 Sept 2011, 9:53 a.m.*

Hello Hp Museum,

I am new here and this is my first post. I read that their is nothing you guys can't answer. My question is how long is the ON life of an Hp-67 with a fully charged battery pack (around 4.2V).

Thanks in advance, Fouad

Re: Hp-67 Power life

*Message #2 Posted by **M. Joury** on 14 Sept 2011, 10:38 a.m.,*
in response to message #1 by Fouad M. Kaadou

These days that would depend very heavily on the capacity of the cells you are using. I would hazard to say that everyone running an HP67 is using a rebuilt pack and it probably has much higher capacity than the original.

Re: Hp-67 Power life

*Message #3 Posted by **Jim Horn** on 14 Sept 2011, 11:12 a.m.,*
in response to message #1 by Fouad M. Kaadou

Indeed - it also depends on what you're doing with it. Sitting and siplaying "0" takes far less power than continuous program operation with lots of card use.

Back when I used mine heavily, it would typically give me about 2 - 2.5 hours of use on a charge (1976 - 1979). Today's cells have a much larger capacity (over 3X) so it should be good for a lot more than that if using a modern battery pack.

Re: Hp-67 Power life

*Message #4 Posted by **Fouad M. Kaadou** on 14 Sept 2011, 11:44 a.m.,*
in response to message #3 by Jim Horn

The cells are 1.2V NiCd Tenergy 1000mAh. I have charged it for about 3 hours to 4.2V and I left it on with the "0.00" display and it lasted less than 1 hour. You should know that when I first received it the charger was set to 110V and I plugged the calculator into 220V, but the charger still works find. Any thoughts?

Re: Hp-67 Power life

*Message #5 Posted by **M. Joury** on 14 Sept 2011, 11:49 a.m.,*
in response to message #4 by Fouad M. Kaadou

The charger is a trickle charger and I suspect that you are not getting a full charge from 3 hours. Are

you testing the cell voltage under load? I would suggest charging overnight and trying again.

Re: Hp-67 Power life

*Message #6 Posted by **Fouad M. Kaadou** on 14 Sept 2011, 11:55 a.m.,*
in response to message #5 by M. Joury

Thanks. I will try it tonight and get back to you tomorrow.

Re: Hp-67 Power life

*Message #7 Posted by **Jim Horn** on 14 Sept 2011, 1:04 p.m.,*
in response to message #6 by Fouad M. Kaadou

I know that when I used my '67 for a final exam in an Air Force orbital mechanics and perturbations class around 1978, I expected it to last for the two hour exam. Just for humor I took along my 15cm Post slide rule as well. To my dismay, I had forgotten to recharge the '67 that night so it died halfway through the exam and I had to resort to using the slide rule after all. Once I finished the exam, another student loaned me his TI calculator and I re-ran my numbers, getting more than 2 or 3 digits of accuracy for the answers.

That's my personal reference for '67 operating life...

Re: Hp-67 Power life

*Message #8 Posted by **Fouad M. Kaadou** on 15 Sept 2011, 3:01 p.m.,*
in response to message #7 by Jim Horn

Hello again. I took your suggestion and charged it over night - around 10 hours - I did not use the calculator till the afternoon but before I did I charged it for another 2 hours. I left it on idle at "0.00" display and it lasted around 2 hours and 15 minutes. I measured the voltage when it turned off and it was at 3.7V, that does not look good . I noticed the longer I charge it the longer it stays on but when I measured both voltages after 3 and 10 hours of charging they were the same - 4.2V.

HELP!

FOUAD

Re: Hp-67 Power life

*Message #9 Posted by **M. Joury** on 15 Sept 2011, 5:03 p.m.,*
in response to message #8 by Fouad M. Kaadou

You have to measure the voltage under load otherwise the reading is probably off.

Also, note that a NiCd or NiMH battery has a VERY flat discharge curve. That means that it will display high voltage until just before it dies. An example of such is the old HP-41 battery pack. With regular Alkaline batteries the calculator could run for hours, days, even weeks, with a low battery indication on. But with a NiCd pack you were lucky if you got 30 minutes, or even less, after the low batt lit up.

The point here is that the voltage difference will be very small between a fully charged battery and one the is at 50% charge. This is particularly true of the battery is tested with no load on it.

Cheers,

-Marwan

Re: Hp-67 Power life

*Message #10 Posted by **M. Joury** on 15 Sept 2011, 5:20 p.m.,*
in response to message #8 by Fouad M. Kaadou

One more thing: If this is a new battery pack it can take as many as 10 charge/discharge cycles for it to reach full capacity.

Re: Hp-67 Power life

*Message #11 Posted by **Dave Shaffer (Arizona)** on 15 Sept 2011, 10:31 p.m.,*
in response to message #10 by M. Joury

Similar for a battery that has just been sitting around for a while - you may need several charge/discharge cycles to get it back to "normal". Check the various battery manufacturer pages for more info.

Re: Hp-67 Power life

*Message #12 Posted by **M. Joury** on 15 Sept 2011, 10:44 p.m.,*
in response to message #11 by Dave Shaffer (Arizona)

Good point. I forgot to mention that.

Re: Hp-67 Power life

*Message #13 Posted by **Fouad M. Kaadou** on 17 Sept 2011, 1:00 a.m.,*
in response to message #12 by M. Joury

I have measured the voltage at the end of the calculators battery life - a little after the low power LED turned on. The voltage started at 3.8V and was quickly decreasing and in around 25 seconds it stopped at 2.29V. I am now working on charging the calculator for 3 hours and then discharging it. Is 3 hours of charging enough?

Thanks for all the help, Fouad

Re: Hp-67 Power life

*Message #14 Posted by **M. Joury** on 17 Sept 2011, 9:00 a.m.,*
in response to message #13 by Fouad M. Kaadou

> Quote:
>
> I am now working on charging the calculator for 3 hours and then discharging it. Is 3 hours of charging enough?

If you mean to cycle the batteries through 10 charges? Probably not. This takes several *full* charge discharge cycles. What I would do is simply to charge it overnight, use it until it turns off and then repeat. After 10 cycles or so I would run your test again.

Also, I was more interested in how you measured the voltage after a charge than at the end of the charge. What you are seeing at the end of a charge is typical NiCd/NiMH behavior but at the beginning of a charge testing under load gives you more information than without.

Cheers,

-Marwan

Re: Hp-67 Power life

*Message #15 Posted by **Fouad M. Kaadou** on 17 Sept 2011, 10:26 a.m.,*
in response to message #14 by M. Joury

> Quote:
>
> Also, I was more interested in how you measured the voltage after a charge than at the end of the charge. What you are seeing at the end of a charge is typical NiCd/NiMH behavior but at the beginning of a charge testing under load gives you more information than without.

I don't recall checking the voltage after charging the battery pack. I will measure it under and without load after fully charging it and come back to you.

Regards,

Fouad

Re: Hp-67 Power life

*Message #16 Posted by **sylvandb** on 19 Sept 2011, 5:54 p.m.,*
in response to message #14 by M. Joury

> Quote:
>
> What I would do is simply to charge it overnight

The 67's charger was a slow charger for the original NiCds. A full charge of those took overnight. I believe the original cells were about 400mAh. 350mAh were common then, and the best was about 600mAh.

If the new cells have 4x the capacity, it will take at least 4x the charge time.

The NiMH in my 67 take about 30 hours to full charge (from flat) using the 67's slow charger. I think I used 1600mAh but they might be only 1400's.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 15C LE

*Message #1 Posted by **William L. Drylie** on 14 Sept 2011, 8:33 a.m.*

I don't know about others on this forum, but I am just really happy to have the 15C back again, loose keys, bugs and all.

I lost my original about 5 years ago to a strong EMP. A tech tried to fix it, too much damage. That series was a true shirt pocket calculator. While I occasionally use my 12C for financial matters, it's really useless for my work. I really do not see why hp stopped manufacturing the 15C, along with the 12C, they have such a great form factor. One Science, One Business.

If hp is going to continue manufacturing calculators, I think the 15C should be a Standard edition and not a Limited one. They could ditch the 35S, and that other one that looks like an automobile grill. Those two don't even fit in your pocket well. If the new 15C is hard on batteries, so be it, I'll buy extra. The old one was all I needed at work, and the new one will be too! Well done hp, well done.

Re: hp 15C LE

*Message #2 Posted by **Mark Storkamp** on 14 Sept 2011, 9:43 a.m.,*
in response to message #1 by William L. Drylie

I'll second everything you said. Even though I noticed the f and g keys slightly askew, I think the keyboard feels better than on my 16C. Finally I have something decent to use at work.

Re: hp 15C LE

*Message #3 Posted by **Dave Britten** on 14 Sept 2011, 10:26 a.m.,*
in response to message #1 by William L. Drylie

> Quote:
>
> If hp is going to continue manufacturing calculators, I think the 15C should be a Standard edition and not a Limited one. They could ditch the 35S, and that other one that looks like an automobile grill.

You may want to get in your car and start driving, because the NCEE folks will be upon you with their pitchforks shortly. :)

Re: hp 15C LE

*Message #4 Posted by **M. Joury** on 14 Sept 2011, 10:46 a.m.,*
in response to message #1 by William L. Drylie

I am very happy with the HP15C LE and if we get updates (which should be possible since it is flashable) it would be near perfect for an everyday carry machine.

Actually I like the 35S if they would only fix it. Better yet change the LCD and re-implement it as a 42Sii or 43S (IMHO the 42S was the best RPN calculator HP ever made barring the lack of I/O). I would not miss the "automobile grill" model one little bit though.

Cheers,

-Marwan

Re: hp 15C LE

*Message #5 Posted by **hpnut** on 14 Sept 2011, 12:03 p.m.,*
in response to message #4 by M. Joury

> Quote:
>
> I would not miss the "automobile grill" model one little bit though.
>
> Cheers,
>
> -Marwan

That's the hp 33s or the Ford Edsel of calculators for the uninitiated :-)

Re: hp 15C LE

*Message #6 Posted by **Martin Pinckney** on 14 Sept 2011, 1:33 p.m.,*
in response to message #5 by hpnut

If that's the case you'd better hang on to your 33s. Priced an Edsel lately?

Re: hp 15C LE

*Message #7 Posted by **Ed Look** on 14 Sept 2011, 11:41 p.m.,*
in response to message #4 by M. Joury

I have both the 35s and the 33s. Admittedly, I got the 35s because I really thought it superior to the 33s. But after using both, I much prefer using the 33s on an everyday basis. It may not look nearly as nice as the 35s, and I myself was fairly vocal in panning the appearance of the 33s, but in terms of ease of use and feeling good in the hand during use, to me, the 33s wins hands down.

Hp 33s not that bad

*Message #8 Posted by **Frank Rottgardt** on 15 Sept 2011, 6:27 a.m.,*
in response to message #7 by Ed Look

Same here. I bashed the 33s a lot when the calculator was new on the market. I bought it anyway cause it was the only available non graphic RPN at that time. And I must confess the 33s grew on me. I like the unshifted x2, SQRT. I also got used to the "weird" key alignment and the small ENTER is not an issue anymore. Only downgrade is that the "0" key sometimes doesn´t register and the very poor contrast of the green and purple key legend.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

35S vs 30b Stack

*Message #1 Posted by **Alex Mark (Greece)** on 14 Sept 2011, 2:21 a.m.*

Hi all!

I have a question regarding 35S vs 30b stack operation.

If I am not totally confused, these two calcs do not have the same stack. 35S just has X, Y, Z and T levels, while 30b also has a "hidden" command line. For example:

In 35S, to add 1+2 you press: 1 [enter] 2 +

In 30b, you have two options: 1 [input] 2 + OR 1 [input] 2 [input] +

So, 30b is like a 50g with just 4 levels??? Am I correct? This is confusing me a bit, any clarification would be most welcome.

Regards,

Alex

Re: 35S vs 30b Stack

*Message #2 Posted by **Thomas Radtke** on 14 Sept 2011, 2:28 a.m.,*
in response to message #1 by Alex Mark (Greece)

Yes, the 20b and 30b calculators don't let you edit the x-register directly, i.e., there's an additional register.

Re: 35S vs 30b Stack

*Message #3 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 2:35 a.m.,*
in response to message #2 by Thomas Radtke

We had the discussion on the 34S recently. Internally it would have been easier for us to get rid of the whole stack lift business and do it the 30b way (which I actually prefer) but the community decided against this. 34S behaves like the old RPN calculators do. Maybe this is the reason why we spell it 34S and not 34s.

Re: 35S vs 30b Stack

*Message #4 Posted by **Walter B** on 14 Sept 2011, 2:46 a.m.,*
in response to message #3 by Marcus von Cube, Germany

We print **WP 34S RPN** SCIENTIFIC on it. So it simply must be 100% pure RPN :-)

Re: 35S vs 30b Stack

*Message #5 Posted by **Bart (UK)** on 14 Sept 2011, 5:16 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> So it simply must be 100% pure RPN :-)

It's got nothing to do with that.

It's simply because old peole want it the way they are used to it. Old habits die hard etc. etc.

It was implemented like that in the first 35 where the X-register is used as the input register as well, maybe because memory was expensive or because it fitted the CPU construction better. The 28/48/20/30 approach is actually a more sensible approach and easily implemented in modern technology. But because many had learned RPN the original 35 way, they are set in their ways and do not like change, so they feel they have the right to call it "true" RPN.

And this is my 2p worth ;-)

Re: 35S vs 30b Stack

*Message #6 Posted by **M. Joury** on 14 Sept 2011, 10:36 a.m.,*
in response to message #5 by Bart (UK)

I think that part of the issue here is the multi-line display of the RPL calculators. I can see what is on the stack and am not surprised by the resulting operation. This is not true for the 20b and the 30b and maybe it is just habit but I do make mistakes with those calculators. For example one of the operations I am very used to is something like 2 ENTER + to double a number or 2 ENTER * to square a number. These won't work on the 20b/30b or the 48 machines. As far as I am concerned that is ok for the 48 machines because I can see what is happening and I am not going to perform an ADD or MULTIPLY with one item on the stack. RPN is utterly different--the stack is always there and if not specifically set to a value will have all values set to 0. You can operate on an "empty" stack in RPN but not RPL. These differences mean that for (IMHO anyway) each type of calculator (multi-line vs. single-line display) the chosen paradigm works best.

I agree that stagnation does not benefit anyone and the 48 series are a great example of that. They moved to a new stack paradigm because they had a much more powerful unlimited stack available to them.

To each there own, but the way I see it is that a multi-line display makes better use of RPL while a single-line display makes better use of RPN. What the 20b and 30b appear to implement is a 4-level RPN stack with an RPL entry paradigm. I would also argue that an unlimited RPL stack with an RPN entry paradigm would also be "wrong".

Again, just my 2 cents.

Cheers,

-Marwan

Re: 35S vs 30b Stack

*Message #7 Posted by **Paul Dale** on 14 Sept 2011, 5:23 a.m.,*
in response to message #4 by Walter B

Interestingly, the 34S's input isn't true to the RPN ideal. The 34S has a command line buffer for input and keystrokes go there first and can be backspaced or deleted entirely with no impact on the X register. Once ENTER is press all the stack magic happens.

As Marcus noted, supporting stack lift/suppression of stack lift is a right pain to get just right.

- Pauli

Re: 35S vs 30b Stack

*Message #8 Posted by **Thomas Radtke** on 14 Sept 2011, 5:46 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> The 34S has a command line buffer for input and keystrokes go there first [...]

Wouldn't it be easier to keep a copy of x (if really needed) and edit x directly? This would remove all inconsistencies. You're programming as if you would implement RPL but mimick RPN :-/.

Re: 35S vs 30b Stack

*Message #9 Posted by **Paul Dale** on 14 Sept 2011, 6:04 a.m.,*
in response to message #8 by Thomas Radtke

I don't think this is a harder path. In many ways it is simpler than editing values in X directly. The stack lift issues are mostly separate from the entry of data into X. Other things than ENTER (like Sigma+ e.g.) disable stack lift. Also, there are zero free states in our registers to store extra information like the second decimal for fraction entry.

The 34S maintains a text buffer of what the user has typed and only parses it at the end. This makes handling most anything pretty easy. Of course we've paid a RAM cost for this but that is in the LCD buffer memory and isn't cutting into the 2kb of persistent RAM.

If there are any inconsistencies apart from preserving X when the entry line is deleted, please let me know.

- Pauli

Re: 35S vs 30b Stack

*Message #10 Posted by **Paul Gaster** on 14 Sept 2011, 9:39 a.m.,*
in response to message #7 by Paul Dale

Maybe this is asking too much, but is it possible to develop and release RPN and RPL firmwares for the 34S? Then people can pick what they want.

Re: 35S vs 30b Stack

*Message #11 Posted by **Jurrie Lulofs** on 14 Sept 2011, 10:50 a.m.,*
in response to message #10 by Paul Gaster

Even better would be a user selectable RPN/RPL mode. Then the RPN annunciator would actually have meaning. :-)

I'm fine with things as they are, but clearly there are those that would prefer the RPL method. Given the limited available memory I doubt we'll see such a user selection appear.

I don't know if the code is such that the evaluation and stack lift logic is centralized thereby making a conditional compile even feasible, or if the RPN/RPL impact is more scattered. Only the WP-34S developers can tell us that.

Something tells me that if this had been easy that it would probably already be there.

Edited: 14 Sept 2011, 10:50 a.m.

Re: 35S vs 30b Stack

*Message #12 Posted by **Cristian Arezzini** on 14 Sept 2011, 11:18 a.m.,*
in response to message #11 by Jurrie Lulofs

> Quote:
>
> Even better would be a user selectable RPN/RPL mode. Then the RPN annunciator would actually have meaning. :-)

Second that! I'd like if I could just disable the whole "stack lift disabling" thing... I really make many mistakes with "pure RPN" because I'm used to RPL...

Cristian

Re: 35S vs 30b Stack

*Message #13 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 4:38 p.m.,*
in response to message #11 by Jurrie Lulofs

It would be possible if we had another state bit left in memory for the purpose. I'd prefer to get rid of all the stack lift business altogether which would save some code space.

The RPN annunciator has recently acquired a new use: It goes off for any temporary display.

Re: 35S vs 30b Stack

*Message #14 Posted by **Martin Pinckney** on 14 Sept 2011, 10:43 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> Interestingly, the 34S's input isn't true to the RPN ideal. The 34S has a command line buffer for input and keystrokes go there first and can be backspaced or deleted entirely with no impact on the X register.

How is this different from any HP that has the <= (backspace) key?

Re: 35S vs 30b Stack

*Message #15 Posted by **M. Joury** on 14 Sept 2011, 10:51 a.m.,*
in response to message #14 by Martin Pinckney

One difference: Take an HP-41 or your new HP-15C LE and enter a number onto the stack. Then start entering a second number. Change your mind and back-space all the way. On the 41, 42, 15, you get '0' on the stack. On the WP34S you get the number you entered first.

Cheers,

-Marwan

Edited: 14 Sept 2011, 11:02 a.m.

Re: 35S vs 30b Stack

*Message #16 Posted by **Thomas Radtke** on 14 Sept 2011, 3:05 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Why is the RPL approach easier? It is inconsistent, imo.

Re: 35S vs 30b Stack

*Message #17 Posted by **Walter B** on 14 Sept 2011, 3:20 a.m.,*
in response to message #16 by Thomas Radtke

:-) That's what I think as well. Now duck and cover [:-)

Re: 35S vs 30b Stack

*Message #18 Posted by **Ángel Martin** on 14 Sept 2011, 4:08 a.m.,*
in response to message #17 by Walter B

Well said! Being consequent with one's ideas is what distinguishes great products from the pack, and this is an RPN fundamental I'm afraid.

Re: 35S vs 30b Stack

*Message #19 Posted by **Bart (UK)** on 14 Sept 2011, 5:21 a.m.,*
in response to message #18 by Ángel Martin

> Quote:
>
> Well said! Being consequent with one's ideas is what distinguishes great products from the pack, and this is an RPN fundamental I'm afraid.

And unwillingness to change has been the downfall of many a great company too.

Re: 35S vs 30b Stack

*Message #20 Posted by **Thomas Radtke** on 14 Sept 2011, 5:53 a.m.,*
in response to message #19 by Bart (UK)

> Quote:

> And unwillingness to change has been the downfall of many a great company too.

Hi Bart,

the problem with PRL is you don't know *how* things are implemented. 1 ENTER 2 + gives the same result as 1 ENTER 2 ENTER +. This is very confusing, since you would assume from the first action that x is edited, and thus the latter should give 4, which is not the case on RPL machines.

Sometimes a secret stack lifting has to happen in RPL, such as when an operator is used while editing a number. *That's* inconsistent.

I see no disadvantage with RPN, but one huge advantage: Transparency of operation.

Thomas

Re: 35S vs 30b Stack

*Message #21 Posted by **Håkan Thörngren** on 14 Sept 2011, 7:02 a.m.,*
in response to message #20 by Thomas Radtke

I am no big fan of RPL, but come on! The RPL stack is not strange at all, it is just different to a 4-level RPN stack.

ENTER ends input (and checks that it is correct). If you perform a operation, it terminates entry (performs an implicit ENTER) before performing the operation. I cannot see how that is strange. What else should it do, throw the value just entered away?

In addition to this, you have visual feedback of the top levels of the stack and can see what is going on, something you seldom have on an RPN machine.

I have seen more than one newbie to RPN typing 1 ENTER 2 ENTER + only to get 4 (wrong result). You ENTER the first number, why should you not ENTER the second? Instead, ENTER makes an extra transient copy of the number, now that is confusing to a newcomer.

Re: 35S vs 30b Stack

*Message #22 Posted by **Cristian Arezzini** on 14 Sept 2011, 11:21 a.m.,*
in response to message #21 by Håkan Thörngren

> Quote:
>
> I have seen more than one newbie to RPN typing 1 ENTER 2 ENTER + only to get 4 (wrong result).

That happened to me many times! :) Unluckily many times it wasn't obvious what had happened, and it took me some time to track back the error in my calculation...

Cristian

Re: 35S vs 30b Stack

*Message #23 Posted by **Bart (UK)** on 14 Sept 2011, 8:51 a.m.,*
in response to message #20 by Thomas Radtke

I started HP life with the 28S, and there's nothing inconsistent in the RPL stack operation. Actually it is more consistent.

Sorry Thomas, you don't seem to understand the fundamental difference. As I said in my reply to Walter's post, the old RPN stack used the X-regiter as an input register as well. Therefore, when you hit Enter, the value is copied into the Y-register, why?, because for the next entry, *the X-register is overwritten because it is the input register*. The so-called RPL stack has a separate input register, *that is why the need to copy the input value to the Y-register is **not** necessary when hitting Enter*. The input register only exists *during* input (for obvious reasons), so hitting '+' operator with an input active, operates on the *input* and *first stack item*. When there is no active input, hitting '+' operator operates on the *first stack item* and *second stack item*.

> Quote:
>
> This is very confusing, **since you would assume from the first action that x is edited**, and thus the latter should give 4, which is not the case on RPL machines.

I hope my explanation makes it clear that X is not edited, why it's not necessary & what it is doing.

> Quote:
>
> Sometimes a secret stack lifting has to happen in RPL, such as when an operator is used while editing a number.

How so? As I explained, when input is active, the input register is used as the first argument (or the only argument in a 1 argument operation).
Unless you are actually referring to editing the first stack line after it was entered - then you have effectively removed the item from the stack and it will only be put back when you finish editing. SO, if you use an operator while edit is active, it will work on whatever was above the item being edited, because that item was removed from the stack while editing. You can't complain about this behaviour, because such a mode did not exist on RPN calculators anyway.

> Quote:
>
> I see no disadvantage with RPN, but one huge advantage: Transparency of operation.

You ENTER two numbers that you want to operate on, but end up operating on the last number AND a copy of the last number. That's transparent? I want numbers A and B, whether I hit ENTER or not. BEFORE hitting ENTER, a number is not on the stack. Now I to put both A and B on the stack, then operate. So after actually putting B on the stack (by hitting ENTER - it is not officially ON the stack until then), I now have a COPY of B in Y??? Now THAT's inconsistent, but because

people have learnt to live with it, they call it consistent? or "the way"?

As you rightly commented, Pauli has to mimic the "RPN" behaviour using "RPL" type stack because people don't want to change, are unwilling to adapt, not moving with modern technology, etc. etc.

Again, as always, just my 2p worth.

Edited: 14 Sept 2011, 8:55 a.m.

Re: 35S vs 30b Stack

*Message #24 Posted by **Alex Mark (Greece)** on 14 Sept 2011, 9:29 a.m.,*
in response to message #23 by Bart (UK)

I never thought that I would start a holly war with this question, nevertheless, if you care about a beginner's point of view, and after having read all your thoughts, RPL now seems a bit more "logic" to me, since it can also work as RPN (by omitting the 2nd Enter, so no extra keystrokes are necessary). I find Bart's explanation quite reasonable, but I guess that since this has not been resolved in this forum for so many years, it will not be resolved now.

Re: 35S vs 30b Stack

*Message #25 Posted by **Bart (UK)** on 14 Sept 2011, 12:12 p.m.,*
in response to message #24 by Alex Mark (Greece)

> Quote:
>
> I never thought that I would start a holly war with this question...

It always does, and regardless of how many times it has been fought, a new post always gets it flared up again. That's passion for you :-)

Re: 35S vs 30b Stack

*Message #26 Posted by **Martin Pinckney** on 14 Sept 2011, 10:52 a.m.,*
in response to message #23 by Bart (UK)

Wow. Now I think I finally understand this "stack lift" business. And I have to agree with Alex: the RPL method does make more sense. Thanks, Bart!

Re: 35S vs 30b Stack

*Message #27 Posted by **bill platt** on 14 Sept 2011, 12:43 p.m.,*
in response to message #26 by Martin Pinckney

RPL causes a waste of keystrokes. 2 ENT 2 X required to square a number (versus 2 ENT X). But it is also confusing, because the command line in RPL also functions just as it does in RPN for most things--in other words you don't have to do 2 ENT 2 ENT X.

I think really, they both are good. Nothing can be all things to all situations.

Re: 35S vs 30b Stack

*Message #28 Posted by **Bart (UK)** on 14 Sept 2011, 5:17 p.m.,*
in response to message #27 by bill platt

> Quote:
>
> 2 ENT 2 X required to square a number (versus 2 ENT X)

I think x^2 is present on RPL calcs? It's usually a shifted function, so 2 SHIFT x^2 is also 3 keypresses. :-)

Re: 35S vs 30b Stack

*Message #29 Posted by **M. Joury** on 14 Sept 2011, 6:17 p.m.,*
in response to message #28 by Bart (UK)

How about 2 ENT +?

Re: 35S vs 30b Stack

*Message #30 Posted by **Ángel Martin** on 14 Sept 2011, 11:44 a.m.,*
in response to message #23 by Bart (UK)

> Quote:
>
> Pauli has to mimic the "RPN" behaviour using "RPL" type stack because people don't want to change, are unwilling to adapt, not moving with modern technology, etc. etc.

Well I think you're giving a biased selection of reasons why people won't embrace the RPL stack style. I can also come up with some good reasons to STAY with the RPN stack.

BTW I faced many of these considerations implementing the 41Z Complex Stack - didn't have an easy life from the developper's standpoint either but I'm very happy with the result.

Re: 35S vs 30b Stack

*Message #31 Posted by **Bart (UK)** on 14 Sept 2011, 12:10 p.m.,*
in response to message #30 by Ángel Martin

> Quote:
>
> Well I think you're giving a biased selection of reasons why people won't embrace the RPL stack style.

Of course, I am always biased to my own liking ;-). And I just like to give the "oldies" a hard time ;-))

Each to his own actually, and though the WP-34S has the "older" style implementation, I still play with it.

Re: 35S vs 30b Stack

*Message #32 Posted by **Thomas Radtke** on 14 Sept 2011, 12:20 p.m.,*
in response to message #23 by Bart (UK)

> Quote:
>
> Sorry Thomas, you don't seem to understand the fundamental difference. As I said in my reply to Walter's post, the old RPN stack used the X-regiter as an input register as well.

I wrote:

"Yes, the 20b and 30b calculators don't let you edit the x-register directly, i.e., there's an additional register."

It should be clear what that means. You just need to read what I wrote, Bart. It's not really kind to ignore or invert my contributions to come to your conclusions about my knowledge :-(.

To the point, and please w/o any rants:

RPN is competely consistent about ENTER where RPL is not. If, in my example above, a second ENTER is a NOP in the RPL world, something's wrong. It indicates special treatment where the internals of RPN are quite straight forward.

I think I'm done here in this thread. To discuss something isn't worth it if I'm (maybe deliberately) mistaken.

Re: 35S vs 30b Stack

*Message #33 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 5:07 p.m.,*
in response to message #32 by Thomas Radtke

RPL has a command DUP. RPN has not. Instead it has ENTER which makes a DUP and then causes the next entry to replace the lower stack level. This is kind of strange, isn't it?

Re: 35S vs 30b Stack

*Message #34 Posted by **Bart (UK)** on 14 Sept 2011, 5:23 p.m.,*
in response to message #32 by Thomas Radtke

> Quote:
>
> "Yes, the 20b and 30b calculators don't let you edit the x-register directly, i.e., there's an additional register."
>
> It should be clear what that means. You just need to read what I wrote, Bart. It's not really kind to ignore or invert my contributions to come to your conclusions about my knowledge :-(.

OK, I am sorry, I did not quite pick up on that.

Edited: 14 Sept 2011, 5:24 p.m.

Re: 35S vs 30b Stack

*Message #35 Posted by **Thomas Radtke** on 15 Sept 2011, 1:05 p.m.,*
in response to message #34 by Bart (UK)

Ok, thank you, Bart.

Re: 35S vs 30b Stack

*Message #36 Posted by **Bart (UK)** on 14 Sept 2011, 5:20 a.m.,*
in response to message #17 by Walter B

> Quote:
>
> Now duck and cover [:-)

Yep, see my comments to your earlier post :-)

Re: 35S vs 30b Stack

*Message #37 Posted by **Alex Mark (Greece)** on 14 Sept 2011, 3:18 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Thank you all for your answers.

I am not ready to form a definitive opinion about this, I am not sure which approach I actually prefer. The 30b approach subsumes the 35S way of operating (in all cases, I wonder?), therefore one would say: why not have both and choose? On the other hand the 30b approach sometimes is confusing; do I press input for a second time or not? While in 35S you know you do NOT have to press Enter again.

Thank you again...

Re: 35S vs 30b Stack

*Message #38 Posted by **snaggs** on 14 Sept 2011, 5:52 a.m.,*
in response to message #37 by Alex Mark (Greece)

There is one less keystroke, the 35s is nice, but I am suprised how nice the 42s is (ive had 1 day with it). I didnt think matrices could be so easy on a 2 line screen.

Hmmmmm

> Quote:
>
> Thank you all for your answers.
>
> I am not ready to form a definitive opinion about this, I am not sure which approach I actually prefer. The 30b approach subsumes the 35S way of operating (in all cases, I wonder?), therefore one would say: why not have both and choose? On the other hand the 30b approach sometimes is confusing; do I press input for a second time or not? While in 35S you know you do NOT have to press Enter again.

Thank you again...

Re: 35S vs 30b Stack

*Message #39 Posted by **Alex Mark (Greece)** on 14 Sept 2011, 6:03 a.m.,*
in response to message #38 by snaggs

So, the 42s works like the 30b? You could optionally press the Enter key after inputting the 2nd argument? I only have a 32Sii, so I cannot know...

Re: 35S vs 30b Stack

*Message #40 Posted by **Thomas Radtke** on 14 Sept 2011, 6:09 a.m.,*
in response to message #39 by Alex Mark (Greece)

> Quote:
>
> So, the 42s works like the 30b?

No.

Re: 35S vs 30b Stack

*Message #41 Posted by **Bart (UK)** on 14 Sept 2011, 8:58 a.m.,*
in response to message #39 by Alex Mark (Greece)

> Quote:
>
> So, the 42s works like the 30b? You could optionally press the Enter key after inputting the 2nd argument?

No, it has the "old" stack, like your 32Sii, except there is a two line display so you can see the Y-register. (Try Thomas Okken's Free42).

Re: 35S vs 30b Stack

*Message #42 Posted by **Paul Dale** on 14 Sept 2011, 6:10 a.m.,*
in response to message #38 by snaggs

Don't be surprised by the 42S it is (one of) the best RPN calculator.

- Pauli

Re: 42s

*Message #43 Posted by **Bart (UK)** on 14 Sept 2011, 8:59 a.m.,*
in response to message #42 by Paul Dale

Bought it, couldn't get on with it, sold it.

Edit: my opinion as always :-)

Edited: 14 Sept 2011, 9:34 a.m.

Re: 42s

*Message #44 Posted by **Walter B** on 14 Sept 2011, 7:30 p.m.,*
in response to message #43 by Bart (UK)

A real pity, you could have made many people happy here - well, just one of them, I admit ;-)

Re: 35S vs 30b Stack

*Message #45 Posted by **Steve Simpkin** on 14 Sept 2011, 5:05 p.m.,*
in response to message #38 by snaggs

I like both!

Re: 35S vs 30b Stack

*Message #46 Posted by **M. Joury** on 14 Sept 2011, 6:23 p.m.,*
in response to message #45 by Steve Simpkin

How utterly unreasonable :)!

As do I actually, per an earlier post, I just don't like the RPN/RPL mix of the 20b/30b it is nether fish nor fowl.

To reiterate my earlier posting: A multi-line display using RPL entry syntax works fine for me. A 4-element stack machine (dare I say an RPN stack machine?) using RPN entry syntax also works fine for me. A 4-element (RPN?) stack using RPL syntax--not so much.

Again, as always, my 2c...

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Requesting HP30b firmware

*Message #1 Posted by **Harry Jacobson** on 14 Sept 2011, 12:11 a.m.*

To Gene Wright,

In a post on 24 August 2011 "Actually, the 30b firmware..." you wrote to contact you for the 30b firmware. I can't send you a personal message. Be that as it may, I'd like access to the 30b firmware.

Thank you, Harry

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE current draw issue

*Message #1 Posted by **Katie Wasserman** on 13 Sept 2011, 11:40 p.m.*

At Lyuka's suggestion I tested the current draw on the 15C LE and found a problem.

The current draw is identical to the 12C+ in the following states:

```
OFF - 0.004 ma
ON, idle no keys presses - 0.047 ma
ON, running tight loop - 21 ma
```

so far so good, but there is a critical difference.

On the 12C+ the current draw when pressing and holding a key averages about 0.4 ma, while on the 15C LE it's a full 21 ma! This is going to substantially shorten the battery life on the 15C LE compared to the 12C+ if you use the calculator a lot.

If you assume that the linger time on a key is 1/10 of a second this roughly means that every 10 key presses is equal to running a program for 1 second and I've guesstimated that you have around 5 hours of long program run time on a set of batteries. That's only 18,000 key presses. A lot less if your fingers are not so nimble.

(Before DaveJ jumps on me for this, I realize that short pulses like keystrokes are not as damaging to the cells as a continuous current draw. However, in the best case I can't imagine cells will last for more than twice my guess.)

I have no idea how hard this is to fix, but it was done in the 12C+ so it should be doable on the 15C LE too. I'm hopeful that this fix will get rolled into a new firmware version that addresses the PSE issue and the self test problem too.

-Katie

Edited: 13 Sept 2011, 11:40 p.m.

Re: 15C LE current draw issue

*Message #2 Posted by **Lyuka** on 14 Sept 2011, 12:15 a.m.,*
in response to message #1 by Katie Wasserman

Hi Katie,

Thank you for your quick response.

It's interesting, but such amount of current draw is not acceptable for just a calculator.
However, performance / mA is about five times better than that of original 15C.

80x / 21mA : 1x / 1.2mA = 4.6

On the other hand, the current draw while key pressed is more than eight times worse,
so, you must type eight times faster than ever :-)

Regards,
Lyuka

Edited: 14 Sept 2011, 12:16 a.m.

Re: 15C LE current draw issue

*Message #3 Posted by **Michael de Estrada** on 14 Sept 2011, 12:43 a.m.,*
in response to message #1 by Katie Wasserman

So I guess the batteries won't last 20+ years like they did on my old 15C ? :(

Re: 15C LE current draw issue

*Message #4 Posted by **Lyuka** on 14 Sept 2011, 12:49 a.m.,*
in response to message #3 by Michael de Estrada

Hi Michael,

If you never pressed the key of the 15C LE, it will last 10 years or so :-)

200mAH * 2 / 0.004mA = 100kH = 4167days = 11.4years

Lyuka

Re: 15C LE current draw issue

*Message #5 Posted by **Hans Brueggemann** on 14 Sept 2011, 1:50 a.m.,*
in response to message #4 by Lyuka

true, if both cells are connected in parallel. are they?

hans

Re: 15C LE current draw issue

*Message #6 Posted by **Katie Wasserman** on 14 Sept 2011, 2:06 a.m.,*
in response to message #5 by Hans Brueggemann

> Quote:
>
> true, if both cells are connected in parallel. are they?

Yes. This is so on all the ARM-based machines made so far (20b, 30b, 10bii+, 12C+, 12C AE, 15C LE).

Edited: 14 Sept 2011, 2:06 a.m.

Re: 15C LE current draw issue

*Message #7 Posted by **Borja** on 14 Sept 2011, 4:49 a.m.,*
in response to message #3 by Michael de Estrada

> Quote:

> So I guess the batteries won't last 20+ years like they did on my old 15C ? :(

That's impossible, I'm afraid. Lithium cells tend to expire in some years. So even with a ridiculously low current draw, the useful life of the cells would be limited.

Re: 15C LE current draw issue

*Message #8 Posted by **uhmgawa** on 14 Sept 2011, 11:27 a.m.,*
in response to message #7 by Borja

> Quote:
>
> That's impossible, I'm afraid. Lithium cells tend to expire in some years. So even with a ridiculously low current draw, the useful life of the cells would be limited.

I've heard opposite claims for shelf life due to the naturally occurring insulating oxide layer which forms during periods of light/no use. This reduces cell self-discharge rate and [reportedly] extends their usable life considerably. But the only practical issue is whether you can reasonably expect to *find* whatever cell you need in the next 5-10-15-20 years.

Re: 15C LE current draw issue

*Message #9 Posted by **From Hong Kong** on 14 Sept 2011, 12:54 a.m.,*
in response to message #1 by Katie Wasserman

I'm interested in the corresponding current draw in the beta version of HP-15C LE.

Re: 15C LE current draw issue

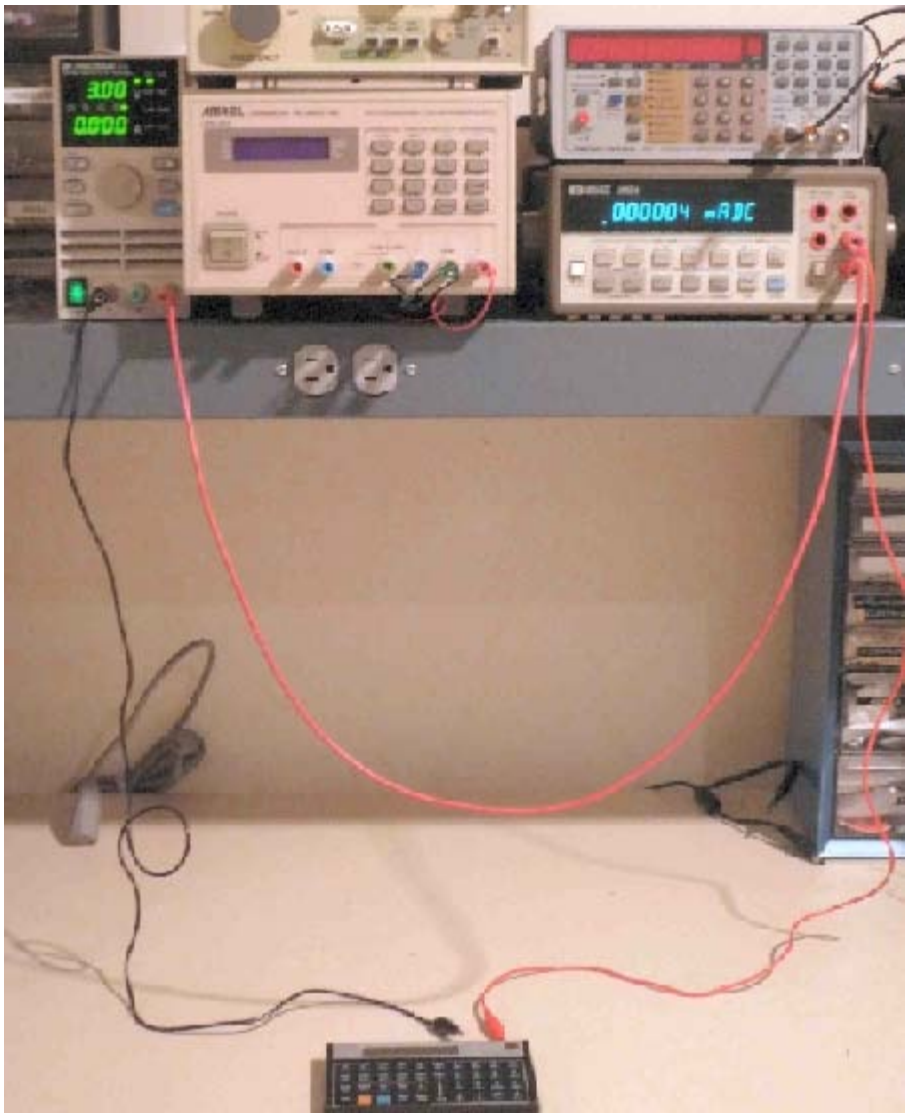
*Message #10 Posted by **hpnut** on 14 Sept 2011, 1:10 a.m.,*
in response to message #9 by From Hong Kong

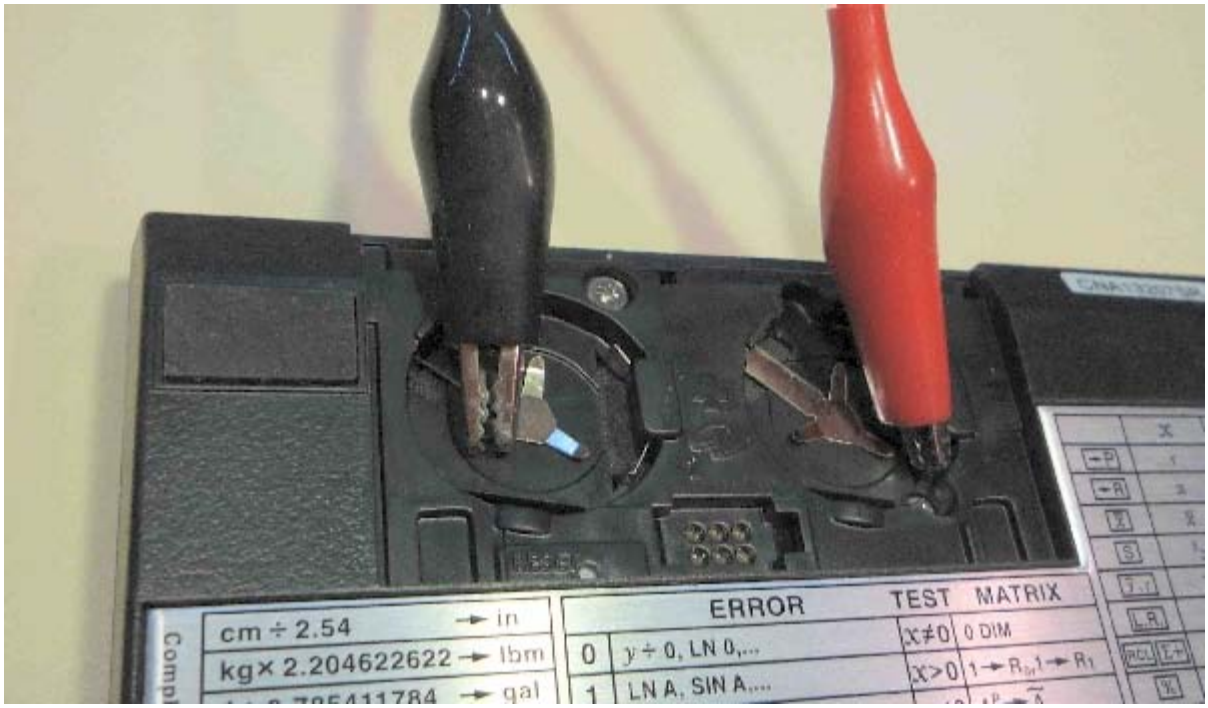
I am interested how to measure the current draw. some diagrams or photos would be much appreciated.

Re: 15C LE current draw issue

*Message #11 Posted by **Katie Wasserman** on 14 Sept 2011, 1:52 a.m.,*
in response to message #10 by hpnut

It's very simple. Just put a power supply in series with a current meter in series with the battery contacts in the calculator. like this:





The only important thing is to use a current meter with a low voltage voltage burden -- the voltage that drops across its internal current sense resistor.

Edited: 14 Sept 2011, 1:57 a.m. after one or more responses were posted

Re: 15C LE current draw issue

*Message #12 Posted by **hpnut** on 14 Sept 2011, 1:56 a.m.,*
in response to message #11 by Katie Wasserman

Thanks, Katie. You're a gem :-)

hpnut in Malaysia.

Re: 15C LE current draw issue

*Message #13 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 2:22 a.m.,*
in response to message #11 by Katie Wasserman

That's an impressive desk! Are you an EE, Katie?

I'd like to see the same measurements for the 30b and a WP 34S. My hobby equipment is far inferior to yours.

Edited: 14 Sept 2011, 2:24 a.m.

Re: 15C LE current draw issue

*Message #14 Posted by **Katie Wasserman** on 14 Sept 2011, 3:49 a.m.,*
in response to message #13 by Marcus von Cube, Germany

I'm not an EE but I play one on the internet :)

I'm a computer consultant working for wall street places now, but I started off doing a lot of electronics and early microcontroller work years ago which is when I started accumulating these things. They seem to last forever so you end up with a lot of test equipment (there's more stuff that I pulled off the bench and that you don't see in the picture).

Somewhere on this forum I think I posted current measurements for the 30b, but I have yet to do so for the 34s -- I thought that you had, I guess not.

Edited: 14 Sept 2011, 3:49 a.m.

Re: 15C LE current draw issue

*Message #15 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 8:36 a.m.,*
in response to message #14 by Katie Wasserman

Katie, with my limited equipment it's just not the most fun and accuracy could be better. So I kindly ask you to help me in this regard. Be aware that 34S has an "active idle" mode where interrupts are enabled. This mode is entered with a PSE statement or after the control has returned to the user for half a second before going to deep sleep.

Re: 15C LE current draw issue

*Message #16 Posted by **Eric Smith** on 14 Sept 2011, 4:52 a.m.,*
in response to message #11 by Katie Wasserman

> Quote:
>
> The only important thing is to use a current meter with a low voltage voltage burden

Yes, that is VERY IMPORTANT. If you use a typical cheap multimeter, the burden voltage of the meter will result in the voltage to the calculator being too low, and either the calculator won't work at all, or you'll get a possibly inaccurate measurement. The inaccuracy of the measurement is caused by running the calculator at less than the expected voltage. If the calculator does not use a switching regulator, it will probably draw less current at lower voltage (almost proportionate). If the calculator uses a switching regulator in boost configuration, it will draw more current at lower voltage. Either way you're not getting a representative sample for the intended supply voltage.

Note that the burden voltage depends on the current range used on the meter, even with autoranging meters. Rich and I have run into that problem with our calculator prototypes on a handheld DMM. On some ranges the burden is low enough for everything to work OK, but at the lowest current range, necessary for accurate measurements of sleep current (i.e., under 20 uA), the calculator will not work *except* in sleep mode.

I'm now using an Agilent 34410A. The burden voltage on the 100uA and 10mA scales is <0.03V, which is great, but on the 1mA and 100mA scales it is <0.3V, which is barely acceptable.

That looks like an HP 34401A on Katie's bench. It has a burden voltage of <0.1V for the 10mA range, which is reasonably decent, but <0.6V on the 100mA range, which I would consider unacceptable. I use the 34410A rather than a 34401A partly because I wanted lower current ranges than 10mA, and partly for the lower burden voltage.

Inexpensive multimeters often don't even provide specifications for burden voltage.

To really do a good job of measuring very low currents, you need something like DaveJ's µCurrent.

Re: 15C LE current draw issue

*Message #17 Posted by **Bart (UK)** on 14 Sept 2011, 5:39 a.m.,*
in response to message #16 by Eric Smith

I usually use a calibrated shunt (with max 100mV drop @ full scale of wahtever range I'm interested in) with a storage scope for short pulses (a DMM cannot be trusted for this either). I have never used a DMM for current measurement, as I ususally remove the fuse (having worked with battery installations of 50V to 500V & up to 1000Ah an accidental connection to the current inputs of a DMM can be disastrous).

Re: 15C LE current draw issue

*Message #18 Posted by **Lyuka** on 14 Sept 2011, 6:10 a.m.,*
in response to message #17 by Bart (UK)

I often use a 25 years old I-V converter that is made of AD515A to measure leakage current of 100nA-10uA full-scale range.

The most important things to do is a thorough cleaning of the feedback resistors and the summing point terminal.

Lyuka

Re: 15C LE current draw issue

*Message #19 Posted by **uhmgawa** on 14 Sept 2011, 11:10 a.m.,*
in response to message #18 by Lyuka

> Quote:
>
> I often use a 25 years old I-V converter that is made of AD515A to measure leakage current of 100nA-10uA full-scale range.

That's the right way to do it. Although I noticed you weren't using the offset null. I'm guessing that measurement error was buried in the noise given the target resolution/gain? Can't quite make out the voltage divider.

> Quote:
>
> The most important things to do is a thorough cleaning of the feedback resistors and the summing point terminal.

True. :) But even less esoteric is the fact you can easily swamp a 100nA measurement through a misplaced finger tip on a probe. For those of us guilty of the occasional hasty measurement..

Re: 15C LE current draw issue

*Message #20 Posted by **Joel Setton (France)** on 14 Sept 2011, 6:56 a.m.,*
in response to message #16 by Eric Smith

You could also work around the ammeter voltage burden by measuring voltage with a DVM "after" the ammeter, and adjust the power supply so that the calculator gets 3.3V. In this configuration the error term is equal to the current running through the voltmeter, which can be neglected in this case.

FWIW!
Joel

Re: 15C LE current draw issue

*Message #21 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 8:43 a.m.,*
in response to message #20 by Joel Setton (France)

Joel, there is a problem with the varying load having an impact on the actual voltage. An amp meter typically measures the voltage drop over a shunt. With varying current draw this drop varies and you may end up with too high a voltage at the input of your device.

Re: 15C LE current draw issue

*Message #22 Posted by **Joel Setton (France)** on 14 Sept 2011, 9:40 a.m.,*
in response to message #21 by Marcus von Cube, Germany

That's quite true if you have a *really* poor ammeter... But if the power supply is set to a constant 3.3V, then the voltage will never be higher than that and the calculator will be safe. All you have to do is switch down the range on the ammeter when calculator

consumption is low.

Joel

Re: 15C LE current draw issue

*Message #23 Posted by **Katie Wasserman** on 14 Sept 2011, 11:21 a.m.,*
in response to message #16 by Eric Smith

> Quote:
>
> That looks like an HP 34401A on Katie's bench. It has a burden voltage of <0.1V for the 10mA range, which is reasonably decent, but <0.6V on the 100mA range, which I would consider unacceptable. I use the 34410A rather than a 34401A partly because I wanted lower current ranges than 10mA, and partly for the lower burden voltage.

Good eyes, it is a 34401A. I also have a Fluke 867B and get similar readings on it. The 867B has burden voltage of 0.3V on the 30ma range (the manual says 0.03 volts, I think it's wrong).

Re: 15C LE current draw issue

*Message #24 Posted by **uhmgawa** on 14 Sept 2011, 5:10 p.m.,*
in response to message #16 by Eric Smith

> Quote:
>
> Note that the burden voltage depends on the current range used on the meter, even with autoranging meters. Rich and I have run into that problem with our calculator prototypes on a handheld DMM. On some ranges the burden is low enough for everything to work OK, but at the lowest current range, necessary for accurate measurements of sleep current (i.e., under 20 uA), the calculator will not work *except* in sleep mode.

I've been guilty of this namely leaving a DUT connected to a meter set to a 100uA scale, long forgetting about it, and then wondering why the supply rail is dipping wildly at unpredictable times. As a bandaid stopgap, a low forward voltage diode across the meter may clamp the voltage drop to an acceptable level. You won't get a meaningful measurement when it does but the meter will be overscale at that point anyway and have your attention.

The better solution as pointed out is a precision shunt and offset nulled instrumentation amp. I might toss a uC with A/D in there such that I can collect continuous data synchronized with events of interest. With a bit of finesse the gain of the opamp could be adjustable during acquisition to keep the sample within digitization range. Most SoCs have suitable precision & range A/Ds available but self-sampling above/below its own vdd/gnd is involved.

Another back burner project to join all of the others..

Re: 15C LE current draw issue

*Message #25 Posted by **Katie Wasserman** on 14 Sept 2011, 1:48 a.m.,*
in response to message #9 by From Hong Kong

I don't have a beta test version nor an HHC2010 one. It's all dependent on the emulator and it was probably

the same, or potential worse.

Re: 15C LE current draw issue

*Message #26 Posted by **MK-52** on 14 Sept 2011, 1:40 a.m.,*
in response to message #1 by Katie Wasserman

Oh... I might have to prepare many batteries.

Re: 15C LE current draw issue

*Message #27 Posted by **Patrick Rendulic** on 14 Sept 2011, 4:41 a.m.,*
in response to message #1 by Katie Wasserman

Interesting.

The next generation of calculators will come with rechargeable cells you will have to recharge every few days. So welcome back in the seventies!

That's technological progress!

Re: 15C LE current draw issue

*Message #28 Posted by **Michel Beaulieu** on 14 Sept 2011, 8:02 a.m.,*
in response to message #27 by Patrick Rendulic

Lithium cells? My 15C runs on "normal" LR44 batteries; i don't understand the 15CLE picture of the battery compartment...

Re: 15C LE current draw issue

*Message #29 Posted by **Jeff O.** on 14 Sept 2011, 8:33 a.m.,*
in response to message #28 by Michel Beaulieu

> Quote:
>
> ...i don't understand the 15CLE picture of the battery compartment...

The 15c LE (and 12C+, and 20b, and 30b, and 10bii+) runs on two CR2032 coin cells.

Edited: 14 Sept 2011, 8:51 a.m.

Re: 15C LE current draw issue

*Message #30 Posted by **Thomas Chrapkiewicz** on 14 Sept 2011, 8:52 a.m.,*
in response to message #1 by Katie Wasserman

Katie:

Interesting results.

If I recall, CR2032 cells have an internal series resistance of about 15 ohms.

I hope to do some measurements later today on both (15CLE and 15CHHC2010) units.

TomC

Re: 15C LE current draw issue

*Message #31 Posted by **Katie Wasserman** on 14 Sept 2011, 11:40 a.m.,*
in response to message #30 by Thomas Chrapkiewicz

> Quote:
>
> If I recall, CR2032 cells have an internal series resistance of about 15 ohms.

Herein lies the problem with running these cells at high current. The initial internal resistance is around 15 ohms or lower and you can easily pull 20ma out of them two of them parallel without a voltage drop. But at this current level the internal resistance skyrockets so that at 20ma you start seeing a large voltage drop in short order.

The are no specs for this because these cells are being run so far beyond the manufacturers stated nominal current draw of 0.2ma. They are a terrible choice for a power source in these ARM-based calculators, especially the programmable ones.

Re: 15C LE current draw issue

*Message #32 Posted by **John B. Smitherman** on 14 Sept 2011, 9:33 a.m.,*
in response to message #1 by Katie Wasserman

I guess HP designers don't use such methods for determining power consumption any more. What would Dave and Bill think?

John

Re: 15C LE current draw issue

*Message #33 Posted by **uhmgawa** on 14 Sept 2011, 10:28 a.m.,*
in response to message #1 by Katie Wasserman

> Quote:
>
> I have no idea how hard this is to fix, but it was done in the 12C+ so it should be doable on the 15C LE too. I'm hopeful that this fix will get rolled into a new firmware version that addresses the PSE issue and the self test problem too.

It should be a relatively easy fix for most cases where the firmware is fixated on keyscan by just dropping the cpu clock rate during an approximate window containing key i/o instructions. As the firmware assumes a 4KHz ballpark NUT instruction execution rate, doing so also helps preserve the original timing in loop scenarios containing key access instructions. While a nit to be cleaned up I'm not sure how serious of a issue it is in practice given the pressumed key-down duty cycle.

However one interesting related scenario to test would be the current draw of the unit in OFF mode when a key other than ON is depressed. Eg, the unit is closed in a drawer or briefcase in OFF mode but someting depresses a non-ON key over a long time interval. This is similar to the "remote control falls between the couch cushions" battery preservation logic.

Re: 15C LE current draw issue

*Message #34 Posted by **Katie Wasserman** on 14 Sept 2011, 11:49 a.m.,*
in response to message #33 by uhmgawa

> Quote:
>
> However one interesting related scenario to test would be the current draw of the unit in OFF mode when a key other than ON is depressed. .

No problem with this. When the calculator is off the current draw when any key(s) are pressed (other then ON) is just the off state current of 0.004ma.

Re: 15C LE current draw issue

*Message #35 Posted by **DaveJ** on 15 Sept 2011, 4:14 a.m.,*
in response to message #33 by uhmgawa

That's just massively disappointing, and bad engineering.

Cyrille at HP knows about the problem after I bought it to his attention >2 years ago, and he said he would not make the same mistake again in future calculators based on the same platform. Looks like he either forgot, or there is some other reason for them doing it.

I've posted it countless times, but I'll post again, technical details for those interested:

http://www.eevblog.com/2009/04/16/eevblog-4-low-power-calculator-design-and-fpgas/

Dave.

Re: 15C LE current draw issue

*Message #36 Posted by **uhmgawa** on 15 Sept 2011, 9:47 a.m.,*
in response to message #35 by DaveJ

> Quote:
>
> That's just massively disappointing, and bad engineering.

I think that's a bit harsh of an external assessment on the developers. Yes there are bugs to be stomped out as those here have found. And there appears to be some regression in power management optimization. But I suspect the developers may as well be victim in part of a less than comprehensive beta program, given the series of issues quickly surfacing in this forum.

I'm unsure what HP's business aspirations are for this product. Perhaps it is diabolically strategic and they are out to reseed the remaining voyager crony market with 10K units of the 15C LE, after which a cosmetically modified 15C+ LE pops up and they continue to sell that until the market is saturated. Or perhaps this was a largely altruistic effort where they decided to give something back to their loyal fan base who have been forever banging on the table for the 15c to be reintroduced.

If the latter, I believe we risk teaching HP the lesson that no good deed goes unpunished and assuring they don't forget the payback received for the 15C LE.

Re: 15C LE current draw issue

*Message #37 Posted by **bill platt** on 15 Sept 2011, 9:53 a.m.,*

in response to message #36 by uhmgawa

I get the feeling that your last point will ring true.

Unlike the "faceless nameless" period when HP shut down all calculator operations, this project, the 15C LE, involves people whom we actually know--and even in many cases know personally, face to face!

I'd say this is an *enormous* turnaround for such a huge corporation. Really, really have to be pleased.

Take your mind back to early 2000s when they pulled the plug. Remember what you were thinking then? Remember scrambling to find and NOS you could? (I bought 4 20s machines from Samson cables for $20 a piece--just to have pioneer keyboard quality backup!)

This is, really, a Dream Come True. Really.

Rather extraordinary.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE Manual Erratum

*Message #1 Posted by **Howard Owen** on 13 Sept 2011, 10:05 p.m.*

On page 42 of the "Owner's Handbook," The second sentence of the first paragraph reads in part

> Quote:
>
> ... (see the diagram of the registers on the inside back cover).

There is no register diagram on the inside back cover.

Offered in the spirit of improvement. :)

edit: removed an error my old eyes told me existed in the naming of the default registers at power up.

Edited: 13 Sept 2011, 10:52 p.m. after one or more responses were posted

Re: HP 15C LE Manual Erratum

*Message #2 Posted by **Michael de Estrada** on 13 Sept 2011, 10:51 p.m.,*
in response to message #1 by Howard Owen

Actually, the decimal points are there but are so tiny as to be almost invisible.

Re: HP 15C LE Manual Erratum

*Message #3 Posted by **Howard Owen** on 13 Sept 2011, 10:54 p.m.,*
in response to message #2 by Michael de Estrada

Yup, just caught that and edited the original post. The other point remains: the reference to the back cover is valid for the original manual, but not the current one.

Re: HP 15C LE Manual Erratum

*Message #4 Posted by **Michael de Estrada** on 13 Sept 2011, 10:58 p.m.,*
in response to message #2 by Michael de Estrada

Now if you really want to be picky, on page 61, changing the decimal separator from a period to a comma the example shows:

12.345.6700

instead of the correct format:

12.345,6700

Re: HP 15C LE Manual Erratum

*Message #5 Posted by **Howard Owen** on 13 Sept 2011, 11:16 p.m.,*
in response to message #4 by Michael de Estrada

"Picky" is definitely what I'm going for here. :) Good catch. In the spirit of pickiness, I'll point out that the error you mention also occurs in the original Owner's Handbook.

Re: HP 15C LE Manual Erratum

*Message #6 Posted by **Michael de Estrada** on 13 Sept 2011, 11:23 p.m.,*
in response to message #5 by Howard Owen

Not in mine.

Re: HP 15C LE Manual Erratum

*Message #7 Posted by **Howard Owen** on 13 Sept 2011, 11:33 p.m.,*
in response to message #6 by Michael de Estrada

My bad eyes again. :(

If I want to be picky, I'll have to use a magnifying glass, LOL.

Re: HP 15C LE Manual Erratum

*Message #8 Posted by **Jurrie Lulofs** on 14 Sept 2011, 2:51 a.m.,*
in response to message #1 by Howard Owen

The index entry for "Hyperbolic functions" should start on a new line.

Re: HP 15C LE Manual Erratum

*Message #9 Posted by **troy** on 14 Sept 2011, 9:27 a.m.,*
in response to message #1 by Howard Owen

on page 35, bottom of the page, the [+] should be a [÷]?

Re: HP 15C LE Manual Erratum

*Message #10 Posted by **Michael de Estrada** on 14 Sept 2011, 10:21 a.m.,*
in response to message #9 by troy

Yes. Two places.

Re: HP 15C LE Manual Erratum

*Message #11 Posted by **Mike Morrow** on 14 Sept 2011, 1:12 p.m.,*
in response to message #1 by Howard Owen

On page 124, under *Manipulating the Real and Imaginary Stacks*, "...twice restore a number to..." should be "...to restore a number to...".

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A New Prototype at the HHC?

*Message #1 Posted by **Dan W** on 13 Sept 2011, 9:21 p.m.*

Recently in posts regarding HHC2011 I've seen statements like this:

I can tell this HHC meeting is going to be out of this world!!!

This looks to be one of the best years yet.

Last year I understand the HP-15C LE prototype was introduced, and everyone kept quiet. I'm just wondering, fantasizing probably, if another similar calculator could be introduced this year.

That would be of course, the HP-42S LE.

Why? Well if the HP-15C is successful, can a 42S be far behind? After all, the 42S still exists today, disguised as a financial calculator, the HP-17BII. Same form factor, same display. The engineering work to convert it to a modern HP-42S would be relatively simple.

I still use the 42S I purchased in 1989. I could really make use of a new one.

At any rate, I wish everyone a great conference.

Cheers

Re: A New Prototype at the HHC?

*Message #2 Posted by **bill platt** on 13 Sept 2011, 9:46 p.m.,*
in response to message #1 by Dan W

The entire Pioneer production has ceased as of early this century.

The 17bii is no longer in production. Its replacement, the 17bii+ is of no value to building a 42s.

Re: A New Prototype at the HHC?

*Message #3 Posted by **Martin Pinckney** on 13 Sept 2011, 10:19 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> The 17bii ... replacement, the 17bii+ is of no value to building a 42s.

Bill, why is that?

Re: A New Prototype at the HHC?

*Message #4 Posted by **Eric Smith** on 13 Sept 2011, 11:25 p.m.,*

in response to message #3 by Martin Pinckney

Because it uses a low-performance masked-ROM microcontroller. If the 42S code was completely rewritten in C to run on that chip, it might be about as fast as the 42S was, but I doubt that HP wants to invest the engineering resources to rewrite it.

Re: A New Prototype at the HHC?

*Message #5 Posted by **Howard Owen** on 13 Sept 2011, 11:35 p.m.,*
in response to message #4 by Eric Smith

Especially since, in my dreams, they are pouring effort into a modern RPN programmable in the spirit of the 42S.

sigh

Re: A New Prototype at the HHC?

*Message #6 Posted by **gene wright** on 13 Sept 2011, 11:42 p.m.,*
in response to message #4 by Eric Smith

And that is a critical difference. The 15c LE was, by comparison, much easier to do than the 42s would be.

Sadly, I don't see a 42sII in my future.

But, the 34S is here!

Re: A New Prototype at the HHC?

*Message #7 Posted by **Dan W** on 14 Sept 2011, 1:27 a.m.,*
in response to message #6 by gene wright

> Quote:
>
> And that is a critical difference. The 15c LE was, by comparison, much easier to do than the 42s would be.
>
> Sadly, I don't see a 42sII in my future.
>
> But, the 34S is here!

Hi Gene,

I'm resurrecting my 42S after a long convalescence. But the 34S is of great interest. I have tried to contact you regarding the cable but I'm not sure I am getting thru via the forum email. Can you try to contact me?

Re: A New Prototype at the HHC?

*Message #8 Posted by **gene wright** on 14 Sept 2011, 7:33 a.m.,*
in response to message #7 by Dan W

I have replied from my hotmail account. Let me know if you haven't seen a reply.

Re: A New Prototype at the HHC?

*Message #9 Posted by **robert rozee** on 14 Sept 2011, 8:13 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> If the 42S code was completely rewritten in C... I doubt that HP wants to invest the engineering resources to rewrite it.

they don't need to - it's already been done in the form of free42. just compile the code for an ATmega1284p (that has 128k of flash and 16k RAM), attach a keyboard, LCD, serial port, and it's all done. the 1284p is in a 40-pin dip package (ideal for hobbyists), if more flash is required one has to go to a QFP version.

the amount of engineering required would be quite minimal.

Edited: 14 Sept 2011, 8:14 a.m.

Re: A New Prototype at the HHC?

*Message #10 Posted by **Dan W** on 14 Sept 2011, 9:43 a.m.,*
in response to message #9 by robert rozee

The licensing issues might be more difficult to resolve than the technical ones.

Re: A New Prototype at the HHC?

*Message #11 Posted by **Eric Smith** on 14 Sept 2011, 1:43 p.m.,*
in response to message #9 by robert rozee

The "attach [...] LCD" part is problematic from a cost perspective. All HP calculators other than the 38/39/40/48/49/50 series use a microcontroller with built-in LCD drive, to save cost. This hypothetical new 42S is going to need hardware that is far more expensive than the 17BII+ hardware, and the only way they can do that is if they can sell it for a lot more.

I've actually worked on fitting Free42 into a microcontroller, and it is nowhere near as easy as you make it out to be. The Free42 code is designed to manage its memory using methods appropriate for running under an OS with plenty of memory, so it takes a lot of hacking to make it work with 16K of RAM.

Re: A New Prototype at the HHC?

*Message #12 Posted by **uhmgawa** on 14 Sept 2011, 2:28 p.m.,*
in response to message #9 by robert rozee

> Quote:
>
> they don't need to - it's already been done in the form of free42. just compile the code for an ATmega1284p (that has 128k of flash and 16k RAM), attach a keyboard, LCD, serial port, and it's all done. the 1284p is in a 40-pin dip package (ideal for hobbyists),

I don't think you'll ever see a 40-pin dip in any new consumer electronic product, much less a pocket calculator.

> Quote:
>
> [..if more flash is required one has to go to a QFP version. the amount of engineering required would be quite minimal.

AFAIK the m1284p is the end of that family in terms of flash size irrespective of package. There are also architectural issues once the flash grows beyond 128KB. Yet 128KB should be sufficient for the task.

Still the Harvard architecture can be maddening to deal with in terms of needing different primitives to accommodate data depending whether it resides in flash vs. RWM. And it after all ***is*** an 8-bit processor which tops out at 20MHz if supplied at 4.5V <= vdd Otherwise the upper frequency limit is 10Mhz @ 2.7V <= vdd which realistically falls to 8MHz if the internal RC oscillator (vs. external resonator) is used. The redeeming graces of this uC are large, zero wait state flash, fairly comfortable RWM size, and a power OFF quiescent current consumption *with SRAM data retained* that would make even old HP proud.

If you want to hack on something, use an ARM <whatever>. Paradoxically I haven't found anything much better than the ageing atmel at91sam7l128 for this application area. The energymicro EFM32 M3 series looks like interesting middle ground but the flash speed only supports zero wait states up to 16MHz IIRC. Still it is a 32-bit arch and doesn't have the usage issues of the 8-bit AVRs. I looked at the NXP LPC1114 but outside powering a single model voyager-class emulation at a brisk 50Mhz, there isn't much else to recommend it except for price -- which frankly is quite impressive @ US$1.50 in single unit quantities. If they could tame the RWM data retained power draw and increase flash size they'd steal the show.

But just wait a bit. I expect we've only seen the tip of the iceberg thus far in terms of SoCs marketed for this application space.

[Add content omitted originally]

Edited: 14 Sept 2011, 8:13 p.m.

Re: A New Prototype at the HHC?

*Message #13 Posted by **Paul Dale** on 14 Sept 2011, 5:30 p.m.,*
in response to message #9 by robert rozee

There would be a few immediate objections to free42 on a calculator. Two that come to mind immediately are:

- Free42 is too memory hungry, it wouldn't fit on a deeply embedded device like a calculator.
- Free42 doesn't use HP's maths library.

Neither of these matter to us when we use Free42. I know the second matters to HP and the first is quite observable when running it.

- Pauli

Re: A New Prototype at the HHC?

*Message #14 Posted by **Miguel Toro** on 14 Sept 2011, 9:50 a.m.,*
in response to message #1 by Dan W

Better still, It would be nice if a new debugged firmware was ready so the lucky ones attending the HHC could flash their HP 15C LE.

What a better way for HP to show they care. Until now, we do not know if something is, at least, in the work to correct the issues that have been found so far.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE - review wanted

*Message #1 Posted by **Jeroen Van Nieuwenhove** on 13 Sept 2011, 6:18 p.m.*

While all these messages about serial numbers, fedex packages and key rattle are very interesting, I really would like to see a decent writeup, preferably with pictures, describing the new calc in comparison with the 15C classic. All of you lucky guys/gals are undoubtedly absorbed by this new toy for weeks to come, but inquiring minds that haven't yet received or ordered their units, would like to know what they can expect.

Thanks in advance!

Re: HP 15C LE - review wanted

*Message #2 Posted by **Dave Johnson** on 13 Sept 2011, 9:53 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

Those who snooze will lose....why wait?

Re: HP 15C LE - review wanted

*Message #3 Posted by **From Hong Kong** on 13 Sept 2011, 11:38 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

At least, I would like to have updated Calculator Benchmark with HP-15C LE and HP-12C AE.

Re: HP 15C LE - review wanted

*Message #4 Posted by **Jeff O.** on 14 Sept 2011, 10:39 a.m.,*
in response to message #3 by From Hong Kong

If I enter the program provided for the HP-15C from the "Calculator Benchmark article", my 15c LE returns a result of 876 in approximately 28 seconds.

..

Re: HP 15C LE - review wanted

*Message #5 Posted by **From Hong Kong** on 14 Sept 2011, 11:42 a.m.,*
in response to message #4 by Jeff O.

Thanks a lot for your test! :)

A classic HP-15C gave 1:19:10 or 4,750s. Your HP-15C LE gave 28s, i.e. an HP-15C LE is 170x faster than a classic HP-15C.

Edited: 14 Sept 2011, 11:43 a.m.

Re: HP 15C LE - review wanted

*Message #6 Posted by **Jeff O.** on 14 Sept 2011, 12:56 p.m.,*
in response to message #5 by From Hong Kong

Yes, that is what I calculated for the speed increase factor. That is the highest speed increase that I have seen for any test. Most reports and my tests of other routines seem to indicate a speed increase factor of 100 to 150. I don't know if the N-queens routine lends itself to higher speeds for some reason, or if the results for the HP-15C were from a slow example of the original unit. I may test it on my old 15C, but for such a long running program it is difficult to make sure you catch it when it finishes.

Edited: 14 Sept 2011, 1:00 p.m.

Re: HP 15C LE - review wanted

*Message #7 Posted by **Jeroen Van Nieuwenhove** on 14 Sept 2011, 4:27 p.m.,*
in response to message #5 by From Hong Kong

Perhaps HP should issue an alternative firmware with enough delay loops to match the original speed, to emulate that typical 1-second delay for trig functions or the eternal "running"-message, just in case you really want to have that Voyager experience ;-)

Edited: 14 Sept 2011, 4:27 p.m.

Re: HP 15C LE - review wanted

*Message #8 Posted by **Jeff O.** on 14 Sept 2011, 12:48 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

Not sure exactly what you want, but here are a few random comparisons:

Appearance
The biggest difference in appearance between the 15c LE and a classic 15C is that of the keys themselves. The 15c LE keys have a matte finish to them and are (very slightly) rough to the touch, while the 15C Classic's keys are glossy in appearance and quite smooth to the touch. The blue and yellow (or gold, if you prefer) colors for the legends appear to be essentially identical between my 15c LE and my 15C Classic. (Much closer than the 15c+ units given to HHC2010 attendees, which used the orange and blue font colors from the 12C Platinum, I believe.) The display on the 15c LE is very slightly yellow as compared to the 15C Classic unit. The silver "15C" logo badge appears to be identical to the old, expect of course it is shiny and pristine on my 15c LE and beat up and worn on my 15C Classic. The silver line that surrounds the keyboard may be ever-so-slightly wider on the 15c LE, but that is really splitting hairs. The back label is of course much different due to the need to rearrange everything because of the much larger battery compartment door. It is also black print on a silver background instead of the silver on black of the original. All of the same information is included, except for a diagram of the battery insertion orientation. The silver bezel surrounding the display is very close in appearance. I cannot tell if the 15c LE is actually a brushed aluminum or a painted finish that mimics brushed aluminum.

Key-press feel
The key press feel is slightly different between new and old. The new is very good in my opinion, the difference is difficult to describe in words. The old is perhaps a slightly softer feel, not mushy soft, of course. I believe the old keys have slightly less travel, but again it is a very subtle difference.

As for pictures, Gene posted a link to a very large photo of the 15C LE here, and there are photos of the 15C Classic here at the museum.

Don’t know if the above is the type of information you were after, if you have any specific questions, just ask.

Re: HP 15C LE - review wanted

*Message #9 Posted by **Jeroen Van Nieuwenhove** on 14 Sept 2011, 4:14 p.m.,*
in response to message #8 by Jeff O.

Thank you, Jeff, for this clarifications. I am glad that they got the blue/gold colors for the legends right. On the FlickR picture that Gene linked to, the gold color was definitly not identical to the original Voyager color scheme.

Most important thing for me is the feeling of the keys, but your description gives me a pretty good idea, thanks. I hope that the legends on the keys do not wear off too soon... I guess that will be the only long-term cosmetic disadvantage, compared to the injection molded keys of the original model.

I still have this question: is the 15C LE level on a flat surface? No instances of slightly warped cases?

Re: HP 15C LE - review wanted

*Message #10 Posted by **Ethan Conner** on 14 Sept 2011, 4:21 p.m.,*
in response to message #9 by Jeroen Van Nieuwenhove

I have a glass table and tried to rock it by pressing keys on the edges and couldn't get it to even slightly wobble.

Re: HP 15C LE - review wanted

*Message #11 Posted by **Howard Owen** on 14 Sept 2011, 5:02 p.m.,*
in response to message #9 by Jeroen Van Nieuwenhove

> Quote:
>
> On the FlickR picture that Gene linked to, the gold color was definitly not identical to the original Voyager color scheme.

Comparing the two side by side, I can confirm that the gold on the LE is more yellow, and therefore brighter. It is indeed more readable IMO.

Re: HP 15C LE - review wanted

*Message #12 Posted by **Steve Simpkin** on 14 Sept 2011, 5:27 p.m.,*
in response to message #9 by Jeroen Van Nieuwenhove

> Quote:
>
> I hope that the legends on the keys do not wear off too soon... I guess that will be the only long-term cosmetic disadvantage, compared to the injection molded keys of the original model.

Some of the original Voyager models had painted keys near the end of their production run. Also I believe many of the more recent HP-12C models have painted keys so there should be some history of how long they last out there somewhere.
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=74069

Re: HP 15C LE - review wanted

*Message #13 Posted by **megarat** on 15 Sept 2011, 11:19 p.m.,*
in response to message #1 by Jeroen Van Nieuwenhove

I'll add some additional observations. Mine arrived today and so far I like it a lot. Key press is much better than I anticipated, and I think Jeff O. described it pretty well: firmer keypress than original, but not as nice/smooth, yet still very respectable.

I get no key rattle at all, and while the colored function keys do drift a little, they're not bad, and I probably only noticed this because it was mentioned here. The display is great, basically identical to the vintage 15c display, with maybe a slightly (as in very slightly) yellowish tinge.

Cosmetically it's an almost-perfect reproduction. I'll concur some of the other points: the yellow labels are a bit brighter, making them easier to read. If one really scrutinizes, you'll find that the border around the edge of the keyboard is slightly thicker, and that the "HEWLETT-PACKARD" branding on the bottom is bold Helvetica instead of plain. (And now the label runs to the near-end of the RCL key instead of to the middle.) And comparatively, the LE's plastic case is more black than then vintage 15c's brown.

If you stand them on a desk side by side, the LE stands a tiny bit higher (1mm, maybe 1.5mm), and I can see that the LE is more uniform in thickness (in that the original 15c has more of a taper toward the front/bottom edge). I first attributed this to the fact that the LE has thicker feet pads, but upon inspection it actually is thicker, especially on the front/bottom edge.

(I suspect that this is the same physical form factor as the modern 12c calculators, but I don't have one to compare.)

The back side of the calculator, of course, looks totally different. The big metal label (with error codes, &c.) is silver instead of black. I personally find this contrast jarring, but nothing substantial to complain about. Also, the brushed aluminum bezel on the front is different ... it doesn't actually feel like brushed aluminum in that it's totally smooth.

All in all, I think it's great. HP, this totally made my month. Many thanks.

For full disclosure, I do have one complaint thus far, which is regarding the slipcase. It's fractionally too small for my calculator (both in width and length) and irregularly sewn. Even when I fight the calculator all the way in there, it sticks out of the case by about 3mm. Just by trying to force the calculator into the case, one of the seams at the opening has already started to come undone. Annoying, but not a big deal, especially since I think I have a spare kicking around in the office.

Edited: 16 Sept 2011, 10:28 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C-LE has "Buy" button at HP

*Message #1 Posted by **Howard Owen** on 13 Sept 2011, 5:42 p.m.*

But no price, and clicking the link leads to a 404 redirect.

HP link

The 15C is off to the right of the page.

Edit: That's on the business site. The home and home office page for the 15C-LE hasn't changed availability from "coming soon."

Edited: 13 Sept 2011, 5:47 p.m. after one or more responses were posted

Re: 15C-LE has "Buy" button at HP

*Message #2 Posted by **M. Joury** on 13 Sept 2011, 5:46 p.m.,*
in response to message #1 by Howard Owen

I found this the other day. If you click on it it takes you to an HP-17bii+ page. If you click on the calculator image itself it takes you to the HP15C page with no way to buy it. At least that is what it is doing for me.

Re: 15C-LE has "Buy" button at HP

*Message #3 Posted by **Howard Owen** on 13 Sept 2011, 5:48 p.m.,*
in response to message #2 by M. Joury

I get a link to nowhere LOL. That must mean somebody in marketing is thinking about the issue long enough to screw it up. :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE & 12C AE, somewhat disappointing

*Message #1 Posted by **Katie Wasserman** on 13 Sept 2011, 3:10 p.m.*

My 2 15C LE's (#01604 + #01576) and one 12C AE (#02519)arrived from buy.com today and I'm somewhat disappointed with the build quality, here's why:

One of the 15C's has a slight key rattle (just the F and G keys). All 3 calculator have poorly aligned F and G keys (as has been noted before) -- my earlier 12C+ calculators has somewhat better alignment of these keys. The plastic used in the keys is noticeable rougher to the touch than that used in my 2 early model 12C+ calculators. The firmware in the 12c AE is dated 2009-07-02 and has bugs in it that my 12C+ firmware dated 2009-11-19 does not have. Finally, the 12C AE does not come with a printed manual, just a short getting started guide and a CD. I think that there's room in that box for a manual, does the regular 12C come with a full manual?

While you could say that I'm being unreasonably picky about the aesthetic issues, I see no reason why the firmware has to be the older, buggy version. I can upgrade this to the latest version myself, but what about all those people that don't have cables and don't read this forum?

-Katie

Edited: 13 Sept 2011, 3:17 p.m.

(deleted post)

*Message #2 Posted by **deleted** on 13 Sept 2011, 3:22 p.m.,*
in response to message #1 by Katie Wasserman

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #3 Posted by **Dave** on 13 Sept 2011, 3:45 p.m.,*
in response to message #2 by deleted

Tim, do you know if the keys are matte so the paint will stick better, or is there some other reason for it?

Edited: 13 Sept 2011, 3:46 p.m.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #4 Posted by **Martin Pinckney** on 13 Sept 2011, 4:18 p.m.,*
in response to message #1 by Katie Wasserman

Katie, my reaction was the opposite - excellent build quality on the 15c LE (I don't have the 12c).

On mine, the blue and yellow keys don't rattle, but they can be twisted very slightly to appear a little

misaligned - but they can also be moved back into alignment just as easily, so I don't consider that an issue.

I think someone opined earlier that the blue and yellow keys behave differently because they are different colors from the rest of the keys, and therefore they are separate moldings, while the others are all part of a linked array.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #5 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 4:29 p.m.,*
in response to message #4 by Martin Pinckney

Is someone here the author of this video? Some rattling has been reported.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #6 Posted by **Ethan Conner** on 13 Sept 2011, 9:11 p.m.,*
in response to message #5 by Gerson W. Barbosa

My shift keys don't rattle although they are slightly more loose than the rest. They are not even near as bad as the you tube video. I'm usually easy to disappoint in the quality area(aviation background) but so far happy with the unit that was sent to me. :)

Re: 15C LE & 12C AE, somewhat disappointing

*Message #7 Posted by **Lincoln R.** on 13 Sept 2011, 4:32 p.m.,*
in response to message #4 by Martin Pinckney

That would make sense. The keys on my vintage-ish (Singapore, 1993) 12C *all* rattle, and none of the keys on my 12C+ do. I know that the old HP double-shot keys were not all made on one assembly. I can live with the rattle, I'm glad they decided to actually make orange and blue keys instead of just painting black keys with something that will wear off.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #8 Posted by **Les Bell** on 13 Sept 2011, 8:33 p.m.,*
in response to message #7 by Lincoln R.

Agree; the bottom row of keys on my USA-made 16C also rattle; if I hold the calc upside-down and run my finger along each row it's clear that it's the f, g and STO keys that are loosest - the others don't move up and down, but only slightly sideways.

I think 'twas ever thus.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 15C LE & 12C AE, somewhat disappointing

*Message #9 Posted by **Steve Fennell** on 13 Sept 2011, 5:30 p.m.,*
in response to message #4 by Martin Pinckney

I received my 15C and 12C today from buy.com. Generally I am happy with the purchase and the shift keys don't rattle although they move slightly more than the other keys. I would have liked a manual for the

12C but that's not a big issue. Overall I'm happy with the quality of the calculators.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #10 Posted by **Katie Wasserman** on 13 Sept 2011, 5:44 p.m.,*
in response to message #9 by Steve Fennell

Only one of the 5 recently made voyagers I have (2x12C+, 2x15CLE, 1x12CAE) actually rattles the f and g keys when you pick it up and shake it. The rest have f and g keys that more around, some more than others. The two 12C+ machines are the best and they were made a couple of years ago.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #11 Posted by **James Sterbenz** on 14 Sept 2011, 1:01 p.m.,*
in response to message #10 by Katie Wasserman

The keys rattle when shaken on my HP-45, HP-55, and HP-34c...

Re: 15C LE & 12C AE, somewhat disappointing

*Message #12 Posted by **sylvandb** on 13 Sept 2011, 7:05 p.m.,*
in response to message #1 by Katie Wasserman

My 15c LE and 12c 30th both came this afternoon, so I've had less than an hour with each of them. I'm happen with them so far. Who knows what 10 years will bring.

I did notice a bit of an oddity...

When switching the decimal point/comma, when does the calculator turn on? Key sequence, calc off: 1) Decimal down, 2) ON down, 3) ON up, 4) Decimal up.

The 12c 30th (and 25th, and the oldest 12c I have) turn on after releasing the ON before releasing Decimal. (After step 3.)

The 15c LE (no older one at hand to compare) will turn on only after releasing both keys. (After step 4.) Is that normal?

No rattle when shaken. A couple of times with each of them I wondered if there was a rattle so shook more then harder and then different directions. Nothing reproducible. My old Brazil 3-cell 12c rattles noticably but the keys still feel solid. (I think the rattle is wear and tear and I expect the new ones will develop rattles with usage.)

Yes, the color keys move a bit.

Overall I'm quite pleased with the build quality compared to the brand new TI 84 plus SE I bought earlier this year.

The TI seems OK. Kind of like my TI-30 did back in 1975-6. Neither the current TI nor the current 15c LE and 12c 30th have the "wow, this is incredible" quality feeling that my original 15c inspired in 1982. However the HP's are much closer than the TI.

The TI does seem a far better value in specs and capability tho. And my oldest's 6 year old TI 84 plus has held up with no functional or even notable issues. Now with 3 of those TI's purchased, I expect I would have seen something if any of the serious quality problems I saw develop with the TI-30 were endemic in the current 84 plus.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #13 Posted by **Lyuka** on 13 Sept 2011, 8:22 p.m.,*
in response to message #1 by Katie Wasserman

Katie,

'Somewhat' - it may be lack of 'quality and reliability' which had been the words representing Hewlett Packard for a long time.
It's gone to the Agilent Technologies now, and I really wonder if they would release the AT-42sII.

BTW, have you measured the power consumption (current draw) of the 15C LE?

Regards,
Lyuka

Re: 15C LE & 12C AE, somewhat disappointing

*Message #14 Posted by **Katie Wasserman** on 13 Sept 2011, 11:20 p.m.,*
in response to message #13 by Lyuka

Lyuka,

Good suggestion, measuring the current --- see a new post on this topic.

-Katie

Re: 15C LE & 12C AE, somewhat disappointing

*Message #15 Posted by **Howard Owen** on 13 Sept 2011, 8:43 p.m.,*
in response to message #1 by Katie Wasserman

Just got my first 15C-LE, serial #CNA1320813, LE number 00336. Mine does not rattle when shaken. People at the coffee shop looked at me kind of funny when I did that, however. Moral: only shake your 15C in private, if you don't want to be thought odder than you obviously are. :)

Re: 15C LE & 12C AE, somewhat disappointing

*Message #16 Posted by **Martin Pinckney** on 13 Sept 2011, 8:58 p.m.,*
in response to message #15 by Howard Owen

> Quote:
>
> Moral: only shake your 15C in private...

LOL!

Re: 15C LE & 12C AE, somewhat disappointing

*Message #17 Posted by **Eddie W. Shore** on 13 Sept 2011, 11:46 p.m.,*
in response to message #1 by Katie Wasserman

I hope not, my 12C and 15C LE (two of them?) are coming in a few business days, hopefully in time for the HHPC conference.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #18 Posted by **Erturk Kocalar** on 14 Sept 2011, 12:42 a.m.,*
in response to message #17 by Eddie W. Shore

My 12C platinum had rattling keys. i opened the back and put one or two strips of paper behind the F/G keys. Now it works great. Don't put too much though :)

So I'm not worried about the keys rattling. Hopefully the production line will adjust as we give feedback.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #19 Posted by **Katie Wasserman** on 14 Sept 2011, 2:03 a.m.,*
in response to message #18 by Erturk Kocalar

> Quote:
>
> So I'm not worried about the keys rattling.

I'm not either. Many of the original voyagers had (or now have) rattling keys, but it is a quality control issue that should have attention paid to it.

> Quote:
>
> Hopefully the production line will adjust as we give feedback.

Exactly.

Re: 15C LE & 12C AE, somewhat disappointing

*Message #20 Posted by **From Hong Kong** on 14 Sept 2011, 4:05 a.m.,*
in response to message #1 by Katie Wasserman

I don't want to rub salt into one's wound but I think you guys have become the 'martyrs' of the early batches of the HP-15C LE! After receiving your responses, hopefully I think the problems will be fixed when I get my own calculator several months later in Hong Kong.

Edited: 14 Sept 2011, 4:07 a.m.

Question about Storage

*Message #21 Posted by **Gerardo Rincon** on 14 Sept 2011, 7:05 p.m.,*
in response to message #1 by Katie Wasserman

I received my three HP 15C LE. Very exciting! Many years waiting for what I consider the best Pocket Scientific calculator!

I have LE numbers 1081, 1200, and 1598. They are all solid, well made, top quality! All keys are excellent.

QUESTION: I plan to use one of the three and keep two "boxed" . Should I remove the batteries on these units? Any concern about leave them with or without batteries?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My HP 15C is here! IT DOES EXIST!!!!!

*Message #1 Posted by **jonathan G harris** on 13 Sept 2011, 2:51 p.m.*

I oredered 3 of the HP15C LE from Buy.com last Thursday and they arrived today!!! I bought 2 for myself (primary calc and spare)and 1 for my friend who is a SRO (senior reactor operator) at the dreaded University of Florida (We had physics/calcs together). I am a Relay Engineer (protection & control) and I use a calculator almost daily for both work and trivial calculations. All 3 came in one box and I absolutely love the packaging. Looks very professional and everthing so far looks good. I am gonna take (the one I opened...) home and play with it tonight along with one of my original 15Cs that I bought off of Ebay 2-3 years ago. The keys don't feel as good as the original but so far I am very happy and pleased with my purchase. I am a little suprised at the cost of the new models. They could have charged a hundred apeice and I (along with probably everyone that has bought the new 15C..) would still have bought three.

I am happy that the HP calculator community fought the good fight. I have been an engineer for 4 years and even though I own a TI-86, TI-92+, HP 50G, 33S, 35S (for the EIT/PE) the only calculator that will ever be (or fits...) in my shirt pocket will be a HP15C!!!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Screenshots of the HP-15C LE emulator?

*Message #1 Posted by **Torsten** on 13 Sept 2011, 1:41 p.m.*

I would like to see screenshots of the HP-15C LE Emulator. Can someone upload photos?

Torsten

Re: Screenshots of the HP-15C LE emulator?

*Message #2 Posted by **Dave** on 13 Sept 2011, 2:03 p.m.,*
in response to message #1 by Torsten

There's nothing to see. It looks exactly like the 15C. Find a picture of the 15C, and you'll have a screen shot of the emulator. In fact, you can just R-click the logo and hide the title bar so all you see is the calculator.

Edited: 13 Sept 2011, 2:04 p.m.

Re: Screenshots of the HP-15C LE emulator?

*Message #3 Posted by **Torsten** on 13 Sept 2011, 2:38 p.m.,*
in response to message #2 by Dave

No additional functions like saving/loading programs etc.?

Re: Screenshots of the HP-15C LE emulator?

*Message #4 Posted by **M. Joury** on 13 Sept 2011, 2:41 p.m.,*
in response to message #3 by Torsten

Not that I can find (unfortunately).

Re: Screenshots of the HP-15C LE emulator?

*Message #5 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 2:43 p.m.,*
in response to message #4 by M. Joury

Does it run at fastest possible speed? TIA.

Re: Screenshots of the HP-15C LE emulator?

*Message #6 Posted by **Michael de Estrada** on 13 Sept 2011, 2:51 p.m.,*
in response to message #5 by Gerson W. Barbosa

As far as I can tell it runs at the processor speed, effectively instantaneous.

Re: Screenshots of the HP-15C LE emulator?

*Message #7 Posted by **M. Joury** on 13 Sept 2011, 3:04 p.m.,*
in response to message #6 by Michael de Estrada

Hmmmmm..... Interesting. Your results seem utterly different from mine.

Re: Screenshots of the HP-15C LE emulator?

*Message #8 Posted by **M. Joury** on 13 Sept 2011, 3:03 p.m.,*
in response to message #5 by Gerson W. Barbosa

I would say not. I compared it against the WP34S emulator and programmed both to do a 100,000 DSE loop. I wrote the programs the same way on both machines not using any of the tricks of the WP34S. The 15C took approx. 5 seconds to complete while the WP34S took under a second.

I don't know how the emulator is implemented but a 100,000 count on a 1.6GHz Intel processor should be nearly instantaneous.

There are also a couple of bugs in the emulator itself. Not the HP-15C if you get my drift. Refreshing the window is broken in some situations and I saw screen artifacts while keying in my short test program. For example, those that have it installed can try this: Go into program mode and press the f key. You will see an image of the top row of keys on the emulator screen (at least I did).

Cheers,

-Marwan

Edited: 13 Sept 2011, 3:08 p.m.

Re: Screenshots of the HP-15C LE emulator?

*Message #9 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 3:26 p.m.,*
in response to message #8 by M. Joury

WP34s is expected to run faster because it runs native C++ code. Emulators are noticeably slower. Compare, for instance, Free42 with Emu42.

Cheers,

Gerson.

Re: Screenshots of the HP-15C LE emulator? -- edited

*Message #10 Posted by **M. Joury** on 13 Sept 2011, 3:54 p.m.,*
in response to message #9 by Gerson W. Barbosa

I agree. Which is why I commented on the emulator implementation. As another benchmark I just tried the same sort of loop on EMU48 running a 48SX and, for what it's worth, the timing was very close to that of the HP15C LE emulator.

Still, keep in mind that the WP34S is still being emulated. What you have with the 15C is an emulator running an emulator running your code while with the WP34S it is an emulator running your code. So an extra layer of emulation which, again, is why the emulator layer becomes so important.

I am not sure that your example of Free42 vs. Emu42 is valid since Free42 is presumably running native code on whatever hardware platform it is running on while WP34S is still being emulated.

However, the extra layer of emulation could indeed be the culprit here.

Cheers,

-Marwan

Edited: 13 Sept 2011, 4:01 p.m.

Re: Screenshots of the HP-15C LE emulator? -- edited

*Message #11 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 4:18 p.m.,*
in response to message #10 by M. Joury

On Windows, there is no emulation layer in WP 34S and only one in the 15C LE. Both run native code compiled for the x86 architecture. In the case of the 15C, this native code runs a NUT CPU which executes the original 15 C firmware. In the case of WP 34S there is no such layer. It's just an ordinary Windows program.

We call it "emulator" because it pretends to be the real calculator without being it but not in the sense of trying to mimic the internals of the ARM processor.

Re: Screenshots of the HP-15C LE emulator? -- edited

*Message #12 Posted by **M. Joury** on 13 Sept 2011, 4:32 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Hi Marcus,

Thanks for that clarification. I assumed that the WP34S running under Windows was emulating the ARM processor and I made the same assumption for the HP12C. So one layer of emulation removed from each and I assume that this would place the WP34S at the same "emulation" level as Free42.

I guess that I would call both WP34S and Free42 simulators per some of the posters in this thread. Obviously this is not universally accepted.

Thanks again,

-Marwan

Edited: 13 Sept 2011, 4:33 p.m.

Re: Screenshots of the HP-15C LE emulator? -- edited

*Message #13 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 5:03 p.m.,*
in response to message #12 by M. Joury

We had this discussion already. We emulate (simulate?, pretend?) the outer appearance of the calculator on the screen (which is a software totally separate from the code that runs inside the hardware). The calculator guts themselves are compiled from the very same sources that are used to build

the ROM image. It's just a different target.

Re: Screenshots of the HP-15C LE emulator? -- edited

*Message #14 Posted by **M. Joury** on 13 Sept 2011, 5:30 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Makes sense. Like I said. Peoples opinions differ. I just made an assumption, based on the term "emulator", that was wrong.

Re: Screenshots of the HP-15C LE emulator?

*Message #15 Posted by **Torsten** on 13 Sept 2011, 3:08 p.m.,*
in response to message #4 by M. Joury

Then there's still room for other simulators/emulators which offer these functions. I doubted whether it is worthwhile to continue with my HP-15C simulator.

Edited: 13 Sept 2011, 3:11 p.m.

Re: Screenshots of the HP-15C LE emulator?

*Message #16 Posted by **Namir** on 13 Sept 2011, 3:40 p.m.,*
in response to message #15 by Torsten

Thanks! This is a slightly newer version of the first two that I had!

Namir

Re: Screenshots of the HP-15C LE emulator?

*Message #17 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 3:52 p.m.,*
in response to message #15 by Torsten

Torsten, if you go the way of Free42 (maybe even sharing some code) your simulator may well be distinctive enough.

Re: Screenshots of the HP-15C LE emulator?

*Message #18 Posted by **Howard Owen** on 13 Sept 2011, 9:31 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Source code is available under the GPL. Check out the download link.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

ADV HEPAX goes for $1,000 at TAS !!!

*Message #1 Posted by **Ángel Martin** on 13 Sept 2011, 12:33 p.m.*

seeing is believing! auction here

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #2 Posted by **Dan Grelinger** on 13 Sept 2011, 12:54 p.m.,*
in response to message #1 by Ángel Martin

The buyer got snagged by the reserve for $177 more than the second highest bidder wanted to pay. That is why I never bid on reserve price auctions. Does anyone recall when the last one sold, and at what price?

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #3 Posted by **Martin Pinckney** on 13 Sept 2011, 1:53 p.m.,*
in response to message #1 by Ángel Martin

Out of curiosity, I went to the webpage referenced in the auction. Since it is in French, I clicked the translate button. This yielded these gems:

> Quote:
>
> belongs...in the category of modules most wanted mythical lovers HP-41.

and

> Quote:
>
> "I can honestly say that this module is a module for general use the most useful that a user could buy. "

With those kinds of endorsements, it' no wonder it went so high [;-)

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #4 Posted by **Ángel Martin** on 13 Sept 2011, 3:11 p.m.,*
in response to message #3 by Martin Pinckney

sure but remember: the NoVRAM does all the HEPAX did plus more... (permanent RAM) - at a tenth of that price!

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #5 Posted by **Juergen Keller** on 13 Sept 2011, 4:47 p.m.,*
in response to message #4 by Ángel Martin

From the practical viewpoint you're right. But be aware that a collector's mind behaves differently, he wants the original one. It's not a rational decision, it's an emotional one. However, $1000 is a lot of money, particularly with regard to the missing box. There is another auction for a clear case HP-65, with a BIN price of more than $2000! I suppose I have to play EuroMillions ;-)

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #6 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 3:16 p.m.,*
in response to message #3 by Martin Pinckney

From what I can remember from Elementary School French:

"The HEPAX module... belongs to... the category of mythical modules that are most looked after by HP-41 enthousiasts."

"I can honestly say this module is one of the most useful general use modules a user could buy"

Despite they are not perfect (yet), online translators are useful sometimes.

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #7 Posted by **Walter B** on 13 Sept 2011, 5:17 p.m.,*
in response to message #6 by Gerson W. Barbosa

> Quote:
>
> Despite they are not perfect (yet), online translators are useful sometimes

... if used on a solid foundation of e.g. some Elementary School French. Else the result may be way off. There are lots of examples :-)

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #8 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 6:05 p.m.,*
in response to message #7 by Walter B

French was well taught here back then. Teachers could actually speak the language. In 1976, when I entered high-school, English replaced French as the only foreign language taught at public schools. Most students hated it. If they had a choice they would rather study Spanish instead :-)

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #9 Posted by **Thomas FR69** on 13 Sept 2011, 6:32 p.m.,*
in response to message #8 by Gerson W. Barbosa

In fact, as it is written on the page ("*Simon Bradshaw wrote in HPCC Magazine (V6N7, October 1987)...*"), you try to translate sentences that are extracted from the HPCC Magazine (Index of Datafile, the HPCC club magazine), and were thus in english originally.

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #10 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 9:10 p.m.,*
in response to message #9 by Thomas FR69

His exact words, per your reference:

"I can honestly say that this looks like one of the most useful general purpose extension modules that a User could buy."

Yours are very close:

"Je peux honnêtement dire que ce module est un des modules d'utilisation générale les plus utiles qu'un utilisateur pourrait acheter".

Perhaps "...ce module semble être un des modules..." would be slightly more faithful, but I'm not sure that's the proper way to say that in French. My French doesn't go much further than *le livre est sur la table*. It sure needs a brush-up :-)

Regards,

Gerson.

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #11 Posted by **Thomas FR69** on 14 Sept 2011, 3:08 p.m.,*
in response to message #10 by Gerson W. Barbosa

Gerson, I think your translation is the best. I put your proposition "...ce module semble être un des modules..." on the page.

Regards, Thomas

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #12 Posted by **Gerson W. Barbosa** on 14 Sept 2011, 7:15 p.m.,*
in response to message #11 by Thomas FR69

Hello Thomas,

Please notice there was no criticism intended. Anyway "it appears to be" is different from "it is" and this change might please Ángel Martin and others :-)

I don't have an opinion about HEPAX myself as I was never an HP-41 user. I skipped it (and all those interesting modules) back then. I remember I saw a 41C in 1983 in a local Carrefour store, but the price tag looked astronomical. I ended up buying a 15C instead). I have now one of those London new old stock HP-41CX and some accessories, but I seldom use it. At that time, once I was amused when a French engineer who was working with us said "Juliette Packard". I don't remember this referred to his HP-41C or HP calculators in general.

Regards,

Gerson.

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #13 Posted by **Howard Owen** on 13 Sept 2011, 10:28 p.m.,*
in response to message #6 by Gerson W. Barbosa

Google Translate keeps getting better though. If you run this page through Google Translate, you will

get a machine translation of Baudelair's "Enivrez-Vous" ("Get Drunk") on the left, and a translation by a human being on the right. It's remarkable how well Google does with the translation, though there's still no question the human translated version is better.

Re: ADV HEPAX goes for $1,000 at TAS !!!

*Message #14 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 11:20 p.m.,*
in response to message #13 by Howard Owen

Isn't the Google translation another human translation? It appears Google Translate is able to find lots of this kind of Rosetta Stone through the internet, then it presents the translation as it were its own. Plagiarism? :-)

OT: Translation

*Message #15 Posted by **Howard Owen** on 13 Sept 2011, 11:31 p.m.,*
in response to message #14 by Gerson W. Barbosa

It's less sinister than that. Google tries to "crowd source" its translations, offering you alternate translations or your own preferred translation. It aggregates those results in some way, so that their translations improve based on those inputs.

I went looking for that particular poem because, once upon a time, I ran that text through Google Translate and got an obviously human produced result. That translation took account of the poetic elements in the source text, translating those ideas instead of the words themselves. This time I came up with that side-by-side translation, which I thought was interesting. But I don't think the machine translation in this example was taken from a human. It disregards the poetry, and translates the words. The human produced English on the right does better, but it still isn't as good as it could be in that regard.

edit: correct bonehead "it's" for "its."

Edited: 14 Sept 2011, 3:47 p.m.

Re: OT: Translation

*Message #16 Posted by **Gerson W. Barbosa** on 14 Sept 2011, 8:09 p.m.,*
in response to message #15 by Howard Owen

I can see it now! Somehow I had overlooked your important recommendation "run this page through Google Translate". Sorry!

Re: OT: Translation

*Message #17 Posted by **Howard Owen** on 14 Sept 2011, 8:56 p.m.,*
in response to message #16 by Gerson W. Barbosa

I could have made that clearer. I am using Chrome for my web browser. If you view a page with a language that doesn't match your locale, Chrome will give you a "translate" option that does the work in place. It's very convenient, but it's not the way most people do it.

Re: OT: Translation

*Message #18 Posted by **Gerson W. Barbosa** on 14 Sept 2011, 9:38 p.m.,*

in response to message #17 by Howard Owen

I am using Chrome as well, but I have disabled the automatic translation from French offer.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Found in a rubbish bin.

*Message #1 Posted by **Stuart Sprott** on 13 Sept 2011, 7:58 a.m.*

The company that I work for have just moved to another office. They had been in the last office for over 30 years. In that time a hell of a lot of useless files equipment had accumulated.

The move was a good time to get rid of the useless stuff.

During the move I just happened to look in one of the rubbish bins and spotted HP 32Sii. Naturally I picked it and tried to use it. The keys felt good but nothing happened. Perhaps the batteries were flat; but I felt that would be too good to be true. Anyway I brought some batteries today and it fired up straight away. As far as I can see everything works just fine.

In the past I have never had a 32Sii. The calculator appeals to me and seems easy to program. I do not have a manual, but so far I have been able to work out most of the functions.

My guess is that who ever owned it was just to lazy to get new batteries. I wonder how many good calculators have ended up in a rubbish tip.

Just one question. The face of the calculator is fairly grotty. What is the best fluid and method to clean the face without damaging the original markings?

Re: Found in a rubbish bin.

*Message #2 Posted by **db (martinez, ca.)** on 13 Sept 2011, 8:23 a.m.,*
in response to message #1 by Stuart Sprott

Whatever you use, be gentle on the first couple of passes or the grit you are cleaning off will buff thousands of microscopic lines into the painted faceplate.

I don't know this because i'm a *good* calculator cleaner.

Re: Found in a rubbish bin.

*Message #3 Posted by **Bart (UK)** on 13 Sept 2011, 8:41 a.m.,*
in response to message #2 by db (martinez, ca.)

> Quote:
>
> I don't know this because i'm a *good* calculator cleaner.

Somewhere in my head I can't help hearing "Good judgement comes from experience, experience comes from..." :-)

Re: Found in a rubbish bin.

*Message #4 Posted by **robert rozee** on 13 Sept 2011, 8:42 a.m.,*
in response to message #1 by Stuart Sprott

i use a little De-Solv-It, a citrus based glue solvent and stain remover. a similar (though not quite effective) option is eucalyptus oil. a very light spray, then brush away the dirt with a 1" paintbrush, periodically wiping the brush clean with a rag.

De-Solv-It has the extra advantage of leaving an orangey fresh smell behind!!

Re: Found in a rubbish bin.

*Message #5 Posted by **Namir** on 13 Sept 2011, 9:01 a.m.,*
in response to message #4 by robert rozee

Be careful! De-Solv-It may alter the Solve algorithm in the calculator. Make sure that you test that feature and that it gives good results!

:-)

Namir

PS: Sorry ... hehehehe .. I could not help myself but to respond to De-Solv-It. It was too good to just let it slide by!

Edited: 13 Sept 2011, 9:03 a.m.

Re: Found in a rubbish bin.

*Message #6 Posted by **Lyuka** on 13 Sept 2011, 9:17 a.m.,*
in response to message #5 by Namir

Then, I'd recommend Super Solver instead :-)

Lyuka

P.S.
Actually, I'll use isopropanol / methanol mixture at first. If it won't work, I'll use CRC-6-66 then.

Edited: 13 Sept 2011, 9:24 a.m.

Re: Found in a rubbish bin.

*Message #7 Posted by **NateB** on 13 Sept 2011, 11:00 a.m.,*
in response to message #1 by Stuart Sprott

Nice find. The manual is available from HP here.

Re: Found in a rubbish bin.

*Message #8 Posted by **Bob Patton** on 13 Sept 2011, 4:56 p.m.,*
in response to message #1 by Stuart Sprott

I can e-mail you a little ASCII starter manual for the 32SII if you will contact me directly.

Found in a rubbish bin.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Auctions Vintage HP-15C

*Message #1 Posted by **Jim Johnson** on 13 Sept 2011, 7:48 a.m.*

HP-15C (vintage) auction stats from that "famous" auction site, with data collected starting 9/8/2011:

```
No Reserve:  6 of 11 HP-15C's have sold. Avg. price: $156.40
Start Price: 0 of 5 HP-15C's have sold.  Avg. start price: $132.00
Buy It Now:  0 of 11 HP-15C's have sold. Avg. BIN price: $338.63
```

All calculators sold were in working condition. Various cosmetic conditions from average to near mint. Higher priced models sold with a manual included. Several auctions have lowered the "starting price" from what was first listed. No BIN sellers have lowered their prices (yet).

Edited: 13 Sept 2011, 8:15 a.m.

Re: Auctions Vintage HP-15C

*Message #2 Posted by **megarat** on 13 Sept 2011, 3:40 p.m.,*
in response to message #1 by Jim Johnson

I might be the outlier on this forum, but I don't believe that the introduction of the 15C LE is going to have much of an effect on the market price of the vintage 15c calculators.

There's enough of a difference between the original 15c and the LE (build quality, double injection-moulded keys, &c.) that I think the original will still be sought after enough by collectors to keep the prices up. This will especially be the case if the 15c LE is truly LE.

After all, it only takes two people wanting to win an auction to get the closing price high.

That said, I'm hoping that the prices *do* go down, so I can pick up an extra or two ...

Re: Auctions Vintage HP-15C

*Message #3 Posted by **Lincoln R.** on 13 Sept 2011, 3:50 p.m.,*
in response to message #2 by megarat

Collectors will always be interested in the vintage 15Cs, I agree. However, a lot of 15C demand is probably coming from people who want one to use it (as evidenced by scratched up models, ones missing battery doors, covers, or original manuals, ones with engraved names, etc.) still selling for above the price of a new 15C LE. Also, I'm really not sure how many people there are stuffing calculators in display cases and never touching them...

Re: Auctions Vintage HP-15C

*Message #4 Posted by **Michael de Estrada** on 13 Sept 2011, 4:01 p.m.,*
in response to message #1 by Jim Johnson

This was a very low price IMO, especially considering that the auction was worldwide.

Re: Auctions Vintage HP-15C

*Message #5 Posted by **uhmgawa** on 13 Sept 2011, 5:57 p.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> This was a very low price IMO, especially considering that the auction was worldwide.

Haven't been following Evilbay 15c follies lately. But back when I convinced myself I needed a reference unit or two for my emulator work, I believe I paid about US$105-110 each. One with a manual which had never been loved, one without, and both regrettably badge-less. So not too much different from the auction above.

I thought too as others have voiced, the introduction of the 15c le will create a divide in price of the legacy 15cs. Anything less than in justifiable collector's condition should plummet price-wise as there now exists another option for folks who just "want one".

Re: Auctions Vintage HP-15C

*Message #6 Posted by **bill platt** on 13 Sept 2011, 8:46 p.m.,*
in response to message #4 by Michael de Estrada

That's not at all low. Look at the condition!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SOS- Did Not Succeed in Flashing 30b!

*Message #1 Posted by **Ed Look** on 13 Sept 2011, 12:13 a.m.*

I was able to get as far as the steps on the cable with the ERASE and RESET buttons.

Then I opened the SAM-BA software and I'm told there is a fatal error- No Valid Processor ID Found. I chose the board type recommended in the "Upgrading a 20b HP Calculator - Version 9-16-2009" instructions.

And now the 30b is blank.

Um... also, where do I get the "20b Flash Kit"? There appears to be some more files in that which I may not have.

I would appreciate ANY assistance!

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #2 Posted by **gene wright** on 13 Sept 2011, 12:19 a.m.,*
in response to message #1 by Ed Look

Try again. Many times simply starting over fixes this No Processor ID found.

Also, make sure you do not start SAMBA at all until AFTER you have done all the RESET or ERASE stuff.

Try it again. have **never** had a 20b / 30b become bricked.

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #3 Posted by **Walter B** on 13 Sept 2011, 1:24 a.m.,*
in response to message #1 by Ed Look

Hi Ed,

Please take the newest version of the manual (from here). Go to page 88. Do what you read there. It should work - else tell me.

Personally, I've thought I bricked my 20b twice - but it resurrected even after many days as soon as the procedure was done properly.

HTH

Walter

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #4 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 2:08 a.m.,*
in response to message #3 by Walter B

Don't let the batteries for any length of time in a calculator running the SAM-BA boot software, they will

almost certainly be flat when you try again!

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #5 Posted by **Alexander Oestert** on 13 Sept 2011, 3:46 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Can I simply take the batteries out during flashing to prevent drainage or does this mean one has to keep the procedure as short as possible?

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #6 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 5:55 a.m.,*
in response to message #5 by Alexander Oestert

Full batteries are needed for flashing. It's just a bad idea to let the calculator sit there in SAM-BA mode while you are shopping for a USB/serial adapter.

Keep the procedure as short as possible!

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #7 Posted by **Alexander Oestert** on 13 Sept 2011, 6:42 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Thanks for the info.

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #8 Posted by **robert rozee** on 13 Sept 2011, 8:47 a.m.,*
in response to message #6 by Marcus von Cube, Germany

if one clips the wire carrying the 3v from the calculator to the level converter, and powers the level converter from an external pair of AA cells, does this improve the power drain situation for the calculator's internal batteries?

alternatively, pop out the internal batteries and wire said AA cells to the level converter without cutting the feed going back into the calculator.

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #9 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 10:00 a.m.,*
in response to message #8 by robert rozee

This will work and is a good idea if you are flashing on a regular basis. During the flash process, RAM will be cleared anyway so removing the coin cells doesn't lose any information.

If you want to use the cable for the transfer of data between the calc and the PC, you most probably do not want to lose memory contents. One option is to remove the batteries attached to the cable. Another way is to make a backup (ON+STO) on the calc before you remove the coin cells and connect the powered cable. The restore on power on is automatic.

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #10 Posted by **Ed Look** on 13 Sept 2011, 10:17 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Thank you Gene, Walter, and Marcus; thank you very much.

At least now my sense of panic is gone! ;)

Now, I did try again last night, but I will give it another shot tonight. And, yes, I'll download the updated manual. Of course, I won't give up and will keep you guys here posted.

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #11 Posted by **Bart (UK)** on 13 Sept 2011, 10:25 a.m.,*
in response to message #10 by Ed Look

And you tried with new batteries (or a reliable supply as per suggestions)? (Sorry, just checking, sometimes the most obvious is overlooked ;-)

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #12 Posted by **Ed Look** on 13 Sept 2011, 10:44 a.m.,*
in response to message #11 by Bart (UK)

I don't believe the SAM-BA software was running very long, but I did try to run it a few times. After many seconds each time, an error message appeared and when I clicked "OK", it appeared that the program shut down each time. But it's a trivial matter to take a meter to the batteries, although paying for new ones in another matter... ;P

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #13 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 11:21 a.m.,*
in response to message #12 by Ed Look

SAM-BA on the PC does not find the SAM-BA boot loader in your calc. Most probably the batteries are already flat. Once erased, there is no way to turn the calculator off except by removing the batteries. If you did not do that, they are drained because the boot loader in your device eats them quickly and you don't see it. :-(

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #14 Posted by **Walter B** on 13 Sept 2011, 1:44 p.m.,*
in response to message #13 by Marcus von Cube, Germany

That's a very annoying (and expensive) feature of said boot loader :-(

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #15 Posted by **Ed Look** on 13 Sept 2011, 3:51 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Oh-oh...

... it sounds like new battery time...

Re: SOS- Did Not Succeed in Flashing 30b!

*Message #16 Posted by **Bart (UK)** on 13 Sept 2011, 11:30 a.m.,*
in response to message #12 by Ed Look

Also, do not be fooled by un-loaded (open circuit) voltage of the batteries. Even for half full coin cells the voltage can drop quickly at high current drains. See this thread for a discussion on the problem.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

To buy or not to buy..that is the conundrum

*Message #1 Posted by **bill platt** on 12 Sept 2011, 9:20 p.m.*

Am I alone with this?

I don't want to spoil the fun. And I am really jaw-droppingly impressed that HP came around to the 15C LE!

But I own two 15c, one beat up, the other near perfect. I have the manual, the box, the funny pink wrapper...

And I have an 11C complete with both manuals...

So do I really need a 15C LE? I always thought I'd buy a now production in a jiffy. And now, having become a 17bii fan, I'm not even sure I really need it. And I already have 2 originals.

Am I alone? How many of "us" are sitting on our hands? Is this 10,000 unit business going to back-fire because we sit on our hands?

Re: To buy or not to buy..that is the conundrum

*Message #2 Posted by **Michael de Estrada** on 12 Sept 2011, 9:31 p.m.,*
in response to message #1 by bill platt

It's much much much much faster. Try it, you'll like it.

Re: To buy or not to buy..that is the conundrum

*Message #3 Posted by **Namir** on 12 Sept 2011, 9:35 p.m.,*
in response to message #1 by bill platt

Bill, buying the new machine comes from an inner conviction. If you don't have it, then stay with the machines you have.

Namir

Re: To buy or not to buy..that is the conundrum

*Message #4 Posted by **Egan Ford** on 12 Sept 2011, 9:37 p.m.,*
in response to message #1 by bill platt

No, you are not alone. I also have 2 15C's, one new and one used. Both work great. I've been reading the reviews here and so far I've determined that there are bugs (that can be fixed) and that the keys may be loose or perhaps not as solid as a "classic" 15C. For me I'd probably prefer to continue using my existing 15Cs. That is why I have them; to use.

Now that is not going to stop me from giving the 15C LE (Limited Experience :-) as gifts. It is the 2nd best calculator ever made (after the original 15C of course).

Re: To buy or not to buy..that is the conundrum

*Message #5 Posted by **Martin Pinckney** on 12 Sept 2011, 9:48 p.m.,*
in response to message #1 by bill platt

> Quote:
>
> @Bill ...having become a 17bii fan, I'm not even sure I really need it.
>
> Am I alone? How many of "us" are sitting on our hands? Is this 10,000 unit business going to back-fire because we sit on our hands?

I felt that way, too, but at $79 w/free shipping I succumbed to the fever. I can say it is very nicely made, bugs aside. Looks nicer than the 12cp 25thA, my only other Voyager experience. I am trying to decide what I really would use it for, since I use Pioneers at home & work every day.

> Quote:
>
> @Egan ...Now that is not going to stop me from giving the 15C LE (Limited Experience :-) as gifts.

That may be what I end up doing with it.

Edited: 12 Sept 2011, 11:13 p.m.

Re: To buy or not to buy..that is the conundrum

*Message #6 Posted by **Don Shepherd** on 12 Sept 2011, 10:40 p.m.,*
in response to message #1 by bill platt

Bill, you're not alone. I'm not a scientist, so I have neither the need nor the desire for a 15c--old or new. Like you, I have become a 17bii fan, due to its programmable solver. I am challenged to see if a solution to a problem can be programmed on the 17bii solver, given its limitations. Not the 17bii+, that solver is a huge disappointment.

And I'm also a fan of the 32sii since Katie turned me on to that machine. A programmer's delight.

While others order their 15c's, I'm collecting the old iron--17bii and 32sii--on Ebay. I just got a NIB 17bii for $12.50.

And I never have to worry if my self-test or PSE will work.

Re: To buy or not to buy..that is the conundrum

*Message #7 Posted by **Michael de Estrada** on 12 Sept 2011, 11:09 p.m.,*
in response to message #6 by Don Shepherd

I'm just the opposite, an engineer with little interest in business models. I have an original HP 12c, and have no interest in the modern ones, including the 12c+. I also have a 32sii, which my last company gave me when I worked for them and they graciously let me keep it when I retired. I also have a mint 32s that I picked up recently. Now that I've also got both an original and new 15c's, I may just donate my 35s to a friend, since I really don't care for it very much. Frankly, the only modern scientific HP calc that I like is the 50g.

Re: To buy or not to buy..that is the conundrum

*Message #8 Posted by **Martin Pinckney** on 12 Sept 2011, 11:23 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> I'm just the opposite, an engineer with little interest in business models.

My favorite is the 27s, for the combination of common scientific functions plus that wonderful alphanumeric Solver.

Although also an engineer, I, like Bill and Don, find the 17b/17bii's useful, because:

1) They share the same solver as the 27s (albeit with a somewhat different feature set),

2) They add some useful 'business' (as opposed to 'financial') functions that the 27s lacks, and,

3) They generally come a lot cheaper than the 27s.

Re: To buy or not to buy..that is the conundrum

*Message #9 Posted by **Katie Wasserman** on 12 Sept 2011, 11:38 p.m.,*
in response to message #8 by Martin Pinckney

> Quote:
>
> I'm collecting the old iron--17bii and 32sii

Old plastic, maybe. Old iron would be the 9100, 9825, no?

I'm a big fan of both of these calculators of course. But I use my 12C+ every day as well.

As a collector a have to buy anything that's LE, so that was an easy decision. I'm sure I'll play with the 15c LE a lot if for no other reason than to enjoy the speed that I always wished for during the many years that my 11C and 16C kept me going.

I can't wait to calculate pi to 400+ digits in no time at all.

-Katie

Re: To buy or not to buy..that is the conundrum

*Message #10 Posted by **Lincoln R.** on 13 Sept 2011, 12:20 a.m.,*
in response to message #7 by Michael de Estrada

I own a 12C and 12C+ but may sell them because I really don't need financial calculators. The only real reason I bought the 12C+ was to try to get a feel for what the 15C LE keyboard would be like...

Re: To buy or not to buy..that is the conundrum

*Message #11 Posted by **Geoff Quickfall** on 13 Sept 2011, 12:58 a.m.,*
in response to message #1 by bill platt

Well, I have the beta unit and it is used every day at the moment. So it should be parked as it is different

looking from the 15LE.

Of course I now have to get two LE's, one to replace the beta version and one to save in pristine condition in the box for the heck of it.

Gee, if I had only kept the original 15C or 15C or 41C in its box when I purchased them. Here's my chance.

So 4 restored originals. One beta, and two production models.

OCD or what!

Geoff

Re: To buy or not to buy..that is the conundrum

*Message #12 Posted by **Nick R** on 13 Sept 2011, 2:09 a.m.,*
in response to message #1 by bill platt

I'll buy one if they eventually become available here in Canada. I'm not particularly taken with the Limited Edition status, as I don't believe any currently produced calculators are manufactured to a high enough standard to take their place in a collection alongside their illustrious predecessors such as the original 15C.
I appreciate the effort that's gone into resurrecting this Voyager model. I just find it sad that there are no longer any calculators being made on this continent, and what does arrive from overseas sources is generally more recyclable than collectible.

Re: To buy or not to buy..that is the conundrum

*Message #13 Posted by **Lincoln R.** on 13 Sept 2011, 10:10 a.m.,*
in response to message #12 by Nick R

It's unfortunate, but I believe that the last American-made calculator (of any kind that i've encountered, not just HP) was the 48sx (and even those had a Japanese LCD display if you really want to split hairs). By the time it came out, TI had already outsourced most of their manufacturing to Taiwan, and most of the other North American calculator manufacturers had failed in the early 80s.

Singapore-made HPs seemed to be as good as the American ones, once things started moving to Indonesia and China quality did take a drop, but honestly the later models (12c+, 30b, etc.) seem to be better built than things like the 49g, later production Pioneers with the key labels that wear off, etc. Do they match the quality of the 80s HPs? Probably not, but if anyone could even make a calculator like that it would cost so much that only people like us would buy one, and there aren't enough of us to keep a few hundred people employed for 40 hours a week making calculators.

Re: To buy or not to buy..that is the conundrum

*Message #14 Posted by **Martin Pinckney** on 13 Sept 2011, 10:11 a.m.,*
in response to message #12 by Nick R

> Quote:
>
> I appreciate the effort that's gone into resurrecting this Voyager model. I just find it sad that there are no longer any calculators being made on this continent, and what does arrive from overseas sources is generally more recyclable than collectible.

Generally true, for sure. I do find the build quality on the 15cLE to be excellent. Time will tell how it holds up.

Re: To buy or not to buy..that is the conundrum

*Message #15 Posted by **Manatee** on 13 Sept 2011, 8:07 a.m.,*
in response to message #1 by bill platt

I have an original 15C, in very good condition, and I really have no need for a calc with its feature set anymore. Still, I was so amazed that the new 15C actually made it to production that I bought two. One will be carried in my daypack, and I'll play with it as time allows. The other will remain unopened, becoming part of my personal time capsule, along with my never-opened pets.com sock puppet.

Re: To buy or not to buy..that is the conundrum

*Message #16 Posted by **Manolo Sobrino** on 13 Sept 2011, 8:31 a.m.,*
in response to message #1 by bill platt

If the 15c is your main calculator, and you are sure it is because you have tried many others, then you should get one if you can afford it (two spare calculators should be enough). Otherwise, there's no real need... but we all love new toys, don't we?

Re: To buy or not to buy..that is the conundrum

*Message #17 Posted by **megarat** on 13 Sept 2011, 3:43 p.m.,*
in response to message #16 by Manolo Sobrino

As an original 15c owner (and having also acquired a second one for the office) I waffled with the same dilemma, but settled on buying one, for the following reasons:

-- Provide my support to HP for resurrecting this great vintage calc, and creating new scientific calculators in general.

-- In case anyone creates a new firmware for this calculator, I'll be able to play along.

(The calculator may actually get some use, for instance as a travel candidate, but I doubt it will actually supplant any of the vintage 15c units that I have.)

I had thought about picking up a second one as a gift, but decided against it for now.

Edited: 13 Sept 2011, 3:52 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE emulator skin change issue

*Message #1 Posted by **M. Joury** on 12 Sept 2011, 8:49 p.m.*

Hi,

Could someone that has the emulator installed please verify if they have a problem changing the calculator skin? If I change to a different size the window does not repaint correctly. I have to stop and restart the application and then all is fine.

I am running the emulator under Windows 7 Professional.

Thanks,

-Marwan

Re: HP-15C LE emulator skin change issue

*Message #2 Posted by **Dave** on 12 Sept 2011, 11:21 p.m.,*
in response to message #1 by M. Joury

I have exactly the same problem in XP SP3, no refresh on skin change. I thought it was just me.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC2011 Registration List Now at 80

*Message #1 Posted by **Jake Schwartz** on 12 Sept 2011, 8:26 p.m.*

It is amazing....the HHC2011 conference registration list at http://hhuc.us/2011/reglist.htm has now reached 80 names. I don't think that many people attended a conference since the HP41/71/75 days. I know that some folks cancel at the last minute, but also a few usually show up on the day of the conference, not having previously registered. If you do have an inkling about attending and haven't registered, it will be a good thing to submit your name so we can get you on HP's name-badge list in order to breeze through their security.

Thanks, Jake

Re: HHC2011 Registration List Now at 80

*Message #2 Posted by **Namir** on 12 Sept 2011, 8:36 p.m.,*
in response to message #1 by Jake Schwartz

Cool. I see Patrice T., whom I believe is from north east France, is attending again and giving a talk.

Namir

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thank you HP!!!

*Message #1 Posted by **Namir** on 12 Sept 2011, 8:03 p.m.*

I want to take the opportunity to say thank you to HP and folks like Cyrille and Tim (and others that I have not mentioned) for doing a very good job. I am looking at the boxes of the HP-15C LE and the HP-12C 20th Anniversary and I must say that there was a lot of care in putting the calculators in these very nice packages!

I also want to thank the forum folks who campaigned to bring the HP-15C back. I never believed that I will see this day and often thought that they were wasting their time. This is your moment to celebrate and I applaud your perseverance and patience. HP heard you, responded, and now we are all enjoying the new toys and at very reasonable prices!!!

This is a day where the community of HP calculator users can celebrate. We hope whatever the future brings to the PSG division, that they will continue to serve us with their fine products (PC, calculators, and other accessories). Yes technology evolves and makes certain items obsolete. It is part of our civilization. We have always enjoyed HP products and will continue to do so whether these products are under the HP logo or some other logo.

Namir

Edited: 12 Sept 2011, 8:47 p.m. after one or more responses were posted

Re: Thank you HP!!!

*Message #2 Posted by **hpnut** on 12 Sept 2011, 8:19 p.m.,*
in response to message #1 by Namir

I wholly support Namir.

hpnut,HP calc user since 1978

Re: Thank you HP!!!

*Message #3 Posted by **Walter B** on 13 Sept 2011, 1:45 a.m.,*
in response to message #2 by hpnut

I fullheartedly concur! And when the champaign is dumped and the lost sleep is found again, please proceed :-)

Walter (employing your calculators all the time since 1977)

Re: Thank you HP!!!

*Message #4 Posted by **Walter B** on 14 Sept 2011, 2:10 a.m.,*
in response to message #3 by Walter B

Varying an old San Francisco saying: "Please proceed to the center of the holy grayl and away from the doors!" :-)

Re: Thank you HP!!!

*Message #5 Posted by **Jandro Kirkish** on 12 Sept 2011, 8:36 p.m.,*
in response to message #1 by Namir

I second that! I've always wanted a 15C, could not afford one in the 80's (I spent all the spare cash I ever had in the 80' on the 28S), and I waited for this day to come, thinking it never would. But here we are, enjoying the heck out of our 15C LE's! My hats off to everyone at HP who were able to make this reissue possible, thereby releasing us from the torture of looking at ridiculous prices for the original 15C on TAS. There is one other calculator I can think of that would be a great reissue but this thread is not the place for looking a gift horse in the mouth .. So Thank you HP!!!

Re: Thank you HP!!!

*Message #6 Posted by **Howard Owen** on 12 Sept 2011, 8:45 p.m.,*
in response to message #1 by Namir

You've got my ditto on that! Thanks again you guys!

Re: Thank you HP!!!

*Message #7 Posted by **Pal G.** on 12 Sept 2011, 8:50 p.m.,*
in response to message #1 by Namir

Thank you, HP. And a special thanks to Sam Kim, if he's reading..

This was posted here on Sept 1, 2011, by TW:

"It (15C re-release) existed in one form or another for a couple of years now. Sam Kim, former R&D manager, was the one who pushed to get the first batch made when the first set of 12c+ units was made. Cyrille did the excellent work on the emulator and original 12c+ code."

Edited: 12 Sept 2011, 8:51 p.m.

Re: Thank you HP!!!

*Message #8 Posted by **M. Joury** on 12 Sept 2011, 8:52 p.m.,*
in response to message #1 by Namir

Not only do I agree with Namir and wholeheartedly thank the folks that brought the HP-15C LE into existence, I would also like to thank Tim for all the help he has offered me in the last year or so since I returned to this forum after a long absence.

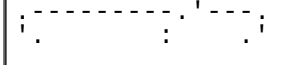
Thank you Tim! Thank you all!

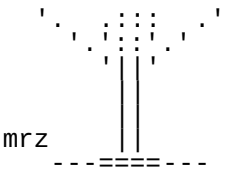
Cheers,

-Marwan

Re: Thank you HP!!!

*Message #9 Posted by **allen** on 12 Sept 2011, 10:20 p.m.,*
in response to message #1 by Namir





HP, Thank you for making a nice calculator!

Re: Thank you HP!!!

*Message #10 Posted by **Ethan Conner** on 12 Sept 2011, 11:16 p.m.,*
in response to message #9 by allen

Thanks to all the people who made the effort to get the 15c back on the market. :)

Re: Thank you HP!!!

*Message #11 Posted by **Mike T.** on 13 Sept 2011, 7:57 a.m.,*
in response to message #1 by Namir

They havn't arrived in Europe yet - but I will be getting one.

Good job guys

Re: Thank you HP!!!

*Message #12 Posted by **sjthomas** on 13 Sept 2011, 9:37 p.m.,*
in response to message #1 by Namir

Echoing your comments of thanks to HP, Namir and others.

I'm also thankful to HP for selling a calculator in a box. It was nice not to have to dig up a laser scalpel to open a hermetically sealed plastic container. Less blood-letting.

Re: Thank you HP!!!

*Message #13 Posted by **Eddie W. Shore** on 13 Sept 2011, 11:47 p.m.,*
in response to message #1 by Namir

I echo Namir's comments: thank you HP! :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How to keep up regarding WP-34S?

*Message #1 Posted by **Michael O. Tjebben** on 12 Sept 2011, 7:11 p.m.*

Wow! It has been years since I've posted to this forum, I got so busy with a new job, and the birth of two wonderful girls (5 years ago, twins) that I just barely keep up with everything. In fact, my account with the hpmuseum had expired.

Recently, however, my father (nearly an octogenarian) and I were revisiting our HP calculator collections, and we got to talking about our interest in the WP-34S.

I did some digging through the hpmuseum archives and the wiki4hp, and we decided we'd each like to buy an hp-30b and convert them to wp-34s'.

However (and please correct me if I'm wrong), it appears that the overlays that make the hp-30b "look" like a wp-34s are currently not available. Are more coming? I could not find anything that lets me know if such is true.

And the cable seems difficult to obtain (dependent on poor Gene Wright who is probably SWAMPED!). Is there another source? We don't want to burden him further (especially since I prefaced this with my own acknowledgement that life can get BUSY!). I'm gathering that *maybe* one can buy some other calculator (hp12c?, others?) that has the cable and that can be used for the 30b? Is such true?

I guess, in addition to asking about the overlay and cable, I'm asking for assistance that might help any newby who wishes to help-him/herself: Is there some place that the status of overlays and cable could be posted so that those of us that are interested in such could keep checking and not keep asking?

My best wishes to the group! Though many of us get distracted by other things for a time in life, there remains a latent interest in HP calculators that can be rekindled with little effort... And, as most of you know, that can become a sort-of obsession...

-Mike

Re: How to keep up regarding WP-34S?

*Message #2 Posted by **M. Joury** on 12 Sept 2011, 8:26 p.m.,*
in response to message #1 by Michael O. Tjebben

Hi Michael,

I recently returned to this forum after a hiatus of some years. Just in time to see all the info about the WP-34S. I now have an HP-20b and an HP-30b both converted over. It isn't hard but you do need the cable.

The cable is only available from Gene at this time. It can be used on the HP-12C+, the new HP-12C 30th Anniversary Edition, the new HP-15C LE, the HP-20b, HP-30b, and the HP-10bii+ (did I miss any?). However, it does not come with any of these machines.

The overlays are not available at the moment and Eric is apparently waiting for a back-ordered blade to the cutter he uses to produce these overlays. I vaguely remember that the blade may be available sometime this

month (or was it October?). Anyway, they should be available in the future, just not right now.

As for flashing the HP-30b to a WP-34S, once you have the cable get hold of Tim Wessman's instructions on flashing the 20b.

I hope this provides you with some of the answers to your questions.

Cheers,

-Marwan

Re: How to keep up regarding WP-34S?

*Message #3 Posted by **gene wright** on 12 Sept 2011, 8:51 p.m.,*
in response to message #2 by M. Joury

Well, I mailed 6 cables today and have 3 more to go out tomorrow.

If you want a cable, just let me know.

Now... if it continues to grow, don't worry. I will be suggesting alternatives to HP directly! :-)

Meanwhile, here is the link for flashing a 20b/30b/etc:

Flash!

Re: How to keep up regarding WP-34S?

*Message #4 Posted by **Walter B** on 13 Sept 2011, 1:54 a.m.,*
in response to message #3 by gene wright

... and if you want to know it all, find it here :-)

Feedback is appreciated, especially from so called "newbies" (should be called veterans instead, shouldn't you?).

Walter

Re: How to keep up regarding WP-34S?

*Message #5 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 1:55 a.m.,*
in response to message #3 by gene wright

Just to add to the confusion. We are in the process of creating an updated (bug fixed) release which will render any stored code or data invalid, so use the wp34s_asm tool to salvage what you have created. The release will hopefully be available before I go to SD next week.

Re: How to keep up regarding WP-34S?

*Message #6 Posted by **Michael O. Tjebben** on 13 Sept 2011, 7:32 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Gentlemen: Thank you all!

I had, in fact, previously found the links -to the EXCELLENT information- you have included, but nonetheless appreciate them again. My biggest difficulty was ascertaining whether there was more

than one source each for the labels and cables. It had appeared that there was only one source for the labels and that source had run out (Eric). It seems I understood correctly (from my multiple searches) on that discovery. I had also thought the cable might be available for one of the other calculators and could be used for the 30b, but Marwan helped correct me about that.

We will happily wait on the labels. In the meantime we would like to obtain the cables, and dare I say two? One for me and one for my father? (I hesitate in asking for two, based on my previous acknowledgement that Gene must be SWAMPED. If that is the case, even one cable would be fine - we'll just share that when we visit each other on a reasonably regular basis. I am just thinking that two would be most useful, especially in light of Marcus comment that periodic flashing may be necessary to keep up with feature enhancements and bug-fixes.)

I will send a check or paypal to Gene. I can contact him directly offline...

Again, thank you!

-Mike

Re: How to keep up regarding WP-34S?

*Message #7 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 9:53 a.m.,*
in response to message #6 by Michael O. Tjebben

Even after flashing the cable is useful as a means to transfer programs and data between the emulator on the PC and the device. All the stuff we are putting in libraries needs the cable to get into the calculator.

Re: How to keep up regarding WP-34S?

*Message #8 Posted by **Michael O. Tjebben** on 14 Sept 2011, 7:51 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Do you know if one MUST have Windows-XP to run the Atmel SAM-BA program (to program, specifically, the hp30b)?

I realize that there are discussions that one probably has to use an RS-232 port under XP, though a USB-to-Serial converter might work under XP if that converter happens to have the FTDI chipset.

But none of these variations work under anything but XP? (like Vista, Windows-7?)

What about SAM-BA for linux?

Or XP-running in a VMware or Vitual Box Virtual machine?

Re: How to keep up regarding WP-34S?

*Message #9 Posted by **Gerry Schultz** on 14 Sept 2011, 8:59 p.m.,*
in response to message #8 by Michael O. Tjebben

No, Samba 2.10 runs fine under Windows 7 and I used an ES-U-1001-R100 USB-to-RS232 adapter. I've updated my WP-34S twice now with no problems.

Gerry

Edited: 14 Sept 2011, 8:59 p.m.

Re: How to keep up regarding WP-34S?

*Message #10 Posted by **M. Joury** on 14 Sept 2011, 10:03 p.m.,*
in response to message #8 by Michael O. Tjebben

Just make sure that you have one of the versions confirmed to run under Windows 7. I, personally, could never get SAM-BA to work under Win 7.

Re: How to keep up regarding WP-34S?

*Message #11 Posted by **Marcus von Cube, Germany** on 15 Sept 2011, 2:23 a.m.,*
in response to message #8 by Michael O. Tjebben

Running XP in a virtual machine that grants direct access to the USB bus is working fine. I'm using Parallels on a Mac for this.

Re: How to keep up regarding WP-34S?

*Message #12 Posted by **Michael O. Tjebben** on 15 Sept 2011, 7:38 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Thank you all!

Though I don't have the cables yet, I was able to test the usb-to-serial adapter and even got it working with Vista. (I searched the forum for more information from Gerry Schultz, which pointed to a post he did regarding Bart (from the UK) getting it working under Vista, I found Bart's instructions, and that worked for me too...)

I'll bet it will all work well.

If not, I'll use the Windows-7 Virtual machine on my MacBook Pro.

-Mike

Re: How to keep up regarding WP-34S?

*Message #13 Posted by **M. Joury** on 13 Sept 2011, 10:13 a.m.,*
in response to message #6 by Michael O. Tjebben

If you want to make it easier on Gene just have him send 2 cables to one of you and then hand deliver it to the other. No extra work for him <g>.

Cheers,

-Marwan

Re: How to keep up regarding WP-34S?

*Message #14 Posted by **Graham D. Wilson** on 13 Sept 2011, 1:44 p.m.,*
in response to message #3 by gene wright

Hi Gene

The forum doesn't allow me to email you my request for a cable, so I am unable to make contact.

Can you email me at gw[at]gw.org.za so I can send you my postal details?

Many thanks

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thanks to HP folks in this group

*Message #1 Posted by **Don Davis** on 12 Sept 2011, 6:52 p.m.*

This may have already been said elsewhere, so I apologize if I missed it. I just wanted to say thank you to the HP calculator guys who are a part of this group. I used to read the petitions about bringing back the 15C with interest, but I never really thought it would happen. It did not make sense to me that a company the size of HP would make such a business decision for a relatively small return. I don't know, but I suspect that those who are involved in the business for HP must have made a case internally to support the remaining enthusiasts in this way. Just guessing, but however you did it, I appreciate it. I hope that it is rewarding to you to be involved with a product that garners this sort of attention.

Thanks and best wishes, Don

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-9825

*Message #1 Posted by **Paolo Cipollone** on 12 Sept 2011, 4:44 p.m.*

I was offered a 9825 in excellent cosmetic shape. The seller (a collector himself) says it was refurbished less than a year ago and that it works fine, but he's away from me, and I can't do the testing myself. The price would be about 150 euro. I don't know much about this machine, so what should I have him check, and do you think the price is right? Are there known age issues and are they easily managed?

Thanks in advance

Re: HP-9825

*Message #2 Posted by **David Ramsey** on 12 Sept 2011, 8:10 p.m.,*
in response to message #1 by Paolo Cipollone

In general the old HP desktop calculators are very reliable. With the 9825, the main issue is the tape drive: the rubber drive wheel will have turned "gummy" over the years and must be replaced before you can successfully use tapes. This is easy to check: just look in the tape slot and inspect the wheel; feel it with your finger if necessary. It should feel dry and you shouldn't be able to deform it with your finger.

Repairing a gummy wheel is fairly easy if you're mechanically handy. Your problem will then be finding DC-100 tapes, which haven't been made for many years. There is one company that sells refurbished DC-100 tapes, Athana.com, but they're rather expensive.

The printer's paper advance mechanism can fail, but this is less common.

Other than that, simply have him turn it on and verify that the display works.

The price you're getting is a very good price for a fully functioning 9825.

Re: HP-9825

*Message #3 Posted by **Paolo Cipollone** on 13 Sept 2011, 2:13 a.m.,*
in response to message #2 by David Ramsey

Thanks, David!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Tim, Help! 15C LE emulator activation not working

*Message #1 Posted by **M. Joury** on 12 Sept 2011, 4:42 p.m.*

Tim,

Help! I went ahead and tried to activate my emulator and it keeps returning "The license data is invalid".

I tried the serial number that is taped to the front of the CD and retyped / re-verified it several times. I keep getting the same response.

Thanks,

-Marwan

Re: Tim, Help! 15C LE emulator activation not working

*Message #2 Posted by **Tim Wessman** on 12 Sept 2011, 4:54 p.m.,*
in response to message #1 by M. Joury

Click the "offline" button. If it complains at you when clicking that, your number may be typed in incorrectly, or else they gave you a bum number. Please email me the name below as typed, added onto @hp.com and i can take a look.

timwessman

Re: Tim, Help! 15C LE emulator activation not working

*Message #3 Posted by **M. Joury** on 12 Sept 2011, 5:01 p.m.,*
in response to message #2 by Tim Wessman

Hi Tim,

I was able to activate over the web. Just FYI I am using Win 7 Pro and it simply would not activate directly but when I chose the offline option it worked fine.

Thanks,

-Marwan

Re: Tim, Help! 15C LE emulator activation not working

*Message #4 Posted by **Tim Wessman** on 12 Sept 2011, 5:30 p.m.,*
in response to message #3 by M. Joury

My guess is it was a firewall thing. That happens fairly frequently over school networks too.

TW

Re: Tim, Help! 15C LE emulator activation not working

*Message #5 Posted by **fhub** on 12 Sept 2011, 5:57 p.m.,*
in response to message #4 by Tim Wessman

Will this 15C emulator also be available separately, i.e. without having to buy the real calculator?

There's a "HP Calculator Emulator program" where almost every HP calc is emulated (I have a few of them), but I don't see the HP15C on these sites. :-(

Franz

Re: Tim, Help! 15C LE emulator activation not working

*Message #6 Posted by **Bill (Smithville, NJ)** on 12 Sept 2011, 6:40 p.m.,*
in response to message #5 by fhub

> Quote:
>
> Will this 15C emulator also be available separately, i.e. without having to buy the real calculator?

Good Question.

I'm not interested in actually owning the 15C - I've had several over the years and really didn't use them.

But I would be interested in the emulator. I could then participate in any of the discussions that come up and try the programs out. I don't really see where making the emulator available would impact the sales of actual units.

Bill

Re: Tim, Help! 15C LE emulator activation not working

*Message #7 Posted by **Thomas Klemm** on 12 Sept 2011, 7:50 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

I'm happy using Nonpareil.

Cheers
Thomas

Re: Tim, Help! 15C LE emulator activation not working

*Message #8 Posted by **Bill (Smithville, NJ)** on 13 Sept 2011, 7:27 a.m.,*
in response to message #7 by Thomas Klemm

Hi Thomas,

Well, Nonpareil no longer includes the Voyager support. And there's no executable for windows. So, no go there.

I did find a pretty nice HP-15C simulator that looks good.

But it would be nice to have the official HP emulator.

Bill

Re: Tim, Help! 15C LE emulator activation not working

*Message #9 Posted by **robert rozee** on 13 Sept 2011, 7:51 a.m.,*
in response to message #8 by Bill (Smithville, NJ)

which simulator?

cheers, rob :-)

Re: Tim, Help! 15C LE emulator activation not working

*Message #10 Posted by **Bill (Smithville, NJ)** on 13 Sept 2011, 11:26 a.m.,*
in response to message #9 by robert rozee

Followig is link to the HP-15C simulator:

HP-15C Simulator

Note: Some key features of the 15C are not included - ie, Matrix operations.

Bill

Re: Tim, Help! 15C LE emulator activation not working

*Message #11 Posted by **Paul Dale** on 13 Sept 2011, 7:54 a.m.,*
in response to message #8 by Bill (Smithville, NJ)

Find an older version of Nonpareil and the Voyager support will still be there -- nothing disappears on the Internet -- ever. Porting it forwards looked pretty easy, otherwise just compile the older code.

- Pauli

Re: Tim, Help! 15C LE emulator activation not working

*Message #12 Posted by **M. Joury** on 12 Sept 2011, 8:05 p.m.,*
in response to message #4 by Tim Wessman

Hi Tim,

That could be, I'll have to look into it.

Thanks,

-Marwan

Re: Tim, Help! 15C LE emulator activation not working

*Message #13 Posted by **Michael de Estrada** on 12 Sept 2011, 9:00 p.m.,*
in response to message #12 by M. Joury

Just a thought, might it be case sensitive ? I had capslock on when I entered mine.

Re: Tim, Help! 15C LE emulator activation not working

*Message #14 Posted by **M. Joury** on 12 Sept 2011, 10:41 p.m.,*
in response to message #13 by Michael de Estrada

Hi Michael,

I tried it both ways though that was a desperation effort since it automatically capitalizes for you.

I think Tim might be right, something wrong in my firewall setup either at the Windows 7 level or at the router level (more likely in Win 7).

Cheers,

-Marwan

Re: Tim, Help! 15C LE emulator activation not working

*Message #15 Posted by **Michael de Estrada** on 12 Sept 2011, 10:59 p.m.,*
in response to message #14 by M. Joury

I've also got Win 7 and UAC set to level 4 (highest). It did stop to ask me 2 or 3 times for permission, and even ran a virus scan on something at one point, but did work on my machine. Anyways, sorry you had problems and hopefully you'll figure it out.

BTW, I found out that the Advanced Functions Handbook can be accessed from the menu on the emulator. It looks like it's a pdf scan of the original one.

Re: Tim, Help! 15C LE emulator activation not working

*Message #16 Posted by **Howard Owen** on 12 Sept 2011, 11:33 p.m.,*
in response to message #15 by Michael de Estrada

> Quote:
>
> .. I found out that the Advanced Functions Handbook can be accessed from the menu on the emulator.

That is cool!

Re: Tim, Help! 15C LE emulator activation not working

*Message #17 Posted by **M. Joury** on 12 Sept 2011, 11:42 p.m.,*
in response to message #15 by Michael de Estrada

Hi Michael,

I eventually went the "offline" activation route. Use the same serial number but copy a text field that is provided, drop the text field in the web page accessed by the link also provided, and finally take the response provided by the web page and drop it back in the response pane of the calculator's validation screen.

The fact that worked shows that the serial is correct and that the problem lies somewhere in the way my Win 7 box is trying to activate over the net. It appeared to

be going out to the server and then returned with the message that the serial number data was invalid. I never received any UAC prompts, it just quietly failed.

Thanks for the suggestions though.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE box specs for SC please!

*Message #1 Posted by **Juergen Rodenkirchen** on 12 Sept 2011, 4:07 p.m.*

Hi! I had contact with SC lately. SC wants to generate labes for international orders in advance in order to accelerate shipping. For this, SC needs the box specs. Who can help Chris of SC (support@samsoncables.com)?

Here is Chris' original message:

> Quote:
>
> [...] I have been waiting on generating labels for international orders to verify the actual length, width, height, and weight of the calculator box. If you have those specs it will help me out. I don't trust the ones that were given to me b/c they were wrong on the 12C 30th and I don't want to generate all the labels incorrectly.

Regards, Jürgen

Re: HP-15C LE box specs for SC please!

*Message #2 Posted by **allen** on 12 Sept 2011, 10:14 p.m.,*
in response to message #1 by Juergen Rodenkirchen

Tell Carl, it's 8.75 by 6.5 by 2.75 inches, 1 lb 11.2 ozs. Too large for anything smaller than a USPS medium flat rate box.

Re: HP-15C LE box specs for SC please!

*Message #3 Posted by **M. Joury** on 12 Sept 2011, 10:42 p.m.,*
in response to message #2 by allen

Just don't do what buy.com did and throw it in a plastic envelope.

Re: HP-15C LE box specs for SC please!

*Message #4 Posted by **Ethan Conner** on 12 Sept 2011, 11:11 p.m.,*
in response to message #3 by M. Joury

I'm surprised to hear people got theirs in an envelope. Mine came i a cardboard box. Must have been shift change and next person got told to quit wasting cardboard and use a padded envelope.

Re: HP-15C LE box specs for SC please!

*Message #5 Posted by **M. Joury** on 12 Sept 2011, 11:45 p.m.,*
in response to message #4 by Ethan Conner

I actually had two orders with them. The single unit arrived today in a plastic envelop. The second

order gets here tomorrow. Since there are two units in the second order I am hoping for a box.

-Marwan

Re: HP-15C LE box specs for SC please!

*Message #6 Posted by **Michael de Estrada** on 12 Sept 2011, 11:16 p.m.,*
in response to message #3 by M. Joury

Yeah, I hate it when people ship things that way. I always use an oversize box with bubble wrap. I once got a Sinclair calc from the UK and the idiot shipped it in its original box, which got badly crushed in transit. It was in mint condition per the photos in the auction, and for the cost of shipping it could have been packaged properly. I gave the seller negative feedback.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE expanded a bit on SOLVE & INTEGRATE?

*Message #1 Posted by **Namir** on 12 Sept 2011, 3:43 p.m.*

If I am not mistaken, the HP-15C LE has expanded on the labels you can use with SOLVE and INTEGRATE. If I remember correctly, these commands worked with code appearing only after LBL 0 and LBL 1. I have used code after LBL A with both SOLVE and INTEGRATE in the HP-15C LE and it works!!!

The HP-15C LE manuals speaks of needing to take a break while the Integrate command is working. Not anymore with the speed of the LE version. Manual needs to edit that part and any other part that hints at the slow speed of the original 15C.

Namir

Edited: 12 Sept 2011, 3:46 p.m.

Re: 5C LE expanded a bit on SOLVE &INTEGRATE?

*Message #2 Posted by **Gerson W. Barbosa** on 12 Sept 2011, 3:46 p.m.,*
in response to message #1 by Namir

I think the HP-34C had those label limitations, not the HP-15C.

Gerson.

Re: 5C LE expanded a bit on SOLVE &INTEGRATE?

*Message #3 Posted by **Namir** on 12 Sept 2011, 3:47 p.m.,*
in response to message #2 by Gerson W. Barbosa

I checked the 15C emulators i have on my iPhone and labels A did not work!

Re: 5C LE expanded a bit on SOLVE &INTEGRATE?

*Message #4 Posted by **Gerson W. Barbosa** on 12 Sept 2011, 3:51 p.m.,*
in response to message #3 by Namir

I've just checked Integrate on my 2905B29505 15C. 'A' does work!

Re: 5C LE expanded a bit on SOLVE &INTEGRATE?

*Message #5 Posted by **Namir** on 12 Sept 2011, 3:51 p.m.,*
in response to message #2 by Gerson W. Barbosa

You are right!!!

FALSE REASON TO CELEBRATE!!!

:-(

Namir

Edited: 12 Sept 2011, 3:51 p.m.

Re: 15C LE expanded a bit on SOLVE & INTEGRATE?

*Message #6 Posted by **From Hong Kong** on 12 Sept 2011, 11:38 p.m.,*
in response to message #1 by Namir

Does SOLVE still consume 23 registers during execution in HP-15C LE?

Re: 15C LE expanded a bit on SOLVE & INTEGRATE?

*Message #7 Posted by **Marcus von Cube, Germany** on 13 Sept 2011, 1:43 a.m.,*
in response to message #6 by From Hong Kong

Why should that have changed? The software is essentially the same.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15E Bach Company

*Message #1 Posted by **Eddie W. Shore** on 12 Sept 2011, 3:22 p.m.*

I just got an email from Bach Company that the 15LE won't be in until late September. I may try another company to see if I can get one in time of the HHC conference next week.

Re: HP 15E Bach Company

*Message #2 Posted by **Eddie W. Shore** on 12 Sept 2011, 3:50 p.m.,*
in response to message #1 by Eddie W. Shore

I am going to try buy.com. If they ship earlier, Bach has offered me a refund, but I will wait for a confirmation first.

Re: HP 15E Bach Company

*Message #3 Posted by **Tommy** on 12 Sept 2011, 4:08 p.m.,*
in response to message #2 by Eddie W. Shore

Amazon says: Delivery estimate: Sept. 16, 2011 - Oct. 3, 2011 2 "HP 15C Scientific Calculator Limited Edition"

Re: HP 15E Bach Company

*Message #4 Posted by **jimi** on 12 Sept 2011, 4:39 p.m.,*
in response to message #3 by Tommy

Amazon (Samson Cables) said this as well, but when I check the tracking number they sent me (being shipped today) it says deliver on the 14th which is two days from now. Here's hoping it's correct anyway.

It's good timing, since my 41CX that has had issues with the keyboard seems to have died completely last night.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Firmware updates for the 49g, 12C+ etc

*Message #1 Posted by **Tommy** on 12 Sept 2011, 1:20 p.m.*

I read that there were updates for some calcs. How did you do the update? Did everyone use this cable?

/Tommy

Re: Firmware updates for the 49g, 12C+ etc

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 2:28 p.m.,*
in response to message #1 by Tommy

The USB equipped calcs download the update via USB. If an SD card is available this can be used as well.

The cable is for the 10bii+, 12C+, 15C LE, 20b and 30b.

Re: Firmware updates for the 49g, 12C+ etc

*Message #3 Posted by **Eddie W. Shore** on 12 Sept 2011, 3:35 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I didn't realize there was a cable for the 10bII+.

Re: Firmware updates for the 49g, 12C+ etc

*Message #4 Posted by **gene wright** on 12 Sept 2011, 4:31 p.m.,*
in response to message #3 by Eddie W. Shore

Same cable as the 20b/30b/34S/12c+/15cLE.

Re: Firmware updates for the 49g, 12C+ etc

*Message #5 Posted by **Mark Harman** on 12 Sept 2011, 10:29 p.m.,*
in response to message #2 by Marcus von Cube, Germany

The cable isn't USB. It is serial, just like the 6 pin connector on the back.

The calculators you mention all have the same connection and can use the same cable. My biggest word of warning is to not leave the cable in any longer than needed. It really drains the batteries very quickly.

Regards,

Mark

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE Emulator Problem

*Message #1 Posted by **Namir** on 12 Sept 2011, 11:27 a.m.*

Hi All,

I just got my HP-15C LE. I installed the emulator. When I run it, it asks for a key code and says if the key code fails to click an Offline button. When can I find the key code? Also, clicking the Offline button does NOT resolve anything!!

:-(

Namir

Edited: 12 Sept 2011, 11:27 a.m.

Re: HP-15C LE Emulator Problem

*Message #2 Posted by **jweisskohl** on 12 Sept 2011, 11:32 a.m.,*
in response to message #1 by Namir

There is a code on the CD. Try that.

I just received mine too. Really nice that HP included the printed manual!

Jerry

Re: HP-15C LE Emulator Problem

*Message #3 Posted by **Namir** on 12 Sept 2011, 11:42 a.m.,*
in response to message #2 by jweisskohl

Thanks Jerry!

I copied the key code from the CD and activated the emumlator. I was surprised to see that the emulator has the PAUSE command bug too!!!

:-(

Namir

Re: HP-15C LE Emulator Problem

*Message #4 Posted by **M. Joury** on 12 Sept 2011, 11:44 a.m.,*
in response to message #3 by Namir

Does the fact that we have to activate it mean that we can only install it on one computer?

Cheers,

-Marwan

Re: HP-15C LE Emulator Problem

*Message #5 Posted by **Tim Wessman** on 12 Sept 2011, 12:12 p.m.,*
in response to message #4 by M. Joury

No, it allows a few. It collects a tiny bit of info about the system, turns it into a hash, sends the hash, and then if you use the same computer in the future it will not use up another activation if the hash matches once already in use.

TW

Edited: 12 Sept 2011, 12:15 p.m.

Re: HP-15C LE Emulator Problem

*Message #6 Posted by **M. Joury** on 12 Sept 2011, 12:32 p.m.,*
in response to message #5 by Tim Wessman

Thanks for the info Tim. One more question: Can you uninstall it so that you recover the "use" (increment your available installs) or is it decrement only so that when I get rid of a computer I have lost one usable copy of the emulator?

I ask because the machine I have sitting in from of me is an older laptop that has problems and will eventually (relatively soon) be replaced.

Thanks,

-Marwan

Re: HP-15C LE Emulator Problem

*Message #7 Posted by **Tim Wessman** on 12 Sept 2011, 12:44 p.m.,*
in response to message #6 by M. Joury

It doesn't "recover".

However, I beleive you have 5 installs, so it shouldn't be an issue.

And I can reset specific keys, or add allowable installs if needed.

TW

Edited: 12 Sept 2011, 1:29 p.m. after one or more responses were posted

Re: HP-15C LE Emulator Problem

*Message #8 Posted by **M. Joury** on 12 Sept 2011, 12:45 p.m.,*
in response to message #7 by Tim Wessman

Thank you Tim.

Re: HP-15C LE Emulator Problem

*Message #9 Posted by **bill platt** on 12 Sept 2011, 2:18 p.m.,*
in response to message #7 by Tim Wessman

I've been through 5 computers in the past 18 months....

Re: HP-15C LE Emulator Problem

*Message #10 Posted by **Lode** on 12 Sept 2011, 2:31 p.m.,*
in response to message #5 by Tim Wessman

Uh, so will this work in Wine in Linux, and will it work in 20 years in Wine on another emulated Linux or whatever computers are like in 20 years?

Re: HP-15C LE Emulator Problem

*Message #11 Posted by **Tim Wessman** on 12 Sept 2011, 2:34 p.m.,*
in response to message #10 by Lode

Dunno, and probably not.

TW

Re: HP-15C LE Emulator Problem

*Message #12 Posted by **robert rozee** on 12 Sept 2011, 2:55 p.m.,*
in response to message #5 by Tim Wessman

that will be another CD that gets chucked in the trash then - code that phones home is not a welcome thing :-(

Re: HP-15C LE Emulator Problem

*Message #13 Posted by **Tim Wessman** on 12 Sept 2011, 3:32 p.m.,*
in response to message #12 by robert rozee

It does once, and you can do it over a web browser instead. It never will check again.

It will send a version code every 30 days and prompt you to download a new version if one is available, but only if you don't check to turn that off.

But to each their own.

TW

Edited: 12 Sept 2011, 3:37 p.m.

Re: HP-15C LE Emulator Problem

*Message #14 Posted by **Bart (UK)** on 13 Sept 2011, 5:00 a.m.,*
in response to message #13 by Tim Wessman

A type of DRM then. I limit my use of software/documents with any type of DRM, so use will be restricted to the physical device only.

Re: HP-15C LE Emulator Problem

*Message #15 Posted by **bill platt** on 13 Sept 2011, 7:29 a.m.,*
in response to message #14 by Bart (UK)

Please explain.

Re: HP-15C LE Emulator Problem

*Message #16 Posted by **M. Joury** on 13 Sept 2011, 8:02 a.m.,*
in response to message #15 by bill platt

Hi Bill,

Are you asking for an explanation of DRM? Or why someone would not use a DRM (or DRM-like) enabled product?

DRM: Digital Rights Management-controlling the installation and use of software or distributed media.

As for the reason why one wouldn't use a DRM enabled product... I am sure those of us that don't each have our own reasons but I for one will not buy any software that is DRM enabled if I can possibly help it.

I always thought that Borland had the right idea with it's software (the book analogy)--install and use on multiple machines as long as you could guarantee that the same license would never be used on two different machines at the same time.

I have around a dozen computers at home and all my installed software is purchased but I generally choose to go with companies that provide a home license option of some sort--one license for all machines in the house--as some companies are beginning to do now. Otherwise it will get ridiculously expensive for me to maintain my software.

Just my 2 cents worth...

Cheers,

-Marwan

Re: HP-15C LE Emulator Problem

*Message #17 Posted by **Bart (UK)** on 13 Sept 2011, 9:17 a.m.,*
in response to message #15 by bill platt

In the stricktest application, it limits the use to one computer, e.g. SAE documnets:

From their site (SAE DRM Overview):
What are the restrictions on how I can use my purchased PDF document?
Once you complete your purchase and open the secure document, your PDF will be permanently locked to that computer. You may view it as many times as you like and print it twice. You will not be able to use the document on another computer, or network it to other computers.

This restricts my right to use it as I wish, where wish. Yes, I can print it, but

what's the use of a printed version. These documents can be several 100's of pages (even > 1000 pages) big. I want to take it (actually usually several) with me when visiting customers or contractors - which are often overseas. Yes, I can use a laptop for travel, but have a desktop on my desk at work. Now I must contact SAE to transfer the licence to the laptop & back again every time? Or buy multiple licences? I prefer the old Borland approach that Marwan quoted. I respect that and I for one do not pass on copies ("I paid for it, so can you"). However, my ideal world has been broken by piracy, and providers feel that that they should use DRM to protect their products. They have a right to implement it, I have a right not to buy it.

How does this affect my use of the 15C emulator? I would want to use it at work and at home. Between them I have been through 6 PC's in 5 years. It would be OK if the counter decremented with an un-install (I remember there used to be software that had a token tranferred back to a floppy upon uninstall). But now after a few years I'd be left not being able to use the emulator, unlike the physical calculator that we all know is used for decades. So my use of the emulator is restricted, thus I'd rather not use it at all.

OT: DRM

*Message #18 Posted by **Howard Owen** on 13 Sept 2011, 9:48 a.m.,*
in response to message #15 by bill platt

In addition to immediate practical concerns about DRM, there are theoretical issues too. For instance, GNU and FSF founder Richard Stallman has philosophical problems with DRM.

Re: HP-15C LE Emulator Problem

*Message #19 Posted by **Ángel Martin** on 12 Sept 2011, 12:18 p.m.,*
in response to message #3 by Namir

> Quote:
>
> I was surprised to see that the emulator has the PAUSE command bug too!!!

That's sign of a good emulator though!

Re: HP-15C LE Emulator Problem

*Message #20 Posted by **Howard Owen** on 12 Sept 2011, 1:01 p.m.,*
in response to message #3 by Namir

[quote] ... the emulator has the PAUSE command bug too!!! [quote]

What about the self tests?

Re: HP-15C LE Emulator Problem

*Message #21 Posted by **Michael de Estrada** on 12 Sept 2011, 1:15 p.m.,*
in response to message #20 by Howard Owen

How do you simultaneously depress two virtual buttons ?

Re: HP-15C LE Emulator Problem

*Message #22 Posted by **Thomas Radtke** on 12 Sept 2011, 1:34 p.m.,*
in response to message #21 by Michael de Estrada

With any of the dual cursor hacks. But it's questionably weather the UI is emulated as good as other aspects apparently are ;-).

Re: HP-15C LE Emulator Problem

*Message #23 Posted by **Mike Morrow** on 12 Sept 2011, 2:26 p.m.,*
in response to message #21 by Michael de Estrada

What about a touch-screen emulation? :-)

Re: HP-15C LE Emulator Problem

*Message #24 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 2:32 p.m.,*
in response to message #21 by Michael de Estrada

If the emulator is based on the same code base as the 20b SDK, pressing two keys at the same time is not possible. I modified the code in the 34S to support shift hold sequences. Maybe HP has done a similar work on the (internal) 30b emulator which uses shift hold sequences.

Re: HP-15C LE Emulator Problem

*Message #25 Posted by **Gerson W. Barbosa** on 12 Sept 2011, 2:55 p.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> Maybe HP has done a similar work on the (internal) 30b emulator which uses shift hold sequences.

This might be necessary to change the radix mark (ON/.), unless there is another way to do so.

Re: HP-15C LE Emulator Problem

*Message #26 Posted by **Jeroen Van Nieuwenhove** on 12 Sept 2011, 4:37 p.m.,*
in response to message #25 by Gerson W. Barbosa

I remember having been able to do exactly that in the (no longer available) Nonpareil emulation of the 15C by using the shortcut keys and the mouse simultaneously. Since I do not have the HP emulation program for the 15C LE (yet), I don't know whether this might be a solution.

Re: HP-15C LE Emulator Problem

*Message #27 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 5:12 p.m.,*
in response to message #26 by Jeroen Van Nieuwenhove

I've implemented two versions in WP 34S: Press and hold a keyboard key (f) and click the key on the virtual keyboard or right-click the virtual shift key to lock it down, click or press the key, unlock the virtual shift with another right-click.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sort of OT: Dice odds

*Message #1 Posted by **Dave Britten** on 12 Sept 2011, 10:08 a.m.*

I'm already familiar with calculating the odds of getting a certain number of *specific individual results* when rolling an arbitrary number of dice (simple binomial distribution). But a fair amount of Google searching and working out numbers by hand hasn't led me to a general formula for calculating the odds of getting a certain *total* when rolling an arbitrary number of dice. (e.g. What are the odds of rolling a total of 17 or greater using four standard 6-sided dice?) This looks like some form of binomial expansion, but I'm drawing a blank putting it all together.

And I can always post a 15c implementation of the calculation, since that's the hot topic at the moment. ;)

Re: Sort of OT: Dice odds

*Message #2 Posted by **M. Joury** on 12 Sept 2011, 10:24 a.m.,*
in response to message #1 by Dave Britten

Try this page: Chance of total with 'x' dice

From the above page:

This section endeavors to answer the frequently asked question on the probability for any given total over the throw of multiple dice. ... My method was a recursive computer program. No, I don't know of an easy non-recursive formula.

Hope this helps.

Cheers,

-Marwan

Re: Sort of OT: Dice odds

*Message #3 Posted by **Dave Britten** on 12 Sept 2011, 11:34 a.m.,*
in response to message #2 by M. Joury

I was afraid I might have to resort to that. Now, to really complicate things, I also want to be able to do this with non-standard dice. For example, a 6-sided die with faces reading 0, 0, 0, 1, 1, 2, or something like that, and maybe even mixtures of different dice. I'll have to see how far I can take this on the 15c LE when it shows up, though honestly I think this would be easiest to implement with SQL and liberal use of cross joins.

Re: Sort of OT: Dice odds

*Message #4 Posted by **M. Joury** on 12 Sept 2011, 11:48 a.m.,*
in response to message #3 by Dave Britten

SQL? If you end up going that route I would love to see how you do it. Although I would not consider

myself a SQL programmer (C, C++, C#) I do program SQL on a regular basis for my job and solving this using SQL would never (never did) even occur to me!

Cheers,

-Marwan

Re: Sort of OT: Dice odds

*Message #5 Posted by **Dave Britten** on 12 Sept 2011, 12:44 p.m.,*
in response to message #4 by M. Joury

Sure, here's what I slopped together for SQL Server (I'm assuming you have access to that, with C# background). The memory/CPU usage gets really out of hand with a large number of dice. Doing 7 six-sided dice takes about 10 seconds on an 8-core server with 32 GB RAM. But you can mix and match types of dice, and do non-standard dice.

http://dave.brittens.org/Dice.sql

You'll also need to have my string split function in the current database.

http://dave.brittens.org/fn_split.sql

Re: Sort of OT: Dice odds

*Message #6 Posted by **M. Joury** on 12 Sept 2011, 12:46 p.m.,*
in response to message #5 by Dave Britten

Thanks Dave!

Re: Sort of OT: Dice odds

*Message #7 Posted by **Egan Ford** on 12 Sept 2011, 12:22 p.m.,*
in response to message #1 by Dave Britten

This smells of Project Euler. I'm afraid you are going to have to tough it out like the rest of us have. :-)

Re: Sort of OT: Dice odds

*Message #8 Posted by **Dave Britten** on 12 Sept 2011, 12:32 p.m.,*
in response to message #7 by Egan Ford

Ha ha, I was wondering if there might have been one on there like that. I should check my Project Euler source code and see if I solved it and forgot about it.

Actually, I'm more interested in game play and/or design at the moment, and figuring these things out mathematically could come in handy.

Re: Sort of OT: Dice odds

*Message #9 Posted by **Thomas Klemm** on 12 Sept 2011, 3:34 p.m.,*
in response to message #1 by Dave Britten

Quote:

What are the odds of rolling a total of 17 or greater using four standard 6-sided dice?

There's a function *glob* in Perl that does the cross joins. For example, this produces nine strings, one for each pairing of fruits and colors:

@many = glob "{apple,tomato,cherry}={green,yellow,red}";

That's the program I came up with:

```
#!/usr/bin/perl


use strict;
use warnings;


my $dice = '+{1,2,3,4,5,6}';
my $n = 4;


my %seen;
for my $roll (glob $dice x $n) {
    my $sum = eval $roll;
    $seen{$sum}++;
};


my $total = 0;
for my $value (sort { $a <=> $b } keys %seen) {
    printf <<EOF, $value, $seen{$value};
%4d %6d
EOF
    $total += $seen{$value} if 17 <= $value;
}


printf <<EOF, $total, $total/6**$n;


Total = %d   (%.5f)
EOF
```

And that's the result it produces when the script is started with *time*:

```
   4      1
   5      4
   6     10
   7     20
   8     35
   9     56
  10     80
  11    104
  12    125
  13    140
  14    146
  15    140
  16    125
  17    104
  18     80
  19     56
  20     35
  21     20
  22     10
  23      4
  24      1


Total = 310   (0.23920)


real    0m0.032s
user    0m0.029s
sys     0m0.002s
```

I hope it is useful and you can modify it to your needs. It's not optimized for speed (the function *eval* is used

often), but for small n it might be fast enough.

Kind regards
Thomas

Edited: 12 Sept 2011, 5:14 p.m.

Re: Sort of OT: Dice odds

*Message #10 Posted by **Kiyoshi Akima** on 13 Sept 2011, 1:29 p.m.,*
in response to message #1 by Dave Britten

Here's an unoptimized, brute-force implementation on the 15C:

```
001 .             012 LBL 3         023 ISG 0
002 9             013 6             024 DSE 4
003 STO 0         014 STO 4         025 GTO 4
004 6             015 LBL 4         026 DSE 3
005 STO 1         016 RCL 1         027 GTO 3
006 LBL 1         017 RCL + 2       028 DSE 2
007 6             018 RCL + 3       029 GTO 2
008 STO 2         019 RCL + 4       030 DSE 1
009 LBL 2         020 1             031 GTO 1
010 6             021 7             032 RCL 0
011 STO 3         022 x<=y?         033 INT
```

It runs in just under ten seconds on my HHC2010 15C+. It did take a little longer to key it in on the fly...

All sorts of time optimizations are possible. For example, if you total up the first three dice, you can immediately calculate the number of ways the fourth die would push the total to 17 or above, eliminating the fourth loop.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : Numeric integration * EDITED*

*Message #1 Posted by **Miguel Toro** on 12 Sept 2011, 9:57 a.m.*

Hello,

I was doing some tests with the numeric integration and noticed that it was not as accurate as other calculators. Then, I found this discussion about the subject, so after reading it, I have some questions:

For Team 34s:

- Is there any plan to improve the built in integrator?

- Pauli talks about a wrapper that would use the built in integrator. Do you have any example of that, or, is there any basic way to do it so one can adapt it easily to any function?

For Gene:

- In the same thread, you talk about a “matrix series modeled after the M1 - M5 routines from the PPC ROM”. Is this already available somewhere?

Please excuse me for these evidently badly informed questions

Thanks,

Miguel

Edited: 12 Sept 2011, 1:54 p.m. after one or more responses were posted

Re: WP 34S : Numeric integration

*Message #2 Posted by **Walter B** on 12 Sept 2011, 1:37 p.m.,*
in response to message #1 by Miguel Toro

Buenas tardes Miguel,

It would significantly help answering your questions if you would include the link to the discussion you reference. And, BTW, please omit the "pre" to allow for free text flow in your messages. Thanks in advance,

Walter

Re: WP 34S : Numeric integration

*Message #3 Posted by **Miguel Toro** on 12 Sept 2011, 1:55 p.m.,*
in response to message #2 by Walter B

Terribly sorry about that. I edited the entry.

Gracias,

Miguel

Re: WP 34S : Numeric integration * EDITED*

*Message #4 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 2:37 p.m.,*
in response to message #1 by Miguel Toro

The idea is to subdivide the interval in several subintervals and integrate with the built in function in each subinterval. Repeat the step with an increased number of subintervals and compare the results. If they are close enough together, you're done.

Re: WP 34S : Numeric integration * EDITED*

*Message #5 Posted by **Miguel Toro** on 12 Sept 2011, 2:47 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Ok. Understood.

Thank you very much Marcus,

Miguel

Re: WP 34S : Numeric integration * EDITED*

*Message #6 Posted by **Paul Gaster** on 12 Sept 2011, 3:39 p.m.,*
in response to message #1 by Miguel Toro

Here is a newer post about the matrix math:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=190327

Re: Talking about the WP 34s at the internal HP calculator forum Message #3 Posted by gene wright on 11 Aug 2011, 4:03 p.m., in response to message #2 by Walter B

Good! Did not know you could read it without registration.

Yes, it has quieted down, but I wanted to again point people in the direction to find out more info.

On another note...I have the first draft of the matrix programs for the 34s keyed in. Debugging now. 197 lines is all it takes. Could do a 6x6 system or inverse, 8x8 determinant. That's a limit based on 100 registers available.

It looks like things are moving forward.

Re: WP 34S : Numeric integration * EDITED*

*Message #7 Posted by **gene wright** on 12 Sept 2011, 4:32 p.m.,*
in response to message #6 by Paul Gaster

I hope to present the RRM routines at HHC in a couple of weeks, after which they will be public.

Re: WP 34S : Numeric integration * EDITED*

*Message #8 Posted by **Walter B** on 12 Sept 2011, 4:49 p.m.,*
in response to message #7 by gene wright

Looking forward to. Will have to use, however, the global edition of extendable ears.

Re: WP 34S : Numeric integration * EDITED*

*Message #9 Posted by **gene wright** on 12 Sept 2011, 5:23 p.m.,*
in response to message #8 by Walter B

I'll be watching for those extendable ears under the door.

For any non-NDA sessions, I would expect video to be up fairly shortly thereafter.

Re: WP 34S : Numeric integration * EDITED*

*Message #10 Posted by **Paul Dale** on 12 Sept 2011, 6:01 p.m.,*
in response to message #1 by Miguel Toro

> Quote:
>
> - Is there any plan to improve the built in integrator?

No.

> Quote:
>
> - Pauli talks about a wrapper that would use the built in integrator. Do you have any example of that, or, is there any basic way to do it so one can adapt it easily to any function?

I'm not aware of any example code to do this.

To do much better then integrator needs to be adaptive. The current integrator calculates two different estimates of the integral. With a bit of programming it should be possible to integrate over an interval and if the two estimates disagree by too much, to subdivide the interval and try again.

> Quote:
>
> In the same thread, you talk about a “matrix series modeled after the M1 - M5 routines from the PPC ROM”. Is this already available somewhere?

I've also done a bit of work on some matrix code.

The M1 - M5 routines are the basics commands necessary to row reduce a matrix, they are not a full matrix package by themselves.

These do not include enough functionality to do a matrix multiplication or transpose e.g. They can, however, be used to calculate an inverse or a determinant very easily.

They are a great basis for further work & definitely worthwhile having.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12C 30th AE available from HP Home & Home Office

*Message #1 Posted by **M. Joury** on 12 Sept 2011, 7:47 a.m.*

The 12C 30th AE became available on the HP Home and Home Office site sometime yesterday. 15C LE is still "Coming Soon"

Cheers,

-Marwan

Edited: 12 Sept 2011, 7:47 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 67, battery

*Message #1 Posted by **Sok-khieng Chum Hun** on 12 Sept 2011, 4:05 a.m.*

Hi,

When I connect the calculator to the charger(with the battery), it is working correctly, but when not connected to the charger, I can't turn it on, even if the battery is charged.

Anyone know what might be the problem?

Thank you :)

Re: hp 67, battery

*Message #2 Posted by **Vladan Dugaric** on 12 Sept 2011, 4:24 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

The battery pack needs rebuilding with new cells.

WARNING: DO NOT CONNECT CALCULATOR TO CHARGER WITH DEAD BATTERY OR WITHOUT BATTERY!

If you do, you will fry the calculator. The battery is part of the voltage regulator in all HP LED calculators apart from the original 35/45/55/65/70/80 models. 19/25/29/67/31/32/33/34/37/38 are all easily killed when connected to power supply with a dead or dying battery or without battery, since the charger is not voltage regulated and relies on the battery to limit the maximum voltage supplied to the calculator. The calculator is exposed to overvoltage and circuits are damaged if the battery is not good.

Vladan

Re: hp 67, battery

*Message #3 Posted by **Tony Duell** on 12 Sept 2011, 4:50 a.m.,*
in response to message #2 by Vladan Dugaric

The 3 pin charger used with the classic series has 2 outputs, a constant current output for charging the NiCd battery and a constant voltage output to run the calculator. When you plug this charger into a 35,45,55,70 or 80, the battery is electrically disconnected from the rest of the calculator. The calculator logic is run from the constant voltage output of the charger and this does not depend on having a good battery fitted. It is safe to run those models from the charger without having a good (or any) battery installed.

The 65 and 67 as similar except for one important difference. The card reader sense amplifier/motor driver IC is connected directly to the battery back. So in those models, the votlage across this IC when the charger is connected is determined by the battery pack acting as a shunt regualtor. If there is no battery, or a defective battery, fitted, then that voltage will be much higher than normal. The HP65 manual acutally warns that this can do damage. The HP67 card reader IC was redesigned, hopefully to prevent such

damage, but I certainly don't risk it!

The later models with 2-pin charagers all use the battery as a shunt regulator to limit the voltage. In the case of the non-contiuous-memory models, there is no danger in trying to charge the battery in the calculator with the calculator turned off (the logic is then entirely disconnected from the battery by the on/off switch). Turning such a non-continuous-memory model on while connected to the charger without a good battery is unlikely to do any damage, the calcualtor draws enough current to reduce the voltage at the output of the charger circuit to a safe level. However the calculator will not work correctly.

The continuous memory models (19C, 25C, 29C, 33C, 34C, 38C at least) use the battery to power the RAM chip even when the machine is turned off. This is how the memory is maintained. If you connect such a machine to the charger without a good battery fitted, a higher-than-normal votlage is applied across the RAM chip -- the RAM chip on its own does not draw enough current to pull the voltage down. This is very likely to do damage. With the machine turned on, it shouldn't do any damage to connect the charger without a good battery, but the machine can't work correctly. I don't risk it.

The Topcat (91, 92, 97) machines have a circuit in them designed to apply a load to the charger to keep the voltage down if it rises too high (that is, if the battery is defective or missing). As with the non-continuous-memory models above, it should be safe to connect the charger without a good battery fitted, but the machine won't work correctly. Now, this circuit only works with the machine turned on, and the (very rare) 95C uses the battery to maintain the continuous memory as you might expect. In the case of the 95C, therefore, connecting the charger without a good battery installed may well do damage (and on a machine where spares are next-to-impossible to find).

So to sum up, connecting a charger to a machine without a good battery :

35, 45, 55, 70, 80 -- Works fine

65, 67 -- May damage the card reader sense amplifier IC

Non-continous-memory Woodstocks, Spices, etc -- Won't work, may do damage, but it's unlikely

Continuous memory Woodstocks, Spices, etc -- Is very likely to damage ICs

Non-continuous-memory Topcats -- Won't work, but there is a protection circuit that should prevent damage

95C -- Is very likely to damage ICs.

Re: hp 67, battery

*Message #4 Posted by **db (martinez, ca.)** on 12 Sept 2011, 9:16 a.m.,*
in response to message #3 by Tony Duell

Note to the original poster: Adding anything to instructions by Tony is like correcting Newton's math, but there is one more thing. When you get that new battery, remember that a bit of dust or corrosion on the contacts can completely take the battery out of the system. Make sure you have a good connection when charging. I charge my woodstock and spice batteries in a cradle and the bats for the 65/67 in a 35 for that reason.

Tony; While you are on the subject of battery charging:
Is the 75c protected or should i charge it's battery in the 35 too?
Would it be safest to charge the batteries for the Topcat series in a 41 printer or IL device, or do those have potential weaknesses too? I sometimes really use my 41's peripherals and would hate to fry one just to charge the 92's battery

Re: hp 67, battery

*Message #5 Posted by **Marc Ferrer (France)** on 12 Sept 2011, 1:19 p.m.,*
in response to message #4 by db (martinez, ca.)

Hello,

First, thank you all for these instructions, they're worth a printing. That leads me to a question for which I didn't get an answer by now :

Has anyone already designed an electronic shunt regulator that can be connected instead of the battery ? It could be a convenient way to power a (non continuous memory) calculator with its charger, when you haven't any good battery at hand -and when you're too lazy to build a custom power supply :-)

Ideally, that device would be small enough to fit in the battery compartment ; the challenge is, not to dissipate too much heat due to the voltage drop.

Any ideas ? Thanks in advance !

Best regards from France, Marc

Re: hp 67, battery

*Message #6 Posted by **Steve Simpkin** on 12 Sept 2011, 3:05 p.m.,*
in response to message #5 by Marc Ferrer (France)

In theory, a 2.5V or 2.7V Zener diode rated for at least 500mW connected across the battery terminals should suffice. I would also recommend adding a 1000 uF capacitor across the battery terminal as well to filter the half-wave rectified power from the charging power supply. Assuming the maximum charging current is 125mA, the Zener will dissipate less than 400mW. In fact, HP could have just added a 3V, 500mW Zener across the battery side to eliminate the possibility of damaging these calculators when the battery was missing or had gone open. Oh well.....

Re: hp 67, battery

*Message #7 Posted by **Marc Ferrer (France)** on 13 Sept 2011, 1:20 p.m.,*
in response to message #6 by Steve Simpkin

Hello Steve,

Thank you for your answer ; to say the least it's quite simple a solution... I'll soon give it a try.

That simplicity makes me think that HP really fought to save even the smallest fraction of a cent in their BOM.... years before the Chinese era !

Troll mode ON : was it already a strategy to easily get more calculators serviced ? Argh :-)

Marc

Re: hp 67, battery

*Message #8 Posted by **Steve Simpkin** on 14 Sept 2011, 5:34 p.m.,*

in response to message #7 by Marc Ferrer (France)

Please be very careful....
I would not want my "theory" to be proven wrong and result in a damaged calculator. I was very lucky. When the batteries started to go bad in my HP-25 around 1985, I replaced them with alkaline batteries and inserted a diode in series with the battery holder springs. If the original rechargeable batteries had gone open, I might have lost my first HP.

Re: hp 67, battery

*Message #9 Posted by **Marc Ferrer (France)** on 15 Sept 2011, 1:08 p.m.,*
in response to message #8 by Steve Simpkin

Hi Steve,

Please do not worry, I don't want to "brick" my 21 and my 25. I got some schematics from Jacques Laporte's web pages ; so when I have enough time, I'll give this trick a try by building some kind of a test environment : charger + load + Zener, and so on...

Thanks again,

Regards, Marc

Re: hp 67, battery

*Message #10 Posted by **Steve Simpkin** on 15 Sept 2011, 11:38 p.m.,*
in response to message #9 by Marc Ferrer (France)

Here is some additional information about running/protecting HP calculators while using just the changer and no batteries.
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv012.cgi?read=31845

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=178504
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv006.cgi?read=9944
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=158919

Re: hp 67, battery

*Message #11 Posted by **Marc Ferrer (France)** on 16 Sept 2011, 1:05 p.m.,*
in response to message #10 by Steve Simpkin

Thank you very much Steve,

Now all I need is some spare time...

Regards, Marc

Re: hp 67, battery

*Message #12 Posted by **Tony Duell** on 13 Sept 2011, 4:00 a.m.,*
in response to message #4 by db (martinez, ca.)

Yes, indeed. A battery that's not electrically connected to the machine (e.g. because of corroded contacts) is the same as no battery at all .

AFAIK the HP75 is protected. I think the service manual says that the machine will even operate correctly from the AC adapter with no battery fitted.

With non-continuous-memory machines (like the 92), it is quite safe to charge the battery with the machine turned off. With the switch off, there is no power to any of the logic. In fact with the topcats, there's the protection circuit I mentioned, so turning them on shouldn't be a problem either. But this doesn't apply to the HP95C.

I suppose the safest way is to use the 'reserve power packs' -- the external chargers. They exist for the classic series, woodstocks, topcats and spices. But they are not easy to find.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Long term storage question on 15C LE

*Message #1 Posted by **nick lidakis** on 11 Sept 2011, 10:53 p.m.*

I purchased 2 units with the expectation that one would be put away for a future user and I was wondering: Are the batteries pre-installed? I assume if yes, I should open the packaging and remove them if the unit will be in storage for, say, over 7 years?

Re: Long term storage question on 15C LE

*Message #2 Posted by **Mike Morrow** on 11 Sept 2011, 10:58 p.m.,*
in response to message #1 by nick lidakis

The CR 2032 cells are installed. But none of the packaging of the 15C-LE is sealed (there's no shrink wrap), so it's a simple matter to open, remove the cells, then put everything back just like you got it.

There's going to be firmware upgrading needed for both machines, so keep those batteries handy.

Edited: 11 Sept 2011, 11:58 p.m.

Re: Long term storage question on 15C LE

*Message #3 Posted by **Lincoln R.** on 11 Sept 2011, 11:45 p.m.,*
in response to message #1 by nick lidakis

You might also want to consider throwing some dessicant packets in there to keep moisture down.

Re: Long term storage question on 15C LE

*Message #4 Posted by **Kiyoshi Akima** on 12 Sept 2011, 4:18 p.m.,*
in response to message #3 by Lincoln R.

> Quote:
>
> You might also want to consider throwing some dessicant packets in there to keep moisture down.

That depends on where you are. My father told me that one of the biggest non-cultural adjustments he had to make when we moved in the 60s was that while back in Japan the computer center was dehumidified to prevent decks of punched cards from turning to mush, here in Colorado the computer center was humidified to prevent decks of punched cards from turning to dust.

Re: Long term storage question on 15C LE

*Message #5 Posted by **Peter Murphy (Livermore)** on 12 Sept 2011, 1:35 a.m.,*
in response to message #1 by nick lidakis

Long-term storage has been discussed here before, in at least two threads and with several valuable

observations:

< http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=94835>

< http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=46419>

Or, rather,

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=94835

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=46419

Edited: 12 Sept 2011, 1:38 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT:Yes! We have our Corbulin!

*Message #1 Posted by **robertoataulfo** on 11 Sept 2011, 10:19 p.m.*

```
Hp 15c 1984 New In Box Made In U. S. A.
Value BRA R$2500 -> U.S. $1480 !!!!!.


HP-15C US$ 1480


Gerson you know this person highly informed? :-)


"HP 15c Made in USA made in 1984.
A machine was a family heritage, is only used to check the self test and battery status.
Is equal to 100% of a new store.
The quality of a Made in the USA is far superior to any other HP.
It has leather cover elite, Owner's Manual, Manual of advanced features, HP original box and
documentation, all 100% original.
For those who do not know the HP 15c visit the hpmuseum.
There should be little machine in the world in this condition New in Box with 27 years of age.
Totally recommended for collectors and enthusiasts from HP.
I've had more than 50 HP's in my collection, and this is the last price will not decrease.
There is no question that I ask the value, it is the passion of the buyer happy.
I know there are other collectors in Brazil and abroad that would charge more than $ 3500.00
per one like this,
but hardly anyone wants to sell,
so this is a rare opportunity for investment even as the value of 15c in the world market only
increases since it stopped being made.
*** NO EXCHANGES OR COUNTER OFFERS oNLY ***
BUY AND CAN bE SURE tO PAY tO AVOID FUTURE JUDICIAL PROCESS ***
The value of $ 2500.00 and the business is only for deposit into an account by mail FREE
SHIPPING *** ***"


If the buyer discover 15LE he'll have a heart attack!!!
```

Edited: 11 Sept 2011, 10:27 p.m.

Re: OT:Yes! We have our Corbulin!

*Message #2 Posted by **Lincoln R.** on 11 Sept 2011, 10:41 p.m.,*
in response to message #1 by robertoataulfo

Haha, I think someone misplaced a decimal point. I'm pretty sure my entire collection of HPs is worth less than that.

Re: OT:Yes! We have our Corbulin!

*Message #3 Posted by **Howard Owen** on 11 Sept 2011, 10:58 p.m.,*
in response to message #1 by robertoataulfo

Coburlinissimo?

Re: OT:Yes! We have our Corbulin!

*Message #4 Posted by **Gerson W. Barbosa** on 11 Sept 2011, 11:06 p.m.,*
in response to message #1 by robertoataulfo

No, I don't know the seller, but I wouldn't compare him to TTASS (That TAS Seller). This appears to be the first calculator he sells.

> Quote:
>
> If the buyer discover 15LE he'll have a heart attack!!!

I don't think the buyer might be interested in the 15C LE.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Plotting Direction fields on the HP48

*Message #1 Posted by **snaggs** on 11 Sept 2011, 9:03 p.m.*

Is this possible? Would be very handy to get a quick understanding of a DE before solving.

Regards,

Daniel.

Re: Plotting Direction fields on the HP48

*Message #2 Posted by **NateB** on 11 Sept 2011, 10:29 p.m.,*
in response to message #1 by snaggs

It will plot slopefields. You change the plot TYPE to Slopefield in the plot setup window.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dr Bills Quadratic solver for 35S

*Message #1 Posted by **snaggs** on 11 Sept 2011, 8:48 p.m.*

This is a fantastic program and my calculator was flawless in my friday exam. Does anyone know how I could modify this program to display complex solutions with the little "i" symbol so I know (without having to think) that its a complex solution?

http://homepage.mac.com/nwjh/HP-35S/HP-35s_Math_1.pdf

Daniel.

EDIT Woops, turns out I didn't end up typing this one in, but the one listed in the next post.

Edited: 11 Sept 2011, 9:12 p.m. after one or more responses were posted

Re: Dr Bills Quadratic solver for 35S

*Message #2 Posted by **Paul Gaster** on 11 Sept 2011, 8:54 p.m.,*
in response to message #1 by snaggs

just use this one: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=881

Re: Dr Bills Quadratic solver for 35S

*Message #3 Posted by **snaggs** on 11 Sept 2011, 9:09 p.m.,*
in response to message #2 by Paul Gaster

Sorry, that is the one I ended up typing in, it doesn't show the roots using the HP35S feature. Maybe that can be my job.

> Quote:
>
> just use this one: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=881

Re: Dr Bills Quadratic solver for 35S

*Message #4 Posted by **Paul Gaster** on 11 Sept 2011, 9:16 p.m.,*
in response to message #3 by snaggs

Which one did you enter? There is one for the 33S and one for the 35S. You have to scroll down to see the 35S version.

Re: Dr Bills Quadratic solver for 35S

*Message #5 Posted by **snaggs** on 11 Sept 2011, 9:31 p.m.,*

in response to message #4 by Paul Gaster

I did the 35S version, but it doesn't use the "i" feature of the 35S. Youll notice Dr Bills version uses the "i" key.

The "Cadillac" Quadratic solver talks about how it can find roots in situations when others can't . Does anyone know one of these so I can test it vs Dr Bills?

Daniel.

Re: Dr Bills Quadratic solver for 35S

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 11 Sept 2011, 9:54 p.m.,*
in response to message #5 by snaggs

> Quote:
>
> The "Cadillac" Quadratic solver talks about how it can find roots in situations when others can't . Does anyone know one of these so I can test it vs Dr Bills?

The documentation for the Cadillac Quadratic Solver in Article 881 includes eight test cases. Some are similar to those in the HP-15C Advanced Functions Handbook where the differences are due to the use of a different quadratic equation there. Others were added to provide more difficult problems for 12 digit machines.

Re: Dr Bills Quadratic solver for 35S

*Message #7 Posted by **Pablo P (Spain)** on 12 Sept 2011, 5:10 a.m.,*
in response to message #1 by snaggs

This one has complex solutions support and displays "i" symbol: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=1003

Edited: 12 Sept 2011, 5:11 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Who has the lowest 15C LE Limited Edition Number?

*Message #1 Posted by **Jandro Kirkish** on 11 Sept 2011, 7:19 p.m.*

Are the Limited Edition numbers sequential? Assuming they are, I thought we could do a rather silly poll: Who has the lowest number? Mine is 00158. (Also this could be a sign that indeed HP might indeed be making only 10,000 of these.)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #2 Posted by **Namir** on 11 Sept 2011, 7:41 p.m.,*
in response to message #1 by Jandro Kirkish

Jandro,

Getting ready to brag about your serial number for the HHC2011??? Well ... that's alright! You can have your 15 minutes of celebrity!!

Namir

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #3 Posted by **Jandro Kirkish** on 11 Sept 2011, 9:30 p.m.,*
in response to message #2 by Namir

Guilty as charged, Namir ;) But truly I am enjoying the front side even more. I missed out on buying the original so it's a real treat playing around with this machine. Not to mention it is the first HP calculator I've owned that actually fits in my pocket!

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #4 Posted by **Namir** on 11 Sept 2011, 10:12 p.m.,*
in response to message #3 by Jandro Kirkish

I am glad you are happy with your HP-15 LE. I am sure it's a nice machine. I will find out for myself tomorrow! An who knows, maybe even brag about my serial number.

:-)

Namir

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #5 Posted by **Tim Wessman** on 11 Sept 2011, 8:42 p.m.,*
in response to message #1 by Jandro Kirkish

Cyrille - 00000
Tim - 00042

:-)

TW

Edited: 11 Sept 2011, 8:43 p.m.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #6 Posted by **Glenn Dowdy** on 11 Sept 2011, 9:03 p.m.,*
in response to message #5 by Tim Wessman

Highest: me, at 888,888

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #7 Posted by **NateB** on 11 Sept 2011, 10:31 p.m.,*
in response to message #6 by Glenn Dowdy

At least they've made more than 10,000 units.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #8 Posted by **Tim Wessman** on 11 Sept 2011, 10:38 p.m.,*
in response to message #7 by NateB

That was a single, special one on request.

TW

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #9 Posted by **hpnut** on 12 Sept 2011, 6:44 a.m.,*
in response to message #5 by Tim Wessman

Hey! 00000 is not a serial number!

talk about one-upmanship, we'll never beat the HP boys :-)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #10 Posted by **Paul Dale** on 12 Sept 2011, 6:58 a.m.,*
in response to message #9 by hpnut

Why not get a punch and add a minus sign to the start of your serial number? Or precede it with a decimal mark?

- Pauli

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #11 Posted by **Dave Britten** on 11 Sept 2011, 10:05 p.m.,*
in response to message #1 by Jandro Kirkish

I'm hoping for a non-integer value myself. Or better yet, complex or irrational.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #12 Posted by **Ed Look** on 12 Sept 2011, 11:04 a.m.,*
in response to message #11 by Dave Britten

That's sort of like the Three Stooges' numbers on the back of their football jerseys...

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #13 Posted by **Mike Morrow** on 12 Sept 2011, 12:56 p.m.,*
in response to message #1 by Jandro Kirkish

I was hoping for 666. Alas, 1577 and 1614 were received.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #14 Posted by **Bruce Bergman** on 14 Sept 2011, 12:32 a.m.,*
in response to message #13 by Mike Morrow

Mike, yours and mine are brothers -- mine is 01578.

Bruce

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #15 Posted by **David E** on 15 Sept 2011, 4:33 a.m.,*
in response to message #14 by Bruce Bergman

Mine is 00236.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #16 Posted by **Philip Reagan (Texas)** on 12 Sept 2011, 1:18 p.m.,*
in response to message #1 by Jandro Kirkish

#2277 from Buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #17 Posted by **Dave** on 12 Sept 2011, 2:34 p.m.,*
in response to message #1 by Jandro Kirkish

My 4 units from buy.com are all in the 2000 range.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #18 Posted by **Ethan Conner** on 12 Sept 2011, 3:36 p.m.,*
in response to message #17 by Dave

I got s/n 01623 from buy dot com.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #19 Posted by **James Sterbenz** on 12 Sept 2011, 5:03 p.m.,*
in response to message #18 by Ethan Conner

S/N 01664 from buy.com. Would be more appropriate for an HP-16C LE ;-) Fortunately I own a 16C I

bought new, cause I doubt there is the market for a rerun of these.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #20 Posted by **Michael de Estrada** on 12 Sept 2011, 5:58 p.m.,*
in response to message #19 by James Sterbenz

S/N 01640 from Buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #21 Posted by **sylvandb** on 13 Sept 2011, 9:06 p.m.,*
in response to message #20 by Michael de Estrada

LE 02261

SN 1310

from buy.com

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #22 Posted by **Jurrie Lulofs** on 12 Sept 2011, 5:47 p.m.,*
in response to message #1 by Jandro Kirkish

00693 from buy.com

I confirmed that the 34s flashing cable plugs in just fine. Maybe there'll be a holiday present in the form of a firmware update.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #23 Posted by **Howard Owen** on 13 Sept 2011, 11:39 p.m.,*
in response to message #1 by Jandro Kirkish

I have LE 0336 from buy.com.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #24 Posted by **Thomas Chrapkiewicz** on 14 Sept 2011, 12:51 p.m.,*
in response to message #23 by Howard Owen

Received today from buy.com (shipped 12sept)

LE2290 LE2269

TomC

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #25 Posted by **Gerson W. Barbosa** on 14 Sept 2011, 12:59 p.m.,*
in response to message #24 by Thomas Chrapkiewicz

A prime number! Anyone got twin 2267?

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #26 Posted by **megarat** on 15 Sept 2011, 10:44 p.m.,*
in response to message #23 by Howard Owen

Just got mine today from SC. LE number: 00070.

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #27 Posted by **Eddie W. Shore** on 16 Sept 2011, 9:33 p.m.,*
in response to message #26 by megarat

15C: 00911 (I plan just to keep this one in the box as a collector's item) 01535

12C 30th YR Edition: 03938 (this may just stay in the box for a collector's item)

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #28 Posted by **Howard Owen** on 13 Sept 2011, 11:41 p.m.,*
in response to message #1 by Jandro Kirkish

If buy.com received sequentially numbered machines, then the numbers reported here might indicate they have sold close to 2000 units!

Re: Who has the lowest 15C LE Limited Edition Number?

*Message #29 Posted by **M. Joury** on 14 Sept 2011, 2:19 p.m.,*
in response to message #28 by Howard Owen

They claimed that their initial stock was 1,000.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9/11

*Message #1 Posted by **Jean-Michel** on 11 Sept 2011, 3:22 p.m.*

Hello all.

Let me wish you all the best for those of you who had relatives or friends there. Sincerely.

Kind regards from France.

Sorry if some people might consider this as "O.T."

Jean-Michel

Re: 9/11

*Message #2 Posted by **Ed Look** on 11 Sept 2011, 3:51 p.m.,*
in response to message #1 by Jean-Michel

Thank you very much. I believe all Americans will appreciate your kind message, especially those like me, from New York.

Re: 9/11

*Message #3 Posted by **Quan** on 11 Sept 2011, 4:10 p.m.,*
in response to message #1 by Jean-Michel

Thank you!

Re: 9/11

*Message #4 Posted by **Michael de Estrada** on 11 Sept 2011, 4:44 p.m.,*
in response to message #1 by Jean-Michel

Merci beaucoup.

Re: 9/11

*Message #5 Posted by **Don Davis** on 11 Sept 2011, 8:52 p.m.,*
in response to message #1 by Jean-Michel

Jean-Michel,

Those are indeed kind words, and much appreciated.

Don

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SC ships 15C LE on 9/13

*Message #1 Posted by **Thomas Radtke** on 11 Sept 2011, 1:07 p.m.*

Just checked the status page for my order at Samson Cables: "HP15C Orders ship Tuesday 9/13/2011." Still the old price is given.

I'm curious: Who's waiting, too? :-)

Re: SC ships 15C LE on 9/13

*Message #2 Posted by **Ángel Martin** on 11 Sept 2011, 1:17 p.m.,*
in response to message #1 by Thomas Radtke

That makes two of us - I ordered ONE, my token to the cause.

Re: SC ships 15C LE on 9/13

*Message #3 Posted by **Alexander Oestert** on 11 Sept 2011, 1:31 p.m.,*
in response to message #1 by Thomas Radtke

> Quote:
>
> I'm curious: Who's waiting, too? :-)

Me, too. Same shipping date.

Re: SC ships 15C LE on 9/13

*Message #4 Posted by **Lincoln R.** on 11 Sept 2011, 1:48 p.m.,*
in response to message #1 by Thomas Radtke

Same here. I was rather amused by the "A package was shipped to you on 09/13/2011 via U.S. Postal Service Priority Mail" at 4 AM on 09/11. I've never gotten e-mail from the future before :-P

Re: SC ships 15C LE on 9/13

*Message #5 Posted by **Thomas Radtke** on 11 Sept 2011, 2:04 p.m.,*
in response to message #4 by Lincoln R.

Well, a calculator sold in '82 and shipping in the future must have some strange effects on timespace. E.g., PSE is actually working properly. It's just that you don't see the display content since light follows some paths around the user, which, in its normality, is an impurity in 15C-space ;^).

Re: SC ships 15C LE on 9/13

*Message #6 Posted by **Howard Owen** on 11 Sept 2011, 3:50 p.m.,*
in response to message #4 by Lincoln R.

There used to be an old joke about IBM, back in the days when they were ***IBM***. It was said that they had invented a supply channel that could see the future. You could find a million dollar computer on your loading dock before you knew you needed it!

I imagine lots of companies would like to have that, even today. Or they might prefer if customers would go along with that song and dance regardless. LOL

Re: SC ships 15C LE on 9/13

*Message #7 Posted by **M. Joury** on 11 Sept 2011, 8:29 p.m.,*
in response to message #4 by Lincoln R.

I've had that happen to me frequently with USPS. I spoke to a delivery man once about it and was told it had something to do with the way they showed and reported scheduling on items.

In my case they have generally reported items delivered before the fact.

Cheers,

-Marwan

Re: SC ships 15C LE on 9/13

*Message #8 Posted by **Reth** on 11 Sept 2011, 1:57 p.m.,*
in response to message #1 by Thomas Radtke

Me too

Re: SC ships 15C LE on 9/13

*Message #9 Posted by **Vladan Dugaric** on 11 Sept 2011, 1:59 p.m.,*
in response to message #1 by Thomas Radtke

Me three :) (just one order though).

Re: SC ships 15C LE on 9/13

*Message #10 Posted by **Jeff Fontaine Canada** on 11 Sept 2011, 2:22 p.m.,*
in response to message #1 by Thomas Radtke

I ordered two and I am impatient to receive them, despite the PSE bug

Re: SC ships 15C LE on 9/13

*Message #11 Posted by **Frank Rottgardt** on 11 Sept 2011, 2:30 p.m.,*
in response to message #1 by Thomas Radtke

Hello Thomas,

same here. Checked the order status this morning and noticed that my calculator is about to be shipped 9/13. Did order it for only three days ago.

Gruesse aus Schweden

Re: SC ships 15C LE on 9/13

*Message #12 Posted by **Victor Quiros** on 11 Sept 2011, 2:37 p.m.,*
in response to message #1 by Thomas Radtke

I received a notification message from Samson Cables today too. Same shipping date as yours.

Re: SC ships 15C LE on 9/13

*Message #13 Posted by **Michael Kussmaul** on 11 Sept 2011, 2:39 p.m.,*
in response to message #1 by Thomas Radtke

Me too! Can't wait to Get my hands on it... So far my only experience with the 15c is on my iPhone 15c emulator :-)

Re: SC ships 15C LE on 9/13

*Message #14 Posted by **Thomas Radtke** on 11 Sept 2011, 3:06 p.m.,*
in response to message #13 by Michael Kussmaul

I tried the Lygea simulator on Win Mobile as a first 15C experience. With its alphanumeric program editor, it really adds some value. But then, my first HP was the 20S, and so I'm quite used to keycodes ;-).

Re: SC ships 15C LE on 9/13

*Message #15 Posted by **MK-52** on 11 Sept 2011, 3:35 p.m.,*
in response to message #14 by Thomas Radtke

My first RPN is real 15C. It was powerful and reliable pocket calculator. Owner's Handbook and Advanced Functions Handbook were top notch. Unfortunately, my 15C died almost 6 years ago. Now I use 42S.

Edited: 11 Sept 2011, 3:36 p.m.

Re: SC ships 15C LE on 9/13

*Message #16 Posted by **Thomas Radtke** on 11 Sept 2011, 3:56 p.m.,*
in response to message #15 by MK-52

BTW, does your display name indicate you have one of those? I was owning an MK-52, too, but apparently the EEPROM was dead, so half the value of this beautiful machine was gone. Gifted it a few years ago to someone and since then looking for a white sample :-).

Re: SC ships 15C LE on 9/13

*Message #17 Posted by **MK-52** on 11 Sept 2011, 4:55 p.m.,*
in response to message #16 by Thomas Radtke

The origin of my display name is Elektronika MK-52. Vacuum Fluorescent Display, Cyrillic alphabet keypad and the story of Soyuz TM-7 mission attract me. However, I don't have it. I'm looking for it, but Soviet calculators are very rare in Japan. :(

Re: SC ships 15C LE on 9/13

*Message #18 Posted by **Gerson W. Barbosa** on 11 Sept 2011, 3:15 p.m.,*
in response to message #1 by Thomas Radtke

Waiting for three units. I guess I am the first in line (ordered mine on 07/25) but probably not the first to receive them, even though I chose USPS Express. No problem, what are a few days more after a 20-year wait? :-)

Re: SC ships 15C LE on 9/13

*Message #19 Posted by **Art Litka** on 11 Sept 2011, 3:24 p.m.,*
in response to message #18 by Gerson W. Barbosa

My SC order for the HP15LE is also confirmed as having been shipped two days from now. Looking forward (or backward?) to comparing it with my original model. BTW, the confirmation ID is 30 digits long which is many orders of magnitude greater than the estimated number of stars in the observable universe!

Re: SC ships 15C LE on 9/13

*Message #20 Posted by **Thomas Radtke** on 11 Sept 2011, 3:25 p.m.,*
in response to message #18 by Gerson W. Barbosa

You beat me by just one day :-).

I'll probably have to wait for 2 or 3 weeks. It arrives somewhere in Europe in less than a week, rest of the time is spent for customs. Over here, we're cited to the office by mail to bill taxes.

Re: SC ships 15C LE on 9/13

*Message #21 Posted by **Gerson W. Barbosa** on 11 Sept 2011, 3:35 p.m.,*
in response to message #20 by Thomas Radtke

> Quote:
>
> Over here, we're cited to the office by mail to bill taxes.

Same here, except the taxes are a bit higher (outraging 60% :-(

Re: SC ships 15C LE on 9/13

*Message #22 Posted by **Wanderley Navarro** on 11 Sept 2011, 11:57 p.m.,*
in response to message #21 by Gerson W. Barbosa

> Quote:
>
> ..except the taxes are a bit higher (outraging 60% :-(

Gerson. Our states are side by side and our cities are distant only 230 km, but here the total tax for imported goods is 93% due to the ICMS (state sales tax) that is computed over the federal tax of 60%.

Since you do not have this "bonus" in your state, you are happy without knowing my friend... :-)

Cheers.

Re: SC ships 15C LE on 9/13

*Message #23 Posted by **Gerson W. Barbosa** on 12 Sept 2011, 12:25 a.m.,*
in response to message #22 by Wanderley Navarro

Olá Wanderley,

I don't remember ever being charged ICMS on these here. I hope they don't read your post :-) However, there's a 6.38% tax over credit card expenditures abroad I forgot to mention which will turn my purchase into a take 3 pay 5 deal...

Até,

Gerson.

Re: SC ships 15C LE on 9/13

*Message #24 Posted by **Manatee** on 11 Sept 2011, 4:35 p.m.,*
in response to message #1 by Thomas Radtke

I have a couple on order with them.

Re: SC ships 15C LE on 9/13

*Message #25 Posted by **Dan W** on 11 Sept 2011, 4:48 p.m.,*
in response to message #1 by Thomas Radtke

Yep I got the same message. I ordered one, mainly because I have coveted the 15C ever since the mid 80's when I decided I could only afford the 11C. The 11C served me well a few years until I got a 42S. But then I sold the 11C to my later regret.

I'm plenty patient though. It isn't as if the world's economy is awaiting this great new engineering tool.

I haven't decided if I'll really use it that much. Time will tell.

Re: SC ships 15C LE on 9/13

*Message #26 Posted by **Les Wright** on 11 Sept 2011, 5:27 p.m.,*
in response to message #1 by Thomas Radtke

Mine shows just "Payment received, order being prepared for shipping."

I got a personal reply from Chris Edmunds acknowledging PayPal payment within hours of me paying.

Looking forward to this. I overpaid for my near-mint original, and am afraid to use it, like Nigel Tuffnell's guitar that's never been played...

Re: SC ships 15C LE on 9/13

*Message #27 Posted by **Matt Fegenbush** on 11 Sept 2011, 5:53 p.m.,*
in response to message #26 by Les Wright

It's got wonderful sustain.

Re: SC ships 15C LE on 9/13

*Message #28 Posted by **Thomas Radtke** on 13 Sept 2011, 5:21 a.m.,*
in response to message #1 by Thomas Radtke

Shipping Status: SHIPPED 13-Sep-11

That was at about 3 a.m. (MST)

Edited: 13 Sept 2011, 5:23 a.m.

Re: SC ships 15C LE on 9/13

*Message #29 Posted by **Michael Kussmaul** on 13 Sept 2011, 6:03 a.m.,*
in response to message #28 by Thomas Radtke

Mine shipped as well :-) let's see how long it takes to arrive here in Switzerland...

I'm always wondering on which side of the globe my goods I order from the U.S. are traveling, when they origin in China :-) Is it: China->Europe->U.S.->Switzerland or China->Japan->U.S.->Switzerland

:-)

Re: SC ships 15C LE on 9/13

*Message #30 Posted by **Thomas Radtke** on 13 Sept 2011, 6:15 a.m.,*
in response to message #29 by Michael Kussmaul

I suppose the Pacific route would be the most reasonable to take.

However, I'm not sure if it really shipped or just an automatism entered that text into the system. We'll see ... hopefully ;-).

Re: SC ships 15C LE on 9/13

*Message #31 Posted by **Lincoln R.** on 13 Sept 2011, 11:03 a.m.,*
in response to message #30 by Thomas Radtke

I kind of doubt that Chris at Samson would be up at 3 AM stuffing calculators into USPS boxes :-P

Re: SC ships 15C LE on 9/13

*Message #32 Posted by **Thomas Radtke** on 13 Sept 2011, 12:01 p.m.,*
in response to message #31 by Lincoln R.

Yes, very strange. I hope he gets the labelling right and manages to get all packages out soon.

Re: SC ships 15C LE on 9/13

*Message #33 Posted by **Alexander Oestert** on 13 Sept 2011, 7:37 a.m.,*
in response to message #29 by Michael Kussmaul

> Quote:
>
> Is it: China->Europe->U.S.->Switzerland or China->Japan->U.S.->Switzerland

From China directly to Europe via one of the poles would be another option... ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c manuals

*Message #1 Posted by **Paul Dale** on 11 Sept 2011, 7:30 a.m.*

Hp-15c manuals, if you don't have them yet:

http://www.ebay.com.au/itm/130511315024?ssPageName=STRK:MEWNX:IT&_trksid=p3984.m1439.l2649

http://www.ebay.com.au/itm/140528152179?ssPageName=STRK:MEWNX:IT&_trksid=p3984.m1439.l2649

For those who don't have it yet... A 16c manual: http://www.ebay.com.au/itm/140543198675?ssPageName=STRK:MEWNX:IT&_trksid=p3984.m1439.l2649

- Pauli

Edited: 11 Sept 2011, 7:31 a.m.

Re: 15c manuals

*Message #2 Posted by **Raymond Del Tondo** on 11 Sept 2011, 8:10 a.m.,*
in response to message #1 by Paul Dale

Ahem, these are color copies only, not original manuals...

Ray

Edited: 11 Sept 2011, 8:11 a.m.

Re: 15c manuals

*Message #3 Posted by **Paul Dale** on 11 Sept 2011, 8:13 a.m.,*
in response to message #2 by Raymond Del Tondo

oops....

Re: 15c manuals

*Message #4 Posted by **Namir** on 11 Sept 2011, 8:56 a.m.,*
in response to message #1 by Paul Dale

I am **assuming** that the seller is actually violating copyright law?? Am I right or wrong Tim?

Namir

Re: 15c manuals

*Message #5 Posted by **allen** on 11 Sept 2011, 9:03 a.m.,*
in response to message #4 by Namir

My guess is the seller bought the MOHP DVD and is just printing color copies. Regardless of the source, I agree with Namir's suggestion, the manuals likely represent illegal copies.

Ebay has not responded to any of my reports to that effect.

Allen (ebay:hudendai)

On a side note, except for the discussion, the original posting should probably be in the Classifieds section, not in the Forum.

(edit) Another interesting side note: a quick survey of the seller's other auctions shows he's netted north of $2500 selling (illegal) HP manual copies.

Edited: 11 Sept 2011, 9:08 a.m.

Re: 15c manuals

*Message #6 Posted by **Gerardo Rincon** on 11 Sept 2011, 9:06 a.m.,*
in response to message #1 by Paul Dale

I found HP 15C manuals here HP Manual

Edited: 11 Sept 2011, 9:09 a.m.

Re: 15c manuals

*Message #7 Posted by **Eric Smith** on 11 Sept 2011, 2:04 p.m.,*
in response to message #6 by Gerardo Rincon

Also a reprint, most likely in violation of copyright.

Re: 15c manuals

*Message #8 Posted by **Lincoln R.** on 11 Sept 2011, 2:08 p.m.,*
in response to message #7 by Eric Smith

And in violation of country of origin labeling since I doubt the reprints are actually being printed in Canada :-P

Re: 15c manuals

*Message #9 Posted by **uhmgawa** on 11 Sept 2011, 4:32 p.m.,*
in response to message #1 by Paul Dale

> Quote:
>
> Hp-15c manuals, if you don't have them yet:

I have one here received as an eval copy, but I can't say I'm all that impressed. It is a reasonable reprint and appears to be of mohpc origin as AFAICT it has the same digitization artifacts. It is printed two pages to a physical US letter size page and subsequently cut in half which yields the footprint. But it would have been better IMHO if either the manual image was scaled to fit the full half page area or (preferably) each half page was cut down to actual printed area. The spiral binding though is a welcome feature.

Although admittedly I'm quite impressed with HP's decision to reauthor the Owner's and Advanced Functions

Handbook. I hope the latter is forthcoming and doesn't get lost in the shuffle.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Interface for HP-28S ?

*Message #1 Posted by **robertoataulfo** on 10 Sept 2011, 2:30 p.m.*

Interface for HP28S

Re: New Interface for HP-28S ?

*Message #2 Posted by **Howard Owen** on 10 Sept 2011, 2:53 p.m.,*
in response to message #1 by robertoataulfo

Looks like it might have an IR receiver. There's no way this could be bidirectional, so the statement that you can "send the data from the computer" has to be wrong. But a print to text algorithm might be possible to save HP-28S data, including programs. But since you can't reload them without keying them in again, the statement that this device will prevent you from "loosing [*sic*]" them is also misleading.

Re: New Interface for HP-28S ?

*Message #3 Posted by **Eric Smith** on 10 Sept 2011, 7:24 p.m.,*
in response to message #2 by Howard Owen

I owned one of these years ago. It is an IR receiver for the HP 82440A/B printer infrared protocol. It does NOT do IRDA or any other infrared protocol.

It will NOT work with a USB-serial adapter, and it needs specific DOS software which will NOT work correctly under any version of Windows.

Re: New Interface for HP-28S ?

*Message #4 Posted by **Christoph Giesselink** on 12 Sept 2011, 1:50 p.m.,*
in response to message #3 by Eric Smith

> Quote:
>
> I owned one of these years ago. It is an IR receiver for the HP 82440A/B printer infrared protocol. It does NOT do IRDA or any other infrared protocol.
>
> It will NOT work with a USB-serial adapter, and it needs specific DOS software which will NOT work correctly under any version of Windows.

Hi Eric,

do you know if this product has an own CPU?

There was a similar product end of the 80'ies in Germany called **PrintHP**. This product consists of a dumb IR receiver sending the decoded 32KHz bursts to the PC CPU over the RS-232 CTS input line.

Therefore you needed also pure DOS, the special receiver software and a PC not faster than 80386 or an early slow 80486.

Christoph

Re: New Interface for HP-28S ?

*Message #5 Posted by **Eric Smith** on 13 Sept 2011, 10:53 a.m.,*
in response to message #4 by Christoph Giesselink

It does not. It just has an IR receiver driving one of the EIA-232 handshake lines. That is why it won't work with Windows.

Re: New Interface for HP-28S ?

*Message #6 Posted by **Raymond Del Tondo** on 10 Sept 2011, 7:36 p.m.,*
in response to message #2 by Howard Owen

Slightly OT, but actually you can perform serial I/O on the HP-28S ;-)

A few years ago Christoph Giesselink demonstrated serial I/O using an HP-28S (which I donated to him for exactly these tests) .
He used the pins of the IR transmitter to send _and_ receive data. The whole proof of concept is documented. If interested please ask Christoph for more details.
IIRC the driving idea behind this was to elaborate whether serial I/O could be implemented on the HP-42S. I think it would work, but then there were other projects...

Ray

Re: New Interface for HP-28S ?

*Message #7 Posted by **Bart (UK)** on 13 Sept 2011, 5:28 a.m.,*
in response to message #1 by robertoataulfo

Looks indeed like a *receiver* for the 28C/S. If you manage to get it working you can indeed prevent losing the listing of programs, but in case of calculator "memory loss" you'd have to re-type it into the calculator.

If you really want to try bi-deractional I/O, here's a project on HPCalc: HP-28 I/O

Re: New Interface for HP-28S ?

*Message #8 Posted by **Christoph Giesselink** on 13 Sept 2011, 1:41 p.m.,*
in response to message #7 by Bart (UK)

> Quote:
>
> If you really want to try bi-deractional I/O, here's a project on HPCalc: HP-28 I/O

I read this file some years ago. I still find it silly to use one contact of the keyboard matrix for input. ;-)

My solution use the '+' pin from the anode side of the IR-transmitter LED, the signal pin from the cathode side of the IR-transmitter LED and GND from battery minus. The "trick" is using the IR-transmitter signal pin for both directions; quite nobody knows that the LED driver is a bidirectional pin.

Christoph

Re: New Interface for HP-28S ?

*Message #9 Posted by **Howard Owen** on 13 Sept 2011, 5:38 p.m.,*
in response to message #8 by Christoph Giesselink

> Quote:
>
> The "trick" is using the IR-transmitter signal pin for both directions ...

Half duplex. :)

Re: New Interface for HP-28S ?

*Message #10 Posted by **sylvandb** on 13 Sept 2011, 9:02 p.m.,*
in response to message #9 by Howard Owen

> Quote:
>
> Half duplex. :)

Half duplex is infinitely better than one way...

Re: New Interface for HP-28S ?

*Message #11 Posted by **Howard Owen** on 13 Sept 2011, 10:37 p.m.,*
in response to message #10 by sylvandb

Agreed. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cleaning HP41C keys

*Message #1 Posted by **Rob Willett** on 10 Sept 2011, 1:31 p.m.*

Hi,

This is my first post to this esteemed forum. I've been lurking for a while just trying to get a feel for the place.

I have been a fan of HP calcs since I got an HP16C, I needed to develop a large chunk of C code to handle 18 bit signed arithmetic. I could not have done the work without that calculator and still have it.

Since then I've got an HP17BII, an HP20S, an HP12C, an HP15C an HP48GX, an HP41CV and a rather grubby HP41C. I may have missed one or two out now I think back on this.

Anyway, most of them are in excellent condition but I've just got my hands on an HP41C and need to clean it up. It's physically in great shape but the keys seem to have a thin layer of grease and dirt on them. It means when you use the keys, you fingers stick ever so slightly to them.

Does anybody have any suggestions they have actively used and can recommend? I could use pure alcohol and cotton buds but am wary of doing any damage to such an old gem.

My intention is to use the HP41C for work, we have close to £10M of comp hardware in my dept but a good calculator is hard to come by :)

Re: Cleaning HP41C keys

*Message #2 Posted by **Alexander Oestert** on 10 Sept 2011, 3:06 p.m.,*
in response to message #1 by Rob Willett

I've had good results with

a) isopropyl alcohol and a Q-Tipp

b) immersing the whole keyboard in an ultra sonic cleanser at an optician's shop

c) tissues to clean plastic car dashboards

Re: Cleaning HP41C keys

*Message #3 Posted by **Nick R** on 10 Sept 2011, 3:54 p.m.,*
in response to message #1 by Rob Willett

I use Windex on a Q tip to clean dirt off keys and keyboard, followed by another Q tip moistened slightly with water. I never like using alcohol when I'm cleaning plastics (unless I'm drinking it)

Re: Cleaning HP41C keys

*Message #4 Posted by **Rob willett** on 11 Sept 2011, 9:13 a.m.,*

in response to message #3 by Nick R

Thanks for the advice. Would never have thought of Windex.

Re: Cleaning HP41C keys

*Message #5 Posted by **Randy** on 11 Sept 2011, 10:09 a.m.,*
in response to message #4 by Rob willett

Forget the cotton swabs, takes all day!

Windex, soft toothbrush. Wet lightly, scrub. Wipe with soft towel, blast with canned air to remove liquid that accumulates around keys, wipe again, blast again. Repeat if needed. If it is really dirty, allow the windex to soak while holding calculator upside down so it does not run willy-nilly into the keys.

This method is okay on the 41 *only*. Classics and others may not hold up to brushing. The construction of the 41 is quite different and is the most tolerant of aggressive cleaning.

Edited: 11 Sept 2011, 10:10 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C-LE Pause (PSE) Command Bug

*Message #1 Posted by **Mike Morrow** on 10 Sept 2011, 12:44 p.m.*

I tried out the PSE command on the 15C-LE to see if there were timing problems with it. I found a surprising and unhappy result.

The following simple loop counts down from 10 to 1, pausing to display before each decrement. That's what happens in the original 15C, but not the 15C-LE.

001 LBL E
002 1
003 0
004 STO 0
005 LBL 9
006 RCL 0
007 PSE
008 DSE 0
009 GTO 9
010 RTN

On the 15C-LE, the program pauses for the first time and displays 10.0000. For the remainder of the program, the display blanks completely, the program pauses each time the PSE is executed (determined by long program run time), **but nothing is shown in the display until execution terminates.**

This is a firmware bug that could be very inconvenient. Essentially the PSE command is non-functional on the 15C-LE.

Edited with some additional observations below.

I added a 1000-iteration sub-loop to see what the display looks like when a great number of other steps are taking place between PSE commands:

001 LBL E
002 1
003 0
004 STO 0
005 LBL 9
006 RCL 0
007 PSE
008 1
009 0
010 0
011 0
012 STO 8
013 LBL 8
014 DSE 8

015 GTO 8
016 DSE 0
017 GTO 9
018 RTN

In FIX 4 display, after starting the program with f E, I see 10.0000 paused in display, then a couple of seconds of blinking "running" displays, then simply a "runn" in mid-LCD that blinks every few seconds, presumably when the next PSE command is encountered, until program terminates and normal display appears.

In FIX 9 display, the same occurs, except that "runn00000" instead of "runn" appears in the display until the program terminates and normal display appears.

Edited: 10 Sept 2011, 7:24 p.m. after one or more responses were posted

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #2 Posted by **Namir** on 10 Sept 2011, 12:52 p.m.,*
in response to message #1 by Mike Morrow

I guess you found bug ONE!!! Kinda reminds me of the "bug one" on the HP-41C (of course it was of a different nature).

A pause command that does not work right is very irritating!

Let's hope that HP can provide us with an updated firmware at HHC2011.

Namir

Edited: 10 Sept 2011, 12:54 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #3 Posted by **Mike Morrow** on 10 Sept 2011, 12:58 p.m.,*
in response to message #2 by Namir

Bug 2.

Bug 1 was the self-tests that don't work, and that also corrupt program memory.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #4 Posted by **bill platt** on 10 Sept 2011, 1:18 p.m.,*
in response to message #3 by Mike Morrow

Isn't that more an un-wrong-documented feature rather than a bug?

Quibbling ...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #5 Posted by **Mike Morrow** on 10 Sept 2011, 1:59 p.m.,*
in response to message #4 by bill platt

I think the old self test issue fully qualifies as a bug because:
1. It is a feature that is described in the manual that does not work.
2. If the "ON plus *" or the "ON plus +" tests are attempted by an unwary user following the

manual instructions, program memory will likely be corrupted (something the self tests should never do).

If the issue is addressed only by a change to manual appendix F, and firmware remains unaltered, program corruption can take place through indavertent initiation of the old self tests.

Since firmware changes are required to correct this, it more than qualifies as a bug and not a documentation issue.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #6 Posted by **MK-52** on 10 Sept 2011, 1:01 p.m.,*
in response to message #1 by Mike Morrow

Does no one test before releasing? I hope HP provide a new firmware...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #7 Posted by **Jake Schwartz** on 10 Sept 2011, 1:36 p.m.,*
in response to message #6 by MK-52

> Quote:
>
> Does no one test before releasing?

You've got to be kidding. I assure you that there was lots of testing on this machine. Just because something got missed doesn't mean that testing was not done. In addition, just because one hasn't been found yet does not guarantee that any HP calculator model is completely bug free.

Jake

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #8 Posted by **Alexander Oestert** on 10 Sept 2011, 1:48 p.m.,*
in response to message #7 by Jake Schwartz

> Quote:
>
> I assure you that there was lots of testing on this machine.

Did none of the 2010 conference recipients of the HP 15C LE ever try a program with PSE in it? Or does PSE work in some cases and just doesn't in this one?

I'm seriously thinking about canceling my order of two units. Or is it likely that a fixed firmware will be released and also be flashable with the HP 30b cable (that I already have!)?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #9 Posted by **Kiyoshi Akima** on 10 Sept 2011, 4:27 p.m.,*
in response to message #8 by Alexander Oestert

> Quote:

> Did none of the 2010 conference recipients of the HP 15C LE ever try a program with PSE in it? Or does PSE work in some cases and just doesn't in this one?

The PAUSE worked fine in my Towers of Hanoi program on my HHC2010 15C+, so I had no cause to report a bug.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #10 Posted by **Mike Morrow** on 10 Sept 2011, 1:48 p.m.,*
in response to message #7 by Jake Schwartz

I agree. Even old firmware technology is complex and nothing is ever perfect (except the Apollo Lunar Modules!). I'm happy with my two 15C-LE units...though this PSE problem does need correction.

I think it's worth repeating that the 15C-LE is only about one-quarter the cost of the original in terms of real dollars. I believe it offers a very good value.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #11 Posted by **Thomas Radtke** on 10 Sept 2011, 2:16 p.m.,*
in response to message #7 by Jake Schwartz

Well, I also find it odd that this hasn't been tested. If anything can fail in an emulation that seems to work otherwise, it is likely based on timing. Guess that's what Mike was looking for when testing PSE.

@Alexander, I'm sure there will be an update. I wouldn't cancel my order now. Even if this bug remains, I bet the 15C LE can be sold on TAS anytime for more than the 100 Euros we'll likely have to pay for it.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #12 Posted by **MK-52** on 10 Sept 2011, 2:46 p.m.,*
in response to message #7 by Jake Schwartz

You're right. I really spoke too harshly and it was offensive to the testers and developers. I've ordered three units and had unrealistic expectations.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #13 Posted by **bill platt** on 10 Sept 2011, 1:19 p.m.,*
in response to message #1 by Mike Morrow

what happens if you insert more than one pse at each pause? Will this slow it down enough to work?

What happens if you insert R/S instead of pse? Does it work correctly?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #14 Posted by **Mike Morrow** on 10 Sept 2011, 1:37 p.m.,*
in response to message #13 by bill platt

Adding a second PSE only increases the execution time in which a blank display appears. The program above takes 11 second to end with one PSE, and 22 seconds with two PSE. The PSE is in fact pausing execution. But the LCD is completely blanked...there isn't even a "running" display after the first PSE.

Of course, R/S will stop everything.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #15 Posted by **uhmgawa** on 10 Sept 2011, 1:32 p.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> On the 15C-LE, the program pauses for the first time and displays 10.0000. For the remainder of the program, the display blanks completely, the program pauses each time the PSE is executed (determined by long program run time), **but nothing is shown in the display until execution terminates.**
>
> This is a firmware bug that could be very inconvenient. Essentially the PSE command is non-functional on the 15C-LE.

Sounds like there may be a problem with the logic used to simulate the display blink mode (which in NUT voyagers is a hardware function) along with normal rendering to the sam7l display.

I'm unsure what approach would cause that to occur unless the emulator is attempting to factor out the spurious/partial display updates emitted by the voyager firmware. KEMU rendering to a graphic display when running on the AVR needed to factor out these updates which although themselves are generally imperceptible to the user, also occur when a user is entering key strokes and cause an objectionable lag in interactivity.

The display rendering correctly at the termination of the program would seem to support this theory as when coalescing display updates a push out of pending data needs to happen when the firmware pauses with a POWOFF instruction.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #16 Posted by **Lincoln R.** on 10 Sept 2011, 1:59 p.m.,*
in response to message #15 by uhmgawa

It should be fixable. I imagine 15C LEs are reflashable, because as Tim Wessman has repeatedly told us, they're the same hardware as the 12C+. HP may have to do something like have people send their calculators back to be reflashed (for dealing with folks who don't have access to reprogramming cables), but I can't imagine they would leave this unfixed, especially since it sounds like the 12C/15C code was developed in-house unlike the 35S.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #17 Posted by **Katie Wasserman** on 10 Sept 2011, 2:24 p.m.,*
in response to message #16 by Lincoln R.

I don't understand why this has any bugs at all, there's no reason for them. The 2009-11-19 version of the emulator in the 12C+ has PSE working fine as well as the self tests. I helped debug this with Cyrille, publicly on this forum after it's release. Didn't HP learn from developing that how to get these things right?

-Katie

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #18 Posted by **uhmgawa** on 10 Sept 2011, 2:54 p.m.,*
in response to message #17 by Katie Wasserman

> Quote:
>
> I don't understand why this has any bugs at all, there's no reason for them. The 2009-11-19 version of the emulator in the 12C+ has PSE working fine as well as the self tests. I helped debug this with Cyrille, publicly on this forum after it's release. Didn't HP learn from developing that how to get these things right?

Again the 15c firmware has additional emulation requirements to successfully pass the native firmware self test. And in general HP is either patching the firmware, or adapting emulator behavior on a firmware specific basis. So none of this seems surprising except for the fact it hadn't been caught in alpha/beta testing.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #19 Posted by **Katie Wasserman** on 11 Sept 2011, 5:54 a.m.,*
in response to message #18 by uhmgawa

I understand that the specific patches to the firmware might be different for the 12c and the 15c while the emulator changes should be pretty similar if not identical. I was more questioning not learning from past mistakes of having the same self test issues on the 12C+.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #20 Posted by **Thomas Klemm** on 10 Sept 2011, 2:34 p.m.,*
in response to message #1 by Mike Morrow

Simple solution, don't use it. :-)

Thomas

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #21 Posted by **Walter B** on 10 Sept 2011, 3:08 p.m.,*
in response to message #20 by Thomas Klemm

Hmmh, PSE isn't something so arcane you won't need it. So IMHO this must be fixed.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #22 Posted by **Gerry Schultz** on 10 Sept 2011, 3:07 p.m.,*
in response to message #1 by Mike Morrow

I found something different. I pulled out the 15C+ we got last year at HHC and out of curosity, I typed in Mike's program and it counts and displays the countdown 10 to 0 just fine. It appears that this bug could be the result of firmware changes made after last October. I don't have my 15c LEs yet so please confirm this result.

Thanks, Gerry

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #23 Posted by **Jake Schwartz** on 10 Sept 2011, 5:25 p.m.,*
in response to message #22 by Gerry Schultz

...And the good news is that HP can release a new firmware version and these units can be reflashed. Hopefully, it will be considered important enough to fix and there will be a new file to download in a reasonable amount of time.

Jake

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #24 Posted by **Namir** on 10 Sept 2011, 6:25 p.m.,*
in response to message #23 by Jake Schwartz

Now we really need reliable and easy to use software and USB cables to update the firmware easily in Windows 7.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #25 Posted by **Katie Wasserman** on 11 Sept 2011, 5:59 a.m.,*
in response to message #23 by Jake Schwartz

This should be fine for those of use who read this forum and have cables (or can get them from Gene) and SAMBA. But what about the non-HP calculator fanatic who just wants to buy a calculator that works correctly and won't corrupt memory when running the self tests documented in the manual?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #26 Posted by **Martin Pinckney** on 11 Sept 2011, 12:20 p.m.,*
in response to message #25 by Katie Wasserman

> Quote:
>
> This should be fine for those of use who read this forum and have cables (or can get them from Gene) and SAMBA. But what about the non-HP calculator fanatic who just wants to buy a calculator that works correctly and won't corrupt memory when running the self tests documented in the manual?

Exactly. What about those who read this forum but *do not have* cables or SAMBA (whatever *that* is) because we don't do 34s.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #27 Posted by **Reth** on 11 Sept 2011, 12:21 p.m.,*
in response to message #25 by Katie Wasserman

Excellent point. Still whoever bought the LE would be HP calc fanatic and they would know. That explains the "LE" in a way, after they are sold, a fixed non-LE edition will be emitted.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #28 Posted by **Norman Dziedzic** on 10 Sept 2011, 11:41 p.m.,*
in response to message #1 by Mike Morrow

Just curious, does this bug also occur in the windows emulator that comes with the 15C LE?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #29 Posted by **From Hong Kong** on 11 Sept 2011, 12:20 a.m.,*
in response to message #1 by Mike Morrow

Compared with Casio's FX-502P, FX-602P and FX-603P, the classic HP-15C's implementation of the pause command is quite limited. The pause command of Casio's calculators can display something and accept keyboard input temporarily. Some games were developed using this feature. However, HP-15C only allows values to be displayed.

Edited: 11 Sept 2011, 12:21 a.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #30 Posted by **Paul Dale** on 11 Sept 2011, 12:25 a.m.,*
in response to message #29 by From Hong Kong

Agreed. Being able to input values during a pause is great for games.

- Pauli

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #31 Posted by **Ángel Martin** on 11 Sept 2011, 1:48 a.m.,*
in response to message #30 by Paul Dale

Yes, that's where the 41's workaround using flag 22 and flag 23 was mainly used - does the 15C have something similar perhaps?

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #32 Posted by **From Hong Kong** on 11 Sept 2011, 1:59 a.m.,*
in response to message #31 by Ángel Martin

> Quote:
>
> Yes, that's where the 41's workaround using flag 22 and flag 23 was mainly used - does the 15C have something similar perhaps?

Unfortunately, there's no such workaround for HP-15C! :(

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #33 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Sept 2011, 8:53 a.m.,*
in response to message #31 by Ángel Martin

Just to add that "input during PAUSE" started with the 67/97 and certainly was most useful on the 41. Note that the 42S PAUSE works differently, IIRC.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #34 Posted by **Dieter** on 11 Sept 2011, 9:21 a.m.,*
in response to message #31 by Ángel Martin

No, it hasn't, just as it predecessor, the 34C. The 15C cannot be compared to top-of-the-line devices like the 67/97, let alone the 41. These not only allowed keyboard data entry during the PSE

instruction, even magnetic cards could be read. In either case the calculator could check whether data had been entered or not.

The 34C, as well as its successor 15C, and even the current 35s cannot do that. Like some other things that are/were possible on the higher-end models. I think it's fine that way.

Dieter

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #35 Posted by **From Hong Kong** on 11 Sept 2011, 2:31 a.m.,*
in response to message #1 by Mike Morrow

Mike:

In your first program, could you replace 10 with 10.00001 and run it again?

I would like to see whether the PSE command works after specifying explicitly the yy value to 01.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #36 Posted by **HrastProgrammer** on 11 Sept 2011, 3:33 a.m.,*
in response to message #1 by Mike Morrow

To be honest, it surprises me that such obvious bug hasn't been noticed during beta testing because PSE isn't some obscure used-once-in-a-year feature. Something like LBL 01 1 + PSE GTO 01 is the first thing I was checking while developing all my emulators ...

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #37 Posted by **Patrick Rendulic** on 11 Sept 2011, 4:54 a.m.,*
in response to message #36 by HrastProgrammer

Pfffffffffff.

I ordered an HP15C-LE, because I want a new and working RPN calculator. My HP-35s is unusable because of too many bugs. So HP it seems that you have spoiled it again.

How does that firmware update work? Do you have to take the calculator apart? Will HP provide free cables?

I have noticed that many people must have known about this new calculator for more than a year. Wouldn't it have been wiser to imply more people from the community for serious debugging? That keep it top secret stuff is pure nonsense. What's the use op HHC when the final product is C*R*A*P?

No longer want that calculator.

Edited: 11 Sept 2011, 4:59 a.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #38 Posted by **Thomas Radtke** on 11 Sept 2011, 5:03 a.m.,*
in response to message #37 by Patrick Rendulic

Connector is accessible from within the battery compartement, if I identified it correctly in Katies pictures. Gene Wright offers appropriate cables for shipping costs only. You'll need a serial port and

some patience for the new firmware to be written ;-).

Can I make the cable easily?

*Message #39 Posted by **MK-52** on 11 Sept 2011, 11:19 a.m.,*
in response to message #38 by Thomas Radtke

Can I make the reprogramming cable easily? In Japan, Nihon-Hewlett-Packard decided to stop selling their calculators and outsource their customer service to Sykes Co, Ltd(China) several years ago. I don't think they provide firmware flashing service. So I may have to fix the problem myself.

Re: Can I make the cable easily?

*Message #40 Posted by **Thomas Radtke** on 11 Sept 2011, 11:38 a.m.,*
in response to message #39 by MK-52

Sorry, I don't know the internals of this cable. Thus far, people got them for free, some just paying shipping costs (it isn't much, even for oversea shipment). Wait some time for HP to present a solution, a new firmware won't be out tomorrow anyway ;-).

Re: Can I make the cable easily?

*Message #41 Posted by **MK-52** on 11 Sept 2011, 12:39 p.m.,*
in response to message #40 by Thomas Radtke

Thank you for giving me a information. Okay, I've wait more than 5 years and I'll wait for a while. :)

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #42 Posted by **gene wright** on 11 Sept 2011, 7:52 a.m.,*
in response to message #37 by Patrick Rendulic

As was pointed out, this bug is not present in the firmware on machines given out at last year's HHC conference.

Extract firmware from HHC 15c LE?

*Message #43 Posted by **Alexander Oestert** on 11 Sept 2011, 8:11 a.m.,*
in response to message #42 by gene wright

> Quote:
>
> As was pointed out, this bug is not present in the firmware on machines given out at last year's HHC conference.

Might it be possible to extract said firmware from these machines, make it available for download and flash it to the ones that are now sold?

Re: Extract firmware from HHC 15c LE?

*Message #44 Posted by **Thomas Radtke** on 11 Sept 2011, 8:20 a.m.,*
in response to message #43 by Alexander Oestert

What if it was replaced for a reason? It might contain different bugs :-(. The calculator folks

should sort it out and offer one _working_ firmware when it's ready and tested.

@Gene, BTW., do the stock of cables last for a few thousand customers? I imagine also it is asked a little too much to have them send out by just one person.

Edited: 11 Sept 2011, 8:21 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #45 Posted by **Alexander Oestert** on 11 Sept 2011, 9:06 a.m.,*
in response to message #44 by Thomas Radtke

> Quote:
>
> What if it was replaced for a reason? It might contain different bugs

Oh my...I hadn't thought of that... :-(

But, considering the fact that no bugs in this earlier firmware have been reported by HHC testers, my question remains: would that be doable?

Edited: 11 Sept 2011, 9:33 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #46 Posted by **Jeff Fontaine (Canada)** on 11 Sept 2011, 9:37 a.m.,*
in response to message #44 by Thomas Radtke

I would like to get a cable from Gene, hoping I will be able to flash my 15CLE when I get it (should be sent next Tuesday).

But, IMHO, HP has to manage that bug, and maybe some others that will appear, crossing my fingers the number is limited.

First, as said, Gene has probably not enough cables for thousands of people, and sending them would be a huge job.

Second, HP has to fix that and it is pretty easy to work with resellers who have lists of buyers and the organisation for managing large shippings of cable + CD with software and image. This is also probably cheaper for HP rather than to have users sending their calcs somewhere, flashing them and returning them to their owners, especially in case of bugs appearing later...

Jeff

Re: Extract firmware from HHC 15c LE?

*Message #47 Posted by **Pal G.** on 11 Sept 2011, 9:53 a.m.,*
in response to message #46 by Jeff Fontaine (Canada)

Are the reprogramming cables manufactured in China, or are they homemade by Gene and / or a group of volunteers?

If they are made in China, why not let ER sell them on his site? If they are free to those who ask (by HP?), I will gladly pay USPS cost to have one.

If they are homemade can we get a diagram or schematic so we can make our own??

If they are homemade and the cable diagram is already on the internet, could someone provide a link. I will go searching in the meantime..

Thanks!

Edited: 11 Sept 2011, 9:56 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #48 Posted by **Katie Wasserman** on 11 Sept 2011, 11:35 a.m.,*
in response to message #47 by Pal G.

Here are the details needed to make your own cable. I'm pretty sure that these cables are made in China but are not available for purchase, only free from Gene.

I think that the main problem is making them more available is that they are really quite difficult to use. I've reprogrammed of all the ARM-based machines many times and still have a hard time using them. The cables themselves are not at fault, the SAMBA software and the ARM chip are -- they're very temperamental.

-Katie

Edited: 11 Sept 2011, 11:36 a.m.

Re: Extract firmware from HHC 15c LE?

*Message #49 Posted by **uhmgawa** on 11 Sept 2011, 2:50 p.m.,*
in response to message #48 by Katie Wasserman

> Quote:
>
> Here are the details needed to make your own cable.

I sketched a configuration for a flat profile connector before Tim was kind enough to send a full cable my way.

I've built a similar configuration (left hand board) to reflash a KINOMI module although the pitch here was 0.8mm rather than the sam7l's 2.0mm grid. So the task is relaxed considerably.

But unless you are doing quite a bit of reflashing such a jig is likely overkill. A more simple approach would be to scrounge phosphor bronze music wire (0.4~0.5mm should be fine) which has both suitable spring temper and is solderable.

I've even used paper clips, hot glue and popsicle sticks in a pinch as the steel has enough temper to maintain sufficient tension and can be soldered directly with a little ambition. In any case be sure to grind/sand/wire_brush the tips of the probes to a smooth convex surface so they don't excessively scuff up the gold plating on the sam7l PCB.

My thoughts

*Message #50 Posted by **gene wright** on 11 Sept 2011, 1:43 p.m.,*
in response to message #46 by Jeff Fontaine (Canada)

Well, I don't have thousands of cables now, but I'm sure HP will be taking a look at this and talking about it this next week. Remember, this wasn't found until after close of business on Friday. :-)

The firmware from HHC contained a few bugs related to timing of the display flashing (errors, etc) and these were fixed in an update. I don't believe the PSE error was present then, but another update was done that appears to have re-introduced them.

Patience, please. I'm not happy that the 15c LE has these minor issues, and it shouldn't have had any. However, I'm confident a fix will be forthcoming and something will be done to fix it.

Remember, HP did not have to redo this machine *at all*. It was done as a bow to those who really wanted this machine brought back. It won't budge HP's bottom line at all. It is and was a labor of love of many people. Those same people are *also* not happy with these two issues either, I'm sure.

Just my thoughts. Patience. :-)

Re: My thoughts

*Message #51 Posted by **Martin Pinckney** on 11 Sept 2011, 4:04 p.m.,*
in response to message #50 by gene wright

> Quote:
>
> Patience, please. I'm not happy that the 15c LE has these minor issues, and it shouldn't have had any. However, I'm confident a fix will be forthcoming and something will be done to fix it.

Like how the 35s was fixed? I would like to have such confidence...

Quite different...

*Message #52 Posted by **gene wright** on 11 Sept 2011, 5:20 p.m.,*
in response to message #51 by Martin Pinckney

The 15c LE can be flashed through a firmware update.

The 35s cannot.

Several orders of a magnitude difference between correcting one and not the other. One requires creating firmware and distributing it over the internet with no change to production lines, manufacturing processes, inventory, blah blah blah. The other requires a great deal more.

Your statement also shows a lack of awareness of firmware updates already created for the 49g, 49g+, 50g, 12c+, etc.

So, please give us all a break. No one will force you to buy a 15c LE...until they are all sold and you can buy one off ebay at > original cost. :-)

Re: Quite different...

*Message #53 Posted by **Howard Owen** on 11 Sept 2011, 5:25 p.m.,*
in response to message #52 by gene wright

Not to mention the numbers. Despite the real and perceived flaws celebrated here, the 35s has stayed in HP's catalog for years. I'd guess there are high six figures in circulation, at least.

You guys are a tough audience. :)

Re: Quite different...

*Message #54 Posted by **Martin Pinckney** on 11 Sept 2011, 7:51 p.m.,*
in response to message #52 by gene wright

> Quote:
>
> Your statement also shows a lack of awareness of firmware updates already created for the 49g, 49g+, 50g, 12c+, etc.

I have read some references to firmware updates on this forum. I should point out that the four you listed above are regular production calculators, not "Limited Edition" offerings.

> Quote:
>
> So, please give us all a break.

Who are you including in "all"?

> Quote:
>
> No one will force you to buy a 15c LE...

What does that have to do with this discussion?

Re: Quite different...

*Message #55 Posted by **gene wright** on 11 Sept 2011, 10:22 p.m.,*
in response to message #54 by Martin Pinckney

Yes, they were regular production calculators that could take a firmware update.

You seem to have missed that point for the second time now.

Say this out loud...

The HP 35s is not firmware upgradable, but every calculator HP has made that CAN be firmware upgradable has had a bug fix.

Sigh.

And, now to your questions:

2) All includes me, myself and I. Three.

3) If you feel that HP will never fix anything ala your view of the HP 35s, then don't ever buy a 15c LE and you won't have to worry about it. Just a suggestion.

Re: Quite different...

*Message #56 Posted by **Martin Pinckney** on 11 Sept 2011, 10:46 p.m.,*
in response to message #55 by gene wright

> Quote:
>
> Yes, they were regular production calculators that could take a firmware update.
>
> You seem to have missed that point for the second time now.

Rather, I *made* that point (that the others were regular production, and the 15cLE presumably isn't).

> Quote:
>
> The HP 35s is not firmware upgradable, but every calculator HP has made that CAN be firmware upgradable has had a bug fix.

I never said anything contrary to that. You're missing my point, which was, that HP has not shown much interest in fixing one-off models with problems.

> Quote:
>
> 3) If you feel that HP will never fix anything ala your view of the HP 35s, then don't ever buy a 15c LE and you won't have to worry about it. Just a suggestion.

I never made that statement, you have assumed that. See above.

Re: My thoughts

*Message #57 Posted by **Jake Schwartz** on 11 Sept 2011, 5:25 p.m.,*
in response to message #51 by Martin Pinckney

> Quote:
>
> Like how the 35s was fixed? I would like to have such confidence...

This isn't intended as any sort of excuse, but the 35S cannot be re-flashed, and thus had a ROM revision been made available, you'd have to obtain a new unit one way or another. I can only imagine the cost to the company if they offered a no-cost swap of an old one for a new one....that would have to be at least an order of magnitude more than simply putting a firmware revision on their web site for downloading. But I agree that there should have appeared a ROM revision in the sales pipeline at some point in the past four years.

Jake

Re: My thoughts

*Message #58 Posted by **Howard Owen** on 11 Sept 2011, 5:22 p.m.,*
in response to message #50 by gene wright

Man with free horse: "Gee, that left molar looks suspicious!"

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #59 Posted by **Lincoln R.** on 11 Sept 2011, 12:27 p.m.,*
in response to message #37 by Patrick Rendulic

Patrick,

Apparently the prototypes that got handed out at HHC last year didn't contain this bug. I'm not sure if any members of the community got to test the firmware version that shipped on the production 15C LEs. I do think that HP will fix this though, for the simple reason that this firmware was in-house as opposed to the 35S that was developed entirely by a 3rd party.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #60 Posted by **Namir** on 11 Sept 2011, 1:16 p.m.,*
in response to message #36 by HrastProgrammer

As a programmer I have, on a few occasions, created unforeseen new bugs by doing last minute tweaks to my code. And yes it was embarrassing if the code went to someone else. My guess is that this is what happened with the HP-15C LE. From what I read the beta version given at HHC2010 had the PSE command working properly. So, drawing from my own experience, a last minute tweak of the 15C LE code is the culprit.

Namir

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #61 Posted by **Tim Wessman** on 11 Sept 2011, 2:18 p.m.,*
in response to message #60 by Namir

It was probably the fix that was put in to speed up integration. The HHC version from last year had serious speed issues during integration due to the display updating so frequently. It was around 15x the speed of the original instead of the current speed.

Cyrille fixed this in the last version that was given to beta testers in April. Nobody reported any issues with it so. . . :-(

TW

Edited: 11 Sept 2011, 2:20 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #62 Posted by **uhmgawa** on 11 Sept 2011, 11:01 a.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> In FIX 4 display, after starting the program with f E, I see 10.0000 paused in display, then a couple of seconds of blinking "running" displays, then simply a "runn" in mid-LCD that blinks every few seconds, presumably when the next PSE command is encountered, until program terminates and normal display appears.
>
> In FIX 9 display, the same occurs, except that "runn00000" instead of "runn" appears in the display until the program terminates and normal display appears.

That sounds quite familiar. Communication with the LCD controller residing in the r2d2 is via two 56-bit registers located in the address map. The voyager firmware can only modify these registers serially but in the case of an r2d2 sniffing the ISA bus, modifications are realized immediately which masks the gratuitous updates made by the firmware. Under emulation it is possible (and potentially necessary) to factor out these excessive updates. But in doing so you'd need to synchronize the display register state to the display device after the firmware has set fully coherent display data in the corresponding registers.

From the above description it is possible the emulator isn't getting this quite right as it appears to be rendering at a transition point before the firmware has coherently modified both display registers. At least that is one explanation for the half-updated half-stale LCD display cited above and admittedly a scenario I needed to address in KEMU when driving a display other than the ISA r2d2.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #63 Posted by **Geoff Quickfall** on 11 Sept 2011, 2:23 p.m.,*
in response to message #62 by uhmgawa

I use the same cable and Samba for the 34S as I do for the 15C.

My pause display was tested with the latest firmware but not in an interative loop. Only for pause between two separate answers.

As far as firmware updates go, I have flashed through 3 of them so far with Samba and the cable with no problems at all.

I ordered one 15C+ from SC and have one 15C+ Beta unit. Nice thing is the Beta has a different bezel and harser colours diffentiating it from the 15C+ sales unit. Thus it will always be a stand alone 'collectable' unit.

I currently have 10 programs loaded for aviation and have not found any bugs on the latest version of software. The calc is unbelievably fast, compared especially to the 15C of course, but favourably to the 42S and 41CL for the same routine using similar code.

Fits in the pocket and is used as backup to the 41CL which I carry with me to work.

I think you will all enjoy it, and with cable, Samba and updates hopefully available, it will make a great package.

Cheers, Geoff

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #64 Posted by **Alexander Oestert** on 11 Sept 2011, 2:43 p.m.,*
in response to message #63 by Geoff Quickfall

> Quote:
>
> I use the same cable and Samba for the 34S as I do for the 15C.
>
> As far as firmware updates go, I have flashed through 3 of them so far with Samba and the cable with no problems at all.

Thanks for stating this with such clarity! This might have been obvious for you beta testers, but I needed this assurance to calmly go to sleep tonight and happily await the delivery, hopefully in a week or two!

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #65 Posted by **Mike Morrow** on 11 Sept 2011, 3:05 p.m.,*
in response to message #62 by uhmgawa

> Quote:
>
> That sounds quite familiar...
>
> From the above description it is possible the emulator isn't getting this quite right as it appears to be rendering at a transition point before the firmware has coherently modified both display registers.

Not to beat this to death, but here's another short program for the 15C-LE that demonstrates display oddities following PSE:

```
001 LBL E
002 5
003 0
004 0
005 0
006 STO 0
007 PSE
008 R/S
009 PSE
010 LBL 9
011 DSE 0
012 GTO 9
013 RTN
```

With a FIX 9 display, when this is executed (f E), the 15C-LE can be seen pausing (step 7) with 5000.000000 in display, then halting (step 8) with 5000.000000 in display. So far, so good.

When R/S then is pushed to restart execution at step 9, within a fraction of a second the display shows *alternating* 5000.000000 followed by runn00000 images (with less than 1 second period), until execution

ends about ten seconds later and the display returns to normal.

If the R/S (step 8) and second PSE (step 9) are deleted, then all appears normal...5000.000000 is shown in display by the PSE (step 7), followed by blinking "running" in display until execution ends.

It appears that **two** or more PSE commands must be executed during a program's runtime for problems to be observed afterwards. The PSE commands do not have to be consecutive.

Edited: 11 Sept 2011, 3:21 p.m.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #66 Posted by **Graham D. Wilson** on 11 Sept 2011, 4:34 a.m.,*
in response to message #1 by Mike Morrow

Oh dear!

I fear what other more obscure but more harmful bugs may have escaped detection given that PSE is itself such a common programming instruction for debugging programs.

Reports like this make me mistrust the accuracy and reliability of the LE, and I hate that feeling.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #67 Posted by **Marcus von Cube, Germany** on 12 Sept 2011, 2:33 a.m.,*
in response to message #66 by Graham D. Wilson

All the algorithms are exactly the same as in the original 15C. What you see here (the PSE bug) is in the emulation layer that mimics the original hardware. It's just a display glitch and does not affect the accuracy of the results in any way.

Nonetheless, the bug needs to be fixed. I assume Cyrille and Tim had some bad nights recently.

Re: HP 15C-LE Pause (PSE) Command Bug

*Message #68 Posted by **Tim Wessman** on 12 Sept 2011, 10:14 a.m.,*
in response to message #67 by Marcus von Cube, Germany

More like past few months of nights. . .

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C LE calculator forensics?

*Message #1 Posted by **Joel Setton (France)** on 10 Sept 2011, 11:43 a.m.*

Folks,
Has anyone run the Calculator Forensics formula on the HP-15C LE?
Just being curious, mine is still awaiting shipment in some distant warehouse...
Joel Setton

Re: HP-15C LE calculator forensics?

*Message #2 Posted by **Katie Wasserman** on 10 Sept 2011, 12:21 p.m.,*
in response to message #1 by Joel Setton (France)

It has to be the same as the original 15c, it's just an emulator running the 15c ROM image.

Re: HP-15C LE calculator forensics?

*Message #3 Posted by **Mike Morrow** on 10 Sept 2011, 12:51 p.m.,*
in response to message #2 by Katie Wasserman

Yes, the numerical results are always identical between the 15C and 15C-LE. Even the sequence of random numbers generated after reset with the RAN# command is identical.

Re: HP-15C LE calculator forensics?

*Message #4 Posted by **Gerson W. Barbosa** on 10 Sept 2011, 3:01 p.m.,*
in response to message #3 by Mike Morrow

BTW, even the 12C Platinum can be programmed to replicate the original 15C forensic results. From article #654:

```
1) asin(acos(atan(tan(cos(sin(9))))):

Keystrokes                Display

9                         9.
R/S                       0.156434465
g GTO 090 R/S             0.999996273
g GTO 100 R/S             0.017455000
g GTO 178 R/S             0.999996272
g GTO 157 R/S             0.156441660
g GTO 137 R/S             9.000417403
```

> Quote:
>
> Even the sequence of random numbers generated after reset with the RAN# command is identical.

I will run the program in message #19 of this thread. The result should be

```
534,912,768.0
```

That's a solution to Karl Schneider's interesting challenge, that is,

```
5/34 + 9/12 + 7/68 = 1
```

No one should try this on his/her new HP-15C LE as it will take about 7 hours to run. I hope the batteries last that long :-) (Valentin Albillo presented later a faster 15C program, about 850 times as fast).

Re: HP-15C LE calculator forensics?

*Message #5 Posted by **John B. Smitherman** on 10 Sept 2011, 2:20 p.m.,*
in response to message #1 by Joel Setton (France)

I would be interested in the results of the calculator torture tests:Torture

John

Re: HP-15C LE calculator forensics?

*Message #6 Posted by **Thomas Klemm** on 10 Sept 2011, 5:33 p.m.,*
in response to message #5 by John B. Smitherman

I don't quite agree with the results for the HP-15C.

round #1: accuracy of tan(355/226)

> Quote:
>
> correct answer, tan(355/226) = -7497258.18532

But there's no way to enter 355/226 into this calculator. The best you can do is to calculate that number which is 1.570796460. That's why we have to compare the result of tan(1.570796460).

- HP-15C: -7,507,225.705
- Correct answer: -7,507,219.878
- Relative error: 7.7619×10^{-7} instead of 1.33×10^{-3}

round #2: cube root of -27

After setting complex mode (SF 8) I get the correct answer: 1.5000 + 2.5981i instead of *Error 0*.

round #3: definite integration

3.5: integrate(sqrt(abs(x-1)), 0, 2)

The HP-15C has an issue with this integral. However it's interesting that the correct answer is given rather fast when using 1 as the lower limit. I was astonished that this calculator has a problem with this function while both HP-32Sii and HP-48G don't have it since I assumed all use the same algorithm.

Thanks for pointing out this *torture test*.

Thomas

Re: HP-15C LE calculator forensics?

*Message #7 Posted by **Dieter** on 10 Sept 2011, 6:57 p.m.,*
in response to message #6 by Thomas Klemm

Since we had this discussion on how the new 15C compares to the 35s, here are the results for the latter:

- **Tan 355/226** = tan 1,57079646018 = -7497089,06507601...
  The 35s result is -7497089,2551 => rel. error is just 2,5 E-8.
  If 10 digits are used (like in the 15C LE example, i.e. tan 1,570796460) the error in the 35s result still is only 2,5 E-8.

- **Cuberoot of -27**: simply enter -27 [ENTER] 3 [XROOT] => -3. No error message, no complex mode required.
  This also is another example that shows how useful an XROOT function is. It returns results where the usual approach -27 [ENTER] 3 [1/x] [y^x] will not work and throw an error - simply because 0,3333.... is not the same als 1/3.

  Want a complex result? -27 i 0 [ENTER] 3 [1/x] [y^x] => 1,5000 i 2,5981.

- **Integrate sqrt(abs(x-1)) from 0 to 2**: In FIX 4 it takes a moment, but finally the 35s comes back with the correct result 1,3333.

That's why I still think the 35s is a nice calculator. Yes, it has its bugs, but these are known and I can work around them. ;-)

Dieter

Edited: 10 Sept 2011, 7:03 p.m.

Re: HP-15C LE calculator forensics?

*Message #8 Posted by **Paul Dale** on 10 Sept 2011, 9:04 p.m.,*
in response to message #7 by Dieter

> Quote:
>
> Yes, it has its bugs, but these are known and I can work around them. ;-)

Some are known. How much faith do you have that all are? :-)

- Pauli

Re: HP-15C LE calculator forensics?

*Message #9 Posted by **Dieter** on 11 Sept 2011, 9:12 a.m.,*
in response to message #8 by Paul Dale

Well, after four years of use now I am *quite* sure that all relevant bugs are known. As opposed to the brand new 15C which the community will still have to scrutinize. ;-)

Dieter

Re: HP-15C LE calculator forensics?

*Message #10 Posted by **Thomas Klemm** on 11 Sept 2011, 1:50 a.m.,*
in response to message #7 by Dieter

> Quote:
>
> Integrate sqrt(abs(x-1)) from 0 to 2: In FIX 4 it takes a moment, but finally the 35s comes back with the correct result 1,3333.

How long is *a moment*? Because I stopped the integration on my HP-35s after a minute or so. I've tried both ways: using a program and an equation.

Does anybody have an idea what's going wrong here? To me this function doesn't apear to be wild. Ok, there's a singularity of the first derivative at x = 1. But why isn't it a problem when it is used as lower limit?

This is another function most HP calculators seem to have a problem with: $f(x) = Sqrt[|x| (2 - |x|)]$. It describes a circle with radius $r = 1$ and center at $(1, 0)$ or $(-1, 0)$.

Integrating this function from 0 to 2 is not a problem. But when the interval $[-1, 1]$ is used it takes much longer or seems to never end.

While I knew that Romberg-integration has a problem with these kind of singularities I wasn't aware that this happens only when they are located inside the interval.

Thomas

Edited: 11 Sept 2011, 4:22 a.m.

Re: HP-15C LE calculator forensics?

*Message #11 Posted by **Dieter** on 11 Sept 2011, 7:44 a.m.,*
in response to message #10 by Thomas Klemm

The 35s took 40 - 45 seconds for the integral in FIX 4 mode. The function had been entered as an equation. Since this elegant feature is available: use it. ;-)

Edit: I also tried the function you mentioned over [-1; 1] on the 35s. For a first look at the result I set FIX 2 and the result was returned immediately as 1,52 (last digit is off). FIX 3 returns 1,570 (correct within 1 ULP) after 16 seconds. Finally, FIX 4 requires two minutes, but comes back with the correct result 1,5708 as well. :-)

Dieter

Edited: 11 Sept 2011, 8:52 a.m.

Re: HP-15C LE calculator forensics?

*Message #12 Posted by **Thomas Klemm** on 11 Sept 2011, 3:47 a.m.,*
in response to message #7 by Dieter

> Quote:

> Want a complex result? -27 i 0 [ENTER] 3 [1/x] [y^x] => 1,5000 i 2,5981.
>
> Quote:
>
> This also is another example that shows how useful an XROOT function is.

Just never try this in combination: -27 i 0 [ENTER] 3 [XROOT] => INVALID DATA

Duh!

Re: HP-15C LE calculator forensics?

*Message #13 Posted by **Dieter** on 11 Sept 2011, 7:46 a.m.,*
in response to message #12 by Thomas Klemm

Yes, this combination cannot be used since XROOT does not work in the complex domain. This is documented in the manual.

But let us not forget that other calculators do not have such a function at all. ;-)

Dieter

Edited: 11 Sept 2011, 8:35 a.m.

Re: HP-15C LE calculator forensics?

*Message #14 Posted by **Gerson W. Barbosa** on 10 Sept 2011, 7:37 p.m.,*
in response to message #6 by Thomas Klemm

> Quote:
>
> But there's no way to enter 355/226 into this calculator. The best you can do is to calculate that number which is 1.570796460. That's why we have to compare the result of tan(1.570796460).
>
> - HP-15C: -7,507,225.705
> - Correct answer: -7,507,219.878
> - Relative error: 7.7619×10^{-7} instead of 1.33×10^{-3}

You are right. It would not be fair to compare the calculators results with the *exact* result of tan(355/226).

```
correct 16-digit answer, tan(1.570796460) = -7507219.878366671

calculator              displayed result        relative error

HP-45                   -7.516790992E+06        1.27E-03
HP-29C, 32E, 15C, 41CX  -7507225.705            7.76E-07
HP-20S, 32SII, 28S, 48G -7507219.87837          4.44E-13
hp 33s, 35s             -7507220.0689           2.54E-08
HP-25                   -7518796.992            1.54E-03
wp34s                   -7507219.878366671      0.00E+00
```

Gerson.

Edited: 10 Sept 2011, 7:48 p.m.

Re: HP-15C LE calculator forensics?

*Message #15 Posted by **Paul Dale** on 11 Sept 2011, 4:14 a.m.,*
in response to message #14 by Gerson W. Barbosa

I kind of hope you weren't using the 34S as the 16 digit benchmark for this.

In this case, the 34S is correct but please nobody assume it is everywhere, I've done no theoretic error analysis and the number of values actually validated is tiny.

That all said, definitely let me know when it isn't correct within +/- 1 in the last digit :-)

- Pauli

Re: HP-15C LE calculator forensics?

*Message #16 Posted by **Dieter** on 11 Sept 2011, 7:48 a.m.,*
in response to message #15 by Paul Dale

Pauli, if 39 digits of internal precision were not able to provide a correct 16 digit result you would have done something seriously wrong. ;-)

Dieter

Re: HP-15C LE calculator forensics?

*Message #17 Posted by **Paul Dale** on 11 Sept 2011, 8:10 a.m.,*
in response to message #16 by Dieter

And to be honest, I'm not at all sure I haven't done something seriously wrong somewhere. There is a *lot* of numeric code in the 34S and some of it is bound to be slightly incorrect (or worse).

- Pauli

Re: HP-15C LE calculator forensics?

*Message #18 Posted by **Ángel Martin** on 11 Sept 2011, 1:13 p.m.,*
in response to message #17 by Paul Dale

I think that's called "programmer's remorse" (akin to the buyer's but more lonely :-)

I know, it also happens to me...

Re: HP-15C LE calculator forensics?

*Message #19 Posted by **Gerson W. Barbosa** on 11 Sept 2011, 12:38 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> I kind of hope you weren't using the 34S as the 16 digit benchmark for this.

.

I used WolframAlpha's result truncated at the second zero:

```
-7.5072198783666710922545119574391592156309211475564175... × 10^6
```

This, of course, would sure match the wp34s's result :-)

Gerson.

Re: HP-15C LE calculator forensics?

*Message #20 Posted by **Dieter** on 11 Sept 2011, 8:01 a.m.,*
in response to message #14 by Gerson W. Barbosa

> Quote:
>
> You are right. It would not be fair to compare the calculators results with the exact result of tan(355/226).
> correct 16-digit answer, tan(1.570796460) = -7507219.878366671

As already mentioned in a previous message, this tangent evaluation is extremely prone to errors. Since the argument may always be off by plus or minus 5 E-10, the tangent may vary by ~28000 (!) or a relative error of 3,7 E-3.

Yes, the tangent of 1,57079646000000000000000000000.... has the mentioned value, but in real life we are dealing with irrational numbers (i.e. #digits is infinite), so we cannot expect correct results for tan(x_close_to_pi/2) at all.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 28S saw 36V versus 4.5V, damage and repair?

*Message #1 Posted by **Joshua Keena** on 10 Sept 2011, 10:10 a.m.*

I have an HP 28S that due to a battery mixup (human error) saw 36V versus 4.5V. Any insight into damage done and possible repair recommendations? The calculator is now non-functional. I was able to non-destructively take the case apart to isolate the CPU (logic) board.

Re: HP 28S saw 36V versus 4.5V, damage and repair?

*Message #2 Posted by **Lincoln R.** on 10 Sept 2011, 11:50 a.m.,*
in response to message #1 by Joshua Keena

Ouch. I'd think the best that you can hope for is that the excessive voltage burned up one of the traces that goes from the batteries to the CPU. I'd try checking for continuity between each battery terminal and whatever pin they go to. Beyond that, you could try looking for damaged passive components (caps, resistors, etc.) but in all likelihood that much of an overvoltage probably killed some ICs.

Re: HP 28S saw 36V versus 4.5V, damage and repair?

*Message #3 Posted by **Joshua Keena** on 10 Sept 2011, 1:15 p.m.,*
in response to message #2 by Lincoln R.

Thanks, I'll try that.

Re: HP 28S saw 36V versus 4.5V, damage and repair?

*Message #4 Posted by **Alexander Oestert** on 10 Sept 2011, 2:01 p.m.,*
in response to message #1 by Joshua Keena

Recently I also got an HP 28S off of ebay and the seller had unknowingly included three 12V batteries from his garage door opener which really look surprisingly similar to the correct 1.5 V batteries. Not checking I inserted them right after opening the box and the calculator emitted some very strange sounds but doing nothing else. I guess I tried and tried for at least two minutes before even suspecting something wrong with the voltage. After inserting some of the spare 1.5 V cells I always keep for my 41's the 28S works flawlessly! I hope yours will do, too, after only some minor surgery!!!

P.S. Have you checked the battery door to be correctly closed? That thing is a bit wobbly and might cause connection problems.

Re: HP 28S saw 36V versus 4.5V, damage and repair?

*Message #5 Posted by **Joshua Keena** on 10 Sept 2011, 10:58 p.m.,*
in response to message #4 by Alexander Oestert

Well that is a terrific outcome. I am very glad yours suffered no apparent damage, and your story gives me some hope. I'm actually without a battery door. I was working on fabricating a replacement when the unfortunate incident occurred. I sincerely appreciate you sharing, and here's hoping mine fares as well as

yours.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp15c LE on TAS

*Message #1 Posted by **Ethan Conner** on 10 Sept 2011, 5:05 a.m.*

Looks like it's the same place that has been delivering.

Re: Hp15c LE on TAS

*Message #2 Posted by **M. Joury** on 10 Sept 2011, 10:42 a.m.,*
in response to message #1 by Ethan Conner

Now that is interesting. Should put a stop to the stupid high prices. Hopefully they are not all purchased by Co* and hoarded for future sale! 6 sold to date.

Edited: 10 Sept 2011, 10:43 a.m.

Re: Hp15c LE on TAS

*Message #3 Posted by **Michael de Estrada** on 10 Sept 2011, 10:59 a.m.,*
in response to message #2 by M. Joury

Mr. C doesn't pay BIN prices, and his bids on regular auctions are never more than a tiny fraction of his sale prices.

Re: Hp15c LE on TAS

*Message #4 Posted by **M. Joury** on 10 Sept 2011, 11:47 a.m.,*
in response to message #3 by Michael de Estrada

Excellent. And now we can keep track, to some extent, of how fast these things are selling.

Cheers,

-Marwan

Re: Hp15c LE on TAS

*Message #5 Posted by **Lincoln R.** on 10 Sept 2011, 11:53 a.m.,*
in response to message #2 by M. Joury

I wonder... would it be dishonest to list a 15C LE as "HP 15C with original box and manuals" as long as the pictures clearly show that it's a 15C LE and not a NOS 80s 15C? I've noticed that lots of the people wanting $Insane for HPs have a box, manual, and cover (Although I honestly wouldn't be surprised if at least some of them have pieced together that stuff, I've seen plenty of TAS auctions with ridiculous things like a Pioneer in a Voyager case, or worse yet a Spice or Woodstock one, and the seller is still trying to claim it's original)

Re: Hp15c LE on TAS

*Message #6 Posted by **M. Joury** on 10 Sept 2011, 12:06 p.m.,*
in response to message #5 by Lincoln R.

Hmmmmm.... I would say yes. I think that one should specify "LE".

Just my 2 cents.

I wonder what my brand-new-all-original-in-box-with-manuals HP41CX is worth?

Cheers,

-Marwan

Re: Hp15c LE on TAS

*Message #7 Posted by **bill platt** on 10 Sept 2011, 6:26 p.m.,*
in response to message #6 by M. Joury

In hte beginning of this century, a 41CX went over #500 and we were all "oh my gosh!"

Now I think that would be cheap...

Re: Hp15c LE on TAS

*Message #8 Posted by **Howard Owen** on 10 Sept 2011, 12:42 p.m.,*
in response to message #5 by Lincoln R.

I think it would be misleading. I expect to see many such auctions. Caveat collector.

Re: Hp15c LE on TAS

*Message #9 Posted by **Namir** on 10 Sept 2011, 12:43 p.m.,*
in response to message #5 by Lincoln R.

Definitely specify that it is a Limited Edition!!!

Re: Hp15c LE on TAS

*Message #10 Posted by **Lincoln R.** on 10 Sept 2011, 1:54 p.m.,*
in response to message #9 by Namir

Yeah, I'm not trying to defraud anyone and probably won't even be selling any 15Cs on TAS, I was just thinking that one would want to ensure that their 15C LE appeared with the rest of the 15Cs. I definitely wouldn't try to convince someone that a new 15C was actually one of the 80s ones.

Re: Hp15c LE on TAS

*Message #11 Posted by **Michael de Estrada** on 10 Sept 2011, 3:23 p.m.,*
in response to message #5 by Lincoln R.

Show a clear photo of the back that let's one see the "Product of China" on it. Anyone dumb enough to pay an inflated price deserves to get screwed.

Re: Hp15c LE on TAS

*Message #12 Posted by **Michael de Estrada** on 10 Sept 2011, 5:12 p.m.,*
in response to message #2 by M. Joury

An original HP 15c in good working and cosmetic condition with slip case but no manual just sold on TAS for about $155 shipped. It was a worldwide auction, but only got one bid. Hard to say if the listing of the HP 15c LE had any effect, or if it was simply missed by this bidder. The listing by Buy.com has no photos at all, which is pretty stupid IMO. Anyway, as I post this, Buy.com has sold 10 units so far.

Re: Hp15c LE on TAS

*Message #13 Posted by **Brandon Poindexter** on 10 Sept 2011, 5:51 p.m.,*
in response to message #12 by Michael de Estrada

You called them and they just told you that they sold 10 units over the phone? I guess i would have never thought they would give out this info so willy-nilly.

Edited: 10 Sept 2011, 6:01 p.m.

Re: Hp15c LE on TAS

*Message #14 Posted by **Michael de Estrada** on 10 Sept 2011, 6:12 p.m.,*
in response to message #13 by Brandon Poindexter

Nope. The number of sold units is showed on the TAS listing. Currently it's 11.

Edited: 10 Sept 2011, 6:13 p.m.

Re: Hp15c LE on TAS

*Message #15 Posted by **Brandon Poindexter** on 10 Sept 2011, 6:28 p.m.,*
in response to message #14 by Michael de Estrada

Ooooh sorry my bad. I kept thinking buy.com's actual website and not their tas page.

Re: Hp15c LE on TAS

*Message #16 Posted by **Paul Gaster** on 11 Sept 2011, 6:40 p.m.,*
in response to message #12 by Michael de Estrada

I saw that auction too. The reason it only had one bid is that it was Buy It Now, not a regular auction. I would bet the seller was in a hurry to get some money quick, or did not know how much it could sell for in a regular auction. Or maybe it had some scuffs, scratches, or a small flaw, etc and they thought it would never sell for a higher price.

Re: Hp15c LE on TAS

*Message #17 Posted by **Michael de Estrada** on 11 Sept 2011, 7:08 p.m.,*
in response to message #16 by Paul Gaster

Actually, it was a regular auction with a start price of $149.99. Nobody bid on it until time had almost expired. Regardless, since there was only one bid, it did not sell for more. There are other auctions going on right now that have been bid up higher, so the HP 35c LE auction does not appear to be having an effect so far.

http://www.ebay.com/itm/HP-15C-Business-Scientific-Calculator-w-Manual-/270812357273?pt=Calculators&hash=item3f0daca299

Re: Hp15c LE on TAS

*Message #18 Posted by **Paul Gaster** on 11 Sept 2011, 7:34 p.m.,*
in response to message #17 by Michael de Estrada

OK, I see. I was talking about a different auction: http://www.ebay.com/itm/Vintage-HP-15C-Scientific-Calculator-leatherette-case-and-manual-/120774359978?pt=Calculators&hash=item1c1eb67baa#ht_500wt_1287

Re: Hp15c LE on TAS

*Message #19 Posted by **Paul Gaster** on 11 Sept 2011, 7:41 p.m.,*
in response to message #1 by Ethan Conner

Buy.com did a poor job of listing this item. They put it under Consumer Items > Other. It's not even listed in the Calculator section at all. Oh, and they are up to 19 sold already, even though it is hard to find.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp-15C, Bach has them too

*Message #1 Posted by **Katie Wasserman** on 10 Sept 2011, 12:23 a.m.*

Bach is selling the 15C too. Looks like full list price, but they have a 90 day return policy and are in Palo Alto, CA for those on the west coast that need one fast!

Re: Hp-15C, Bach has them too

*Message #2 Posted by **Eddie W. Shore** on 10 Sept 2011, 10:37 a.m.,*
in response to message #1 by Katie Wasserman

Just ordered mine from Bach, thanks Katie!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Secret prototype of the next generation HP calcs
*Message #1 Posted by **Michael de Estrada** on 9 Sept 2011, 11:28 p.m.*

Re: Secret prototype of the next generation HP calcs
*Message #2 Posted by **Howard Owen** on 9 Sept 2011, 11:39 p.m.,*
in response to message #1 by Michael de Estrada

Oooh! I'll bet it was left in a San Diego bar, too.

Glad to see that retro-futurio-jetsonian look coming back.

Re: Secret prototype of the next generation HP calcs
*Message #3 Posted by **hpnut** on 9 Sept 2011, 11:41 p.m.,*
in response to message #2 by Howard Owen

yeah, I love that Wall-e'esque HP15C look too ;-)

Re: Secret prototype of the next generation HP calcs
*Message #4 Posted by **gene wright** on 10 Sept 2011, 7:22 a.m.,*
in response to message #3 by hpnut

No, no... that's the TI-30 Sphere, a new journey of exploration into the unit sphere from TI.

Re: Secret prototype of the next generation HP calcs
*Message #5 Posted by **Paul Dale** on 10 Sept 2011, 7:33 a.m.,*
in response to message #1 by Michael de Estrada

Looks a lot like a Pokéball.

- Pauli

Re: Secret prototype of the next generation HP calcs
*Message #6 Posted by **Dave Britten** on 11 Sept 2011, 8:33 a.m.,*
in response to message #5 by Paul Dale

This is what Voltorb does to make some money on the side.

Re: Secret prototype of the next generation HP calcs
*Message #7 Posted by **db (martinez, ca.)** on 10 Sept 2011, 9:42 a.m.,*

in response to message #1 by Michael de Estrada

In space, no one can see you use an "=" key.

....not that Michael would ever use an = key.

Edited: 10 Sept 2011, 9:42 a.m.

Re: Secret prototype of the next generation HP calcs

*Message #8 Posted by **Michael de Estrada** on 10 Sept 2011, 10:20 a.m.,*
in response to message #7 by db (martinez, ca.)

Haven't you heard ? = is the new Enter.

Re: Secret prototype of the next generation HP calcs

*Message #9 Posted by **Eric Smith** on 10 Sept 2011, 12:50 p.m.,*
in response to message #1 by Michael de Estrada

Wow, I've never seen the RCA calculator in that color scheme. What's the model number?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The *REAL* Self Tests For the 15C LE

*Message #1 Posted by **Mike Morrow** on 9 Sept 2011, 11:05 p.m.*

In the midst of the discussion about invalid self tests for the HP 15C LE that are described in its manual, it is worth pointing out that **new** self tests are available in the 15C LE firmware. But, AFAIK there's nothing in the 15C LE manual that says how to perform them. They are the same tests that are used for the two-cell HP 12C. This HP website describes access and use of the new self tests for the 12C+ (and 15C LE).

Edited: 9 Sept 2011, 11:18 p.m.

Re: The *REAL* Self Tests For the 15C LE

*Message #2 Posted by **Gerson W. Barbosa** on 10 Sept 2011, 12:00 a.m.,*
in response to message #1 by Mike Morrow

So, it appears it's just a matter of updating the manual. Has the battery changing section been modified accordingly? I still haven't found the online version of the new manual.

Edited: 10 Sept 2011, 12:02 a.m.

Re: The *REAL* Self Tests For the 15C LE

*Message #3 Posted by **Mike Morrow** on 10 Sept 2011, 12:57 a.m.,*
in response to message #2 by Gerson W. Barbosa

Yes, Appendix F was updated for the new 2032 cells. That's also the section that describes the old original 15C self tests. It should be altered to describe the new self tests. More importantly, the firmware should disable the old tests to prevent inadvertent program memory corruption which the 'ON plus *' and 'ON plus +' tests can cause.

Now that I've played around with the 15C-LE for a few hours, I'm quite satisfied with the value presented for the cost. I was unfair in having an initial negative outlook after the self tests failed. In truth, the 15C-LE is not at all a bad effort. I'd buy it again, but I'd still much much rather see a 42S-LE.

There was some talk that the famous HP-15C *Advanced Functions Handbook* was to be included on the CD-ROM that is included with the 15C-LE. Alas...it's not there. It's still referenced in the manual included with the 15C-LE. (I've got my old hard copy, but a pdf of the original would be great to have on the CD-ROM.)

BTW, buy.com shipped my two 15C-LE units from Olive Branch, Mississippi, only about 180 miles west of me. Without expedited shipping, they still arrived 23 hours after ordering! But...how did a shipment of 15C-LE units get to Mississippi ahead of every other place in the USA?

Edited: 10 Sept 2011, 1:11 a.m.

Re: The *REAL* Self Tests For the 15C LE

*Message #4 Posted by **hpnut** on 10 Sept 2011, 1:12 a.m.,*
in response to message #3 by Mike Morrow

by fast Mississippi river boat? :-)

Re: The *REAL* Self Tests For the 15C LE

*Message #5 Posted by **Tim Wessman** on 10 Sept 2011, 3:18 a.m.,*
in response to message #3 by Mike Morrow

AFH simply wasn't ready in time. Rather then wait even longer, the decision was made to have it be a download PDF.

When it is to the level we are happy with, it will be released.

TW

Re: The *REAL* Self Tests For the 15C LE

*Message #6 Posted by **Michael de Estrada** on 10 Sept 2011, 8:28 a.m.,*
in response to message #5 by Tim Wessman

Wise decision. The proletariat was getting impatient. You have tossed a bone to the animals. We are content for now.

Re: The *REAL* Self Tests For the 15C LE

*Message #7 Posted by **Thomas Radtke** on 10 Sept 2011, 9:10 a.m.,*
in response to message #6 by Michael de Estrada

Not just impatience, that was pure greed, and just because of some whistleblowers at HP! ;-)

Re: The *REAL* Self Tests For the 15C LE

*Message #8 Posted by **Dave** on 13 Sept 2011, 10:51 a.m.,*
in response to message #3 by Mike Morrow

> Quote:
>
> ...There was some talk that the famous HP-15C *Advanced Functions Handbook* was to be included on the CD-ROM that is included with the 15C-LE. Alas...it's not there. It's still referenced in the manual included with the 15C-LE. (I've got my old hard copy, but a pdf of the original would be great to have on the CD-ROM.)

The original Advanced Functions Handbook IS on the CD. Just install the emulator and look in C:\Program Files\Hewlett-Packard\HP 15C Emulator\ when you're done, or open it from the Help menu in the emulator.

Re: The *REAL* Self Tests For the 15C LE

*Message #9 Posted by **Masaki Adachi** on 15 Sept 2011, 1:37 p.m.,*
in response to message #8 by Dave

Thank you, I would have never figured this by myself. "Manuals" folder in the CD only contains Owners Handbook.

Re: The *REAL* Self Tests For the 15C LE

*Message #10 Posted by **Mike Morrow** on 11 Sept 2011, 10:29 p.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> They are the same tests that are used for the two-cell HP 12C. This HP website describes access and use of the new self tests for the 12C+ (and 15C LE).

One question arises when I look at the HP web page I cited above. It's actually for the HP 12C+, and it tells the user to use the new self test procedure if an Error 9 is received (after performing the traditional Voyager self tests).

That implies that the HP 12C+ retains the old self tests, which fail and generate Error 9. Has memory corruption been noted on the 12C+ following the 'ON plus *' or the 'ON plus +" tests? That's what occurs in the 15C-LE.

The 15C-LE firmware should be modified to prevent inadvertent performance of the destructive old self tests. If the tests are not "locked out", then those old self tests should be modified to not disrupt memory.

The new tests are described as generating an error message if an error is detected, but the web page does not say what that message contains. I'm assuming the message is not Error 9. Then disabling the old self tests completely would result in nothing that generates Error 9. In addition to references in the manual, the calculator back plate should be modified to eliminate the Error 9 entry.

Edited: 11 Sept 2011, 11:06 p.m.

Re: The *REAL* Self Tests For the 15C LE

*Message #11 Posted by **Jeff O.** on 12 Sept 2011, 8:51 a.m.,*
in response to message #10 by Mike Morrow

The latest 12C+ firmware, or at least what I believe to be the latest firmware, dated 2009-11-19, does indeed retain the original self tests. Behavior is as follows:

'ON plus /' : Works fine if you start pressing keys quickly enough. If you press the keys out of order or wait too long, Error 9 is displayed.

'ON plus x' : Display flashes "running" once, then lights all segments except low-battery.

'ON plus +' : Display flashes "running" somewhat erratically. I got various results after pressing "any" key to stop the test, including Error 2, Error 6, and all segments lit, most often the latter.

To test for memory corruption with the latter two tests, I entered the following program:

```
1
2
3
4
5
6
7
8
9
ENTER
9
8
7
```

```
6
5
4
3
2
1
+
GTO 00
```

This simple program was not corrupted by the self tests, I don't know if that proves that other programs would not be corrupted.

By the way, 'ON plus -' clears memory and resets the calculator as it has always done.

Re: The *REAL* Self Tests For the 15C LE

*Message #12 Posted by **Mike Morrow** on 12 Sept 2011, 11:57 a.m.,*
in response to message #11 by Jeff O.

Interesting. The 15C-LE behaves differently from the 12C+ when the old 'ON plus *' and 'ON plus +" tests are attempted. They terminate immediately with Error 9, and alter program memory as I described Friday.

Does the HP 12C+ Owner's Handbook describe the old tests or the new tests?

Edited: 12 Sept 2011, 12:27 p.m.

Re: The *REAL* Self Tests For the 15C LE

*Message #13 Posted by **Gene Wright** on 12 Sept 2011, 10:36 a.m.,*
in response to message #10 by Mike Morrow

"In addition to references in the manual, the calculator back plate should be modified to eliminate the Error 9 entry."

Gene: THAT I can probably safely say will not happen. To do so would require re-doing the assembly line and production, and my guess is that HP would throw everything away rather than go through the trouble to re-do any production of this limited edition / limited run of machines.

If they are making only 10K of these, firmware updates...sure. Changes to a manual made available as a PDF...sure. Reprinting of a physical manual...less likely. Change to the physical unit requiring a new production run...not likely at all.

It is what it is.

Re: The *REAL* Self Tests For the 15C LE

*Message #14 Posted by **Mike Morrow** on 12 Sept 2011, 11:44 a.m.,*
in response to message #13 by Gene Wright

I know it would not happen with current LE production. But if the 15C-LE became a standard product, the back plate design would need to be modified to eliminate the limited edition serial. One might then wish to correct the Error 9 information. Obviously, such a change to the back plate could only happen if 15C-LE production became a recurring event. I doubt that general consumer demand will cause that to happen.

I suspect that the writer of Appendix F in the Owner's Handbook "Verifying Proper Operation" never tried *any* self test (old or new) on a real 15C-LE. The text is copied from an old HP-*12C* manual,

because it says a "12" will appear at the end of the old keyboard test.

Re: The *REAL* Self Tests For the 15C LE

*Message #15 Posted by **Tim Wessman** on 12 Sept 2011, 12:19 p.m.,*
in response to message #14 by Mike Morrow

Yes. The communication was "Take the new 12c battery info and put it into the manual. Remove the information regarding the self tests."

1 out of 2 isn't that bad I guess. . . :~|

TW

Re: The *REAL* Self Tests For the 15C LE

*Message #16 Posted by **Mike Morrow** on 12 Sept 2011, 2:14 p.m.,*
in response to message #15 by Tim Wessman

Nothing is ever perfect. One can only catalog the issues identified by us gamma-testers for possible implementation in future production (if any).

It would be very appropriate, given the typical characteristics of a 15C-LE purchaser compared to the general customer-base, to describe in Appendix F the *new* **'ON plus g plus ENTER'** tests, including a description of what is actually being tested and what error messages can be generated under what conditions. Even though no customer has any *real* need to know this, the typical 15C-LE purchaser would doubtless appreciate the information.

I'm pretty happy with my LE units. I have no regrets. Let's hope there's such a large demand that subsequent production runs (with bugs removed from manual and machine) become irresistible for HP. It's a lot more exciting than yet another HP-12C reincarnation. (I hate financial calculators, except the 30b.)

Now that I've given my 15C-LE a workout, it's time to get back to the personal computer I was using when I bought my first 15C. I just hope that 180 kB floppy drive in the expansion box of my 48 kB RAM TI-99/4A will still work! :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

Does the 15C LE have a 6-pin JTAG connector?
*Message #1 Posted by **Pal G.** on 9 Sept 2011, 10:15 p.m.*

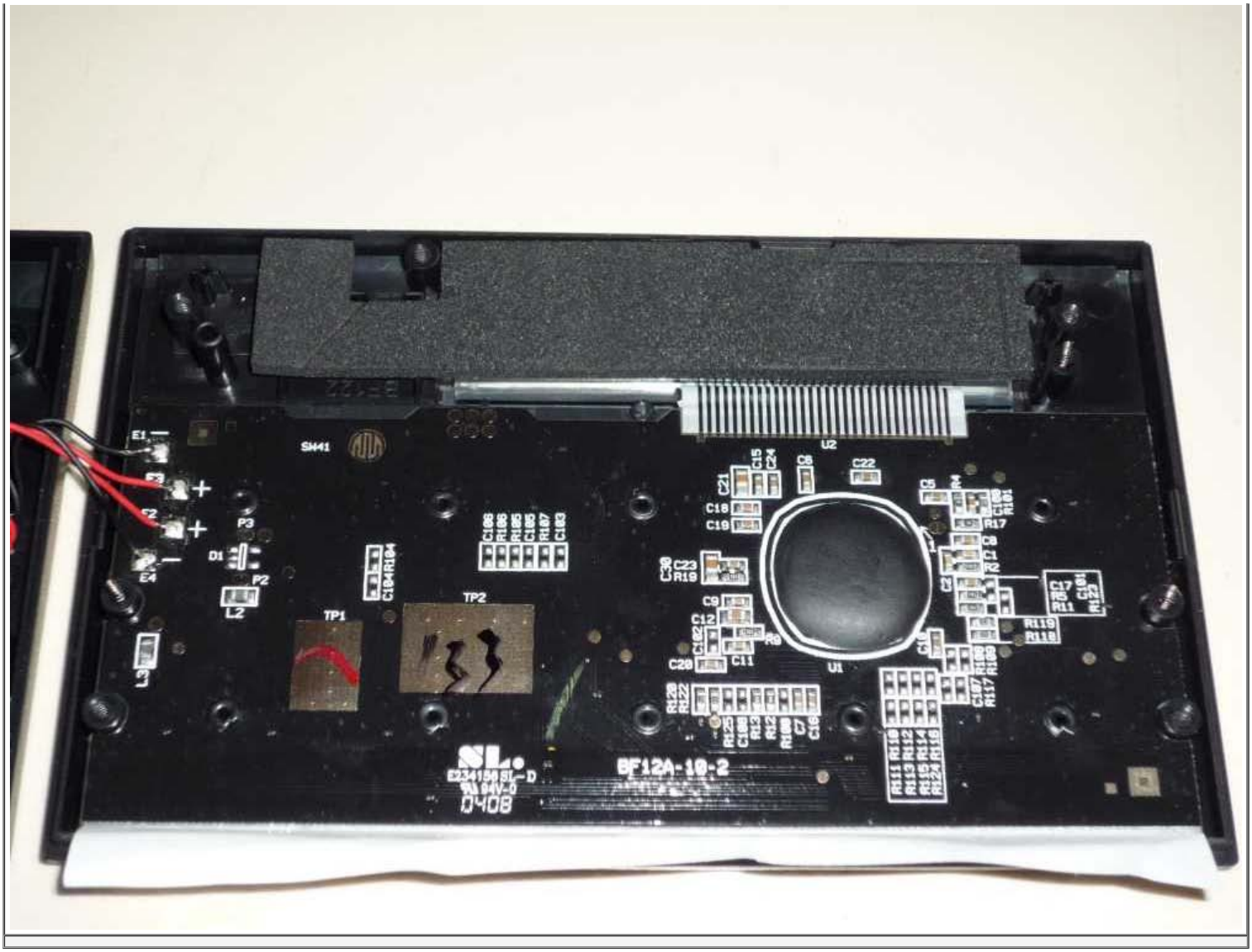
Has anyone looked inside their battery compartment for the programming interface? I didn't really see anything in those pictures TW posted a few days ago.

Will we be able to flash the 15C LE if we need too?

Thanks.

Re: Does the 15C LE have a 6-pin JTAG connector?
*Message #2 Posted by **Katie Wasserman** on 9 Sept 2011, 10:22 p.m.,*
in response to message #1 by Pal G.

I'm sure that it uses the same PCB as the 12C+ and there is no JTAG connector.



Re: Does the 15C LE have a 6-pin JTAG connector?
*Message #3 Posted by **Pal G.** on 10 Sept 2011, 12:26 a.m.,*
in response to message #2 by Katie Wasserman

Thank you, Katie.

In this thread:

"http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=143521

Cyrille states:

"Unfortunately, the HP 12C+ does NOT have the Jtag interface (sorry) due to ESD reasons... BUt it still has the serial interface, so you can still reprogram it! I will be probably releasing data on the HP 12C+ soon including schematics and an example application."

Maybe I did not ask my first question properly. Is the 15C LE re-programmable?

Re: Does the 15C LE have a 6-pin JTAG connector?
*Message #4 Posted by **Katie Wasserman** on 10 Sept 2011, 12:51 a.m.,*
in response to message #3 by Pal G.

Yes. You can reprogram/re-purpose it like the 12C+, 10bii, 20b and 30b. They all require the same cable (from Gene) and the SAMBA software.

Re: Does the 15C LE have a 6-pin JTAG connector?
*Message #5 Posted by **Pal G.** on 10 Sept 2011, 1:04 a.m.,*
in response to message #4 by Katie Wasserman

Very good. Thanks!

is memory upgrade possible?
*Message #6 Posted by **x34** on 10 Sept 2011, 1:30 a.m.,*
in response to message #2 by Katie Wasserman

So, would it be possible to perform memory upgrade a-la Eric Smith and HrastProgrammer http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=97204 ?

Edited: 10 Sept 2011, 1:31 a.m.

Re: is memory upgrade possible?
*Message #7 Posted by **Katie Wasserman** on 10 Sept 2011, 2:43 a.m.,*
in response to message #6 by x34

> Quote:
>
> So, would it be possible to perform memory upgrade a-la Eric Smith and HrastProgramme

No. Like all the other recent HP calculators, this uses a single ARM chip that contains all the RAM and ROM. This is a closed system limited to the 2K battery backed RAM.

Re: is memory upgrade possible?
*Message #8 Posted by **Katie Wasserman** on 10 Sept 2011, 12:36 p.m.,*
in response to message #7 by Katie Wasserman

Just to qualify my "No" reply....

Eirc's proposal was to expand the memory in the 15c by adding a memory chip to the existing one to double the address space. In the current ARM-based designed that's not possible from a hardware perspective. Now, it's being suggested that HP might not have used up all the available 2K battery backed RAM. By modifying the ROM image (and maybe the emulator) it might be possible to make use of whatever RAM is not being used.

While I think there's a good chance of their being some unused RAM in the 15C LE, this course of action would require a copy of the original ROM image that HP has claimed copyright over. On the other hand if you bought a 15C LE you implicitly bought a copy of the ROM image and should not be in violation of a copyright. Yet the ROM image that needs to be modified is not the copy you bought. I think there's an interesting legal issue here.

-Katie

Re: is memory upgrade possible?
*Message #9 Posted by **Namir** on 10 Sept 2011, 12:45 p.m.,*
in response to message #8 by Katie Wasserman

HP can offer another emulator version with more RAM for many more registers and/or much more programming steps!!!! They can thens ee how people like it!

Edited: 10 Sept 2011, 12:46 p.m.

Re: is memory upgrade possible?
*Message #10 Posted by **Thomas Radtke** on 10 Sept 2011, 1:36 p.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> Yet the ROM image that needs to be modified is not the copy you bought. I think there's an interesting legal issue here.

I imagine whoever manages to modify the firmware accordingly may offer a diff file to apply to the original firmware. I assume the firmware can either be read directly from the 15C LE or taken from the emulation on CD. If my assumption is wrong, this is a lost case unless HP brings out firmware updates to expand the memory.

Re: is memory upgrade possible?
*Message #11 Posted by **uhmgawa** on 10 Sept 2011, 2:41 p.m.,*
in response to message #10 by Thomas Radtke

> Quote:
>
> I imagine whoever manages to modify the firmware accordingly may offer a diff file to apply to the original firmware. I assume the firmware can either be read directly from the 15C LE or taken from the emulation on CD. If my assumption is

> wrong, this is a lost case unless HP brings out firmware updates to expand the memory.

I can wholeheartedly relate to the fascination of reusing 30 year old firmware, and there are well known arguments for doing so. But I think the madness at some point must end. It ***is*** largely a 30 year old black box, and effort arguably could be better spent creating a minimum footprint functional reimplementation which would be far more maintainable and straightforward to enhance. The existence of the 15C LE on the planet now gives anyone interested in doing so a customized development platform for less than $100.

In this respect the WP34s folks have IMHO taken the correct engineering approach. I expect an open GPL'ed, portable firmware implementation to eclipse the 30 year validation soak of legacy firmware in a small fraction of that time.

Re: is memory upgrade possible?

*Message #12 Posted by **Thomas Radtke** on 10 Sept 2011, 3:39 p.m.,*
in response to message #11 by uhmgawa

I was just pointing out a way to *hopefully* legally offer something leading to a firmware 'update'.

I don't know what to think of it really. It would be nice to have a native reimplementation on one hand, on the other a proven software is more or less given to satisfy the needs of many.

But then, a project like you described seems inevitable given the enthusiasm of experts like you and all the others in this forum :-).

Re: is memory upgrade possible?

*Message #13 Posted by **sylvandb** on 10 Sept 2011, 4:43 p.m.,*
in response to message #11 by uhmgawa

> Quote:
>
> I can wholeheartedly relate to the fascination of reusing 30 year old firmware, and there are well known arguments for doing so. But I think the madness at some point must end. It ***is*** largely a 30 year old black box, and effort arguably could be better spent creating a minimum footprint functional reimplementation which would be far more maintainable and straightforward to enhance...

Yes, I hope. Like the 12c vs 20b/30b. Now we have the 15c and the community WP34s. Perhaps HP will come up with their own scientific as much advanced over the 15c as the 30b is over the 12c.

sdb

Re: is memory upgrade possible?

*Message #14 Posted by **uhmgawa** on 10 Sept 2011, 2:05 p.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> Eirc's proposal was to expand the memory in the 15c by adding a memory chip to the existing one to double the address space.

That's certainly achievable by emulating an ISA bus memory device. In practical terms that would manifest as a uC camped on the ISA bus responding to requests. The point I'd reached was if I'm going to add a uC in the box to serve up memory it would be faster running an emulator directly as RWM and ROM can become significantly more efficient internal access.

> Quote:
>
> In the current ARM-based designed that's not possible from a hardware perspective.

Do we know conclusively no unused (or resuable) gpio lines exist which can be leveraged? Oh for lack of the sam7l lqfp package..

> Quote:
>
> Now, it's being suggested that HP might not have used up all the available 2K battery backed RAM.

I'd be surprised if there wasn't considerable unused battery backed RWM. A single instance of 15c RWM consumes well under 650 bytes such that doubling it should be quite feasible.

The much greater concern I have would be taking a poke at the firmware to increase the size of the r2d2 memory windows, in terms of compromising that 30 years of real-world soak the 15c firmware has seen thus far. But admittedly I haven't yet looked at the firmware specifically with this in mind.

> Quote:

> By modifying the ROM image (and maybe the emulator) it might be possible to make use of whatever RAM is not being used.

It will most probably need a change to the emulator ram mapping as the memory areas as seen by the firmware are not contiguous.

Re: is memory upgrade possible?

*Message #15 Posted by **Howard Owen** on 10 Sept 2011, 3:10 p.m.,*
in response to message #8 by Katie Wasserman

Beyond legal theories of fair use or whatnot, there's the point that any "pirated" ROM image that a hobbyist want would only ever run on HP hardware. I can't see HP going after enthusiasts for that sort of activity. They aren't Sony or the MPAA.

If a clone maker wanted to use it on their own hardware, that would be a different matter.

Re: is memory upgrade possible?

*Message #16 Posted by **Paul Dale** on 10 Sept 2011, 7:59 p.m.,*
in response to message #8 by Katie Wasserman

If HP release new firmware fixing the bugs being found then the question of accessing an image becomes moot. Once people have an image available, patching it becomes possible. Like I said, I'm hopeful but by no means sure it is possible.

- Pauli

Re: is memory upgrade possible?

*Message #17 Posted by **Marcus von Cube, Germany** on 11 Sept 2011, 3:24 a.m.,*
in response to message #16 by Paul Dale

Even if you can patch the original firmware (the NUT part of it) to access more registers, the emulation layer must have provisions for it, too. If the emulation dimensions memory for 64 registers and the firmware expects 128, trouble is certainly to arise.

Re: is memory upgrade possible?

*Message #18 Posted by **Paul Dale** on 11 Sept 2011, 3:37 a.m.,*
in response to message #17 by Marcus von Cube, Germany

Exactly what I was getting at up above.

Just some wishful thinking that the emulator was written with this in mind :-)

- Pauli

Re: is memory upgrade possible?

*Message #19 Posted by **Thomas Klemm** on 12 Sept 2011, 7:31 p.m.,*
in response to message #8 by Katie Wasserman

> Quote:
>
> the original ROM image that HP has claimed copyright over

However Eric Smith states in HP Calculator Microcode Copyright Status:

> Quote:
>
> In the United States, for works created before March 1, 1989, a copyright notice must be present to secure a copyright, except in very limited circumstances as defined in 17 U.S.C. 405(a), quoted below.
>
> I have verified the absence of both printed and machine-readable copyright notices on the following HP calculator models:
>
> Voyager HP-11C, HP-12C, HP-15C, HP-16C

Is this information just outdated? This page was last updated May 25, 2005. In the news on the front page is a note from 23-AUG-2008 that Voyager calculator models have been removed in release 0.79 due to licensing issues.

Can anybody shed light on this issue?

Thanks in advance
Thomas

Re: is memory upgrade possible?

*Message #20 Posted by **sylvandb** on 13 Sept 2011, 9:00 p.m.,*
in response to message #19 by Thomas Klemm

I see no discrepancy or need for correction/update in that information as presented. Copyright and license are two distinct and different entities. They are often confused because copyright is one of the rights frequently controlled by license.

The lack of copyright means that there is no copyright which means that the publication does not enjoy that protection and so might be copied if that was all there was. However it might still have patents or trademarks or contract (license) or hit men or maybe even no protection at all.

As for license, license issues could occur involuntarily with anything where permission was granted under license or contract, or voluntarily relinquished via the same.

That anything might have been something prior to voyager support being added and notification of violation or permission being revoked resulted in the removal.

Or it might have been something that happened at the same time as the removal and those current negotiations required the removal.

Or the removal might have been proactive for something that was to happen in the future, perhaps an expiration or a new contract.

To bring the abstract concrete in a possible but quite unlikely example, perhaps Eric was buying a new house and the loan contract included a clause that he not distribute an emulator of Voyager calculators because the lender was financing a competitor.

I think if you google enough, you might find some information or rumors regarding this particular license situation.

Re: is memory upgrade possible?

*Message #21 Posted by **Paul Dale** on 10 Sept 2011, 3:29 a.m.,*
in response to message #6 by x34

It is going to depend on how the internal 2kb of RAM is arranged and if the emulator can handle the extra address space.

If the 15c's RAM is followed by enough unused space and if the emulator doesn't get confused or block things, then in theory the ROM modifications would work.

We'll have to wait for someone to try it I suspect....

- Pauli

Re: is memory upgrade possible?

*Message #22 Posted by **Didier Lachieze** on 10 Sept 2011, 6:51 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> We'll have to wait for someone to try it I suspect....

Marcus? It seems that HHC 2011 should be the ideal place to get the required details...

Re: is memory upgrade possible?

*Message #23 Posted by **Paul Dale** on 10 Sept 2011, 7:31 a.m.,*
in response to message #22 by Didier Lachieze

More likely Eric or HrastProgrammer. They are the ones who know the changes to the firmware to support the extra registers.

- Pauli

Re: Does the 15C LE have a 6-pin JTAG connector?

*Message #24 Posted by **Mike Morrow** on 10 Sept 2011, 12:56 p.m.,*
in response to message #2 by Katie Wasserman

Thanks for the pictures. Somehow, the internals of these new speed demons don't have the beauty of the original Voyagers, especially after those were cleaned up with the single PCB design.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Does the 15C LE have a 6-pin JTAG connector?

HP Forum Archive 20

[Return to Index | Top of Index]

HP15c LE -- Where Are Canadians Ordering?

*Message #1 Posted by **Les Wright** on 9 Sept 2011, 9:12 p.m.*

Any tips on this? Buy.com and Samson don't ship to Canada.

Thanks,

Les

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #2 Posted by **James Sterbenz** on 9 Sept 2011, 9:51 p.m.,*
in response to message #1 by Les Wright

Amazon? I have amazon.co.uk, amazon.de, and amazon.fr ship to me in the US. Or is it only through resellers that won't ship to you?

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #3 Posted by **Jeff Fontaine Canada** on 9 Sept 2011, 10:00 p.m.,*
in response to message #1 by Les Wright

Where did you see Samsoncables does not ship to Canada? I had no trouble to place my order with a delivery address in Montréal.

Jeff

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #4 Posted by **hpnut** on 9 Sept 2011, 10:26 p.m.,*
in response to message #3 by Jeff Fontaine Canada

Samson is shipping my 12C 30AE (and later 15c LE) to me.

hpnut in Malaysia

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #5 Posted by **Paul Guertin** on 9 Sept 2011, 10:32 p.m.,*
in response to message #1 by Les Wright

Samson does ship to Canada. I've ordered from them before and they had no problem shipping to my house in Montréal.

@Jeff Fontaine -- Hello, neighbour.

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #6 Posted by **Ethan Conner** on 10 Sept 2011, 12:44 a.m.,*
in response to message #5 by Paul Guertin

Test?

Re: HP15c LE -- Where Are Canadians Ordering?

*Message #7 Posted by **Les Wright** on 11 Sept 2011, 9:45 a.m.,*
in response to message #1 by Les Wright

I do stand corrected. I went at Samson's via Buy.com and by that path shipping to Canada not accepted via PayPal. Going straight to Samson Cables and it all went well. Only downside is shipping cost and the likelihood that a parcel of this declared value will be stopped by customs and assessed the 13% harmonized sales tax plus the admin fee of 5 to 8 bucks. But it looks like these things are actually real, and Samson's seems to be standing behind these preorders and sales.

Les

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP 15C LE Memory Corruption After Self Test Performance

*Message #1 Posted by **Mike Morrow** on 9 Sept 2011, 8:55 p.m.*

In other threads today I reported failure of the self tests normal to the 15C and described on page 261 of the 15C LE manual.

But now, I can report that attempting to perform the "ON plus *" self test not only results in immediate "Error 9", but also corrupts any program that is in memory.

I had a Savage benchmark in memory consisting of the following steps:
001-42,21,12
002-44 0
003-43 8
004-42,7,9
005-0
006-42,21,0
007-1
008-40
009-11
010-43 11
011-43 12
012-12
013-43 25
014-25
015-42,5,0
016-22 0
017-43 7
018-43 32
(FWIW, putting a number in the X register, followed by "f" and "B" executes the Savage Benchmark for the number of iterations in X. If X holds the traditional 2500, the results will show in about 48 seconds.)

After turning the 15C LE off, then executing "ON plus *", I get "Error 9".

Then, when I go to program mode, here's what's I find there now:
001-42,21,11
002-44 1
003-43 8
004-42,7,9
005-0
006-42,21,0
007-44,20,12
008-11
009-43 11
010-43 12
011-12
012-43 25

013-26
014-42,5,24
015-22 0
016-43 7
017-43 32

Really really strange!

I did a reset with "ON plus -", got the expected and proper "Pr Error", then reprogrammed the 15C LE. I was able to get this conditionn to repeat.

I conclude that one won't want to try any self tests if there is something in program memory!

What else lurks out there? I've only spent a couple of hours with my new 15C LE.

I'm not all that happy with this, but it seems to have some, er, possibilities. :-)

Edited: 9 Sept 2011, 9:50 p.m. after one or more responses were posted

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #2 Posted by **robertoataulfo** on 9 Sept 2011, 9:00 p.m.,*
in response to message #1 by Mike Morrow

```
Programming synthetic there we will :-)
And for $79 what do you want?
Maybe changing the system and putting the WebOS
```

Edited: 9 Sept 2011, 9:06 p.m.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #3 Posted by **hpnut** on 9 Sept 2011, 9:07 p.m.,*
in response to message #1 by Mike Morrow

An updated 15C with micro SD card storage would have been a quantum leap in technology. never mind about keeping true to it's original specs.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #4 Posted by **Mike Morrow** on 9 Sept 2011, 9:23 p.m.,*
in response to message #3 by hpnut

But...any SD card capability would likely eat the 2032 batteries up.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #5 Posted by **Eric Smith** on 9 Sept 2011, 9:37 p.m.,*
in response to message #4 by Mike Morrow

The SD card spec allows the cards to draw 150mA at 3.3V, and even more in some of the newest high-speed modes. Coin cells are rated for a few mA maximum.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #6 Posted by **uhmgawa** on 9 Sept 2011, 10:16 p.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> The SD card spec allows the cards to draw 150mA at 3.3V, and even more in some of the newest high-speed modes. Coin cells are rated for a few mA maximum.

True. But demountable SPI EEPROM in the new HP Voyager Flash Card format would have worked quite well from all concerns.

Looks like a missed opportunity to seed a proprietary media design into a captive market.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #7 Posted by **snaggs** on 10 Sept 2011, 6:24 a.m.,*
in response to message #3 by hpnut

2000 line programs written in the cryptic numeric codes? :)

> Quote:
>
> An updated 15C with micro SD card storage would have been a quantum leap in technology. never mind about keeping true to it's original specs.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #8 Posted by **Tim Wessman** on 9 Sept 2011, 9:28 p.m.,*
in response to message #1 by Mike Morrow

Those are not valid self tests. They were supposed to be disabled or removed. I also told them to remove any mention of that in the manual. Apparently it was left in.

Simple solution, don't do it. :-)

TW

Edited: 9 Sept 2011, 9:31 p.m.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #9 Posted by **Michael de Estrada** on 9 Sept 2011, 9:33 p.m.,*
in response to message #8 by Tim Wessman

So when will the errata sheets be available ?

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #10 Posted by **Tim Wessman** on 9 Sept 2011, 9:35 p.m.,*
in response to message #9 by Michael de Estrada

Monday, when I give it to the support guy to put in the call center. And they are never availiable.

TW

Edited: 9 Sept 2011, 9:41 p.m.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #11 Posted by **Katie Wasserman** on 9 Sept 2011, 10:09 p.m.,*
in response to message #10 by Tim Wessman

Will updated firmware be made available that either locks out those tests that aren't suppose to be there, or implements them?

-Katie

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #12 Posted by **Mike Morrow** on 9 Sept 2011, 9:44 p.m.,*
in response to message #8 by Tim Wessman

> Quote:
>
> Those are not valid self tests. They were supposed to be disabled or removed. I also told them to remove any mention of that in the manual. Apparently it was left in.
>
> Simple solution, don't do it. :-)

Well, er, of course.

But I have the honor to suggest that is not an *elegant* solution to something that *is*, after all, canonical in the 15C LE manual.

It is a condition fairly easily detected. :-)

Edited: 9 Sept 2011, 9:48 p.m.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #13 Posted by **Gerson W. Barbosa** on 9 Sept 2011, 9:50 p.m.,*
in response to message #12 by Mike Morrow

That's something beta-testers missed :-)

Well, I hope ON/. works. It does on my 12C+.

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #14 Posted by **Mike Morrow** on 9 Sept 2011, 9:55 p.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> That's something beta-testers missed :-)

Time for the master betas! :-)

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #15 Posted by **gene wright** on 9 Sept 2011, 10:15 p.m.,*

in response to message #14 by Mike Morrow

I think the beta testers were told the self-tests were not there so they assumed they were not there! Doh!

Re: HP 15C LE Memory Corruption After Self Test Performance

*Message #16 Posted by **uhmgawa** on 9 Sept 2011, 10:02 p.m.,*
in response to message #1 by Mike Morrow

> Quote:
>
> But now, I can report that attempting to perform the "ON plus *" self test not only results in immediate "Error 9", but also corrupts any program that is in memory.

Huh, sounds like something is getting stomped on elsewhere as a result of the test. The system self test does cycle through memory alternately writing "55555555555555" and "aaaaaaaaaaaaa" patterns but takes care not to permanently alter data.

Beatles records with misprinted abels are worth thousands

*Message #17 Posted by **snaggs** on 10 Sept 2011, 6:29 a.m.,*
in response to message #1 by Mike Morrow

These really could be limited edition collectors items :)

Daniel

[Return to Index | Top of Index]

Go back to the main exhibit hall

I do not understand :-)

*Message #1 Posted by **robertoataulfo** on 9 Sept 2011, 8:25 p.m.*

I do not understand this excitement by an HP-15C.

reasons:

Has no I / O
The display is not alpha
It is limited in terms of programming.
etc.

Here is a competitor in size and weight

Sharp PC-1262

- Scientific, 10 BCD digits, exponent ±99, Algebraic
- 10.4 kByte permanent RAM
- BASIC interpreter
- 2 lines each 24 digits 5x7 black&white LCD with separate contrast adjustment knob on the right side of the unit.
- Thermal printer and output to tape

Now walk with a limited HP-15C if I can walk with a true pocket in my pocket?
And besides having to copy the programs and results using a pen and paper?
You are correct that the printer is not very portable, but do what, not everything is perfect. :-)
I'm waiting for 41CL is really something from another world.
Long Live HP-41CL

Edited: 9 Sept 2011, 8:29 p.m.

(NT) You are kidding, aren't you?

*Message #2 Posted by **Gerson W. Barbosa** on 9 Sept 2011, 8:37 p.m.,*
in response to message #1 by robertoataulfo

Re: (NT) You are kidding, aren't you?

*Message #3 Posted by **robertoataulfo** on 9 Sept 2011, 8:50 p.m.,*
in response to message #2 by Gerson W. Barbosa

I'm not kidding.
You bought 3 ?!?!?!
And will use one?
Of what use is it for you?
I know!
You have been a poor boy like me who can not have a hp-15c when I was little and now wants to make one that is your
Do not worry, I also ordered 4!
One for me.
The one for my son's father (That's me)
The one for the husband of my wife (That's me)
The other store for me for my best friend (That's me)

Re: (NT) You are kidding, aren't you?

*Message #4 Posted by **Gerson W. Barbosa** on 9 Sept 2011, 9:18 p.m.,*
in response to message #3 by robertoataulfo

Olá Roberto,

Actually the HP-15C was my first HP calculator and I used it a lot in college until it was eventually replaced by an HP-28S (later replaced by a 48GX). The HP-15C was purchased in 1983 after my two-month old TI-59 was stolen. At first I thought of buying an HP-41C, but it was too expensive. Now I realize the HP-15C was the best option for me then (because of the features Namir mentions).

Take the chance and buy another one for your uncle's nephew while they are still available :-)

Até,

Gerson.

Re: I do not understand :-)

*Message #5 Posted by **Namir** on 9 Sept 2011, 8:47 p.m.,*
in response to message #1 by robertoataulfo

The HP-15C has Solve, Integrate, and built-in matrix commands. The Sharp PC-1262 does not!! So you have to program these features in BASIC. When it comes to matrix commands ... good luck! It's a lot of coding!

Edited: 9 Sept 2011, 8:48 p.m.

Re: I do not understand :-)

*Message #6 Posted by **hpnut** on 9 Sept 2011, 8:55 p.m.,*
in response to message #1 by robertoataulfo

reasons for not liking the Sharp:

1. It's not HP 2. It's not RPN

period :-)

hpnut in Malaysia

Re: I do not understand :-)

*Message #7 Posted by **robertoataulfo** on 9 Sept 2011, 9:02 p.m.,*
in response to message #6 by hpnut

```
I understand.
You can not program using Basic?
I can teach you. :-)
```

Re: I do not understand :-)

*Message #8 Posted by **Namir** on 9 Sept 2011, 9:20 p.m.,*
in response to message #7 by robertoataulfo

Some code in BASIC to solve simultaneous linear equations?

Re: I do not understand :-)

*Message #9 Posted by **Gerson W. Barbosa** on 9 Sept 2011, 9:37 p.m.,*
in response to message #8 by Namir

Complex linear equations, as our circuit analysis examination is about to begin. We need it done quickly :-)

There's a BASIC program here. Too late now, however...

Edited: 10 Sept 2011, 12:07 a.m.

Re: I do not understand :-)

*Message #10 Posted by **Seth Morabito** on 9 Sept 2011, 9:34 p.m.,*
in response to message #1 by robertoataulfo

The HP-41CL really is wonderful, but it requires already owning a real 41-C that you can take apart. That's too tall of an order for me!

Now, if someone were to create a new case for the HP-41CL that looked like the old 41C, I'd be quite interested in it!

Re: I do not understand :-)

*Message #11 Posted by **Ángel Martin** on 10 Sept 2011, 2:40 a.m.,*
in response to message #10 by Seth Morabito

> Quote:
>
> if someone were to create a new case for the HP-41CL that looked like the old 41C, I'd be quite interested in it!

Interesting idea, why don't you guys going to the conference talk HP into producing empty 41 shells? (well not quite empty, there's the little details like display and keyboards, of course :).

Really doing the CL "brain transplant" is a no brainer (pun intended), assuming you have a suitable donor. The issue is finding a C/CV which screw posts don't decompose beyond repair when you open it, and then you're home free.

Re: I do not understand :-)

*Message #12 Posted by **Håkan Thörngren** on 10 Sept 2011, 5:05 p.m.,*
in response to message #11 by Ángel Martin

I would not mind seeing an ARM based hp-41. Sort of a real halfnut with AAA batteries (rechargeable ones should work too). Skip the hp-41 bus port and go for a couple of USB ports instead.

[Return to Index | Top of Index]

I do not understand :-)

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How many HP 15c do you plan to order?

*Message #1 Posted by **Gerardo Rincon** on 9 Sept 2011, 6:54 p.m.*

Just curious about if anyone ordered more than one HP 15c?: I ordered 3: one to use, one for a gift and one keep in a box....

Edited: 9 Sept 2011, 6:56 p.m.

Re: How many HP 15c do you plan to order?

*Message #2 Posted by **Gerson W. Barbosa** on 9 Sept 2011, 7:01 p.m.,*
in response to message #1 by Gerardo Rincon

I have ordered three units from Samson Cables, for the same reasons you have.

Re: How many HP 15c do you plan to order?

*Message #3 Posted by **M. Joury** on 9 Sept 2011, 7:20 p.m.,*
in response to message #1 by Gerardo Rincon

Same as you.

Re: How many HP 15c do you plan to order?

*Message #4 Posted by **Quan** on 9 Sept 2011, 7:30 p.m.,*
in response to message #3 by M. Joury

2. Just to keep the production running.

Re: How many HP 15c do you plan to order?

*Message #5 Posted by **Dan G** on 9 Sept 2011, 8:17 p.m.,*
in response to message #1 by Gerardo Rincon

I ordered two. One to use, one to keep in the box. Glad I got in on the good deal from buy.com while the price was so low.

Re: How many HP 15c do you plan to order?

*Message #6 Posted by **Howard Owen** on 9 Sept 2011, 8:18 p.m.,*
in response to message #1 by Gerardo Rincon

I will own two. If we don't get one at the HHC meeting, I'll purchase a second one.

My first one is due in next Thursday. I was too cheap to pay for expedited shipping. :)

Re: How many HP 15c do you plan to order?

*Message #7 Posted by **Michael de Estrada** on 9 Sept 2011, 8:24 p.m.,*
in response to message #6 by Howard Owen

Why is it taking so long ? When did you place your order ? I placed mine yesterday, and it's due in on Monday. Tracking already shows it has arrived in my city (Fort Worth), and would probably be delivered tomorrow if it were not a Saturday.

Edited: 10 Sept 2011, 8:34 a.m. after one or more responses were posted

Re: How many HP 15c do you plan to order?

*Message #8 Posted by **Seth Morabito** on 9 Sept 2011, 9:31 p.m.,*
in response to message #7 by Michael de Estrada

Interesting. I ordered mine at 5:00 PM pacific time yesterday. It shipped today, and my delivery date is estimated to be Thursday as well. I live in Santa Clara, California.

Re: How many HP 15c do you plan to order?

*Message #9 Posted by **Ethan Conner** on 10 Sept 2011, 5:09 a.m.,*
in response to message #7 by Michael de Estrada

My tracking shows Dallas and my door(fort worth) monday before 4:30. I got a paycheck on saturday from the Fed people but i'm sure there was a premium paid to make that happen.

Re: How many HP 15c do you plan to order?

*Message #10 Posted by **gene wright** on 9 Sept 2011, 8:44 p.m.,*
in response to message #6 by Howard Owen

I keep seeing hopes that the 15c LE will be floating down from the sky at the upcoming HHC meeting. :-)

This is a very limited run and I do not expect to see a lot of these given away - at all. While I have no internal information one way or the other, I really REALLY do not expect a cart containing 100 of these guys to roll in at the conference.

HP has been kind enough to give some freebies the last several years, but again they are gifts and while gifts can be hoped for, they might or might not happen again.

Perhaps everyone should hope instead for a nice new HP 10bII+ instead? :-)

Bottom line ... IMO ... if you want a 15c LE, then BUY ONE. :-)

Or 2, or 10, etc.

Re: How many HP 15c do you plan to order?

*Message #11 Posted by **Howard Owen** on 9 Sept 2011, 9:22 p.m.,*
in response to message #10 by gene wright

I'm an optimistic sort of person. :)

I know I'm taking a risk by not buying two right now.

Re: How many HP 15c do you plan to order?

*Message #12 Posted by **Tim Wessman** on 9 Sept 2011, 9:36 p.m.,*
in response to message #11 by Howard Owen

We will not be handing out 15c units at the conference. That was last year.

There might be 1 or 2 on the prize table, but probably not placed there by HP.

TW

Edited: 9 Sept 2011, 9:37 p.m.

Re: How many HP 15c do you plan to order?

*Message #13 Posted by **Howard Owen** on 9 Sept 2011, 10:01 p.m.,*
in response to message #12 by Tim Wessman

OK, thanks for the tip, Tim.

Re: How many HP 15c do you plan to order?

*Message #14 Posted by **Howard Owen** on 9 Sept 2011, 10:08 p.m.,*
in response to message #10 by gene wright

Pursuant to Gene's and Tim's advice, I've ordered a second one from buy.com.

The longer you wait, the more it will cost

*Message #15 Posted by **Michael de Estrada** on 9 Sept 2011, 10:16 p.m.,*
in response to message #14 by Howard Owen

First Buy.com had the HP 15C LE listed for $78.99. Then early today they increased it to $84.99. Just now I checked and it has increased again to $89.99. Before long, it will cheaper to buy it on TAS. The early bird gets the worm.

Re: The longer you wait, the more it will cost

*Message #16 Posted by **M. Joury** on 9 Sept 2011, 11:01 p.m.,*
in response to message #15 by Michael de Estrada

Demand pushing up the price? I wonder how many they sold in the first 24 hours. More than 100? 200?

Cheers,

-Marwan

Glad I bought early. Up $11 in 36 hours! Nearly a 14% increase.

Edited: 9 Sept 2011, 11:04 p.m.

Re: The longer you wait, the more it will cost

*Message #17 Posted by **Michael de Estrada** on 9 Sept 2011, 11:24 p.m.,*
in response to message #16 by M. Joury

Yeah, and I got mine for only $73.99 with the $5 coupon and free economy shipping. :)

Re: The longer you wait, the more it will cost

*Message #18 Posted by **Howard Owen** on 9 Sept 2011, 11:43 p.m.,*
in response to message #15 by Michael de Estrada

Yup. I paid $89.99 for my second unit.

Re: The longer you wait, the more it will cost

*Message #19 Posted by **Jim Johnson** on 10 Sept 2011, 6:16 a.m.,*
in response to message #18 by Howard Owen

I just ordered two HP-15C Limited Edition calculator's from Buy.com. As I was online ordering the first one at 5:30am (EDT) on 9/10/2011, the price jumped from $89.99 to $99.99. I was able to get a second one ordered by using the back button on my browser to find the $89.99 price again and create a 2nd order. It appears that Buy.com is increasing the price, yet again. I noticed that they list the seller as "Samson Innovations". If you Google this company, they are a Chinese(Hong Kong) exporter. Hope I'm not ordering some knock-off that isn't HP sanctioned.

Re: The longer you wait, the more it will cost

*Message #20 Posted by **Michael de Estrada** on 12 Sept 2011, 2:49 a.m.,*
in response to message #19 by Jim Johnson

No, Buy.com is still $89.99. Samson is a different seller, and you don't need to buy from them for $99.99.

Re: The longer you wait, the more it will cost

*Message #21 Posted by **M. Joury** on 12 Sept 2011, 7:38 a.m.,*
in response to message #20 by Michael de Estrada

I can't even find the Samson Innovation price that the OP mentioned.

Re: How many HP 15c do you plan to order?

*Message #22 Posted by **Thomas Radtke** on 10 Sept 2011, 6:27 a.m.,*
in response to message #1 by Gerardo Rincon

Ordered one, but will buy one from the 2nd production run. Rumors are, the chinese are already busy scratching Us and Ns into the bezel.

Re: How many HP 15c do you plan to order?

*Message #23 Posted by **Glenn Dowdy** on 11 Sept 2011, 2:31 p.m.,*
in response to message #22 by Thomas Radtke

More than 10,000. ;)

Re: How many HP 15c do you plan to order?

*Message #24 Posted by **Patrick Rendulic** on 12 Sept 2011, 3:43 a.m.,*

in response to message #1 by Gerardo Rincon

I ordered one. Not more. I just want to check the quality. A year ago I bought a dozen 12c platinums, because I got them for $20 a piece, but you won't believe me, 8 had scratches on the bezel in the brand new sealed package. So I want to make sure that I don't buy a scratched china toy.

Other question. What does limited mean? Some say 10.000 units. Then after that? What? All thyt hype for some calculators?

Why not offering them all over the world in the next decade? Won't there be any more engineers in a year or 2? I still don't get it.

Re: How many HP 15c do you plan to order?

*Message #25 Posted by **Howard Owen** on 12 Sept 2011, 4:20 a.m.,*
in response to message #24 by Patrick Rendulic

My assumptions about this are:

1. The idea for the machine was sold inside HP by someone who cared about this community. In other words, bringing back the 15C was mostly about thrilling people who had clamored for it for years.
2. The reason it was sellable inside HP, is that they had a pretty good idea they wouldn't lose money making it. I think they used the popularity of 15C emulators as one way to judge the actual market for these things.
3. Whether or not they make more than 10,000 is going to depend on whether the current batch sells out. That's obvious, but it's still an open question in my mind if they will or won't. It sure seems like Buy.com wouldn't be raising the price in the face of soft demand, however.

Re: How many HP 15c do you plan to order?

*Message #26 Posted by **Paul Dale** on 12 Sept 2011, 4:25 a.m.,*
in response to message #25 by Howard Owen

> Quote:
>
> Whether or not they make more than 10,000 is going to depend on whether the current batch sells out

I honestly don't think the question is if the current production run sells out (because it will), but far more about how quickly it sells out.

10k units in a month is justification for another run. 10k units in a year isn't.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12C 30th Anniversary Edition on TAS

*Message #1 Posted by **M. Joury** on 9 Sept 2011, 6:30 p.m.*

The darn thing has already shown up on TAS!

HP12C

Re: HP12C 30th Anniversary Edition on TAS

*Message #2 Posted by **Steve Fennell** on 9 Sept 2011, 6:36 p.m.,*
in response to message #1 by M. Joury

I think that is Samson Cables, but correct me if I'm wrong.

Re: HP12C 30th Anniversary Edition on TAS

*Message #3 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 6:50 p.m.,*
in response to message #2 by Steve Fennell

I'm positive it is.

Re: HP12C 30th Anniversary Edition on TAS

*Message #4 Posted by **Michael de Estrada** on 9 Sept 2011, 6:50 p.m.,*
in response to message #2 by Steve Fennell

Yes, it is SC. They're selling it for MSRP $79.95 + shipping, so it makes no sense for domestic buyers, but they do ship worldwide, so that's probably their main market.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : Reopening last catalog called - Revisited

*Message #1 Posted by **Miguel Toro** on 9 Sept 2011, 12:44 p.m.*

Hello team 34s,

I flashed the new firmware and tested the "last catalog called" feature, and it worked...beyond expectation: now, even if you turn off the calculator, the last position is kept. That is really nice...a little à la 42s. What is needed is a small change on the manual, page 66, so to delete "This position is lost when the WP 34s is turned off." :-)

Thanks and regards,

Miguel

Re: WP 34S : Reopening last catalog called - Revisited

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 1:01 p.m.,*
in response to message #1 by Miguel Toro

That the position used to be lost across a power cycle was actually a bug in an internal routine. But if Walter insists I can make the software behave the way the manual describes. ;-)

Re: WP 34S : Reopening last catalog called - Revisited

*Message #3 Posted by **Walter B** on 9 Sept 2011, 2:58 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I don't insist ;-)

Re: WP 34S : Reopening last catalog called - Revisited

*Message #4 Posted by **Walter B** on 11 Sept 2011, 5:00 p.m.,*
in response to message #1 by Miguel Toro

Page 66 is changed and committed.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Limited Ed.

*Message #1 Posted by **Egan Ford** on 9 Sept 2011, 12:02 p.m.*

http://nikemag.ebay.com/shoes

Only 110 pairs. A previous article stated 1500. I guess there will be more auctions.

To bring this a bit into topic, use your fav calc and see if the shoe sizes are a normal distribution.

Re: OT: Limited Ed.

*Message #2 Posted by **Mike Morrow** on 9 Sept 2011, 3:32 p.m.,*
in response to message #1 by Egan Ford

I just got my two from buy.com. Ordered them yesterday.

HP 15C LE, Batch CNA132087X, Limited Edition Numbers 1577 and 1614.

It's for real!

Edited: 9 Sept 2011, 3:38 p.m.

Re: OT: Limited Ed.

*Message #3 Posted by **Lode** on 9 Sept 2011, 4:00 p.m.,*
in response to message #2 by Mike Morrow

Not sure if you saw it, but the original post was about Nike shoes, not HP 15C LE calculataors!

Re: OT: Limited Ed.

*Message #4 Posted by **Mike Morrow** on 9 Sept 2011, 4:30 p.m.,*
in response to message #3 by Lode

Yea...but when talking about limited edition pairs...I had a pair to talk about. :-)

Self test don't work though...not too unexpected. Overall quality below original.

Edited to change "far below" to "below". It is unrealistic to expect the quality of the original.

Edited: 9 Sept 2011, 6:40 p.m. after one or more responses were posted

Re: OT: Limited Ed.

*Message #5 Posted by **Michael de Estrada** on 9 Sept 2011, 5:12 p.m.,*
in response to message #4 by Mike Morrow

Do you mean that they don't include self-tests, or that they fail ?

Re: OT: Limited Ed.

*Message #6 Posted by **Steve Fennell** on 9 Sept 2011, 5:31 p.m.,*
in response to message #4 by Mike Morrow

Could you post a little more detail about the quality and differences between the two generations of the 15C?

Re: OT: Limited Ed.

*Message #7 Posted by **Tim Wessman** on 9 Sept 2011, 5:48 p.m.,*
in response to message #6 by Steve Fennell

Looks like cyrille forgot to patch the old self tests away, or at least slow them down.

The old self tests are there. The keyboard one works but times out quickly. If you start pressing keys immediately and don't wait more then about 2 seconds between each, you pass it fine. The second one runs too quickly and thus fails.

The real menus used now are the 12c+ ones that have the checksum and LCD test.

If you think the quality on a 12c+ is crap, you will think the 15c+ is crap too. They are the same except for firmware and cosmetics.

TW

Edited: 9 Sept 2011, 5:48 p.m.

Report: 15C LE Self Tests and Benchmark Run Times

*Message #8 Posted by **Mike Morrow** on 9 Sept 2011, 6:25 p.m.,*
in response to message #7 by Tim Wessman

I was **unfair** stating that the 15C LE quality was far below that of the original 15C. I would say it is perceptibly less than, but not far below, the original. It is certainly serviceable. I was initially influenced negatively by the self test performance failures.

In that area:
"ON with /" tries to work for a fraction of second, then ends with "Error 9".
"ON with *" immediately results in "Error 9".
"ON with -" immediately results in "Pr Error" and clears the memory and programs, ALL as expected.
"ON with +" immediately results in "Error 9".
The manual, page 261, describes the self tests as functioning in the manner of the original 15C, but they do not.

In other areas:
The 15C LE produces identical numerical results as the 15C, including the sequence of RAN# outputs.

Performance of a 2500-iteration Savage benchmark takes 48 seconds on the 15C LE, and 5840 seconds on the 15C. That shows a runtime improvement by a factor of 122.

It's worth the money, IMHO. Still, I'd prefer a 42S LE...greatly. :-)

Edited: 9 Sept 2011, 8:02 p.m.

Re: OT: Limited Ed.

*Message #9 Posted by **Mike Morrow** on 9 Sept 2011, 6:43 p.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> The real menus used now are the 12c+ ones that have the checksum and LCD test.

So how are the *real* tests accessed? I don't find mention of them in the manual.

Re: OT: Limited Ed.

*Message #10 Posted by **Steve Fennell** on 9 Sept 2011, 6:51 p.m.,*
in response to message #7 by Tim Wessman

Haven't seen a 12c+ yet. I have a 12c 30th and 15c LE on order though.

Re: OT: Limited Ed.

*Message #11 Posted by **uhmgawa** on 9 Sept 2011, 7:08 p.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> Looks like cyrille forgot to patch the old self tests away, or at least slow them down.
>
> The old self tests are there. The keyboard one works but times out quickly. If you start pressing keys immediately and don't wait more then about 2 seconds between each, you pass it fine. The second one runs too quickly and thus fails.

Unless the tests are stumbling on an incorrect checksum due to rom patching, it likely isn't a question of speed, but rather quirks in the r2d2 which cause the "on" + "x" and "on" + "+" tests to fail in your emulation. I puzzled on that early when writing KEMU on the unfulfilled belief those tests (well they're essentially the same) would ferret out implementation bugs in KEMU. Unfortunately for as much as they try to be, they aren't able to exhaustively functional test all instruction semantics.

Rather what I'd done as a more definitive benchmark was to take one of the NUT cpus left over from a KINOMI conversion and place it in a test jig PCB such that I could instrument it via feeding it instructions and examining the results. Some of the internal NUT state needs to be inferred, but IIRC it should provide complete coverage. Regrettably that project has fallen derelict due to available time (what's that?), but I should have extra break-out NUT PCBs if anyone would be interested to complete the effort.

Concerning rom patching, I'd sidestepped the issue as while KEMU running on a atmega1284p realizes a 5-6x speed increase over the stock NUT, it wasn't as drastic as you'd find on a 32bit SoC running at a substantially higher clock rate. And while keyscan debounce timing was made independent of emulation speed, other scenarios exist such as <f> + "prefix" which you can see here, timeout the delay at the actual emulation speed.

> Quote:
>
> If you think the quality on a 12c+ is crap, you will think the 15c+ is crap too. They are the same except for firmware and cosmetics.

Please don't say that in earshot of the Evilbay sellers now stuck with $400 NUT Voyagers lest they start marketing them as "Classic Voyagers" and we'll never be rid of them.

Edited: 9 Sept 2011, 8:20 p.m.

Re: OT: Limited Ed.

*Message #12 Posted by **Katie Wasserman** on 9 Sept 2011, 10:18 p.m.,*
in response to message #11 by uhmgawa

On My 12C+ (not LE) the "+" and "x" self tests work just fine. This is version 2009-11-19. The "/" self test does time out if your wait more than 2 seconds between key presses but this is because it's running 150 times faster then the original 12c. The "/" self test on the original 12c (10c, 11c, 16c and 15c) also times out but you need to wait for around 5 minutes.

I don't understand why these self tests didn't make it into the 15C LE firmware.

-Katie

Re: OT: Limited Ed.

*Message #13 Posted by **uhmgawa** on 9 Sept 2011, 10:50 p.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> On My 12C+ (not LE) the "+" and "x" self tests work just fine. This is version 2009-11-19. The "/" self test does time out if your wait more than 2 seconds between key presses but this is because it's running 150 times faster then the original 12c. The "/" self test on the original 12c (10c, 11c, 16c and 15c) also times out but you need to wait for around 5 minutes.
>
> I don't understand why these self tests didn't make it into the 15C LE firmware.

I'm sure it's in there, but apparently needs a little further emulator support. Actually I wasn't clear in my earlier comment. The 15c requires additional emulator support for the "on" + "x" system self test beyond the equivalent tests of the 11c/12c/16c. There are other model specific quirks such as the 12c having a slightly different power-on detect of the "x" key used to enter the self test relative to all other voyager models. Unsure whether that could be coming into play for the 15c here.

With the exception of the <f> + "prefix" sequence which is just a countdown loop, thus far I've been able to push the time sensitivity of key input into the emulator. It may be possible to deal with the <f> + "prefix" as well in the emulator by using the PC at the time of associated "CHK KB" instruction (and perhaps partial stack

content) to isolate the associated key release polling scenario, and rate limit the emulation instruction execution speed until it's complete. Depending on religion it may be preferable to patching the firmware to achieve the same result.

Re: OT: Limited Ed.

*Message #14 Posted by **M. Joury** on 9 Sept 2011, 11:20 p.m.,*
in response to message #12 by Katie Wasserman

The ON + "+" on my 12C+ never seems to come back from the "running" screen.

ON + "\" and ON + "X" seem to work fine except for the 2 second time out.

Re: OT: Limited Ed.

*Message #15 Posted by **Katie Wasserman** on 10 Sept 2011, 12:14 a.m.,*
in response to message #14 by M. Joury

> Quote:
>
> The ON + "+" on my 12C+ never seems to come back from the "running" screen.

Mine stops almost instantly upon pressing any key. What version of the firmware do you have in your 12c+?

Re: OT: Limited Ed.

*Message #16 Posted by **M. Joury** on 10 Sept 2011, 12:29 a.m.,*
in response to message #15 by Katie Wasserman

Hi Katie,

Yes, indeed it does (with all LCD segments other than the battery low indicator "lit"). I got my tests confused and forgot that you had to press a key to terminate the On + "+" test. My bad.

Thanks for reminding me!

Cheers,

-Marwan

Re: OT: Limited Ed.

*Message #17 Posted by **Howard Owen** on 9 Sept 2011, 4:28 p.m.,*
in response to message #2 by Mike Morrow

But that's good news anyway!

[Return to Index | Top of Index]

Go back to the main exhibit hall

OT: Limited Ed.

HP Forum Archive 20

[Return to Index | Top of Index]

Thread for 15c LE delivery reports
*Message #1 Posted by **gene wright** on 9 Sept 2011, 11:00 a.m.*

My units are "on the FedEx Truck" for delivery today. Will report what is in the box as soon as I can.

If you get the units today, let's report here...

Re: Thread for 15c LE delivery reports
*Message #2 Posted by **Mark Hardman** on 9 Sept 2011, 11:28 a.m.,*
in response to message #1 by gene wright

I think I'm obsessing too much about the HP 15c LE. I had a dream last night that my package arrived from buy.com. Inside was what appeared to be a shelf-worn NOS HP 15c box. I opened the box and it was empty.

Re: Thread for 15c LE delivery reports
*Message #3 Posted by **Don Davis** on 9 Sept 2011, 11:32 a.m.,*
in response to message #2 by Mark Hardman

> Quote:
>
> I think I'm obsessing too much about the HP 15c LE. I had a dream last night that my package arrived from buy.com. Inside was what appeared to be a shelf-worn NOS HP 15c box. I opened the box and it was empty.

If this was Facebook, I would 'like' your post. I once dreamed they found a pallet load of NOS 29C's and I got one. Best dream ever...

Don

Re: Thread for 15c LE delivery reports
*Message #4 Posted by **Michael de Estrada** on 9 Sept 2011, 11:34 a.m.,*
in response to message #3 by Don Davis

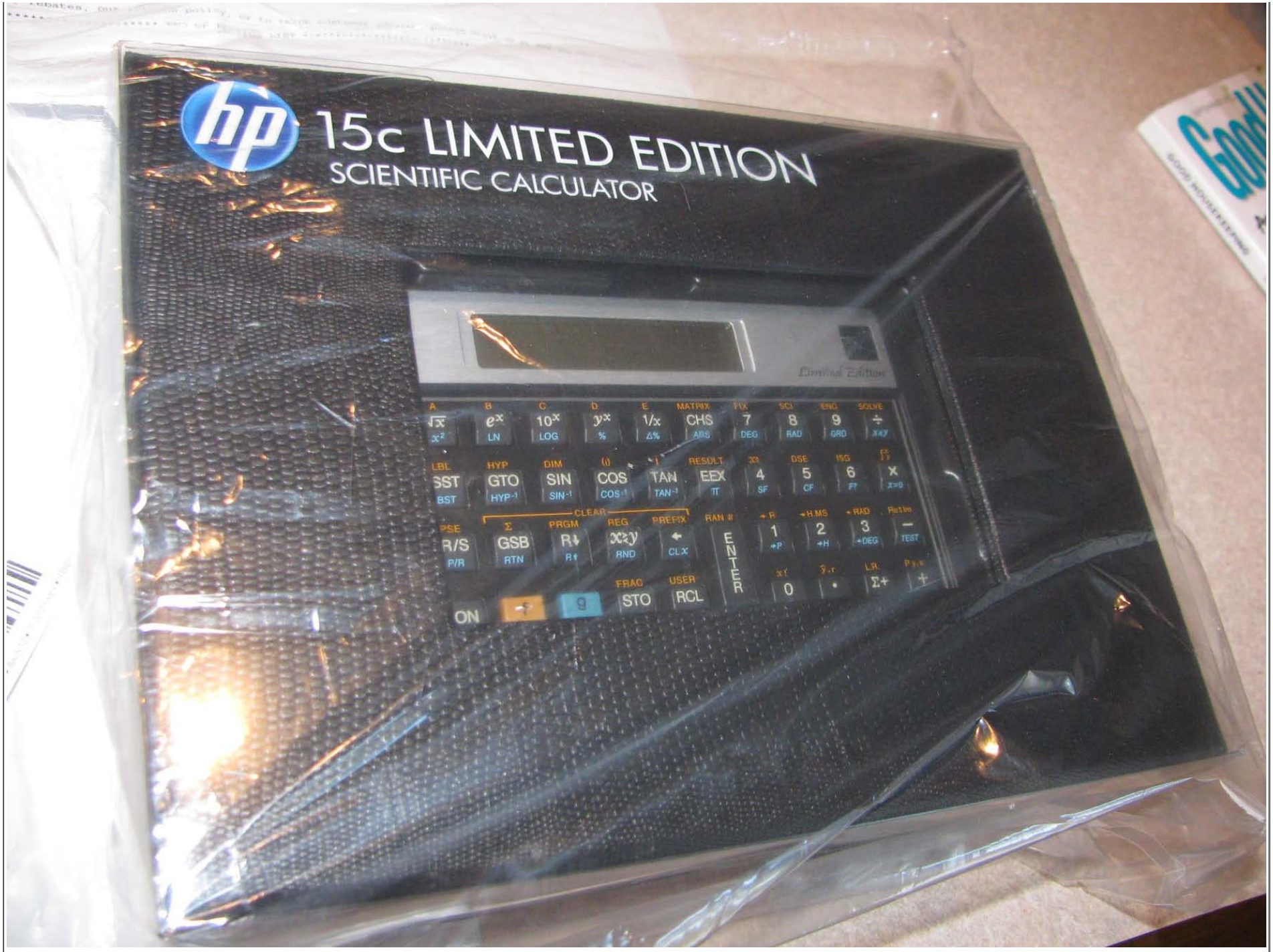
I once dreamed that I was using a slide rule at work, because calculators were deemed by management to be unreliable.

Delivered! and the result is ... pictures now included
*Message #5 Posted by **gene wright** on 9 Sept 2011, 12:36 p.m.,*
in response to message #1 by gene wright

Buy.com has delivered the 15c LE.

My wife opened it up and told me what it was...and that was BEFORE she had her fresh Pizza that was waiting.

and



Edited: 9 Sept 2011, 12:50 p.m. after one or more responses were posted

Re: Delivered! and the result is ...
*Message #6 Posted by **M. Joury** on 9 Sept 2011, 12:40 p.m.,*

in response to message #5 by gene wright

So, confirmed! It is the real thing! Now I *REALLY* can't wait.

Sounds like Gene is the first person to get one through normal channels!

Congrats!

-Marwan

Now one has to wonder -- where the heck did they get them from?

Edited: 9 Sept 2011, 12:42 p.m.

Re: Delivered! and the result is ...
*Message #7 Posted by **Sjthomas** on 9 Sept 2011, 12:45 p.m.,*
in response to message #6 by M. Joury

Maybe they're counterfeits. Gene, have your wife check if it has an "=" key. :-)

Re: Delivered! and the result is ...
*Message #8 Posted by **troy** on 9 Sept 2011, 1:11 p.m.,*
in response to message #7 by Sjthomas

now if this was facebook, i will like this post. haha!

Re: Delivered! and the result is ...
*Message #9 Posted by **Ed Look** on 9 Sept 2011, 1:34 p.m.,*
in response to message #6 by M. Joury

Yes! These pictures have reassured me that the rest of ours will actually come, too!

After all these years, I can have one!

The last and only time I touched a decent looking one was all too many years ago when a friend got a new one and wanted me to inscribe his initials on the back.

In recent years, colleagues have mistakenly left theirs behind, and I got to return their 15Cs to them. (Each time I asked if I could buy it from them and each time the answer was an unequivocal, "No".)

Re: Delivered! and the result is ...
*Message #10 Posted by **Glenn Dowdy** on 9 Sept 2011, 2:44 p.m.,*
in response to message #6 by M. Joury

> Quote:
>
> Now one has to wonder -- where the heck did they get them from?

Evidently the logistics flow has worked a lot faster on these. I checked with the front end and they have confirmed that these are legit.

Re: Delivered! and the result is ... pictures now included
*Message #11 Posted by **M. Joury** on 9 Sept 2011, 1:16 p.m.,*
in response to message #5 by gene wright

I want mine! First time in a *LOOONG* time that I will be looking forward to Monday!

I wonder how many they have left in stock <g>.

Re: Delivered! and the result is ... pictures now included
*Message #12 Posted by **Olivier (Wa)** on 9 Sept 2011, 1:23 p.m.,*
in response to message #5 by gene wright

I love the "Good Housekeeping" book in the frame! Any hidden message there ?

Re: Delivered! and the result is ... pictures now included
*Message #13 Posted by **M. Joury** on 9 Sept 2011, 1:27 p.m.,*
in response to message #5 by gene wright

So, who's going to buy one and list it on TAS for cost + shipping? That should shoot down some of the crazy prices we see on these machines.

Re: Delivered! and the result is ... pictures now included
*Message #14 Posted by **Michael de Estrada** on 9 Sept 2011, 1:48 p.m.,*
in response to message #13 by M. Joury

You first. :)

Re: Delivered! and the result is ... pictures now included
*Message #15 Posted by **Mark Hardman** on 9 Sept 2011, 1:56 p.m.,*
in response to message #13 by M. Joury

Oh please don't!

Co-bubba would be the first in line to buy it. He would then spend the rest of eternity relisting the unfortunate 15c LE trying to resell it for $489.

Edited: 9 Sept 2011, 2:00 p.m. after one or more responses were posted

Re: Delivered! and the result is ... pictures now included
*Message #16 Posted by **Lincoln R.** on 9 Sept 2011, 1:59 p.m.,*
in response to message #15 by Mark Hardman

Can't you block people from bidding on your TAS auctions? It might actually be useful for people like us to compile a list of known TAS scalpers and block them from bidding on any HP-related stuff we sell.

Re: Delivered! and the result is ... pictures now included
*Message #17 Posted by **M. Joury** on 9 Sept 2011, 2:02 p.m.,*
in response to message #16 by Lincoln R.

Then we can start selling HP15C LE's and make his worthless. I like the idea!

Re: Delivered! and the result is ... pictures now included
*Message #18 Posted by **Michael de Estrada** on 9 Sept 2011, 2:03 p.m.,*
in response to message #16 by Lincoln R.

Yes, you can. In fact I did block mr. C from bidding on mine.

Re: Delivered! and the result is ... pictures now included
*Message #19 Posted by **Steve Fennell** on 9 Sept 2011, 5:33 p.m.,*
in response to message #18 by Michael de Estrada

He could also be using another account to bid on purchases.

Re: Delivered! and the result is ... pictures now included
*Message #20 Posted by **Michael de Estrada** on 9 Sept 2011, 6:05 p.m.,*
in response to message #19 by Steve Fennell

I don't think so. Before I blocked him, the user name that appeared was "coburlin". Sellers still get to see the names of bidders, not the aliases now being shown to other bidders.

Re: Delivered! and the result is ... pictures now included
*Message #21 Posted by **Alexander Oestert** on 9 Sept 2011, 3:25 p.m.,*
in response to message #16 by Lincoln R.

> Quote:
>
> Can't you block people from bidding on your TAS auctions?

Why would anyone do that? Don't you wanna make as much money as you can on your auctions?

Re: Delivered! and the result is ... pictures now included
*Message #22 Posted by **Lincoln R.** on 9 Sept 2011, 6:51 p.m.,*
in response to message #21 by Alexander Oestert

Not if one's stated purpose is to flood the TAS market with 15Cs to drive prices down. In that case it would be a bad thing for one of the people who buys HPs for cheap and resells them at prices exceeding the present value of my car to gobble them up.

Also, it's common practice to block bidders who have personally caused you grief (not paying for items, etc.)

OT: Coburlin
*Message #23 Posted by **Howard Owen** on 9 Sept 2011, 4:38 p.m.,*
in response to message #16 by Lincoln R.

Back when I was selling on eBay a lot, I blocked Coburlin from bidding on my stuff. He used to show up all the time with low-ball bids. He was always quickly outbid, but I shuddered to think I would ever sell anything to that vampire.

Coburlin was useful though. Back then you could get a list of auctions a particular bidder was pursuing. I used to routinely bid a little more than I thought he was willing to pay. I got some good bargains that way too. Now you can't track a particular buyer's activity. I'm in general agreement with that policy, but it's a pity in his case.

Re: OT: Coburlin
*Message #24 Posted by **Michael de Estrada** on 9 Sept 2011, 5:03 p.m.,*
in response to message #23 by Howard Owen

He sells most of his stuff to non-USA bidders, who are often times locked out of auctions limited to USA bidders only. This is getting worse now with TAS policy to include shipping costs in the final sale fee, such that even fewer US sellers are willing to ship worldwide. I shipped some calcs in private sales to customers in New Zealand and Singapore, and the shipping costs were over $50 in each case. Had I sold them on TAS, I would have taken a $5 hit on the shipping cost. Nevertheless, his greed has greatly reduced his sales, and some items have languished on TAS for many years.

Re: Delivered! and the result is ... pictures now included
*Message #25 Posted by **M. Joury** on 9 Sept 2011, 2:08 p.m.,*
in response to message #15 by Mark Hardman

LOL

Re: Delivered! and the result is ... pictures now included
*Message #26 Posted by **Mark Hardman** on 9 Sept 2011, 1:57 p.m.,*
in response to message #5 by gene wright

Gene,

Can you confirm that there is a printed manual?

Not yet
*Message #27 Posted by **gene wright** on 9 Sept 2011, 2:02 p.m.,*
in response to message #26 by Mark Hardman

The unit is at home and I am not.

That said, Tim Wessman stated it came with a printed manual. His word is good enough for me.

Not sure I'm going to open this.

I might change my ebay ID to CoGene and list it on e*ay. :-)

$399 starting bid? I bet someone would buy it.

Re: Not yet
*Message #28 Posted by **M. Joury** on 9 Sept 2011, 2:06 p.m.,*
in response to message #27 by gene wright

People are *ALWAYS* buying stuff on TAS for more than they could buy in a regular retail store.

Re: Not yet
*Message #29 Posted by **M. Joury** on 9 Sept 2011, 2:15 p.m.,*
in response to message #27 by gene wright

Speaking of Tim: I would still *LOVE* to know where buy.com got them. Sounds like even HP has no idea. Based on the posts yesterday I was all set to have to return my 12C 30th, or my plain vanilla 12C, or my ink cartridge...

Cheers,

-Marwan

Re: Not yet
*Message #30 Posted by **Michael de Estrada** on 9 Sept 2011, 2:21 p.m.,*
in response to message #29 by M. Joury

Don't count your chickens before they're hatched.

Re: Not yet
*Message #31 Posted by **Tom Mathes** on 9 Sept 2011, 2:39 p.m.,*
in response to message #30 by Michael de Estrada

Yup; I ordered about the same time as others on this board but mine still shows "processing". Dunno if that's a sign or what...

EDIT: I should check before I write; mine shows shipped a few minutes ago and via FedEx ground (surprised at that since I used budget shipping). It gets here Tuesday. Just my luck I'm leaving Tuesday for business trip. My wife can crack it open and maybe learn RPN while I'm gone. :-)

Edited: 9 Sept 2011, 2:43 p.m. after one or more responses were posted

Re: Not yet
*Message #32 Posted by **M. Joury** on 9 Sept 2011, 2:42 p.m.,*
in response to message #31 by Tom Mathes

I have a tracking number. I'm counting chickens. Hope I am not disappointed!

Re: Not yet
*Message #33 Posted by **Lincoln R.** on 9 Sept 2011, 2:43 p.m.,*
in response to message #29 by M. Joury

Yeah, I'm incredibly curious as to how Buy.com got their hands on 1,000 pieces of a production run that was supposedly only 10,000, and furthermore how they got them before Samson Cables or HP's own web store. They're not someone I would typically think of buying an HP calculator from.

Re: Not yet

*Message #34 Posted by **Martin Pinckney** on 9 Sept 2011, 2:57 p.m.,*
in response to message #33 by Lincoln R.

See message #27 in this thread.

Re: Not yet
*Message #35 Posted by **James Sterbenz** on 9 Sept 2011, 5:51 p.m.,*
in response to message #33 by Lincoln R.

HP store *still* says coming soon. Maybe they are all going to 3rd party sellers, which would really piss me off if I were a customer that was checking HP itself daily (which I was, with the fortunate exception of also checking here).

Re: Not yet
*Message #36 Posted by **Don Davis** on 9 Sept 2011, 5:51 p.m.,*
in response to message #27 by gene wright

Now that there is an HP-15C re-release, we need a re-release of those nice leather slip cases with the foldover flap. No sense keeping a nice calculator like that in the crappy stock sleeve...

Never happy, Don :)

Re: Not yet
*Message #37 Posted by **Namir** on 9 Sept 2011, 8:33 p.m.,*
in response to message #27 by gene wright

If you'll be CoGene I will rename my handle to CuJo!!!

:-)

Namir

Re: Delivered! and the result is ... pictures now included
*Message #38 Posted by **Ryan Zachry** on 9 Sept 2011, 5:24 p.m.,*
in response to message #26 by Mark Hardman

There is a printed manual and a CD with a PDF manual and an emulator.

Re: Delivered! and the result is ... pictures now included
*Message #39 Posted by **Namir** on 9 Sept 2011, 3:33 p.m.,*
in response to message #5 by gene wright

Cool!!!!!!!!!!!!!! Thank you Gene for sharing the good news!!

Re: Delivered! and the result is ... pictures now included
*Message #40 Posted by **Gene wright** on 9 Sept 2011, 7:26 p.m.,*
in response to message #5 by gene wright

Printed manual-- looks very nice

Serial number is 00916

Re: Delivered! and the result is ... pictures now included
*Message #41 Posted by **Chris Edmunds** on 11 Sept 2011, 10:49 p.m.,*
in response to message #5 by gene wright

Could someone that has received a 15C LE please confirm box dimensions and weight? The ones given to me originally for the 12C 30th were incorrect so I don't trust what I have for the 15C. This will be helpful to me in accurately pre-generating all my shipping labels in order to expedite the orders for all the good folks out there waiting for their 15C's from Samson.

thanks

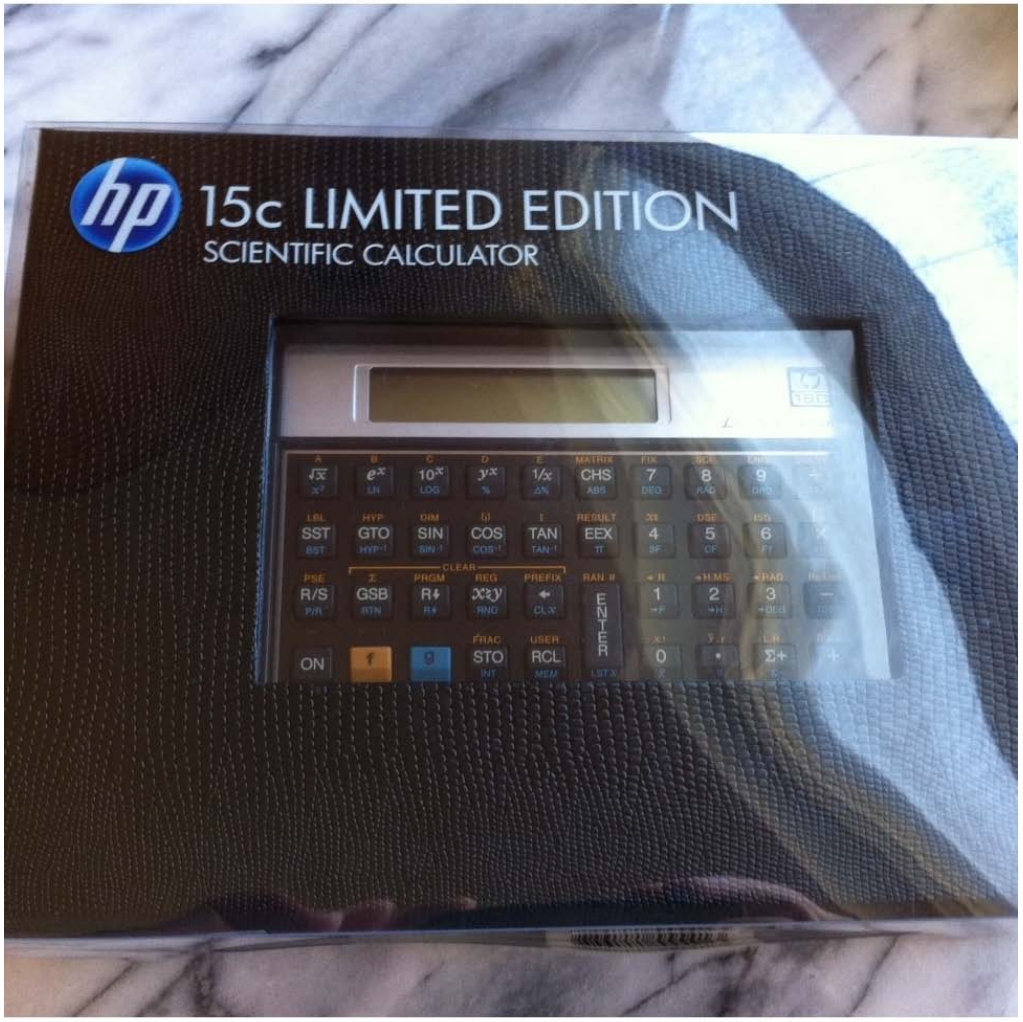
Re: Thread for 15c LE delivery reports
*Message #42 Posted by **Seth Morabito** on 9 Sept 2011, 5:16 p.m.,*
in response to message #1 by gene wright

I ordered two with great trepidation late yesterday afternoon. After all the discussion and confusion about buy.com, I admit I was concerned. But they say that they have shipped, and it sounds like people are actually getting them! I should have mine on Monday.

EDIT: I won't have them for a few days. They're shipping from Missouri and coming FedEx ground, so I suspect I won't see them until Wednesday. But I'm patient. I've waited 22 years, I can wait a few more days :)

Edited: 9 Sept 2011, 5:19 p.m.

Re: Thread for 15c LE delivery reports
*Message #43 Posted by **Jandro Kirkish** on 9 Sept 2011, 5:38 p.m.,*
in response to message #1 by gene wright



I have it! Printed manual & CD with emulator included ... Limited Edition Number 00158 ... unboxing pics below:

15C
Limited Edition
ON
ENTER
HEWLETT PACKARD

Edition
HEWLETT·PACKARD

15C
Limited Edition
A B C D E MATRIX FIX SCI ENG SOLVE
√x x² eˣ LN 10ˣ LOG yˣ % 1/x Δ% CHS ABS 7 DEG 8 RAD 9 GRD ÷ x≤y
LBL HYP DIM (i) I RESULT x≷ DSE ISG ∫ₓʸ
SST BST GTO HYP⁻¹ SIN SIN⁻¹ COS COS⁻¹ TAN TAN⁻¹ EEX π 4 SF 5 CF 6 F? × x=0
CLEAR
PSE Σ PRGM REG PREFIX RAN # → R →H.MS →RAD Re≷Im
R/S P/R GSB RTN R↓ R↑ x≷y RND ← CLx ENTER 1 →P 2 →H 3 →DEG − TEST
FRAC USER x! ŷ,r L.R. P y,x
ON f g STO INT RCL MEM LSTx 0 x̄ • s Σ+ Σ− + Cy,x
HEWLETT·PACKARD

Edited: 9 Sept 2011, 6:15 p.m.

Re: Thread for 15c LE delivery reports
*Message #44 Posted by **Steve Simpkin** on 9 Sept 2011, 6:21 p.m.,*
in response to message #43 by Jandro Kirkish

Jandro,
Great pictures!
What is your impression of the build quality? It should be the same as a 12C+ but I have never held a 12C+ to know how it compares to past Voyagers.

Re: Thread for 15c LE delivery reports
*Message #45 Posted by **Jandro Kirkish** on 9 Sept 2011, 6:52 p.m.,*
in response to message #44 by Steve Simpkin

Build quality is not bad; I've only the 12 Platinum to compare it to, as I don't have an original 15C to compare it to although it seems to be as nice as my former coworker's 11C ... So I did a couple of tests for comparisons sake. First thing I tried was the "flat surface test"; my 12CP is not flat, it rocks slightly on the diagonal when placed on a flat surface, which was obviously a great disappointment. This 15C is nice and level. A low bar to pass to be sure but that makes me happy anyway. Key feel is better as well; not quite as "clicky" as the 12CP yet quite firm. Also I tried gently torque-ing the 15C LE back and forth and it is quite solid. Again, doing this on my 12CP produces unsettling creaks -- as also happens with my 35S. So I can say for sure that the 15C LE is built better than the 12CP *and* the 35S. Perhaps it approaches the quality of the original 15C but we will have to wait for someone else who can do a direct comparison.

Re: Thread for 15c LE delivery reports
*Message #46 Posted by **Michael de Estrada** on 9 Sept 2011, 7:05 p.m.,*
in response to message #45 by Jandro Kirkish

The original Voyagers had certain expensive quality features such as gold plated circuit keyboard contacts, that I doubt the new ones have. They also featured metal snap dome actuators, which I don't know if they are still used on the new ones. The key action on

the original Voyagers is IMO the best and most refined of any HP calc ever made.

Edited: 9 Sept 2011, 8:14 p.m. after one or more responses were posted

Re: Thread for 15c LE delivery reports
*Message #47 Posted by **uhmgawa** on 9 Sept 2011, 8:02 p.m.,*
in response to message #46 by Michael de Estrada

> Quote:
>
> The original Voyagers had certain expensive quality features such as gold plated circuit keyboard contacts, that I doubt the new ones have. They also featured metal snap dome actuators, which I don't know if they are still used on the new ones. The key action on the original vayagers is IMO the best and most refined of any HP calc ever made.

I agree. But at least the 12c+ PCB has an overall nickel plate (probably for benefit of the dome contacts alone) which has better wear characteristics compared to gold, though either Ni or Au is suitable for dome land plating. I've also seen internal gold plated traces on legacy voyagers which seemed to be victim to gold/copper migration. So the Ni plate can be argued as a functional improvement.

The 4-legged domes to my sense also seem less preferable compared to the more muted round domes in the legacy voyagers. HP really hit the ergonomic bullseye squarely with those original voyager keyboards.

Re: Thread for 15c LE delivery reports
*Message #48 Posted by **Ryan Zachry** on 9 Sept 2011, 7:33 p.m.,*
in response to message #44 by Steve Simpkin

The [f] and [g] keys are a bit sloppy: http://www.youtube.com/watch?v=rF5-e-ZY1Rw .

Re: Thread for 15c LE delivery reports
*Message #49 Posted by **Steve Simpkin** on 9 Sept 2011, 7:42 p.m.,*
in response to message #48 by Ryan Zachry

Since all keys but the f and g are the same color plastic, I wonder if all of those keys are attached together in some way. Perhaps they have a plastic frame that is part of the molded key assembly?

Re: Thread for 15c LE delivery reports
*Message #50 Posted by **uhmgawa** on 9 Sept 2011, 8:10 p.m.,*
in response to message #49 by Steve Simpkin

> Quote:
>
> Since all keys but the f and g are the same color plastic, I wonder if all of those keys are attached together in some way. Perhaps they have a plastic frame that is part of the molded key assembly?

Most likely. IIRC the 35s is of similar construction which is basically a concession to economical injection molding.

From the youtube video it seems the 15c le as well has surface painted key legends. Somewhere in this overall discussion I thought there was a claim the keys were recess molded and paint filled.

Re: Thread for 15c LE delivery reports
*Message #51 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 2:03 a.m.,*
in response to message #48 by Ryan Zachry

They are of different color and cannot be put in the same grid as the other keys which most probably are all connected somehow.

Re: Thread for 15c LE delivery reports
*Message #52 Posted by **M. Joury** on 10 Sept 2011, 11:02 a.m.,*
in response to message #48 by Ryan Zachry

The 12C+ and 12CP have the same problem.

Re: Thread for 15c LE delivery reports
*Message #53 Posted by **hpnut** on 9 Sept 2011, 9:03 p.m.,*
in response to message #43 by Jandro Kirkish

my eagle eyes see that the yellow and gold shift keys are a bit off aligned, yes?

Re: Thread for 15c LE delivery reports
*Message #54 Posted by **Jandro Kirkish** on 9 Sept 2011, 11:41 p.m.,*
in response to message #53 by hpnut

Darn it! You're right. But it's actually because the two shift keys, esp. the blue one, are a bit loose, as Ryan observes :(

Edited: 9 Sept 2011, 11:42 p.m.

Re: Thread for 15c LE delivery reports
*Message #55 Posted by **hpnut** on 9 Sept 2011, 11:43 p.m.,*
in response to message #54 by Jandro Kirkish

dang! where's the HP quality of yesteryears?

Re: Thread for 15c LE delivery reports
*Message #56 Posted by **Gerson W. Barbosa** on 10 Sept 2011, 12:27 a.m.,*
in response to message #55 by hpnut

The original HP-15C sold for $135.00 when it was released in 1982. That's equivalent to about 300 today's dollars. Since now it is cheaper and runs 120+ times faster than before, I will overlook these minor details. If it looks as nice as my 12C+ then it will be ok for me!

Re: Thread for 15c LE delivery reports
*Message #57 Posted by **uhmgawa** on 10 Sept 2011, 12:51 p.m.,*
in response to message #56 by Gerson W. Barbosa

> Quote:
>
> The original HP-15C sold for $135.00 when it was released in 1982. That's equivalent to about 300 today's dollars.

The cost of consumer electronics in general followed that trend in part due to the required technologies becoming more cost effective. That said there is obviously a reduction in manufacturing cost (and quality) relative to the original voyager designs which was a concious choice by HP.

> Quote:
>
> Since now it is cheaper and runs 120+ times faster than before, I will overlook these minor details. If it looks as nice as my 12C+ then it will be ok for me!

I see your practical point. But nostalgia aside the HP legacy is in large part undeniably due to their unrivalled, legendary manufacturing quality. If that was not the case, none of us would be assembled here nor would this forum even exist today. I suppose a corollary is there will be no one some 30 years later slugging it out with a "Bring Back the HP 15C Limited Edition" campain.

HP has adapted to the best of its ability to the modern market in order to remain a viable competitor. As others here have said, the blame lies not with HP but with the current consumer base who is content to (or perhaps conditioned into) buying disposable consumer electronic junk and mindlessly following that protocol.

Re: Thread for 15c LE delivery reports
*Message #58 Posted by **Michael de Estrada** on 10 Sept 2011, 1:48 p.m.,*
in response to message #57 by uhmgawa

I think it was a reasonable compromise to bring back a legendary product at an affordable price for the sake of collectors and fans. Perhaps they could have commissioned a military products company to make them to the same standards as the originals, and charge $10K each.

Re: Thread for 15c LE delivery reports
*Message #59 Posted by **Gerson W. Barbosa** on 11 Sept 2011, 12:56 a.m.,*
in response to message #53 by hpnut

Just found this youtube video:

http://www.youtube.com/watch?v=rF5-e-ZY1Rw

I don't think the keys are as loose as they appear to be in the video. At least on my 12C+ they are firm enough.

Re: Thread for 15c LE delivery reports
*Message #60 Posted by **Brad** on 11 Sept 2011, 2:47 p.m.,*
in response to message #43 by Jandro Kirkish

Thanks Jandro,

This is comforting. I just bought one for $89.99 on Buy. I was worried I'd get the wrong product or no product at all.

Can you tell me (or post a picture) what is printed on the back? Is it the same as the original?

Thanks, Brad

Self-test Failures, Savage Benchmark Results
*Message #61 Posted by **Mike Morrow** on 9 Sept 2011, 7:06 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> If you get the units today, let's report here...

OK, I'm copying and modifying my post from another thread.

I got two units today from buy.com less than 24 hours after order placement!

The quality of construction, of course, does not match the original. That would be unreasonable to expect...the 15C LE is far less expensive than was the 15C. But it is serviceable.

I was initially influenced negatively by self test performance failures. In this area:
"ON with /" tries to work for a fraction of second, then ends with "Error 9". If you start pushing the keys for this keyboard test in the proper sequence during that fraction of a second before the Error 9 appears, you can get this test to work if you don't delay pushing the follow-on keys. (Tim pointed this out.)
"ON with *" immediately results in "Error 9".
"ON with -" immediately results in "Pr Error" and clears the memory and programs, ALL as expected.
"ON with +" immediately results in "Error 9".

The manual, page 261, describes the self tests as functioning in the manner of the original 15C, but they do not.

In other areas:
The 15C LE produces identical numerical results as the 15C, including the sequence of RAN# outputs.

Performance of a 2500-iteration Savage benchmark takes 48 seconds on the 15C LE, and 5840 seconds on the 15C. That shows a runtime improvement by a factor of 122.

By comparison, the HP 50g performs this benchmark in 65 seconds, and the HP 30b performs it in 6.5 seconds. Both the 50g and 30b have identical numerical results with an error that is smaller by a factor of 55, compared to the error in the results from the 15C and 15C LE.

Edited: 9 Sept 2011, 7:40 p.m.

Re: Self-test Failures, Savage Benchmark Results
*Message #62 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 4:46 a.m.,*
in response to message #61 by Mike Morrow

Can you post the benchmarks here. I'd like to see WP 34S results (accuracy and speed.) I assume the 34S will be faster because it does not have an emulation layer but runs native code on the same hardware as the 15C LE.

Re: Self-test Failures, Savage Benchmark Results
*Message #63 Posted by **Paul Dale** on 10 Sept 2011, 5:30 a.m.,*
in response to message #62 by Marcus von Cube, Germany

Check the 34S library in subversion.

334.6 seconds. So not all that fast :-(My initial guess is LN being very slow. Replacing the LN & e^x steps with NOPs reduces the run time to 160.8 seconds. All internal calculations being carried out to 39 digits instead of the 15 on the 15c will also hurt performance.

Anyway, my goal in the numerical code has always been accuracy before fast. So how does that aspect pan out. The article about this benchmark I found mentioned relative error. The absolute error is 1.578×10^{-9} on the true result of 2500, so the relative error is 6.312×10^{-13}.

Does anyone know what the correctly rounded result should be for 16 digit decimal arithmetic? This would be a more interesting to me.

- Pauli

Re: Self-test Failures, Savage Benchmark Results
*Message #64 Posted by **Oliver Unter Ecker** on 10 Sept 2011, 4:04 p.m.,*
in response to message #63 by Paul Dale

Using IEEE-754 math, the version quoted by Gilles yields a relative error of 7.77×10^{-14}, the version quoted by Mike 8.37×10^{-14}.

Re: Self-test Failures, Savage Benchmark Results
*Message #65 Posted by **Paul Dale** on 10 Sept 2011, 8:04 p.m.,*
in response to message #64 by Oliver Unter Ecker

Not a lot of help unfortunately. IEEE 754 binary doubles hold about 17 decimal digits but are binary. Their rounding properties are different.

The 34S uses IEEE 754 decimal doubles BTW.

- Pauli

Re: Self-test Failures, Savage Benchmark Results
*Message #66 Posted by **Gilles Carpentier** on 10 Sept 2011, 5:58 a.m.,*
in response to message #62 by Marcus von Cube, Germany

Hi Marcus

Here is an interesting tip that i found on the net :
http://www.technicalc.org/tiplist/en/files/pdf/tips/tip6_50.pdf

I confirm the 65s in UserRpl on my 50G with this code :

```
«
 1.
 1 2499 START
   SQ &#8730; LN EXP ATAN TAN 1. +
 NEXT

 2500. - 2500. /
»
```

Accurary is the same that 48/49 user Rpl in the previous link (the 'absolute' result is 2499.99948647) I'm impressed by the HP 30b performence (6.5 seconds!? 10 times faster than the 50G). As the 50G and 30b seems to use the same algorithms (same results), how explain that ?

EDIT : In exact mode, the 50G give the 2500 perfect result but much slower. In fact e^(2.Ln(2))+2496 NUM-> 2500. I searched why the 'e^(2.Ln(2))' . It's because 16 LN give '4.LN(2)' in exact mode so 16 LN EXP give 'e^(4.LN(2))' and the CAS don't see it's 16 (need an LNCOLLECT command inserted after the EXP -> With this perfect result in ~ 530 sec

Edited: 10 Sept 2011, 8:45 a.m. after one or more responses were posted

Re: Self-test Failures, Savage Benchmark Results
*Message #67 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 7:01 a.m.,*
in response to message #66 by Gilles Carpentier

There is no emulation layer in the 30b. The libs were reimplemented in C(++).

Re: Savage Benchmark Results
*Message #68 Posted by **Mike Morrow** on 10 Sept 2011, 2:56 p.m.,*
in response to message #62 by Marcus von Cube, Germany

> Quote:
>
> Can you post the benchmarks here. I'd like to see WP 34S results (accuracy and speed.) I assume the 34S will be faster because it does not have an emulation layer but runs native code on the same hardware as the 15C LE.

The simple Savage Benchmark has been around for decades. For the 15C and 15C-LE:

001 LBL B
002 STO 0
003 RAD
004 FIX 9
005 0
006 LBL 0
007 1
008 +
009 SQRT
010 X^2
011 LN
012 e^X
013 ARCTAN
014 TAN
015 DSE 0
016 GTO 0
017 DEG
018 RTN

Put the desired number of iterations in the X register. (2500 has always been the most commonly used value.) Execute with "f" and "B".

If X holds the traditional 2500, the result 2499.969898 will show in about 48 seconds. A "perfect" machine would show 2500.

The original 15C takes 5840 seconds for the same result.

There is an earlier "buggy" version of the Savage Benchmark that actually only looped 2499 times, then added 1 to produce the final result. But the benchmarks shown here actually loop 2500 times if 2500 was in X.

For RPL machines, I define program SB:
<< RAD TICKS 0. 1. 2500. START 1. + SQRT SQ LN EXP ATAN TAN NEXT SWAP TICKS SWAP - B->R 8192. / DEG 800. 2. BEEP >>

It's important to use those decimal points...integer calculations take much longer on the 49/50g series!

Executing SB on a 50g will produce 2499.99946106 in about 65 seconds. The program above displays the result and the exact loop execution time on completion.

The fastest handheld I've ever used is the HP 30b. It's about ten times faster than the 50g. It produces 2499.9946106 in about 6.5 seconds. Fast!!

My HP 42S version:
01 LBL "SB"
02 RAD
03 0
04 LBL 01
05 1
06 +
07 SQRT
08 X^2
09 LN
10 E^X
11 ATAN
12 TAN
13 DSE ST Y
14 GTO 01
15 BEEP
16 DEG
17 END

If 2500 is in X when SB is executed, it produces 2499.9946106 in about 600 seconds.

It would be interesting to see the WP-34S results.

Edited: 10 Sept 2011, 3:03 p.m.

Re: Savage Benchmark Results
*Message #69 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 4:17 p.m.,*
in response to message #68 by Mike Morrow

Pauli has done it. Here is his email:

> Quote:

> The automatic power off turns the 34S immediately when a long running program finishes.
>
> i.e. have a program that runs for longer than the power down timeout and when it finishes, the calculator turns off right away. The power off timeout ought to be reset when a program stops.
>
> I found this running the savage benchmark:

```
LBL A
2
4
9
9
STO I
TICKS
STO J
1
x^2
SQRT
LN
e^x
ATAN
TAN
INC X
DSZ I
BACK 08
TICKS
RCL- J
x<>y
RTN
```

> Run time is 334.6 seconds and absolute accuracy is 1.578e-9. So quite accurate but not very fast (the LN I suspect).

BTW, the power down problem is solved in the latest SVN release.

Re: Savage Benchmark Results
*Message #70 Posted by **Dieter** on 10 Sept 2011, 4:18 p.m.,*
in response to message #68 by Mike Morrow

I would like to add two remarks:

> Quote:
>
> If X holds the traditional 2500, the result 2499.969898 will show in about 48 seconds. A "perfect" machine would show 2500.

That's true only if that machine worked with infinite precision. Which no calculator I know of does. ;-)

For any calculator with a finite number of significant digits the result most probably will *not* be 2500. Simply because the sequence of a function and its inverse will not return the original argument. Not because of the lack of precision, but because this may be the correct result:

We all remember the results we got from our first calculator. Press 2 [sqrt] and [x^2], and you'll get 1,999999999. Is this because the device is inaccurate? No, it's because it's more accurate than we could think of: the calculator does not square the root of two, it squares 1,414213562 - which is 1,9999 99998 94472 78440. Or ...999 when rounded to ten digits.

Here's an example for the Savage Benchmark sequence on a 10-digit machine and a = 200 resp. 500:

operation	perfect 10-digit result	
a	200	500
a^2	40000	250000
sqrt	200	500
ln	5,298317367	6,214608098
exp	200,0000001	499,9999998
arctan	1,565796368	1,568796329
tan	199,9999816	499,9999846

This shows that the perfect result in this example is *not* 200 or 500. A perfect 10-digit calculator here *must* return a result slightly less. So does, for example, the 41-series - it returns exactly the values of this example.

Especially the final arctan-tan-sequence is crucial. With a little calculus it can be shown that the result of the final tan evaluation may vary by approx. a^2 times 5E-10 possible error even with a perfect arctan result. So, if a is 500 and the arctan result is perfect to ten digits (which it actually is, the result in the table is the true 10-digit value of arctan 500), the final result after the tan-evaluation may be anywhere between 499,999875 and 500,000125. And it is. A plain 500 would require at least 13-digit precision, and for a = 2500 even 14...15 digits. In a 10-digit calculator, that is.

In other words: even if calculator A returns a result closer to 2500 than that from calculator B, still A may be less accurate than B.

Second remark: your implementation of the Savage benchmark is different from that in the PDF on technicalc.org mentioned in this thread. According to that source the sequence is first square, then square root. You do it the other way round. Which version is correct?

Dieter

Re: Savage Benchmark Results
*Message #71 Posted by **Mike Morrow** on 10 Sept 2011, 5:12 p.m.,*
in response to message #70 by Dieter

> Quote:
>
> That's true only if that machine worked with infinite precision. Which no calculator I know of does. ;-)

Hence, my use of the word "perfect" in quote marks. Perhaps "ideal" would be better.

> Quote:
>
> Second remark: your implementation of the Savage benchmark is different from that in the PDF on technicalc.org mentioned in this thread. According to that source the sequence is first square, then square root. You do it the other way round. Which version is correct?

There have been minor variations over the decades. With respect to the order of operations, it seems best to perform the operation that produces a lower value, then perform the inverse operation that restores it. That's what happens in the three stages of every version that I've ever seen. I've never seen one that SQUARED before SQUARE-ROOTing. I doubt it has any *significant* effect, one way or another, except that by squaring first, then square rooting, you tend to keep close to whole numbers throughout this stage. But by square-rooting first, you immediately start dealing with the effects of numerical precision and accuracy in floating point calculations.

The other variation that is IMHO "buggy" is one that, when n is specified for the number of iterations, the calculation sequence loop is actually executed only n-1 times. If 1 is added *after* the function sequence rather than before, the loop will generally be exited without having performed the function sequence for that final iteration. The construction of the versions I prefer result in n executions of the loop if n iterations are specified for the benchmark, not the n-1 executions of earlier Savage versions. But this also has little *significant* effect, one way or another.

The first Savage Benchmark tests I ever saw were used on early PC machines, and were often written in interpreted GW-BASIC or compiled QuickBASIC or TurboBASIC.

Edited: 10 Sept 2011, 5:21 p.m.

Re: Savage Benchmark Results
*Message #72 Posted by **Dieter** on 11 Sept 2011, 9:30 a.m.,*
in response to message #71 by Mike Morrow

Mike -

> Quote:
>
> Hence, my use of the word "perfect" in quote marks. Perhaps "ideal" would be better.

Fine. ;-)

My point is: the precision of a particular calculator cannot be judged by the amount the final results deviates from 2500. For every number of significant digits n there is a characteristic result r_n the actual result must be compared with. This value most certainly is *not* 2500.

By the way, the same is also true for the well known "calculator forensics" test where the perfect result is *not* 9.

Dieter

Re: Thread for 15c LE delivery reports
*Message #73 Posted by **Quan** on 12 Sept 2011, 10:21 a.m.,*
in response to message #1 by gene wright

I just got mine delivered... roughly 10 minutes ago.

:)

Re: Thread for 15c LE delivery reports
*Message #74 Posted by **M. Joury** on 12 Sept 2011, 10:43 a.m.,*
in response to message #1 by gene wright

1 delivered <5 minutes ago. 2 more to be delivered tomorrow (total 3 for me).

Cheers,

-Marwan

NOT well packed. Box came broken :(.

Edited: 12 Sept 2011, 10:46 a.m.

Re: Thread for 15c LE delivery reports
*Message #75 Posted by **Ed Look** on 12 Sept 2011, 11:08 a.m.,*
in response to message #74 by M. Joury

But how was the calculator? No damage, I hope!

Re: Thread for 15c LE delivery reports
*Message #76 Posted by **M. Joury** on 12 Sept 2011, 11:17 a.m.,*
in response to message #75 by Ed Look

LOL. I would have been a whole lot more irate. The calculator is fine.

Cheers,

-Marwan

Re: Thread for 15c LE delivery reports
*Message #77 Posted by **Ethan Conner** on 12 Sept 2011, 1:34 p.m.,*
in response to message #76 by M. Joury

My 15c LE has landed in Fort Worth! More news soon, condition etcetera plus two more coming from samson.

Re: Thread for 15c LE delivery reports

*Message #78 Posted by **Quan** on 12 Sept 2011, 3:14 p.m.,*
in response to message #74 by M. Joury

What is the odd for those who buy 2 or more to receive theirs with consecutive Limited Edition Number?

Re: Thread for 15c LE delivery reports

*Message #79 Posted by **Gerson W. Barbosa** on 12 Sept 2011, 3:40 p.m.,*
in response to message #78 by Quan

For those who buy 2: 2/9999.

Re: Thread for 15c LE delivery reports

*Message #80 Posted by **Bart (UK)** on 13 Sept 2011, 4:45 a.m.,*
in response to message #79 by Gerson W. Barbosa

> Quote:
>
> For those who buy 2: 2/9999.

That would be the "blind eye" solution.

However, it would depend on

- how many the respective retailer has
- if the retailer gets them in a consecutive block of serial no.s
- if they are sent to the retailer packed consecutively
- and how the retailer packs orders

Without such knowledge any guess would be wrong.

Edited: 13 Sept 2011, 4:48 a.m.

Re: Thread for 15c LE delivery reports

*Message #81 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 9:31 p.m.,*
in response to message #80 by Bart (UK)

What are your odds to receive a prime number, assuming you order only one unit? I guess this doesn't depend on other factors :-)

Re: Thread for 15c LE delivery reports

*Message #82 Posted by **Paul Dale** on 13 Sept 2011, 9:34 p.m.,*
in response to message #81 by Gerson W. Barbosa

With lots of assumptions: pi(10000) is 1229 so I'd make the odds 1229 / 10,000. I.e fractionally over 12%.

- Pauli

Re: Thread for 15c LE delivery reports

*Message #83 Posted by **Gerson W. Barbosa** on 13 Sept 2011, 9:59 p.m.,*
in response to message #82 by Paul Dale

Yes. Using an approximation:

```
(10000/(ln(10000)-1))/10000 = 1/(4*ln(10)-1) = 0.1218
```

http://primes.utm.edu/howmany.shtml

Interestingly, no prime number reported so far (unless I've overlooked them).

Gerson.

Edited: 13 Sept 2011, 10:05 p.m.

Re: Thread for 15c LE delivery reports

*Message #84 Posted by **Dave** on 12 Sept 2011, 3:42 p.m.,*
in response to message #74 by M. Joury

The 4 that I ordered from buy.com last Thursday for $79 each and economy shipping arrived this morning (2 business days later).

Re: Thread for 15c LE delivery reports

*Message #85 Posted by **Ethan Conner** on 12 Sept 2011, 4:35 p.m.,*
in response to message #84 by Dave

My hp15c LE arrived with no damage and everything intact. Happy customer here!

Re: Thread for 15c LE delivery reports

*Message #86 Posted by **James Sterbenz** on 12 Sept 2011, 5:00 p.m.,*
in response to message #84 by Dave

My buy.com order arrived via FedEx ground in a filthy envelope, contents just fine.

Re: Thread for 15c LE delivery reports
*Message #87 Posted by **James Sterbenz** on 12 Sept 2011, 5:07 p.m.,*
in response to message #86 by James Sterbenz

The plastic slipcover smell like it was made last week, and needs another week or two to dry.

Re: Thread for 15c LE delivery reports
*Message #88 Posted by **Michael de Estrada** on 12 Sept 2011, 7:17 p.m.,*
in response to message #87 by James Sterbenz

Mine arrived this afternoon from Buy.com. The thinly padded plastic shipping envelope offers little protection, so I can understand how some may have been damaged, although fortunately mine was not. The display box is pretty useless for regular storage, as the plastic insert must be removed and flexed to remove the calc and gain access to the manual and slip case. The slip case is very thin and cheap, even more so than the original. I would gladly trade the fancy hard box for a nicer slip case. The manual is nicer than the ones supplied with the other current models, but nothing like the spiral bound manual that came with the original. The calc overall quality is very good and it has the solid feel of the original. The biggest disappointment is the keyboard, nothing like the feel of the original, more like a 35s, just a bit firmer. The display is pretty close to the crispness and contrast of the original, not bad. I ran a ISG loop benchmark that I wrote, and it's faster by a factor of 80+ than the original. (ln e^x 100x). S/N 01640.

Edited: 12 Sept 2011, 7:18 p.m.

Re: Thread for 15c LE delivery reports
*Message #89 Posted by **sylvandb** on 13 Sept 2011, 7:43 p.m.,*
in response to message #88 by Michael de Estrada

> Quote:
>
> Mine arrived this afternoon from Buy.com. ... The slip case is very thin and cheap, even more so than the original. I would gladly trade the fancy hard box for a nicer slip case.

Mine arrived Tuesday afternoon.

The 12c 30th slip case is the same as the ultra-cheap ones they typically send these days (not well formed, wide seam waste, very thin almost plastic material). I was disappointed.

The 15c LE case is only slightly cheaper than the original. (embossing now on both sides but not as clear. The material is similar to the original and significantly heavier and glossier than the 12c 30th case.)

The 15c LE slipcase is much better, IMHO, than the current 12c slipcase shipped with the 30th anniv edition. However both seem much more usable than the monstrosity that came with the 12c 25th AE.

Re: Thread for 15c LE delivery reports
*Message #90 Posted by **Michael de Estrada** on 13 Sept 2011, 8:38 p.m.,*
in response to message #89 by sylvandb

The slip case on my 15c LE is very thin, poorly made with a wide seam, and a bad tight fit on the calc. I just bought a nice looking leather slip case on TAS for $10.49 shipped.

Re: Thread for 15c LE delivery reports
*Message #91 Posted by **James Sterbenz** on 13 Sept 2011, 10:19 p.m.,*
in response to message #90 by Michael de Estrada

One off, or someone who is making them em mass for Voyagers?

Re: Thread for 15c LE delivery reports
*Message #92 Posted by **Michael de Estrada** on 13 Sept 2011, 10:29 p.m.,*
in response to message #91 by James Sterbenz

Looks like en mass here .

Re: Thread for 15c LE delivery reports
*Message #93 Posted by **Marcus von Cube, Germany** on 14 Sept 2011, 1:53 a.m.,*
in response to message #92 by Michael de Estrada

Thanks for the hint. I just ordered 3.

Re: Thread for 15c LE delivery reports
*Message #94 Posted by **megarat** on 15 Sept 2011, 10:47 p.m.,*
in response to message #91 by James Sterbenz

Those appear to be 3rd-party imitations of the leather cases made for the (non-25th Anniversary edition) 12c Platinum calculators. CalcPro used to sell them individually a few years ago, and I bought a four-pack to accommodate my Voyager collection.

Speaking of which (and to keep the thread on-topic), I got my 15c LE from SC today. The factory box was in a padded envelope (boo!), although received no damage in shipment (whew!).

Re: Thread for 15c LE delivery reports
*Message #95 Posted by **Ed Look** on 14 Sept 2011, 12:30 a.m.,*
in response to message #86 by James Sterbenz

Mine came today, but when I got home, I had errands to run. I didn't get to open it until a few hours ago.

My teenager asked, "What is it, Dad?"

"A calculator."

"..." (and probably rolled his eyes, too.)

"Hey! I always wanted this calculator, but it had been discontinued for about twenty years!"

"Oh."

"I didn't get it because I still a working older calculator and really couldn't afford another one then. And now, I have another chance to have one!"

"..." (probably shrugged before he turned and left.)

And later on, my wife: "Another one!??"

Oh, and it came with no problems in a plastic padded envelope. The plastic outer transparent box that bears the lettering and logo came with one flap bent slightly so that the cover flap will not completely close... BUT WHO CARES ABOUT THAT!!

The 15C LE itself was in fine condition and as others have said, feels solid. Yeah, maybe there was a slight rattle or movement in the f and g shift keys, but that's really to me a nonissue. It feels nice in my hands as I use it. I already typed in my quickie, short program to convert between eV and wavelength; and, I found it is no longer all that short. I forgot that keystroke programming for the 15C, 34C, etc. employed not the name/function of the keys as steps, but their position on the keyboard matrix! Now, it all comes back to me, the feeling I had when I used to program the 34C all those many years ago. (Okay, okay, so the keys don't QUITE feel as solid and snappy as the Spice and original Voyager ones did, it's still rather satisfactory to me.)

Oh, and for those who may be interested, the serial number on the bottom of the metal plate on the back reads, 01526 and on the little white sticker on top, CNA13207Q9.

As I was keying in my little program, it had been so many years that I forgot which key opened programming mode and had to look it up in the included manual, which is quite nice, except that today, I had gotten very little sleep and my eyes worse than they even are normally, and so I found the print a bit on the light side. For those who might miss the old spiral bound versions, my HP-34C manual, which is the original spiral bound one, after so many years shows signs of the cover beginning to wear off the spiral spine, if not any of the pages.

I also need a few physical constants, and I instinctively scanned the keyboard for an entryway to the constants or equation library, forgetting that in those days of mucho expensive memory chips, you had to write your own libraries, as programs. (So I cheated; I turned on the 50g and looked up the numbers to key into the 15C LE.)

But these are attributable to my aging habits rather than anything having to do with the calculator itself. I'd love to pop this in my briefcase and use it as my work scientific calc, except I'd need a sturdier, more robust case. Unfortunately for me, at the price of this rather nice calculator, I can't get another one to leave there or carry around.

Still, to have a 15C after all these years, after missing out on the opportunity back then...

... sweet!!

Edited: 14 Sept 2011, 12:52 a.m.

Re: Thread for 15c LE delivery reports
*Message #96 Posted by **Norman Dziedzic** on 15 Sept 2011, 12:04 p.m.,*
in response to message #86 by James Sterbenz

Ordered Sept 10 (Sunday) Arrived Today Sept 15 (Thursday) Standard Shipping

Single Piece Order, packaged in cardboard box. $89.99 Less $5 coupon.

Limited Ed NO: 02157

Re: Thread for 15c LE delivery reports
*Message #97 Posted by **Crawl** on 15 Sept 2011, 5:38 p.m.,*
in response to message #96 by Norman Dziedzic

I got mine today, from Sampson cables, ordered way back when I first heard of it. Limited edition number in the 2000's.

Re: Thread for 15c LE delivery reports
*Message #98 Posted by **Gerry Schultz** on 15 Sept 2011, 5:59 p.m.,*
in response to message #97 by Crawl

I just got my two today from Samson Cables. S/N 02321 and 02586

Re: Thread for 15c LE delivery reports
*Message #99 Posted by **Olivier (Wa)** on 15 Sept 2011, 10:03 p.m.,*
in response to message #98 by Gerry Schultz

Received my unit from Buy.com yesterday (9/14), and my two units from Samson Cables today (9/15), LE S/N #1611, #407 and #1455, respectively. All three packaged properly in a cardboard box. Samson Cables also added an extra plastic wrapping around the unit packagings prior to stuff them in the outer cardboard box.

Re: Thread for 15c LE delivery reports
*Message #100 Posted by **Eric Rechlin** on 15 Sept 2011, 10:12 p.m.,*
in response to message #99 by Olivier (Wa)

No they didn't. They come in that plastic packaging from the distributor.

Re: Thread for 15c LE delivery reports
*Message #101 Posted by **Art Litka** on 15 Sept 2011, 11:38 p.m.,*
in response to message #100 by Eric Rechlin

Received 2 15C LE's today (9/14). One from Samson Cables SN 1770 arrived in bubble pack envelope via US mail. The other from BUY.com SN 2355 came FEDEX in cardboard box. Both had no shipping damages and look well made from my quick inspection. I was surprised to get them both about 3 days from my placement of the orders. In fact, BUY.com only charged $89.99 with free shipping while SC charged $99.99 plus $8.00 US for US Priority mail. I'm very pleased with both situations nonetheless. I may order one more soon.

Re: Thread for 15c LE delivery reports
*Message #102 Posted by **Art Litka** on 15 Sept 2011, 11:40 p.m.,*
in response to message #101 by Art Litka

Oops, today is 9/15 not 9/14! Sorry.

Re: Thread for 15c LE delivery reports
*Message #103 Posted by **Michael de Estrada** on 16 Sept 2011, 5:50 p.m.,*
in response to message #102 by Art Litka

Just received one in a box from "Distribution Center, Olive Branch, MS", no mention of CostCentral on the packing list. LE #02953. No rattling, crooked or bad keys. Passed self-tests 1 & 2 (LCD & checksum).

Re: Thread for 15c LE delivery reports
*Message #104 Posted by **Adam Vaughn** on 16 Sept 2011, 6:39 p.m.,*
in response to message #103 by Michael de Estrada

I got mine today from buy.com (ordered it on 9/13). Edition number 02103. Passed all three checksums, and all of the keys seem to be fine.

Edited: 16 Sept 2011, 6:39 p.m.

Re: Thread for 15c LE delivery reports
*Message #105 Posted by **Ethan Conner** on 17 Sept 2011, 4:15 a.m.,*
in response to message #104 by Adam Vaughn

Received my two 15c le's from samson on friday. The brown truck doesn't come to my house till after i start work in the afternoon. Anyway they are both in good shape. They are le# 00812 & 02852. passed self tests and no funky keys. That means i have one from each of the first 3000 le numbers. My buy dot com was 01623.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42 - A Complex glitch?

*Message #1 Posted by **Ángel Martin** on 9 Sept 2011, 8:33 a.m.*

While going through older postings I came across this reporting a 34S bug:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=192437#192437

Sure enough I checked the 41Z to discover I had a similar problem (not exactly the same), which has prompted a new revision.

I also checked free42, rev 1.4.68 - which for me shows the incorrect result as well! Is that what you guys see?

So it appears the example in the 15C manual was a good choice...

The correct result is:
sin-1(2.404) = 1.5708-1.5239i

Re: Free42 - A Complex glitch?

*Message #2 Posted by **Miguel Toro** on 9 Sept 2011, 10:30 a.m.,*
in response to message #1 by Ángel Martin

Hola Ángel,

Before posting that issue, one of the calculators I used for testing was Free42 (one of my refence calculators). and it gave me the same result as the 15c: sin-1(2.404) = 1.5708-1.5239i.

I retested with the newest version (1.4.68), on my phone and on Windows (Decimal and Binary flavours) and I still get the expected answer as it is also now in the WP 34s. Really strange.

Regards,

Miguel

Re: Free42 - A Complex glitch?

*Message #3 Posted by **Quan** on 9 Sept 2011, 10:41 a.m.,*
in response to message #1 by Ángel Martin

Ángel,

Just tested the Free42, v1.4.68. It gave the correct result.

Re: Free42 - A Complex glitch?

*Message #4 Posted by **Walter B** on 9 Sept 2011, 12:21 p.m.,*
in response to message #1 by Ángel Martin

Aqui tambien: Free42 1.4.66 returns what you stated being the correct result.

Re: Free42 - A Complex glitch?

*Message #5 Posted by **Ángel Martin** on 9 Sept 2011, 3:09 p.m.,*
in response to message #4 by Walter B

komisch: I don;t know what's going on but I keep getting the wrong result (with positive imaginary part). I triple-checked it's the latest version available, even downloaded it twice, and did the test on both my desktop (Win XP) and Laptop (Win7).

So what gives???

Re: Free42 - A Complex glitch?

*Message #6 Posted by **Walter B** on 9 Sept 2011, 5:16 p.m.,*
in response to message #5 by Ángel Martin

Strange. Did you check ASIN(-2.404) as well? What's "your" result there? And for ACOS(2.404) ? Can't imagine anything going wrong there, but your PCs seem to know more ;-)

Re: Free42 - A Complex glitch?

*Message #7 Posted by **sylvandb** on 9 Sept 2011, 5:55 p.m.,*
in response to message #5 by Ángel Martin

> Quote:
>
> komisch: I don;t know what's going on but I keep getting the wrong result (with positive imaginary part). I triple-checked it's the latest version available, even downloaded it twice, and did the test on both my desktop (Win XP) and Laptop (Win7).
>
> So what gives???

That is odd. I get the correct answer (neg i part) on linux decimal.

Did you try decimal and binary versions? Try a memory reset? Try deleting on the free42 state files in your user dir?

Re: Free42 - A Complex glitch?

*Message #8 Posted by **fhub** on 10 Sept 2011, 6:11 a.m.,*
in response to message #5 by Ángel Martin

There's in fact an inconsistency in Free42:

asin(2.404)=1.5708-i1.5239 but asin(2.404+i0)= 1.5708+i1.5239 although both function arguments are of course equal.

Re: Free42 - A Complex glitch?

*Message #9 Posted by **Ángel Martin** on 12 Sept 2011, 3:32 p.m.,*
in response to message #8 by fhub

sorry I din't see your post - exactly!

Re: Free42 - A Complex glitch?

*Message #10 Posted by **fhub** on 12 Sept 2011, 3:53 p.m.,*
in response to message #9 by Ángel Martin

I've sent an email yesterday to Thomas about this bug, but haven't got an answer yet.

Franz

Re: Free42 - A Complex glitch?

*Message #11 Posted by **Ángel Martin** on 12 Sept 2011, 3:31 p.m.,*
in response to message #5 by Ángel Martin

Mystery solved ! - and re-opened, let me elaborate:

1.- if you just type 2.404, ASIN -> the result is correct, but...
2.- if you use the complex mode, entering 2.404 ENTER^ 0 COMPLEX ASIN -> the result is wrong!

so what gives? It appears to me that there's some glitch in free42.

Thomas, you around?

Best, 'AM

Re: Free42 - A Complex glitch?

*Message #12 Posted by **Miguel Toro** on 13 Sept 2011, 9:21 a.m.,*
in response to message #11 by Ángel Martin

Hello

I can confirm your findings and it is something that appears between the two version I have :

Version 1.4.48 : 2.404, x<>y, COMPLEX, SHIFT, ASIN --> **1.5708-i1.5239**

Version 1.4.68 : 2.404, x<>y, COMPLEX, SHIFT, ASIN --> **1.5708+i1.5239**

Then, something happened in between these two...

Regards,

Miguel

Re: Free42 - A Complex glitch?

*Message #13 Posted by **Walter B** on 13 Sept 2011, 1:51 p.m.,*
in response to message #12 by Miguel Toro

> Quote:
>
> **Version 1.4.48** : 2.404, x<>y, COMPLEX, SHIFT, ASIN --> **1.5708-i1.5239**
>
> **Version 1.4.68** : 2.404, x<>y, COMPLEX, SHIFT, ASIN --> **1.5708+i1.5239**

We can let the interval shrink significantly, since:

Version 1.4.66 : CLST, 2.404, x<>y, COMPLEX, SHIFT, ASIN --> **1.5708-i1.5239**

HTH

Edited: 13 Sept 2011, 1:54 p.m.

Re: Free42 - A Complex glitch?

*Message #14 Posted by **Lyuka** on 13 Sept 2011, 2:15 p.m.,*
in response to message #13 by Walter B

It may be a side effect of this fix.

> Quote:
>
> 13-03-2011: release 1.4.67
>
> * ASIN returned incorrect results for large complex arguments. Fixed.

Lyuka

Re: Free42 - A Complex glitch?

*Message #15 Posted by **Ángel Martin** on 13 Sept 2011, 3:22 p.m.,*
in response to message #14 by Lyuka

You may be right. In fact I remember well that fix since it was me who pointed it out to Thomas. I ran into it during my 41Z testing, as I was using Free42 as a reference.

Re: Free42 - A Complex glitch?

*Message #16 Posted by **Thomas Okken** on 13 Sept 2011, 8:40 p.m.,*
in response to message #14 by Lyuka

> Quote:
>
> It may be a side effect of this fix.
>
> > Quote:
> >
> > 13-03-2011: release 1.4.67
> >
> > * ASIN returned incorrect results for large complex arguments. Fixed.

It seems that way. That fix did correct another ASIN bug, but apparently it introduced this one. I'll have to revisit ASIN and all the other complex inverse trigs and hyperbolics. I'll try to do that this weekend; stay tuned. I'll post a new version on my web site and iTunes when this is sorted out.

- Thomas

Re: Free42 - A Complex glitch?

*Message #17 Posted by **Thomas Okken** on 13 Sept 2011, 10:24 p.m.,*
in response to message #16 by Thomas Okken

It looks like a branch cut issue. Both the <= 1.4.66 and the >= 1.4.67 code are correct in strictly analytical terms; the former calculates ASIN by multiplying x by i, calculating ASINH, then multiplying by -i, while the latter swaps the real and imaginary parts of x, then calculates ASINH, then swaps the real and imaginary parts back. For a complex analytical function that is also odd, those two approaches are mostly equivalent, *except* for the edge cases. It looks like fixing the behavior near re(z)=infinity broke the behavior near im(z)=0. The results that Free42 returns aren't wrong, but they don't follow the conventions used by the HP-42S (or maybe that means they *are* wrong, and I just didn't realize what the commonly accepted conventions are). If anyone can point me to a reference that lists those conventions, I'd appreciate it! If not, I'll have to spend some time doing some research on how to handle the edge cases correctly.

Note that the code that handles the cases where X is real and |x|>1 are handled by code that's completely separate from the code that handles the case that X is complex (even if the imaginary part is zero). The code for real X where |x|>1 uses arcsin(x)=pi/2-i*arccosh(x) if x>0 and arcsin(x)=-pi/2+i*arccosh(-x) if x<0, and that gives results that match the HP-42S. This code did not change in release 1.4.67. (Hmmm, maybe I should use the same algorithm for the complex case?)

Edited: 13 Sept 2011, 10:38 p.m.

Re: Free42 - A Complex glitch?

*Message #18 Posted by **Paul Dale** on 13 Sept 2011, 10:55 p.m.,*
in response to message #17 by Thomas Okken

I seem to remember the 15c advanced function book mentioned branch cuts...

- Pauli

Re: Free42 - A Complex glitch?

*Message #19 Posted by **Thomas Okken** on 13 Sept 2011, 11:06 p.m.,*
in response to message #18 by Paul Dale

Thanks for the tip! I'll take a look at that book.

Re: Free42 - A Complex glitch?

*Message #20 Posted by **John B. Smitherman** on 13 Sept 2011, 11:41 p.m.,*
in response to message #19 by Thomas Okken

Thomas, here's input from Wolfram Alpha: Link

Regards,

John

Re: Free42 - A Complex glitch?

*Message #21 Posted by **Paul Dale** on 14 Sept 2011, 12:10 a.m.,*
in response to message #19 by Thomas Okken

Two other reference works that might help are:

[ul]

- Abramowitz and Stegun: Handbook of Mathematical Functions which is fantastic reference for many functions.

- NIST Digital Library of Mathematical Functions which is a bit more modern and flashier but also very good.

Both of these books are invaluable if you are coding numeric function evaluators. I find paper copies easier to work with than the on line ones (YMMV of course).

I can dig up some other references if necessary. I ended up buying more than a few books on numeric mathematics, function evaluation and floating point arithmetic while doing the 34S numerics. It really is a deep and interesting field.

- Pauli

Edited: 14 Sept 2011, 12:11 a.m.

Re: Free42 - A Complex glitch?

*Message #22 Posted by **Ángel Martin** on 14 Sept 2011, 8:58 a.m.,*
in response to message #17 by Thomas Okken

In case it helps, the formulas I use on the 41Z are as follows:

> Quote:
>
> asin z = -i * asinh (iz)
>
> asinh z = Ln[z + SQR(z^2 + 1)]

If I recall correctly (working from memory here), the main branch is defined by results with -pi/2 < Im(z) <= pi/2.

I do some adjustments for "large" arguments (their real and imgry parts rather - as defined when (z^2+1 ~ Z^2), remember the NUT CPU has only 10/13 digits in the mantissa. I remember this was what triggered you to "correct" the original implementation.

Edit: the formula can also be expressed as:
asinh z = Ln[z + SQR(z + i) SQR(z - i)]

This has the advantage of not discarding SQRT branches before hand.

Edited: -pi/2 typo, as per below post

Edited: 14 Sept 2011, 9:37 a.m. after one or more responses were posted

Re: Free42 - A Complex glitch?

*Message #23 Posted by **fhub** on 14 Sept 2011, 9:22 a.m.,*
in response to message #22 by Ángel Martin

> Quote:
>
> If I recall correctly (working from memory here), the main branch is defined by results with pi/2 < Im(z) <= pi/2.

Well, then there's not much left for Im(z), I'm afraid! ;-)

Re: Free42 - A Complex glitch?

*Message #24 Posted by **Ángel Martin** on 14 Sept 2011, 9:39 a.m.,*
in response to message #23 by fhub

LOL...

of course should have been:

-pi/2 < Im(z) < pi/2

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Amazon is selling HP-15C LE now

*Message #1 Posted by **From Hong Kong** on 9 Sept 2011, 8:10 a.m.*

http://www.amazon.com/HP-15C-Scientific-Calculator-Limited/dp/B005EIG3MW/ref=sr_1_3?ie=UTF8&qid=1315570107&sr=8-3

Re: Amazon is selling HP-15C LE now

*Message #2 Posted by **Namir** on 9 Sept 2011, 8:26 a.m.,*
in response to message #1 by From Hong Kong

Samson Cables is selling the 15C LE in Amazon. So there is really nothing new.

Re: Amazon is selling HP-15C LE now

*Message #3 Posted by **From Hong Kong** on 9 Sept 2011, 8:30 a.m.,*
in response to message #2 by Namir

Oh...

Re: Amazon is selling HP-15C LE now

*Message #4 Posted by **From Hong Kong** on 9 Sept 2011, 8:40 a.m.,*
in response to message #2 by Namir

Anyway, here's the latest update from Samson Cables:

Update 9/8/2011 Our shipment is in transit to us. We should have it next week. Currently we will have enough calculators to fill all pre-orders with some for new orders. Orders will be filled in the order received and your card will not be charged until shipment. If you have already pre-ordered this product it is not necessary to re-order it.

Re: Amazon is selling HP-15C LE now

*Message #5 Posted by **Thomas Radtke** on 9 Sept 2011, 10:58 a.m.,*
in response to message #4 by From Hong Kong

With the junk across the Pacific, straying through North America, and back to Eurasia over the Atlantic. With lots of luck, customs will let it pass through to me.

If my 15C LE finally arrives, it could have had some adventures if only it weren't enclosed in that box.

Can't wait.

Re: Amazon is selling HP-15C LE now

*Message #6 Posted by **jimi** on 9 Sept 2011, 4:18 p.m.,*

in response to message #4 by From Hong Kong

So...the order goes through on amazon, so I wonder if I'll actually get the thing.

Almost not sure if I'd even open it. I have my beater 15C that still works, and after so many years, it would almost feel like cheating.

Re: Amazon is selling HP-15C LE now

*Message #7 Posted by **Namir** on 9 Sept 2011, 8:11 p.m.,*
in response to message #6 by jimi

and miss out on the speed of the new machine?

Re: Amazon is selling HP-15C LE now

*Message #8 Posted by **Les Bell** on 10 Sept 2011, 1:11 a.m.,*
in response to message #1 by From Hong Kong

It says on that page:

> Quote:
>
> Ships from and sold by HPCalculators.Com

which is, of course, Samson Cables.

Best,

--- Les
[http://www.lesbell.com.au]

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c LE - U.S. versus European version

*Message #1 Posted by **Michael Kussmaul** on 9 Sept 2011, 5:19 a.m.*

I'm not a collector (yet :-) but plan to buy a 15c LE for personal daily use. I heard (here in the forum) there seem to be two versions released: An U.S. and an European version, with slightly different model numbers (#B1S = Europe, #ABA = U.S.).

Are those models physically the same? Or are there really some differences on the hardware? I'm thinking of the differences in comma/dot notation, e.g. in The U.S. you seem to write: 1,000,000.1234 - while in Europe you write 1'000'000.1234

I'm not sure if even the original 15c had different comma/dot notation? Perhaps some owners of the original one could shed some light?

kind regards, Michael

Re: HP 15c LE - U.S. versus European version

*Message #2 Posted by **x34** on 9 Sept 2011, 6:55 a.m.,*
in response to message #1 by Michael Kussmaul

You can toggle comma/dot digit separator on HP-15c. Turn calculator off, than press and hold "ON", press ".", release "ON" than release ".". This will switch comma to dot or vice versa.

Edited: 9 Sept 2011, 6:55 a.m.

Re: HP 15c LE - U.S. versus European version

*Message #3 Posted by **Michael Kussmaul** on 9 Sept 2011, 10:27 a.m.,*
in response to message #2 by x34

Oh, great - so I could adjust comma representation. So I guess I'm going to buy the calculator in the U.S. :-)

Re: HP 15c LE - U.S. versus European version

*Message #4 Posted by **Raymond Del Tondo** on 9 Sept 2011, 7:30 a.m.,*
in response to message #1 by Michael Kussmaul

At least in Germany one would write 1.000.000,1234 .
The only place I saw those separator ticks (') before were in the Aurora FN1000, a 12C clone from the far east.

Ray

Re: HP 15c LE - U.S. versus European version

*Message #5 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 7:56 a.m.,*

in response to message #4 by Raymond Del Tondo

> Quote:
>
> At least in Germany one would write 1.000.000,1234 .

1 000 000,123 4 is even more common but does not help on an LCD display. ;-)

Re: HP 15c LE - U.S. versus European version

*Message #6 Posted by **Walter B** on 9 Sept 2011, 12:26 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> 1 000 000,123 4 is even more common but does not help on an LCD display.

It *does* help on a reasonable LCD but not on that old fashioned stuff ;-)

Re: HP 15c LE - U.S. versus European version

*Message #7 Posted by **Gilles Carpentier** on 9 Sept 2011, 8:18 a.m.,*
in response to message #4 by Raymond Del Tondo

It's the same in France

, (or space) for. and . for ,

1 000 000,1234
1.000.000,1234

I've never see a ' for thousand and others 10^3 separators

Edited: 9 Sept 2011, 8:19 a.m.

Re: HP 15c LE - U.S. versus European version

*Message #8 Posted by **Michael Kussmaul** on 9 Sept 2011, 10:32 a.m.,*
in response to message #4 by Raymond Del Tondo

I didn't know that there are so many differences and I double checked, it seems even in Europe itself there are "separator" differences, e.g.:

Germany: 100.000 France: 100 000 Switzerland: 100'000

At least that's how my computer represents large numbers if I change the locale.

Re: HP 15c LE - U.S. versus European version

*Message #9 Posted by **Thomas Radtke** on 9 Sept 2011, 11:30 a.m.,*
in response to message #8 by Michael Kussmaul

For many years, this localization caused a lot of grief. You couldn't enter numbers comfortably on the numeric pad, as several programs (AutoCAD, Java programs, Statistica and so on) simply didn't accept the comma. Plain horror. Even worser was that Excel didn't store formulas as meta data, so exchanging

them was at least problematic (e.g., arguments were seperated by a semicolon instead of a comma).

A few things have changed, but it's not over yet. Europeans are still paying the price for giving away all chances from their invention of the computer.

BTW, anyone knows how to comfortably swap the decimal point (and only it) on Win7? ;^)

Changing decimal symbol on Windows 7

*Message #10 Posted by **Vladan Dugaric** on 9 Sept 2011, 11:48 a.m.,*
in response to message #9 by Thomas Radtke

To change decimal symbol in Windows 7, open Control Panel, select Region and Language, on Formats tab click Additional settings... and change Decimal symbol as needed (you can type any character there).

Vladan

Re: Changing decimal symbol on Windows 7

*Message #11 Posted by **Thomas Radtke** on 9 Sept 2011, 12:37 p.m.,*
in response to message #10 by Vladan Dugaric

Thanks, Vladan. I'd have never guessed I can type in anything here (drop-down box shows the comma only). However, it doesn't change keyboard layout :-(.

Re: HP 15c LE - U.S. versus European version

*Message #12 Posted by **Kiyoshi Akima** on 9 Sept 2011, 2:24 p.m.,*
in response to message #8 by Michael Kussmaul

And moving outside of Europe, the Japanese language wants digits separated into groups of four not three. But AFAIK not even Japanese calcs like Casios have a mode for this.

Re: HP 15c LE - U.S. versus European version

*Message #13 Posted by **Glenn Dowdy** on 9 Sept 2011, 11:25 a.m.,*
in response to message #1 by Michael Kussmaul

Quote:

I'm not a collector (yet :-) but plan to buy a 15c LE for personal daily use. I heard (here in the forum) there seem to be two versions released: An U.S. and an European version, with slightly different model numbers (#B1S = Europe, #ABA = U.S.).

Are those models physically the same? Or are there really some differences on the hardware? I'm thinking of the differences in comma/dot notation, e.g. in The U.S. you seem to write: 1,000,000.1234 - while in Europe you write 1'000'000.1234

I'm not sure if even the original 15c had different comma/dot notation? Perhaps some owners of the original one could shed some light?

kind regards, Michael

The models are physically the same.

Re: HP 15c LE - U.S. versus European version

*Message #14 Posted by **Egan Ford** on 9 Sept 2011, 11:32 a.m.,*
in response to message #1 by Michael Kussmaul

> Quote:
>
> Are those models physically the same?

The US version is 5" wide and the European version is 127mm wide.

Re: HP 15c LE - U.S. versus European version

*Message #15 Posted by **M. Joury** on 9 Sept 2011, 11:38 a.m.,*
in response to message #14 by Egan Ford

But the height and depth are the same?

I found myself LOL at your post and could not resist a response.

Edited: 9 Sept 2011, 11:55 a.m.

Re: HP 15c LE - U.S. versus European version

*Message #16 Posted by **Egan Ford** on 9 Sept 2011, 12:03 p.m.,*
in response to message #15 by M. Joury

It's an old joke. I couldn't help myself.

Re: HP 15c LE - U.S. versus European version

*Message #17 Posted by **Walter B** on 9 Sept 2011, 12:29 p.m.,*
in response to message #16 by Egan Ford

Oh yes, five Royal British thumbs ;-/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's Dennis Harms to "visit" HHC2011

*Message #1 Posted by **Jake Schwartz** on 8 Sept 2011, 8:29 p.m.*

Hi people,

We've learned today that Dennis Harms has agreed to make an appearance at HHC2011 for at least Saturday morning. If you aren't familiar, Dennis worked on the Voyager machines and was the HP12C design-team leader. This conference gets better and better....

Thanks, Jake

Re: HP's Dennis Harms to "visit" HHC2011

*Message #2 Posted by **Steve Simpkin** on 9 Sept 2011, 1:27 a.m.,*
in response to message #1 by Jake Schwartz

Fantastic!
30 years of a single model? An unbelievable feat for any high tech product. A testament to the superb engineering that went into the Voyager series.
I wonder how many HP-12Cs were sold over the past 3 decades?

HP-12C Then and Now

Edited: 9 Sept 2011, 1:37 a.m.

Re: HP's Dennis Harms to "visit" HHC2011

*Message #3 Posted by **Walter B** on 9 Sept 2011, 1:38 a.m.,*
in response to message #2 by Steve Simpkin

> Quote:
>
> I wonder how many HP-12Cs were sold over the past 3 decades?

Too few - else we shouldn't observe what we see in the financial area ;-/

Re: HP's Dennis Harms to "visit" HHC2011

*Message #4 Posted by **Pal G.** on 9 Sept 2011, 8:41 a.m.,*
in response to message #3 by Walter B

"HP 12Cs don't kill economies. People kill economies." ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Response from buy.com

*Message #1 Posted by **M. Joury** on 8 Sept 2011, 7:37 p.m.*

When I asked customer service specifically (third contact that I know of) and challenged them by saying that HP stated that they could not possibly have them in stock this is the response that I got (you will note that the question was answered by telling me that the product *STILL* exists rather than it is *GOING* to exist or newly exists):

Hello Marwan,

Thank you for contacting Buy.com regarding your order # 62171041.

We thank you for bringing this to our attention. We have confirmed that our listing is correct in showing the HP 15C calculator. According to HP's website, there is definitely still an HP 15C calculator. You may verify this by copying and pasting the following URL into your browser.

http://h20331.www2.hp.com/hpsub/us/en/calculators/Calculator_Software.ht ml?jumpid=ex_r2845_buy/calculators

Edited: 8 Sept 2011, 7:47 p.m.

Re: Response from buy.com

*Message #2 Posted by **Namir** on 8 Sept 2011, 7:54 p.m.,*
in response to message #1 by M. Joury

Marwan,

The URL you mention leads to a "Sorry, we can't find that page" message in an HP web page.

Buy.com says the HP-15C LE exists (i.e. in the pipeline) but I am not sure their text says that buy.com HAS these machines in stock.

Am I reading their reply wrong???

Namir

Re: Response from buy.com

*Message #3 Posted by **M. Joury** on 8 Sept 2011, 8:32 p.m.,*
in response to message #2 by Namir

Hi Namir,

The original link they sent to me worked but was not much use. It links to the HP-15C *software* emulator page.

One of the reasons I posted the entire response was for people to pick it apart <g>. No, they don't say that they *have* the units but they do say that their listing is correct which *implies* that they have the units

since a correct listing would include being correct on stated availability. However, as I noted, they never really answered the question, just saying, as you stated, that the HP15C exists. I still feel that there is less than a 50% chance that we will see the calculators in the next 5-8 days.

It appears that Katie got a tracking number so she may be the first person to know what we will be getting (if we will be getting anything at all).

Cheers,

-Marwan

Re: Response from buy.com

*Message #4 Posted by **M. Joury** on 8 Sept 2011, 8:46 p.m.,*
in response to message #2 by Namir

Hi Namir,

I just sent an email back asking for clarification. Lets see what they say.

-Marwan

Re: Response from buy.com

*Message #5 Posted by **Michael de Estrada** on 8 Sept 2011, 9:58 p.m.,*
in response to message #4 by M. Joury

I have a FEDEX notication that has the ETA as 9/12 (Monday). We'll see. So far, FEDEX has not picked up the package, just received notification.

Re: Response from buy.com

*Message #6 Posted by **Norman Dziedzic** on 8 Sept 2011, 10:25 p.m.,*
in response to message #5 by Michael de Estrada

I wonder if it is possible that they have set up fulfilment of these orders directly from China? Apple does this with their engraved iPods. Name on in China today...at your doorstep in USA a few days later. Does the Fedex tracking have an origination location?

Re: Response from buy.com

*Message #7 Posted by **Dave** on 8 Sept 2011, 10:33 p.m.,*
in response to message #6 by Norman Dziedzic

Mine are due to arrive Monday as well. Tracking shows the origin is Mississippi, USA.

Edited: 9 Sept 2011, 10:16 a.m.

Re: Response from buy.com

*Message #8 Posted by **Lincoln R.** on 8 Sept 2011, 11:18 p.m.,*
in response to message #6 by Norman Dziedzic

Doubtful. They would have to arrange that with HP, and in that case Tim and Glenn probably would have known about it. While a 3rd party (most likely Kinpo or Inventec) may be making these calculators for HP, they're making them *for HP*. If they sold a few pallets to someone

else on the sly, and HP found out about it), this would be a very good way for them to lose a valuable production contract.

Re: Response from buy.com

*Message #9 Posted by **Katie Wasserman** on 9 Sept 2011, 12:40 a.m.,*
in response to message #6 by Norman Dziedzic

I'll bet that what buy.com is sending out are the 12C LE calculators when you order a 15C. The product ID for the 12C LE is: NW258AA#ABA and for the 15C it's: NW250AA#ABA. It's pretty easy for someone to mistype or misread an 8 for a 0 in that string of characters.

Re: Response from buy.com

*Message #10 Posted by **Howard Owen** on 9 Sept 2011, 12:50 a.m.,*
in response to message #9 by Katie Wasserman

We shall see. I'm going to buy a 12C LE too, or may have already done so. :)

Re: Response from buy.com

*Message #11 Posted by **From Hong Kong** on 9 Sept 2011, 2:01 a.m.,*
in response to message #9 by Katie Wasserman

It doesn't seem that they made a mistake on that because they're selling HP-12C 30th anniversary with a correct product ID:

http://www.buy.com/prod/hp-12c-30th-anniv-calculator/223173354.html

Edited: 9 Sept 2011, 2:03 a.m.

Re: Response from buy.com

*Message #12 Posted by **Katie Wasserman** on 9 Sept 2011, 4:08 a.m.,*
in response to message #11 by From Hong Kong

Yes indeed, they sell both. However according to Tim, they can't possibly be sending out the 15C, yet they've already sent something to me and others who ordered the 15C and I'm guessing that it's a calculator of some sort.

We'll know early next week how badly they screwed up (or if Tim was wrong).

Re: Response from buy.com

*Message #13 Posted by **Namir** on 9 Sept 2011, 5:19 a.m.,*
in response to message #12 by Katie Wasserman

Agreed ... when we receive our orders on Monday, this forum will light up again with messages about either how buy.com messed up or how on earth did they get their hands on HP-15 LE units!!!

Namir

Re: Response from buy.com

*Message #14 Posted by **Paul Gaster** on 9 Sept 2011, 6:24 a.m.,*

in response to message #13 by Namir

I hate to say it, but my guess is that you all get printer cartridges.

Re: Response from buy.com

*Message #15 Posted by **Håkan Thörngren** on 9 Sept 2011, 7:06 a.m.,*
in response to message #14 by Paul Gaster

I do not plan to buy anyone myself (I do not even use the ones I already have), but this is a real cliff-hanger! I am eagerly awaiting the outcome of all this!

Re: Response from buy.com

*Message #16 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 7:53 a.m.,*
in response to message #13 by Namir

At least the WP 34S dominance in this forum seems to be over... ;-)

Re: Response from buy.com

*Message #17 Posted by **Namir** on 9 Sept 2011, 8:00 a.m.,*
in response to message #16 by Marcus von Cube, Germany

The expression "Gone but not forgotten" comes to mind ... but believe me the wp34s holds the number TWO spotlight in our interest.

It will be a fantastic pleasure to meet you at HHC2011 ... and believe me you will be one of the superstars in the meeting!

Namir

And we can't forget the 41CL either!

*Message #18 Posted by **gene wright** on 9 Sept 2011, 8:38 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I tried last night for the first time to transfer a .rom file over the serial cable to the 41CL last night. I'm still not quite doing something right.

:-)

Re: And we can't forget the 41CL either!

*Message #19 Posted by **Ángel Martin** on 9 Sept 2011, 3:15 p.m.,*
in response to message #18 by gene wright

thanks for your perseverance Gene, we're all hoping this last goodie works on the CL - the ultimate calculator now a reality :)

Re: Response from buy.com

*Message #20 Posted by **Jandro Kirkish** on 9 Sept 2011, 1:57 a.m.,*
in response to message #5 by Michael de Estrada

I also received a FEDEX tracking number; ETA 9 September. Also verified part number NW250AA#ABA. I'll post again if these numbers turn into an actual product. Then I'll have all the numbers I need. I can't wait -- finally an HP scientific calc I can actually pocket ...

Re: Response from buy.com

*Message #21 Posted by **James Sterbenz** on 9 Sept 2011, 8:26 a.m.,*
in response to message #20 by Jandro Kirkish

Says mine has shipped from *Mississippi*, due on Mon. Hmmmm...

Re: Response from buy.com

*Message #22 Posted by **Michael de Estrada** on 9 Sept 2011, 8:29 a.m.,*
in response to message #21 by James Sterbenz

Same here. Also, the price has now been increased to $84.99 with a $129 MSRP.
http://www.buy.com/prod/hp-15c-scientific-calculator/223173356.html

Re: Response from buy.com

*Message #23 Posted by **M. Joury** on 9 Sept 2011, 8:50 a.m.,*
in response to message #22 by Michael de Estrada

Mine is also supposed to arrive Monday.

Re: Response from buy.com

*Message #24 Posted by **Quan** on 9 Sept 2011, 10:19 a.m.,*
in response to message #23 by M. Joury

Mine too is due Monday.

Re: Response from buy.com

*Message #25 Posted by **Tom Mathes** on 9 Sept 2011, 10:39 a.m.,*
in response to message #20 by Jandro Kirkish

Did you select expedited, standard or budget shipping?

Re: Response from buy.com

*Message #26 Posted by **Jandro Kirkish** on 9 Sept 2011, 11:15 a.m.,*
in response to message #25 by Tom Mathes

Expedited. I splurged on overnight shipping and mine is on the delivery truck scheduled for delivery today by 3PM PDT. (Edit: but I will wait until I open the box before I cancel my order with Cost central.)

Edited: 9 Sept 2011, 11:19 a.m.

Re: Response from buy.com

*Message #27 Posted by **Don Davis** on 9 Sept 2011, 10:47 a.m.,*
in response to message #20 by Jandro Kirkish

So Buy.com thinks that they are shipping me a calculator that HP says they cannot possibly have. FEDEX has sent me a tracking number for the non-calculator indicating that it will be delivered Monday. However, their tracking page warns me of service disruptions due to Hurricane Irene, which occurred 2 weeks ago. I am not sure there is anyone in this equation, including me, that has a clue...

Re: Response from buy.com

*Message #28 Posted by **Martin Pinckney** on 9 Sept 2011, 10:54 a.m.,*
in response to message #27 by Don Davis

> Quote:
>
> So Buy.com thinks that they are shipping me a calculator that HP says they cannot possibly have...I am not sure there is anyone in this equation, including me, that has a clue...

"HP" covers a lot of territory. Since "HP" variously has listed the calculator, taken it off, stated "out of stock", "coming soon", "algebraic", has/doesn't have a printed manual, changed the price several times, etc. etc., I doubt there is any one person at HP, even Tim, that really "knows" what's up with the 15c LE.

Edited: 9 Sept 2011, 10:55 a.m.

Re: Response from buy.com

*Message #29 Posted by **Don Davis** on 9 Sept 2011, 3:00 p.m.,*
in response to message #28 by Martin Pinckney

> Quote:
>
> "HP" covers a lot of territory. Since "HP" variously has listed the calculator, taken it off, stated "out of stock", "coming soon", "algebraic", has/doesn't have a printed manual, changed the price several times, etc. etc., I doubt there is any one person at HP, even Tim, that really "knows" what's up with the 15c LE.

Well, you nailed that one. Looks like this is for real!

Re: Response from buy.com

*Message #30 Posted by **Ethan Conner** on 9 Sept 2011, 12:15 p.m.,*
in response to message #28 by Martin Pinckney

Got my confirmation email from the buy dot com today and when i checked the tracking it was all Memphis. No surprise as that is the Fed Ex main hub. I am now very excited to receive my printer cartridge! *sarcasm* You know i was just thinking what genius at HP decided that it would be a good idea to reuse the same letter/number combination to describe more than one product in current production?

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #1 Posted by **Jake Schwartz** on 8 Sept 2011, 3:35 p.m.*

Hi,

Richard Nelson is in the process of aggregating presentation materials for the HHC2011 conference proceedings. There probably will be a printed version for attendees, as well as the possibility of an electronic version. If you plan to have a paper, or if not to present slides, please get an electronic copy to Richard as soon as possible. His email is rjnelsoncf <at> cox <dot> net. If your paper is not ready until very close to the conference weekend, then we would respectfully ask that you do your best to bring 75-80 hard copies (as well as an electronic copy) to distribute to the attendees, if at all possible. We'd like your material to reach the widest possible audience, including HP.

Thanks,

Jake (conf. presenter and attendee since 1979, when the '41 was "king")

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #2 Posted by **BruceH** on 8 Sept 2011, 5:00 p.m.,*
in response to message #1 by Jake Schwartz

> Quote:
>
> (conf. presenter and attendee since 1979, when the '41 was "king")

I don't believe you've been coming to conferences for that long. I mean, I've never seen you *in* any of the videos.
;-)

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #3 Posted by **Howard Owen** on 8 Sept 2011, 5:41 p.m.,*
in response to message #2 by BruceH

Yes! Where is the evidence? I demand equal time for the TOS* movement!

* Truth On Schwartz. Some have it as TAS (Truth About Schwartz), but that's just a joke designed to confuse newbies.

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #4 Posted by **Namir** on 8 Sept 2011, 5:48 p.m.,*
in response to message #3 by Howard Owen

Which Schwartz? Jake or Richard??? /-]

Namir

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #5 Posted by **Walter B** on 8 Sept 2011, 6:15 p.m.,*
in response to message #4 by Namir

No, the one behind the Schwar(t)zschild Radius - the one you don't see there ;-)

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #6 Posted by **Jake Schwartz** on 8 Sept 2011, 8:25 p.m.,*
in response to message #5 by Walter B

LOL!

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #7 Posted by **Brian Walsh** on 9 Sept 2011, 12:08 a.m.,*
in response to message #4 by Namir

> Quote:
>
> Which Schwartz? Jake or Richard??? /-]

May the Schwartz be with you!

Edited: 9 Sept 2011, 12:09 a.m.

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #8 Posted by **hpnut** on 8 Sept 2011, 9:52 p.m.,*
in response to message #1 by Jake Schwartz

any chance the softcopy papers could be downloadable for us non-attendees? pretty please?

hpnut in Malaysia

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #9 Posted by **Jake Schwartz** on 8 Sept 2011, 10:05 p.m.,*
in response to message #8 by hpnut

> Quote:
>
> any chance the softcopy papers could be downloadable for us non-attendees? pretty please?

Of course, any speaker can make his/her own materials available anywhere. I should ask the conference committee what they think regarding posting the entire set of papers on line.

Jake

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #10 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 3:12 a.m.,*
in response to message #9 by Jake Schwartz

> Quote:
>
> Of course, any speaker can make his/her own materials available anywhere.

I'll post mine as a PDF after the conference, most probably on our SourceForge pages. I've sent the status quo to Richard but there may well be some last minute changes until the presentation is really held.

Caveat: A set of slides is more of a table of contents of what the actual presentation on HHC will be. Don't expect the full info and don't expect me to just read it down in sequence. ;-)

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #11 Posted by **David Ramsey** on 8 Sept 2011, 11:08 p.m.,*
in response to message #1 by Jake Schwartz

My SR-60 presentation is a PowerPoint document, currently about 18.5M. I assume I can send that?

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #12 Posted by **Tim Wessman** on 9 Sept 2011, 12:52 a.m.,*
in response to message #11 by David Ramsey

Mine is around 20MB or so. Anyone want a copy now to proofread? ;-P

TW

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #13 Posted by **Steve Simpkin** on 9 Sept 2011, 1:09 a.m.,*
in response to message #12 by Tim Wessman

Sure! I would love to see it! Oh..... Damn:(
Well I guess I will just have to wait a couple of weeks.....

Edited: 9 Sept 2011, 1:10 a.m.

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #14 Posted by **hpnut** on 9 Sept 2011, 1:41 a.m.,*
in response to message #12 by Tim Wessman

although English is not my native language, I am pretty good at spotting typos and grammatical errors. try me :-)

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #15 Posted by **Peter Murphy (Livermore)** on 9 Sept 2011, 1:39 p.m.,*
in response to message #12 by Tim Wessman

I'm a retired technical editor with 30+ years experience. I'd be happy to proofread your paper.

Comcast apparently rejects attached files as large as 20MB; perhaps you could split the file, or compress it suitably for decompression on a Macintosh running OS 10?

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #16 Posted by **Mark Hardman** on 9 Sept 2011, 1:47 p.m.,*
in response to message #15 by Peter Murphy (Livermore)

Reminds me of today's xkcd.

I LIKE HOW WE'VE HAD THE INTERNET FOR DECADES, YET "SENDING FILES" IS SOMETHING EARLY ADOPTERS ARE STILL FIGURING OUT HOW TO DO.

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #17 Posted by **Jake Schwartz** on 9 Sept 2011, 3:29 p.m.,*
in response to message #11 by David Ramsey

> Quote:
>
> My SR-60 presentation is a PowerPoint document, currently about 18.5M. I assume I can send that?

I guess you could try and we'll hope that Richard's email doesn't choke...

Jake

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #18 Posted by **Ángel Martin** on 9 Sept 2011, 1:42 a.m.,*
in response to message #1 by Jake Schwartz

> Quote:
>
> (conf. presenter and attendee since 1979, when the '41 was "king")

Isn't anymore? When did that change???

;-)

Re: HHC2011 Conference Presenters: Please Prepare Your Papers

*Message #19 Posted by **Jake Schwartz** on 9 Sept 2011, 3:27 p.m.,*
in response to message #18 by Ángel Martin

> Quote:
>
> Isn't anymore? When did that change???

I love it!

Jake

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C (LE) Retailers in Germany

*Message #1 Posted by **Lukas K.** on 8 Sept 2011, 6:47 a.m.*

Tim said that there are units for Europe. Where will the 15C be available in Germany?

Greets, Lukas

Re: 15C (LE) Retailers in Germany

*Message #2 Posted by **Jose Gonzalez Divasson** on 8 Sept 2011, 3:58 p.m.,*
in response to message #1 by Lukas K.

The 15c and 12c are presented to the European distributors on Sep 22 in France, and yes, there will be distribution in Europe. Both of them will be only in English, but as a different part number of the American one (#B1S as opposed to #ABA)

If you register in www.thecalculatorstore.com you will get updated on pricing and availability when we get more information.

Re: 15C (LE) Retailers in Germany

*Message #3 Posted by **Lukas K.** on 8 Sept 2011, 6:12 p.m.,*
in response to message #2 by Jose Gonzalez Divasson

Hello Jose,

thanks for the information, I'm looking forward to September 22

Re: 15C (LE) Retailers in Germany

*Message #4 Posted by **Guenter Schink** on 8 Sept 2011, 6:55 p.m.,*
in response to message #1 by Lukas K.

Usually HP-Calculators are available from Dynatech So far there is no indication of 15C. But you could drop him an email.

Günter

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c available at buy.com

*Message #1 Posted by **Jurrie Lulofs** on 8 Sept 2011, 9:58 a.m.*

$78.99 available here .

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

USPS

*Message #1 Posted by **hpnut** on 8 Sept 2011, 2:00 p.m.*

Hi all

Samson advised that my order has been received, credit card charged and HP12C 30 AE shipped by USPS Priority Mail International.

Is USPS traceable shipping method?

hpnut in Malaysia

Edited: 8 Sept 2011, 2:17 p.m. after one or more responses were posted

Re: USPS

*Message #2 Posted by **gene wright** on 8 Sept 2011, 2:00 p.m.,*
in response to message #1 by hpnut

Priority Mail can have delivery confirmation -- to a USA address.

Really no way to cheaply get tracking by US Mail for anything outside the USA.

Re: USPS

*Message #3 Posted by **hpnut** on 8 Sept 2011, 2:32 p.m.,*
in response to message #2 by gene wright

Chris at Samson just confirmed USPS Priority is not trackable. Only USPS Express Mail is trackable.

Re: USPS

*Message #4 Posted by **Michael de Estrada** on 8 Sept 2011, 2:32 p.m.,*
in response to message #2 by gene wright

You can't track int'l via priority mail. I know, I've tried it.

Re: USPS

*Message #5 Posted by **Lincoln R.** on 8 Sept 2011, 3:50 p.m.,*
in response to message #4 by Michael de Estrada

I shipped a calculator to Italy using USPS Priority once, and was able to track it until it left the US, and IIRC the tracking eventually updated to show that it had arrived in Italy, but no delivery confirmation for when the receiver actually got it.

Re: USPS

*Message #6 Posted by **Michael de Estrada** on 8 Sept 2011, 4:04 p.m.,*
in response to message #5 by Lincoln R.

How did you track it ? The times I went to the post office, I was told that a tracking # was not available for priority mail international, only express mail. I paid for a return receipt post card, but that was it. There is a # on the customs form, but that is not a tracking #. All my packages were insured, and reached their destinations undamaged, so I really was not concerned.

Re: USPS

*Message #7 Posted by **Paul Gaster** on 8 Sept 2011, 9:47 p.m.,*
in response to message #6 by Michael de Estrada

Late last year or early this year I shipped two different items out of the US using USPS. They were sold through TAS and I printed the labels from Paypal, and when you do that you automatically a tracking number is generated. These were shipped Priority and with small flat rate boxes. The problem was that the tracking number was useless. One scan each showed, which was from the post office I dropped them off at. There were no further updates. They both made it OK, but it took a while and made me pretty nervous.

Another scary thing about USPS is that unless you get insurance it's almost like throwing your item and your money in a black hole. I had a package lost once and I sent it without insurance. I knew I could not get reimbursed for the item since I didn't get insurance, but assumed I would at least get a refund on the shipping. Nope. I was told that USPS was not a guaranteed service, and that was about it. So if you have something even remotely valuable to ship put insurance on it or use another service. At least with UPS they have an automatic $100 insurance. Of course they are rougher on your items and may run it over, drop kick it, or stab it with the fork on a forklift.

Re: USPS

*Message #8 Posted by **Paul Berger (Canada)** on 9 Sept 2011, 6:37 p.m.,*
in response to message #7 by Paul Gaster

My experience with having packages shipped to me from the US via USPS has always been very good, I have never had a package lost and a number of items shipped to me that where purchased on TAS where trackable, I could even track their progress through Canadian Customs and the tracking would get updated by Canada Post as well between the point of entry into Canada and my home. I could not tell you right now what postal class they where shipped by as I don't have any of the box labels anymore, but I do know that all the trackable packages had to be signed for. While UPS may be quicker, I usually avoid bringing item across the border via UPS and they are in the habit of charging very exorbitant fees for customs brokerage, where as the post office charges none, and for most items I do not even pay any taxes or duty when they are shipped via parcel post.

Re: USPS

*Message #9 Posted by **bill platt** on 10 Sept 2011, 1:23 p.m.,*
in response to message #8 by Paul Berger (Canada)

I think you can thank the postal agreements for this.

Re: USPS

*Message #10 Posted by **John B. Smitherman** on 8 Sept 2011, 2:29 p.m.,*
in response to message #1 by hpnut

hpnut, you can try this...

USPS

Regards,

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Available at buy.com?

*Message #1 Posted by **M. Joury** on 8 Sept 2011, 10:17 a.m.*

Hi,

I saw that the 15C LE was available for purchase at buy.com and showing in stock. I actually called them and they swear they have 1,000 on hand. Does anyone actually believe this?

Cheers,

-Marwan

HP15C at buy.com

Edited: 8 Sept 2011, 10:19 a.m.

Re: HP 15C Available at buy.com?

*Message #2 Posted by **gene wright** on 8 Sept 2011, 10:21 a.m.,*
in response to message #1 by M. Joury

990 in stock now. ;-)

Re: HP 15C Available at buy.com?

*Message #3 Posted by **M. Joury** on 8 Sept 2011, 10:25 a.m.,*
in response to message #2 by gene wright

Moving down fast <g>. I have an order in with CostCentral but I wasn't waiting!

Let's hope it's for real!

Cheers,

-Marwan

Re: HP 15C Available at buy.com?

*Message #4 Posted by **Quan** on 8 Sept 2011, 10:36 a.m.,*
in response to message #3 by M. Joury

I predict by this time tomorrow, it will be sold out!

:)

Re: HP 15C Available at buy.com?

*Message #5 Posted by **gene wright** on 8 Sept 2011, 10:38 a.m.,*
in response to message #4 by Quan

Which to me would be a fabulous thing.

I truly think that if HP sees this stuff sell out quickly, they might have their eyes opened.

Re: HP 15C Available at buy.com?

*Message #6 Posted by **M. Joury** on 8 Sept 2011, 10:40 a.m.,*
in response to message #5 by gene wright

I am with you there as long as they don't all go to eBay sellers that will hoard them and try to piece them out at $400 each!

Re: HP 15C Available at buy.com?

*Message #7 Posted by **Quan** on 8 Sept 2011, 10:51 a.m.,*
in response to message #6 by M. Joury

If this production run quickly sold out, HP would be wise to produce more, so long as it continues to sell.

Then these hoarders will be left with warehouse full of 15c but no where to go.

Then the older 15c can go for much, much less on the TAS.

It's a win/win.

Re: HP 15C Available at buy.com?

*Message #8 Posted by **M. Joury** on 8 Sept 2011, 10:58 a.m.,*
in response to message #7 by Quan

IF HP produces more...

Re: HP 15C Available at buy.com?

*Message #9 Posted by **Namir** on 8 Sept 2011, 11:07 a.m.,*
in response to message #8 by M. Joury

IF they do not, then someone higher up in HP (Apotheker or someone else) should see a shrink ... preferably Freud!!!

:-)

Namir

Re: HP 15C Available at buy.com?

*Message #10 Posted by **uhmgawa** on 8 Sept 2011, 3:18 p.m.,*
in response to message #8 by M. Joury

> Quote:
>
> *IF* HP produces more...

The only reason they wouldn't continue to turn the crank on the manufacturing process already in place would be if the projected sales volume at some point dips below revenue required to keep the pipe open. That *will* happen eventually when the pent up market for the 15c is saturated, and sales volume drops to the level resources are best spent elsewhere.

Even after reaching that state I expect the scarcity of the original NUT voyagers will only be a footnote in the head of an extreme few. It will certainly exist up there in connoisseur space but most in this forum I'd expect are looking for a tool vs. an exhibition piece for the bell jar. So I'd expect the EvilBay legacy 15c market to nearly dry up but not vanish, and no justification for a 15c le analog until such point as HP obsoletes the product again.

Re: HP 15C Available at buy.com?

*Message #11 Posted by **Mike Morrow** on 8 Sept 2011, 5:40 p.m.,*

in response to message #10 by uhmgawa

> Quote:
>
> Even after reaching that state I expect the scarcity of the original NUT voyagers will only be a footnote in the head of an extreme few. It will certainly exist up there in connoisseur space but most in this forum I'd expect are looking for a tool vs. an exhibition piece for the bell jar.

I think that the original 15C and the upcoming 15C LE are both items which appeal mainly to the collector and calculator hobbyist market. It's obvious from recent postings that even in the community of this forum there are many who attach **no** significance to the sophistication of the 15C. For those users there have long been HP machines available at significantly lower cost that serve their needs completely...even much more completely if alphanumeric capability in program mode is desired. There is no reason for them to buy a 15C of any sort.

Re: HP 15C Available at buy.com?

*Message #12 Posted by **Tom Mathes** on 8 Sept 2011, 11:02 a.m.,*
in response to message #1 by M. Joury

This thing showed for less $$ earlier today, then was shown sold out, now back at a higher price. Bizarre to say the least.

I have to question if this listing is for real with all of the rapid changes. And they have them in stock but HP doesn't? Smells real fishy. I never see an item that buy.com has and Amazon doesn't. Amazon has no listing for the 15C LE

And where do you see the number in-stock? I see nothing in the web page to indicate that.

Re: HP 15C Available at buy.com?

*Message #13 Posted by **M. Joury** on 8 Sept 2011, 11:14 a.m.,*
in response to message #12 by Tom Mathes

Actually I would not be at all surprised. For example Sampson Cables has, and is selling, the HP12C 30th Anniversary Edition and *NO ONE* else including HP Home and Home Office Store is listing it as available. I realize that the Small Business store has them but for approx $25 more!

Not that you are mistaken, mind you, I, like Namir, will (to use the phrase he didn't) believe it when I see it!

Cheers,

-Marwan

Edited: 8 Sept 2011, 11:16 a.m.

Re: HP 15C Available at buy.com?

*Message #14 Posted by **Namir** on 8 Sept 2011, 11:03 a.m.,*
in response to message #1 by M. Joury

I ordered one machine from them. I will "accept" it as true (the hypothesis that buy.com HAS machines at hand) when the little monster arrives at my doorstep. Notice I did not say "I will believe it when I see it" because that is an oxymoron!

:-)

Namir

Re: HP 15C Available at buy.com?

*Message #15 Posted by **Ed Look** on 8 Sept 2011, 11:34 a.m.,*
in response to message #14 by Namir

Namir,

I ordered one, too, from Buy.com. I sincerely hope it's true!

I remember I passed on buying the original because I still had my then still totally functional HP-34C. When it stopped working (gradually), I really regretted not getting the 15C. Now, here's my chance again!

Re: HP 15C Available at buy.com?

*Message #16 Posted by **Glenn Dowdy** on 8 Sept 2011, 11:08 a.m.,*
in response to message #1 by M. Joury

> Quote:
>
> Hi,
>
> I saw that the 15C LE was available for purchase at buy.com and showing in stock. I actually called them and they swear they have 1,000 on hand. Does anyone actually believe this?

No, I don't.

Re: HP 15C Available at buy.com?

*Message #17 Posted by **Namir** on 8 Sept 2011, 11:17 a.m.,*
in response to message #16 by Glenn Dowdy

Because??????????????????????

Re: HP 15C Available at buy.com?

*Message #18 Posted by **Tim Wessman** on 8 Sept 2011, 12:43 p.m.,*
in response to message #17 by Namir

Probably because as far as we know there is no air-lifting going on, and there is no way a boat could have arrived since we don't even think any palates have shipped yet.

If anyone does have any 15c units marked "shipped" it wouldn't surprise me if someone at the warehouse messed up and you get a 12c or something. . .

TW

Edited: 8 Sept 2011, 1:05 p.m. after one or more responses were posted

Re: HP 15C Available at buy.com?

*Message #19 Posted by **Namir** on 8 Sept 2011, 12:57 p.m.,*
in response to message #18 by Tim Wessman

Thanks Tim!

I ordered the HP-12C 30th anniversary from buy.com. Will make sure that its is not another version if I get something.

Namir

Re: HP 15C Available at buy.com?

*Message #20 Posted by **Michael de Estrada** on 8 Sept 2011, 1:24 p.m.,*
in response to message #18 by Tim Wessman

Oops

Re: HP 15C Available at buy.com?

*Message #21 Posted by **M. Joury** on 8 Sept 2011, 1:54 p.m.,*
in response to message #18 by Tim Wessman

So I called customer service and told them HP said that they could not possibly have them. The lady said that she will check with their merchandising department to see if there is an error on the web page and get back to me within 1 business day.

As noted elsewhere I was suspicious from the very beginning but when forum members said that they had received notification that the order had gone to the warehouse I saw a glimmer of hope.

Oh well...

Re: HP 15C Available at buy.com?

*Message #22 Posted by **Michael de Estrada** on 8 Sept 2011, 2:22 p.m.,*
in response to message #21 by M. Joury

So, has your credit card been charged yet ?

Re: HP 15C Available at buy.com?

*Message #23 Posted by **M. Joury** on 8 Sept 2011, 2:26 p.m.,*
in response to message #22 by Michael de Estrada

Yes. But I don't know buy.com's policy on charging before shipping and I don't know if it is just a "hold".

I specifically told them that HP said they could not have them yet and that I was worried that they would send me a 12C instead. She promised to have my concerns looked into.

Cheers,

-Marwan

Re: HP 15C Available at buy.com?

*Message #24 Posted by **Katie Wasserman** on 8 Sept 2011, 6:50 p.m.,*
in response to message #18 by Tim Wessman

It's going to be interesting to see what I get from Buy.com. I've got a tracking number from them on 2 15C's that I ordered earlier today.

Maybe they've got a mole in China that's sneaking them out the back door of the factory. Or maybe, they've sent me some overpriced HP ink cartridges by mistake. Whatever it is I won't know until next week.

I also ordered a 12C LE on a separate order from them, but that hasn't shipped yet, curiously.

Re: HP 15C Available at buy.com?

*Message #25 Posted by **James Sterbenz** on 8 Sept 2011, 6:58 p.m.,*
in response to message #24 by Katie Wasserman

Or maybe "in the shipping process" means on the boat from China.

Re: HP 15C Available at buy.com?

*Message #26 Posted by **M. Joury** on 8 Sept 2011, 7:35 p.m.,*
in response to message #25 by James Sterbenz

Response from buy.com. I will also post in it's own thread:

Hello Marwan,

Thank you for contacting Buy.com regarding your order # 62171041.

We thank you for bringing this to our attention. We have confirmed that our listing is correct in showing the HP 15C calculator. According to HP's website, there is definitely still an HP 15C calculator. You may verify this by copying and pasting the following URL into your browser.

http://h20331.www2.hp.com/hpsub/us/en/calculators/Calculator_Software.ht ml?jumpid=ex_r2845_buy/calculators

Re: HP 15C Available at buy.com?

*Message #27 Posted by **Tom Mathes** on 8 Sept 2011, 8:48 p.m.,*
in response to message #26 by M. Joury

I guess we'll find out soon enough Marwan since many of us (myself included) placed an order.

If it doesn't show up, oh well. That'll make 0 for 2 in getting HP gear in the last month (lost out on the Touchpad firesale). At least I have 2 35S units, a 33S and my trusty HP48G and 32SII to fall back on (not to mention a few HP emulators on my ifruit phone). No way I'm using an equals key! :-)

Tom

Re: HP 15C Available at buy.com?

*Message #28 Posted by **Michael de Estrada** on 8 Sept 2011, 8:53 p.m.,*
in response to message #26 by M. Joury

Haha. That page has already been removed anyway. Well, I guess we'll all find out soon. And I like her saying that there "still" is an HP 15C. I just got a FEDEX notification with an ETA of 9/12.

Re: HP 15C Available at buy.com?

*Message #29 Posted by **Tom Mathes** on 8 Sept 2011, 9:00 p.m.,*
in response to message #28 by Michael de Estrada

> Quote:
>
> Haha. That page has already been removed anyway. Well, I guess we'll all find out soon. And I like her saying that there "still" is an HP 15C. I just got a FEDEX notification with an ETA of 9/12.

Which page? The HP one? The buy.com order page is still up.

Re: HP 15C Available at buy.com?

*Message #30 Posted by **Michael de Estrada** on 8 Sept 2011, 9:06 p.m.,*
in response to message #29 by Tom Mathes

Yes, the HP one that's now replaced with the regular HP store. I just meant that the lady that Marwan was talking to really didn't have a clue as to whether the calcs were actually here in the US yet. Just have to cross our fingers.

Re: HP 15C Available at buy.com?

*Message #31 Posted by **Paul Gaster** on 8 Sept 2011, 9:59 p.m.,*
in response to message #30 by Michael de Estrada

For more than a decade I have sometimes lurked on deal sites like Slickdeals, Fatwallet, and Anandtech Hot Deals. There are tons of other similar sites too.

Anyway, the point is that Buy.com is well known for getting things screwed up. I can't tell you how many times people have thought they were going to get a great deal from them only

to either get the wrong item shipped to them, or they get the order cancelled because it was a pricing mistake. Don't get your hopes up too much just yet.

Re: HP 15C Available at buy.com?

*Message #32 Posted by **Michael de Estrada** on 8 Sept 2011, 10:10 p.m.,*
in response to message #31 by Paul Gaster

Not to worry. I've still got another order pending at CostCentral, which I won't cancel until this one arrives. Bird in hand, ya know.

Re: HP 15C Available at buy.com?

*Message #33 Posted by **Tom Mathes** on 8 Sept 2011, 10:41 p.m.,*
in response to message #31 by Paul Gaster

> Quote:
>
> For more than a decade I have sometimes lurked on deal sites like Slickdeals, Fatwallet, and Anandtech Hot Deals. There are tons of other similar sites too.
>
> Anyway, the point is that Buy.com is well known for getting things screwed up. I can't tell you how many times people have thought they were going to get a great deal from them only to either get the wrong item shipped to them, or they get the order cancelled because it was a pricing mistake. Don't get your hopes up too much just yet.

Point well taken. I've had them screw up a few shipments years ago but they made good. My fallback I guess is the Hp web site when they put it up for order (my employer is a supplier so I get a slight discount though employee purchasing).

Re: HP 15C Available at buy.com?

*Message #34 Posted by **James Sterbenz** on 8 Sept 2011, 10:51 p.m.,*
in response to message #30 by Michael de Estrada

http://www.shopping.hp.com/webapp/shopping/can.do?landing=calculator&category=Scientific&catLevel=1&storeName=storefronts still show it and leads to http://www.shopping.hp.com/product/calculator/Scientific/1/storefronts/NW250AA%2523ABA saying coming soon as it has for several days.

My "15c LE" units have a tracking number indicating delivery TODAY

*Message #35 Posted by **gene wright** on 9 Sept 2011, 7:39 a.m.,*
in response to message #24 by Katie Wasserman

So, I too will soon know if I have a printer cartridge or some 15c LE units.

Stay tuned.

Re: My "15c LE" units have a tracking number indicating delivery TODAY

*Message #36 Posted by **Namir** on 9 Sept 2011, 8:28 a.m.,*
in response to message #35 by gene wright

Gene,

I am glued to my PC!!!!!!!!!!!! Not a moment too soon!!

Namir

Re: My "15c LE" units have a tracking number indicating delivery TODAY

*Message #37 Posted by **Namir** on 9 Sept 2011, 8:44 a.m.,*
in response to message #35 by gene wright

Gene,

If it is a printer cartridge, then donate it as an HHC door prize with a note "This would have been an HP-15LE" or "Teenage HP-15 LE Mutant".

Namir

Re: HP 15C Available at buy.com?

*Message #38 Posted by **Pal G.** on 8 Sept 2011, 12:48 p.m.,*
in response to message #16 by Glenn Dowdy

Question deleted: answered by TW during composition.

Edited: 8 Sept 2011, 12:51 p.m.

Re: HP 15C Available at buy.com?

*Message #39 Posted by **Namir** on 8 Sept 2011, 11:11 a.m.,*
in response to message #1 by M. Joury

Marwan,

I say who cares if HP's web site still has "Coming Soon"?? If these merchants have actually received the 15C LE and are fulfilling orders, then we are in good shape. I know Samson Cables are good for it. They are not going to be left out with no LE stock. They are very reliable and I never had any problem with them. And I feel that HP has a good relationship with them.

Namir

Re: HP 15C Available at buy.com?

*Message #40 Posted by **M. Joury** on 8 Sept 2011, 11:17 a.m.,*
in response to message #39 by Namir

Hi Namir,

I'm with you there. Keeping my fingers crossed.

-Marwan

Re: HP 15C Available at buy.com?

*Message #41 Posted by **Namir** on 8 Sept 2011, 11:21 a.m.,*
in response to message #40 by M. Joury

Marwan,

Glen Dowdy is saying buy.com does not have 1,000 units. Do they have **any** units? Maybe 999? Maybe 500? Inquiring minds want to know ... and I (a nosy Middle Easterner) surely want to know!!

Namir

Edited: 8 Sept 2011, 11:22 a.m.

Re: HP 15C Available at buy.com?

*Message #42 Posted by **M. Joury** on 8 Sept 2011, 11:25 a.m.,*
in response to message #41 by Namir

Hi Namir,

Try calling them (800) 800-0800 and see if you get the same answer I did. I'd love to hear the result.

I have to admit that I am suspicious of their claim! Which is why my original post has a "?" in the title and I wondered if anyone else believed they had them.

Cheers,

-Marwan

Re: HP 15C Available at buy.com?

*Message #43 Posted by **Namir** on 8 Sept 2011, 11:35 a.m.,*
in response to message #42 by M. Joury

Marwan,

I just called them and the lady checked availability and said that they have them in stock.

I told her that if they had them in stock to expect a lot of orders!!

Namir

Edited: 8 Sept 2011, 11:35 a.m.

Re: HP 15C Available at buy.com?

*Message #44 Posted by **M. Joury** on 8 Sept 2011, 11:42 a.m.,*
in response to message #43 by Namir

LOL. Fingers and toes crossed now!

Re: HP 15C Available at buy.com?

*Message #45 Posted by **Cristian Arezzini** on 8 Sept 2011, 11:32 a.m.,*
in response to message #40 by M. Joury

Hmmm... buy.com sells them at 78.99, free shipping... Samson sells them at 99.99 PLUS shipping. If buy.com is "for real" I might cancel my order at Samson... Thoughts?

Re: HP 15C Available at buy.com?

*Message #46 Posted by **Cristian Arezzini** on 8 Sept 2011, 3:05 p.m.,*
in response to message #45 by Cristian Arezzini

Update: I contacted Samson, telling them about buy.com's offer, asking if they would consider matching their price. Here's what they replied:

"Our shipment is in transit so we will be shipping next week when it arrives.

The Buy.com pricing is lower than our cost so I cannot match. I am told it is a mistake."

This makes me wonder, and sort of confirms Tim's message. And for now I'm not canceling my order with Samson! :)

Cristian

Re: HP 15C Available at buy.com?

*Message #47 Posted by **Dan G** on 8 Sept 2011, 11:14 a.m.,*
in response to message #39 by Namir

I certainly hope this is true. Just ordered 2. They have the correct hp part # listed which is a good sign.

I am also curious where one can see the number left in stock.

Re: HP 15C Available at buy.com?

*Message #48 Posted by **sylvandb** on 8 Sept 2011, 11:33 p.m.,*
in response to message #47 by Dan G

> Quote:
>
> They have the correct hp part # listed which is a good sign.

Better than HP. This pdf data sheet calls it an NW239AA (a 10bII).

15c data sheet

Re: HP 15C Available at buy.com?

*Message #49 Posted by **hpnut** on 8 Sept 2011, 11:58 p.m.,*
in response to message #48 by sylvandb

The HP datasheet says the 15C has "Chain Algebraic" and RPN entry-system logic...

talk about proof reading. sheesh....

Re: HP 15C Available at buy.com?

*Message #50 Posted by **Tom Mathes** on 8 Sept 2011, 11:23 a.m.,*
in response to message #1 by M. Joury

A $5 off coupon for purchases over $75

http://www.buy.com/retail/coupon.asp?prid=85094736

It seems to work when I put the 15C in my shopping basket.

Tom

Re: HP 15C Available at buy.com?

*Message #51 Posted by **James Sterbenz** on 8 Sept 2011, 11:25 a.m.,*
in response to message #50 by Tom Mathes

Thanks to this forum for alerting me; I just ordered one. I'd been hitting refresh on the HP page several times a day, but also trying to check here. I was charged $78.99 + shipping; too late for the $5 coupon. I resisted the temptation to buy a second one for investment purposes...

Re: HP 15C Available at buy.com?

*Message #52 Posted by **M. Joury** on 8 Sept 2011, 11:26 a.m.,*
in response to message #50 by Tom Mathes

Darn! Didn't think to look. I am usually good about searching for coupons.

Re: HP 15C Available at buy.com?

*Message #53 Posted by **Tom Mathes** on 8 Sept 2011, 11:36 a.m.,*
in response to message #52 by M. Joury

The order likely hasn't been processed and can be cancelled and re-ordered. Give it a shot and see if you can do that; I do it often at other web sites and never run into problems.

Tom

Re: HP 15C Available at buy.com?

*Message #54 Posted by **Quan** on 8 Sept 2011, 11:44 a.m.,*
in response to message #53 by Tom Mathes

I took a look at my order status. It has the following note: "In the Shipping Process"

According to Buy.com's Questions about Order Status page, it means that "An item cannot be cancelled because it is being picked from the shelves, packaged, and stacked on the loading dock."

Plus I can no longer cancel the order.

So, it's on the way to my house... shortly!

Woohoo!!!

UPDATE: I just refresh the status page and got this "Sent to Warehouse" which means "We have verified your payment and your order/item has been sent to our warehouse to be fulfilled."

Look like a real deal!

Edited: 8 Sept 2011, 11:47 a.m. after one or more responses were posted

Re: HP 15C Available at buy.com?

*Message #55 Posted by **James Sterbenz** on 8 Sept 2011, 11:45 a.m.,*
in response to message #54 by Quan

Did anyone pay for overnight delivery? If so we'll know tomorrow if this is real.

UPDATE: mine also is now in "Sent to warehouse" status.

Edited: 8 Sept 2011, 11:58 a.m.

Re: HP 15C Available at buy.com?

*Message #56 Posted by **M. Joury** on 8 Sept 2011, 12:08 p.m.,*
in response to message #55 by James Sterbenz

Mine still shows processing...

Re: HP 15C Available at buy.com?

*Message #57 Posted by **James Sterbenz** on 8 Sept 2011, 12:21 p.m.,*
in response to message #56 by M. Joury

As does mine. "Sent to warehouse" is a sub-status several lines below.

Re: HP 15C Available at buy.com?

*Message #58 Posted by **M. Joury** on 8 Sept 2011, 12:24 p.m.,*
in response to message #57 by James Sterbenz

Yes. My HP12C order (placed lat night) shows "In the Shipping Process". My HP15C LE order shows nothing except the top "Processing" line.

Wonder what the holdup with mine is. I was probably one of the first to order. Don't all you guys but them out before they ship mine--you hear <g>?

Cheers,

-Marwan

Re: HP 15C Available at buy.com?

*Message #59 Posted by **James Sterbenz** on 8 Sept 2011, 12:36 p.m.,*
in response to message #58 by M. Joury

Mine just updated to "in the shipping process". Maybe you ought to give them a call and make sure there is no hangup before they are gone...

Re: HP 15C Available at buy.com?

*Message #60 Posted by **Ed Look** on 8 Sept 2011, 11:44 a.m.,*
in response to message #53 by Tom Mathes

Before anyone cancels and reorders, beware that the coupon is only for NEW Buy.com customers. I suspect at least a few of us won't qualify.

Re: HP 15C Available at buy.com?

*Message #61 Posted by **M. Joury** on 8 Sept 2011, 12:06 p.m.,*
in response to message #60 by Ed Look

Yup. I didn't.

Re: HP 15C Available at buy.com?

*Message #62 Posted by **M. Joury** on 8 Sept 2011, 11:59 a.m.,*
in response to message #53 by Tom Mathes

Interesting. Tells me I am not eligible for this coupon. Oh well.

Re: HP 15C Available at buy.com?

*Message #63 Posted by **Ed Look** on 8 Sept 2011, 11:39 a.m.,*
in response to message #52 by M. Joury

I feel as you, except I am not good at looking for coupons. I have to remember these things!!

The only consolation I have on this matter is that I did not buy all my HP calculators at full price, maybe half of them.

Re: HP 15C Available at buy.com?

*Message #64 Posted by **Cristian Arezzini** on 8 Sept 2011, 12:09 p.m.,*
in response to message #63 by Ed Look

I'm trying to place an order with them. I want the calculator shipped to my wife's address in the US (she is an American citizen), so it's not an international shipment. They won't accept my credit card though, because I'm Italian and it's an Italian credit card; they won't even accept my paypal or google accounts for the same reason. My wife isn't here now so I can't ask her credit card number. Is there any other way that you know of, to order from them? I don't get why all these limitations... I mean, do they *want* my money or not? :(

Cristian

Re: HP 15C Available at buy.com?

*Message #65 Posted by **hpnut** on 8 Sept 2011, 12:50 p.m.,*
in response to message #64 by Cristian Arezzini

hi Cristian,

i faced the same problem trying to buy from buy.com so Samson got my orders for both the 12c and 15c.

hpnut in Malaysia

Re: HP 15C Available at buy.com?

*Message #66 Posted by **svisvanatha** on 8 Sept 2011, 1:25 p.m.,*
in response to message #65 by hpnut

you can set up a US Virtual VISA card at entropay.com - this has worked for me before.

EDIT - I just used this virtual visa card to order 3 units with the $5 coupon - I live in Canada, so it is being shipped to a brokerage in Niagara, NY for me to pick up !

Edited: 8 Sept 2011, 1:35 p.m.

Re: HP 15C Available at buy.com?

*Message #67 Posted by **Ethan Conner** on 8 Sept 2011, 1:39 p.m.,*
in response to message #66 by svisvanatha

Buy.com accepted my order however in their terms use they state that if they can't ship the item they will refund your credit card so them and samson will probably take as many orders as they can.

Re: HP 15C Available at buy.com?

*Message #68 Posted by **Ethan Conner** on 8 Sept 2011, 1:28 p.m.,*
in response to message #64 by Cristian Arezzini

If you read their terms of use it's spelled out clearly concerning international orders. (buy.com) I'm pretty sure their software detects isp's. Anyway i got a confirmation e-mail saying it was in stock so we will see. Also their terms of use states that if the item is unable to ship if they run out or whatever they will automatically refund your credit card. Which is probably why buy.com and samson seem to be willing to take orders. They don't care if they have the item or not they will hold your payment for a few months collect some interest and then pay you back.

Re: HP 15C Available at buy.com?

*Message #69 Posted by **Cristian Arezzini** on 8 Sept 2011, 3:28 p.m.,*
in response to message #68 by Ethan Conner

My point was that this is not really an international sale - I want it shipped to an address in the US, and the order was placed with my wife's name - and she's an US citizen...

And by the way, Samson hasn't charged my card, they will only charge it when they're ready to ship, so they're not getting any of my interest! :)

Cristian

Re: HP 15C Available at buy.com?

*Message #70 Posted by **Howard Owen** on 8 Sept 2011, 1:41 p.m.,*
in response to message #1 by M. Joury

Order placed with coupon applied. Where are you guys seeing quantity in stock?

Re: HP 15C Available at buy.com?

*Message #71 Posted by **M. Joury** on 8 Sept 2011, 1:55 p.m.,*
in response to message #70 by Howard Owen

I called in my order and asked them.

Re: HP 15C Available at buy.com?

*Message #72 Posted by **Ethan Conner** on 8 Sept 2011, 2:12 p.m.,*
in response to message #71 by M. Joury

I imagine they will do like samson and take as many orders as possible quantity on hand or not. They have a refund policy/ disclaimer that let's them off the hook so i won't hold my breath but i do have a confirmation number.

Re: HP 15C Available at buy.com?

*Message #73 Posted by **Tom Mathes** on 8 Sept 2011, 7:41 p.m.,*
in response to message #70 by Howard Owen

I just ordered one with the $5 coupon even though I'm a buy.com previous customer. I figured out that if I order through Amazon's checkout it takes the $5 coupon.

Extra bonus: Amazon now backs me if buy.com sends me the wrong item, so I've got some 'heft' in my corner if there's a problem.

Edit: I checked buyer feedback for buy.com on Amazon. YIKES. Glad I ordered it through Amazon.

Edited: 8 Sept 2011, 7:43 p.m.

Re: HP 15C Available at buy.com?

*Message #74 Posted by **Michael de Estrada** on 8 Sept 2011, 8:46 p.m.,*
in response to message #73 by Tom Mathes

I used PayPal, which also has buyer protection.

Re: HP 15C Available at buy.com?

*Message #75 Posted by **Katie Wasserman** on 8 Sept 2011, 11:43 p.m.,*
in response to message #74 by Michael de Estrada

Ditto. I've found that using AmEx via Paypal is the best buying protection. While it's almost never necessary to make a claim for merchandise from normal retail outlets, I've been defrauded on TAS and on each occasion all it took was a quick phone call to AmEx to get a refund. No need to even fill out a Paypal claim.

Re: HP 15C Available at buy.com?

*Message #76 Posted by **gene wright** on 9 Sept 2011, 8:27 a.m.,*
in response to message #75 by Katie Wasserman

I knew that we thought alike. :-)

Re: HP 15C Available at buy.com?

*Message #77 Posted by **Brandon Poindexter** on 9 Sept 2011, 9:39 p.m.,*
in response to message #1 by M. Joury

What the heck, they were $79.99 yesterday, it was $84.99 this morning, and now its nearly $90. I guess if something sells well, up the price. But still. . . If it goes to $95 tomorrow i will not be getting it from buy.com.

Edited: 9 Sept 2011, 9:40 p.m.

Re: HP 15C Available at buy.com?

*Message #78 Posted by **M. Joury** on 9 Sept 2011, 11:36 p.m.,*
in response to message #77 by Brandon Poindexter

At this point it would actually be cheaper to get it from HP (if they ever actually sell the thing) since there are $15 off purchase of $75 or more coupons almost always available for the Home and Home Business store.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Received HP 12C 30th Anniv.

*Message #1 Posted by **Gerardo Rincon** on 7 Sept 2011, 8:52 p.m.*

I just received the HP-12C 30th Anniversary - Added to my collection website: rinconcentral.com.

The 25th Anniversary was a Platinum model - much nicer than the HP 12C 30th Anniversary which is a Standard (non-platinum) calculator. This one does have the two batteries with the faster processor.

Edited: 7 Sept 2011, 11:14 p.m.

Re: Received HP 12C 30th Anniv.

*Message #2 Posted by **Brian Walsh** on 8 Sept 2011, 12:34 a.m.,*
in response to message #1 by Gerardo Rincon

> Quote:
>
> [snip] The 25th Anniversary was a Platinum model - much nicer than the HP 12C 30th Anniversary which is a Standard (non-platinum) calculator. [snip]

I'll take the non-platinum color one any day for its use of traditional blue and gold shift keys and matching key and overlay labeling which are far more legible than the platinum version, especially that horrid orange and low contrast orange overlay lettering.

Re: Received HP 12C 30th Anniv.

*Message #3 Posted by **hpnut** on 8 Sept 2011, 4:44 a.m.,*
in response to message #1 by Gerardo Rincon

Hi Gerardo,

congrats for being the first in this forum to own a 30th Annv 12C. who did you order from?

i have placed orders for a 15C and 12C from Samsons, still waiting.

hpnut in Malaysia

Re: Received HP 12C 30th Anniv.

*Message #4 Posted by **Glenn Dowdy** on 8 Sept 2011, 11:09 a.m.,*
in response to message #3 by hpnut

> Quote:
>
> Hi Gerardo,
>
> congrats for being the first in this forum to own a 30th Annv 12C. who did you order from?

First? :)

Re: Received HP 12C 30th Anniv.

*Message #5 Posted by **hpnut** on 8 Sept 2011, 12:53 p.m.,*
in response to message #4 by Glenn Dowdy

Hi Glenn,

yes, 1st. other than HP people like yourself, Tim and Cyrille :-)

Re: Received HP 12C 30th Anniv.

*Message #6 Posted by **Glenn Dowdy** on 8 Sept 2011, 3:39 p.m.,*
in response to message #5 by hpnut

> Quote:
>
> Hi Glenn,
>
> yes, 1st. other than HP people like yourself, Tim and Cyrille :-)

I do have the highest serial number, though: 888888.

Re: Received HP 12C 30th Anniv.

*Message #7 Posted by **hpnut** on 8 Sept 2011, 11:25 p.m.,*
in response to message #6 by Glenn Dowdy

Glenn! you lucky devil!

8 in Chinese language is an auspicious number :-)

I hope both my HP 12c and 15c have at least one "8" figure in the serial no.

Re: Received HP 12C 30th Anniv.

*Message #8 Posted by **Gerardo Rincon** on 8 Sept 2011, 7:13 p.m.,*
in response to message #3 by hpnut

I ordered it from the HP Small Business store.

Edited: 8 Sept 2011, 7:15 p.m.

Re: Received HP 12C 30th Anniv.

*Message #9 Posted by **Tom Mathes** on 8 Sept 2011, 1:20 p.m.,*
in response to message #1 by Gerardo Rincon

Interesting that it only comes with a quick-start guide and not a full-blown manual (printed, that is; I'm looking at your web page images). I thought it was supposed to have a printed manual too?

Re: Received HP 12C 30th Anniv.

*Message #10 Posted by **MBlount** on 8 Sept 2011, 4:50 p.m.,*
in response to message #1 by Gerardo Rincon

I got mine today after ordering from buy.com yesterday. Their warehouse is just up the road from me and I got it in only one day. LE #00710.

Re: Received HP 12C 30th Anniv.

*Message #11 Posted by **M. Joury** on 9 Sept 2011, 11:59 a.m.,*
in response to message #10 by MBlount

Well it's good to know that they got those right at least. Though I don't know if that gives me more or less confidence that they actually have the 15C LE.

Re: Received HP 12C 30th Anniv.

*Message #12 Posted by **Glenn Shields** on 8 Sept 2011, 9:03 p.m.,*
in response to message #1 by Gerardo Rincon

Please answer one burning question: does SST work now? Meaning, when holding down the SST button, do you see the program step? TIA, Glenn

Re: Received HP 12C 30th Anniv.

*Message #13 Posted by **Katie Wasserman** on 9 Sept 2011, 4:14 a.m.,*
in response to message #12 by Glenn Shields

Yes, this was fixed a couple of years ago in a later version of the firmware. The first batch of 12C+ calculators went out with an early version of the firmware that had several problems. Read this thread for all the details.

Re: Received HP 12C 30th Anniv.

*Message #14 Posted by **Glenn Shields** on 9 Sept 2011, 12:04 p.m.,*
in response to message #13 by Katie Wasserman

I appreciate that info, but the new 12C I got from Amazon (two months ago) doesn't work right, so my question is how do I get one now with a working SST (in any version)? Do none of the "plain" 12Cs have it fixed? BTW, loved your sorting program, which sorts "top-down", I was able to write one which sorts up, and uses a financial register as a "flag" to check for any mis-ordered pairs, so the running time varies depending on the data set. But it is longer and not as elegant. But so much pencil and paper is necessary without having that SST! Thanks again, Glenn in West LA

Re: Received HP 12C 30th Anniv.

*Message #15 Posted by **gene wright** on 9 Sept 2011, 12:19 p.m.,*
in response to message #14 by Glenn Shields

You can flash this yourself with the proper cable and firmware update.

I have both. Cable will cost you postage, firmware is free. :-) Send me a note through the forum email option.

Re: Received HP 12C 30th Anniv.

*Message #16 Posted by **Katie Wasserman** on 9 Sept 2011, 3:18 p.m.,*
in response to message #14 by Glenn Shields

Glenn,

Post your sorting program, I'd love to see it. Debugging on the 12C can indeed be very hard.

I wrote linked-list sort some time ago for the 12CP, it uses the Nj registers for the link, it's here. It took forever with pencil and paper to debug it even with SST and BST working.

-Katie

Re: Received HP 12C 30th Anniv.

*Message #17 Posted by **Glenn Shields** on 10 Sept 2011, 12:03 a.m.,*
in response to message #16 by Katie Wasserman

Thanks for sharing that, Katie- I didn't realize how far back that goes. I have learned so much from this forum, and hoped that I could share a little along the way (but I get a little hasty in composing posts and don't edit with separate lines the way most of you do).

Anyway, here is something I sort of adapted from working with the 35S (which has flags and indirect addressing, of course) but is more fun on the extremely fast 12C, using up to 16 items stored in registers 0 -> .5 :

1 5 STO n 0 STO i RCL gCFj RCL gCFj x<y? GTO 20 x<>y gCFj x<>y gCFj STO i RCL n 1 - STO n GTO 24 RCL n 1 + STO n x=0? GTO 27 GTO 06 RCL i x=0? GTO 00 GTO 01

When register i has any value besides 0 it means a switch is necessary. Again, what an honor to hear from you, Katie - thanks, Glenn :-)

Re: Received HP 12C 30th Anniv.

*Message #18 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 1:58 a.m.,*
in response to message #17 by Glenn Shields

Here it is on separate lines with step numbers using the "preformatted" button:

```
01 1
02 5
03 STO n
04 0
05 STO i
06 RCL g CFj
07 RCL g CFj
08 x<y?
09 GTO 20
10 x<>y
11 g CFj
12 x<>y
13 g CFj
14 STO i
15 RCL n
16 1
17 -
18 STO n
19 GTO 24
20 RCL n
21 1
22 +
23 STO n
24 x=0?
```

```
25 GTO 27
26 GTO 06
27 RCL i
28 x=0?
29 GTO 00
30 GTO 01
```

Re: Received HP 12C 30th Anniv.

*Message #19 Posted by **Katie Wasserman** on 10 Sept 2011, 3:07 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Glen,

Very nice! Way, way back when I was teaching myself how to program I started with a bubble sort and worked on incrementally improving it with stopping conditions (like you have) and bi-directional bubbling, etc.. This is a real challenge on a 12C, but I was using PL/C. Fortunately I got smart before too long and stopped wasting valuable IBM/360 time with O(n^2) sorts.

-Katie

Re: Received HP 12C 30th Anniv.

*Message #20 Posted by **Glenn Shields** on 10 Sept 2011, 11:15 a.m.,*
in response to message #19 by Katie Wasserman

Wow, that brings back memories (can we re-trace our lives via computing power?) of being in school in a Fortran class, waiting for my program to run in a room full of terminals (1986). I had a 15C then, and a classmate had a 41CV (it was always beeping with his reminders) and another had the Sharp mini-computer. Before that (in 1975) I got an HP35 (thanks to Dad), and my classmate then was threatening us with the power of his soon-to-be-acquired HP45 (in slide rule class!). Just torturing myself over the fact that I have none of these items today. Also had a Sharp 12-digit Elsi-mate with two separate memories to use for series computations of trigs and logs, just for the challenge. The fun of that is still here, like Valentin's 99-step trig program (still haven't tried to parse that out to see how it works). Thanks to all for your wonderful input. The forum helped me keep this hobby alive. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Guessing game - non-HP RPN calculator "Made in Germany"

*Message #1 Posted by **Joerg Woerner** on 7 Sept 2011, 8:21 p.m.*

Collectors,

I received today a box from Gemany with some interesting calculators sold in Germany. One of them might interest you:

1) It uses RPN

2) It is Scientific

3) It has a wonderful RED LED display

4) It was made in Germany

Who is the first one to identify this cutie?

Cheers, Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #2 Posted by **Mark Hardman** on 7 Sept 2011, 8:29 p.m.,*
in response to message #1 by Joerg Woerner

Privileg SR 54?

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #3 Posted by **Joerg Woerner** on 7 Sept 2011, 9:13 p.m.,*
in response to message #2 by Mark Hardman

No, it is NOT from Privileg.

The SR54NC was to my knowledge manufactured Overseas.

Regards, Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #4 Posted by **Mark Hardman** on 7 Sept 2011, 9:49 p.m.,*
in response to message #3 by Joerg Woerner

Does East Germany count?

How about the Konkret 600 manufactured in Thüringen.

konkret 600
e^x
x^y
Cx
n
|-|
F
sin
cos
tan
x-m
7
8
9
÷
arcsin
arccos
arctan
m-x
4
5
6
x
√
lg
1/x
ln
1
2
3
−
C
x⇄y
CF
0
,
+

Edited: 7 Sept 2011, 10:00 p.m.

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #5 Posted by **Joerg Woerner** on 7 Sept 2011, 10:05 p.m.,*
in response to message #4 by Mark Hardman

Sure - the label reads:

Made in GDR, abbreviation for German Democratic Republic!

Bingo,

Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #6 Posted by **Michael de Estrada** on 7 Sept 2011, 11:26 p.m.,*
in response to message #4 by Mark Hardman

Looks a lot like the Elektronika B3-19M

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #7 Posted by **x34** on 8 Sept 2011, 5:35 a.m.,*
in response to message #6 by Michael de Estrada

> Quote:
>
> Looks a lot like the Elektronika B3-19M

Because it is the same calculator, just with different markings. Designed in Kiev, USSR, produced in Thuringen, DDR.

Edited: 8 Sept 2011, 5:36 a.m.

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #8 Posted by **Walter B** on 8 Sept 2011, 1:38 p.m.,*
in response to message #7 by x34

> Quote:

> Designed in Kiev, USSR, produced in Thuringen, DDR.

Almost ;-)
Either designed in Kiev, USSR, produced in Mühlhausen, GDR,
or designed in Kiev, CCCP, produced in Mühlhausen, DDR,
or designed in the Ukraine, USSR, produced in Thüringen, GDR,
or one more (trivial) permutation.

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #9 Posted by **db (martinez, ca.)** on 7 Sept 2011, 8:33 p.m.,*
in response to message #1 by Joerg Woerner

Is it one of the two RPN Privileg models? Those things are sleek and solid. They have the worlds best battery doors too.

If not; we have to talk. I have a first-born child to trade you for that calc.

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #10 Posted by **Joerg Woerner** on 7 Sept 2011, 9:14 p.m.,*
in response to message #9 by db (martinez, ca.)

Not from Privileg...

Later more!

Cheers, Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #11 Posted by **Michael de Estrada** on 7 Sept 2011, 9:18 p.m.,*
in response to message #1 by Joerg Woerner

Is it a German brand ?

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #12 Posted by **Joerg Woerner** on 7 Sept 2011, 9:20 p.m.,*
in response to message #11 by Michael de Estrada

YES

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #13 Posted by **Michael de Estrada** on 7 Sept 2011, 9:30 p.m.,*
in response to message #12 by Joerg Woerner

What chipset does it use ?

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #14 Posted by **Joerg Woerner** on 7 Sept 2011, 9:33 p.m.,*
in response to message #13 by Michael de Estrada

Not Mostek, not National ;-))

Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"
*Message #15 Posted by **Michael de Estrada** on 7 Sept 2011, 9:37 p.m.,*
in response to message #14 by Joerg Woerner

MOS MPS7561 ?

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #16 Posted by **Joerg Woerner** on 7 Sept 2011, 10:03 p.m.,*
in response to message #15 by Michael de Estrada

Not Commodore - Russian chips ;-))

Joerg

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #17 Posted by **Lincoln R.** on 7 Sept 2011, 10:20 p.m.,*
in response to message #16 by Joerg Woerner

Robotron brand, perhaps? I've seen that brand name on some DDR home computers, read somewhere they made calculators too.

Re: Guessing game - non-HP RPN calculator "Made in Germany"

*Message #18 Posted by **Joerg Woerner** on 7 Sept 2011, 10:28 p.m.,*
in response to message #17 by Lincoln R.

konkret 600 = VEB Roehrenwerk Muehlhausen, Kombinat Mikroelektronik,

Viele Gruesse, Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TOS Confusion for newbies

*Message #1 Posted by **Dave Hicks** on 7 Sept 2011, 8:09 p.m.*

There have been some references to TOS and confusion by newbies, so here's what I posted 5 years ago:

> Quote:
>
> A brief chronology as I know it.
>
> Long ago there was a site with an interesting simulator. I linked to it. It became more popular and was occasionally linked to in this forum.
>
> Sometime later HP told me that the site was hosting ROMs without permission and that I should prevent links to it in the forums. I complied. (I took a look at the site at that time and it said something like: These ROMs are NOMAS so I can place them here, which was surely well-intentioned but legally nonsense I believe.)
>
> Sometime later the site owner told me that he had later received permission so it was OK now. That sounded great, but since it was HP who asked me not to link, I checked with my contacts. They hadn't heard anything about this. I tried more contacts. I tried several people in person. I even tried after beer. I asked other people who were and, still are, trying to get permission to copy ROMs for simulators. No one else I know has heard anything about it. Comments from two HP employees: (quotes from memory) "You would be wise to stay away from this" and "There are many sites with inappropriate HP content but I don't report them to legal for fear that they would take them all out, including the good ones."
>
> Everyone points to Fred Valdez (the GM of the calculator division) as the person who can provide the definitive answer. I asked some time ago and didn't get an answer. I planned to corner him in person at HHC late last year but he had a last minute conflict. At HHC Eric Smith asked if there was any chance of getting some ROMs released for his simulator and Cyrille de Brebisson (Calculator R&D manager) said "I believe that will never happen". (Which tends to imply that he also thinks it never has.)
>
> Later I emailed Fred again and this time I thought I was pretty clever: Instead of asking for confirmation that the site was now operating with HP's blessing, I only asked for permission to remove the link block and for HP to agree to hold me blameless for links to some site I don't control which are added by other people in this forum. That seemed like a simple request that didn't limit HP in any way. I even said I would reinstate the block on their request at any time. An assistant to Fred told me that they were looking into it and it would take some time. That's the last I've heard.
>
> Perhaps the other site owner can ask his contacts to contact Fred. I have no idea whether Fred doesn't know, doesn't agree, or this just gets lost in the shuffle.

After that was posted, the TOS site owner told me that his contact at HP was non-responsive and that's the last I have ever heard on this. I've heard legalistic comments from all sides that encouraged and continue to encourage me to stay away.

I have a theory as to how this may have unfolded. You might be able to get me to reveal it over a beer but I'm not going to write it up because it's only a guess. In any event, even if my guess is true, I am still doing as they ask since I am redistributing HP content by (continuing) permission.

Coincidentally, I received another content removal request (totally unrelated content) from HP yesterday from someone I don't know. I forwarded this to someone I do know for clarification/verification along with a reference to TOS and all the flak I get for censoring it. I got a response that I don't have to remove the new unrelated content, but he didn't take the bait on the TOS sub-topic. (Not too surprising - I always thought he was smart. ;-))

This was really quite a coincidence because content removal requests like this only happen about once every few years and only about three of those have been from HP.

No one has ever told me I should censor the text "TOS" so I don't.

Edited: 7 Sept 2011, 8:10 p.m.

Re: TOS Confusion for newbies

*Message #2 Posted by **Martin Pinckney** on 7 Sept 2011, 9:47 p.m.,*
in response to message #1 by Dave Hicks

Thanks, Dave, for elucidating.

I can understand the prohibition from *linking* to TOS. Does the definition of "linking" extend to mentioning the site by name?

Re: TOS Confusion for newbies

*Message #3 Posted by **Tom Mathes** on 8 Sept 2011, 4:51 p.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> Thanks, Dave, for elucidating.
>
> I can understand the prohibition from *linking* to TOS. Does the definition of "linking" extend to mentioning the site by name?

Same here; any clues as to what that site is? I assumed "TOS" was another way of staying "TAS" but obviously I was wrong.

Re: TOS Confusion for newbies

*Message #4 Posted by **Gerson W. Barbosa** on 8 Sept 2011, 5:30 p.m.,*
in response to message #3 by Tom Mathes

Search for HP-41C at Wikipedia and take a look at the External Links session. There you'll find a link to *t*he *o*ther *s*ite.

Re: TOS Confusion for newbies

*Message #5 Posted by **Thomas Radtke** on 9 Sept 2011, 11:05 a.m.,*
in response to message #4 by Gerson W. Barbosa

Tried to sign up a couple of days ago (something like the Streisand Effect applied ;-), I got no

response from Warren or his system. Either he's on hollydays, or he has closed access to the 'interesting' content for new users.

@Dave, nice to hear from you :-).

Re: TOS Confusion for newbies

*Message #6 Posted by **M. Joury** on 9 Sept 2011, 11:28 a.m.,*
in response to message #5 by Thomas Radtke

I can't get to the site at all.

Re: TOS Confusion for newbies

*Message #7 Posted by **Thomas Radtke** on 9 Sept 2011, 11:34 a.m.,*
in response to message #6 by M. Joury

Same here. Hope it's not gone forever :-(.

Re: TOS Confusion for newbies

*Message #8 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 12:24 p.m.,*
in response to message #6 by M. Joury

The site is working for me.

Re: TOS Confusion for newbies

*Message #9 Posted by **Walter B** on 9 Sept 2011, 12:32 p.m.,*
in response to message #6 by M. Joury

Works like a charm here.

Re: TOS Confusion for newbies

*Message #10 Posted by **M. Joury** on 9 Sept 2011, 12:45 p.m.,*
in response to message #9 by Walter B

Must have been a temporary glitch. Working now.

Re: TOS Confusion for newbies

*Message #11 Posted by **Thomas Radtke** on 9 Sept 2011, 12:50 p.m.,*
in response to message #6 by M. Joury

Yep, up again :-).

Re: TOS Confusion for newbies

*Message #12 Posted by **Martin Pinckney** on 8 Sept 2011, 8:14 p.m.,*
in response to message #3 by Tom Mathes

I'll take another chance:

Re: TOS Confusion for newbies

*Message #13 Posted by **Tom Mathes** on 8 Sept 2011, 8:44 p.m.,*
in response to message #12 by Martin Pinckney

> Quote:
>
> I'll take another chance:

Kind of guessed that was the answer. Thanks.

Re: TOS Confusion for newbies

*Message #14 Posted by **James Sterbenz** on 8 Sept 2011, 11:26 p.m.,*
in response to message #13 by Tom Mathes

Or google and hit 'I'm feeling lucky'

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Buy.com has 30th Anniv 12c for $69

*Message #1 Posted by **MBlount** on 7 Sept 2011, 5:18 p.m.*

Buy.com currently shows the 30th Annivisary 12c in stock for $68.99. It is the correct item number and just showed up as in stock today. Maybe they are finally making their way into the normal retail chain.

http://www.buy.com/pr/product.aspx?sku=223173354

Re: Buy.com has 30th Anniv 12c for $69

*Message #2 Posted by **Steve Fennell** on 7 Sept 2011, 6:42 p.m.,*
in response to message #1 by MBlount

Thanks for the heads up! That's a good deal. Got one ordered.

I noticed they also have a listing for the 15C LE, but it's not in stock.

[edited to add link] 15C LE at buy.com

Edited: 7 Sept 2011, 6:45 p.m.

Re: Buy.com has 30th Anniv 12c for $69

*Message #3 Posted by **hpnut** on 8 Sept 2011, 1:01 a.m.,*
in response to message #2 by Steve Fennell

I placed my order with Samson. let's see if the HP 12 or HP 15C arrives first :-)

Re: Buy.com has 30th Anniv 12c for $69

*Message #4 Posted by **Tom Mathes** on 8 Sept 2011, 9:14 a.m.,*
in response to message #2 by Steve Fennell

The 15C LE shows "sold out" as of 9:15am EDT on buy.com.

Re: Buy.com has 30th Anniv 12c for $69

*Message #5 Posted by **M. Joury** on 8 Sept 2011, 9:18 a.m.,*
in response to message #4 by Tom Mathes

Now, at 9:16 EDT, it is showing in stock for $78.99. Does anyone actually believe that it is in stock ?

Makes me wonder if the 12C 30th is actually in stock. I ordered one so we'll see when it ships.

Cheers,

-Marwan

Edited: 8 Sept 2011, 9:19 a.m.

Re: Buy.com has 30th Anniv 12c for $69

*Message #6 Posted by **Quan** on 8 Sept 2011, 10:33 a.m.,*
in response to message #5 by M. Joury

I believe the "slow boat from China" had arrived.

So I ordered one and now wait for the delivery... patiently!

Re: Buy.com has 30th Anniv 12c for $69

*Message #7 Posted by **From Hong Kong** on 8 Sept 2011, 10:42 a.m.,*
in response to message #5 by M. Joury

I registered my email address for availability alert in early morning and received it one hour earlier from now.

Edited: 8 Sept 2011, 10:46 a.m.

Re: Buy.com has 30th Anniv 12c for $69

*Message #8 Posted by **hpnut** on 7 Sept 2011, 11:21 p.m.,*
in response to message #1 by MBlount

too bad they don't ship international orders :-(

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My First HP Calc to Fail

*Message #1 Posted by **Jandro Kirkish** on 7 Sept 2011, 2:34 p.m.*

Hi all, from a frequent reader and rare post-er. I have many RPL machines; my first was my trusty 28S, 23 years old and still going strong (I guess I got the kind without the failing battery door :). Because I loved it so much I bought a 49G back in 2002 or thereabouts. I wanted to love it too but in all honesty I didn't like anything about it; the rubbery keys the misplaced ENTER key, the horrible screen and all the other issues that I am sure make this calculator a singularly unloved object in this forum. Over the years I tried to "correct" my decision to by this piece by buying a 49G+ (better screen) and a 50G (EQN library yay!). Well, in the process of consolidating my collection I dug the 49G out of my garage and put new batteries in it and -- you guessed it -- it failed to turn on. (The ON/C/CONT/OFF button had for years been getting harder to register a key press so I pretty sure this is the problem.) I was very slightly sad. But here is what I have to say: this 9 year old calc, used sparingly, failed where a heavily used 23 year old one has not. Say what you will about the 28S (and I know what many of you might say), it still works after all this time. Does anyone else have a similar story to tell?

Re: My First HP Calc to Fail

*Message #2 Posted by **BruceH** on 7 Sept 2011, 3:12 p.m.,*
in response to message #1 by Jandro Kirkish

The moral of the story is clearly "use all your calculators regularly"!

Re: My First HP Calc to Fail

*Message #3 Posted by **Gilles Carpentier** on 7 Sept 2011, 3:25 p.m.,*
in response to message #1 by Jandro Kirkish

Hi,

All my HP48SX / 49G / 49G+ and 50G works fine :D

And also my 30 years old Casio FX-602P , the best ever Casio calculator and precursor : Casio FX-602P
Nota : you can find an interesting HP41C program and its 602P version here (clic on "regle du jeu") : KIBUR

About the 49G, I removed the plastic protection of the screen long ago and the screen is perfect now. I don't like at all the keyboard feeling of the 49G.

When I use sometime my HP48SX I love the so sweet keyboard feeling. My prefered calculators are now the 50G and my so old Casio 602P. The 50G is near perfect for me (but I would love a better screen resolution and 48SX keyboard feeling)

About the 48/50 series keyboard, perhaps I'm alone but i have no problem with the small Enter key and prefer the keyboard disposition and readibility of the 50G far better that the 48. The keyboard feeling is not so sweet that the 48SX but remain correct.

Edited: 7 Sept 2011, 3:31 p.m.

Re: My First HP Calc to Fail

*Message #4 Posted by **Crawl** on 7 Sept 2011, 5:18 p.m.,*
in response to message #3 by Gilles Carpentier

> Quote:
>
> About the 48/50 series keyboard, perhaps I'm alone but i have no problem with the small Enter key

Me too.

I think what some people don't realize is that the Space key, which is right next to the Enter key, often acts like an Enter key in RPL.

Like, if you wanted to enter X+Y, you could type

X Enter Y +

but you could also type

X Space Y +

So, often, the two together act like a pseudo-double wide Enter key.

The advantage of keeping them separate is you need to use the Space approach when entering expressions in situations where you don't have access to the stack (eg., in the Matrix writer)

Re: My First HP Calc to Fail

*Message #5 Posted by **Chris Randle (UK)** on 7 Sept 2011, 6:19 p.m.,*
in response to message #3 by Gilles Carpentier

Like you Gilles, I have a Casio FX-602P (progressed from a 501P) and I agree that it's a beautiful machine.

But, since the topic is failing HPs, my 602P failed 20 years ago after passing through an airport scanner. I'm not convinced the scanner was to blame, but it was working one side and not the other. And it didn't just stop working, it went bonkers. Typing 2 + 2 = would come back with 37 and other weird nonsense. I still have it though because I'm too fond of it to part company, and I've since come to realise that it's not a bug, it's just a less accurate algorithm than some other calculators use ;-)

So, almost back on topic, twenty years ago I replaced it with a new HP 48SX, my first ever HP. And I don't need to tell anyone here what happened after that. If anyone had told me then that twenty years later I'd have dozens of HP calculators I'd have said they were mad. But I now know that it is I who am mad. Happy, but mad.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

need the reprogramming cable for the 30b...

*Message #1 Posted by **stacy_k** on 7 Sept 2011, 10:07 a.m.*

hello,

are the cables to reprogram the HP30b, still being distributed? (I need one...)

Is mr. gene wright still the source for them?

please help

thank you

(ps is there any description or schematic for what this cable is exactly, and how it works?)

Re: need the reprogramming cable for the 30b...

*Message #2 Posted by **M. Joury** on 7 Sept 2011, 10:11 a.m.,*
in response to message #1 by stacy_k

Try sending Gene an email through the forum.

Re: need the reprogramming cable for the 30b...

*Message #3 Posted by **stacy_k** on 7 Sept 2011, 10:19 a.m.,*
in response to message #2 by M. Joury

I tried to send him a mail but didn't get a response yet. Guess I'll wait a little bit more & maybe try again. thx

Re: need the reprogramming cable for the 30b...

*Message #4 Posted by **gene wright** on 7 Sept 2011, 10:59 a.m.,*
in response to message #3 by stacy_k

Hi. Don't think I ever got an email. Try again. :-)

Re: need the reprogramming cable for the 30b...

*Message #5 Posted by **stacy_k** on 7 Sept 2011, 11:27 a.m.,*
in response to message #4 by gene wright

Hi there (sorry for being a n00b) I tried again just now, did the mail make it to you? thanks again - stacy

Re: need the reprogramming cable for the 30b...

*Message #6 Posted by **gene wright** on 7 Sept 2011, 11:55 a.m.,*
in response to message #5 by stacy_k

Nope. Perhaps you have to associate an email with your user-name here for it to work?

I have had no problems getting emails from many other cable-seekers here, so something else must be happening.

Associate an email and let ME send an email your direction. Let's see if that will work.

Re: need the reprogramming cable for the 30b...

*Message #7 Posted by **stacy_k** on 7 Sept 2011, 1:06 p.m.,*
in response to message #6 by gene wright

Hello,

I had entered an email & marked it for public, but I guess that didn't work (? ?)

Anyhow I now entered my original email, that I used to register for the forum, and it should be public.

Did it work? It's srkmz[@]sentex.net

-stacy

Re: need the reprogramming cable for the 30b...

*Message #8 Posted by **Dan W** on 7 Sept 2011, 8:28 p.m.,*
in response to message #6 by gene wright

Hi Gene,

I've also tried to reach you thru the forum email without success. Wasn't sure if there was a problem, or your inbox was 500 deep.

At any rate I tweaked my e-mail options and I tried again. Let me know if you didn't get it.

thanks

-- Dan

Re: need the reprogramming cable for the 30b...

*Message #9 Posted by **Graham D. Wilson** on 7 Sept 2011, 7:36 p.m.,*
in response to message #6 by gene wright

Hi Gene

I'm also unable to send you emails through the forum.

To make contact, could I ask you to send me a message instead?

Ta Graham

Re: need the reprogramming cable for the 30b...

*Message #10 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 10:23 a.m.,*
in response to message #1 by stacy_k

> Quote:
>
> ps is there any description or schematic for what this cable is exactly, and how it works?

I don't have a schematic bu I know what the cable does. :-)

It's a level shifter to adapt the 3V TTL level serial pins on the connector to valid RS232 levels suitable for a PC serial port. In addition it provides two buttons: a RESET button to reset the processor and an ERASE button which will erase the flash memory contents of the processor: Turn the calculator on, press and hold erase, press any key on the calculator.) Erasing the flash will make the SAM-BA boot loader active which will connect to the SAM-BA flashing utility.

With the WP 34S firmware installed, the cable can be used to exchange data between the calculator and an emulator on the PC.

Re: need the reprogramming cable for the 30b...

*Message #11 Posted by **stacy_k** on 7 Sept 2011, 10:41 a.m.,*
in response to message #10 by Marcus von Cube, Germany

OK but there's no description anywhere, of what the guts of the cable actually are?

Re: need the reprogramming cable for the 30b...

*Message #12 Posted by **Katie Wasserman** on 7 Sept 2011, 10:55 a.m.,*
in response to message #11 by stacy_k

Here are all the details.

Re: need the reprogramming cable for the 30b...

*Message #13 Posted by **stacy_k** on 7 Sept 2011, 11:07 a.m.,*
in response to message #12 by Katie Wasserman

thank you

Re: need the reprogramming cable for the 30b...

*Message #14 Posted by **Dominic Richens** on 7 Sept 2011, 1:28 p.m.,*
in response to message #12 by Katie Wasserman

thanks! I've been looking for that.

Re: need the reprogramming cable for the 30b...

*Message #15 Posted by **Gerry Schultz** on 7 Sept 2011, 1:10 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I assume that since there is an increased drain on the 30b's batteries when connected through the programming cable, that you would want to keep the connection time to a minimum?

Re: need the reprogramming cable for the 30b...

*Message #16 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 6:07 p.m.,*
in response to message #15 by Gerry Schultz

Since the cable contains a level shifter which is fed by the 3V pads on the calculator sockets, it draws power from the coin cells. This is true even with the calculator turned off. I measured a current draw around 4 mA.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : Reopening last catalog called

*Message #1 Posted by **Miguel Toro** on 7 Sept 2011, 9:06 a.m.*

Hello,

I noticed that the last command in the last catalog called feature is reset when one leaves Program Mode with the [EXIT] key but still works if one leaves with the [h][p/r] combination. For example:

```
[h],[mode],24h,[enter],[h],[p/r],[h],[p/r],[h],[mode] -> 24h

But

[h],[mode],24h,[enter],[h],[p/r],[exit],[h],[mode] -> 12h,
```

Is this the intended behaviour? Maybe it could be explained somewhere in the manual.

Thanks and regards,

Miguel

Re: WP 34S : Reopening last catalog called

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 10:25 a.m.,*
in response to message #1 by Miguel Toro

This looks more like an oversight to me. EXIT resets some fields which need not be cleared and should be kept.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C

*Message #1 Posted by **Bruce Wells** on 7 Sept 2011, 8:36 a.m.*

I managed to lose the battery cover on my 12C. Anyone know where I can get one?

Re: HP 12C

*Message #2 Posted by **M. Joury** on 7 Sept 2011, 8:45 a.m.,*
in response to message #1 by Bruce Wells

I found them at Sampson Cables just yesterday. There are several different types available. Sampson Cables products.

-Marwan

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Updated SandMath-II and 41Z modules

*Message #1 Posted by **Ángel Martin** on 7 Sept 2011, 4:47 a.m.*

With summer gone I thought it'd be a good time to post updated versions of the classics, so here they are.

Updated 41Z - Revision 9F.
Includes minor code enhancements and a bug fixing for corner cases in ZSQRT. Also corrects issues involving the inverse hyperbolic functions used from a ROM, like in the ZMTV program.

Updated SandMath-II
I removed two functions redundant with other modules, which freed up some vital space for enhancements. Added the following:

- A new Statistics function menu
- Improvements to the special functions launcher, adding Carlson Integrals and Hankel functions sub-sections.
- JM Baillard's excellent Borwein implementation to calculate Riemann's Zeta.
- A new V41 overlay reflecting the changes: [SandMath-II Overlay]

All available at TOS for download.

Enjoy, ÁM

Edited: 7 Sept 2011, 11:23 a.m. after one or more responses were posted

Re: Updated SandMath-II and 41Z modules

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 10:16 a.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> - JM Baillard's excellent Borwein implementation to calculate R*ei*mann's Zeta.

Poor Mr Riemann, an often misspelled person. ;-)

Re: Updated SandMath-II and 41Z modules

*Message #3 Posted by **Ángel Martin** on 7 Sept 2011, 11:23 a.m.,*
in response to message #2 by Marcus von Cube, Germany

ok, hardly the most relevant part of the post but I got it :-)

Re: Updated SandMath-II and 41Z modules

*Message #4 Posted by **Gerson W. Barbosa** on 7 Sept 2011, 1:56 p.m.,*

in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Re*i*mann's Zeta.

Sounds just a typo to me, rather than mispelling, like s*ie*ze intead of s*ei*ze. In typing, these vowels are assigned to the medium fingers, hence some occasional confusions. *Ryemann* or *Rainman* would have been mispelling :-)

Re: Updated SandMath-II and 41Z modules

*Message #5 Posted by **Ángel Martin** on 7 Sept 2011, 3:50 p.m.,*
in response to message #4 by Gerson W. Barbosa

I think you're right Gerson, more and more my fingers go their own way independent from the eyes on the keyborad...

It's actually a relatively frequent typo amongst native english speakers - which I'm not, but that's another story. Since I live in germany I'm very aware of the "ie" vs. "ei" diphthongs, so shame on me I also fell into the same trap.

Re: Updated SandMath-II and 41Z modules

*Message #6 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 5:58 p.m.,*
in response to message #4 by Gerson W. Barbosa

I came across the same error in the WP 34S sources in more than one place. I'll never understand why the same vowel [i:] is spelled differently in "receive" and "believe". But this makes me understand why native English speakers tend to confound the two.

Ángel, where are you located in Germany?

Re: Updated SandMath-II and 41Z modules

*Message #7 Posted by **Gerson W. Barbosa** on 7 Sept 2011, 7:20 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> I'll never understand why the same vowel [i:] is spelled differently in "receive" and "believe".

Etymology (Anglo-French receivre > receive) and the Great Vowel Shift might offer some explanation.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Programming RPN on the 48?
*Message #1 Posted by **snaggs** on 7 Sept 2011, 1:36 a.m.*

Ive been reading more aboutthe HP 48. I had one for a week before it got stolen in ~1992, so I never had time to get comfortable with it. Being a geek I then went on specs and replaced it with a 49g+ which has sat in a drawer ever since.

Looking back at the HP 48G, it seems to have more functions on the keyboard, and a lovely design.

Im not ready to evaluate RPL vs RPN, but I am enjoying RPN on my 35s. Can the 48's RPL be ignored and programmed RPN? If thats the case, why would you use a 42s?

Daniel.

Re: Programming RPN on the 48?
*Message #2 Posted by **BruceH** on 7 Sept 2011, 2:14 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> Can the 48's RPL be ignored and programmed RPN?

No. The 48 is RPL only.

Re: Programming RPN on the 48?
*Message #3 Posted by **Namir** on 7 Sept 2011, 2:16 a.m.,*
in response to message #1 by snaggs

Daniel,

The 48 machines (and successors) do not support RPN. They offer RPL.

RPN and RPL while similar in certain aspects are different in many others. Both use stacks. RPN machines have had 4-level stacks as designed by HP. RPL uses a dynamic stack (in both the number of levels and the contents of each level) and uses its more intensely than RPN. For example in RPN you can use the command STO 0 to store the contents of the X-register to memory register 0. In RPL you have a value at level 1 that you want to store. You push the name of the recipient variable, say 'X', into the stack and then execute the STO command. That command takes its destination from level 1 and the value to store in level 2. After you execute the STO command in RPL, the original values in levels 1 and 2 are consumed by the STO command and the stack drops by 2 levels. In other words the value you wanted to store no longer appears in the stack. This is quite different from a STO in RPN which leaves the value to be stored on the stack. To mimic RPN's behavior in RPL, you need to first issue a DUP command to duplicate the value in level 1, push the name of the target variable into the stack, and then execute STO. The result is that level 1 now has the value that you stored, and variable 'X' also stores that value.

This is a simple example on how RPN and RPL differ. One noteworthy difference to mention is that RPL can declare local variables in the blocks of code contained in pairs of << and >> characters. RPN lacks the feature of local variables, making the creation of reusable program objects more difficult.

Namir

Edited: 7 Sept 2011, 2:37 a.m.

Re: Programming RPN on the 48?
*Message #4 Posted by **Gilles Carpentier** on 7 Sept 2011, 7:39 a.m.,*
in response to message #3 by Namir

I think that a major difficulty for those who came from RPN and then uses RPL is the lack of GOTO function. RPL is a strongly structured language and RPN not. RPL is far more powerfull but more complex to learn (not sure of that for simple RPL programs). Imho there is no possible comparaisons between them. But the best tools (language) are those wich permit to solve easily your problems.

It would probably be impossible (and heretic !) to have GOTO / LBL instructuctions in RPL, but this could help people who have problems with structured language. I'm quite sure that people who like RPN and not RPL would have another views if they could use some GOTOs and LBLs in RPL.

Edited: 7 Sept 2011, 7:53 a.m.

Re: Programming RPN on the 48?
*Message #5 Posted by **Marcus von Cube, Germany** on 7 Sept 2011, 10:09 a.m.,*
in response to message #4 by Gilles Carpentier

The RPN to RPL relationship is roughly the same as is BASIC to PASCAL. In RPN, as in BASIC, its easy to start writing simple programs but creating more involved code quickly gets unhandy.

RPL is well structured, has powerful control statements and lacks GOTO, very similar to PASCAL. It is a bit of a hurdle to begin writing software with it but the results have more potential of being cleanly structured, easily expandable and correct.

Maybe RPL is more like FORTH for some. You can do everything on the stack which makes some RPL programs look "write only". It's possible to do so and it's efficient (code and speed wise). If you have the need to look after your programs some time later, a more defensive approach at compactness may be the better approach.

Re: Programming RPN on the 48?
*Message #6 Posted by **Crawl** on 7 Sept 2011, 10:52 a.m.,*

in response to message #5 by Marcus von Cube, Germany

The lack of Goto becomes quite annoying when you need to break out of a loop. You can always do it, of course, by adding more structures, but that seems like overkill for the problem.

I've seen some people recommend loop breaking with error trapping, but I wish there was a more "normal" way of doing it.

Re: Programming RPN on the 48?
*Message #7 Posted by **Gilles Carpentier** on 7 Sept 2011, 11:02 a.m.,*
in response to message #6 by Crawl

I agree at 110% ;). But no needs of GOTO for that : It just miss something like a BREAK or EXIT command in RPL (this exists in many language, like Pascal ...). The use of "error trapping" is not natural and very slow. This lack is very annoying in some cases..

Edited: 7 Sept 2011, 11:14 a.m.

Re: Programming RPN on the 48?
*Message #8 Posted by **Crawl** on 7 Sept 2011, 12:15 p.m.,*
in response to message #7 by Gilles Carpentier

Yeah. It has KILL, which works if you only want to break out of one level of program. But if another program CALLS a program that has KILL in it, KILL will kill even the parent program.

Re: Programming RPN on the 48?
*Message #9 Posted by **sylvandb** on 7 Sept 2011, 3:44 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> RPL is well structured, has powerful control statements and lacks GOTO, very similar to PASCAL.

Pascal has GOTO.

It was in every Pascal I used (last was over 10 years ago) and is defined in ISO 7185 from 1982 and even in the 1973 language summary which Wirth referred to several times as standard Pascal.

Re: Programming RPN on the 48?
*Message #10 Posted by **Gilles Carpentier** on 7 Sept 2011, 5:24 p.m.,*
in response to message #9 by sylvandb

I worked a lot in Pascal UCSD then Turbo Pascal then Delphi in the past and don't remember at all any GOTO ... Perhaps Tubo/Delphi are not ISO compatible but even if it is possible, I never imagined use a GOTO in Pascal. Seems like an horror for me ;)

Searching for "Goto in Pascal" I found this:

"Software is getting slower more rapidly than hardware becomes faster." Niklaus Wirth's law

Edited: 7 Sept 2011, 5:27 p.m.

Re: Programming RPN on the 48?
*Message #11 Posted by **Dan W** on 7 Sept 2011, 8:33 p.m.,*
in response to message #10 by Gilles Carpentier

And its the interaction between Moore's Law and Wirth's Law that will prevent the "Singularity" from ever happening.

Re: Programming RPN on the 48?
*Message #12 Posted by **Les Bell** on 7 Sept 2011, 9:08 p.m.,*
in response to message #9 by sylvandb

> Quote:
>
> Pascal has GOTO.

While it's true that Pascal has goto, if I remember correctly (it's been a few years) the target of the goto has to be a numeric label. So you have to write things like

```
goto 100;
```

rather than

```
goto lastditcherrorhandler;
```

which would be more meaningful. I always got the impression Wirth was a bit mean-spirited over that; he would let you write non-structured code, but if you did, he would punish you for it and make it as painful as possible so you'd learn your lesson.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Programming RPN on the 48?
*Message #13 Posted by **Howard Owen** on 7 Sept 2011, 9:38 p.m.,*
in response to message #12 by Les Bell

> Quote:
>
> ... and make it as painful as possible so you'd learn your lesson.

It *was* a teaching language after all. :)

Re: Programming RPN on the 48?
*Message #14 Posted by **Martin Pinckney** on 7 Sept 2011, 9:50 p.m.,*
in response to message #12 by Les Bell

> Quote:
>
> While it's true that Pascal has goto, if I remember correctly (it's been a few years) the target of the goto has to be a numeric label. So you have to write things like
>
> ```
> goto 100;
> ```

Having grown up on FORTRAN and BASIC, the above seems entirely normal to me!

Re: Programming RPN on the 48?
*Message #15 Posted by **Gerson W. Barbosa** on 7 Sept 2011, 10:39 p.m.,*
in response to message #12 by Les Bell

> Quote:
>
> I always got the impression Wirth was a bit mean-spirited over that; he would let you write non-structured code, but if you did, he would punish you for it and make it as painful as possible so you'd learn your lesson.

The use of the goto statement per se does not imply non-structured codes. Actually the first PASCAL programs I wrote in 1984 used labels at the beginning of every structure (010, 020, 030...) as per teacher's recommendation. Our textbook was Jean-Dominique Warnier's Logical Construction of Programs (LCP). We learned all other PASCAL statements later and goto was never needed again. Our professor's intention was making his students able to write structured code, no matter the programming language they used.

Gerson.

Edited: 7 Sept 2011, 10:44 p.m.

Re: Programming RPN on the 48?
*Message #16 Posted by **sylvandb** on 8 Sept 2011, 2:01 a.m.,*
in response to message #15 by Gerson W. Barbosa

> Quote:
>
> The use of the goto statement per se does not imply non-structured codes. ... Our professor's intention was making his students able to write structured code, no matter the programming language they used.

Exactly.

Once you have conditional's and goto you have the beginnings of structure and you can fake the rest.

It can be quite helpful if you have at least one level of subroutine, and having many levels helps a bit more.

But even more useful than a subroutine is to have local variables.

For a time I had to maintain and enhance a large program written in an "advanced" BASIC. It's only advanced feature for the time was optional line numbers but it did have goto {variable}. No gosub/return, no local variables, and only 6 char variable names. The "main" and all subroutines had to use defined variable names to avoid clobbering each other's variables. And each subroutine had a "goto RVAR00" at the end. The caller would save the previous contents of RVAR00 and set RVAR00 to the proper line number for the ending 'goto' to return from the subroutine. But our code was structured and that made it much more maintainable.

Re: Programming RPN on the 48?
*Message #17 Posted by **Les Bell** on 8 Sept 2011, 10:05 a.m.,*
in response to message #15 by Gerson W. Barbosa

> Quote:
>
> The use of the goto statement per se does not imply non-structured codes.

In that era, and still today, it certainly does. Edsger Dijkstra's paper, "Go To Statement Considered Harmful" (see [url:http://www.google.com/url?sa=t&source=web&cd=2&ved=0CCcQFjAB&url=http%3A%2F%2Fciteseerx.ist.psu.edu%2Fviewdoc%2Fdownload%3Fdoi%3D10.1.1.92.4846%26rep%3Drep1%26type%3Dpdf&ei=UshoTu3QMsmpiAeMqKnHCw&usg=AFQjCNEjry3w6PN-Lb9yWUlwZHC6prLPGg&sig2=J7wb2OmxsCkmjqB3ZL7_iQ]) had led to the Structured Programming movement, which was intended to stamp out the goto. That's what Structured Programming is: programming with a somewhat restricted set of control flow statements, especially no goto's [1].

I tried it out for myself, implementing a large subset of the dBASE language in approximately 70 modules (of PL/I code) without a single goto, and realised that it pretty much worked - only one bug was ever found in my code, although it only

took three days to write. On the other hand, there are times when you find yourself many levels deep in subroutines with no exception handling, and goto is the ideal tool for the job, so I favour its retention.

These days, the purists restrict themselves even more, with functional programming. Who needs while loops, when you've got recursion and the lambda calculus? ;)

Best,

--- Les
[http://www.lesbell.com.au]

[1] http://en.wikipedia.org/wiki/Structured_programming

Re: Programming RPN on the 48?
*Message #18 Posted by **x34** on 8 Sept 2011, 6:06 a.m.,*
in response to message #4 by Gilles Carpentier

my 2 (euro)cents

The major problem of RPL, IMHO, is lack of orthogonality and presence of many functions, which are not needed. Many high level languages, especially designed by Niklaus Wirth, have very concise and elegant syntax, while RPL has very cumbersome and complicated one.

Compared to RPL, RPN could be assumed to be assembler-like, but good assembler/instruction set (like DEC's PDP-11) is much more easier to program than overloaded, unsymmetrical, non-orthogonal high-level language. When high-level control structures are combined with giant set of assembler-level primitives, we get DUP2, DROP2 and other weird beauties. It seems as if RPL designers put everything of a kind in the box, trying to adhere to the latest programming technology trends.

Personally, I think RPL is very awkward and unelegant language. Learning curve is so steep not because RPL is powerful, but because it is ill-designed. However, it IS the most powerful calculator language available now, so there is no choice yet.

Maybe, there is a fundamental problem of designing programming language with stack structure. Stack languages are rather rare, but some of them (e.g. Forth), are simpler.

I think this makes RPN calculators so popular now. And yes, RPN firmware for HP-50g (a-la WP-34s) could be very popular.

Everything here reflects my very subjective point of view.

Re: Programming RPN on the 48?
*Message #19 Posted by **M. Joury** on 8 Sept 2011, 8:49 a.m.,*
in response to message #18 by x34

I started programming RPL with the HP28S and never really had a problem with RPL based machines. I program for a living, primarily in C derivative languages (I programmed C itself for a decade) as well as Pascal derivatives such as Delphi and this may be partially why I have never seen RPL as particularly hard to learn.

Many of the large function set you refer to were, I suspect, added for performance reasons. Take for example your own examples of DUP2 and DROP2. One could easily do DUP DUP or DROP DROP however, either of these would require additional parameter checking as performed by each User RPL command. Having DUP2 and DROP2 available eliminates half the parameter checking of using DUP DUP or DROP DROP it also eliminates a call/return and in the case of DROP DROP, where it might very well be implemented as a stack pointer adjustment, it could eliminate half the code. This may not matter so much in the current HP50g and would matter even less if the command set were implemented natively instead of via an emulator, however, it did make a difference for the considerably slower HP48SX. Once implemented HP saw fit (and IMHO this was a good decision) to maintain the same functionality in newer machines. If you think of RPL in terms of processor architecture it would very definitely be considered a CISC machine. Throw in everything including the kitchen sink, cabinets, and any other odds and ends you can think of. While this might make it hard to remember the entire command set and it certainly makes it possible to do things multiple ways it also offers power and lots of opportunities for performance tweaking.

While RPN is definitely simpler for "quick and dirty" solutions it has neither the power nor the maintainability of a well written RPL program which, due to enforced structure and named variables and subroutines can be self-documenting if the programmer makes just a little effort. Give me both in the same machine (without use of an additional emulator layer) and I would be delighted. Even better would be to provide a built-in C compiler or interpreter as would be possible with the newer processor architecture alongside the existing tools (and an RPN layer) and in my opinion the machine would be darn near perfect from a programmability point of view. Of course one can use a cross compiler but I like the ability of being able to develop code wherever and whenever I so choose.

This, of course, is just my 2 cents worth after using RPL based machines since the 28S. Note that I have also used RPN since the 41C and before that with borrowed HP67's so my experience includes both paradigms.

Cheers,

-Marwan

Re: Programming RPN on the 48?
*Message #20 Posted by **Arnaud Amiel** on 8 Sept 2011, 9:31 a.m.,*
in response to message #19 by M. Joury

I agree with you, it is not because a command is available that you have to use it. I have often found myself writing some complicated code only to find that one command does it for me. I would consider that as an advantage rather than a nuisance. As for the argument that you can't do keystroke programming in RPL, I don't follow it. You just start with << do your keystroke sequence and end with >> I can't see anything complicated there...

Re: Programming RPN on the 48?
*Message #21 Posted by **M. Joury** on 8 Sept 2011, 9:44 a.m.,*
in response to message #20 by Arnaud Amiel

And I agree with you--we can start a mutual agreement society here <g>. Keystroke programming IS available on the HP48 and above. What I think some users are bothered by are the control structures. It is much easier for non-programmers and even some programmers, even if less neat, to use simple tests and a goto rather than the more powerful and more complex control structures offered by the RPL machines. At least that is the only conclusion that I can come to when I hear the complaint that the HP48 machines are not keystroke programmable.

I still think that for quick and dirty programs with a couple of very simple loops providing an RPN emulation mode would not hurt sales one bit.

Cheers,

-Marwan

Re: Programming RPN on the 48?
*Message #22 Posted by **Oliver Unter Ecker** on 8 Sept 2011, 2:59 p.m.,*
in response to message #19 by M. Joury

Agree with everything you say here.

>Even better would be to provide a built-in C compiler or interpreter...

If you're actually looking for something like this, try ND0 on your nearest iOS device. Programmable in RPL (and RPL+) and JavaScript (a C-like language).

>Give me both in the same machine (without use of an additional emulator layer) and I would be delighted.

See my other post.

Re: Programming RPN on the 48?
*Message #23 Posted by **Steve Simpkin** on 8 Sept 2011, 3:25 p.m.,*
in response to message #19 by M. Joury

I worked with and programmed RPN calculators (1977:HP-25, 1986:HP-11C) for eleven years before buying an HP-28C in 1988. I remember that learning PRL was a major paradigm shift for me and it took a fair amount of effort to become proficient at it. I do admire its purity (I did not mean that line to sound creepy like it did in the movie "Alien"!). On RPN machines some operations such as STO, FIX, ENG, SCI, etc were post-fix operations requiring numeric data to be entered after the command key was pressed. RPL is strictly post-fix. When you execute a command in PRL you had better already have whatever data that operation requires on the stack.

Structured programming was a major change as well. Luckily, most programs I wrote were simple formula conversions so RPL was very much like RPN for those types of problems.

As I moved on to the HP-28S and finally to the HP-48SX as my daily engineering calculator, I found myself almost never using my HP-11C. I finally sold it around 2000 for about twice what I paid for it with the original set of batteries still going strong! Although I did not really use it anymore, I really miss that calculator and hope to pick up a HP-15C LE if I can convince my wife that I need yet another calculator :)

P.S. I am really looking forward to attending HHC this year! I have been wanting to go for years but either it was too far away or something else always came up. I can hardly wait to be there!!!

Re: Programming RPN on the 48?
*Message #24 Posted by **Thomas Klemm** on 8 Sept 2011, 8:49 p.m.,*
in response to message #19 by M. Joury

> Quote:
>
> Take for example your own examples of DUP2 and DROP2. One could easily do DUP DUP or DROP DROP ...

That's not exactly what DUP2 does:

Duplicates objects in level 1 and level 2.

So it's more like OVER OVER.

Kind regards
Thomas

Re: Programming RPN on the 48?
*Message #25 Posted by **M. Joury** on 10 Sept 2011, 5:23 p.m.,*
in response to message #24 by Thomas Klemm

True. Sorry. I was thinking of DUPDUP.

However, it does not change the point I was trying to make which is that DUP2 is faster than separate calls such as OVER OVER and DUPDUP is faster than DUP DUP.

Cheers,

-Marwan

Re: Programming RPN on the 48?
*Message #26 Posted by **Howard Owen** on 8 Sept 2011, 2:20 p.m.,*
in response to message #18 by x34

Perl is also cursed for its inelegance. A major philosophy of the language is "There's more than one way to do it," (TMTWWTDI). Not only are there multiple ways to do things, but there are zillions of things one can do with Perl. Programmers can write Perl in highly idiosyncratic ways, and often do. Reading someone else's code can be difficult sometimes. Much Perl code is criticized for looking like "line noise" (That's partly due to extensive reliance on regular expressions, without using the facilities the language provides for making them more readable.) But Perl is an extremely powerful language that adapts to the way *you* think. People with orderly thought processes tend to favor languages like Python, which successfully tries to fill the niches Perl occupies, but does so with elegant, though rigid object oriented syntax. On the other hand, if your mind is chaotic and messy like mine, you might feel more comfortable with Perl. (Actually, I impose order and structure in my Perl, as an exercise in taming my mental chaos to a degree. That underlines the fact that you don't *have* to write cryptic unmaintainable code with Perl, even if you *can*.)

RPL is a lot like Perl in that way. TMTWWTDI certainly applies to the 50g and others. Like Perl, RPL has a steep learning curve. (My opinion is that Perl is easier to get started with however.) I hated RPL until I broke through with understanding it. That took a long time, but once I got over that barrier, I found that I loved RPL for the freedom it offers to be insanely twisted and clever above and beyond my capability in those things. No doubt there are other reasons to admire RPL, but since I don't have many real problems I need to solve with my calculators, "geek fun" is all I need to enjoy the language.

Re: Programming RPN on the 48?
*Message #27 Posted by **M. Joury** on 8 Sept 2011, 2:24 p.m.,*

in response to message #26 by Howard Owen

Maybe that is why I like RPL <g>. I think PERL is a great scripting language although I, like you, tend to try to impose order.

Cheers,

-Marwan

Re: Programming RPN on the 48?
*Message #28 Posted by **Marcus von Cube, Germany** on 8 Sept 2011, 4:09 p.m.,*
in response to message #26 by Howard Owen

> Quote:
>
> "There's more than one way to do it," (TMTWWTDI)

The acronym looks like phonetic writing to me. The WW should be OW in my eyes. ;-)

Back to topic: Many programming languages allow convoluted code. Unstructured spaghetti code in BASIC is one extreme, tightly optimized RPL stack manipulation code without any named variables the other. I have a coding style which makes my programs look similar independent of language, within the bounds set by the syntax.

Re: Programming RPN on the 48?
*Message #29 Posted by **Howard Owen** on 8 Sept 2011, 4:33 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Good catch. But there's more than won way to spell it! :)

Why disnt they just do pascal then?
*Message #30 Posted by **snaggs** on 10 Sept 2011, 6:45 a.m.,*
in response to message #18 by x34

Nothing wrong with Pascal, easy, clear and simple. People complained about C being too low level, but RPL code ive seen looks truly weird. I will reserve judgement, my 48g+ Arrives in a week and I will have a good crack at it.

Daniel

> Quote:
>
> my 2 (euro)cents
>
> The major problem of RPL, IMHO, is lack of orthogonality and presence of many functions, which are not needed. Many high level languages, especially designed by Niklaus Wirth, have very concise and elegant syntax, while RPL has very cumbersome and complicated one.
>
> Compared to RPL, RPN could be assumed to be assembler-like, but good assembler/instruction set (like DEC's PDP-11) is much more easier to program than overloaded, unsymmetrical, non-orthogonal high-level language. When high-level control structures are combined with giant set of assembler-level primitives, we get DUP2, DROP2 and other weird beauties. It seems as if RPL designers put everything of a kind in the box, trying to adhere to the latest programming technology trends.
>
> Personally, I think RPL is very awkward and unelegant language. Learning curve is so steep not because RPL is powerful, but because it is ill-designed. However, it IS the most powerful calculator language available now, so there is no choice yet.
>
> Maybe, there is a fundamental problem of designing programming language with stack structure. Stack languages are rather rare, but some of them (e.g. Forth), are simpler.
>
> I think this makes RPN calculators so popular now. And yes, RPN firmware for HP-50g (a-la WP-34s) could be very popular.
>
> Everything here reflects my very subjective point of view.

Re: Why disnt they just do pascal then?
*Message #31 Posted by **Paul Dale** on 10 Sept 2011, 7:36 a.m.,*
in response to message #30 by snaggs

> Quote:
>
> Nothing wrong with Pascal, easy, clear and simple.

Not the phoney first year assignments I submitted to select tutors back when I was doing postgraduate study :-)

It is possible to write totally awful programs in any language. Some languages make it easier of course...

- Pauli

Re: Why disnt they just do pascal then?
*Message #32 Posted by **M. Joury** on 10 Sept 2011, 11:44 a.m.,*
in response to message #30 by snaggs

First of all I don't necessarily agree with everything you quoted. But the main issue is you would *completely* give up any semblance of keystroke programming. Comments posted on this site not withstanding, RPL *is* keystroke programmable. Not in the way that RPN was, but taking out the added complexity of control statements you can key in a simple program to reproduce a series of keystrokes (my ultimate definition of keystroke programming) with a few seconds effort. If you want a *real* programming language in addition to RPL (and/or RPN) that's fine and I would be all for it but don't remove the ability to write quick and dirty programs. And make the language 'C', not Pascal.

Just MHO.

Cheers,

-Marwan

Re: Why disnt they just do pascal then?

*Message #33 Posted by **Oliver Unter Ecker** on 10 Sept 2011, 4:30 p.m.,*
in response to message #32 by M. Joury

Excellent point.

In my mind, RPL is about the simplest way to add a handful of common control structures to an otherwise RPN model of operation.

The "steep" learning curve isn't really in the language (which is minimal; and the only odd thing I can think of is the clumsiness of having to bind local vars to "defining procedures"), but the command set. And here, you choose/use what you need. It's good that the kitchen sink is thrown in, as it gives you a nice set of commands/math abilities you would otherwise have to implement yourself (depending on your needs).

The "power" of RPL comes from the fact that it knows about objects, and has polymorphism (in the OO language sense). "+" works with Reals, Complex numbers, Vectors, Matrices, etc. That aspect is cool and respectable, even in 2011.

(And since RPL machines support more objects/types, that makes them arguably superior to earlier RPN machines--if you need those types and/or functions, that is.)

I think, being stack-oriented is a strength and weakness, and a detail not to be ignored when comparing RPL (or RPN) to other languages. It sometimes makes for terse code for simpler jobs, but it makes reading RPL quite hard. You have to actually parse the code to "get" what is being accomplished (and what constitutes the 'lvalue' in an assignment).

I don't think RPL is very suitable for longer programs. But for small jobs, it's quite sweet. Starting with the fact that you only need one char to start a program and no syntax for inputs and outputs (as they come from, and go to, the stack).

Re: Why disnt they just do pascal then?

*Message #34 Posted by **Gilles Carpentier** on 11 Sept 2011, 2:43 p.m.,*
in response to message #30 by snaggs

I love Pascal _and_ RPL :)

For Pascal on 48/49/50 have a look at :

HP Pascal Studio

here an exemple of program :

Mur de brique Pascal v0.1

And the code (newer version which correct some problem you can see on the video) :

```
Program CasseBriques;
{ v0.2 12/2/11 }


Uses SystemHP,CrtHPmini_49,GraphHP,GameHP,MathsHP_49;


Static Mvt : Array[1..8, 1..3, 1..2] Of Integer =


  1, 0, 1,-1, 1,-1 {Direction 1    -3---2-  }
, 0,-1, 1,-1, 1,-1 {Direction 2    4-----1  }
, 0,-1,-1,-1,-1,-1 {Direction 3    -------  }
,-1, 0,-1,-1,-1,-1 {Direction 4    ---O---  }
,-1, 0,-1, 1,-1, 1 {Direction 5    -------  }
, 0, 1,-1, 1,-1, 1 {Direction 6    5-----8  }
, 0, 1, 1, 1, 1, 1 {Direction 7    -6---7-  }
, 1, 1, 1, 0, 1, 1;{Direction 8             }


Var i,j,Rx, Bx, By, Bx2, By2,
    Dir, Choc, b, Vies,
    Vitesse,Niveau, NBrique : Byte;
    TapeMur, Perdu, GagneNiveau: Boolean;
    Score,k: Integer;
    c: Char;


Procedure DessineMur;
Begin
  ClrScr;
  Box(0,0,100,80); Bar(2,11,98,30);
  For i:=1 To 5  Do ClearLineH(2,98,10+i*4);
  For i:=1 To 14 Do ClearLineV(1+i*7,10,30);
  Bar(Rx,78,Rx+11,79);
  GotoXY(27,1); Write('Score');GotoXY(27,2);Write(Score);
  GotoXY(27,7);Write('Niveau'); GotoXY(27,8);Write(Niveau);
  Perdu:=False; GagneNiveau:=False;
  Vitesse:=23-Niveau*3; NBrique:=0;
End;


Procedure BougeRaquette;
Var D : Char;
Begin
  D:=' ';
  For j:=1 To Vitesse Do Begin
    If RightPressed Then D:='R';
```

```
    If LeftPressed  Then D:='L';
  End;


  Case D Of
   'R': If Rx<88 Then
          Begin
           ClearLineV(Rx,78,79);
           LineV(Rx+12,78,79);
           Rx:=Rx+1;
          End;
   'L': If Rx>1 Then
          Begin
           ClearLineV(Rx+11,78,79);
           LineV(Rx-1,78,79);
           Rx:=Rx-1;
          End;
  End;
End;


Procedure BougeBalle;
Var Mx,My : Integer;


Begin
  i:=1;


  Repeat
    Bar(Bx,By,Bx+1,By+1);
    BougeRaquette;
    Bx2:=Bx+Mvt[Dir,i,1];
    By2:=By+Mvt[Dir,i,2];
    If Bx2>=99 Then Begin
      Case Dir Of
         1: Dir:=4;
         2: Dir:=3;
         7: Dir:=6;
         8: Dir:=5;
       End;
       Bx2:=98;
      Exit;
    End;


    If Bx2<=0 Then Begin
      Case Dir Of
         3: Dir:=2;
         4: Dir:=1;
         5: Dir:=8;
         6: Dir:=7;
       End;
       Bx2:=2;
      Exit;
    End;


    If By2<=0 Then Begin
      Case Dir Of
         1: Dir:=8;
         2: Dir:=7;
         3: Dir:=6;
         4: Dir:=5;
       End;
       By2:=4;
      Exit;
    End;


    BougeRaquette;


   If By2=77 Then Begin
     k:=Bx-Rx;
     If Dir In [5,6] And (k in [12..14] Or (k=15 And RightPressed)) Then k:=11
       Else
         If Dir in [7,8] And ((k>-4 and k<0) Or (k=-4 And LeftPressed)) Then k:=0;


     If k in [0..11] Then
       Case k Of
          0,1  : Dir:=4;
          2,3  : Case Dir Of 5,6: Dir:=4; 7,8: Dir:=3; End;
          4..7 : Dir:=9-Dir;
          8,9  : Case Dir Of 5,6: Dir:=1; 7,8: Dir:=2; End;
          10,11: Dir:=1;
        End
      Else
        Begin Perdu:=True; ClearBar(Bx,By,Bx+1,By+1); End;


     Exit;
   End;


   If By2<32 Then Begin
      Choc:=0; TapeMur:=False;
      ClearBar(Bx,By,Bx+1,By+1);
      If Point(Bx2,By2)     Then Choc:=1;
      If Point(Bx2+1,By2)   Then Choc:=Choc+2;
      If Point(Bx2+1,By2+1) Then Choc:=Choc+4;
      If Point(Bx2,By2+1)   Then Choc:=Choc+8;
      Bar(Bx,By,Bx+1,By+1);


      Case Dir Of
       1,2: Case Choc Of
            1,3: Begin TapeMur:=True; Dir:=9-Dir; End;
            2  : Begin TapeMur:=True; Dir:=Dir+4; End;
            6,4: Begin TapeMur:=True; Dir:=Dir+2; End;
          End;


      3,4: Case Choc Of
            2,3: Begin TapeMur:=True; Dir:=Dir+2; End;
```

```
           1  : Begin TapeMur:=True; Dir:=Dir+4; End;
           9,8: Begin TapeMur:=True; Dir:=5-Dir; End;
         End;


     5,6: Case Choc Of
          4,12: Begin TapeMur:=True; Dir:=9-Dir; End;
          8   : Begin TapeMur:=True; Dir:=Dir-4; End;
          1,9 : Begin TapeMur:=True; Dir:=Dir+2; End;
        End;


     7,8: Case Choc Of
          8,12: Begin TapeMur:=True; Dir:=9-Dir; End;
          4   : Begin TapeMur:=True; Dir:=Dir-4; End;
          2,6 : Begin TapeMur:=True; Dir:=Dir-2; End;
        End;
     End;


     If TapeMur Then Begin
       NBrique:=NBrique+1;
       Mx:=((Bx2-1) Div 7)*7 + 1;
       My:=((By2-10)Div 4)*4 + 10;
       ClearBar(Mx,My,Mx+7,My+4);
       Score:=Score+5; GotoXY(27,2); Write(Score);i:=3;
     End;
   End;
   i:=i+1;
   If By2<77 Then Begin
     ClearBar(Bx,By,Bx+1,By+1);
     Bar(Bx2,By2,Bx2+1,By2+1);
   End;
   Bx:=Bx2; By:=By2;
 Until i=4;
End;


Begin
ClrScr;
Box(15,20,115,60);
Box(16,19,114,59);
GotoXY(8,3); Write('  CASSE-BRIQUES ');
GotoXY(8,4); Write('  (c) Nemo 2011');
GotoXY(8,6); Write(' ENTER pour Jouer');
GotoXY(8,7);Write('   <- Deplace ->');
GotoXY(8,8);Write('     Exit : DEL');
Repeat Until KeyPressed; c:=ReadKey;


Score:=0; Vies:=10; Niveau:=1;Rx:=35;


Repeat
  {Nouveau Niveau}
  DessineMur;


  Repeat
    {Nouvelle balle}
    By:=75; Bx:=Rx+5; Dir:=Random(3)+1;
    GotoXY(27,4); Write('Vies');
    GotoXY(27,5); Write(Vies-1);
    Repeat Until EnterPressed; C:=ReadKey;
    Perdu:=False;
    DisableInterrupt;


    Repeat
      BougeBalle;
      If NBrique=70 Then GagneNiveau:=True;
    Until GagneNiveau Or Perdu Or ExitPressed;


    EnableInterrupt;
    ClearBar(Bx,By,Bx+1,By+1);
    If Perdu Then Vies:=Vies-1;
  Until Vies=0 Or GagneNiveau Or ExitPressed;


  Niveau:=Niveau+1;
Until Vies=0 Or ExitPressed;


Repeat Until EnterPressed Or ExitPressed;
```

Edited: 11 Sept 2011, 2:56 p.m.

HP Pascal studio

*Message #35 Posted by **x34** on 11 Sept 2011, 3:44 p.m.,*
in response to message #34 by Gilles Carpentier

Gilles, the site is in French only. Is there any free version of Pascal Studio (if so, how could it be obtained)? Does it work with HP-50G?

Re: HP Pascal studio

*Message #36 Posted by **Gilles Carpentier** on 11 Sept 2011, 4:50 p.m.,*
in response to message #35 by x34

Yes It works on HP50G. It also works with Emu48

Note that it's not a perfect tool and there is some bugs. It's a subset of Pascal langage (no records and type for example, and of course no Objects).

The project seems dead few years ago.

It's open source so i think you can find some download area. All the docs are in french.

What is interesting is :

- The graphics commands are very fast ! - Fine keyboard management - HP48/49/50 compatibility - Easy Saturn integration (ASM command like in Turbo Pascal) ex: http://hppascal.free.fr/pages/library_show.php3?file=graphhp.unt - Bin not too big for simple program

The minus : - some bugs - a subset of Pascal - The project is dead - It seems not possible to exchange parameters with RPL stack (the documentation is very unclear on this point) - You need a PC to generate the binary

Imo, it's more a proof of concept that an ultimate tool, but it's usable (for exemple the PAC MAN or TERTRIS exemples are very impressive - and it works on 50g with a new compilation and some change to slow down the programs). You would not use it for a 'serious' project but you can have fun with. Note there is also sprites and bitmap management

If there is some interest note that I have partialy adapted the Math UNIT to work on HP49G+/50

Re: HP Pascal studio
*Message #37 Posted by **x34** on 12 Sept 2011, 7:46 a.m.,*
in response to message #36 by Gilles Carpentier

I could not find any way to download it. Payment does not work, and there are no sources/binaries I can find. It's a pity.

Re: HP Pascal studio
*Message #38 Posted by **Gilles Carpentier** on 12 Sept 2011, 2:04 p.m.,*
in response to message #37 by x34

The website and documentation says HP-Pascal is a freeware and opensource. I sent you an email. The zip installation file is only 1 MB

Just to compare speed of RPL and HP Pascal, a solution for the problem 1 of Euler project http://projecteuler.net/index.php?section=problems&id=1

HP PASCAL :

```
Uses CrtHP_49;
Var i,t : Integer;
Begin
 For i:=1 to 999 Do
  If i mod 3=0 Or i mod 5=0 Then t:=t+i;
 Write(t); Repeat Until Keypressed;
End.
```

s : 0.5057 sec Code size : 406 Bytes

User RPL

```
«
 0.
 1. 999. FOR i
   i 3. MOD i 5. MOD AND NOT { i + } IFT
 NEXT
»
```

s: 13.29 sec Code Size : 73,5 Bytes

Pascal is 26 times faster

Edited: 12 Sept 2011, 2:54 p.m.

Re: HP Pascal studio
*Message #39 Posted by **bill platt** on 12 Sept 2011, 9:00 p.m.,*
in response to message #38 by Gilles Carpentier

Mon Dieu!

Très vite!

Edited: 12 Sept 2011, 9:01 p.m.

Re: HP Pascal studio
*Message #40 Posted by **x34** on 14 Sept 2011, 5:50 a.m.,*
in response to message #38 by Gilles Carpentier

Well, all HP Pascal files are available here: http://hppascal.free.fr/resources/

Re: Why disnt they just do pascal then?
*Message #41 Posted by **Howard Owen** on 11 Sept 2011, 3:54 p.m.,*
in response to message #34 by Gilles Carpentier

File this one under "careful of what you ask for!" :)

Re: Programming RPN on the 48?
*Message #42 Posted by **Reth** on 7 Sept 2011, 2:27 a.m.,*
in response to message #1 by snaggs

I see no reason to use RPN on the 48 but if one have to, there are 41 emulators. To use RPN on RPL machine is like breaking walnuts with a microscope. ;)

Re: Programming RPN on the 48?
*Message #43 Posted by **Thomas Chrapkiewicz** on 7 Sept 2011, 8:01 a.m.,*
in response to message #1 by snaggs

(and this echoes others sentiments).

I've been using RPN since the days of the 35/45/65 (~40 years), use a 42s/35s/15c/48 regularily and have found that this highly discussed 'transition' to RPL to be highly over-rated. It is really very similar and I find that it requires very little attention that the machine is not RPN.

TomC

Re: Programming RPN on the 48?
*Message #44 Posted by **Egan Ford** on 7 Sept 2011, 10:08 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> Can the 48's RPL be ignored and programmed RPN?

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=802

> Quote:
>
> If thats the case, why would you use a 42s?

1. RPN Native.
2. Pocketability.
3. Just short of a zillion years of battery life.

There is no such thing as a universal solution that works for all people in all cases.

Edited: 7 Sept 2011, 10:13 a.m.

Re: Programming RPN on the 48?
*Message #45 Posted by **Howard Owen** on 7 Sept 2011, 4:55 p.m.,*
in response to message #44 by Egan Ford

I love Hrast's emulators. He has them for many of my favorite machines. In addition to HP-41X, there are HP-42X, HP-71X, and HP-1xE for the Voyagers, except the 10C. Until Cristoph Giesselink came out with EMU71 for Windows, HP-71X was the only emulator that could run my YATZ71 game. (It is still the only one that can run it with sound. :) They are well worth a look.

Re: Programming RPN on the 48?
*Message #46 Posted by **Massimo Gnerucci (Italy)** on 7 Sept 2011, 5:08 p.m.,*
in response to message #45 by Howard Owen

HrastProgrammer: Sainthood immediately!

;)

Re: Programming RPN on the 48?
*Message #47 Posted by **HrastProgrammer** on 8 Sept 2011, 1:03 p.m.,*
in response to message #46 by Massimo Gnerucci (Italy)

Hahahahaha :-)

Re: Programming RPN on the 48?
*Message #48 Posted by **Mike Morrow** on 7 Sept 2011, 3:01 p.m.,*
in response to message #1 by snaggs

> Quote:
>
> Looking back at the HP 48G, it seems to have more functions on the keyboard, and a lovely design.

More functions on the keyboard, compared to what? The total functionality of the HP 48G is a much dimished subset of the later HP 49g+ and HP 50g. But the functions explicitly shown on the keyboard of each of these is very similar. There are menus after menus after menus on all of these machines due to the tremendous number of functions they support.

I purchased an HP 48SX in 1991, and a HP 48GX in 1996. They have great keyboards, but typically some of the fuzziest low-contrast LCDs that anyone ever put on a calculator. Only very late in HP 48GX history did decent sharp high-contrast LCDs show up. They are painfully slow, and have no way of receiving AC power during long program execution times.

Essentially all the capability of the HP 48GX is contained in the HP 49g+, plus CAS, USB, much greater speed, LCD quality, and memory capacity (with SD cards). (Unfortunately, the keyboard of most HP 49g+ units suck.) Also very importantly, 49g+/50g firmware can easily be upgraded by downloading the image on a PC to an SD card, then upgrading from that SD card in the calculator. The HP 48S and G series have no firmware upgrade capability. IIRC, the last HP firmware in the 48S and 48G series is Version

R, but if you have something earlier on your machine then you're stuck with it forever. The 49g+/50g also have an extensive developer's application built in that allows access to the internals at either the ARM or the emulated-Saturn levels.

The 2006 HP 50g corrected the 49g+ keyboard problems, improved the appearance, and added the capability for operation from external power through the USB port. If one can stand the large size and attendant weight, and if one is willing to learn User RPL, the HP 50g is the finest hand-held calculator made by anyone anywhere anytime. Not perfect, just all things considered the best that happens to be in existence since 2006...and a giant advance over the HP 48G series by any measure. (I haven't used my 48SX and two 48GX units at all since getting my 49g+ and 50g.)

> Quote:
>
> Im not ready to evaluate RPL vs RPN...why would you use a 42s?

You are not ready to ask that question if you have not personally evaluated RPL vs. RPN.

Edited: 7 Sept 2011, 7:55 p.m.

Re: Programming RPN on the 48?
*Message #49 Posted by **David Hayden** on 7 Sept 2011, 3:42 p.m.,*
in response to message #1 by snaggs

If you'd like to play with RPL a little, you can use one of the excellent PC-based development environments.

For User RPL, I like HPUserEdit 5. Note that the program defaults to Spanish, but you can change it to one of several others (including English) as described here

The Advanced Users Reference contains a detailed tutorial on RPL programming at the beginning, as well as descriptions of all the commands. I believe the link given has the version with bookmarks to make it easy to navigate.

There are several mini-challenges on hpcalc.org that make nice programs to attempt.

Good luck! Dave

Re: Programming RPN on the 48?
*Message #50 Posted by **Gilles Carpentier** on 7 Sept 2011, 4:53 p.m.,*
in response to message #49 by David Hayden

I agree... HPUserEdit is a great tool with a perfect integration with emu48. Well done INFORM INPUT and CHOOSE wizard are present and much more

There is also a french version A screen shot :

http://imagik.fr/uploads/412269

I uses this to solve Euler project problem and i'm near 100 solved problems (it's my objective, still 7) , most of them in RPL I learned UserRPL with this book : "La Maitrise De La Hp-48 - Tome 1 - Programmation Et Exercices Jean-Michel Ferrard" wich is very interesting. I think you need a book or on-line documentation because HP doc are very very poor about User RPL programming.(not the description of each command in the AUR but how to combine all this;))

Edited: 7 Sept 2011, 4:59 p.m.

Project Euler looks like a great way to learn programming!
*Message #51 Posted by **snaggs** on 7 Sept 2011, 6:55 p.m.,*
in response to message #49 by David Hayden

Ill do this over the Christmas break!

Daniel

Re: Project Euler looks like a great way to learn programming!
*Message #52 Posted by **Pal G.** on 7 Sept 2011, 11:03 p.m.,*
in response to message #51 by snaggs

Besides using HPUser edit, try coding on the 49g+ itself. The large screen (and the optional choice of the size 6 font) makes writing and editing code quite comfortable. I hardly ever plot anything on my 50g, but I find the large LCD is great for editing multi-lined RPL code (anywhere you happen to be - bus, train, plane, automobile).

After several hours of coding on the device you'll get good and look Elton John in "Tommy". People will wonder what the @#$% you are doing..

Edited: 7 Sept 2011, 11:04 p.m.

RPN alongside RPL in one calc
*Message #53 Posted by **Oliver Unter Ecker** on 8 Sept 2011, 3:10 p.m.,*
in response to message #1 by snaggs

If someone is interested in implementing a RPN interpreter within an existing framework for calculators running on modern mobile devices (iOS/Android), please contact me.

I could provide skeleton code for a class that would permit an RPN model of programming (and possibly calc operation) alongside and within an existing RPL model of programming (and calc operation).

To be written in JavaScript, with an existing framework of math functions, I swear this cannot be done much more easily/comfortably.

Re: RPN alongside RPL in one calc
*Message #54 Posted by **Mark Hardman** on 8 Sept 2011, 3:43 p.m.,*

in response to message #53 by Oliver Unter Ecker

A single plug for your iOS product gets a pass by me. But, since this is the second mention of your ND0/ND1 app in this thread, this should perhaps be moved to the "Classifieds" section of the MoHPC.

Re: RPN alongside RPL in one calc
*Message #55 Posted by **Oliver Unter Ecker** on 8 Sept 2011, 4:30 p.m.,*
in response to message #54 by Mark Hardman

Sorry if this post offended you. I explicitly didn't name the product, trying to minimize any "plug" suspicions.

The post is simply an invite for cooperation.

Is the Classifieds section the right place to suggest collaborations? What would be the harm, if a project were started as a result of this discussion?

Re: RPN alongside RPL in one calc
*Message #56 Posted by **Howard Owen** on 8 Sept 2011, 4:38 p.m.,*
in response to message #55 by Oliver Unter Ecker

We know that development discussions are **cough** strictly off limits here. :)

(Since irony is infamous for not surviving cultural translation, please note the "smiley" above. :)

Re: RPN alongside RPL in one calc
*Message #57 Posted by **Mark Hardman** on 8 Sept 2011, 4:57 p.m.,*
in response to message #55 by Oliver Unter Ecker

My apologies Oliver. I assumed that ND1 was just another iOS calculator app being added on the growing dung heap that is the Apple App Store (tm).

After taking a look, I like what I see and have actually purchased a copy.

Re: RPN alongside RPL in one calc
*Message #58 Posted by **Oliver Unter Ecker** on 8 Sept 2011, 7:09 p.m.,*
in response to message #57 by Mark Hardman

No problem, Mark. Thank you, and I hope you'll enjoy the calc.

If now you sign up for the RPN module, you'll make my day. ;-)

Re: RPN alongside RPL in one calc
*Message #59 Posted by **Howard Owen** on 8 Sept 2011, 4:35 p.m.,*
in response to message #54 by Mark Hardman

That is obviously not a commercial pitch in the sense that he is not asking you to buy anything.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Test post

*Message #1 Posted by **Martin Pinckney** on 6 Sept 2011, 8:59 p.m.*

I guess I am off the bad list now. After a test yesterday where I used the actual name of "TOS" my posts were all moderated. So the curator's rules are still in effect. Just in case anyone wanted to know.

Edited: 6 Sept 2011, 9:14 p.m.

Re: Test post

*Message #2 Posted by **Michael de Estrada** on 6 Sept 2011, 9:38 p.m.,*
in response to message #1 by Martin Pinckney

Really ? IIRC I've seen it used previously w/o being deleted.

Re: Test post

*Message #3 Posted by **Martin Pinckney** on 6 Sept 2011, 10:54 p.m.,*
in response to message #2 by Michael de Estrada

Michael,

See posts 13,14,& 25 of this thread (at least those were the correct numbers as of the time of this posting).

After I figured out what site TOS referred to, I tried responding with the actual name, and was greeted with a "your post will be reviewed by the moderator when he has time" sort of message. The first and another unrelated post have not yet appeared.

Re: Test post

*Message #4 Posted by **Walter B** on 7 Sept 2011, 7:11 a.m.,*
in response to message #3 by Martin Pinckney

Experienced the same this morning. This blocked all subsequent posts for a while, though there was nothing critical in them.

Re: Test post

*Message #5 Posted by **db (martinez, ca.)** on 7 Sept 2011, 9:12 a.m.,*
in response to message #1 by Martin Pinckney

Moderator: please feel free to erase this if it shouldn't be here.

I know a small bit about the problem you guys are worrying on. Originally, it involved a corporation we all know and love and someone i still do believe is better than this throwing rocks (mostly) over Dave's head, and Dave wondering what all this vaguely threating legalese tied to the rocks that accidentally hit him means.

Our curator acted in good faith, and (i think) so did the other guy, at least at first. That large corporation probably would have, and sent the same message to everyone concerned, but the employees don't all know each other - or all agree either (maybe).

My guess is that Dave would prefer that this subject had resolved or disappeared ten years ago. It should have too, since everyone is on the same side.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My least favorite words: "Coming soon"

*Message #1 Posted by **Allen** on 6 Sept 2011, 6:54 p.m.*

For almost a week after the official HP press release of the 15C LE we have been plagued by these dreaded words on the 15C LE page:

```
"Coming soon"
```

Certainly the customer outreach by the Calculator Division is above expectations. Even their sponsorship at HHC events is feels so intimate, validating and enriching, you can't help BUT to be an HP fan after attending HHC.

For all the creative, rational, intelligent, responsive folks in the Calculator Division, it's quite sad that HP's public face (e.g. the Web Division) is the exact opposite.

Re: My least favorite words: "Coming soon"

*Message #2 Posted by **Lincoln R.** on 6 Sept 2011, 8:19 p.m.,*
in response to message #1 by Allen

I'd take a wild guess that this is simply because the people working in the calculator division are people who truly want to be doing this, as opposed to web designers who might even be a subcontractor that also does websites for dog food and umbrellas. I don't know how many people the calculator division employs, but at least 3 of them post fairly regularly here, which they almost certainly wouldn't bother doing if HP calculators weren't something they were actually interested in.

Re: My least favorite words: "Coming soon"

*Message #3 Posted by **Mike T.** on 6 Sept 2011, 9:04 p.m.,*
in response to message #1 by Allen

I'd rather see comming soon than nothing at all!!!

Hope the new 15C goes on sale in the UK (and that I can aford it).

Mike T.

Re: My least favorite words: "Coming soon"

*Message #4 Posted by **Howard Owen** on 6 Sept 2011, 9:49 p.m.,*
in response to message #1 by Allen

The "Coming Soon" is a decision taken by marketing, not the web server content people.

1. This calculator was "outed" by dealers much earlier than planned.
2. Drumming up unsatisfied interest is a time honored technique for boosting sales
3. If you are annoyed by that in this case, you are unlikely to go buy a TI calculator instead. :)
4. Patience, Grasshopper! :)

Re: My least favorite words: "Coming soon"

*Message #5 Posted by **Namir** on 6 Sept 2011, 10:00 p.m.,*
in response to message #1 by Allen

I think the probability of buying the HP-15C LE from the HP web site follows (in my humble statistical opinion) a Poisson curve. The initial part of the waiting time increases the probability of the LE being sold on the web. As the days go buy, that probability reaches a maximum value and then drops towards zero. You can interpret the drop as based on one of the following reasons:

```
1. HP has decided to sell all the LE units ONLY through the dealers.
2. HP has decided to kill the LE (to which we shout ... boo hiss).
3. HP has JUST sold the calculator division. The buyer now has the right to all the
supplies of HP calculators.
4. Was a miscommunication with the HP web master in the first place, giving way to points 1
or 2 above.
5. Another reason that has escaped me.
```

Namir

Edited: 6 Sept 2011, 10:01 p.m.

Re: My least favorite words: "Coming soon"

*Message #6 Posted by **Lincoln R.** on 6 Sept 2011, 10:10 p.m.,*
in response to message #5 by Namir

I sincerely doubt it's been killed off. Glenn Dowdy posted pictures of a 15C package on a factory conveyor as well as a bin full of newly manufactured production model 15Cs. They built them, even if they decided not to make any *more* who knows how many have been built since Glenn posted those pictures.

Last week Tim said they were still being built. I imagine they're being built in China, which means they will have to be shipped to HP before they can sell them. Air freight is expensive, so I imagine the calculators will be shipped on a boat along with the current run of 12Cs and what have you.

Re: My least favorite words: "Coming soon"

*Message #7 Posted by **hpnut** on 6 Sept 2011, 11:52 p.m.,*
in response to message #6 by Lincoln R.

ah, the slow boat from China, that's why we are waiting!

Re: My least favorite words: "Coming soon"

*Message #8 Posted by **David Hayden** on 7 Sept 2011, 3:59 p.m.,*
in response to message #6 by Lincoln R.

I just heard that the boat carrying the 15C's has arrived at port, but they said something about "drying out" that I didn't quite understand:

Webcam of the ship docking.

:) Dave

Re: My least favorite words: "Coming soon"

*Message #9 Posted by **M. Joury** on 7 Sept 2011, 4:06 p.m.,*

in response to message #8 by David Hayden

LOL! Lets hope not!

Re: My least favorite words: "Coming soon"

*Message #10 Posted by **Nick R** on 7 Sept 2011, 4:38 p.m.,*
in response to message #8 by David Hayden

Could be the lead-based paint used in imported goods caused the ship to list dangerously while unloading.

Re: My least favorite words: "Coming soon"

*Message #11 Posted by **Namir** on 7 Sept 2011, 2:34 a.m.,*
in response to message #1 by Allen

I think the message on the HP web site for the new calculators is incomplete. It should read:

"Coming soon in the slow boats from China!"

:-)

Namir

Edited: 7 Sept 2011, 2:34 a.m.

Re: My least favorite words: "Coming soon"

*Message #12 Posted by **M. Joury** on 7 Sept 2011, 8:50 a.m.,*
in response to message #1 by Allen

It seemed quite clear to me that the 15C LE was not quite ready to sell. No stock, planned for a future date (10/01?), whatever the reasons I was pretty sure that we would not see a "Buy Now" button for a while.

What I don't understand is the lack of availability on the Home Store site of the 12C 30th Anniversary. It was supposed to be available 9/01 and it appears to be available at Sampson Cables and on the Small Business site for $20 and $25 more respectively. Why can't we get one from the home store at what I understand to be the advertised price?

Cheers,

-Marwan

Re: My least favorite words: "Coming soon"

*Message #13 Posted by **Miguel Toro** on 7 Sept 2011, 9:34 a.m.,*
in response to message #1 by Allen

From the page of Samson Cables:

"This item is not in stock yet but we are making it available to pre-order due to expected high demand and limited availability. Orders will be filled in the order received and your card will not be charged until shipment. We were told to expect shipment in **Oct - Dec 2011** but I heard today (9/1/2011) **it may be as soon as next week**. Check this page for updates. If you have already pre-ordered this product it is not necessary to re-order it."

So the expected delivery is...whenever in 2011, perhaps, maybe :-)

Miguel

Edited: 7 Sept 2011, 9:35 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Trying to get hold of Eric at HPcalc.org

*Message #1 Posted by **Geir Isene** on 6 Sept 2011, 12:09 p.m.*

Eric, are you there?

Need to get hold of you.

Send me an e-mail at <g {@} isene.com>

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help with 41CV - memory problem ?

*Message #1 Posted by **timw** on 6 Sept 2011, 8:28 a.m.*

Hi, I am repairing a 41CV (fullnut, s/n 2202S40037) for a workmate and would appreciate some help. I refurbished the card reader, fixed the battery contacts and repaired the screw posts - cosmetically it is excellent. I put it back together and it appears to work ok performing simple calculations. STO and RCL work and the values are preserved when powered off.

I then entered a 4 line program and when executed the 41CV locks up and has to be powered off to regain control. Executing GTO .. results in a lockup with 'PACKING' showing on the display. I can read pre-programmed cards but they also lock up the 41CV. I am guessing this is indicating a problem with the memory IC's.

The IC's are as follows :

ILB738, ILB739, ILB740 - ROMS ?

ILA701

ILE701, ILE702, ILE703, ILE704, ILE705 - memory ?

I have removed the abovementioned chips but do not have another 41CV to test them in.

Any advice on how to proceed will be appreciated as I would like to surprise my friend by returning his 41CV to full health.

Regards, tim.

Re: Help with 41CV - memory problem ?

*Message #2 Posted by **Raymond Del Tondo** on 6 Sept 2011, 12:22 p.m.,*
in response to message #1 by timw

Hi Tim,

On 1st look it sounds like there are no program Registers assigned. Just XEQ SIZE , and fill the prompt with a Value, like 050 . The above number tells the HP-41 to assign 50 of the available registers as Data Storage Registers, and to use the remaining memory as program storage. Please also consult the Manual for more details.

HTH

Ray

Re: Help with 41CV - memory problem ?

*Message #3 Posted by **Geoff Quickfall** on 6 Sept 2011, 3:29 p.m.,*
in response to message #2 by Raymond Del Tondo

The CV from a memory lost state should assign program registers automatically.

XEQ SIZE 000 switch to prgm mode

and record the number of program registers available and let us know if you see 319.

that would indicate that all RAMs are functional.

Let us know what you see.

Geoff

Re: Help with 41CV - memory problem ?

*Message #4 Posted by **timw** on 7 Sept 2011, 9:10 a.m.,*
in response to message #3 by Geoff Quickfall

Hi, thanks for the tips Raymond and Geoff.

As I have already desoldered and removed ILA701, ILE701, ILE702, ILE703, ILE704, ILE705 I am wondering whether I can solder them back in a specific sequence to help diagose the problem ?

For example if ILE701 is the first set of memory registers (64 ?) and there are no other memory chips present, would XEQ SIZE 000 show 64 if ILE701 is ok ? With a faulty memory chip in-circuit would the XEQ SIZE 000 command then fail, indicating that the last chip fitted is faulty ?

Here I am assuming the ILA701 is memory registers 1-64, ILA702 is registers 65-128, etc, however this is just a guess.

Or should I put them all back in-circuit and proceed with fault finding ?

Thanks, Tim.

Re: Help with 41CV - memory problem ?

*Message #5 Posted by **Eric Smith** on 7 Sept 2011, 1:53 p.m.,*
in response to message #4 by timw

1LA701 is the "status registers". The calculator needs that and 1LE701 at a minimum (along with all the ROMs) to work at all.

Re: Help with 41CV - memory problem ?

*Message #6 Posted by **timw** on 7 Sept 2011, 8:25 p.m.,*
in response to message #5 by Eric Smith

Hi Eric, when I said "....Here I am assuming the ILA701 is memory registers 1-64, ILA702 is registers 65-128, etc, however this is just a guess...." I should have said ILE701, ILE702, etc.

Anyway, I soldered the ILA701 and ILE701 back in (ILE702 to ILE705 are not in-circuit) and when I switch to program mode the display shows '000 REG 46'. GTO .. initiates 'PACKING' and a lockup. Does this mean the 41CV is only seeing the first 46 registers of the ILE701 and that it is a faulty chip ? If so, any tips on finding an ILE701 as I am not keen on buying another 41CV just for 1 chip.

I think the display also showed '000 REG 46' before I removed ILE701 to ILE705.

Thanks for you help. Timw.

Re: Help with 41CV - memory problem ?

*Message #7 Posted by **Eric Smith** on 7 Sept 2011, 8:55 p.m.,*
in response to message #6 by timw

You are correct that 1LE701 contains the first 64 "user" memory registers. The "000 REG 46" is the correct display after entry to PRGM mode from MEMORY LOST, because the partition between registers registers and program space is fixed somewhere in the middle of the 1LE701 chip.

With all RAM chips installed, you should be able to access (STO and RCL) registers 00 though 272, but you have to use indirect addressing to get at registers above 99. For instance, you could do something like:

```
272 STO 00
1.23456789E41 STO IND 00
CLx
RCL IND 00
```

and you should bet the stored number back. (Press the gold shift key for IND.)

The other ways to look at the memory size are:

```
XEQ alpha SIZE alpha 000 -- configures for NO user data registers
PRGM - tells you how many program registers are available, e.g.,
00 REG 63, 00 REG 127, 00 REG 191, 00 REG 255, or 00 REG 319
```

Or, with the Extended Function/Memory module:

```
XEQ alpha SIZE? alpha
```

Failing during PACKING suggests that there is another failure. Most likely this would be either a ROM, the 1LA701 RAM, or the processor chip (1LA5-0001, 1LE3-0002, or 1LF5-0002). It is obvious that the ROMs, 1LA701, and processor are at least partially working, which makes this difficult to pin down.

The official service procedures would tell you to replace a series of chips until the calculator works correctly. This is obviously not practical for you, since there is no source of replacement parts aside from other calculators. At this point it sounds to me like your 41CV is only useful as a possible parts donor.

Re: Help with 41CV - memory problem ?

*Message #8 Posted by **Marcus von Cube, Germany** on 8 Sept 2011, 2:15 a.m.,*
in response to message #7 by Eric Smith

> Quote:
>
> At this point it sounds to me like your 41CV is only useful as a possible parts donor.

...or as a home for a CL board. :-)

Edited: 8 Sept 2011, 2:15 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

has 16C memory increased?

*Message #1 Posted by **designnut** on 5 Sept 2011, 8:09 p.m.*

As I recall iot was a little short of programmable memory space. I am unable to find if that has changed, anyone know? Sam

Re: has 16C memory increased?

*Message #2 Posted by **Eric Smith** on 5 Sept 2011, 8:39 p.m.,*
in response to message #1 by designnut

The 16C has been discontinued since 1988, so none of its specifications have changed since then.

If you are referring to the new 15c limited edition, AFAIK the only specifications that are changed are the speed (much faster) and the batteries (two CR2032, vs. three 357 button cells). The available memory is unchanged: up to 65 registers or 448 program steps.

Re: has 15C memory increased?

*Message #3 Posted by **kc** on 6 Sept 2011, 5:54 a.m.,*
in response to message #2 by Eric Smith

So that's the question: Isn't it much easier nowadays to have say, 32k RAM than to have less than 2k?

Re: has 15C memory increased?

*Message #4 Posted by **Paul Dale** on 6 Sept 2011, 6:01 a.m.,*
in response to message #3 by kc

The CPU in the modern 12c and almost certainly the 15c has exactly 2kb of battery backed RAM. So, no it isn't always easier to have more RAM.

The 15c firmware uses less than this BTW.

- Pauli

Re: has 15C memory increased?

*Message #5 Posted by **uhmgawa** on 6 Sept 2011, 5:32 p.m.,*
in response to message #3 by kc

> Quote:
>
> So that's the question: Isn't it much easier nowadays to have say, 32k RAM than to have less than 2k?

It depends on the SoC and whatever other functionality is competing for finite silicon real estate. Most

notably the current ARM SoCs have rather limited RWM capacities. Also the lowest achievable system power reduction in which RWM data is retained differs considerably between designs. The power-down-data-retained leakage current varying in proportion to the RWM size is another motivation to limit its size.

Unfortunately with present SoCs applicable to this application area you are limited to on-die ROM/RWM in practical terms for direct access/execute memory. However for firmware emulator applications, serial interconnect (eg: SPI) RWM can be acceptable for firmware (vs. emulator) sourced access without much of a performance penalty. To a lesser extent this can be true for ROM (flash) as well but in my experiments I've found some internal caching was needed to avoid getting bogged down in SPI addressing overhead as well leverage repetitive localized instruction fetching. To frustrate matters caching itself consumes internal SRAM so an application specific balance needs to be struck.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI Minimath would be 40 this year :-(

*Message #1 Posted by **Joerg Woerner** on 5 Sept 2011, 1:35 p.m.*

Calculator collectors,

I was able to disassemble a rare Texas Instruments Minimath prototype this rainy (Upstate New York) Labor Day weekend and discovered a very, very old TMS0111 single-chip calculator circuit inside:

Really a pity that the Minimath never made it into production.

Regards, Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Connecting the HP-41 to the HP-71... Why? How?

*Message #1 Posted by **Geir Isene** on 5 Sept 2011, 1:24 p.m.*

Is it possible to connect the HP-41 to the HP-71 in any useful way? If so, why? And how?

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #2 Posted by **Raymond Del Tondo** on 5 Sept 2011, 1:58 p.m.,*
in response to message #1 by Geir Isene

Yes it's possible through HP-IL, of course.
On the HP-71 perform CONTROL OFF, then connect the HP-IL module of the HP-41 to the HP-IL interface of the HP-71, then do stuff.
Actually, you may want to let the HP-71 participate in some way, so you could write a loop in BASIC, which reads and evaluates things coming over the loop using ENTER.
Data sharing on mass media and data transfer from one machine to the other are possible applications, as well as using the HP-71 as slave for the HP-41.
The HP-41 Translator Pac for the HP-71B nicely shows a practical application, too: The HP-71 acts as a printer for HP-41 programs.

HTH

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #3 Posted by **Geir Isene** on 5 Sept 2011, 4:37 p.m.,*
in response to message #2 by Raymond Del Tondo

Any example of programs/usages?

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #4 Posted by **Etienne Victoria** on 5 Sept 2011, 7:17 p.m.,*
in response to message #3 by Geir Isene

Yes,

With Raymond's example above:

- I PRP the 41 program I want to use up to the Hp-71.

- The resulting text file is then post-processed by the 41 emulator.

- From there, the program can be stored and expanded beyond the original Hp-41 capabilities (memory size, display...).

It will then be executed through the Forth engine and with the HP-71B great display.

Etienne

Edit: Any synthetic programming will not work through this process, just plain FOCAL.

Edited: 5 Sept 2011, 7:18 p.m.

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #5 Posted by **Howard Owen** on 5 Sept 2011, 2:33 p.m.,*
in response to message #1 by Geir Isene

The 41C can't yield control of the loop, which is why you need CONTROL OFF on the 71B.

Why connect any two machines? If you were actually using them in the lab or the field, I supposed uploading data captured by the 41 to the 71 for processing might make sense, but I don't pay attention to practicality. I do stuff like that because I'm crazy ... for the old calculators. :)

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #6 Posted by **Geir Isene** on 5 Sept 2011, 3:04 p.m.,*
in response to message #5 by Howard Owen

> Quote:
>
> The 41C can't yield control of the loop, which is why you need CONTROL OFF on the 71B.
>
> Why connect any two machines? If you were actually using them in the lab or the field, I supposed uploading data captured by the 41 to the 71 for processing might make sense, but I don't pay attention to practicality. I do stuff like that because I'm crazy ... for the old calculators. :)

"In any useful way" would include any insane reason as long as it makes one happy (which is useful). Yep, my calcs are solutions in search of problems :)

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #7 Posted by **Garth Wilson** on 5 Sept 2011, 4:17 p.m.,*
in response to message #6 by Geir Isene

I've done it, for work, although now I can't remember what the situation was. I wish they had continued with HPIL. Its incredible intelligence and flexibility were not in any conflict with the performance increases that could have been made for today's higher-volume data applications.

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #8 Posted by **Mike (Stgt)** on 6 Sept 2011, 5:19 a.m.,*
in response to message #1 by Geir Isene

With the 'Devil' ROM the HP41 may act as an "IL-sniffer" in the loop.

Ciao.....Mike

Re: Connecting the HP-41 to the HP-71... Why? How?

*Message #9 Posted by **Raymund Heuvel** on 6 Sept 2011, 10:52 a.m.,*

in response to message #1 by Geir Isene

Yes,

some creepy experiments can be found here ...

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=148323

Raymund

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Tribute to the 12C

*Message #1 Posted by **Keith Midson** on 4 Sept 2011, 10:52 p.m.*

Well i've been following the threads about the special and limited 12C and 15C's on this forum with great interest. I am now waiting patiently for my 30th Anniversary 12C to arrive from Samsom Cables (I am more anxiously waiting for a confirmation email that my 15C's will be on their way too!)
In celebration of the incredible success of the 12C over the last 30 years, i've added a set in my collection 12C Link

I will be adding more photos to this set over the coming weeks, including photos of the 12C 30th edition. Cheers, Keith

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What do you like most about the HP-15C?

*Message #1 Posted by **Gerardo Rincon** on 4 Sept 2011, 9:58 p.m.*

Size (truly pocket size Scientific calculator), No Menus, RPN

Edited: 4 Sept 2011, 10:25 p.m.

Re: What do you like most about the HP-15C?

*Message #2 Posted by **Lincoln R.** on 4 Sept 2011, 10:31 p.m.,*
in response to message #1 by Gerardo Rincon

The fact that HP actually did it. People have been wanting a 15C reissue for so long, and they finally made one. I obviously haven't gotten one yet, and never owned an original production 15C to compare it to (although if the reissue has the desired effect on TAS prices I may buy one), so I won't be able to speak as to whether it's better or worse than the original.

Re: What do you like most about the HP-15C?

*Message #3 Posted by **hpnut** on 5 Sept 2011, 12:23 a.m.,*
in response to message #2 by Lincoln R.

I don't understand the rationale of HP making limited production run of the HP 15C.

I don't think the 10,000 unit production run will satisfy the pent up demand of 84,000+ projected by the hp15c.org if their stats can be believed. there's too much room for speculators to cash in at e**y.

Re: What do you like most about the HP-15C?

*Message #4 Posted by **Lincoln R.** on 5 Sept 2011, 12:28 a.m.,*
in response to message #3 by hpnut

I don't know how accurate that petition is. There were 15,192 people saying they would buy 84,148 calculators. That's approximately 5.5 calculators per signatory. And if the limited production run flies off shelves that quickly, it would be trivial for HP to make more since it's based on the 12C hardware.

Re: What do you like most about the HP-15C?

*Message #5 Posted by **Marcus von Cube, Germany** on 5 Sept 2011, 2:11 a.m.,*
in response to message #4 by Lincoln R.

Maybe the LE signature gets dropped and the packaging approaches that of a standard 12C with future production runs. So the LE will stay a collectors' item primarily.

Re: What do you like most about the HP-15C?

*Message #6 Posted by **Katie Wasserman** on 5 Sept 2011, 2:15 a.m.,*

in response to message #3 by hpnut

Where did this limited edition count of 10,000 come from? I don't recall reading anything from HP about how many will be created. The picture that Tim posted of the 12C LE shows a 5-digit serial number leading one to suspect that 100,000 will be made of that. Perhaps a similar number of 15C LE calculators will be made.

Edited: 5 Sept 2011, 2:22 a.m.

Re: What do you like most about the HP-15C?

*Message #7 Posted by **uhmgawa** on 5 Sept 2011, 7:44 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Where did this limited edition count of 10,000 come from?

The marketing department, where else?

> Quote:
>
> I don't recall reading anything from HP about how many will be created. The picture that Tim posted of the 12C LE shows a 5-digit serial number leading one to suspect that 100,000 will be made of that. Perhaps a similar number of 15C LE calculators will be made.

As I'd speculated earlier I can't see any way 10K units will cover development NRE alone.

It seems logical to assume if the 10K volume limit for the limited edition flavor is held, a non-designer version will follow (perhaps at a price adjustment) in order to attempt meeting revenue requirement for the product.

Re: What do you like most about the HP-15C?

*Message #8 Posted by **Egan Ford** on 5 Sept 2011, 12:19 p.m.,*
in response to message #6 by Katie Wasserman

They can always switch to letters.

Re: What do you like most about the HP-15C?

*Message #9 Posted by **Thomas Radtke** on 5 Sept 2011, 1:33 p.m.,*
in response to message #8 by Egan Ford

Chineese letters, for example :^).

Re: What do you like most about the HP-15C?

*Message #10 Posted by **Glenn Dowdy** on 5 Sept 2011, 8:19 p.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> Where did this limited edition count of 10,000 come from? I don't recall reading

> anything from HP about how many will be created. The picture that Tim posted of the 12C LE shows a 5-digit serial number leading one to suspect that 100,000 will be made of that. Perhaps a similar number of 15C LE calculators will be made.

Note that it takes a 5-digit serial number to count 10k units, also.

Re: What do you like most about the HP-15C?

*Message #11 Posted by **Katie Wasserman** on 5 Sept 2011, 9:06 p.m.,*
in response to message #10 by Glenn Dowdy

> Quote:
>
> Note that it takes a 5-digit serial number to count 10k units, also.

Not if you start with unit number 0.

Re: What do you like most about the HP-15C?

*Message #12 Posted by **gene wright** on 5 Sept 2011, 9:49 p.m.,*
in response to message #11 by Katie Wasserman

Or use base 16

Re: What do you like most about the HP-15C?

*Message #13 Posted by **Glenn Dowdy** on 5 Sept 2011, 10:36 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> Or use base 16

How likely are either one of these scenarios in a manufacturing environment? ;)

Re: What do you like most about the HP-15C?

*Message #14 Posted by **Howard Owen** on 5 Sept 2011, 10:54 p.m.,*
in response to message #12 by gene wright

Base 16 would imply up to 1,048,575 units, if you started with 1. :)

Edited: 5 Sept 2011, 10:55 p.m.

Re: What do you like most about the HP-15C?

*Message #15 Posted by **Dwight Sturrock** on 7 Sept 2011, 12:54 a.m.,*
in response to message #14 by Howard Owen

More likely binary, limiting it to 64 units.

Re: What do you like most about the HP-15C?

*Message #16 Posted by **Howard Owen** on 7 Sept 2011, 4:41 p.m.,*
in response to message #15 by Dwight Sturrock

Which would be terrible news! But what about base 64?

$64^5 - 1 = 1\ 073\ 741\ 823$!

Now we are talking a significant fraction of the world population, and eBay 15C prices are in serious trouble! :)

Re: What do you like most about the HP-15C?

*Message #17 Posted by **Katie Wasserman** on 8 Sept 2011, 12:07 a.m.,*
in response to message #16 by Howard Owen

Yes ebay prices would head to zero, but could you imagine if 10% of the world had an HP-15C and knew how to use it? This would be one smart planet.

Re: What do you like most about the HP-15C?

*Message #18 Posted by **Les Bell** on 5 Sept 2011, 2:09 a.m.,*
in response to message #1 by Gerardo Rincon

I think many (most) of the people here are "hackers" - in the traditional sense, of people who enjoy exploring programmable machinery to make it do the most that it can. That involves learning, exploring, researching - not just the device, but in this case, the mathematical principles on which it is bounded.

From that perspective, the 15C offers probably the most hack-power per cm^3 of all the HP line. It's small enough to be slipped in a shirt pocket and used for daily back-of-an-envelope work, but it also has enough memory and a rich enough feature set to be used to solve very complex problems, if it's the only tool to hand.

Yes, the 41C and later are easier to program, with their alpha displays - but then, a computer is easier still. And probably not as satisfying, as a result.

So:

- Small size
- Rich feature set: matrices, complex, SOLVE, numerical integration, etc.
- Excellent documentation
- Attention paid to accuracy of algorithms
- Darn good looking!

Best

--- Les
[http://www.lesbell.com.au]

Re: What do you like most about the HP-15C?

*Message #19 Posted by **Egan Ford** on 5 Sept 2011, 12:18 p.m.,*
in response to message #1 by Gerardo Rincon

The 15C was *my* first RPN calculator. And there was nothing I could not do with it, except plot graphs (I had an Apple II+ for that, and pen and paper of course).

I still have my original 15C, and it's still on my desk. (Regrettably) it's the only tech I kept from the '80s.

I guess what I am saying, is that you always have a thing for your first. My 15C got me through most of the '80s and early '90s. So what do I like the most? The memories. Cheesy, I know.

Re: What do you like most about the HP-15C?

*Message #20 Posted by **Lyuka** on 5 Sept 2011, 1:51 p.m.,*
in response to message #19 by Egan Ford

The memories, so am I.

Re: What do you like most about the HP-15C?

*Message #21 Posted by **Howard Owen** on 5 Sept 2011, 10:59 p.m.,*
in response to message #19 by Egan Ford

My first programmable device of any description was an HP41C. That machine will always remain at the top of my list of favorites. I admire the 15C as a sort of aesthetic and practical triumph, but It wouldn't be the first machine I'd reach for if I needed one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12c Prestige

*Message #1 Posted by **Brandon Poindexter** on 4 Sept 2011, 8:14 p.m.*

HP must really like dishing variants of their calculators left and right right now. Their calculator page shows something called the HP 12c Prestige. I haven't really followed the HP 12c in the past. But is it a new derivative or an older model?

Re: HP 12c Prestige

*Message #2 Posted by **Martin Pinckney** on 4 Sept 2011, 8:48 p.m.,*
in response to message #1 by Brandon Poindexter

For me most of these supposed HP web pages linked today appear to be dummies. I mean there is limited information on them. The expandable menus don't work.

Anyone else have the same experience?

Edited: 4 Sept 2011, 8:51 p.m.

Re: HP 12c Prestige

*Message #3 Posted by **Mark Hardman** on 4 Sept 2011, 9:01 p.m.,*
in response to message #2 by Martin Pinckney

Here's a spec sheet that is (c) 2005:

HP 12c Prestige Financial Calculator

Here's an "unboxing" You Tube video:

Calculadora HP 12c Prestige

Re: HP 12c Prestige

*Message #4 Posted by **Brandon Poindexter** on 4 Sept 2011, 9:04 p.m.,*
in response to message #3 by Mark Hardman

Aaah, so it been out in the past. I've never seen it before. Thanks for the links and clearing it up. :)

Re: HP 12c Prestige

*Message #5 Posted by **Gerardo Rincon** on 4 Sept 2011, 9:13 p.m.,*
in response to message #4 by Brandon Poindexter

I've never seen this model. It looks the same as a Platinum but with the same case of the 25th anniversary. I do notice this video was recently uploaded to YouTube (Aug 19, 2011).

Re: HP 12c Prestige

*Message #6 Posted by **Mark Hardman** on 4 Sept 2011, 9:23 p.m.,*
in response to message #5 by Gerardo Rincon

The 12c Prestige was only sold in Brazil.

See this thread:

12C confusion

Re: HP 12c Prestige

*Message #7 Posted by **gene wright** on 5 Sept 2011, 12:20 a.m.,*
in response to message #6 by Mark Hardman

I have one. The faceplate and cover around the display are gold color rather than platinum. Otherwise, it is a platinum.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Finding prime factors on a "non-programmable" calculator

*Message #1 Posted by **Don Shepherd** on 4 Sept 2011, 7:13 p.m.*

Article describing a new approach to finding prime factors on the "non-programmable" HP-17bii.

Re: Finding prime factors on a "non-programmable" calculator

*Message #2 Posted by **M. Joury** on 4 Sept 2011, 7:38 p.m.,*
in response to message #1 by Don Shepherd

Thanks Don!

I am continuously learning more about the power of the 17b solver!

Cheers,

-Marwan

Re: Finding prime factors on a "non-programmable" calculator

*Message #3 Posted by **Lode** on 4 Sept 2011, 8:04 p.m.,*
in response to message #1 by Don Shepherd

Hey, how long does it take to do the same example (6,469,693,230) for each of the factors for which the time in minutes was given for the non optimized version?

Re: Finding prime factors on a "non-programmable" calculator

*Message #4 Posted by **Don Shepherd** on 4 Sept 2011, 8:18 p.m.,*
in response to message #3 by Lode

Here are the timings, in seconds, for the old version from the Tech. Applications manual, and my version:

factor	old version	new version
2	2	2
3	2	2
5	2	2
7	2	2
11	105	2
13	33	2
17	10	2
19	4	2
23	2	2
29	2	2

Re: Finding prime factors on a "non-programmable" calculator

*Message #5 Posted by **Don Shepherd** on 4 Sept 2011, 10:08 p.m.,*
in response to message #1 by Don Shepherd

After posting the article, I had to make a change. I thought I could adjust variable TF (beginning trial factor) to the current factor and avoid going back to trial factor 3 each time, but I forgot that the Technical Applications manual states on page 25:

> Quote:
>
> Any attempt to alter the values of the (loop control variables) using the LET function causes the solver to create separate variables of the same name.

Therefore, the loop to find factors must always start at 3, the beginning value of the loop control value cannot be adjusted when a factor is found.

Re: Finding prime factors on a "non-programmable" calculator

*Message #6 Posted by **Don Shepherd** on 5 Sept 2011, 8:25 a.m.,*
in response to message #5 by Don Shepherd

Actually, the original version does work because what you can't do is modify any of the loop control variables from within the loop in an attempt to end the loop early, because the real loop control values are inaccessible to the user while within the loop. But the modified version of the program is preferable because (a) you don't have to press INIT before each execution, and (b) starting the loop for trial factors at 3 each time does not significantly increase the run time since n (and, therefore, √(n)) is adjusted whenever a factor is found.

Re: Finding prime factors on a "non-programmable" calculator

*Message #7 Posted by **Allen** on 5 Sept 2011, 10:11 a.m.,*
in response to message #1 by Don Shepherd

Thanks for the cool article.. You're amazing with the 17b solver!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Removing 9810 printer snap rings (circlips)

*Message #1 Posted by **David Ramsey** on 4 Sept 2011, 6:13 p.m.*

Suggestions on how to remove these things? These are very sturdy pieces. I cannot apply enough pressure to spread them open sufficiently to slip them off using standard snap ring pliers.

Edited: 4 Sept 2011, 6:13 p.m.

Re: Removing 9810 printer snap rings (circlips)

*Message #2 Posted by **Ethan Conner** on 5 Sept 2011, 3:25 a.m.,*
in response to message #1 by David Ramsey

Here are a couple of things i have done in the past. Both are gross misuse of tools but anyway be careful. Try a straight slot screwdriver tip that will just fit in the opening and twist, this might generate enough torque to open up the snap ring. If you have enough room you can use two hook scribes to try and pull apart the snap ring. Hope this helps.

Re: Removing 9810 printer snap rings (circlips)

*Message #3 Posted by **David Ramsey** on 5 Sept 2011, 1:06 p.m.,*
in response to message #2 by Ethan Conner

Sadly, no. Either I don't have the right tools, or there's something special about this clip.

The tips of snap ring pliers deflect under load until they slip out of the holes. Likewise, I cannot apply enough force with the blade of a screwdriver to spread the ends of the clip without the screwdriver slipping out (and gouging the plastic gear this clip retains). Using a hammer to tap a flat blade screwdriver against the open end of the clip has no results (at least and the forces I'm willing to apply).

So far the only results of my efforts have been scratches and gouges in the clip and the plastic gear it secures.

Edited: 5 Sept 2011, 1:13 p.m.

Re: Removing 9810 printer snap rings (circlips)

*Message #4 Posted by **Ethan Conner** on 5 Sept 2011, 3:11 p.m.,*
in response to message #3 by David Ramsey

If you were local to me this is the part where i would say "let me try". :)

Re: Removing 9810 printer snap rings (circlips)

*Message #5 Posted by **Tony Duell** on 6 Sept 2011, 4:41 a.m.,*
in response to message #1 by David Ramsey

Somewhat unusually, the circlips in this printer do not fit into grooves in the shafts. They just fit over the shafts and rely on friction to keep them in place.

That means you don't have to open them up very much to get them off. If you put your circlip pliers in the circlip and try to open it, and then put a screwdrver under the circlip (say between the circlip and one of the gears) and lever it towards the end of the shaft, it'll probably come off with no problem.

In the case of the spindles for the loading belts, I've found it easiest to open the circlip with the pliers as normal, then push the spindle into the printer.

Re: Removing 9810 printer snap rings (circlips)

*Message #6 Posted by **David Ramsey** on 6 Sept 2011, 1:32 p.m.,*
in response to message #5 by Tony Duell

Thanks, Tony! The clips come off pretty easily when you know The Secret!

In other news, you can find 100% alcohol in the paint section of your local hardware store.

Edited: 6 Sept 2011, 1:33 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The big bang

*Message #1 Posted by **bluesun08** on 4 Sept 2011, 5:02 p.m.*

Without any words: HP12c

Re: The big bang

*Message #2 Posted by **Mark Hardman** on 4 Sept 2011, 5:58 p.m.,*
in response to message #1 by bluesun08

Sigh...

Without any words:

Re: The big bang

*Message #3 Posted by **Michael de Estrada** on 4 Sept 2011, 6:20 p.m.,*
in response to message #1 by bluesun08

Poor Leo Apotheker must feel like Obama did when he inherited the US economy from Bush.

Re: The big bang

*Message #4 Posted by **Raymond Del Tondo** on 4 Sept 2011, 6:48 p.m.,*
in response to message #3 by Michael de Estrada

Dunno if this is comparable. Bush left a nearly bancrupt country,
L.A. seems to like to destroy a more-or-less functioning company with his own (mal-) decisions.
No wonder SAP didn't want to have L.A. as CEO any further...

Re: The big bang

*Message #5 Posted by **Jean-Michel** on 5 Sept 2011, 2:28 a.m.,*
in response to message #1 by bluesun08

All is not that bad: at least the last digit of Pi is now correct on this picture...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CX with bad row of keys....

*Message #1 Posted by **Jimi** on 4 Sept 2011, 2:27 p.m.*

Frustrated. I just can't get a fully working 41CX anywhere. I continue to purchase "fully working" units, only to discover they are completely dead, or in this case, has a dead row of keys (the trig row).

Do you think a dead row is a loose interconnect problem? I hate opening these up, because it seems like they never go back together tight again. The seller might take it back, but unfortunately it came with a printer, working card reader, and other goodies and I'd kind of like to keep those.

Re: 41CX with bad row of keys....

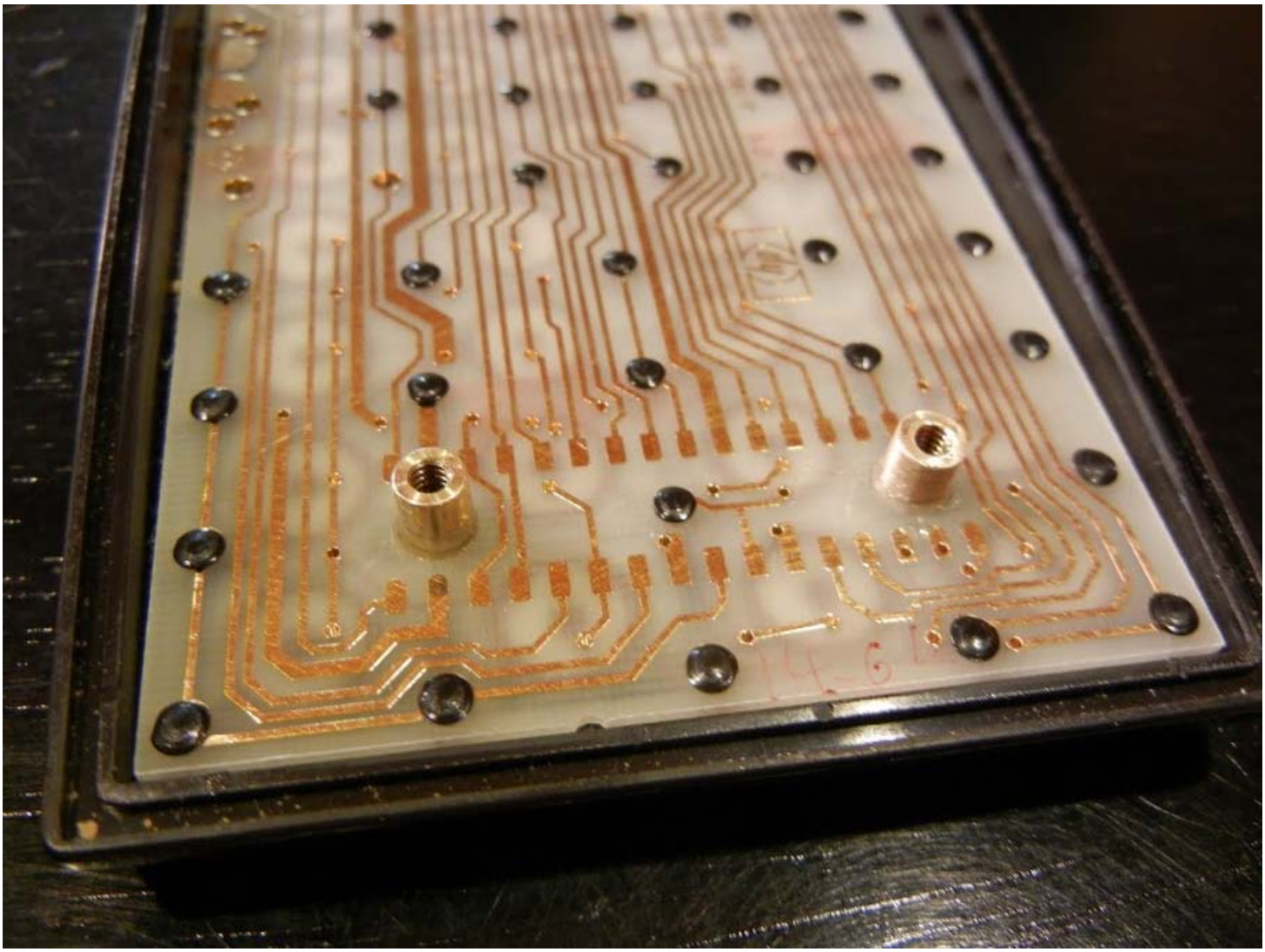
*Message #2 Posted by **Paul Berger (Canada)** on 4 Sept 2011, 7:36 p.m.,*
in response to message #1 by Jimi

Yes it could be a connection problem between the keyboard PCB and the CPU PCB in fact since you lost an entire row that would be my first suspect. This could be a problem with a cracked or broken post, if you put the calculator on a table top and press down firmly on the sides next to X and 3 does it help? If you have a damaged post you may even see the top half move slightly when you press down on it.

Re: 41CX with bad row of keys....

*Message #3 Posted by **aj04062** on 4 Sept 2011, 10:20 p.m.,*
in response to message #2 by Paul Berger (Canada)

I've come up with a very reliable solution to the cracked post problem. Replace them with a standoff.



I first tried a 4-40 standoff. The typical OD(.187) fits nicely into the hole vacated by the post, but the 4-40 screw is too big. The heads of most screws require you to modify the back case. I am going to try a 2-56 standoff next. It has a .156 OD, but I should be able to use a standard screw and not mess with the case.

Re: 41CX with bad row of keys....

*Message #4 Posted by **jimi** on 4 Sept 2011, 10:22 p.m.,*
in response to message #2 by Paul Berger (Canada)

No, pressing down doesn't help any. Everything feels very solid.

Re: 41CX with bad row of keys....

*Message #5 Posted by **aj04062** on 5 Sept 2011, 12:04 p.m.,*
in response to message #4 by jimi

Most of the strange behavior I have encountered can be blamed on this contact. I'm not saying yours is to blame, but all takes is one of the gold contacts shown in the picture to loose contact for this to occur.

Re: 41CX with bad row of keys....

*Message #6 Posted by **Randy** on 5 Sept 2011, 1:56 p.m.,*
in response to message #1 by Jimi

Halfnut or Fullnut model? Big difference internally.

Re: 41CX with bad row of keys....

*Message #7 Posted by **jimi** on 5 Sept 2011, 9:56 p.m.,*
in response to message #6 by Randy

I should have specified in the original post. This is a fullnut model.

Re: 41CX with bad row of keys....

*Message #8 Posted by **Randy** on 7 Sept 2011, 12:07 a.m.,*
in response to message #7 by jimi

The logical problem would be a loss of connection between the keyboard and logic board for that keyboard column/row. Corrosion/loss of connection/etc. Disassemble and have a look, the only way to know for sure.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Searching for a modern solution

*Message #1 Posted by **Mark Storkamp** on 4 Sept 2011, 1:54 p.m.*

Lately I've been prototyping some molded polyurethane items. I've programmed my trusty 41CX to prompt me for various dimensions and mixture information, then using the I/R printer it prints out the amount of prepolymer and curative I need to weigh out.

I've now handed the process on to others, but I'm still making the printouts for them. I'm not about to let them take my 41. That's lead me to thinking about what is currently available in the market place to do the same task.

Where they are set up it is not convenient to put a computer, and even then, there's a lot more effort involved in making a program for them to run. I can't think of anything that comes natively with Windows anymore that allows for programming. At least QBASIC or GWBASIC allowed for quick and dirty custom apps. For the printout, most every printer is sheet fed, so you need to print an entire page just for a couple of numbers. Not very efficient.

I think I've decided on the 30b, since it has has alpha prompts and messages. It's just that awkward <shift>-hold-<(> sequence for the R/S function that is a bit off-putting. They'll have to write the number down themselves too I guess. - What I would really like to do is have the calculator connect directly to the scale and set the amount that needs to be poured, something that may have been possible with the right accessories on the 41.

With the predicted demise of the desktop in favor of tablets and iDevices, it's only going to get worse for folks doing something other than email and browsing. Can you even connect a 50g to an iPad? Consider what special versions of software and hardware ports are required to flash a 34s.

The 41 is over 30 years old, and who would have thought at the time that in 30 years nothing else would have come along to expand on its concepts. Enough ranting, but if anyone has any other suggestions I'd like to hear them.

Re: Searching for a modern solution

*Message #2 Posted by **Thomas Chrapkiewicz** on 4 Sept 2011, 2:21 p.m.,*
in response to message #1 by Mark Storkamp

A few (not fully formed) ideas:

1. Excel with VBA.

2. PowerBASIC

A couple thoughts/questions:

a. The cost/'green-ness' of a single 8x10 sheet of paper is not likely much worse than a small strip of thermal paper.

b. Does the scale have an RS232 port?

TomC

Re: Searching for a modern solution

*Message #3 Posted by **Garth Wilson** on 4 Sept 2011, 3:51 p.m.,*
in response to message #2 by Thomas Chrapkiewicz

> Quote:
>
> a. The cost/'green-ness' of a single 8x10 sheet of paper is not likely much worse than a small strip of thermal paper.

This is partly why I still use a dot-matrix impact printer with pin feed and fanfold paper, even with my HP41 and 71 (going through an interface converter for the Centronics parallel). You can print out just a line or two and cut off a fraction of a sheet if you like. 20 years later it will look a lot better than the thermal paper too. If you need compactness, you can get tiny dot-matrix impact printers intended for printing things like receipts on non-thermal adding-machine paper. (I do use the laser printer if I want to print something like a data sheet though.)

This application is one of the reasons I say the newer calcs fall short. Unlike the 41, they are unable to interface to the printer and the scales and other lab instruments all at the same time, acting as the controller to replace laptops and other computers that are big and not nearly as quick to program.

Edited: 4 Sept 2011, 3:52 p.m.

Re: Searching for a modern solution

*Message #4 Posted by **Thomas Chrapkiewicz** on 4 Sept 2011, 4:38 p.m.,*
in response to message #3 by Garth Wilson

Excellent Points!!!

Re: Searching for a modern solution

*Message #5 Posted by **Egan Ford** on 5 Sept 2011, 12:28 p.m.,*
in response to message #3 by Garth Wilson

> Quote:
>
> This is partly why I still use a dot-matrix impact printer with pin feed and fanfold paper

This is not a bad way to go. A 50g (modern) has a serial port and should be able to print to any serial printer. Serial dot-matrix printers are still available and office supply stores still sell the paper.

Re: Searching for a modern solution

*Message #6 Posted by **Maximilian Hohmann** on 4 Sept 2011, 2:29 p.m.,*
in response to message #1 by Mark Storkamp

> Quote:
>
> That's lead me to thinking about what is currently available in the market place to do the same task.

Almost any off-the-shelf calculator by Ti, Casio or Sharp I would say. Very easy to use, very easy to program. You can find a Ti85 that's perfectly adequate for the job for 1 Euro/$ on eBay any day. I have one of those on

"my" aeroplane for routine calculations. If someone breaks it or it gets lost, I couldn't care less. I have three more at home that I got for 1 Euro each...

Regards, max

Re: Searching for a modern solution

*Message #7 Posted by **Manolo Sobrino** on 4 Sept 2011, 2:48 p.m.,*
in response to message #6 by Maximilian Hohmann

Fully agree, any ti 85/86, albeit slow, would do. If you need a better basic, bbc has been ported to 83/84 plus. Casio is not that bad either, 4500p is a keystroke one easy to program, and 5800p or any of the graphing cheap ones have a rudimentary basic to get things done.

Re: Searching for a modern solution

*Message #8 Posted by **Steve Fennell** on 4 Sept 2011, 2:32 p.m.,*
in response to message #1 by Mark Storkamp

Microsoft made Visual Studio Express 2010 available last year. It is free (with registration) and can be used for commercial purposes. There are Visual Basic, C# and C++ versions.

Visual Studio Express 2010

Re: Searching for a modern solution

*Message #9 Posted by **Marcus von Cube, Germany** on 4 Sept 2011, 2:47 p.m.,*
in response to message #1 by Mark Storkamp

Instead of the 30b, the 34S could be an alternative. Just write a program that can be put in flash so it won't get lost on a battery change or power loss. Create a custom overlay for the four top left keys (A to D) and R/S (right to the decimal point). For this application there is no need for the full keyboard overlay.

With a modified version of the programming cable, you can even connect a serial printer (those used for cash registers)(*) and at the same time feed external power to the calculator. Mount the modified device to a fixed stand and you have the custom device you need. We can add the user mode serial commands back in so that you can print arbitrary information via the serial interface.

(*) Edit: Or a serially controlled industrial scale.

Edited: 4 Sept 2011, 3:49 p.m.

Re: Searching for a modern solution

*Message #10 Posted by **NateB** on 4 Sept 2011, 2:54 p.m.,*
in response to message #1 by Mark Storkamp

Can you use a 50g and an 82240B printer?

Re: Searching for a modern solution

*Message #11 Posted by **Alexander Oestert** on 5 Sept 2011, 2:07 a.m.,*
in response to message #10 by NateB

Quote:

> Can you use a 50g and an 82240B printer?

Yes.

Getting the calculator that does the required task is not the problem nowadays, as also the 17BII+ for instance prints with the IR printer. But getting a new printer for it is.

Edited: 5 Sept 2011, 2:10 a.m.

Re: Searching for a modern solution

*Message #12 Posted by **Norman Dziedzic** on 4 Sept 2011, 3:24 p.m.,*
in response to message #1 by Mark Storkamp

> Quote:
>
> What I would really like to do is have the calculator connect directly to the scale and set the amount that needs to be poured, something that may have been possible with the right accessories on the 41.

When you talk about connecting to a scale you are now in the realm of industrial controls. While most of these are probably more pricey than you are willing to go, but there are some lower cost options.

```
You can try some of these links:
http://cubloc.com/index.php
http://www.automationdirect.com
http://www.entertron.com/
http://www.heapg.com/
```

Edited: 4 Sept 2011, 3:26 p.m.

Re: Searching for a modern solution

*Message #13 Posted by **Egan Ford** on 5 Sept 2011, 12:39 p.m.,*
in response to message #1 by Mark Storkamp

You could rewrite your programs in Javascript at no cost. This way they would run on any device with a browser.

Then get your staff iPods, setup Wifi to get access to the app that you now control centrally. You can also record a video of how to use the new system that they can watch--just in case.

Lastly use Airprint to print it out.

OR

Put the i41CX (emulator) on the iPod, print to it's virtual printer, then email the output to an email to print service (that you have to setup). With i41CX you can automate that in your program, i.e. create output, email output as text to a fixed address.

Used 8MB iPod touches are cheap. Just get a hardened case for them.

OR

Use the 50g with it's large screen (to avoid printing) and it's serial port to use with a serial printer or anything else with a serial port (e.g. your scales).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41C SKWIDBC Barcode Generation ROM

*Message #1 Posted by **aj04062** on 4 Sept 2011, 9:56 a.m.*

Does anyone have a manual or instructions?

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #2 Posted by **Raymond Del Tondo** on 4 Sept 2011, 10:32 a.m.,*
in response to message #1 by aj04062

Already checked on TOS?

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #3 Posted by **aj04062** on 4 Sept 2011, 10:54 a.m.,*
in response to message #2 by Raymond Del Tondo

nothing shows up in USA...

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #4 Posted by **Raymond Del Tondo** on 4 Sept 2011, 12:59 p.m.,*
in response to message #3 by aj04062

Not TAS, but TOS instead. It's an HP41 related ORG website;-)

I just looked, it's there, although as single pages download.

Edited: 4 Sept 2011, 12:59 p.m.

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #5 Posted by **Lode** on 4 Sept 2011, 1:56 p.m.,*
in response to message #4 by Raymond Del Tondo

Hey, what's the URL of TAS? I think I saw someone once post it means "That auction site". Googling for "That auction site" brings up no link to such site however. And searching for "TAS" brings up a lot of results related to Tasmania.

Thanks.

Edited: 4 Sept 2011, 1:57 p.m.

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #6 Posted by **Marcus von Cube, Germany** on 4 Sept 2011, 2:29 p.m.,*
in response to message #5 by Lode

There is the well known auction site but there is also The Other Site, a web site dealing with HP calculators (especially the HP41) which should not be directly linked to because there are issues with copyrighted material from HP. You'll find it. :-)

Not quite, Marcus...

*Message #7 Posted by **gene wright** on 4 Sept 2011, 3:36 p.m.,*
in response to message #6 by Marcus von Cube, Germany

There is a disagreement between the museum curator and the TOS site creator about whether there is a problem with materials on the TOS site.

The TOS creator has stated on multiple times that he has written permission to host the materials on his site. The museum curator here does not believe that is possible or correct.

So, what to do? :-)

Re: Not quite, Marcus...
*Message #8 Posted by **Marcus von Cube, Germany** on 4 Sept 2011, 3:52 p.m.,*
in response to message #7 by gene wright

It's an issue nonetheless, even if it's "only" between the two curators. We are guests here and thus have to adhere to the rules set-up by our host.

Re: Not quite, Marcus...
*Message #9 Posted by **gene wright** on 4 Sept 2011, 4:43 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Agreed, not disputing that.

I was just making sure that someone reading that did not automatically assume that there WAS an issue with copyright with the materials at TOS.

The TOS site curator has paperwork from someone at HP that he claims authorizes the distribution of the materials.

The Museum curator seems to have been told by someone else at HP that that is hogwash.

Hence, the dispute. That's all I was trying to clarify. :-)

Edited: 5 Sept 2011, 9:26 a.m.

Re: Not quite, Marcus...
*Message #10 Posted by **Frido Bohn** on 5 Sept 2011, 4:31 a.m.,*
in response to message #7 by gene wright

Well, it is indeed somewhat confusing for the newcomer to figure out what "TOS" means. For myself, it took some time to get behind it.
I have to admit that my first contact over the internet to HP41-related material led me to TOS. The site really offers a whole cornucopia of documents related to that calculator and its peripherals. I was astounded of the collection and wondered why HP did not sue against TOS. May be there is a secret standstill agreement between TOS and HP. However, I can not imagine that the offering of so much HP41 material is the base of the dispute between HP-Museum and TOS. It would be HP's part to undertake something against the practice of TOS. But why should the Museum curator bother? Does no other than the curator have the right to disseminate material of discontinued HP calculators?

Re: Not quite, Marcus...
*Message #11 Posted by **Ángel Martin** on 5 Sept 2011, 2:19 p.m.,*
in response to message #10 by Frido Bohn

my thoughts exactly...

Re: Not quite, Marcus...
*Message #12 Posted by **Howard Owen** on 5 Sept 2011, 2:45 p.m.,*
in response to message #10 by Frido Bohn

For me, it's not a question of whether TOS violates copyrights or not. It's not a question of whether the curator has acted appropriately or not. What stands out for me is the notice that appears on this posting form:

Posting indicates your agreement with the Museum of HP Calculators Terms of Use

It's right above the buttons for previewing or posting. That trumps the discussion, in my mind.

Re: Not quite, Marcus...
*Message #13 Posted by **Martin Pinckney** on 5 Sept 2011, 10:52 p.m.,*
in response to message #12 by Howard Owen

Well, I confess I still am in the dark. I suppose the unmentionable site is either HPCC.org or HPCalc.org - whoops!

What part of the TOU applies to this discussion about either of these sites?

Re: Not quite, Marcus...

*Message #14 Posted by **Howard Owen** on 5 Sept 2011, 11:02 p.m.,*
in response to message #13 by Martin Pinckney

Those are both OK. If you can post them to the forum without their text being filtered out, and you receiving a stern warning, then they aren't TOS.

Its in the org domain. with .org on the end. It's concerned with the hp-41c, but the webmaster doesn't like hyphens.

:)

OT: Copyright

*Message #15 Posted by **Howard Owen** on 5 Sept 2011, 11:19 p.m.,*
in response to message #13 by Martin Pinckney

Hmm, I see what you mean. There's no specific exclusion for TOS, but there is a section that I believe relates to it:

> Quote:
>
> You agree not to post any copyrighted material unless the copyright is owned by you or by this forum. You also agree not to use this forum to request or trade copies of copyrighted material. For example, most ROMs are copyrighted. Therefore, it is OK to buy and sell original ROM chips or calculators containing original ROM chips but in most cases it is not OK to buy and sell copies of those ROMs or ROM image files..

I believe I remember the curator worrying about contributory infringement if he allowed links to copyrighted materials, ROMS in particular, at another site. Turns out he may be correct about that, given the Pirate Bay and others recently. (I'm sure we could have a long discussion over that, but let's not. :)

I do think HP could clear things up by simply cutting those ROMS loose, but notice that they have just retrieved one of those from the past and issued it as the HP-15C LE. I remember several years ago when Eric removed the Voyager ROMs from Nonpareil saying that HP had asked him to do so. Seeing the 15C come out now connects the dots for me on that one.

There are several 15C software clones out there and my guess is that many are using the original ROM. HP has never gone after any of them. They haven't tried to stop Victor from selling that laughably trashy hardware 12C clone either. They haven't moved legally against anyone distributing old ROMs, so far as I know. But they clearly demure from giving their old IP away wholesale. As long as that's the case, I can understand the curator's point of view.

Edited: 5 Sept 2011, 11:21 p.m.

Re: OT: Copyright

*Message #16 Posted by **Eric Smith** on 6 Sept 2011, 1:32 a.m.,*
in response to message #15 by Howard Owen

I don't think either Victor or Aurora used the actual HP firmware. On the other hand, it does appear that the manual for the Aurora infringed the copyright of HP's manual.

Re: OT: Copyright

*Message #17 Posted by **Tim Wessman** on 6 Sept 2011, 10:22 a.m.,*
in response to message #16 by Eric Smith

I thought it was pretty clear that they did. Did I miss something?

TW

Re: OT: Copyright

*Message #18 Posted by **M. Joury** on 6 Sept 2011, 11:03 a.m.,*
in response to message #17 by Tim Wessman

To the extent that the keyboard test terminates with a "12" on success. Or at least so I have heard--I don't actually own one.

Seems pretty clear to me.

-Marwan

Re: OT: Copyright

*Message #19 Posted by **Eric Smith** on 6 Sept 2011, 11:35 a.m.,*
in response to message #17 by Tim Wessman

Clear that the Aurora copied the manual, the firmware, or both?

I haven't compared the manual myself, but others have said that it was a blatant copy.

There are enough differences in the calculator's behavior that it seems unlikely to me that they copied the firmware. However, I have not tried to extract firmware from it.

Re: OT: Copyright

*Message #20 Posted by **M. Joury** on 6 Sept 2011, 12:21 p.m.,*
in response to message #19 by Eric Smith

Sorry, I retract my earlier statements. I was thinking of this calculator.

Cheers,

-Marwan

Re: OT: Copyright

*Message #21 Posted by **Katie Wasserman** on 6 Sept 2011, 1:53 p.m.,*
in response to message #19 by Eric Smith

I have 3 12C-like calculators, here's my take on them.

Victor V-12: Is likely a modified copy of the first version of the 12CP source code. It doesn't allow for CF(0) to be changed -- this was only in the early 12CP and it doens't implement the self tests.

Compucessory CCS28956: Is also a modified version of the an early version of the 12CP source code. However, it implements the undo functions, has the same self tests (but they make no sense since the key mappings are all wrong) and adds in some new code for cost/sell/margin.

Aurora FN1000: This appears to be a re-implementation of the original 12C. The self tests are similar but not identical and it adds a COM key that (I think) performs the same mode setting as <STO> <EEX> in the original 12C.

In short: I don't think any of these are ROM image clones, but likely the Victor and definitely the Compucessory are based on copied source code.

-Katie

Re: OT: Copyright

*Message #22 Posted by **Howard Owen** on 6 Sept 2011, 2:20 p.m.,*
in response to message #21 by Katie Wasserman

> Quote:
>
> In short: I don't think any of these are ROM image clones, but likely the Victor and definitely the Compucessory are based on copied source code.

I feel like I have to own these as a collector, but they make me feel a little slimy. :(

Re: OT: Copyright

*Message #23 Posted by **Lincoln R.** on 6 Sept 2011, 3:26 p.m.,*
in response to message #21 by Katie Wasserman

The 12CP source being used in the V-12 is entirely possible since that code was apparently

developed by Kinpo from HP docs. Depending on what kind of contract HP signed with Kinpo when they had the 12CP design done, this may or may not be legal. Also, HP may or may not be interested in going to court in Taiwan over a few poor imitations of the 12CP.

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #24 Posted by **Raymond Del Tondo** on 4 Sept 2011, 2:33 p.m.,*
in response to message #5 by Lode

There were many related threads here in the hpmuseum forum years ago.
TAS means That Auction Site aka *Bay, TOS means the HP41 site with the ORG domain.
Note there is no "-" in the name, so just add the domain, and you're there...

Why all this obfuscation? Ask the museum curator and the maintainer of TOS
Maybe they finally have solved their issues, so that the one can spell out the full web site name w/o getting filtered.

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #25 Posted by **Howard Owen** on 4 Sept 2011, 6:24 p.m.,*
in response to message #24 by Raymond Del Tondo

There's actually no filter in the forum software for "eBay," as there is for TOS. People were complaining about all the auctions a few years back, and TAS was coined as a joke on TOS.

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #26 Posted by **Egan Ford** on 6 Sept 2011, 2:35 p.m.,*
in response to message #5 by Lode

Dunno, but I found this interesting program. :-)

TOS

Program Registers Needed: 4

Row 1 (1 - 3)

Row 2 (3 - 6)

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #27 Posted by **Howard Owen** on 6 Sept 2011, 5:07 p.m.,*
in response to message #26 by Egan Ford

LOL!

Re: HP-41C SKWIDBC Barcode Generation ROM

*Message #28 Posted by **M. Joury** on 7 Sept 2011, 9:58 a.m.,*
in response to message #26 by Egan Ford

Very clever! I was pretty sure what it was but I just had to dig my wand out just to make sure <g>.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12c 30th Anniversary listed on HP's website for $104.99

*Message #1 Posted by **Joerg Woerner** on 4 Sept 2011, 9:03 a.m.*

Just browsed HP's US-english "Small Business" website (http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20036-215349-5154839.html) and added the new HP 12C to my shopping cart:

Shopping cart

Items previously added to cart1 $104.99

Total: $104.99

Isn't this crazy???

Joerg

Re: HP 12c 30th Anniversary listed on HP's website for $104.99

*Message #2 Posted by **Jim Yohe** on 4 Sept 2011, 11:56 a.m.,*
in response to message #1 by Joerg Woerner

Been that way for a couple days now. Not as reasonable as $69.99 for the 4AA1-0859ENUC. Same capabilities and speed, I think. Why buy it?

Re: HP 12c 30th Anniversary listed on HP's website for $104.99

*Message #3 Posted by **Jeff Fontaine Canada** on 4 Sept 2011, 12:04 p.m.,*
in response to message #1 by Joerg Woerner

It is still listed at $ 79.99 on theses pages, but no button to buy online :

http://www.shopping.hp.com/product/calculator/Financial/1/storefronts/NW258AA%2523ABA

http://www8.hp.com/us/en/ad/calculator/30th-anniversary.html

Jeff

Re: HP 12c 30th Anniversary listed on HP's website for $104.99

*Message #4 Posted by **bluesun08** on 4 Sept 2011, 2:29 p.m.,*
in response to message #1 by Joerg Woerner

The folk want it. Well, buy it! The re-release becomes a cash cow for HP ...

Re: HP 12c 30th Anniversary listed on HP's website for $104.99

*Message #5 Posted by **Howard Owen** on 4 Sept 2011, 6:26 p.m.,*
in response to message #4 by bluesun08

> Quote:
>
> The re-release becomes a cash cow for HP ...

... further encouraging them to retain the small but profitable calculator business.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 71b soft case decomposing...

*Message #1 Posted by **Giancarlo** on 4 Sept 2011, 8:36 a.m.*

Hello, i have a problem with my hp71b soft case. The internal side of the soft case produce a lot of (rubber?) powder. Do you know if there is a way to restore or just stop this phenomena?

I was trying to show you a couple of pictures but no way to do it (for me).

Thanks

Giancarlo

Re: HP 71b soft case decomposing...

*Message #2 Posted by **John Pierce** on 4 Sept 2011, 9:39 a.m.,*
in response to message #1 by Giancarlo

I had the same problem with several HP-71B cases. I just put them in the clothes washer with detergent and then air dried them. It was a great success.

Re: HP 71b soft case decomposing...

*Message #3 Posted by **Raymond Del Tondo** on 4 Sept 2011, 9:44 a.m.,*
in response to message #1 by Giancarlo

Hello,

this is normal for certain production runs of these cases.

Just put the case into hand warm water in which you dissolved some washing powder before.
Let the case stay the one or other hour, and then rinse out the dark water:-)

You'll se most of the granulate is one.

HTH

Raymond

Re: HP 71b soft case decomposing...

*Message #4 Posted by **Giancarlo** on 5 Sept 2011, 5:36 p.m.,*
in response to message #3 by Raymond Del Tondo

Hello, thank you very much for your answers.

wow! A lot of black powder came out from the soft case. Now i am waiting it dries...

thank again

Giancarlo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Has this ever happened to you ? :)

*Message #1 Posted by **Michael de Estrada** on 4 Sept 2011, 12:05 a.m.*

Have you ever been just randomly searching on TAS, and suddenly you find a rare calc that normally sells in a regular auction for a princely sum for much much less in a BIN auction? Anyway, tonight I found a clean working APF Mark 55, a very rare non-HP RPN calc that included its charger and slip case for $19.99 + $4.99 shipping. Normally, this calc would sell for well over $100 in a regular auction. It had apparently just been listed, because there were over 29 days to go, so not many other bidders if any had seen it yet. The listing title omitted "RPN", so I only found it by searching for "APF calculator". Also, the seller specifically stated that shipping would only be to the USA, limiting the number of potential buyers. I wonder how many great deals like this have quietly slipped away shortly after they were listed, and I was never aware of them because they were gone so quickly.

Re: Has this ever happened to you ? :)

*Message #2 Posted by **Lincoln R.** on 4 Sept 2011, 12:27 a.m.,*
in response to message #1 by Michael de Estrada

I think I once found a 16C that sold for an $9.99 buy it now in the TAS completed listings section. IIRC the seller was a pawn shop or estate sale guy or some other entity likely to think "oh, it's a worthless old 80s calculator with dead batteries, can't possibly be worth more than a pack of smokes."

Re: Has this ever happened to you ? :)

*Message #3 Posted by **Paul Dale** on 4 Sept 2011, 12:40 a.m.,*
in response to message #2 by Lincoln R.

I missed an 11C for about A$25 once. Did a search and by the time I got it (maybe 5 minutes), it was sold. At the time the exchange rate with the US$ would have been A$3 = US$2 roughly.

- Pauli

Re: Has this ever happened to you ? :)

*Message #4 Posted by **Lincoln R.** on 4 Sept 2011, 12:45 a.m.,*
in response to message #3 by Paul Dale

I did get lucky with a buy it now for calculator-related stuff once: Some tool listed an 82240B infrared printer as a cash register receipt printer, $15 buy it now with free shipping, even came in the original box.

Re: Has this ever happened to you ? :)

*Message #5 Posted by **Michael de Estrada** on 4 Sept 2011, 12:55 a.m.,*
in response to message #4 by Lincoln R.

That is a great deal. I paid $47.90 for mine in a regular auction nearly 4 years ago.

Re: Has this ever happened to you ? :)

*Message #6 Posted by **Michael de Estrada** on 4 Sept 2011, 12:44 a.m.,*
in response to message #2 by Lincoln R.

That would definitely be quite the find. Actually I once found a lot of 5 non-working calcs for $25, which included a Novus Scientist PR (4525) RPN calc, made by National Semiconductor in the 1970s. I was able to get 4 of them working, including the Novus.

Re: Has this ever happened to you ? :)

*Message #7 Posted by **Cristian Arezzini** on 4 Sept 2011, 1:22 a.m.,*
in response to message #1 by Michael de Estrada

There is a "certain seller" in TAS... the one who sells lots of HP stuff at outrageous BIN prices... try looking at his past auctions; not the things he sold, but the things he *bought*... I found some big surprises there. I suppose he developed a way to find stuff with not-so-clear titles... *and* he spends all of his time looking on TAS for deals...

Cristian

Re: Has this ever happened to you ? :)

*Message #8 Posted by **Bart (UK)** on 4 Sept 2011, 9:44 a.m.,*
in response to message #7 by Cristian Arezzini

That seller bid on one of my auctions, his highest bid was 1/10th of his list price for the same models (he didn't get it though). So that's the strategy, making 10x the purchase price, so no wonder that having only occasional sales still pays off.

Re: Has this ever happened to you ? :)

*Message #9 Posted by **Michael de Estrada** on 4 Sept 2011, 10:50 a.m.,*
in response to message #8 by Bart (UK)

IDK. Many if not most of his items have been listed on TAS for many years, so it seems more like sheer greed than anything else to me. He's put in bottom feeder bids on my auctions too, which were a tiny fraction of the final sale price and has never come even close to winning one of my auctions. He also seems to have a personal performance problem as well, to put it delicately.

Re: Has this ever happened to you ? :)

*Message #10 Posted by **Maximilian Hohmann** on 4 Sept 2011, 7:38 a.m.,*
in response to message #1 by Michael de Estrada

Hello!

> Quote:
>
> Have you ever been just randomly searching on TAS, and suddenly you find a rare calc that normally sells in a regular auction for a princely sum for much much less in a BIN auction?

Occasionally, yes. Like my near-mint HP-15C with leather pouch for 25 Euros. It was even listed in the correct category, I just happened to be there at the right time and press the mouse button fast enough. Or the 41CX with card-reader and other accessories that was contained in a large box of PC remains (ethernet hubs,

cables, power supplies, sound cards, books, ...) listed under "household goods". I can't remember the BIN price, but it was low compared to the shipping cost. I tried to persuade the seller to send me only the calculator and keep the rest, but he insisted on "all or nothing" as he wanted to get rid of his junk. In the description it said "HP calculator" but the type could only be guessed from the photos.

But generally I think, as has been said in another thread a few days ago, that the prices for old calculators are steadily coming down anyway. The market seems to be saturated and there are not many new collectors/enthusiasts emerging. I do not know what young collectors collect today, but obviuosly not calculators.

Yesterday I received a nicely working stainless steel HP-01 in the mail, complete with all accessories except the box (even the battery changing tool full of spare batteries is there) for three-hundred-and something Euros. The times when these would fetch in excess of 1000 Euros are over, really.

Regards, max

Re: Has this ever happened to you ? :)

*Message #11 Posted by **Bart (UK)** on 4 Sept 2011, 9:45 a.m.,*
in response to message #10 by Maximilian Hohmann

> Quote:
>
> The market seems to be saturated and there are not many new collectors/enthusiasts emerging.
> I do not know what young collectors collect today, but obviuosly not calculators.

or the economic downturn is starting to affect the calculator collector market too.

Re: Has this ever happened to you ? :)

*Message #12 Posted by **Michael de Estrada** on 4 Sept 2011, 10:56 a.m.,*
in response to message #11 by Bart (UK)

IDK. Seems like prices are all over the place for some items. In the last year or so I've seen an HP-70 sell for between a little shy of $1000, to a little over $100. It takes at least two aggressive bidders to drive the price up, but if there is only one, the sale price can be very low.

Re: Has this ever happened to you ? :)

*Message #13 Posted by **Maximilian Hohmann** on 4 Sept 2011, 12:33 p.m.,*
in response to message #11 by Bart (UK)

Hello!

> Quote:
>
> or the economic downturn is starting to affect the calculator collector market too.

There is no economic downturn here (in Germany). A few days ago, newspapers reported that never before in history germans have put so much money aside than in the first half of 2011. With a lot of money around and with unstable stock markets and currencies, I would expect it to be natural that people invest more money in hardware like gold and collectibles and drive the prices up. As the gold price clearly shows.

Regards, max

Re: Has this ever happened to you ? :)

*Message #14 Posted by **Mike Morrow** on 5 Sept 2011, 1:12 p.m.,*
in response to message #1 by Michael de Estrada

Two years ago I found my most recently acquired HP-15C in its box with manual and slip cover at an amateur radio "hamfest" fleamarket. Even the rubber feet were in good condition. It cost me $10.

Fifteen years ago I got a non-working but complete in almost mint condition HP-9820A at a hamfest. It cost me $20.

I've found other vintage HP and TI machines (several TI-59s for $5) at similar prices at such hamfests, including an HP-19C (with dead battery, and no accessories).

Amateur radio fleamarkets are often good places to search for old electronics.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Version of the HP-39GII

*Message #1 Posted by **Mark Hardman** on 3 Sept 2011, 11:01 p.m.*

I was looking in the usual places on www.hp.com where I might find an entry for the HP-15C LE with an active "Add To Cart" button. Scrolling through the entries at http://www8.hp.com/us/en/products/calculators/index.html I stumbled across the following:

Link to HP 39GII Product Page

If you look closely, you'll notice that the soft menus in the image are in Chinese characters. These could not possibly be rendered unless the display has a higher resolution that the current HP 39GS.

Maybe those luck few going to HHC2011 will get a look.

Re: New Version of the HP-39GII

*Message #2 Posted by **Brandon Poindexter** on 3 Sept 2011, 11:32 p.m.,*
in response to message #1 by Mark Hardman

Well, at least its something new. The colors are "meh", and the keys look like Casio rubber keys. Although i like that they put all the labels onto the keys so it looks less cluttering. But that probably will mean they will wear off sooner. Also the cursor key (SINGULAR) is a disappointment.

I do like the overall shape and the border though. Its not all swoopy curves and other laughable styles from 1999 (Ford Taurus anyone?).

If they could take this, color it black, and style the keys similar to the hp 35s. I would look into it.

Re: New Version of the HP-39GII

*Message #3 Posted by **Michael de Estrada** on 3 Sept 2011, 11:41 p.m.,*
in response to message #2 by Brandon Poindexter

I'm waiting for a HP-50gii with a large ENTER key in the correct location and a color backlit screen.

Re: New Version of the HP-39GII

*Message #4 Posted by **Mike Morrow** on 5 Sept 2011, 1:25 p.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> I'm waiting for a HP-50gii with a large ENTER key in the correct location...

And that correct location is above the * / + - keys. The ENTER key and the basic math operation keys

should always be on the same side of the keyboard, the way they were for the first ten years of HP calculator history. I don't care which side of the keyboard the basic math ops keys are on, but the ENTER needs to be there too, above them.

At least the HP high-end scientific models for the past decade have the ENTER on the correct side, but not at the correct elevation.

Looks nice

*Message #5 Posted by **snaggs** on 3 Sept 2011, 11:54 p.m.,*
in response to message #1 by Mark Hardman

Gone are the horrible curvy stuff, and instead a nice geometric design. Looks very classy. Traditional colours too!

Where does this sit in the range?

Re: Looks nice

*Message #6 Posted by **Cristian Arezzini** on 4 Sept 2011, 1:35 a.m.,*
in response to message #5 by snaggs

Hmmm... The display looks good, but the body... look at the bottom, it looks very much like the 30b... I really hope it doesn't have the same heavily slanted sides!!

Re: Looks nice

*Message #7 Posted by **bunuel66** on 4 Sept 2011, 1:57 p.m.,*
in response to message #6 by Cristian Arezzini

Looks really as using the same kind of casing as the 300s. The dimensions match quite perfectly. The colors are less childish, let's hope that the keyboard will be made better!!

Re: New Version of the HP-39GII

*Message #8 Posted by **Howard Owen** on 4 Sept 2011, 1:23 a.m.,*
in response to message #1 by Mark Hardman

At least this one isn't a printer. :)

Re: New Version of the HP-39GII

*Message #9 Posted by **Jean-Michel** on 4 Sept 2011, 4:40 a.m.,*
in response to message #8 by Howard Owen

Hello,

What do you think of the HP circular logo? I personnaly regret much the usual rectangular one! Did the designer find the calc needed some curves anyway? Kind regards.

Re: New Version of the HP-39GII

*Message #10 Posted by **snaggs** on 4 Sept 2011, 7:14 a.m.,*
in response to message #9 by Jean-Michel

The logo is too shiny

Re: New Version of the HP-39GII

*Message #11 Posted by **BruceH** on 4 Sept 2011, 4:58 a.m.,*
in response to message #1 by Mark Hardman

Well spotted Mark. A new case and screen res for the 39 means a new case and screen res for th 50g as well. HHC2011 is looking to be very interesting indeed.

Re: New Version of the HP-39GII

*Message #12 Posted by **Gilles Carpentier** on 4 Sept 2011, 12:19 p.m.,*
in response to message #1 by Mark Hardman

Waoooo !!!

What a screen ! I want the same on the HP50G :D

Seems something like 320x200 (? I must calm myself lol)? The détail in the soft menu are fine !

My wishes for an HP51

- This screen - more RAM - RPL improvement - More fast

Hummm but that's just an image and for a 39GII... wait and see !

But seems very very interresting !

Edited: 4 Sept 2011, 12:27 p.m.

Re: New Version of the HP-39GII

*Message #13 Posted by **Paul Guertin** on 4 Sept 2011, 1:51 p.m.,*
in response to message #12 by Gilles Carpentier

> Quote:
>
> Waoooo !!!
>
> What a screen ! I want the same on the HP50G :D Seems something like 320x200 (? I must calm myself lol)?

320x200 and monochrome would give it almost 2/3 the pixels of a Palm Tungsten T (320x320), which was released about 10 years ago. Be still, my heart.

Re: New Version of the HP-39GII

*Message #14 Posted by **Paul Guertin** on 4 Sept 2011, 1:57 p.m.,*
in response to message #12 by Gilles Carpentier

As the above message does not show, I **am** glad to see a new graphing calculator from HP. The case looks better than its predecessors (are we finally getting away from the "gratuitous curves at all costs" era in electronic device designs?) and it could be a good alternative to TI calculators.

Keyboard quality remains to be seen, as is repurposability. If the processor and memory permit it, one

might see an enterprising hacker port Linux to it.

Re: New Version of the HP-39GII

*Message #15 Posted by **bluesun08** on 4 Sept 2011, 2:23 p.m.,*
in response to message #14 by Paul Guertin

"Waoooo !!! What a screen !" ??? "It could be a good alternative to TI calculators" ???

Hard to believe. Sorry, but where you live? The life is colored and the newest TI too !!!

What about HP?

Re: New Version of the HP-39GII

*Message #16 Posted by **Eric Smith** on 4 Sept 2011, 3:37 p.m.,*
in response to message #15 by bluesun08

The TI Nspire CX color display is very pretty, but my HP 49g, 49g+, and 50g with their monochrome displays have very long battery life with a few inexpensive AAA cells. The TI needs to be recharged quite frequently.

I guess if you are accustomed to charging your other devices frequently, then charging your calculator too might not be such a bother.

On the other hand, if the batteries in my 50g run low during an exam, I have a spare set in my backpack. With the TI, I'd be SOL.

If HP has put a higher-resolution monochrome display in the 39gII, the reason they chose that over color is almost certainly battery life.

Someone speculated that the 39gII display might have 16-level grayscale. I haven't seen a 39gII in person, and am not privy to any details about it, but I suspect that it will turn out to have hardware with no grayscale support, only high-resolution monochrome. That would mean no antialiasing on fonts, but since the resolution is probably around 173 dpi, it should look pretty good despite that.

Based on comments heard at past HHC conferences, I suspect that this is probably not running RPL-based software derived from the 38/48 series, but rather an entirely new code base in C and/or C++.

Re: New Version of the HP-39GII

*Message #17 Posted by **Marcus von Cube, Germany** on 4 Sept 2011, 3:59 p.m.,*
in response to message #16 by Eric Smith

> Quote:
>
> Based on comments heard at past HHC conferences, I suspect that this is probably not running RPL-based software derived from the 38/48 series, but rather an entirely new code base in C and/or C++.

It seems pretty straightforward to re-implement the function set of a 39G in C but this way, a 40gII will be a really big effort to do. The same will hold for a new 50G.

Re: New Version of the HP-39GII

*Message #18 Posted by **Eric Smith** on 4 Sept 2011, 5:47 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> It seems pretty straightforward to re-implement the function set of a 39G in C but this way, a 40gII will be a really big effort to do.

Is there some big difference between the 39g and 40g other than CAS? There's plenty of C/C++ CAS software out there.

However, I expect that a ground-up rewrite of the 39g, if that is what happened, probably took a lot of man-hours of development time. I'm not sure what you have in mind when you say "pretty straightforward", but it's not a small project.

Re: New Version of the HP-39GII

*Message #19 Posted by **Marcus von Cube, Germany** on 5 Sept 2011, 1:47 a.m.,*
in response to message #18 by Eric Smith

I was talking about the CAS. If you replace it by something completely different, there are chances but a rewrite from scratch with the same functionality seems to be a very big task.

OTH, the basic functionality of a 39G is limited (which is not a bad thing given the audience) and it may be the easier path to re-implement it then to do another Saturn emulation and try to fix an old firmware for the new screen layout. Maybe a combined approach (Saturn virtual machine for CAS) is possible.

Re: New Version of the HP-39GII

*Message #20 Posted by **bluesun08** on 5 Sept 2011, 8:59 a.m.,*
in response to message #18 by Eric Smith

Is only the rewrite respectively the re-implement of the 20year old alg48 (respectively erable) the right way? I think we need some elements of innovation or advancements ...

Re: New Version of the HP-39GII

*Message #21 Posted by **Gilles Carpentier** on 4 Sept 2011, 4:15 p.m.,*
in response to message #16 by Eric Smith

Eric, I agree.

I'm not interested in a color HP50 but higher-resolution monochrome display in the 50 would be very nice.

Re: New Version of the HP-39GII

*Message #22 Posted by **bluesun08** on 4 Sept 2011, 4:29 p.m.,*
in response to message #16 by Eric Smith

Would you buy a new handy with monochrome display to have a longer battery life? Would you buy a monochrome television instead a colored flat-tv due to price? I think no!

Nearly everybody have a handy and is accustomed to charging it frequently (every 2-3 days). Why do not put the calculator frequently in docking station?

With a colored display you can distinguish several graphs easier (for example function, derivation and anti-derivation).

My suggestion: HP should build two mode in the calculator: a monochrome and a colored mode. So the user could affect the battery (respectively accu-) life himself.

Re: New Version of the HP-39GII

*Message #23 Posted by **Cristian Arezzini** on 4 Sept 2011, 4:56 p.m.,*
in response to message #22 by bluesun08

I would definitely buy a new graphing calc with a monochrome display. The 50g's screen has a great contrast, and is perfectly legible. And its grayscale is very good. If they could double (at least) the resolution (4x no. of pixels) it would be great. And yes, I would very much prefer a long battery life with common batteries. I keep my calc on my work bag at all times, ready for when I might need it. I don't want to (and I would forget to) recharge it often. Plus, standard replaceable batteries are the best when they run flat "on the road"... AAA batteries can be found everywhere. A socket and charger, no. Same goes for my trekking-handheld GPS: I only buy units with standard AA batteries, and I've often had to replace batteries during day-trips.

And as far as I know, monochrome and color displays use totally different technologies; sending a monochrome image to a color screen, it would still use the same amount of power. Now, if they want to experiment with color e-paper screens... :)

Cristian

Re: New Version of the HP-39GII

*Message #24 Posted by **Eric Smith** on 4 Sept 2011, 5:43 p.m.,*
in response to message #23 by Cristian Arezzini

Monochrome e-ink displays have terrible contrast ratio, about 15:1 at best. The color e-ink displays I've seen were even worse. I'm not interested in color e-ink until they improve the contrast a lot.

Re: New Version of the HP-39GII

*Message #25 Posted by **bluesun08** on 4 Sept 2011, 6:03 p.m.,*
in response to message #23 by Cristian Arezzini

A monochrome display is adequate for common (algebraic) calculations. But if you use your calculator extensive for GRAPHIC applications then a colored display is IMHO better because of the distinguishability of (many) curves and lines. And remember: This post discuss a GRAPHIC calculator.

Re: New Version of the HP-39GII

*Message #26 Posted by **Jeroen Van Nieuwenhove** on 4 Sept 2011, 6:51 p.m.,*
in response to message #16 by Eric Smith

Ironically, a color screen brings back the days of the LED models with rechargeable battery packs. So, in a sense, the recent TI and Casio color displays would revive ancient calculator history. Full circle :-)

Edited: 4 Sept 2011, 6:52 p.m.

Re: New Version of the HP-39GII

*Message #27 Posted by **bluesun08** on 5 Sept 2011, 9:27 a.m.,*
in response to message #26 by Jeroen Van Nieuwenhove

Yes, and therefore i sell my pc and iphone and go back to the HP 200 LX. It have all the things i need: A file manager, Lotus 1-2-3, Pocket Quicken, a scientific calculator, a simple word processor, a very powerful database application, a note taker, a few games, Laplink Remote Access, a terminal emulation.... AND: All this run on a full MS-DOS 5.0 three weeks with only two inexpensive AAA cells. Because i don't often reading the screen in dim or dark environment or in total darkness furthermore i don't need a backlight upgrade. And to phone someone on the way i reactivate my good old (monochrome) Nokia:

Life can be so easy ....

Re: HP 15C - Was New Version of the HP-39GII

*Message #28 Posted by **MikeT.** on 4 Sept 2011, 3:37 p.m.,*
in response to message #1 by Mark Hardman

Just checked the page - selected all RPN models ... AND THE 15C IS LISTED HERE !!

Model mumber looks 'intersting' though...

Edit - Just checked, the US site lists 11 RPN models - UK site only 7 :-(

Edited: 4 Sept 2011, 4:04 p.m.

Re: New Version of the HP-39GII

*Message #29 Posted by **Han** on 6 Sept 2011, 4:28 p.m.,*
in response to message #1 by Mark Hardman

Maybe I'm starting to "get old" but I find the new design to be mostly ... UGLY. Ugly colors, ugly key layout, ugly material (is that rubber in the keys?1)... you get the idea. Mind you, I started with HP calculators with the introduction of the HP48G series and then later started to collect the older Pioneer models. Though some of the even older HP fanatics consider the HP48G series "ugly." I guess it may be that I am biased and prefer the design that I am most familiar with (the Pioneer models and the HP48 series; they all share a similar keyboard and case design).

The newer calculators with slanted sides (who idea was that?!) ... I will never understand why. I just don't understand how these new designs would ever be considered "cool."

Re: New Version of the HP-39GII

*Message #30 Posted by **Howard Owen** on 6 Sept 2011, 5:18 p.m.,*
in response to message #29 by Han

Quote:

> Maybe I'm starting to "get old" but I find the new design to be mostly ... UGLY. Ugly colors, ugly key layout, ugly material (is that rubber in the keys?1)...

It's hard to tell what sort of keys those are from a single photograph. Rubber keys would be a bummer, I agree. I can see at least two features that I like, in addition to the higher resolution display. First, the color contrast of the shifted key label is excellent, in my opinion. Second, the case design is rectilinear, which appeals to my techno-geek sensibilities. (The curves on the 50g et al appeal to my artsy/fartsy sensibility, but I have my geek on today. :)

Re: New Version of the HP-39GII

*Message #31 Posted by **Cristian Arezzini** on 6 Sept 2011, 7:11 p.m.,*
in response to message #30 by Howard Owen

I definitely like rectilinear shapes. But I definitely *dis*like slanted sides! :(

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just a thought (WP34S and 15C LE)

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Sept 2011, 4:11 p.m.*

A week ago some people were worried because WP-34S discussion, suggestions and reports were dominating the Forum threads; and old HP models were somehow eclipsed... What a different weekend is this one!

Now we should start a campaign for the 40th anniversary HP-01 LE (we can allow some time for this one) and, of course, a 25th anniversary HP-42S LE. :-)

Edited: 3 Sept 2011, 4:12 p.m.

Re: Just a thought (WP34S and 15C LE)

*Message #2 Posted by **Namir** on 3 Sept 2011, 4:26 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

With HP getting out of the PC and accessories business, we are looking at a dead end!!! In fact this may be the last HHC were attendees get a gift from HP ... and it may be the best gift (if it ends with an LE).

Re: Just a thought (WP34S and 15C LE)

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Sept 2011, 5:07 p.m.,*
in response to message #2 by Namir

I know, but let's dream for a while...

Re: Just a thought (WP34S and 15C LE)

*Message #4 Posted by **Namir** on 3 Sept 2011, 5:16 p.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

Ahh ... dreams ... you have come to the right person!! Tel me your dreams and I will tell you who you are!

Re: Just a thought (WP34S and 15C LE)

*Message #5 Posted by **Paul Dale** on 3 Sept 2011, 6:39 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

I'd noticed the sudden turn around in traffic too :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Fixing the bezel on a 10C

*Message #1 Posted by **Keith Midson** on 3 Sept 2011, 11:12 a.m.*

Hi all, I have a 10C that is in perfect condition except for the bezel. It is not scratched, but has imperfections in the form of wavy lines - you can see in this photo: HP10C
Does anyone know if this is fixable? I am nervous to try to 'polish' the bezel in case it wrecks it. Is there a resin layer over the bezel? Thanks in advance, Keith

Re: Fixing the bezel on a 10C

*Message #2 Posted by **Gerson W. Barbosa** on 3 Sept 2011, 12:07 p.m.,*
in response to message #1 by Keith Midson

It looks like this has been caused by gluish material from the inner part of the vinyl case. Perhaps the calculator was kept inside the case for too long. I have an HP-11C with this kind of imperfection near the logo, to a lesser extent however.

http://www.geocities.ws/gwbarbosa/calc_1.html

Yes, the bezel is coated with kind of a varnish. Polishing the bezel is not a good idea, unless you have a technique to restore it to its original appearance. I think Geoff Quickfall might help on this. The bezel of the HP-15C in the picture has been polished, but no resin layer has been applied.

Cheers,

Gerson.

Re: Fixing the bezel on a 10C

*Message #3 Posted by **Keith Midson** on 4 Sept 2011, 12:22 a.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks everyone. I suspect it is mild corrosion under the top coat. I purchased it for a nice price on TAS earlier this year in this condition, so it was already there. It hasn't got any worse since i've had it (I keep all my collection in a cool, dry place). I will take a closer photo and post it in the next day or so. Cheers, Keith

Re: Fixing the bezel on a 10C

*Message #4 Posted by **robert rozee** on 3 Sept 2011, 12:23 p.m.,*
in response to message #1 by Keith Midson

as Gerson says, it could be a glue residue. however, do you feel it is like an etching down into the surface of the aluminium?

i have seen aluminium escutcheons that are coated with varnish, where moisture has got below the varnish and corroded lines in the aluminium that look very much like what is on your 10C.

if it is just glue, one good 'universal' solvent that can be used is eucalyptus oil, or better still a product called "de-solv-it" (based on oil extracted from orange peel). with either: apply to glue (or to surface of a label to be removed), leave for 10-15 minutes, and then peel off label or wipe away remains of the glue.

any chance you could post a much closer-up photo?

Re: Fixing the bezel on a 10C

*Message #5 Posted by **Gerson W. Barbosa** on 3 Sept 2011, 1:03 p.m.,*
in response to message #4 by robert rozee

There are imperfections in the opposite side as well:

Re: Fixing the bezel on a 10C

*Message #6 Posted by **robert rozee** on 3 Sept 2011, 1:24 p.m.,*
in response to message #5 by Gerson W. Barbosa

i'm afraid that does look like corrosion to me. i have no good solution that is simple apart from keeping the calculator is a very dry place to slow down any progress as much as possible. a complex solution would be to remove the escutcheon, clean back to bare metal, then re-varnish, but that is quite a bit of work and very hard to obtain the original finish.

or get a nice HP employee to send you a spare one (assuming the modern 10 series calculators are exactly the same dimensions, with badge in exactly the same place).

Re: Fixing the bezel on a 10C

*Message #7 Posted by **Ethan Conner** on 3 Sept 2011, 1:27 p.m.,*
in response to message #5 by Gerson W. Barbosa

Thought i would offer a tip i learned from another collecting hobby. In knife collecting you never long term store a knife in a leather sheath. A sock or just storing in dry place uncovered seems to work best. Leather products and their treatments are notorious for causing damage.

Re: Fixing the bezel on a 10C

*Message #8 Posted by **Gerson W. Barbosa** on 3 Sept 2011, 2:51 p.m.,*
in response to message #7 by Ethan Conner

Thanks for your tip, Ethan. I fear Robert is right about corrosion caused by moisture. Though I haven't noticed the stains haven't increased since I purchased that 11C four years ago, I have noticed a tiny speck on the bezel of my old 3-battery 12C which was not there before. The calculators have been kept in a clothes closet facing a north-oriented wall. Time to look for another place to keep them...

Edited: 3 Sept 2011, 10:08 p.m.

Re: Fixing the bezel on a 10C

*Message #9 Posted by **Dan W** on 3 Sept 2011, 5:00 p.m.,*
in response to message #7 by Ethan Conner

I had this problem with a slide rule. Most of the old K&E came in green or orange leather cases. I left a slide rule in the leather case for years, and the metal band around the runner rusted out completely.

Keep your slide rules out of the leather case!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The calculator is dead - viva la HP 15C Limited Edition

*Message #1 Posted by **Joerg Woerner** on 3 Sept 2011, 9:14 a.m.*

I'm really surprised about the buzz created here in the forum with the re-release of a 29 years old calculator - limited in production and overpriced. A clear sign that the calculator is dead and you use your pocket shirts for a smart phone and do your calculations with Excel.

*** STOP THE PRESS ***

The next generation Ford Fusion will be developed in Europe, Michigan is preparing in its Detroit based skunk works a re-release of the Tin Lizzy to celebrate the 100th anniversary. They started to plant the first trees to harvest the raw material for authentic rubber tires.

Shortage on the transistor market. A major US company bought back thousands of Transistors on several eBay auctions. Rumors are a re-release of the Regency TR-1.

Motorola sells mobile phone group to Google. We know more! The development costs of the Motorola DynaTAC 8000X re-release (30th anniv in 2013) went off.

Cheers, Joerg

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #2 Posted by **hpnut** on 3 Sept 2011, 9:23 a.m.,*
in response to message #1 by Joerg Woerner

Dear Joerg,

I sense jealousy since TI has not came up with any products that created such excitement as the HP 15C LE. ;-)

cheers,

hpnut in Malaysia

Re: There will be a commemorative product from TI, too! 35th years - no kidding!

*Message #3 Posted by **Joerg Woerner** on 3 Sept 2011, 2:23 p.m.,*
in response to message #2 by hpnut

Dear hpnut,

I'm not really jealous - TI missed indeed the opportunity to celebrate the introduction of the Datamath (TI-2500) Calculator.

But I received a week ago a box from TI Dallas, Texas with some exciting new calculators. One of them, please check the German website of TI, is ready to be released to celebrate the 35th anniversary of an unrivaled product. Introduced in 1976, last modification in 1997 and discontinued early in the 21th century.

No - it is NOT the TI-30...

It will be available in a few weeks - my sample was manufactured in June 2011.

Enjoy: Link to the box of the new TI product. Fresh from Kinpo.

Cheers, Joerg

Dennis, I bet you knew it all the time!!!

Re: There will be a commemorative product from TI, too! 35th years - no kidding!

*Message #4 Posted by **Howard Owen** on 3 Sept 2011, 4:31 p.m.,*
in response to message #3 by Joerg Woerner

The TI-30 sucked, but it was followed up with the somewhat less sucky TI-35. I managed to keep one of those going through the time I finally bought a 41C.

Re: There will be a commemorative product from TI, too! 35th years - no kidding!

*Message #5 Posted by **Jeroen Van Nieuwenhove** on 4 Sept 2011, 7:02 p.m.,*
in response to message #3 by Joerg Woerner

Well, a reintroduction of the TI-58/59 would be really awesome. Even if Kinpo would be producing it, a better keyboard should not be too difficult to manufacture.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #6 Posted by **John B. Smitherman** on 3 Sept 2011, 9:25 a.m.,*
in response to message #1 by Joerg Woerner

Hey, Joerg! Please don't rain on our parade! ;-)

Regards,

John

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #7 Posted by **Gene Wright** on 3 Sept 2011, 9:42 a.m.,*
in response to message #1 by Joerg Woerner

Hey, maybe TI will reintroduce the TI-55-II

:-)

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #8 Posted by **Michael de Estrada** on 3 Sept 2011, 10:02 a.m.,*
in response to message #1 by Joerg Woerner

Hi Joerg,

Thanks for being a n-1 customer for the HP 15C LE. Just more to go around for the rest of us silly aficionados.

My condolances,

Michael

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #9 Posted by **Joerg Woerner** on 3 Sept 2011, 1:07 p.m.,*
in response to message #8 by Michael de Estrada

Sorry, I have already 8 firm orders from my collector friends in Brazil and Germany ;-))

And I need a few for my retirement plan, too.

Cheers, Joerg

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #10 Posted by **Lode** on 3 Sept 2011, 10:30 a.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> Motorola DynaTAC 8000X re-release (30th anniv in 2013) went off.

You know what? I think it'd actually sell. Just for its "style".

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #11 Posted by **robertoataulfo** on 3 Sept 2011, 11:29 a.m.,*
in response to message #10 by Lode

Texas please re-release TI-88 :-)

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #12 Posted by **Eric Smith** on 3 Sept 2011, 11:52 a.m.,*
in response to message #11 by robertoataulfo

It isn't possible for TI to re-release the TI-88, since they haven't released it a first time.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #13 Posted by **Howard Owen** on 3 Sept 2011, 1:21 p.m.,*
in response to message #11 by robertoataulfo

I want another dozen new TI-30s to go with the ones that failed me in college.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #14 Posted by **Manolo Sobrino** on 3 Sept 2011, 12:03 p.m.,*
in response to message #1 by Joerg Woerner

I think you have a point, but the re-release of the 15c is good news. As much as it'd be great having truly useful new calculators, a classic is a classic and should always be available. I can't understand for instance why ti discontinued the superb 85/86 line and instead upgraded the less capable 83, or casio ditched the fx 880p, much in use with site engineers over here (and even why hp withdrew the 42s).

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #15 Posted by **Steve Fennell** on 3 Sept 2011, 12:06 p.m.,*
in response to message #1 by Joerg Woerner

Tube amplifiers still sell. So do Vinyl LP records. I know several people who still drive cars with carbureted engines. Some of them cost a lot and all were developed long before the 15C. There's always an enthusiast market.

Tube audio and vinyl

*Message #16 Posted by **Jose Gonzalez Divasson** on 3 Sept 2011, 1:23 p.m.,*
in response to message #15 by Steve Fennell

Tube audio equipment can compete with the best solid state amps and preamps. It is easier to set up a satisfying tube-

based system than a solid state one.

Many audiophile releases are recorded with tubed equipment.

Vinyl can compete (and some people say win) with 96/24 and 192/24 digital audio. It trounces CD quality (44/16). Never mind MP3.

Among connoisseurs, the last sentence is not even under discussion (Stereophile, The absolute sound, Hi-fi News,...)

Re: Tube audio and vinyl

*Message #17 Posted by **Dave Shaffer (Arizona)** on 3 Sept 2011, 4:43 p.m.,*
in response to message #16 by Jose Gonzalez Divasson

> Quote:
>
> Vinyl can compete (and some people say win) with 96/24 and 192/24 digital audio. It trounces CD quality (44/16). Never mind MP3.

Yeah, but only the first few times you play that LP (unless you can afford one of these).

And, they are hard to listen to in your car!

You are right about MP3 audio being junk. (But most of what the kids listen to on MP3 is junk, anyway, so maybe not much loss there!)

Re: Tube audio and vinyl

*Message #18 Posted by **Daniel Oliva** on 3 Sept 2011, 9:40 p.m.,*
in response to message #17 by Dave Shaffer (Arizona)

In most cases, you wouldn't be able to tell the difference between a correctly encoded MP3 audio track (high quality VBR profile with a fine encoder like LAME) and the original source (be it vinyl, CD, or whatever). MP3 files are junk when encoding is done by uneducated people.

Re: Tube audio and vinyl

*Message #19 Posted by **Cristian Arezzini** on 4 Sept 2011, 1:38 a.m.,*
in response to message #18 by Daniel Oliva

I for one have to admit I usually can't tell the difference between a fine, high-BR MP3 and the original... but to be on the safe side, I re-encoded all my CDs to lossless flac codec, as my player (a Cowon) can play that...

Cristian

Re: Tube audio and vinyl

*Message #20 Posted by **Ken Shaw** on 6 Sept 2011, 10:39 a.m.,*
in response to message #19 by Cristian Arezzini

Same here. I can't tell the difference except in a rare situation. But I've also switched to FLAC (and freed my iPod from iTunes).

Re: Tube audio and vinyl

*Message #21 Posted by **Cristian Arezzini** on 6 Sept 2011, 10:50 a.m.,*
in response to message #20 by Ken Shaw

You mean you can read FLAC on the iPod? My wife has an iPod, and she doesn't use iTunes (she

uses Banshee on Linux) but the iPod still only reads mp3...

Cristian

Re: Tube audio and vinyl

*Message #22 Posted by **Paul Dale** on 4 Sept 2011, 1:57 a.m.,*
in response to message #16 by Jose Gonzalez Divasson

I kind of lost respect for the *connoisseurs* when they claimed to be able to distinguish between these and normal (cheap) wire. In this case the signal is digital, there will never be enough signal loss to degrade it to the point that a *1* is mistaken for a *0*. Even in the analogue case, the difference is insignificant.

Okay, I lost all respect for *connoisseurs* way before this, but this is the best of the best in regards to stupidity :-)

I've a friend who used to make *connoisseur* quality audio equipment and he laughs at the folks who buy this kind of thing. His amplifiers and speakers are superb however.

- Pauli

Edited: 4 Sept 2011, 2:06 a.m.

Re: Tube audio and vinyl

*Message #23 Posted by **Jose Gonzalez Divasson** on 4 Sept 2011, 10:29 a.m.,*
in response to message #22 by Paul Dale

Digital audio problems (and cable differences) do not stem from loss of information, but due to jitter (timing differences) of the data stream.

While you might think that a well designed PLL should be able to reduce it to non-audible levels, the sad fact is that the best current approaches are based on writing data received in ROM memory and play from that memory, properly clocked with a premium quartz clock (with strategies to lower the clock jitter to less than 5ppm).

With a properly set-up system, differences can be very audible. But this is not the object of this forum!!

And I will be the first to agree that there are huge amounts of snake oil in specialist audio!

Re: Tube audio and vinyl

*Message #24 Posted by **Frank Wales** on 4 Sept 2011, 11:15 a.m.,*
in response to message #23 by Jose Gonzalez Divasson

> Quote:
>
> Digital audio problems (and cable differences) do not stem from loss of information, but due to jitter (timing differences) of the data stream.

So, are you saying that there are cables that introduce timing discrepancies in digital audio data streams that subsequently have an audible effect?

> Quote:
>
> ... the sad fact is that the best current approaches are based on writing data received in ROM memory...

Since, by definition, ROM is not writable, this statement makes no sense to me.

> Quote:

> ...with strategies to lower the clock jitter to less than 5ppm.

Does '5ppm' mean 'within 1/200,000th of where it should be'? At what level would it create an audible effect?

> Quote:
>
> And I will be the first to agree that there are huge amounts of snake oil in specialist audio!

Indeed, although it seems to have a matching amount of delusional thinking and comical physics among hi-fi reviewers and proponents of things like conditioned mains cables.

Re: Tube audio and vinyl

*Message #25 Posted by **Garth Wilson** on 4 Sept 2011, 3:10 p.m.,*
in response to message #24 by Frank Wales

There's a good talk and demonstration on the golden-ears baloney at http://www.youtube.com/watch?v=BYTlN6wjcvQ . There are a few funny parts, like at 3:15 to 4:45 where he says he compared a McIntosh tube amp to a cheap solid-state amp for a room full of enthusiasts. All the audiophiles said the tube amp sounded better, while the engineers said the solid-state amp sounded better; but the reality was that the A-B switch did nothing to the signal routing, and the cord going to the tube amp was only stapled to the back, and the tube amp itself was dead. There are various demonstrations of bit rate, number of bits, phase changes, etc.. For the things that rely on non-compressed audio data (as opposed to what YouTube does to it), the link is given to the full data. Enjoy.

Re: Tube audio and vinyl

*Message #26 Posted by **Jose Gonzalez Divasson** on 4 Sept 2011, 6:07 p.m.,*
in response to message #24 by Frank Wales

If the cable is not properly terminated with the characteristic impedance required by the network (either S/PDIF, AES/EBU or I2S), yes, it will introduce signal reflections that will impact on jitter

I meant RAM, obviously - my fault.

Regarding jitter:

jitter in wikipedia

Regarding jitter in audio:

Jitter, Bits and Sound quality

BTW - no one in the industry would consider Monster cable "expensive" or "cutting edge". Again, cable industry is the realm of snake oil (while I can readily differentiate among the three speaker cables that I have - all very different in electrical measures (R,L,C))

Re: Tube audio and vinyl

*Message #27 Posted by **Garth Wilson** on 4 Sept 2011, 8:32 p.m.,*
in response to message #26 by Jose Gonzalez Divasson

> Quote:
>
> If the cable is not properly terminated with the characteristic impedance required by the network (either S/PDIF, AES/EBU or I2S), yes, it will introduce signal reflections that will impact on jitter

Jitter is an inconsistency in the clock timing from one period to the next. I am very familiar with it. An improperly terminated cable will *not* cause *inconsistencies* in timing. (Proper termination is easy anyway. There's no excuse not to get it right.) Neither will refelections that will be the same from one sample to the next. In fact if the reflection is not strong enough to change the state of the receiver out of the 0 or 1 that is should be, it will introduce absolutely no error. And as your second article stated, the clock is generally stabilized by PLL at the DAC anyway. The first digital recording I heard was at an Audio Engineering Society convention probably over 30 years ago. Its only problem seemed to be from inadequate anti-alias filtering.

> Quote:
>
> (while I can readily differentiate among the three speaker cables that I have - all very different in electrical measures (R,L,C))

Take a look at a 3-dimensional graph of the complex impedance of your speakers versus frequency. The reactance can go plus and minus j a few ohms across frequency, and the resistance varries a few ohms too. And these will change with temperature.

Edited: 4 Sept 2011, 10:59 p.m.

Re: Tube audio and vinyl

*Message #28 Posted by **Frank Wales** on 6 Sept 2011, 6:53 p.m.,*
in response to message #27 by Garth Wilson

It's amusing that the second quoted article is citing artifacts that are between 83dB and 98dB below the signal level; good luck hearing those, even if you're a bat.

Whereas, the other cited attempt at simulating artificial jitter lifts the noise floor to, shock! horror! 110dB below the signal. Which is about a millionth of the power of the noise floor on vinyl, if memory serves.

I can't even be bothered to calculate how many miles long digital cables would have to be for internal reflections to be a potential source of timing errors, assuming delayed reflections could somehow introduce or suppress bits in a way that got around link-level integrity checks.

Re: Tube audio and vinyl

*Message #29 Posted by **Brian Walsh** on 6 Sept 2011, 11:18 a.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> I kind of lost respect for the *connoisseurs* when they claimed to be able to distinguish between these and normal (cheap) wire. In this case the signal is digital, there will never be enough signal loss to degrade it to the point that a *1* is mistaken for a *0*. Even in the analogue case, the difference is insignificant.

Proof by assertion. If you perceive a difference yet can't measure it, you're most likely not measuring the right thing.

> Quote:
>
> Okay, I lost all respect for *connoisseurs* way before this, but this is the best of the best in regards to stupidity :-)

So in your book anyone who claims to perceive a difference is stupid. Maybe you need a Q-Tip and some manners.

Now you're talking

*Message #30 Posted by **Brian Walsh** on 4 Sept 2011, 8:36 p.m.,*
in response to message #16 by Jose Gonzalez Divasson

My longtime reference source is vinyl. I don't own an ELP laser turntable (nor do I want to--its performance is mediocre), but I do own a Loricraft record cleaning machine.

I also like tube electronics. Not exclusively, but it tends to be easier to get good sound with them. I also happen to like output transformerless amplifiers and full range electrostatic loudspeakers.

And yeah, I'm one of those "loonies" who claim to hear differences in cables. But that's a whole separate discussion for which there is no final agreement.

A kindred soul!

*Message #31 Posted by **Jose Gonzalez Divasson** on 5 Sept 2011, 3:07 p.m.,*
in response to message #30 by Brian Walsh

It happens that the best sound I have ever heard was from an OTL amp - Transcendent's T16 - driving Gallo (crosoverless) speakers. While I am electronic engineer, by no means I think that every amp sounds the same.

As the amp was a loaner, I intend to build another OTL when funds and significant other allow. Hopefully with a couple of Quad 2805's (which are yours? Acoustats? Atma Sphere amps?

Re: A kindred soul!

*Message #32 Posted by **Brian Walsh** on 5 Sept 2011, 10:44 p.m.,*
in response to message #31 by Jose Gonzalez Divasson

Atma-Sphere. Sound Lab Ultimate-1PX speakers. I am a dealer for both (essentialaudio.com). If you're ever in the Chicago area let me know and come for a listen.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #33 Posted by **David Ramsey** on 3 Sept 2011, 12:45 p.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> The next generation Ford Fusion will be developed in Europe, Michigan is preparing in its Detroit based skunk works a re-release of the Tin Lizzy to celebrate the 100th anniversary. They started to plant the first trees to harvest the raw material for authentic rubber tires.

Ah, you think you're being clever. Well, Morgan is bringing back the Morgan 3 wheeler, originally introduced around 1910, so you're closer to the mark than you think...

Morgan 3 Wheeler

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #34 Posted by **Joerg Woerner** on 3 Sept 2011, 1:10 p.m.,*
in response to message #33 by David Ramsey

My favorite car is a 90" Land Rover - no major changes from the 88" model introduced after WW II ;-))

Cheers, Joerg

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #35 Posted by **Dave Shaffer (Arizona)** on 3 Sept 2011, 4:44 p.m.,*
in response to message #34 by Joerg Woerner

> Quote:
>
> 90" Land Rover

Length, width, or height!?

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #36 Posted by **Joerg Woerner** on 3 Sept 2011, 8:19 p.m.,*
in response to message #35 by Dave Shaffer (Arizona)

Oops - wheelbase.

Joerg

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #37 Posted by **Donald Ingram** on 4 Sept 2011, 3:17 a.m.,*
in response to message #1 by Joerg Woerner

I think Leica camera wins the prize for oldest re-release:

In 2002 the Leica 0 series was re-released : a clone on the 1923 original.

There was a modern formulation of the 50mm Anastigmat lens and a small modification to take 135 film cassettes, which had not been invented in 1923, but that was it.

I have one - it's a fun camera.

To keep the post on topic; I also have an original HP-15C and have every intention of getting a HP-15C-LE as a day to day replacement.

I don't have an original Leica 0 series : but they do come up at auction occasionally - one sold last year for $1.9 million

Edited: 4 Sept 2011, 3:18 a.m.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #38 Posted by **Calum Tait** on 4 Sept 2011, 7:24 a.m.,*
in response to message #37 by Donald Ingram

It might be eight years younger than the Leica but the Bolex H16 has been in continuous production since 1935 with little change -Bolex H16. With the 12C, it shows that when you get the basics right first time, there's no reason to change for the sake of fashion. The prices have remained high too but so has the quality -Bolex H16 Spring Driven Price List.

Re: The calculator is dead - viva la HP 15C Limited Edition

*Message #39 Posted by **hpnut** on 4 Sept 2011, 8:44 a.m.,*
in response to message #38 by Calum Tait

thanks.

amazing to know wind up movie cameras still exist.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C30th anniversary Available 9/1??

*Message #1 Posted by **Gerardo Rincon** on 3 Sept 2011, 7:22 a.m.*

Well 9/1 came and went, and the HP 12 30th anniversary still say "coming soon" for $79.99 on 9/3. However, it is available to order from the Small Business store for $104.99....

Re: HP 12C30th anniversary Available 9/1??

*Message #2 Posted by **Keith Midson** on 3 Sept 2011, 11:06 a.m.,*
in response to message #1 by Gerardo Rincon

Mine is on its way to me! Can't wait to get it!!!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Software - Part II

*Message #1 Posted by **Gerry Schultz** on 2 Sept 2011, 8:53 p.m.*

Last October I asked about locating 15C software on the web and Karl Schneider responded:

> Quote:
>
> There is a meager assortment of Software Library programs for the HP-15C at the Forum's main page:
>
> http://www.hpmuseum.org/software/software.htm
>
> I have intended to add several of my own programs that might be practical:
>
> HP-15C Library of complex-number utilities
>
> HP-15C program to compute 3x3 complex matrix determinant
>
> Valentin Albillo's clever program, found halfway through the following thread, solves a numerical puzzle posed by me:
>
> A modest arithmetical challenge

With the new HP-15C announced, is there any update to Karl's list? This will help everyone get a fast, fresh start on the new calculator.

Thanks, Gerry

Re: HP-15C Software - Part II

*Message #2 Posted by **Dwight Sturrock** on 2 Sept 2011, 11:46 p.m.,*
in response to message #1 by Gerry Schultz

I have mostly written for the HP42S, but here is a program that I adapted for my 15c:

/*Program to convert decimal fraction to a fraction readable on a tape measure.

Registers:

STO 0- ORIGINAL NUMBER

STO 1- NUMERATOR

STO 2- DENOMINATOR

*/

```
01 LBL A
02 STO 0
03 FRAC //Creates numerator x as a fraction with 16 as denominator: x/16
04 1 //Use 32 ON steps 04-05 if you want 32nds
05 6
06 STO 2
07 *
08 FIX 0
09 RND
10 FIX 3
11 INT
12 STO 1
13 LBL 7 //Can fraction be reduced?
14 2
15 /
16 FRAC
17 TEST 0 //Same as X#0
18 GTO 8 //If fraction can't be reduced, go to formatting subroutine
19 RCL 2 //Reduce fraction
20 2
21 /
22 STO 2
23 RCL 1
24 2
25 /
26 STO 1
27 GTO 7 //Try again
28 LBL 8 //Formatting subroutine
29 RCL 0 //Original number will be left in y register
```

30 RCL 1 //The next 7 steps put the fraction into the format Num.Deno:

31 RCL 2 //For Example, 1/16 will display as 1.16, 5/8 as 5.08

32 .

33 0

34 1

35 *

36 +

37 RTN

Comments are C++ style, obviously leave those out. Not sure of my use of the word "reduced" in the comments. This program can to take 5-10 sec to run- interesting to see how fast on the 15cLE.

Dwight

Re: HP-15C Software - Part II

*Message #3 Posted by **Jeff O.** on 6 Sept 2011, 4:32 p.m.,*
in response to message #1 by Gerry Schultz

Gerry,
Not a very "heavyweight" program, but here is "CodeBreaker" for the 15C. Play is as described here. It runs painfully slow on a 15c classic. (I officially claim priority for first referring to the original 15c as the "15c classic".) It is quite fast on the 15c LE.

I have tried everything I can think of to make the program shorter. I had one idea that saved one step but would likely run slower, not that it matters on the 15c LE. Suggested improvments would be welcome!

```
Step    Function        Keycode         Comment
001     LBL C           42,21,13        Label C for "Code Breaker"
002     Cl REG          42 34           clears all registers, mostly to get zeroes in 1 -
4, .0
003     FIX 1           42, 7, 1        set display mode Fix 1 so scores are presented as
x.x
004     1               1               enter 1 for first digit of 10
005     0               0               enter 0 for second digit of 10
006     STO 6           44  6           Store constant 10 in register 6
007     4               4               enter 4
008     STO I           44 25           Store for in I for loop index and indirect
storage.
009     LBL 2           42,21, 2        Label 2
010     RAN#            42 36           generate random number
011     RCL x 6         45,20, 6        Multiply times 10 to get a digit left of decimal
point
012     INT             43 44           drop fractional portion
013     RCL 1           45  1           Recall register 1
014     TEST 5          43,30, 5        compare randomly generated digit to existing
secret number digit
015     GTO 2           22  2           go to random number generator if random number is
equal to any existing digit of secret number
016     x<>y            34              swap if not equal to get randomly generated digit
back for next test
017     RCL 2           45  2           Recall register 2
018     TEST 5          43,30, 5        compare randomly generated digit to existing
secret number digit
019     GTO 2           22  2           go to random number generator if random number is
equal to any existing digit of secret number
020     x<>y            34              swap if not equal to get randomly generated digit
back for next test
```

```
021     RCL 3           45  3           Recall register 3
022     TEST 5          43,30, 5        compare randomly generated digit to existing
secret number digit
023     GTO 2           22  2           go to random number generator if random number is
equal to any existing digit of secret number
024     x<>y            34              swap if not equal to get randomly generated digit
back for next test
025     RCL 4           45  4           Recall register 4
026     TEST 5          43,30, 5        compare randomly generated digit to existing
secret number digit
027     GTO 2           22  2           go to random number generator if random number is
equal to any existing digit of secret number
028     x<>y            34              swap if not equal to get randomly generated digit
back for next test
029     STO (i)         44 24           If random number is not equal to any existing
digit, store in register pointed to by I
030     DSE I           42, 5,25        Decrement index
031     GTO 2           22  2           Go back to random number generator to store next
digit
032     LBL 3           42,21, 3        Label 3
033     RCL 8           45  8           Recall register 8 to get original guess back for
guessing portion
034     RCL .0          45 .0           Recall .0, count of guesses for guessing portion
035     RCL 5           45  5           Recall 5, score of guess for guessing portion
036     STOP            31              Stop
037     STO 8           44  8           Store 4 digit guess in register 8
038     STO 9           44  9           Store 4 digit guess in register 9
039     Cl x            43 35           Clear x for 0 in x
040     STO 5           44  5           Store in register 5, which will hold score for the
current guess
041     4               4               Enter 4
042     STO I           44 25           Store 4 in I for loop index and indirect
recalling.
043     LBL 8           42,21, 8        Label 8
044     RCL 9           45  9           Recall guess
045     RCL / 6         45,10, 6        Divide guess by 10
046     STO 9           44  9           Store back in register 9
047     FRAC            42 44           Take fractional part
048     RCL x 6         45,20, 6        Multiply times 10 to get a digit left of decimal
point
049     INT             43 44           drop fractional portion
050     RCL (i)         45 24           Recall register pointed to by I
051     TEST 5          43,30, 5        Compare to digit extracted from guess for the I
position
052     GTO 4           22  4           If equal, go to scoring for correct digit in
correct location
053     x<>y            34              Swap to get extracted digit back
054     RCL 4           45  4           Recall digit 4
055     TEST 5          43,30, 5        Compare to extracted digit from guess
056     GTO 5           22  5           if equal, go to scoring for correct digit in
incorrect location
057     x<>y            34              Swap to get extracted digit back
058     RCL 3           45  3           Recall digit 3
059     TEST 5          43,30, 5        Compare to extracted digit from guess
060     GTO 5           22  5           if equal, go to scoring for correct digit in
incorrect location
061     x<>y            34              Swap to get extracted digit back
062     RCL 2           45  2           Recall digit 2
063     TEST 5          43,30, 5        Compare to extracted digit from guess
064     GTO 5           22  5           if equal, go to scoring for correct digit in
incorrect location
065     x<>y            34              Swap to get extracted digit back
066     RCL 1           45  1           Recall digit 1
067     TEST 5          43,30, 5        Compare to extracted digit from guess
068     GTO 5           22  5           if equal, go to scoring for correct digit in
incorrect location
069     0               0               enter 0 to indicate digit not in number
070     GTO 6           22  6           Go to scoring
071     LBL 4           42,21, 4        Label 4
072     1               1               Enter 1 for correct digit in correct location
073     GTO 6           22  6           Go to scoring
074     LBL 5           42,21, 5        Label 5
075     .               48              enter decimal point
076     1               1               enter 1 (for .1) for guess digit in number in
incorrect location
077     LBL 6           42,21, 6        Label 6
078     STO + 5         44,40, 5        Add 1, .1 or 0 to score
079     DSE I           42, 5,25        Decrement index
080     GTO 8           22  8           Go to Label 8 to extract next guess digit
081     1               1               Enter 1
082     STO + .0        44,40,.0        Add to register .0, count of guesses
```

```
083      GTO 3           22  3           Go to 3
```

Edited: 6 Sept 2011, 9:46 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Has something happened to the forum?

*Message #1 Posted by **BruceH** on 2 Sept 2011, 6:57 p.m.*

On a new device, I was reading the forum as a guest just fine. A couple of days later I logged on in order to post a message and find that some threads have been truncated. e.g.

> Re: Focus more on Texas Instruments' calculators ;-)), uhmgawa - 30 Aug 2011, 10:12 p.m.

which is clearly part of a thread but now appears on its own - at least it does to me. Anyone else seeing this?

(Edited for typos)

Edited: 2 Sept 2011, 6:58 p.m.

Re: Has something happened to the forum?

*Message #2 Posted by **Howard Owen** on 2 Sept 2011, 7:33 p.m.,*
in response to message #1 by BruceH

Postings a few days old regularly get moved off into an archive. The current year's archive is number 20.

Re: Has something happened to the forum?

*Message #3 Posted by **Bart (UK)** on 2 Sept 2011, 8:13 p.m.,*
in response to message #2 by Howard Owen

Yup, threads get "cut" between archive and active :-)

Re: Has something happened to the forum?

*Message #4 Posted by **BruceH** on 3 Sept 2011, 4:53 a.m.,*
in response to message #3 by Bart (UK)

Thanks. I'd never noticed that they got cut off before!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How many of you bought HP's 15C app for iOS?

*Message #1 Posted by **Howard Owen** on 2 Sept 2011, 4:49 p.m.*

I did. I also bought a couple of others. But I'm an enthusiast. I wonder how many other people bought HP's app? I thought at the time that it might have been a vehicle to gauge demand among the iPhone toting set for a real 15C.

edit:fix typo

Edited: 2 Sept 2011, 4:50 p.m.

Re: How many of you bought HP's 15C app for iOS?

*Message #2 Posted by **Norman Dziedzic** on 2 Sept 2011, 5:12 p.m.,*
in response to message #1 by Howard Owen

I bought it. My only wish is that they would update it to allow you to change the volume of the key clicks. It is just annoyingly loud.

Re: How many of you bought HP's 15C app for iOS?

*Message #3 Posted by **Tim Wessman** on 6 Sept 2011, 10:25 a.m.,*
in response to message #2 by Norman Dziedzic

Unfortunately, Apple decided that we couldn't update it.

When the application was developed, it was submitted under the 3rd party developer but using HP's digital certificate. We had several fixes in place and went to submit it less than a month later but could no longer do so. In the meantime, Apple updated the submission process so that it would specifically check for this situation and only allow applcations to be submitted under the same name as the certificate.

However, they would not fix the old applications that were done that way and this effectively orphaned them.

TW

Re: How many of you bought HP's 15C app for iOS?

*Message #4 Posted by **Norman Dziedzic** on 6 Sept 2011, 8:46 p.m.,*
in response to message #3 by Tim Wessman

Thanks for clearing that up Tim. I figured it was something like that. Probably doesn't make sense to start a new Ap with the real 15C coming back out, at least for a while anyway. .

Re: How many of you bought HP's 15C app for iOS?

*Message #5 Posted by **Vladan Dugaric** on 2 Sept 2011, 5:16 p.m.,*
in response to message #1 by Howard Owen

I bought it (and the 12c emulator) when they came out. I agree with Norman regarding the loud key clicks.

Re: How many of you bought HP's 15C app for iOS?

*Message #6 Posted by **Forrest Switzer** on 2 Sept 2011, 6:31 p.m.,*
in response to message #1 by Howard Owen

I didn't. I have Free42 on my Droid. Oh yes, I also have three real ones scattered around at home and work. ;-)

Forrest

Re: How many of you bought HP's 15C app for iOS?

*Message #7 Posted by **Tom Mathes** on 6 Sept 2011, 9:37 a.m.,*
in response to message #6 by Forrest Switzer

Same here, the Free42 is on my iPhone. It serves my purposes nicely when my 35S isn't near by and the price of the Free42 was perfect!

Edited: 6 Sept 2011, 9:38 a.m.

Re: How many of you bought HP's 15C app for iOS?

*Message #8 Posted by **Namir** on 2 Sept 2011, 6:32 p.m.,*
in response to message #1 by Howard Owen

I have a whole collection of emulators on my iPhone/iPod/iPad. They include HP-21, HP-25, HP-35, HP-45, HP-55, HP-70, HP-80, HP-41CX, and HP-48GX.

:-)

Namir

Re: How many of you bought HP's 15C app for iOS?

*Message #9 Posted by **Ethan Conner** on 2 Sept 2011, 6:38 p.m.,*
in response to message #8 by Namir

I bought the Vicinno 15c app with a key click on off switch.

Re: How many of you bought HP's 15C app for iOS?

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 6 Sept 2011, 5:44 p.m.,*
in response to message #8 by Namir

Almost the same here on my iPod Touch.

Re: How many of you bought HP's 15C app for iOS?

*Message #11 Posted by **Raymond Del Tondo** on 2 Sept 2011, 7:14 p.m.,*
in response to message #1 by Howard Owen

On my iDevices I only have m48+ , which is capable of running my SpeedUI;-)
Back then when I had a Nokia 770 and later an N810, I had a customized version of Free42 installed, with a layout like a Voyager (42C, hi Egan;-)

Ray

Re: How many of you bought HP's 15C app for iOS?

*Message #12 Posted by **Dan W** on 2 Sept 2011, 9:27 p.m.,*
in response to message #1 by Howard Owen

I guess I'm just an iLuddite. I don't have any iDevices.

I do have free42 on my Palm Tungsten, and I'd probably go for an HP-15C on that device. And for the PC as well.

Re: How many of you bought HP's 15C app for iOS?

*Message #13 Posted by **Tom Mathes** on 6 Sept 2011, 9:39 a.m.,*
in response to message #12 by Dan W

Don't feel bad. I was one of those Luddites too until my manager decided I needed a company-issued cell phone. The standard one issued here is the ifruit variety. The phone is nice but ATT absolutely stinks.

Since I'm not paying for it I shouldn't complain, right?

Re: How many of you bought HP's 15C app for iOS?

*Message #14 Posted by **Thomas Radtke** on 3 Sept 2011, 6:49 a.m.,*
in response to message #1 by Howard Owen

I would have bought it for Win Mobile or Win7, but don't own Apple devices.

Edited: 3 Sept 2011, 6:51 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Large pic of 15c LE and 30th anniversary - you can download these too

*Message #1 Posted by **Gene Wright** on 2 Sept 2011, 3:44 p.m.*

15c large on flickr

and

12c 30th

for a closer look.

Edited: 2 Sept 2011, 3:46 p.m.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #2 Posted by **Martin Pinckney** on 2 Sept 2011, 5:05 p.m.,*
in response to message #1 by Gene Wright

TOO big. Didn't even know it had opened up until I scrolled down and right. And I have a 22" screen (HP, BTW).

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #3 Posted by **Miguel Toro** on 2 Sept 2011, 5:18 p.m.,*
in response to message #2 by Martin Pinckney

Just choose a different size from the menu above.

Miguel

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #4 Posted by **Egan Ford** on 2 Sept 2011, 5:34 p.m.,*
in response to message #1 by Gene Wright

I would have thought 'e' would have been a better constant to use on the 12C.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #5 Posted by **Gene Wright** on 2 Sept 2011, 5:42 p.m.,*
in response to message #4 by Egan Ford

Eh, it was tough. Sure, e shows up in continuous compounding, but 99% of business users would not recognize that.

So what to show? 360 perhaps. Just not really a good choice.

So, someone at HP chose PI. Better than 0.7734, imo. :-)

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #6 Posted by **Gerson W. Barbosa** on 2 Sept 2011, 6:39 p.m.,*
in response to message #5 by Gene Wright

> Quote:
>
> Sure, e shows up in continuous compounding,

I just read about it on the book *e: The Story of a Number*, by Eli Maor:

```
f CLEARFIN 1 0 0 ENTER EEX 1 0 n / i 1 CHS PV FV   -->  2.718281828
```

Sure *e* would have been very appropriate.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #7 Posted by **Lode** on 2 Sept 2011, 6:01 p.m.,*
in response to message #1 by Gene Wright

If you place both images on top of each other (or align them exactly the same in two browser tabs and switch the tabs) you can see that the leathery pattern on the sides is exactly the same on both. Is that leathery pattern made in such a way that it has the same pattern on every calculator?

What I mean is, in the top left, top right and bottom left of the calculators especially, the bumps and lower spots, the black and white spots, are the same.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #8 Posted by **Lincoln R.** on 2 Sept 2011, 6:26 p.m.,*
in response to message #7 by Lode

Are you talking about the texturing of the plastic case? They'd almost certainly all be identical, or there would only be a handful of variations. Plastic injection molds are expensive, and that texture gets there by sand blasting the mold used to make the case.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #9 Posted by **Jean-Michel** on 3 Sept 2011, 2:46 a.m.,*
in response to message #8 by Lincoln R.

Hello,

If texturing are strictly identical from one part to another, then there is only one cavity in the mold of this part. This is consistent with the fact that only few units are planned to be molded. (When I say "few", I means regarding usual volumes of plastic injection molding, which are commonly hundreds of thousands or even millions, and not only a small batch of 10,000 15C-LE plus the 12C.) Kind regards.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #10 Posted by **Lyuka** on 3 Sept 2011, 12:06 p.m.,*
in response to message #9 by Jean-Michel

Hi,

It's interesting.

I compared the texture of two hp 15C that I have.

"hp 15C texture comparison "

One is made in 1986, and the other is in 1988. (serial number 2612Axxxxx and 2813Axxxxx)
The textures are identical but the later one (2813Axxxxx) seems dull.

Lyuka

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #11 Posted by **robert rozee** on 3 Sept 2011, 12:30 p.m.,*
in response to message #10 by Lyuka

it is quite possible that there was only ever ONE mould/die that was used to make EVERY original 10-series calculator case. making a die can cost $100,000 so not cheap, yet a single one can be good for making a million or more items - with (as you observe) a slight loss of fine detail over time.

Edited: 3 Sept 2011, 12:32 p.m.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #12 Posted by **Lincoln R.** on 3 Sept 2011, 2:10 p.m.,*
in response to message #11 by robert rozee

There were probably multiple molds as I doubt HP really wanted to ship pieces of molded plastic from Corvallis to Singapore and Brazil (Maybe someone who worked in HP manufacturing back then knows this). It's entirely possible that each plant only had 1 mold though. I know there were multiple molds for the Pioneers, I've opened a Singapore-made 32sII and a USA 32s, the insides of the cases were marked "MOLDED IN SGP" and "MOLDED IN USA" respectively.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #13 Posted by **Jean-Michel** on 3 Sept 2011, 4:30 p.m.,*
in response to message #12 by Lincoln R.

I'm not sure that a single mould could be used over that much years to produce that many parts without having to change it, due to wearness and loss of precision of the dimensions getting out of tolerances. Even if moulds are made of hardened steel they are subject to wearness and have a limited lifetime. That being said, only experts like you all could notice such tiny differences. Kind regards.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #14 Posted by **Dan W** on 2 Sept 2011, 9:32 p.m.,*
in response to message #1 by Gene Wright

Really nice image.

I discovered that if one wants really big images, just put the calculator on a flat-bed scanner. The depth of field is sufficient for a sharp image. The real trick is getting rid of all the microscopic bits of dust and lint. At 1200 DPI a speck of dust looks like a boulder. No matter how well I clean it I end up tweaking out the debris in photoshop.

Could you post a shot of the back as well?

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #15 Posted by **hpnut** on 2 Sept 2011, 11:36 p.m.,*
in response to message #1 by Gene Wright

I hope the yellow and blue function keys are properly aligned when i receive my 15c LE ;-)

hpnut in Malaysia

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #16 Posted by **Reth** on 3 Sept 2011, 12:51 a.m.,*
in response to message #15 by hpnut

I second that, the yellow "f" key is misaligned on the photo.

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #17 Posted by **Thomas Radtke** on 3 Sept 2011, 3:54 a.m.,*
in response to message #16 by Reth

I don't own any Voyager, so I have to ask: Were/are there usually no clearance within the hinge of the Voyager calculators?

Re: Large pic of 15c LE and 30th anniversary - you can download these too

*Message #18 Posted by **Jeff O.** on 3 Sept 2011, 1:09 p.m.,*
in response to message #15 by hpnut

The yellow (f) and blue (g) shift keys of the new 12c+/15c LE hardware platform are somewhat "wobbly" compared to all other keys. This allows them to look a little mis-aligned. My guess is that they are individual keys, not a part of some overall grid that connects and stabilizes all the other keys. I do not intend to dis-assemble a unit to find out. They work fine, feel fine, just a little wobbly as compared to the other keys, and subject to slight mis-alignment. Been this way since the 12c+ came out.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Updated HP Web Page for the HP-15C LE

*Message #1 Posted by **Namir** on 2 Sept 2011, 10:29 a.m.*

HP has updated the HP-15C LE web page. Now the status says "Coming Soon" and the $15 instant discount we saw yesterday **IS GONE!!!** So much for a little good will! They did not give the poor discount a chance!! *(<sniff ... sniff>)*

:-)

Namir

Edited: 2 Sept 2011, 10:30 a.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #2 Posted by **M. Joury** on 2 Sept 2011, 10:48 a.m.,*
in response to message #1 by Namir

Hi Namir,

You noticed that, did you? Also, the 12C 30th was moved to financial calculators and also lost the 15% discount, however it is actually cheaper since it's price was dropped to 79.99.

Cheers,

-Marwan

Re: Updated HP Web Page for the HP-15C LE

*Message #3 Posted by **Namir** on 2 Sept 2011, 10:54 a.m.,*
in response to message #2 by M. Joury

Marwan,

They sure lowered the price for the HP-12 30th Aniv version. Sampson Cables sells them for $99. I wonder if they will lower their prices like with the HP-15C LE.

Watching the HP web sites and the new calculator web pages change makes me feel "All dressed up and nowhere to go!"

Namir

Re: Updated HP Web Page for the HP-15C LE

*Message #4 Posted by **M. Joury** on 2 Sept 2011, 11:01 a.m.,*
in response to message #3 by Namir

Quote:

> Watching the HP web sites and the new calculator web pages change makes me feel "All dressed up and nowhere to go!"

Don't I know it. I keep going back hoping for a "Buy Now" button to suddenly appear!

Cheers,

-Marwan

Re: Updated HP Web Page for the HP-15C LE

*Message #5 Posted by **Namir** on 2 Sept 2011, 11:07 a.m.,*
in response to message #4 by M. Joury

Is there any kind of *dance* or *incantation* we can recite to make that **Buy Now** button appear??? My nerves are shot!!!!!!

Edited: 2 Sept 2011, 11:10 a.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #6 Posted by **M. Joury** on 2 Sept 2011, 11:12 a.m.,*
in response to message #5 by Namir

LOL. Perhaps a modified version of a rain dance. [Looking up rain dance in Wikipedia].

Re: Updated HP Web Page for the HP-15C LE

*Message #7 Posted by **Namir** on 2 Sept 2011, 11:13 a.m.,*
in response to message #6 by M. Joury

Maybe a disco version rain dance. I bet you that will do it??

Re: Updated HP Web Page for the HP-15C LE

*Message #8 Posted by **M. Joury** on 2 Sept 2011, 11:24 a.m.,*
in response to message #7 by Namir

Maybe if we all do that in front of Tim and Co. they will be so appalled that they will throw us some morsels to go away.

Re: Updated HP Web Page for the HP-15C LE

*Message #9 Posted by **Howard Owen** on 2 Sept 2011, 12:35 p.m.,*
in response to message #7 by Namir

Disco ... 1981 ... Oh God!

Re: Updated HP Web Page for the HP-15C LE

*Message #10 Posted by **Michael de Estrada** on 2 Sept 2011, 11:08 a.m.,*
in response to message #4 by M. Joury

Why should you care ? ;)

Re: Updated HP Web Page for the HP-15C LE

*Message #11 Posted by **M. Joury** on 2 Sept 2011, 11:14 a.m.,*
in response to message #10 by Michael de Estrada

Why should I care about what? The HP-12C 30th or the 15C LE or just in general? Not sure I am following the question.

Cheers

Re: Updated HP Web Page for the HP-15C LE

*Message #12 Posted by **Michael de Estrada** on 2 Sept 2011, 11:41 a.m.,*
in response to message #11 by M. Joury

I mean, didn't you already pre-order at CostCentral, or was that someone else ?

Re: Updated HP Web Page for the HP-15C LE

*Message #13 Posted by **Namir** on 2 Sept 2011, 11:48 a.m.,*
in response to message #12 by Michael de Estrada

Anyone heard from CostCentral who has ordered the 15LE from them??

Re: Updated HP Web Page for the HP-15C LE

*Message #14 Posted by **M. Joury** on 2 Sept 2011, 11:49 a.m.,*
in response to message #13 by Namir

Haven't heard a peep. My order still shows up though.

Re: Updated HP Web Page for the HP-15C LE

*Message #15 Posted by **Namir** on 2 Sept 2011, 12:16 p.m.,*
in response to message #14 by M. Joury

Mine does not!! Perhaps I need to call them.

Re: Updated HP Web Page for the HP-15C LE

*Message #16 Posted by **Michael de Estrada** on 2 Sept 2011, 12:28 p.m.,*
in response to message #15 by Namir

Are you sure ? You may have to click on "Order History" after logging in for it to reappear.

Re: Updated HP Web Page for the HP-15C LE

*Message #17 Posted by **Namir** on 2 Sept 2011, 12:37 p.m.,*
in response to message #16 by Michael de Estrada

For some reason I sign in and input order number and authentication data, and nothing appears. I called them and they said they have my order as a back order. So I am fine!

Re: Updated HP Web Page for the HP-15C LE

*Message #18 Posted by **Michael de Estrada** on 2 Sept 2011, 12:54 p.m.,*
in response to message #17 by Namir

Curious, I don't have to enter anything once I've signed in. I just click on "Order History" and it pops up.

Re: Updated HP Web Page for the HP-15C LE

*Message #19 Posted by **M. Joury** on 2 Sept 2011, 1:12 p.m.,*
in response to message #18 by Michael de Estrada

Mine works as yours does.

Re: Updated HP Web Page for the HP-15C LE

*Message #20 Posted by **Namir** on 2 Sept 2011, 2:10 p.m.,*
in response to message #18 by Michael de Estrada

I followed what you did and yes it show my order. I was doing it the long way and that was not working.

Thanks!

Re: Updated HP Web Page for the HP-15C LE

*Message #21 Posted by **M. Joury** on 2 Sept 2011, 11:49 a.m.,*
in response to message #12 by Michael de Estrada

Ah, got it. Excellent memory. I did. I am just not sure I am willing to bet the farm on that order. It all depends on how fast it looks like the things are selling. I also would like to get a 12C 30th and I did not pre-order those.

I was one of those that tried to get hold of an HP Touchpad and though I did get one it was a very close thing. One thing that has happened is that lots of people bought the TP at the much reduced price and are now selling it on TAS for 2-3 times what I paid. Seeing what happened there I really don't want to miss out on a 15C and will order extra if I think that might happen.

Cheers,

-Marwan

Edited: 2 Sept 2011, 11:52 a.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #22 Posted by **Namir** on 2 Sept 2011, 11:10 a.m.,*
in response to message #4 by M. Joury

Also I am kicking myself for missing HHC2010 where attendees got the 15C+!! I chose to visit Sigmund Freud (his apartment in Vienna) instead!! I ought to have my head examined!!!

:-)

Namir

Re: Updated HP Web Page for the HP-15C LE

*Message #23 Posted by **M. Joury** on 2 Sept 2011, 11:15 a.m.,*
in response to message #22 by Namir

I, too, am kicking myself. And I was just down the road, so to speak, at the time. I considered going but just had too much going on.

Re: Updated HP Web Page for the HP-15C LE

*Message #24 Posted by **Namir** on 2 Sept 2011, 11:18 a.m.,*
in response to message #23 by M. Joury

Are you attending HHC2011?

Re: Updated HP Web Page for the HP-15C LE

*Message #25 Posted by **Pascal** on 2 Sept 2011, 11:26 a.m.,*
in response to message #24 by Namir

Namir,

This year if they distribute an HP-41CX LE to all participants, could you try to get an extra one for me please !! :-)

Cheers,

Pascal.

Re: Updated HP Web Page for the HP-15C LE

*Message #26 Posted by **Namir** on 2 Sept 2011, 11:38 a.m.,*
in response to message #25 by Pascal

Of course!!

:-)

Namir

Re: Updated HP Web Page for the HP-15C LE

*Message #27 Posted by **M. Joury** on 2 Sept 2011, 11:33 a.m.,*
in response to message #24 by Namir

Hi Namir,

I took my response off-line and sent you an email through the forum.

Cheers,

Marwan

Re: Updated HP Web Page for the HP-15C LE

*Message #28 Posted by **Thomas Radtke** on 2 Sept 2011, 11:27 a.m.,*
in response to message #1 by Namir

The current price is much less than I expected originally, but don't tell 'em! ;-).

Re: Updated HP Web Page for the HP-15C LE

*Message #29 Posted by **Namir** on 2 Sept 2011, 11:54 a.m.,*
in response to message #28 by Thomas Radtke

It will be our little secret!!! Just you and me!

Re: Updated HP Web Page for the HP-15C LE

*Message #30 Posted by **Mike Morrow** on 2 Sept 2011, 1:08 p.m.,*
in response to message #28 by Thomas Radtke

> Quote:
>
> The current price is much less than I expected...

It must cost almost $1 to make these things in China. The remaining amount ($99) covers development, overhead, and aggressive marketing program costs. :-)

Re: Updated HP Web Page for the HP-15C LE

*Message #31 Posted by **Michael de Estrada** on 2 Sept 2011, 1:18 p.m.,*
in response to message #30 by Mike Morrow

Aggressive marketing ? What on earth are you talking about ?

Edited: 2 Sept 2011, 1:38 p.m. after one or more responses were posted

Re: Updated HP Web Page for the HP-15C LE

*Message #32 Posted by **Thomas Radtke** on 2 Sept 2011, 1:36 p.m.,*
in response to message #31 by Michael de Estrada

C'mon, it must have cost a lot to setup fake websites and to have several dealers prematurely put offers on their sites - all this to make people endlessly curious ;-p.

Re: Updated HP Web Page for the HP-15C LE

*Message #33 Posted by **Mike Morrow** on 2 Sept 2011, 1:37 p.m.,*
in response to message #31 by Michael de Estrada

It was **part** of a *whimsical* explanation for the currently published price of the 15C LE. (See the smiley face at the end? Some of you are taking this 15C stuff way too seriously.)

The 50g sells on HP's web site for $128. The simple and grossly less capable 15C LE now quoted at $100 appears to have a price that is completely arbitrary...one that even HP can't seem to pin down. What's it going to be a hour from now?

Re: Updated HP Web Page for the HP-15C LE

*Message #34 Posted by **Michael de Estrada** on 2 Sept 2011, 1:45 p.m.,*
in response to message #33 by Mike Morrow

Apples and oranges. The HP-50g has a large sales volume and unlimited supply. The HP-15C is a limited edition of an otherwise vintage product with a relatively small fixed supply. There are quality features in the HP-15C that are not present in the HP-50g, such as better keyboard and printed documentation.

Edited: 2 Sept 2011, 7:32 p.m. after one or more responses were posted

Re: Updated HP Web Page for the HP-15C LE

*Message #35 Posted by **Calum Tait** on 2 Sept 2011, 2:30 p.m.,*
in response to message #34 by Michael de Estrada

Considering it is essentially a 12C+ with slightly modified software and modified screen printing the premium seems a little high. Especially considering that the "limited edition" is 10K. We should probably be grateful that HP have listened for once and made it at all though.

Re: Updated HP Web Page for the HP-15C LE

*Message #36 Posted by **Michael de Estrada** on 2 Sept 2011, 2:41 p.m.,*
in response to message #35 by Calum Tait

They still had to make all new key buttons for a relatively limited run. I'll let Tim or others more knowledgeable chime in on this, but I suspect that there were significant costs involved above those of the 12C+.

Re: Updated HP Web Page for the HP-15C LE

*Message #37 Posted by **Mike Morrow** on 2 Sept 2011, 6:21 p.m.,*
in response to message #36 by Michael de Estrada

> Quote:
>
> They still had to make all new key buttons for a relatively limited run.

That's got to be it! :-) Stuff like that doesn't come cheap in China.

Edited: 2 Sept 2011, 6:22 p.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #38 Posted by **Mike Morrow** on 2 Sept 2011, 6:15 p.m.,*
in response to message #34 by Michael de Estrada

> Quote:
>
> The HP-15C is a limited edition of an otherwise vintage product...

It's just a common **non-vintage, current-production** HP-12C+ running some 30-year-old firmware other than the 30-year-old firmware that the HP-12C+ normally runs. What a great

technical triumph!

I can get people some "limited edition" Dale Earnhart NASCAR trinkets, if a manufacturer's declaration of "limited edition" is accepted as **the** signature of desirability.

> Quote:
>
> ...with a relatively small fixed supply.

Set **completely arbitrarily** by HP. Caveat emptor!

> Quote:
>
> There are quality features in the HP-15C that are not pressent in the HP-50g, such as better keyboard and printed documentation.

How many could agree with characterization of a product that has yet to be seen, except by HP and some insiders. I recall similar pre-release speculation about the HP 35S joke.

Edited: 2 Sept 2011, 6:19 p.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #39 Posted by **uhmgawa** on 2 Sept 2011, 6:56 p.m.,*
in response to message #38 by Mike Morrow

> Quote:
>
> The HP-15C is a limited edition of an otherwise vintage product...
>
> > Quote:
> >
> > It's just a common non-vintage, current-production HP-12C+ running some 30-year-old firmware other than the 30-year-old firmware that the HP-12C+ normally runs. What a great technical triumph!

I can't speak for HP but in my experience the 15c firmware requires chasing a few dark corners in terms of emulator support beyond that needed for the 11/12/16c. Also execution time aware code exists specific to a firmware model and at the advertised 100x speed differential, emulator support ideally will be required to normalize some sequences to legacy execution timing.

Re: Updated HP Web Page for the HP-15C LE

*Message #40 Posted by **Michael de Estrada** on 2 Sept 2011, 7:29 p.m.,*
in response to message #38 by Mike Morrow

Re: Updated HP Web Page for the HP-15C LE

*Message #41 Posted by **M. Joury** on 2 Sept 2011, 6:30 p.m.,*
in response to message #34 by Michael de Estrada

I, personally, have never had a problem with the 50g keyboard.

Re: Updated HP Web Page for the HP-15C LE

*Message #42 Posted by **Forrest Switzer** on 2 Sept 2011, 6:46 p.m.,*
in response to message #34 by Michael de Estrada

And, you have to pay for the supervision of the sales and marketing staff. ;-)

Florrest

Re: Updated HP Web Page for the HP-15C LE

*Message #43 Posted by **Nick R** on 2 Sept 2011, 2:54 p.m.,*
in response to message #33 by Mike Morrow

I'd certainly like to own a 15C once again so I can run some of the programs I wrote for this machine in 1985. I just can't understand all the reticence about price and availablity.
To me, a calculator is a simply a tool to work with, and the fact that this model is being presented as a Limited (collector's) Edition is unfortunate, as it lessens the chance that they'll be available to people outside the US who want one for daily use. I can forsee many of them being hoarded or bought up in large number by resellers who will release them in small quantities at inflated prices.

Re: Updated HP Web Page for the HP-15C LE

*Message #44 Posted by **Michael de Estrada** on 2 Sept 2011, 3:16 p.m.,*
in response to message #43 by Nick R

I don't think the market for this calc is people who think "a calculator is a simply a tool to work with". Most people would pay far less to get something with the same featureset, or

expect a lot more modern features at that price. I use my HP-50g a lot more for problems involving matrices than my HP-15C. It does have a compact size, but if I'm going to the supermarket and want to figure product pricing, I'll just take a cheap solar calc. So, again, I think this is mainly an appeal to collectors and nostalgia buffs. I do agree that 10K seems low, especially if you belief the numbers on the petition. If you live in BC, Canada, then perhaps you can befriend someone stateside to get you one.

Re: Updated HP Web Page for the HP-15C LE

*Message #45 Posted by **Nick R** on 2 Sept 2011, 3:44 p.m.,*
in response to message #44 by Michael de Estrada

I suppose you're right. Using the 15C-LE for calculating AC networks would be similar to serving pie on a commemorative plate from the Bradford Exchange.

Re: Updated HP Web Page for the HP-15C LE

*Message #46 Posted by **Howard Owen** on 2 Sept 2011, 4:45 p.m.,*
in response to message #43 by Nick R

> Quote:
>
> I can forsee many of them being hoarded or bought up in large number by resellers who will release them in small quantities at inflated prices.

Tim gave an optimistic answer that one. If demand is significant, they might run a few more through the factory. If the 10,000 units don't jump off the shelves, then the supply issue won't be there for current buyers.

Between those two extremes there's a chance that your fear might be realized. But there are alternatives, at least three 15C clones on the App Store, and even one on Android now. Current owners of 15Cs might or might not be pleased to see the prices for their old machines stay stable in the face of a new supply.

The best outcome I could hope for would be a quick sellout of the LE model, prompting HP to bring back the 15C as a normal product. Without the LE badge. those machines would be less collectable, but would amply serve those who wanted a 15C for real workflows.

Re: Updated HP Web Page for the HP-15C LE

*Message #47 Posted by **Lincoln R.** on 2 Sept 2011, 9:03 p.m.,*
in response to message #43 by Nick R

Hm. I'm actually tempted to buy a few extra and offer them at what I paid + shipping either so someone in a country where they weren't for sale can get one or to help ruin the market for the scalpers.

Re: Updated HP Web Page for the HP-15C LE

*Message #48 Posted by **Thomas Radtke** on 3 Sept 2011, 4:10 a.m.,*
in response to message #33 by Mike Morrow

> Quote:

> Some of you are taking this 15C stuff way too seriously.

While I'm able to smile about the opportunity to eventually buy a 15C at a moderate price, it isn't exactly a joke ;-).

I understand (hopefully right) you do not consider this 'relaunch' to be something special, and I got your reasons. I also like the 42S after using free42 for some month now, but I take it this way: Besides the 50g, it will be the only serious scientific calculator on sale from HP, and it is sufficient for my needs. So yes, I'm serious and happy about it. And I have quite some fun following the threads and participate in them :-).

Re: Updated HP Web Page for the HP-15C LE

*Message #49 Posted by **Dominic Richens** on 2 Sept 2011, 7:23 p.m.,*
in response to message #1 by Namir

99$? I paid that in 1990 for my original HP-15 and according to the inflation calculator 99$ today would have cost 59$ in 1990 dollars, so that's a real steal!

Re: Updated HP Web Page for the HP-15C LE

*Message #50 Posted by **Paul Gaster** on 2 Sept 2011, 10:47 p.m.,*
in response to message #1 by Namir

new page with data sheet: http://h10010.www1.hp.com/wwpc/us/en/sm/WF06a/215348-215348-64232-20037-215351-33532.html

I see one error on the Data Sheet so far: for entry system logic it says RPN and also chain algebraic

Re: Updated HP Web Page for the HP-15C LE

*Message #51 Posted by **Paul Gaster** on 2 Sept 2011, 10:50 p.m.,*
in response to message #50 by Paul Gaster

new page for 12C 30th anniverary: http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20036-215349-5154839.html

data sheet available too. Note this one does not say anything about algebraic entry

edit: Yikes! check out the price: $104.99

You can add it to your cart and order now if you want, but how many will at that price?

Edited: 2 Sept 2011, 10:52 p.m.

Re: Updated HP Web Page for the HP-15C LE

*Message #52 Posted by **Lincoln R.** on 2 Sept 2011, 11:05 p.m.,*
in response to message #51 by Paul Gaster

That seems to be the price from HP's business store, the home one still lists it as $79.99 and not available.

Re: Updated HP Web Page for the HP-15C LE

*Message #53 Posted by **jimi** on 4 Sept 2011, 2:22 p.m.,*
in response to message #52 by Lincoln R.

But is it available to buy anywhere? The price doesn't really matter if you can't purchase one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15c LE Batteries

*Message #1 Posted by **Michel Beaulieu** on 1 Sept 2011, 10:58 p.m.*

Doest this calculator have the original LR44 1.5V batteries or the CR' Lithium one's?

Re: HP-15c LE Batteries

*Message #2 Posted by **M. Joury** on 1 Sept 2011, 11:03 p.m.,*
in response to message #1 by Michel Beaulieu

No. Should be the same as the 12C+ -- 2 x CR2032 in parallel (3V).

Edited: 1 Sept 2011, 11:26 p.m.

Re: HP-15c LE Batteries

*Message #3 Posted by **Kiyoshi Akima** on 2 Sept 2011, 3:13 p.m.,*
in response to message #2 by M. Joury

Correct. And I can state that the original set of batteries are still powering my 15C+, which is currently my most-used RPN scientific calc.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #1 Posted by **Jake Schwartz** on 1 Sept 2011, 8:55 p.m.*

Hi,

Now that the 15C LE is announced, I did a slight update to the PPC HP-calc archive DVD disk to include the 53 HP15C-related pages distributed at the HHC2010 conference last year. Each attendee received an "HP15C+" prototype under NDA and they even based the annual programming contest on the 15C. (Can you imagine everyone keeping quiet for a year? It somehow worked out...) More info on the disk may be obtained by checking http://www.pahhc.org/ppccdrom on the web.

Thanks, Jake

P.S. - HHC2011 is going to be amazing.....check http://hhuc.us/2011/index.htm for info

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #2 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 9:04 p.m.,*
in response to message #1 by Jake Schwartz

> Quote:
>
> (Can you imagine everyone keeping quiet for a year? It somehow worked out...)

You are a bunch of trustworthy people!

15c LE programming contest entry

*Message #3 Posted by **gene wright** on 1 Sept 2011, 9:16 p.m.,*
in response to message #1 by Jake Schwartz

The contest for the 15c LE was to sort numbers in 0 through 9 in ascending order.

Winning program was published here and was something like this:

```
LBL A
8
STO I
RCL 9
LBL 0
RCL (i)
TEST 7
GTO 1
DSE I
GTO 0
RTN


LBL 1
X<>Y
X<> (i)
ISG I
```

```
LBL 1
STO (i)
GTO A
```

That at least, was my program. :-) Richard Schwartz won the contest by replacing the NOP LBL 1 I used with MATRIX 9, certainly a more ingenious NOP.

However, the contest for RPL machines was to sort a list of numbers in ascending order but to sort the odd numbers first, then the even numbers. So, given 1, 2, 3, 4, the result would have been 1, 3 then 2, 4 but for 10 values.

After the conference, I wrote the program on the PDF attached so the 15c LE could sort numbers in 0 through 9 with the odd numbers sorted first and the even numbers sorted afterward.

This took a LONG time with the 15c, but runs FAST on the 15c LE.

Program Listing

I expect a great deal of additional information will be presented at HHC 2011 in a few weeks.

Re: 15c LE programming contest entry

*Message #4 Posted by **Paul Dale** on 2 Sept 2011, 12:45 a.m.,*
in response to message #3 by gene wright

> Quote:
>
> Richard Schwartz won the contest by replacing the NOP LBL 1 I used with MATRIX 9, certainly a more ingenious NOP.

Why would this make the difference between winning and not?

- Pauli

Re: 15c LE programming contest entry

*Message #5 Posted by **Gene Wright** on 2 Sept 2011, 7:36 a.m.,*
in response to message #4 by Paul Dale

Because it was considered more elegant. :-)

It was funny...Richard and I *independently* came up with the exact same solution otherwise. Richard turned his in several hours before I did, which also properly figured into it, since the solutions were the same otherwise.

So, having lost the HHC contest, I programmed the RPL challenge on the 15c LE, which has now been shared in the PDF.

Re: 15c LE programming contest entry

*Message #6 Posted by **Paul Dale** on 2 Sept 2011, 7:44 a.m.,*
in response to message #5 by Gene Wright

More elegant? No way. MATRIX 9 is a *two* byte command whilst LBL 1 is a *one* byte command. You lost unfairly ;-)

Not being first is a good reason however.

- Pauli

Re: 15c LE programming contest entry - for the 34s?

*Message #7 Posted by **Gene Wright** on 2 Sept 2011, 8:02 a.m.,*
in response to message #6 by Paul Dale

Oh, I wasn't sad at all. Richard Schwartz is an amazing person and merely coming up with the same code as he did, even if a bit later, :-) made me feel very nice.

Hey Pauli... how about a 34s program that does the same thing?

Random positive integers stored in 0 through 9. Sort the odd numbers first, then the even numbers. Examples of input and output:

Input stored in 0 through 9: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Output stored in 0 through 9: 1, 3, 5, 7, 9, 2, 4, 6, 8, 10.

Input stored in 0 through 9: 2, 2, 5, 1, 9, 4, 8, 8, 6, 3

Output stored in 0 through 9: 1, 3, 5, 9, 2, 2, 4, 6, 8, 8.

etc. Be good to see just how small and fast a 34s version would be.

Re: 15c LE programming contest entry - for the 34s?

*Message #8 Posted by **Paul Dale** on 2 Sept 2011, 8:11 a.m.,*
in response to message #7 by Gene Wright

> Quote:
>
> Hey Pauli... how about a 34s program that does the same thing?

The base challenge for the 15c is kind of a non-event:

```
001: LBL A
002: .
003: 1
004: R-SORT
005: RTN
```

The odd/even version might be a fun challenge to pose.

Maybe I should modify R-SORT to take a label argument that defines an ordering function.

- Pauli

Edited: 2 Sept 2011, 8:11 a.m.

Re: 15c LE programming contest entry - for the 34s?

*Message #9 Posted by **Gene Wright** on 2 Sept 2011, 9:48 a.m.,*
in response to message #8 by Paul Dale

Agreed on the plain "sort 1 through 9" or "sort 0 through 9" part. :-)

It is the odd / even distinction that makes it interesting! :-)

Is redefining how a function works considered cheating? :-)

Re: 15c LE programming contest entry - for the 34s?

*Message #10 Posted by **Paul Dale** on 2 Sept 2011, 6:41 p.m.,*
in response to message #9 by Gene Wright

> Quote:
>
> It is the odd / even distinction that makes it interesting! :-)

Had a neat idea about this one last night while suffering a bit of insomnia. If we run the 34S in integer sign and mantissa mode and assume that the supplied integers are positive then we can apply this bit of code:

```
9
STO I
LBL 00
RCL->I
ODD?
NOT
STO->I
DSZ I
GTO 00
```

Then sort registers 1 - 9 however you want. R-SORT isn't viable here unfortunately here since we're in integer mode. Finally:

```
9
STO I
LBL 01
RCL->I
x<0?
NOT
STO->I
DSZ I
GTO 01
```

And you have you result. The clever trick I'm relying on here is that in sign and mantissa mode, NOT negates the number without reversing the apparent ordering of the numbers. For example, in 4 bit integer mode:

```
#   NOT #
1    -6
3    -4
5    -2
```

This relies on having positive numbers in the registers. If negatives are permitted as well, the problem is a bit more interesting. RR 01 might be a viable transform.

> Quote:
>
> Is redefining how a function works considered cheating? :-)

Only if I can't justify the change as useful more globally :-)

- Pauli

Re: 15c LE programming contest entry - for the 34s?

*Message #11 Posted by **Gene Wright** on 2 Sept 2011, 6:53 p.m.,*
in response to message #10 by Paul Dale

Quote:Gene -- Is redefining how a function works considered cheating? :-)

Quote: Pauli -- Only if I can't justify the change as useful more globally :-)

I agree with that! I will key this in and play.

Re: 15c LE programming contest entry - for the 34s?

*Message #12 Posted by **Howard Owen** on 2 Sept 2011, 7:27 p.m.,*
in response to message #10 by Paul Dale

Since we assume all were positive, we can do

```
RCL->I
ABS
STO->I
```

in the second code block. I'm assuming we have "ABS" on the 35s. Mine is out of batteries too.

Re: 15c LE programming contest entry - for the 34s?

*Message #13 Posted by **Paul Dale** on 2 Sept 2011, 7:35 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> Since we assume all were positive, we can do
>
> ```
> RCL->I
> ABS
> STO->I
> ```
>
> in the second code block. I'm assuming we have "ABS" on the 35s. Mine is out of batteries too.

Yes, the *34S* has ABS.

ABS isn't sufficient in this case. The NOT used initially isn't just negating the number. It is making the number negative in a way such that the relative ordering of the (positive) numbers doesn't change.

- Pauli

Edited: 2 Sept 2011, 7:35 p.m.

Re: 15c LE programming contest entry - for the 34s?

*Message #14 Posted by **Paul Dale** on 2 Sept 2011, 8:52 p.m.,*
in response to message #7 by Gene Wright

> Quote:

> Hey Pauli... how about a 34s program that does the same thing?

How about this:

```
001: LBL A
002: 8
003: STO I
004: RCL 09
005: LBL 00
006: ODD?
007: GTO 90
008: RCL->I
009: ODD?
010: GTO 80
011: x>? Y
012: GTO 01
013: GTO 80
014: LBL 90
015: RCL->I
016: EVEN?
017: GTO 01
018: x>? Y
019: GTO 01
020: LBL 80
021: DSE I
022: GTO 00
023: RTN
024: LBL 01
025: X<>Y
026: X<>->I
027: INC I
028: STO->I
029: GTO A
```

If I could be bothered counting steps and using SKIP and BACk, the total would reduce by four steps to 25. The final RTN could also be omitted by moving the LBL 01 block above LBL 90 to bring the total to 24.

- Pauli

Re: 15c LE programming contest entry - for the 34s?

*Message #15 Posted by **Paul Dale** on 2 Sept 2011, 9:04 p.m.,*
in response to message #14 by Paul Dale

A bit of rearrangement and it is down to 24 steps without omitting the final RTN. 23 if it is omitted.

```
001:  LBL A
002:  8
003:  STO I
004:  RCL 09
005:  ODD?
006:  SKIP 10
007:  RCL[->]I
008:  ODD?
009:  SKIP 12
010:  x[<=]? Y
011:  SKIP 10
012:  x[<->]y
013:  x[<->][->]I
014:  INC I
015:  STO[->]I
016:  GTO A
017:  RCL[->]I
018:  EVEN?
019:  BACK 07
020:  x>? Y
021:  BACK 09
022:  DSE I
```

```
023:  BACK 18
024:  RTN
```

Any advances?

- Pauli

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #16 Posted by **robert rozee** on 2 Sept 2011, 12:09 a.m.,*
in response to message #1 by Jake Schwartz

any chance of the information (the 50+ pages) being made available online?

cheers,
rob :-)

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #17 Posted by **Jake Schwartz** on 2 Sept 2011, 7:45 a.m.,*
in response to message #16 by robert rozee

> Quote:
>
> any chance of the information (the 50+ pages) being made available online?

Here you go:

http://dl.dropbox.com/u/33228006/HHC2010%20Programming%20Contest.pdf

http://dl.dropbox.com/u/33228006/HP15C%2B%20Speed%20Comparison%20and%20Reference.pdf

http://dl.dropbox.com/u/33228006/Programming%20the%2015C%2B.pdf

(I hope this works)

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #18 Posted by **Gene Wright** on 2 Sept 2011, 8:04 a.m.,*
in response to message #17 by Jake Schwartz

Note: the 15c given to us at the conference was a beta version. There were a couple of issues that were fixed for the 15c LE, which increased speed on some things.

The speed tests are for the BETA unit, not the shipping unit.

I know many presentations will be made in a couple of weeks at the conference on this great machine.

This year's conference will truly be great.

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #19 Posted by **Gene Wright** on 2 Sept 2011, 8:08 a.m.,*
in response to message #18 by Gene Wright

Here's a slightly better version of my 15c example presentation.

I did the problem to be FUNNY with it and to see how fast the machine really is.

Turns out this example pointed out a slight problem with the emulator which has been fixed and now this example runs at about 150X faster as well, which was not quite the case at the conference.

15c session better copy

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #20 Posted by **Paul Dale** on 2 Sept 2011, 8:12 a.m.,*
in response to message #18 by Gene Wright

Stop making those of us who cannot attend jealous :-(

- Pauli

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #21 Posted by **Namir** on 2 Sept 2011, 10:06 a.m.,*
in response to message #20 by Paul Dale

Maybe Jake can post some of the sessions on YouTube???

Namir

HHC2010 Sessions

*Message #22 Posted by **Jake Schwartz** on 2 Sept 2011, 4:40 p.m.,*
in response to message #21 by Namir

> Quote:
>
> Maybe Jake can post some of the sessions on YouTube???

Actually, if you search for "HHC2010" on YouTube, you will find many session videos up there, placed there by Eric Rechlin. It is still my goal to have the DVDs complete by conference time, and to have multiple sets on the door-prize table.

Jake

Re: HHC2010 Sessions

*Message #23 Posted by **Howard Owen** on 2 Sept 2011, 4:57 p.m.,*
in response to message #22 by Jake Schwartz

If you do that search, you get a lot of hits related to Hip Hop. I know that fits the demographics here to a "T," but you might try going directly to Eric Rechlin's YouTube page instead :)

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #24 Posted by **robert rozee** on 2 Sept 2011, 10:00 a.m.,*
in response to message #17 by Jake Schwartz

all downloaded successfully :-)

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #25 Posted by **Howard Owen** on 2 Sept 2011, 1:46 p.m.,*
in response to message #17 by Jake Schwartz

That reference document is priceless. The reprintings of Valantin Abillio's "Long Live the HP-15C!" and his polynomial fitting article lay out the case for the HP-15Cs worthiness better than any other documents I'm aware of. Then we find, later on in the appendices, John Dearing's 15C review in the PPC journal. Some of his complaints about the machine, coming from the perspective of a 41C user, echo many that I've seen here lately. His list of pros include many of Mr Abillio's points and few more. The rest of the material is extremely useful and interesting too. Kudos!

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #26 Posted by **Gene Wright** on 2 Sept 2011, 2:03 p.m.,*
in response to message #25 by Howard Owen

Howard, see what happens when you skip an HHC?

:-)

See you in a couple of weeks.

Re: PPC DVD HP-Calc Archive Disk "Slightly" Updated

*Message #27 Posted by **Howard Owen** on 2 Sept 2011, 2:11 p.m.,*
in response to message #26 by Gene Wright

A fault I will remedy this year :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S : is this result "zero" enough ?

*Message #1 Posted by **Miguel Toro** on 1 Sept 2011, 8:38 p.m.*

Hola,

I am still playing with the 15c examples and this time it is from the advanced functions handbook, page 78, calculating the nth roots of a complex number. I tried my best to translate the program, so here is my WP34s version:

```
001 LBL A
002 [cmplx]x[<->]y
003 [cmplx]1/x
004 [cmplx]RCL L
005 [cmplx]R[v]
006 [cmplx]y[^x]
007 [cmplx]STO 02
008 0
009 ENTER[^]
010 3
011 6
012 0
013 [cmplx]R[^]
014 [cmplx]/
015 [cmplx]STO 04
016 0
017 STO K
018 LBL 00
019 [cmplx]RCL 04
020 RCL[times] K
021 1
022 DEG
023 [->]REC
024 [cmplx]RCL[times] 02
025 1
026 STO+ K
027 R[v]
028 STOP
029 GTO 00
```

to run it, I first set the ssize8, then 0 FILL and then follow the example in the book, using 1^1/100 as the value. Here are the results:

```
k = 0,  z0  = 1 (check!)
k = 1,  z1  = 0.9980+0.0628i (check!)
k = 50, z50 = -1+(1.2815^-38)i (check? 15C result is -1)
```

So, is this because the different precision between both machines and this is the good result? ... or am I that bad as a programer :-)

Saludos,

Miguel

Edited: 1 Sept 2011, 8:41 p.m.

Re: WP34S : is this result "zero" enough ?

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Sept 2011, 2:24 a.m.,*
in response to message #1 by Miguel Toro

Miguel, you could try the various rounding modes (RM) which affect how the internal high precision numbers are rounded. The e-38 looks very much like a rounding artifact because the internal precision is in this range.

Looking more closely at your code I see you do calculate the inverse of the exponent and later multiply it by k. This may lead to different results then computing k/n.

Edited: 2 Sept 2011, 2:27 a.m.

Re: WP34S : is this result "zero" enough ?

*Message #3 Posted by **Paul Dale** on 5 Sept 2011, 10:40 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> you could try the various rounding modes (RM) which affect how the internal high precision numbers are rounded.

The RM modes only change how an internal high precision number is rounded to a sixteen digit register, not how rounding takes place during internal high precision calculations.

- Pauli

Re: WP34S : is this result "zero" enough ?

*Message #4 Posted by **Paul Dale** on 2 Sept 2011, 2:49 a.m.,*
in response to message #1 by Miguel Toro

Without having investigated specifically, the 10^{-38} result you are seeing is around the internal precision used for calculations.

My guess would be a slight rounding issue is present here. Probably in the polar to rectangular conversion.

Still, I'm not really concerned here, the result is close enough to zero for my liking.

- Pauli

Re: WP34S : is this result "zero" enough ?

*Message #5 Posted by **Miguel Toro** on 2 Sept 2011, 8:51 a.m.,*
in response to message #4 by Paul Dale

I think the rounding issue may come from the y^x. I tried this simple example with (1+i)^2:

```
1, ENTER, 1, 0, ENTER, 2, CPX, Y^X = (-7,5998)^-39 + 2i
1, ENTER, 1, CPX, X^2 = 2i
```

In both cases the 15c and 42s give 2i as the result, either with y^x or x^2.

I tried the RM command (thanks for calling me geek :-))and it did not make any difference.

As you say, it is close enough to zero.

Thanks,

Migue

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is there anything the 15c can't do compared to the 35s?

*Message #1 Posted by **snaggs** on 1 Sept 2011, 6:39 p.m.*

I know people here heap scorn on the 35s, but its been a good calculator for me doing maths. Would the 15c replace it for daily usage?

Daniel

Re: Is there anything the 15c can't do compared to the 35s?

*Message #2 Posted by **Michael de Estrada** on 1 Sept 2011, 8:02 p.m.,*
in response to message #1 by snaggs

AFAIK, the only significant item is matrix math. Otherwise the 35s beats it on memory, two line display and alpha characters. The new 15C LE is probably faster as well. The main difference is keyboard quality IMO. Also the 35s is very buggy, whereas the 15C is totally solid in this regard.

Edited: 1 Sept 2011, 8:04 p.m.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #3 Posted by **snaggs** on 1 Sept 2011, 11:19 p.m.,*
in response to message #2 by Michael de Estrada

I havnt started doing linear algebra on the 35s yet. What is it missing that the 15C has?

The reason Im asking all this is it takes a while to learn where things are on a new calculator!

Re: Is there anything the 15c can't do compared to the 35s?

*Message #4 Posted by **Michael de Estrada** on 1 Sept 2011, 11:43 p.m.,*
in response to message #3 by snaggs

Like I said, about the only significant item is matrix math, which includes vectors. The 35s has far more features, and is an extension of the 32s, 32sii line. If you are happy with the 35s, then there is no reason to get a 15c. Most of us are getting it for nostalgia and because it has a unique form factor. Fact is, my 15c spends most of its time in its slip case, while I use my 32sii far more, and just got a nice 32s which I plan to use a lot as well. I don't use my 35s much because of all its annoying issues and lower quality keyboard and display.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #5 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 8:06 p.m.,*
in response to message #1 by snaggs

Can't think of anything right now, except for base conversions. But then I think my simple base conversion program for the 15C was much easier to use. The HP-35S is the only HP calculator I regretted buying, so much I soon gave it away...

The HP-15C is smaller, yet its performance is way better :-)

http://www.youtube.com/watch?v=devOI5sFDJk&feature=pyv

Edited: 1 Sept 2011, 8:12 p.m.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #6 Posted by **Les Bell** on 1 Sept 2011, 8:14 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> But then I think my simple base conversion for the 15C was much easier to use.

Time to start agitating for an HP-16C LE reissue, I think. ;)

> Quote:
>
> http://www.youtube.com/watch?v=devOI5sFDJk&feature=pyv

"This video is not available in your country"? What gives?

Best,

--- Les Bell
[http://www.lesbell.com.au]

Re: Is there anything the 15c can't do compared to the 35s?
*Message #7 Posted by **M. Joury** on 1 Sept 2011, 8:16 p.m.,*
in response to message #6 by Les Bell

I very much doubt you will *EVER* get that--although I would buy one... or two... or three...

Re: Is there anything the 15c can't do compared to the 35s?
*Message #8 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 8:34 p.m.,*
in response to message #7 by M. Joury

Me too!

My guess is - the best way to get a 16c LE reintroduction...
*Message #9 Posted by **gene wright** on 1 Sept 2011, 8:51 p.m.,*
in response to message #8 by Gerson W. Barbosa

Is to have the 15c LE sell out very very quickly.

That will speak louder than anything else.

Re: My guess is - the best way to get a 16c LE reintroduction...
*Message #10 Posted by **Walter B** on 2 Sept 2011, 2:24 a.m.,*
in response to message #9 by gene wright

I doubt that will be sufficient. Anyway, for the time in between use the WP 34S :-)

Re: Is there anything the 15c can't do compared to the 35s?
*Message #11 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 8:29 p.m.,*
in response to message #6 by Les Bell

> Quote:
>
> "This video is not available in your country"? What gives?

It's a local Fiat Cinquecento ad. A poor short performance by a 6' 3" tall actor is compared against Dustin Hoffman's. I didn't know it was not universally available, sorry!

Gerson.

This might work.

Edited: 1 Sept 2011, 9:38 p.m.

Re: Is there anything the 15c can't do compared to the 35s?
*Message #12 Posted by **Patrice** on 1 Sept 2011, 9:47 p.m.,*
in response to message #6 by Les Bell

> Quote:
>
> Time to start agitating for an HP-16C LE reissue, I think. ;)

From last speaking with Cyrille, it will remain a dream, at least for HP.

Patrice

Re: Is there anything the 15c can't do compared to the 35s?
*Message #13 Posted by **M. Joury** on 1 Sept 2011, 8:14 p.m.,*
in response to message #1 by snaggs

IMHO the short answer is "yes".

The 35S does have some features (such as binary arithmetic--even if badly implemented) that the 15C does not have. There was a voyager (16C) designed just for this purpose and it would run rings around the 35S's binary math capabilities. The 35S has more memory and possibly a slightly more powerful programming control set and it has replaced key codes with mnemonics (which is very nice). The 35S can be used as an algebraic calculator though most here (myself included) would not consider this an advantage. But in general the 15C can do everything that the 35S can do and with the updated processor it can do it faster.

Just my 2 cents and I am sure others will chime in <g>.

Cheers,

-Marwan

Re: Is there anything the 15c can't do compared to the 35s?

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 1 Sept 2011, 9:08 p.m.,*
in response to message #1 by snaggs

Can the 15C be used in the test environments for which the 35s was specifically designed?

Re: Is there anything the 15c can't do compared to the 35s?

*Message #15 Posted by **Jeff O.** on 1 Sept 2011, 10:05 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

Certainly not on the FE/PE/PS tests. I suppose it is possible that NCEES could add the 15c to their "approved calculator list", but they have not been too responsive to concerns about their policy and seriously doubt that they will care to add another approved calculator. I think they would prefer to get it down to one approved model, to make it super easy on their proctors.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #16 Posted by **Jeff O.** on 1 Sept 2011, 10:14 p.m.,*
in response to message #1 by snaggs

In my opinion, the programming capabilities of the 35s are superior to the 15c. Lots of labels, two index registers, alpha dislay of functions instead of key codes, ability to display alpha prompts, etc. But the 15c will make a fine daily use calculator. Other than entry and display, and ability to directly store and recall complex values, the 15c has better complex number support.

edit - remembered that the 15c cannot directly store and recall complex values.

Edited: 4 Sept 2011, 10:56 a.m. after one or more responses were posted

Re: Is there anything the 15c can't do compared to the 35s?

*Message #17 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 10:40 p.m.,*
in response to message #16 by Jeff O.

> Quote:
>
> Lots of labels, two index registers, alpha dislay of functions instead of key codes, ability to display alpha prompts, etc.

The scale is unbalanced by these bugs and features, IMHO. A real pity, most of them could have been easily addressed...

Re: Is there anything the 15c can't do compared to the 35s?

*Message #18 Posted by **snaggs** on 1 Sept 2011, 11:38 p.m.,*
in response to message #17 by Gerson W. Barbosa

This bug list is only 50% accurate as discussed ad-nauseum previously!

Re: Is there anything the 15c can't do compared to the 35s?

*Message #19 Posted by **Paul Dale** on 2 Sept 2011, 12:48 a.m.,*
in response to message #18 by snaggs

Which items on the 35s bug list aren't correct? I confirmed them before I added them so they all were bugs. If some have subsequently been fixed, I'd like to know so I can update the list.

Since I am not about to purchase a new 35s, I'd prefer a couple of different people run through the list with a recent 35s if possible to avoid typing and interpretation error arising.

- Pauli

Re: Is there anything the 15c can't do compared to the 35s?

*Message #20 Posted by **Martin Pinckney** on 2 Sept 2011, 12:53 a.m.,*
in response to message #19 by Paul Dale

I think snaggs is referring to a thread a few weeks ago in which he "debunked" some of the reported bugs.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #21 Posted by **snaggs** on 2 Sept 2011, 8:01 a.m.,*
in response to message #20 by Martin Pinckney

Yes, bugs has been used to describe "doesn't do it like my old calclator". There are clearly some thing on that list which could have been done better, but theyre not bugs, just mildly inconvenient.

I dont find the arrow keys a "bug", I like them. The keybord is not as good as a Pioneer keyboard, and keys require some more pressure, this is not a "bug", its just not as good.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #22 Posted by **Paul Dale** on 2 Sept 2011, 8:13 a.m.,*
in response to message #21 by snaggs

Are we talking about the same list here? The 35s bug list doesn't mention arrow keys, let alone calling them a problem or a bug. It also doesn't mention keyboard quality.

I will freely admit that there are seven items down the bottom (in a separate list) which are classified as a bit weird or cumbersome rather than as bugs. This is made pretty clear.

The list of nineteen items at the top are definitely bugs however. Unless some of these have been fixed in the meantime.

- Pauli

Edited: 2 Sept 2011, 8:20 a.m.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #23 Posted by **snaggs** on 2 Sept 2011, 8:28 a.m.,*
in response to message #22 by Paul Dale

Yep, heres a link for you

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=190102#190102

Ps. I crashed Windows Xp with Matlab last week with a recursive algorithm. The bug was my code, not Matlab.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #24 Posted by **Jeff O.** on 2 Sept 2011, 7:32 a.m.,*
in response to message #17 by Gerson W. Barbosa

Certainly the 35s has issues. It was a missed opportunity that was just a ROM roll away from being a very, very good calculator.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #25 Posted by **Gerson W. Barbosa** on 2 Sept 2011, 10:27 a.m.,*
in response to message #24 by Jeff O.

> Quote:
>
> It was a missed opportunity that was just a ROM roll away from being a very, very good calculator.

Agreed! For a while I hoped a bug-fixed version would appear, but I have quit. Truth is a few unpleased users is not enough for a ROM revision.

The 15C cant display letters?

*Message #26 Posted by **snaggs** on 1 Sept 2011, 11:16 p.m.,*
in response to message #16 by Jeff O.

Is that what your saying?

Or that it cant display sometihng like "A?" when using an input command as it only has 1 line?

Daniel.

Re: The 15C cant display letters?

*Message #27 Posted by **M. Joury** on 1 Sept 2011, 11:29 p.m.,*
in response to message #26 by snaggs

It can't display letters at all. Program lines are key codes. Registers are numbers. No letters anywhere.

Cheers,

-Marwan

Holy cow!

*Message #28 Posted by **snaggs** on 1 Sept 2011, 11:32 p.m.,*
in response to message #27 by M. Joury

You guys must has great memories to remember where all you eqns are and what order the variables are asked for.

I did not get that impression in the forum, i wont be buying 2 then if its just going to be a show pony. I must have very different needs from some people here as I cant see how for me a 15c could replace a 35s.

Edited: 1 Sept 2011, 11:35 p.m.

Re: Holy cow!

*Message #29 Posted by **Martin Pinckney** on 2 Sept 2011, 12:47 a.m.,*
in response to message #28 by snaggs

> Quote:
>
> You guys must has great memories to remember where all you eqns are and what order the variables are asked for.

No, they have great memories of using a 15c!

> Quote:
>
> I must have very different needs from some people here as I can't see how for me a 15c could replace a 35s.

Yes, whether 15c could replace 35s depends on the user's needs. Two different feature sets:

15c - Ease of use for everyday keyboard calculations, classic RPN programing paradigm for true HP aficionados, bug-free.

35s - Also ease of use for everyday keyboard calculations (with a few quirks), more advanced/capable programing paradigm, lots of bugs.

Re: Holy cow!

*Message #30 Posted by **Paul Dale** on 2 Sept 2011, 12:52 a.m.,*
in response to message #28 by snaggs

> Quote:
>
> You guys must has great memories to remember where all you eqns are and what order the variables are asked for.

It is more a case of the 15c not having a huge amount of memory.

I don't leave programs on my 15c long. Well I do but I never remember what I last left on it. Then I clear program memory and write another quick and dirty.

- Pauli

Re: Holy cow!

*Message #31 Posted by **Mike Morrow** on 2 Sept 2011, 1:46 a.m.,*
in response to message #28 by snaggs

> Quote:
>
> I must have very different needs from some people here as I cant see how for me a 15c could replace a 35s.

Anyone with qualification in a scientific or engineering discipline would immediately recognize that the 35S has no competent or coherent capability in the complex domain. It's a fool's toy.

That alone disqualifies the 35S as an acceptable calculator for any but the most trivial uses.

The 15C is second (though a distant second) only to the 42S as a complex domain RPN calculator.

Evidence is that there are few knowledgeable people who would choose a 35S over a 15C.

Edited: 2 Sept 2011, 1:55 a.m.

Re: Holy cow!

*Message #32 Posted by **Paul Dale** on 2 Sept 2011, 1:58 a.m.,*
in response to message #31 by Mike Morrow

> Quote:
>
> The 15C is second (though a distant second) only to the 42S as a complex domain RPN calculator.

What about the 34S???? It is the only one of the three with complex gamma built in e.g. :-)

- Pauli

Re: Holy cow!

*Message #33 Posted by **Lode** on 2 Sept 2011, 9:06 a.m.,*
in response to message #32 by Paul Dale

When I saw that 34s does LambertW and Gamma on complex numbers in the same consistent way as it does them for every function, I was blown away! :)

Re: Holy cow!

*Message #34 Posted by **snaggs** on 2 Sept 2011, 2:02 a.m.,*
in response to message #31 by Mike Morrow

Can you give me an example of a problem that can be solved on the 15C (or 42s) that can't on the 35s?

I have a 42s emulator until my in-the-flesh 42s arrives. So I can give it a go on both and finally understand what the problem is..

Sorry, but Im not just being contrary, its just that every day I have a good experience with what I can do with the 35s! For example, from a worded problem I was working through for revision 10 minuteds ago I came up with an equation for mortage payments;

P=(1+U/12)^n*A-((1-(1+U/12)^n)/(1-(1+U/12)))*D

where U is the annual interest rate, A the inirial amount, D the payment, and P is the remaining mortage after n months.

I could just pop this into EQN, and solve for N when with P=0.

Im not sure how long that would take on a 15c, could you do it during a exam?

Re: Holy cow!

*Message #35 Posted by **Gene Wright** on 2 Sept 2011, 7:41 a.m.,*
in response to message #34 by snaggs

I guess if you want to spend the time programming the 35s, you could do an 8x8 determinant, but you can do that out of the box on the 15c.

Not possible unless you write a long, complicated program on the 35s.

This is probably unfair, but you can't find the cosine of 89.99999 on the 35s in degrees mode, but you can on the 15c. (I know, that's below the belt).

Re: Holy cow!

*Message #36 Posted by **snaggs** on 2 Sept 2011, 8:10 a.m.,*
in response to message #35 by Gene Wright

You can, its just not as accurate. Add another 9 or remove one and its fine. It is however more accurate except for those specific values.

I do agree however, that given 30 years have passed in computer science since the 15c, we do have better algorithms out

there. We could have had our cake and et it to!

As for the 8x8 determinant, thanks for the example. Ill have a play with that and can now see for myself whats missing.

Daniel

Re: Holy cow!
*Message #37 Posted by **Gene Wright** on 2 Sept 2011, 8:12 a.m.,*
in response to message #36 by snaggs

No problem. I do agree that specifically choosing an example where the 35s has a bug is highly unfair, but there are a good number of places where you can run into problems with the 35s, per the list.

Complex number support is better and "more native" on the 15c LE than the 35s.

Matrix work is much better on the 15c LE than the 35s.

Speed is much better on the 15c LE than the 35s.

Re: Holy cow!
*Message #38 Posted by **snaggs** on 2 Sept 2011, 12:40 p.m.,*
in response to message #37 by Gene Wright

Thanks for some specific examples. It really seems that alost every model has something to offer that others dont.

It would be nice if HP would make one calculator that is includes all these small advamces in the one machine.

PS? Wjilst googling Arcsin on the HP35s I stumbled across this awesome site! Chocker block full of some very complicated problems.

http://homepage.mac.com/nwjh/HP-35S/index.html

Re: Holy cow!
*Message #39 Posted by **Palmer O. Hanson, Jr.** on 3 Sept 2011, 1:42 p.m.,*
in response to message #36 by snaggs

> Quote:
>
> As for the 8x8 determinant, thanks for the example. Ill have a play with that and can now see for myself whats missing.

If you do you will find that the 35s outperforms the 15c for a simple reason -- more digits in the mantissa.

Re: Holy cow!
*Message #40 Posted by **Palmer O. Hanson, Jr.** on 3 Sept 2011, 12:59 a.m.,*
in response to message #35 by Gene Wright

> Quote:
>
> I guess if you want to spend the time programming the 35s, you could do an 8x8 determinant, but you can do that out of the box on the 15c.
>
> Not possible unless you write a long, complicated program on the 35s.

The program has aleady been written. See Stefan's HP-35s Matrix Multitool thread of November 2, 2007, near the top of Archive 17, or go directly to it at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=127861. You will also find some material in that thread which compares the results from Stefan's program and those from the HP-15C and the HP-41 Advantage module.

You can also look at Article 886 where I wrote some additional programming to do other matrix tasks using Stefan's program for input.

Palmer

Re: Holy cow!
*Message #41 Posted by **Gene Wright** on 3 Sept 2011, 9:44 a.m.,*
in response to message #40 by Palmer O. Hanson, Jr.

Ah, or type in a long program. :-)

Re: Holy cow!

*Message #42 Posted by **Palmer O. Hanson, Jr.** on 3 Sept 2011, 1:37 p.m.,*
in response to message #41 by Gene Wright

> Quote:
>
> Ah, or type in a long program. :-)

And with that comment you have recognized the real deficiency of the 35s for many users -- the absence of an input/output capability. The other major deficiency with respect to entering programs is the unreliability of the check sum.

But wasn't the absence of an input/output capability recognized as a requirement for use on NCEES tests? I suggest that trying to combine the development of an NCEES calculator with the release of a device commemorating the original HP-35 led to some compromises that left all users somewhat unhappy. I also suggest that the push to release the HP-35s at the HP-35 anniversary may have led to an earlier release than was justified by the development status at the time.

Edited: 3 Sept 2011, 2:37 p.m.

Re: Holy cow!

*Message #43 Posted by **Jeff O.** on 3 Sept 2011, 4:09 p.m.,*
in response to message #42 by Palmer O. Hanson, Jr.

> Quote:
>
> But wasn't the absence of an input/output capability recognized as a requirement for use on NCEES tests?

Yes, lack of I/O was an absolute requirement for NCEES approval. Lack of alpha capability was also a requirement, they either overlook or are unaware of the limited alpha capability that the 35s has via its equations.

Edited: 3 Sept 2011, 4:10 p.m.

Re: Holy cow!

*Message #44 Posted by **Mike Morrow** on 2 Sept 2011, 2:03 p.m.,*
in response to message #34 by snaggs

> Quote:
>
> Can you give me an example of a problem that can be solved on the 15C (or 42s) that can't on the 35s?

Here is a list quoted from my post of 7 August 2011.

> Quote:
>
> To claim true complex domain support, a machine must execute all of its functions that are mathematically defined in the complex domain by operating on or generating the appropriate values. For a few random examples, try that 35S to evaluate these:
>
> 1. arcsin(2)
> 2. ln(-2)
> 3. arctan(1+i)
> 4. cosh(1+i)
> 5. cos(1+i)
> 6. arcsinh(1+i)
> 7. ln(1+i)
> 8. exp(1+i)
> 9. i^i
> 10. arccosh(0.5)
>
> The 42S handles all these (as do the RPL machines)...the 15C is similar but slower, though with its limited display what is child's play on the 42S requires some mental effort to keep things straight on the 15C...

Re: Holy cow!

*Message #45 Posted by **Jeff O.** on 2 Sept 2011, 2:24 p.m.,*
in response to message #44 by Mike Morrow

The 35s can evaluate several of the examples on your list:

```
 1.  cannot do
 2.  can do.  You must enter -2 as -2+i0, but you must do the
     same on wp34s for example.
 3.  cannot do
 4.  cannot do
 5.  can do directly, i.e., key in 1, i, 1, press COS, see answer.
 6.  cannot do
 7.  can do directly, i.e., key in 1, i, 1, press LN, see answer.
 8.  same as 7 above, does it just fine
 9.  can do directly, press i, enter, y^x
10.  cannot do
```

I agree that it *should* handle all of the above directly, but the functions it has are quite useful.

edit - also can do no. 5 (Thanks Dieter, I missed that one.)

Edited: 2 Sept 2011, 3:46 p.m.

Re: Holy cow!

*Message #46 Posted by **Dieter** on 2 Sept 2011, 3:09 p.m.,*
in response to message #44 by Mike Morrow

Well, the 35s cannot do hyperbolic and inverse trig in the complex domain. Which accounts for half of your examples. You could have chosen all ten examples that way to show what a completely unuseable device the 35s is. ;-)

In fact, with the mentioned exceptions, the 35s handles all other examples easily. Even easier than the 15C since you don't have to remember things like the use of flag 8 or the meaning of a small c in the display. ;-) The 35s has a more direct approach: enter a real number and the result will be real (or an error). Enter a complex number (maybe with a zero imaginary part) and the result will be complex.

Your examples:

```
-2i0 ln   => 0,6931 i 3,1416
 1i1 ln   => 0,3466 i 0,7854
 1i1 e^x  => 1,4687 i 2,2874
 1i1 cos  => 0,8337 i-0,9889
```

And finally, ultimately elegant:

```
 i ENTER y^x => 0,2079 i 0
```

Yes, I like it. :-)

Dieter

Re: Holy cow!

*Message #47 Posted by **snaggs** on 2 Sept 2011, 6:30 p.m.,*
in response to message #46 by Dieter

Thanks Dieter, they really should edit the "bugs" listed which is bandied around so authoritively.

As you have demonstrated, many so called bugs are just "doesnt do it like my old calculator". I like you think the 35s complex mode makes sense and is easy.

Of course it would be nice to have it switch automatically into complex mode for root -1. The 32sII couldnt do complex hyperbolics either, yet these are sold for big $$ on ebay and not bandied as unusable.

Re: Holy cow!

*Message #48 Posted by **Paul Dale** on 2 Sept 2011, 6:56 p.m.,*
in response to message #47 by snaggs

> Quote:
>
> Thanks Dieter, they really should edit the "bugs" listed which is bandied around so authoritively

There is ***nothing*** in the 35s bugs list article involving any of these computations or anything even close to them.

In fact no complex operations are even mentioned in the bug list.

There is *one* mention of a complex number and this is in bug #19 where the presence of a complex number in a register prevents the linear solver from working. Definitely a bug but not one in the complex function set.

That all said, I'd be surprised if there weren't numeric issues in the complex functions.

Maybe you should read the bugs list article before denigrating it. As for editing it, as I've already pointed out, I'm quite happy and willing to do so. My criteria is that more than one person reproduces a bug not being present anymore.

- Pauli

A closer look at the 35s bug list

*Message #49 Posted by **Dieter** on 4 Sept 2011, 12:34 p.m.,*
in response to message #48 by Paul Dale

A few remarks regarding the 35s bug list.

First, I would not consider the fact that ALL mode often requires scrolling a bug. It's intended this way, simply because ALL does what it says: it displays *all* digits of the mantissa. Due to the limited space (14 displayable digits) this cannot be done including the exponent. Yes, that's certainly not nice (and I really appreciate the 34s ALL nn mode), but it's the way the 35s is supposed to work. This feature should be moved to the section of *"items that cannot be classified as bugs since they are documented or work correctly"*, which is where it belongs.

Then there is the cos/tan issue (bugs 2 and 3) for angles close to 90 degrees.
Let's take a closer look at this.

	correct mantissa	HP35s	error
cos(89,9)	1,74 532 836 590	1,74 532 836 590	0
cos(89,99)	1,74 532 924 313	1,74 532 924 306	-7D 12
cos(89,999)	1,74 532 925 191	1,74 532 925 091	-1D 10
cos(89,9999)	1,74 532 925 199	1,74 532 925	-2D 10
cos(89,99999)	1,74 532 925 199	1,74 532 92	-5D 9
cos(89,999999)	1,74 532 925 199	1,74 532 9	-3D 8
cos(89,9999999)	1,74 532 925 199	1,74 532	-9D 7
cos(89,99999999)	1,74 532 925 199	1,74 532 925 199	0
cos(89,999999999)	1,74 532 925 199	1,74 532 925 199	0
cos(89,9999999999)	1,74 532 925 199	1,74 532 925 199	0

The problem seems to be the loss of digits as the argument moves closer to 90 degrees.

So, instead of full 12 digit precision the result may carry only 11 to 6 valid digits. The remaining digits are simply missing. Yes, precision is lost. But are these results completety "dud", as the bug list calls it? All results are correct within -1 ULP of the displayed result.

By the way, I now remember a discussion on the 34s quantile functions, proposing to return a result with less than the full 16 digits, say: 10 or 8, if a full precision result would take too much time or effort. ;-)

The loss of precision in the cosine routine also affects the tan-results that are obviously evaluated by dividing sine by cosine:

	correct mantissa	HP35s	error
tan(89,9)	5,72 957 213 354	5,72 957 213 355	+1D 12
tan(89,99)	5,72 957 789 313	5,72 957 789 338	+2D 11
tan(89,999)	5,72 957 795 072	5,72 957 795 401	+3D 10
tan(89,9999)	5,72 957 795 130	5,72 957 795 785	+6D 10
tan(89,99999)	5,72 957 795 131	5,72 957 812 200	+2D 8
tan(89,999999)	5,72 957 795 131	5,72 957 877 856	+8D 7
tan(89,9999999)	5,72 957 795 131	5,72 960 832 397	+3D 6
tan(89,99999999)	5,72 957 795 131	5,72 957 795 131	0
tan(89,999999999)	5,72 957 795 131	5,72 957 795 131	0
tan(89,9999999999)	5,72 957 795 131	5,72 957 795 131	0

These tan-results returned by the 35s can easily be obtained by manually dividing the sine values by the cosine as shown above.

Example:

```
tan(89,999)
    = sin(89,999) / cos(89,999)
    = 0,999999999848 / 1,74532925091 E-5
    = 5,72 957 795 400 E+4

tan(89,99999)
    = sin(89,99999) / cos(89,99999)
    = 1,00000000000 / 1,745329 E-7
    = 5,72 957 877 856 E+6

tan(89,9999999)
    = sin(89,9999999) / cos(89,9999999)
    = 1,00000000000 / 1,74532 E-9
    = 5,72 960 832 397 E+8
```

As you see, we get exactly the same results as returned by the 35s. In fact, the 35s may even be slightly better

due to the internal 15-digit arithmetics.

So, the loss of precision in the tangent calculation simply is a result of the digit loss in the cosine routine.

There are other examples of earlier HP calculators showing loss of precision in their trig functions. Take a look at the HP-41 (and most probably the HP-67/97 and 15C as well) in radians mode and see how the results of the good old times compare to today's:

```
                 mantissa as returned by             correct result
                 "good old HP"    HP-35s
-----------------------------------------------------------------------
sin(3,1415)      9,26 535 898 7   9,26 535 896 582    9,26 535 896 607
sin(3,14159)     2,65 359         2,65 358 979        2,65 358 979 324
sin(3,1415926)   5,35 9           5,35 897 9          5,35 897 932 385
sin(3,14159265)  3,59             3,58 979            3,58 979 323 846
sin(3,141592653)  5,9             5,89 793 238 463    5,89 793 238 463
sin(3,141592654) -4,1            -4,10 206 761 537   -4,10 206 761 537
```

Should we also consider the 41/67/97/15C result in the left column to be "dud"? Is this also known as a bug in these calculators, returning "dud" sine results for arguments close to Pi? It's the same as with the 35s: in sin(3,1415) the last two digits are wrong, and as the argument gets closer to Pi, precision drops to merely two valid digits. As opposed to the 35s who returns at least six. ;-)

So, let's be fair.

Dieter

Re: A closer look at the 35s bug list

*Message #50 Posted by **Paul Gaster** on 4 Sept 2011, 1:49 p.m.,*
in response to message #49 by Dieter

Explain why scrolling is needed on the 35S when there is no scrolling needed on the 33S. http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=125421 Still consider it not a bug?

Re: A closer look at the 35s bug list

*Message #51 Posted by **Dieter** on 4 Sept 2011, 2:18 p.m.,*
in response to message #50 by Paul Gaster

Hi Paul,

> Quote:
>
> Explain why scrolling is needed on the 35S when there is no scrolling needed on the 33S. http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=125421

You will find the answer in the first message of that thread: The 33s simply does *not* display all digits when in ALL mode. In the example given, it displays just 4,2631597346E-7 (eleven out of twelve digits), while the 35s displays all of them and adds the missing 3 at the end - which is the reason why the final 7 of the exponent moves out of the display.

There are two ways to implement a display mode like this: first, the calculator can do what the mode says: display all digits. Since the display has 14 places while the device uses a 12-digit mantissa, it is clear that this can require scrolling. On the other hand, the calculator may display less than all 12 digits to make the value fit in the display. Since up to six display digits can be occupied by signs, an E and a three-digit exponent, in the worst case only 8 out of 12 digits can be shown. So that's an ALL command that doesn't show all digits. Maybe it should better be named STD or FLOAT or something like that. ;-)

In both cases it's a tradeoff. Actually I prefer the second approach since the full mantissa can be displayed by using MANT or SHOW, but the 35s method is another valid option.

> Quote:
>
> Still consider it not a bug?

It's the way HP chose the 35s to work. No, I don't like it, but it still is not a bug. ;-)

Dieter

Re: A closer look at the 35s bug list

*Message #52 Posted by **Paul Dale** on 4 Sept 2011, 6:01 p.m.,*
in response to message #49 by Dieter

> Quote:

> But are these results completety "dud", as the bug list calls it?

The bug list just says "dud" and this they are, they are both incorrect and they could easily be better. I wouldn't say these results are "completely dud" however.

> Quote:
>
> By the way, I now remember a discussion on the 34s quantile functions, proposing to return a result with less than the full 16 digits, say: 10 or 8, if a full precision result would take too much time or effort. ;-)

Yes. The difference being that this would have been documented as a known defect if it came to pass. Besides, with your able assistance, we fixed these ;-)

> Quote:
>
> The loss of precision in the cosine routine also affects the tan-results that are obviously evaluated by dividing sine by cosine:

I suspected as much.

- Pauli

Re: A closer look at the 35s bug list

*Message #53 Posted by **Gerson W. Barbosa** on 5 Sept 2011, 11:32 a.m.,*
in response to message #52 by Paul Dale

> Quote:
>
> > Quote:
> >
> > The loss of precision in the cosine routine also affects the tan-results that are obviously evaluated by dividing sine by cosine:
> >
> > I suspected as much.

That was also my opinion when I first noticed the tan bug on the HP-33S five years ago. However, according to an analysis by Karl Schneider the HP-33S uses the CORDIC algorithm to compute the trigonometric functions, which would imply tangent is computed first.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103989

Gerson.

You are correct

*Message #54 Posted by **snaggs** on 5 Sept 2011, 8:40 a.m.,*
in response to message #49 by Dieter

There are double standards and a witch hunt by some re: the 35s. Outisde of 89.99999 the 35s is more accurate than the 42s for other trig values.

Its just a different algorithm. The "buglist" as published is somewhere between propoganda and hysteria, and only 50% accurate.

Daniel.

Re: You are correct

*Message #55 Posted by **Paul Dale** on 5 Sept 2011, 5:47 p.m.,*
in response to message #54 by snaggs

> Quote:
>
> The "buglist" as published is somewhere between propoganda and hysteria, and only 50% accurate.

You keep saying this. Put your money where your mouth is and tell us which nine items on the bug list

aren't bugs.

I'm happy to accept that the COS and TAN items are manifestations of the same bug. The list is eighteen bugs if we accept this.

I'm willing to accept Dieter's suggestion that the ALL display problem isn't strictly a bug but an annoyance.

Eight more please.

- Pauli

Re: You are correct

*Message #56 Posted by **snaggs** on 6 Sept 2011, 6:29 a.m.,*
in response to message #55 by Paul Dale

Ok, though searchig the archive is a pain;

3. Not a bug 4. What does meaningless mean? 6 dont get it, works either way 7 is just a limit 9, shows correct value 15. Just did it and pressed run 20 times, always same answer

-466.9270

Then I just got bored

So sorry, your right, more than half might be accurate, though a fraction of that relevant. I guess you can say the buglist is buggy.

Edited: 6 Sept 2011, 6:38 a.m.

Re: You are correct

*Message #57 Posted by **Gerson W. Barbosa** on 6 Sept 2011, 7:26 a.m.,*
in response to message #56 by snaggs

> Quote:
>
> ...searchig the archive is a pain;
>
> 3. Not a bug

Use Google instead. For instance, the search key **site:www.hpmuseum.org 35S + checksum** will return about 121 results, the first of which being

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=121069

It this is not a bug then nothing else is.

Re: You are correct

*Message #58 Posted by **Bart (UK)** on 6 Sept 2011, 7:35 a.m.,*
in response to message #56 by snaggs

> Quote:
>
> 3. Not a bug

Since when can we class incorrect checksums as *not* a bug? That re-classification of yours would turn the whole computing world upside-down!

> Quote:
>
> 4. What does meaningless mean?

OK, so perhaps "inconsistent" or "incorrect" would have been more appropriate. However, the intended meaning is quite clear from the context - one synonym for "meaningless" is "useless", and that is exactly what an inconsistent program checksum & length is.

For the implication of these 2 bugs, see the italics in the 'remarks' section of my post below on complex arcsin & arccos.

Regards,
-B

Re: You are correct

*Message #59 Posted by **Paul Dale** on 6 Sept 2011, 7:37 a.m.,*
in response to message #56 by snaggs

> Quote:
>
> 3. Not a bug

You are kidding right? Enter a program. Take the checksum. Clear the program. Enter the program anew. Take the checksum. This time the checksum is different. How can that possibly not be a bug??? You have a very "interesting" definition of bug if so.

The program needs to have numbers and/or expressions in it and as far as I'm aware nobody has isolated the cause of the problem.

This is relevant when you want to share a program with someone else. I'll use this program as an example. After all that typing you'd like to know that you've entered it correctly. The checksum should help here only it doesn't. My records list the checksum I got for this program as EB55. You won't get the same.

The sharing of programs and pieces of code is one of the great strengths of this community. Open source well before that term was coined.

> Quote:
>
> 4. What does meaningless mean?

The size returned for programs can be incorrect. Similar conditions to #3 above. Taking that same program, the reported length was 3331 bytes. Enter it and the free memory drops by close to 8kb. One (or both) of these two sizes is incorrect. The program size certainly is wrong.

Again this is useful when sharing programs as a validity check. Also useful if you want to add another routine to your calculator and you'd like to see if it will fit -- not such a big issue for the 35S with its loads of RAM.

> Quote:
>
> 6 dont get it, works either way

Can someone else please confirm this and I'll add a note saying bug fixed in recent versions. It definitely was a bug but might not be anymore.

> Quote:
>
> 7 is just a limit

But still a bug I think. Why can't I enter a new label here? I can delete an earlier step, enter the label and then add the step back in and things are happy. Still, I'm will to concede this one as weird and unusual behaviour rather than a bug.

> Quote:
>
> 9, shows correct value

Only the value scrolls sometimes and you can no longer see the first digit. As Dieter pointed out and as I mentioned earlier, I'm willing to say this isn't strictly a bug and I'd already given you this one.

> Quote:
>
> 15. Just did it and pressed run 20 times, always same answer
>
> -466.9270

#15 one doesn't return a result. I assume you mean #14 :-) Again, can someone confirm this and I'll note it as fixed in recent firmware.

Quote:

Then I just got bored

I'm not surprised, the next one #15 is an infinite loop hang :-)

I manually confirmed all the bugs except the first one when the list was compiled and amended soon after the release of the 35S. They all definitely exist in my 35S. Some might have been addressed in the meantime.

However, I'm not about to go out and buy a recent model 35S just to validate that these bugs do or do not still exist.

- Pauli

Re: You are correct

*Message #60 Posted by **M. Joury** on 6 Sept 2011, 10:02 a.m.,*
in response to message #59 by Paul Dale

HP-35S SN: 74601701

In my unit both #6 and #14 are still bugs. Note that for number 6 in RADIX, mode in a program RADIX. shows as RADIX, and RADIX. shows as RADIX, so it is wrong in BOTH directions. Appears to be reversed.

Cheers,

-Marwan

Re: You are correct

*Message #61 Posted by **Alexander Oestert** on 6 Sept 2011, 8:08 a.m.,*
in response to message #56 by snaggs

Quote:

pressed run 20 times, always same answer

-466.9270

In a recent thread you wrote that you tried to confirm this bug but weren't able to enter the equations as equations but rather did it by keystroke programming. If this is still the case, you won't see the bug that only shows when having entered EQNs. Read the manual concerning EQN entry before always repeating the same mistake!

Re: Holy cow!

*Message #62 Posted by **Mike Morrow** on 6 Sept 2011, 11:17 a.m.,*
in response to message #46 by Dieter

Quote:

Well, the 35s cannot do hyperbolic and inverse trig in the complex domain...You could have chosen all ten examples that way to show what a completely unuseable device the 35s is. ;-)

The vast complex domain capability of the HP 35S is only "half-vast". :-)

It is sufficient to discredit HP 35S firmware design if these many examples of inconsistent or incomplete complex domain competency can be cited. They aren't bugs...they simply indicate HP's deliberately indifferent and less than mediocre HP 35S firmware design.

HP 35S firmware design, entirely new 20 years after HP 42S introduction, is grossly inferior in general function and capability. Almost all of the functionality of an *improved* HP 42S could easily have been designed into the HP 35S *for only the cost of developing the firmware!*

The HP 35S is from the start an abandoned one-shot project. **Not one** of the well-documented bugs has been corrected, almost five years since introduction. Most Pioneer (and other) series had firmware imperfections quickly addressed. The HP 42S had firmware versions A, B, and C in its first four years.

Quote:

> ...the 35s handles all other examples easily. Even easier than the 15C since you don't have to remember things like the use of flag 8 or the meaning of a small c in the display. ;-)

That's very true. I **never** cite the HP 15C as a **good** example of a generalized complex domain machine. It is the first HP that had this capability in firmware, but it is **more than a little awkward** to use. The HP 42S corrected this with its alphanumeric display capability and many other improvements.

Edited: 6 Sept 2011, 11:41 a.m.

Re: Holy cow!

*Message #63 Posted by **Bart (UK)** on 2 Sept 2011, 8:03 p.m.,*
in response to message #44 by Mike Morrow

Complex ArcSin & ArcCos On the HP35S

To make life easier, I decided to implement a few common functions that allow for inputs resulting in complex answers, namely:
Sqrt(x), $x < 0$
Arcsin(x), $|x| > 1$
Arccos(x), $|x| > 1$
Log10(x), $x < 0$
The following formulae were used:
$\text{Arcsin}(x) = -i\ \text{Ln}(ix+\text{Sqrt}(1-x^2))$
$\text{Arccos}(x) = -i\ \text{Ln}(x+\text{Sqrt}(x^2-1))$
$\text{Log}_{10}(x)=\text{Ln}(x)/\text{Ln}(10)$
where
$\text{Ln}(x)=\text{Log}_e(x)$

This calculator has a more intuitive a***i***b complex number representation, and the answers are presented as such. However, during my use with complex numbers on the HP35S, I found that it was a pain to separate the real and imaginary parts and thus also added a routine to easily separate a complex number (usually an answer of a previous calculation) into the real part (X-register) and complex part (Y-register).
Using the labels as per the listing the routines are called as follows: (x can be real or complex)
Sqrt of negative numbers: x XEQ I002
arcsin of numbers $|x| > 1$: x XEQ I007
arccos of numbers $|x| > 1$: x XEQ I025
Log10 of negative numbers: x XEQ I039
Separate the complex number in RE and IM parts: a***i***b XEQ I046

```
Label   Command Comment
I001    LBL I
I002    0i0     CMPLX SQRT
I003    +
I004    0.5
I005    y^x
I006    RTN
I007    0i0     CMPLX ASIN(x) |x|>1
I008    +
I009    ENTER
I010    ENTER
I011    2
I012    y^x
I013    +/-
I014    1i0
I015    +
I016    XEQ I002
I017    x<>y
I018    0i1
I019    *
I020    +
I021    LN
I022    0i-1
I023    *
I024    RTN
I025    0i0     CMPLX ACOS(x) |x|>1
I026    +
I027    ENTER
I028    ENTER
I029    2
I030    y^x
I031    1i0
I032    -
I033    XEQ I002
I034    +
I035    LN
I036    0i-1
I037    *
I038    RTN
I039    LN      CMPLX LOG10(x), x<0
I040    0i0
I041    +
I042    10
I043    LN
```

```
I044    ÷
I045    RTN
I046    STO A   Extract RE & IM parts into X(RE) & Y(IM) regs
I047    ABS
I048    RCL A
I049    ARG
I050    SIN
I051    *
I052    RCL A
I053    ABS
I054    RCL A
I055    ARG
I056    COS
I057    *
I058    RTN
```

Remarks

Program length and checksum are not provided as they make no sense on this calculator.
(Note to snaggs: here we sharing programmers usually put the length & checksum so that others have some confidencen that they have typed it in correctly - bummer, doesn't work on the 35s)
The two-tiered complex number system of the 32S means that in effect you are left with a two-level stack when doing complex maths. This means some added manipulation and use of storage registers.
In contrast, the 35s implementation of complex numbers means a full four-level stack is available for complex maths. With the added feature of the keytop i, I find complex number entry easier than the 42S. Some functions on the 35s can be made to do complex calculations by adding 0i0 to the arguments (e.g. y^x and Ln(x)).

Please note that:

- I have not extensively tested these functions, just a few random points
- Accuracy of the tested points was 9 digits or better compared to results on a real 42S.

I'm sure there are ways to optimise this. Any suggestions/comments welcome.

Mike,
So now you can do some complex stuff on the 35s :-), and you should still have plenty space of other programmes (the same functions were similarly programmed on the 32S and used 112.5 bytes)

I'm sure it shouldn't take too much more to do arctan and the hyp functions ;-)

-B

Re: Holy cow!

*Message #64 Posted by **Jeff O.** on 3 Sept 2011, 9:20 a.m.,*
in response to message #63 by Bart (UK)

Thanks Bart, nice work!

Re: Holy cow!

*Message #65 Posted by **Ángel Martin** on 6 Sept 2011, 2:09 a.m.,*
in response to message #63 by Bart (UK)

I've found the following expression to be more accurate to calculate arc cos in the complex domain:

acosh z = Ln[z + sqrt(z-1) sqrt(z+1)]

Reason being the branch selection for SQRT does make a difference, and that gets lost if you pre-select it by compacting the formula before hand.

Cheers, 'AM.

Re: Holy cow!

*Message #66 Posted by **Bart (UK)** on 6 Sept 2011, 7:15 a.m.,*
in response to message #65 by Ángel Martin

Thank you Ángel, it is always good to have input from a master maths programmer :-).

Thanks,
-B

Re: Holy cow!

*Message #67 Posted by **bill platt** on 2 Sept 2011, 4:45 p.m.,*
in response to message #34 by snaggs

If you are seriously interested in writing programs on/for a calculator, I strongly recommend that you skip past the 35s and get a 50G. There is no I/O on the 35S, nor the 15C, nor the 42. In our modern world, why the hell would anyone want to start out new

with something like that?!! Remember, many of us "experts" are old-timers who learned to use (and appreciate) these old non-I/O machines back when there weren't any other low-cost alternatives. (Excepting the Sharp programmables. but that is another story).

I know you like the 35S. It is somewhat cool. But it is also such a damn shame that it wasn't properly finished.

You will do yourself a big favor if you cut and run at this point. Heck, skip the calculators entirely and go right to Wolfram etc....

Edited: 2 Sept 2011, 5:16 p.m.

Re: Holy cow!

*Message #68 Posted by **snaggs** on 2 Sept 2011, 6:21 p.m.,*
in response to message #67 by bill platt

Well, we cant take Matlab or Wplfram into exams, we can take any calculator we like.

As for the 35s vs 50g. I bought a 49g+ years ago when it came out. I couldnt even figure out how to do basic things like nPr on it. It has remained in my drawer unused.

I like the fact that so many functions on the 35s are on the keys. I will have a crack at the 48 programming again over the Christmas holidays, direction fields would be nice. But for routine calculating I find he 35s so easy!

Ive already put 250 hours through my 35s.

Re: Holy cow!

*Message #69 Posted by **hpnut** on 2 Sept 2011, 7:02 p.m.,*
in response to message #68 by snaggs

> Quote:
>
> Ive already put 250 hours through my 35s.

Hi snaggs,

you keep a logbook or have an hourmeter to clock usage on your 35s? ;-)

hpnut in Malaysia

Re: Holy cow!

*Message #70 Posted by **Mike Morrow** on 6 Sept 2011, 11:30 a.m.,*
in response to message #67 by bill platt

> Quote:
>
> There is no I/O on the 35S, nor the 15C, nor the 42.

That's not at all true for the HP 42S. It has I/R printer output, and it has audio beep output. These are great advantages. The audio beep in particular I've found to be very useful to prompt for user input during a long-running program.

I suspect you refer actually to memory I/0. The only time I've ever lost anything on any of my HP 42S units is when I was fooling around with that remarkable built-in memory scanner/debugger. I've had several 400-step programs stored in my daily-use HP 42S that have been there for 14 years.

But...memory I/O would be nice.

Re: Holy cow!

*Message #71 Posted by **Fred Lusk** on 2 Sept 2011, 1:04 p.m.,*
in response to message #31 by Mike Morrow

With all due respect, your dismissal of the 35S as a "fool's toy" and acceptable only for trivial uses is way off base. While the 35S is certainly far from the best that HP has produced, it is still very usable.

Anyone with qualification in a scientific or engineering discipline should also know that not everyone in science or engineering needs complex number support. I'm a civil engineer with more than 30 years experience and, except for fooling around with them on my 42S, I haven't used complex numbers since college.

Re: Holy cow!

*Message #72 Posted by **Martin Pinckney** on 2 Sept 2011, 2:21 p.m.,*
in response to message #71 by Fred Lusk

> Quote:
>
> With all due respect, your dismissal of the 35S as a "fool's toy" and acceptable only for trivial uses is way off base. While the 35S is certainly far from the best that HP has produced, it is still very usable.
>
> Anyone with qualification in a scientific or engineering discipline should also know that not everyone in science or engineering needs complex number support. I'm a civil engineer with more than 30 years experience and, except for fooling around with them on my 42S, I haven't used complex numbers since college.

Well said, Fred.

Don't want to speak for snaggs, but I think I understand his points. For the most part, as I see it, the posters on this Forum tend to be super critical. Not only of calculator design, but as to technical nomenclature, even to the point of sometimes parsing each others sentence structure. And snaggs and you are right about some of the bugs being meaningless in the real world of everyday engineering calculations. The criticisms from this group have to be taken in context. The 35s is a useful calculator, just disappointing compared to the quality expected from HP. And the biggest disappointment is, no fixes being made.

Re: Holy cow!

*Message #73 Posted by **Michael de Estrada** on 2 Sept 2011, 2:35 p.m.,*
in response to message #72 by Martin Pinckney

The problem is that we oldsters have long memories of the great past products that set HP apart from all the other calc manufacturers. I remember engineers cursing the crummy keyboards on their cheap but affordable calcs, while I was in calc heaven with my HP-35 that cost me 2 weeks takehome pay. Today's market is intolerant of such high pricing, and the result is something like the HP-35s. It's not that the HP-35s is so terrible, but that the older stuff was really good. I recently added an HP-32S to my stable, and it's general quality is massively better than the HP-35s. I had no problem paying $100+ for it, but I can't see any college student doing it. BTW, I still have my original HP-35 and it still works great.

Re: Holy cow!

*Message #74 Posted by **Martin Pinckney** on 2 Sept 2011, 2:42 p.m.,*
in response to message #73 by Michael de Estrada

> Quote:
>
> It's not that the HP-35s is so terrible, but that the older stuff was really good.

You hit the proverbial nail on the proverbial head.

Re: Holy cow!

*Message #75 Posted by **Fred Lusk** on 2 Sept 2011, 9:07 p.m.,*
in response to message #74 by Martin Pinckney

Agreed.

Re: Holy cow!

*Message #76 Posted by **snaggs** on 2 Sept 2011, 6:45 p.m.,*
in response to message #73 by Michael de Estrada

What you say Michael makes perfect sense. One good thing, is HP seem to have learnt from the backlash, look how tne 15c relaunch has been handled. Give the hardcore users a free calc and find the ellusive bugs.

Maybe there is hope that a 35sII could be successfully executed to its full potential,

As for cursing crummy keyboards, the 35s is still a bastion of quality compared to the casio FX 82 AU plus recommended for my course.

Does this count as double shot keys? Help me!!

Edited: 2 Sept 2011, 6:46 p.m.

Re: Holy cow!

*Message #77 Posted by **Fred Lusk** on 2 Sept 2011, 7:11 p.m.,*
in response to message #72 by Martin Pinckney

Martin....

I agree. I can't understand why anyone would imply that complex number support is the key (only?) criteria for the usefulness of a scientific calculator. Obviously, many scientists and engineers need complex number support. On the other hand, it should be equally obvious that many do not. To make it the key criteria is unrealistic and frankly self-centered.

That being said, I do agree that there is no excuse for not providing something like the HP-42S level of complex number support on a modern high-end scientific calculator. But the HP-35S is NOT high-end but mid-level. For me, root solving and linear regression are far more important than complex numbers, but that's just me.

As great as HP calculators have been over the years, none have been perfect and none have had exactly the mix of features I would have specified. Since the market is not homogeneous, this makes perfect sense. That's why I like progammability: I can add the capabilities that HP "left out."

BTW, my experience with HP calcs started with an HP-35 that my dad (a high school chemistry teacher) bought right after it was announced. I was in 9th grade. I bought it from him when he upgraded to the HP-45. I then bought an HP-55 as a senior in high school, followed by a 34C in college and a 41CV and a 41CX early in my engineering career. My everyday calculator is a 42S I bought in 1989. I also have a 48G+, a 32Sii, a 35S, and several others. I have done a lot of programming on the 41CV/CX and 42S and a little on the 48G+. (What I wouldn't give for a 41/42 hybrid, but that will never happen.)

The 35S sits on the desk in my home office as a convenience calculator. I keep a couple of simple programs and a couple of equations in it. While I know there are bugs, and the keyboard sometimes misses keystrokes, the 35S does a good job fulfilling its role as a mid-level calculator. It will never be a 41CX or a 42S and we shouldn't expect it to be.

I never could get into the 15C, as good as it is. First, after years of handholding to do calculations, I prefer the vertical format. Second, I didn't see it as that big of a jump up from the 34C like the 41 was, and it can't hold a candle to the subsequent 42S.

Edited: 2 Sept 2011, 9:08 p.m.

Re: Holy cow!

*Message #78 Posted by **Martin Pinckney** on 2 Sept 2011, 10:19 p.m.,*
in response to message #77 by Fred Lusk

Fred,

> Quote:
>
> I can't understand why anyone would imply that complex number support is the key (only?) criteria for the usefulness of a scientific calculator. Obviously, many scientists and engineers need complex number support. On the other hand, it should be equally obvious that many do not. To make it the key criteria is unrealistic and frankly self-centered.

I don't think I've used complex numbers since College Algebra. Did we use them in Calculus courses? I can't remember. I don't think the Forum is dominated by civil engineers [:-)

> Quote:
>
> As great as HP calculators have been over the years, none have been perfect and none have had exactly the mix of features I would have specified. Since the market is not homogeneous, this makes perfect sense. That's why I like progammability: I can add the capabilities that HP "left out."

Precisely.

> Quote:
>
> BTW, my experience with HP calcs started with an HP-35 ...

I'm an HP late-bloomer, starting with a 20s in 1993. Now have a few models...

> Quote:
>
> I never could get into the 15C, as good as it is.

Having followed the speculation and hoopla for a couple of years, I find myself being tempted to get one of the new ones, but when I really think about it, I can't imagine why I would want one.

Re: Holy cow!

*Message #79 Posted by **Fred Lusk** on 3 Sept 2011, 12:07 a.m.,*
in response to message #78 by Martin Pinckney

The last time I did complex number calcs for real was in the one electrical engineering course I had to take, which was in my 3rd year of college. I had the HP-55 at the time and probably used a few of the complex number programs in the Mathematics Programs book that I bought from HP. I'm certain we hit complex numbers in Calculus a time or two and definitely in that part of Physics that deals with electricity and magnetism, but beyond that I really don't remember.

The only reason I would buy an anniversary edition of either the 12C or 15C would be for the nostalgia. Most of the calcs in my modest collection are ones I use/have used for school and work and I don't collect for profit.

Re: Holy cow!

*Message #80 Posted by **Paul Gaster** on 2 Sept 2011, 10:40 p.m.,*
in response to message #77 by Fred Lusk

You call the 35S a mid-level calculator, not high end, but HP calls the 35S the ultimate scientific calculator right on the packaging. They are advertising it as a high end scientific.

Re: Holy cow!

*Message #81 Posted by **Fred Lusk** on 3 Sept 2011, 12:25 a.m.,*
in response to message #80 by Paul Gaster

True, but advertising hyperbole doesn't make it so.

By comparison with other HP offerings, both historically and contemporaneously, the only time the HP-35S would have been considered high-end would be if it had been available back in the 1970s. The HP-41C and its system, released in 1979, would have immediately relegated the 35S to mid-level status. Susequent high-end HPs (42S, 28 and 48 series) would have kept it there. In today's world, the presence of the HP-50G keeps the 35S at a mid-level. The 10S looks like the low end.

I have a hunch that one of the main reasons HP has a mid-level calculator is that the 35S and the earlier 33S are approved for use on the NCEES exams for professional licensure for engineers and surveyors...but it's only a hunch.

Re: Holy cow!

*Message #82 Posted by **Ángel Martin** on 6 Sept 2011, 2:15 a.m.,*
in response to message #77 by Fred Lusk

> Quote:
>
> As great as HP calculators have been over the years, none have been perfect and none have had exactly the mix of features I would have specified

I used to think that the 41 was as close as possible to that ideal, but now I know it for sure: the 41 CL is such an ideal, as it removes the only possible objection one could have held against the original 41: speed.

Add to that the ROM library built in, and you have perfection in your hands.

Just my opinion, of course :-)

Edited: 6 Sept 2011, 3:15 a.m.

Re: Holy cow!

*Message #83 Posted by **Massimo Gnerucci (Italy)** on 6 Sept 2011, 10:21 a.m.,*
in response to message #82 by Ángel Martin

> Quote:
>
> the 41 CL is such an ideal

I concur! :)

Massimo

Even better than a 42s?

*Message #84 Posted by **snaggs** on 6 Sept 2011, 7:01 p.m.,*

in response to message #82 by Ángel Martin

Does the 41CL have multi-character labels? Alpha entry looks easy with the letters printed on the keys.

What does it have to replace the EQN button? Im usig that to store a bunch of simple equations like the binomial dsitribution and some preditor prey models.

Id miss the 2 line LCD though.

Daniel.

> Quote:
>
> I used to think that the 41 was as close as possible to that ideal, but now I know it for sure: the 41 CL is such an ideal, as it removes the only possible objection one could have held against the original 41: speed.
>
> Add to that the ROM library built in, and you have perfection in your hands.
>
> Just my opinion, of course :-)

Edited: 6 Sept 2011, 7:01 p.m.

Re: Even better than a 42s?

*Message #85 Posted by **Paul Dale** on 6 Sept 2011, 7:07 p.m.,*
in response to message #84 by snaggs

> Quote:
>
> Does the 41CL have multi-character labels? Alpha entry looks easy with the letters printed on the keys.

Yes it does. Alpha entry is very easy. Much nicer than the 42S, IMHO.

> Quote:
>
> What does it have to replace the EQN button?

It doesn't. No equations.

- Pauli

Re: Even better than a 42s?

*Message #86 Posted by **Massimo Gnerucci (Italy)** on 7 Sept 2011, 5:50 p.m.,*
in response to message #85 by Paul Dale

```
Quote:

--------------------------------------------------------------------------------
What does it have to replace the EQN button?
--------------------------------------------------------------------------------

It doesn't. No equations.
```

Actually, since it includes the AECROM module, it does offer quite a powerful algebraic formulas -> focal programs converter.

Massimo

Re: Even better than a 42s?

*Message #87 Posted by **Ángel Martin** on 8 Sept 2011, 3:45 p.m.,*
in response to message #86 by Massimo Gnerucci (Italy)

My thoughts exactly, a notable pioneering implementation of Equations, worth the learning curve.

Re: Even better than a 42s?

*Message #88 Posted by **Paul Dale** on 8 Sept 2011, 7:50 p.m.,*
in response to message #87 by Ángel Martin

How does one turn the calculator off with this module installed? Every time I press on it changes length units on me.

- Pauli

Re: Even better than a 42s?

*Message #89 Posted by **Ángel Martin** on 9 Sept 2011, 1:55 a.m.,*
in response to message #88 by Paul Dale

If that's on your CL it's probably be due to the TURBO settings. Try it with the original speed.- The unit change is supposed to kick in only if you hold the ON key longer than what's needed for the turning-off action. It works for me.

Re: Even better than a 42s?

*Message #90 Posted by **Mark Hardman** on 9 Sept 2011, 2:21 p.m.,*
in response to message #89 by Ángel Martin

Does the 41CL use the original AECROM image or the verion that you enhanced to use the 13-digit math routines?

Re: Even better than a 42s?

*Message #91 Posted by **Monte Dalrymple** on 9 Sept 2011, 5:40 p.m.,*
in response to message #90 by Mark Hardman

Both are available.

Edited: 9 Sept 2011, 5:41 p.m.

Re: Even better than a 42s?

*Message #92 Posted by **Ángel Martin** on 10 Sept 2011, 2:14 a.m.,*
in response to message #90 by Mark Hardman

> Quote:
>
> Does the 41CL use the original AECROM image or the verion that you enhanced to use the 13-digit math routines?

Good lateral thinking Mark, but I did no changes at all to the ON-key interrupt, nor to the invoked code (believe me, I know better than that :-)

While it's "possible" that something happened during the changes, the ON functionallity works very well on my CL, even at higher turbo speeds BTW.

Re: Even better than a 42s?

*Message #93 Posted by **Paul Dale** on 10 Sept 2011, 2:25 a.m.,*
in response to message #89 by Ángel Martin

Nice catch Ángel. I'm running this on my CL at maximum turbo (this is the only way I run now).

- Pauli

Re: Even better than a 42s?

*Message #94 Posted by **Walter B** on 7 Sept 2011, 3:23 p.m.,*
in response to message #84 by snaggs

If the HP-42S had I/O like the 41C had, it would be THE next to perfect calculator, running circles around the 41C-whatsoever. But unfortunately HP had the 48SX in the make at that time already, and they feared internal competition most probably - who would buy a sledgehammer featuring a RePeLlent programming language as long as (s)he can get a pocket sized user friendly multitool? So in this case the good was the enemy of the better, reverting a popular saying for the worse :-/

FWIW,

Walter

P.S. Exactly this I tried to post this morning, but received "Your message has been sent to the moderators for review. Acceptable messages will be posted as soon as a moderator is available. Having posts reviewed by moderators keeps the spam in check. We apologize for any inconvenience." No comment.

Re: Even better than a 42s?

*Message #95 Posted by **Howard Owen** on 7 Sept 2011, 5:00 p.m.,*
in response to message #94 by Walter B

Was it perhaps the MiXeDCaSe of RePeLlent ?

edit: No, it wasn't.

Edited: 7 Sept 2011, 5:00 p.m.

Re: Even better than a 42s?

*Message #96 Posted by **Jake Schwartz** on 8 Sept 2011, 3:28 p.m.,*
in response to message #94 by Walter B

> Quote:
>
> If the HP-42S had I/O like the 41C had, it would be THE next to perfect calculator, running circles around the 41C-whatsoever

Agreed, except for that "lame" ALPHA scheme (IMHO)- which Gene seems to prefer :-) If it only had followed the wp34S philosophy of filling the keyboard first and using menus only as a last resort, I'd have had much more respect for this RPN champ.

Jake

Re: Even better than a 42s?

*Message #97 Posted by **Ángel Martin** on 8 Sept 2011, 3:48 p.m.,*
in response to message #96 by Jake Schwartz

Yes, save the soft-ALPHA (can't imagine how anyone would prefer it over the 41 approach) - but that's the proverbial "path not taken", much to our dismay... so what if analysis is all we can do now.

Cheers, 'AM

Re: Even better than a 42s?

*Message #98 Posted by **Howard Owen** on 8 Sept 2011, 4:47 p.m.,*
in response to message #96 by Jake Schwartz

I know the 41C alpha keyboard like the back of my hand, but I don't mind the 42S "pick board" alpha scheme. The greatly expanded character set demanded menus. You could have filled the keyboard with fixed alpha assignments without accounting for all the characters the 42S is capable of manipulating. Yes it's annoying, but XTOA for all of those characters would *really* have been a pain.

Nowadays I use Free42, and enjoy the freedom of keyboard alpha entry. I only have to deal with the 42S alpha scheme if and when I transfer programs to my real machine.

Re: Even better than a 42s?

*Message #99 Posted by **Walter B** on 9 Sept 2011, 1:52 a.m.,*
in response to message #98 by Howard Owen

That would be the ultimate: a calculator featuring a slide-out QWERT keyboard. Would reduce clutter ;-) For sure that will be banned from NCEES etc. but who cares ...

Re: Even better than a 42s?

*Message #100 Posted by **Marcus von Cube, Germany** on 9 Sept 2011, 2:46 a.m.,*
in response to message #99 by Walter B

The querty keyboard makes the TI 92(+) and Voyage 200 more appealing to me then the functionally identical TI-89. To make a calculator with such a keyboard pocketable, a folding or sliding mechanism would be needed. I have a Ben NanoNote on my shelf which would come close if it only had a more calculator friendly keyboard. It has enough power for a calculator application

but the key labels (and key feeling) are totally inappropriate.

Re: Even better than a 42s?

*Message #101 Posted by **Jake Schwartz** on 9 Sept 2011, 3:39 p.m.,*
in response to message #98 by Howard Owen

> Quote:
>
> You could have filled the keyboard with fixed alpha assignments without accounting for all the characters the 42S is capable of manipulating.

Well...you could fill the keyboard with the HP41 alpha characters, and also the top row "alternately" gets the soft-key menu with the remaining "special" characters. That way, regular letters take one keystroke each, and only the others would require two each. Check out http://h20331.www2.hp.com/hpsub/downloads/Newsletters_HP_Calculator_eNL_02_April_2011_v2.pdf and click on the "Tweaking the HP42S" article link. Also, you could go to http://www.pahhc.org/keyboards.htm#The_HP42S_versus_a_proposed_HP42S+:_ and scroll to the bottom and click on the link marked "The HP42S+ ALPHA Keyboard"....Just one person's ideas.

Jake

Jake

Re: Even better than a 42s?

*Message #102 Posted by **Howard Owen** on 9 Sept 2011, 5:22 p.m.,*
in response to message #101 by Jake Schwartz

I'd forgotten how thoroughly you studied this, Jake. At the risk of being treading a deeply furrowed path here, I'd like to give my 2^{-2} dollars worth of feedback. First, I like the layout very much. I love it that more programming functions are accessible without menus. I also like how you implemented the alpha characters. The old pick boards are still there but more accessible. And like you say, the most common characters are directly accessible. (Where have I seen that particular arrangement of alpha keys before? :) I also have to say that, although you have tried to minimize clutter, (successfully I think,) the density of available functions on that keyboard just warm the cockles of my gadget-geek heart. :) The excellent color contrast is a big help here.

But the display needs work :). I want higher resolution for selfish reasons. My Yatz42 game has to omit soft menu labels because the minimum vertical size I could squeeze a die image into was 9 pixels high. Using binary coding per the 42S manual, a column containing three vertical dots and the borders has to be 101010101. That means I have to take one row of the bottom line for the die border. I'm going to place my own caret marks below each die to indicate they can be toggled with the soft keys.

Re: Even better than a 42s?

*Message #103 Posted by **Jake Schwartz** on 9 Sept 2011, 7:16 p.m.,*
in response to message #102 by Howard Owen

> Quote:
>
> But the display needs work :). I want higher resolution for selfish reasons.

If there was a guarantee that they'd sell a bazillion of 'em, I bet they'd consider doing it. Instead of a campaign like "Bring Back the HP15C" (which apparently worked after over 5 years of trying), perhaps we need something like "Bring FORTH the 42S!"

:-)

Jake

Re: Even better than a 42s?

*Message #104 Posted by **Howard Owen** on 9 Sept 2011, 8:20 p.m.,*
in response to message #103 by Jake Schwartz

Put up a petition! I'll buy at least two. :)

Re: Even better than a 42s?

*Message #105 Posted by **Brian Walsh** on 9 Sept 2011, 10:16 p.m.,*

in response to message #103 by Jake Schwartz

> Quote:
>
> perhaps we need something like "Bring FORTH the 42S!"

That'll kill it for sure :-)

Re: Even better than a 42s?

*Message #106 Posted by **Ángel Martin** on 10 Sept 2011, 2:29 a.m.,*
in response to message #103 by Jake Schwartz

> Quote:
>
> "Bring FORTH the 42S!"

absolutely! - yet that's going to be an even harder nut to crack, specially if it's true that the source code is lost.

But wouldn't that be something?

Re: Even better than a 42s?

*Message #107 Posted by **Howard Owen** on 10 Sept 2011, 2:51 a.m.,*
in response to message #106 by Ángel Martin

Seems like there's some pretty good 42S code circulating out there. Perhaps Thomas would cut HP a private license?

My real dream is an HP43+, however. I want the top-end connected calculator that HP would be selling now if they hadn't gone with RPL in the late 80s.

Re: Even better than a 42s?

*Message #108 Posted by **Marcus von Cube, Germany** on 10 Sept 2011, 4:49 a.m.,*
in response to message #107 by Howard Owen

It would be interesting to have a hardware platform with more guts in it than the 30b to port our firmware to. That way users may even chose between a 42S+ (Free42 based) or a 43S (34S based). :-)

Re: Even better than a 42s?

*Message #109 Posted by **x34** on 11 Sept 2011, 4:54 p.m.,*
in response to message #108 by Marcus von Cube, Germany

> Quote:
>
> It would be interesting to have a hardware platform with more guts in it than the 30b to port our firmware to. That way users may even chose between a 42S+ (Free42 based) or a 43S (34S based). :-)

HP-50G?

Re: Even better than a 42s?

*Message #110 Posted by **Walter B** on 11 Sept 2011, 4:58 p.m.,*
in response to message #109 by x34

> Quote:
>
> HP-50G?

Definitively not! According the criteria I stated in a previous post, the HP 50G falls short in more than one point.

Edited: 11 Sept 2011, 5:23 p.m.

They lost the 42s source code?

*Message #111 Posted by **snaggs** on 10 Sept 2011, 8:16 a.m.,*

in response to message #106 by Ángel Martin

face palm

> Quote:
>
> absolutely! - yet that's going to be an even harder nut to crack, specially if it's true that the source code is lost.
>
> But wouldn't that be something?

Re: They lost the 42s source code?

*Message #112 Posted by **Walter B** on 11 Sept 2011, 8:39 a.m.,*
in response to message #111 by snaggs

Just assume everything happening at HP like it happens everywhere in large companies like it happens in villages of that size. In a way, all these are representative samples of the population around ;-)

Re: They lost the 42s source code?

*Message #113 Posted by **Paul Gaster** on 11 Sept 2011, 7:34 p.m.,*
in response to message #112 by Walter B

I have only worked for small companies, and yet I have still seen some really goofy things happen. I can't even imagine the things going on behind the scenes at a large company. Too many cooks....

Re: They lost the 42s source code?

*Message #114 Posted by **Don Davis** on 12 Sept 2011, 7:05 p.m.,*
in response to message #113 by Paul Gaster

> Quote:
>
> I have only worked for small companies, and yet I have still seen some really goofy things happen. I can't even imagine the things going on behind the scenes at a large company. Too many cooks....

I worked for Bell Labs for many years, and we kept a library full of lab notebooks documenting inventions, production processes, and all sorts of irreplaceable data taken by some true experts (not me). When they sold our division and downsized, they threw them all in the dumpster out back. I cannot imagine what all was lost.

Re: They lost the 42s source code?

*Message #115 Posted by **Ed Look** on 13 Sept 2011, 10:47 a.m.,*
in response to message #114 by Don Davis

That is absolutely horrible.

Re: Even better than a 42s?

*Message #116 Posted by **Egan Ford** on 12 Sept 2011, 9:28 p.m.,*
in response to message #106 by Ángel Martin

> Quote:
>
> absolutely! - yet that's going to be an even harder nut to crack, specially if it's true that the source code is lost.

There is no 15C source either--that didn't stop'em. If EMU42 can run from the 42S ROM, then new HW can too.

These old calcs were programmed in assembly language or machine code. We've got the source--you just need to disassemble them.

Re: The 15C cant display letters?

*Message #117 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 11:35 p.m.,*
in response to message #27 by M. Joury

> Quote:
>
> No letters anywhere.

A few counter examples:

```
running
A     2   2
Error   0
```

I had to defend my first HP love, sorry :-)

Gerson.

Re: The 15C cant display letters?

*Message #118 Posted by **Walter B** on 2 Sept 2011, 2:29 a.m.,*
in response to message #117 by Gerson W. Barbosa

Well, A,b,C,c,d,E,F,G,H,I,J,L,n,O,o,P,q,r,t,U, and u are readable and unambiguous. That's it.

Re: The 15C cant display letters?

*Message #119 Posted by **Paul Dale** on 2 Sept 2011, 2:51 a.m.,*
in response to message #118 by Walter B

We also squeezed M and W into the 7-segment portion of the 34S by using pairs of characters.

Also, h, i and Y are possible.

- Pauli

Edited: 2 Sept 2011, 3:16 a.m.

Re: The 15C cant display letters?

*Message #120 Posted by **Walter B** on 5 Sept 2011, 3:22 p.m.,*
in response to message #119 by Paul Dale

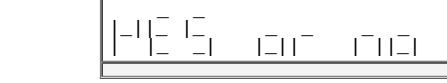
> Quote:
>
> Also, h, i and Y are possible.

Frankly, I forgot h. Thought of i - didn't include it though. But Y looks like 4 and is thus rightfully excluded. So now: A,b,C,c,d,E,F,G,H,h,I,i,J,L,n,O,o,P,q,r,t,U, and u are readable and unambiguous. That's it for a 7-segment display.

Re: The 15C cant display letters?

*Message #121 Posted by **Marcus von Cube, Germany** on 5 Sept 2011, 4:58 p.m.,*
in response to message #120 by Walter B

Looks like Y to me and cannot be confounded with a 4.



Re: The 15C cant display letters?

*Message #122 Posted by **Walter B** on 5 Sept 2011, 5:25 p.m.,*
in response to message #121 by Marcus von Cube, Germany

Looks like a µ to me :-)

Re: The 15C cant display letters?

*Message #123 Posted by **Massimo Gnerucci (Italy)** on 5 Sept 2011, 5:25 p.m.,*
in response to message #121 by Marcus von Cube, Germany

I like this more:

What do you think?

Massimo

Re: The 15C cant display letters?

*Message #124 Posted by **Walter B** on 5 Sept 2011, 5:29 p.m.,*
in response to message #123 by Massimo Gnerucci (Italy)

And the winner is ... Massimo! :-)

Re: The 15C cant display letters?

*Message #125 Posted by **uhmgawa** on 2 Sept 2011, 9:59 a.m.,*
in response to message #118 by Walter B

> Quote:
>
> Well, A,b,C,c,d,E,F,G,H,I,J,L,n,O,o,P,q,r,t,U, and u are readable and unambiguous. That's it.

But attempting a simple mechanical translation back to the originally intended character is a context sensitive mapping, eg: "runnin9": '9 -> {'9', 'g'}, "5EL": '5' -> {'5', 'S'}, etc.. Certainly feasible but it adds another layer of clunk to the UI.

So I find myself warming up to your plea for at least a circa 1985 native graphic matrix display support in a year 2011 calculator. I still applaud the Voyager firmware design to take living within 7-segments as far as it did. But nostalgia aside, bottom line cost just isn't a reasonable argument to avoid a matrix display as it was in 1980. And the legacy technical limitations have largely become non-issues.

Edited: 2 Sept 2011, 10:04 a.m.

Re: The 15C cant display letters?

*Message #126 Posted by **M. Joury** on 2 Sept 2011, 10:45 a.m.,*
in response to message #125 by uhmgawa

How about something akin to the 14-segment display of the HP-41? Would the current 12C+/15C LE processor be able to drive that? And is such a beast even available anymore?

Admittedly a fully addressable dot matrix display would be better but if the current processor is capable of driving a 14-segment LCD might that be the optimal solution as no other hardware changes would be needed (or would there need to be other changes?

I still say: Give me a 17bii+ with 42S firmware and I/O! Old tech, I know, but I *LOVE* my HP-42S! Maybe one day HP will update the 17bii+ with a new processor and make it flashable and then our local heroes can come up with the ultimate HP-41 replacement.

Cheers,

-Marwan

Re: The 15C cant display letters?

*Message #127 Posted by **uhmgawa** on 2 Sept 2011, 11:14 a.m.,*
in response to message #126 by M. Joury

> Quote:
>
> How about something akin to the 14-segment display of the HP-41? Would the current 12C+/15C LE processor be able to drive that? And is such a beast even available anymore?

I believe I've still seen that display topology kicking around but it is extremely rare. Even straight reflective (vs. transreflective, eg: backlight-able) graphic/character displays are rare these days -- you can find them but the footprint and resolution selection are quite limited.

> Quote:
>
> Admittedly a fully addressable dot matrix display would be better but if the current processor is capable of driving a 14-segment LCD might that be the optimal solution as no other hardware changes would be needed (or

would there need to be other changes?

If the firmware supports only rendering to a numeric display you end up (best case) with a better looking numeric display but confined to the original UI.

The argument which exists for a graphic display in a voyager application running under emulation is that code external to the legacy firmware can take advantage of the improved display format.

Re: The 15C cant display letters?

*Message #128 Posted by **M. Joury** on 2 Sept 2011, 11:21 a.m.,*
in response to message #127 by uhmgawa

I was thinking more along the lines of what a repurposing project could do with a 14-segment LCD or a dot-matrix LCD with the required supporting hardware installed in a Voyager package.

Re: The 15C cant display letters?

*Message #129 Posted by **Paul Dale** on 2 Sept 2011, 6:24 p.m.,*
in response to message #126 by M. Joury

Quote:

How about something akin to the 14-segment display of the HP-41? Would the current 12C+/15C LE processor be able to drive that?

Yes, the CPU would be capable of driving such a display. The internal LCD driver can handle up to 400 segments.

Out of reach is a full dot matrix display, at least without external hardware which makes using an integrated CPU with LCD controller somewhat pointless.

- Pauli

Re: The 15C cant display letters?

*Message #130 Posted by **uhmgawa** on 2 Sept 2011, 7:08 p.m.,*
in response to message #129 by Paul Dale

Quote:

Out of reach is a full dot matrix display, at least without external hardware which makes using an integrated CPU with LCD controller somewhat pointless.

I initially suspected so too. But it may still be the best current choice for an ARM SoC from a power/speed/flash_size perspective even foregoing use of the LCD controller.

Re: The 15C cant display letters?

*Message #131 Posted by **Paul Dale** on 2 Sept 2011, 7:10 p.m.,*
in response to message #130 by uhmgawa

Agreed. I've not really been following developments in SoCs for a couple of years now.

Pauli

display of letters & Holy Cow Memory

*Message #132 Posted by **db (martinez, ca.)** on 2 Sept 2011, 11:34 p.m.,*
in response to message #125 by uhmgawa

UG; I'm guessing that the new 15 is flashable. So maybe someday there will or can be a "WP 15s" that adds those characters as alpha, with arcl and prompt. As someone once told me: "I'm a surveyor. I can't spell for shit but i can abbreviate the hell out of anything"

n, E, EL, Pt, no, Hd, U(V)d, AnGL, In, OUt, GrAdE..... it's all there.

Snags; It's like someone else said. The 15 only had a half a K of memory. A surveyor for example could put two programs into a 15, which would do a couple of things each, depending on how the solve function was implemented. You could have a traverse/inverse/sideshot program and a really nice vertical curve routine that would do asymmetrical VCs if that's how you entered it. That's it for room, and it's easily remember-able if you use it regularly. Still though; I'd like that abbreviated prompt and alpha recall feature.

Re: display of letters & Holy Cow Memory

*Message #133 Posted by **Paul Dale** on 3 Sept 2011, 1:26 a.m.,*
in response to message #132 by db (martinez, ca.)

> Quote:
>
> So maybe someday there will or can be a "WP 15s" that adds those characters as alpha, with arcl and prompt.

No chance.

We've already decided to skip the 15c as a repurposing base for the simple reason: the display.

- Pauli

Re: display of letters & Holy Cow Memory

*Message #134 Posted by **uhmgawa** on 3 Sept 2011, 9:25 a.m.,*
in response to message #132 by db (martinez, ca.)

> Quote:
>
> UG; I'm guessing that the new 15 is flashable. So maybe someday there will or can be a "WP 15s" that adds those characters as alpha, with arcl and prompt.

Honestly I think that is unlikely. IMHO the 15c takes the industry award for the most successful attempt to pack as much functionality into a 7-segment UI as the world will ever see. It may be possible to best that effort as you describe above but I expect doing so would be well beyond the point of diminishing returns.

Moreover functional extension would require a firmware re-write. The attraction of the 15c at this point in time is the corresponding firmware can be leveraged via running it unaltered (+/-) under emulation on low power off-the-shelf SoCs. It is essentially an opportune coincidence of technologies which hasn't before economically existed.

That said, about the only scenario I could envision for a legacy firmware re-write would be something akin to a "labor of love" open source collaborative effort. Even for the 15C which as evidenced here has about the most passionate following you will ever find for a pocket calculator, I don't think a rewrite will ever materialize. And given the presumed successful productization of the 15c+ I'd imagine HP has concluded its low-hanging-fruit leverage of that technology.

Re: display of letters & Holy Cow Memory

*Message #135 Posted by **db (martinez, ca.)** on 3 Sept 2011, 10:21 p.m.,*
in response to message #134 by uhmgawa

Paul & UG; Agreed for all those reasons and - why rewrite a 15LE when the ubiquitous new 12 could be repurpesed instead. However; with the success of the rewrite of the 30b/34s's ARM we must keep in mind that any sad & useless hp financial can be made into a real workhorse.
So thanks to Tim, Cerill, Sam and everyone who had something to do with producing something that the Trinity (plus Eric) could make better.

Re: display of letters & Holy Cow Memory

*Message #136 Posted by **Paul Dale** on 3 Sept 2011, 10:51 p.m.,*
in response to message #135 by db (martinez, ca.)

> Quote:
>
> Agreed for all those reasons and - why rewrite a 15LE when the ubiquitous new 12 could be repurposed instead.

Not sure I understand here. If I were to do a scientific repurposing of the Voyager hardware, starting with the 15LE makes more sense than starting with the 12C. The keyboard labels can be reused for a start. The 15C's layout is very good and covers most things.

There are plenty of enhancements possible:

- More program steps.
- More registers.
- Fill out the complex functions (e.g. gamma, Py,x and Cy,x).
- Extra matrix operations.
- More conditional tests.
- Integer bases.

There is plenty of flash left for sure and I suspect quite a bit of RAM too. The limit will always be the display and a deal of creativity would be necessary to make everything fit the seven segment format. That or tell everyone you have to carry a thick quick reference guide around.

I wonder how long it will be before the 15LE gets the memory expansion. If we're lucky, it might even be as simple as patching the ROM image -- 11 x 11 determinants :-)

- Pauli

Re: display of letters & Holy Cow Memory

*Message #137 Posted by **db (martinez, ca.)** on 4 Sept 2011, 12:06 a.m.,*
in response to message #136 by Paul Dale

Paul; I should type fuller sentences or none. I meant that i agree with you that it would not be a good return on your time to do a "WPXX" Voyager because of the screen limitations. But if someone ever does that (and if the 12c ARM architecture is the same as the 15, or at least big enough) it would pay off to use the 12 because there will probably be a bunch of them and they'll be cheaper. After all; it's not a **limited edition**. Eric makes fine overlays so the original keys' functions isn't important.

Me personally, i hope you three keep using your time on the 34s. There must be **something** it doesn't do yet.

Re: display of letters & Holy Cow Memory

*Message #138 Posted by **Paul Dale** on 4 Sept 2011, 12:43 a.m.,*
in response to message #137 by db (martinez, ca.)

> Quote:
>
> Me personally, i hope you three keep using your time on the 34s.

We've got plans beyond the 34S :-) Nothing concrete until the 34S is finished lest we never finish it.

> Quote:
>
> There must be **something** it doesn't do yet.

Matrix support is the obvious one.

- Pauli

Re: display of letters & Holy Cow Memory

*Message #139 Posted by **uhmgawa** on 4 Sept 2011, 11:56 p.m.,*
in response to message #136 by Paul Dale

> Quote:
>
> Not sure I understand here. If I were to do a scientific repurposing of the Voyager hardware, starting with the 15LE makes more sense than starting with the 12C. The keyboard labels can be reused for a start. The 15C's layout is very good and covers most things.

I'd agree, if the plan was to live within the functionality defined by the 15c and there is certainly an argument to be made for doing so. Particularly as it likely would gently shepherd something approximating a 15c firmware rewrite which is goodness by any measure.

But the existing 12c+ econo keycaps are more agreeable to engraving should we have other ideas. There is also something less sacrilegious about bandsawing a 12c+ for experimentation. Maybe that stigma will minimize once 15c+ are more prevalent.

> Quote:
>
> There are plenty of enhancements possible:
>
> - More program steps.
> - More registers.
> - Fill out the complex functions (e.g. gamma, Py,x and Cy,x).
> - Extra matrix operations.
> - More conditional tests.
> - Integer bases.

One pie-in-the-sky thought for the surplus flash within a KINOMI module was to some extent help a 16c and 15c interoperate. But the more I thought about it the more it seemed like a unjustifiable dead-end effort without any reusable code as a by product of the development. I suppose I've found myself increasingly questioning to what extent the real-world practical benefits of running decades old black-box firmware in emulation overshadow the limitations of customization and maintenance.

> Quote:
>
> The limit will always be the display and a deal of creativity would be necessary to make everything fit the seven segment format. That or tell everyone you have to carry a thick quick reference guide around.

I think a replacement for the segment display needs to happen unless we're content to keep emulating enhanced voyager firmware. Semi-standard 32x144 and 32x160 graphic formats exist and would fit the segment display aperture quite well. The problem is the controller and/or interconnect such that we're dealing with a COG extension or interconnect flange which will cause the resulting footprint to outgrow the available area. But this seems such a promising and enabling upgrade that considerable effort is well justified to ferret out a solution.

> Quote:
>
> I wonder how long it will be before the 15LE gets the memory expansion. If we're lucky, it might even be as simple as patching the ROM image -- 11 x 11 determinants :-)

I admittedly haven poked at the 12C+ pcb in sufficient detail to determine if/where the SPI lines are brought out, but that's about the only expansion route of reasonable throughput. Doubly so as the SPI controller IIRC has DMA support. nvSRAM looks like single solution which would address several needs. But even if the stock PCB doesn't furnish access to the needed sam7l lines a replacement board wouldn't be too difficult to justify.

Re: display of letters & Holy Cow Memory

*Message #140 Posted by **Paul Dale** on 5 Sept 2011, 12:27 a.m.,*
in response to message #139 by uhmgawa

> Quote:
>
> One pie-in-the-sky thought for the surplus flash within a KINOMI module was to some extent help a 16c and 15c interoperate.

Copying the stack between the two would be enough for interoperation. Even better if that bit of memory in both emulators was the same locations. Still, I think you are correct about the reward vs effort involved.

> Quote:
>
> I admittedly haven poked at the 12C+ pcb in sufficient detail to determine if/where the SPI lines are brought out...

That wasn't the point of what I wrote. The existing ARM cpu has sufficient RAM for the memory expansion I linked to. It doubles the number of bank registers in the 15c -- 64*7 = 448 bytes. The CPU has 2kb of non-volatile RAM and a lot of this is likely empty.

- Pauli

Re: display of letters & Holy Cow Memory

*Message #141 Posted by **Eric Smith** on 5 Sept 2011, 1:39 a.m.,*
in response to message #140 by Paul Dale

> Quote:
>
> Copying the stack between the two would be enough for interoperation.

Copy the stack? While the 15C and 16C stack are the same depth (four levels plus LastX), they aren't even always the same width: 56 bits on 15C, 1 to 64 bits on 16C. What does a 15C Matrix A turn into on a 16C? What does the number 123456788abcdef0h turn into on a 15C?

Re: display of letters & Holy Cow Memory

*Message #142 Posted by **Paul Dale** on 5 Sept 2011, 2:10 a.m.,*
in response to message #141 by Eric Smith

The only thing that makes sense copying is reals. At least copying without some manner of conversion.

Does the 16c really maintain the five stack registers separately resizing them as required? I've seen the synthetic information for the 15c but I don't remember seeing similar for the 16c.

- Pauli

Re: display of letters & Holy Cow Memory

*Message #143 Posted by **Eric Smith** on 5 Sept 2011, 2:56 p.m.,*
in response to message #142 by Paul Dale

The stack in the 16C is stored as 64 bits per level. 56 out of 64 are stored in one register, and the extra 8 bits from all four levels and LastX are combined and stored in another register. However, when using WSIZE < 64, not all bits are used.

There isn't much published information on synthetics on the 16C because (unlike the original 15C) there is no known technique for gaining access to memory the user wasn't intended to access.

Re: display of letters & Holy Cow Memory

*Message #144 Posted by **Jose Gonzalez Divasson** on 5 Sept 2011, 3:24 p.m.,*
in response to message #136 by Paul Dale

A good idea would be to have switchable register sets. In one you can have several programs. In another set, other group of programs; and another, mostly free for heavy matrix work.

But the most logical first mod would be to move the upper register limit to 128.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #145 Posted by **Crawl** on 1 Sept 2011, 11:18 p.m.,*
in response to message #1 by snaggs

A built-in constants library, I guess? But I'd probably use the HP50g for things like that (constants AND units)

Schooling has probably permanently frozen (at least approximations for) a lot of the ones I'd be likely to use into my brain, anyway (c~3x10^8 m/s, h-bar-c ~197 ev-nm, kT ~ 1/40eV, etc., etc.)

Re: Is there anything the 15c can't do compared to the 35s?

*Message #146 Posted by **Norman Dziedzic** on 1 Sept 2011, 11:24 p.m.,*
in response to message #1 by snaggs

For me the thing the 15c can't do that I like on the 35s is the equation solver. I have many such equations that I need to solve one way or the other on a regular basis and the 35s makes that a breeze. They are only very simple linear equations but having them preloaded in the calculator and tested speeds up things quite a bit for me. However, in truthfulness, I have now moved on to mostly using the multiple equation solver in the 50g because of the capability of multiple equations and the use of units.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #147 Posted by **snaggs** on 1 Sept 2011, 11:30 p.m.,*
in response to message #146 by Norman Dziedzic

Same here, Ive been loading lots of eqn's in for pop models, prey etc whilst doing questions and are able to reuse them in other questions and tests.

Its great for discrete equations, and doesnt use up any labels! It would be cumbersome to write programs to solve all these! Im not sure what the downside is?

Daniel.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #148 Posted by **bill platt** on 2 Sept 2011, 5:19 p.m.,*
in response to message #147 by snaggs

On the 50G you can copy and edit equations. On the 35s you can edit only...another point for the 50G...

Re: Is there anything the 15c can't do compared to the 35s?

*Message #149 Posted by **Martin Pinckney** on 2 Sept 2011, 5:48 p.m.,*
in response to message #147 by snaggs

Quote:

> It would be cumbersome to write programs to solve all these! I'm not sure what the downside is?

There's no downside when comparing equation writing on the 35s to programming on the 15c.

However, one of the reasons the 35s got slammed was, compared to equation writing on the 27s and 17b series, the 35s stinks. HP just evolved the 32s series Solver a little bit, instead of incorporating the Solver from the aforementioned models, which is greatly superior.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #150 Posted by **M. Joury** on 2 Sept 2011, 6:28 p.m.,*
in response to message #149 by Martin Pinckney

Yes! That solver (the one from the 17b/19b/27S) should be made available on every calc in HP's lineup. There are many cases where it is an easier and more intuitive solution than programming. I like using the solver for conversions where you can solve either way from a single equation rather than have to write 2 routines in RPN.

Lots of other uses too and lots of power when you really dig into it. Having both the solver and RPN programming in the same machine would be great. The 35S had a chance to get that right and didn't. Of course you have that capability with the 48 series calcs (solver but with RPL) but now we are talking larger graphing calculators.

Cheers,

-Marwan

Re: Is there anything the 15c can't do compared to the 35s?

*Message #151 Posted by **bill platt** on 3 Sept 2011, 9:04 a.m.,*
in response to message #150 by M. Joury

I gave up using the RPN models for daily use (though there is usually a 15c in the drawer if I can't find anything).

"Daily use" is now the 17b series and the 27s, along with the trusty 48gx.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #152 Posted by **Martin Pinckney** on 3 Sept 2011, 5:26 p.m.,*
in response to message #151 by bill platt

> Quote:
>
> I gave up using the RPN models for daily use (though there is usually a 15c in the drawer if I can't find anything).
>
> "Daily use" is now the 17b series and the 27s, along with the trusty 48gx.

Bill, we are a lot alike. I, too use the last three you mentioned (except 48sx instead of gx) most of time. But instead of a 15c, I keep a 32sii around, mostly for the fraction math.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #153 Posted by **Walter B** on 2 Sept 2011, 2:16 a.m.,*
in response to message #1 by snaggs

The two line dot matrix LCD of the 35s allows for some important features the 15C will never have:

- listing function names in programs
- catalog of constants
- readable complex numbers

But that's it IMHO. OTOH, the 35s has the bugs listed while the old 15C does not have any known bugs at all. That's it as well :-/

So it depends on your personal preferences to some extent.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #154 Posted by **Paul Dale** on 2 Sept 2011, 2:44 a.m.,*
in response to message #153 by Walter B

> Quote:
>
> while the old 15C does not have any known bugs at all. That's it as well :-/

Actually, there is one known bug in the 15c firmware. That's pretty good after 30+ years of searching -- it was only identified in the past year or three. I forget the details but it is rather esoteric and even if you encountered it you most likely wouldn't notice anyway. It certainly isn't a numeric issue or a hard lock crash.

There is a second almost bug. The ability to create weird matrix descriptors using the ON-D shift the X register combination, this allows access to system memory and program space via the registers. Technically not a bug since, according to the documentation, this key combination should always be followed by CLx.

To me, the effort and attention to detail put into making the 15c the best possible calculator is summed up by the comment on page 179 of the *Advanced Functions Handbook*:

> Quote:
>
> A function that grows to infinity or decays to 0 exponentially fast as its argument approaches +/- infinity may suffer an error larger than one unit in its 10th significant digit, but only if its magnitude is smaller than 10^{-20} or larger than 10^{20}; and though the relative error gets worse as the result gets more extreme (small or large), the error stays below three units in the last (10th) significant digit. The reason for this error is explained later. Functions so affected are e^x, y^x, x! (for noninteger x), SINH, and COSH for real arguments. The worst case known is 3^{201}, which is calculated as 7.968419664 x 10^{95}. The last digit 4 should be 6 instead, as is the case for $7.29^{33.5}$, calculated as 7.968419666 x 10^{28}.

Not only concerned about getting the answer correct, but identifying the (most likely) worst case where it is out by 2 ULP!

If you haven't already get a copy of this volume (it is on the MoHPC DVD) and read pages 172 onwards. You will be enlightened.

- Pauli

Re: Is there anything the 15c can't do compared to the 35s?

*Message #155 Posted by **Eric Smith** on 2 Sept 2011, 7:58 p.m.,*
in response to message #154 by Paul Dale

> Quote:
>
> There is a second almost bug.

I wouldn't even consider that an "almost bug". As you point out, the manual says that ON-D should be followed by CLx. If you fail to follow the instructions, you get undefined results, and it's your own fault, not HP's.

However, whether you call it a bug or not, I am 99.9999% certain that it will be "fixed" in the 15c Limited Edition.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #156 Posted by **Egan Ford** on 2 Sept 2011, 11:03 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> Is there anything the 15c can't do compared to the 35s?

1. Fit in your pocket, with case.
2. Not miss keystrokes. (Dunno about the LE). IIRC, I had a few issues with the bottom row of my 35s. I put it in storage after that. BTW, having same problem with '+' on my 30b (or more accurately my 29.5b).
3. More complete complex number support. Once in complex mode I do not have to do anything special to do complex operations. I do however need to do something special to view the results.
4. STO a number with one less keystroke.
5. Decade magnitude battery life. I just took out my 35s from storage to test a few things and I couldn't. Dead batteries. I must admit however, it's very good looking.

> Quote:
>
> Would the 15c replace it for daily usage?

For me, yes. I guess it really depends on what you do daily. The 15C was my only daily calculator in the '80s. I had to learn to do everything on it. To this day, its operations are etched in my brain. With the 35s I have to relearn a few things about programming and how to work around the complexities of its complex number support.

Edited: 2 Sept 2011, 11:04 a.m.

Re: Is there anything the 15c can't do compared to the 35s?

*Message #157 Posted by **Egan Ford** on 2 Sept 2011, 5:36 p.m.,*
in response to message #156 by Egan Ford

I forgot to add that the 15C is available as an emulator on just about every platform.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12c Video and HP 15c questions

*Message #1 Posted by **Brandon Poindexter** on 1 Sept 2011, 6:13 p.m.*

HP 12c 30th AE Video

An interesting video I found if anybody hasn't seen it. I'm mostly interested in the HP 15c but in any case:

Some question pop up from this. 1) She talks briefly about how you can etch one's name onto the back. Has this always been the case? if not will the HP allow one to order an HP 15c with their names etched on?

2)She also says that the price "starts" at $79.99. But the HP shop website lists as $84.99 for the HP 12c. I don't want to sound like a cheapstake but if the HP 15c can be had for $5 less as well that would be great. Buying books and paying the billing statement for my sophomore year has took a huge toll on my banking account. . .

Anyway I'm probably going to get the HP 15c regardless if i cant do those two above. Can't wait! Thanks HP!

Edited: 1 Sept 2011, 6:15 p.m.

Re: HP 12c Video and HP 15c questions

*Message #2 Posted by **Laura (San Diego)** on 1 Sept 2011, 6:32 p.m.,*
in response to message #1 by Brandon Poindexter

Hello, These calcs have not always had a place where you can etch your name in the back, but I don't think that feature is unique to the anniversary version.

Pricing on the HP Store is problematic and should be revised soon. The MSRP for the 12c 30th Annviersary is $79.99, and it's $99.99 for the 15c.

Re: HP 12c Video and HP 15c questions

*Message #3 Posted by **M. Joury** on 1 Sept 2011, 8:20 p.m.,*
in response to message #2 by Laura (San Diego)

They are both currently posted at $99.99. It is $84.99 with the %15 discount that is currently being offered for all calcs. So the 15C is posted correctly and the 12C will drop considerably in price if it becomes available before the sale expires.

Cheers,

-Marwan

Re: HP 12c Video and HP 15c questions

*Message #4 Posted by **Glenn Dowdy** on 1 Sept 2011, 6:55 p.m.,*
in response to message #1 by Brandon Poindexter

> Quote:

> [link:http://www.youtube.com/watch?v=3bqH4JZZM1E]Some question pop up from this. 1) She talks briefly about how you can etch one's name onto the back. Has this always been the case? if not will the HP allow one to order an HP 15c with their names etched on?

You can certainly order any of our calculators with a request for you name to be etched on the back, but alas, we don't have the capability to fulfill that part of the order. You'll need to source that service locally.

Besides, you can't etch on vapor anyway, can you?

Re: HP 12c Video and HP 15c questions

*Message #5 Posted by **Jake Schwartz** on 1 Sept 2011, 8:14 p.m.,*
in response to message #1 by Brandon Poindexter

Hi,

In that video, she says that RPN became the "standard" in financial calculators as a result of the 12C, but I wonder if the 1973 release of (probably) the world's first financial handheld calc, the HP80 (also an RPN machine) didn't have a good deal to do with it as well. The HP80 got an 8-page cover story in the May, 1973 Hewlett-Packard Journal. And, of course, there were an assortment of other HP financial machines between the HP80 and the 12C, namely the HP70, HP22, HP37E, HP92 and the HP38E/C, all sporting RPN and all which probably helped popularize the financial RPN paradigm.

Jake

Re: HP 12c Video and HP 15c questions

*Message #6 Posted by **Katie Wasserman** on 1 Sept 2011, 9:42 p.m.,*
in response to message #5 by Jake Schwartz

I don't know about the HP-80 having much effect on the use of RPN in finance it wasn't very affordable even by wall street types back in the day. While I only started working on "the street" in early 1981, the only HP calculator I recall seeing at a few places before the 12C was the the HP-41.

In this video Greta says that "a few components are different" between the 12C and the 12C+, someone needs to get her up to speed on this. The 150x speed up should be a big selling point and she doens't even mention that.

Re: HP 12c Video and HP 15c questions

*Message #7 Posted by **uhmgawa** on 2 Sept 2011, 1:58 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> > In this video Greta says that "a few components are different" between the 12C and the 12C+, someone needs to get her up to speed on this.

There aren't more *than* a few components in either version, but that presentation did seem rather informal.

> Quote:

> The 150x speed up should be a big selling point and she doens't even mention that.

That number seems to be actively groomed by the marketing department and AFAICT keeps getting bigger. Anyone know what benchmark is being used to derive that figure of merit?

Re: HP 12c Video and HP 15c questions

*Message #8 Posted by **Katie Wasserman** on 2 Sept 2011, 3:20 a.m.,*
in response to message #7 by uhmgawa

I don't have a 15C+ to run tests on but I do have an original 12C and a 12C+ and have run many tests. Assuming the latest version of the firmware (it has some emulator enhancements) I have found that all programs and long amortizations run roughly 150 times faster on the 12C+.

I'm pretty sure that the 12C+ and the 15C+ are running exactly the same emulator so the 15C+ should run 150x faster than the 15C.

Re: HP 12c Video and HP 15c questions

*Message #9 Posted by **Glenn Dowdy** on 2 Sept 2011, 7:54 a.m.,*
in response to message #7 by uhmgawa

> Quote:
>
> That number seems to be actively groomed by the marketing department and AFAICT keeps getting bigger. Anyone know what benchmark is being used to derive that figure of merit?

Cyrille and Tim do, and marketing is getting their information directly from those guys.

Re: HP 12c Video and HP 15c questions

*Message #10 Posted by **Lincoln R.** on 2 Sept 2011, 1:18 a.m.,*
in response to message #1 by Brandon Poindexter

Also, she claims that the 30th anniversary calculator has the double injection molded keys like the original. Do we know if that's correct or not? I have a 12c+ and it looks painted so I figured the new 12c and 15c would be the same.

Re: HP 12c Video and HP 15c questions

*Message #11 Posted by **Tim Wessman** on 2 Sept 2011, 2:04 a.m.,*
in response to message #10 by Lincoln R.

It is the same.

TW

Re: HP 12c Video and HP 15c questions

*Message #12 Posted by **uhmgawa** on 2 Sept 2011, 2:04 a.m.,*
in response to message #10 by Lincoln R.

> Quote:

> Also, she claims that the 30th anniversary calculator has the double injection molded keys like the original. Do we know if that's correct or not? I have a 12c+ and it looks painted so I figured the new 12c and 15c would be the same.

I caught that too. And from the related comment made yesterday by Tim Wessman, it could be interpreted as the injected key legends have returned. If so that could leave only the lower contrast LCD of the arm7 voyagers as the last design tradeoff in favor of the legacy models.

12c and 15c LE key structure?

*Message #13 Posted by **Gene Wright** on 2 Sept 2011, 7:45 a.m.,*
in response to message #12 by uhmgawa

Tim can correct me here, but the keys are NOT double-injection moulded.

I believe it is something more like there is a depression on the top of the key in the shape of the key legend (?) and the spray color function goes into this depression. This means as the key wears down, the function label wears down a bit with it.

This explanation was given to me by someone at HP, and I was skeptical. :-)

Tim?

Re: 12c and 15c LE key structure?

*Message #14 Posted by **uhmgawa** on 2 Sept 2011, 9:31 a.m.,*
in response to message #13 by Gene Wright

> Quote:
>
> > I believe it is something more like there is a depression on the top of the key in the shape of the key legend (?) and the spray color function goes into this depression. This means as the key wears down, the function label wears down a bit with it.
> >
> > This explanation was given to me by someone at HP, and I was skeptical. :-)

Interesting. Actually that's essentially what I'd been proposing as a means to repurpose key caps of existing devices. Engraving the surface via CNC and filling with a non-shrinking medium such as epoxy paint would approximate the service life of conventional double shot molded keys without the astronomical tooling costs. CNC isn't strictly needed and even a pantograph with suitable fixturing can easily get one through the basement prototype.

Ironically for repurposing (vs. original manufacturing) surface painted key caps are preferable as the thin legend can be polished off yielding a flat surface for the engraving operation. Double shot or previously engraved blanks aren't really suitable as-is since the former legend by design can't be obscured by superficial abrasion and substantial material must be removed from the blank to allow a "retread" operation. But that becomes complex in terms of maintaining the original profile and color matching. Probably easier to just manufacture suitable key blanks in the first place. Or possibly one could approach whatever subcontractor in China is injection molding the current key blanks to buy unprinted prototype stock.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Samson price drop

*Message #1 Posted by **Ethan Conner** on 1 Sept 2011, 5:03 p.m.*

Samson just sent me two emails stating they would honor the price drop. Their price as of a few minutes ago is 99.99$. Whether or not i get one may still be up in the air but if it does happen the price is set.

Re: Samson price drop

*Message #2 Posted by **Thomas Radtke** on 2 Sept 2011, 11:22 a.m.,*
in response to message #1 by Ethan Conner

Apparently SC honors the initial preorder price, too. At least, I got a letter about the 15C LE to be released soon along with a copy of the old bill. Don't care too much about a few Dollar, but it would be a nice touch.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15c LE quantities?

*Message #1 Posted by **Rav Walia** on 1 Sept 2011, 4:54 p.m.*

Hello All,

A while back one of the distributors that had information about new calculators said that it would be a limited run of 10k pieces.

Can anyone confirm that the 15c LE will be limited to 10k units?

Just wondering if I'll actually be able to get one if they are going to be this rare.

Re: 15c LE quantities?

*Message #2 Posted by **uhmgawa** on 1 Sept 2011, 8:32 p.m.,*
in response to message #1 by Rav Walia

> Quote:
>
> A while back one of the distributors that had information about new calculators said that it would be a limited run of 10k pieces.
>
> Can anyone confirm that the 15c LE will be limited to 10k units?
>
> Just wondering if I'll actually be able to get one if they are going to be this rare.

I suppose I'm a little skeptical of that number as the best case gross sales would be US$1M given such a quantity limit. But I'll take a stab here.. I'd be surprised if the BOM cost for the unit itself exceeds US$30 and I'd expect considerably less given the 12C+ production volumes can be leveraged. Add to that manufacturing, packaging and distribution costs, let's lowball HP's cost of putting it in a reseller's hands at US$40/unit. Assuming the suggested street price of $100 and a typical retail markup of 40%, the retailer's cost would be $71.43 and HPs profit $31.43 x 10k units weighing in at under US$320K. I can't believe this is enough to begin covering the up front engineering costs even if we push that number around considerably. And in the ideal case shopping.hp.com is doing all of the "retailing" that profit gets bean-counted elsewhere.

So I'd expect an advertised 10K unit limited run might if anything be that of a given cosmetic version of the 15c+, after which further volumes would be needed to derive realistic revenue from the effort.

Just my two cents.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

15c LE quantities?

HP Forum Archive 20

[Return to Index | Top of Index]

CMT-300 Owner's Manual

*Message #1 Posted by **Juergen Keller** on 1 Sept 2011, 3:33 p.m.*

Recently, I acquired a CMT-300 programmable multimeter (that was a quite amazing deal, but I have to tell the story some other time). Unfortunately, there was no manual included. However, I found a person who owns the CMT-300 Owner's Manual, and he was willing to scan it for me (THANK YOU!). I've converted the scans to a PDF file, you'll find the result here. Enjoy!

Re: CMT-300 Owner's Manual

*Message #2 Posted by **Ángel Martin** on 2 Sept 2011, 1:20 a.m.,*
in response to message #1 by Juergen Keller

Thanks for sharing this Juergen, very nice job!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Correct 15C information

*Message #1 Posted by **Tim Wessman** on 1 Sept 2011, 3:32 p.m.*

Exact same as 12c+ internally.

Comes in a "gift box" that shows the calculator through the front. User's Handbook was recreated from scratch. Printed and in box. Searchable copy on CD. Manual took forever to get it nearly perfect.

Windows emulator on CD.

AFH was not ready in time to put on CD - will be available for download.

There are units slated for Europe.

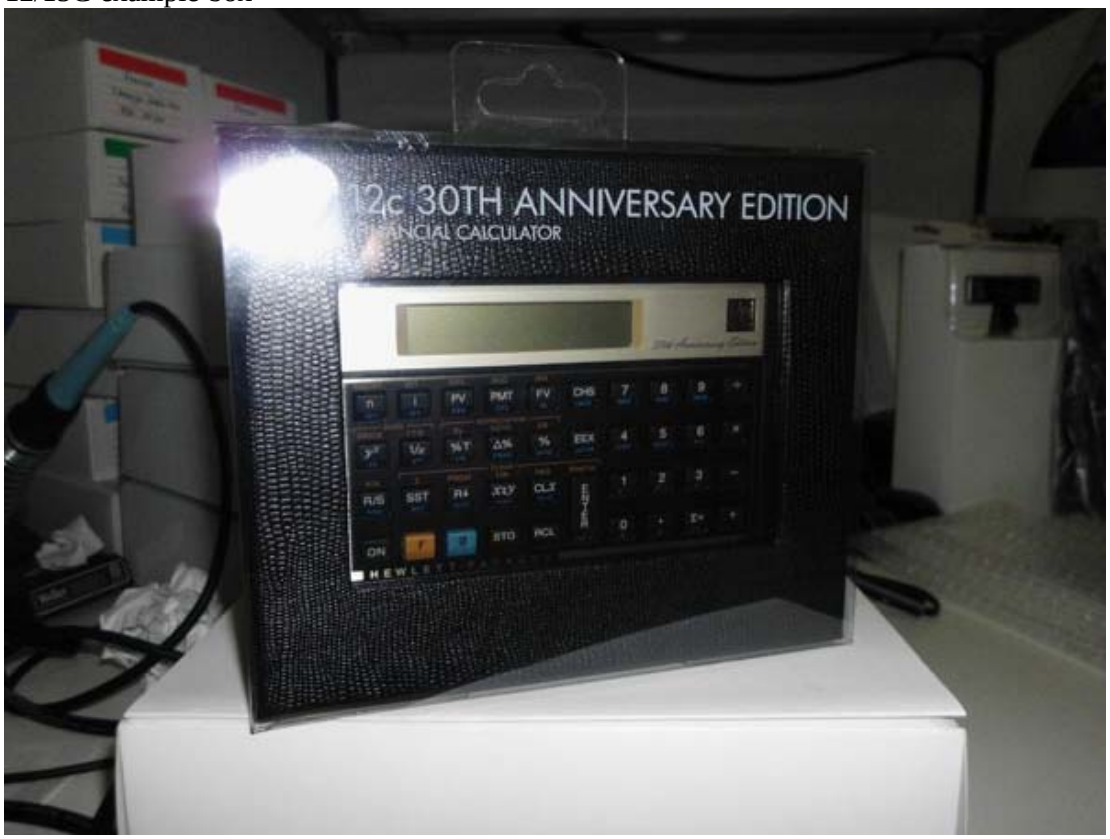
Is still being produced (mainly due to delay getting the manual "perfect" causing delay).

There is the normal "sticker" serial on the back, and an individual enumeration number at the bottom.

HHC last year everyone received one of these (at least a non-final version that had printed key colors ala 12cp). Thanks be to them for doing final bug checking to find any remaining issues. A large public thank you to everyone who respected the CDAs and did not discuss it prematurely. . .unlike our distributors and internal web pages. :-(

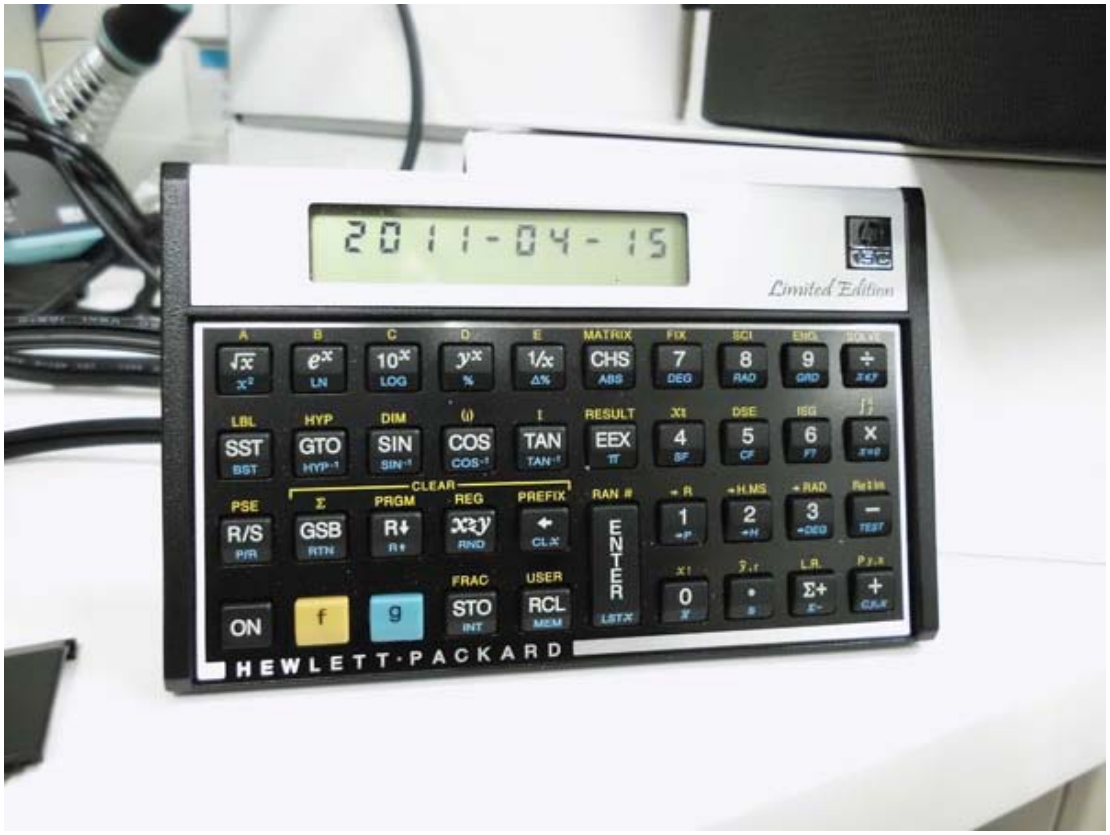
TW

12/15C example box

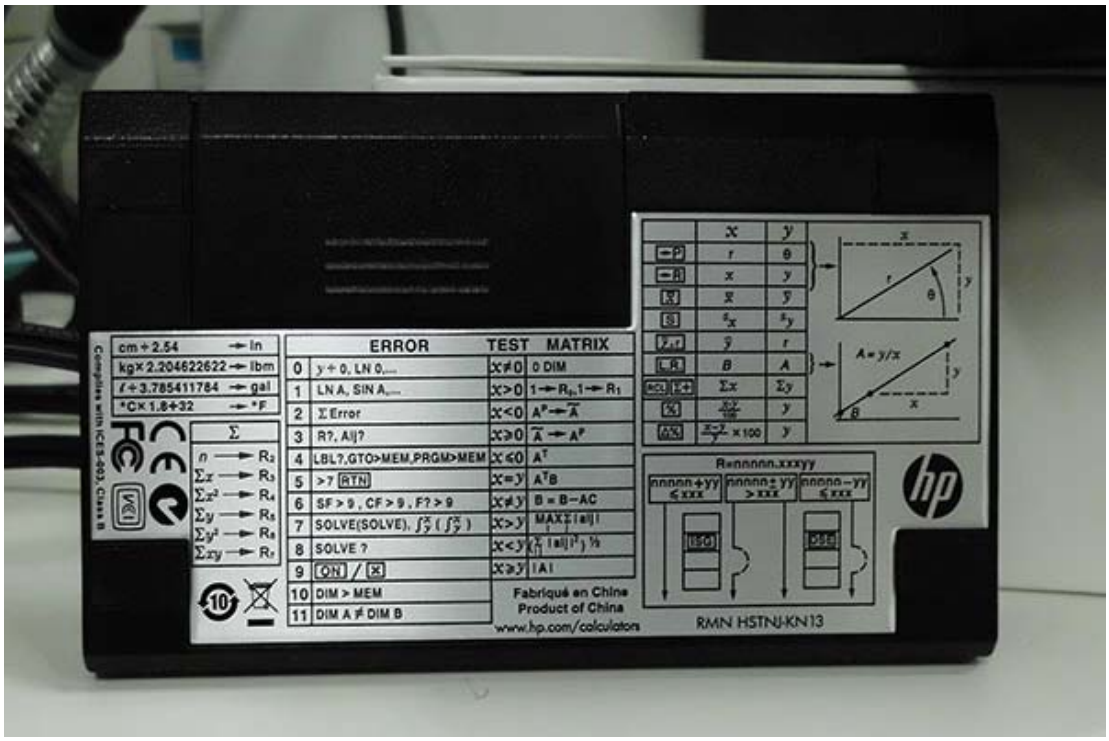


Example of enumeration. Is that...??? Yes, it is! :-)

Unit



Back of unit (not final, missing enumeration number at bottom right).



Edited: 1 Sept 2011, 4:45 p.m. after one or more responses were posted

Re: Correct 15C information

*Message #2 Posted by **Juergen Keller** on 1 Sept 2011, 3:41 p.m.,*
in response to message #1 by Tim Wessman

Gift box? Collector's like them!
Printed manual? That's great!
Windows Emulator? Comes in very handy!
Sounds very promising, I'll have a good dream tonight ;-)

Re: Correct 15C information

*Message #3 Posted by **Manolo Sobrino** on 1 Sept 2011, 3:49 p.m.,*
in response to message #1 by Tim Wessman

Chapeau!

Re: Correct 15C information

*Message #4 Posted by **Kiyoshi Akima** on 1 Sept 2011, 3:53 p.m.,*
in response to message #1 by Tim Wessman

As an HHC 2010 attendee, is it possible to get the current (final) firmware for flashing?

Re: Correct 15C information

*Message #5 Posted by **Tim Wessman** on 1 Sept 2011, 4:04 p.m.,*
in response to message #4 by Kiyoshi Akima

Gene has it.

TW

Re: Correct 15C information

*Message #6 Posted by **Namir** on 1 Sept 2011, 4:05 p.m.,*
in response to message #4 by Kiyoshi Akima

I don't see why not if it is available. Besides, there will be wp34s firmware update parties!!!

:-)

Re: Correct 15C information

*Message #7 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 4:08 p.m.,*
in response to message #1 by Tim Wessman

Thank you very much for the pictures. May we take a look at the back of the new HP-15C also?

Re: Correct 15C information

*Message #8 Posted by **Tim Wessman** on 1 Sept 2011, 4:39 p.m.,*
in response to message #7 by Gerson W. Barbosa

I don't have one that shows the enumeration. It will be similar to the image added in the top post.

TW

Re: Correct 15C information

*Message #9 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 4:46 p.m.,*
in response to message #8 by Tim Wessman

Well, I was just curious about how they dealt with the larger battery cover, as there's a lot of information on the original 15C back plate, but I can wait :-)

Re: Correct 15C information

*Message #10 Posted by **Tim Wessman** on 1 Sept 2011, 7:24 p.m.,*
in response to message #9 by Gerson W. Barbosa

It is up on the original post now. No need to wait.

TW

(NT) Very nice, thanks!

*Message #11 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 7:27 p.m.,*
in response to message #10 by Tim Wessman

Re: Correct 15C information

*Message #12 Posted by **M. Joury** on 1 Sept 2011, 4:09 p.m.,*
in response to message #1 by Tim Wessman

Hi Tim,

Thanks for the corrections and pictures!

-Marwan

Re: Correct 15C information

*Message #13 Posted by **Michael de Estrada** on 1 Sept 2011, 4:15 p.m.,*
in response to message #1 by Tim Wessman

Please tell me the manual is spiral bound and heavy stock.

Re: Correct 15C information

*Message #14 Posted by **Tim Wessman** on 1 Sept 2011, 4:36 p.m.,*
in response to message #13 by Michael de Estrada

Unfortunately not. We tried, but it couldn't be done.

TW

Re: Correct 15C information

*Message #15 Posted by **Michael de Estrada** on 1 Sept 2011, 4:43 p.m.,*
in response to message #14 by Tim Wessman

Thanks for trying. At least I have my original HP-15C spriral bound handbooks.

Re: Correct 15C information

*Message #16 Posted by **Walter B** on 1 Sept 2011, 4:30 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> HHC last year everyone received one of these (at least a non-final version that had printed key colors ala 12cp). Thanks be to them for doing final bug checking to find any remaining issues.

Why are those HHC taking place so far off always? [envy]

Re: Correct 15C information

*Message #17 Posted by **gene wright** on 1 Sept 2011, 4:32 p.m.,*
in response to message #16 by Walter B

Walter, just set up a gathering near you, get at least 50 people to commit to attending and voila' :-)

Actually, the British club has mini-gatherings all the time, so ping someone in HPCC to get one going.

Re: Correct 15C information

*Message #18 Posted by **Bill Carter** on 1 Sept 2011, 5:36 p.m.,*
in response to message #1 by Tim Wessman

Wow, just... wow. After years of lurking, I just have to say thank you to Tim and everybody at HP's calculator group. I've been Voyager-less for years (too stubborn to pony up on TAS), and I don't do nearly the calculations that I did when I was younger. Still, I look forward to getting my hands on one of these and using it as my "daily driver". It may be old tech, but the Voyagers just feel right. Thank you!

Re: Correct 15C information

*Message #19 Posted by **Norman Dziedzic** on 1 Sept 2011, 5:57 p.m.,*
in response to message #1 by Tim Wessman

Never thought I would think a calculator is beautiful but it is! Beautiful, just beautiful!

Thank you!

Edited: 1 Sept 2011, 6:44 p.m. after one or more responses were posted

Re: Correct 15C information

*Message #20 Posted by **Erturk Kocalar** on 1 Sept 2011, 6:15 p.m.,*
in response to message #19 by Norman Dziedzic

Thanks guys. this made my day. Yey !!!

Re: Correct 15C information

*Message #21 Posted by **uhmgawa** on 1 Sept 2011, 6:37 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> Exact same as 12c+ internally.

I sense a pending flurry of alternate firmware and hardware projects..

> Quote:
>
> User's Handbook was recreated from scratch. Printed and in box. Searchable copy on CD. Manual took forever to get it nearly perfect. ... AFH was not ready in time to put on CD - will be available for download.

Excellent. Not to at all diminish the balance of the engineering effort but I'd imagine recreating both documents was no trivial task.

> Quote:
>
> HHC last year everyone received one of these (at least a non-final version that had printed key colors ala 12cp).

I'm a bit curious of that statement above. Are the key cap legends of the 15c+ double shot molded or surface printed?

I personally find myself drowning in Voyagers. But seeing the candy on the table may make it difficult to pass up the honor of adding this specimen to the collection. Nice job!

Is there a PDF brochure?

*Message #22 Posted by **snaggs** on 1 Sept 2011, 6:42 p.m.,*
in response to message #1 by Tim Wessman

....that details the product with pretty pictures? :)

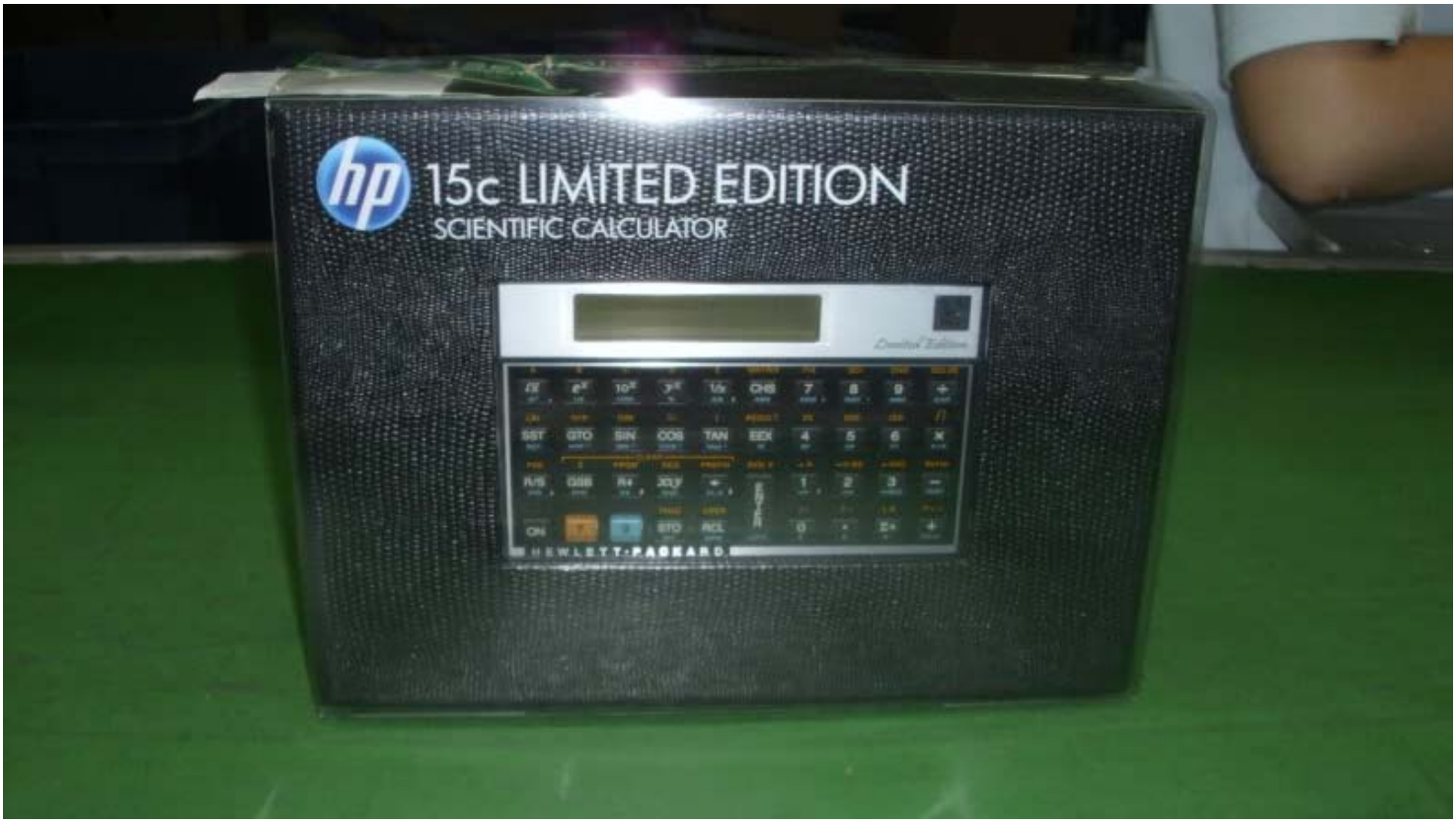
Re: Correct 15C information

*Message #23 Posted by **Glenn Dowdy** on 1 Sept 2011, 7:14 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> Exact same as 12c+ internally.
>
> Comes in a "gift box" that shows the calculator through the front. User's Handbook was recreated from scratch. Printed and in box. Searchable copy on CD. Manual took forever to get it nearly perfect.
>
> Windows emulator on CD.
>
> AFH was not ready in time to put on CD - will be available for download.

> There are units slated for Europe.
>
> Is still being produced (mainly due to delay getting the manual "perfect" causing delay).

In fact, here's a very recent photo of the 15c on the production line:



And looks like we made at least this many:

Re: Correct 15C information

*Message #24 Posted by **Erturk Kocalar** on 1 Sept 2011, 7:57 p.m.,*
in response to message #23 by Glenn Dowdy

Can't wait for to get mine.

I miss those production lines and the green conveyor belts and the smell of the factory. (hopefully I will be in China in this Oct; at a different company of course :))..

erturk

Re: Correct 15C information

*Message #25 Posted by **hpnut** on 6 Sept 2011, 8:22 a.m.,*
in response to message #23 by Glenn Dowdy

Hi Tim,

i am keen to know what part of "production" does US HP Calculator Division (or Personal Systems Group) do? the 15C is made in China, does that relegate US HP to packaging it nicely for customers?

sorry I meant this question in a nice way, I have been an HP calculator user since 1978 :-)

hpnut in Malaysia

oh, btw the 12C was once made in Penang, Malaysia. i believe that unit is now an Agilent T&M facility. You really should come work here if Carly's successors decide to close the calculator division :-(

Re: Correct 15C information

*Message #26 Posted by **Les Bell** on 1 Sept 2011, 8:05 p.m.,*
in response to message #1 by Tim Wessman

Thanks for the information and pics, Tim. I've been relying on my ancient 16C for a small pocketable calculator for many years, not wanting to risk my aging 41CX. I'll finally be able to get properly scientific, not just computer scientific. ;)

I don't think I've anticipated the arrival of a calculator so much since I bought my 45 back in 1974.

--- Les Bell
[http://www.lesbell.com.au]

Re: Correct 15C information

*Message #27 Posted by **Dan W** on 1 Sept 2011, 8:35 p.m.,*
in response to message #26 by Les Bell

Well thanks Tim and everyone involved in the production. I've been coveting a 15C ever since the mid 80's when I was too poor and bought an 11C instead. This will be my first NEW HP calculator since my 42S bought in 1989.

Re: Correct 15C information

*Message #28 Posted by **Tim Wessman** on 1 Sept 2011, 10:20 p.m.,*
in response to message #27 by Dan W

Everybody keeps thanking me, but I didn't really do anything on this other then be around when it came out. :-)

It existed in one form or another for a couple of years now. Sam Kim, former R&D manager, was the one who pushed to get the first batch made when the first set of 12c+ units was made. Cyrille did the excellent work on the emulator and original 12c+ code.

TW

Re: Correct 15C information

*Message #29 Posted by **Glenn Dowdy** on 1 Sept 2011, 11:42 p.m.,*
in response to message #28 by Tim Wessman

> Quote:
>
> Everybody keeps thanking me, but I didn't really do anything on this other then be around when it came out. :-)
>
> It existed in one form or another for a couple of years now. Sam Kim, former R&D manager, was the one who pushed to get the first batch made when the first set of 12c+ units was made. Cyrille did the excellent work on the emulator and original 12c+ code.
>
> TW

What's the reset/reflash process like?

Re: Correct 15C information

*Message #30 Posted by **Walter B** on 2 Sept 2011, 1:32 a.m.,*
in response to message #29 by Glenn Dowdy

Heh, heh, wait it ;-)

Honestly, I'd guess pretty similar to the one of the new 12C d8-)

Re: Correct 15C information

*Message #31 Posted by **Csaba Tizedes (Hungary)** on 2 Sept 2011, 4:06 a.m.,*
in response to message #1 by Tim Wessman

```
Wow!
And HOW this "2011-04-15" on LCD?
How many unit will be produced?
And how many will be sale in Hungary???


:'-(((((
```

Re: Correct 15C information

*Message #32 Posted by **Tim Wessman** on 2 Sept 2011, 10:40 a.m.,*
in response to message #31 by Csaba Tizedes (Hungary)

The date is the firmware version number. We are using dates now as it is much easier to understand and relate to something.

TW

Re: Correct 15C information

*Message #33 Posted by **svisvanatha** on 2 Sept 2011, 7:17 a.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> HHC last year everyone received one of these (at least a non-final version that had printed key colors ala 12cp). Thanks be to them for doing final bug checking to find any remaining issues. A large public thank you to everyone who respected the CDAs and did not discuss it prematurely. . .unlike our distributors and internal web pages. :-(

It is commendable that HP was bold enough to distribute early 15C LE's in this manner! And also commendable that those with units for a year now (!!!!) respected their CDA's. (although I did suspect that certain people had them in their possession). Nice job all around!.

Question for Tim or Anyone else at HP: Will any online or brick-and-mortar stores be selling them in Canada? Staples Canada has the new 12C in store, can we expect the same for the 15C LE?

Many thanks.

Re: Correct 15C information

*Message #34 Posted by **Steve Cote** on 5 Sept 2011, 12:10 a.m.,*
in response to message #1 by Tim Wessman

It's great to read here that a printed manual is included with the 15c. However, at the HP website, it says the HP-15c is packaged in a keepsake gift box & for 'What's in the Box' it mentions a Manual on CD is included but says nothing about a printed manual.

Re: Correct 15C information

*Message #35 Posted by **Lincoln R.** on 6 Sept 2011, 3:37 p.m.,*
in response to message #34 by Steve Cote

Tim Wessman's initial post of 15C info said that there would be a print manual. I'm inclined to believe him over whatever's floating around hp.com these days since assorted misinformation has already been found there (15C listed in printer division, listed as having algebraic mode, etc.)

Re: Correct 15C information

*Message #36 Posted by **Dan W** on 6 Sept 2011, 8:54 p.m.,*
in response to message #35 by Lincoln R.

I hope so. I wonder if they will changes the photos on the original cover. That pic of Saturn in particular is dated. But there have been some spectacular photos of Saturn from Cassini.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Updated: Some press articles about the new 30th anniversary 12c

*Message #1 Posted by **gene wright** on 1 Sept 2011, 2:37 p.m.*

CuteGeek.com

Geek.com

Note: I know the story about the $$ in the filing cabinet applies to the original HP 35 back in 1972, which is what I told her. Oh well.

Note 2: Contacted author and she revised the link above. Yay!

Accounting Today

Edited: 2 Sept 2011, 10:32 a.m. after one or more responses were posted

Re: Some press articles about the new 30th anniversary 12c

*Message #2 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 3:30 p.m.,*
in response to message #1 by gene wright

Interestingly the 12C, which has no pi key, displays 3.141592654.

Re: Some press articles about the new 30th anniversary 12c

*Message #3 Posted by **Tim Wessman** on 1 Sept 2011, 3:34 p.m.,*
in response to message #2 by Gerson W. Barbosa

Just love those photographers. Typing in the value of "pi" is why that image came out with a 3 on the end. Took a while to fix that. . .

Nobody could come up with something more meaningful, so they just had pi on both.

TW

Re: Some press articles about the new 30th anniversary 12c

*Message #4 Posted by **Katie Wasserman** on 1 Sept 2011, 4:44 p.m.,*
in response to message #3 by Tim Wessman

> Quote:
>
> Nobody could come up with something more meaningful, so they just had pi on both.

e would have been a better choice for a financial calculator. It comes up in certain calculations (continuous compounding, for example) and is available on the keyboard of the 12c.

Re: Some press articles about the new 30th anniversary 12c

*Message #5 Posted by **Glenn Dowdy** on 1 Sept 2011, 7:31 p.m.,*
in response to message #4 by Katie Wasserman

"hELL0" was also under consideration.

Re: Some press articles about the new 30th anniversary 12c

*Message #6 Posted by **Tim Wessman** on 1 Sept 2011, 10:27 p.m.,*
in response to message #5 by Glenn Dowdy

What are you talking about Glenn? You were campaigning to put 5318008. . .

TW

Re: Some press articles about the new 30th anniversary 12c

*Message #7 Posted by **Mark Hardman** on 1 Sept 2011, 11:38 p.m.,*
in response to message #6 by Tim Wessman

BOOBIES?!?

Re: Some press articles about the new 30th anniversary 12c

*Message #8 Posted by **Tim Wessman** on 1 Sept 2011, 10:27 p.m.,*
in response to message #4 by Katie Wasserman

Yup, should have thought of that.

I don't think I was consulted on the 12c image though. . . maybe I was. Too long ago.

TW

Re: Some press articles about the new 30th anniversary 12c

*Message #9 Posted by **Gene Wright** on 1 Sept 2011, 10:42 p.m.,*
in response to message #8 by Tim Wessman

Eh, a large number of financial users would not recognize "e" either.

Only real alternative I thought of was 360 but that would not fill up the display.

Eh, PI just means we all have to have Valentin's tricky trig program in the 12c.

Speaking of which, I hope valentin sees the 15c LE release...

Valentin, where are you?

Re: Some press articles about the new 30th anniversary 12c

*Message #10 Posted by **Katie Wasserman** on 2 Sept 2011, 7:42 p.m.,*
in response to message #9 by Gene Wright

Or the tiny little PI program for the 12c: here.

Re: Some press articles about the new 30th anniversary 12c

*Message #11 Posted by **Egan Ford** on 1 Sept 2011, 6:23 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> Accounting Today

Accounting Today? Gene, you're a wild man!

Re: Some press articles about the new 30th anniversary 12c

*Message #12 Posted by **Gene Wright** on 2 Sept 2011, 10:33 a.m.,*
in response to message #11 by Egan Ford

Wild Man? lol

At least Accounting Today was kind enough to give my math book a plug. That's always nice.

Re: Some press articles about the new 30th anniversary 12c

*Message #13 Posted by **Egan Ford** on 1 Sept 2011, 7:01 p.m.,*
in response to message #1 by gene wright

http://www.wired.com/gadgetlab/2011/09/hp-makes-special-edition-of-30-year-old-12c-calculator/

Re: Some press articles about the new 30th anniversary 12c

*Message #14 Posted by **gene wright** on 1 Sept 2011, 8:57 p.m.,*
in response to message #13 by Egan Ford

I sent an email to Charlie, the author of that article, to let him know about the 15c LE. Maybe he will run another article.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12c Users Invited to Join HP and Dennis Harms for Dinner tonight in San Francisco

*Message #1 Posted by **Laura (San Diego)** on 1 Sept 2011, 1:36 p.m.*

Tonight, in honor of the 30th Anniversary of the 12c, HP will host a small dinner for Dennis Harms, R&D Program Manager for the original 12c, Professor Kahan from Berkeley, Journalists from a few high profile financial magazines, and a couple of dedicated 12c Fans. If you are located in the San Francisco area and would like to join us for dinner tonight at 6:30PM, send an e-mail to CalcEnthusiasts@hp.com. We Will confirm and accept the first 5 RSVPs, so act fast if you're interested!

Re: 12c Users Invited to Join HP and Dennis Harms for Dinner tonight in San Francisco

*Message #2 Posted by **hpnut** on 1 Sept 2011, 2:10 p.m.,*
in response to message #1 by Laura (San Diego)

I bet they will be dishing out, not cigars, but the HP 12C 30th Anniversary Edition to the 5 lucky dinner attendees :-)

hpnut in Malaysia (16,079 km away to San Francisco)

Re: 12c Users Invited to Join HP and Dennis Harms for Dinner tonight in San Francisco

*Message #3 Posted by **Laura (San Diego)** on 1 Sept 2011, 2:58 p.m.,*
in response to message #2 by hpnut

Smoking is bad for your health, but using a 12c is good for your finances!

Re: 12c Users Invited to Join HP and Dennis Harms for Dinner tonight in San Francisco

*Message #4 Posted by **Jake Schwartz** on 2 Sept 2011, 9:06 a.m.,*
in response to message #3 by Laura (San Diego)

> Quote:
>
> If you are located in the San Francisco area and would like to join us for dinner tonight at 6:30PM....

I wonder how it went....was there any video from this event?

Thanks, Jake

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #1 Posted by **gene wright** on 1 Sept 2011, 10:20 a.m.*

Official!

Press Release

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #2 Posted by **Ethan Conner** on 1 Sept 2011, 10:33 a.m.,*
in response to message #1 by gene wright

Thanks for the link. I wonder if there is a way to post that on TAS. lol

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #3 Posted by **Lincoln R.** on 1 Sept 2011, 10:47 a.m.,*
in response to message #2 by Ethan Conner

Hm. Expected price $99.99. I wonder when samson will be dropping their preorder price ;-)

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #4 Posted by **M. Joury** on 1 Sept 2011, 11:06 a.m.,*
in response to message #3 by Lincoln R.

Note the price discrepancy on the 12C. It is listed for $99.99 but the announcement says:

> Quote:
>
> Pricing and availability(2)
>
> The HP 12c Financial Calculator is available now at HP Home & Home Office for $79.99. The HP 15c Scientific Calculator is expected to be available at HP Home & Home Office this month for $99.99.

Cheers,

-Marwan

But what about Europe...

*Message #5 Posted by **Lode** on 1 Sept 2011, 11:17 a.m.,*
in response to message #4 by M. Joury

They don't say anything about Europe! Near the price it says:

"(2) Estimated U.S. street prices. Actual prices may vary."

Will this be available in Europe for a reasonable price?

Re: But what about Europe...

*Message #6 Posted by **gene wright** on 1 Sept 2011, 11:27 a.m.,*
in response to message #5 by Lode

No idea, but I'm sure some here in the US would be able to "help out" if needed.

Re: But what about Europe...

*Message #7 Posted by **Thomas Radtke** on 1 Sept 2011, 12:01 p.m.,*
in response to message #5 by Lode

> Quote:
>
> Will this be available in Europe for a reasonable price?

No.

Calculate (US price plus shipping) * 1.2 (E-USt.), no customs. That's common practice, but you can file an objection to get the E-USt. back for the shipping costs within Europe. It will be granted. BTW, no tax exempt from SC.

That will be for sure cheaper than buying from a european reseller.

Re: But what about Europe...

*Message #8 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 1:20 p.m.,*
in response to message #7 by Thomas Radtke

> Quote:
>
> Calculate (US price plus shipping) * 1.2 (E-USt.), no customs.

You are lucky! Down here:

(US price plus shipping) * [1 + 0.60 (customs taxes) + 0.068 (tax on expenses abroad)]

So far I've been charged $224.98 + $15.29. I will be charged another $135 when the calculators arrive. The final price will be $187.63 per item.

Re: But what about Europe...

*Message #9 Posted by **Thomas Radtke** on 1 Sept 2011, 1:37 p.m.,*
in response to message #8 by Gerson W. Barbosa

Hi Gerson!

I guess we're both lucky to still have dealers shipping worldwide ;-).

Thomas

Re: But what about Europe...

*Message #10 Posted by **Gerson W. Barbosa** on 1 Sept 2011, 1:57 p.m.,*
in response to message #9 by Thomas Radtke

You're right, Thomas! Thinking of ordering yet another one, but will wait until the price drops a bit.

Cheers,

Gerson.

Re: But what about Europe...

*Message #11 Posted by **Jose Gonzalez Divasson** on 1 Sept 2011, 3:46 p.m.,*
in response to message #5 by Lode

It will take a little more than in the US, but they are guaranteed to come. The new calculators are presented to distributors on Sept.22. Prices have not been communicated yet to the network, and there are some points to decide yet.

The models will be in English only, but they will be a different part number than the US ones (#B1S instead of #ABA). I will not be able to tell the differences -if any- until I receive the samples.

There has been a change in the head of the EAME calculator business - this does not speed up the process. but, eventually, you will have a "local" calculator supported by the local network.

Re: But what about Europe...

*Message #12 Posted by **Patrice** on 1 Sept 2011, 9:38 p.m.,*
in response to message #5 by Lode

> Quote:
>
> Will this be available in Europe for a reasonable price?

Speaking about HP and saying "Europe" and "Reasonable price" in the same sentence, I love your humour.

Lets guess
HP12C in USA is $80, in Europe is 95 Euros which is about $133.
HP15C in USA is $100, my guess in Europe is 115 Euros which is about $1160.

Patrice

Re: But what about Europe...

*Message #13 Posted by **Walter B** on 2 Sept 2011, 2:20 a.m.,*
in response to message #12 by Patrice

> Quote:
>
> Speaking about HP and saying "Europe" and "Reasonable price" in the same sentence, I love your humour.

> I couldn't have expressed it better :-/ (except the last figure should read 160 US$).
>
> *Edited: 2 Sept 2011, 2:21 a.m.*

Re: But what about Europe...

*Message #14 Posted by **Paul Dale** on 2 Sept 2011, 2:45 a.m.,*
in response to message #13 by Walter B

HP calculators in Europe do not sell for a reasonable price.

:-)

I've noticed second hand prices in Europe are, in general, quite a bit higher than in the US.

- Pauli

Re: But what about Europe...

*Message #15 Posted by **Patrice** on 2 Sept 2011, 12:43 p.m.,*
in response to message #13 by Walter B

Yes typo

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #16 Posted by **Steve Simpkin** on 1 Sept 2011, 1:49 p.m.,*
in response to message #3 by Lincoln R.

The price from HP's store is only $84.99 at the moment. Of course you can't place an order yet.
HP-15C LE link

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #17 Posted by **Jeff Kearns** on 1 Sept 2011, 7:06 p.m.,*
in response to message #3 by Lincoln R.

> Quote:
>
> Hm. Expected price $99.99. I wonder when samson will be dropping their preorder price ;-)

I just received this message from Samson Cables:

Pricing has been finalized on the 15C and 12C 30th Anniversary models at $99.99 so I have reduced the pricing on your order which was higher. The 12C 30th Anniversary is shipping now. We expect to receive the 15C very soon. You may check your order status at anytime online.

thank you for your order,

Chris

Chris Edmunds Samson Cables http://www.samsoncables.com/ http://www.hpcalculators.com

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #18 Posted by **troy** on 1 Sept 2011, 12:35 p.m.,*
in response to message #1 by gene wright

hi,

i've been reading posts here since ~2000, i think, and i never found the need to create an account. just happy looking at other people's posts and comments.

but this post is the one that broke the camel's back!

YEY! i can finally have a 15c. hopefully, it'll not go as fast as the touchpad :)

thanks guys for all the info you give on this forum.

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #19 Posted by **John B. Smitherman** on 1 Sept 2011, 1:59 p.m.,*
in response to message #1 by gene wright

HP's web site list both the 12c 30th Edition and 15cLE for $84.99. Both show to be out of stock.

Link to HP

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #20 Posted by **Ivan Latorre** on 1 Sept 2011, 2:37 p.m.,*
in response to message #1 by gene wright

Thank you HP!

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #21 Posted by **Howard Owen** on 1 Sept 2011, 3:13 p.m.,*
in response to message #1 by gene wright

What a wonderful gesture toward this community! Despite the merits or demerits of the 15C as a calculator, there can be no doubt that its return has been a dream close to many hearts around here. **Thank you** to the wonderful folks in the calculator group for this triumph. You have my fondest wishes that this is not a coda, but an intro to a whole new movement!

Gratefully,
Howard

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #22 Posted by **Gerry Schultz** on 1 Sept 2011, 6:07 p.m.,*
in response to message #21 by Howard Owen

Here's an email I just got from Samson Cables on my original order for two HP-15C calculators:

"Pricing has been finalized on the 15C and 12C 30th Anniversary models at $99.99 so I have reduced the pricing on your order which was higher. The 12C 30th Anniversary is shipping now. We expect to receive the 15C very soon. You may check your order status at anytime online."

Original price for a 15C was $109.99.

I wonder if they will arrive in time for HHC2011?

Gerry

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #23 Posted by **Michael de Estrada** on 1 Sept 2011, 6:17 p.m.,*
in response to message #22 by Gerry Schultz

So SC will sell it to you for MSRP + shipping and HP will sell it to you with a 15% discount and free shipping. Unless you're afraid HP will run out before you can get your order placed, why buy from SC ? If you lived outside the USA I might understand, but this makes no sense to me.

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #24 Posted by **Gerry Schultz** on 1 Sept 2011, 6:38 p.m.,*
in response to message #23 by Michael de Estrada

Good question. I originally placed the order back in July as I didn't know about availability back then. I think my best course of action would be to try and order from HP and if successful, then cancel my Samson order.

Thanks,

Gerry

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #25 Posted by **Ethan Conner** on 1 Sept 2011, 7:07 p.m.,*
in response to message #23 by Michael de Estrada

Let me try and help you understand. The last time i saw one and held it in my hands was 1982. I let some well meaning people talk me out of the purchase. Now that i am older and have a desire to own a 15c i am taking NO chances on being able to acquire one this time around. I have placed orders with whoever i could and if HP puts an "add to cart" button i will order from them also. Almost 30 years waiting who cares about a measley 12 to 15 dollars shipping. :)

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #26 Posted by **Jake Schwartz** on 1 Sept 2011, 8:40 p.m.,*
in response to message #22 by Gerry Schultz

Hi,

> Quote:
>
> Original price for a 15C was $109.99.

Sorry, but the original price was $135. Perhaps you got an early one at a discount?

Jake

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #27 Posted by **Jake Schwartz** on 1 Sept 2011, 8:43 p.m.,*
in response to message #26 by Jake Schwartz

> Quote:
>
> Sorry, but the original price was $135

Whoops! I re-read your post and realized that I took it out of context, thinking that the reference was for the 1982 price, not the original LE posted price. Sorry about that....I'll read more carefully next time :-)

Jake

Re: HP Press Release about the 30th Anniversary 12c and 15c LE

*Message #28 Posted by **Glenn Dowdy** on 1 Sept 2011, 7:18 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> Official!
>
> Press Release

You guys have no idea how much fun Tim and I have had reading all the comments and theories here over the last few months, and now I can stop sitting on my hands. It's been a fun product development, with a few surprises tossed in here and there that I can't talk about.

We hope you enjoy this new version and that everyone that wants one, gets one. Or the dozen that you signed up for on the 15c website. ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calling on the Spirit of Comedian Sam Kinison

*Message #1 Posted by **Namir** on 1 Sept 2011, 9:59 a.m.*

If you remember the late comedian Sam Kinison with his long hair and the way he'd bend forward and yell at the top of his voice "SAY IT!! SAY IT!! SAY IT!!"

Well I hope Sam Kinison is listening and could put a good word with the folks at the HP web site that is offering the HP-15C LE ... and yell:

"SELL IT!!! SELL IT!!! SELL IT!!!"

:-)

Namir

Edited: 1 Sept 2011, 10:00 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

By the way, talking about bugs...

*Message #1 Posted by **Miguel Toro** on 1 Sept 2011, 9:53 a.m.*

...is there any document or database describing a list of bugs found in each and every HP calculator model?

Saludos,

Miguel

Re: By the way, talking about bugs...

*Message #2 Posted by **Mark Hardman** on 1 Sept 2011, 10:24 a.m.,*
in response to message #1 by Miguel Toro

Try the HPDATAbase at http://www.finseth.com/hpdata/index.php

Re: By the way, talking about bugs...

*Message #3 Posted by **Miguel Toro** on 1 Sept 2011, 3:19 p.m.,*
in response to message #2 by Mark Hardman

Thank you Mark,

Regards,

Miguel

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Say what? HP restarts tablet production

*Message #1 Posted by **Brian Walsh** on 1 Sept 2011, 8:55 a.m.*

http://www.businessweek.com/ap/financialnews/D9PF2SVO0.htm

Unbelievable.

Re: Say what? HP restarts tablet production

*Message #2 Posted by **Namir** on 1 Sept 2011, 9:15 a.m.,*
in response to message #1 by Brian Walsh

Good indication how HP's earlier "insight" about the market is WRONG!!! They have been listening to the wrong bean counters who have no patience at all.

I am glad to see the HP Tablet get a second chance.

ill they call it the HP Tablet Limited Edition??????? Might as well!!

Edited: 1 Sept 2011, 9:16 a.m.

Re: Say what? HP restarts tablet production

*Message #3 Posted by **M. Joury** on 1 Sept 2011, 9:42 a.m.,*
in response to message #2 by Namir

Not sure that this qualifies as a second chance. Reports at the moment only mention a single additional production run. Yeah, Slap LE on it and sell it on TAS for $700...

Just think about this though, the less expensive unit was selling (during the fire sale) for the same price as a 15C LE!

Cheers,

-Marwan

Edited: 1 Sept 2011, 9:43 a.m.

Re: Say what? HP restarts tablet production

*Message #4 Posted by **Namir** on 1 Sept 2011, 10:06 a.m.,*
in response to message #3 by M. Joury

Marwan,

Good observation about the similarity of the prices for the HP Tablet and the HP-15C LE.

:-)

Namir

Re: Say what? HP restarts tablet production

*Message #5 Posted by **Brian Walsh** on 1 Sept 2011, 10:31 a.m.,*
in response to message #2 by Namir

> Quote:
>
> Good indication how HP's earlier "insight" about the market is WRONG!!! They have been listening to the wrong bean counters who have no patience at all.
>
> I am glad to see the HP Tablet get a second chance.

Don't count on it doing any better the second time around. Once the decision to kill it was made, they should have stood by their decision. This looks even more boneheaded than their preannouncement of spinning off the PC business.

I won't be surprised to see another fire sale.

Very believable.

*Message #6 Posted by **Frank Boehm (Germany)** on 1 Sept 2011, 10:03 a.m.,*
in response to message #1 by Brian Walsh

Considering most chinese/taiwanese production partners had already pre-produced bunches of parts, this doesn't come as a surprise. The only surprise is, that they obviously had not received any warning before. Speaking of "warning", I remember the HP phone dropping significantly in price one or two days before the official funeral - so at least someone somewhere was in the knowing.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #1 Posted by **gene wright** on 1 Sept 2011, 7:53 a.m.*

You can't order them yet because it says "out of stock". Don't think these have ever shown up in this listing before.

12c 30th anniversary edition is there as well.

HP calculator shopping link

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #2 Posted by **Namir** on 1 Sept 2011, 8:10 a.m.,*
in response to message #1 by gene wright

Yeaahhhhhhhhhhhhhh!! The HP-15C LE is finnaly and really here!!! Well I have to eat my words since I said this day will never come.

:-)

Namir

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #3 Posted by **M. Joury** on 1 Sept 2011, 8:12 a.m.,*
in response to message #2 by Namir

It's even on sale at the moment!

Let's just hope that it does not sell out to the TAS sellers before we get a shot at it!

Cheers,

-Marwan

Edited: 1 Sept 2011, 8:12 a.m.

I think selling one on TAS would be a GOOD thing

*Message #4 Posted by **gene wright** on 1 Sept 2011, 8:17 a.m.,*
in response to message #3 by M. Joury

Particularly if it makes more people aware that this exists.

Maybe someone should buy several and list them on ebay for cost + $10 or such with a link to the hpshopping.com site. :-)

Re: I think selling one on TAS would be a GOOD thing

*Message #5 Posted by **Namir** on 1 Sept 2011, 8:20 a.m.,*
in response to message #4 by gene wright

Let's hope HP changes the "out of stock" status with a "come and get it" status.

Is the HP-12C 30th Anniversary also a limited edition? Anything unique about that machine?

Namir

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #6 Posted by **hpnut** on 1 Sept 2011, 8:19 a.m.,*
in response to message #2 by Namir

Hey Namir,

what sauce would you like to eat your words with? how about some humble pie too, while you are at it? :-)

I am now waiting for Samson's to UPS me the pre-ordered 15 LE

hpnut in Malaysia

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #7 Posted by **Namir** on 1 Sept 2011, 8:21 a.m.,*
in response to message #6 by hpnut

I got the impression that the 15LE will be available at the end of this month??? Yes? No? Anyone?

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #8 Posted by **M. Joury** on 1 Sept 2011, 8:20 a.m.,*
in response to message #1 by gene wright

There appear to be eight 15C's listed on TAS at the moment prices running from $61 (with active bidding) to $500. Wonder what this will do to those prices.

Hopefully HP will make enough that this will pull the rug out from under these sellers.

Mind you, I often see buyers paying MORE on eBay than they would direct from the manufacturer, so who knows.

Cheers,

-Marwan

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #9 Posted by **Namir** on 1 Sept 2011, 8:22 a.m.,*
in response to message #8 by M. Joury

If I was selling an HP-15C on TAS, I would end my auction and wait for a few months.

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #10 Posted by **Namir** on 1 Sept 2011, 8:37 a.m.,*

in response to message #8 by M. Joury

I also think the new 15LE will affect the HP-11C, which I consider to be the 15's younger sibling. Who wants to buy an HP-11C for $150 when you cn get the new HP-15C LE for less???

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #11 Posted by **hpnut** on 1 Sept 2011, 8:22 a.m.,*
in response to message #1 by gene wright

On close examination, I see that the 15 LE has algebraic option. I was wishing that HP remained true to RPN only. :-(

NO ALGEBRAIC ... let's kill that one right now

*Message #12 Posted by **gene wright** on 1 Sept 2011, 8:25 a.m.,*
in response to message #11 by hpnut

RPN ONLY.

NO CHANGES to the original 15c other than blinding speed.

Don't worry.

Re: NO ALGEBRAIC ... let's kill that one right now

*Message #13 Posted by **hpnut** on 1 Sept 2011, 8:28 a.m.,*
in response to message #12 by gene wright

Thanks, Gene.

I will believe it when I have it in my hands :-)

hpnut aka Doubting Thomas in Malaysia

Re: NO ALGEBRAIC ... let's kill that one right now

*Message #14 Posted by **Miguel Toro** on 1 Sept 2011, 9:25 a.m.,*
in response to message #12 by gene wright

So Gene, do you already have a review unit for your review article that surely we all are really eager to read? :-)

Saludos,

Miguel

Edited: 1 Sept 2011, 9:26 a.m.

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #15 Posted by **Mike Morrow** on 1 Sept 2011, 3:19 p.m.,*
in response to message #11 by hpnut

Quote:

> I see that the 15 LE has algebraic option.

Just out of curiosity...what gave you that idea?

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #16 Posted by **hpnut** on 1 Sept 2011, 3:27 p.m.,*
in response to message #15 by Mike Morrow

look carefully at the HP calculator page link given by Gene.

it says

• Limited collector's edition

• Perfect gift for scientists and engineers on the go

• Up to 100x faster than original edition

• 120+ built-in functions with RPN and algebraic entry

but Gene says not to worry, it;s pure RPN

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #17 Posted by **Namir** on 1 Sept 2011, 3:37 p.m.,*
in response to message #16 by hpnut

Sounds like the web page designer did some copy-and-paste from other models and included the "algebraic" part too!!

Mir

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #18 Posted by **Glenn Dowdy** on 2 Sept 2011, 4:27 a.m.,*
in response to message #16 by hpnut

> Quote:
>
> look carefully at the HP calculator page link given by Gene.
>
> it says
>
> • Limited collector's edition
>
> • Perfect gift for scientists and engineers on the go
>
> • Up to 100x faster than original edition
>
> • 120+ built-in functions with RPN and algebraic entry
>
> but Gene says not to worry, it;s pure RPN

To confirm - it's pure RPN.

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #19 Posted by **Patrice** on 2 Sept 2011, 12:42 p.m.,*
in response to message #11 by hpnut

Hi,

Like every HHC 2010 attendee, I received a prototype at the conference.

After 11 months playing with it, I can assure you it is pure RPN, no algebraic.

It is just the original HP15C at amazing speed !

Patrice

Specific link

*Message #20 Posted by **Brian Walsh** on 1 Sept 2011, 8:59 a.m.,*
in response to message #1 by gene wright

http://www.shopping.hp.com/store/product/product_detail/NW250AA%2523ABA?

Re: Specific link

*Message #21 Posted by **M. Joury** on 1 Sept 2011, 9:16 a.m.,*
in response to message #20 by Brian Walsh

No paper manual! No mention of the emulator!

From a different page:

> Quote:
>
> Gift box, calculator, batteries, Owner's Handbook, protective sleeve, CD with virtual calculator

I wonder which is correct?

Cheers,

-Marwan

Re: Specific link

*Message #22 Posted by **Namir** on 1 Sept 2011, 9:30 a.m.,*
in response to message #21 by M. Joury

Marwan,

What really matters is the unit itself. If what I read is correct and the LE is just a much faster implementation of the original, then the old manual is still good and accurate. The new manual is of secondary importance. As for the emulator, there are already several emulators for Windows, and for the iPod/iPhone/iPad.

Namir

Edited: 1 Sept 2011, 9:31 a.m.

Re: Specific link

*Message #23 Posted by **M. Joury** on 1 Sept 2011, 9:38 a.m.,*
in response to message #22 by Namir

Hi Namir,

True, but quite a few people here would really like to see a paper manual. Not that the lack of one will keep me from buying!

Cheers,

-Marwan

Paper owners manual is included

*Message #24 Posted by **gene wright** on 1 Sept 2011, 9:55 a.m.,*
in response to message #23 by M. Joury

Relax. :-) Remember, these are the same web pages that had the machine listed under Printers a few days ago.

Re: Paper owners manual is included

*Message #25 Posted by **Ethan Conner** on 1 Sept 2011, 10:38 a.m.,*
in response to message #24 by gene wright

Now all we need is an "add to cart" button! :)

Re: Specific link

*Message #26 Posted by **uhmgawa** on 1 Sept 2011, 1:56 p.m.,*
in response to message #23 by M. Joury

> Quote:
>
> True, but quite a few people here would really like to see a paper manual. Not that the lack of one will keep me from buying!

It sort of begs the question from where would this new "15c Owner's Handbook" originate, eg: is this a reproduction of the original or did HP actually produce a new version in a contemporary electronic format? Beyond that looms the question of the availability for the "Advance Functions Handbook" and in what format that may exist.

Re: Specific link

*Message #27 Posted by **gene wright** on 1 Sept 2011, 2:03 p.m.,*
in response to message #26 by uhmgawa

My understanding is:

A new, very nicely prepared paper Owners manual and a new nicely prepared PDF of the advanced functions book on CD.

98% sure that's what it is. Don't know. Don't have one of these yet.

There are only going to be 10,000 of these made. Each one is individually numbered and comes in a very nice, different box/package.

Re: Specific link

*Message #28 Posted by **uhmgawa** on 1 Sept 2011, 2:37 p.m.,*
in response to message #27 by gene wright

> Quote:
>
> My understanding is:
>
> A new, very nicely prepared paper Owners manual and a new nicely prepared PDF of the advanced functions book on CD.
>
> 98% sure that's what it is. Don't know. Don't have one of these yet.
>
> There are only going to be 10,000 of these made. Each one is individually numbered and comes in a very nice, different box/package.

That seems to be consistent with the suspicion this was primarily an effort to cultivate a market for a collectable item. But whatever it takes to get a better version of the Owner's and Advance Function Handbook to us all. ;)

Re: Specific link (web site text aspects)

*Message #29 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Sept 2011, 7:54 a.m.,*
in response to message #20 by Brian Walsh

In the Product Description on the web site, the "own a classic" sentence is (almost) duplicated.

```
Own a classic: each calculator is stamped with a unique limited-edition production
number.
.....
Own a classic: each limited-edition model of this cool calculator is stamped with its
own production number
```

The first line is the best one, in my opinion.

Also, the reference to "complex calculations" may be more specific; it's not a "complexity" issue, but the ability to work with "complex numbers".

Re: Specific link (web site text aspects)

*Message #30 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Sept 2011, 11:03 a.m.,*
in response to message #29 by Andrés C. Rodríguez (Argentina)

Duplicate "own a classic" line is gone.

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #31 Posted by **Namir** on 1 Sept 2011, 12:08 p.m.,*
in response to message #1 by gene wright

OK, so HP has been waving the 15LE carrot in front of us all morning long!! Any intention of actually selling the machine????

:-(

Edited: 1 Sept 2011, 12:09 p.m.

Re: HP 15c Limited Edition Calculator on shopping.hp.com now

*Message #32 Posted by **Katie Wasserman** on 1 Sept 2011, 1:26 p.m.,*
in response to message #1 by gene wright

The 12C 30th is on the wrong page, someone messed up. It's listed as a graphing/scientific calculator.

Yep

*Message #33 Posted by **gene wright** on 1 Sept 2011, 1:33 p.m.,*
in response to message #32 by Katie Wasserman

already reported. :-)

Re: Yep

*Message #34 Posted by **Thomas Radtke** on 1 Sept 2011, 1:42 p.m.,*
in response to message #33 by gene wright

Getting into software business, HP should start selling (and using) foolprove CMS software ;^).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP a 40 billion dollar start up

*Message #1 Posted by **Ethan Conner** on 31 Aug 2011, 4:37 p.m.*

There was a full page ad in the paper here yesterday by HP touting themselves as a 40 billion dollar start up. The ad can be viewed in an article on the engadget website. Anyone care to interpret?

Re: HP a 40 billion dollar start up

*Message #2 Posted by **Eric Smith** on 31 Aug 2011, 6:12 p.m.,*
in response to message #1 by Ethan Conner

Marketing run amok.

Re: HP a 40 billion dollar start up

*Message #3 Posted by **Howard Owen** on 31 Aug 2011, 6:26 p.m.,*
in response to message #1 by Ethan Conner

I was part of several startups in the 90s. Most of them got their funding pulled in 2000.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : Operation with complex numbers

*Message #1 Posted by **Miguel Toro** on 31 Aug 2011, 2:21 p.m.*

Hola,

I was trying some examples from the 15c handbook and I got a little strange result from the one in page 133:

```
 - 15c in complex mode: sin-1(2.404) = 1.5708-1.5239i
 - 42s: same result = 1.5708-1.5239i.
But
 - 34s: sin-1(2.404) = 1.5708+1.5239i (so imaginary part is positif!)
```

I am doing the following sequence:

```
0, [ENTER], 2.404, [CPX], [g][SIN-1] = 1.5708+1.5239i
```

I think this is the proper way to enter it...or maybe not.

Saludos,

Miguel

Edited: 31 Aug 2011, 2:24 p.m.

Re: WP 34S : Operation with complex numbers

*Message #2 Posted by **Walter B** on 31 Aug 2011, 3:52 p.m.,*
in response to message #1 by Miguel Toro

Olá Miguel,

si, it's the right way to enter this little problem. And it looks like you've found a pretty old bug, since build 1108 returns the same result as build 1551 does :-/ Thank you for reporting :-)

Walter

Re: WP 34S : Operation with complex numbers

*Message #3 Posted by **Jeff O.** on 31 Aug 2011, 4:27 p.m.,*
in response to message #1 by Miguel Toro

As Walter reports, you are entering it correctly. Prior to Walter's repsonse I prepared the following. Not sure if it is pertinent, but I will let it stand.

I note the following: if you take sin(1.5708+i1.5239) on all three calculators, you get 2.4040 (plus a small imaginary component that would be zero with infinite precision.) If you take sin(1.5708-i1.5239) on all three calculators, you get 2.4040. So apparently both answers are valid. Being mostly a math dummy, I googled “complex arcsin” (actually I use startpage, but “startpaged” is not a common term for “entered into an internet search engine”) and found the following at wolfram.com:

> Quote:
>
> The inverse sine is a multivalued function and hence requires a branch cut in the complex plane… This follows from the definition of $\sin^{-1} z$ as:
>
> $\sin^{-1} z = -i \ln (-i z + (1 - z^2)^{1/2})$

If I use the above formula, and use the positive value of the square root, I get the answer that the 15C and 42s provide. If I use the negative value of the square root, I get the value that wp34s provides. I do not know if that is how wp34s (prior to the next revision if it is to be changed) calculates the inverse sine of a complex value.

edit: Per Pauli's correction, the above formula should be:

$\sin^{-1} z = -i \ln (i z + (1 - z^2)^{1/2})$

I'll leave the mistake for posterity.

Edited: 31 Aug 2011, 9:10 p.m.

Re: WP 34S : Operation with complex numbers

*Message #4 Posted by **Paul Dale** on 31 Aug 2011, 5:57 p.m.,*
in response to message #1 by Miguel Toro

The complex inverse trigonometric function on the 34S are defined by these formulas:

```
arcsin(z) = k PI + (-1)^k . asin(beta) + i (-1)^k ln(alpha+sqrt(alpha^2-1))
arccos(z) = 2k PI +- (acos(beta) - i ln(alpha+sqrt(alpha^2-1)))
where
        alpha = 1/2 sqrt((x+1)^2+y^2) + 1/2 sqrt((x-1)^2+y^2)
        beta  = 1/2 sqrt((x+1)^2+y^2) - 1/2 sqrt((x-1)^2+y^2)


arctan(z) = k PI + 0.5 atan(2a / (1-a^2-b^2) + i/4 ln((a^2+(b+1)^2)/(a^2+(b-1)^2))
```

(in the doc/formulas file).

It looks like the branch cut here is different :-(

- Pauli

Re: WP 34S : Operation with complex numbers

*Message #5 Posted by **hugh steers** on 31 Aug 2011, 7:49 p.m.,*
in response to message #4 by Paul Dale

when i put complex numbers into my library, i specially arranged the branch cuts to be the same as on HP calcs. specifically, i checked everything against the 15c.

i know they're arbitrary, but i found this gave me a level of sanity and comparability.

Re: WP 34S : Operation with complex numbers

*Message #6 Posted by **Paul Dale** on 31 Aug 2011, 8:05 p.m.,*
in response to message #5 by hugh steers

Probably a good idea. I trust the 15c's complex handling :)

I've updated the 34S to use the log based formula (there is a typo above BTW). Saved a bit of space too.

- Pauli

Re: WP 34S : Operation with complex numbers

*Message #7 Posted by **Jeff O.** on 31 Aug 2011, 9:20 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> I've updated the 34S to use the log based formula (there is a typo above BTW).

Crap. Something I mention gets implemented and I screwed it up. Wish I could take credit for suggesting it, but I

was just trying to figure out what was going on. (If I had suggested it, maybe I could have asked for a favor, like using the saved space to display the imaginary component or angle in the dot-matrix display area after ->REC and->POL commands. Sorry, I could not resist.)

I have added the correct formula to my message above. I left the error so that your comment makes sense.

Re: WP 34S : Operation with complex numbers

*Message #8 Posted by **Walter B** on 1 Sept 2011, 1:52 a.m.,*
in response to message #7 by Jeff O.

> Quote:
>
> using the saved space to display the imaginary component or angle in the dot-matrix display area after ->REC and->POL commands.

The great dot matrix allows for displaying something like -2.3E-4i up there. Is this what you want, what you really, really want?

Re: WP 34S : Operation with complex numbers

*Message #9 Posted by **Paul Dale** on 1 Sept 2011, 2:36 a.m.,*
in response to message #8 by Walter B

Ignore Walter, this isn't going to happen ;-)

I saved tens of bytes maximum.

- Pauli

Re: WP 34S : Operation with complex numbers

*Message #10 Posted by **Marcus von Cube, Germany** on 1 Sept 2011, 3:48 a.m.,*
in response to message #9 by Paul Dale

Actually the save is in the 100 bytes arena. We still have some headroom. Not enough for another user flash region but hopefully enough for further bug fixing.

Walter is good at insisting on bugs getting fixed. :-)

Re: WP 34S : Operation with complex numbers

*Message #11 Posted by **Paul Dale** on 1 Sept 2011, 4:01 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Walter, is very very good at this.

The reason the 34S is so good is mostly down to Walter's tenaciousness. Otherwise it would be more like the Elektronikas with lots of *hidden* features and surprises (but still numerically sound).

- Pauli

Re: WP 34S : Operation with complex numbers

*Message #12 Posted by **Marcus von Cube, Germany** on 1 Sept 2011, 4:36 a.m.,*
in response to message #11 by Paul Dale

Pauli, if it were only you and me without Walter, 34S would be a "do everything for nobody" device. ;-)

Re: WP 34S : Operation with complex numbers

*Message #13 Posted by **Paul Dale** on 1 Sept 2011, 4:40 a.m.,*

in response to message #12 by Marcus von Cube, Germany

Agreed :)

- Pauli

Re: WP 34S : Operation with complex numbers

*Message #14 Posted by **Walter B** on 1 Sept 2011, 2:50 p.m.,*
in response to message #13 by Paul Dale

Thanks, colleagues, for your very kind words [blush] d:-)

Re: WP 34S : Operation with complex numbers

*Message #15 Posted by **Jeff O.** on 1 Sept 2011, 8:13 a.m.,*
in response to message #8 by Walter B

> Quote:
>
> The great dot matrix allows for displaying something like -2.3E-4i up there. Is this what you want, what you really, really want?

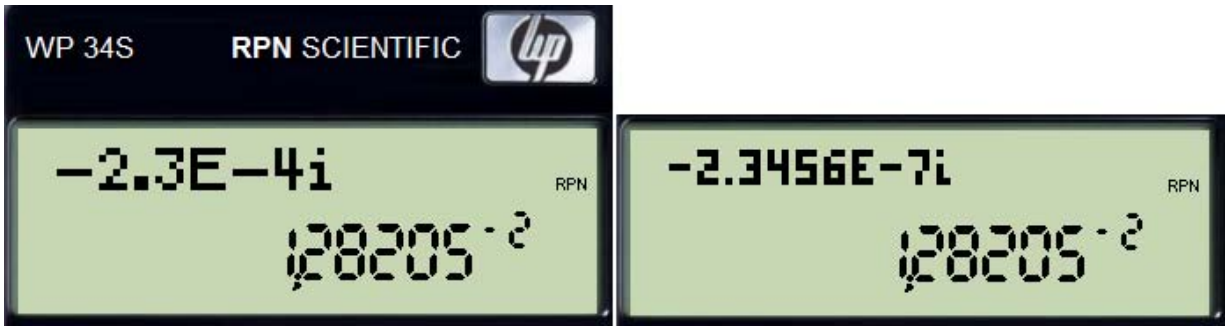
As near as I can tell, the dot matrix area could support up to a 9 character display (plus radix, plus the "i" or "<") in small font, 7 characters in the large font. So at worst you have is something like "i-8.89e-333" in the small font. I hardly ever deal with numbers requiring 3-digit powers of 10. Much of time, I believe the number could be formatted to look decent. I guess what I really, really want is to display the imaginary or angle, honoring the display setting if possible, changing the display setting for the number as needed to display it as best as possible. But I can see that that might be a lot of work. I'd be happy with just appending the number to the "i" or "<", cutting off what does not fit and alpha-displaying it. I'll accept that to do that, I have to learn C programming and all the other steps necessary to change the code myself.

Just to be clear, my "helpful" suggestions are not intended to indicate disappointment or dissatisfaction with wp34s. Far from that. But, if I conceive something that sounds good to me (as most things that I conceive do, curiously), I figure it cannot hurt to suggest it. At best, maybe one day I'll suggest something that resonates with the developers and it will happen. At worst, you say "can't do" or "won't do", but at least I asked.

Re: WP 34S : Operation with complex numbers

*Message #16 Posted by **Walter B** on 1 Sept 2011, 3:26 p.m.,*
in response to message #15 by Jeff O.

No need for excuses :-) Please continue your helpful suggestions (did I tell about the different meanings of quotation marks in different languages? ;-)). Anyway, here's what's feasible spacewise:



No more. So you know what can be done before you start programming ;-)

Walter

Re: WP 34S : Operation with complex numbers

*Message #17 Posted by **Jeff O.** on 1 Sept 2011, 9:45 p.m.,*
in response to message #16 by Walter B

Hmmmm...I can get -2.34e-5i (or i-2.34e-5 as I would probably implement it) to display in large font on my 30b running rev. 1551. I get the same results as you show in small font. It also uses a small letter e in both large and small font. But no matter, you are correct, it is not ideal. But I would probably give it try if I had the power.

I'm not sure if you have told about the different meanings of quotation marks in different languages. I used them above in a casual English manner meaning "perhaps not really." Do people do the so called "air quotes" in other parts of the world? (If they do not, that term probably won't make any sense at all.)

Communication (OT, was Re: WP 34S : Operation with complex numbers)

*Message #18 Posted by **Walter B** on 2 Sept 2011, 1:55 a.m.,*
in response to message #17 by Jeff O.

> Quote:
>
> I used them above in a casual English manner meaning "perhaps not really." Do people do the so called "air quotes" in other parts of the world?

That are two ways I use them as well. Additionally we use them for quoting (surprise! :-) . But I know many people here employ them for emphasizing (being too lazy for underlining), and I thought so far that custom came from the US of A. IIRC we had this topic here some years (?) ago with the example of a German butcher advertising

Heute "frische" Wurst!

- an ad I wouldn't call an ad in my understanding ;-)

Walter

Re: Communication (OT, was Re: WP 34S : Operation with complex numbers)

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Sept 2011, 10:27 a.m.,*
in response to message #18 by Walter B

Quite a number of people here use quotation marks for emphasis. I do share Walter's concern, and pointed the issue to friends, coworkers, students, etc. many times, but it seems there are strong (and unknown) reasons for this to happen so frequently.

[Please disregard any idiomatic mistake]

Re: Communication (OT, was Re: WP 34S : Operation with complex numbers)

*Message #20 Posted by **Jeff O.** on 3 Sept 2011, 1:26 p.m.,*
in response to message #19 by Andrés C. Rodríguez (Argentina)

I had not noticed, now it will probably annoy me. Emphasis should be denoted by **bold**, *italic*, underline, or maybe _this_, whatever it is called. Or ***_all four methods_*** for super emphasis.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35: once working, now only one dim segment on display

*Message #1 Posted by **elmwood** on 31 Aug 2011, 2:08 p.m.*

Greetings all!

I rescued a old HP-35 calculator not too long ago. ($1!) It worked perfectly, but I still disassembled and carefully cleaned the internals, with no problems.

Today, I got a new aftermarket 2000mAh rechargeable battery pack, to replace the original leaked and dead battery pack. I installed the battery, plugged in the HP-35, and all was well. I then turned off the calculator.

A few minutes later, I turned the calculator back on. There's no familiar "0" in the first LED; instead, there will be one lone, very dim segment displayed in the fourth LED from the left. The displayed segment changes when I turn the calculator on and off. Occasionally, it will display two very dim decimal points in the fourth and fifth LED. It doesn't matter whether I use only the battery, the power supply without the battery, or both together - the result is the same.

Any thoughts?

Re: HP-35: once working, now only one dim segment on display

*Message #2 Posted by **elmwood** on 31 Aug 2011, 10:16 p.m.,*
in response to message #1 by elmwood

Bump. Anyone? Or are you all just waiting for it to come up for sale on eBay for parts ...

Re: HP-35: once working, now only one dim segment on display

*Message #3 Posted by **Michael de Estrada** on 31 Aug 2011, 10:55 p.m.,*
in response to message #2 by elmwood

Maybe one of the truly expert members here will chime in. We're not ignoring you, just don't have a good idea what specifically it could be. Normally when displays stop working properly, some electronic component has gone bad in which case you won't be able to repair it unless you are able to get your hands on a donor calculator. Since you only paid $1 for it, just put it in a closet or toss it.

Re: HP-35: once working, now only one dim segment on display

*Message #4 Posted by **Peter Murphy (Livermore)** on 1 Sept 2011, 1:52 a.m.,*
in response to message #3 by Michael de Estrada

An idea: ask Randy Sloyer at FixThatCalc.com if he could use your 35 for spare parts. He's done good work for me, at fair prices, so I've been happy to have found some old, inoperative calcs to send him.

Re: HP-35: once working, now only one dim segment on display

*Message #5 Posted by **Joel Setton (France)** on 1 Sept 2011, 2:34 a.m.,*

in response to message #1 by elmwood

I know this may sound trivial, but are you sure the new battery pack has any charge in it?And did you try running the calculator on a charger?
Joel Setton

Re: HP-35: once working, now only one dim segment on display

*Message #6 Posted by **Randy** on 1 Sept 2011, 11:17 a.m.,*
in response to message #1 by elmwood

Perhaps you received a bad battery? Low voltage can cause the symptom you see. Anything is possible, I've seen both bad cells and reversed cells in after-market packs.

As the 35 will work safely from the charger alone, remove the battery and try with just the ac adapter. If no joy, check the output of the charger. The center pin is common, one side is regulated ~4.5 volts dc and the other side is a 55 ma constant current source that charges the battery that when open circuit, should measure approximately 16 volts dc. A schematic is available in the archives:

Classic charger schematic

Re: HP-35: once working, now only one dim segment on display

*Message #7 Posted by **Dave Shaffer (Arizona)** on 1 Sept 2011, 1:17 p.m.,*
in response to message #6 by Randy

I think I have an extra '35 charger, which I would be glad to donate to a worthy machine. (It might even have a NASA sticker on it!!)

Re: HP-35: once working, now only one dim segment on display

*Message #8 Posted by **Andrew Treloar** on 3 Sept 2011, 1:50 a.m.,*
in response to message #7 by Dave Shaffer (Arizona)

I'm trying to get my father's old HP35 working. The power supply is broken (the transformer has become disconnected from the circuit board - all four traces are broken) and I can't find anywhere to buy a replacement. Is your offer of a charger still open?

Re: HP-35: once working, now only one dim segment on display

*Message #9 Posted by **Dave Shaffer (Arizona)** on 3 Sept 2011, 11:28 a.m.,*
in response to message #8 by Andrew Treloar

Andrew,

Yeah - my offer is still open, but now I need to find my other (my original!) charger first. Let's go off-forum to continue (shaffer (at) alumni.caltech.edu).

As I was looking, I came across a 82041A charger (for Woodstocks, I guess). Somebody has one listed on TAS for $120! Is that reasonable?

Re: HP-35: once working, now only one dim segment on display

*Message #10 Posted by **Michael de Estrada** on 3 Sept 2011, 11:56 a.m.,*
in response to message #9 by Dave Shaffer (Arizona)

> Quote:
>
> As I was looking, I came across a 82041A charger (for Woodstocks, I guess). Somebody has one listed on TAS for $120! Is that reasonable?

That's beyond absurd.

Re: HP-35: once working, now only one dim segment on display

*Message #11 Posted by **Thomas Radtke** on 1 Sept 2011, 1:51 p.m.,*
in response to message #1 by elmwood

The wires are often broken on the charger near the plug. Try to move it slightly and see if it helps.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Darn! 15C preorder relisted at Samson. $129

*Message #1 Posted by **Borja** on 31 Aug 2011, 3:19 a.m.*

I've just checked the Samson Cables page. They list the HP-15C special edition, this time at $129.

The photo they show is a photoshopped image of a 15C, but with "special edition" written below the HP logo.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #2 Posted by **Ethan Conner** on 31 Aug 2011, 4:50 a.m.,*
in response to message #1 by Borja

It's still cheaper than what's on TAS. Decided to place another order anyway. Need a backup. :)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #3 Posted by **hpnut** on 31 Aug 2011, 7:24 a.m.,*
in response to message #1 by Borja

I pre-ordered in July, as these details:

(1) HP 15C Scientific Calculator PreOrder $94.99

---------- Sub Total: $94.99 Shipping & Handling (USPS Priority Mail): $18.00 UT State Sales Tax: $0.00 Total: $112.99 (Pay Via: CreditCard)

I wonder if they will honor that price.

hpnut in Malaysia

Re: Darn! 15C preorder relisted at Samson. $129

*Message #4 Posted by **Thomas Radtke** on 31 Aug 2011, 1:12 p.m.,*
in response to message #3 by hpnut

> Quote:
>
> I wonder if they will honor that price.

They probably won't. I was told I get the chance to cancel my preorder if the price changes. However, the status page still lists my order at the initial price.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #5 Posted by **Namir** on 31 Aug 2011, 10:31 a.m.,*
in response to message #1 by Borja

Does that mean that HP has officially launched the HP-15 LE?

Namir

Re: Darn! 15C preorder relisted at Samson. $129

*Message #6 Posted by **Nick R** on 31 Aug 2011, 10:43 a.m.,*
in response to message #5 by Namir

Or is it still just an imaginary calculator that will handle imaginary numbers?

Re: Darn! 15C preorder relisted at Samson. $129

*Message #7 Posted by **Borja** on 31 Aug 2011, 10:49 a.m.,*
in response to message #6 by Nick R

> Quote:
>
> Or is it still just an imaginary calculator that will handle imaginary numbers?

That's a complex question that might get partial answers at best!

Re: Darn! 15C preorder relisted at Samson. $129

*Message #8 Posted by **Tim Wessman** on 31 Aug 2011, 10:50 a.m.,*
in response to message #1 by Borja

Not at that price I wouldn't. . .

TW

Re: Darn! 15C preorder relisted at Samson. $129

*Message #9 Posted by **Namir** on 31 Aug 2011, 12:58 p.m.,*
in response to message #8 by Tim Wessman

I guess SC is pushing things to whatever limit they feel works.

Namir

Re: Darn! 15C preorder relisted at Samson. $129

*Message #10 Posted by **Michael de Estrada** on 31 Aug 2011, 1:15 p.m.,*
in response to message #9 by Namir

I think they're just trying to sell it for the expected MSRP, instead of a discount, because they figure their competition will do the same, since the supply will be too limited to meet demand. If and when this happens, I do expect massive price gouging on the secondary market, such as TAS. I realize those of you not residing in the USA have limited options, but please don't let someone like SC insert a phallus up your derrieres.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #11 Posted by **Thomas Radtke** on 31 Aug 2011, 1:21 p.m.,*
in response to message #9 by Namir

That was the suggested retail price, iirc. Due to the limited stock, it wouldn't make sense to give any discount. The 15C LE will soon be sold out and reappear on TAS at 200% afterwards.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #12 Posted by **gene wright** on 31 Aug 2011, 1:27 p.m.,*
in response to message #11 by Thomas Radtke

that sounds like a great idea to me! ;-)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #13 Posted by **Thomas Radtke** on 31 Aug 2011, 1:38 p.m.,*
in response to message #12 by gene wright

Sorry Gene - already ordered 10,000 units ;-).

Re: Darn! 15C preorder relisted at Samson. $129

*Message #14 Posted by **Michael de Estrada** on 31 Aug 2011, 2:10 p.m.,*
in response to message #13 by Thomas Radtke

Timeline for releasing the HP-15C LE:

October 1, 2011 - HP makes official launch announcement

October 2, 2011 - All distributors announce that it is sold out

October 3, 2011 - Multiple listings appear on TAS for $500+

Edited: 31 Aug 2011, 2:10 p.m.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #15 Posted by **Tim Wessman** on 31 Aug 2011, 2:19 p.m.,*
in response to message #14 by Michael de Estrada

And any business would then do this and the hoarders would be SOL.

Oct 4: Order for next batch to be produced placed.

TW

Re: Darn! 15C preorder relisted at Samson. $129

*Message #16 Posted by **Howard Owen** on 31 Aug 2011, 2:30 p.m.,*
in response to message #15 by Tim Wessman

Yes, but they wouldn't have that cool "Limited Edition" badge. :)

For a 15C fan, the only thing better than HP bringing back the 15C would be if it were a hit and found a permanent place in the HP printer line. :) Collectors might not agree, however.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #17 Posted by **gene wright** on 31 Aug 2011, 3:00 p.m.,*
in response to message #16 by Howard Owen

Sure they would, Howard!

That 2nd batch might read

"Official Limited Edition not sold by a stinking hoarder!"

Re: Darn! 15C preorder relisted at Samson. $129

*Message #18 Posted by **Howard Owen** on 31 Aug 2011, 5:37 p.m.,*
in response to message #17 by gene wright

Oooh - inside info! :)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #19 Posted by **gene wright** on 31 Aug 2011, 5:41 p.m.,*
in response to message #18 by Howard Owen

No no, Howard!

This would be printed on the OUTSIDE!

ha!

Re: Darn! 15C preorder relisted at Samson. $129

*Message #20 Posted by **Nick R** on 31 Aug 2011, 2:37 p.m.,*
in response to message #14 by Michael de Estrada

I've never quite understood why the possible resurrection of this calculator should create such a feeding frenzy. It was a great model when it originally appeared, but the single line display is restrictive.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #21 Posted by **Michael de Estrada** on 31 Aug 2011, 2:48 p.m.,*
in response to message #20 by Nick R

Sir, you clearly don't understand fanaticism.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #22 Posted by **Thomas Radtke** on 31 Aug 2011, 3:01 p.m.,*
in response to message #21 by Michael de Estrada

Maybe it's about using something that just works? Something you don't feel about as being a beta tester? And maybe the limited display is no issue, but TAS prices for old hardware are? I hardly find any fanboys here.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #23 Posted by **Michael de Estrada** on 31 Aug 2011, 4:44 p.m.,*
in response to message #22 by Thomas Radtke

You don't have to convince me, Thomas. I am one of those consumate fanatics. You are preaching to the choir. ;)

BTW, Today I just received an immaculate HP 32S in the mail. It's in like new condition with all the original packaging, even the protective cardboard insert for the slip case. And it's got the old style spiral bound manual. Oh, joyous day !

Re: Darn! 15C preorder relisted at Samson. $129

*Message #24 Posted by **Nick R** on 31 Aug 2011, 4:21 p.m.,*
in response to message #21 by Michael de Estrada

It just seems that buying this device sight-unseen is much like going on a blind date: both actions could possibly end in a miscalculation.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #25 Posted by **Michael de Estrada** on 31 Aug 2011, 4:49 p.m.,*
in response to message #24 by Nick R

What's the miscalculation ? It's a known quantity. The only possible downside is that the physical quality is somewhat lower, but even that should be no worse than the current production of the 12C.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #26 Posted by **Nick R** on 31 Aug 2011, 6:32 p.m.,*
in response to message #25 by Michael de Estrada

I was speculating that the keyboard might not of the same quality as the original, leading to missed keystrokes.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #27 Posted by **Michael de Estrada** on 31 Aug 2011, 8:58 p.m.,*
in response to message #26 by Nick R

I won't be the same as the original, for sure, which had gold plated contacts. However, they are still making the original 12C in China, and AFAIK the keyboards are OK. The 15C LE no doubt uses the same keyboard as the 12C.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #28 Posted by **Jake Schwartz** on 31 Aug 2011, 2:49 p.m.,*
in response to message #20 by Nick R

Quote:

---

but the single line display is restrictive.

Agreed 100%. The form factor is great, but imagine if they kept the physical case and keys but inserted a two-line full dot-matrix display. With the Atmel CPU/platform of the "12C+", it could handle 12-digit mantissa/3-digit exponent numerics, it would have the capability to support soft-key menus and Walter, Pauli and Marcus would have a field day :-)

Jake

Re: Darn! 15C preorder relisted at Samson. $129

*Message #29 Posted by **Walter B** on 31 Aug 2011, 4:08 p.m.,*
in response to message #28 by Jake Schwartz

d:-) ... and I will dig in my files and find some very old drafts. Oh yeah, such a 15CX would be really great :-) Else it's just the ancestor of the 42S :-/

Walter

Re: Darn! 15C preorder relisted at Samson. $129

*Message #30 Posted by **Howard Owen** on 31 Aug 2011, 5:40 p.m.,*
in response to message #28 by Jake Schwartz

Imagine a cell phone with a calculator keyboard overlay covering some percentage of the screen. The keys could have good tactile feed back, and the phone could provide an enhanced display.

But what if it rings in the middle of a complicated problem? :)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #31 Posted by **uhmgawa** on 31 Aug 2011, 7:26 p.m.,*
in response to message #28 by Jake Schwartz

> Quote:
>
> Agreed 100%. The form factor is great, but imagine if they kept the physical case and keys but inserted a two-line full dot-matrix display. With the Atmel CPU/platform of the "12C+"..

The sam7 can't natively drive an LCD matrix of such density so an external controller would be required. This may detract from utility of the sam7 but even dismissing that I haven't found much to compete with it in this application space.

> Quote:
>
> it could handle 12-digit mantissa/3-digit exponent numerics, it would have the capability to support soft-key menus..

I believe the attraction of the 15c in part follows from the unmodified firmware proven over 30 years in the field.

However I hazard what you're really after is one of these HP-42C.

Yes I'm looking for one too.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #32 Posted by **Egan Ford** on 31 Aug 2011, 7:56 p.m.,*
in response to message #28 by Jake Schwartz

> Quote:
>
> Agreed 100%. The form factor is great, but imagine if they kept the physical case and keys but inserted a two-line full dot-matrix display. With the Atmel CPU/platform of the "12C+", it could handle 12-digit mantissa/3-digit exponent numerics, it would have the capability to support soft-key menus ...

New software, new bugs.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #33 Posted by **Mike Morrow** on 31 Aug 2011, 5:41 p.m.,*
in response to message #20 by Nick R

> Quote:
>
> I've never quite understood why the possible resurrection of this calculator should create such a feeding frenzy.

I can't understand the bizarre enthusiasm either. It is without any logical basis. Assuming a new HP-15C becomes available, speed would be the **only** advantage over the original. What good is that?

The original HP-15C is slow, but who ever did work on an HP-15C that would be enhanced by doing it faster? It has no output device (not even a BEEP) except the very limited display. It has no input device except the keyboard. Faster speed is not likely to have substantive value at all to any HP-15C application.

I'd rather have an original HP-15C. At least the battery life and the quality of construction will be vastly superior to any Chinese re-incarnation. The good old HP traditional quality is still there in 30-year-old originals.

The appearance of the HP 42S in 1988 showed that HP once could produce a small RPN calculator that is an order of magnitude better than the HP-15C. The HP 15C LE is a sign of failure in innovation at even 1988 levels!

Re: Darn! 15C preorder relisted at Samson. $129

*Message #34 Posted by **Howard Owen** on 31 Aug 2011, 6:23 p.m.,*
in response to message #33 by Mike Morrow

And yet the 12C still sells well after 30 years. Perhaps that machine is just good enough to do the jobs demanded of it. Maybe it fits into pockets and workflows that include far more powerful and sophisticated computing devices.

The 15C is a lot more powerful than the 12C for mathematics. It's also more

complicated. So I wonder if it will find a similar niche out there. I consider that an open question, though.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #35 Posted by **uhmgawa** on 31 Aug 2011, 7:06 p.m.,*
in response to message #33 by Mike Morrow

> Quote:
>
> Faster speed is not likely to have substantive value at all to any HP-15C application.

Speed counts for something to some folks, and the original NUTs are quite slow for anything beyond on-the-fly interactive calculations and limited programming. So a sam7 ARM version does offer value relative to the original.

I would however expect an encore 15c to add bidirectional i/o of some sort. The sam7 can certainly support it and running the firmware in emulation makes it quite straightforward. But AFAIK no one has seen the new 15c yet so it may best to hold off on that evaluation.

> Quote:
>
> I'd rather have an original HP-15C. At least the battery life and the quality of construction will be vastly superior to any Chinese re-incarnation. The good old HP traditional quality is still there in 30-year-old originals.

From the perspective of mechanical construction, LCD contrast, and quiescent current draw I'd have to agree with you there.

> Quote:
>
> The appearance of the HP 42S in 1988 showed that HP once could produce a small RPN calculator that is an order of magnitude better than the HP-15C. The HP 15C LE is a sign of failure in innovation at even 1988 levels!

Wow, tough audience. But the 42s has detractions as well considering the carbon pill key switch construction and the "service hostile" enclosure design. The LCD contrast is far inferior to the low multiplex rate segment display of the 15C (but admittedly may have been average for graphic LCDs of that era). Paradoxically we get a piezo beeper but no IR receiver in the 42s such that a user could have a means to get code into the box which doesn't involve human digits.

But quite honestly either machine offers an interesting platform to build upon.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #36 Posted by **Egan Ford** on 31 Aug 2011, 8:14 p.m.,*
in response to message #33 by Mike Morrow

> Quote:
>
> I can't understand the bizarre enthusiasm either. It is without any logical basis. Assuming a new HP-15C becomes available, speed would be the **only** advantage over the original. What good is that?

The 15C is a gorgeous and capable work of art! Granted the 42S is far more capable, but it's also butt-ugly. :-)

I hope HP makes a zillion 15Cs since it is the only gift I am going to give anymore--wedding presents, baby showers, get-well-soon, sorry-for-your-loss, etc...

Retro is in!

(Whatever Walter says), the 16C! Please?

Re: Darn! 15C preorder relisted at Samson. $129

*Message #37 Posted by **Katie Wasserman** on 31 Aug 2011, 8:42 p.m.,*
in response to message #36 by Egan Ford

> Quote:
>
> I hope HP makes a zillion 15Cs since it is the only gift I am going to give anymore--wedding presents, baby showers, get-well-soon, sorry-for-your-loss, etc...

Did I mention that I'm engaged, pregnant, sick, and have just lost an uncle?

Re: Darn! 15C preorder relisted at Samson. $129

*Message #38 Posted by **hpnut** on 31 Aug 2011, 10:49 p.m.,*
in response to message #37 by Katie Wasserman

> Quote:
>
> Did I mention that I'm engaged, pregnant, sick, and have just lost an uncle?

Katie,

Generous philanthrophist Mr Egan Ford owes you at least four units HP 15LE s given your condition ;-)

hpnut in Malaysia

Re: Darn! 15C preorder relisted at Samson. $129

*Message #39 Posted by **Tim Wessman** on 1 Sept 2011, 12:55 a.m.,*
in response to message #37 by Katie Wasserman

Me too!

TW

Re: Darn! 15C preorder relisted at Samson. $129

*Message #40 Posted by **Mike Morrow** on 1 Sept 2011, 2:16 a.m.,*
in response to message #36 by Egan Ford

> Quote:
>
> The 15C is a gorgeous and capable work of art! Granted the 42S is far more capable, but it's also butt-ugly. :-)

I can't disagree with any part of that. The HP-15C is visually far more attractive than **any** later HP. I also think it's much better looking than the HP-41 series.

I don't know what happened to HP in 1986, after which all those left-coast "artsy" low contrast goober-head ugly color schemes were adopted. The HP 28, 48S and G, 38G, and **all** Pioneers have absolutely terrible color schemes. Even my dear HP 42S...ugly orange on even uglier brown...what drugs were those HP folks on?

At least today's 50g and 30b, and...even the unfortunate 35S, show a lot of practical "visual" sense has returned to HP since the demise of the Pioneers and the 48G series.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #41 Posted by **Howard Owen** on 1 Sept 2011, 2:48 a.m.,*
in response to message #40 by Mike Morrow

> Quote:
>
> ..what drugs were those HP folks on?

Not LSD, you can bet. :)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #42 Posted by **Thomas Radtke** on 1 Sept 2011, 12:45 p.m.,*
in response to message #40 by Mike Morrow

> Quote:
>
> [...] **all** Pioneers have absolutely terrible color schemes.

What's wrong with the 20S' cyan/gold legends?

Re: Darn! 15C preorder relisted at Samson. $129

*Message #43 Posted by **NateB** on 31 Aug 2011, 10:55 p.m.,*
in response to message #33 by Mike Morrow

> Quote:
>
> I can't understand the bizarre enthusiasm either. It is without any logical basis.

For those who do not have a 15c, the Limited Edition release is an opportunity to purchase a new unit for considerably less than the price of a used 15c.

For those that have a 15c (and use it), the Limited Edition release is an opportunity to be able to purchase a new backup with printed manual and emulator for considerably less than the price of a used 15c.

For those who collect, the Limited Edition release is another shiny object to hoard.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #44 Posted by **Lincoln R.** on 1 Sept 2011, 12:03 a.m.,*
in response to message #43 by NateB

I don't consider myself a "collector" per se. Collector makes me think of some guy with his display case stuffed full of red dot HP35s and a pallet of NIB 16cs that never actually get used. I own several HPs, but use almost all of them (including my non red dot, version 3 HP-35 that I actually used on my last exam as an undergrad at college... in May, 2011). It started when I bought a 48g after my TI-89 Titanium got stolen... I picked up a few other models, decided I wanted a 32S because the 48G was bulky and I really didn't use the graphing feature that often, so I managed to buy one that had the keyboard contact problem on TAS for $15 and fixed it. I'll probably buy one of the new 15Cs, but I intend to use it, not flip it on TAS or hide it in the bottom drawer of my desk for the next 50 years.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #45 Posted by **Michael de Estrada** on 1 Sept 2011, 12:30 a.m.,*
in response to message #44 by Lincoln R.

It's nice to see a young person show interest in these old designs and appreciate them. I too have an HP-35, V3, except that I bought mine new in 1973 when I got my first engineering job. It replaced my trusty K&E slide rule, and speeded up my work to the degree that I would annoy my boss by asking for more work because I would finish long before quitting time. I still have the HP-35, and it still works great. I'm sure you will enjoy the HP-15C.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #46 Posted by **Nick R** on 1 Sept 2011, 7:57 a.m.,*
in response to message #43 by NateB

So the 15C LE is going to be supplied with a printed manual?

Re: Darn! 15C preorder relisted at Samson. $129

*Message #47 Posted by **gene wright** on 1 Sept 2011, 8:18 a.m.,*
in response to message #46 by Nick R

Yes

Re: Darn! 15C preorder relisted at Samson. $129

*Message #48 Posted by **Michael de Estrada** on 1 Sept 2011, 8:33 a.m.,*
in response to message #47 by gene wright

Now, wouldn't it be something if it were also spiral bound like the original. One can only dream.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #49 Posted by **M. Joury** on 1 Sept 2011, 9:18 a.m.,*
in response to message #47 by gene wright

Maybe. The listing for both the 15C LE and 12C 30th Anniversary mention manual on CD.

Cheers,

-Marwan

Re: Darn! 15C preorder relisted at Samson. $129

*Message #50 Posted by **Howard Owen** on 1 Sept 2011, 10:23 a.m.,*
in response to message #49 by M. Joury

Gene is in a position to know. :)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #51 Posted by **M. Joury** on 1 Sept 2011, 10:54 a.m.,*
in response to message #50 by Howard Owen

So it appears. I am happy to learn that it will have a paper manual.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #52 Posted by **uhmgawa** on 31 Aug 2011, 6:41 p.m.,*
in response to message #20 by Nick R

> Quote:
>
> I've never quite understood why the possible resurrection of this calculator should create such a feeding frenzy. It was a great model when it originally appeared, but the single line display is restrictive.

Voyagers in general and the 15c in particular certainly have a strong legacy, and honestly that was one motivation for my time sink developing the KINOMI project.

But Voyagers are a point product which limits the design to their current feature set, in terms of having practically unmodifiable firmware along with limitations of the existing user interface.

That said I suppose I personally draw a similar analogy between open source and proprietary software. I don't really get excited by software for which source isn't available, in part due to the practical, potential need to adapt such software to my needs and part psychological in that I **can** modify said software. So in the case of Voyagers and others, having usable firmware (legal restrictions aside) and a documented programming model allow a platform beyond the original product -- a night to day transformation IMHO.

Edited: 1 Sept 2011, 5:04 p.m. after one or more responses were posted

Re: Darn! 15C preorder relisted at Samson. $129

*Message #53 Posted by **Neil Hamilton (Ottawa)** on 31 Aug 2011, 10:35 p.m.,*
in response to message #52 by uhmgawa

> Quote:
>
> ... and honestly that was one motivation for my time sink developing the KINOMI project.

Speaking of which, is there any more news on this front? I for one would love to see more of this. I have a few old chassis that I would love repurpose.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #54 Posted by **uhmgawa** on 2 Sept 2011, 10:55 a.m.,*
in response to message #53 by Neil Hamilton (Ottawa)

> Quote:
>
> Speaking of which, is there any more news on this front? I for one would love to see more of this. I have a few old chassis that I would love repurpose.

Fair question and I haven't forgotten about the folks asking for this.

Yes I'd like to release it as an open project, but am still undecided how best to do so. The procedure to actually get a KINOMI module functional in a Voyager is fairly involved such that in its current form I suspect it would have limited appeal. Issues such as nondestructively removing the NUT cpu, building a KINOMI module itself with 0201 footprint and 0.5mm surface mount components, adding the bottom floating conductor standoffs to the module, and manually soldering it to the prepared PCB takes some skill and tooling ideally including a low power microscope.

It would be considerably easier if the Voyager PCB were to be un-staked for the above assembly operation but doing so has its own complications. Still it may be inevitable and this option removes the need for a prospective modification to live within the 14x14.6mm KINOMI footprint. Eg, a complete board replacement is possible which opens up considerably more

real estate allowing use of a more powerful SoC, and perhaps within reason additional RWM/svRAM/FLASH, and I/O. I think it is also far more feasible for an end experimenter to replace/restake an upgrade board than spending hours hunched over the family stereo microscope and hot-air rework station constructing a module less than the size of a US dime.

That said the existing KINOMI modules versions are certainly viable and I have several running here. For those interested in reviewing the design I'll try to get at least the schematics and PCB gerbers available for download within the next week +/-. Apologies this is taking so long but despite it being some of the most enjoyable leisurely hacking I can recall, no one seems interested to fund my preoccupation with 30 year old calculators. ;)

-john

Re: Darn! 15C preorder relisted at Samson. $129

*Message #55 Posted by **robert rozee** on 2 Sept 2011, 2:07 p.m.,*
in response to message #54 by uhmgawa

why not just design it as a refit into a modern 12C+ casing? the user could then, at the same time, repaint/silkscreen the keyboard buttons and escutcheon too.

Re: Darn! 15C preorder relisted at Samson. $129

*Message #56 Posted by **Neil Hamilton (Ottawa)** on 2 Sept 2011, 2:13 p.m.,*
in response to message #55 by robert rozee

> Quote:
>
> escutcheon

What a wonderful word! I had to look that one up.

The things one learns at this site...

Re: Darn! 15C preorder relisted at Samson. $129

*Message #57 Posted by **robert rozee** on 3 Sept 2011, 1:07 a.m.,*
in response to message #56 by Neil Hamilton (Ottawa)

us kiwis (new zealanders) are quite renowned for our exuberant use of a veritable plethora of interesting and thought-provoking words :-)

Re: Darn! 15C preorder relisted at Samson. $129

*Message #58 Posted by **uhmgawa** on 2 Sept 2011, 5:15 p.m.,*
in response to message #55 by robert rozee

> Quote:
>
> why not just design it as a refit into a modern 12C+

> casing? the user could then, at the same time, repaint/silkscreen the keyboard buttons and escutcheon too.

That has been on the mental drawing board ever since I was greeted to a at91sam7l128 COB entombed in a blob of epoxy upon popping open the first 12c+. But assorted pros/cons exist for the sam7l relative to legacy voyager models to consider:

The pcb is sized to the keypad area alone. So for use of this real estate in a new PCB layout, vias must dodge the tactile dome contact lands on the other side of the board. Blind vias are one option ($$) or a dual laminated board can be used as a economical approach to achieve the same (potentially better) result. (Perhaps clearance exists to extend the PCB into the LCD area, I'm looking at disassembly jpegs ATM and can't tell for certain).

The LCD mates to the PCB via carbon ink conductive ribbon, itself joined to the PCB via an anisotropic conductive tape adhesive. Freeing that connection requires care to avoid damaging the carbon ink and new anisotropic adhesive to reestablish the connection to a new board. Moreover controlled heat and pressure via a specialized hot bar tool are typically used to form a reliable seal.

The LCD is a segment configuration using a higher multiplex rate (lower contrast) characteristic. So perhaps we just want to displace it altogether with a matrix display. That decision is the easy part -- finding an off the shelf glass which suitably fits the existing window area will be somewhat of a challenge but arguably worth the effort. Plus a graphic matrix glass will realistically require a separate controller. If we were incredibly lucky we might find a COG or TAB mount glass + controller to suit but I wouldn't expect so.

The heat stake posts (at least for the version I'd disassembled) appear to be hollow and are a total of 9. The hollow core probably will accept a M1.6 or M1.4 screw which dispenses with recementing post heads for reassembly. Doing so may have been planned as a manufacturing option or perhaps the posts were molded hollow reducing mass to ease the staking operation.

The power supply (finally) is supplied by two CR2032 lithium coin cells which roughly provide double the energy of three LR44 button cells. This was likely to accommodate the substantially higher "off" current draw of the 91sam7l, but it is only a plus if we use a SoC with a lower quiescent current. The lower rail voltage (3V0) is directly digestible by contemporary SoCs where the legacy 4V5 supply will require a buck regulator to drop the voltage in operation and a very low quiescent current linear regulator to provide "off" voltage regulation for SRAM retention. I haven't found a suitable linear regulator which could live in a < 1uA budget. Although use of external nvSRAM and external logic may allow the entire core to be powered off while providing true non-volatile storage.

I personally like the tactile feel of the full domes present in the legacy

Voyagers which have a more muted inflection. But that's just my preference and there is no reason otherwise why the 12c+ cut/legged domes couldn't be reused.

The 12c+ AFAIK thus far uses surface printed keycap legends which while a concession to manufacturing economy, are a better starting point if we'd like to engrave/fill new legends.

Edited: 2 Sept 2011, 5:25 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

3V Power Supply

*Message #1 Posted by **Lode** on 30 Aug 2011, 6:47 p.m.*

Hi,

I think this might be a bit off topic, but communicating through RS232 with a HP 30b while it has batteries annoys me because I don't know how much power it's drawing while the cable is attached, and, because you can't see whether it's on or off if its firmware is empty.

Would connecting the output of a 3V power supply to one of the battery holders work?

What kind of power supply could do that? If I search for linear dc power supplies on the internet I mostly find expensive ones.

Thanks!

Edited: 30 Aug 2011, 6:56 p.m.

Re: 3V Power Supply

*Message #2 Posted by **Katie Wasserman** on 30 Aug 2011, 7:26 p.m.,*
in response to message #1 by Lode

The 20b/30b do use a lot of power, 30mA or more, when communicating via SAMBA and will run down new cells in very short order, maybe under 1 hour. You can use an external power supply but you'll need to remove both cells -- not just one -- since you'll be feeding current into the remaining cell (there's no blocking diode in there).

Instead of a linear power supply, I'd recommend 2 AA cells in a plastic battery holder with some short wires to aligator clips. That will be able to supply 30mA for 100 hours if you use alkaline cells and be very inexpensive to put together.

Re: 3V Power Supply

*Message #3 Posted by **Gerson W. Barbosa** on 30 Aug 2011, 7:51 p.m.,*
in response to message #1 by Lode

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=182547

Re: 3V Power Supply

*Message #4 Posted by **Marcus von Cube, Germany** on 31 Aug 2011, 2:41 a.m.,*
in response to message #1 by Lode

The cable alone draws power while connected, even with the caculator turned off. The level shifters are driven by the 3V contact in the socket.

You may feed three volts through the serial connector if you remove the batteries before you connect. On my development machine, I've connected a short cable to the battery terminals and run it off a cheap wall wart (switching PS).

On my carry around device, I've connected a stereo socket for the serial communication and connect it directly to a 3V FTDI USB cable.

WP 34S and USB.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Degrees conversion for trigonometric function

*Message #1 Posted by **Beth Snipes** on 30 Aug 2011, 3:03 p.m.*

I have an HP 15c. I am trying to calculate sin 60 degrees, but I can't seem to convert to degrees for this calculation. My calculator recently started displaying a "c" near the lower right side, but I don't know if this is significant. Please help, and thanks!

Re: Degrees conversion for trigonometric function

*Message #2 Posted by **Dieter** on 30 Aug 2011, 3:16 p.m.,*
in response to message #1 by Beth Snipes

The "c" tells you you're in complex mode. Here all angles are assumed to be in radians, as usual.
So simply turn complex mode off. This is done by clearing flag 8. Press [g] [CF] [8]. CF is the blue-shifted function of the "5" key.

Generally, the angular mode is set by using the DEG RAD and GRD mode functions (blue-shifted functions of the "7", "8" and "9" keys).

Dieter

Re: Degrees conversion for trigonometric function

*Message #3 Posted by **Beth Snipes** on 30 Aug 2011, 3:32 p.m.,*
in response to message #1 by Beth Snipes

Thanks so much! I had to figure out which calculator I had since the designation emblem is gone. I think I still have a manual, but it may take awhile to find it. I really appreciate the help! Everything is working like it used to.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Confirmed sellers of the 15C LE?

*Message #1 Posted by **Peter Murphy (Livermore)** on 30 Aug 2011, 2:19 p.m.*

Can Forum members provide links to sites at which the 15C LE is positively for sale, and the prices at which they're offered?

Thanks.

Re: Confirmed sellers of the 15C LE?

*Message #2 Posted by **Namir** on 30 Aug 2011, 2:41 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I think it's a wait and see approach!! A bit like how my house (and my neighbors) STILL lack electrical power due to the hurricane Irene.

Namir

Edited: 30 Aug 2011, 2:41 p.m.

Re: Confirmed sellers of the 15C LE?

*Message #3 Posted by **Ethan Conner** on 30 Aug 2011, 3:01 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

At least as of a few weeks ago Samson Cables was taking "orders" or maybe more accurately selling places in line for 109.95$. That's where i put my money. You could try there. I think they are calling it the "special 1". You have to get on their new calculator mailing list then they will send you a link to "order" the 15c.

Re: Confirmed sellers of the 15C LE?

*Message #4 Posted by **Lincoln R.** on 30 Aug 2011, 10:53 p.m.,*
in response to message #3 by Ethan Conner

Hm, interesting. I did notice that for sale, I'm just rather suspicious given the turmoil at HP. I just hope that I'll be able to buy one when/if they come to market.

Re: Confirmed sellers of the 15C LE?

*Message #5 Posted by **Steve Fennell** on 30 Aug 2011, 3:06 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I don't think it's for sale anywhere. I placed an order at Samson Cables, but they have since pulled the listing from their catalog. I e-mailed them after that and they said they took down their listing until an official announcement was made. They expected an ETA of October through December this year.

With that said, and that is all the information I have, I really wonder if it will be released given the HP

corporate gyrations taking place. I certainly hope it will be released, but until there's an official announcement everything is just a rumor. At this point the only "evidence" of a release are HP websites listing the item unofficially, and suppliers willing to take pre-orders.

Re: Confirmed sellers of the 15C LE?

*Message #6 Posted by **Ethan Conner** on 30 Aug 2011, 4:42 p.m.,*
in response to message #5 by Steve Fennell

Be encouraged. There is a article on engadget that states hp is making another run of touchpads this fall to satisfy demand. So if they are willing to do that for one item in the midst of their upheaval maybe this will translate to the 15c. I believe this has to do with overwhelming demand which may or may not translate to the 15c le. It looks to me like they do pay attention to an item selling out.

Re: Confirmed sellers of the 15C LE?

*Message #7 Posted by **Paul Gaster** on 31 Aug 2011, 1:12 a.m.,*
in response to message #6 by Ethan Conner

The Touchpad story makes me cringe. They had to be selling those at a huge loss, so they decide to make another production run? What? Are they not hemorrhaging enough money fast enough?

Re: Confirmed sellers of the 15C LE?

*Message #8 Posted by **Katie Wasserman** on 31 Aug 2011, 1:44 a.m.,*
in response to message #7 by Paul Gaster

It costs $306 to make the 16G model that they now sell for $100. So they lose $206 for each unit they sell, but they make it up in volume :-)

Corporate suicide, the HP Way!

Edited: 31 Aug 2011, 1:44 a.m.

Re: Confirmed sellers of the 15C LE?

*Message #9 Posted by **Michael de Estrada** on 31 Aug 2011, 2:56 a.m.,*
in response to message #8 by Katie Wasserman

HP is just following the current federal government economic model of "stimulating" the economy by spending more money than they bring in from taxes as a result. It kinda reminds me of this stock broker who told me that I had lost a bundle in the market, but the good part was I could write it off on my income taxes.

Re: Confirmed sellers of the 15C LE?

*Message #10 Posted by **Eric Smith** on 31 Aug 2011, 3:02 a.m.,*
in response to message #8 by Katie Wasserman

I don't believe any of the BoM cost figures in any of the published tear downs. The analysts don't seem to have realistic estimates for the costs of components in the volumes in which consumer goods are actually manufactured. Those component prices may be the published prices from the component vendors, but large customers such as HP, Apple, Dell, etc. negotiate much better deals.

Imagine if automobile magazines tried to estimate the cost to GM of manufacturing a new Corvette based on parts prices from AC Delco. They would conclude that a Corvette costs GM $500,000 to manufacture.

That said, I also do expect that HP was losing money at the $99 price point. I just don't believe that the loss was anywhere near $206/unit.

Re: Confirmed sellers of the 15C LE?

*Message #11 Posted by **Calum Tait** on 31 Aug 2011, 4:32 a.m.,*
in response to message #10 by Eric Smith

I agree that this cost seems excessive. For instance DDR2 DRAM is trading at the moment for less than a dollar per Gb yet they have costed 8Gb at $26.00! I also know from experience that when you start getting quotes for components in the hundreds of thousands then the prices become staggeringly low. I would seriously doubt that the Touchpads cost much more than $150.00 to make delivered to the US.

Re: Confirmed sellers of the 15C LE?

*Message #12 Posted by **Howard Owen** on 31 Aug 2011, 4:58 a.m.,*
in response to message #7 by Paul Gaster

Well, others do it for strategic reasons. Amazon has an Android tablet coming that they are expected to sell below cost. They hope to get more coming in from integration with their main lines of business, of course.

Second production run of TouchPad

*Message #13 Posted by **Vladan Dugaric** on 31 Aug 2011, 7:30 a.m.,*
in response to message #7 by Paul Gaster

If HP purchased components or made a firm commitment to purchase, they cannot just pull out; for them it might actually be cheaper to just produce them than not.

In such case, selling them for $100 apiece will reduce their unit loss by $100 less cost they incur in transport/sales. That makes economic sense even if on the surface it does not.

This is a very frequent thing in various commerical contracts, especially public purchases (government IT contracts, weapons contracts, etc.). Almost always the contract terms are made to effectively remove the option of cancellation even in the face of escalating cost of the project. It then becomes less costly to go ahead and complete a loss making order than to cancel it.

Vladan

Re: Second production run of TouchPad

*Message #14 Posted by **Paul Gaster** on 31 Aug 2011, 10:19 a.m.,*
in response to message #13 by Vladan Dugaric

I bet you are correct, and it makes sense. I worked as a project engineer for a contract manufacturing company for just over 10 years so I should have caught that to be honest. Once in a great while we would have a customer back out of a project for various reasons or they would introduce a revision that involved changing materials. They were always on the hook for parts we had ordered, anything in process or already made at the factory, and anything in

transport to us or them.

What doesn't make sense is for HP to have made a rash decision to have a firesale without having a handle on the goods and materials in process first.

What about Europe?

*Message #15 Posted by **Lode** on 31 Aug 2011, 7:33 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Will the price in Europe be similar or will it be 3x as high as usual?

Will there be enough of them released in Europe?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 battery holder, are there any CAD drawings?

*Message #1 Posted by **Ian Phillips** on 30 Aug 2011, 12:34 p.m.*

I am fortunate enough to have two spare 41CVs and would like to make use of them but I do not have the battery holders.

Being a calculator user rather than a collector I am not bothered about originality or cosmetics so I am thinking about making some battery holders by fabricating/milling or even by SLA techniques.

As I have got one good holder I could create my own drawings but thought that if any drawings did exist (I have searched the archives) then it would make my task easier, hence my request.

Out of interest, I bought my first HP41c in the Singapore duty free shop in 1979 and it cost $670 dollars.

Ian

Re: HP41 battery holder, are there any CAD drawings?

*Message #2 Posted by **Gerson W. Barbosa** on 30 Aug 2011, 12:41 p.m.,*
in response to message #1 by Ian Phillips

Jean-Michel made a 3D model of the HP-41 some years ago. I think it included the battery compartment, but I cannot find it right now.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=117508

Gerson.

Re: HP41 battery holder, are there any CAD drawings?

*Message #3 Posted by **Mark Hardman** on 30 Aug 2011, 12:49 p.m.,*
in response to message #2 by Gerson W. Barbosa

For fabrication of small lot plastic parts, Shapeways http://www.shapeways.com does miracles in the 3D printing arena.

In addition to the holder itself, you would need to source the paired battery terminal springs. Anyone have a source? I have several used battery holders with springs that have completely corroded. These could be put back in service if I could just find replacements for the springs.

Mark Hardman

Re: HP41 battery holder, are there any CAD drawings?

*Message #4 Posted by **NateB** on 30 Aug 2011, 1:25 p.m.,*
in response to message #1 by Ian Phillips

Someone is already selling an aftermarket holder on TAS. It is not identical, but close. I think they are ~$35. I don't know if you could produce your own for less.

Re: HP41 battery holder, are there any CAD drawings?

*Message #5 Posted by **Ian Phillips** on 30 Aug 2011, 2:40 p.m.,*
in response to message #4 by NateB

> Quote:
>
> Someone is already selling an aftermarket holder on TAS. It is not identical, but close. I think they are ~$35. I don't know if you could produce your own for less.

Making it myself would be totally uneconomic, but it would give the satisfaction of having done it. Machining Acetal or PVC is very easy and I am sure I could fabricate the sprung contacts out of phosphor bronze or nickel silver sheet.

When I mentioned the SLA though it was because someone I know has a friend that knows someone that has the equipment as his place of work. certain favours might be exchanged without recourse to real money!

Ian P

Re: HP41 battery holder, are there any CAD drawings?

*Message #6 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 3:54 p.m.,*
in response to message #5 by Ian Phillips

Ian, have you considered making a holder for a 6V lithium battery? The cell will work forever in a 41C. Maybe you'll find some buyers for such a holder.

Re: HP41 battery holder, are there any CAD drawings?

*Message #7 Posted by **Ian Phillips** on 30 Aug 2011, 5:20 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Ian, have you considered making a holder for a 6V lithium battery? The cell will work forever in a 41C. Maybe you'll find some buyers for such a holder.

Its a good idea. I was going to use 'N' cells just because of simplicity and also I was not considering doing these on a commercial basis.

I got over 4 years usage out of my last set of alkaline cells (I use it frequently but only for short periods). With Lithium cells I might get 10 years!

Ian P

Re: HP41 battery holder, are there any CAD drawings?

*Message #8 Posted by **Frido Bohn** on 31 Aug 2011, 5:18 a.m.,*
in response to message #7 by Ian Phillips

> Quote:
>
> With Lithium cells I might get 10 years!

Well, this may be true for a 41 in its basic configuration. If you look at the old problem with the power consumption of the magnetic card reader or at the newer extensions (41CL and some modules) which drain batteries very fast, a rechargeable solution based on lithium cells would be very much appreciated.
That of course applies for the guys who want their 41s primarily running and not just in a showcase ;-)

Re: HP41 battery holder, are there any CAD drawings?

*Message #9 Posted by **Dieter** on 31 Aug 2011, 5:42 a.m.,*
in response to message #8 by Frido Bohn

A rechargeable solution based on Li-Ion batteries would provide 7,2 Volts (two cells) nominally, right after a complete charge even 8 Volts and more. So it will not fit without additional electronics. This point has been discussed here every once in a while. ;-)
Otherwise a commonly used camera battery would be a nice solution.

On the other hand, single-use Lithium-batteries with their 6 or 6,2 Volts should be fine. A common 2CR5, as found in any photo store, provides about 1500 mAh, i.e. almost twice the capacity of a regular N-size cell.

Dieter

Re: HP41 battery holder, are there any CAD drawings?

*Message #10 Posted by **Ian Phillips** on 31 Aug 2011, 5:16 p.m.,*
in response to message #8 by Frido Bohn

> Quote:
>
> Well, this may be true for a 41 in its basic configuration. If you look at the old problem with the power consumption of the magnetic card reader or at the newer extensions (41CL and some modules) which drain batteries very fast, a rechargeable solution based on lithium cells would be very much appreciated.
> That of course applies for the guys who want their 41s primarily running and not just in a showcase ;-)

The 4 year battery life I mentioned earlier was for a 41cv with no peripherals (just Machine and Thermal Pacs).

In fact I only took the cells out when I got the 'low batt' warning when I tried the cardreader for the first time in about 5 years. I might put the cells back in now that I have fixed the gummy roller just out of curiosity.

Ian Hillips

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Strange HP-10 Printer behavior

*Message #1 Posted by **aj04062** on 30 Aug 2011, 6:08 a.m.*

Can anyone steer me in the right direction to correct this behavior?

At the beginning of the strip the battery was nearly dead, but the printer seemed to work fine. So I charged the batteries overnight. When I tried again, I get the solid lines across diagonally as the paper advances then across again. It doesn't stop until I turn off the calculator.

If I plug the calculator BACK IN, it works correctly. See correct prints midway.

Re: Strange HP-10 Printer behavior

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 6:20 a.m.,*
in response to message #1 by aj04062

You should stop using the calculator until the issue is fixed. It looks like two segments of the print head are permanently heated which will most certainly kill them over time.

It seems to be a driver issue, not a print head issue. May be an intermittent short circuit on the board.

Re: Strange HP-10 Printer behavior

*Message #3 Posted by **aj04062** on 30 Aug 2011, 8:31 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Ah, duly noted.

Is there anything in the two separate power supply circuits that would lead to this?

Re: Strange HP-10 Printer behavior

*Message #4 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 9:00 a.m.,*
in response to message #3 by aj04062

I've no detailed info about the printer mechanism but here are knowledgeable people on the forum which will help you. My answer was just an interpretation of the what the picture shows.

Re: Strange HP-10 Printer behavior

*Message #5 Posted by **aj04062** on 31 Aug 2011, 7:06 a.m.,*
in response to message #1 by aj04062

Power Supply Schematic

Can someone help explain this circuit to me? I am a ME by training, not an EE. I am guessing that something unique to the battery circuit has failed and allowed the voltage or current to differ from the intended design, thus causing the odd behavior only when the battery is fully charged or NOT hooked to the charger.

Edited: 31 Aug 2011, 7:06 a.m.

Re: Strange HP-10 Printer behavior

*Message #6 Posted by **Kees van der Sanden** on 31 Aug 2011, 3:22 p.m.,*
in response to message #5 by aj04062

I doubt this strange behavior is caused by the power supply circuit. The thermal elements of the printer head take a lot of current and i expect they will be supplied directly from the battery. I agree with Marcus that this behavior is caused by the printer head driver circuit.

Re: Strange HP-10 Printer behavior

*Message #7 Posted by **aj04062** on 31 Aug 2011, 4:36 p.m.,*
in response to message #6 by Kees van der Sanden

Well I don't agree about the intermittent description as I seem to able to reliably recreate the behavior.

I am going to measure some of the voltage drops with and without the power supply and see if I discover anything.

Re: Strange HP-10 Printer behavior

*Message #8 Posted by **aj04062** on 31 Aug 2011, 11:33 p.m.,*
in response to message #7 by aj04062

when I plug it in with the battery the printer is noticeably faster and higher pitched when it prints.

Does that help anyone help me?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Emulator has learned new tricks

*Message #1 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 6:02 a.m.*

I've taught the Windows GUI emulator a few new tricks. This should improve the usability. It's all around the secondary mouse button, MB2, for most of us the right one.

You can now use MB2 to press and hold the shift keys. The key symbol stays inverted and the code is sent to the application. When you now press any other key (keyboard or mouse), the presence of the shift is being sensed. Most commands behave the same as if the shift key were simply pressed before it. On some commands, this produces a slightly modified behavior, notably the base 2, 8, 10 and 16 commands which switch to a temporary display when executed while the shift key is down. The special display stays active until you press another key.

As long as the shift key is inverted, all keys are preceded by the respective shift. The real device behaves the same.

Use MB2 again on the same shift to release it. Pressing the shift with MB2 twice in a row will let the key symbol in the display stay active: This is just the same as pressing and then releasing the key on the real device.

Pressing any of the other keys with MB2 will execute the green function of the key. This is handy for switching between catalogs.

Edit: I forgot to mention that I've fixed a bug which made it impossible for the emulator to react properly on PC keyboard input with shifted keys. On a German keyboard it should now be possible to execute multiplication with shift "+" (talking about the PC shift key of course). You may have to update the skin files to the newest version together with the emulator DLL and the wp34sgui executable.

Edited: 30 Aug 2011, 7:02 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hey, the forum got mentioned on cnn's money website!

*Message #1 Posted by **gene wright** on 29 Aug 2011, 10:38 p.m.*

cnnmoney article

Re: Hey, the forum got mentioned on cnn's money website!

*Message #2 Posted by **Michael de Estrada** on 29 Aug 2011, 11:00 p.m.,*
in response to message #1 by gene wright

It's great that they mentioned the 12c instead of the Kinpo krap.

Re: Hey, the forum got mentioned on cnn's money website!

*Message #3 Posted by **Ren** on 31 Aug 2011, 5:17 p.m.,*
in response to message #1 by gene wright

So...

Who said "shutter", instead of "shudder"?

B^)

Ren

dona nobis pacem

Re: Hey, the forum got mentioned on cnn's money website!

*Message #4 Posted by **Graham D. Wilson** on 30 Aug 2011, 11:22 p.m.,*
in response to message #1 by gene wright

Hi Gene I'm trying to email you, but the forum software won't let me. Can you send me your email addr pls? Thanks Graham

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cruel Doubt :-(

*Message #1 Posted by **robertoataulfo** on 29 Aug 2011, 8:14 p.m.*

```
I have 40 years.
Since the 15 years I've collected pocket computers and calculators and accessories for them
(HP, Texas Sharp, Casio, Aristo and Other)
Only scientific and programmable except for Casio Melody
I have more or less about 1200 items.
All are in perfect state of conservation and use.
I separate two hours a week to keep the collection always perfect
I have a tera byte of documentation in pdf format including photos of each item
My question: Will I here about 20 years, these items will be worth selling?
```

Edited: 29 Aug 2011, 8:34 p.m.

Re: Cruel Doubt :-(

*Message #2 Posted by **Crawl** on 29 Aug 2011, 10:05 p.m.,*
in response to message #1 by robertoataulfo

Have kids, bequeath your calculators to them.

Re: Cruel Doubt :-(

*Message #3 Posted by **Michael de Estrada** on 29 Aug 2011, 10:20 p.m.,*
in response to message #2 by Crawl

I want my calcs to be placed in my tomb with me. Never know what calculations you'll need in the afterlife.

Re: Cruel Doubt :-(

*Message #4 Posted by **Howard Owen** on 29 Aug 2011, 11:35 p.m.,*
in response to message #3 by Michael de Estrada

How pharonic of you. :)

Re: Cruel Doubt :-(

*Message #5 Posted by **Walter B** on 30 Aug 2011, 2:05 a.m.,*
in response to message #4 by Howard Owen

Think of the first emperor of China: Michael will be protected by an army of calculators, all made with individual faces [:-)

Re: Cruel Doubt :-(

*Message #6 Posted by **Alexander Oestert** on 30 Aug 2011, 3:31 a.m.,*
in response to message #1 by robertoataulfo

> Quote:
>
> these items will be worth selling?

I very much doubt it. They have their peek prices NOW because now there are potential buyers/collectors at the peek of their personal economic possibilities (they never had that much money before in their lives, nor will they ever have as much to spend) who used those calculators in their formative years and therefor value and worship them mainly out of nostalgia. In 20 years from now, the then economically active generation will possibly focus on vintage iphones, but not on calculators in general.

Re: Cruel Doubt :-(

*Message #7 Posted by **Namir** on 30 Aug 2011, 12:42 p.m.,*
in response to message #1 by robertoataulfo

Your best buyers are alive now. SO sell now because the best audience that appreciate you calculator is alive now. As you wait more (or your children) there will be less people who appreciate what you have and are will to pay for it.

Re: Cruel Doubt :-(

*Message #8 Posted by **Ren** on 31 Aug 2011, 5:20 p.m.,*
in response to message #1 by robertoataulfo

Sell them now!

A week after your funeral, your kids will have a tag/garage/yard sale with them listed for $0.25 USD each!

B^)

Ren

dona nobis pacem

Re: Cruel Doubt :-(

*Message #9 Posted by **Dave Shaffer (Arizona)** on 31 Aug 2011, 6:47 p.m.,*
in response to message #8 by Ren

> Quote:
>
> A week after your funeral, your kids will have a tag/garage/yard sale with them listed for $0.25 USD each!

Yeah, and a few days later somebody here will report his/her latest, greatest find!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Solar powered 41cx !!

*Message #1 Posted by **John Robinson** on 29 Aug 2011, 7:15 p.m.*

It was working last week, but not now - there must have been more sunshine last week :-) ebay 160644495081

Cheers, John

Re: Solar powered 41cx !!

*Message #2 Posted by **Crawl** on 29 Aug 2011, 10:08 p.m.,*
in response to message #1 by John Robinson

Way to get my hopes up.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's One-Year Plan (WSJ)

*Message #1 Posted by **Eric Smith** on 29 Aug 2011, 12:20 p.m.*

http://online.wsj.com/article/SB10001424053111904787404576535211589514334.html

Re: HP's One-Year Plan (WSJ)

*Message #2 Posted by **geoff quickfall** on 29 Aug 2011, 12:49 p.m.,*
in response to message #1 by Eric Smith

OUCH

Re: HP's One-Year Plan (WSJ)

*Message #3 Posted by **M. Joury** on 29 Aug 2011, 1:37 p.m.,*
in response to message #2 by geoff quickfall

I particularly like (if like is the right word) in reference to the PC business:

> Quote:
>
> Dumping it is a beautiful absurdity that one analyst, Jayson Noland of Robert W. Baird & Co., described as "like McDonald's getting out of the hamburger business."

Re: HP's One-Year Plan (WSJ)

*Message #4 Posted by **Namir** on 29 Aug 2011, 3:19 p.m.,*
in response to message #3 by M. Joury

Who said a corporation cannot commit suicide?

Re: HP's One-Year Plan (WSJ)

*Message #5 Posted by **Paul Gaster** on 29 Aug 2011, 3:51 p.m.,*
in response to message #4 by Namir

Another ugly article: http://www.nytimes.com/2011/08/27/business/for-seamless-transitions-at-the-top-dont-consult-hewlett-packard.html?_r=4&partner=rss&emc=rss

“I didn’t know there was such a thing as corporate suicide, but now we know that there is,” a former H.P. director, the venture capitalist Tom Perkins, told me this week. “It’s just astonishing.”

Re: HP's One-Year Plan (WSJ)

*Message #6 Posted by **hugh steers** on 31 Aug 2011, 7:54 p.m.,*
in response to message #3 by M. Joury

until quite recently, McDonald's were not in the burger business! at least measured by revenue.

they used to make more money on the real estate, when buying buildings for franchise and leasing them to the franchisee than actually on burgers. weird huh!

it's why they were consistently rated the worst burger.

Re: HP's One-Year Plan (WSJ)

*Message #7 Posted by **Howard Owen** on 29 Aug 2011, 6:46 p.m.,*
in response to message #1 by Eric Smith

Scath-ing adj: 1. See link above.

Re: HP's One-Year Plan (WSJ)

*Message #8 Posted by **db (martinez, ca.)** on 29 Aug 2011, 7:52 p.m.,*
in response to message #1 by Eric Smith

was cleaning CPUs using alcohol this weekend with a friend from high school (class of '73). He's been in the Silicon Valley computer business for about 35 years. He knows what a Luddite i am and said in passing that sales of laptop and desktop computers (the business as we know it) is about to disappear and be replaced by the tablets and pads. Maybe hp is in on this "secret".

The reason for him saying that was to tell me that in 2 or three years, all the fooling around will be done on those ipad type things (with programs running on the internet) leaving very little real work to be done (ie autocad etc.) - and less sales for - laptops and such. So he said that this generation of what we call computers will be the last "cheap" one. In the next couple of years there will be fewer made, fewer companies, less competition, and twice to three times the price for the next generation of what i am typing this on.

Not sure which direction this post paddled the canoe towards, but there it is.

Re: HP's One-Year Plan (WSJ)

*Message #9 Posted by **Michael de Estrada** on 29 Aug 2011, 8:30 p.m.,*
in response to message #8 by db (martinez, ca.)

Sounds like your friend needs to take a few classes in economics.

Reminds me of when 30 years ago some bright young manager told me that engineers like me would be replaced with "thinking" computers. He later on lost his job when the company downsized, but I still kept mine. :)

Edited: 29 Aug 2011, 8:34 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC is less the 4 weeks away

*Message #1 Posted by **David Ramsey** on 29 Aug 2011, 11:38 a.m.*

...and yet there's still almost nothing on the web site...it would be nice to have schedules, activities, etc.

Re: HHC is less the 4 weeks away

*Message #2 Posted by **Eric Smith** on 29 Aug 2011, 12:26 p.m.,*
in response to message #1 by David Ramsey

Someone can correct me if I'm wrong, but I don't think the schedule ever firms up until a day or two before the conference, and there are sometimes big last-minute changes to the schedule even then.

If anyone is waiting to see the schedule before deciding whether to attend, don't wait. Just attend. AFAICT, very few people have ever left these conferences disappointed.

Re: HHC is less the 4 weeks away

*Message #3 Posted by **Geoff Quickfall** on 29 Aug 2011, 1:12 p.m.,*
in response to message #1 by David Ramsey

Erics right on all counts.

in fact, i was going to give a presentation but two things have happened:

completing the book for the conference and the topic is going to change to the "practical application of the 41CL" (maybe!).

some people don't even know they will be there until the day it starts and then decide to give a talk that was un-announced.

Very layed back, intense and FUN.

Cheers, Geoff

Re: HHC is less the 4 weeks away

*Message #4 Posted by **Richard J. Nelson** on 29 Aug 2011, 2:10 p.m.,*
in response to message #3 by Geoff Quickfall

Hey, it isn't even September yet. One way to know what is "planned" is to check the Attendee list on the HHC website. I have two new firm papers to add after I post this. Those who are seriously interested attend, and as others have said, no one is disappointed. That is the history of HHCs, but this year is truly exceptional.

If you believe the press (as in Irene storm coverage)you could think that this might be the last HHC. It won't be the last, but this year has so many new and interesting topics to cover that if you are able to attend

you will have attended one of the very best. I can't say why, (there are the obvious reasons), but this this one is indeed special.

The best place to get the latest and most accurate information is by signing up on the HHC List.

X < > Y,

Richard

Re: HHC is less the 4 weeks away

*Message #5 Posted by **Howard Owen** on 29 Aug 2011, 4:12 p.m.,*
in response to message #4 by Richard J. Nelson

Color me intrigued. :) See you there!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Gummy wheels for 41 series card readers

*Message #1 Posted by **William L. Drylie** on 29 Aug 2011, 11:01 a.m.*

Hi;

It has been a long while since I have been on this site. Lots of exciting things have been going on I see. Sad, what has been happening to hp. I really hope the ships Captain knows where he is sailing! I am sure this question has been asked before, but does anyone know the size of the O rings that go in the card readers? I purchased my card reader for my 41C in 1990, and the O rings finally degraded or whatever they do. Motor runs, but card barely feeds. Sounds bogged down. I guess I am lucky the O rings have lasted this long. There is a shop not far from where I live that claims they carry or can get any O ring made. I would like to try the repair.

I had to go back to Using my 41 since my 49G+ keyboard malfunctions too much. I have to watch it like a hawk, as it types in too many digits on several keys. Never was able to get it repaired properly. I believe a ROM update was tried that was supposed to help, and it was sent back to hp once, the calculator returned with no change. It has been shelved. Too bad, as I rather liked that calculator aside from it's crazy keyboard.

I used a TI N-Spire CX-CAS the other day, wow! Lots of bells and whistles and I like the color screen! It looks like a really fine learning machine.

Be well and Thanks.

Re: Gummy wheels for 41 series card readers

*Message #2 Posted by **M. Joury** on 29 Aug 2011, 11:14 a.m.,*
in response to message #1 by William L. Drylie

They are easy to find at any Lowe's or Home Despot. Problem is I am not at home and don't have any with me and don't remember the dimensions off the top of my head. I am sure someone will be able to help there but I can tell you the you will need two of them (at least the ones I usually use). You can also use silicon tubing but it is usually more work.

Cheers,

-Marwan

Re: Gummy wheels for 41 series card readers

*Message #3 Posted by **Geoff Quickfall** on 29 Aug 2011, 12:38 p.m.,*
in response to message #1 by William L. Drylie

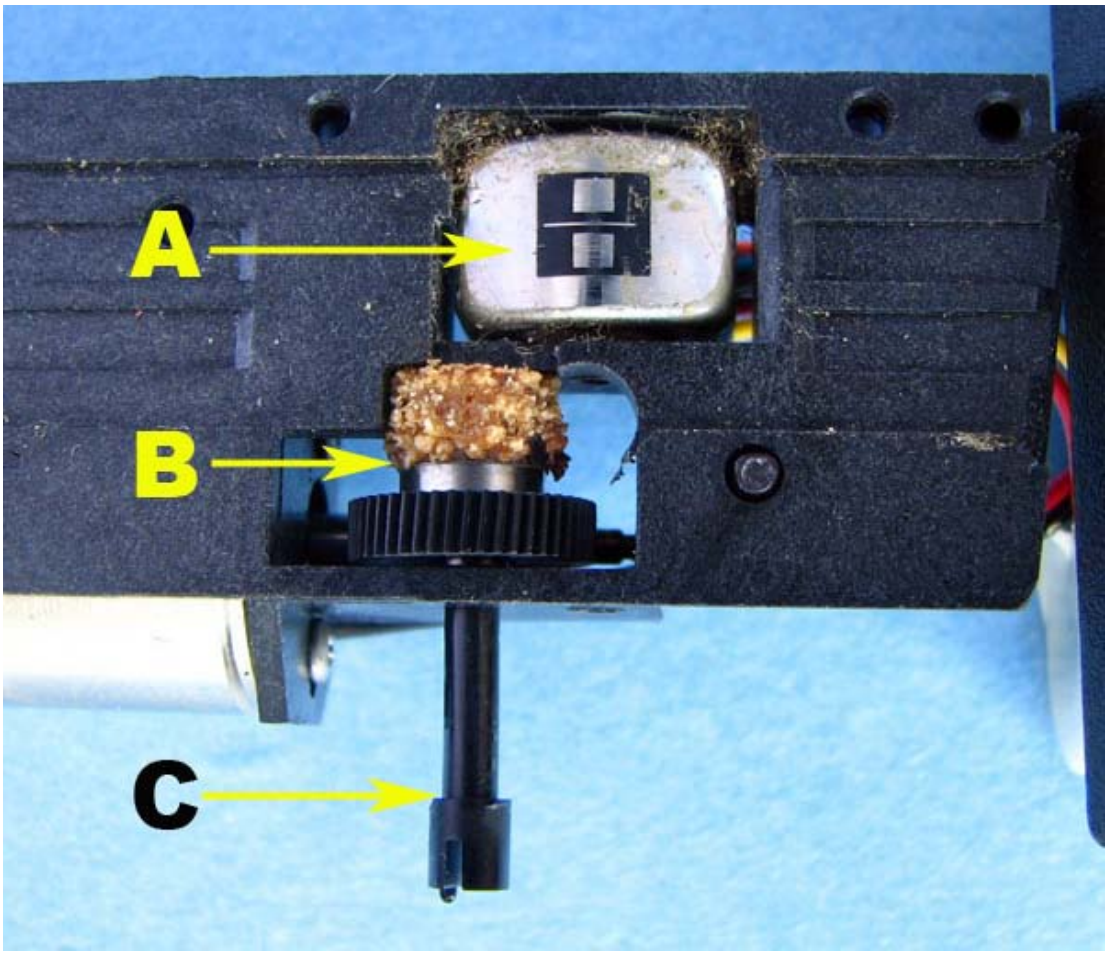
two options, my preference is silicon tubing with MIL specs, fancy way of saying the hole in the tube is centered. found at the local hobby shop or remote controlled vehicle outlet (gas powered model planes, cars and etc.)

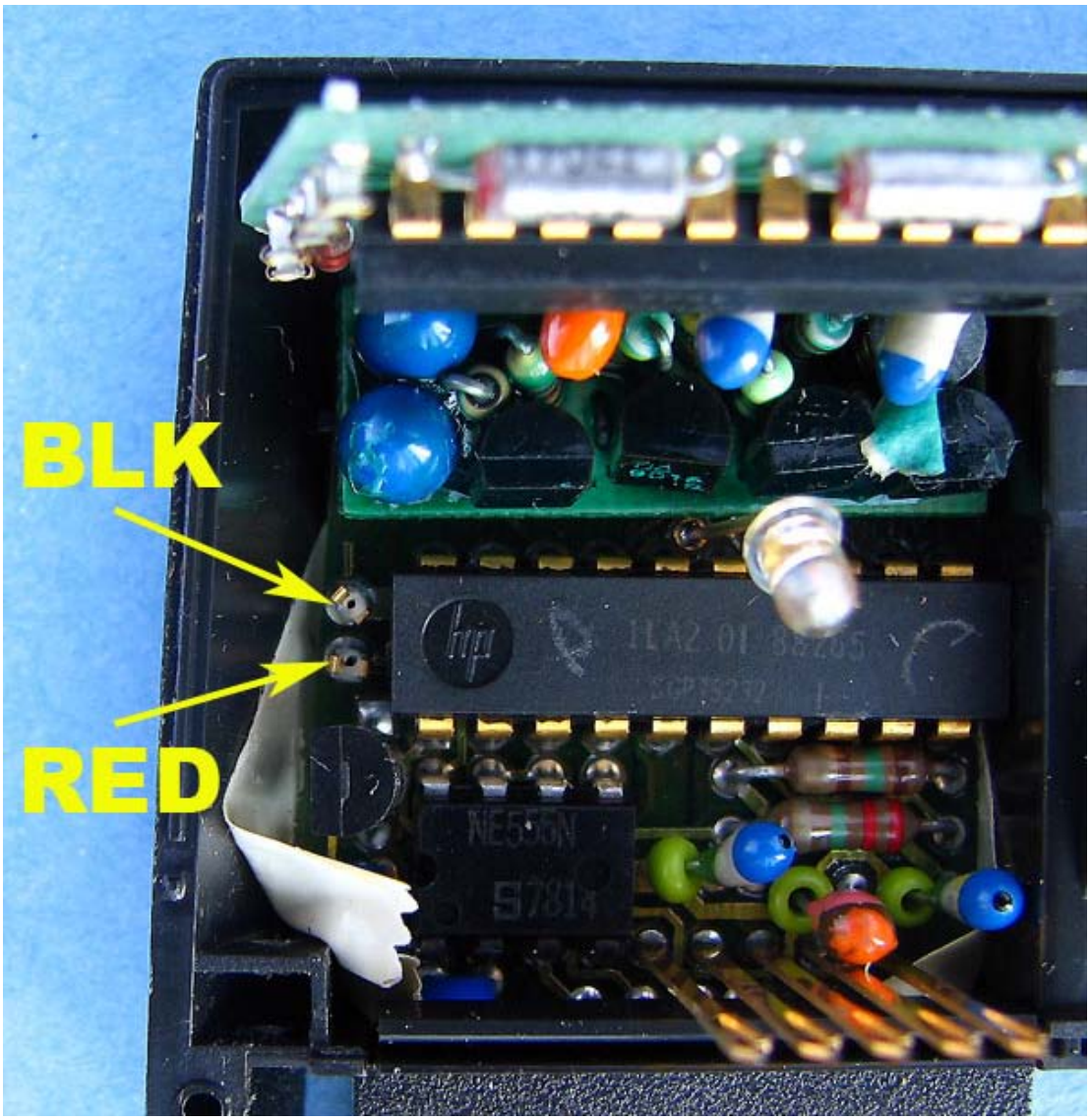
The o-rings are listed below as well as some pictures of the pinch roller

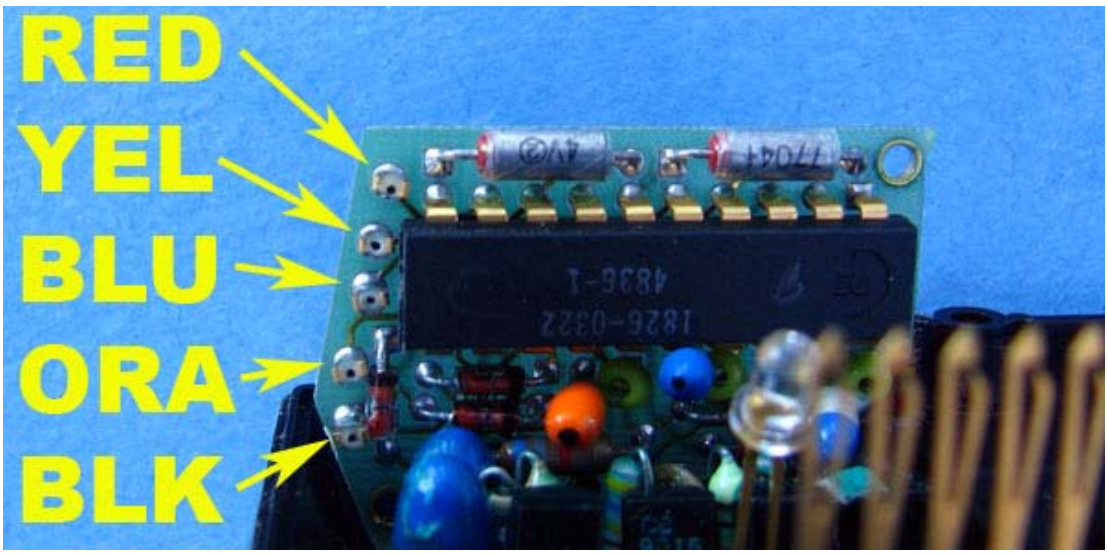
```
Silicon tubing
inner diameter  =       2.5mm
outer diameter  =       5.5mm


O-rings
inner diameter  =       2.6mm
outer diameter  =       6.1mm
```

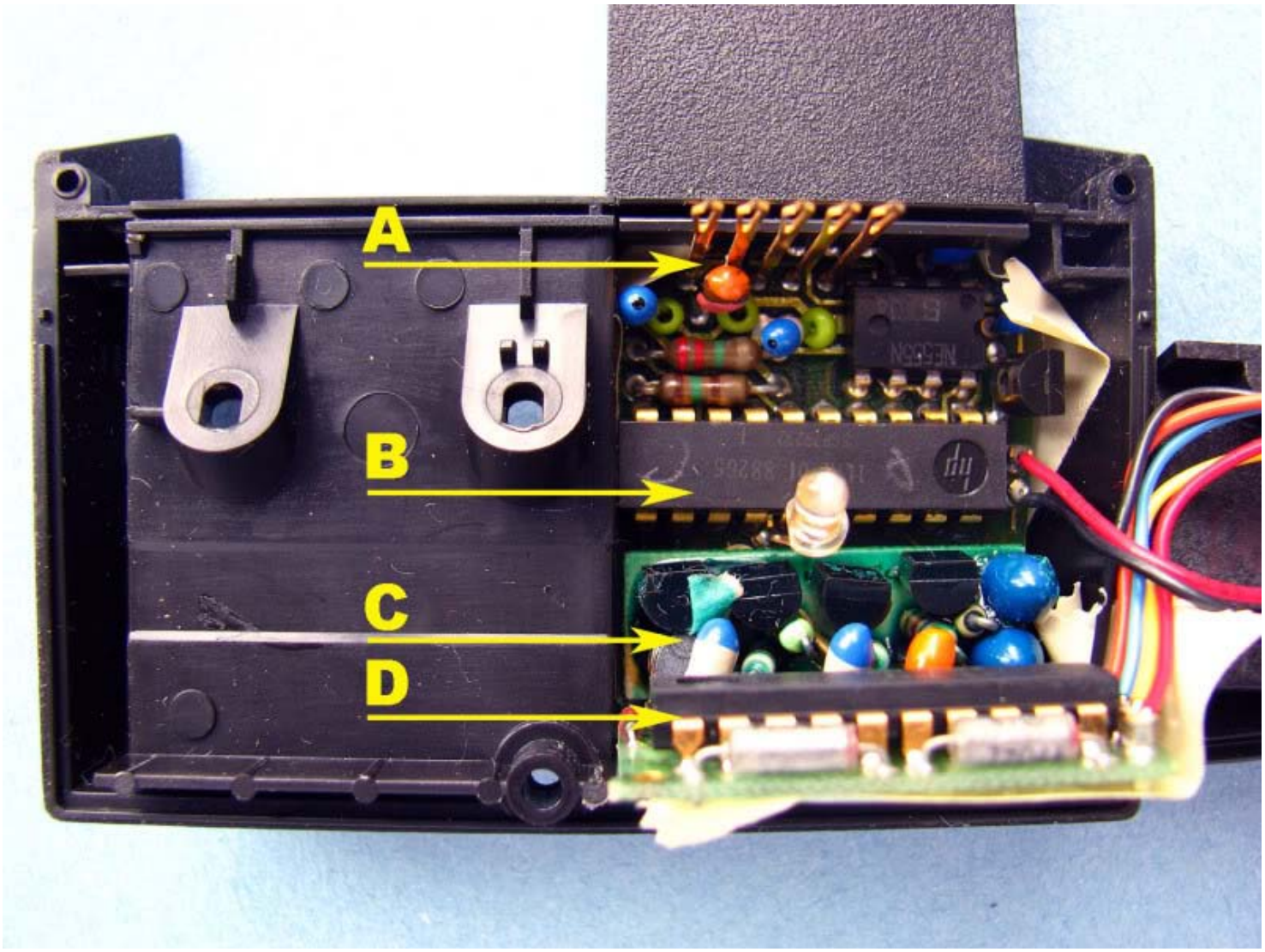
SILICON TUBING; THE SAME USED IN REPAIRING PINCH ROLLERS ON THE HP 41, 65, 67 & 97,

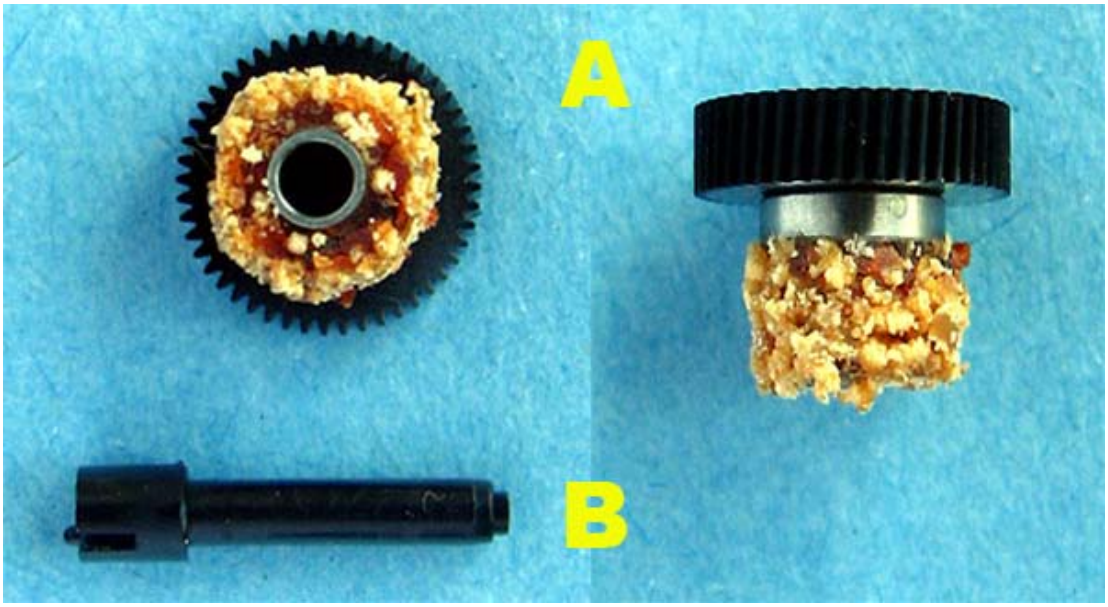
OR THE O-RINGS ALSO USED FOR PINCH ROLLER REPAIRS.


A
B
C


BLK
RED


RED
YEL
BLU
ORA
BLK





Edited: 29 Aug 2011, 2:21 p.m.

Re: Gummy wheels for 41 series card readers

*Message #4 Posted by **William L. Drylie** on 30 Aug 2011, 11:21 a.m.,*

in response to message #3 by Geoff Quickfall

Hi Geoff;

Thanks for the repair tips. Really great pictures too! I'll try to get some of the milspec fuel line, I want to look at it. The guy at the O-ring place says he can get o-rings in different materials also. He says there are "application materials" now. When I go there and If I learn something of interest, I'll share it with everyone.

He supplies Duke University labs and research facilities in Triangle park. Yes, I do not live in North Dakota anymore. I live near Durham N.C. now. Great weather! My wife seems to think the wheels on my card reader lasted so long because of the frosty North Dakota air, ha ha. Thanks for your effort.

Re: Gummy wheels for 41 series card readers

*Message #5 Posted by **Randy** on 29 Aug 2011, 1:31 p.m.,*
in response to message #1 by William L. Drylie

The correct o-rings are US size 005.

Size	Fractional		Actual	
	ID	OD	ID	OD
005	7/64"	15/64"	0.101"	0.241"

Re: Gummy wheels for 41 series card readers

*Message #6 Posted by **William L. Drylie** on 30 Aug 2011, 11:26 a.m.,*
in response to message #5 by Randy

Hi Randy;

Thanks for your reply. The size you gave is what I was looking for. I'll give the O-ring fellow those specs, he thinks he can come up with O-rings made of a different material that would be more suited to that application. I'll see what he comes up with and pass it on here with info and pics. Thanks Randy

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What can you do with the HP IR printers on a 42s?

*Message #1 Posted by **snaggs** on 28 Aug 2011, 11:04 p.m.*

Can you print out a program? Can you print out a matrix?

Daniel

Re: What can you do with the HP IR printers on a 42s?

*Message #2 Posted by **allen** on 28 Aug 2011, 11:11 p.m.,*
in response to message #1 by snaggs

1. download Thomas Okken's fantastic free42 program.

2. Install it, turn on the "virtual" 82240B IR printer by clicking FILE -> Show printout.

3.Click [SHIFT] [PRINT] and explore.

Edited: 28 Aug 2011, 11:21 p.m.

Re: What can you do with the HP IR printers on a 42s?

*Message #3 Posted by **Howard Owen** on 29 Aug 2011, 2:20 a.m.,*
in response to message #1 by snaggs

Yes and yes. You can print graphics too.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp30b SAMBA questions

*Message #1 Posted by **Lode** on 28 Aug 2011, 7:47 p.m.*

Hello,

I've got a few questions about SAMBA and flashing a 30b:

1)

When you simply turn the calculator on, and connect the SAMBA software to it, it says "No valid processor ID found". Only when doing the erase, reset, etc..., procedure, it can connect to it and show the whole GUI of the SAMBA program.

Is there any method, to make it not give that error message and go into the GUI, *without* erasing the ROM of the calculator? I ask this so that I can test whether or not SAMBA 2.9 is properly working in Wine in Linux, in a non destructive way (it currently never seems to work). And also for writing a program that can flash it in C.

2)

How much different types of memory does the calculator have, and how much of these can be accessed with the flashing, and which not?

3)

Are there sequences of bytes or strings you can send to the calculator through RS232 such that it will respond at least some bytes back that I can check, again without erasing its ROM?

I'm currently not getting back bytes after sending certain sequences while I would expect it, and am not sure if it's due to the RS232 library I'm using or something else. It's probably an error in my code. But it'd be nice to be able to test basic sending and receiving of anything, no matter what, without erasing the ROM :)

Should the calculator be on or off for this?

4)

What is the meaning of the reset button? My current guess is that erase deletes ROM, reset deletes non volatile user memory... Is there a possibility that apart from deleting things, these buttons also set the calculator to certain states related to the RS232 connection?

5)

How much baudrate would the calculator prefer to have if you connect to it?

Thanks!

Edited: 28 Aug 2011, 7:55 p.m.

Re: hp30b SAMBA questions

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 10:16 p.m.,*
in response to message #1 by Lode

Lode,

Many questions some of which are best answered by going to the Atmel site and downloading the specification documents for the AT91SAM7L128 chip. There is a chapter about SAM-BA. I'll do my best anyway.

> Quote:
>
> 1)
>
> When you simply turn the calculator on, and connect the SAMBA software to it, it says "No valid processor ID found". Only when doing the erase, reset, etc..., procedure, it can connect to it and show the whole GUI of the SAMBA program.
>
> Is there any method, to make it not give that error message and go into the GUI, *without* erasing the ROM of the calculator? I ask this so that I can test whether or not SAMBA 2.9 is properly working in Wine in Linux, in a non destructive way (it currently never seems to work). And also for writing a program that can flash it in C.

No, because the GUI only works after having sent a small program to the device to which it then talks. It's kind of a boot strap mechanism. The boot ROM with a limited command set is activated through resetting a single bit in the processor called GPNVM1. The Erase button not only clears the flash memory, it also resets the bit which makes SAM-BA start on the next power cycle or reset. What I've included in the WP 34S firmware is a means of clearing GPNVM1 by the software without erasing the hole flash area. This will start SAM-BA on the next power on and will allow to read out the flash from the GUI. The original firmware does not offer this possibility and therefore needs Erase to get into SAM-BA boot mode.

> Quote:
>
> 2)
>
> How much different types of memory does the calculator have, and how much of these can be accessed with the flashing, and which not?

The little RAM in the machine is used by SAM-BA for the boot strap software which is downloaded when the GUI starts up. So RAM is always overridden. You can only read the flash memory at 100000 and the SAM-BA ROM at 400000. The memory mapped setup registers should be readable, too. The only writable memory is flash. SAM-BA can set the status of GPNVM1 which is necessary to boot to the newly downloaded flash image.

> Quote:
>
> 3)
>
> Are there sequences of bytes or strings you can send to the calculator through RS232 such that it will respond at least some bytes back that I can check, again without erasing its ROM?
>
> I'm currently not getting back bytes after sending certain sequences while I would expect it, and am not sure if it's due to the RS232 library I'm using or something else. It's probably an error in my code. But it'd be nice to be able to test basic sending and receiving of anything, no matter

what, without erasing the ROM :)

Should the calculator be on or off for this?

Read the Atmel documentation for details. SAM-BA uses a baud rate tuning loop because the RC oscillators do not provide a reliable timing source. The tuning loop at the beginning of the connection between the GUI and the device modifies the processor clock until the data can be reliably transmitted back and forth.

Of course nothing will happen with the chip powered down.

Quote:

---

4)

What is the meaning of the reset button? My current guess is that erase deletes ROM, reset deletes non volatile user memory... Is there a possibility that apart from deleting things, these buttons also set the calculator to certain states related to the RS232 connection?

Erase erases flash and resets GPNVM1 as already stated. Reset restarts the firmware currently active. With GPNVM1 reset this is SAM-BA, otherwise the flash image is started.

Serial I/O needs to be programmed by the application running. WP 34S has some commands for this.

Quote:

---

5)

How much baudrate would the calculator prefer to have if you connect to it?

SAM-BA runs at 115 kbaud while WP 34S does its transmissions at 9600 baud.

Re: hp30b SAMBA questions

*Message #3 Posted by **Lode** on 29 Aug 2011, 7:48 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Cool, I found the spec and it mentions which characters to send and receive, that's helpful, thanks a lot!

Re: hp30b SAMBA questions

*Message #4 Posted by **Hubert Weikert** on 29 Aug 2011, 11:31 a.m.,*
in response to message #3 by Lode

There is a python implementation of Sam-Ba, designed for CDC, for AT92SAM7S controllers, Sam I Am, with a GNU license. Had up to now no success to get it working with serial SAM-BA.

I am able to communicate with SAM-BA manually (e.g. with minicom on Linux), thru a FTDI USB-to-serial converter. There are issues with some Linux Kernel versions, see e.g. Linux4SAM.

Have not yet managed to get SAM-BA working with wine. Hope you have more success.

Hubert

Edited: 29 Aug 2011, 11:32 a.m.

Re: hp30b SAMBA questions

*Message #5 Posted by **Lode** on 29 Aug 2011, 12:33 p.m.,*
in response to message #4 by Hubert Weikert

The RS232 library I'm using, is this one:

http://www.teuniz.net/RS-232/

Somewhere in a forum about this library, it was mentioned that it should work with a FTDI USB-to-serial converter, because the operating system abtracts it for you, it presents it as a virtual COM port.

I'm testing with an actual hardware COM port on my PC though, which is /dev/ttyS0 (and which would called COM1 in Windows).

In wine, as long as I give regular user permissions to /dev/ttyS0, it shows up as COM1 in the dropdown in the SAMBA 2.9 application. However, even with the calculator fully erased and ready to be flashed, it always gives the "No valid processor ID found" error in wine.

EDIT: on a later attempt it worked with wine. Seems like pressing reset and on one more time can help (in addition to the reset and on the flashing instructions for windows end with).

Edited: 29 Aug 2011, 7:44 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Immersing in alcohol

*Message #1 Posted by **David Ramsey** on 28 Aug 2011, 2:38 p.m.*

70% isopropyl, actually. And I'm talking about my 9810 printer, which I started trying to clean today.

What a mess! Massive quantities of tarry black goop that obscure some components so much that I can't even see what's under it.

Is there any reason I couldn't let large portions of the printer mechansim (circuit boards, printhead, mechanical bits at the front, not the motor of course!) simply soak in a tub of isopropyl for a few hours?

UPDATE: It seems this is a common method of cleaning electronics, but with 90+% iso rather than 70%.

Edited: 28 Aug 2011, 4:35 p.m.

Re: Immersing in alcohol

*Message #2 Posted by **db (martinez, ca.)** on 28 Aug 2011, 4:37 p.m.,*
in response to message #1 by David Ramsey

I can't think of anything in the (other types of) hp printers i have had apart that alcohol would destroy but the already-destroyed rubber rollers. I wonder where that much goop came from.

Re:soaking. I use the "little bit for the printer, little bit for the printer rebuilder" method.

Re: Immersing in alcohol

*Message #3 Posted by **Martin Pinckney** on 28 Aug 2011, 5:08 p.m.,*
in response to message #1 by David Ramsey

The 70%, with more water, will be slower to evaporate. The other risk is that some part may retain water.

What about the Carbon Tet replacement? Trichloroethylene, I think. Risk to plastics?

Re: Immersing in alcohol

*Message #4 Posted by **Katie Wasserman** on 28 Aug 2011, 5:20 p.m.,*
in response to message #3 by Martin Pinckney

Most good drug stores (not most of the chain ones) sell 99% isopropyl alcohol.

Re: Immersing in alcohol

*Message #5 Posted by **aj04062** on 28 Aug 2011, 7:14 p.m.,*
in response to message #4 by Katie Wasserman

Is it generally agreed that 99% is the best to use on restoration projects due to the low risk of leaving

water behind?

Re: Immersing in alcohol

*Message #6 Posted by **David Ramsey** on 28 Aug 2011, 10:09 p.m.,*
in response to message #1 by David Ramsey

So far, I've gone through a quart of 91% just cleaning the printhead and its associated ribbon cable and PCB. Yuck.

Re: Immersing in alcohol

*Message #7 Posted by **David Ramsey** on 29 Aug 2011, 1:14 a.m.,*
in response to message #6 by David Ramsey

Hm. 1.5 quarts of 91% alcohol later, and the 9810 printhead/flex cable/PCB has graduated from "buried in goop" to "very dingy". Most of the remaining goop is cosmetic, but some isn't: for example, the minute traces in between the printhead resistors.

I don't think it would be a good idea to heat that goop up!

I think I've reached the limit of what I can do with alcohol and a toothbrush. Any suggestions on where to go from here? I have some acetone, but I know it can dissolve plastics (it's good for hand cleaning after getting the goop all over them, though...)

Re: Immersing in alcohol

*Message #8 Posted by **Tony Duell** on 29 Aug 2011, 4:24 a.m.,*
in response to message #7 by David Ramsey

Err, yes. That gunge is really nasty, and gets everywhere. I've even had it inside the edge connector between the keyboard cable and the backplane (located unfer the printer) where it can cause bad conenctions.

The only way I've found to get rid of it is to completely dismantle the printer. Some parts are not likely to be affected by any common solvent (e.g. the side plates, metal spindles, etc), others might be (like the plastic gears). I remember trying all sorts of things on my printer, but I think propan-2-ol (ispropyl alcohol, isopropanol) was what I used most of the time. And yes, I used a lot of it. Propan-2-ol will not attack any part of the printer AFAIK.

Acetone/Propanone will not damage any of the metal parts. I am pretty sure the plastic bearings in the front section are PTFE and will not be attacked by acetone either. Try it carefully on the flexible PCB (I am pretty sure it's OK) and on the printhead.

I can see no good reason not to leave most of the bits sitting in a bath of solvent. It's not going to damage them. But I wouldn't leave the printhead or PCBs soaking in acetone, just in case.

You probably want to separate the printhead from the driver PCB 'tail'. Loosen the allen setscrews in the clamp and it'll all come apart. Realigning it when you put it back is not that hard. Take great care when cleaning the head (you can crack it!) and the flexible PCB tail.

There's probably no need to dismantle the motor (the gunge rarely gets that far back!), but it is possible. From memory, you take off the rear cap (3 screws) and the plastic sleeves under it. Then take off the drive pinion and spacer, the circlip and washers from the spindle, and slide the rotor out. Handle that with care, it's brittle!. Then unlock the rear plate on the stator by rotating it, take that out, the large

spring washer, and then take out the stator parts one after another. Mark the coils so you get them back in the same order and the same way up (otherwise it may run backwards when you reassemble it).

Re: Immersing in alcohol

*Message #9 Posted by **David Ramsey** on 29 Aug 2011, 2:01 p.m.,*
in response to message #8 by Tony Duell

> Quote:
>
> You probably want to separate the printhead from the driver PCB 'tail'. Loosen the allen setscrews in the clamp and it'll all come apart. Realigning it when you put it back is not that hard. Take great care when cleaning the head (you can crack it!) and the flexible PCB tail.

I had hoped to avoid this since I worry about getting the alignment right when reassembling it. But the gunk is way down in the crevices, and I suppose I should if only for completeness.

Re: Immersing in alcohol

*Message #10 Posted by **Tony Duell** on 30 Aug 2011, 4:35 a.m.,*
in response to message #9 by David Ramsey

There are 3 things you have to get right when you refit the printhead :

1) The traces on the end of the flexible PCB tail line up with the pads on the printhead

2) The printhead is 'level', not sloping too much to one side or the other relative to the clamp and the PCB tail

3) The printhead is about the right distance above the clamp (this can be compensated for by the adjustment cams, but they have a limited range).

It's a bit of a fiddle to get right, expect to have to slacken off the clamp and refit it a couple of times. I am sure they had some kind of jig to hold it at the factory, but I've never needed to make one.

Re: Immersing in alcohol

*Message #11 Posted by **Martin Pinckney** on 29 Aug 2011, 5:58 a.m.,*
in response to message #7 by David Ramsey

Again I refer you to Trichloroethylene. Carbon tetrachloride was "the" non-destructive degreasing solvent of choice before it was phased out. Trichloroethylene is its replacement. As always, you should test on some hidden area of plastic before wholesale use.

Re: Immersing in alcohol, HP35 ??

*Message #12 Posted by **Stuart Sprott** on 29 Aug 2011, 7:50 a.m.,*
in response to message #11 by Martin Pinckney

At work there is an old HP35 lying around. It was used by one of our Surveyors back in the 1970s. Unfortunately he has a reputation of being rough with calculators. In the same period of time he has gone through about twice the calculators I have. Calculators have been stood on droven over and one left out in a field. He finally remembered that he had left the calculator in the field and when

he returned he found that a bush fire had been through and burnt the calculator.

I have keept some of his calculators; the ones with damaged screens. They work in a sort of a fashion.

Getting back to the HP35. None of the keys work, where the charger plugs into the calculator is badly damaged, the charger is damaged and of course the battery pack is no longer usable.

I have often thought about trying to restore it, but I suspect that it is probable beyond restoration. I have never tried anything like restoration before.

Your talking about imersing parts in alcohol aroused my interest.

Just how hard is this all to do? I guess I cannot do any further damage to it. We are moveing office in a few weeks time. Already old stuff is getting thrown out. So I just might make the decision to bring the calculator home.

Re: Immersing in alcohol, HP35 ??

*Message #13 Posted by **Jeff O.** on 29 Aug 2011, 1:35 p.m.,*
in response to message #12 by Stuart Sprott

The HP35 is ridiculously easy to open and work on. I doubt that you will need to soak anything, as it can be completely disassembled so you can get at all parts to clean directly. By all means, take it home, or send it to me :-)

Take a look here and here for some disassembly information.

Good luck!

...

Re: Immersing in alcohol

*Message #14 Posted by **Paul Berger (Canada)** on 29 Aug 2011, 9:21 a.m.,*
in response to message #11 by Martin Pinckney

When I was first servicing DP equipment we used trichloroethylene a lot for cleaning but be careful it will dissolve some plastic, and adhesives. My brother is a survey technician and he told me that they used it to test pavement, they would use the trichloroethylene to dissolve the asphalt out of the mix.

Re: Immersing in alcohol

*Message #15 Posted by **Alexander Oestert** on 29 Aug 2011, 10:53 a.m.,*
in response to message #14 by Paul Berger (Canada)

I had very good results immersing my HP 41 in an optician's ultra sonic cleaner bath. No part of the calculator dissolved and after drying everything worked fine and looked like new.

Re: Immersing in alcohol

*Message #16 Posted by **David Ramsey** on 29 Aug 2011, 2:03 p.m.,*
in response to message #15 by Alexander Oestert

Hm. I have a Branson ultrasonic jewelry cleaner. It's small but the printhead would fit...fill it

with acetone, insert printhead, hope vibrations don't crack it...

Re: Immersing in alcohol

*Message #17 Posted by **Alexander Oestert** on 29 Aug 2011, 3:54 p.m.,*
in response to message #16 by David Ramsey

Why acetone? The optician had a very soft cleaning fluid in it. It's the ultra sound that's supposed to do the job!

Re: Immersing in alcohol

*Message #18 Posted by **David Ramsey** on 29 Aug 2011, 6:01 p.m.,*
in response to message #17 by Alexander Oestert

Acetone because you need some sort of organic solvent to have any hope at all of getting this goop off. 6 hours soaking in alcohol didn't do it; I suppose I could try ultrasound with alcohol first.

Re: Immersing in alcohol

*Message #19 Posted by **David Ramsey** on 29 Aug 2011, 6:39 p.m.,*
in response to message #18 by David Ramsey

So...are these clean enough?

Re: Immersing in alcohol

*Message #20 Posted by **Tony Duell** on 30 Aug 2011, 4:37 a.m.,*
in response to message #19 by David Ramsey

That looks pretty good. The resistive elements are naturally black. I'd just try it. If the some columns are missing when you print, then check it as normal (check the resitance of the element between the driver transistor and diode on the driver PCB, check the diode). If that all checks out, clean the head again. But I don't think that will be necessary

Re: Immersing in alcohol

*Message #21 Posted by **John Robinson** on 29 Aug 2011, 7:28 p.m.,*
in response to message #1 by David Ramsey

I find it best to immerse myself in alcohol instead :-)

Cheers, John

A problem....

*Message #22 Posted by **snaggs** on 30 Aug 2011, 3:50 a.m.,*
in response to message #1 by David Ramsey

After this post I decided immerse to myself in alcohol, I have noticed a reduction in accuracy of my calculations.

Interestngly this seems to be independant of the calculator used.

Daniel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

LA TIMES HP ARTICLE

*Message #1 Posted by **HOWARD Lazerson** on 28 Aug 2011, 2:21 p.m.*

nice article in sunday la times on hp

Re: LA TIMES HP ARTICLE

*Message #2 Posted by **Michael de Estrada** on 28 Aug 2011, 2:33 p.m.,*
in response to message #1 by HOWARD Lazerson

link ?

Re: LA TIMES HP ARTICLE

*Message #3 Posted by **hOWARD Lazerson** on 28 Aug 2011, 2:37 p.m.,*
in response to message #2 by Michael de Estrada

latimes.com/hiltzik sunday,aug 28

Re: LA TIMES HP ARTICLE

*Message #4 Posted by **Howard Owen** on 28 Aug 2011, 5:44 p.m.,*
in response to message #2 by Michael de Estrada

LA Times article

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Triangle solver for WP34s

*Message #1 Posted by **fhub** on 28 Aug 2011, 10:50 a.m.*

Here's my next program for the WP34s: a complete triangle solver. :-)

http://www.hpmuseum.org/guest/fhub/trigon.zip

Have fun,
Franz

PS. I've also uploaded my prime-factorization program because someone asked for something like this in an other thread:

http://www.hpmuseum.org/guest/fhub/pf.zip

Edited: 28 Aug 2011, 10:50 a.m.

Re: Triangle solver for WP34s

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 11:16 a.m.,*
in response to message #1 by fhub

Thanks Franz!

I've had a short look at PF and I assume there is a bug or at least something I do not really understand. Here is the code for discussion:

```
/*
  Prim-Faktor-Zerlegung (Prime Factorization)


  Input:  X:n (positive integer)
  Output: X:pf1 [R/S] pf2 [R/S] ... [R/S] 0 (L:n)
  Used:   XYZT, IK
*/


001 LBL'PF'
002 INT?
003 x<1?
004 RTN
005 STO K
006 2
007 RCL Y
008 [sqrt]
009 IP
010 STO I
011 DROP
012 x>? I
013 SKIP 11
014 [cmplx]ENTER
015 RMDR
016 x=0?
017 SKIP 03
018 DROP
019 NEXTP
020 BACK 08
```

```
021 DROP
022 STOP
023 STO/ Y
024 BACK 17
025 DROP
026 STOP
027 CLSTK
028 x[<->] K
029 [times]
030 RTN
```

Line 13 (SKIP 11) seems to skip to line 24 (BACK 17). Maybe I haven't fully understood the algorithm but this looks a bit strange.

--- Edit: I'm not good at counting. :-(SKIP takes the number of steps to skip. I was stopping on the 11th step.

Skipping more then a few steps may save labels but does not improve readability of the program. Have you considered using the preprocessor features (symbolic labels)? ---

I haven't yet looked at the triangle solver.

Edited: 28 Aug 2011, 11:28 a.m. after one or more responses were posted

Re: Triangle solver for WP34s

*Message #3 Posted by **fhub** on 28 Aug 2011, 11:21 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Line 13 (SKIP 11) seems to skip to line 24 (BACK 17). Maybe I haven't fully understood the algorithm but this looks a bit strange.

Count again, Marcus! ;-)

In fact it jumps to line 25 ...

Edited: 28 Aug 2011, 11:24 a.m.

Re: Triangle solver for WP34s

*Message #4 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 11:29 a.m.,*
in response to message #3 by fhub

Shame on me. (See above).

Re: Triangle solver for WP34s

*Message #5 Posted by **Lode** on 28 Aug 2011, 11:24 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I'm new to the WP34s myself, and never worked with a 41C on which this one is based, but, wouldn't SKIP 11 skip the next 11 lines, and thus end up at 025 DROP?

Re: Triangle solver for WP34s

*Message #6 Posted by **fhub** on 28 Aug 2011, 11:30 a.m.,*
in response to message #5 by Lode

> Quote:
>
> I'm new to the WP34s myself, and never worked with a 41C on which this one is based, but, wouldn't SKIP 11 skip the next 11 lines, and thus end up at 025 DROP?

Yes, you're right of course.

I also don't like the concept of SKIP very much: BACK nn jumps back nn steps, but SKIP nn jumps forward nn+1 steps (skipping nn steps).

It's always a bit confusing when writing a program, and I would definitely have prefered a combination BACK/FWD instead of BACK/SKIP.

Re: Triangle solver for WP34s

*Message #7 Posted by **Dieter** on 28 Aug 2011, 11:46 a.m.,*
in response to message #6 by fhub

This could be overcome by a general relative jump command, similar to those in the '67/97 or 34C (yet only backwards). While BACK nn in fact works like a "jump back nn lines", just as in the mentioned earlier models, SKIP nn in fact means "jump forward nn+1 lines".

A relative jump could handle both cases it (and only if) it could handle both positive and negative arguments. This has been discussed earlier regarding the current SDL and SDR commands which also would become much more useful if they were replaced by one common command which was able to handle positive and negative arguments. Pauli explained why this is currently not implemented, but maybe the benefits of a common relative jump command may help finding a solution. ;-)

If this is not possible SKIP could be replaced by another command that simply does the same as SKIP nn+1, which might be slightly less confusing. But I could also live without that. ;-)

Dieter

Re: Triangle solver for WP34s

*Message #8 Posted by **fhub** on 28 Aug 2011, 11:52 a.m.,*
in response to message #7 by Dieter

> Quote:
>
> If this is not possible SKIP could be replaced by another command that simply does the same as SKIP nn+1, which might be slightly less confusing.

Yes, that's exactly what I meant with FWD nn (instead of SKIP), jumping nn steps forward (as BACK nn does backward).

Re: Triangle solver for WP34s

*Message #9 Posted by **Paul Dale** on 28 Aug 2011, 5:41 p.m.,*
in response to message #6 by fhub

Why all the problems with SKIP and BACK? SKIP nn skips the next nn steps. BACK nn goes back nn steps.

If we called the SKIP command FWD or FORWARD then it would operate differently but it isn't. It is called SKIP.

These commands have a bit of a sordid history. Originally included for internal xrom programming only but they turned out to be a useful way to reduce the step count so they were pushed mainstream. Now that we've lots of program steps in flash they are less relevant but still useful enough to include I think.

Finally, if you don't like them just use GTO/LBL instead. Nobody is forcing anyone to use these. They make debugging and altering programs more difficult, they take more keystrokes to enter and they don't necessarily have a speed advantage over LBL.

- Pauli

Re: Triangle solver for WP34s

*Message #10 Posted by **fhub** on 28 Aug 2011, 5:59 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> Finally, if you don't like them just use GTO/LBL instead.

1) I didn't talk to or with _you_
2) I didn't criticize anything but just expressed my opinion
3) I guess (and hope) that saying one's opinion is still allowed here, isn't it?

Franz

Re: Triangle solver for WP34s

*Message #11 Posted by **Paul Dale** on 28 Aug 2011, 6:20 p.m.,*
in response to message #10 by fhub

Grow up.

None of what I said was directed at you, it was a public response in a public forum.

- Pauli

Re: Triangle solver for WP34s

*Message #12 Posted by **Dieter** on 28 Aug 2011, 11:32 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Line 13 (SKIP 11) seems to skip to line 24 (BACK 17). Maybe I haven't fully understood the algorithm but this looks a bit strange.

SKIP 11 means that the next 11 lines are skipped and the program continues with the 12th, i.e. line 13 + 12 = 25. ;-)

Dieter

Re: Triangle solver for WP34s

*Message #13 Posted by **fhub** on 28 Aug 2011, 11:43 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Skipping more then a few steps may save labels but does not improve readability of the program. Have you considered using the preprocessor features (symbolic labels)?

Well, the preprocessor doesn't run here with my old TinyPerl, and I definitely don't want to install a 80MB package for just one little Perl script!
(BTW, since you've removed RCLS/STOS A again, also Neil's assembler isn't uptodate anymore - it gives an error message for these 2 commands.)

And for 'readability': my triangle program you couldn't even 'read' (i.e. understand) WITH symbolic labels. ;-)

Edited: 28 Aug 2011, 11:44 a.m.

Re: Triangle solver for WP34s

*Message #14 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 12:07 p.m.,*
in response to message #13 by fhub

Franz, try the .exe version. It does not need Perl to be installed.

Re: Triangle solver for WP34s

*Message #15 Posted by **fhub** on 28 Aug 2011, 12:11 p.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> Franz, try the .exe version. It does not need Perl to be installed.

I've tried it already:
1) horribly slow
2) creates BIG temporary files in Windows\temp folder and doesn't delete it at the end, so either I have to remove them manually or this folder grows with each run

Conclusion: thanks, that's not a tool I would like! ;-)

Re: Triangle solver for WP34s

*Message #16 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 12:13 p.m.,*
in response to message #15 by fhub

> Quote:
>
> I've tried it already: 1) horribly slow

Only on the first run.

> Quote:
>
> 2) creates BIG temporary files in Windows\temp folder and doesn't delete it at the end, so either I have to remove them manually or this folder grows with each run
>
> That's why it is slow on the first run but not on subsequent executions. Temp should get cleared on a reboot by Windows.

Re: Triangle solver for WP34s

*Message #17 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 3:17 p.m.,*
in response to message #13 by fhub

> Quote:
>
> (BTW, since you've removed RCLS/STOS A again, also Neil's assembler isn't uptodate anymore - it gives an error message for these 2 commands.)

I presume you are not using SVN then. I am suspecting that you may be manually downloading the assembler script from the Source Forge website. If so, then you are likely not also copying the wp34s.op table that is there as well (same directory).

While the embedded table within the assembler is **not** updated on every twitch and whim of the rest of the project, the ./trunk/tools/wp34s.op table **is** essentially (semi)automatically updated during the build process. The assembler searches for the wp34s.op op-code table in the following order: 1) where you said it was using the -op command line switch, 2) the directory you are running the script from, 3) where the script itself is located, and finally, if none of the previous are true, 4) the assembler uses its internal table as a *last resort* fall-back.

When you run the assembler, it will report which table it used -- both its revision number (if known), and its location (something about "internal" if it could find one).

It is possible that the assembler reports 2 **warnings** (not errors!) about duplicate op-codes with regard to STOS A/RCLS A. Regardless, the 2 warnings it reports are harmless and can be ignored -- unless you happen to be trying to use STOS A and/or RCLS A. Depending on which revision of the calculator design you are using, the STOS A and RCLS A instructions may or may not exist.

With respect to the EXE versions, they were fully documented to behave as you state (slow -- on the **1st** decompression run, and large -- being about 15M footprint). Additionally, the reasons for this were also documented. So no surprises there.

None the less, the ability to use "JMP DoThatThingAgain" instead of SKIP 78 or BACK 23 is a large benefit to self-documented, readable code (it will do a better job counting steps than the human as well!). The tool figures out these n+1 issues for SKIP and deals with them accordingly. Furthermore, if the JMP exceeds the dynamic range of the the SKIP/BACK instruction, the PP tool automatically *promotes* the branch instruction into a GTO instruction (inserting a LBL at the correct spot, only if required).

Re: Triangle solver for WP34s

*Message #18 Posted by **fhub** on 28 Aug 2011, 3:58 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

> Quote:

> I presume you are not using SVN then. I am suspecting that you may be manually downloading the assembler script from the Source Forge website. If so, then you are likely not also copying the wp34s.op table that is there as well (same directory).

Well, I'm indeed manually downloading both your assembler script AND the wp34s.op whenever one of them changes.
And I know that at the moment (SVN1535) it's working again - but I'm sure not for long time: at least when Pauli awakes again those assembler warnings will reappear ... ;-)

Re: Triangle solver for WP34s

*Message #19 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 4:22 p.m.,*
in response to message #18 by fhub

> Quote:
>
> I know that at the moment (SVN1535) it's working again

I would be somewhat surprised if the assembler stopped working. It was (is?) issuing the warning messages about duplicate op-codes because of an internal matter within the design team. But, as far as I am aware, it never produced illegal code or failed to assembler a source file** (at least in the last month or so). If you have a set of files that it is failing against, can you please share the details?

When the internal matter regarding STOS A/RCLS A is finalized, the assembler will be updated. Until then, you can safely ignore the warnings.

** Unless you were using the STOS A/RCLS A instruction -- and then it depended on which specific version of the calculator you were using -- and then it simply said you were using an illegal instruction (being STOS A and/or RCLS A).

Re: Triangle solver for WP34s

*Message #20 Posted by **fhub** on 28 Aug 2011, 4:29 p.m.,*
in response to message #19 by Neil Hamilton (Ottawa)

> Quote:
>
> If you have a set of files that it is failing against, can you please share the details?

So far I didn't have any problems with your assembler - it works perfectly. And of course these STOS/RCLS warnings aren't your fault.

> Quote:
>
> When the internal matter regarding STOS A/RCLS A is finalized, ...

Well, this will be a never ending story I'm afraid. ;-)

Re: Triangle solver for WP34s

*Message #21 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 5:10 p.m.,*
in response to message #20 by fhub

> Quote:
>
> And of course these STOS/RCLS warnings aren't your fault

I prefer to think of these things as nobody's *fault*. They are part of an evolving architecture that has some pretty healthy debate happening behind the scenes.

(My tool has its share of issues as well. I am just luckier that they have mostly been caught in that behind the scene evolution. Pauli found a bit of a howler in the PP last week. It would not allow 1/x through unmolested -- to keep the theme going -- under certain circumstances.)

> Quote:
>
> Well, this will be a never ending story I'm afraid. ;-)

I, and more than a few others, hope not! However, this one will be resolved quite soon -- of that I am confident.

Re: Triangle solver for WP34s

*Message #22 Posted by **Patrice** on 28 Aug 2011, 3:21 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi all,

My apologies if already discussed.

I understand that labels are just a waste of place and time in a program (at least when it is fully debugged and frozen).

But when you edit a program, labels are helpful because you don't have to keep track of the lines inserted or removed to know how far you have to jump.

When you remove a label, if not on purpose, you can bet that a GTO or an WEQ will fail soon or late. If the label is not there, you have chances not notice.

It is just my opinion, but you can have guessed that I don't like the SKIP and BACK commands with relative jumps, because you have to do maths when the calc can display the useful result directly.

In the contest of removing the labels, I would have preferred a JUMP command with an absolute line number (with same range as BACK and SKIP). (or GTOL for a GTO Line programmable)

Even better, having 2 more commands:
the first one SHRINK, non programmable, would convert the current program with labels to the form without labels (at least the numerical ones from the HP41C point of view).
The second one EXPAND, non programmable, doing the reverse, aka reinserting the labels.

The EXPANDed form would be (need to renumber the lines):

```
001 LBL'PF'
002 INT?
```

```
003 x<1?
004 RTN
005 STO K
006 2
    LBL 03
007 RCL Y
008 [sqrt]
009 IP
010 STO I
011 DROP
    LBL 02
012 x>? I
013 GTO 00
014 [cmplx]ENTER
015 RMDR
016 x=0?
017 GTO 01
018 DROP
019 NEXTP
020 GTO 02
    LBL 01
021 DROP
022 STOP
023 STO/ Y
024 GTO 03
025 DROP
    LBL 00
026 STOP
027 CLSTK
028 x[<->] K
029 [times]
030 RTN
```

The SHRINKed form:

```
001 LBL'PF'
002 INT?
003 x<1?
004 RTN
005 STO K
006 2
007 RCL Y
008 [sqrt]
009 IP
010 STO I
011 DROP
012 x>? I
013 GTOL 25
014 [cmplx]ENTER
015 RMDR
016 x=0?
017 GTOL 21
018 DROP
019 NEXTP
020 GTOL 12
021 DROP
022 STOP
023 STO/ Y
024 GTOL 7
025 DROP
026 STOP
027 CLSTK
028 x[<->] K
029 [times]
030 RTN
```

Patrice

Re: Triangle solver for WP34s

*Message #23 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 3:38 p.m.,*
in response to message #22 by Patrice

Hi Patrice,

Have you looked at the off-line preprocessor for the assembler? If not, have a look at chapter 8 of the assembler document.

Re: Triangle solver for WP34s

*Message #24 Posted by **Patrice** on 28 Aug 2011, 3:54 p.m.,*
in response to message #23 by Neil Hamilton (Ottawa)

Is it an assembler program ?

In this case, apologize, I thought it is a 'FOCAL' user program.

Patrice

Re: Triangle solver for WP34s

*Message #25 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 4:14 p.m.,*
in response to message #24 by Patrice

"Assembler" here is the same what "Focal" is for the 41C. It was Neil's decision to call his perl script neither translator nor compiler but assembler. The "assembly language" is just the keystroke programming model of WP 34S.

Re: Triangle solver for WP34s

*Message #26 Posted by **Patrice** on 28 Aug 2011, 5:30 p.m.,*
in response to message #25 by Marcus von Cube, Germany

In my 30 years of computer programming experience, I have always heard of "assembler" or "assembly language" as being a more or less readable form of the language of the microprocessor.

Using the word "assembler" for the user keystroke programming language is quite unusual for me.

Patrice

Re: Triangle solver for WP34s

*Message #27 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 4:40 p.m.,*
in response to message #24 by Patrice

> Quote:
>
> Is it an assembler program ?
>
> In this case, apologize, I thought it is a 'FOCAL' user program.

Sorry, I have only heard of FOCAL used in the context of the '41. I did not understand your comment until Marcus' note.

The assembler will do several things. Firstly, it will *dis*assemble a binary image extracted from the user programmable spaces (ie: key-stroke programmable area) in either the calculator or the emulator. Secondly, it will take an ASCII source (either a previously disassembled one or one you have written using an editor) and create a binary image that can be loaded into the key-

stroke programmable sections of either the calculator or the emulator.

Recently there was a new addition to the tool chain, that I am calling a preprocessor (or PP), that does some symbolic manipulation of the source. The output of the PP can be fed into the assembler. (The assembler can also be requested to spawn a PP job directly via a command line switch as well.)

Your comment about superfluous labels, JUMP instructions, counting, etc. is essentially exactly what the PP does.

Again, if you have not had a chance, read the WP34s_Assembler_Disassembler.pdf document in the WP 34S offering. It should answer many questions. Chapter 8 deals specifically with this topic.

Regards...

Re: Triangle solver for WP34s

*Message #28 Posted by **Patrice** on 28 Aug 2011, 6:03 p.m.,*
in response to message #27 by Neil Hamilton (Ottawa)

> Quote:
>
> Sorry, I have only heard of FOCAL used in the context of the '41.

Me too, this is why I writed 'FOCAL', would you have preferred "User Keystroke Programming Language" ?

My SHRINK and EXPAND commands were for the real thing, to help programming live. Try to program and debug something without the help of a computer or a sheet of paper and you will see my point about the labels.

> Quote:
>
> WP34s_Assembler_Disassembler.pdf document in the WP 34S offering. It should answer many questions. Chapter 8 deals specifically with this topic.

Chapter 8 is named "Help" is it the right one ?

Re: Triangle solver for WP34s

*Message #29 Posted by **Neil Hamilton (Ottawa)** on 28 Aug 2011, 6:32 p.m.,*
in response to message #28 by Patrice

> Quote:
>
> Chapter 8 is named "Help" is it the right one ?

It is named "Help" in older versions. In the latest it is called "Symbolic Preprocessor". The latest version went online about 2 weeks ago. Look here.

I can't help you with the "live" programs. That is not my department. :-)

Re: Triangle solver for WP34s

*Message #30 Posted by **fhub** on 28 Aug 2011, 3:54 p.m.,*
in response to message #22 by Patrice

> Quote:
>
> The EXPANDed form would be (need to renumber the lines): ...

Hey, what are you doing with my poor little program?

That's almost rape ... ;-)

Re: Triangle solver for WP34s

*Message #31 Posted by **Patrice** on 28 Aug 2011, 3:59 p.m.,*
in response to message #30 by fhub

Yes, I am a serial program raper :)

Re: Triangle solver for WP34s

*Message #32 Posted by **fhub** on 28 Aug 2011, 4:01 p.m.,*
in response to message #31 by Patrice

> Quote:
>
> Yes, I am a serial program raper :)

Well, better serial than parallel (at least in this case). :-)

Re: Triangle solver for WP34s

*Message #33 Posted by **Patrice** on 28 Aug 2011, 4:55 p.m.,*
in response to message #32 by fhub

Sometimes, parallel is good too.

By the way, do you think the program is read easier with absolute line numbers?

Patrice

Re: Triangle solver for WP34s

*Message #34 Posted by **fhub** on 28 Aug 2011, 5:03 p.m.,*
in response to message #33 by Patrice

> Quote:
>
> By the way, do you think the program is read easier with absolute line numbers?

You mean direct jumps to line numbers?
Yes, that would of course be (a bit) easier than all this counting for BACK or SKIP.

Re: Triangle solver for WP34s

*Message #35 Posted by **Lode** on 28 Aug 2011, 11:21 a.m.,*
in response to message #1 by fhub

I like the PF program, thanks! I like it especially as a learning experience of the WP34s commands.

Re: Triangle solver for WP34s

*Message #36 Posted by **Miguel Toro** on 29 Aug 2011, 6:08 p.m.,*
in response to message #1 by fhub

Hi,

Here is maybe a dumb question: how do you create an instruction like:

048 [alpha]'on:'

in your triangle program? I cannot see how I can add a special character like ':' and in this instruction.

Thanks,

Miguel

Edited: 29 Aug 2011, 6:12 p.m.

Re: Triangle solver for WP34s

*Message #37 Posted by **fhub** on 29 Aug 2011, 6:22 p.m.,*
in response to message #36 by Miguel Toro

Sorry Miguel, but unfortunately I can't answer your question.
I'm not entering my programs directly on the emulator, I just write my programs in a texteditor, compile them and load them into the emulator.

Franz

Re: Triangle solver for WP34s

*Message #38 Posted by **Paul Dale** on 29 Aug 2011, 6:29 p.m.,*
in response to message #36 by Miguel Toro

See page 9 of the manual for the alpha to keyboard map.

Due to some internal limitations, the various alpha catalogues are not available during the three character alpha entry sequences. This means that you will have to enter the ':' character as a single character alpha.

The assembler accepts more than can be entered from the keyboard and the execution engine doesn't care. This applies not only to alpha triples but to labels as well.

- Pauli

Re: Triangle solver for WP34s

*Message #39 Posted by **Miguel Toro** on 29 Aug 2011, 7:26 p.m.,*
in response to message #38 by Paul Dale

Ah, Domage!

I thought as much, having read the "interactive.html" document.

Thanks you both and regards,

Miguel

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 resource allocation registry?

*Message #1 Posted by **Håkan Thörngren** on 28 Aug 2011, 9:38 a.m.*

I wonder if there is a registry of resources for the HP-41? I am thinking of such things as XROM numbers, buffer numbers and the unused bits of register 13?

At the moment I am mostly concerned with register 13 since it is fairly easy to change buffer or XROM numbers. Has anyone documented the use (misuse?) of these bits? I would very much like to allocate a bit of my own there, if I possible.

Re: HP-41 resource allocation registry?

*Message #2 Posted by **Ángel Martin** on 28 Aug 2011, 1:03 p.m.,*
in response to message #1 by Håkan Thörngren

Here's the modules I know use bits in the c register (status register 13)

1. CCD ROM, used for Continuous Auto Start (CAS), and Lower_Case Alpha flag. From memory, I think they are bits c(16) and c(15)

2. AECROM, used to flag the selected unit mode (Foot, Meter, etc)

I suspect the ZENROM also uses those bits, therefore the incompatibility amongst them.

Will check my notes for others.

Cheers, 'AM

Edited: 28 Aug 2011, 1:09 p.m.

Re: HP-41 resource allocation registry?

*Message #3 Posted by **Ángel Martin** on 29 Aug 2011, 3:40 a.m.,*
in response to message #2 by Ángel Martin

Incidentally, I considered using one of the "available" bits for the 41Z POLAR/RECT mode, but I decided against it to avoid compatibility issues - so I ended up using one bit in the complex-stack buffer instead for safety, despite the obvious speed penalty.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Isn't it time to update the museum?

*Message #1 Posted by **Graham D. Wilson** on 28 Aug 2011, 2:30 a.m.*

The last calculator that is presented in any detail in the museum is the 2001 HP Xpander.

Isn't in about time to update the museum to include pages for other significant discontinued models such as the 48g series, 32sii, 17bii, 19bii, 49g?

Re: Isn't it time to update the museum?

*Message #2 Posted by **Xavier A. (Brazil)** on 28 Aug 2011, 11:20 a.m.,*
in response to message #1 by Graham D. Wilson

I do agree.

Re: Isn't it time to update the museum?

*Message #3 Posted by **Katie Wasserman** on 28 Aug 2011, 12:14 p.m.,*
in response to message #2 by Xavier A. (Brazil)

I think that we've been flying on auto pilot for some time now, I haven't seen any posts from Dave.

-Katie

Re: Isn't it time to update the museum?

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 28 Aug 2011, 12:58 p.m.,*
in response to message #3 by Katie Wasserman

This is my impression, too.

Massimo

Re: Isn't it time to update the museum?

*Message #5 Posted by **Michael de Estrada** on 28 Aug 2011, 1:01 p.m.,*
in response to message #3 by Katie Wasserman

Several years ago when I first registered with this forum, I submitted several programs for inclusion in the HP-15C section. I never received any acknowledgement, and they were never incorporated. After that, I haven't bothered to make any contributions, other than what I post on the forum. For all I know, Dave Hicks is another Max Headroom.

Re: Isn't it time to update the museum?

*Message #6 Posted by **Mike T** on 28 Aug 2011, 4:20 p.m.,*
in response to message #5 by Michael de Estrada

Guess he is a bit busy - I have exchanged email with hime on a couple of occaisions though..

Best idea would be to post any new submissions as a new articles, think they even get onto the museum CD that way (not sure).

Mike T.

Re: Isn't it time to update the museum?

*Message #7 Posted by **Michael de Estrada** on 28 Aug 2011, 4:27 p.m.,*
in response to message #6 by Mike T

The museum has this page for submittals, which is what I used. Presumably, this is the way programs get into the museun, rather than by posting them on the forum.

Re: Isn't it time to update the museum?

*Message #8 Posted by **db (martinez, ca.)** on 30 Aug 2011, 7:35 p.m.,*
in response to message #5 by Michael de Estrada

Michael;

Dave is hired brain cells for the tech industry. When there is a project; he is very busy. I try to never email him on anything with less than a two month lead time. If he didn't get back to you it was an accident.

BTW: Including humorous or obscene Dr. Who references guarantees a faster turnaround.

Postfixaly Yours - db

Re: Isn't it time to update the museum?

*Message #9 Posted by **Ángel Martin** on 28 Aug 2011, 1:04 p.m.,*
in response to message #3 by Katie Wasserman

Same here.

Re: Isn't it time to update the museum? Plan B?

*Message #10 Posted by **Egan Ford** on 29 Aug 2011, 12:28 p.m.,*
in response to message #3 by Katie Wasserman

> Quote:
>
> I think that we've been flying on auto pilot for some time now, I haven't seen any posts from Dave.

In the unlikely event that this forum and web site disappears, where would you all go?

Re: Isn't it time to update the museum? Plan B?

*Message #11 Posted by **Katie Wasserman** on 29 Aug 2011, 2:18 p.m.,*
in response to message #10 by Egan Ford

Good question.

We need a DR plan with a backup copy of the whole site updated daily (that should be often enough).

Re: Isn't it time to update the museum? Plan B?

*Message #12 Posted by **Thomas Radtke** on 29 Aug 2011, 4:13 p.m.,*
in response to message #11 by Katie Wasserman

Does anyone here except Dave has FTP access to the site?

A vanishing point would be a good thing.

Edited: 29 Aug 2011, 4:14 p.m.

Re: Isn't it time to update the museum? Plan B?

*Message #13 Posted by **db (martinez, ca.)** on 29 Aug 2011, 5:05 p.m.,*
in response to message #11 by Katie Wasserman

This time, when the Huns sack Rome; at least we have the Wayback Machine

And speaking of massive destruction, how did you and your home fare the storm? I know someone on Staten Island who spent the weekend in Queens to be (?) safe.

Re: Isn't it time to update the museum? Plan B?

*Message #14 Posted by **Bill (Smithville, NJ)** on 29 Aug 2011, 6:05 p.m.,*
in response to message #13 by db (martinez, ca.)

> Quote:
>
> And speaking of massive destruction, how did you and your home fare the storm? I know someone on Staten Island who spent the weekend in Queens to be (?) safe

We fared pretty good - just a few branches down and no major flooding. We live a little north of Atlantic City, NJ and about a half mile west of Route 9. Everyone east of Route 9 was manatory evacuation, so we didn't have to leave. Although my neighbor took it as an opportunity to take his family west for a long vacation weekend. Luck him.

Hope everyone else here are okay.

Bill

Re: Isn't it time to update the museum? Plan B?

*Message #15 Posted by **Katie Wasserman** on 30 Aug 2011, 8:33 p.m.,*
in response to message #13 by db (martinez, ca.)

Lots of power outages around here (Westchester country NY) and some trees down but not that much flooding. I never lost power which was a shame since I was going to light up my house with the glow from thousands of tiny red LED segments. It was mild compared to the some of the unnamed nor'easters we've had in recent years.

Re: Isn't it time to update the museum? Plan B?

*Message #16 Posted by **uhmgawa** on 30 Aug 2011, 10:02 p.m.,*
in response to message #10 by Egan Ford

> Quote:
>
> In the unlikely event that this forum and web site disappears, where would you all go?

Well **somewhere** I'd hope if things devolved to that state seeing as the legacy arguably lives or dies with the existence of this group.

Incidentally I'm certainly appreciative of the benefit from this forum. But there are a few things I'd offer might make life easier for participants such as e-mail notification for follow-on posts to threads in which one may be interested. I've never felt the archive search was as user friendly nor effective as it could be. And there appears to be a seam between daily/recent posts and those archived where links to the former expire.

Perhaps a more contemporary forum management package would address the above and provide more mainstream features such as poster default signatures which I believe I've heard raised before.

Re: Isn't it time to update the museum?

*Message #17 Posted by **Giancarlo** on 28 Aug 2011, 1:26 p.m.,*
in response to message #1 by Graham D. Wilson

I agree on updating the museum with "new" calculators; specially with the 48/49 models...

Thanks

Giancarlo

Re: Isn't it time to update the museum?

*Message #18 Posted by **Lode** on 28 Aug 2011, 1:51 p.m.,*
in response to message #17 by Giancarlo

Also the 35s, and the 20b/30b and how they can be turned into the WP34s.

Re: Isn't it time to update the museum?

*Message #19 Posted by **db (martinez, ca.)** on 28 Aug 2011, 4:28 p.m.,*
in response to message #18 by Lode

Dave has always waited till after a calculator is discontinued to put up a museum page for it. An "historical" overview of the 20/30 series might be tempting fate, like keeping crutches after a broken leg has healed.
Articles are another thing.

Re: Isn't it time to update the museum?

*Message #20 Posted by **Martin Pinckney** on 28 Aug 2011, 5:21 p.m.,*
in response to message #19 by db (martinez, ca.)

Under "The Other Models"

"This page lists calculators that are *too new* to be considered museum pieces." [Emphasis added]

He has the following *discontinued* models:

10B 14B 17BII 19B 19BII 20S 21S 32SII 38G 48G(X) 95LX 100LX 200LX... Tired of typing.

To say it needs an update is like saying Irene had a little rain in it.

Edited: 28 Aug 2011, 5:23 p.m.

Re: Isn't it time to update the museum?

*Message #21 Posted by **Walter B** on 28 Aug 2011, 5:46 p.m.,*
in response to message #20 by Martin Pinckney

FWIW, I made this proposal more than once in the last eight years - leaving sufficient intervals in between. Last on 2010-12-14 via museum mail to the curator:

> Quote:
>
> Coverage of "Other" models in your museum
>
> Hi Dave,
>
> having entered this final museum room after many months again, I respectfully suggest updating the text therein. E.g. claiming the 38G being "still in production" is a bit far from truth today. And since production ceased for most models mentioned there, the museum is perfectly safe against surprising new facts. So if and when you've got some time for dusting the museum premises, that's the room where your effort will be most beneficial IMHO.
>
> Best regards

No reaction :-/ So autopilot seems being turned on for quite a while. Hope Dave is well.

Walter

Focus more on Texas Instruments' calculators ;-))

*Message #22 Posted by **Joerg Woerner** on 28 Aug 2011, 4:21 p.m.,*
in response to message #1 by Graham D. Wilson

Different story here at the Datamath Calculator Museum - just received a whole bunch of new calculators from TI to include in the Museum.

A full graphing calculator SMALLER than the HP-30B - watch out!

Cheers, Joerg

Re: Focus more on Texas Instruments' calculators ;-))

*Message #23 Posted by **gene wright** on 28 Aug 2011, 4:41 p.m.,*
in response to message #22 by Joerg Woerner

Hey Joerg!

Just have two pages on the Datamath museum.

One for the TI-30 and all its variants.

The other for the TI-83 and its children.

That covers 95% of all TI models.

:-)

Wish you could come to HHC in San Diego this year!

Re: Focus more on Texas Instruments' calculators ;-))

*Message #24 Posted by **Joerg Woerner** on 28 Aug 2011, 9:10 p.m.,*
in response to message #23 by gene wright

Gene,

You are right - look at this one:

TI-30 (1976 - 2010)

Sorry, I won't make it this year to San Diego. HHC 2011 scheduled right between two trips to Germany and Las Vegas (both for business reasons..).

Next year!!!

Joerg

Re: Focus more on Texas Instruments' calculators ;-))

*Message #25 Posted by **uhmgawa** on 30 Aug 2011, 10:12 p.m.,*
in response to message #24 by Joerg Woerner

> Quote:
>
> Gene,
>
> You are right - look at this one:
>
> TI-30 (1976 - 2010)

Oh wow. I even forgot I owned some members of that motley crew. I do wish TI could have cracked the mystery of correctly writing a key scan debouncing routine.

Re: Focus more on Texas Instruments' calculators ;-))

*Message #26 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2011, 9:31 p.m.,*
in response to message #23 by gene wright

> Quote:
>
> One for the TI-30 and all its variants.

> The other for the TI-83 and its children.
>
> That covers 95% of all TI models.

Wouldn't any company love to have two products that sell, and sell, and sell, and sell, and sell, and sell some more?

And we need to talk Palmer! Re: Focus more on Texas Instruments' calculators ;-))

*Message #27 Posted by **gene wright** on 29 Aug 2011, 11:01 p.m.,*
in response to message #26 by Palmer O. Hanson, Jr.

True true, Palmer!

I was just teasing Joerg. :-)

We need to talk. Email me through the forum and send me your phone number.

Re: And we need to talk Palmer! Re: Focus more on Texas Instruments' calculators ;-))

*Message #28 Posted by **Joerg Woerner** on 30 Aug 2011, 9:52 p.m.,*
in response to message #27 by gene wright

Palmer,

He is always teasing me :-(

Gene wants your TI-88 badly - don't sell it for less tha $2,000.

Cheers,

Joerg

Re: And we need to talk Palmer! Re: Focus more on Texas Instruments' calculators ;-))

*Message #29 Posted by **Palmer O. Hanson, Jr.** on 31 Aug 2011, 7:47 p.m.,*
in response to message #28 by Joerg Woerner

> Quote:
>
> Gene wants your TI-88 badly - don't sell it for less tha $2,000.

I can't sell what I don't have.

Re: Isn't it time to update the museum?

*Message #30 Posted by **Bart (UK)** on 28 Aug 2011, 7:05 p.m.,*
in response to message #1 by Graham D. Wilson

First sentence of the website:

"The Museum of HP Calculators displays and describes Hewlett-Packard calculators introduced ***from 1968 to 1986*** plus a ***few interesting later*** models."

That says all it needs to say. It's Dave Hick's site - he can put on what he wants. If he doesn't find post '86 models interesting (over and baove those he has already), he doesn't have to include them.

Re: Isn't it time to update the museum?

*Message #31 Posted by **Martin Pinckney** on 28 Aug 2011, 8:05 p.m.,*
in response to message #30 by Bart (UK)

> Quote:
>
> It's Dave Hick's site - he can put on what he wants. If he doesn't find post '86 models interesting (over and above those he has already), he doesn't have to include them.

I think we all know this, nevertheless one can wish for updates, no?

Re: Isn't it time to update the museum?

*Message #32 Posted by **Graham D. Wilson** on 28 Aug 2011, 11:07 p.m.,*
in response to message #30 by Bart (UK)

Then isn't the name of the site misleading?

If the museum is limited to those models Dave Hicks likes or thinks worthy of inclusion, shouldn't the name be changed to something like "Dave Hicks Historical Collection of HP Calculators"?

Re: Isn't it time to update the museum?

*Message #33 Posted by **dinamarco** on 28 Aug 2011, 8:12 p.m.,*
in response to message #1 by Graham D. Wilson

I agree. I'm a HP 41CX user. I'm interested to change programs/routines for it.

Re: Isn't it time to update the museum?

*Message #34 Posted by **Ren** on 31 Aug 2011, 5:31 p.m.,*
in response to message #1 by Graham D. Wilson

Would Dave consider a co-moderator?

Not that I'm volunteering, or anything...

Ren

dona nobis pacem

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Isn't it time to update the museum?

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Interesting Documentation - Sanyo Calculator

*Message #1 Posted by **Katie Wasserman** on 27 Aug 2011, 8:35 p.m.*

On TAS I found a binder full of service information on a few old Sanyo ICC calculators and have scanned the documents for the ICC-0081 (this is the only one of the 4 calculators included in the binder that I have).

Disassembly

Parts

Logic

PCB (part 1)

PCB (part 2)

The level of detail seems extraordinary to me and I wonder if any other calculator manufacturer in the early 1970's produced this level of documentation. I have some service details on HP calculators and on Wang from this time but they don't some close to this.

-Katie

Re: OT: Interesting Documentation - Sanyo Calculator

*Message #2 Posted by **Nick R** on 27 Aug 2011, 10:46 p.m.,*
in response to message #1 by Katie Wasserman

Was there any service information on the Sanyo ICC-808D in the binder? I believe it came out a year later than the ICC-0081.

Nick

Re: OT: Interesting Documentation - Sanyo Calculator

*Message #3 Posted by **Katie Wasserman** on 27 Aug 2011, 11:13 p.m.,*
in response to message #2 by Nick R

Unfortunately not, the service documents cover: ICC-0081, ICC-1121, ICC- 1141 and ICC-2161.

Re: OT: Interesting Documentation - Sanyo Calculator

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 28 Aug 2011, 3:01 a.m.,*
in response to message #1 by Katie Wasserman

Katie:

The combination of the service manual and the patent provided a rather thorough documentation for the TI-59

including circuit descriptions, schematics, parts list, troubleshooting procedures and listing of internal code. But of course, that was the late 1970's not the early 1970's.

Docs

*Message #5 Posted by **Frank Boehm (Germany)** on 29 Aug 2011, 8:54 a.m.,*
in response to message #1 by Katie Wasserman

I have several early 70s Canon service manuals (including Pocketronic). They come with complete schematics, timing diagrams, plus PCB positives(?) - ready for reproduction of your own PCBs (sheets printed in black, left blank on the other side). Since other manuals I have (Denon, Olympia, Diehl) show almost the same level of detail, it seems to have been common to have *useful* service manuals. Funny enough, they were numbered and company property :)
But, honestly, it was not needed for later calculators - reduced to only a couple of parts, they were repairable by simply replacing one of the five key components.

Re: Docs

*Message #6 Posted by **Katie Wasserman** on 31 Aug 2011, 2:18 a.m.,*
in response to message #5 by Frank Boehm (Germany)

Frank,

I'd love to have a copy of the Pocketronic service manual for my website. Do you have that scanned?

Katie

Re: Docs

*Message #7 Posted by **Didier Lachieze** on 31 Aug 2011, 4:28 a.m.,*
in response to message #5 by Frank Boehm (Germany)

As this topic is about non-HP early calculators, I would be interested by manuals for the Sharp EL-8 or EL-811.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP48G purchase from "that list site"

*Message #1 Posted by **Ethan Conner** on 27 Aug 2011, 6:56 p.m.*

Found a 48G from "that list site". It has a ding just below the display but is otherwise in very good shape. It came with all the manuals,case,pc interface cable and disk. All for 50 dollars. It has a aprox. 2 inch by 3/8 inch adhesive backed blanking plate that i have no idea what it's for. Made in Singapore. Passed the self tests of course and has clean battery terminals.

Re: HP48G purchase from "that list site"

*Message #2 Posted by **Thomas Radtke** on 27 Aug 2011, 7:10 p.m.,*
in response to message #1 by Ethan Conner

You could engrave your name into the plate. It will fit somewhere on the 48's back.

Edit: Congratulations, btw. I also got a complete set for little money (Indonesian model only, but otherwise in perfect condition). The 48G is heavily underestimated :-).

Edited: 27 Aug 2011, 7:15 p.m.

Re: HP48G purchase from "that list site"

*Message #3 Posted by **Ethan Conner** on 27 Aug 2011, 7:31 p.m.,*
in response to message #2 by Thomas Radtke

You are right about the name plate. The original owner was compelled to lightly scratch his name in the case where the name plate would be placed. After seeing them on TAS and TLS for about what i paid and being just the calc itself i felt lucky to have gotten the whole kit.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Touchpad crazy prices 50,000 EUR!!!!

*Message #1 Posted by **Keith Midson** on 27 Aug 2011, 6:33 p.m.*

Hi all, I've been watching the prices of Touchpads out of interest. I missed out on the fire sale, so i'm tracking how the market responds to 'free' pricing.
It's been reasonably stable in the last few days, but then there's ebay items: 150653839696 and 300592032942 !!!
Can anyone figure out what is going on there? That is just insane (50,000 Euros and 10,000 Euros with days of bidding to go)!! Cheers, Keith

Edited: 28 Aug 2011, 3:52 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Card Reader pressure roller diameter?

*Message #1 Posted by **Ian Phillips** on 27 Aug 2011, 3:44 p.m.*

I successfully replaced the gummy wheel on my 41CV card reader but got careless and lost the tiny nylon roller that applies pressure to drive the card movement.

I searched the floor and my bench several times fruitlessly so I plan to make a replacement roller as I have a lathe and the means to do it.

I have searched the archives but cannot find a drawing or any sizes so I would be grateful if anyone could tell me the dimensions of the nylon roller please. For simplicity I will put a hole through the roller and run it on a separate spindle.

TIA

Ian

Re: Card Reader pressure roller diameter?

*Message #2 Posted by **allen** on 27 Aug 2011, 3:56 p.m.,*
in response to message #1 by Ian Phillips

Can you vacuum the floor with a clean bag and then search the bag? That might be faster, if much less entertaining??

I've dropped those rollers before, only to be found through prayer and prostration, chiefly the latter.

Re: Card Reader pressure roller diameter?

*Message #3 Posted by **Michael de Estrada** on 27 Aug 2011, 4:21 p.m.,*
in response to message #1 by Ian Phillips

I measured one I have with a digital vernier caliper and got the following:

Roller diameter = 2.68mm

Roller length = 2.22mm

Pin diameter = 0.97mm

Edited: 27 Aug 2011, 4:21 p.m.

Re: Card Reader pressure roller diameter?

*Message #4 Posted by **Ian Phillips** on 27 Aug 2011, 4:42 p.m.,*
in response to message #3 by Michael de Estrada

Thanks for the replies.

As to finding the original part I have mostly given up. I'm pretty sure it did not get to the floor, which is jet black dense short pile carpet so its usually easy to find things on. Its not trapped in my clothing or anywhere on the bench either.

Since I asked the question I have made a roller out of PTFE, I worked out it should be 2.1mm long but I have made it 3.8mm diameter so its probably too large. I'm not sure my loose pin idea will work though because it looks like it will project into the gap under switch 'rocker' and stop it working. I am just going to cut some 1mm ground shafting to length and try it though.

As a matter of interest, are there only two 'switches' actuated by the card insertion? there looks to be three locations but I only found two gold springs and two actuators (one of which hardly has any movement).

Ian

Re: Card Reader pressure roller diameter?

*Message #5 Posted by **Randy** on 27 Aug 2011, 4:59 p.m.,*
in response to message #4 by Ian Phillips

There are only two switches, one turns the motor on, the other says the leading edge of the card is over the head.

As for the roller, any non-magnetic material should be fine, brass would be an easy choice to machine. The diameter is not critical but I suspect a few thousands (of an inch) over-sized would be better than under.

Edited: 27 Aug 2011, 4:59 p.m.

Re: Card Reader pressure roller diameter?

*Message #6 Posted by **Dan W** on 27 Aug 2011, 6:10 p.m.,*
in response to message #1 by Ian Phillips

If this is the same roller in the 65/67/97 card readers, I have a spare I could mail you.

If you want to make your own, be advised the pin/cam on the end is slightly offset so that rotating the roller will change the pressure. I have a good photo of the end showing this offset, from which you could take some measurements, if that would help.

Send me an email if interested in either.

-- Dan

Re: Card Reader pressure roller diameter?

*Message #7 Posted by **Ian Phillips** on 28 Aug 2011, 5:47 p.m.,*
in response to message #6 by Dan W

> Quote:
>
> If this is the same roller in the 65/67/97 card readers, I have a spare I could mail you.
>
> If you want to make your own, be advised the pin/cam on the end is slightly offset so that rotating the roller will change the pressure. I have a good photo of the end showing this offset, from which you could take some measurements, if that would help.

Send me an email if interested in either.

-- Dan

Thanks for the offer, but I have made a PTFE roller that runs on a pin that is a snug fit in the recesses. The card move through cleanly every time but I have not managed to find what is causing the 'Malfunction' or Checksum Error messages since I reassembled it, although it was working fine last time I used it (about 6 years ago!)

Using the card reader with new 'N' cells I sometimes get the 'Low batt' message too. I have an old (single) memory module that I am thinking of using as a temporary connector so that I can measure the battery volts on load or alternatively use a bench PSU to see just how much current is being drawn.

Ian

Ian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] suggestions

*Message #1 Posted by **Lode** on 27 Aug 2011, 1:31 p.m.*

The more I use the WP34s, the more I love it. Nice work! It's really worthy!

Here are some suggestions that I have that could improve it a bit for me:

1)

Display less annunciators by default. By default the following ones are lit:

360 RPN BEG

The problem with this is, the display looks quite busy with lots of information while it isn't really needed.

I think the RPN one can be left unlit without problems, it's always on so it gives no information at all. It looks like the RPN symbol goes off while it calculates something. Maybe it can be inverted: It's off when not busy, and briefly turns on when the calculator is busy.

The 360 one isn't needed either. There's already a RAD symbol for radians, and the 'g' for gradians. So it's not needed to display another annunciator for degrees. You know it's in degrees if RAD nor 'g' are shown.

The BEG one is annoying. It indicates that the program pointer is at 000, but why do I need to see a BEG symbol forever in the screen for that even when not running programs? And doesn't the XEQ button already start running things from the start of a label? If you write all your things with a label, is the info where the program pointer is useful at all?

2)

In addition to combination and permutation, add Stirling numbers of the second kind. (http://en.wikipedia.org/wiki/Stirling_numbers_of_the_second_kind)

3)

Add prime factorization. This doesn't have to return all prime factors: Instead it could return two numbers, the lowest (or highest) prime factor, and the input number divided through that prime factor. By repeated application you can get all prime factors this way.

4)

In the manual, add more tables. It's easier to look certain things up in tables than plain text:

-A tabular listing of the meaning of each annunciator

-A tabular listing of each keyboard key (including the f, g, h functions of course) with a short description of its function and PDF link to the page where it is explained in more detail.

-In the section about display and modes, also have a table of the modes and a short description of their meaning, in the same order as they appear in the mode menu. E.g. if the short description of 2COMPL would just say "2's complement", I would already immediately know what it does, and know that it does not mean "complex number notation somehow involving a 2".

5)

In the manual, under complex operations, say that you enter imaginary part, then ENTER, then real part. Currently, the manual says

"The key CPX is employed as a prefix for calling complex functions. E.g. CPX COS calls the complex cosine, and it is displayed and listed as CCOS"

It would be good if it said how to enter and read complex numbers somewhere at that point.

6)

If you enter 1..2, have "1/2" instead of "1 0/1". I don't think anyone ever needs to enter a fraction of '0/1', so it's a bit of a wasted shortcut now :). I already know that .1.2 gives 1/2.

7)

Why does it bother adding 0/1 or /1 behind integers when in fraction modes?

8)

Correct me if I'm wrong, but there doesn't seem to be a button to toggle between fractional and decimal point notation? If the screen is displaying 1/2, is there no button to show it as 0.5? Maybe I'm just missing it. But going to the 'mode' for this is an overly long procedure in any case. The quickest way I discovered is pressing './,' twice in a row, but it's weird that changing an international setting would be the interface to this, and the button to switch to fractional again is on the opposite side of the calculator (the ab/c at the top).

The HP35s has the FDISP button to toggle between fractional and decimal. Some Ti's have an 'F<>D' button for this.

Also:

If you enter a fraction, it goes to fraction display mode. If you enter a decimal value, it doesn't go back to decimal display mode. I think your choice of display mode should be independent of how you enter numbers... If you're in decimal display mode and enter 1/2, it could be displayed as 0.5, since you didn't ask it to switch to fraction mode. The opposite is already true now: if you enter 0.5 while in fraction mode, it displays it as 1/2 instead of as what you entered.

9)

Entering binary base mode seems easy. Going back to scientific numbers appears to be a lot harder though, going to the mode menu, choosing base there, and guessing that entering 0 there will make things normal again. Maybe if you press the '2' button while already in base 2, or the 8 button when already in 8, and so on, could toggle this off and go back to floating point numbers?

Or maybe it's already possible with some easy way, in that case I missed it, sorry.

10)

loggamma function.

11)

Examples in the manual could be nice!

12)

The following are huge feature requests and I guess they aren't there for a reason (limitations etc...): numerical differentiation, matrix and vector math (multiply, determinant, invert, cross product, ...), solvers like linear equations, quartic function, ...

As you can see, the suggestions are for things that are way less worse than the problems of the 35s, so this means I find the 34s really really good. Thanks for all the work put into this!

Edited: 28 Aug 2011, 6:12 a.m. after one or more responses were posted

Re: [WP34s] suggestions

*Message #2 Posted by **Cristian Arezzini** on 27 Aug 2011, 2:17 p.m.,*
in response to message #1 by Lode

For points 8) and 9): yo can go back to normal, floating point mode, pressing [f]RCL. The label "H .d" means "go back to normal mode"... I agree it's not intuitive but it works.

I agree with your other points, especially about the display, fraction mode, and manual! :)

Cristian

Re: [WP34s] suggestions

*Message #3 Posted by **Marcus von Cube, Germany** on 27 Aug 2011, 3:08 p.m.,*
in response to message #1 by Lode

The big applications (matrix and such) will appear as libraries written in user code. Gene has already started porting stuff from the PPC ROM. The libraries can be installed via the serial interface.

Re: [WP34s] suggestions

*Message #4 Posted by **Lode** on 27 Aug 2011, 3:16 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Is there enough user memory, and is it fast enough that way, for good such libraries?

Re: [WP34s] suggestions

*Message #5 Posted by **Marcus von Cube, Germany** on 27 Aug 2011, 4:00 p.m.,*
in response to message #4 by Lode

We have 8 program regions for libraries, each good for more then 500 steps. User programs are very compact in nature so you can expect quite some functionality from these libraries to come. Adding functions in native code is more demanding on flash space. So if the extended internal precision is not needed, user code is the better choice.

Re: [WP34s] suggestions

*Message #6 Posted by **Paul Dale** on 27 Aug 2011, 6:45 p.m.,*
in response to message #1 by Lode

> Quote:
>
> Here are some suggestions that I have that could improve it a bit for me:

Feel free to offer patches implementing some of these :-)

> Quote:
>
> In addition to combination and permutation, add Stirling numbers of the second kind. (http://en.wikipedia.org/wiki/Stirling_numbers_of_the_second_kind)

I did seriously investigate implementing these. Unfortunately, they are not worth the space it would consume to do so natively -- flash is too full. A user program to calculate them could be put into one of the user flash segments and run from there. I'd probably rework the formula to calculate log of the Stirling number and take the exponential at the end (and perhaps round to integer) to avoid overflow issues but apart from that it won't be difficult.

> Quote:
>
> Add prime factorization. This doesn't have to return all prime factors: Instead it could return two numbers, the lowest (or highest) prime factor, and the input number divided through that prime factor. By repeated application you can get all prime factors this way.

We have code to find the smallest prime factor of a number but it isn't complied in (about half a kilobyte of flash to include it). It is top of the list of new features to go in if flash space magically appears. A user mode program to do this would be possible of course. We do, however, have a next prime function which can be used to factorise numbers.

> Quote:
>
> loggamma function.

This is there. Look in the manual or the X.FCN catagloue (real, complex or program modes only). Supported for real and complex numbers. This is used very heavily internally so exposing it cost us a dozen or two bytes in total and it is quite useful in of itself.

Digamma is implemented but not included for space reasons (a bit over 1k bytes for this natively).

> Quote:
>
> The following are huge feature requests and I guess they aren't there for a reason (limitations etc...): numerical differentiation, matrix and vector math (multiply, determinant, invert, cross product, ...), solvers like linear equations, quartic function, ...

- Numerical differentiation is present already -- look up f' and f'' in the manual for a description.
- Vector maths is in a user code library 3D only.
- Matrix maths in user code is being worked on.

Finally, just about any HP-41 program will run almost unchanged on the 34S so missing pieces of functionality are often easy to find and port. Many of the above feature requests are already available from the Museum's library or other Internet sources.

- Pauli

Re: [WP34s] suggestions

*Message #7 Posted by **Walter B** on 27 Aug 2011, 6:59 p.m.,*
in response to message #1 by Lode

Thanks for your remarks. That's a long list. In addition to what Pauli and Marcus did tell you already, you'll get an answer from me as well, especially regarding the documentation points. But it's past midnight here, so I ask for your patience.

Good night!
Walter

More Suggestions

*Message #8 Posted by **Lode** on 28 Aug 2011, 11:43 a.m.,*
in response to message #1 by Lode

Got some more suggestions in the meantime :)

1)

In the MODE menu, show some selector symbol next to the currently active modes!

2)

I find E3 in E3ON and E3OFF a really strange name for thousand separator... Would SEPON and SEPOFF make sense? I would have been able to guess what it was with such names!

3)

Is 1e384 the highest possible number you can enter? A search for "largest", "biggest", "highest", "represent" and "up to" did not return anything related to this in the manual. And even the section about out of range error didn't say it!

4)

Someone reading the manual but not frequenting this forum, will never know what the special cable is, not even when opening the linked PDF by Tim Wessman (except the photos of it).

The Index of Operations in the manual is really handy by the way, thanks!

Edited: 28 Aug 2011, 2:11 p.m.

Re: More Suggestions

*Message #9 Posted by **Paul Dale** on 28 Aug 2011, 5:26 p.m.,*
in response to message #8 by Lode

> Quote:
>
> In the MODE menu, show some selector symbol next to the currently active modes!

This one won't be small to implement but would be possible. pretty much all the catalogue code is

common. There are extras to check for constants and conversions and display the bottom line appropriately. These apply to the entire catalogue. Doing this will require decoding and checking every entry in the MODE catalogue -- i.e. more code that I'd be willing to commit to.

> Quote:
>
> Is 1e384 the highest possible number you can enter? A search for "largest", "biggest", "highest", "represent" and "up to" did not return anything related to this in the manual. And even the section about out of range error didn't say it!

Yes. We use the decimal64 format for numbers and this is limited to that maximum exponent.

- Pauli

Re: More Suggestions

*Message #10 Posted by **Walter B** on 28 Aug 2011, 6:58 p.m.,*
in response to message #8 by Lode

> Quote:
>
> I find E3 in E3ON and E3OFF a really strange name for thousand separator... Would SEPON and SEPOFF make sense? I would have been able to guess what it was with such names!

No need for guessing - please look at the index whenever you find a command name you don't know at least.

Walter

Re: More Suggestions

*Message #11 Posted by **Lode** on 28 Aug 2011, 8:09 p.m.,*
in response to message #10 by Walter B

Ok, in the meantime I found indeed that the big table is the place to look for any unknown function. I'm better trained at both finding my way around the manual, and using the calculator, now.

So consider some of the suggestions to be things a new user may encounter :)

The reason I never read through the complete manual, is I never printed it out. I've used it more to look up things when I needed them. The first thing I wanted to do just after I flashed the calculator, was set the modes to my liking, so I ended up in the modes section of the manual without knowing the large table covered every single command!

Too bad that it won't do the fractions like HP-32SII :(Is it possible that in some locales, fractions are always written as a mixed number, even if the integer is 0, hence the input method favoring that way? I almost never enter a fraction in mixed mode, I expect the calculator to convert it to that for me :) Typing two dots in a row could be a shortcut for the fraction symbol... It's not *that* inconsistent imho...

Edited: 28 Aug 2011, 8:13 p.m.

Re: More Suggestions

*Message #12 Posted by **Walter B** on 29 Aug 2011, 1:22 a.m.,*
in response to message #11 by Lode

Why don't you simply key in .127.4 ENTER ? The WP 34S will do what you want :-)

BTW, if we'd copy the errors of our ancestors always, there will be no progress ever ;-)

Walter

Edited: 29 Aug 2011, 1:24 a.m.

Re: [WP34s] suggestions

*Message #13 Posted by **Walter B** on 28 Aug 2011, 6:45 p.m.,*
in response to message #1 by Lode

OK Lode, here we go:

> Quote:
>
> 1) Display less annunciators by default. ...
>
> I think the RPN one can be left unlit without problems, it's always on so it gives no information at all. It looks like the RPN symbol goes off while it calculates something. Maybe it can be inverted: It's off when not busy, and briefly turns on when the calculator is busy.

Good idea. We'll think about it. For running programs, we employed RCL flashing already.

> Quote:
>
> The 360 one isn't needed either. There's already a RAD symbol for radians, and the 'g' for gradians. So it's not needed to display another annunciator for degrees. You know it's in degrees if RAD nor 'g' are shown.

Here I disagree. It's present and we show it.

> Quote:
>
> The BEG one is annoying. ...

I understand your intention. Personally, I don't need BEG. We'll check.

Your suggestions 2 & 3 were answered already.

> Quote:
>
> 4) In the manual, add more tables. ...
>
> -A tabular listing of the meaning of each annunciator

... is found at the bottom of page 21, plus some text at the top of page 22.

> Quote:

> -A tabular listing of each keyboard key (including the f, g, h functions of course) with a short description of its function and PDF link to the page where it is explained in more detail.

Sounds like the index reverted. More work than I can afford spending in next weeks. And I will definitively not implement some 500 additional links, I still presume people know the alphabet. Please also remember I've got a regular job to do as well.

> Quote:
>
> -In the section about display and modes, also have a table of the modes and a short description of their meaning, in the same order as they appear in the mode menu. E.g. if the short description of 2COMPL would just say "2's complement", I would already immediately know what it does, and know that it does not mean "complex number notation somehow involving a 2".

Come on, you find the information in the index. That's what it's for.

> Quote:
>
> 5)In the manual, under complex operations, say that you enter imaginary part, then ENTER, then real part. Currently, the manual says "The key CPX is employed as a prefix for calling complex functions. E.g. CPX COS calls the complex cosine, and it is displayed and listed as CCOS" It would be good if it said how to enter and read complex numbers somewhere at that point.

It's explained there just a few lines below, and there's a link to the stack mechanics tables as well.

> Quote:
>
> 6) If you enter 1..2, have "1/2" instead of "1 0/1". I don't think anyone ever needs to enter a fraction of '0/1', so it's a bit of a wasted shortcut now :). I already know that .1.2 gives 1/2.

This example is mainly included since it highlights an improvement compared to the 35S. You'll understand it looking to the text next to it as well.

> Quote:
>
> 7) Why does it bother adding 0/1 or /1 behind integers when in fraction modes?

Else you can't see you're in that mode.

> Quote:
>
> 8) Correct me if I'm wrong, but there doesn't seem to be a button to toggle between fractional and decimal point notation?

Press [f] [.d] for decimals. Return to proper fractions via [f] [a b/c].

> Quote:
>
> If you enter a fraction, it goes to fraction display mode. If you enter a decimal value, it doesn't go back to decimal display mode. I think your choice of display mode should be independent of how you enter numbers... If you're in decimal display mode and enter 1/2, it could be displayed as 0.5,

> since you didn't ask it to switch to fraction mode. The opposite is already true now: if you enter 0.5 while in fraction mode, it displays it as 1/2 instead of as what you entered.

We took this special entry to fraction mode from the 32SII and it's successors. You're right, it's asymmetric. But such is life ;-) I don't want to change that.

> Quote:
>
> 9) Entering binary base mode seems easy. Going back to scientific numbers appears to be a lot harder though, going to the mode menu ...

Simply enter [f] [.d]. That's all :-)

Your suggestion 10 was answered already.

> Quote:
>
> 11) Examples in the manual could be nice!

There are a few. I agree on more would be better, but please look at answer 4 above. Feel free, however, to send me some examples if you've got nice ones, and I'll try to implement them in due course.

Your suggestion 12 was answered already.

HTH at least a bit.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Beer Brewing Computer

*Message #1 Posted by **Juergen Keller** on 27 Aug 2011, 12:19 p.m.*

Recently I got an HP-41CX which most probably was used in the beer brewing process. Sure one of the most serious and beneficial application you can ever think of ;-) It has an overlay (glued onto the keyboard) which is labelled 'Courage Lager Computer'. Courage is a beer brewing company in the UK (now owned by Heineken). Unfortunately, I have got no software (module or magnetic cards, I don't know) with it. Does anybody know anything about this custom HP-41 version? Any hints, thoughts, etc. highly appreciated!

Re: HP-41 Beer Brewing Computer

*Message #2 Posted by **Ángel Martin** on 28 Aug 2011, 2:27 a.m.,*
in response to message #1 by Juergen Keller

I saw the auction as well, passed on it since no module was included - but I certainly like the overlay. Unfortunately I have no information at all on source/purpose, there goes another undocumented jewel to the pile... thanks for sharing the pic.

Re: HP-41 Beer Brewing Computer

*Message #3 Posted by **BruceH** on 28 Aug 2011, 5:10 p.m.,*
in response to message #1 by Juergen Keller

There was a 42S version as well. I think both were produced by Zengrange.

(Edited to fix the image link)

Edited: 28 Aug 2011, 5:45 p.m.

Re: HP-41 Beer Brewing Computer

*Message #4 Posted by **Bill (Smithville, NJ)** on 28 Aug 2011, 6:10 p.m.,*
in response to message #3 by BruceH

Hi Bruce,

That a pretty neat overlay for the Hp-42S. I didn't realize that overlays were even made for the 42s.

Does anyone know of any other 42S overlays?

Also, do you have the 42s Code, or just the overlay? It'd be interesting to see what the programs look like.

Bill

Re: HP-41 Beer Brewing Computer

*Message #5 Posted by **Calum Tait** on 28 Aug 2011, 7:09 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

I have a feeling that these calculators would have come on to the market via a disposal sale as the Courage brewery closed last year. I would imagine any software would have been removed as this would contain details of ingredient ratios and timings which would be trade secrets. The overlays look pretty neat though and they are probably a decent investment if bought for the right price as breweriana collectors would probably be very interested.

Re: HP-41 Beer Brewing Computer

*Message #6 Posted by **Bill (Smithville, NJ)** on 29 Aug 2011, 7:26 a.m.,*
in response to message #5 by Calum Tait

> Quote:
>
> I would imagine any software would have been removed as this would contain details of ingredient ratios and timings which would be trade secrets.

You would think so. But.... If the calculator was being disposed of by an employee, then the code "might" still be there. We could only hope.

It is amazing how much stuff gets sold with data still intact. I have bought used cell phones from a supplier in Hong Kong where the phones came with all the phone numbers, phone call history, etc, still intact. No attempt was made to erase or reset the phones.

A few years ago, I picked up a tablet computer that still had the database code for a hospital system. And also picked up a tablet computer that had the programs for crash reporting for a police department. While the programs were there, neither had stored data on them. The actual data would have been transmitted to a central computer for storage.

So it would not surprise me if a calculator gets sold with the code still intact.

Bill

Edited: 29 Aug 2011, 10:26 a.m.

Re: HP-41 Beer Brewing Computer

*Message #7 Posted by **Lincoln R.** on 28 Aug 2011, 7:28 p.m.,*
in response to message #3 by BruceH

What kind of code could a 42S have had? I imagine they would have used a ROM module for the HP-41, but a 42S? I doubt they had HP program custom code into them, so I guess that leaves IR or some guy keying in a keystroke program.

Re: HP-41 Beer Brewing Computer

*Message #8 Posted by **Juergen Keller** on 31 Aug 2011, 3:21 p.m.,*
in response to message #7 by Lincoln R.

Probably, there was no 41C ROM module either. There were many application packages that only exist on magnetic cards. On the other hand, if this custom version was produced by Zengrange as BruceH supposed, I would assume they put the software into a ROM module.

[Return to Index | Top of Index]

Go back to the main exhibit hall

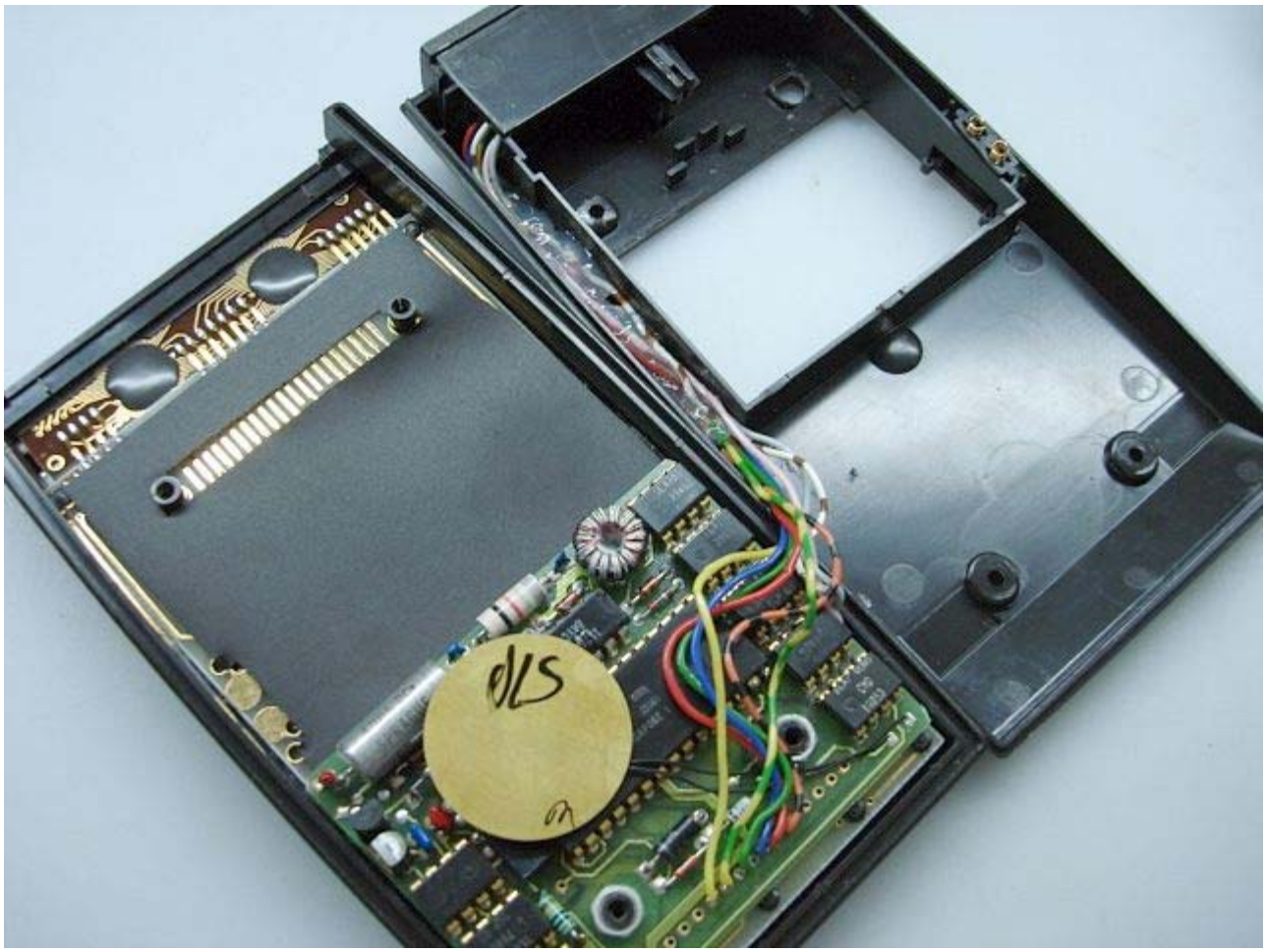
HP Forum Archive 20

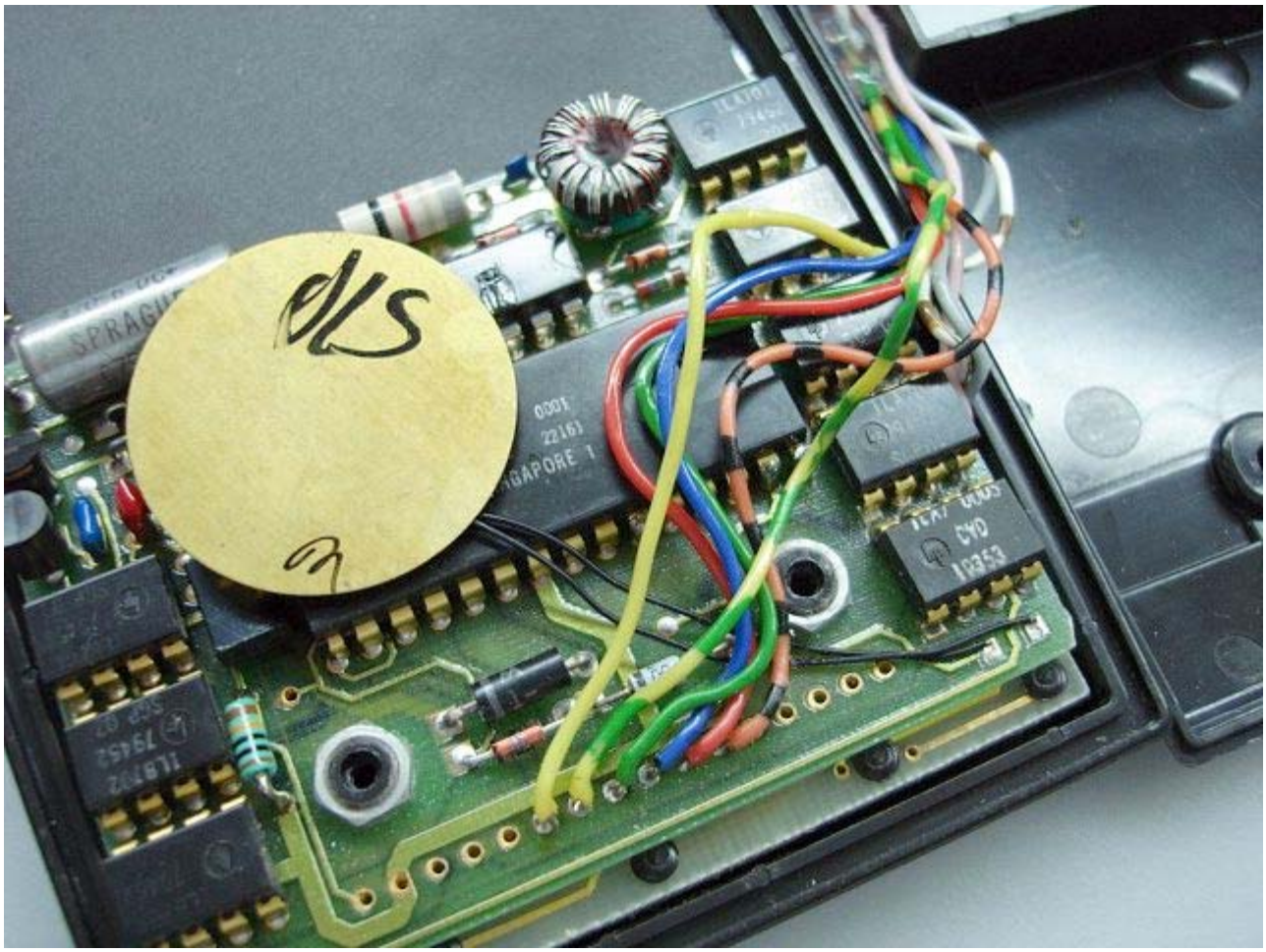
[Return to Index | Top of Index]

HP-41 Unknown Interface

*Message #1 Posted by **Juergen Keller** on 27 Aug 2011, 11:23 a.m.*

Somebody pointed me to this HP-41 with an unusual custom interface, see pictures. Has anybody seen such an interface before? Or does anybody even know what it is for? Any hints and suggestions welcome!


DLS



Re: HP-41 Unknown Interface

*Message #2 Posted by **Mark Hardman** on 27 Aug 2011, 12:58 p.m.,*
in response to message #1 by Juergen Keller

I looks like a cereal port used to dispense the barley for your lager unit. <Ducks>

Re: HP-41 Unknown Interface

*Message #3 Posted by **Walter B** on 27 Aug 2011, 1:13 p.m.,*
in response to message #2 by Mark Hardman

:-D Oh yes, such ports are really a big help for mankind. What a progress along the lines of consumer interest!

Re: HP-41 Unknown Interface

*Message #4 Posted by **Randy** on 27 Aug 2011, 4:52 p.m.,*
in response to message #1 by Juergen Keller

Based upon the position of the wires that I can see connected, the interface is a simple extension of the keyboard row and column matrix, allowing external switches to input data into the 41.

Re: HP-41 Unknown Interface

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Aug 2011, 4:57 p.m.,*
in response to message #1 by Juergen Keller

Just guessing, it may be a "paralell keyboard matrix" interface, in which external switches simulate keypresses. A 3x3 matrix, allowing (for instance) for digits 1 to 9 (but not 0) can be done with six wires, as shown.

If someone wanted to export the HP41 bus signals (clocks 1 and 2, Flag Input, Data, ISA) it would had make sense to pick them at one of the backplane ports

Again, this is just a quick guess.

Re: HP-41 Unknown Interface

*Message #6 Posted by **Howard Owen** on 27 Aug 2011, 5:28 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

There appear to be three more wires, terminating somewhere on the reverse side of the circuit board. It's nine pins, built inside what looks like an HP/IL female connector.

Re: HP-41 Unknown Interface

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Aug 2011, 6:58 p.m.,*
in response to message #6 by Howard Owen

With three more wires a 5x4 matrix is possible, allowing for numeric data, decimal point, R/S and some more...

Re: HP-41 Unknown Interface

*Message #8 Posted by **Ángel Martin** on 28 Aug 2011, 2:24 a.m.,*
in response to message #1 by Juergen Keller

Wow, that's elaborate hacking - wonder if it's part of a data input mechanism different from the original keyboard - maybe an industrial bar-code reader?. I have no recollection of such being published anywhere, but yet, the 41 series was such a versatile platform - and this proves it again.

Edited: 28 Aug 2011, 2:59 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Bought a 42s, need a case

*Message #1 Posted by **snaggs** on 26 Aug 2011, 8:37 p.m.*

Well I came across a mint (except for one mark on the side of the case) 42s for $200 and bought it!

I hope its all its cracked up to be. Only thing is, it doesnt have a case. Does anyone know where I can get one?

Daniel.

Re: Bought a 42s, need a case

*Message #2 Posted by **Paul Gaster** on 26 Aug 2011, 9:50 p.m.,*
in response to message #1 by snaggs

All of the Pioneer series calculators were the same size. If you were in the US I would say check TAS...that auction site..for a cheap 10B. Here they sell for under $20 shipped sometimes, and often they have a case with it. Sometimes here people try to sell the cases alone for almost that much, but it doesn't make any sense when you get the case and a calculator for the same price if you just look a little.

Thankyou all!

*Message #3 Posted by **snaggs** on 27 Aug 2011, 6:54 a.m.,*
in response to message #2 by Paul Gaster

Ill do that, are the leather ones a good fit? They looked a bit generic.

Re: Thankyou all!

*Message #4 Posted by **Martin Pinckney** on 27 Aug 2011, 8:17 a.m.,*
in response to message #3 by snaggs

All of the Pioneer cases that came with the calculators were simple heat-welded vinyl (early ones) or seam-stitched leatherette (later ones). HP sold genuine leather cases as an accessory. These can be identified by a flap that tucks in a strap near the open end.

Re: Thankyou all!

*Message #5 Posted by **Paul Dale** on 27 Aug 2011, 8:25 a.m.,*
in response to message #4 by Martin Pinckney

There is also a hard case for these calculators. Very protective and a bit cumbersome.

If you can get a leatherette case -- the ones without seams on the outside. Altogether a nicer case than the vinyl ones.

There are also 3rd party leather cases available. The one I've got looks great but isn't as protective as a genuine leatherette case.

- Pauli

Re: Thankyou all!

*Message #6 Posted by **Thomas Radtke** on 27 Aug 2011, 8:57 a.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> All of the Pioneer cases that came with the calculators were simple heat-welded vinyl (early ones) [...]

Some appear to shrink over the time. My 20S doesn't fit its case anymore w/o applying a significant amount of force. It's better with my (former - I gifted it) 10B and its vinyl case. Anyway, the fabric ones are much better and certainly appropriate for a 42S.

Edited: 27 Aug 2011, 8:58 a.m.

Re: Bought a 42s, need a case

*Message #7 Posted by **Raymond Del Tondo** on 26 Aug 2011, 9:50 p.m.,*
in response to message #1 by snaggs

Buy a 10B, 14B, 17BII or alike, and use the case of that unit;-)

HTH

Ray

Re: Bought a 42s, need a case

*Message #8 Posted by **Lincoln R.** on 27 Aug 2011, 1:35 a.m.,*
in response to message #1 by snaggs

Agreed with the other two, look for a 10B on TAS. I got one in near perfect condition with a case for $10 or 15 (it's been a couple years) because I needed a case for my 32S. 10Bs aren't terribly valuable, but I did manage to trade mine for an HP-35 battery pack.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Times have changed

*Message #1 Posted by **Nick R** on 26 Aug 2011, 6:33 p.m.*

I returned my HP35S this morning with mixed feelings. I was glad to see the last of it and its shortcomings but on the other hand I was sorry it turned out to be so disappointing. When I returned it the person at the store didn't have the slightest interest as to why it was coming back. The last time I took back a calculator was in 1985 when my HP41CX had an intermittent fault in the PRGM / ALPHA switch and the reaction was much different. The store wanted to know exactly what the problem was and no doubt passed the information up the line. That was when you could actually try out a calculator before you bought it as they weren't sealed in plastic sarcophagi.
I'll be watching with interest to see if another model is released by HP and will probably be unable to resist the urge to try it out to see if should keep it or throw it back.

Nick

Re: Times have changed

*Message #2 Posted by **Gerson W. Barbosa** on 26 Aug 2011, 6:51 p.m.,*
in response to message #1 by Nick R

David Packard, when the ln bug on the HP-35 was discovered: *"We're going to tell everyone and offer them a replacement. It would be better to never make a dime of profit than to have a product out there with a problem"*. (from http://www.hpmuseum.org/hp35.htm). What would he his reaction on these bugs?

Re: Times have changed

*Message #3 Posted by **Paul Dale** on 26 Aug 2011, 6:59 p.m.,*
in response to message #2 by Gerson W. Barbosa

The product simply wouldn't have made it to market in such a state.

- Pauli

Re: Times have changed

*Message #4 Posted by **Thomas Radtke** on 27 Aug 2011, 2:47 a.m.,*
in response to message #1 by Nick R

The 35s was close to what many forum members wanted. I was just one of several people excited about its appearance in 2007 and was convinced for years, that either an update will follow, or the 35s gets dumped. It still sells, and that's the wrong signal :-(.

[Edit]

I'll put it up on TAS this weekend.

Edited: 27 Aug 2011, 2:48 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41/71b Formatted Media

*Message #1 Posted by **Gerry Schultz** on 26 Aug 2011, 3:30 p.m.*

I have the HP 82161A tape drive and an HP 9114B floppy drive. Now I know that a standard 41 can fully format a tape but only partially format a floppy. A 71b can fully format both a tape and a floppy, so if I format a floppy using the 71b, can I store HP 41 files on it and am I restricted to the first 141K or can I use the full 720K disk?

I read in the "HP-IL Files: Where, What, Why, How, etc." article on this website: "The Swap Tape program evolved into a "Swap Disk" program, where the same thing would happen using disks for media instead of tape. A single disk would contain programs for the HP-41, HP-75, and HP-71."

How did that work? (I hope there's no partitioning involved!:))

Gerry

Edited: 26 Aug 2011, 3:31 p.m.

Re: HP41/71b Formatted Media

*Message #2 Posted by **gene wright** on 26 Aug 2011, 3:33 p.m.,*
in response to message #1 by Gerry Schultz

I believe the limitation is in the HP IL commands in the 41 module.

To access space beyond the 128K, you need the EXT IL rom by SKWID. It allows full access to the disk after it is formatted with his new NEWM command.

That is a very rare module, but the image is included in the wonderful HP 41CL (woohoo).

Another good reason to get one.

Re: HP41/71b Formatted Media

*Message #3 Posted by **Gerry Schultz** on 26 Aug 2011, 3:39 p.m.,*
in response to message #2 by gene wright

I'm on the waiting list and I just bought a full-nut 41C to be the recipient of the new donor board. I am waiting!

(deleted post)

*Message #4 Posted by **deleted** on 26 Aug 2011, 3:41 p.m.,*
in response to message #2 by gene wright

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Email me through the forum contact

*Message #5 Posted by **gene wright** on 26 Aug 2011, 4:11 p.m.,*
in response to message #4 by deleted

thanks

Re: HP41/71b Formatted Media

*Message #6 Posted by **Gerson W. Barbosa** on 26 Aug 2011, 4:00 p.m.,*
in response to message #2 by gene wright

From USING YOUR DISC DRIVE - Supplement to manual P/N dated August 1, 1984, page 12:

"**Series 40/9114 Utility**

The Series 40 calculators can access 130 kbytes of the HP-9114A's

630 kbytes. The following utility, when entered into a Series 40,

allows you to access the full 630 kbytes. The utility requires that

the 82183A Extended I/O Module be installed in your calculator.

Additionally, this utility is available from the User's Library (#41-

09114) on 3 1/2-inch media".

Re: HP41/71b Formatted Media

*Message #7 Posted by **Raymond Del Tondo** on 26 Aug 2011, 5:04 p.m.,*
in response to message #6 by Gerson W. Barbosa

Yes, you can use lower level functions from the X I/O . However the X IL (or the X IL+) is much more user-oriented.
The X IL (+) offer enhanced versions of the most commonly used functions for storing/recalling mass media content, and much more.

Re: HP41/71b Formatted Media

*Message #8 Posted by **Howard Owen** on 26 Aug 2011, 7:39 p.m.,*
in response to message #1 by Gerry Schultz

Many LIF types can freely coexist on a LIF formatted disk. Whether the host OS can make sense of them depends on whether the specific types are supported. But regardless, modulo the size limitations, each machine ought to be able to pick out its native file formats from the menagerie.

Here's some Perl code I wrote that lists the numeric LIF types together with names derived from Tony's.

```
# $Id: LIFtypes.ph,v 1.1.1.1 2011/04/11 19:37:34 hbo Exp $
# Based on Tony Duell's lif_dir_utils.c
our $LIFtypesByNum = {
                  1          => "TEXT",
                  0xE0D1 + 0 => "STEXT",
                  0xE0D0 + 0 => "SDATA",
                  0xE0F0 + 0 => "DATA71",
                  0xE0F1 + 0 => "SDATA71",
                  0xE204 + 0 => "BIN71",
                  0xE205 + 0 => "SBIN71",
```

```
 0xE206 + 0 => "PBIN71",
 0xE207 + 0 => "SPBIN71",
 0xE208 + 0 => "LEX71",
 0xE209 + 0 => "SLEX71",
 0xE20C + 0 => "KEY71",
 0xE20D + 0 => "SKEY71",
 0xE214 + 0 => "BASIC71",
 0xE215 + 0 => "SBASIC71",
 0xE216 + 0 => "PBASIC71",
 0xE217 + 0 => "SPBASIC71",
 0xE218 + 0 => "FORTH71",
 0xE219 + 0 => "SFORTH71",
 0xE21A + 0 => "PFORTH71",
 0xE21B + 0 => "SPFORTH71",
 0xE040 + 0 => "WALL41",
 0xE050 + 0 => "KEY41",
 0xE060 + 0 => "STAT41",
 0xE070 + 0 => "ROM41",
 0xE080 + 0 => "PROG41",
 0xE052 + 0 => "TEXT75",
 0xE053 + 0 => "APPT75",
 0xE089 + 0 => "LEX75",
 0xE08A + 0 => "VCALC75",
 0xE0FE + 0 => "BASIC75?",
 0xE088 + 0 => "BASIC75",
 0xE08B + 0 => "ROM75",
};
```

These are types I'm aware of from just the 75C, 71B and 41C machines. The HP-85 can share LIF images up to a point. So can the Hp9000/200 and 300 machines. (I forget the details, but those machines have some incompatible extensions to LIF, but can read the older disks.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

In class today

*Message #1 Posted by **Tommy** on 26 Aug 2011, 1:01 p.m.*

Student: There is something wrong with my calculator my father gave me! He said it is one of the best calculators ever made. But it doesn't work!

Teacher: What's the problem?

Student: Well... It has this big ENTER... I do not understand...

Teacher: Is it this one? (holding up a 15C)

Student: Naa. He has that one and he uses it every day! It is... wait... a... 42S

Teacher: :-)

Re: In class today

*Message #2 Posted by **Walter B** on 26 Aug 2011, 7:23 p.m.,*
in response to message #1 by Tommy

Such stories become rarer and rarer :-/

Re: In class today

*Message #3 Posted by **C.Ret** on 27 Aug 2011, 2:54 a.m.,*
in response to message #2 by Walter B

Are such stories becoming rarer and rarer because now more students, school girls or boys know how to use an RPN or RPL calculator ?

Or it is rarer and rarer because less and less fathers are still using a calculator ?

Or any other reason ?

Re: In class today

*Message #4 Posted by **Lincoln R.** on 27 Aug 2011, 12:42 p.m.,*
in response to message #3 by C.Ret

I'm 22 and my HP 32s (which is actually older than I am by a few months) is always in my bag.

Re: In class today

*Message #5 Posted by **Walter B** on 27 Aug 2011, 1:16 p.m.,*
in response to message #3 by C.Ret

> Quote:
>
> Are such stories becoming rarer and rarer because now more students ... know how to use an RPN or RPL calculator ?

Now??

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S : [->] command question

*Message #1 Posted by **Miguel Toro** on 26 Aug 2011, 12:50 p.m.*

Hi,

I apologize if this has been answered already, but I do not quite understand how [->] works in order to convert temporarily an integer from a base to another. Here are some examples :

In base 2, 11000b : [->][blue 8] = 30o [->][blue 16] = 18h , and I do not need to use [h] to do so. So, What is the combination to get the base 10 conversion?

Now if I switch to base 16, how do I convert to other bases? [->] alone gives the "Eh" value, of course, but trying to use a combination like [f][->] to try to make it work, gets me an error message : "Bad mode error".

What am I doing wrong?

Thanks,

Miguel

Edited: 26 Aug 2011, 1:00 p.m.

Re: WP 34S : [->] command question

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 2:06 p.m.,*
in response to message #1 by Miguel Toro

Miguel, the sequence for temporary display in another base is ->, followed by the shift key, followed by the base. As you have already found out, the f shift key is optional.

Re: WP 34S : [->] command question

*Message #3 Posted by **Miguel Toro** on 26 Aug 2011, 2:41 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks a lot Marcus,

Now I get it.

Regards,

Miguel

Re: WP 34S : [->] command question * Update *

*Message #4 Posted by **Miguel Toro** on 26 Aug 2011, 3:03 p.m.,*
in response to message #2 by Marcus von Cube, Germany

That does not seem to work in hexadecimal mode, based on what the manual says (page 8):

To use [->] in hexadecimal mode, I have to press [f] first then [->]but if I do that:

[f][->] gives a "bad mode error"

What could be the problem there?

Thanks,

Miguel

Re: WP 34S : [->] command question * Update *

*Message #5 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 3:05 p.m.,*
in response to message #4 by Miguel Toro

This looks like a bug which needs to be fixed by us.

Edit: Found (and fixed) the bug but I need to build and commit it.

Edit again: The issue should be fixed now. In integer mode f, g and -> may be pressed in any order. In a base that takes E as a digit, f must precede ->. A second press of f after -> is not necessary.

Edited: 26 Aug 2011, 3:30 p.m.

Re: WP 34S : [->] command question * Update *

*Message #6 Posted by **Walter B** on 26 Aug 2011, 7:22 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Slightly deviates from the manual, pages 57f: after ->, g may be omitted. Defined this way for quite a long time. Sorry.

Walter

Re: WP 34S : [->] command question * Update *

*Message #7 Posted by **Marcus von Cube, Germany** on 27 Aug 2011, 1:50 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> pages 57f: after ->, g may be omitted

I assume it's still this way and I simply mixed it up in my comments here. Can you check with the latest emulator? I didn't change anything *after* the arrow, just the arrow detection itself which was definitely broken.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Victor V12 (HP-12c KIRF) on sale today $8.77

*Message #1 Posted by **Bruce Bergman** on 26 Aug 2011, 12:49 p.m.*

For those of you interested in picking up one of the Victor HP-12c clones, it's on sale today for $8.77 at justdeals.com. Tax in California, shipping is $5 each unit, but if you use coupon code DEALNEWS1 you can get it $5 off. Or you can add them as a friend on Facebook and get free shipping.

Note that this is one of those "timed deals", so it will expire at about midnight Eastern timezone.

$8.77 is pretty good for this calculator; previously I've only seen them at about $20 on sale. I have no relation to justdeals.com or Victor - just an RPN calculator collector! ;-)

Thanks,

Bruce

Re: Victor V12 (HP-12c KIRF) on sale today $8.77

*Message #2 Posted by **hpnut** on 26 Aug 2011, 1:44 p.m.,*
in response to message #1 by Bruce Bergman

Dang! i missed this one. Must have been the cheapest programmable RPN and financial calc.

hpnut in Malaysia

Re: Victor V12 (HP-12c KIRF) on sale today $8.77

*Message #3 Posted by **Maximilian Hohmann** on 26 Aug 2011, 2:27 p.m.,*
in response to message #2 by hpnut

> Quote:
>
> Must have been the cheapest programmable RPN and financial calc.

No. The cheapest is the Hp-12C that I got from eBay for one Euro. Haven't even bothered to switch it on, don't care for financial calculators and LC displays. But no collection is complete without one...

Re: Victor V12 (HP-12c KIRF) on sale today $8.77

*Message #4 Posted by **Bruce Bergman** on 26 Aug 2011, 7:57 p.m.,*
in response to message #2 by hpnut

Eh? No, it's still going on. About four hours left as of this message. It's here:

http://www.justdeals.com/

So...probably ending about 9pm PST.

Re: Victor V12 (HP-12c KIRF) on sale today $8.77

*Message #5 Posted by **Howard Owen** on 26 Aug 2011, 11:37 p.m.,*
in response to message #1 by Bruce Bergman

Got one!

It wouldn't let me apply the coupon code, complaining that I hadn't reached a minimum amount.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: New Release in the Works

*Message #1 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 11:03 a.m.*

We are about to update the release files on SF again. There are still some documentation changes pending. I've prepared a chapter about interactive programming that is available as a separate document in SVN in the doc folder: interactive.html.

Have fun with the new release!

Edited: 26 Aug 2011, 11:15 a.m.

Re: WP 34S: New Release in the Works

*Message #2 Posted by **fhub** on 26 Aug 2011, 11:28 a.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> SVN 1523: "disable the A argument to STOS/RCLS"

Why this?

Re: WP 34S: New Release in the Works

*Message #3 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 11:35 a.m.,*
in response to message #2 by fhub

STOS A is a compile time selectable feature.

Calm down!

It's selected in the current build.

Edited: 26 Aug 2011, 11:35 a.m.

Re: WP 34S: New Release in the Works

*Message #4 Posted by **fhub** on 26 Aug 2011, 11:43 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> STOS A is a compile time selectable feature.
>
> Calm down!
>
> It's selected in the current build.

Calm down? I didn't upset myself, I just asked!

And of course I know that this 'downgrade' hasn't yet been compiled, but my question is still unanswered:
why remove it?

Edited: 26 Aug 2011, 11:44 a.m.

Re: WP 34S: New Release in the Works

*Message #5 Posted by **Walter B** on 26 Aug 2011, 7:31 p.m.,*
in response to message #4 by fhub

Franz,

The development team had a long discussion about this. Result: we decided to allow saving the stack to a block of 4 or 8 general purpose registers and recalling it from such a block. First register of said block may be 00 ... 92 for SSIZE8 and 00 ... 96 for SSIZE4, respectively. ROMA LOCVTA CAVSA FINITA, or in German: "Des iss jetzt g'schwätzt."

Walter

Re: WP 34S: New Release in the Works

*Message #6 Posted by **Dieter** on 26 Aug 2011, 1:02 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Ah, let's see...

> Quote:
>
> VIEW immediatly displays the register when encountered during execution of a program. When followed by PSE or STOP, the display persists. Only the next PSE or STOP will revert to the normal X display

This means that - unless VIEW is directly followed by STOP - there is no way to VIEW a certain value and then quit the program a few steps later with this value still in the display (while there may be something different in X). Which is something I always liked on the '41.

> Quote:
>
> There is no way to get the "Running Program" message back once it has been replaced by a programmed display

What about a simple CLD command like the one in the 41/42? There also is another benefit: If VIEW was changed so that it behaved in the proposed way, using CLD or not would leave it to the user whether to keep the display as it is or return to the standard X-display.

Dieter

Re: WP 34S: New Release in the Works

*Message #7 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 1:54 p.m.,*

in response to message #6 by Dieter

> Quote:
>
> > Quote:
> >
> > VIEW immediatly displays the register when encountered during execution of a program. When followed by PSE or STOP, the display persists. Only the next PSE or STOP will revert to the normal X display
> >
> This means that - unless VIEW is directly followed by STOP - there is no way to VIEW a certain value and then quit the program a few steps later with this value still in the display (while there may be something different in X). Which is something I always liked on the '41.

You got me! :) The word "directly" is to harsh, as you have correctly pointed out. VIEW followed some other commands followed by STOP will behave the way you want: The VIEW display is retained until a key is pressed. I meant that the sequence VIEW, PSE, STOP with or without some other statements in between will return to the X display when STOP is executed. The same is true for VIEW, PSE, PSE.

You will not need CLD to display X again, just do another PSE or VIEW X.

Re: WP 34S: New Release in the Works

*Message #8 Posted by **Dieter** on 26 Aug 2011, 3:56 p.m.,*
in response to message #7 by Marcus von Cube, Germany

To make things clear let's consider an example:

```
#Pi
VIEW X   ; display 3,14159265359
9
9
9
9        ; sufficiently large number for the emulator,
9        ; omit a few nines on a real 20b or 30b
9
DSZ X
BACK 01  ; keep the 34s busy for a moment..
RTN      ; and quit
```

This should display Pi, run a second or two while still displaying Pi, and finally stop. According to what you said: with Pi still in the display. But it doesn't. As the program finishes the display switches to zero, i.e. the value in X after the DSZ loop.

Try the same on a HP-41...

```
01 Pi
02 VIEW X
03 99
04 LBL 01
05 DSE X
06 GTO 01
07 RTN
```

...and it behaves as expected: it displays Pi, runs for a few seconds and then stops with Pi still in the display. Insert a CLD before the RTN and is quits with a zero, just as the 34s emulator does now.

Is it still an old version I use or didn't I get you right?

Dieter

Edited: 26 Aug 2011, 3:58 p.m.

Re: WP 34S: New Release in the Works

*Message #9 Posted by **Marcus von Cube, Germany** on 26 Aug 2011, 4:43 p.m.,*
in response to message #8 by Dieter

Nice catch!

It works the same as the 41C if you don't change the register contents between the VIEW and the STOP. The technical reason is that stopping the program causes a display refresh. In order to display the last VIEWed register again, the firmware stores the index of the register in memory. So when the program stops, a VIEW with the same register is carried out. Your program has changed the contents of this register before the stop. So it's not the same display but only the same register that is displayed.

We will most probably correct the documentation, not the behavior.

Re: WP 34S: New Release in the Works

*Message #10 Posted by **Dieter** on 28 Aug 2011, 12:07 p.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> We will most probably correct the documentation, not the behavior.

Three weeks ago we had this discussion regarding the good old '65 accepting digits > 7 in octal numbers. Technically, this should be qualified as a bug, but since it was documented in the manual... ;-)

Honestly, I did not expect this in a sophisticated project like the 34s. After your explanation I now understand why using VIEW gives the results it does, but I also think this should get fixed. In the code, not in the documentation.

Dieter

Re: WP 34S: New Release in the Works

*Message #11 Posted by **Marcus von Cube, Germany** on 28 Aug 2011, 12:11 p.m.,*
in response to message #10 by Dieter

Dieter, we can only fix it if it does not need more RAM because the non volatile is simply full. I have an idea but don't hold your breath.

Re: WP 34S: Display bug should be fixed

*Message #12 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 1:32 p.m.,*
in response to message #8 by Dieter

Hello Dieter,

the display bug should be fixed in SVN. Can you try your examples again?

Marcus

Re: WP 34S: Display bug should be fixed

*Message #13 Posted by **Dieter** on 29 Aug 2011, 3:25 p.m.,*
in response to message #12 by Marcus von Cube, Germany

The previous example now behaves as expected. Pi appears in the display, the program runs one or two seconds, and finally it stops with Pi still in the display. Works with aView as well. Fine.

There is just one thing: usually (well, on the HP-41, that is... ;-)) a VIEW or AVIEW message in the display can be cleared with the backspace key, so that X shows up again. Simply the same way an error message can be cleared. This is different here. Pressing the backspace key clears X, thus showing a plain zero. Like any other key in this situation, backspace does the same thing it usually does - it clears X. On the '41, pressing backspace while a message is displayed simply clears the message and shows X again. I think the 34s should also behave this way. And finally... a CLD command sounds useful now. 8-)

Dieter

Re: WP 34S: Display bug should be fixed

*Message #14 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 3:37 p.m.,*
in response to message #13 by Dieter

The BS behavior is one thing I don't like either. As usual, not easy to implement without breaking things.

CLD is not necessary, a PSE with any delay (even 0) does nicely. The first call to PSE should preserve the display but the next refresh (either by another PSE or by a program stop) will restore the standard view.

Re: WP 34S: Display bug should be fixed

*Message #15 Posted by **Paul Dale** on 29 Aug 2011, 5:29 p.m.,*
in response to message #13 by Dieter

Pressing backspace has always cleared X even after a VIEW or AVIEW (in alpha mode it back spaces).

As Marcus pointed out changing this without breaking other things will be more invasive than it appears. By the time the backspace key is detected and processed, the knowledge that a message or status is being displayed is gone. Status messages are set all over the place in the code.

I'm sure the behaviour could be changed, it isn't quite so simple as:

```
if (message) then
    redraw
else
    process backspace
```

An alternative is to press a prefix key and this is documented in the manual I believe.

Then again, we could just say the 41 got it wrong introducing an unnecessary mode :-D

- Pauli

Re: WP 34S: Display bug should be fixed

*Message #16 Posted by **Walter B** on 29 Aug 2011, 6:36 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> An alternative is to press a prefix key and this is documented in the manual I believe.

Last sentence of the chapter "Messages", page 81 of 90 :-)

Walter

Re: WP 34S: Display bug should be fixed

*Message #17 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 2:38 a.m.,*
in response to message #16 by Walter B

It nevertheless bugs me. I've ideas how to detect a temporary display. It needs another bit of RAM which I will hopefully find. :-)

As some may have already noticed, the RPN annunciator now presents more information then before. It was, until now, only used to visually indicate that a key is being processed by going off for a short while after a key press. This has been extended slightly: RPN is only displayed when the LCD shows the actual value of X in the current mode. Temporary displays kill the annunciator. I cannot read out this annunciator directly (for technical reasons) but I can keep a shadow bit with the same information in non volatile memory somewhere. This may then be used to detect a temporary display and dismiss it on <-.

Edit: I've made an attempt to implement this. Would you please try it out?

Edited: 30 Aug 2011, 4:19 a.m.

Re: WP 34S: Display bug should be fixed

*Message #18 Posted by **Dieter** on 30 Aug 2011, 1:52 p.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> It nevertheless bugs me.

Which is perfectly understandable. ;-)

> Quote:
>
> I've ideas how to detect a temporary display. It needs another bit of RAM which I will hopefully find. :-)

Hmmm... maybe it's roughly similar to the way the HP-41 did it: it had a dedicated message flag (50). ;-) This flag can even be tested in a user program to

check whether a message is displayed or the goose is flying.

> Quote:
>
> I cannot read out this annunciator directly (for technical reasons) but I can keep a shadow bit with the same information in non volatile memory somewhere. This may then be used to detect a temporary display and dismiss it on <-.

Hmmm.... 8-)

Dieter

Re: WP 34S: New Release in the Works

*Message #19 Posted by **Namir** on 26 Aug 2011, 3:03 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Marcus,

You guys are the modern-day RPN calculator heroes. Just like we will celebrate in HHC2011 30 years since the PPC ROM came out, we hope to celebrate in decades to come the WP34S.

Namir

Calculator "Epochs"

*Message #20 Posted by **Jake Schwartz** on 29 Aug 2011, 4:05 p.m.,*
in response to message #19 by Namir

It is funny....in the past, Richard Nelson has attempted to mark "calculator time" by naming "epochs" based on generations of calculator capabilities. This would approximately be (if I remember correctly) the HP65/67 as epoch 1, the HP41/71 as epoch 2 and the HP48/49/50 being epoch 3. But thinking about what has been happening over the past year or so (or perhaps longer), maybe the same time period could be partitioned a slightly different way - with epoch 1 being when people primarily wrote programs; epoch 2 being when they wrote "modules" (for the HP41 or 71) or "libraries" (for the RPL machines) and epoch 3 being when they wrote entirely new calculators (such as the 34S)!

Jake

Re: WP 34S: New Release in the Works

*Message #21 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 10:59 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I've updated the ZIP file with the latest changes. There might still be things to correct so be patient if anything is broken. OTH, any reports about bugs are very welcome. (Not the bugs, the reports!)

Re: WP 34S: New Release in the Works

*Message #22 Posted by **Dieter** on 30 Aug 2011, 2:51 p.m.,*
in response to message #21 by Marcus von Cube, Germany

I tried the new "backspace cancels message" feature. Works fine, even for cancelling the SHOW display.

I encountered a problem with the right mouse button as a shortcut for the h-key. I cleared the display and right-clicked on the decimal point. As expected, it changed from comma to point and vice versa. However, after a few times the "f" announciator (!) came on and the 34s started to behave strange. The comma/point switch showed no reaction, and suddenly "Rg X" showed up in the upper left corner of the display. I had not noticed this display before, it seems to list the contents of the registers (up/down keys show the stack, the lettered registers, then R00, R01, R02... etc.). I'm sure this is not a secret feature and documented somewhere. #-)

Once the emulator even showed the f-key with inverted colors, just as if the key was pressed permanently. There was not way to return to normal operation except a restart. No, right-click f did not help.

First I was not sure if some of this was exactly the way the new secondary mouse button features you described are supposed to work. But at least I can reproduce the error with the right-click on the key with the decimal point. After a few consecutive clicks the "f" announciator comes on, and things start getting a bit weird. ;-)

Dieter

Re: WP 34S: New Release in the Works

*Message #23 Posted by **Marcus von Cube, Germany** on 30 Aug 2011, 3:48 p.m.,*
in response to message #22 by Dieter

> Quote:
>
> First I was not sure if some of this was exactly the way the new secondary mouse button features you described are supposed to work.

I must admit that the whole button and keyboard business is a bit convoluted and my additions have added to it. I'm pretty sure I'll do a complete rewrite of the emulator some day. But not before HHC.

The register browser is started with f EXIT. So you must have somehow managed to get a permanent f down situation. The way, a pressed key is displayed by inversion of the button area isn't reliable enough. HP has done some tricks to make it work correctly but there have always been situation where a key was left in the inverted state.

Normally you can just exit the emulator (Alt+F4) and restart it without losing any work. I must admit that this is not optimal but the emulator has always been a testbed for the real firmware so I has only second priority. Nonetheless I'll have another look at it when I find the time.

BTW, to press a shift key, the PC keyboard can be used, too. The Keys F, G and H are mapped to the three shifts.

[Return to Index | Top of Index]

Go back to the main exhibit hall

question for lyuka and the Ostrowski method - bumped!

*Message #1 Posted by **hugh steers** on 25 Aug 2011, 7:54 p.m.*

Hello Lyuka, Namir and any interested parties.

Sorry for the delay (been painting). I manually bumped this thread as the original is way down the list.

Lyuka, thanks for the much improved Ostrowski method code. I have been trying it out.

Firstly, it gets good results in almost all cases, beating many other methods. Also, you have fixed the case for the water equation.

i'll just cover this again for detail,

```
here is the water vapor pressure from temperature:
Value Vwat(Value t)
{
    Value x;
    t = t + 273.15;
    x = 0;
    if (t > 0) {
        x = -6096.9385 / t + 16.635794 - 0.02711193 * t + 0.00001673952 * t * t + 2.433502 *
log(t);
        x = exp(x);
    }
    return x;
}
```

which you were solving. i mention this again just to add some background and also to point out the way it is normally solved.

The inverse is called Twat :-) and proceeds usually with a baked in method of newton using both sides:

```
Value Twat(Value e)
{
    Value td = 0.0001;
    Value ta = 1e-7;
    Value T = 100;
    int c = 0;
    if (e >= 0) for (;;) {
        Value dt = 2 * td * (Vwat(T) - e) / (Vwat(T + td) - Vwat(T - td));
        T -= dt;
        ++c;
        if (fabs(dt) < ta) break;
    }


    printf("twat count = %d\n", c);
    return T;
}
```

which gives good results for this special case.

now to give some results of your latest code against others in my test:

```
37 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with brentRoot = -106.310044
100 iterations
```

```
solve vwat=1e-5 in [-273.150000, 100.000000] with secantRoot = -1.#IND00
8 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with ridderRoot = -106.310044
ost iterations = 19
solve vwat=1e-5 in [-273.150000, 100.000000] with ostRoot = -106.310045


root not bracketed
solve exp(6x-x^4-1)=1 in [0.000000, 2.000000] with brentRoot = 0.000000
100 iterations
solve exp(6x-x^4-1)=1 in [0.000000, 2.000000] with secantRoot = -1.#IND00
4 iterations
solve exp(6x-x^4-1)=1 in [0.000000, 2.000000] with ridderRoot = 1.757772
ost iterations = 9
solve exp(6x-x^4-1)=1 in [0.000000, 2.000000] with ostRoot = 1.757772


root not bracketed
solve sin(x)-x=1 in [0.000000, 6.000000] with brentRoot = 0.000000
6 iterations
solve sin(x)-x=1 in [0.000000, 6.000000] with secantRoot = -1.934563
9 iterations
solve sin(x)-x=1 in [0.000000, 6.000000] with ridderRoot = -1.934563
ost iterations = 9
solve sin(x)-x=1 in [0.000000, 6.000000] with ostRoot = -1.934563


1 iterations
solve (x-1)^2=1 in [-2.000000, 2.000000] with brentRoot = 2.000000
0 iterations
solve (x-1)^2=1 in [-2.000000, 2.000000] with secantRoot = 2.000000
0 iterations
solve (x-1)^2=1 in [-2.000000, 2.000000] with ridderRoot = -1.#QNAN0
solve (x-1)^2=1 in [-2.000000, 2.000000] with ostRoot = 2.000000


root not bracketed
solve tan(x)-1/x=0 in [1.000000, 4.000000] with brentRoot = 1.000000
13 iterations
solve tan(x)-1/x=0 in [1.000000, 4.000000] with secantRoot = -3.425618
5 iterations
solve tan(x)-1/x=0 in [1.000000, 4.000000] with ridderRoot = 3.425618
ost iterations = 6
solve tan(x)-1/x=0 in [1.000000, 4.000000] with ostRoot = 3.425618


29 iterations
solve (x-1)^5=0 in [0.000000, 1.500000] with brentRoot = 1.000000
100 iterations
solve (x-1)^5=0 in [0.000000, 1.500000] with secantRoot = 1.000000
23 iterations
solve (x-1)^5=0 in [0.000000, 1.500000] with ridderRoot = 1.000000
ost iterations = 8
solve (x-1)^5=0 in [0.000000, 1.500000] with ostRoot = 1.020561


29 iterations
solve x^2-10000x+1=0 in [-1.000000, 1.000000] with brentRoot = 0.000100
3 iterations
solve x^2-10000x+1=0 in [-1.000000, 1.000000] with secantRoot = 0.000100
2 iterations
solve x^2-10000x+1=0 in [-1.000000, 1.000000] with ridderRoot = 0.000100
ost iterations = 2
solve x^2-10000x+1=0 in [-1.000000, 1.000000] with ostRoot = 0.000100
```

you can see the improved Ostrowski method gets good results, but often with a few more iterations than ridders. ridders is fooled by my (x-1)^2-1 quadratic when i gave bad bounds.

bounds are generally a problem with black box solvers since how is one to know good bounds to start?

anyhow, Ostrowski struggles with a very flat curve at (x-1)^5. the other methods get 1.00000 but Ostrowski stops at 1.020561, which is not so good.

i havent tried Namir's 4th order Ostrowski method. would that be better at this?

thanks for the input, -- hugh.

Re: question for lyuka and the Ostrowski method - bumped!

*Message #2 Posted by **Namir** on 25 Aug 2011, 8:43 p.m.,*
in response to message #1 by hugh steers

I got somewhat different results for (x-1)^5. When the initial guess is 1.5, tolerance for the root is 1e-7, and tolerance for the function value is 1e-15, I get:

```
1. Newton 5635 iterations and 11271 function calls to get root =  1.00190837280905.
2. Halley 4763 iterations and 14290 function calls to get root = 1.00176867211809.
3. Simple Ostrowski 18 iterations and 22 function calls to get root = 0.999148573.
4. Ostrowski 4th Order (Grau  and  Diaz-Barrero) 71 iterations and 76 function calls to
get root = 1.00048060997239.
5. Ostrowski (Luyka) 28 iterations and 31 function calls to get root = 1.00096671.
```

I modified Luyka's implementation to take one initial guess and calculate the second and third one based on that one initial guess--this way it is on par with the other methods.

All the above methods are close to the solution of 1 by about 0.0001. The equation (x-1)^5 seems to pose a problem for methods that use first and second derivatives.

Namir

Edited: 25 Aug 2011, 8:44 p.m.

Re: question for lyuka and the Ostrowski method - bumped!

*Message #3 Posted by **Lyuka** on 28 Aug 2011, 12:52 a.m.,*
in response to message #2 by Namir

Hi,

I modified the code (Rev.3.01) to cope with the very flat region near the multiple root.

When the solver encountered to that region, it will temporary change the strategy to use extrapolation.

The behavior of the program for (x-1)^5 == 0 is as follows. (epsilon = 1e-50)

> Quote:

```
main: (x - 1)^5 == 0
ost:c=0.75, f=-9.765625000000e-04, i=0, p=0, xp=0
ost:c=0.761904761905, f=-7.651622719419e-04, i=1, p=0, xp=0
ost:c=0.803189200351, f=-2.952872052788e-04, i=2, p=0, xp=0
ost:c=0.850693877302, f=-7.419729755354e-05, i=3, p=0, xp=0
ost:c=0.878293985111, f=-2.670300955364e-05, i=4, p=0, xp=0
ost:c=0.902610176346, f=-8.761286801440e-06, i=5, p=0, xp=0
ost:c=0.92234070912, f=-2.824666003999e-06, i=6, p=0, xp=0
ost:c=0.937768603186, f=-9.333569060579e-07, i=7, p=0, xp=0
ost:c=0.950216234015, f=-3.058008812555e-07, i=8, p=0, xp=0
ost:c=0.960176299828, f=-1.001631669682e-07, i=9, p=0, xp=0
ost:c=0.968133427318, f=-3.286069794729e-08, i=10, p=0, xp=0
ost:c=0.974504259003, f=-1.077303803554e-08, i=11, p=0, xp=0
ost:c=0.979601206998, f=-3.532013499117e-09, i=12, p=0, xp=0
ost:c=0.983678883914, f=-1.158108552378e-09, i=13, p=0, xp=0
ost:c=0.986941586119, f=-3.797100974770e-10, i=14, p=0, xp=0
ost:c=0.989552033388, f=-1.244969983086e-10, i=15, p=0, xp=0
ost:c=0.999942690022, f=-6.182316366438e-22, i=16, p=0, xp=3
ost:c=0.999942690022, f=-6.182316273200e-22, i=17, p=0, xp=2
ost:c=0.999954164675, f=-2.023026512788e-22, i=18, p=0, xp=1
ost:c=0.99996505284, f=-5.212660555528e-23, i=19, p=0, xp=0
ost:c=0.999971418708, f=-1.907257352170e-23, i=20, p=0, xp=0
ost:c=0.999977183259, f=-6.183980300985e-24, i=21, p=0, xp=0
```

```
    ost:c=0.999981796202, f=-1.998987508836e-24, i=22, p=0, xp=0
    ost:c=0.999985410203, f=-6.610681203429e-25, i=23, p=0, xp=0
    ost:c=1.00000024196, f=8.292946741195e-34, i=24, p=0, xp=3
    ost:c=1.00000024196, f=8.292935820281e-34, i=25, p=0, xp=2
    ost:c=1.00000019372, f=2.728495698200e-34, i=26, p=0, xp=1
    ost:c=1.0000001476, f=7.005533461945e-35, i=27, p=0, xp=0
    ost:c=1.00000012073, f=2.564963532939e-35, i=28, p=0, xp=0
    ost:c=1.00000009639, f=8.318656491505e-36, i=29, p=0, xp=0
    ost:c=1.00000007689, f=2.688370094878e-36, i=30, p=0, xp=0
    ost:c=1.00000006163, f=8.891095035563e-37, i=31, p=0, xp=0
    ost:c=0.999999998879, f=-1.771758485393e-45, i=32, p=0, xp=3
    ost:c=0.999999998879, f=-1.771754099344e-45, i=33, p=0, xp=2
    ost:c=0.999999999102, f=-5.831575405038e-46, i=34, p=0, xp=1
    ost:c=0.999999999301, f=-1.674142801941e-46, i=35, p=0, xp=0
    ost:c=0.999999999434, f=-5.832025164875e-47, i=36, p=0, xp=0
    ost:c=0.999999999547, f=-1.901053635115e-47, i=37, p=0, xp=0
    ost:c=0.999999999638, f=-6.183968655566e-48, i=38, p=0, xp=0
    ost:c=0.999999999995, f=-3.345012594248e-57, i=39, p=0, xp=3
    ost:c=0.999999999995, f=-3.345012594248e-57, i=40, p=0, xp=2
    ost:c=0.999999999238, f=-2.560955415462e-46, i=41, p=1, xp=2
    ost:c=0.999999999661, f=-4.464993380546e-48, i=42, p=1, xp=1
    ost:c=0.999999999679, f=-3.407016434088e-48, i=43, p=1, xp=0
    ost:c=0.999999999747, f=-1.038342380366e-48, i=44, p=1, xp=0
    ost:c=0.999999999803, f=-2.969976269079e-49, i=45, p=1, xp=0
    ost:c=0.99999999984, f=-1.049595464097e-49, i=46, p=1, xp=0
    ost:c=0.999999999872, f=-3.400293066647e-50, i=47, p=1, xp=0
    ost:c=0.999999999898, f=-1.106478409920e-50, i=48, p=1, xp=0
    ost:c=0.999999999918, f=-3.648288759905e-51, i=49, p=1, xp=0
```

Regards,
Lyuka

/* Rev.3.01 : typo in the source code corrected. */

Edited: 29 Aug 2011, 4:14 p.m.

Re: question for lyuka and the Ostrowski method - bumped!

*Message #4 Posted by **Lyuka** on 25 Aug 2011, 10:01 p.m.,*
in response to message #1 by hugh steers

Hi hugh steers, Namir and all who interested.

I've modified the code (Rev.2.94) to struggle to escape from the flat region or extremes, this morning.

Now, it can solve the water saturation pressure equation started at the very flat region e.g. [-273.15, -273.0].

Please try the latest code (Rev.2.94).

Quote:

```
/*s(x) : Water saturation pressures (Sonntag)*/
double
s(x)
    double          x;
{
    double          t;
    double          p = 1e-5;


    t = x + 273.15;
    if (t < 0) return -p;
    return exp(((16.635794 + 2.433502 * log(t) + 0.00001673952 * t * t) -
0.02711193 * t)
               - 6096.9385 / t)  - p;
}
```

```
main: s(t) is 'P_water_sat_Sonntag'
ost:a=-273.15, b=-273.1, c=-273.125, f=-1.000000000000e-05, i=0, p=0
ost:a=-273.15, b=-273.225, c=-273.206078387, f=-1.000000000000e-05, i=1, p=1
ost:a=-273.15, b=-273.0375, c=-273.064372309, f=-1.000000000000e-05, i=2, p=2
ost:a=-273.15, b=-273.31875, c=-273.295157305, f=-1.000000000000e-05, i=3, p=3
ost:a=-273.15, b=-272.896875, c=-273.090425146, f=-1.000000000000e-05, i=4, p=4
ost:a=-273.15, b=-273.5296875, c=-273.285100373, f=-1.000000000000e-05, i=5, p=5
ost:a=-273.15, b=-272.58046875, c=-272.731564881, f=-1.000000000000e-05, i=6, p=6
ost:a=-273.15, b=-274.004296875, c=-273.411032864, f=-1.000000000000e-05, i=7,
p=7
ost:a=-273.15, b=-271.868554688, c=-272.448762741, f=-1.000000000000e-05, i=8,
p=8
ost:a=-273.15, b=-275.072167969, c=-274.073068154, f=-1.000000000000e-05, i=9,
p=9
ost:a=-273.15, b=-270.266748047, c=-271.383252597, f=-1.000000000000e-05, i=10,
p=10
ost:a=-273.15, b=-277.47487793, c=-274.800747146, f=-1.000000000000e-05, i=11,
p=11
ost:a=-273.15, b=-266.662683105, c=-269.830272597, f=-1.000000000000e-05, i=12,
p=12
ost:a=-273.15, b=-282.880975342, c=-281.866044434, f=-1.000000000000e-05, i=13,
p=13
ost:a=-273.15, b=-258.553536987, c=-260.536164572, f=-1.000000000000e-05, i=14,
p=14
ost:a=-273.15, b=-295.044694519, c=-286.697293227, f=-1.000000000000e-05, i=15,
p=15
ost:a=-273.15, b=-240.307958221, c=-250.48456364, f=-1.000000000000e-05, i=16,
p=16
ost:a=-273.15, b=-322.413062668, c=-282.332745028, f=-1.000000000000e-05, i=17,
p=17
ost:a=-273.15, b=-199.255405998, c=-229.286334046, f=-1.000000000000e-05, i=18,
p=18
ost:a=-273.15, b=-383.991891003, c=-281.658556097, f=-1.000000000000e-05, i=19,
p=19
ost:a=-273.15, b=-106.887163496, c=-227.42340973, f=-1.000000000000e-05, i=20,
p=20
ost:a=-273.15, b=-106.887163496, c=-242.794125415, f=-1.000000000000e-05, i=21,
p=21
ost:a=-273.15, b=-106.887163496, c=-145.766953091, f=-9.999848970363e-06, i=22,
p=22
ost:a=-106.887163496, b=-145.766953091, c=-106.88706331, f=-1.155857857677e-06,
i=23, p=22
ost:a=-145.766953091, b=-106.88706331, c=-106.338424292, f=-6.002266450796e-08,
i=24, p=22
ost:a=-106.88706331, b=-106.338424292, c=-106.311453476, f=-2.988926674806e-09,
i=25, p=22
ost:a=-106.338424292, b=-106.311453476, c=-106.310044116, f=-1.842629348946e-13,
i=26, p=22
ost:a=-106.311453476, b=-106.310044116, c=-106.310044029, f=1.496866036476e-20,
i=27, p=22
main:  -273.15,   -273.1, s(-106.310044029) = 1.49686603648e-20, r=1
```

And also, it can find a root of (x-1)^5 in 27 iterations.

Quote:

```
/* f6(x) = (x-1)^5 */


ost:a=0, b=1.5, c=0.75, f=-9.765625000000e-04, i=0, p=0
ost:a=1.5, b=0.75, c=0.761904761905, f=-7.651622719419e-04, i=1, p=0
ost:a=0.75, b=0.761904761905, c=0.803189200351, f=-2.952872052788e-04, i=2, p=0
ost:a=0.761904761905, b=0.803189200351, c=0.850693877302, f=-7.419729755354e-05,
i=3, p=0
ost:a=0.803189200351, b=0.850693877302, c=0.878293985111, f=-2.670300955364e-05,
i=4, p=0
ost:a=0.850693877302, b=0.878293985111, c=0.902610176346, f=-8.761286801440e-06,
i=5, p=0
ost:a=0.878293985111, b=0.902610176346, c=0.92234070912, f=-2.824666003999e-06,
i=6, p=0
ost:a=0.902610176346, b=0.92234070912, c=0.937768603186, f=-9.333569060579e-07,
i=7, p=0
ost:a=0.92234070912, b=0.937768603186, c=0.950216234015, f=-3.058008812555e-07,
i=8, p=0
ost:a=0.937768603186, b=0.950216234015, c=0.960176299828, f=-1.001631669682e-07,
i=9, p=0
ost:a=0.950216234015, b=0.960176299828, c=0.968133427318, f=-3.286069794729e-08,
```

```
i=10, p=0
ost:a=0.960176299828, b=0.968133427318, c=0.974504259003, f=-1.077303803554e-08,
i=11, p=0
ost:a=0.968133427318, b=0.974504259003, c=0.979601206998, f=-3.532013499117e-09,
i=12, p=0
ost:a=0.974504259003, b=0.979601206998, c=0.983678883914, f=-1.158108552378e-09,
i=13, p=0
ost:a=0.979601206998, b=0.983678883914, c=0.986941586119, f=-3.797100974770e-10,
i=14, p=0
ost:a=0.983678883914, b=0.986941586119, c=0.989552033388, f=-1.244969983086e-10,
i=15, p=0
ost:a=0.986941586119, b=0.989552033388, c=0.991640629072, f=-4.081952835848e-11,
i=16, p=0
ost:a=0.989552033388, b=0.991640629072, c=0.993311710543, f=-1.338367252555e-11,
i=17, p=0
ost:a=0.991640629072, b=0.993311710543, c=0.994648733138, f=-4.388165984146e-12,
i=18, p=0
ost:a=0.993311710543, b=0.994648733138, c=0.995718477996, f=-1.438768435661e-12,
i=19, p=0
ost:a=0.994648733138, b=0.995718477996, c=0.996574375736, f=-4.717355769657e-13,
i=20, p=0
ost:a=0.995718477996, b=0.996574375736, c=0.99725917517, f=-1.546701119566e-13,
i=21, p=0
ost:a=0.996574375736, b=0.99725917517, c=0.997807079768, f=-5.071240091293e-14,
i=22, p=0
ost:a=0.99725917517, b=0.997807079768, c=0.998245455502, f=-1.662730778483e-14,
i=23, p=0
ost:a=0.997807079768, b=0.998245455502, c=0.998596197729, f=-5.451671807322e-15,
i=24, p=0
ost:a=0.998245455502, b=0.998596197729, c=0.99887682483, f=-1.787464685796e-15,
i=25, p=0
ost:a=0.998596197729, b=0.99887682483, c=0.999101353168, f=-5.860642591876e-16,
i=26, p=0
ost:a=0.99887682483, b=0.999101353168, c=0.999280997168, f=-1.921555815013e-16,
i=27, p=0
main:f6:        0,      1.5, s(0.999280997168) = -1.92155581501e-16, r=1
```

Regards,

Lyuka

Edited: 25 Aug 2011, 11:59 p.m.

Re: question for lyuka and the Ostrowski method - bumped!

*Message #5 Posted by **Namir** on 26 Aug 2011, 9:27 a.m.,*
in response to message #4 by Lyuka

I changed your implementation so that it uses the following pseudo-code to use one guess, A, and then generate the other two guesses, B and C:

```
Given the guess A for root:


  Shift = 0.1 ' or any other value near 0.1
  ' obtain guess B from the value of A
  If A > 0 Then
    B = (1 + Shift) * A
  ElseIf A < 0 Then
    B = A + Shift * Abs(A)
  Else
    B = Shift
  End If
  FA = Fx(A) ' evaluate function at A
  FB = Fx(B) ' evaluate function at B
  C = (A + B) / 2 ' calculate C as mid-value between A and B
  FC = Fx(C) ' evaluate function at C
```

The above modification seems to work well for all the cases and initial guesses I used.

Namir

Edited: 26 Aug 2011, 10:38 a.m.

Re: question for lyuka and the Ostrowski method - bumped!

*Message #6 Posted by **C.Ret** on 26 Aug 2011, 11:49 a.m.,*
in response to message #5 by Namir

Hi,

May I suggest a small modification to your last implementation which appears to me quite clever since it is using the *Shift* parameter to automatically create the second "user guess";It is a good idea. I we may discuss the relation between this *shift* amplitude and the system accuracy *eps* used as zero approximation. It may be an implicit relation between these two parameters and the resulting number of iterations.

But, you can go one step forward, your *shift* parameter may be used for the computation of the third point as well.

For clarity, let $H = Shift / 2$. Now we have the three initial values x_A, x_C and x_B equidistant :
x_A = user input.
$x_C = x_A + H$
$x_B = x_C + H = x_A + 2.H$

Please account for my following modification of your small modification from the original implementation:
The algorithm may now be :

```
INPUT “System accuracy (zero approximation)”; eps
INPUT “User guess (first root approximation)”; XA
INPUT “Initial step (or initial scale in % )”; shift


LET H = shift * ( ABS(XA) + 1 – SIGN(ABS(XA)) ) / 2
‘                where SIGN(x)returns -1, 0 or +1 respectively for x negative, null
or positive.
‘                where ABS returns absolute value of its argument x.


LET XC =  XA + 1*H
LET XB =  XA + 2*H


LET  FA = FN Fx(XA) ' evaluate function at A
LET  FB = FN Fx(XB) ' evaluate function at B
LET  FC = FN Fx(XC) ' evaluate function at C
...
```

Note, that in the code *H* may be negative, depending on how you are considering intervals in negative parts. The following computation of *H* also works, but negative user's guess have to be greater (on the right) than expected negative root, when positive guess have to be less (on the left) than expected positive root.

```
LET H = shift * ( XA + 1 – SIGN(ABS(XA)) ) / 2
```

Re: question for lyuka and the Ostrowski method - bumped!

*Message #7 Posted by **Namir** on 26 Aug 2011, 2:44 p.m.,*
in response to message #6 by C.Ret

Your suggestion should work too.

Question about the last equation? Should be SIGN of X sub-A, without the ABS function?

Namir

Re: question for lyuka and the Ostrowski method - bumped!

*Message #8 Posted by **Namir** on 27 Aug 2011, 11:47 a.m.,*
in response to message #1 by hugh steers

I just wanted to comment about the methods that enhance Ostrowski's method (itself a refinement to Newton's method). These methods calculate 2, 3, and even 4 intermediate refinements in each step. You can think of these algorithms as having additional sub-steps. That is why counting function calls seems more relevant than counting iterations (of course it's good to know both counts). It seems that these methods are vulnerable to equations with non-smooth curves (such as (x-1)^5).

Namir

Edited: 27 Aug 2011, 11:48 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Cable

*Message #1 Posted by **robertoataulfo** on 25 Aug 2011, 3:18 p.m.*

```
I have an HP-30B.
I need the cable to upgrade it in a WP 34S.
Can someone help me please?
```

Re: WP 34S Cable

*Message #2 Posted by **Walter B** on 25 Aug 2011, 3:21 p.m.,*
in response to message #1 by robertoataulfo

Ask Gene via museum mail :-)

Re: WP 34S Cable

*Message #3 Posted by **robertoataulfo** on 25 Aug 2011, 3:24 p.m.,*
in response to message #2 by Walter B

ok thank's

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Apple to Focus on Printers*

*Message #1 Posted by **Howard Owen** on 25 Aug 2011, 2:38 p.m.*

News Story

* Be sure to check out The Onion. Those guys deserve a Pulitzer for coverage like this.

Re: Apple to Focus on Printers*

*Message #2 Posted by **Thomas Radtke** on 25 Aug 2011, 2:52 p.m.,*
in response to message #1 by Howard Owen

"[...] perhaps a printer that makes photocopies. Anything’s possible. It’s called innovation"

That's a joke, right?

Re: Apple to Focus on Printers*

*Message #3 Posted by **Lode** on 25 Aug 2011, 3:48 p.m.,*
in response to message #2 by Thomas Radtke

No, the onion is a very serious news site, they'd never make jokes.

Re: Apple to Focus on Printers*

*Message #4 Posted by **Gerson W. Barbosa** on 25 Aug 2011, 3:07 p.m.,*
in response to message #1 by Howard Owen

Thinking ahead or sinking ahead?

Re: Apple to Focus on Printers*

*Message #5 Posted by **Thomas Radtke** on 25 Aug 2011, 3:18 p.m.,*
in response to message #4 by Gerson W. Barbosa

Coming up: The invention of the punch card - with apple-shaped holes!

Re: Apple to Focus on Printers*

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 25 Aug 2011, 6:39 p.m.,*
in response to message #1 by Howard Owen

Once upon a time, the LaserWriter was an interesting innovation by Apple, and the PostScript language it used works with ... Reverse Polish Notation!!!

I love them

*Message #7 Posted by **Frank Boehm (Germany)** on 26 Aug 2011, 7:22 a.m.,*
in response to message #1 by Howard Owen

My wife recived this
Present for Christmas. It was such an amazing laughter, especially my mother-in-law needed a couple of minutes to realize it was all fake.

Of course, we still have this umbrella box (it's sold out now):)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] DIY overlay laminated
*Message #1 Posted by **Alexander Oestert** on 25 Aug 2011, 12:18 p.m.*

Hi all,

I just wanted to share my DIY way to a very usable overlay:

I printed the overlay png that comes with the WP34s package on a color laser printer at a width of 68mm. I cut it out and laminated it, then folded it in the appropriate places and just scotch taped it together on its rear. The laminated overlay is flexible enough to get accurate key response. The overlay is easily applicable and removed again. The only problem is the [ON] key which is a bit flatter than the rest and needs some special care to press.

The work took me about 15 minutes, 10 minutes taken by the heating of the laminating machine. ;-)

Edited: 25 Aug 2011, 12:21 p.m.

Re: [WP34s] DIY overlay laminated
*Message #2 Posted by **Walter B** on 25 Aug 2011, 1:12 p.m.,*
in response to message #1 by Alexander Oestert

Very nice indeed. Follows the well known 80/20 rule: 80% of a job are done taking 20% of the time (the remaining 20% take 80% :-)

So if you want to proceed one step, take a very sharp knife and cut your overlay along the left, top, and right edge of each key. Each key will then be covered by a little flap. Doing this for the ON key only will will improve the action there. Doing it for all keys will allow for an overlay being easily fixed on the keyplate using three tiny strips of double-sided tape (at the top, bottom, and between ENTER and STO).

Walter

Re: [WP34s] DIY overlay laminated
*Message #3 Posted by **Alexander Oestert** on 25 Aug 2011, 4:53 p.m.,*
in response to message #2 by Walter B

I set my hopes on Eric Rechlin's overlays instead! Only if that should fail I'm going to cut my way through!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Thanks for a simple, easy to use forum
*Message #1 Posted by **Bill (Smithville, NJ)** on 25 Aug 2011, 11:13 a.m.*

Okay, I know I have previously made comments on why the HPMuseum forum should change to one with categories, etc.

But.....

I have come to realize the beauty of the current forum. I participate in many web based forums. Most are ad supported and have flashing ads all over the page. Every sentence has underlined words that if you mouse over will either pop up more ads or links or useless definitions. I have to watch the page to make sure my mouse pointer in in a "no-pop-up zone". Each page takes forever to load. I could go on and on. If it wasn't for the good information that is buried on these sites, I wouldn't even think of particpating.

So, thanks to Dave for giving us a clean, easy to use, web site and forum. It may not have all the bells and whistles, but it has what it needs to do the job.

Bill

Edited: 25 Aug 2011, 1:01 p.m.

Re: Thanks for a simple, easy to use forum
*Message #2 Posted by **Massimo Gnerucci (Italy)** on 25 Aug 2011, 3:06 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

You're right!
A forum is a forum is a forum...

Massimo

Re: Thanks for a simple, easy to use forum
*Message #3 Posted by **Etienne Victoria** on 25 Aug 2011, 4:11 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Agreed...

In the greatest and most useful forums, you don't have ads scattered everywhere, categories of limited value and unwanted restrictions to post.

One good example is this one :-) :

Re: Thanks for a simple, easy to use forum
*Message #4 Posted by **Massimo Gnerucci (Italy)** on 25 Aug 2011, 4:31 p.m.,*
in response to message #3 by Etienne Victoria

:-)
Mmmmmm, I think I know this one!

Re: Thanks for a simple, easy to use forum
*Message #5 Posted by **Geoff Quickfall** on 25 Aug 2011, 9:57 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

fantastic walk, some wine, cheese and bread and sit down by the columns.

I recommend it if you can do it, especially in september!

You guys in Italy are lucky

d;-?)

Re: Thanks for a simple, easy to use forum
*Message #6 Posted by **Walter B** on 26 Aug 2011, 12:59 a.m.,*
in response to message #5 by Geoff Quickfall

Sit down by the columns and think about the politics they made there some 2000 years ago, what changed and what didn't ...

You pilots are lucky, too. Very nice place! d:-)

Re: Thanks for a simple, easy to use forum
*Message #7 Posted by **Geoff Quickfall** on 26 Aug 2011, 1:53 a.m.,*
in response to message #6 by Walter B

Walter,

spot on considering both statements!

Cheers, Geoff

Re: Thanks for a simple, easy to use forum
*Message #8 Posted by **Massimo Gnerucci (Italy)** on 26 Aug 2011, 10:46 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> Sit down by the columns and think about the politics they made there some 2000 years ago, what changed and what didn't ...

If we only had now some of those politicians... given their descendants! ;)

Re: Thanks for a simple, easy to use forum
*Message #9 Posted by **Steve Fennell** on 25 Aug 2011, 3:30 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Categories would be a nice upgrade, as would a functional search feature. But mostly I stop by to read the intelligent conversation that is lacking in many other places. I'm glad there's a place to read about HP calculators.

Re: Thanks for a simple, easy to use forum
*Message #10 Posted by **Massimo Gnerucci (Italy)** on 25 Aug 2011, 3:46 p.m.,*
in response to message #9 by Steve Fennell

> Quote:
>
> Categories would be a nice upgrade, as would a functional search feature

Agreed, but not at the cost of going with another software.

Re: Thanks for a simple, easy to use forum
*Message #11 Posted by **Egan Ford** on 25 Aug 2011, 4:23 p.m.,*
in response to message #9 by Steve Fennell

I would prefer tags over categories. The problem with categories is that all messages are members of a single category. Whereas with tags a single message can span multiple categories.

With tags you can filter. E.g. I want to read all messages not tagged with 34s AND development.

Just my $0.02US.

Re: Thanks for a simple, easy to use forum
*Message #12 Posted by **Garth Wilson** on 25 Aug 2011, 6:45 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

> Quote:
>
> Most are ad supported and have flashing ads all over the page.

Use AdBlock.

Re: Thanks for a simple, easy to use forum
*Message #13 Posted by **Paul Guertin** on 27 Aug 2011, 5:56 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

This is a small forum and I rather enjoy the simple interface. But please allow an old fart to vent his spleen about web forums in general.

Coming from Usenet, I was amazed at the lack of features and general unusability of web forums, compared to a decent late-1980s vintage NNTP newsreader. I imagined it would soon be corrected, but that was more than 15 years ago, and there have been few improvements.

No threading, no scoring, no regexp-powered searching or killfiles, no way to automatically read all new articles just by pushing the space bar. Plus, every forum lives on its own web page with its own password and its own idiosyncrasies, and of course you cannot type one command that will fetch all new articles from all forums that you frequent and cache them locally, so you can read them without having to wait for the network.

Web forums in general are awful to use, and that's why I only read a handful these days, compared to the dozens of newsgroups I used to follow in the 1990s. Thanks to scoring and killfiles, it was easy to find what interested me, and since I never had to wait for a web page to load in order to read the next message or thread, I could skim a newsgroup as fast as I could read.

But now you can type :-) and get a yellow smiling face. I guess that counts for something.

Re: Thanks for a simple, easy to use forum
*Message #14 Posted by **Bill (Smithville, NJ)** on 28 Aug 2011, 11:07 a.m.,*
in response to message #13 by Paul Guertin

Hi Paul,

I was a CompuServe member back in the dial up days. I used an offline reader, TAPCIS, that would let you log on, grab all the threads/forums you were interested in, then logoff. You then could review the threads at your leasure, reply to them, even mark files for download, and then the program could log back on and upload your comments, update the threads, download the files, etc. Not exactly real time, but boy was it efficient.

I remember when I lost interest in CompuServe - they went to WEB based that was just awful. Of course I was still on dial up, so that didn't help my experience.

I really like the TAPCIS program and the way it worked. Sometimes simple and elegant works best.

Bill

Re: Thanks for a simple, easy to use forum
*Message #15 Posted by **Paul Guertin** on 28 Aug 2011, 3:25 p.m.,*
in response to message #14 by Bill (Smithville, NJ)

I was on GEnie (CompuServe's competitor) and there was a similar program called Aladdin. With a $7/hour fee and a 1200 bps modem, it was pretty much the only way to go.

Re: Thanks for a simple, easy to use forum
*Message #16 Posted by **Egan Ford** on 29 Aug 2011, 1:45 p.m.,*
in response to message #13 by Paul Guertin

I came from Usenet as well--since the early '90s. All of the capabilities that you list, and one that you didn't (offline/local reading/posting), was a feature of the newsreader.

Web forums are the evolution of the BBS. Neither are client/server, both require that you are online with a terminal or browser. And they all vary with pros/cons, but you are correct, none come close to eclipsing Usenet/Newsreaders in capabilities.

Usenet is still active. But not to the extent of the past. However, the quality is good since it is old-timers that remain. I still read each day: comp.sys.apple2, comp.sys.hp48, comp.sys.cpm, and alt.folklore.computers.

Newsreaders are available for all platforms. I use NewsTap on my iPhone/iPad.

Re: Thanks for a simple, easy to use forum
*Message #17 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 2:35 p.m.,*
in response to message #16 by Egan Ford

Recently my provider Deutsche Telekom has shut down its NNTP server. Do you know a free server to connect to?

Re: Thanks for a simple, easy to use forum
*Message #18 Posted by **Egan Ford** on 29 Aug 2011, 3:14 p.m.,*
in response to message #17 by Marcus von Cube, Germany

If you do not mind using a Web interface, then there is groups.google.com. Since Google has every Usenet post, I use this for searches. The Web UI is not that bad. See for yourself: http://groups.google.com/group/comp.sys.hp48/topics. Tip: Click "Options" in the upper-left area to switch to threaded view.

If you need a free (text-only) NNTP server for your own client, then use news.eternal-september.org. Visit http://eternal-september.org for details.

If you want binaries via NNTP, then you'll probably have to pay. I hear that giganews is good for that.

P.S. I forgot to plug my ISP. For $10/month you can get a shell (Linux) account with xmission.com. Then you'll have access to their NNTP server, have about 5-10GB of storage, your own website, e.g. http://xmission.com/~egan, etc... It's owned/run by a friend of mine. We both got on "the net" and Usenet via UUCP in the good-ol-days. I do not think Pete will ever give up on NNTP.

P.P.S. I think xmission.com NNTP is text only. I do not do binaries, so I never checked.

Edited: 29 Aug 2011, 3:25 p.m.

Re: Thanks for a simple, easy to use forum
*Message #19 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 3:32 p.m.,*
in response to message #18 by Egan Ford

Thanks for the list. I already have my own website but the eternal-september.org link seams worthwhile to look at.

Re: Thanks for a simple, easy to use forum
*Message #20 Posted by **Dieter** on 29 Aug 2011, 3:40 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Yes, T-online no longer supports usenet. But that's no problem, there are even better options. IMHO the by far best one is the newsserver at Freie Universität Berlin.

Please take a look at www.individual.de - their service is simply great and has an excellent reputation in Germany. Simply click on "Überblick" and see what they offer. They provide a fast and complete newsfeed in excellent quality, messages come in virtually in real time. The whole thing will cost you not more than 10 Euros per year, giving access to their nntp server with the newsreader of your choice. Yes, it's not "free like in 'free beer'" but 83 Cents per month comes quite close. ;-)

Dieter

Re: Thanks for a simple, easy to use forum
*Message #21 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 4:34 p.m.,*
in response to message #20 by Dieter

Time to get back to the UseNet.

Thanks for the pointers.

[Return to Index | Top of Index]

Thanks for a simple, easy to use forum

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The HP35S

*Message #1 Posted by **Nick R** on 25 Aug 2011, 12:35 a.m.*

I recently bought an HP35S so I could see for myself if it was as bad as some have described. A printed copy of the user's guide was not supplied, apparently because HP has "gone green", or in other words, would rather leave it up to the purchaser to print out the 348 pages. I noticed that the white paint on the top of the keys is a lot thinner than the blue and red on the sides. Unfortunate, as the top key markings will get the most wear, particularly when the calculator is slid in and out of its slip case in field environments. I won't comment on the confusing use of the theta symbol in polar complex form as others have gone over that at length, but can't understand why the designers didn't use the same angle symbol that was used on the 42S. The way you have to enter hexadecimal characters A through to F is just plain idiotic. The raised position of the negative prefix is almost as irritating as the shifted STO function. Makes me wonder what what the ultimate goal of the designers was - it certainly wasn't to produce a calculator that was a step forward from its outstanding predecessors. If this is the best they can come up with, perhaps its time HP does get out of the calculator business. There were other objections I came across but I've decided not to waste any further time on this device and will accordingly be returning it without delay.

Re: The HP35S

*Message #2 Posted by **Tim Wessman** on 25 Aug 2011, 12:52 a.m.,*
in response to message #1 by Nick R

No, that is what the calculator group at the tail end of the "let's outsource all our software and hardware development and make stuff just as good but cheaper and quicker" stage was able to produce under the management and with the budget allocated.

User manuals were cut to fit more units per box. When retailers say "we need to fit <N> more units per box or we are de-assorting you" there is little choice there. Anyone who's ever worked in retail can tell you about those kinds of things.

The A-F hex was a direct result of the 700 page specification document not specifying the exact keys and UI for base 16. Since it wasn't exactly specified, they did what they wanted and be damned the result.

The goal was to a) make money, b) fix the abomination that was the 33s (hey look! It has a modern shape and shiny colors! Look how cool it is!), and c) to give a nice improvement in capability and functionality while still meeting NCEES requirements.

Since then, you've seen the 20 and 30b, 12c+ and 10bII+ which were all done completely in house. Apart from the poor keyboard on the 20b (long story there) and some complaints regarding the shape on the 20/30b, I don't think there are real serious complaints about any of those (cue usual lack of feature X comments here). Now that the finance bump is out of the way. . .

TW

Edited: 25 Aug 2011, 1:06 a.m.

Re: The HP35S

*Message #3 Posted by **Manolo Sobrino** on 25 Aug 2011, 2:20 a.m.,*
in response to message #2 by Tim Wessman

Yet I've got the feeling that a somewhat smaller scientific rpn/eos alg - keystroke/formula programmable, just keeping the professional look of the 35s or 30b, with an usb port, small memory, upgradeable firmware, and running on 2xAAA batteries, for about $100 would still sell like hot cakes... (Throw in alps switches and make it $150 :).)

Re: The HP35S

*Message #4 Posted by **Erturk Kocalar** on 25 Aug 2011, 2:38 a.m.,*
in response to message #2 by Tim Wessman

Hi Tim,

good comments and it does make sense. Hope things get better by keeping the core intact in-house. I definitely like my 12c+ and the 40gs. (but to be frank, I also returned the 35s).

Anyways, 15C is another story. What's going on there? (I'm asking that question first time, right?) It is on the website one day, and then not. It moves around. it is worse than watching soap opera :)

Re: The HP35S

*Message #5 Posted by **Lode** on 25 Aug 2011, 3:51 p.m.,*
in response to message #2 by Tim Wessman

But those are all financial ones!

Re: The HP35S

*Message #6 Posted by **Martin Pinckney** on 25 Aug 2011, 9:56 p.m.,*
in response to message #2 by Tim Wessman

> Quote:
>
> No, that is what the calculator group at the tail end of the "let's outsource all our software and hardware development and make stuff just as good but cheaper and quicker" stage was able to produce under the management and with the budget allocated....The A-F hex was a direct result of the 700 page specification document not specifying the exact keys and UI for base 16. Since it wasn't exactly specified, they did what they wanted and be damned the result...The goal was to a) make money, b) fix the abomination that was the 33s...c) to give a nice improvement in capability and functionality while still meeting NCEES requirements.

Tim, we finally get some real comments from you. Mind you now, I understand the constraints you operate under. But one wonders why the sudden candor. Perhaps the announced re-structuring at HP has something to do with it?

Feel free to ignore... {:-|

Re: The HP35S

*Message #7 Posted by **Tim Wessman** on 26 Aug 2011, 12:27 a.m.,*
in response to message #6 by Martin Pinckney

Not any new information here. This has all been mentioned or discussed at various points over the

years.

Besides, a) is obvious, b) and c) are quite obvious from observation.

I wasn't around back then. The only bit of "inside" knowledge is the size of the specification documentation, and that has been discussed several times at various HHCs. :-)

TW

Re: The HP35S

*Message #8 Posted by **snaggs** on 26 Aug 2011, 1:36 a.m.,*
in response to message #7 by Tim Wessman

> Quote:
>
> Not any new information here. This has all been mentioned or discussed at various points over the years.
>
> Besides, a) is obvious, b) and c) are quite obvious from observation.
>
> I wasn't around back then. The only bit of "inside" knowledge is the size of the specification documentation, and that has been discussed several times at various HHCs. :-)
>
> TW

Hi Tim,

I like mine, though a few tweaks would be welcome. When the inventory sells through a 35sII would be welcome.

Given the project was outsourced and the team who built it probably long disbanded, does this mean you couldnt bild on whats done?

One positive thing bout the 35s was that it was not old roms run in an emulator. It could have been the start of a new series.

Daniel

Re: The HP35S

*Message #9 Posted by **David Hayden** on 26 Aug 2011, 7:23 p.m.,*
in response to message #2 by Tim Wessman

> Quote:
>
> The A-F hex was a direct result of the 700 page specification document not specifying the exact keys and UI for base 16. Since it wasn't exactly specified, they did what they wanted and be damned the result.

I'm in the software business also and when my management asks why we can't just write specification documents that completely explain what we want, I tell them "if you can completely an unambiguously specify exactly what you want, I'll write a compiler to turn the specification directly into code."

The point isn't flippant. To specify exactly what you want, you need something at the level of source code.

Dave

Re: The HP35S

*Message #10 Posted by **Bart (UK)** on 27 Aug 2011, 7:51 a.m.,*
in response to message #9 by David Hayden

> Quote:
>
> I'm in the software business also and when my management asks why we can't just write specification documents that completely explain what we want, I tell them "if you can completely an unambiguously specify exactly what you want, I'll write a compiler to turn the specification directly into code."
>
> The point isn't flippant. To specify exactly what you want, you need something at the level of source code.
>
> Dave

With the complexity of modern systems it is inevitable that there there are gaps in the specifications. Ideally there would be some to-and-fro communication between specifier and implementer to iron these things out. However, management's unrealisticly tight timescales get in the way and the implementer does what he thinks best (he is already getting blamed for the project being late and thus doesn't have time to go back to find out what exactly was meant) - so the implementation may be the opposite of what the specifier wanted. That is why I have had systems reporting a helicopter going up when it's going down (the sign for vertical speed was not clearly specified) and swapping x and z axis, to name a few. These errors were found during integration testing. That is why in the past I have made comments about having a proper test programme, but again time scales and lack of resources (because of profit reasons - what else) get in the way.

So Tim,
To yourself and please convey to the rest of your team, my thanks that in this current time of management principle that "with impossibly low resourses and little time" you are trying to bring us the products we want.

Re: The HP35S

*Message #11 Posted by **Thomas Radtke** on 25 Aug 2011, 1:26 a.m.,*
in response to message #1 by Nick R

Never had a problem with the shifted STO. The function allocation was one of the few strong points about the 35s, and certainly better than the 32SII allocation.

@Tim, I'd have loved a debugged 35s, or even a 35sII w/ full P<>R implementation. Many people would, I guess :-(.

Re: The HP35S

*Message #12 Posted by **Lutz Jacob** on 25 Aug 2011, 3:17 a.m.,*
in response to message #1 by Nick R

You should give the 33s a try if you could get one. I does not look as good as the 35s, but in daily use other points are more important. Numbers are displayed with full precision in a readable form, hex/bin are much more usable, sto/rcl are unshifted and the arrangement of keys is ok for me even without a large enter key.

Re: The HP35S

*Message #13 Posted by **Frido Bohn** on 25 Aug 2011, 9:06 a.m.,*
in response to message #1 by Nick R

I really do not understand the objections against such a fine machine the HP 35s is. It has all we expect from a scientific calculator: it looks very sophisticated – not to say complicated – and thus thoroughly cool. It has seemingly endless rows of buttons, and the majority of them with three to four functions. Due to a wise use of psycho-physiological engineering in the fields of para-optical perception (aka visual illusion) some buttons seem to have at least five functions. The color scheme is marvelous. Its deep-chocolate brown base used for the panel and the buttons, and the combination of titanium white, lapis-lazuli blue, pumpkin yellow and cranberry red is a paramount example of post-industrial neo-expressionism. If the HP 35s was part of the still life in Vincent van Gogh's "Still life with coffee pot, dishes and fruit" no one would have noticed it –it would have fit into the scene so perfectly!
I hear some people moan about the poorly organized keyboard. They possibly claim if there were awards for "clutteredness" the HP 35s would be at least among the nominees. But let's analyze this issue closer: Beyond the section of numerals and basic arithmetic operators, the functions appear to be randomly distributed. But this impression is only true for half-hearted scientists. Have you ever seen a scientist's lab? They have all their peculiar system of order, and the HP 35s has a match to the organization of an average lab with bounds of 0.85 to 1.25 within a 95% confidence interval. So it is merely "cluttero-equivalent" to a standard scientific lab. What is the mean access time you need to grab a random instrument from your bench, tweezers, Phillips screwdriver or the like? And what is the mean access time for a random function HP 35s? You see what my point is: the HP 35s inconspicuously adopts the usability of an arbitrary everyday tool so you never will abstain from it once you have found the button to switch it on.

Its form factor and size alludes to the good ol' classic series, and eventually, the 35s is a reminiscence of the first pocket scientific calculator ever made. OK, you will have to go to a second-hand market to get a shirt with pockets wide enough for the HP 35s, but on the other side, you will never desperately look for it as it may happen with those tiny electronic gadgets people use nowadays in the case they are lost, perhaps in a shirt pocket. The calculator fits perfectly in a man's hand, of course, in a true man's hand with a minimum glove size of 8 (22 cm circumference at the knuckle – for conversion into inches use your HP 35s).

Bug list? Superficially seen, yes, but it is rather an entertainment list because it challenges thousands of users who then may become angry, amused or finally try to circumvent those seeming shortcomings with the most astounding suggestions. Ever imagined how boring a device would be if it was perfect? No postings in the HP Forum with endless threads around similar issues, no engineering of such marvels as the 41CL or the WP34s. The 5th anniversary of the HP 35s is coming soon and it created so much priceless imagination…

(If there was a font for emphasizing a sarcastic undertone I would have used it. So please, don't take this contribution too serious.)

Re: The HP35S

*Message #14 Posted by **Lyuka** on 25 Aug 2011, 9:27 a.m.,*
in response to message #13 by Frido Bohn

35S would be great for anyone who don't use polar coordinate, complex numbers, vectors, trigonometric functions nor hex-decimal conversion seriously.

Lack of easy way to decompose complex number is a bad joke.

Lyuka

Re: The HP35S

*Message #15 Posted by **Morten Nygaard Åsnes** on 25 Aug 2011, 9:42 a.m.,*
in response to message #14 by Lyuka

And who don't mind keypresses not always registering (the showstopper bug for me)

Re: The HP35S

*Message #16 Posted by **Reth** on 25 Aug 2011, 9:45 a.m.,*
in response to message #14 by Lyuka

... and for those who love checking their input with the screen at each keystroke. HP35S is a shame

Re: The HP35S

*Message #17 Posted by **Nick R** on 25 Aug 2011, 10:35 a.m.,*
in response to message #14 by Lyuka

I've used fourteen different models of HP calculators starting with the HP35 in 1973. Each one performed well and was built to last (the battery door of the HP28S being an obvious exception). There is a corporate objective statement inside the front cover of the HP25 owner's handbook that states: "The success and prosperity of our company will be assured only if we offer our customers superior products that fill real needs and provide lasting value, and that are supported by a wide variety of useful services, both before and after sale". Personally I don't believe the 35S meets this criteria. Its impaired complex number handling make it useless for computation of survey coordinates in the field. The indifferent response you get from HP's Customer Care facility when you request a copy of the user's guide (promised in the superficial quick start guide) certainly falls short of the kind of support that kept me coming back to buy HP calculators.
"Anniversary" and "Limited Edition" calculators are all very well if you're mainly interested in collecting such things, but I want a calculator that's a robust and helpful working tool, and am willing to pay more for quality.
Just for interest, I challenge anyone to compare the 35S against a simple calculator such as the TI-36X Solar and see which one is less frustrating when you're working with coordinate geometry.

Re: The HP35S

*Message #18 Posted by **Mike Morrow** on 25 Aug 2011, 1:20 p.m.,*
in response to message #17 by Nick R

I see you're not familiar with the HP 6S.

Re: The HP35S

*Message #19 Posted by **Nick R** on 25 Aug 2011, 2:49 p.m.,*
in response to message #18 by Mike Morrow

Would that be the model that was being sold at a discount at McDonalds fast food outlets? Interesting joint venture - I wonder what Bill Hewlett would have thought of it.
I certainly don't mean to denigrate the good work done by those people developing calculators, as they have to work within the constraints set by those at the top of the corporate food chain.

Nick

Re: The HP35S

*Message #20 Posted by **Snaggs** on 25 Aug 2011, 7:29 p.m.,*
in response to message #17 by Nick R

> Quote:
>
> Its impaired complex number handling make it useless for computation of survey coordinates in the field.
>
> Just for interest, I challenge anyone to compare the 35S against a simple calculator such as the TI-36X Solar and see which one is less frustrating when you're working with coordinate geometry.

Can you give me an example I can try?

Daniel

Re: The HP35S

*Message #21 Posted by **Nick R** on 25 Aug 2011, 8:46 p.m.,*
in response to message #20 by Snaggs

Try this simple traverse:
S64 degrees 50'00"E 134.43 ft
S25 degrees 08'45"W 162.09 ft
N59 degrees 27'40"W 185.0 ft
N24 degrees 13'08"E 145.12 ft
Find the bearing and distance to close.

Re: The HP35S

*Message #22 Posted by **Michael de Estrada** on 25 Aug 2011, 10:24 p.m.,*
in response to message #21 by Nick R

Although I'm certainly no fan of the HP35s, it seems like it could handle this problem quite easily, by entering the survey coordinate values as complex numbers in polar form, and adding them. Am I missing something here ?

Re: The HP35S

*Message #23 Posted by **Nick R** on 25 Aug 2011, 10:57 p.m.,*
in response to message #22 by Michael de Estrada

You run into difficulty when you try to adjust signs of latitudes and departures before adding when working with quadrant bearings. This wasn't a problem on the 48G which could convert from complex to real form.

Re: The HP35S

*Message #24 Posted by **Bart (UK)** on 27 Aug 2011, 7:11 a.m.,*

in response to message #23 by Nick R

> Quote:
>
> You run into difficulty when you try to adjust signs of latitudes and departures before adding when working with quadrant bearings. This wasn't a problem on the 48G which could convert from complex to real form.

As has been discussed on the forum ad nauseam, the 35s is from the 32S lineage - it does not have the 15C or 42S capabilities and is nowhere near comparable to the RPL series of calculators (you should then rather get the 50G).

Admittedly the R->P and P->R is crap, but it does have better complex number representation than it's 32s/33s predecessors.

BUT, it has 32kB of programming space, surely more than enough (infinitly more than the TI-36X you quoted) to write something to handle your coordinate geometry needs. (e.g. have you looked in the articles section and the internet at large for R->P and P->R solutions? And the many other programmes available?) It is simple keystroke programming, so it shouldn't be too difficult to even write your own.

Re: The HP35S

*Message #25 Posted by **Nick R** on 27 Aug 2011, 9:45 a.m.,*
in response to message #24 by Bart (UK)

It's easy enough to write a program for calculating traverses, but my point was to compare the two machines' keyboard functions without the aid of a progam.

Re: The HP35S

*Message #26 Posted by **Bart (UK)** on 27 Aug 2011, 10:20 a.m.,*
in response to message #25 by Nick R

But then comparing the 35s to the 48G is totally irrelevant.

Re: The HP35S

*Message #27 Posted by **Norman Dziedzic** on 27 Aug 2011, 9:47 p.m.,*
in response to message #25 by Nick R

I had no clue how to do this but remembered I had a 41CV with a surveying I module. That made the problem easy as pie. :-)

Re: The HP35S

*Message #28 Posted by **Reth** on 27 Aug 2011, 1:39 a.m.,*
in response to message #21 by Nick R

That looks easy. How do you enter this on other calculators? Do you supply quadrant number, so DMS and 1-4?

Re: The HP35S

*Message #29 Posted by **Nick R** on 27 Aug 2011, 9:58 a.m.,*
in response to message #28 by Reth

On calculators where the X and Y coordinates can be separated it's just a matter of setting polarity with +/- and X<>Y depending on the quadrant. N E + +, S E - +, S W - - and N W + -

Re: The HP35S

*Message #30 Posted by **Palmer O. Hanson, Jr.** on 26 Aug 2011, 8:23 p.m.,*
in response to message #17 by Nick R

> Quote:
>
> There is a corporate objective statement inside the front cover of the HP25 owner's handbook that states:
> "The success and prosperity of our company will be assured only if we offer our customers superior products that fill real needs and provide lasting value, and that are supported by a wide variety of useful services, both before and after sale".

Did the built-in potential disasters due to a defective design of the charger and battery pack circuitry in the Woodstock and Spice models fit that objective?

Re: The HP35S

*Message #31 Posted by **Nick R** on 26 Aug 2011, 9:50 p.m.,*
in response to message #30 by Palmer O. Hanson, Jr.

Good point. The Woodstock models were never ideal for use on a desk due to the shape - they seemed prone to tipping. Not to mention the difficulty of reading the display in bright sunlight. I'm still fond of the early LED models regardless, as they were a quantum leap from using a Curta and a book of six-place tables.

Woodstock quality (was Re: The HP35S)

*Message #32 Posted by **Walter B** on 27 Aug 2011, 12:16 p.m.,*
in response to message #31 by Nick R

Tipped in desktop use? Bright sunlight? Never experienced that with my 25C in the seventies. Usually held it in my hand while calculating or had it sitting next to a teletype, on a pile of papers, an open book or the like. It did hardly ever see the sun in the lab or during our beam times in accelerator bunkers. And I don't know what I did wrong then, never had a charging problem (bought a repaired unit, maybe they tuned the circuit a bit). But that calculator fitted (and fits) my hand perfectly :-) Those were the days ...

Re: Woodstock quality (was Re: The HP35S)

*Message #33 Posted by **Nick R** on 27 Aug 2011, 1:08 p.m.,*
in response to message #32 by Walter B

The tipping problem could possibly have had something to do with the 'desktop' often being our table in the beer parlour. We found the dim environment much better for reading the display on bright sunny afternoons.

Re: Woodstock quality (was Re: The HP35S)

*Message #34 Posted by **Walter B** on 27 Aug 2011, 1:18 p.m.,*
in response to message #33 by Nick R

You may have experienced a dripping problem, too, haven't you?

Re: Woodstock quality (was Re: The HP35S)

*Message #35 Posted by **Mark Hardman** on 27 Aug 2011, 1:25 p.m.,*
in response to message #34 by Walter B

Might I suggest that Juergen Keller's Lager HP41C is the source of the dripping?

Re: Woodstock quality (was Re: The HP35S)

*Message #36 Posted by **Nick R** on 27 Aug 2011, 2:55 p.m.,*
in response to message #35 by Mark Hardman

It was the field notes that had the dripping problem after immersion in pools of stale draught beer. Fortunately they were waterproof.

Re: The HP35S

*Message #37 Posted by **Thomas Radtke** on 25 Aug 2011, 9:53 a.m.,*
in response to message #13 by Frido Bohn

> Quote:
>
> Ever imagined how boring a device would be if it was perfect?

Yeah, to miscalculate prices, power consumptions, injections into orbit, radiation doses etc. are certainly a lot of fun.

For it is so darn cool, let's all use a 35s and our lives will change!

Re: The HP35S

*Message #38 Posted by **Steve Fennell** on 25 Aug 2011, 1:44 p.m.,*
in response to message #13 by Frido Bohn

The lack of a matte LCD makes it hard to use in an office with fluorescent lights. That is one of the many reasons I sold mine.

Re: The HP35S

*Message #39 Posted by **Howard Owen** on 25 Aug 2011, 2:43 p.m.,*
in response to message #1 by Nick R

DOG PILE ON THE 35S!!!

:)

Re: The HP35S

*Message #40 Posted by **marais** on 25 Aug 2011, 3:28 p.m.,*

in response to message #39 by Howard Owen

Guys, you're not being fair to the 35s. It took courage to build a reminescence to the 35, and in some way, it marked HPs re-entry into the market. It's far from perfect, but it shows HPs willingness to stay in the calculator business, and at the same time, it is an acknowledgement of HPs glorious past. With that in mind, the 35s deserves standing ovations from our community. And remember, the best is yet to come.

Re: The HP35S

*Message #41 Posted by **Walter B** on 25 Aug 2011, 3:38 p.m.,*
in response to message #40 by marais

> Quote:
>
> ... the 35s deserves standing ovations from our community. And remember, the best is yet to come.

Yeah: 34S ... 31S ... 29S ... ;-)

Re: The HP35S

*Message #42 Posted by **Thomas Radtke** on 25 Aug 2011, 3:51 p.m.,*
in response to message #40 by marais

Not that HP cares in any way, but usually the only chance to get things of improved quality is to ask for it. This doesn't go inline with applauding to crap.

Re: The HP35S

*Message #43 Posted by **marais** on 25 Aug 2011, 3:53 p.m.,*
in response to message #42 by Thomas Radtke

I am talking about appreciating an effort, not applauding to crap.

Re: The HP35S

*Message #44 Posted by **Thomas Radtke** on 26 Aug 2011, 7:45 a.m.,*
in response to message #43 by marais

A company of this size receives just one information: The number of units sold. If you buy one, HP has no intention to ask why you did so.

In the HP forum, there's a thread called something like 'HP listens'. I thought that would be a good place to leave some critics, but got confronted with questions unrelated to the product, so I stopped participating.

There's obviously no chance to give HP a feedback other than buying or not buying a product. If you do buy it, it is perceived by the company as if the quality were ok. If enough people don't buy anymore, the business is given up at all. That's how a kid would react. All large companies seem to work that way. The larger, the more simple the mechanisms.

Re: The HP35S

*Message #45 Posted by **Nick R** on 25 Aug 2011, 4:01 p.m.,*
in response to message #40 by marais

If it's coming from a Chinese factory, I think perhaps the word "best" might not apply.

Re: The HP35S

*Message #46 Posted by **Mike Morrow** on 25 Aug 2011, 4:54 p.m.,*
in response to message #45 by Nick R

The HP 50G is, objectively, the best calculator that is available from anyone, as long as the size and the RPL "feature" are not counted against it. It's made in China.

It's an amazingly powerful machine at a very reasonable price...the opposite to the abominable and obviously substandard HP 35S.

This opinion comes from one who worships at the altar of the HP 42S (whose never-matched 23-year-old feature set will still place it legions ahead of the forthcoming HP 15C LE).

Edited: 25 Aug 2011, 4:58 p.m.

Re: The HP35S

*Message #47 Posted by **Walter B** on 25 Aug 2011, 6:30 p.m.,*
in response to message #46 by Mike Morrow

> Quote:
>
> The HP 50G is, objectively, the best calculator that is available from anyone, as long as the size and the RPL "feature" are not counted against it.

I concur under these conditions - but personally I'd count size and RPL against it.

> Quote:
>
> It's made in China.

Like many products today. This isn't the fault of the Chinese, Nick.

> Quote:
>
> It's an amazingly powerful machine at a very reasonable price...the opposite to the abominable and obviously substandard HP 35S.
>
> This opinion comes from one who worships at the altar of the HP 42S (whose never-matched 23-year-old feature set will still place it legions ahead of the forthcoming HP 15C LE).

Surprise? No - the 42S was the successor of the 15C, and in those simple times long long ago, a successor used to be clearly ahead of its precessor :-)

FWIW.

Re: The HP35S

*Message #48 Posted by **Michael de Estrada** on 28 Aug 2011, 10:41 a.m.,*

in response to message #40 by marais

> Quote:
>
> It took courage to build a reminescence to the 35

The word courage must have a different meaning in French.

Re: The HP35S

*Message #49 Posted by **spb** on 26 Aug 2011, 12:10 a.m.,*
in response to message #1 by Nick R

> Quote:
>
> A printed copy of the user's guide was not supplied, apparently because HP has "gone green", or in other words, would rather leave it up to the purchaser to print out the 348 pages.

There's a printed manual. You can get it for free by calling HP and asking for it. This is mentioned in the little leaflet that comes with the calculator.

Re: The HP35S

*Message #50 Posted by **Paul Gaster** on 26 Aug 2011, 12:31 a.m.,*
in response to message #49 by spb

> Quote:
>
> There's a printed manual. You can get it for free by calling HP and asking for it. This is mentioned in the little leaflet that comes with the calculator.

No you can't. HP stopped making them a long time ago and will tell you they don't have anymore. They ran out at least 6 months ago, which is when I called and found this out. There were others on this forum and other places who were told them same thing when they called.

The only way to get a full manual now is TAS or print it yourself.

Re: The HP35S

*Message #51 Posted by **spb** on 26 Aug 2011, 2:41 a.m.,*
in response to message #50 by Paul Gaster

> Quote:
>
> No you can't. HP stopped making them a long time ago and will tell you they don't have anymore. They ran out at least 6 months ago, which is when I called and found this out. There were others on this forum and other places who were told them same thing when they called.

Huh. According to my amazon order history I bought my 35S the last week of March of this year. I called HP after I'd had the calculator a couple weeks, and didn't have any problems getting them to send me a manual then.

Re: The HP35S

*Message #52 Posted by **Paul Gaster** on 26 Aug 2011, 8:45 a.m.,*
in response to message #51 by spb

Amazon?
Look at the reviews for the calculator.
Search for "manual".
Here are the first two reviews with that keyword:

Lacks a printed manual, **September 22, 2010**
By Wayne Scott
Amazon Verified Purchase(What's this?)
This review is from: HP 35s Scientific Calculator (Electronics)
This is a great calculator, but I am really annoyed that it no longer ships with a printed version of the manual. It does come with a PDF of the ~350 page manual but you have to read it online.
I appears that HP used to mail free copies of the manual if you requested from customer support, but I was told they discontinued that program.
Now to see if I can get it printed at Kinkos.

Good solid HP for the FE exam, **October 26, 2010**
By J. P. Cuzzourt
Amazon Verified Purchase(What's this?)
This review is from: HP 35s Scientific Calculator (Electronics)
Bought it to use on the FE exam next April (a test I should've taken 16 years ago!) As a long time HP calculator user, I appreciate the solid feel. The somewhat limited functionality is what allows it to be used on the exam, but it provides fast rpn calculations and I was able to transition easily from my 48GX.
At first i was disappointed with the crappy Getting Started guide. I expected a manual. Then, at the end of the getting started guide, HP promises to send you a full manual free of charge if you call HP customer service. But, when I called, HP informed me that they weren't honoring that promise because they'd run out of manuals and weren't planning to print any more! They put me on a "waiting list" but I expect to wait roughly forever for the promised manual.
Of course you do get a pdf of the full manual, but that just doesn't cut it for me.

If they started up that program again, that would be news to me. I was also told this switch was done for green reasons.

Edited: 26 Aug 2011, 8:51 a.m.

Re: The HP35S

*Message #53 Posted by **spb** on 26 Aug 2011, 9:49 a.m.,*
in response to message #52 by Paul Gaster

> Quote:
>
> If they started up that program again, that would be news to me. I was also told this switch was done for green reasons.

I can't speak to anyone else's experiences. I can say that I called them back in April of this year

and they sent me a copy of the manual.

Re: The HP35S

*Message #54 Posted by **M. Joury** on 26 Aug 2011, 3:40 p.m.,*
in response to message #53 by spb

I am another of those that could *NOT* get one earlier this year. Maybe it depends on who you talk to? I should give it another try just to see.

Cheers,

-Marwan

Re: The HP35S

*Message #55 Posted by **spb** on 26 Aug 2011, 5:14 p.m.,*
in response to message #54 by M. Joury

> Quote:
>
> I am another of those that could *NOT* get one earlier this year. Maybe it depends on who you talk to? I should give it another try just to see.

I don't know. I called the number in the little leaflet that comes with the 35S. I told the guy who answered that I'd just bought a 35S and the leaflet said to call to get a printed manual, so that's what I was doing. He said he'd have to check to see if he could do that, came back and asked for an address, and I got the manual in the mail about a week later.

Re: The HP35S

*Message #56 Posted by **snaggs** on 26 Aug 2011, 8:42 p.m.,*
in response to message #54 by M. Joury

I also couldnt get one!

They said they didnt have any more left.

Re: The HP35S

*Message #57 Posted by **Bart (UK)** on 27 Aug 2011, 8:00 a.m.,*
in response to message #54 by M. Joury

> Quote:
>
> I am another of those that could *NOT* get one earlier this year. Maybe it depends on who you talk to? I should give it another try just to see.
>
> Cheers,
>
> -Marwan

Possibly some of the support people are more familiar with the computer section (where manuals have long since dissapeared) and don't know about the calculator manuals, they

just regurgitate the standard "they are not available". Maybe try a couple of times and you might get lucky?

Re: The HP35S

*Message #58 Posted by **Paul Gaster** on 27 Aug 2011, 9:23 a.m.,*
in response to message #57 by Bart (UK)

Maybe they got a few complaints, changed their mind, and then printed some more. Or maybe they found a few boxes or a pallet of manuals they didn't know they had so they decided to give them out again. It is hard to say for sure, but I am glad someone reported they were available again. It is worth a shot to call and try to get one.

Re: The HP35S

*Message #59 Posted by **Dave** on 26 Aug 2011, 3:20 p.m.,*
in response to message #50 by Paul Gaster

If anyone needs a manual let me know. I'd be willing to part with mine for a reasonable price.

Re: The HP35S

*Message #60 Posted by **Patrick Rendulic** on 26 Aug 2011, 7:00 a.m.,*
in response to message #1 by Nick R

I just rewrite what I already wrote here some time ago.

The HP35S is a piece of crap. I cannot use it at my work, because it misses keystrokes because of a software/hardware misconception.

That's why I do my work with a 14 year old HP32sii.

I had this once now too

*Message #61 Posted by **snaggs** on 26 Aug 2011, 8:47 p.m.,*
in response to message #60 by Patrick Rendulic

Ive had a couple of key presses not register too. The E+ (stats button) on mine needs a good firm press.

Its a shame, as its a pretty calculator.

Re: I had this once now too

*Message #62 Posted by **Paul Dale** on 26 Aug 2011, 8:58 p.m.,*
in response to message #61 by snaggs

Very few of us have denied the aesthetics of the 35s, it is a very good looking calculator.

We just question its reliability.

It could have been so much more. I'd love to be able to have a go at re-purposing one but that is not to be.

- Pauli

Re: I had this once now too

*Message #63 Posted by **Walter B** on 27 Aug 2011, 3:37 a.m.,*
in response to message #62 by Paul Dale

:-) I'd love to to be able to have a go at re-purposing any calc having

1. a reasonably small footprint,
2. a state-of-the-art display,
3. an uninterrupted row of keys next to the display,
4. slanted keys with tactile feedback,
5. sufficient memory and an interface for accessing it.

The HP 35S falls short in more than point.

Walter

Re: I had this once now too

*Message #64 Posted by **uhmgawa** on 27 Aug 2011, 10:06 p.m.,*
in response to message #63 by Walter B

> Quote:
>
> :-) I'd love to to be able to have a go at re-purposing any calc having
>
> 1. a reasonably small footprint,
> 2. a state-of-the-art display,
> 3. an uninterrupted row of keys next to the display,
> 4. slanted keys with tactile feedback,
> 5. sufficient memory and an interface for accessing it.
>
> The HP 35S falls short in more than point.

It looks like the 35s only satisfies #4 above. However given its mechanical construction it is possible to design a retrofit PCB for the unit which for the most part wouldn't require heroics for the average user to install. The display heat seal interconnect is the major stumbling block although given the oddball character display I'm not sure it would be worth salvaging as part of a retrofit upgrade.

I may be in the minority but the form factor of the 35s doesn't particularly appeal to me. However for those who feel otherwise it wouldn't be too difficult for a prospective upgrade to swap in a 128x32 or 128x64 graphic panel. Navigating the mounting screw land mines will probably make the board layout interesting and would most likely need to be 4 layer. The original board appears to be ~1.3mm so it may be possible to sandwich two 0.8mm (or perhaps 0.6mm if the clearance is tight) boards such that you don't need to additionally navigate around the dome PCB lands on the opposite side.

Could be a fun project particularly if it gets rid of that character matrix display.

Re: The HP35S

*Message #65 Posted by **uhmgawa** on 27 Aug 2011, 10:38 a.m.,*
in response to message #1 by Nick R

> Quote:
>
> I recently bought an HP35S.. ..but I've decided not to waste any further time on this device and will accordingly be returning it without delay.

I too think the 35s is rather disappointing if measured by the defacto benchmarks HP themselves set years ago. But it **isn't** years ago and some folks here seem intent to hold HP to a combination of market * technology * price_point no longer relevant in modern times. I'd hazard the collective audience here contributes to substantially less than 1% of total revenue for current HP calculator products. So frankly catering to such an insignificant segment of their market doesn't seem worth their time, resources, and effort. I suspect any HP representation lurking here is more likely the result of good will and perhaps personal interest on behalf of the individuals present.

I have no idea how to effectively influence HP calculator marketing direction, or whether it is even feasible. But folks might consider cutting them a little slack seeing as they have adapted to the present day market in order to viably compete in it.

Re: The HP35S

*Message #66 Posted by **Nick R** on 27 Aug 2011, 10:59 a.m.,*
in response to message #65 by uhmgawa

Your comment about the present day market could be the key to the problem. In an age when consumers replace their computers and cell phones after only a couple of years it's wishful thinking to expect that currently produced calculators should last for decades the way they used to.

Would you pay $500 for a calculator

*Message #67 Posted by **snaggs** on 27 Aug 2011, 11:29 a.m.,*
in response to message #66 by Nick R

> Quote:
>
> Your comment about the present day market could be the key to the problem. In an age when consumers replace their computers and cell phones after only a couple of years it's wishful thinking to expect that currently produced calculators should last for decades the way they used to.

I would for a dux nuts keep for 20 years model, but would you? Hp calculators of yore wernt cheap. If you take their old rrp (not the clearance end of life price) and appreciate it, youll realise they cost some between an iPad and a MacBook. Expecting that mechanical quality for $59 is unrealistic.

It is also, the flaw in hp's dcisions, they never had the budget market, yet thats where they tried to go.

Re: Would you pay $500 for a calculator

*Message #68 Posted by **uhmgawa** on 27 Aug 2011, 12:32 p.m.,*
in response to message #67 by snaggs

> Quote:
>
> I would for a dux nuts keep for 20 years model, but would you? Hp calculators of yore wernt cheap. If you take their old rrp (not the clearance end of life price) and appreciate it, youll realise they cost some between an iPad and a MacBook. Expecting

> that mechanical quality for $59 is unrealistic.

Is it? We're talking about a 30-40 year mature technology here. Bringing the required technologyies into existence in the 70s was a substantial investment which now are far more prevalent and feed a plethora of other product development efforts. If someone can't manufacture and profitably market a modern day 15c, 42s, <whatever> of construction equal to or surpassing the original versions for US$59, something else is at play. This is of course assuming business/market demand exists to justify the effort and recoup the development expense.

> Quote:
>
> It is also, the flaw in hp's dcisions, they never had the budget market, yet thats where they tried to go.

I think it is easy for us all to play arm-chair critic and point out alleged mistakes, deficiencies, incompetence, etc.. in HP's strategy. But HP holds the award for defining (and during a substantial term) ruling the calculator market. So I'd hazard they must have done something right to find technical professionals some 30+ years later obscessed to the point of frequent slug fests over their ancient products.

Re: Would you pay $500 for a calculator

*Message #69 Posted by **Walter B** on 27 Aug 2011, 1:24 p.m.,*
in response to message #68 by uhmgawa

> Quote:
>
> ... obscessed to the point of frequent slug fests over their ancient products.

Now you've left the realm of English I'm able to understand. Please explain like to a four-year-old <:-) TIA

Re: Would you pay $500 for a calculator

*Message #70 Posted by **Mark Hardman** on 27 Aug 2011, 1:30 p.m.,*
in response to message #69 by Walter B

Walter,

In this case "slug fest" is not a reference to a festival celebrating the lowly gastropod mollusk. It is an English idiom for "fist fight" or "brawl".

Re: Would you pay $500 for a calculator

*Message #71 Posted by **Garth Wilson** on 27 Aug 2011, 1:42 p.m.,*
in response to message #68 by uhmgawa

I really doubt it could be done well for $59. One son's cell phone had a cracked display and he was eligible for a new one, supposedly free (turns out it's not really free), and when we were going to get it, my wife said she wanted one too because "I like new things!" With the new one that was nearly free, the letters on the keyboard of the one in the display case were already wearing off from customers opening it and poking at it. You won't find that with HP's double-shot keys. The contacts of the phone's keyboard definitely won't last 25 years of daily use like

my HPs' either.

The cell phones are cheap partly because of huge production volumes, which you'll never get in a quality scientific programmable calculator. A new calc will definitely be cheaper after adjustment for inflation than they were 30 years ago, because of not having to design a new processor and custom ICs; but LCDs, injection-molded cases, and PC boards were quite commonplace in 1980.

Re: Would you pay $500 for a calculator

*Message #72 Posted by **uhmgawa** on 27 Aug 2011, 4:24 p.m.,*
in response to message #71 by Garth Wilson

> Quote:
>
> I really doubt it could be done well for $59.. You won't find that with HP's double-shot keys. The contacts of the phone's keyboard definitely won't last 25 years of daily use like my HPs' either.

It is really a question of volume such that the up-front engineering costs could be reclaimed which I'm assuming is the case for sake of argument. Besides an injection molded case and double shot keycaps the bill of materials include a gold/nickel plated 2 or 4 layer board, 1-2 commodity ICs, tactile domes, matrix/segment reflective LCD and a handful of discrete electronic and mechanical components. $59 was just an estimate but my sense it would be in the reasonable ballpark. The other question is whether manufacturing could be accomplished within that budget while maintaining legacy HP quality.

Re: Would you pay $500 for a calculator

*Message #73 Posted by **Garth Wilson** on 27 Aug 2011, 10:58 p.m.,*
in response to message #72 by uhmgawa

I'm sure the case mold would be by far the biggest up-front cost. Our company owner wanted to do a particular product recently and changed his mind when faced with the $50,000 mold cost. Double-shot keys are a lot less as I remember, and a custom LCD tool-up was only a couple thousand dollars when I looked into it for another product over 20 years ago. First article cost on PC boards is piddly by comparison.

Re: Would you pay $500 for a calculator

*Message #74 Posted by **Eric Smith** on 28 Aug 2011, 2:04 a.m.,*
in response to message #68 by uhmgawa

It's called the "Triumph of Crapitalism". When too many people are perfectly willing to put up with an inferior product, it becomes economically unviable to produce a high-quality product, because the necessary economy of scale isn't there. The fact that we have nearly 40 years of technological advance to draw upon isn't sufficient to make it cost-competitive with cheap crap.

No one is going to produce a calculator today with double-shot molded keys and metal dome keyswitches, because people are perfectly willing to purchase calculators with key legends that rub off and unreliable switches. This is exacerbated by the fact that consumers don't *expect* a product to last, so they aren't willing to pay more for one that is claimed to. If the marketing materials for the calculator claim that it will last for years, no one will believe it, because marketing materials are all lies anyhow.

Re: Would you pay $500 for a calculator

*Message #75 Posted by **uhmgawa** on 28 Aug 2011, 9:50 a.m.,*
in response to message #74 by Eric Smith

> Quote:
>
> It's called the "Triumph of Crapitalism". When too many people are perfectly willing to put up with an inferior product, it becomes economically unviable to produce a high-quality product, because the necessary economy of scale isn't there. The fact that we have nearly 40 years of technological advance to draw upon isn't sufficient to make it cost-competitive with cheap crap.

Unfortunately I couldn't agree more. I'd add to this the fact HP of yesteryear was pushing new frontiers which I suspect allowed them the freedom to engineer products as engineers, for use by engineers. Beyond being a noble goal it was a legendarily successful effort, but ironically successful to the extent contemporary HP is now held accountable to the high benchmark they themselves have set.

> Quote:
>
> No one is going to produce a calculator today with double-shot molded keys and metal dome keyswitches, because people are perfectly willing to purchase calculators with key legends that rub off and unreliable switches. This is exacerbated by the fact that consumers don't *expect* a product to last, so they aren't willing to pay more for one that is claimed to. If the marketing materials for the calculator claim that it will last for years, no one will believe it, because marketing materials are all lies anyhow.

All disturbingly true. HP did and perhaps still could have competed on the premise of extreme quality. But I hesitate to second guess their marketing data and direction in this area. Still adapting in order to survive in a sink-or-swim economy consumer electronic market where scientific calculators of respectable ability (albeit disposable) sell for US$15 at the local MalWart has likely forever retired that marketing differential from the playing field.

Incidentally the arm7 12C and 35s still have metal domes although the cut/legged version perhaps to simplify board routing. I don't think they compare favorably to the full domes formerly used but most probably don't care.

Re: Would you pay $500 for a calculator

*Message #76 Posted by **Martin Pinckney** on 28 Aug 2011, 4:40 p.m.,*
in response to message #74 by Eric Smith

> Quote:
>
> It's called the "Triumph of Crapitalism". When too many people are perfectly willing to put up with an inferior product, it becomes economically unviable to produce a high-quality product, because the necessary economy of scale isn't there.

I understand your point, but I think this view puts all the blame on the consumer. To my

knowledge, no one wrote Winchester in 1964 and requested they start making 1894's with stamped parts instead of machined ones. No one wrote Emco in 1964 and requested Unimats be cast out of Zamak instead of iron. No one wrote HP in 1990's and asked them to start making calculators with painted key legends. And no one requested HP in 2007 to bring out a crappy 35s for $60 instead of a good one for $100.

> Quote:
>
> No one is going to produce a calculator today with double-shot molded keys and metal dome keyswitches, because people are perfectly willing to purchase calculators with key legends that rub off and unreliable switches.

People are willing to purchase crap when they are not given an alternative.

Re: Would you pay $500 for a calculator

*Message #77 Posted by **Eric Smith** on 29 Aug 2011, 12:00 a.m.,*
in response to message #76 by Martin Pinckney

Of course consumers didn't write those letters. They voted with their wallets. If people had continued buying large numbers of the HP models that we in this forum all want, then HP would have continued making them.

The fact that people buy cheap crap puts too much pressure on the companies trying to make a higher quality product, and forces them to reduce their quality also.

I don't see how this can be realistically blamed on anyone OTHER than the consumers who are willing to buy cheap crap.

Another way of looking at it is that if consumers were not willing to buy cheap crap, then there wouldn't be millions of factories in China turning out cheap crap.

Re: Would you pay $500 for a calculator

*Message #78 Posted by **Michael de Estrada** on 29 Aug 2011, 12:39 a.m.,*
in response to message #77 by Eric Smith

I think this is a bit simplistic. Companies have different marketing strategies, and in the early days HP was like Mercedes or BMW, and they catered to a higher class of consumer that wanted the best quality and was willing and able to pay for it. Their volume was lower, but they still made a healthy profit. In the late 1970s, they made a mistake with the Spice series trying to compete on price with TI, and it almost cost them their calculator market. Fortunately, they regained their sanity with the Voyagers, which cost more but had superbe quality and sold extremely well. But HP quality went far beyond the calculators themselves, and extended to the printed documentation as well. I think the quality over price consumer market still exists and can be exploited by HP, because nobody else has entered it and of course there's those three letters R P N. We recently bought, or should I say invested in a Kirby vacuum cleaner system, made in the good old USA and expensive as heck. But it will last forever, is completely rebuildable, built like the proverbial brick outhouse and works better than anything else. It was painful writing a check for several grand, but it sure beats the crappy old plastic Hoover we bought at K-Mart. Just like my old HP-35.

Edited: 29 Aug 2011, 9:16 a.m. after one or more responses were posted

Re: Would you pay $500 for a calculator

*Message #79 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 2:10 a.m.,*
in response to message #78 by Michael de Estrada

The equivalent in vacuum cleaners here is Vorwerk. These are built like tanks and you can get spare parts for the oldest units. OTH, a single part can cost you the price of a cheap vacuum cleaner.

I think, going cheap and hoping to keep the same customer base will mostly fail. Looking at German car makers, their low end offerings weren't the biggest success and were quickly replaced by higher standard cars with a better reputation, leaving the low budget markets to other manufacturers.

I don't know if the calculator business has the same potential but quality tools normally sell good enough to return their investment.

Re: Would you pay $500 for a calculator

*Message #80 Posted by **Martin Pinckney** on 29 Aug 2011, 6:41 a.m.,*
in response to message #77 by Eric Smith

> Quote:
>
> Of course consumers didn't write those letters. They voted with their wallets.

Indeed. Winchester aficionados *stopped* buying their guns after they cheapened them. "Pre '64" Winchester became term of quality.

> Quote:
>
> I don't see how this can be realistically blamed on anyone OTHER than the consumers who are willing to buy cheap crap.

My point is that manufacturers often make internal decisions about "what consumers want" that are in error. Consumers did not want the change, did not initiate it, and did not have a buying alternative after the change. To postulate that all these cheapening changes were caused by consumers just isn't accurate, IMO.

> Quote:
>
> Another way of looking at it is that if consumers were not willing to buy cheap crap, then there wouldn't be millions of factories in China turning out cheap crap.

Again I find your logic only partially correct. Yes, consumers are certainly *willing* to buy the cheap Chinese crap, but they only got the opportunity after a) political decisions to allow "free" trade, and b) corporate decisions to move to China to undercut competition. Both not initiated by consumers.

What if Walmart has mounted a huge advertising campaign in 1980 that went like this: Dear consumer, we propose to start moving procurement to China soon. You will be able to buy a 20" box fan that now sells for $20, for $12 in 2010! And you will trade your fathers/brothers/husbands good-paying jobs for your children making minimum wage at our huge number of Superstores.

How would consumers have voted?

Re: Would you pay $500 for a calculator

*Message #81 Posted by **Eric Smith** on 29 Aug 2011, 12:31 p.m.,*
in response to message #80 by Martin Pinckney

They would have **said** that they didn't want that, but when the $12 box fan showed up, they would have bought it rather than the $20 box fan. That's voting with their wallet, and it is an historical fact that this is what happened. What consumers **say** they want, and what they'll **actually buy**, are often very different. What they **say** they want is totally irrelevant.

Re: Would you pay $500 for a calculator

*Message #82 Posted by **Garth Wilson** on 29 Aug 2011, 3:44 p.m.,*
in response to message #81 by Eric Smith

There will always be a niche market for a quality product though. There may not be many customers who will value it enough to spend the money for it, but that's why it's a niche market.

Re: Would you pay $500 for a calculator

*Message #83 Posted by **Martin Pinckney** on 29 Aug 2011, 4:28 p.m.,*
in response to message #81 by Eric Smith

Well, I have been unsuccessful in getting my point across.

Re: Would you pay $500 for a calculator

*Message #84 Posted by **Manolo Sobrino** on 29 Aug 2011, 2:49 p.m.,*
in response to message #77 by Eric Smith

I agree, there is short-sightedness in the attitude of buying always the cheapest. But the decisions are made by the 90% of the customers, and that's what they expect, unaware that it is not realistic to get what they want for what they're willing to spend.

I fear the time when it'll be impossible to get a new well engineered tool, as sometimes anything else would simply not do. It takes vision to do what Steve Jobs did with Apple, showing that you can make people to pay good money for your product if it is worth it (actually, that's not always the case with the i-whatever).

HP didn't have that vision. After disassembling a 50g I realised that I couldn't trust such bad soldering and clumsy design, that you would never be able to overcome a failure of the flash boot sector, and that arm emulation was a kludge cheaper than writing a more efficient native OS. I can't pay 200€ (department store, no fuss and easy warranty reclamation) for that, even though I really love the software.

I was willing to get a 35s, but the bugs are annoying, its strengths rather weak, and if I'm not going to get anything better than my casios and ti, there's no point in it.

I really want to get a decent hp calculator, not a collector's item, and I'm sure it can be done with profits for the company (as others have done it). Let's hope it's a question of time.

Re: Would you pay $500 for a calculator

*Message #85 Posted by **Nick R** on 27 Aug 2011, 3:25 p.m.,*
in response to message #67 by snaggs

$500 for a calculator isn't that much when you look at what Curtas sell for these days. It's only a four function machine and you have to supply your own memory.

Re: Would you pay $500 for a calculator

*Message #86 Posted by **Kiyoshi Akima** on 27 Aug 2011, 4:47 p.m.,*
in response to message #85 by Nick R

Many of us did pay $500 for a calculator, or close to it. The HP-67 was $450 when it came out, the HP-97 was $750. Then the HP-41C with a couple of memory modules, printer, tape drive...

Re: Would you pay $500 for a calculator

*Message #87 Posted by **Mike Morrow** on 27 Aug 2011, 5:36 p.m.,*
in response to message #86 by Kiyoshi Akima

I did...and much worse.

My Dietzgen N1725L slide rule was $35 in 1969...$215 in 2011.
My four-function Bomar 901B in 1972 was $130...$703 in 2011.
My HP-67 in 1977 was $450 (no discounts then, plus Massachusetts sales tax at the MIT Coop)...$1678 in 2011.
My TI-59 in 1977 was $300...$1118 in 2011.

That was some real hard cash outlay for a US Navy Lieutenant(JG) making in 1977 only $7600 per annum...$28333 in 2011.

Re: Would you pay $500 for a calculator

*Message #88 Posted by **Michael de Estrada** on 28 Aug 2011, 12:08 a.m.,*
in response to message #87 by Mike Morrow

Same could be said about any electronics:

HP-35 was $295 in 1973 = $1500 today

Zenith 19" color TV was $380 in 1972 = $2050 today

Sanyo MBC-555 Computer was $1530 in 1984 = $3300 today

Re: Would you pay $500 for a calculator

*Message #89 Posted by **snaggs** on 28 Aug 2011, 12:37 a.m.,*

in response to message #88 by Michael de Estrada

And look at he buk,d qualityt of modern computers! Excepting Apple who Decided not to compromise on that.

Pick up an old IBM PS2 and compare with a HP PC.

Daniel.

Re: Would you pay $500 for a calculator

*Message #90 Posted by **Eric Smith** on 28 Aug 2011, 2:08 a.m.,*
in response to message #89 by snaggs

Apple hardware has as many compromises as the other major brands. They're made in the same factories from much of the same components as other brands. Apple does a better job of industrial design to hide that, though.

[I guess I'd better don my flame-retardant BVDs now!]

Re: Would you pay $500 for a calculator

*Message #91 Posted by **Ethan Conner** on 28 Aug 2011, 3:38 a.m.,*
in response to message #90 by Eric Smith

No flamethrower here. Couldn't have said it better myself. You might appreciate this story though. A couple of days ago a friend asks on facebook "droid or iphone"? Several people give their opinion but this one guy gets all agitated and goes on and on about how evil the iphone is and their owners too. That's all fine to be passionate but he goes on to say that iphones are made under opressive conditions in China (true) but then he makes the error of sounding like his droid was made in some factory where every worker is pampered and overpaid. I had a good laugh and gently reminded him that the opressed people that made my iphone made his droid.

Be reasonable

*Message #92 Posted by **snaggs** on 28 Aug 2011, 6:45 a.m.,*
in response to message #90 by Eric Smith

So before the MacBook air and iPad who made their cases from a single piece of machined aluminium?

.....

And there is still nobody else who does.

Acuse apple of anything you like, but poor build quality is not one of them.

Re: Be reasonable

*Message #93 Posted by **x34** on 28 Aug 2011, 8:47 a.m.,*
in response to message #92 by snaggs

To name a few: Panasonic Toughbook, Dolch, Twinhead, Tadpole, Fujitsu, Sony Vaio, Clevo, Epson. All mil-spec producers since eighties

(Honeywell, IBM, ...).

Machined from solid piece of aluminum -- i doubt this, since it is economically prohibitive and makes absolutely no sense.

Re: Be reasonable

*Message #94 Posted by **Frank Wales** on 28 Aug 2011, 9:49 a.m.,*
in response to message #93 by x34

> Quote:
>
> Machined from solid piece of aluminum -- i doubt this, since it is economically prohibitive and makes absolutely no sense.

Here is Apple's video showing how they made the apparently machined-aluminium chassis of the laptop I'm typing this on.

Re: Be reasonable

*Message #95 Posted by **x34** on 28 Aug 2011, 10:05 a.m.,*
in response to message #94 by Frank Wales

Well, I was wrong considering machined unibody. Kudos to FoxConn and Apple. My list included notebook producers using full-metal body, but I don't know if any have machined unibody.

Edited: 28 Aug 2011, 10:08 a.m.

Re: Be reasonable

*Message #96 Posted by **Paul Berger (Canada)** on 28 Aug 2011, 10:44 a.m.,*
in response to message #95 by x34

I had an old Panasonic tough book with a solid metal case and it was cast light alloy that was machined where necessary.

Thanks

*Message #97 Posted by **snaggs** on 28 Aug 2011, 10:57 p.m.,*
in response to message #95 by x34

And I do agree lots of manufacturers used to make some nice products, remember old thinkpads? However, in consumer PC's that I can see at my local department store, theyre all pretty flimsy.

I was just thinking that theres not many products made like they used too, except Apple, and they charge a premium.

If HP were to make a calculator today with attention to constructioon quality, it would likely need to sell at a premium over current models, dont you think?

Im not suggesting it would cost $1500, but maybe 20% above current prices?

Edited: 28 Aug 2011, 10:59 p.m.

Re: Be reasonable

*Message #98 Posted by **uhmgawa** on 28 Aug 2011, 1:19 p.m.,*
in response to message #94 by Frank Wales

> Quote:
>
> Here is Apple's video showing how they made the apparently machined-aluminium chassis of the laptop I'm typing this on.

That's impressive by any measure and a breath of fresh air contrasted with the modern day stamp-out-more-cheap-crap disposable electronic goods migrane. I'd nominate Apple to the list for an "HP Manufacturing Award of Excellence".

I had toyed with the idea of milling housings for prototype calculators from Al -- actually a poured casting to minimize the amount of material removal. Compared to doing the same from a block of ABS (or a glued up blank emulating what you'd start with with the Al casting), Al is obviously more durable structurally and easier to machine in thin dimensions. Also the texturing achieved with injection molded ABS isn't going to be replicatable with a milled ABS approach. However it would be possible to sand/bead blast an AL frame to get an approximation.

The point where I paused was that of aesthetics wondering how to get an agreeable finish on the surface. Leaving it natural after blasting seemed a little non-traditional for a calc but maybe I'm just hung up on legacy HP color schemes. Anodizing it whatever color will look ok until the anodizing wears and it is downhill from there. ABS to me also feels more inviting for a handheld device vs. a cold block of metal. But that may be just what I'm used to.

On the plus side an Al substrate gets us away from heat staking and is able to hold threads far better than plastic. So from a serviceability POV a screw-attached PCB is an improvement. It also provides an inherent ESD cage.

Edited: 28 Aug 2011, 1:32 p.m.

Re: Be reasonable

*Message #99 Posted by **Paul Berger (Canada)** on 28 Aug 2011, 10:32 a.m.,*
in response to message #92 by snaggs

I would agree except for the Ti Books that was a pretty unfortunate

design, case was not rigid enough and keytops would scratch the surface of the LCD panel.

Re: Would you pay $500 for a calculator

*Message #100 Posted by **Paul Dale** on 28 Aug 2011, 2:17 a.m.,*
in response to message #67 by snaggs

I see a market opportunity here.

Introducing the ***Crapulator 2020***

More features than you'll know what to do with. Including such vital things as:

- Over two thousand functions which give at most 1 significant digit of accuracy.
- Floppy spongy keyboard that is guaranteed to last at least fifteen key presses. It feels much better than an acid soaked rag to wipe your eyes with.
- Lots of unreliable flash memory to store your unimportant data in. We even guarantee this wonderful memory for up to two writes or fifteen seconds retention. Trust us, your data is safe.
- Did I mention the 2k+ functions? You'll never need another calculating device again.
- Awesome black on black display with a totally insane 2k by 1.5k resolution, so long as everything is black.
- Over 350 percentage functions to make making up statistics easier.
- The satisfaction rate with our large user base is well over 115%.

You will love the *Crapulator 2020* or your money back in our accounts.

- Pauli

Re: Would you pay $500 for a calculator

*Message #101 Posted by **Walter B** on 28 Aug 2011, 3:11 a.m.,*
in response to message #100 by Paul Dale

Watch it! I happen to know at least one project heading towards the 2k+ functions ... [[;-)

Re: Would you pay $500 for a calculator

*Message #102 Posted by **Paul Dale** on 28 Aug 2011, 3:46 a.m.,*
in response to message #101 by Walter B

I've no idea what project this is. The 34S only has 523 distinct functions so that cannot possibly be it.

- Pauli

Re: Would you pay $500 for a calculator

*Message #103 Posted by **Paul Guertin** on 28 Aug 2011, 11:17 a.m.,*
in response to message #100 by Paul Dale

> Quote:
>
> Introducing the Crapulator 2020

You forgot a set of features that is becoming more and more common even today:

- Requires always-on Internet connection.
- Animated, flashing banner ads.
- Automatic cloud storage of all your previous computations, along with GPS, sound and video data. Which will then be sold to the highest bidder.
- Obligatory non-standard $40 USB cable.
- Non-replaceable battery that will die out one week after the 90-day warranty expires.

Edited: 28 Aug 2011, 11:28 a.m.

Re: Would you pay $500 for a calculator

*Message #104 Posted by **Eric Smith** on 29 Aug 2011, 12:04 a.m.,*
in response to message #103 by Paul Guertin

Actually the USB connector is the one thing that is increasingly often standard now rather than proprietary, thanks in part to the EU requiring that cell phones use a standard micro-USB connector for charging rather than a proprietary connector.

Re: Would you pay $500 for a calculator

*Message #105 Posted by **sylvandb** on 29 Aug 2011, 1:35 a.m.,*
in response to message #104 by Eric Smith

> Quote:
>
> Actually the USB connector is the one thing that is increasingly often standard now rather than proprietary, thanks in part to the EU requiring that cell phones use a standard micro-USB connector for charging rather than a proprietary connector.

Yeah, and according to Apple there are good reasons why something else must be used. :(

At least my Korean android phones use micro-USB. :)

sdb

Re: Would you pay $500 for a calculator

*Message #106 Posted by **Garth Wilson** on 29 Aug 2011, 3:42 a.m.,*
in response to message #105 by sylvandb

The USB spec. does not allow a hand-held battery-powered device to be a controller though. Booooo USB!

Re: Would you pay $500 for a calculator

*Message #107 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 4:10 a.m.,*
in response to message #106 by Garth Wilson

Garth,

> Quote:
>
> The USB spec. does not allow a hand-held battery-powered device to be a controller though. Booooo USB!

There are exceptions to this rule. You can connect two TI-84s or two Nspires through their USB ports. Looking at the cable you can easily see that one connector has a slightly different shape which will not fit into a standard mini USB B socket. The TIs have a modified socket. This is following a specification named "USB On-The-Go".

Edited: 29 Aug 2011, 4:19 a.m.

Re: Would you pay $500 for a calculator

*Message #108 Posted by **Eric Smith** on 29 Aug 2011, 12:33 p.m.,*
in response to message #107 by Marcus von Cube, Germany

It shouldn't be a "modified socket", whatever that is. It is supposed to be a standard micro-AB connector. On older devices, it should have been a mini-AB connector.

Re: Would you pay $500 for a calculator

*Message #109 Posted by **Eric Smith** on 29 Aug 2011, 12:36 p.m.,*
in response to message #106 by Garth Wilson

Does the USB spec actually prohibit that? I haven't read it cover to cover, but I wasn't aware of any such restriction.

However, a USB host is required to provide 5V at 500mA (2.5W) to a downstream device or hub, and that would blow the power budget of most handheld battery-powered devices.

Re: Would you pay $500 for a calculator

*Message #110 Posted by **Marcus von Cube, Germany** on 29 Aug 2011, 1:39 p.m.,*
in response to message #109 by Eric Smith

In the case of USB OTG, the device may limit the current to less then that. The specification contains a definition of a table of supported devices that may be part of a USB OTG controller. Only the mentioned devices are required to work.

Re: The HP35S

*Message #111 Posted by **Palmer O. Hanson, Jr.** on 28 Aug 2011, 3:17 a.m.,*
in response to message #1 by Nick R

The article "HP's grand vision - Aping IBM" on page 55 of the August 27 issue of *The Economist* states in part

> Quote:
>
> ...the firm's PC business is the world's biggest, but is not as profitable as HP's other units. What is more, most buyers of HP's machines are consumers, whose demands shift faster and more whimsically than those of corporate customers. ...

This thread, filled with reminiscences of the good old days (which weren't really that good), would seem to contradict that.

Re: The HP35S

*Message #112 Posted by **Walter B** on 28 Aug 2011, 5:20 a.m.,*
in response to message #111 by Palmer O. Hanson, Jr.

Palmer,

The visitors of and contributors to this forum are in no way a representative sample of the set of HP's customers as it is IMHO.

Walter

Re: The HP35S

*Message #113 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2011, 9:26 p.m.,*
in response to message #112 by Walter B

> Quote:
>
> The visitors of and contributors to this forum are in no way a representative sample of the set of HP's customers as it is IMHO.

Nothing illustrates the nature of the contributors to this forum better than that a recent thread "Thanks for a simple, easy to use forum" was followed in just a few days by a thread "Isn't it time to update the museum?"

Re: The HP35S

*Message #114 Posted by **Walter B** on 30 Aug 2011, 6:32 p.m.,*
in response to message #113 by Palmer O. Hanson, Jr.

> Quote:
>
> ... a recent thread "Thanks for a simple, easy to use forum" was followed in just a few days by a thread "Isn't it time to update the museum?"

This proves some people here are able to distinguish between the forum and the exhibition. Worthwhile in real museums as well, IMHO.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: What Your Old Graphing Calculator Says About Technology

*Message #1 Posted by **NateB** on 24 Aug 2011, 7:16 p.m.*

There is an article about graphing calculators and their failure to evolve in the Atlantic. (The HP-50g is #6 on the list of Top Twelve best-selling graphing calculators on Amazon)
Link

Re: OT: What Your Old Graphing Calculator Says About Technology

*Message #2 Posted by **Howard Owen** on 24 Aug 2011, 7:32 p.m.,*
in response to message #1 by NateB

What about calculator evolution in the Pacific? I might have to gear up for a little electronics fishing soon ...

Re: OT: What Your Old Graphing Calculator Says About Technology

*Message #3 Posted by **Lode** on 24 Aug 2011, 7:49 p.m.,*
in response to message #2 by Howard Owen

"In one of the purest computing tasks imaginable -- calculations and the graphic display thereof -- people choose a decade old technology."

Calculators still evolve fast compared to washing machines, vacuum cleaners, light switches, etc.....

Re: OT: What Your Old Graphing Calculator Says About Technology

*Message #4 Posted by **Mike Morrow** on 24 Aug 2011, 8:14 p.m.,*
in response to message #1 by NateB

Number 12 is the TI-89 Tit, presumably hardware version 4.

I'm surprised the HP 50G sells as well as it does, in light of TI strength in the GC market. But in objective reality, the HP 50G is a far more capable and easier machine to use for almost any purpose, compared to the less (Amazon sales) popular TI-89. The TI-89 Tit has a terrible display and lacks SD card support and many other hardware and firmware features that are standard on the HP.

Store stocks of the TI-89 Tit HW4 were cleared out last year at my local Wal-Mart for $42.50! I got one at that price (to go with my 14-year-old TI-89 HW1) and I still think it's overpriced!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Caesium atomic watch

*Message #1 Posted by **BruceH** on 24 Aug 2011, 6:11 p.m.*

It seems that HP made more than one model of watch - this one being a caesium atomic clock. ;-)

Re: HP Caesium atomic watch

*Message #2 Posted by **Lode** on 24 Aug 2011, 6:43 p.m.,*
in response to message #1 by BruceH

And it has red leds, what nice design!

Re: HP Caesium atomic watch

*Message #3 Posted by **Mike Morrow** on 24 Aug 2011, 8:21 p.m.,*
in response to message #1 by BruceH

What...no calendar or stopwatch functions? Those LEDs are hard to see in direct sunlight too.

I predict limited sale success.

Re: HP Caesium atomic watch

*Message #4 Posted by **Jim Yohe** on 25 Aug 2011, 12:59 a.m.,*
in response to message #1 by BruceH

Is that an AC power cord entering the back of the instrument, ... er ... watch? I suppose with the other arm or a backpack you could carry a battery and power inverter.

Edited: 25 Aug 2011, 1:00 a.m.

Re: HP Caesium atomic watch

*Message #5 Posted by **Ren** on 25 Aug 2011, 1:05 p.m.,*
in response to message #4 by Jim Yohe

It does have a battery pack. That allows it to continue running when transporting it to and from calibration as well as during power outages.

I liked the other article on that site about taking a trio of them up to 5400 feet above sea level to verify Einstein's theory about time and space.

Ren

dona nobis pacem

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What's the best way to re-assemble a Voyager?

*Message #1 Posted by **jbssm** on 24 Aug 2011, 5:43 p.m.*

Hi all,
so my HP-15C keyboard was in a really bad state and in whim of youth I decided to take it apart.
Now, the good news is that it was only dirt as I expected. The bad news is that I have to put it back.
I kept all the plastic pin heads I cut to reach the keyboard, and has I recall seeing somewhere in this forum I tried to put it back by melting them with my soldering iron.
That doesn't work. When I try to heat them, they get all shrunken and they do now mend with the rest of the pin back at the calculator.

So, are there any other ideas to put it back? I tough about using a strong glue on the pin heads. Has anybody tried that?

Also, there are some small scratches in the keyboard metal part (the black one), do you recommend some painting to cover it with a brush?

Re: What's the best way to re-assemble a Voyager?

*Message #2 Posted by **Artur-Brazil** on 25 Aug 2011, 2:40 p.m.,*
in response to message #1 by jbssm

Hi, I have done this to many calculators: You'll need:

- a 10 or 15 minute liquid(gel) epoxy glue; it is sold in two parts; it doesn't get spread too much, as it is a gel and is of fast cure;

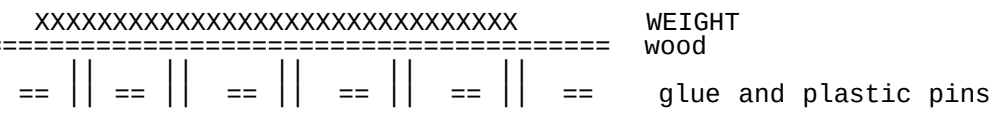
- around 10 to 15 small pins that you will put over the pcb. They must have around 1cm heigth (all same height!!!) and less than 1cm in diameter; you will put them over the pcb, between the holes where front part plastic pins come accross of;

- a small piece of wood or other plan material (15x20cm); you will put it over the pins;

- some heavy material, around 2 or 3kg. You will put this over the wood;

Procedments: - put the front part with keyboard down on a table; - insert the pcb on it - so, the plastic pins of front part will arise by the holes on pcb; - prepare some glue and quickly deposit small drops on all the holes where the plastic pins of front keyboard arise - don't spread them - the epoxy will spread by itself over and tight front part pin to pcb; - put the small plastic pins you got over the pcb, between the epoxy drops (but not let them be glued to pcb); - put the piece of wood over these pins; - put the weight over wood and let there for one hour or more;

See the schematic, as my English is very poor:



```
 -+-----+-------+------+------+------+-   pcb on the place
  |     |       |      |      |      |    plastic pins from front
 ======================================  calculator facing down
```

Please, do not use an extremelly heavy weight to press everything, as you would bent the front part and pcb.

At the end, you'll see you HP with a tight keyboard as new!!

Need to clean the alummium bezel? Use a soft sand paper and after removing scratches, apply a lacqueur.

My best wishes!!! Artur - Brazil

REPLACE THIS TEXT WITH YOUR LISTING [/pre]

Edited: 25 Aug 2011, 2:45 p.m.

Re: What's the best way to re-assemble a Voyager?

*Message #3 Posted by **jbssm** on 29 Aug 2011, 9:13 a.m.,*
in response to message #2 by Artur-Brazil

Hi Artur (I send the messa in Portuguese bellow in case it's easier for you),
So, today I was finally going to do it but I got stuck in a part.

You say I should use pins with 1cm heigh and about 1 cm diameter. But if I use pins with 1 cm heigh they are too big and I will not be able to put the back part of the calculator back.
Can you explain better?

Thank you.

Agora em Português.

Olá Artur,
hoje ia finalmente tentar usar o seu método mas fiquei empancado.

Você diz para utilizar pinos de 1 cm de altura por 1 cm de diámetro, mas se tiverem 1 cm de altura são muito altos e não consigo pôr a parte de traz da caixa da calculadora de volta.
Podia explicar melhor o procedimento, é que talvez eu não esteja a entender bem.

Re: What's the best way to re-assemble a Voyager?

*Message #4 Posted by **uhmgawa** on 25 Aug 2011, 3:08 p.m.,*
in response to message #1 by jbssm

> Quote:
>
> Hi all,
> so my HP-15C keyboard was in a really bad state and in whim of youth I decided to take it apart.
> Now, the good news is that it was only dirt as I expected. The bad news is that I have to put it back.

Before you put the shebang back together I'd recommend rotating the tactile dome strips between the more frequently used keypad locations and those of lesser wear. You did mark from where each tact strip originated of course? Yea I forgot enough times too but you can detect any wear of substance by tossing a strip on a

~200gram scale and measuring any differential dome inflection force.

> Quote:
>
> I kept all the plastic pin heads I cut to reach the keyboard, and has I recall seeing somewhere in this forum I tried to put it back by melting them with my soldering iron.

I can't imagine that method resulting in a successful re-staking comparable to the original post heads. Besides needing to replace the head you need to do so under controlled conditions of temperature, pressure and time. There is also the consideration of the overlay elastomer membrane which should be (and was) compressed in the original staking operation. Rather than rebuild the posts to subsequently heat deform, I've just cut new head blanks from 1/8" ABS welding rod on a lathe to solvent weld one-by-one onto the beheaded posts under pressure. (A sharp set of diagonal cutters with jaws flat on one side may work too.) It is a bit slow but will result in a joint of far more substantial strength compared to having at it with an (over temperature) iron.

You may want to use a solvent cement (with filler) such as ABS pipe cement vs. say, acetone and apply it to only the new head blank and not the target post. Doing so will minimize the likelihood of creating a bond between post and PCB which will frustrate any future disassembly attempts. A jewelers loupe, tweezers, and hypodermic syringe for dispensing the cement will go far to insuring a neat job.

> Quote:
>
> That doesn't work. When I try to heat them, they get all shrunken and they do now mend with the rest of the pin back at the calculator.

The posts were likely (or should have been) cut flush with the top of the PCB such that they are the correct height to automagically gauge the reassembly pressure. If that isn't the case or they are further deformed by an attempt to rejoin the cut heads with an iron you may have some experimentation ahead. In any case cut a piece of stiff foam (eg: carpeting base) to fit just inside of the external keypad area which clears the upper display bezel and right/left housing. Put the calc face down on the foam (posts pointing up) and using a small drill press with a bit mounted backwards in the chuck, apply pressure to the head+post to be rejoined. A weight hung on the on the quill handle will help achieve consistent joints. ABS solvent-based cement will set sufficiently such that joint pressure can be removed in a few minutes depending on type of cement and amount applied. If this procedure is followed carefully the PCB should be removable (and restake-able) as above for subsequent repair.

Edited: 25 Aug 2011, 3:16 p.m.

Re: What's the best way to re-assemble a Voyager?

*Message #5 Posted by **Didier Lachieze** on 29 Aug 2011, 11:32 a.m.,*
in response to message #1 by jbssm

Here is a an example with some pictures: Fix the keyboard of a HP15c

Re: What's the best way to re-assemble a Voyager?

*Message #6 Posted by **jbssm** on 29 Aug 2011, 12:20 p.m.,*
in response to message #5 by Didier Lachieze

Thanks Didier.
Can you explain me where do the needles get fixed? I mean are their inserted into the pastic of the keyboard (that doesn't sound very tough) or in some other method?
An can you suggest any other material for a needle? I don't have a spare microprocessor at home, so

perhaps some copper wire or similar?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Emulator: Where does it get its rom?

*Message #1 Posted by **Lode** on 24 Aug 2011, 5:28 p.m.*

Hi,

Does anyone know where the WP34s emulator loads the ROM from? There's no file that looks like a ROM in its directory, and after renaming calc.bin in the 'real' directory, the emulator still works so it's not loading that file.

Regards,

-Lode

Re: [WP34s] Emulator: Where does it get its rom?

*Message #2 Posted by **Paul Dale** on 24 Aug 2011, 5:31 p.m.,*
in response to message #1 by Lode

It doesn't load a ROM. It is a native compile of the firmware.

- Pauli

Re: [WP34s] Emulator: Where does it get its rom?

*Message #3 Posted by **Lode** on 24 Aug 2011, 5:56 p.m.,*
in response to message #2 by Paul Dale

Ok, I see, thanks...

The emulator program works really well in wine in linux.

But it seems like all these developer tools and running the emulator with a different rom really are designed purely for visual studio and nothing else, no other C++ compiler, let alone another OS, can do anything useful at all with this :(

Hard to create and debug a custom ROM without emulator of course, I mean, the calculator can only be flashed a few 1000 times...

Edited: 24 Aug 2011, 5:58 p.m.

Re: [WP34s] Emulator: Where does it get its rom?

*Message #4 Posted by **Paul Dale** on 24 Aug 2011, 6:13 p.m.,*
in response to message #3 by Lode

Our builds are done on Windows.

It is possible to compile the firmware on other operating systems using a gcc-arm tool chain but nobody I'm aware of has tried to flash such an image.

There is a text console emulator that works on Linux and MacOS which is extremely useful for development and debugging -- better access to view much of the internal state. I use this for all of my development and debugging efforts.

- Pauli

Re: [WP34s] Emulator: Where does it get its rom?

*Message #5 Posted by **Marcus von Cube, Germany** on 25 Aug 2011, 2:25 a.m.,*
in response to message #4 by Paul Dale

As Pauli stated, there is no attempt to emulate the hardware on the PC. We've just more than one environment to compile the sources for: The hardware, Windows and Unix (Mac, Linux).

In order to debug the logic it's almost always enough to do this with the tools on the PC. I'm using Visual Studio 10 but the free Express edition will do in most cases. It's a pure Windows thing because the emulator is built upon the work of HP. The original sources are part of the 20b/30b SDK put together by Cyrille. The GUI part was written with the Microsoft Foundation Classes and is Windows only. I did a split between the GUI and the calculator engine by putting the GUI in a DLL. So it's perfectly possible to create a new GUI implementation that is no longer dependent on HP's Windows code.

For the hardware port I added a JTAG connector to my development 20b. It's connected to my development system via an Olimex ARM-USB probe which allows source level debugging from within the Eclipse debugger. It's not as comfortable as the Windows debugger but for pure hardware stuff like interrupt handling it's the only choice.

Flash endurance

*Message #6 Posted by **Eric Smith** on 25 Aug 2011, 4:58 a.m.,*
in response to message #3 by Lode

> Quote:
>
> the calculator can only be flashed a few 1000 times...

The endurance spec is 10,000 times, with 10 year retention. This means that at 10,000 writes, the flash will still give valid data at all combinations of the chip's specifications, such as low voltage at low temperature, low voltage at high temperature, high voltage at low temperature, and at all process corners. And still meet the 10 year data retention specification. It doesn't mean that it will fail on the 10,001st write.

In other words, there's a good chance that your calculator can be flashed a lot more than 10,000 times, because you probably only operate it at room temperature, and not at any temperature extremes (or high voltage extreme), and because Atmel is probably fairly conservative in specifying the endurance at 10,000, but if it does happen to fail on the 10,001st write, it's your problem and not Atmel's.

If you were using a calculator based on this part for development (rather than a simulator), it would take quite a while to try 10,000 code images. The calculator isn't that expensive, so even if it does fail on the 10,001st write, you can buy a new one, and not feel like you didn't get your money's worth for the first one.

I'm doing some firmware development now on a different vendor's ARM chip. I don't have a simulator.

I might work 12 hours in a day on it, but I don't think I've ever reflashed it more than about 50 times in a day, and usually not nearly that many.

Re: Flash endurance

*Message #7 Posted by **Paul Dale** on 25 Aug 2011, 5:45 a.m.,*
in response to message #6 by Eric Smith

In my previous job I got tasked with stress testing some flash to destruction. I don't remember if it was rated to 10k or 100k erase/write cycles.

Needless to say, we gave up testing before the first failure. This was well beyond the specified number of cycles.

And as Eric wrote, a replacement calculator isn't expensive and 10k write cycles is a very long time.

- Pauli

Re: Flash endurance

*Message #8 Posted by **Marcus von Cube, Germany** on 25 Aug 2011, 10:37 a.m.,*
in response to message #7 by Paul Dale

The limit gets in the way if you start storing more or less volatile data in the flash memory. We could easily create commands to store registers in flash if we wanted to. But this would probably stress the flash beyond specification.

We have a (distant) plan to use flash for regular program storage and we need to implement some smart caching in order to avoid excessive writes to flash. (Don't do it for every program step input by the user!) Register storage will remain in SRAM but some file I/O (41C like) to flash seems possible.

Re: Flash endurance

*Message #9 Posted by **Garth Wilson** on 25 Aug 2011, 3:40 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Although I'm not familiar with them, I know there have been wear-leveling algorithms developed for this reason. The idea is that if you keep writing small portions of the flash, rather than always writing them to the same pages and wearing those out while the rest of the flash has lots of life left in it, you move them around so the wear load is shared.

Re: Flash endurance

*Message #10 Posted by **Marcus von Cube, Germany** on 25 Aug 2011, 4:14 p.m.,*
in response to message #9 by Garth Wilson

This is the main task of the flash controllers built into flash memory cards. Special flash file systems are designed for embedded devices which have do do this in software.

Re: Flash endurance

*Message #11 Posted by **Eric Smith** on 25 Aug 2011, 9:55 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Right. I interpreted the original point I was responding to as being about flashing firmware during development, which is a much different usage model than data storage. Using 10K-rated flash for user data storage requires a lot more care.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[WP34s] Flashing with USB adapter successful

*Message #1 Posted by **Alexander Oestert** on 24 Aug 2011, 12:12 p.m.*

Hi all,

I just managed to flash a 30b with a Digitus (FTDI) USB-to-Serial-Adapter on my Asus eeePC 1001P. Only the messages on the WP34s screen that came after the flashing were not the ones found here., but still it worked flawlessly on the very first try!

My thanks go to the WP34s team and to Gene for providing the cable! AWESOME!

Edited: 24 Aug 2011, 12:13 p.m.

Re: [WP34s] Flashing with USB adapter successful

*Message #2 Posted by **Marcus von Cube, Germany** on 24 Aug 2011, 1:32 p.m.,*
in response to message #1 by Alexander Oestert

The messages after flashing are obviously not those documented by HP for their firmware but those documented by Walter for WP 34S. The ROM boot loader built into the processor by Atmel does not do any display because it has no idea what kind of display is connected to the chip.

Re: [WP34s] HP 30b original firmware available?

*Message #3 Posted by **Alexander Oestert** on 24 Aug 2011, 2:44 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> HP for their firmware

Is the 30b firmware provided anywhere should I want to rerepurpose it for any strange reason?

EDIT: Found the answer here

Edited: 24 Aug 2011, 2:49 p.m.

Actually, the 30b firmware...

*Message #4 Posted by **gene wright** on 24 Aug 2011, 3:31 p.m.,*
in response to message #3 by Alexander Oestert

is available from me if you want it. Tim has allowed me to send it out upon request so he is free to keep working on the HP 67CXi due out at HHC 2012.

Re: Actually, the 30b firmware...

*Message #5 Posted by **Namir** on 24 Aug 2011, 3:36 p.m.,*
in response to message #4 by gene wright

Gene,

That's mighty nice of you!! Sending these cables out frees HP from doing that task.

Cheers,

Namir

PS: Still in NC beach and waiting for the local county to issue a possible evacuation order for tomorrow in face of hurricane Irene.

Re: Actually, the 30b firmware...

*Message #6 Posted by **Eric Smith** on 24 Aug 2011, 3:38 p.m.,*
in response to message #4 by gene wright

Will HHC 2012 be before or after the end of the world?

Re: Actually, the 30b firmware...

*Message #7 Posted by **gene wright** on 24 Aug 2011, 4:28 p.m.,*
in response to message #6 by Eric Smith

If the HP 67CXi is announced, the end cannot be far behind.

Re: Actually, the 30b firmware...

*Message #8 Posted by **Namir** on 24 Aug 2011, 6:50 p.m.,*
in response to message #7 by gene wright

If we make it just an HP-67CX (drop the trailing i) will it make a difference??

:-)

Namir

Re: Actually, the 30b firmware...

*Message #9 Posted by **Namir** on 24 Aug 2011, 6:51 p.m.,*
in response to message #6 by Eric Smith

Maybe the Aztec calculations needed a HP calculator to do the calculations right. I hear they used TI calculators That figures!!!

Namir

Edited: 24 Aug 2011, 6:52 p.m.

Re: Actually, the 30b firmware...

*Message #10 Posted by **Patrice** on 24 Aug 2011, 7:26 p.m.,*
in response to message #9 by Namir

Namir,

I heard that in fact they were using MS-Excel :)

Patrice

Re: Actually, the 30b firmware...

*Message #11 Posted by **Namir** on 24 Aug 2011, 11:58 p.m.,*
in response to message #10 by Patrice

Good one!!!

Are you coming to HHC2011??

Namir

Re: Actually, the 30b firmware...

*Message #12 Posted by **Patrice** on 25 Aug 2011, 1:07 a.m.,*
in response to message #11 by Namir

Yes

I am registered

Re: Actually, the 30b firmware...

*Message #13 Posted by **Howard Owen** on 24 Aug 2011, 8:19 p.m.,*
in response to message #9 by Namir

It's the Mayans, not the Aztecs. The Mayans are going to destroy the world in 2012 unless they get HP-15Cs.

I may have that wrong ...

Re: Actually, the 30b firmware...

*Message #14 Posted by **Mike Morrow** on 24 Aug 2011, 8:23 p.m.,*
in response to message #13 by Howard Owen

The Mayans are much more sophisticated than that. They want HP 42S's.

Re: Actually, the 30b firmware...

*Message #15 Posted by **Namir** on 24 Aug 2011, 11:57 p.m.,*
in response to message #13 by Howard Owen

Let's hope HP brings out the HP-15C LE for the Mayans to redo the calculations .. and quickly!!

:-)

Namir

Re: Actually, the 30b firmware...

*Message #16 Posted by **Thomas Radtke** on 25 Aug 2011, 12:26 p.m.,*
in response to message #4 by gene wright

Hi Gene,

I guess the 30b F/W is tied legally to the 30b? If not, I'd like to try it on my 20b (don't own a 30b, unfortunately).

Thomas

Re: Actually, the 30b firmware...

*Message #17 Posted by **Marcus von Cube, Germany** on 25 Aug 2011, 1:27 p.m.,*
in response to message #16 by Thomas Radtke

I don't know if that's possible at all but TW once stated that HP has tried hard not to allow the 30b firmware to run on the 20b hardware.

Re: Actually, the 30b firmware...

*Message #18 Posted by **Walter B** on 25 Aug 2011, 1:30 p.m.,*
in response to message #17 by Marcus von Cube, Germany

And the 30b keyboard runs circles around the 20b. So you should get one anyway ... :-)

Re: Actually, the 30b firmware...

*Message #19 Posted by **Thomas Radtke** on 25 Aug 2011, 1:43 p.m.,*
in response to message #18 by Walter B

I'm sure it does, but my calculator budget has to be preserved for the 15C LE(*) ;-).

(*) if it doesn't appear, I'll get the 30b in the next fire sale when Leo dumps the calc devision ;-(

Re: Actually, the 30b firmware...

*Message #20 Posted by **Jeff O.** on 26 Aug 2011, 7:41 a.m.,*
in response to message #19 by Thomas Radtke

I just picked up two 30b's for $23.95 each from Amazon, with free shipping. Took 6 days from ordering to arrival.

Re: Actually, the 30b firmware...

*Message #21 Posted by **Thomas Radtke** on 26 Aug 2011, 8:31 a.m.,*
in response to message #20 by Jeff O.

Should I ask the US government for shelter from european prices? ;-)

Re: Actually, the 30b firmware...

*Message #22 Posted by **Jeff O.** on 26 Aug 2011, 7:36 p.m.,*
in response to message #21 by Thomas Radtke

Sorry Thomas, it was not my intention to highlight worldwide price inequities. I wish they did not exist.

Re: Actually, the 30b firmware...

*Message #23 Posted by **gene wright** on 25 Aug 2011, 1:42 p.m.,*
in response to message #16 by Thomas Radtke

The 30b firmware runs only on the 30b.

Re: Actually, the 30b firmware...

*Message #24 Posted by **Thomas Radtke** on 25 Aug 2011, 1:45 p.m.,*
in response to message #23 by gene wright

Ok, thanks!

Re: [WP34s] Flashing with USB adapter successful

*Message #25 Posted by **Hubert Weikert** on 24 Aug 2011, 2:45 p.m.,*
in response to message #1 by Alexander Oestert

Asus eeePC 1001P: was this with Windows 7?

Hubert

Re: [WP34s] Flashing with USB adapter successful

*Message #26 Posted by **Alexander Oestert** on 24 Aug 2011, 2:47 p.m.,*
in response to message #25 by Hubert Weikert

> Quote:
>
> Asus eeePC 1001P: was this with Windows 7?
>
> Hubert

No, it's XP Home Edition Version 2002 Service Pack 3

Re: [WP34s] Flashing with USB adapter successful using Windows 7

*Message #27 Posted by **Gerry Schultz** on 24 Aug 2011, 11:48 p.m.,*
in response to message #26 by Alexander Oestert

I too just had success flashing my WP-34s to version 2.11388. As I mentioned in a previous post, I recently purchased an HP Pavilion laptop PC and I've been curious about if I could flash my WP-34s to the latest firmware on it. This PC is running Windows 7 Professional and I used an ES-U-1001-R100 USB-to-RS232 (FTDI) adapter. After reading Bart's article on "How to get started with a WP-34s", I googled SAM-BA 2.10 and downloaded it from Atmel's website. It's the first download listed. In the description on their website, it stated that SAM-BA 2.10 was for Win7, so I didn't try setting the compatibility mode as recommended in Bart's article.

It installed without a problem and ran fine. I noticed that it takes a long time to start up so I had to be patient. I closed the program and connected up the USB-to-RS232 adapter and Win7 identified it

immediately and installed it successfully. I did go into the Device Manager and change the assigned serial port from Com 3 to Com 1 but that's not important. I then followed the 20b reflashing procedure and it worked the first time!

Very Cool. If there are any questions about my setup or what I did, please post.

Gerry

Edited: 24 Aug 2011, 11:55 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The week of repairing calculators

*Message #1 Posted by **David Ramsey** on 24 Aug 2011, 11:20 a.m.*

Well, so far:

-- 9830 tape drive problem: Paused until I can drive to San Jose and have a debugging session with EE friend that actually has a logic analyzer.

-- 9810 printer repair: Awaiting Cold Shrink™ tubing. Printer removed and will clean today.

-- Secondary 9810 display repair: see item #1. This parts machine might not have been my wisest purchase.

-- SR-60 card reader gummy wheel repair: finally got around to this yesterday. Turned out to be much simpler than I'd thought it would be, about on par with 9810 card reader work. Typical O ring repair that works perfectly.

-- SR-60 power supply(?) repair: sadly, the SR-60-- which, for a few shining minutes, was completely functional-- promptly died in the middle of running a test program. Display blanked out and calculator appears dead. When turned off and on the display will flash for a brief second, and sometimes the printer stutters. Will check PS voltages today.

So, overall...not doing that well (though certainly not for the lack of helpful suggestions from the folks here!) I think I really need to learn some basic electronics and graduate beyond a $10 Radio Shack multimeter.

Re: The week of repairing calculators

*Message #2 Posted by **Dave Shaffer (Arizona)** on 24 Aug 2011, 12:54 p.m.,*
in response to message #1 by David Ramsey

> Quote:
>
> graduate beyond a $10 Radio Shack multimeter.

Depending on your investment so far (in the machines themselves!), look into used test equipment on TAS. I got a 200 MHz dual-channel Tektronix scope a few years ago for not much more than $100. The front panel is a little beat up, but it works fine.

Re: The week of repairing calculators

*Message #3 Posted by **David Ramsey** on 24 Aug 2011, 5:34 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

The SR-60 thing seems to have been a bad connection, which is fixed (crossed fingers) now. Unlike HP machines of the same era, the SR-60 is not full of gold.

I assume a "dual channel" scope simply means I can view two simultaneous inputs, right?

Re: The week of repairing calculators

*Message #4 Posted by **Dave Shaffer (Arizona)** on 24 Aug 2011, 7:18 p.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> I assume a "dual channel" scope simply means I can view two simultaneous inputs, right?

Yep. Typically, you can view them in alternate mode (one channel shows, then the other, as triggered either on the signal or with some kind of external sync), add them (not so great, usually, although you can invert an input, so they are in fact subtracting), or "chop," where the display alternately selects one or the other input at a rate faster than the sweep, so you are really viewing them both (nearly) simultaneously. Works best for relatively slow signals.

Re: The week of repairing calculators

*Message #5 Posted by **Tony Duell** on 25 Aug 2011, 4:10 a.m.,*
in response to message #2 by Dave Shaffer (Arizona)

Test equipment is undoubtedly very important (in that you can't 'see' the logic signals without it), but remember that there is no magic box you can plug into a calculator which will say 'Replace U3 on the Memory Addres PCB' (or whatever).

IMHO the most important piece of 'test gear' is a brain. Seriously. You can get a long way with simple instruments if you (a) know exactly what they tell you and (b) know how to interpret that information.

That said, I do find a good logic analyser to be very useful when repairing CPU/memory problems in the 9800s. I don't find a 'scope all that useful actually, but that's a personal thing.

Re: The week of repairing calculators

*Message #6 Posted by **Eric Smith** on 25 Aug 2011, 6:01 a.m.,*
in response to message #5 by Tony Duell

> Quote:
>
> IMHO the most important piece of 'test gear' is a brain.

Agreed!

I feel like I need a new one, though. The one I've got now is definitely past its "best by" date. The data retention has substantially deteriorated, and I don't think the processing is working as well as it once did.

Eric

> Quote:
>
> "Yes, an electronic brain," said Frankie, "a simple one would suffice."
>
> "A simple one!" wailed Arthur.
>
> "Yeah," said Zaphod with a sudden evil grin, "you'd just have to program it to say What? and I don't understand and Where's the tea? --- who'd know the difference?"

> "What?" cried Arthur, backing away still further.
>
> "See what I mean?" said Zaphod and howled with pain because of something that Trillian did at that moment.
>
> "I'd notice the difference," said Arthur.
>
> "No you wouldn't," said Frankie mouse, "you'd be programmed not to."
>
> -- Douglas Adams, *The Hitch Hiker's Guide to the Galaxy*

Re: The week of repairing calculators

*Message #7 Posted by **David Ramsey** on 25 Aug 2011, 12:15 p.m.,*
in response to message #5 by Tony Duell

> Quote:
>
> That said, I do find a good logic analyser to be very useful when repairing CPU/memory problems in the 9800s. I don't find a 'scope all that useful actually, but that's a personal thing.

The ability to use a logic analyzer effectively in cases like this requires a degree of hardware knowledge and experience most of us don't have. I've been a programmer since the 70s, but that doesn't help much!

Still, I wrote numeric display drivers for the Motorola 6800, so I know the basic principles behind them (turn the segments on and off real fast and let persistence of vision convince the user they're looking at an "8" instead of 7 segments flickering on and off). So I might be able to repair the 9810 display board since I actually understand how it works.

I might also add that in addition to a brain, a community of helpful folks like this is important, too.

Edited: 25 Aug 2011, 12:16 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C Reissue is actually a carefully disguised printer?

*Message #1 Posted by **Lincoln R.** on 24 Aug 2011, 7:33 a.m.*

This seems to have appeared, wonder how long it'll stay up. http://www8.hp.com/us/en/products/printers/product-detail.html?oid=5153395

Re: 15C Reissue is actually a carefully disguised printer?

*Message #2 Posted by **robertoataulfo** on 24 Aug 2011, 7:49 a.m.,*
in response to message #1 by Lincoln R.

Addition loop test, completed in HP labs. Up to 100X faster than original HP 15c. :-))

Re: 15C Reissue is actually a carefully disguised printer?

*Message #3 Posted by **Katie Wasserman** on 24 Aug 2011, 11:06 a.m.,*
in response to message #2 by robertoataulfo

Assuming it uses the exact same emulator inside the latest version of the 12C+ -- I see no reason why it should not -- then it should run 150x faster than the original 15c.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #4 Posted by **Michael de Estrada** on 24 Aug 2011, 11:31 a.m.,*
in response to message #3 by Katie Wasserman

What is the battery life on the 12C+ ?

Re: 15C Reissue is actually a carefully disguised printer?

*Message #5 Posted by **Katie Wasserman** on 24 Aug 2011, 12:15 p.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> What is the battery life on the 12C+ ?

So-so. Here are my approximate current measurements:

```
OFF = 0.004 mA
ON/idle = 0.05 mA
ON/running AMORT or tight loop = 20 mA
```

The two CR2032 cells have a combined capacity of about 450 mAh (depending on brand) at a standard current draw of 0.2ma. So the OFF state current draw is fine, implying a "shelf life" of 12 years.

The ON/idle state implies a lifetime of about 1 year, still pretty good.

However the running time is horrible, since the capacity of these cells drops precipitously beyond their standard rating of .2 ma. Manufacturers don't rate these to work at 20ma, so I can only guess (or test, I suppose) the capacity at 20ma. If I had to guess I'd say it's about 40mAh. Giving the calculator about 4 hours of continuous run-time use -- it might be less than this.

If you're not running "loopy" programs however, the quick 20ma current burst won't kill the batteries nearly as fast as a continuous draw. So basic math functions should allow for decent battery life.

-Katie

Edited: 24 Aug 2011, 12:15 p.m.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #6 Posted by **Pal G.** on 24 Aug 2011, 1:14 p.m.,*
in response to message #5 by Katie Wasserman

Katie,

I enjoy reading your posts. Can you give us a rough estimate (years?) for "decent battery life", and without me having to search the forums, can you tell us the estimated battery life of the original 15c or 12c?

I am wondering how close the old and new compare for folks who do not run "loopy" programs.

Thanks.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #7 Posted by **Katie Wasserman** on 24 Aug 2011, 10:11 p.m.,*
in response to message #6 by Pal G.

Measuring an original 12C I get these approximate current measurements:

```
OFF less than 0.0001 mA
ON/idle = 0.01 mA
ON/running AMORT or tight loop = 0.4 mA
```

If the calculator is powered by Energizer 357 (silver oxide) cells that are rated at 150mAh at .2ma current draw the OFF state will be dependent only on the battery self-discharge. For silver oxide cells this can be 20 years at room temperature or maybe 50 years at zero Celsius. ON/idle state will be about 1.5 years similar to the 12C+, the big difference is when running long functions or loops.

The 12C can run for around 300 hours before exhausting the cells, while the 12C+ is only good for a few hours at best. Of course the 12C+ runs 150 times faster so the number of execution steps per set of batteries is about the same, surprisingly (or maybe not).

I can't really give an estimate on how long a set of batteries will last in either calculator under normal conditions unless those conditions are defined carefully. But from the above it seems pretty clear that if you do the same functions on a 12C and a 12C+ you can expect similar overall battery life.

-Katie

Memory : 65 registers

*Message #8 Posted by **snaggs** on 24 Aug 2011, 7:53 a.m.,*
in response to message #1 by Lincoln R.

What does this mean? Is it just an emulation or an improvement?

Re: Memory : 65 registers

*Message #9 Posted by **Jeff O.** on 24 Aug 2011, 8:57 a.m.,*
in response to message #8 by snaggs

On the 15C produced from 1982 through 1989, the memory pool included 67 total registers, R_I, R_0, R_1 ... R_{65}. Registers R_I, R_0, and R_1 could not be allocated to program storage, but the remaining 64 (R_2 ... R_{65}) were allocatable between data and program storage. Each numbered register (above R_1) could be converted to 7 bytes of program memory. At power up, the memory pool was split such that there were 21 data storage registers (R_I ... R_{19}) and 322 bytes of program memory (7 bytes each for R_{20} ... R_{65}.) Since the highest numbered register was called R_{65}, the specification for 65 registers appears to be consistent with the capabilities of the original 15C.

...

Edited: 24 Aug 2011, 8:58 a.m.

Re: Memory : 65 registers

*Message #10 Posted by **Thomas Radtke** on 24 Aug 2011, 9:57 a.m.,*
in response to message #8 by snaggs

It's both.

Re: Memory : 65 registers

*Message #11 Posted by **Martin Pinckney** on 24 Aug 2011, 10:36 a.m.,*
in response to message #8 by snaggs

My understanding is the new calculator emulates the function of the old one exactly. The improvement is the speed increase.

Re: Memory : 65 registers

*Message #12 Posted by **John B. Smitherman** on 24 Aug 2011, 12:16 p.m.,*
in response to message #8 by snaggs

HP made an HP 15c iPhone app available in 2009 or so. Hopefully, the code had been debugged and can easily be implemented in the 12c+ hardware.

John

Re: Memory : 65 registers

*Message #13 Posted by **Ethan Conner** on 24 Aug 2011, 12:52 p.m.,*
in response to message #12 by John B. Smitherman

When i discovered the hp calculator emulator apps for the iphone they didn't have good reviews

compared to the "aftermarket" emulators. So i went with all "aftermarket" emulators and have no complaints.

Re: Memory : 65 registers

*Message #14 Posted by **Norman Dziedzic** on 24 Aug 2011, 1:46 p.m.,*
in response to message #13 by Ethan Conner

I wanted to see what a close to true 15C was like so I ponied up for the HP iPhone 15C. I never had a real one to compare it but I'm guessing all the functionality is there.

My 1 real beef and the reason I don't use it more is that the keyboard click is so loud it is annoying. There is no way to turn it down other than turning the whole sound down on the phone but this affects the ringer which I need up due to where I work.

The other complaint I have read is that while it says it contains a manual, it only contains the first half of the manual and ends before the programming section.

My Go-To iPhone calculators are the i41CX+ and Free42 except when I need to graph something and then I use PocketCAS lite.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #15 Posted by **Howard Owen** on 24 Aug 2011, 9:01 a.m.,*
in response to message #1 by Lincoln R.

It comes with the 15C emulator on CD, too. Odd place for this to show up.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #16 Posted by **Thomas Radtke** on 24 Aug 2011, 1:44 p.m.,*
in response to message #15 by Howard Owen

If it comes. I hope it is already in production.

Re: 15C Reissue is actually a carefully disguised printer?

*Message #17 Posted by **Michael de Estrada** on 24 Aug 2011, 9:31 a.m.,*
in response to message #1 by Lincoln R.

Perhaps calculators are being moved to the printer division under the new HP organization ?

Re: 15C Reissue is actually a carefully disguised printer?

*Message #18 Posted by **Howard Owen** on 24 Aug 2011, 1:30 p.m.,*
in response to message #17 by Michael de Estrada

LOL! Now *there's* a rumor for you!

The printer division 15C link is still up

*Message #19 Posted by **Howard Owen** on 28 Aug 2011, 12:31 p.m.,*
in response to message #17 by Michael de Estrada

That link is still up as of August 28th. There's no doubt that people on the inside have been made aware of it. You'd think it would have been taken down by now if it were a mistake. I'm probably reading too much

into this, but it makes me start to wonder if there is truth in the idea that calculators may be moving under printers at HP. That would be tremendously good news, since printers are presumably still very profitable and more likely to be resistent to spin-off.

15C specs listed under printers

Re: The printer division 15C link is still up

*Message #20 Posted by **Michael de Estrada** on 28 Aug 2011, 12:44 p.m.,*
in response to message #19 by Howard Owen

It may also explain Tim's more blatant candor about the HP-33s and HP-35s.

Re: The printer division 15C link is still up

*Message #21 Posted by **Donald Ingram** on 28 Aug 2011, 1:00 p.m.,*
in response to message #20 by Michael de Estrada

The 12C 30 year anniversary is showing available 9/1 NW258AA#ABA

12C 30 years

Re: The printer division 15C link is still up

*Message #22 Posted by **Thomas Radtke** on 28 Aug 2011, 2:02 p.m.,*
in response to message #21 by Donald Ingram

Nice ad. The model should have worn some kind of lab dress and presented the 15C LE ;-).

Re: The printer division 15C link is still up

*Message #23 Posted by **Thomas Radtke** on 30 Aug 2011, 3:17 a.m.,*
in response to message #19 by Howard Owen

> Quote:
>
> That link is still up as of August 28th.

Not only is it still up, but the display content of the 15C LE changed :-).

Re: The printer division 15C link is still up

*Message #24 Posted by **Walter B** on 30 Aug 2011, 1:38 p.m.,*
in response to message #23 by Thomas Radtke

Looks like somebody listens :-)

Re: The printer division 15C link is still up

*Message #25 Posted by **Lincoln R.** on 30 Aug 2011, 10:58 p.m.,*
in response to message #23 by Thomas Radtke

Yeah... looks like they fixed the rounding error on pi.

Re: The printer division 15C link is still up

*Message #26 Posted by **Tim Wessman** on 31 Aug 2011, 12:46 a.m.,*
in response to message #25 by Lincoln R.

Got to hand it to those responsive people in the printer group.

TW

Re: The printer division 15C link is still up

*Message #27 Posted by **Howard Owen** on 31 Aug 2011, 5:00 a.m.,*
in response to message #26 by Tim Wessman

They must be a big help to you personal systems guys. Perhaps they have body doubles too? :)

Re: The printer division 15C link is still up

*Message #28 Posted by **John B. Smitherman** on 31 Aug 2011, 7:19 a.m.,*
in response to message #27 by Howard Owen

I'd say the liberal arts majors and MBA's running HP have pretty much run HP into the ground. :-(

John

Re: The printer division 15C link is still up

*Message #29 Posted by **Glenn Dowdy** on 31 Aug 2011, 6:54 p.m.,*
in response to message #28 by John B. Smitherman

Quote:

I'd say the liberal arts majors and MBA's running HP have pretty much run HP into the ground. :-(

John

Hey! Some of us MBAs are doing everything we can to keep it afloat. Don't bite the hand that feeds you ;)

Re: The printer division 15C link is still up

*Message #30 Posted by **Didier Lachieze** on 31 Aug 2011, 7:45 a.m.,*
in response to message #25 by Lincoln R.

Quote:

Yeah... looks like they fixed the rounding error on pi.

The 15C LE may not be so fast after all, it took a while to calculate the 9th digit of Pi after the decimal with the right accuracy .... :-)

Re: The printer division 15C link is still up

*Message #31 Posted by **Tim Wessman** on 31 Aug 2011, 10:46 a.m.,*
in response to message #30 by Didier Lachieze

It was the carrier pigeon network probably. Took a while to get there.

TW

Edited: 31 Aug 2011, 10:46 a.m.

Re: The printer division 15C link is still up

*Message #32 Posted by **Walter B** on 31 Aug 2011, 12:51 p.m.,*
in response to message #31 by Tim Wessman

ooh, I always thought you rely on floo powder ...

Re: The printer division 15C link is still up

*Message #33 Posted by **Glenn Dowdy** on 31 Aug 2011, 6:55 p.m.,*
in response to message #32 by Walter B

Quote:

ooh, I always thought you rely on floo powder ...

ROHS restrictions took care of that.

Re: The printer division 15C link is still up

*Message #34 Posted by **Steve Simpkin** on 1 Sept 2011, 1:44 p.m.,*
in response to message #19 by Howard Owen

The link under printers is no longer there since the HP-15C LE is now officially listed under the scientific calculators section.
Official HP-15C LE link

Re: 15C Reissue is actually a carefully disguised printer?

*Message #35 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Aug 2011, 9:37 a.m.,*
in response to message #1 by Lincoln R.

As long as printers are supposed not to be axed (like PCs and notebooks, as per last week news), it may be a good thing to consider these calculators as "printers". Even the HP 41 or 42 may be considered "IR printer controllers" or "IR print servers".

Re: 15C Reissue is actually a carefully disguised printer?

*Message #36 Posted by **Howard Owen** on 24 Aug 2011, 1:37 p.m.,*
in response to message #35 by Andrés C. Rodríguez (Argentina)

If they bring back the 42S, add WiFi and a gig of RAM, there's no reason it couldn't be quite a capable print server.

```
01>LBL "PBUFF"
02>LBL A
03 WINA
04 PRA
05 FC? 1200
09 GTO A
10 "Print job complete"
11 AVIEW
12 .END.
```

Re: 15C Reissue is actually a carefully disguised printer?

*Message #37 Posted by **Lincoln R.** on 24 Aug 2011, 11:06 p.m.,*
in response to message #35 by Andrés C. Rodríguez (Argentina)

Honestly I don't care if calculators become part of the rubber chicken division as long as they keep making them ;-)

Re: 15C Reissue is actually a carefully disguised printer?

*Message #38 Posted by **Tim Wessman** on 25 Aug 2011, 12:03 a.m.,*
in response to message #37 by Lincoln R.

That would be an awesome business card.

TW

Re: 15C Reissue is actually a carefully disguised printer?

*Message #39 Posted by **Ron Ross** on 29 Aug 2011, 10:14 a.m.,*
in response to message #38 by Tim Wessman

Actually, you could probably pull that off as I suspect you have a pointy haired boss somewhere up the ladder who would believe that RCD meant Research into Calculation Division, but the rest of us

would know and your business Card could tell the real story.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

1 calculator : LED or LCD

*Message #1 Posted by **snaggs** on 24 Aug 2011, 6:58 a.m.*

This forum has got me curious to the older calculators. It seems that the 34c and 41c are the only models that could actually be used in anger now.

So, which is your "stranded on an island" calculator?

It says the 34c is easy to get on the guide, yet I dont see that many of them turn up.

Re: 1 calculator : LED or LCD

*Message #2 Posted by **Paul Dale** on 24 Aug 2011, 7:04 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> So, which is your "stranded on an island" calculator?

If the stranding is for any significant length of time, it would have to be a really long battery life device. A voyager, maybe a 41 or best of all a slide rule.

- Pauli

Re: 1 calculator : LED or LCD

*Message #3 Posted by **snaggs** on 24 Aug 2011, 7:20 a.m.,*
in response to message #2 by Paul Dale

Hehe, assume this island has a power point and charger :)

Re: 1 calculator : LED or LCD

*Message #4 Posted by **db (martinez, ca.)** on 24 Aug 2011, 9:08 a.m.,*
in response to message #1 by snaggs

I had to make two & a half year "desert island" decisions at the end of '96 for lots of things: a calculator, 10 CDs/tapes, climbing equipment, books. Ended up choosing a CX with the early TDS ROM & full X memory, lots of Grateful Dead and Segovia, Lowe & MSR, Jung & Castaneda.

Almost maxed out the X mem and had to write a program to do one thing that the 48sx version already did, but it wasn't a desert and there were rainy days.

Today; i might take the WP-34 and try to port the D'zign programs onto it. Would need a lot of rainy days though.

Re: 1 calculator : LED or LCD

*Message #5 Posted by **Namir** on 24 Aug 2011, 10:59 a.m.,*
in response to message #1 by snaggs

The 41CX for sure!

Re: 1 calculator : LED or LCD

*Message #6 Posted by **M. Joury** on 24 Aug 2011, 11:26 a.m.,*
in response to message #1 by snaggs

Between the 41C/CV/CX and 34C I would take the 41C/CV/CX. However, why limit oneself? The HP34 is one of my favorite LED calculators. Attractive, compact, powerful. No I/O however (65 or 67 for that if you are looking for an LED calc).

The 34C used to be very easy to find. I don't see them quite as frequently now.

Cheers,

Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

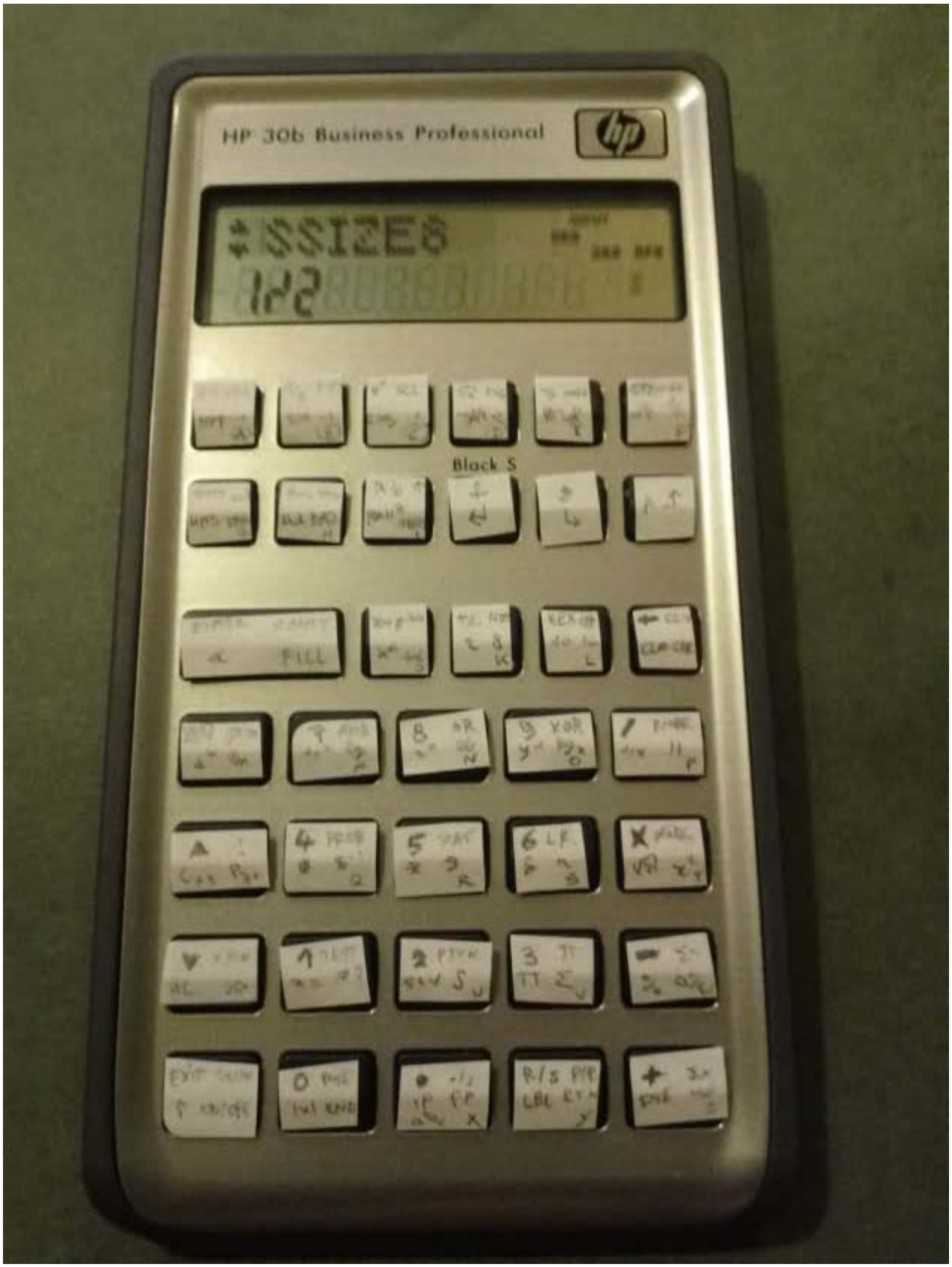
HP Forum Archive 20

[Return to Index | Top of Index]

WP34s with custom finish :)

*Message #1 Posted by **Lode** on 23 Aug 2011, 4:08 p.m.*

I managed to flash a WP34s, after having all components (the cable and the calculator of course). It went without problems from the first time. Well, the only problem was finding a Windows machine, since in Wine the port COM1 refused to show up in the Samba v2.9 program, even when linking to /dev/ttyS0 in ~/.wine/dosdevices.



I'll just be honest, the custom key labels I stuck onto it are a pain on the eyes due to being too small and low contrast, but they're easy to remove.

One day I hope to be able to write a multiplatform program that can flash ROMs to this calculator through the serial port, and, to write different ROMs to put on this nice piece of hardware :)

Re: WP34s with custom finish :)

*Message #2 Posted by **Marcus von Cube, Germany** on 23 Aug 2011, 4:25 p.m.,*
in response to message #1 by Lode

Why *different* ROMs? ;-)

It's time for Eric Rechlin to get productive again. WP34S is gaining momentum and his overlays are unsurpassed until now.

Re: WP34s with custom finish :)

*Message #3 Posted by **Lode** on 23 Aug 2011, 4:57 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Well, the possibilities for ROMs are endless! Adventure games, poker, chemical tables, brainf*ck interpreters, ...

Re: WP34s with custom finish :)

*Message #4 Posted by **Paul Dale** on 23 Aug 2011, 5:25 p.m.,*
in response to message #3 by Lode

Why not 34S user programs for most of these things?

You'll find the dot matrix display a joy to work with *not*.

- Pauli

Re: WP34s with custom finish :)

*Message #5 Posted by **Walter B** on 23 Aug 2011, 6:22 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Until said overlays will be available, please look here. Just a little adjustment: print width shall be 6**8** mm. Further help is found at the archives :-)

Re: WP34s with custom finish :)

*Message #6 Posted by **Lode** on 23 Aug 2011, 7:07 p.m.,*
in response to message #5 by Walter B

A grey variant could be nice!

Re: WP34s with custom finish :)

*Message #7 Posted by **Walter B** on 24 Aug 2011, 2:34 a.m.,*
in response to message #6 by Lode

Could be. Colours, however, were optimized for a next to black background. And be assured, it looks great on the 30b :-)

Re: WP34s with custom finish :)

*Message #8 Posted by **Eric Rechlin** on 24 Aug 2011, 2:42 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I will make more once I can. I need a new blade for my cutter. I ordered 3 new ones in July and they haven't even shipped yet, so a week ago I ordered 3 more from an Italian seller, but apparently Europeans don't believe in working in August so they aren't going to ship until next week. I seriously hope to have some made in time for the conference but I wouldn't expect them any sooner.

Eric

Re: WP34s with custom finish :)

*Message #9 Posted by **Alexander Oestert** on 24 Aug 2011, 7:14 a.m.,*
in response to message #8 by Eric Rechlin

Hi Eric,

do you keep a list of people interested in your overlays? Where can I put myself on it - for one or two?

Regards, Alexander

(who has the cable but still waits for the 30b to be delivered.)

EDIT: (who just got the calc and is now a happy WP34s owner with a dire need for an overlay!)

Edited: 24 Aug 2011, 12:41 p.m.

Re: WP34s with custom finish :)

*Message #10 Posted by **Lode** on 24 Aug 2011, 9:58 a.m.,*
in response to message #8 by Eric Rechlin

What kind of cutter is it, and on what kind of sticker paper does it get printed?

It sounds really hard to me to cut it out!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41 halfnut character question

*Message #1 Posted by **Eric Smith** on 23 Aug 2011, 5:35 a.m.*

The LCD drivers in the "Halfnut" versions of the HP-41 series added 32 new characters to the displayable character set, though unfortunately HP did not revise the mainframe ROM code to give access to those characters, so they could only be displayed by custom microcode.

The characters were shown in the CHHU Chronicle Volume 2 Number 4 Page 11.

It is obvious what many of the characters, such as the lower case Roman alphabet, are supposed to be. Some are probably intended to be Greek characters, such as:

```
110 lower case pi
111 lower case alpha
112 lower case beta
113 lower case gamma
115 lower case sigma (non-word-final)
117 upper case gamma
11e lower case lambda
13c lower case delta
```

The one that's completely baffling me is code 114 (sixth row, fifth column). Does anyone have a guess as to what that is supposed to represent?

There are suitable Unicode code points for almost all of the 41 characters other than the "hangman" series, although any given font may not include them. For instance, the "alpha append" character (which I usually refer to as "lazy T", is approximated pretty well by Unicode point 22a2, "right tack". Even the left- and right-facing geese are vaguely similar to 2977 (leftwards arrow through less-than) and 2b43 (rightwards arrow through greater-than). Close enough for government work, anyhow.

I'm using DejaVu Sans Mono for a project, and am disappointed that it does not have 2221 "measured angle", which would be suitable for the HP-41 angle character.

I'm not trying to create a font that looks like the HP-41 14-segment display, as Luiz Vieira has already done a great job of that. Rather, I'm trying to put together a monospaced sans-serif font that has representations of the 41's special characters in a style to match a conventional font. I'm struggling through editing a TrueType font with Fontforge, which seems like a good program but I haven't yet mastered it. If anyone here is interested in helping with my little project, please send me email. The fruits of these labors will be demonstrated at the upcoming HHC 2011 conference.

Re: 41 halfnut character question

*Message #2 Posted by **Paul Dale** on 23 Aug 2011, 6:00 a.m.,*
in response to message #1 by Eric Smith

> Quote:
>
> ```
> 111 lower case alpha
> ```

This is more than a bit of a stretch isn't it?

> Quote:
>
> The one that's completely baffling me is code 114 (sixth row, fifth column). Does anyone have a guess as to what that is supposed to represent?

No idea :-(

It kind of fits the "hangman" scheme of the characters following although not very well.

- Pauli

Re: 41 halfnut character question

*Message #3 Posted by **Frido Bohn** on 23 Aug 2011, 6:46 a.m.,*
in response to message #1 by Eric Smith

> Quote:
>
> The one that's completely baffling me is code 114 (sixth row, fifth column). Does anyone have a guess as to what that is supposed to represent?

I am looking at the LCD character table on page 108 of Ken Emery's "MCODE for Beginners" and assume that code 114 represents a lower case delta. This assumption is nurrished by the observation that lower case "a, b, c, d" are just one row above, and "a, b, c" are in-line with lower case alpha, beta and gamma.
However, code 114 resembles more a downwards directed satellite dish than delta :-)
Well, this is only my impression I get when I look at the said table. As long as we don't ask the author of this character set, the interpretation of some signs will remain speculative.
An idea would be to look at the Quick Reference Card for Synthetic Programming. There, all characters are depicted which were ment to be represented by the HP41 (via a printer). So, some characters may be ruled out, others may give an idea for which they stand in the LCD display.

Re: 41 halfnut character question

*Message #4 Posted by **Eric Smith** on 23 Aug 2011, 1:51 p.m.,*
in response to message #3 by Frido Bohn

Using code 114 for lc delta would make sense, but 13c looks far more like a lower-case delta, and it doesn't seem like they were too worried about having codes in order.

The suggestion of looking at the printer character set is a good one. I thought of that just after turning off my computer this morning.

I think my guess of 113 as lower case gamma, which was partially based on order, is probably wrong. Now I think that was supposed to be a lower case tau, since the 82143A also has a lower case tau, but not a lower case gamma.

While the 82143A does have an lc alpha, maybe 111 is intended as an uc delta, despite its diminutive size. But I'm still inclined to think of 111 as an ls alpha, because the 14-seg could do a much better uc delta, e.g., by taking the greater than (13C) and adding the two rightmost segments. I guess that would look like an italic uc delta.

Re: 41 halfnut character question

*Message #5 Posted by **Walter B** on 23 Aug 2011, 2:02 p.m.,*
in response to message #3 by Frido Bohn

Many characters in this set require a lot of phantasy, see e.g. lower case x which could compete as pi as well. And I find no reason why particular characters are featured twice, especially the hangman stuff. But anyway, looking for Greek letters, IMHO there are (may be) Alpha (001), beta (112) and Beta (002), Gamma (117), delta (13C) and Delta (111), epsilon (13B) and Epsilon (005), Zeta (01A), Eta (008), Theta (038), iota (129) and Iota (009), Kappa (00B), lambda (11E), mu (10C) and Mu (00D), nu (136) and Nu (00E), omikron (12F) and Omikron (00F), pi (110), rho (130) and Rho (010), sigma (115) and Sigma (10E), tau (113) and Tau (014), Ypsilon (019), no phi, Chi (018), and neither psi nor omega. Some of them coincide with some Latin letters. FWIW

Re: 41 halfnut character question

*Message #6 Posted by **Eric Smith** on 23 Aug 2011, 2:09 p.m.,*
in response to message #1 by Eric Smith

One of the mysteries of the new halfnut characters is why there are duplications of some between row 10x and row 11x, rather than having even more new characters. I think I've figured that out. Obviously they didn't want to change any of the original characters, so that the existing mainframe ROM code would work unchanged (without supporting the new characters). However, they also wanted to be able to use the new characters with only a minor ROM change, though unfortunately they never actually put that ROM change into a product.

The relevant ROM code is in the last quad (2c00-2fff) at the lable "mask", using the table "asctbl" of special characters at 2c00. asctbl is indexed by the LCD character code minus 0x100, and the contents of each entry are the "41-ASCII" character code to be mapped to that LCD code.

By changing the "mask" code to map ASCII 0x60-0x7f to LCD 0x120-0x13f, they deal with all of the lower case characters, as well as high-t, uc sigma, and lazy-t. That frees up seven slots in asctbl, and those are the same seven positions that are filled with new characters if the specials come from 0x110-0x11f rather than 0x100-0x10f, while the remaining slots in 0x110-0x11f have characters matching 0x100-0x10f so that the nine unchanged entries in asctbl would still work.

I studied the "mask" code back in 1985 when the CHHU article showing the halfnut character set appeared, and back then I thought I'd come up with a patch that would enable all of the new characters while fitting entirely in the original space occupied by the mask routine. However, either I was mistaken or I was more clever back then, because now I can't find a way to do it that doesn't require using up a little bit of ROM patch space elsewhere. There's a little bit of patch space left near the end of ROM 2 (even in the 41CX) that could be used for this purpose.

It's a shame that there's no easy way to use Monte's NEWT processor (41CL upgrade) in a halfnut, as that would allow the mainframe ROM to be patched to support the new characters.

Edited: 23 Aug 2011, 2:11 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TDS-GX/ Surveying

*Message #1 Posted by **aj04062** on 22 Aug 2011, 9:45 p.m.*

Does anyone know of an online source for this manual?

Re: TDS-GX/ Surveying

*Message #2 Posted by **Martin Pinckney** on 22 Aug 2011, 10:51 p.m.,*
in response to message #1 by aj04062

Not sure if this is the one you want:

http://www.tdsway.com/binaries/tdscogoforhp48gx/documents/manuals/COGOManual&Reference.pdf

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9810a display question

*Message #1 Posted by **David Ramsey** on 22 Aug 2011, 7:12 p.m.*

So, if I put this second-generation 9810a display board in a known good 9810 and see this at power on:

...it seems reasonable to assume that it's a driver problem rather than a miraculous co-incidental failure of the same LED segments in each row, right?

That being the case, what components would I replace? It would be nice if it was that big vertical row of large transistors, 'cause that looks as if it would be easy.

Re: 9810a display question

*Message #2 Posted by **Tony Duell** on 23 Aug 2011, 4:30 a.m.,*
in response to message #1 by David Ramsey

It might be those transistors, it might be an IC. The good news is that it's unlikely to be the displays themselves, and that the ICs are not hard to get.

Download 'my' HP9810 scheamtic and look at pages 60 and 61. The latter shows the anode (segment) drivers for the displays. Now, in the X register you're missing segments c,d,e (at least). Those all come from sections of U16 (page 61 of the diagrams), so that IC could be faulty (FWIW, I've had these ICs where all sections have failed at once). Use a 'scope or a logic probe to see if the outputs are changing state. If not, change U16, if they are, check the associated transistors (you'll have to trace the tracks to find them). Basically, for each missing segment, check the output of the associated 7403 gate, if that's not toggling, change that 7403, if it is, test the transistor.

I notice you're missing the d segment (the bottom one) from all displays. This might just mean all the drivers have failed, it might also mean they're getting no input. Look at page 60 of the schematics, you'll see that the segment drive lines are buffered (bottom right corner of the page). See if the output of U17b is changing state. If not, change it.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need technical specs for HP 17b calculator display

*Message #1 Posted by **Ken H** on 22 Aug 2011, 6:43 p.m.*

I dropped my 17b (original version from 1988)and part of the display "leaked" and is now all black all of the time. It should be a pretty easy fix if I can find the correct replacement lcd. Anyone have a part number or detailed spec or source for this original? Also, any tricks or suggestions about how to open the case would be appreciated. Thanks!

Edited: 22 Aug 2011, 6:51 p.m.

Re: Need technical specs for HP 17b calculator display

*Message #2 Posted by **Jeff O.** on 22 Aug 2011, 8:08 p.m.,*
in response to message #1 by Ken H

See this article and this one by Paul Brogger for some tips and tricks to open and work on pioneers.

Regarding a source for the display, my guess is most will say the only source is another 17b, or 17bii, or 42s, or 27s...

The display of the current version of the 17bii+ looks the same, no telling if the display would be compatible.

Good luck!

Edited: 22 Aug 2011, 8:09 p.m.

Re: Need technical specs for HP 17b calculator display

*Message #3 Posted by **Ken H** on 22 Aug 2011, 11:05 p.m.,*
in response to message #2 by Jeff O.

Thanks for the link to the article. It's got great info on disassembly. I had assumed there were press lock latches which could be pried apart. Didn't realize drilling would be required. Think I'll go with a replacement instead of repairing this one.

Re: Need technical specs for HP 17b calculator display

*Message #4 Posted by **allen** on 22 Aug 2011, 10:36 p.m.,*
in response to message #1 by Ken H

Unless you just want to learn how, I suggest saving yourself the repair time and trouble and buying a used 17b online. You'd have to buy one for a donor screen anyway.

The prices for non-RPN models has come down by 30% compared with a few years ago.

Re: Need technical specs for HP 17b calculator display

*Message #5 Posted by **Ken H** on 22 Aug 2011, 11:07 p.m.,*
in response to message #4 by allen

After reading the article from the post, above, I'm taking your advice and will look for a replacement unit. Thanks.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RM mode and its effects on RRM determinant of AM1 matrix

*Message #1 Posted by **Gene wright** on 22 Aug 2011, 5:55 p.m.*

```
RM Mode       Determinant
-------   --------------------
  0       0.99999 711935 38228
  1       0.99999 720675 30552
  2       0.99999 709507 09280
  3       1.00000 009178 43880
  4       0.99999 711925 74617
  5       1.00000 895891 46320
  6       0.99999 718613 18536
```

Looks like RM 3 is closest to 1. Fairly significantly closer, it appears.

Re: RM mode and its effects on RRM determinant of AM1 matrix

*Message #2 Posted by **Paul Dale** on 22 Aug 2011, 6:16 p.m.,*
in response to message #1 by Gene wright

RM 3 is round half up. It being closer is most likely a fluke.

This does show that the algorithm isn't overly sensitive to rounding mode which is goodness.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Alpha prompts in the WP34S

*Message #1 Posted by **Namir** on 22 Aug 2011, 5:47 p.m.*

Hi All,

I decided to spend my spare time on the beach playing with the WP34S emulator to get the hang of the machine.

How does one build prompting messages (to be displayed by the PROMPT command) which also include the question mark. How do you display a result (like Root=1.94983) that concatenates the text "Root=" with the contents of the stack or a memory register.

I know it is supposed to be similar to the HP-41C. Your assistance is appreciated. A short example will go a long way!

Namir

Edited: 22 Aug 2011, 5:48 p.m.

Re: Alpha prompts in the WP34S

*Message #2 Posted by **Paul Dale** on 22 Aug 2011, 6:13 p.m.,*
in response to message #1 by Namir

The question mark is on h-shift Q (h-shift 4). This is a fairly recent change.

To get a number into alpha properly formatted use [alpha]RC#

- Pauli

Re: Alpha prompts in the WP34S

*Message #3 Posted by **Namir** on 22 Aug 2011, 6:21 p.m.,*
in response to message #2 by Paul Dale

Thanks Pauli! I figured out how to display a message on the top line and the result on the bottom line.

I may have more questions.

Namir

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Now this *really* makes me feel better about HP's moves

*Message #1 Posted by **Howard Owen** on 22 Aug 2011, 4:53 p.m.*

TheStreet.com article.

Re: Now this *really* makes me feel better about HP's moves

*Message #2 Posted by **John B. Smitherman** on 22 Aug 2011, 5:17 p.m.,*
in response to message #1 by Howard Owen

I doubt Carly is capable of reading a financial balance sheet.

John

Re: Now this *really* makes me feel better about HP's moves

*Message #3 Posted by **hpnut** on 22 Aug 2011, 8:08 p.m.,*
in response to message #1 by Howard Owen

I disagree. this move spells the death of HP calculator group. it should be given to the test and measurement Agilent spinoff where real manufacturing still happens.

hpnut in Malaysia

Re: Now this *really* makes me feel better about HP's moves

*Message #4 Posted by **Artur-Brazil** on 23 Aug 2011, 8:06 a.m.,*
in response to message #1 by Howard Owen

I can't believe this woman is still talking about business and there are stupid people that gives heard to her words... She killed HP in 2000...

Re: Now this *really* makes me feel better about HP's moves

*Message #5 Posted by **Tom Mathes** on 23 Aug 2011, 9:49 a.m.,*
in response to message #1 by Howard Owen

The title of this thread is sarcasm, right?

Edited: 23 Aug 2011, 9:50 a.m.

Re: Now this *really* makes me feel better about HP's moves

*Message #6 Posted by **Howard Owen** on 23 Aug 2011, 1:14 p.m.,*
in response to message #5 by Tom Mathes

Yes. :)

Re: Now this *really* makes me feel better about HP's moves

*Message #7 Posted by **Brian K** on 23 Aug 2011, 10:30 a.m.,*
in response to message #1 by Howard Owen

I quit Compaq just before HP assumed ownership, thankfully.

Carly was a trainwreck from day 1, in my opinion.

Re: Now this *really* makes me feel better about HP's moves

*Message #8 Posted by **Namir** on 23 Aug 2011, 12:24 p.m.,*
in response to message #1 by Howard Owen

Many companies become huge and end up being victims of their own successes. Microsoft, Cisco, and HP are good examples.

Like with Sam Kim, I hope that Tim and Cyrille will find positions elsewhere that honor their talents.

Re: Now this *really* makes me feel better about HP's moves

*Message #9 Posted by **Ken Shaw** on 23 Aug 2011, 12:59 p.m.,*
in response to message #1 by Howard Owen

I like it where she says the management of HP is looking to the future. If these guys ran a grocery store, I can imagine the thinking might go like this:

```
(1) We sell milk, bread, potato chips and pop.
(2) Sales of milk & bread are flat.
(3) Sales of chips and pop have been rising for 30 years.
(4) Let's stop selling milk & bread.
```

Re: Now this *really* makes me feel better about HP's moves

*Message #10 Posted by **Walter B** on 23 Aug 2011, 1:10 p.m.,*
in response to message #1 by Howard Owen

AFAIK Carly is no longer with HP (thank god). So why should anybody care what she says in this matter? TIA for enlightenment if necessary.

Re: Now this *really* makes me feel better about HP's moves

*Message #11 Posted by **bill platt** on 25 Aug 2011, 4:31 a.m.,*
in response to message #1 by Howard Owen

she embarrasses herself here without even realizing it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Display of Complex Numbers on wp34s

*Message #1 Posted by **Jeff O.** on 22 Aug 2011, 2:50 p.m.*

My biggest wish for wp34s is that it handled and displayed complex numbers more like the 42s and 35s. I think I understand why that was not practical, or at least did not seem practical at the beginning of development. And the way wp34s handles complex numbers is probably as good as can be without adopting a paradigm similar to the 42s/35s. I also understand that Walter and perhaps others on the team felt that the dot-matrix part of the display was not suitable for "full-time" numerical display and better used for status, annunciators and messages. But for some reason I recently wondered how it would look to use the dot-matrix area to display the imaginary part or angle of a complex number. Not sure if it is new, but I was recently made aware of the aRC# (using small "a" for alpha) command and it occurred to me that I could use it to simulate imaginary or angle display. So I wrote two small programs, as follows:

```
Command      Comment
LBL 16       so I can press XEQ CPX for this one. Depending on your version you might have to
press XEQ 16
CLa
ai
aRC# Y
PROMPT
RTN


Command      Comment
LBL 41       so I can press XEQ XEQ for this one. Depending on your version you might have to
press XEQ 41
CLa
a∠           that is the first symbol (looks like the 42s angle symbol) on the h-test menu in
alpha mode
aRC# Y
PROMPT
RTN
```

Key in the above programs, I'll wait….

Set your calculator to FIX 4. Press 4 ENTER, 3, XEQ CPX. The dot matrix area should be displaying "i4.0000", and I think it looks pretty good. Now press g ->P, then XEQ XEQ. Now the dot-matrix area should be displaying "∠53.1301", and again, I think it looks pretty good. I realize that I would be free to use the above at my leisure to display rectangular complex and/or polar complex values as I desire. But, it got me thinking, maybe a little of this display methodology could be built into the 34s. Not some sort of complex display mode that would always display as such, just a couple little things as follows:

1. Create two new internal commands that would temporarily display the Y register as the imaginary component or angle. By temporary I mean the same as the SHOW command, active only until some other key is pressed. Call one RDISP, one PDISP for rectangular display and polar display, respectively
2. Upon execution of the ->REC command, temporarily put in RDISP mode, so you can see both the real and imaginary components you just created without doing an exchange.
3. Upon execution of the ->POL command, temporarily put in PDISP mode, so you can see both the magnitude and angle you just created without doing an exchange.
4. Upon execution of ANY Complex command, temporarily put in RDISP mode so you can see your complex result without doing an exchange.
5. Upon pressing CPX, put in RDISP mode (instead of displaying the small "C" annunciator) to both indicate

that you are about to treat the x and y registers as a complex rectangular value, (i.e. execute a function on a complex argument) and let you see both values you are about to use.

The programs work in other display modes besides FIX 4 of course, I just specified FIX 4 for my example because it looks good. In other display modes, the dot-matrix area might be forced to use the small font. It still looks fine to me, but looked best in large font. If my suggested RDISP and PDISP commands are adopted, perhaps they could always truncate the Y value so it could be displayed in the large font. That brings me to one last question, I noticed that the small font version of the ∠ symbol looks like a “less than” symbol, i.e. “<”. Any reason it could not simply be the left three columns of the large font symbol, i.e. in ASCII art:

```
  *
 *
***
```

Or maybe the right three columns:

```
  *
 *
*
***
```

I realize that as usual, it is easy for me to suggest things and there may be many reasons why the above cannot or will not be implemented by the developers, from technical coding reasons to not liking the ideas even if they are feasible. But I would be interested in hearing comments on the ideas, positive, negative or in between.

Best regards

Jeff

.

Re: Display of Complex Numbers on wp34s

*Message #2 Posted by **Lode** on 22 Aug 2011, 5:06 p.m.,*
in response to message #1 by Jeff O.

I think a complex number should be displayed like this:

1.234E499i1.23 499

Where the E symbol is made out of the 7-segment display, the i is one short vertical stripe of the 7-segment display, and the exponent of the imaginary part uses the 3 small digits while the exponent of the real part uses the E notation.

For polar notation, the i would become a short L.

For those into electronics where j is often used instead of i, it could also be a mirrored L symbol instead, like a J (again short, taking only half a 7-segment digit, so that you spot the non number symbol easily).

If the imaginary part is 0, it automatically doesn't add the i etc... to the number.

The way the WP34s handles complex numbers was a big disappointment to me. The 35s has it almost perfect, with its dedicated i key, except they screwed it up totally by not allowing the sqrt, sin-1, sinh, log10, etc... functions to use it.

A calculator which uses a i key, i notation, and supports all operations on complex numbers as if they're native values, would be perfect for me. And when in deg mode, it should do the conversion from deg to rad even for complex numbers for the trig functions (and only the trig functions).

Edited: 22 Aug 2011, 5:16 p.m.

Re: Display of Complex Numbers on wp34s

*Message #3 Posted by **Jeff O.** on 22 Aug 2011, 6:32 p.m.,*
in response to message #2 by Lode

I'm not sure if I would like the way your display suggestion would look, but that is just a matter of taste. I believe the bigger problem with it is that it would require major changes to wp34s. The way wp34s "holds" and operates on complex numbers is pretty well set in stone, I think. I'm just trying to add a few tweaks to make it a little easier (on me, at least, don't know about others.)

I am a big proponent of the "i" key and full operating support for complex values. Maybe we can get closer to our ideal on the "next" project. Or, wp34s is open source and we are free to make any changes we like.

Re: Display of Complex Numbers on wp34s

*Message #4 Posted by **Walter B** on 22 Aug 2011, 6:46 p.m.,*
in response to message #3 by Jeff O.

WP 34S *is* open source, so you can change what you like, but will be responsible for your changes as well [:-)

We (Pauli and me) had discussed the complex display a year ago IIRC, and we came to the result Pauli explained below. YMMV

Walter

Re: Display of Complex Numbers on wp34s

*Message #5 Posted by **Jeff O.** on 22 Aug 2011, 8:01 p.m.,*
in response to message #4 by Walter B

Source code generally looks like greek to me, so I'll stick with your product. Learning C might be possible, I learned _gasp_ *Fortran* once. But the rest of the development chain looks like a tall, tall mountain to climb. Maybe when I retire I can learn the requisite skills, although I am not sure I would live long enough unless I retire pretty darn soon.

Edited: 22 Aug 2011, 8:01 p.m.

Re: Display of Complex Numbers on wp34s

*Message #6 Posted by **Walter B** on 23 Aug 2011, 1:26 a.m.,*
in response to message #5 by Jeff O.

> Quote:
>
> Learning C might be possible, I learned _gasp_ Fortran once.

Same experience decades ago. Source-code-wise, Greek's easy in comparison ;-)

Re: Display of Complex Numbers on wp34s

*Message #7 Posted by **Paul Dale** on 23 Aug 2011, 2:05 a.m.,*
in response to message #6 by Walter B

Knowledge of Fortran will put you in good stead. I haven't played too many tricks or used the weird features of C all that much. There are a few pointers but not many e.g.

The numeric code should read easily to anyone familiar with a programming language. This won't necessarily make it obvious why I've done what I did of course.

- Pauli

Re: Display of Complex Numbers on wp34s

*Message #8 Posted by **Lode** on 23 Aug 2011, 4:45 p.m.,*
in response to message #4 by Walter B

You know what, I've been playing around with it more now, and in fact I find the way the WP34s works with complex numbers quite OK and consistent! Never mind what I said earlier :)

Re: Display of Complex Numbers on wp34s

*Message #9 Posted by **Paul Dale** on 23 Aug 2011, 6:39 p.m.,*
in response to message #8 by Lode

You are not the first person to change their impression of the 34S's complex support after using the device :-)

At least the 34S has a very complete suite of complex functions unlike several of its predecessors.

- Pauli

Re: Display of Complex Numbers on wp34s

*Message #10 Posted by **Lode** on 24 Aug 2011, 2:09 p.m.,*
in response to message #9 by Paul Dale

I do have one more trouble with the complex numbers in fact, and that's that you have to enter the imaginary part first and then the real part. That's extremely confusing and annoying! Every notation of complex numbers uses real part first, then imaginary part!

I guess this was done to have the real part in the X stack and imaginary part in the Y stack, but it's still backwards to enter them in the wrong order to me. On the HP 42s you also enter the real part first.

Maybe it could be an option what order is taken, in the modes?

Re: Display of Complex Numbers on wp34s

*Message #11 Posted by **fhub** on 24 Aug 2011, 2:30 p.m.,*
in response to message #10 by Lode

> Quote:
>
> I do have one more trouble with the complex numbers in fact, and that's that you have to enter the imaginary part first and then the real part. That's

> extremely confusing and annoying! Every notation of complex numbers uses real part first, then imaginary part!

Real [Enter] Imag **[x<>y]** ;-)

Re: Display of Complex Numbers on wp34s

*Message #12 Posted by **Paul Dale** on 24 Aug 2011, 5:27 p.m.,*
in response to message #11 by fhub

> Quote:
>
> Real [Enter] Imag **[x<>y]**

Exactly what I was going to suggest and exactly what I do when I need to test the complex functions :-)

Not that I'd recommend it, but you could relabel 'x<>y' with 'i' and your initial desire for this key will be satisfied as well ;-)

- Pauli

Edited: 24 Aug 2011, 5:30 p.m.

Re: Display of Complex Numbers on wp34s

*Message #13 Posted by **Jeff O.** on 24 Aug 2011, 9:30 p.m.,*
in response to message #10 by Lode

If there is an "i" key as on the 35s, or a "complexify"* operation as on the 42s and 15C, then I agree with you that it is preferable to key in real then imaginary. But if the components must occupy separate stack levels, then I prefer the 34s approach.

* - I do not claim that "complexify" is a real word. However, I find it nicely descriptive of pressing f - I on the 15C or shift - COMPLEX on the 42s to shove the value in stack X into the imaginary "slot" and drop the value in stack Y into the real slot, thus creating a complex number.

Edited: 30 Aug 2011, 8:05 a.m.

Re: Display of Complex Numbers on wp34s

*Message #14 Posted by **Paul Dale** on 22 Aug 2011, 6:07 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> My biggest wish for wp34s is that it handled and displayed complex numbers more like the 42s and 35s. I think I understand why that was not practical, or at least did not seem practical at the beginning of development.

There are two reasons we didn't do better complex support:

- The display problems. We couldn't honour the user's display settings on the top line. We couldn't even get close for many mode settings.

- No type identification in registers. We don't and cannot know if what is in the stack is complex or not. The 42s and 35s do know this.

Pauli

Re: Display of Complex Numbers on wp34s

*Message #15 Posted by **Jeff O.** on 22 Aug 2011, 7:45 p.m.,*
in response to message #14 by Paul Dale

It was not my intention to complain about your complex number support, just throwing out ideas. I was aware of the second point above. Regarding the first point, I guess I was "seduced" by the good looking results I got with my initial simple trials. My simplistic idea would be to not honor the display settings in the top line, it looks like FIX 2 would allow 3 digits for any number with any 3 digit negative exponent. But then it is not so simple to implement, as I would guess that you would have to do a lot of finagling with the number to get the best fit. Perhaps too much trouble for "temporary" displays of the imaginary part/angle.

Re: Display of Complex Numbers on wp34s

*Message #16 Posted by **Walter B** on 23 Aug 2011, 1:38 a.m.,*
in response to message #1 by Jeff O.

Hi Jeff,

> Quote:
>
> I noticed that the small font version of the ∠ symbol looks like a “less than” symbol, i.e. “<”.

:-) The large font version of the "<" symbol shall be a "less than" symbol as well. Look at TEST in alpha mode (e.g. on page 68). I didn't include an angle symbol like featured by the 42S for obvious reasons.

Walter

Edited: 23 Aug 2011, 1:53 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Results of new root-seeking methods

*Message #1 Posted by **Namir** on 22 Aug 2011, 12:08 p.m.*

Hi All,

Fellow forum members Hugh Steer and Lyuka have opened an interesting door. Hugh mentioned the Ostrowski algorithm for finding nonlinear function roots. I went on a little online crusade to find more on the Ostrowski algorithm. I found several improvements (some just a few years old) on Newton's method and Ostrowski's methods, and a few improvements on Halley's methods. I came out with about 30 algorithms/variants starting with Newton, Halley, Ostrowski, and so on. I included the version of Ostrowski algorithm that Luyka mentioned in his web site.

I tested all these methods with many nonlinear functions. The results???

1. The simple Ostrowski algorithm ranked the best in the battery fo tests. Its simplicity (compared to the sophisticated enhancements given by various mathematicians) kept the number of function calls and iterations low.

2. The Ostrowski 4th Order (by Grau and Diaz-Barrero) was ranked second best.

3. The Ostrowski algorithm as implemented on Lyuka's web site came third. A special mention to the way the Ostrowski algorithm is implemented since it had only one function call per iteration!!! Very clever!!

Here is the basic scheme used by the simple Ostrowski algorithm:

```
y = x - f(x) / f'(x)
x = y - f(y)(x - y) / (f(x) - 2 f(y))
```

Here is the basic scheme used by he Ostrowski 4th Order (by Grau and Diaz-Barrero):

```
y = x - f(x) / f'(x)
u = (x - y) / (f(x) - 2 f(y))
z = y -  f(y)
x = z - u * f(z)
```

Check Lyuka's web site algorithm version and implementation here

Edited: 22 Aug 2011, 11:11 p.m. after one or more responses were posted

Re: Results of new root-seeking methods

*Message #2 Posted by **Marcus von Cube, Germany** on 22 Aug 2011, 12:42 p.m.,*
in response to message #1 by Namir

I would rank the methods based on different criteria:

1. How many function evaluations are necessary for a given accuracy? The reasoning behind this is that the evaluation of f is more expensive than the operations that the algorithm does with the values. If algorithm (a) uses twice as many function evaluations as algorithm (b) it's ranked better only if the number of iterations is less then half of that of algorithm (b).

2. How stable is the algorithm for some nasty functions or with bad initial guesses? Is it able to solve more problems then some other algorithm? E. g. Newton will fail if started at or near an extremum.

Re: Results of new root-seeking methods

*Message #3 Posted by **Namir** on 22 Aug 2011, 2:30 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus,

I have ranked the various algorithms based on the number of function calls. Some of the sophisticated enhancements on Newton or Ostrowski require 4 or 5 function calls!! Several of these methods will give a refined root value (within the specified accuracy) in two or three iterations.

As far as stability, again some of the sophisticated enhancements become unstable depending on the combination of test function and the initial values.

Re: Results of new root-seeking methods

*Message #4 Posted by **C.Ret** on 22 Aug 2011, 3:28 p.m.,*
in response to message #1 by Namir

Thank you Namir for pointing me out this stable and fast root-finding method. I ‘m now using it instead of a more classic but slow search by dichotomy algorithm.

The code for HP-42S (ref. *OST ‐ Rev 2.8: Mar. 22 2011 ‐ Copyright(c) 1998-2011 Takayuki HOSODA, All rights reserved.*) is great as it returns root, value,status and give the oportuniti to select with register to solve for. But, it is a bit too much sophisticate for my own application; Such I compose a personal version which is much less sophisticated. In counterpart, usage is simplest and number of lines is reduced to 70 only. But there no more ‘status flag’, and the user have to always start with two guess. Then the code is finding a root, run forever or die.

Before a search can start, the two registers R04 and R05 have to be initialized respectively with expected accuracy *eps* (i.e. 1E-6 is a good enough) and the name of the function (i.e. “FCT1” as following exemple).

The function have to be programmed in the calculator as taking its only argument from the stack *x* register and return the value of the function at this point into the same *x* stack-register. The function code may use other stack registers (convenient for complicated function lucubrations) as the code always consider that at each call of the function, all content of the stack as well as LastX are lost, except the *x* register returning *f(x)*.

```
-- - PROGRAM  -            ----- STACK REGISTER -----
-- ------------            t:    z:      y:      x:
01 LBL"FCT1                                   x
02 E^X                                        exp(x)
03 LastX                        ~       exp(x)  x
04 x^2                                  exp(x)  x^2
05 3                    ~       exp(x)  x^2     3
06 *                    ~       ~       exp(x)  3.x^2
07 -                    ~       ~       ~       exp(x)-3.x^2
08 RTN                  ~       ~       ~       f(x)
-- ---------------
```

Registers to be initialized :

R04: eps
R05: "F"

Used Registers :
R00: i evaluations/iteration counter
R01: x_n R06: $y_n = f(x_n)$
R02: x_{n+1} R07: $y_{n+1} = f(x_{n+1})$

R03: x_{n+2} R08: $y_{n+2} = f(x_{n+2})$
R04: *eps* expected accuracy
R05: "FCT1" name of function program/code
R09: -t last value of t used for computing next x_n+3 position.

```
-- - PROGRAM  -
-- ------------         -- --------------       -- --------------
01 LBL"OSTRO            26   RCL 01             51   STO 09
02 STO 02               27   RCL 03             52   *
03 STO 03               28   RCL 02             53   RCL 01
04 x<->y                29   STO 01             54   +
05 STO 01               30   -                  55   1
06 ST+ 03               31   RCL 03             56   RCL 09
07 XEQ IND 05           32   STO 02             57   +
08 STO 06               33   RCL Z              58   /
09 RCL 02               34   -                  59   STO 03
10 XEQ IND 05           35   /                  60   ARCL 03
11 STO 07               36   RCL 06             61   AVIEW
12 2                    37   /                  62   XEQ IND 05
13 STO 00               38   RCL 08             63   STO 08
14 ST/ 03               39   RCL 06             64   ABS
15 RCL 03               40   -                  65   RCL 04
16 XEQ IND 05           41   *                  66   x<=y ?
17 STO 08               42   RCL 07             67   GTO 00
18 LBL 00               43   STO 06             68 RDN
19   ISG 00             44   *                  69 RCL 03
20   NOP                45   RCL 08             70 END
21   CLA                46   STO 07
22   FIX 0              47   RCL 06
23   ARCL 00            48   -
24   ~":                49   /
25   FIX 6              50   CHS
-- --------------       -- --------------       -- --------------
```

Structure of program:

Instruction 01 to 17 :
- initialize search; input and store x_0 and x_1,
- compute $y_0=f(x_0)$, $y_1=f(x_1)$, as well as first intermediate point $x_2=(x_0+x_1)/2$ and $y_2=f(x_2)$.
- Initialized iteration counter (R00).

Instructions 18 to 67 :
- Main loop composed by two tasks , both combine in one code:
compute next point x_{n+3} *from [italic]t*
and translate registers so that value of $x_{n-…}$*and [italic]*$y_{n-...}$ are at the correct registers for next iteration.
- Program loops until $|f(x_n)|$ is small enough, i.e. less than expected accuracy *eps*
- During root-search, the calculator display iteration number *i* and best root estimate $x_n)|$ so that user can observe progress.

Instructions 68 to 70:
- recall best root estimate in stack register *x* and end program.

Edited: 22 Aug 2011, 3:38 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 48GX Memory Card ON/OFF switch

*Message #1 Posted by **Morten Nygaard Åsnes** on 22 Aug 2011, 1:52 a.m.*

I just bought a used HP 48GX, and it came with this 1MB memory card. Anyone know what the ON / OFF switch with WP printed bellow it is for? Is it for disabling the whole memory card, or something else?

http://picasaweb.google.com/lh/photo/SyI1BVHH74ijBl2PMdXKRw

Re: HP 48GX Memory Card ON/OFF switch

*Message #2 Posted by **Raymond Del Tondo** on 22 Aug 2011, 3:09 a.m.,*
in response to message #1 by Morten Nygaard Åsnes

WP means Write Protect.

HTH;-)

Ray

Re: HP 48GX Memory Card ON/OFF switch

*Message #3 Posted by **Morten Nygaard Åsnes** on 22 Aug 2011, 3:11 a.m.,*
in response to message #2 by Raymond Del Tondo

Doh! That makes sense, thanks!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Touchpad Fire Sale

*Message #1 Posted by **Namir** on 21 Aug 2011, 10:18 p.m.*

A friend in Europe asked me to buy the discounted HP Touchpad. Since I was on vacation at the beaches of North Carolina (far from major retail electronics stores) I asked my son who lives in the Phoenix area to do the shopping. He went today Sunday morning to several electronics retail stores and discovered that all the discounted HP Touchpad were sold. When he called me to tell me, I rushed to my computer to order online. While online I saw the web page updated to say SOLD OUT!

I chatted with my son about what happened. We both felt that HP should have sold the Touchpad at the reduced prices to gain a foothold in Apple's territory. Rather, HP felt they could charge more money for their tablets.

I feel that HP made two mistakes. Overpricing their Touchpad and then dumping it. The speed in which their product sold tells me that their initial pricing was wrong and their impatience was even more wrong!

Namir

Edited: 21 Aug 2011, 10:21 p.m.

Re: HP Touchpad Fire Sale

*Message #2 Posted by **Michael de Estrada** on 21 Aug 2011, 10:35 p.m.,*
in response to message #1 by Namir

Abandon ship ! Abandon ship ! Lower the lifeboats, executives first.

Re: HP Touchpad Fire Sale

*Message #3 Posted by **Walter B** on 22 Aug 2011, 1:29 a.m.,*
in response to message #2 by Michael de Estrada

LOL! Well, also sad in a way ...

Re: HP Touchpad Fire Sale

*Message #4 Posted by **John B. Smitherman** on 22 Aug 2011, 7:08 a.m.,*
in response to message #2 by Michael de Estrada

I can only imagine that HP's executives will be busy congratulating each other and voting themselves bonuses this morning. :-(

John

Re: HP Touchpad Fire Sale

*Message #5 Posted by **M. Joury** on 22 Aug 2011, 10:48 a.m.,*
in response to message #4 by John B. Smitherman

Unfortunately this is probably more true than not.

Re: HP Touchpad Fire Sale

*Message #6 Posted by **Namir** on 22 Aug 2011, 11:02 a.m.,*
in response to message #4 by John B. Smitherman

I agree with Marwan. The truth is HP executives should lament at the major faux pas they did. Just because Apple was top dog in the tablet business does not mean they will always be. There is always a plan to change that. Think of the how Lotus 123 dethroned Visicalc and then how Excel did the same to Lotus 123. If the executives of the companies behind these products had the HP executives attitudes, we'd still be using Visicalc (version 12.5???) today!!

Namir

Re: HP Touchpad Fire Sale

*Message #7 Posted by **John B. Smitherman** on 21 Aug 2011, 10:49 p.m.,*
in response to message #1 by Namir

The 32 GB was selling for $149 and the 16 GB for $99. Staples further discounted the 16 GB to $49.

John

Re: HP Touchpad Fire Sale

*Message #8 Posted by **Bruce Bergman** on 21 Aug 2011, 11:35 p.m.,*
in response to message #7 by John B. Smitherman

Yeah, I've been watching it since Friday night, when the announced the fire sale. Saturday at noon there were reports that 1.5 million units were sold. Best Buy was going to return their inventory (270,000 units), but last night they decided to sell them all, and most are now gone.

This morning, they were saying as many at 4 million units were sold. Crazy.

thanks, bruce

Re: HP Touchpad Fire Sale

*Message #9 Posted by **Egan Ford** on 22 Aug 2011, 11:45 a.m.,*
in response to message #8 by Bruce Bergman

> Quote:
>
> This morning, they were saying as many at 4 million units were sold. Crazy.

That should make their personal systems group more attractive to a buyer.

Re: HP Touchpad Fire Sale

*Message #10 Posted by **M. Joury** on 22 Aug 2011, 1:10 a.m.,*
in response to message #1 by Namir

I know. I have been trying to grab one since Saturday morning. I tried Best Buy first thing this morning after their change of mind in what to do with their units and they were sold out before the store even opened!

Several stores still have not reduced their prices and MacMall did so late today/tonight. I managed to grab 2 (*MAYBE* won't actually believe it until I see them on my doorstep) but had to call. Their web site was a total disaster, could not handle the load and kept timing out. I was on the phone for 75 minutes but after that the order went through really quickly and I even received a confirmation email.

According to those stores that post inventories there are probably over 50,000 units still out there (minimum at a guess--if that makes any sense) waiting for stores to follow the trend and drop their prices.

There have been several interesting articles on how this will effect tablet prices down the road. It is obvious from this that people really do want the things but are not willing to buy in at $500+. Anyway, lots of comments in the press about the future.

I myself would probably have just let the whole thing pass except that my wife just got a Palm Pixi Plus and I was *VERY* impressed with the simplicity and the apparent stability of the OS compared to the Android units I have played with. When the Touchpad came down to 99/149 my thought was: "wouldn't a Pixi with a large screen be great" and I went hunting.

I have to say that I am really disappointed in the way this was handled and I feel that WebOS is too good a system to just get thrown away. here's hoping that it is resurrected by some other party. Of course, if it does not get resurrected, this won't be the first time that the better technology loses out--anyone remember the old Shark 2.5", 250MB removable drive? Way better than anything Iomega had back then but it lost out.

Cheers,

-Marwan

Re: HP Touchpad Fire Sale

*Message #11 Posted by **Borja** on 22 Aug 2011, 4:21 a.m.,*
in response to message #1 by Namir

I think it's unfortunate how they have handled the whole thing.

I don't think the Touchpad was overprized. Apple reportedly sells the iPad with a tight margin, and one just needs to look at the prices of the competitors.

So, what's wrong? Probably they should have kept up development and waited for one year more before releasing a product. They should have released a great product, but seems they released something immature.

Unfortunately, nowadays executives think short-term instead of adopting a long term strategic approach.

Sad, because WebOS had the potential to bring some real competition to the market.

I use Mac OS X (Unix user 30 years ago), and really find Apple products outstanding. But of course I don't like the current situation, with a leader and lame competitors behind.

With WebOS I truly thought that a bit of the old HP could come to life again. Pity I was wrong.

Re: HP Touchpad Fire Sale

*Message #12 Posted by **Oliver Unter Ecker** on 22 Aug 2011, 4:36 a.m.,*
in response to message #1 by Namir

One thing HP could have done, long before trying to see if the market will like a tablet w/o apps (duh!), is sell the TouchPad at these prices to developers (or give them away for free).

10,000 devices would have produced 50,000 apps, some very swiftly, and, voila, there would have been apps! (A very small investment to get apps, if you're 2 years late in the game!)

I signed up as developer and intended to port my RPL calc to the TouchPad. With a user base of 4 mio users, I might still do this now... Waiting for discounts to become active in Europe. (Here they still want your 400 euros, in another apparent misunderstanding about the relative value of USD vs. EUR.)

For a small developer (and most are; if you look at the average income of iOS apps) the price you pay for the HW makes a difference whether you will develop on that platform, or not.

Edited: 22 Aug 2011, 4:40 a.m.

Re: HP Touchpad Fire Sale

*Message #13 Posted by **Thomas Radtke** on 22 Aug 2011, 3:31 p.m.,*
in response to message #12 by Oliver Unter Ecker

The 16GB model went for 99 Euro, and currently http://h20386.www2.hp.com/GermanyStore gives: The service is unavailable. Server is too busy.

Re: HP Touchpad Fire Sale

*Message #14 Posted by **Eric Rechlin** on 22 Aug 2011, 10:19 a.m.,*
in response to message #1 by Namir

I've placed 3 orders from places that claim they are in stock, so hopefully I'll get at least one. If I get all 3, my mother and sister will be getting gifts!

Perhaps they discounted them a little *too* much.

Eric

Re: HP Touchpad Fire Sale

*Message #15 Posted by **NateB** on 22 Aug 2011, 5:27 p.m.,*
in response to message #1 by Namir

"Shoppers respond strongly to Hewlett-Packard's decision to dump inventory of the iPad-like device."
Story

Edited: 22 Aug 2011, 5:27 p.m.

Re: HP Touchpad Fire Sale

*Message #16 Posted by **Paul Gaster** on 22 Aug 2011, 5:50 p.m.,*
in response to message #15 by NateB

More sad news:

http://www.ubergizmo.com/2011/08/webos-will-not-be-licensed/

webOS will not be licensed

HP has stepped forward to lay the smack down on its webOS operating system, saying that they will not license it – at all, making it stone dead, and for good.

Re: HP Touchpad Fire Sale

*Message #17 Posted by **Paul Gaster** on 22 Aug 2011, 5:54 p.m.,*
in response to message #16 by Paul Gaster

Now I found something different. Maybe the other article was wrong.

http://www.businessday.co.za/articles/Content.aspx?id=151281

NEW YORK — Hewlett-Packard plans to keep supporting and updating the WebOS software it acquired in last year's $1,2bn purchase of Palm, senior vice-president Stephen DeWitt has said.

"The WebOS is not dead," Mr DeWitt, who took charge of WebOS last month, said on Friday. "We're going to continue to evolve it, update and support it. We stand by it," he said.

Re: HP Touchpad Fire Sale

*Message #18 Posted by **M. Joury** on 22 Aug 2011, 6:00 p.m.,*
in response to message #17 by Paul Gaster

How interesting. Good news, *REALLY* good news if true.

Re: HP Touchpad Fire Sale

*Message #19 Posted by **Glenn Dowdy** on 23 Aug 2011, 11:25 a.m.,*
in response to message #18 by M. Joury

> Quote:
>
> How interesting. Good news, *REALLY* good news if true.

Well, there are a whole lot of WEb OS users out there now.

Re: HP Touchpad Fire Sale

*Message #20 Posted by **M. Joury** on 23 Aug 2011, 11:56 a.m.,*
in response to message #19 by Glenn Dowdy

Maybe. Half the purchases seem to have ended up on eBay and Craigs List where sellers are getting $200+ over what they paid. They are selling though so it seems that they will get into users' hands.

Re: HP Touchpad Fire Sale

*Message #21 Posted by **M. Joury** on 22 Aug 2011, 5:59 p.m.,*
in response to message #15 by NateB

I suspect that retailers are going to be royally *PISSED* with HP. This has caused a real problem for them with web sites crashing and phone lines swamped. Insight closed down shop 5 or so hours early today (after 3:00 PM their phone system was reporting that they were closed for the day--they are supposed to be open 8-8).

Interestingly you can't tell if they (Insight) have any units left or not. Earlier in the day they were reporting nearly 7K units and then shortly after they shut down their phone lines the listing(s) dropped off their page *EXCEPT* if you had saved a link to the actual item page. In that case you can still get to the page and

order (at full price) and stock is still high although it shows that it is going down slowly. I would love to know what is going on.

Anyway, I would bet that there are a lot of really angry retailers out there. This was as badly thought out as it could possibly have been. Unless... This is some sort of super clever trick to really boost sales of the Touchpad and kill sales of competing units for at least a short period of time. People did not want to pay $500 for a tablet before this happened... Now even fewer will cough up the bucks as a number of Touchpad stories on the web are suggesting that this will force other manufacturers to reassess what their units are really worth.

Cheers,

Marwan.

Re: HP Touchpad Fire Sale

*Message #22 Posted by **Bruce Bergman** on 22 Aug 2011, 10:20 p.m.,*
in response to message #21 by M. Joury

Yeah, I'm seeing the same thing... *chuckle*

MacMall, who is also OnSale.com and PCMall, also crashed multiple times. Plus, their inventory system freaked out and incorrectly showed amounts. So many were dead that MacMall said they were going to cancel ALL orders. The interwebs were royally pissed off at MacMall all day today, and they were vocal about it, completely trashing the vendor in their reputation forums.

The Insight.com thing you mentioned was also a case where their inventory couldn't keep up. No matter how many units were sold, they still showed 7,000 in inventory. They WAY oversold the unit.

Staples almost completely went off the intermap yesterday with that insane $49 price tag, but I imagine they got rid of every unit.

Amazon ran two Lightening Sales today. One last 20 minutes, the other one was apparently only FOUR minutes long before it sold out.

Newegg.com refused to match the HP price drop at all, which incensed a bunch of the interwebs, who promptly launched a DDoS attack and brought down their site. Now Newegg is at odds with every other vendor out there, flatly refusing to honor the price drop.

Walmart says you have to SHOW them an ad with the reduced price (stupid).

it's crazy out there. Slickdeals.com has been the only reputable source of truth about where to get them, and there are more than 9,000 posts on their forums about this topic.

Again, crazy.

:-)

Edited: 22 Aug 2011, 10:23 p.m.

Re: HP Touchpad Fire Sale

*Message #23 Posted by **M. Joury** on 22 Aug 2011, 10:59 p.m.,*
in response to message #22 by Bruce Bergman

I talked to Insight reps twice today and on both occasions I was told that they were still awaiting a

decision from on high on pricing. So it sounds like they were out of sync at all levels.

B&N way oversold as well and was getting trashed last I saw. People saying that they kept the item up so as to gather personal info for their Nook marketing effort. Who knows if it's true but does not look good for them.

Best Buy did a reverse face and maybe reversed again with some stores saying that most of their units are going to be returned to HP. And HP says that they are *TEMPORARILY* out of stock. So maybe still some out there to be had.

People buying multiple items now have dozens on eBay for a $150 profit.

The whole thing was badly handled at all levels and will leave a sour taste in people mouths for some time to come I fear.

Re: HP Touchpad Fire Sale in europe too

*Message #24 Posted by **Patrice** on 23 Aug 2011, 12:55 p.m.,*
in response to message #1 by Namir

Hi all,

Touch Pad 16Go if fire saled in Europe for 99 Euros (1Euro= $1.4)

Always the same kind of pricing :(

but already impossible to find.

Patrice

Re: HP Touchpad Fire Sale in europe too

*Message #25 Posted by **Thomas Radtke** on 23 Aug 2011, 1:17 p.m.,*
in response to message #24 by Patrice

I haven't tried it by phone, allthough in hindsight that might have been the only chance to get one of the webOS devices in Germany.

Right now I see a lot of devices on TGAS, and people are bidding up to 270 Euro (about $380) for a 16GB tablet.

Re: HP Touchpad Fire Sale

*Message #26 Posted by **Pascal** on 24 Aug 2011, 9:37 a.m.,*
in response to message #1 by Namir

> Quote:
>
> HP should have sold the Touchpad at the reduced prices to gain a foothold in Apple's territory.

I fully agree with you and I was surprised by the way HP managed this Touchpad launch. One of the reason for the success of the iPad, besides ease of use, is the high number of application available for this platform. If you want to come into the tablet game as a challenger, you must address this issue first. Having a good hardware and OS is not enough to gain success (see Next, BeOS). There is no need to have a MBA from Harvard to figure this out and I don't understand how could HP overlook this...

... or could it be that all this was just a clever marketing buzz, created in purpose in order to get everyone's attention and to develop a solid WebOs user base ? (just dreaming ...)

Edited: 24 Aug 2011, 8:37 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What's this HP leather case for?

*Message #1 Posted by **Peter Murphy (Livermore)** on 21 Aug 2011, 9:01 p.m.*

I found a heavy black leather HP case in a thrift shop. It holds a 42S in its slipcase quite nicely, but it was probably not intended for that.

Flip-over top with a push-though snap closure; about 6.5 in. high and 4 in. wide. Two 4-in. long belt-loop slots on the back. (That's about 16 cm x 10 cm.)

Does anyone know what it was for?

Re: What's this HP leather case for?

*Message #2 Posted by **aj04062** on 21 Aug 2011, 9:36 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

I have a leather slip case for my 42S

Re: What's this HP leather case for?

*Message #3 Posted by **Calum Tait** on 21 Aug 2011, 9:36 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

How thick is it? It sounds more like an instrument case - possibly for a small multimeter or similar.

Re: What's this HP leather case for?

*Message #4 Posted by **Martin Pinckney** on 21 Aug 2011, 10:13 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Does it look like the one in this auction?

CLICK

There was also one like it made for the 33s, I think.

Edited: 21 Aug 2011, 10:16 p.m.

Re: What's this HP leather case for?

*Message #5 Posted by **Michael de Estrada** on 21 Aug 2011, 10:32 p.m.,*
in response to message #4 by Martin Pinckney

I doubt that is leather. It looks like smaller version of the case that came with my HP-50g. The standard HP-33s case is slip style with no flap.

Edited: 21 Aug 2011, 10:47 p.m. after one or more responses were posted

Re: What's this HP leather case for?

*Message #6 Posted by **Peter Murphy (Livermore)** on 21 Aug 2011, 10:44 p.m.,*
in response to message #5 by Michael de Estrada

It's much heavier than the one in the linked auction; the leather's about 1/8 in. (2.5 mm) thick, and not very flexible.

Case for an instrument sounds like the right direction.

Does that make this OT?

Thanks for the input.

Re: What's this HP leather case for?

*Message #7 Posted by **NateB** on 21 Aug 2011, 11:36 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

Maybe a case for the 41? Does it look like this?

Re: What's this HP leather case for?

*Message #8 Posted by **Hal Bitton in Boise** on 22 Aug 2011, 12:34 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Looks like you've found an early HP field case. HP made them for various early models (35, 45, 67, etc). The belt slots are the give-away for the vintage nature of the case...a calculator case worn on the belt today would draw uproarious laughter.
A good find!
Best regards, Hal

Re: What's this HP leather case for?

*Message #9 Posted by **Ben Moss** on 22 Aug 2011, 12:37 a.m.,*
in response to message #8 by Hal Bitton in Boise

Yup, I have an identical one that fits my 41CX perfectly.

Re: What's this HP leather case for?

*Message #10 Posted by **Peter Murphy (Livermore)** on 22 Aug 2011, 10:48 a.m.,*
in response to message #9 by Ben Moss

Nate has hit it on the nose.

Now who wants it? Free to a good home.

Update: The good home has been found, and the case is in the mail.

Edited: 23 Aug 2011, 10:35 a.m. after one or more responses were posted

Re: What's this HP leather case for?

*Message #11 Posted by **Jeff Davis** on 23 Aug 2011, 6:38 a.m.,*
in response to message #10 by Peter Murphy (Livermore)

I will take it if still avail.!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #1 Posted by **bluesun08** on 21 Aug 2011, 4:37 p.m.*

Hello,

i‘m a mathematic-teacher on an german high-school (called „Gymnasium“). In the next year the ministries of education will introduce CAS calculators in the high-schools and the examinations could be written with such a calculator. Every school could select his own CAS calculator for his students.

I‘m a HP-User for a couple of years (40gs /50g) and wish the employment of the HP 40gs because of the (subjective) easier userinterface in comparison with the 50g. Although i‘m the responsible person for calculators in our school, i have no chance to introduce HP calculators because of the lack of a built-in dynamic-geometry application and a spreadsheet application. These applications are obligatory. By the way: This is also the reason why Colin Croft turn away from 40gs, see (13.01.10): [url:http://www.hphomeview.com/what's_new.htm]

So i have a few questions for the HP calculator group respectively the HP community:

1. Is there a successor/improvement of the 40gs (respectively 50g) in the pipeline, which contain (built-in) geometry and spreadsheet. If yes, would this released before PSG spin-off?

2. If no, why HP focus in the past new products in the business/office lines (sometimes relaunches) instead of making innovations in the „high end“ CAS/graphical line (geometry, spreadsheet, integration of CAS in all applications, increasing of the display resolution, colored display)? In my opinion the concentration on the „high end“ product line could be the best promotion for future customers. What a pity ...

Best regards

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #2 Posted by **Tim Wessman** on 21 Aug 2011, 7:01 p.m.,*
in response to message #1 by bluesun08

Colin's school district adopted the Casio classpad which answers your question #0.

TW

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #3 Posted by **bluesun08** on 22 Aug 2011, 2:22 p.m.,*
in response to message #2 by Tim Wessman

Hello Tim,

sorry, but i don't understand your answer for my questions.

Do you mean that there is no intention to develop the 40gs respectively other graphing calculators further?

Do you mean that we should also buy the Casio classpad?

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #4 Posted by **Calum Tait** on 21 Aug 2011, 8:19 p.m.,*
in response to message #1 by bluesun08

Your question is quite interesting to me as I haven't been in a school since I left high school some 24 years ago. I am surprised that such calculator features should be deemed desirable let alone a mandatory requirement - in my day, if calculators had such capability, they would have been banned from the mathematics class lest we "cheat". Teachers used blackboards for practical demonstration and we used to plot graphs on squared paper and used very wide ruled paper spreadsheets for statistical recording. I think we learned mathematics quite well without the need for electronic devices. That's nostalgia for you when you feel wistful for graph paper!

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #5 Posted by **bluesun08** on 22 Aug 2011, 3:06 p.m.,*
in response to message #4 by Calum Tait

Hello Calum Tait,

to me it's interesting, that you think that teaching mathematic is nowadays the same as that from 24 years ago.

For students it's very fascinating to find out geometric relations independently. And it is very awesame to change a figure dynamicly. Also it's very interesting to deal with real problems, for which exists no standard derivation or antiderivate. All this things make the classes more attractive.

Sure, to learn mathematic you don't need a calculator or even a graphical calculator. A few people say a "slide rule" will do it. Also sine & cosine tables will do it.

But is this seasonably? We are in 2011 ...

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #6 Posted by **bill platt** on 22 Aug 2011, 3:18 p.m.,*
in response to message #5 by bluesun08

The other day, my son was practicing factoring 2nd order polynomials. He hit one that didn't work and he came to me and said, "why won't this factor? What am I doing wrong?" I replied, "nothing. Most real-world problems don't factor."

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #7 Posted by **bluesun08** on 22 Aug 2011, 4:09 p.m.,*
in response to message #6 by bill platt

Factoring 2nd order polynomials is in germany placed in junior high school. And CAS is in junior high not permitted.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #8 Posted by **Mike Morrow** on 22 Aug 2011, 9:07 p.m.,*
in response to message #6 by bill platt

So, he hasn't been introduced to the complex number domain yet? :-)

Its a shame that the Casio's and TI are so poorly designed

*Message #9 Posted by **snaggs** on 23 Aug 2011, 5:03 a.m.,*
in response to message #5 by bluesun08

Theyre all mouled and curved with no form, like something a dog left on my lawn. Then theres the UI, which is fragmented and often changes.

Best thing would be for Apple to buy the calculator division and polish the gem remaining. They never will of course. Did you know the first iphone calc app was modelled on the Braun ET66?

Re: Its a shame that the Casio's and TI are so poorly designed

*Message #10 Posted by **Paul Dale** on 23 Aug 2011, 5:15 a.m.,*
in response to message #9 by snaggs

Square root *and* percent. Very advanced :-)

- Pauli

Re: Its a shame that the Casio's and TI are so poorly designed

*Message #11 Posted by **Walter B** on 23 Aug 2011, 3:52 p.m.,*
in response to message #10 by Paul Dale

But outstanding design :-)

Walter

Re: Its a shame that the Casio's and TI are so poorly designed

*Message #12 Posted by **Calum Tait** on 23 Aug 2011, 7:55 p.m.,*
in response to message #9 by snaggs

That Braun is a very swish looking calculator. Dieter Rams also designed some terrific looking radios and audio for them.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #13 Posted by **Calum Tait** on 23 Aug 2011, 8:31 p.m.,*

in response to message #5 by bluesun08

Hello Alexander

I didn't say that times haven't moved on, just reminiscing that we did it all on paper and did okay on it. I do believe though that expecting every student to possess an expensive graphical calculator sounds like the result of lobbying from the calculator manufacturers.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #14 Posted by **Thomas Radtke** on 22 Aug 2011, 1:38 a.m.,*
in response to message #1 by bluesun08

> Quote:
>
> [...] why HP focus in the past new products in the business/office lines (sometimes relaunches) instead of making innovations in the „high end“ CAS/graphical line (geometry, spreadsheet, integration of CAS in all applications, increasing of the display resolution, colored display)?

I wouldn't call such tools high end but rather educational. They might be useful at school where it seems not practical to use notebooks, but that's about it. Many years ago, HP gave up on this market by *not* producing the Xpander.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #15 Posted by **Walter B** on 22 Aug 2011, 2:15 a.m.,*
in response to message #14 by Thomas Radtke

Don't tell a teacher his work isn't "high end" ;-)

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #16 Posted by **bluesun08** on 22 Aug 2011, 3:14 p.m.,*
in response to message #15 by Walter B

Maybe not the work, but the equipment ...

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #17 Posted by **Walter B** on 23 Aug 2011, 1:49 a.m.,*
in response to message #16 by bluesun08

Oh, the equipment is? Looks like things are changing.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #18 Posted by **bluesun08** on 23 Aug 2011, 2:54 p.m.,*
in response to message #17 by Walter B

I know, it's unbelievably!

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #19 Posted by **Marcus von Cube, Germany** on 22 Aug 2011, 3:07 a.m.,*
in response to message #1 by bluesun08

Alexander, the rules seem to be written around the offerings of TI (Nspire or Voyage 200/TI 98) and Casio (Classpad or Algebra FX. The new Prizm machines lack the CAS).

From an integration standpoint, the Casios are horrible, just a bunch of unrelated applications. The TIs do much better. As a calculator, I would prefer the Voyage 200 because of the larger screen, the querty keyboard and the well integrated CAS. Cabri Geometry is an add on which comes for free. As an education tool, the Nspire stands out once you get used to it. Its integration is almost perfect but every day usage as a tool is limited by the document concept.

You already know the 40gs and the 50g. The CAS is very well integrated in the 50 and kind of rucksack in the 40gs. The limited screen resolution limits the amount of fun you (and your students) will have with both devices. The feature set of the 50g may be just too much for a math class.

As a teacher I would vote for the NSpire together with its PC counterpart. As a user, the 50G or Voyage 200 would be preferable because they can be easier used instantly as a calculator.

Edited: 22 Aug 2011, 3:08 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #20 Posted by **Arnaud Amiel** on 22 Aug 2011, 4:06 a.m.,*
in response to message #1 by bluesun08

There are some spreadsheet and geometry applications available for the 50g. I do not know how they compare with the competition as I haven't used any of them.

Arnaud

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #21 Posted by **George Litauszky** on 22 Aug 2011, 12:41 p.m.,*
in response to message #20 by Arnaud Amiel

There is an unofficial 50g ROM version with geometry and spreadshet apps on the homepage of Bernard Parisse.

http://www-fourier.ujf-grenoble.fr/~parisse/english.html

```
"ROM files for HP49G, emu49 or 49G/G+/50G (HTTP mirror). These ROMs provide also a
small spreadsheet."
```

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #22 Posted by **bluesun08** on 22 Aug 2011, 3:36 p.m.,*
in response to message #21 by George Litauszky

Hey George,

thanks a lot for your information. But is it convenient, when i say in the first mathematic-lesson to my students (about 75 in three courses - every year) which are 50g-novices: "Go to the homepage to Bernard Parisse and make a ROM-Update?"

When the things exists, why HP do not integrate the geometry and the spreadshet in his calculators?

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #23 Posted by **George Litauszky** on 22 Aug 2011, 4:44 p.m.,*
in response to message #22 by bluesun08

Hello Alexander,

> Quote:
>
> When the things exists, why HP do not integrate the geometry and the spreadshet in his calculators?

This is a good question. Ask the HP and Mr. Parisse. And why the HP do nothing with his scientific calculators recently? The next quote is from Bernard Parisse's foreword from this pdf:

http://www-fourier.ujf-grenoble.fr/~parisse/degraeve/cas49_1.pdf

```
"Sometimes, I am asked this question: why put symbolic manipulation capabilities
into a
calculator, while specialized computer software for this is now either cheap, or
available for free?
In my opinion, a calculator is the most effective way to integrate calculation
aids with the
teaching of mathematics, because it is both easy to carry out with you and to use
in a classroom."
```

George

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #24 Posted by **George Litauszky** on 22 Aug 2011, 5:39 p.m.,*
in response to message #22 by bluesun08

> Quote:
>
> But is it convenient, when i say in the first mathematic-lesson to my students (about 75 in three courses - every year) which are 50g-novices: "Go to the homepage to Bernard Parisse and make a ROM-Update?"

Not, of course. Your easiest choice is the TI Nspire special mathematic teaching tool.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #25 Posted by **Alexander Oestert** on 22 Aug 2011, 6:38 a.m.,*
in response to message #1 by bluesun08

As a father of four children who go to German Gymnasium I would vote not to use any of these CAS calculators, because they are quite expensive to purchase (50G around 130 EUR), which is prohibitive to many. Instead, they should do CAS, spread-sheet and dynamic geometry on school owned PCs and have a simple scientific non-programmable calculator of their own. (I'm happy to say that this is exactly the way it is here in Hamburg!)

Edited: 22 Aug 2011, 6:42 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #26 Posted by **Crawl** on 22 Aug 2011, 6:50 a.m.,*
in response to message #25 by Alexander Oestert

Yeah, for college, in an STEM field, I would recommend a CAS calculator. It's not any more expensive than most of the many books you would need to buy, anyway, and it can serve you for many years of your career.

But for highschool it's too expensive to ask students to buy. And I think at that level, its (or any graphing calculator, actually) use is doubtful.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #27 Posted by **bluesun08** on 22 Aug 2011, 3:59 p.m.,*
in response to message #25 by Alexander Oestert

Hello Alexander,

as you see i would prefer the 40gs which cost EUR 69,90 (www.arizone.de).

Furthermore when i teach CAS, spread-sheet and dynamic geometry on PC, i have to go for every graph-drawing and for every non-standard-calculus (real problems for example) in PC-Room. Also every mathematic-examinations have then take place in PC-Room. Hmmm ...

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #28 Posted by **Alexander Oestert** on 23 Aug 2011, 2:06 a.m.,*
in response to message #27 by bluesun08

> Quote:
>
> as you see i would prefer the 40gs which cost EUR 69,90 (www.arizone.de).

Which still is an awful lot of money for some people and not really consistent with 'Lehrmittelfreiheit' in Germany.

> Quote:
>
> Furthermore when i teach CAS, spread-sheet and dynamic geometry on PC, i have to go for every graph-drawing and for every non-standard-calculus (real problems for example)

> in PC-Room. Also every mathematic-examinations have then take place in PC-Room. Hmmm ...

Well, do just one unit of CAS in every course, followed by one exam, so you only have to go to the PC room once and can spend the rest of the year in the classroom teaching math! There are plenty of topics for which you don't need an expensive toy.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #29 Posted by **bluesun08** on 23 Aug 2011, 2:41 p.m.,*
in response to message #28 by Alexander Oestert

I assume you are a professional. So you certainly know that the participation on a CAS-course is optional. Alternatively you can participate on a non CAS-course. If Hamburg do not offer this freedom than it is a very unindividual school system. I won't be life there.

PS: Handys are more expensive. But everyone set the focus on another toy ...

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #30 Posted by **Alexander Oestert** on 24 Aug 2011, 7:01 a.m.,*
in response to message #29 by bluesun08

> Quote:
>
> I assume you are a professional.

No, I'm not a professional teacher.

> Quote:
>
> So you certainly know that the participation on a CAS-course is optional.

No, I didn't know that and did not encounter such a course with one of my four children.

In the case of an optional CAS course, I would find it ok to purchase a calculator if everyone agrees. Still, I would imagine that there might be a lot of potential participants who would like to choose that CAS course but won't because they can't afford to buy a 70 EUR calculator.

> Quote:
>
> PS: Handys are more expensive. But everyone set the focus on another toy ...

I myself own several mobile phones and calculators and love these toys. Nonetheless I would not find it ok if I was forced by the school to spend a relatively huge amount of money on a calculator that most students won't ever use again after that one semester course.

Couldn't you maybe organize some kind of fund that purchases a whole class set of calculators for the students to borrow during the semester? This way you could even handle the firmware update on all of them and make sure all the 50G's have spread sheet and geometry software on

it... ;)

BTW, what state (Bundesland) are you from?

Edited: 24 Aug 2011, 7:06 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #31 Posted by **bluesun08** on 24 Aug 2011, 8:33 a.m.,*
in response to message #30 by Alexander Oestert

Hallo Alexander,

because of my bad english, i have decided to answer in german. Please, Forum, apologize profusely.

Ich finde Deinen Vorschlag nicht schlecht, dass die Schule einen Fundus an Geräten kauft und anschließend an die Schüler verleiht.

Machen wir ein Rechenbeispiel für den HP 50g. Dieser kostet (Dynatech, Arizone, Amazon) im Schnitt 120 Euro. Gehen wir von 5 Jahren Nutzungszeit aus, wären das 24 Euro "Leihgebühr" pro Jahr. Bei entsprechend längerer Nutzungszeit würde sich der Betrag reduzieren.

Machen wir noch ein Rechenbeispiel für den HP 40gs. Dieser kostet ca. 70 Euro. Bei 5 Jahren Nutzungszeit wären das 14 Euro (oder weniger, bei längerer Nutzungszeit).

In der Tat haben wir an unserer Schule auch schon über dieses Modell diskutiert. Vermutlich würden die Beträge auch für Dich tragbar erscheinen.

Ebenso finde ich Deinen Vorschlag mit dem (kollektiven) ROM-Update für den 50g (mit Geometrie und Tabellenkalkulation) sehr interessant. Leider habe ich mich noch nicht an ein solches Update herangewagt. Ich habe diesen Ansatz noch nicht weiter verfolgt, weil ich nicht weiß, wie die Applikationen von Bernard Parisse ausgereift bzw. für den produktiven (schulischen) Einsatz geeignet sind. Hat Hr. Parisse die Applikationen bereits fertiggestellt oder handelt es sich nur um Entwürfe?

Am liebsten wäre es mir, wenn die Applikationen (Geometrie und Tabellenkalkulation) auch auf den 40gs portiert werden könnten, da hier das gesamte Bedienkonzept (auch für Schüler) einfacher ist und der 40gs einfach weniger kostet.

Lassen wir unseren Gedanken freien Lauf und treiben die Sache etwas weiter: Das einzige, was der TI Nspire CX den HP Rechnern wirklich voraus hat sind: 1. das farbige / höheraufgelöste Display 2. das dokumentbasierte Bedienprinzip, d.h Abspeicherung der Rechnungen und Zugriff auf das CAS von allen Dokumenten aus. 3. Dynamische Geometrie und Tabellenkalkulation (was halt einfach von unserem Kultusministerium gefordert wird).

Meines Erachtens wäre HP mit dem 40gs nicht weit davon weg, dem TI Konkurrenz zu machen:

Zu 1: Ein farbiges bzw. höheraufgelöstes Display ist halt heutzutage Standard. Natürlich würde auch das schwarz-weiß-Display des 40gs reichen. Aber wer würde denn heute noch einen schwarz-weiß-Fernseher kaufen, obwohl man damit alle Fernsehsendungen sehen kann? Die meisten Menschen kaufen sich halt bei einer Neuanschaffung einfach einen

Farbfernseher (bzw. LCD-Display). Wenn man als Schüler oder als Verantworlicher an der Schule entscheiden muss, dann wird man zu dem attraktiveren und zeitgemäßeren Taschenrechner mit Farbdisplay greifen. Kann es denn für ein Technologie-Unternehmen wie HP so schwer sein, seine Taschenrechner mit Farbdisplay auszustatten? Wenn ja, dann hat es wirklich nichts mehr auf dem Markt zu suchen. Und hier kann man nicht immer auf Charly Fiorina verweisen. Es ist die Calculator-Group von HP gefragt, hier die Initiative zu ergreifen.

Zu 2: Das dokumentbasierte Bedienprinzip ist mit den "Aplets" im 40gs schon zu 90 % sehr schön realisiert. Eigentlich würde das bereits genügen. Mit minimalen Aufwand könnte man es perfekt machen

Zu 3: Wenn doch schon Geometrie und Tabellenkalkulation von B. Parisse für den 50g vorhanden sind, warum macht man nicht noch den kleinen Schritt und portiert dies auf den 40gs. Warum schaltet man Jean-Yves Avenard nicht noch einmal ein?

Aus meiner Sicht liegt alles schon vor unseren Füßen. Man müsste es nur noch aufheben und zusammenfügen. Implementiert man noch RPN in den 40gs, dann hat man einen Top-Rechner. Ich wäre bereit, hier mitzuhelfen, aber alle müssten einen kleinen Schritt machen. Noch einmal: Man kann nicht alles auf Fiorina und HP schieben. Wir, die Anwender, das Forum und die Calculator-Group müssen mithelfen.

Lass mich bitte noch einmal auf den Grund meines Postings zurückkommen: Ab 2014 KANN hier in Bayern das Mathe-Abi auch mit CAS geschrieben werden, d.h. diese Schüler bekommen gesonderte Aufgaben. Wer will, kann mit CAS schreiben, wer nicht will, schreibt ohne CAS (mit normalen Taschenrechner) und erhält "normale" Aufgaben.

ALLE Schulen in Bayern stehen nun vor der Entscheidung, welchen CAS-Rechner sie einführen wollen. Als überzeugter HP-Anwender möchte ich natürlich, dass HP Rechner eingeführt werden. Das scheitert aber an der Vorgabe des Kultusministeriums, dass die Rechner Geometrie und Tabellenkalkulation haben müssen. Wir müssen das halt so akzeptieren, egal ob CAS im Allgemeinen bzw. Geometrie und Tabellenkalkulation im Besonderen Sinn macht. Es ist halt so und wir müssen interessierte Schüler auf das CAS Abi vorbereiten.

Bestimmte Bundesländer haben bereits CAS und die anderen Bundesländer werden nachfolgen. Diese Entwicklung hin zu CAS ist nicht nur in Deutschland sondern auch in ganz Europa und vermutlich auf der ganzen Welt zu beobachten. Was mich ärgert ist, dass HP (und wir) sich diesen Markt entgehen lässt. Was gäbe es denn für eine bessere Werbung für HP, wenn jeder Schüler einen Taschenrechner mit HP-Logo hätte. Schließlich sind die Schüler die Entscheider von morgen und wenn später mal eine Entscheidung Privat oder im Betrieb für eine EDV-Infrastruktur (PC, Drucker, Server) ansteht, wird man sich an das Logo und an HP erinnern. Microsoft hat es doch vorgemacht!

Der Grund meines Anfangspostings war, dass meine Gedanken über das HP Forum an das HHC 2011 und an Tim Wessman transportiert werden, um sie zu diskutieren. Ich habe absichtlich etwas zynische Formulierungen gewählt, um das Forum aufzuwecken und nicht dauernd über die Vergangenheit zu diskutieren, dass der 42s und der 28s die besten Rechner waren oder dass die Handbücher früher besser waren. Was bringt denn der 34s oder der 15c? Wir brauchen doch konkurrenzfähige Produkte. Natürlich würde der 40gs für das Gymnasium technisch auch reichen, aber er lockt halt einfach niemand mehr von dem Ofen vor. Und HP wäre nicht mehr weit von einem neuen Produkt weg, das sich aus meiner (obigen) Sicht relativ einfach realisieren lassen müsste.

Noch einmal: Wir dürfen nicht die Schuld auf Fiorina oder HP schieben. Wir, das Forum,

die HHC sind indirekt als Lobbyisten und die Calculator group ist direkt gefragt, Einfluss zu nehmen.

Ich bin bereit mitzuhelfen!

Bitte entschuldige meine langen Ausführungen. Es sind halt meine Gedanken ... und meine Leidenschaft.

Viele Grüße

Alexander

Edited: 24 Aug 2011, 8:38 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #32 Posted by **Alexander Oestert** on 24 Aug 2011, 9:27 a.m.,*
in response to message #31 by bluesun08

> Quote:
>
> Machen wir ein Rechenbeispiel für den HP 50g. Dieser kostet (Dynatech, Arizone, Amazon) im Schnitt 120 Euro. Gehen wir von 5 Jahren Nutzungszeit aus, wären das 24 Euro "Leihgebühr" pro Jahr.

Frankly, I thought it best to have it come out of the school budget. Actually, if the state is requiring (at least in the near Bavarian future) students to have a CAS calculator, the school should provide it. Remember: 'Lehrmittelfreiheit'!Another alternative could be to seek funding from local businesses, engineering companies or such in exchange for their company logo sticker on the calc.

> Quote:
>
> Ich bin bereit mitzuhelfen!

Well, you will have to polish up your English. It won't help you any further to try to convince me or the German audience of this forum. HP, after all, is a US company and this forum is mainly non-German. ;)

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #33 Posted by **bluesun08** on 24 Aug 2011, 10:43 a.m.,*
in response to message #32 by Alexander Oestert

Würde das englischsprachige Forum meine ausgeführten Ansichten vermutlich teilen und meine Pläne zum Voranbringen des 40gs bzw 50g unterstützen? Wie ist Deine Einschätzung?

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #34 Posted by **Alexander Oestert** on 24 Aug 2011, 11:05 a.m.,*
in response to message #33 by bluesun08

> Quote:
>
> Würde das englischsprachige Forum meine ausgeführten Ansichten vermutlich teilen und meine Pläne zum Voranbringen des 40gs bzw 50g unterstützen? Wie ist Deine Einschätzung?

Would the English speaking audience of the forum help you with your quest to boost HP calculator sales?

I believe this is not on many people's agenda right now. Take me for example: Apart from having some Sharps, Casios and TIs, I like HP calculators and RPN a lot. But I don't think it is important which brand of calculators my kids use at school, nor do I think that the distinction Algebraic vs. RPN matters when it comes to CAS.

If **you** deem it important to teach CAS on HP calculators at your school, find out if sponsorship from local businesses is legal (!) in Bavarian schools and then raise the needed sum to provide your favorite calculator to your future classes.

Edited: 24 Aug 2011, 11:48 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #35 Posted by **bluesun08** on 24 Aug 2011, 5:50 p.m.,*
in response to message #34 by Alexander Oestert

O.k. two last questions: Why this is not on many people's agenda right now and what is on many people's agenda right now from your point of view?

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #36 Posted by **Walter B** on 24 Aug 2011, 6:10 p.m.,*
in response to message #35 by bluesun08

> Quote:
>
> Why this is not on many people's agenda right now and what is on many people's agenda right now from your point of view?

Answering the first question: I guess the vast majority of forumers sets other priorities. Aren't too many teachers here, and even less with that hobby. So if you want to get it done, do it. Compare the WP 34S project. HTH

Re: Questions to the HP calculator group/community

about HP 40gs/50g successor

*Message #37 Posted by **Thomas Radtke** on 25 Aug 2011, 3:23 a.m.,*
in response to message #35 by bluesun08

> Quote:
>
> Why this is not on many people's agenda right now and what is on many people's agenda right now from your point of view?

How important can this issue be if generations of excellent engineers were taught with chalkboard and sliderule?

Especially in Germany, we have a different problem at schools, and that's students not even mastering the german language.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #38 Posted by **bluesun08** on 25 Aug 2011, 3:45 a.m.,*
in response to message #37 by Thomas Radtke

... and of course the english ;-)

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #39 Posted by **Alexander Oestert** on 25 Aug 2011, 5:42 a.m.,*
in response to message #35 by bluesun08

> Quote:
>
> O.k. two last questions: Why this is not on many people's agenda right now and what is on many people's agenda right now from your point of view?
>
> Alexander

As I wrote above, being a father of four children in German schools I might be the one forumer here closest to your interests as a math teacher and HP fan. And if **I** don't care what calculator my kids use in math lessons, much less what brand they use, probably no one else will care.

What I **do** care about concerning math lessons is that they are taught important math concepts and *thinking mathematically*. This is very much different from what I myself was interested when I was a student. Back then I didn't like stochastics, statistics, probability and some such. Today, I'm convinced that a deeper knowledge in those disciplines is key in understanding politics, society, risk taking and life in general to everyone and not only to some math geeks. If people taking AIDS tests, not using their bicycle helmet or being afraid of flying in an airplane would only know more about evaluating results, risks and probabilities! :-(They could do with much less knowledge about CAS, trigonometry or integrals

- as much as I like those topics.

Edited: 25 Aug 2011, 5:45 a.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #40 Posted by **bluesun08** on 25 Aug 2011, 4:21 p.m.,*
in response to message #39 by Alexander Oestert

You convinced me: It make no odds which brand the calculator have. So i decide me to acquire the new TI Nspire CX for our students, because the TI fulfil a priori all the requirements of our ministry of education (see my initial posting). Furthermore the TI Nspire series are already in use by a couple of universities (also universities of applied sciences). I think i should rather spend my time and energy in good math lessons.

Alexander

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #41 Posted by **bluesun08** on 22 Aug 2011, 6:29 p.m.,*
in response to message #1 by bluesun08

Yesterday i had a dream:

Some people need a PC-Equipment and Apotheker said: „Why HP, please go to Dell, Acer or Lenovo!“ Some other people need a TouchPad and Apotheker said: „Why HP, please go to Apple, Asus or Archos!“ Some other people need a Smartphone and Apotheker said: „Why HP, please go to „Samsung, HTC or Blackberry!“ Some other (highschool)people need a further developed CAS/graphic calculator and the HP-FORUM said: „Why CAS/graphic on highschool? O.k. only if absolutely necessary, but why HP, please go to TI or Casio!“

After i awake from the dream i read the anwers to my posting in the forum and think: „What a strange world ....“ But now i‘m understand: HP and the Forum don‘t care about the 3000 highschools and the 750000 highschool students (and potential customers - yearly) alone in germany. The big deal (about 17 % yield) and preservers for HP are the business/scientific calculators. No harm meant.

Alexander

Edited: 22 Aug 2011, 6:35 p.m.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #42 Posted by **Martin Pinckney** on 22 Aug 2011, 10:46 p.m.,*
in response to message #41 by bluesun08

> Quote:
>
> But now i‘m understand: HP and the Forum don‘t care about the 3000 high schools and the 750000 high school students (and potential customers - yearly) alone in Germany. The big deal (about 17 % yield) and preservers for HP are the business/scientific calculators. No harm meant.
>
> Alexander

What does the Forum have to do with it? Read the last 10 years of posts where Forum members have been complaining about HP's decision-making.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #43 Posted by **bluesun08** on 23 Aug 2011, 2:52 p.m.,*
in response to message #42 by Martin Pinckney

I have not the time to read the last 10 years of post. I'm only interested in the question if the calculator group plan to rebuild the 40gs/50g-line in the next time!

Alexander

PS: The outsource of PSG is till now not sure and could take a long time.

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #44 Posted by **Walter B** on 23 Aug 2011, 4:23 p.m.,*
in response to message #43 by bluesun08

Watch it! You asked for advise here, and both your English and your attitude emphasize you're a teacher - a professional as you call it - from this country, which has a great tradition in science and mathematics. But after getting quite some background information you obviously didn't have before, you took a big breath and wrote:

> Quote:
>
> But now i‘m understand: HP and the Forum don‘t care about the 3000 highschools and the 750000 highschool students ...

accusing the forum - i.e. those who answered your questions - out of the blue. And as a typical teacher, you seem to be resistant to education - you refused to take Martin's tip instead of being grateful for the opportunity to lift your knowledge to the first excited state. Looks like an hopeless case, I'm afraid :-/

Re: Questions to the HP calculator group/community about HP 40gs/50g successor

*Message #45 Posted by **bluesun08** on 24 Aug 2011, 5:22 a.m.,*
in response to message #44 by Walter B

I think you are right. Sorry.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter

*Message #1 Posted by **Bart (UK)** on 21 Aug 2011, 11:39 a.m.*

See addition to article 1060.

Re: HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter

*Message #2 Posted by **Walter B** on 21 Aug 2011, 11:48 a.m.,*
in response to message #1 by Bart (UK)

Congratulations :-)

Re: HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter

*Message #3 Posted by **Hubert Weikert** on 21 Aug 2011, 1:49 p.m.,*
in response to message #1 by Bart (UK)

Good news, thank you for!

Still trying to get SAM-BA working with the WP34S on Linux. Unfortunately Atmel supports on Linux only the CDC version. Serial SAM-BA requires some specialities not supported by the CDC variant, like sending some kind of sync characters for auto-baud initialisation, and probably others.

I use a FTDI chip based USB-to-serial converter. Promising is the open source Sam-I-Am tool, but designed also only for CDC. Initial sync and auto-baud work now, but other commands except SAM-BA version query fail.

A further, less comfortable alternative for flashing may be sam7utils but up to now I get errors when the program tries to open the usb-serial port, with invalid ioctl() calls.

Hubert

Re: HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter

*Message #4 Posted by **Marcus von Cube, Germany** on 21 Aug 2011, 4:07 p.m.,*
in response to message #3 by Hubert Weikert

What is the _cdc version? I know it exists but have no idea what it is for.

Re: HP-30b successfully re-flashed to a WP-34s in Vista with SAM-BA 2.10 & USB-RS232 converter

*Message #5 Posted by **Hubert Weikert** on 22 Aug 2011, 5:47 a.m.,*
in response to message #4 by Marcus von Cube, Germany

As far as I get it, CDC is a serial port emulation 'on the far end', for two systems interconnected by USB. The embedded system uses then a own USB driver and hardware on chip, and no serial RxD and TxD pins anymore.

CDC stands for "Communication Device Class". Some explanation can be found in this Atmel App-Note.

Essentially, as the two system are now interconnected by USB, there seems to be no need anymore to be concerned about restrictions as given by a hardware serial connection. CDC supports also multiple interfaces, e.g. mass storage and networking.

Hubert

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sharp PC-1211 strange

*Message #1 Posted by **robertoataulfo** on 21 Aug 2011, 9:26 a.m.*

```
I have several Sharp PC-1211 but one of them has a circuit that others do not.
Can anyone tell me what is?
```

Re: Sharp PC-1211 strange

*Message #2 Posted by **Michael de Estrada** on 21 Aug 2011, 10:53 a.m.,*
in response to message #1 by robertoataulfo

Interesting. Mine doesn't have it either. Looks like a hack job. Is it a connector ? Can't tell from the photo.

Re: Sharp PC-1211 strange

*Message #3 Posted by **Lode** on 21 Aug 2011, 11:03 a.m.,*
in response to message #1 by robertoataulfo

What does the other side of the brown board look like? Are there any actual components on it?

Re: Sharp PC-1211 strange

*Message #4 Posted by **robertoataulfo** on 21 Aug 2011, 11:42 a.m.,*
in response to message #3 by Lode

Re: Sharp PC-1211 strange

*Message #5 Posted by **Lode** on 21 Aug 2011, 11:53 a.m.,*
in response to message #4 by robertoataulfo

Apparently it's a Dual D-Type Flip-Flop. That's all I know though...

So it can't be doing more than remembering two single boolean states of whatever the wires connected to it represent.

Re: Sharp PC-1211 strange

*Message #6 Posted by **Bart (UK)** on 21 Aug 2011, 11:41 a.m.,*
in response to message #1 by robertoataulfo

Is there a switch on it? (magnetic reed switch perhaps?) to select an extra RAM bank?

Edit: On seeing your second photo (the IC is a flip-flop), perhaps a bank change is done using a POKE command? (E.g. similar to using a 32Kb module in the PC-1500).

Edited: 21 Aug 2011, 11:48 a.m.

Re: Sharp PC-1211 strange

*Message #7 Posted by **Michael de Estrada** on 21 Aug 2011, 12:00 p.m.,*
in response to message #6 by Bart (UK)

The PC-1211 BASIC command set does not include PEEK and POKE.

Re: Sharp PC-1211 strange

*Message #8 Posted by **Bart (UK)** on 21 Aug 2011, 4:40 p.m.,*
in response to message #7 by Michael de Estrada

Perhaps the state is change-able through some I/O commands or something?

that's quite the barnacle!

*Message #9 Posted by **Dominic Richens** on 21 Aug 2011, 2:56 p.m.,*
in response to message #1 by robertoataulfo

is it possibly an early production version where they needed to add a flip-flop to fix a bug?

Re: that's quite the barnacle!

*Message #10 Posted by **robertoataulfo** on 21 Aug 2011, 3:26 p.m.,*
in response to message #9 by Dominic Richens

```
the serial number is compared to other very recent.
```

Re: that's quite the barnacle!

*Message #11 Posted by **Gerson W. Barbosa** on 21 Aug 2011, 3:53 p.m.,*
in response to message #9 by Dominic Richens

Looks like this is not the only one:

J'ai un circuit en trop sur mon 1211 !!

No plausible explanations though.

Re: that's quite the barnacle!

*Message #12 Posted by **Bart (UK)** on 21 Aug 2011, 4:37 p.m.,*
in response to message #9 by Dominic Richens

The date of the flip-flop is 1992, as these were originally produced in the early '80s this mod was done long after.

This certainly also does not look like a one-off type add-on PCB, it seems like the mod was intended to be for a number of units. I would guess an upgrade similar to the HP-200LX memory upgrades. Hence my suspicion that it might have to do with a memory upgrade, however it may have to do with some other custom added functionality. One would have to trace out the wires/tracks to see exactly where it all connects to.

Re: that's quite the barnacle!

*Message #13 Posted by **Gerson W. Barbosa** on 21 Aug 2011, 6:35 p.m.,*
in response to message #12 by Bart (UK)

Wire assignments clockwise from farther left yellow one, if I haven't done any mistake:

```
    yellow: D
    yellow: Q
 red/white: VDD
blue/white: VSS
 red/white: CK
```

Not of much help though.

Re: that's quite the barnacle!

*Message #14 Posted by **Bart (UK)** on 21 Aug 2011, 6:47 p.m.,*
in response to message #13 by Gerson W. Barbosa

One would also need a circuit diagram for the 1211, or reverse engineer it, a lot of trouble for something not more than a novelty :(

Re: that's quite the barnacle!

*Message #15 Posted by **Gerson W. Barbosa** on 21 Aug 2011, 7:31 p.m.,*
in response to message #14 by Bart (UK)

The second D-type flip-flop is not used, as we can gess by the shorted pins. This document mentions a controller inferface for a submersible pump. Two excerpts therein:

```
"The heart of the timer control package is a Sharp PC1211 pocket
computer with16K memory capability. This has been slightly modified by
hard wiring an external plug to the key pad and battery contacts of the
PC1211."


"At the end of the "delay" time, the PC1211 sends a "Beep  2"
signal which reverses the state of 1/2CD 4013 flip-flop."
```

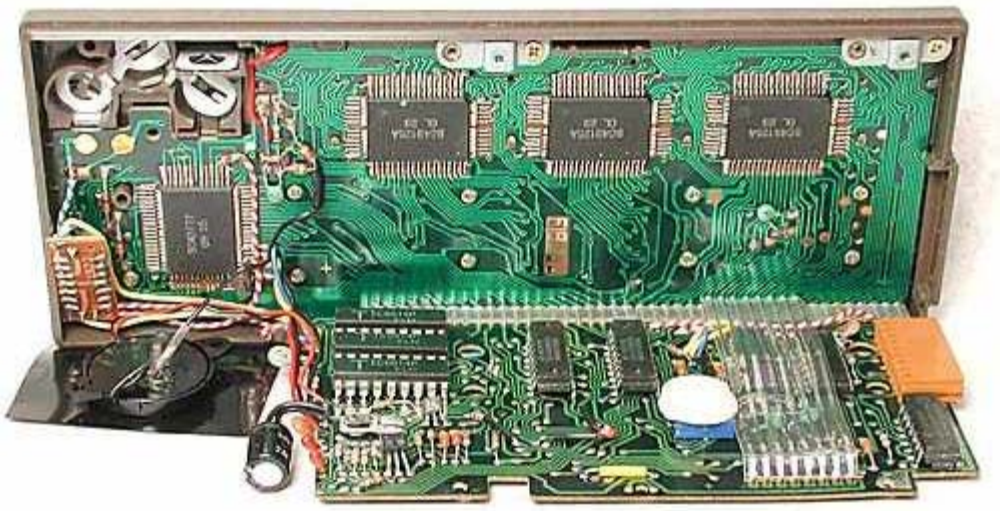
Might that PC-1211 be a remnant of that system?

Edited: 21 Aug 2011, 7:34 p.m.

Re: that's quite the barnacle!

*Message #16 Posted by **Mark Hardman** on 21 Aug 2011, 9:54 p.m.,*
in response to message #15 by Gerson W. Barbosa

This image from the Vintage Calculators Web Museum shows the exact same modification--right down to the color of the wires involved.



My vote is that this is a factory modification necessary for certain hardware revisions.

Mark Hardman

Re: that's quite the barnacle!

*Message #17 Posted by **Gerson W. Barbosa** on 21 Aug 2011, 10:21 p.m.,*
in response to message #16 by Mark Hardman

> Quote:
>
> My vote is that this is a factory modification necessary for certain hardware revisions.

Very likely, as there appears to be a lot of them.

Gerson.

Re: that's quite the barnacle!

*Message #18 Posted by **Michael de Estrada** on 21 Aug 2011, 10:42 p.m.,*
in response to message #17 by Gerson W. Barbosa

Wow. Well if that's a factory mod, it's a pretty sloppy one. The little board is just loose in there and could potentially short. They should have at least used some rtv or other material to secure and insulate it.

Re: that's quite the barnacle!

*Message #19 Posted by **Bart (UK)** on 22 Aug 2011, 5:20 a.m.,*
in response to message #18 by Michael de Estrada

No, not a factory mod, but a third party mod. As I mentioned previously, the date of the flip-flop IC is about 10 years after the initial production of the units (and like the 200LX mods I mentioned which were also 3rd party mods). The fact that a custom etched PCB was used shows that it certainly was not a "one-off", so I would expect some number of these modified units to exist.

Re: that's quite the barnacle!

*Message #20 Posted by **Bart (UK)** on 22 Aug 2011, 5:23 a.m.,*
in response to message #15 by Gerson W. Barbosa

This certainly seems a most likely explanation - exactly the kind of thing I would expect.

Re: Sharp PC-1211 strange

*Message #21 Posted by **Borja** on 24 Aug 2011, 11:06 a.m.,*
in response to message #1 by robertoataulfo

Now, could you verify, for the sake of curiosity, a funny "feature", if it works?

I have a Sharp PC-1430 and I discovered a buffer overflow error that would allow you to replace the password without damaging the stored program much.

The trick is to fill the input buffer completely (I think it's 80 character long) and, when full, pressing the insert key repeteadly. You will see that you are actually dumping memory contents. At least on a PC-1430 you even see characters not available to BASIC programs. (Not available on the keyboard and if I recall correctly the BASIC doesn't have a CHAR() function).

One of the most frequent "alien" characters you see is "~", which I guess is 0.

So, if you keep pressing INS and dumping memory, which not only dumps it, but seems that shifts some contents, you will eventually fill the password with "~~~~~~~~". Now you just clean up the input buffer so that you keep eight tildes, insert PASS " before and hit enter. And voila!

Re: Sharp PC-1211 strange

*Message #22 Posted by **Eric Smith** on 24 Aug 2011, 12:35 p.m.,*
in response to message #21 by Borja

The PC-1210/11/12 used two four-bit microprocessors sharing the work, probably because they couldn't put enough ROM in a single CMOS microprocessor at that time. The microprocessors used "Harvard architecture", which means that the RAM and ROM weren't even in the same address space, and that the ROM contents can't be read as data in the same way as the RAM. The user memory was in an external chip, so there were actually five independent memory address spaces in the part (compared to two in the HP-41C and only one in more typical computers). This makes it unlikely that there is any clever way in the PC-1211 to get at memory that you're not supposed to from the keyboard, and I've never heard of anyone finding a way to do it.

Sharp used a single eight-bit processor (usually LH5801/3, SC61680, or related parts) in almost all later models. (The PC-1600 has the 61680 and a Z-80.) These processors use a conventional "von Neuman architecture", with the ROM and RAM in a unified address space. That gives a lot more potential for making them do interesting, unintended ("NOMAS") sorts of things.

If anyone has a broken PC-1210/11/12, it would be interesting to decap and photomicrograph the two microprocessor chips, as the folks at Visual6502 have done with other microprocessors.

Re: Sharp PC-1211 strange

*Message #23 Posted by **Borja** on 29 Aug 2011, 3:02 a.m.,*
in response to message #22 by Eric Smith

Quote:

> The user memory was in an external chip, so there were actually five independent memory address spaces in the part (compared to two in the HP-41C and only one in more typical computers). This makes it unlikely that there is any clever way in the PC-1211 to get at memory that you're not supposed to from the keyboard, and I've never heard of anyone finding a way to do it.

Anyway, in the PC1430 I'm sure I read RAM, not ROM. The curious characters were simply the result of reading arbitrary numbers.

My 1430 has an upgraded RAM. It's possible to solder a second 6116 chip.

Re: Sharp PC-1211 strange

*Message #24 Posted by **Eric Smith** on 29 Aug 2011, 12:38 p.m.,*
in response to message #23 by Borja

On the later ones, it is possible to get at RAM or ROM by various means, because they are in a single, shared address space. My point was that it would be almost impossible to do anything like that on the 1211 family.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why dont people like the 28s as much as the 42s?

*Message #1 Posted by **snaggs** on 21 Aug 2011, 4:47 a.m.*

The 28s looks small enough, has more keys so less cluttered. What have I missed?

Daniel.

Re: Why dont people like the 28s as much as the 42s?

*Message #2 Posted by **Lode** on 21 Aug 2011, 5:01 a.m.,*
in response to message #1 by snaggs

Personally I don't really like its form factor.

Re: Why dont people like the 28s as much as the 42s?

*Message #3 Posted by **Paul Dale** on 21 Aug 2011, 5:02 a.m.,*
in response to message #1 by snaggs

Battery cover prone to breaking rendering the device useless is my main objection.

Otherwise, the 28s is a wonderful device.

- Pauli

Re: because of RPL

*Message #4 Posted by **Maximilian Hohmann** on 21 Aug 2011, 5:46 a.m.,*
in response to message #1 by snaggs

Hello!

I like the form factor of the 28. Dedicated alpha keys are great. And if you don't need them, you just fold the lid backwards and have a normal calculator. Excellent idea! When closed, the calculator is well protected enough that it dosent need a pouch or case. The display is surpisingly good for an LCD (contrary to the later 48 series!).

BUT: What good is a programmable calculator that (almost) nobody can program? Having to work one's way through a 1000-page manual before being able to write the most simple program puts off 99% of all users. Me included. It was the invention and implementation of RPL that cost HP the education market. What good is an educational tool that not even the teachers can understand and use?

But we've had this RPL discussion a hundred times already...

Regards max

Re: because of RPL

*Message #5 Posted by **snaggs** on 21 Aug 2011, 6:41 a.m.,*
in response to message #4 by Maximilian Hohmann

So it only does RPL and not RPN? Isnt RPL simpler for many things?

Re: because of RPL

*Message #6 Posted by **Maximilian Hohmann** on 21 Aug 2011, 6:55 a.m.,*
in response to message #5 by snaggs

Hello!

> Quote:
>
> So it only does RPL and not RPN?

In a way, it does both. RPN (reverse polish notation) is the logic implemented for keystroke calculating and RPL (reverse polish lisp) is a programming language.

> Quote:
>
> Isnt RPL simpler for many things?

Well, it is simpler for complicated things. If you look at some programming examples, you will find RPL programs that solve really complicated problems using only a few lines of code. But mind you: Putting together these few lines of code may take a normal person a whole week...

For the usual simple problems (e.g. formulas that need to be recalculated for different input values) RPN keystroke programming as implemented in all HP calculators before the 28 is a very simple, quick, intuitive and efficient approach. You basically type in your formula with the first set of values in PRGM-mode and have written your program in the process. Coming from that background, RPL was a huge slap in the face for most users. Because normal users do not need to solve the 8-queens-problem or sudokus on their calculators...

Regards Max

Addition: If you are familiar with Star Trek, you may consider the Hp28 as the ideal calculator for Mr. Spock: A totally logical and super-intelligent person who needs to solve problems, that mere mortals can not even understand. On the other hand, Scotty, the engineer, needs to recalibrate the matter-antimatter-ratio inside his warp-engine NOW, otherwise the starship will blow up in a few seconds. Nothing else but an Hp42 (or 41 or 65 or 67) can save him and his ship (and the whole universe because thats what the Enterprise's task is). The universe contains only one Mr. Spock, but many Scotty's. Therfore, mot many people are happy with their Hp28!

Edited: 21 Aug 2011, 7:13 a.m.

Re: because of RPL

*Message #7 Posted by **Thomas Radtke** on 21 Aug 2011, 7:24 a.m.,*
in response to message #6 by Maximilian Hohmann

One real show stopper on Mr. Spocks 28 was that it always returned 'an unknown form of energy' on any imput ;-).

Re: because of RPL

*Message #8 Posted by **Cristian Arezzini** on 21 Aug 2011, 12:28 p.m.,*
in response to message #6 by Maximilian Hohmann

I think all this RPL versus RPN thing boils down to how you grew up. My first HP was a 48, the second a 50g, and not until very recently I had a RPN calc; and I quickly learnt how to program the 48 (and I'm in no way above-than-average in intelligence). A few weeks ago I wrote a simple program to draw a bifurcation graph, pixel-by-pixel, and it took me about an hour, including debugging. Conversely, I've never managed to "reverse-engineer" a RPN program - i.e. if I read a listing, there's no way I can understand what it's supposed to do. And all that "stack-lift" just confuses me - I prefer the 48's way, where every time you enter a number, it goes to X and everything else lifts, so that i.e. if there's a number in X, I can press "2 +" or "2 ENTER +" and the result is the same... And I *love* the "infinite stack", I think it's way more powerful than just having 'n' hard-coded levels. So I for one find RPL very straightforward, and RPN a little awkward - though I'm getting used to it with the 34s - but as I said, I think it's down to what we learned first...

Cristian

Re: because of RPL

*Message #9 Posted by **Thomas Radtke** on 21 Aug 2011, 2:16 p.m.,*
in response to message #8 by Cristian Arezzini

> Quote:
>
> I think all this RPL versus RPN thing boils down to how you grew up.

It boils down to what is needed, imo. I rarely program my calculator, but when I have to, I take my 32SII and just do it. Since RPL is more complex and not consistent about pre-/postfix, the right syntax is hard to remember for me.

But you're right, too. When I'm used to directly edit the x-register on input numbers, RPL appears to be strange. There's a logic behind how stack lifting works on RPL machines (and the 20b/30b), that's for sure, but it's very different from RPN and produces unexpected results when used to RPN. Vice versa, RPN stack lifting must appear strange to the RPL user.

To each his own.

All that said, I like using my 48G for its advanced functions :-).

Edited: 21 Aug 2011, 2:16 p.m.

Re: because of RPL

*Message #10 Posted by **Thomas Falk** on 21 Aug 2011, 1:15 p.m.,*
in response to message #6 by Maximilian Hohmann

I don't understand this oposition against RPL. It is an extension without which the use of the features of the HP28 and the later calculators would not be possible. Just think about directories, names for variables and programs and the larger screen.

If you want to stay with RPN, even this is possbile. The handbook to the HP28s even has a chapter

for users of older - meaning RPN - calculators. If you read this, you will find explanations why some of the features of RPN are different in RPL. RPL is a consquent development from RPN.

About the complicated programming: You only have to start the input of the program with << and then you can simply type in your keys as you would have done it on the older calcs. If you are done, you have the program as on object on the stack, which you can simply store. If you have to debug a program on the older calculators, the first step would be to write it down on paper to get an overview. On a RPL calculator you can show it on the display.

So if you want RPN only, you are restricting yourself. But HP has done both: you could buy the RPL calculators (HP28, HP48) and RPN calcuators (HP32S etc) at the same time. Both user groups were satified.

Thomas

Edited: 22 Aug 2011, 4:25 p.m. after one or more responses were posted

Re: because of RPL

*Message #11 Posted by **Marcus von Cube, Germany** on 21 Aug 2011, 4:53 p.m.,*
in response to message #10 by Thomas Falk

Thomas, reread your post for some N vs L confusion!

Re: because of RPL

*Message #12 Posted by **Martin Pinckney** on 21 Aug 2011, 6:04 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Glad to know it wasn't just me.

Re: because of RPL

*Message #13 Posted by **Thomas Falk** on 22 Aug 2011, 8:50 a.m.,*
in response to message #12 by Martin Pinckney

Thanks for the hint. It was not easy to coordinate all the N and L's.

Re: because of RPL

*Message #14 Posted by **Walter B** on 22 Aug 2011, 1:09 p.m.,*
in response to message #13 by Thomas Falk

Seems it still is ;-)

Re: because of RPL

*Message #15 Posted by **Thomas Falk** on 22 Aug 2011, 1:34 p.m.,*
in response to message #14 by Walter B

Damn. Better now?

Re: because of RPL

*Message #16 Posted by **Walter B** on 22 Aug 2011, 1:40 p.m.,*
in response to message #15 by Thomas Falk

Better? Yes! Found 50% IMHO ;-)

Re: because of RPL

*Message #17 Posted by **Thomas Falk** on 22 Aug 2011, 4:28 p.m.,*
in response to message #16 by Walter B

Why do others find each mistake, but one self doesn't see it? ;-)

Re: Why dont people like the 28s as much as the 42s?

*Message #18 Posted by **Walter B** on 21 Aug 2011, 6:04 a.m.,*
in response to message #1 by snaggs

Too heavy IMHO. The 42S has just the right size, avoids extra moving parts, may still be carried in a shirt pocket, and features a clean keyboard as well. I don't want any bigger calcs. And I avoid RPL for the reasons Max explained already. OTOH, the 28S LCD is a good one.

Walter

Re: Why dont people like the 28s as much as the 42s?

*Message #19 Posted by **marais** on 21 Aug 2011, 6:46 a.m.,*
in response to message #1 by snaggs

I prefer the 28S, but maybe that's because of nostalgic value - it was the 28C/S (got both) that got me through my EE studies. At the time I was very proficient in programming the 28S, but I agree that the learning curve is steep, and I admit I no longer know how to program it. I later got myself a 42S, mostly out of curiosity, but we never got friends.

Re: Why dont people like the 28s as much as the 42s?

*Message #20 Posted by **Dominic Richens** on 21 Aug 2011, 7:15 a.m.,*
in response to message #1 by snaggs

So at the end of 3rd year EE, I bought a (recently discontinued) HP-15C and my friend bought an HP-28S. For 4th year, we used them extensively.

key layout: On the HP-15C (similar to HP-42S) all the trig and log functions were right there - on the 28 you had to shift->key to get the TRIG or LOG menu first, then press the menu key to get the function.

programming: programming on the fly was easy on the 15c as you basically pressed the same keys in the same order that you would if manually calculating it. Not so on the hp-28s - the difference is like using macros versus visual basic in Excel.

However, I did program my friend's 28S to play "home, home on the range" - can't do that with a 42s

Re: Why dont people like the 28s as much as the 42s?

*Message #21 Posted by **Paul Dale** on 21 Aug 2011, 7:21 a.m.,*
in response to message #20 by Dominic Richens

Quote:

However, I did program my friend's 28S to play "home, home on the range" - can't do that

> with a 42s

I programmed mine 28S to play chess :-)

And a 3D maze adventure....

Talk about a waste of my honours year.

- Pauli

Re: Why dont people like the 28s as much as the 42s?

*Message #22 Posted by **Dominic Richens** on 21 Aug 2011, 7:53 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> Talk about a waste of my honours year.

yes, another reasons why the HP-42s is better :-)

Re: Why dont people like the 28s as much as the 42s?

*Message #23 Posted by **Paul Dale** on 21 Aug 2011, 7:54 a.m.,*
in response to message #22 by Dominic Richens

The waste being I didn't do more calculator programming :-)

- Pauli

Re: Why dont people like the 28s as much as the 42s?

*Message #24 Posted by **Dan W** on 21 Aug 2011, 5:29 p.m.,*
in response to message #23 by Paul Dale

I remember years ago, after a long, arduous and stressful technical project where I used my HP-42s extensively, I told myself when I got done with the project I'd buy myself a present and get the 28s.

After the project, they moved me to a management position on another project. I never bought the 28s and never learned RPL. But I did get good with PowerPoint!

I miss those days, when the HP calculator was my bridge between back-of-the-envelope engineering and mainframe batch execution.

So what about the 71b?

*Message #25 Posted by **snaggs** on 21 Aug 2011, 8:20 a.m.,*
in response to message #20 by Dominic Richens

> Quote:
>
> key layout: On the HP-15C (similar to HP-42S) all the trig and log functions were right there - on the 28 you had to shift->key to get the TRIG or LOG menu first, then press the menu key to get the function.

This is another calculator that looks fascinating?

Daniel

Re: So what about the 71b?

*Message #26 Posted by **Maximilian Hohmann** on 21 Aug 2011, 8:29 a.m.,*
in response to message #25 by snaggs

Hello!

> Quote:
>
> This is another calculator that looks fascinating?

It IS fascinating indeed! But the 71 is not really a pocket calculator, rather a minicomputer that fits in a (large) pocket if necessary. The BASIC language is very powerful and quite easy to master for stupid engineers like me. But for simple pocket-calculator tasks it is not the ideal machine.

If you want to know whats possible with a 71b, search for Valentin Albillos challenges on this forum in the last five years or so. You will be surprised.

Regards, Max

Re: So what about the 71b?

*Message #27 Posted by **Garth Wilson** on 21 Aug 2011, 3:48 p.m.,*
in response to message #26 by Maximilian Hohmann

I definitely agree. The 71 is a powerful hand-held computer that is not very practical as a calculator. I have used mine a lot; but when I want a calculator, I reach for my 41. (I have used my 41 also for controlling and taking data from many pieces of lab instrumentation at once too though.) It is unfortunate that HP mismanaged the sales of the 71 so badly. What an absolute disgrace that was!

Edited: 21 Aug 2011, 3:49 p.m.

Re: Why dont people like the 28s as much as the 42s?

*Message #28 Posted by **Steve Fennell** on 21 Aug 2011, 11:02 a.m.,*
in response to message #20 by Dominic Richens

I saw a lot of my engineering classmates fumbling around with the 28s trying to use it during exams. At the time I was using a TI-68 which was no prize but adequate (the third shift key failed a few years after I bought it). IIRC no one really bothered to program them, they were more of a status symbol, and were quickly replaced by the superior 48 series.

Re: Why dont people like the 28s as much as the 42s?

*Message #29 Posted by **allen** on 21 Aug 2011, 7:54 a.m.,*
in response to message #1 by snaggs

The 28c/s was fairly quickly replaced by the more capable 48 RPL series with Serial Connection and/or

Expansion ports. This redesign also replaced expensive "N" batteries with more common "AAA" and the fragile battery door with a sturdy replacement. The 48 screen is larger, with more memory and SySRPL capability, and numerous other advancements that made the 28c/s almost obsolete the day the 48sx came out.

In contrast,no advancement in RPN machines has been made past the 42S.

Just bought a 48g+.

*Message #30 Posted by **snaggs** on 21 Aug 2011, 8:02 a.m.,*
in response to message #29 by allen

I had a 48 in first year uni but it got nicked. I replaced it with a 49+ which I still have but have never gelled with.

Im enjoying my 35s, will be interesting to compare to my memory of the 48, which was not as "fat" as the 49g+ if my memory serves me.

As a programmer, i dont think RPL will bother me. Ive read its like forth. I played with that on a Commodore Plus/4 many yeats ago :)

Edited: 21 Aug 2011, 8:17 a.m.

Re: Why dont people like the 28s as much as the 42s?

*Message #31 Posted by **Bart (UK)** on 21 Aug 2011, 9:25 a.m.,*
in response to message #1 by snaggs

Actually, I love the 28S. It was the first HP calculator I ever owned and I got it during my EE studies, and programmed it extensively. I felt that menu's were the next logical step for complex calculators (e.g. I prefer the 32S to the cluttered 32SII). I also thought that RPL was the next step up from keystroke programming. Even though I have a 50G now, I sometimes still prefer the 28S as the 50G has become incredibly complex loaded with so much more functionality. The 28S does feel incredibly slow now though ;-).

Re: Why dont people like the 28s as much as the 42s?

*Message #32 Posted by **Egan Ford** on 21 Aug 2011, 2:54 p.m.,*
in response to message #1 by snaggs

> Quote:
>
> Why don't people like the 28s as much as the 42s?

Where is that stated? I knew more 28 users that 42 users in the late 80's/early 90's.

I think Allen is spot-on re: the 48 replacing the 28. I knew many more 48 users than 28 and 42 combined. Come to think of it, I knew more 15C users than 42 users.

Re: Why dont people like the 28s as much as the 42s?

*Message #33 Posted by **John B. Smitherman** on 21 Aug 2011, 3:16 p.m.,*
in response to message #32 by Egan Ford

I've known more 11c users than 15c users.

John

Re: Why dont people like the 28s as much as the 42s?

*Message #34 Posted by **Massimo Gnerucci (Italy)** on 21 Aug 2011, 3:28 p.m.,*
in response to message #33 by John B. Smitherman

41 users are/were many more...
:-p

Massimo

Re: Why dont people like the 28s as much as the 42s?

*Message #35 Posted by **Egan Ford** on 21 Aug 2011, 3:42 p.m.,*
in response to message #34 by Massimo Gnerucci (Italy)

No argument there. My father was one of them. IMHO, the 41 was the first truly portable pocket computer. My father used the programs he created to "tune" oil refineries in the field.

Re: Turing complete?

*Message #36 Posted by **allen** on 21 Aug 2011, 6:18 p.m.,*
in response to message #35 by Egan Ford

> Quote:
>
> the 41 was the first truly portable pocket computer.

And according to the wikipedia, only the 41C series and the HP 42s are Turing Complete.

Mightn't there be others?

post edit: I guess the 35S is too?

Edited: 21 Aug 2011, 6:19 p.m.

Re: Turing complete?

*Message #37 Posted by **Paul Dale** on 21 Aug 2011, 6:22 p.m.,*
in response to message #36 by allen

I suspect pretty much all of the programmable calculators are Turing complete. With the proviso of their limited memory.

Certainly those with any form of indirection could implement a Turing machine.

- Pauli

Re: Why dont people like the 28s as much as the 42s?

*Message #38 Posted by **Mike Morrow** on 22 Aug 2011, 12:14 p.m.,*
in response to message #32 by Egan Ford

There's a very good reason that there were relatively few HP 42S purchasers during the seven years (1988 to 1995) that it was in production. **All** of HP's marketing emphasis was on the HP 28S (1988), followed by HP 48SX (1990), followed by HP 48GX (1993)...plus some wasted effort on that HP 38G dead end. About

the only mention that the HP 42S received was in Edu-Calc catalogs.

The HP-15C (1981) had as similarly-capable competition during its production history *only* the HP-41C series. The HP-15C was, out of the box, much more sophisticated than the HP-41C series for many things, especially complex functions. It grossly outperformed any other Voyager as a scientific or programmable machine.

So there's no mystery *at all* why the excellent and still unmatched capability of the HP 42S never gained significant notice while it was in production. For **every** second of that period, HP purposefully hid the RPN HP 42S behind the RPL systems that HP wished to convince potential customers was what they *really* wanted, if only they were sufficiently sophisticated.

RPL, admittedly very powerful, is what wilted HP calculator popularity for many. A wise person on this forum many years ago distilled the issue with: "The surprising thing about RPL is not how *easy* it is for hard problems, but how *hard* it is for easy problems."

Edited: 22 Aug 2011, 12:39 p.m.

Re: Why dont people like the 28s as much as the 42s?

*Message #39 Posted by **Bart (UK)** on 22 Aug 2011, 12:49 p.m.,*
in response to message #38 by Mike Morrow

> Quote:
>
> For every second of that period, HP purposefully hid the RPN HP 42S behind the RPL systems that HP wished to convince potential customers was what they really wanted, if only they were sufficiently sophisticated.

And in my eyes they were right, the 42S was only there to support those archaic users that wanted something to replace their beloved 41C_'s (which it failed miserably to do because it was crippled by lack of expandability & I/O).

(Mike - please do not take me seriously, I am just putting in a lighthearted jab in this "argument" ;-).

Re: Why dont people like the 28s as much as the 42s?

*Message #40 Posted by **Paul Gaster** on 22 Aug 2011, 1:57 p.m.,*
in response to message #38 by Mike Morrow

I graduated from high school in 1990 and went into college to be a mechanical engineer right afterwards. The details are a little fuzzy, but I remember that one of our professors told us we would need a good calculator for all of our classes. He explained that we needed something that would handle matrices and simultaneous equations among other things, but those were really important. HP must have been recommended because that is all that we students bought. Back then there was no internet so that we could check reviews or do research. I ended up at a local store and I had to order my calculator. I am fuzzy on the choices, but I remember one option being about $60 or $80 and it had limited abilities for matrix and simultaneous equations, so maybe that was a 32S, but I could be wrong. The next option was a 42S at $120, and the last option I think was a 28S at $235. The 42S would do what I needed and was about half the price of the 28S so that is what I got. I didn't understand how the 28S could be worth so much extra money, and keep in mind I had to use part of a student loan to order the 42S. It served me well for all of college and I passed the FE exam with it as well. I didn't even know much about programming and never really tried to learn. The quadratic equation program was the only thing I remember ever putting into it, but I knew that one by heart so it was pretty much pointless

anyway. Others back then splurged for the 28S, but most seemed to have a 48S or later on a 48G. I even remember one or two having the 48SX or GX. I was in so much awe of a calculator that could load programs, information, and formulas on the cards. At the time I felt like I was at a disadvantage to a certain degree with my little 42S. Now there are so many who wish we could still get such a small little calculator.

Re: Why dont people like the 28s as much as the 42s?

*Message #41 Posted by **LMMT** on 22 Aug 2011, 7:11 a.m.,*
in response to message #1 by snaggs

When I was studying engineering I bought the HP 28S. Just the possibility to solve a linear equation system (3 x 3 or whatever) with complex coefficients by allocating the two matrices in the stack and clicking a key was enough to convince ALL my schoolmates to run and get one. At that time other people already had a Casio PB 1000 or even an HP 41 but they had to admit the HP 28S was far superior for everyday calculation. I don't know much about the HP 42S but I guess that the screen and RPL language offered by the HP 28S makes this one the right election. And we should not forget the possibility to have in the same enviorenment real numbers, matrices, lists, many objects. A luxury that other older calcs could not afford.

Re: Why dont people like the 28s as much as the 42s?

*Message #42 Posted by **Gerson W. Barbosa** on 22 Aug 2011, 7:59 a.m.,*
in response to message #41 by LMMT

The HP-28S was my second HP calculator, purchased exactly because of the very reason you mention. Although no user program was necessary for that task, I preferred to use this one then. The HP-42S has a nice linear system solver as well. Limited I/O is their great weakness, however.

Edited: 22 Aug 2011, 8:09 a.m.

Re: Why dont people like the 28s as much as the 42s?

*Message #43 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Aug 2011, 11:28 a.m.,*
in response to message #1 by snaggs

1) RPL.

2) Not easy programming for those who were familiar with the classic paradigm.

3) Little memory on the 28C.

I remember the enthusiasm and then the intense disappointment the 28C caused me when a friend lent me one for a couple of days (1987?)...

Re: Why dont people like the 28s as much as the 42s?

*Message #44 Posted by **Howard Owen** on 22 Aug 2011, 1:52 p.m.,*
in response to message #1 by snaggs

Ah, the perennial RPN vs RPL debate. :)

I learned to program on an HP-41C. I used RPN before I learned BASIC, let alone C. The HP-41 way of doing things is still the most natural for me. I had a career as a programmer and systems specialist, and cranked a lot of code over the years. After I rediscovered HP calculators in 2005, I bought some RPL machines and set out to write non-trivial programs as an exercise. My experience was that RPL was hard to

learn. I'm sure that had partly to do with my RPN hard-wiring but I also think that it's manifestly true that RPL is more challenging, merely measuring that by the flexibility it offers over RPN. However that may be, I came to greatly enjoy RPL on the 48GX.

As a diehard 41C fan, I will always regret that HP took the direction it did with RPL. In the late 80s, calculators were still relevant in the broad market of computing devices. If they had chosen to build on the RPN model, it's likely that we'd have HP machines today that I could love without reservations. But that is a selfish and atavistic attitude. HP went with RPL, and that branch of the calculator tree flourished in a technical, if not a commercial sense. I rejoice to see that other RPN troglodytes, like me in tastes but with greater technical chops, have taken up the challenge of moving the RPN model forward. I'm bringing my 30B to HHC for some post-HP RPN hot-flash TLC. I hope to see some of you there.

Regards
Howard

Re: Why dont people like the 28s as much as the 42s?

*Message #45 Posted by **Keith Midson** on 23 Aug 2011, 11:19 p.m.,*
in response to message #1 by snaggs

I love the 28S - it was my first HP at university. I upgraded it to a 48G a few years later and was disappointed. Now I have a large collection of HP's, including 2x42S's and 7x28S's (some examples of mine here: 28S clear, 28S normal and 42S) I have 28S's made in USA, Singapore and Indonesia, as well as 100th anniversary edition and clear case.
What I love about the 28S is the separate alpha keyboard, which makes programming so much easier, the easy access menus, and the overall layout. It does fold into a neat little closed case which is well protected. Downside is of course the battery door, but if you are careful then they can survive well. I agree with earlier posts that it has a lot to do with what you are used to.
For daily use, I have a 28S, 42S and 48GX on my desk. I tend to mix it around a bit (just because!!). Cheers, Keith

Edited: 23 Aug 2011, 11:59 p.m.

Re: Why dont people like the 28s as much as the 42s?

*Message #46 Posted by **Walter B** on 24 Aug 2011, 2:32 a.m.,*
in response to message #45 by Keith Midson

Great samples, especially the clear one! Congratulations!!

Re: Why dont people like the 28s as much as the 42s?

*Message #47 Posted by **Howard Owen** on 24 Aug 2011, 3:40 a.m.,*
in response to message #45 by Keith Midson

That photo stream is a great pleasure to browse. Thanks!

Re: Why dont people like the 28s as much as the 42s?

*Message #48 Posted by **Keith Midson** on 26 Aug 2011, 1:03 a.m.,*
in response to message #47 by Howard Owen

Thanks! I am slowly getting all my collection online. I've just posted a pic of my 94E & 94F together - just need a 94D to complete the picture!! HP94EF

Edited: 26 Aug 2011, 1:04 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's next move?

*Message #1 Posted by **Earl Kubaskie** on 21 Aug 2011, 1:18 a.m.*

Computers out, tablets out, Palm out, and now Autonomy in?

http://www.tomshardware.com/news/Autonomy-HP-Takeover-Acquisition-value-deal,13259.html

Ten billion dollars for a data management software firm?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp97

*Message #1 Posted by **Anthony Allen** on 20 Aug 2011, 3:22 p.m.*

Greetings:

Could I run an hp 97 without the battery, if I turn it off after each use

Thanx in advance

Anthony

Re: hp97

*Message #2 Posted by **Michael de Estrada** on 20 Aug 2011, 8:11 p.m.,*
in response to message #1 by Anthony Allen

According to Randy, you can damage the card reader sensor by operating the calc off the ac adapter w/o a battery, regardless of whether you use the card reader. This is because the card reader circuit is powered directly off the battery charger side of the ac adapter, which outputs about 16 vdc no-load. Randy can provide more specific details on this. The same caveat applies to the HP-65.

Re: hp97

*Message #3 Posted by **Paul Berger (Canada)** on 20 Aug 2011, 8:38 p.m.,*
in response to message #2 by Michael de Estrada

I believe it is the 67 that can have the card reader damaged by operation without a battery. In the 97 the voltage supplied to the reader as well as the rest of the calculator is regulated. The service guide says the the 97 will not be damaged by operation without a battery but it will not operate correctly. I just tried it with the 97 on my desk and the display flickers and neither the card reader or printer will work due to the limited amount of current the charger can provide.

Re: hp97

*Message #4 Posted by **Michael de Estrada** on 20 Aug 2011, 8:52 p.m.,*
in response to message #3 by Paul Berger (Canada)

Yes, you are correct. I was thinking of the HP-67 too, and missed the fact that the OP was asking about the HP-97 instead. My mistake.

Re: hp97

*Message #5 Posted by **Geoff Quickfall** on 20 Aug 2011, 8:21 p.m.,*
in response to message #1 by Anthony Allen

Michael is correct,

In fact here is a quote from the HP 91 manual and the HP 97 manual:

```
NOTE:  OPERATING THE HP-91 (OR 97) FROM THE AC LINE WITH THE
BATTERY PACK REMOVED MAY RESULT IN WRONG OR IMPROPER DISPLAYS.
```

Although these are not as supseptable to the Woodstock power catastrophes, they were not designed to work without a FUNCTIONAL battery pack.

Cheers, geoff

added after the above posts:

as noted above, the hp 91 manual also does not mention damage, question is, should it have or was the statement in quotes above meant to discourage the use?

Edited: 21 Aug 2011, 3:54 a.m.

Re: hp97

*Message #6 Posted by **Dave Johnson** on 20 Aug 2011, 9:33 p.m.,*
in response to message #1 by Anthony Allen

Running an hp97 without the battery will destroy the printer if you try to print

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 39gs/40gs applet setup on hp-50g

*Message #1 Posted by **Erturk Kocalar** on 20 Aug 2011, 2:55 p.m.*

Hi all,

I recently got a hp 39gs from amazon for about $31.

I have a 50g but I'm starting to like the 39gs, especially the concept of applets. I discovered it saves the environment/settings between different applets. so for example, as an electrical engineer, so I created one applet that has the electrical formulas I use and the mode is set to engineering mode. I also have another applet for normal calculations, with format set to standard. It makes it easy to switch back and forth between different purposes. almost I have multiple calculators.

however, I would like to use the hp50g because it is much faster and powerful. I am not a power user (so don't know much about programming). How can I set up 50g in an "applet" fashion?

thanks,

Edited: 20 Aug 2011, 2:55 p.m.

Re: hp 39gs/40gs applet setup on hp-50g

*Message #2 Posted by **Gilles Carpentier** on 20 Aug 2011, 3:49 p.m.,*
in response to message #1 by Erturk Kocalar

Hi Erturk ,

I never use a 39gs. But if I understand well what you want to do, PUSH and POP command is what you need.

PUSH and POP : The PUSH command saves the current status of the flags, and the current directory path. This allows the user to change the flags or the directory path, then restore them all with the command POP

For exemple :

```
PUSH
 -105 SF @ to go in 'APPROX' mode
 -103 SF @ Set complex mode on
 ...
 Your program
 ...
POP @ restore the environment as it was at the last PUSH command
```

It works also when you change the standard/engeneering etc mode

So, in resume, you only need a PUSH command at the beginning, then set all the flags as you want and a POP at the end of your program

PS : you can also combine this with the STOF and RCLF commands. This is explained in the advanced user reference manuel.

Edited: 20 Aug 2011, 3:58 p.m.

Re: hp 39gs/40gs applet setup on hp-50g

*Message #3 Posted by **Tim Wessman** on 20 Aug 2011, 5:17 p.m.,*
in response to message #1 by Erturk Kocalar

You can't really do the same concept of "aplets" on the 50g. You could potentially do some saving of flags and directories as stated, but the 50g really isn't set up to do task switching which is the whole basis of aplets.

Interestingly enough, there is some code still left in the 50g when a former calc engineer was planning to enable support for aplets on the 50g. The work was never finished though. There wasn't much interest for it either.

I do think that everyone discounts the 39/40 though - especially here since they are algebraic only. They are very simple to operate, and even simpler to explain how to use, but that simplicity definitely puts of those wanting to do things more than 1 or 2 ways that are supported. The 50g shines in its flexibility.

Remove those limitations (such as give it units, more flexibility in programming, and some more customization) and I think more people would be willing to give it a shot.

TW

Re: hp 39gs/40gs applet setup on hp-50g

*Message #4 Posted by **M. Joury** on 20 Aug 2011, 9:40 p.m.,*
in response to message #3 by Tim Wessman

I am an old time HP RPN user and for that reason put off trying the 38/39/40 series calcs for years. A little more than a year ago I decided I needed something new to play with and purchased the 39gs. I have to say that I love it. It is not an HP50 or even an HP48S/X but it has some really cool features.

Overall, I have been very impressed with the machine and it's capabilities and the more I play with aplets the more I like them. I do wish that the programming language were a little more powerful (the ability to call a subroutine within a program would be nice for example) but even with the current limitations one can do a lot with the calculator. I also really like the keyboard color which even though it dies not look quite as "professional" as the 50g is much easier on my eyes. Add RPN, a wide enter key, and a few additional features and this machine would be a real winner.

I did implement an RPN mode for it that provides the approximate capability of a HP45 so that I can get my RPN fix and I am just getting back (after 9 months being busy with other things) to working on converting this app to SysRPL to improve the speed (I just wish I could figure out how to load libraries into the Emu48/39g emulator since I currently have an issue with my Parameterized Outer Loop and keep trashing memory during debugging <g>).

Cheers,

-Marwan

Re: hp 39gs/40gs applet setup on hp-50g

*Message #5 Posted by **David Hayden** on 21 Aug 2011, 8:43 a.m.,*
in response to message #4 by M. Joury

I'll second Marwan's comments. I really like the colors of the 39gs. And although I'd prefer RPN, I

think the 39gs completely blows away the TI 83 which is it's main competition. Aplets are exactly what teachers need in the classroom.

Re: hp 39gs/40gs applet setup on hp-50g

*Message #6 Posted by **Erturk Kocalar** on 21 Aug 2011, 2:59 a.m.,*
in response to message #3 by Tim Wessman

Thanks for the comments, everyone. Push/pop commands with some programming could be a partial work-around. I think Tim hit it on the head by saying task switching, which is what I was looking for.

> Quote:
>
> I do think that everyone discounts the 39/40 though - especially here since they are algebraic only. They are very simple to operate, and even simpler to explain how to use, but that simplicity definitely puts of those wanting to do things more than 1 or 2 ways that are supported. The 50g shines in its flexibility.

yes, it is easy to learn and operate. The build quality is same as 50g. I was able to show the concept of graphs to my 7 yrs daughter. (she was asking for a graphing calculator afterwards :)). It also helped me understand the capability and expandability of 50g because I would go back and try to do the same thing on 50g.

> Quote:
>
> Remove those limitations (such as give it units, more flexibility in programming, and some more customization) and I think more people would be willing to give it a shot. TW

within a week of use, i don't have a strong feeling of anything missing (for its purpose). Units would be nice and also if one could enter multi-character variables in solver. however, after using 50g and 40gs, I find there is a fine line between keeping it simple and complicated. For my use, I would keep 40gs as is (=cessna) and use the 50g (=fighter jet + airbus). :)

I haven't started programming yet. the views reminded me the event-driven programming. It looks like it is possible to add pictures to applets, which will be nice. I'm thinking about making tools for calculating pcb trace impedances. Also, when I calculate the impedance of a cap or inductor, I want to see a plot of the impedance vs freq with cursor at the entered freq (maybe this is the split view.)

Now if i can figure out how to overclock this calc, that'll be cool :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Comments on HP status

*Message #1 Posted by **Tim Wessman** on 20 Aug 2011, 11:55 a.m.*

Hello,

I wanted to write a short message to everyone and hopefully allay some concerns. This is not any sort of official statement from HP, but just some observations that are relevant to those whom visit here for love of calculators.

1. We (everyone here on this sit and within calcs) have always known that calculators are not really a good fit within HP anymore. In fact, I think calculators is the oldest group left within HP by far. In the past decade or so, it has been shuffled around quite a bit trying to find a fit. Currently, we are under accessories which does both aftermarket consumer things (mice, keyboards, audio, etc) and things like batteries, docking stations, power cables and the like. This as been a very good fit for calcs, and there has been a ton of support to grown the business and do exciting things.

2. Accessories falls under PSG which is being looked at with this announcement. Nobody really seems to have any idea what will be happening, but if you look at the analysts it ranges from completely selling PSG, to doing nothing at all.

3. It will take a long time for any decisions to be made. On Thursday when the announcement came out, a lot of people cleared out of the Ft. Collins office that afternoon. There was a lot of worried talk as it was a big surprise to everyone. By Friday everyone had absorbed the news, and we'd mostly all come to the decision that it really wasn't that bad. In fact, there are some definite upsides.

4. HHC this year is still going on. We will still be there, and there will be some really great things you won't want to miss.

5. Are calculators done? Well, if you've asked some people here they'd say it already happened with the discontinuation of <insert_favorite_unit_here>.

6. What about long term potential for calculators? In all honesty, nothing has changed at all. I was quite worried on Thursday, but I am over that. I am potentially more optimistic now then I was then. Simply due to the strange fit within HP, there has always been the potential someone would decide to shut it down.

I'd just like to encourage everyone to remain calm. More than that though, you should come to HHC. If it does turn out that this is the last one ever (doubtful), let's go out with a bang! :-D

--

TW

Although I work for the HP calculator groups, the thoughts and comments I express here are my own.

Edited: 21 Aug 2011, 1:57 a.m. after one or more responses were posted

Re: Comments on HP status

*Message #2 Posted by **Howard Owen** on 20 Aug 2011, 1:21 p.m.,*
in response to message #1 by Tim Wessman

It's good to hear that there's more than gloom and doom in the future for you guys, Tim. Here's wishing for a happy outcome. Whatever eventuates, the responsiveness and support this community has received from HP in recent years will leave a warm glow in my memory. I too doubt that this year's HHC will be the last. I believe the conference was started and functioned for many years without HP's direct support.

Re: Comments on HP status

*Message #3 Posted by **Bruce Bergman** on 20 Aug 2011, 1:23 p.m.,*
in response to message #1 by Tim Wessman

Thanks so much Tim -- great to hear a view from the trenches. Just know that as much as we are all concerned about the calculators in general, we also care about you, and Cyrille and others who are near and dear to us. We hope this will be a mere blip.

Thanks, Bruce

Re: Comments on HP status

*Message #4 Posted by **Steve S** on 20 Aug 2011, 2:53 p.m.,*
in response to message #1 by Tim Wessman

As a veteran of corporate restructuring myself, I know that these events can take unexpected turns and curious reversals. I hope that your (guarded, I am sure) optimism turns out to be justified and that your operating unit survives and hopefully prospers.

As an interesting footnote, my family entertained a Russian business student at our home this past weekend. By coincidence, it was her birthday, so we gave her an HP-10 as a gift and memento of her visit to the states. She was THRILLED with it! It's clear that HP calculators still have the power to impress. Let's all hope that HP senior leadership realizes the same thing...

Good luck...

Re: Comments on HP status

*Message #5 Posted by **Gilles Carpentier** on 20 Aug 2011, 4:12 p.m.,*
in response to message #1 by Tim Wessman

Many thanks Tim for your message !

Gilles

Re: Comments on HP status

*Message #6 Posted by **DaveJ** on 20 Aug 2011, 6:27 p.m.,*
in response to message #5 by Gilles Carpentier

Wow, thanks very much for the response Tim.
I'm sure nobody expected even so much as a peep out of anyone at HP.
If HP have given you permission to say something then a huge thumbs up from them. But if it was solely your discretion to say something then two huge thumbs up to you.

Honest communication like this is always appreciated in the industry, and only good things will come from it as a result. Something very few companies truly understand.

Regards Dave.

Re: Comments on HP status

*Message #7 Posted by **Geoff Quickfall** on 20 Aug 2011, 6:32 p.m.,*
in response to message #1 by Tim Wessman

Many thanks for you insight Tim.

Hopefully HCC2011 will be a springboard for HP calculators and I look forward to seeing you there!

As far as restructuring goes, I can certainly empathize and can only state, keep a positive attitude.

Cheers,

Geoff

Re: Comments on HP status

*Message #8 Posted by **sjthomas** on 20 Aug 2011, 6:48 p.m.,*
in response to message #1 by Tim Wessman

> Quote:
>
> I'd just like to encourage everyone to remain calm. More than that though, you should come to HHC. If it does turn out that this is the last one ever (doubtful), let's go out with a bang! :-D

Even if hp drops calculators, I doubt that would be the end of HHC.

Re: Comments on HP status

*Message #9 Posted by **hpnut** on 20 Aug 2011, 7:24 p.m.,*
in response to message #1 by Tim Wessman

Hey Tim,

it's good to hear your optimism, here's wishing all the best to you. Same goes to Cyrille.

any chance of you guys coming to work in any of the HP or Agilent facilities in Malaysia?

cheers,

hpnut in Malaysia

Re: Comments on HP status

*Message #10 Posted by **Forrest Switzer** on 20 Aug 2011, 7:52 p.m.,*
in response to message #1 by Tim Wessman

Real Class Tim, both you and Cyrille.

Able to answer your customers questions. And maybe more important at times, able to ask them questions also. Real communications in a large corporate environment.

Forrest

Re: Comments on HP status

*Message #11 Posted by **Lode** on 20 Aug 2011, 8:06 p.m.,*
in response to message #1 by Tim Wessman

You've been so interesting and helpful, that I can only wish the best!

Re: Comments on HP status

*Message #12 Posted by **Martin Pinckney** on 20 Aug 2011, 8:27 p.m.,*
in response to message #1 by Tim Wessman

My worry isn't about the calculators (except of course for the sake of you, Tim and Cyrille). I have all the Pioneers, 48's, and Classics (one) that I will need for the rest of my life.

But I am partial to the HP tablet PCs. I am fond of my TC4400, but nothing lasts forever. Should I order an Elitebook, which seems to be the only thing left of this type?

Re: Comments on HP status

*Message #13 Posted by **Gerardo Rincon** on 20 Aug 2011, 9:12 p.m.,*
in response to message #1 by Tim Wessman

Great companies are made of great people..... All of you at HP are great people, all pioneers of new technology...stay positive! this storm will blow through...

Re: Comments on HP status

*Message #14 Posted by **David Hayden** on 21 Aug 2011, 8:49 a.m.,*
in response to message #1 by Tim Wessman

To me, the sad thing about HP leaving the PC business is that they bought compaq in 2002 for $25 billion and now they're getting out. To me it shows very poor management at the top to make such a large investment and then change their mind a short timer.

Re: Comments on HP status

*Message #15 Posted by **sylvandb** on 21 Aug 2011, 3:02 p.m.,*
in response to message #14 by David Hayden

> Quote:
>
> To me, the sad thing about HP leaving the PC business is that they bought compaq in 2002 for $25 billion and now they're getting out. To me it shows very poor management at the top to make such a large investment and then change their mind a short timer.

No doubt.

Of course, as for changing their mind, the compaq purchase was two CEO's ago.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 strange Memory Module found.

*Message #1 Posted by **Diego Diaz** on 20 Aug 2011, 10:18 a.m.*

Hi all,

This is nothing but a "cosmetic rarity" but just want to share it and ask if someone else has ever found such a type of "error".

As a result of the several USB power cables I've built lately, I've seek all the posible candidate modules to use their case and connectors, in the bottom of the "usable module box" I found the one in the picture:

The module is a simple 82106A with the peculiarity that the external label was printed upside-down.

BTW, it works as any other Memory Module... (i.e. if you enter "1.2345" into one of its registers you won't get "5432.1" when recalling it... sorry, couldn't resist... ;-)

Have you ever found any other wrong labelled module (any type)?

Best from the Canary Islands.

Diego.

PS. The label is of course "printed", it's not a sticker labelled module.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

µWatch2 Back Again

*Message #1 Posted by **DaveJ** on 20 Aug 2011, 9:26 a.m.*

Well, it's been around 2 years wince I last floated ideas for my µWatch2 project. Lots of things have happened since then which left zero time and enthusiasm for it, but as with all my projects it's back again.

This time it has a new concept and a new look, which I really like and think will work much better than any previous designs.

It is designed to be a "clip-in" watch calc, so it works equally well as a calc watch, or a tiny pocket calc. Just snap it in and out of the rubber watch band.

Specs are:
- 168x144 mono LCD. No backlight yet, it's designed for very low light conditions. But maybe I can add an even backlight as the LCD is transflective.
- 41mm x 55mm x 10mm alloy or SS case with screw on back plate
- 20 key keypad, with recessed legend overlay. 100g tact switches. 6.5mm key spacing
- Powered from 2 coin cell batteries. (estimate 1+ year life with continuous display)
- Processor choice is up in the air. Suggestions? Needs to be low power, I want to run continuously at 32KHz. Microchip 24F XLP perhaps. Would shoot for say 64KB & 8KB minimum as per the Mk1 uWatch. If it could play chess again I'd be happy.

The LCD and keys are FIRM, and the case design is almost complete to fit actual hardware. According to eMachineShop it should be manufacturable. First design was 60mm wide with an extra column of keys, but I thought this was too big.

The concept is not a super high end feature watch, with USB and all sorts of fancy stuff. The idea is now low power, long battery life, ruugged, good nerdy calc watch looks, functional, with a basic Casio CFX-400 style shifting key style calc interface. Might even have an internal micro SD card for storage, maybe

It will have a mineral glass protection for the LCD. Though I'm not sure how these are best mounted. At present it will just sit inside the case against the LCD. If it can some how be glued(?) on a front recess or something then I'll do that.

It will have a 0.1" I/O header pin interface on the left side, for, whatever...

Been thinking about a temperature compensated crystal for a super accurate watch, but that would increase the consumption maybe 10 fold.

Cost is not really factoring into the design, I want this to be a proper commercial quality calc watch you can wear everywhere and have it look good and last.

Buttons and spacing are designed so you can actually use the thing.

Previous designs have gone for powerful 32bit micros, rechargable lithium ion batteries, touch screen or cap sense buttons, and USB etc. But touch screen watches are now a dime a dozen, and I think cap sense will just be too variable at a small key spacing.

I want something with real calc buttons that screams "I'm a NERD!"

It is designed to fit the massively popular existing iPod Nano TikTok watch band. So it's the exact same height as a nano (41mm), but longer, so it would simply hang over each side of the watch band.

As always, feedback welcome.

Dave.

Edited: 20 Aug 2011, 9:55 a.m.

Re: µWatch2 Back Again

*Message #2 Posted by **David Ramsey** on 20 Aug 2011, 12:15 p.m.,*
in response to message #1 by DaveJ

Using the existing TikTok band is a good idea, but you'd want the edges of the case to be very close to the curvature of the iPod Nano for a good fit.

It's not obvious from the photos of the band, but the Nano's belt clip sits "down" in a 1mm or so recess in the bottom of the watch band's case area. This is what secures the watch from potentially sliding sideways out of the case. Your watch back should have something similar.

Re: µWatch2 Back Again

*Message #3 Posted by **DaveJ** on 20 Aug 2011, 6:40 p.m.,*
in response to message #2 by David Ramsey

> Quote:
>
> Using the existing TikTok band is a good idea, but you'd want the edges of the case to be very close to the curvature of the iPod Nano for a good fit.
>
> It's not obvious from the photos of the band, but the Nano's belt clip sits "down" in a 1mm or so recess in the bottom of the watch band's case area. This is what secures the watch from potentially sliding sideways out of the case. Your watch back should have something similar.

Given that it's a high quality silicone rubber with a tight fit and almost 40mm of contact surface area on both edges, I would not expect any slip against an anodised aluminium case.

But I could be wrong, will have to suck it and see I guess.

Dave.

Re: µWatch2 Back Again

*Message #4 Posted by **Cristian Arezzini** on 20 Aug 2011, 1:46 p.m.,*
in response to message #1 by DaveJ

For what I can tell after reading the description, this looks like a great tool... sign me up for one! :) It isn't stated, but I assume it will be RPN, right? Will it have upgradeable firmware, and installable apps? +1 for the Micro SD, it opens a lot of possibilities for easy backup, data transfer, firmware upgrade, and so on...

About the belt clip recess: if it's to be used also as a tiny desktop calc, I wouldn't want a belt clip on it...

Cristian

Re: µWatch2 Back Again

*Message #5 Posted by **DaveJ** on 20 Aug 2011, 6:51 p.m.,*
in response to message #4 by Cristian Arezzini

> Quote:
>
> For what I can tell after reading the description, this looks like a great tool... sign me up for one! :) It isn't stated, but I assume it will be RPN, right? Will it have upgradeable firmware, and installable apps? +1 for the Micro SD, it opens a lot of possibilities for easy backup, data transfer, firmware upgrade, and so on...
>
> About the belt clip recess: if it's to be used also as a tiny desktop calc, I wouldn't want a belt clip on it...

I agree on the belt clip.

It will be open source hardware and software, so you can do whatever you want with it.

As stated many times, I am not afraid to say that I am NOT an RPN fanboy, and that I prefer algebraic. So it will have algebraic off the bat. I added RPN to the first watch to make it novel, so will likly do the same with this one.

I couldn't care less about installable apps personally or anything else software, my first priority is to get working hardware.

Upgradable firmware, of course. But whether or not that that's via an easy to use external connector, or via an internal connector, or requires a special programmer etc remains to be seen.

If I stuck a USB connector on the side for instance, then the feature creep starts. You need a faster processor and crystal, and a boot loader to download firmware via the USB etc. Then it chews the batteries, so you start thinking of a USB rechargable lithium ion battery to power it all etc etc...

I'm now thinking that if I use a rubber membrane keypad and don't have any external connectors, then the thing would be fairly water resistant (not waterproof)

Dave.

Re: µWatch2 Back Again

*Message #6 Posted by **hpnut** on 20 Aug 2011, 7:30 p.m.,*
in response to message #5 by DaveJ

Dave,

pls make it RPN, pretty please!

hpnut in Malaysia

Re: µWatch2 Back Again

*Message #7 Posted by **Dan W** on 20 Aug 2011, 3:12 p.m.,*
in response to message #1 by DaveJ

Hi Dave! Glad to see you are working on this. Though to be honest, I'd be happy with one of the original µWatchs (I discovered it too late to buy).

Just beware of feature creep. If you listen to us, we'll be asking for an HP-42s with a color graphics display and GPS/GSM/WiFi/HDMI/bluetooth/SD card, web cam, and a TV remote control. ;)

But basic HP-45/55 type functionality would do.

Re: µWatch2 Back Again

*Message #8 Posted by **DaveJ** on 20 Aug 2011, 6:33 p.m.,*
in response to message #7 by Dan W

> Quote:
>
> Hi Dave! Glad to see you are working on this. Though to be honest, I'd be happy with one of the original µWatchs (I discovered it too late to buy).

Trust me, you wouldn't!
It looks far better in the photos than it actually looks and performs in real life.
It was never designed as a commercial product or everyday watch, it was designed to win a design contest and just satisfy my desire to see if it could be done using off the shelf parts.
The battery life was abysmal, the watch band attachment always fell off, and it was a bulky. It was a terrible watch, but a neat project none the less.

> Quote:
>
> Just beware of feature creep. If you listen to us, we'll be asking for an HP-42s with a color graphics display and GPS/GSM/WiFi/HDMI/bluetooth/SD card, web cam, and a TV remote control. ;)

I can offer that for sale tomorrow, you can already buy them on ebay :->

Dave.

Re: µWatch2 Back Again

*Message #9 Posted by **geoff quickfall** on 20 Aug 2011, 7:59 p.m.,*
in response to message #1 by DaveJ

Actually, an accuracy factor such as the HP 41CX or a correction factor found in the Synchronar Mark one thru four would be more preferable then the temperature compensated crystal

Using the correction factor, a number between 200 and 700 I have gotton the synchronar to within 2 seconds a year on my wrist. Each correction digit (1) is a 4 second per year change to the count of the crystal:

You want to avoid trimming capacitors as they are subject to temperature effects. So finding an accurate cut to the crystal and combinging that with an accuracy factor would solve the power consumption and give the user better control of the watch environment.

Cheers, Geoff

(yes, i have a synchronar)

Re: µWatch2 Back Again

*Message #10 Posted by **David Ramsey** on 21 Aug 2011, 7:46 p.m.,*
in response to message #9 by geoff quickfall

I have a Synchronar, too, but the batteries have long since ceased to hold a charge. Changing them is a huge pain but I suppose I should get the Dremel out and have a go.

Re: µWatch2 Back Again

*Message #11 Posted by **Hubert Weikert** on 21 Aug 2011, 12:59 p.m.,*
in response to message #1 by DaveJ

Hi Dave,

As happy Mk1 user I will for sure want a Mk2. The idea with the TikTok band is nice, I like it!

> Quote:
>
> Been thinking about a temperature compensated crystal for a super accurate watch, but that would increase the consumption maybe 10 fold.

With the TI eZ430-Chronos some guys took care of to increase the accuracy, see this article at watchuseek.com the most accurate astronomical wristwatch in the world? (This link points to an entry about the new Astro-watch firmware, time precission discussion, measurement and analysis is in earlier articles).

The developer there (Catalin) offers several firmware versions, e.g. data-logger, sports-watch, worldtime and astronomical.

eZ430-Chronos uses a 32 kHz crystal, even without any external capacitors.

Hubert

Re: µWatch2 Back Again

*Message #12 Posted by **Maximilian Hohmann** on 22 Aug 2011, 10:36 a.m.,*
in response to message #1 by DaveJ

Hi!

Your new watch project looks very promising! Count me in on one...

For me, it dosen't really matter if it will be an RPN or algebraic calculator. If it can do what the HP-01 can do (especially basic time claculations would be nice) and maybe has one or two unshifted (user defineable) constant keys for currency and/or unit conversions, I will be more than happy! If you need votes for adding backlight, count me in on that too. And please don't clutter the little keyboard with triple-shifted functions (but I understand that this has never been your intention anyway).

Does the display allow a constantly running analog watch when not in calculator mode?

And will it fit other iPod nano wristbands other than the one proposed by you? I get very uncomfortable if I wear such large plastic/rubber bracelets for longer and would prefer a "breathing" bracelet made of fabric or leather (there are plenty to chose from and most of them much cheaper than the TocToc band, at least in Europe).

Regards, max

Edited: 22 Aug 2011, 10:37 a.m.

Re: µWatch2 Back Again

*Message #13 Posted by **DaveJ** on 23 Aug 2011, 2:56 a.m.,*
in response to message #12 by Maximilian Hohmann

> Quote:
>
> Does the display allow a constantly running analog watch when not in calculator mode?

Yes. Continuous display of anything you want on the dot matrix display. Analog, digital, Klingon, whatever.

> Quote:
>
> And will it fit other iPod nano wristbands other than the one proposed by you? I get very uncomfortable if I wear such large plastic/rubber bracelets for longer and would prefer a "breathing" bracelet made of fabric or leather (there are plenty to chose from and most of them much cheaper than the TocToc band, at least in Europe).

Any band that allows added height and extra width would work. Not the fully enclosed types though, as that would require the exact form factor as the Nano. I could do that of course, but then there is no room for the keypad.

Dave.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 30b bricked when repurposing

*Message #1 Posted by **scalpa49** on 20 Aug 2011, 9:00 a.m.*

Hi,

I recently tried to repurpose my HP 30b using Gene's cable (using windows Vista + SAM-BA 2.10). In the middle of the flashing process the calculator stopped to respond, display is now off. I removed the batteries and inserted new ones, used the reset switch, tried self-test... but every attempt was unsuccessful. Is there anyone having the same problem or is the calc definitively bricked ?

Re: HP 30b bricked when repurposing

*Message #2 Posted by **gene wright** on 20 Aug 2011, 10:25 a.m.,*
in response to message #1 by scalpa49

I have never seen a calculator end up totally bricked when doing this.

My suggestions that seem to work (some obvious - no offense intended) :-)

1) Make sure to reboot the PC 2) Go through the steps in the flashing a 20b document carefully point by point.
3) Make sure you do not have Samba open or running until the appropriate point in the instructions.

I had one that I thought was totally dead which I have to Tim Wessman at an HHC meeting and it flashed right away. I had messed up on the procedure.

Best suggestions I can give you. Sorry. Good news is I really have never seen one that was killed

Re: HP 30b bricked when repurposing

*Message #3 Posted by **Lode** on 20 Aug 2011, 10:50 a.m.,*
in response to message #2 by gene wright

For the flashing process, does the calculator require something valid in the ROM before flashing to let it work, or could the ROM chip contain complete random garbage, all zeros, a half-interrupted combination of old and new data, and would the flashing still work?

Is the processor of the calculator itself involved in the flashing, or is it only the cable and the ROM chip doing stuff?

If flashing the BIOS of a computer fails, you're screwed, since to be able to flash it you need to have a PC that's able to boot up as far as needed for flashing it. How does flashing a calculator compare to this?

Thanks.

Re: HP 30b bricked when repurposing

*Message #4 Posted by **JustinM** on 20 Aug 2011, 11:28 a.m.,*

in response to message #3 by Lode

> Quote:
>
> a half-interrupted combination of old and new data

I have had SAMBA lock up in the middle of a flash and had to kill the process via Task Manager. When I restarted it, I used the "Erase all Flash" script within SAMBA to clear out whatever may have been written before, and I started the procedure from the beginning. I followed the steps where you turn the calculator on and off while going through the button presses, even if the calculator didn't show anything on the display. I just went through the steps anyway. I have always been able to recover from a bad flash that way, and get back to a calculator that will boot.

Re: HP 30b bricked when repurposing

*Message #5 Posted by **Tim Wessman** on 20 Aug 2011, 11:33 a.m.,*
in response to message #3 by Lode

It is impossible to "brick" the unit while flashing.

The chip has the serial built in the hardware (does not require firmware to work) and the first step of the flahing process is to upload a tiny program that pulls the input from the serial and writes it to flash.

All you need to do to get up an going once the flash has been erased is use the RESET button on the cable, then press ON. I like to hold RESET for 5 seconds, release, then ON for 5 seconds(sometimes the chips doesn't see it fora second or two).

TW

Re: HP 30b bricked when repurposing

*Message #6 Posted by **scalpa49** on 20 Aug 2011, 12:04 p.m.,*
in response to message #5 by Tim Wessman

Thanks for your answers. I've already tried to redo the flashing steps carefully with no luck. But i missed the "erase all flash" script in sam-ba. I a few days i'll have access to a windows XP box that seems to be more stable (i already successfully flashed another hp 30b with it). Is it also possible that a wrong voltage has been sent to the calc during the flashing process, burning the electronics inside it ?

Re: HP 30b bricked when repurposing

*Message #7 Posted by **Walter B** on 20 Aug 2011, 4:49 p.m.,*
in response to message #6 by scalpa49

As previous posters, I've never heard of a 20b or 30b "bricked" in flashing. I had, however, a similar experience here employing a suboptimal USB/serial converter and Windows 7. Please note - if you didn't yet - you need Windows XP for flawless flashing. AFAIK, Vista won't do it. Don't ask me why d:-)

Walter

Re: HP 30b bricked when repurposing

*Message #8 Posted by **Marcus von Cube, Germany** on 20 Aug 2011, 5:52 p.m.,*

in response to message #6 by scalpa49

The SAM-BA boot loader is in ROM, not in flash and cannot be bricked except when you really fry the complete device. SAM-BA eats the batteries. You should check if the voltage is still near 3 V.

Re: HP 30b bricked when repurposing

*Message #9 Posted by **allen** on 20 Aug 2011, 7:48 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> It is impossible to "brick" the unit while flashing...

If you have a bad flashing cable, The 20b/30b will appear "bricked" even though you follow the directions by letter to the millisecond.

Don't spend too much time and money like I did replacing computers/USB adapters/drivers until you have a tested cable!

Not that this happened to me or anything. :)

Re: HP 30b bricked when repurposing

*Message #10 Posted by **Bart (UK)** on 21 Aug 2011, 11:43 a.m.,*
in response to message #1 by scalpa49

There is a point during the process that the calculator screen remains blank (step 8 of the PDF guide), just continue with the process.

Re: HP 30b bricked when repurposing

*Message #11 Posted by **Marcus von Cube, Germany** on 21 Aug 2011, 4:04 p.m.,*
in response to message #10 by Bart (UK)

A soon as the flash is erased and SAM-BA takes over the chip, it has no notion of the display connected and therefore cannot show anything. The boot loader just waits for serial data and only talks to the serial connection (SAMBA-BA software) and not to the user. There isn't even a way to turn the unit off except by a battery pull.

Re: HP 30b bricked when repurposing

*Message #12 Posted by **Bart (UK)** on 21 Aug 2011, 4:45 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I guessed as much and I suspect that this is the state the calculator had entered as mentioned in the original post.

Edited: 21 Aug 2011, 4:45 p.m.

Re: HP 30b bricked when repurposing

*Message #13 Posted by **scalpa49** on 26 Aug 2011, 7:13 a.m.,*
in response to message #12 by Bart (UK)

Well the calc finally revived ! It was the batteries fault, drained by the first flashing.

Inserting new ones and carefully redoing the flashing steps solved the thing. A great thank for your invaluable help, all of you in this forum !

Re: HP 30b bricked when repurposing

*Message #14 Posted by **Alexander Oestert** on 26 Aug 2011, 7:51 a.m.,*
in response to message #13 by scalpa49

My guess is, that the original batteries are not necessarily dead but that it was only the taking-out and inserting batteries again that did the trick. Try the old ones on the flashed machine, they might still be good. I think after a corrupt flashing process the calc needs some kind of reset which is done by taking out the batteries and putting them back in. I had the very same unresponsive state in my 30b when I tried switching (!) between WP34s and the original firmware. SAM-BA wouldn't connect to the calc and taking out the batteries was the last resort - that worked. I suspected them to be dead, but they weren't. Marcus and Bart hinted at that above.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Perhaps if HP gives up on calculators...

*Message #1 Posted by **Mark Henderson** on 20 Aug 2011, 2:15 a.m.*

Might Agilent pick up calcs again and produce some serious eng/sci machines that integrate with their test equipment?! I always thought the calcs should have gone to Agilent and not to HP....

Re: Perhaps if HP gives up on calculators...

*Message #2 Posted by **Garth Wilson** on 20 Aug 2011, 3:11 a.m.,*
in response to message #1 by Mark Henderson

> Quote:
>
> I always thought the calcs should have gone to Agilent and not to HP.

+1! Actually, I thought Agilent should have been the one to keep the HP name and the calculators!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Lyuka and the Ostrowski method's for Root Seeking

*Message #1 Posted by **Namir** on 19 Aug 2011, 2:44 p.m.*

A few threads back Hugh Steers pointed out a method for finding the roots of a nonlinear function by Russian mathematician Ostrowski. I checked Luyka's web page which discussed that method and presented the code for the algorithm. It did real well.

I further searched the Internet for articles about root-seeking method based on Ostrowski's method. I found several articles that further accelerated the convergence for that algorithm. A few articles were published by Chinese mathematician Zou (and colleagues) and offer somewhat elaborate enhancements to Ostrowski's method. These enhancements can solve for a root in TWO iterations (requiring 9 function calls) as compared to 6 iterations (and 12 function call) with Newton's method!. The fast Halley's method required 3 iterations and 9 function calls. The basic Ostrowski method took 3 iterations and 7 function call.

So thank you Lyuka for pointing me to Ostrowski's method. I really enjoyed learning about it and about its variants.

More gems in the root-seeking toolbox. Just when I thoght I learned about all the algorithms available, I get to learn about new and even more efficient ones!!

Namir

Re: Lyuka and the Ostrowski method's for Root Seeking

*Message #2 Posted by **Lyuka** on 20 Aug 2011, 11:03 a.m.,*
in response to message #1 by Namir

Hi,

The Ostrowski's method is a kind of root finding algorithm that uses reverse-interpolation to approximate the root.
So, any other interpolation, such as Lagrange interpolation, can be used as a root finding algorithm.
If you use that of n=3, a recurrence equation

can be used instead of Ostrowski's

This can be tested replacing a line in _ost.c

> Quote:
>
> ```
> t = (h * a - b) / (h - 1.0);
> ```

by

Quote:

```
t  = a * e * f * (f - e) - b * d * f * (f - d) + c * d * e * (e - d);
t /= (f - e) * (f - d) * (e - d);
```

Though the convergence of the method shown above is almost quadratic (order of about 1.8) for a zero of multiplicity 1 in a neighborhood of the zero, it's NOT recommended as it tends to diverge when the guess is not near the zero.

IMHO, the most important thing as a root finding algorithm is not the order of convergence, but the stability of convergence, i.e. ability to find a root with very few chance of divergence.

Regards,
Lyuka

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: I would like to understand

*Message #1 Posted by **robertoataulfo** on 19 Aug 2011, 12:09 p.m.*

```
I would like to understand for what reason it takes a plastic watch to have a price so
exorbitant in relation to the HP-01?


I understand that there are few units.
But a plastic watch?


Takashi Murakami x TOKYO FM x Casio G-Shock frogman
```

Re: OT: I would like to understand

*Message #2 Posted by **Martin Pinckney** on 19 Aug 2011, 12:13 p.m.,*
in response to message #1 by robertoataulfo

It's the size (and color) of the text in the description.

Re: OT: I would like to understand

*Message #3 Posted by **Etienne Victoria** on 19 Aug 2011, 1:11 p.m.,*
in response to message #1 by robertoataulfo

Roberto,

Because it is designed by Murakami and produced in small quantities.

It is all about personal taste and collector fancy.

After attending Murakami's' creations display in Versailles, I was stunned and actually enjoyed his design.

Just beside me, other visitors were outraged by these "plastic gums piles".

Just like a Red-dot HP-35.

It is also made of plastic :-))

Let the flames pour in :-)

Best

Etienne

Edited: 19 Aug 2011, 1:13 p.m.

Re: OT: I would like to understand

*Message #4 Posted by **robertoataulfo** on 19 Aug 2011, 2:12 p.m.,*

in response to message #3 by Etienne Victoria

> Quote:
>
> Just like a Red-dot HP-35. ?!?!

the HP-35 was available from 1972 !!! 39 Years !!

Re: OT: I would like to understand

*Message #5 Posted by **Etienne Victoria** on 19 Aug 2011, 4:11 p.m.,*
in response to message #4 by robertoataulfo

Yep, agreed...

To my eyes: a great achievement and a superb engineering feat.

To my wife's: ...ahem...one more plastic toy for her aging husband.

A matter of taste...you can believe me :-)

YMMV

Etienne

Re: OT: I would like to understand

*Message #6 Posted by **Walter B** on 19 Aug 2011, 5:00 p.m.,*
in response to message #4 by robertoataulfo

> Quote:
>
> the HP-35 was available from 1972 !!! 39 Years !!

So it's even just old plastic ;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s "resources"

*Message #1 Posted by **Bruce Bergman** on 19 Aug 2011, 11:33 a.m.*

Sorry for posting this as a separate thread, since it was discussed many moons below, but I wanted to at least make sure this got covered (offered).

I would be HAPPY to provide resource space for the WP34s project, if anyone in that group, or other fanboys ;-), would find that useful. That could be public AND/OR private discussion forums, blogs, hosting space, bug trackers, wikis, source code library, etc. Essentially whatever might be needed to help that worthy and amazing project out.

I currently maintain the wiki4hp.com site, but that doesn't mean you have to use the wiki software. I can pretty much host any software needed or requested.

I understand that the project is hosted on SF right now.

I understand and AGREE that the readers of THIS forum are hugely participatory in the development of the WP34s and I too would hate to see that shrink merely because discussions about it occur on another site.

If Dave can't spawn off a subset forum of this one, one solution might be a prominent link here to off-site forums, so that the users here would be able to see and participate. If Dave and I can work out some sort of single sign on solution, perhaps that would solve the access issue so that users wouldn't have to sign up again. I'm quite willing to work on this if Dave has the time and resources on his side (and I know he's a busy guy, FWIW).

Anyhow, I'm just putting this offer out there. I'm not framing it in any one solution path. If there's a different need or different software desired, I'm fine with that. I'm just offering the free hosting services for whatever might be needed. I'm a huge fan of this project and want to help make it successful and polished.

So. There ya go. :-)

thanks, bruce

Re: WP34s "resources"

*Message #2 Posted by **Walter B** on 19 Aug 2011, 4:57 p.m.,*
in response to message #1 by Bruce Bergman

Bruce,

Thanks for your kind offer. I appreciate it - nevertheless I hope we won't need it. From the opinions posted so far in said other thread, I conclude there's a majority voting for letting the WP 34S continue its life here among the other calculator topics treated.

Thanks again,
Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Does wp34S Have A "MANT" Function?

*Message #1 Posted by **Jake Schwartz** on 19 Aug 2011, 10:18 a.m.*

Hi,

The other day I was searching for a MANTISSA function on the 34S and couldn't find one. I understand that if it had been a BCD machine, MANT would be fairly straightforward; and that it can always be computed with something like:

LBL A
LOG10
FP
x<0?
INC X
10^x
RTN

....but I just wondered if I had missed something while scanning through the manual.

Thanks, Jake

Re: Does wp34S Have A "MANT" Function?

*Message #2 Posted by **Walter B** on 19 Aug 2011, 10:30 a.m.,*
in response to message #1 by Jake Schwartz

Jake,

You're right: we don't feature a MANT function in the WP 34S so far. We'll talk about it in due course. Any specific application you want it for?

Walter

Re: Does wp34S Have A "MANT" Function?

*Message #3 Posted by **gene wright** on 19 Aug 2011, 11:50 a.m.,*
in response to message #2 by Walter B

Eh, you never quite know. Number manipulation tools are always good to have in the arsenal. SHOW exists which shows the mantissa, but depending on how much space it takes, a MANT function would be helpful to go along with IP and FP. Just provide the value without an exponent.

Re: Does wp34S Have A "MANT" Function?

*Message #4 Posted by **Jake Schwartz** on 19 Aug 2011, 11:52 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Any specific application you want it for?

I was actually looking into some multiple-precision arithmetic and how it was being done by users as published in old PPC Journals for the HP67 and HP41. Some required entering portions of the number, each with all digits to the right of the decimal point. In giving thought to how to implement a multiple-precision (or perhaps only a very-large-integer) arithmetic scheme this time around, I found myself envisioning a possible need to extract the mantissa of a number separate from its exponent. It was then that I realized that it would be trivial with a BCD math "engine" under the hood, but much less so otherwise.

Currently, I've been looking into possibly utilizing the fact that numbers may be passed back and forth between the floating-point and integer "worlds" on the 34S. Since 64-bit math is available with integers, that would at least permit integers at least 19 digits long, and with double-word math, perhaps as high as 38 digits. There is an ultimate goal in mind, but first a set of arithmetic (plus remainder) functions for large numbers would have to be in place.

Jake

Re: Does wp34S Have A "MANT" Function?

*Message #5 Posted by **Dieter** on 19 Aug 2011, 2:07 p.m.,*
in response to message #1 by Jake Schwartz

Your MANT implementations uses LOG and 10^X so that roundoff errors may occur. I think this is a better implementation:

```
LBL A
ENTER
LOG10
FLOOR
10^x
/
RTN
```

Works for the same domain (x>0) and requires no test since FLOOR returns the smallest integer less than or exqual to x, even for x<0.

If SDL and SDR would accept negative values there even was a much more elegant "true 34s style" method. ;-)

Anyway, I would like to second your suggestion of a MANT function. It can be implemented easily (simply clear the exponent), and of course we also need its counterpart EXP, which returns x / mant(X).

BTW - I still think the SHOW command needs an improvement. It simply does not work "as advertised": The manual says "Shows the full mantissa until the next key is pressed", but it doesn't. It only shows the first 12 digits of the mantissa, and even this display is rounded. Yes, I know there are only 12 digits in the display, but I am shure this forum's ingeniuity will find a way to overcome this limit. Maybe the display can be scrolled. But everything is better than a mantissa rounded to 12 digits.

Also, unlike all other HPs I know of, the command does not show trailing zeroes. In other words, things look like this:

```
Value in X     SHOW should display          SHOW actually displays
                     (IMHO)
    3          3000000000000000            3,
   Pi          3141592653589793            3,14159265359
  2/3          6666666666666667            6,66666666667 E-1
```

At least the 12th digit should not get rounded.

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #6 Posted by **fhub** on 19 Aug 2011, 4:52 p.m.,*
in response to message #5 by Dieter

> Quote:
>
> Your MANT implementations uses LOG and 10^x so that roundoff errors may occur. I think this is a better implementation:
>
> ```
> LBL A
> ENTER
> LOG10
> FLOOR
> 10^x
> /
> RTN
> ```

Yes, and with a small change it even works also for x<=0 and doesn't move the stack: :-)

```
LBL'EXP'
ABS
x[!=]0?
LOG[sub-1][sub-0]
FLOOR
RTN


LBL'MAN'
STO I
XEQ'EXP'
10[^x]
STO/ I
x[<->] I
RTN
```

Franz

Re: Does wp34S Have A "MANT" Function?

*Message #7 Posted by **Marcus von Cube, Germany** on 19 Aug 2011, 6:38 p.m.,*
in response to message #5 by Dieter

> Quote:
>
> BTW - I still think the SHOW command needs an improvement.

The latest SVN releases should have an improved SHOW. Just try it!

Re: Does wp34S Have A "MANT" Function?

*Message #8 Posted by **Paul Dale** on 20 Aug 2011, 1:26 a.m.,*
in response to message #5 by Dieter

You are using older firmware. SHOW shows all sixteen digits now.

Implementing a MANT function would be straightforward. What exactly should it do? Return x.xxxxxxxxx

or xxxxxxxxx??

It is replacing five - seven program steps so it is unlikely to be a good space trade. Defining this as a built in functions will take something like sixty bytes for even a little more.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #9 Posted by **Dieter** on 20 Aug 2011, 6:46 a.m.,*
in response to message #8 by Paul Dale

I looked at http://sourceforge.net/projects/wp34s/files/ and found a zip-file dated 2011-08-03, i.e. the version I am using right now. All I got is the emulator. Which files have to be replaced and where do I find them?

If a MANT function is implemented it should return a value between 1 and 10. Regarding space: well, there are several functions whose main purpose is making programs more elegant, but not significantly shorter. For instance, SIGN can be replaced by ABS X<>0? RCL/L, so it saves just two steps. The vast number of tests could be halved by simply adding one dummy test instruction that always tests false, thus inverting any other test.

If space is an issue these valuable bytes could be used for something more useful. I've got this very conservative opinion that a calculator should provide results as precise as possible. Currently ln1+x and e^x-1 are useful instructions that really help doing so. But there are others. In another math package I recently found a function that returns sqrt(1+x)-1. I think that's a great idea.

Or think of the x-th root of y. Some time ago CUBERT was implemented. I really appreciate this because it avoids significant errors when using the workaround 1/x y^x. Try the cuberoot of 512 that way - should be trivial but you'll get 7,999...998 (which on the other hand is fine since it's the correct result for x^0,333...333). So, CUBERT is nice and was a step in the right direction. But why don't we have a universal XROOT command? This is a standard command on many other calculators, including HP's.

As I think about it, I am sure there are some more useful commands that can help to get more precise results. ;-)

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #10 Posted by **Walter B** on 20 Aug 2011, 7:48 a.m.,*
in response to message #9 by Dieter

> Quote:
>
> I looked at http://sourceforge.net/projects/wp34s/files/ and found a zip-file dated 2011-08-03, i.e. the version I am using right now. All I got is the emulator. Which files have to be replaced and where do I find them?

If you want to flash a 20b or 30b, you shall use calc.bin. If you are looking for the newest emulator, search for wp34sgui.exe. Watch out since the latest build(s) may contain severe bugs, while the zipped package collects more stable material.

> Quote:

> I've got this very conservative opinion that a calculator should provide results as precise as possible. Currently ln1+x and e^x-1 are useful instructions that really help doing so. But there are others. In another math package I recently found a function that returns sqrt(1+x)-1. I think that's a great idea.

I've got this very conservative opinion that a man shouldn't forget what he learned. Remember good old Taylor series? IMHO these are very well suited to this kind of "problems". For my generation, there were some important pages in Bronstein, Semendjajev ;-)

> Quote:
>
> But why don't we have a universal XROOT command? This is a standard command on many other calculators, including HP's.

IIRC there was never a reasonable HP RPN calculator containing XROOT, but "Wenn's der Wahrheitsfindung dient ..." :-/ Anyway, that statement is easy for me but more difficult for Pauli, so I leave the decision to him :-)

Walter

Re: Does wp34S Have A "MANT" Function?

*Message #11 Posted by **Dieter** on 20 Aug 2011, 8:39 a.m.,*
in response to message #10 by Walter B

> Quote:
>
> If you want to flash a 20b or 30b, you shall use calc.bin.

Yes, I know, but as I said before, I only have the emulator.

> Quote:
>
> If you are looking for the newest emulator, search for wp34sgui.exe. Watch out since the latest build(s) may contain severe bugs, while the zipped package collects more stable material.

So the last stable material is the version dated 2011-08-03. That's what I already got - without the improved MANT command. Is wp34sgui.exe really the only file that needs to be replaced to get the latest version of the emulator? In other words, does this file contain the complete firmware with the latest changes?

> Quote:
>
> I've got this very conservative opinion that a man shouldn't forget what he learned. Remember good old Taylor series?

I don't know the English term for "Totschlagargument", but if this is what you think about useful instructions that help getting better results, ln1+x and e^x-1 should get deleted immediately - these cases can be handled by simple series expansions as well.

BTW that's how I code them in VBA. It doesn't even take a Bronstein/Semendjajew for this - my good old Schülke from more than 30 years ago will do just as well. 8-)

> Quote:
>
> IIRC there was never a reasonable HP RPN calculator containing XROOT, ...

What? No reasonable calculator? Hard to believe. Anyway - in that case the 34s would be the first one.

> Quote:
>
> ...but "Wenn's der Wahrheitsfindung dient ..." :-/

Yes, it does. It helps finding the mathematical truth. Example: try the 7th root of 4782969. Should be trivial since that's 9^7. But instead, requiring the [1/x] [y^x] workaround, the 34s returns 9,000000000000006. That's six (!) ULP off! #-\ The 35s returns the result with an error of -2 ULP. But here we can do better: the result returned by the XROOT command offered by this device of course is exactly 9. Great, isn't it?

Dieter

Edited: 20 Aug 2011, 8:58 a.m. after one or more responses were posted

Re: Does wp34S Have A "MANT" Function?

*Message #12 Posted by **fhub** on 20 Aug 2011, 8:53 a.m.,*
in response to message #11 by Dieter

> Quote:
>
> Is wp34sgui.exe really the only file that needs to be replaced to get the latest version of the emulator? In other words, does this file contain the complete firmware with the latest changes?

Dieter, if you always want to be up-to-date, then bookmark this link:
http://wp34s.svn.sourceforge.net/viewvc/wp34s/

'Directory revision:' at the top shows you the latest version, and clicking on this number gives you a list of the changed files.
For the emulator you need wp34sgui.exe and emulator.dll (only when it has been changed).

Franz

Re: Does wp34S Have A "MANT" Function?

*Message #13 Posted by **Dieter** on 20 Aug 2011, 9:43 a.m.,*
in response to message #12 by fhub

Ah, thank you. I first got nothing but command window popping up and closing immediately. But it eventually worked after I replaced three files: wp34sgui.exe, wp34s.exe and emulator.dll

I see the "design team" chose the obvious way for the MANT display and used the three

digits of the exponent. However, the sixteenth digit had to move to the alpha line. I wonder if this looked ..."cleaner" if the complete four last digits were displayed in that line.

Dieter

Edited: 20 Aug 2011, 9:43 a.m.

Re: Does wp34S Have A "MANT" Function?

*Message #14 Posted by **Walter B** on 20 Aug 2011, 12:57 p.m.,*
in response to message #13 by Dieter

I share your view about the distribution of the sixteen digits of the full mantissa. BTW, it's the *first* digit being shown top left. As you suggest, displaying the first four digits up there may be the better alternative. Since the mantissa will disappear with the next keystroke, overlap with status indicators up there should not be an obstacle.

Walter

Re: Does wp34S Have A "MANT" Function?

*Message #15 Posted by **Dieter** on 20 Aug 2011, 1:17 p.m.,*
in response to message #14 by Walter B

Yes, in the meantime I realized it's the *first* digit that is shown in the first line. #-)

Concerning the distribution of the digits, what about this: First 8 digits on the first line, last 8 digits on the lower line. Even the exponent can be displayed without loss of information. The display for e^99 would look like this:

```
98890303
19346947  42
```

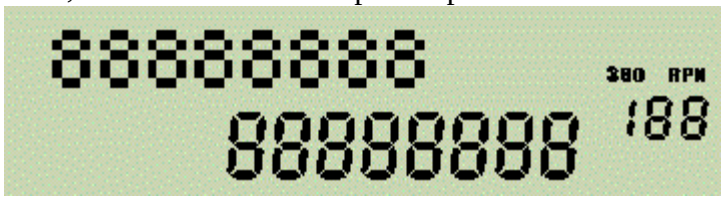
By the way: I just notice that "copy number" on the emulator only copies the rounded 12 digit value, as displayed. Why doesn't it copy the the full precision 16-digit result?

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #16 Posted by **Walter B** on 20 Aug 2011, 1:52 p.m.,*
in response to message #15 by Dieter

Well, the distribution 8 / 8 plus exponent won't look as nice as you wrote it:



> Quote:
>
> I just notice that "copy number" on the emulator only copies the rounded 12 digit value, as displayed. Why doesn't it copy the the

> full precision 16-digit result?

Ask Marcus :-)

Re: Does wp34S Have A "MANT" Function?

*Message #17 Posted by **Dieter** on 20 Aug 2011, 3:06 p.m.,*
in response to message #16 by Walter B

Of course both digit groups should be left-justified. Also the exponent may be at the right end of the second line. But I am not sure if this looks better or is more useful than the current solution using the three smaller exponent digits.

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #18 Posted by **Walter B** on 20 Aug 2011, 3:49 p.m.,*
in response to message #17 by Dieter

> Quote:
>
> Of course both digit groups should be left-justified. Also the exponent may be at the right end of the second line.

Now you're asking a bit too much, I fear :-/
After all, it's just for SHOW :-)
I vote for four digits top left and twelve in the bottom - with or without the exponent, but at its regular position.

Walter

Re: Does wp34S Have A "MANT" Function?

*Message #19 Posted by **Marcus von Cube, Germany** on 20 Aug 2011, 5:43 p.m.,*
in response to message #18 by Walter B

I second Walter's opinion. 4+12 sounds reasonable.

Re: Does wp34S Have A "MANT" Function?

*Message #20 Posted by **Marcus von Cube, Germany** on 20 Aug 2011, 5:41 p.m.,*
in response to message #15 by Dieter

> Quote:
>
> I just notice that "copy number" on the emulator only copies the rounded 12 digit value, as displayed. Why doesn't it copy the the full precision 16-digit result?

The copy command uses the same routine that formats the display. This

routine is limited to the 12 digits. We may change this in a future release .

Re: Does wp34S Have A "MANT" Function?

*Message #21 Posted by **Paul Dale** on 20 Aug 2011, 7:17 p.m.,*
in response to message #13 by Dieter

This is a work in progress. I quickly threw together the show display and we'd already had different viewpoints raised about what to display and where.

I figured we should work out what we want and just do that... Then the discussions got redirected as they oft do.

4+12 sounds reasonable to me as well. I'd prefer to not do the exponent as well since we're running a different code path here and that will mean more bytes for little or no gain. Likewise, the decimal and thousands separators aren't being shown.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #22 Posted by **Paul Dale** on 20 Aug 2011, 7:32 p.m.,*
in response to message #21 by Paul Dale

Hmmmm 4 + 12 looks ugly in the console version :-(

I've built and committed it -- see what you think.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #23 Posted by **Walter B** on 21 Aug 2011, 2:39 a.m.,*
in response to message #22 by Paul Dale

Looks fine for me :-) except the many trailing zeroes :-/ but I can live with them.

Re: Does wp34S Have A "MANT" Function?

*Message #24 Posted by **Paul Dale** on 21 Aug 2011, 2:47 a.m.,*
in response to message #23 by Walter B

SHOW shows all sixteen digits. You get the trailing zeros. If you are using SHOW for its intended purpose, you care.

I still think it is ugly :-)

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #25 Posted by **Alexander Oestert** on 21 Aug 2011, 4:59 a.m.,*
in response to message #24 by Paul Dale

What about displaying the mantissa just in the lower row. Eight digits

at a time - waiting for a few seconds or a keystroke - and then the second eight digits? Or by scrolling them from right to left? The mantissa could even be longer than 16 digits if done this way.

Re: Does wp34S Have A "MANT" Function?

*Message #26 Posted by **Paul Dale** on 21 Aug 2011, 5:01 a.m.,*
in response to message #25 by Alexander Oestert

Our numbers are only sixteen digits in length so going longer is pointless.

I also detest scrolling displays. The 34S has none and it is going to stay that way ;-)

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #27 Posted by **Alexander Oestert** on 21 Aug 2011, 6:16 a.m.,*
in response to message #26 by Paul Dale

Both your arguments convince me (I already was convinced regarding the scrolling display). But what about two step displaying, changing from first to second part by arrow up and down as often as one needs?

Edited: 21 Aug 2011, 6:17 a.m.

Re: Does wp34S Have A "MANT" Function?

*Message #28 Posted by **Walter B** on 21 Aug 2011, 6:35 a.m.,*
in response to message #27 by Alexander Oestert

Please not! Why should we make simple things complicated?

Re: Does wp34S Have A "MANT" Function?

*Message #29 Posted by **Alexander Oestert** on 21 Aug 2011, 7:14 a.m.,*
in response to message #28 by Walter B

The (very minor) minus in simplicity brings a (huge) plus in aesthetics, don't you think? :)

And it could be a consistent way to display even longer numbers - should someone strive to calculate pi or whatever to the gazillionth digit.

Re: Does wp34S Have A "MANT" Function?

*Message #30 Posted by **Dieter** on 21 Aug 2011, 7:16 a.m.,*
in response to message #22 by Paul Dale

What if the first (!) 12 digits were displayed in the second line and the last four on top, right-adjusted. This way the second line would show the unrounded 12-digit value and the alpha line displayed the four guard digits. Maybe even with three leading dots to make it as clear as possible, like this:

```
    ...9793
314159265358
```

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #31 Posted by **Paul Dale** on 21 Aug 2011, 7:19 a.m.,*
in response to message #30 by Dieter

Aren't you interested in the final digits if you use SHOW for this? They should be in the lower line. First leading digits are easy to see normally.

I'm happy to add some dots after the digits on the top line...

```
3141...
592653589793
```

Or a space and a down arrow. Or something similar.

My main objection to the 4/12 split is the top line isn't nicely spaced and doesn't look as good (to me) as the earlier 1/12/3 split. Still, I can live with either.

- Pauli

Edited: 21 Aug 2011, 7:20 a.m.

Re: Does wp34S Have A "MANT" Function?

*Message #32 Posted by **Dieter** on 21 Aug 2011, 8:51 a.m.,*
in response to message #31 by Paul Dale

> Quote:
>
> Aren't you interested in the final digits if you use SHOW for this?

Sure, that's why I think it's nice to display these otherwise invisible digits separately.
So the display would switch this way:

```
                      [h]              ...9793
  3,14159265359     [SHOW]     314159265358
```

In other words, SHOW would simply add the last digits that were invisible before.

But the current implementation is fine by me either.

You say it still looks ugly. This might be because of the proportional font used for the dot matrix line. In most cases that's fine and helps to make the most of the limited space, but there is one exception: I think that at least the digits 0 to 9 should have the same width. Just like the Arial font (this way providing properly aligned numbers for instance in Excel where it is set as the default font). But something deep inside me tells me that Walter will not change this in a million years. :-)))

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #33 Posted by **Walter B** on 21 Aug 2011, 9:26 a.m.,*
in response to message #32 by Dieter

> Quote:
>
> I think that at least the digits 0 to 9 should have the same width. ... But something deep inside me tells me that Walter will not change this in a million years.

How do you know? Feel free to change the fonts from the year 2525 on ;-)
Seriously, we don't support tables here (in 1.5 rows :-/). Instead, we have to live with 43 pixels HP allows us, so space-saving is essential IMHO. YMMV

Re: Does wp34S Have A "MANT" Function?

*Message #34 Posted by **Oliver Unter Ecker** on 20 Aug 2011, 9:29 a.m.,*
in response to message #11 by Dieter

> Quote:
>
> > Quote:
> >
> > IIRC there was never a reasonable HP RPN calculator containing XROOT, ...
>
> What? No reasonable calculator? Hard to believe. Anyway - in that case the 34s would be the first one.

The 50g sounds like a "reasonable" calculator to me...

> Quote:
>
> But here we can do better: the result returned by the XROOT command offered by this device of course is exactly 9. Great, isn't it?

Yes, it is. I'm convinced and thank you for the info. The next update of ND1 will have the XROOT function, though I don't yet know how to implement it. I tried 4782969, enter, 1/7, enter, ^ in ND1 which displays as "9" but really is "8.999999999999999998" (two ULPs

off). An alternative interface to XROOT will be exponentiation with a fraction.

If you ever feel like "austoben" yourself with numerical accuracy improvements in a (leading) RPN app, please get in touch with me. I admire your mathematical mind and stance toward accuracy.

Re: Does wp34S Have A "MANT" Function?

*Message #35 Posted by **Dieter** on 20 Aug 2011, 10:28 a.m.,*
in response to message #34 by Oliver Unter Ecker

> Quote:
>
> I'm convinced and thank you for the info. The next update of ND1 will have the XROOT function, though I don't yet know how to implement it. I tried 4782969, enter, 1/7, enter, ^ in ND1 which displays as "9" but really is "8.999999999999999998" (two ULPs off). An alternative interface to XROOT will be exponentiation with a fraction.

The advantage of the XROOT command is its higher precision due to the internal guard digits. Usually there are three digits more than you see, on the 34s it's even 39 digits internal precision while only 16 are returned to the user. This additional precision avoids the following error. The example assumes 16 significant digits.

The 7th root of x is x^(1/7). But we connot provide the exact value for 1/7 on any limited-precision calculator. On a 16-digit machine, all that can be done is providing the best possible exponent, thus calculating

$$\text{7th root of } x \;=\; x^{1/7} \;\approx\; x^{0,1428\ 5714\ 2857\ 1429}$$

On a perfect calculator the exponent is off by at most 0,5 ULP. In this case it's 0,43 ULP. If we call this deviation dx, with a bit of calculus it can be shown that, in the final result, this causes a possible relative error of

```
  rel. error = dx * ln x
             = 0,42857 E-16 * ln 4782969
             = 6,592 E-16
or
  abs. error = rel. error * exact result
             = 6,592 E-16 * 9
             = 5,93 E-15
```

Which is exactly what we get in the example:

$$4782969^{0,1428\ 5714\ 2857\ 1429} \;=\; 9,000\ 0000\ 0000\ 0005\ 93...$$

which finally is rounded to ...006.
The result for a 12-digit calculator is better since here the rounded value for 1/7 is only 0,14 ULP off, so that the absolute error is "only" 1,98E-11 or 2 ULP.

The above calculation can be used to find out how many digits are required to ensure a full 16-digit result for the n-th root of x. <8)

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #36 Posted by **Walter B** on 20 Aug 2011, 1:33 p.m.,*

in response to message #34 by Oliver Unter Ecker

> Quote:
>
> The 50g sounds like a "reasonable" calculator to me...

That's RP**L**, not RP**N** :-)

Re: Does wp34S Have A "MANT" Function?

*Message #37 Posted by **Paul Dale** on 20 Aug 2011, 10:22 p.m.,*
in response to message #11 by Dieter

> Quote:
>
> I don't know the English term for "Totschlagargument", but if this is what you think about useful instructions that help getting better results, ln1+x and e^x-1 should get deleted immediately - these cases can be handled by simple series expansions as well.

No way are those two going away ever. They are far too useful internally.

Series expansions aren't the best way to calculate many of these BTW.

- Pauli

Edited: 20 Aug 2011, 10:23 p.m.

Re: Does wp34S Have A "MANT" Function?

*Message #38 Posted by **Dieter** on 21 Aug 2011, 7:23 a.m.,*
in response to message #37 by Paul Dale

> Quote:
>
> No way are those two going away ever. They are far too useful internally.

Let alone externally where all we have is 16 digits. ;-)

So, ln1+x and e^x-1 now have a sister, helping to get the best possible results. Now come on, Walter, let's give XROOT a warm welcome. :-D

Dieter

Edited: 21 Aug 2011, 7:34 a.m.

Re: Does wp34S Have A "MANT" Function?

*Message #39 Posted by **Paul Dale** on 21 Aug 2011, 7:48 a.m.,*
in response to message #38 by Dieter

> Quote:
>
> Let alone externally where all we have is 16 digits. ;-)

I have had time to do precious little programming in this highly restricted environment :-(These functions matter with the 39 digits held internally and are every bit as important if not more so in the sixteen digit setting.

> Quote:
>
> So, ln1+x and e^x-1 now have a sister, helping to get the best possible results. Now come on, Walter, let's give XROOT a warm welcome. :-D

Let us hope I got XROOT correct :-) I'm not too confident about the many integer cases :-(

I'm tempted by a few others (in the name of accuracy and stability):

- versine(x) = 1 - cos(x)
- sqrt(1 + x) - 1
- 1 - sqrt(1 - x)

And their inverses which are also unstable when calculated naïvely.

Sigh, flash is full.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #40 Posted by **Walter B** on 21 Aug 2011, 8:55 a.m.,*
in response to message #39 by Paul Dale

> Quote:
>
> I'm tempted by a few others ...

And bring us not into temptation, but deliver us from the evil feature creep.

Re: Does wp34S Have A "MANT" Function?

*Message #41 Posted by **Paul Dale** on 21 Aug 2011, 5:31 p.m.,*
in response to message #40 by Walter B

Which is why they aren't implemented yet...

- Pauli

XROOT

*Message #42 Posted by **Paul Dale** on 20 Aug 2011, 9:55 p.m.,*
in response to message #10 by Walter B

> Quote:
>
> Anyway, that statement is easy for me but more difficult for Pauli, so I leave the decision to him :-)

Since this has been asked for several times by several different people, it seems worthwhile enough. I've added the XROOT command. it appears in the X.FCN catalogues. It works in integer, real and complex modes. Integer was a right annoyance to get right.

Consider this in temporarily at the moment. It will depend on the number of bugs I've also included, the amount of flash consumed and our current flash head room.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #43 Posted by **Paul Dale** on 20 Aug 2011, 7:34 p.m.,*
in response to message #5 by Dieter

Quote:

```
LBL A
ENTER
LOG10
FLOOR
10^x
/
RTN
```

Under most circumstances the "10^x /" could be replaced with "x<>y SDR->Y" which is the same number of steps but faster.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #44 Posted by **Dieter** on 21 Aug 2011, 7:01 a.m.,*
in response to message #43 by Paul Dale

Right - that was exactly the solution I had in mind when I wrote

Quote:

If SDL and SDR would accept negative values there even was a much more elegant "true 34s style" method. ;-)

But since SDL and SDR don't seem to work with negative arguments this is not a solution here. Consider numbers less than one where floor(log10(x)) gets negative.

This leads to the question why no negative arguments are allowed. If they were, one of the commands could be omitted: n digits left-shift means -n digits right-shift. Or is this already implemented in a newer version I do not know of yet ?-)

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #45 Posted by **Paul Dale** on 21 Aug 2011, 7:09 a.m.,*
in response to message #44 by Dieter

The command processing code doesn't handle negatives.

Making it do so would require a fair amount of effort and the result is a few commands merged.

Not to mention the display issues due to the extra character in the command name and the lack of space in the op-codes to store a sign.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #46 Posted by **Dieter** on 21 Aug 2011, 7:30 a.m.,*
in response to message #45 by Paul Dale

> Quote:
>
> The command processing code doesn't handle negatives.

I see that this is not possible for direct input, like SDL -3 or so. But it may work with an indirect call like SDL -> Y.

> Quote:
>
> Making it do so would require a fair amount of effort and the result is a few commands merged.

Using my very limited insight in the 34s' internal structures I imagine that it could be handled by a simple test: if the argument in SDL is negative, use its absolute value and jump to SDR (and vice versa). But I'm sure it's not that trivial, is it?

Dieter

Re: Does wp34S Have A "MANT" Function?

*Message #47 Posted by **Paul Dale** on 21 Aug 2011, 7:41 a.m.,*
in response to message #46 by Dieter

We could do it that way but, for consistency, we'd also have to include all the other shifts, rotates, masks and any other commands for which a negative argument would be possible. Flash space.

The indirection code path checks the argument to ensure that it matches the range allowed for user input (which always starts from 0). We'd need to either relax this code and allow much evil (i.e. the user can break things) or extend the checking so that every argument command has extra range information. Flash space again.

So yes, it would be possible but it is unlikely to happen anytime soon.

- Pauli

Re: Does wp34S Have A "MANT" Function?

*Message #48 Posted by **Paul Dale** on 21 Aug 2011, 7:11 a.m.,*
in response to message #44 by Dieter

PS: look a the latest emulator :-)

Specifically, MANT and EXPT. Only ten times larger than the user code :-(And not guaranteed to remain.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Concerns about HP's new direction

*Message #1 Posted by **Namir** on 19 Aug 2011, 9:18 a.m.*

Hi All,

It took me a while yesterday for HP's decisions to sink in. By the time I went to sleep I was very worried about the fate of HP calculators (present and future) and the fine men and women who work in producing them. Yesterday, I had written a thread to invite many folks on this forum to the HHC2011 saying that it will be a historical event. I HAD meant historical from the technical aspect of the cool topics discussed. It may be even more historical from the aspect of the fate of the calculator division. As I understood the reports from yesterday, it seems that HP's top leaders don't want to waste their time with making chump change. They want to go after the big bucks (IBM style) and the big customers--government and big corporations. You and I do not belong to that exclusive club. Moreover, our most beloved calculators do not belong to the "high dollar" item (actually service) category. I can easily see some company (most likely Chinese) buying the HP computer business, but who will buy the very small HP calculator business??? I shutter at the idea that our beloved HP calculators are heading for oblivion because they do not rack up the big bucks.

I am truly sad and shaken about what I perceive will happen in the next few months and the next year.

:-(

Namir

Re: Concerns about HP's new direction

*Message #2 Posted by **Thomas Radtke** on 19 Aug 2011, 10:16 a.m.,*
in response to message #1 by Namir

Someone will jump in, as always. Personally, I don't mind if the next good calculator won't have an hp label slapped on it. It might be as well 'wp', 'tc' or whatever one could imagine.

Have a look at Commodore. It's gone, but the machines and fans are still there, and there are even new things coming out all the time.

I'm sure there's a market, and that market will be served. Up to now, I always had one colleague also using an HP calculator, refusing to use something else but RPN. Last time it was the 15C, currently it is a 32SII - same as I use :-).

Don't think we're a small group. We're not. It pays to deliver machines we want ;-).

Re: Concerns about HP's new direction

*Message #3 Posted by **Namir** on 19 Aug 2011, 11:22 a.m.,*
in response to message #2 by Thomas Radtke

Thomas,

I hear what you saying. HP calculators may survive at the hand of small companies that consider the sale of these calculators as providing adequate income. I don't see a big corporation taking on HP calculators since they don't generate big bucks anymore! This means that the smaller company who will take on HP calculators may not be able to provide the quality we are used to.

Namir

Re: Concerns about HP's new direction

*Message #4 Posted by **Jake Schwartz** on 19 Aug 2011, 11:59 a.m.,*
in response to message #3 by Namir

> Quote:
>
> This means that the smaller company who will take on HP calculators may not be able to provide the quality we are used to.

How about "Cyrille and Tim, Inc."????

<grin>

Re: Concerns about HP's new direction

*Message #5 Posted by **Namir** on 19 Aug 2011, 2:45 p.m.,*
in response to message #4 by Jake Schwartz

Of course ... I am worried about them.

Re: Concerns about HP's new direction

*Message #6 Posted by **Dan W** on 19 Aug 2011, 1:40 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> Have a look at Commodore. It's gone, but the machines and fans are still there, and there are even new things coming out all the time.

Your analogy with Commodore may be a good one. It still exists:

"Commodore USA, LLC was founded by Barry Altman in April of 2010, with the express purpose of reviving and re-establishing the famous Commodore computer brand. We are Commodore and AMIGA fanatics, just like many of you."

http://www.commodoreusa.net/CUSA_C64.aspx

Perhaps a group of HP calculator enthusiasts need to do the same thing to keep it alive.

Re: Concerns about HP's new direction

*Message #7 Posted by **Thomas Radtke** on 19 Aug 2011, 1:49 p.m.,*
in response to message #6 by Dan W

> Quote:
>
> It still exists:

It does not. Commodore USA just licensed that name to produce PCs. Their OS is Linux. It's generally ok besides being extremely expensive, but has as much to do with old Commodore products as e.g. the HP-30S has with a Voyager.

Re: Concerns about HP's new direction

*Message #8 Posted by **Iqbal** on 19 Aug 2011, 5:02 p.m.,*
in response to message #7 by Thomas Radtke

If HP sells off its calculator division, it may be for the best. Maybe the purchaser will finally take into account what the people are asking for.

Re: Concerns about HP's new direction

*Message #9 Posted by **Gerry Schultz** on 19 Aug 2011, 5:15 p.m.,*
in response to message #8 by Iqbal

I'll tell you what I'm concerned about. I just bought a 17.3" Pavilion laptop from HP and now they are getting out of the PC business? This reminds me of when I bought an 2 GHz iMac G5 in 2005 and a month later Apple announces it's migration to the Intel processor.

Okay, let's have a poll of which PC manufacturer we want out of business and I'll order a PC from them.

Gerry

Re: Concerns about HP's new direction

*Message #10 Posted by **Walter B** on 19 Aug 2011, 5:26 p.m.,*
in response to message #8 by Iqbal

AFAIK this "calculator division" consist of very few people, backed (at least sometimes) by the resources of a huge company. I doubt said division can live on its own, though I'll be more than happy if proven false.

Remember we saw many "next generation calculators" announced by small companies or groups failing in the last decade. There is merely one exception, and this project (which must not be named here anymore for sake of not hurting the souls of our littl'ones) succeeded only since it relies on HP hardware. But we won't get HP hardware without HP :-/

Just my 20m€,
Walter

Re: Concerns about HP's new direction

*Message #11 Posted by **DaveJ** on 20 Aug 2011, 3:19 a.m.,*
in response to message #8 by Iqbal

> Quote:
>
> If HP sells off its calculator division, it may be for the best. Maybe the purchaser

> will finally take into account what the people are asking for.

I can't see that ever happening. if it did get sold, then I can't see anyone buying for anything but the niche targeted educational and engineering products already produced.

And this reminds me, this huge shake-up might just mean there is a chance the new 15C won't actually make it out.

I'm willing to bet that it was "business as usual" up until the internal announcement for this shakeup. But once that announcement was made, EVERYTHING changes instantly internally, on a dime. Pushing the 15C out the door might be very hard indeed, no matter how close it is.

Dave.

Re: Concerns about HP's new direction

*Message #12 Posted by **Paul Dale** on 20 Aug 2011, 3:28 a.m.,*
in response to message #11 by DaveJ

Financial Dave. Financial calculators is where their income is.

They pretty much lost the educational and engineering markets a long time ago :-(

Now if you can build us a credit card sized calculator with decent amounts of memory we'll be able to make something decent from it.

- Pauli

Re: Concerns about HP's new direction

*Message #13 Posted by **Howard Owen** on 19 Aug 2011, 6:24 p.m.,*
in response to message #1 by Namir

It's not a slam dunk that the calculator group will be axed by the next owner. I believe HP actually makes money off calculators now, albiet a drop in the bucket compared to the overall balance sheet. The thought struck me that perhaps the calculator business might look more attractive to a company used to lower margins.

Another thing I realized is that I've got essentially zero understanding of the dynamics driving HP and a prospective buyer or buyers. Predicting what happens to HP calculators is therefor an exercise in ungrounded imagination for me.

It's a very uncertain time, no doubt.

Re: Concerns about HP's new direction

*Message #14 Posted by **Namir** on 19 Aug 2011, 7:13 p.m.,*
in response to message #13 by Howard Owen

Howard,

If HP feels the income from the PC market is not worth it, they will feel the calculator division to be like a tiny mosquito!! HP is interested in making LOTS of money ... and ONLY LOTS of money.

My concern is that the calculator division will have "most misfortunate fate" and go into oblivion. Sorry Tim and Cyril! You guys rock!! We as a club and all the collectors on eBay are really small potatoes.

Re: Concerns about HP's new direction

*Message #15 Posted by **Andreas Grund** on 19 Aug 2011, 8:08 p.m.,*
in response to message #14 by Namir

If they even sell the PC business, then there is no chance that the calculator business will be kept, lets say, survive. The new CEO, coming from SAP, where he did not act with much fortune, seems to turn HP into another SAP. Who needs? The market for biz software is almost satured, I am afraid, this HP approach is doomed to fail and in a couple of years HP is just a brand without content left.

Andreas

Re: Concerns about HP's new direction

*Message #16 Posted by **Artur-Brazil** on 23 Aug 2011, 7:42 a.m.,*
in response to message #15 by Andreas Grund

Hi, all! As seen in 2000, when Ms. Carly Fiorina put out the great HP division of equipments (now Agilent) and would invest on PCs market, I only said to my coleagues: HP is dead! They will compet with China in making PCs ... Well, I'm just waiting the final punch. Each new CEO - or God, as market put them - that came from a bankrupted firm and enters to HP brings that bankrupted enterprise into HP and discards HP's history. Now, HP is moving into a market that anyone with a minimal structure can offers too. It's just a question of time and we'll not anymore see HP logos in anywere, beyond museums of technology and science.

Re: Concerns about HP's new direction

*Message #17 Posted by **Walter B** on 23 Aug 2011, 1:05 p.m.,*
in response to message #16 by Artur-Brazil

Don't know about Carly's dark history before HP, but Leo's former company is far from bankruptcy. FWIW

Re: Concerns about HP's new direction

*Message #18 Posted by **Howard Owen** on 19 Aug 2011, 8:09 p.m.,*
in response to message #14 by Namir

I share your concern, Namir. I was just pointing out that being sold with the rest of the PSG might not be the death knell for our friends. A new owner that considered the PC business to be worth engaging in might also look at the calculator business as worthwhile. I was really commenting on the uncertainty of the situation. The possibilities might include better outcomes than we fear.

I will now go back to counting rainbows and feeding the leprechauns. :)

Re: Concerns about HP's new direction

*Message #19 Posted by **Gilles Carpentier** on 19 Aug 2011, 9:14 p.m.,*
in response to message #1 by Namir

Apotheker's pay package

Leo Apottheker employment

What is the budget of the HP calc division ?

Re: Concerns about HP's new direction

*Message #20 Posted by **DaveJ** on 20 Aug 2011, 3:15 a.m.,*
in response to message #1 by Namir

Wouldn't it be awesome if they just open sourced *everything* from the calculator division?

And I'm talking source code, CAD files, all documents and masks etc

Better than letting it die, and I can't really see anyone buying it, except for being bundled as part of the computer division - which would be the same as letting it die.

It's a shame when companies and/or projects just die, and the massive amount of engineering and sweat and tears that went into them just dies too.

Dave.

Re: Concerns about HP's new direction

*Message #21 Posted by **uhmgawa** on 20 Aug 2011, 12:48 p.m.,*
in response to message #20 by DaveJ

> Quote:
>
> Wouldn't it be awesome if they just open sourced *everything* from the calculator division?
>
> And I'm talking source code, CAD files, all documents and masks etc

Maybe awesome for the crowd here and any responsible curators of that intellectual property. But you can bet someone would soon be supplying the local dollar store with 15C keychain knockoffs. So there is risk to the brand image which can lessen the value and perhaps enjoyment of these devices.

> Quote:
>
> Better than letting it die, and I can't really see anyone buying it, except for being bundled as part of the computer division - which would be the same as letting it die.

It is an ultra-niche market which I expect to continue shrinking and I'd hazard the associated IP will transition into (or merge with) a more contemporary product. But my crystal ball even with a fresh set of batteries isn't giving me anything concrete.

> Quote:
>
> It's a shame when companies and/or projects just die, and the massive amount of engineering and sweat and tears that went into them just dies too.

Quite true. But given the mind boggling pace at which this general technology space advances, it isn't too surprising for a market defined and ruled by HP in the early 70's to be a little different some 40 years later. The fact they are still around speaks volumes of the engineering accomplishments and market presence of HP.

Edited: 20 Aug 2011, 4:08 p.m.

Re: Concerns about HP's new direction

*Message #22 Posted by **Paul Dale** on 20 Aug 2011, 3:24 a.m.,*
in response to message #1 by Namir

Sigh :-(

- Pauli

Re: Concerns about HP's new direction

*Message #23 Posted by **Juergen Keller** on 20 Aug 2011, 5:51 a.m.,*
in response to message #1 by Namir

When the HP/Compaq merger was announced some members of the Hewlett family were against it:

> Quote:
>
> Walter Hewlett said acquiring Compaq would significantly increase HP's exposure to the PC market, which he said is "neither growing nor profitable." (http://news.cnet.co/2100-1001-275466.html#ixzz1VYp0MmTP)

I think he was right. Leo has to correct Carly's wrong decisions in the past, even if it hurts. Recently, HP didn't catch up with new trends in PC and tablet business, now they have to pay the bill.

Re: Concerns about HP's new direction

*Message #24 Posted by **Namir** on 20 Aug 2011, 8:45 a.m.,*
in response to message #23 by Juergen Keller

Yes I have an iPad that we use at home and while traveling, but I mainly use PC's that are networked at home--I have a desktop PC and several laptops. I enjoy a nice keyboard, screen, and connection with many USB devices (many external hard disks, SD card readers, cameras, etc) and the built-in DVD drive. And yes I use my new iPhone to check email, eBay, CNN, Facebook, movie times, while I am away from home. BUT .... I still enjoy using a PC. It maybe be another decade before I become more tablet-PC oriented. Besides, PC sales are low because of the general world economy!!!

Namir

Edited: 20 Aug 2011, 8:46 a.m.

Re: Concerns about HP's new direction

*Message #25 Posted by **Juergen Keller** on 20 Aug 2011, 3:26 p.m.,*
in response to message #24 by Namir

> Quote:
>
> Besides, PC sales are low because of the general world economy!!!

That might be a reason; another reason is that people have several devices (mobile phone, tablet, laptop, PC) and they don't buy a new PC each year anymore. One of the success factors of Apple is that they have the full line of products, from mobile phone to PC, all with a quite consitent user interface, app store, music store, etc.

Recently, I bought a HP laptop for my daughter, and I have to admit that I didn't found yet anything that sets it apart from a laptop of any other manufacturer, nothing left from the old spirit of quality and innovation ...

Re: Concerns about HP's new direction

*Message #26 Posted by **Oliver Unter Ecker** on 20 Aug 2011, 8:49 a.m.,*
in response to message #1 by Namir

Yes, Namir, it's sad.

I feel for the guys in the calculator group and wish them all the best. I bet that group's product's are high-margin within the PC group, so maybe (hopefully) HP will just keep the group as is.

As far as heading into oblivion, I don't think so. The RPN idea is here to stay. Not as a mainstream thing, but as a viable alternative for whoever wants/needs it.

As far as new products from HP, it sounds like (though I do lack the insight) the calculator group at HP was sized for "maintenance", rather than radical new product development. So, with or without there being change at HP, truly new products were kind of unlikely anyway. (If someone has info that suggests otherwise, please correct me.)

As far as where will the RPN ideas live on, I think it's important to realize the importance of the smartphone/tablet. There're hundreds of RPN apps out there, with downloads in the thousands per day (I say this based on hard numbers I have access to). That's where the security comes from that RPN will survive. It's nice to have keys, but it's also nice to carry just one device. And a touch-screen is the better control for anything graphing. For a one-line RPN calc, I opinion the sweet spot lies with the smart device. And for a graphing calc, tablet HW can't be beat.

To me, of greatest interest would have been a new development that continues the -48, -49 line. That would be a major undertaking, demanding many millions in investment (if you don't do it very smartly...), and it looks like HP really wasn't going to pull this off. If there's (dim) hope that someone could pick up the IP (and people) behind the HP calcs, and take to the skies with new development, then maybe the changes at HP could be for the better.

It's amazing how dumb big corporation can be. I worked at Warner Bros. when Time Warner decided (with 99% shareholder approval) to buy AOL. It was so dump a decision, I almost quit the company over that. Sure enough, it turned out to be the fiasco that any one with a bit of technical savvy could have predicted.

Do these big mergers, upheavals ever work? I think the big cats are under emotional stress to do big changes to justify their outsized salaries. Sadly, rarely people of intelligence steer the big ships.

What's in a name? "Apotheker" is "pharmacist" in German. Talk about high-margin, service-oriented business.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Pioneer keyboard quality discrepancies?

*Message #1 Posted by **Lincoln R.** on 18 Aug 2011, 8:49 p.m.*

I use an HP 32s as my everyday calculator (Made in USA, Serial # begins with 2836A). It looks like it got dropped into a wood chipper, when I got it it didn't work right, and I had to disassemble it and replace the keyboard to PCB foam strip. However, this calculator has a great keyboard. Every key clicks firmly and feels like it should. My 32sII and 48g (both made in Singapore, one in 1994, one in 1997) are almost as good.

A while back I bought another 32s, this one is a 50th anniversary edition one (Made in USA, serial starts 2901A) that looks nearly perfect except that the faceplate is scratched near the top and peeling off. It works fine, but the keys are mushy. Not rattly like the later production Indonesian-made ones often are, but just plain mushy. Some are better than others, but they're not as good as I would expect.

What causes this, and is it something that can be fixed? The calculator doesn't seem to have been used much, I don't see any of the wear from being taken in and out of the cover that my other 32s has (It's so worn that all the texturing has worn off of the sides of the rear case). I did notice that the ones near where the faceplate is peeling are worse than the others, and was planning to remove/reglue the faceplate anyhow, could that be it?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting overview of the HP-15C limited edition

*Message #1 Posted by **From Hong Kong** on 10 Aug 2011, 1:23 p.m.*

Interestingly, I found the following overview taken from a page snapshot that appeared on August 6, 2011.

[url:http://webcache.googleusercontent.com/search?hl=en&biw=1003&bih=463&gs_sm=e&gs_upl=547l9047l0l10375l15l14l1l2l2l0l359l3000l0.2.5.4l11l0&q=cache:3XBAGI0_1h4J:http://www8.hp.com/us/en/products/calculators/product-detail.html?oid=5153395+hp-15c+limited+edition&ct=clnk]

Overview

HP¡¦s Popular 15c Scientific Calculator in a Limited Edition. The HP 15c Scientific Calculator combines intelligent design with advanced scientific calculations. Benefit from faster processing power, great shortcuts like RPN and an intuitive, horizontal interface.

Features

Intelligent design meets portability

- The HP 15c scientific calculator presents an intuitive, horizontal interface, just like the original.
- The compact size and light-weight metal frame of the HP 15c allow scientists and engineers to easily carry this powerful calculator from meeting to meeting.

Powerful problem solver

- Run calculations quickly. This HP scientific calculator touts up to 100x faster processing power than its predecessor.

Advanced scientific calculations

- Gain a scientific calculator with programmable functions and built-in support for complex numbers, matrix math, numerical integration and root solving.
- Store complex calculations directly in the memory for rapid retrieval.
- Reduce the number of keystrokes with RPN capabilities.

HP classic available as limited edition

- This HP classic features a unique production number and ¡§limited edition¡¨ script, making it a great gift for collectors, scientists and engineers. Learn more about HP calculators.

Edited: 10 Aug 2011, 1:28 p.m.

Re: Interesting overview of the HP-15C limited edition

*Message #2 Posted by **Walter B** on 10 Aug 2011, 4:22 p.m.,*
in response to message #1 by From Hong Kong

The only feature missing is a reasonable display - reflecting the progress in 30 years since the launch of the original. Come on, HP :-) you don't want to bring a new calculator with key code programs in 2011, do you?

Edited: 10 Aug 2011, 4:35 p.m.

Re: Interesting overview of the HP-15C limited edition

*Message #3 Posted by **Tommy** on 11 Aug 2011, 5:00 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> The only feature missing is a reasonable display

Naaa... It´s the only one I can read without glasses :-) /Tommy

Re: Interesting overview of the HP-15C limited edition

*Message #4 Posted by **exschr** on 11 Aug 2011, 5:58 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> The only feature missing is a reasonable display - reflecting the progress in 30 years since the launch of the original. Come on, HP :-) you don't want to bring a new calculator with key code programs in 2011, do you?

right, but it's even unaltered way better than the last scientific 35s with it's limited program labels!
My personal killing feature!
(But that is personal preference of mine and that might not always be convincing to others.)

:-) Roger

Re: Interesting overview of the HP-15C limited edition

*Message #5 Posted by **M. Joury** on 11 Aug 2011, 8:15 a.m.,*
in response to message #4 by exschr

Are you saying that the 15C has MORE program labels than the 35S? Or are you complaining about single character labels (I agree with you there).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Getting out of the PC market?

*Message #1 Posted by **Richard Garner** on 18 Aug 2011, 1:46 p.m.*

A news report on MSNBC said that HP has announced that it will be spinning off or selling its PC business. HP plans to keep the enterprise market but spin off the Personal Computer business to someone else. Does anyone have more definate information?

Re: HP Getting out of the PC market?

*Message #2 Posted by **Eric Smith** on 18 Aug 2011, 2:14 p.m.,*
in response to message #1 by Richard Garner

Didn't HP buy Compaq largely because it would improve their economies of scale to merge Compaq's and their own PC businesses? Couldn't they have saved a metric *@&load of money by just spinning off or selling off their PC business back then, and NOT buying Compaq?

Re: HP Getting out of the PC market?

*Message #3 Posted by **Seth Morabito** on 18 Aug 2011, 4:29 p.m.,*
in response to message #2 by Eric Smith

I've been so puzzled by HP's directions since Bill and Dave died. It seems like HP should have kept everything they spun off to Agilent, and spun off the computer division instead.

I wonder what impact (if any) this will have on whatever remains of the DEC properties? OpenVMS is still alive and kicking, I suppose they'll still be supporting that on Itanium, since it's part of their Enterprise group.

OpenVMS

*Message #4 Posted by **Eric Smith** on 18 Aug 2011, 10:41 p.m.,*
in response to message #3 by Seth Morabito

Speaking of OpenVMS, I wonder why they haven't ported it to 64-bit x86? (Officially, that is; I wouldn't be surprised if they have it running in-house.)

Of course, if they did release such a thing, they'd ensure that it couldn't easily be made to run on commodity hardware, but it would give them a lot more flexibility in designing the enterprise-grade hardware to run it.

The first two items on this obviously very out-of-date FAQ are absolutely hilarious: OpenVMS on HP Integrity servers

Some of the other items are laughable now as well, such as item five which says that "Over the next few years, Itanium will exceed x86 performance by as much as 2X." That was apparently written around 2007, and yet Itanium is still significantly slower than x86. The supposed availability features of the Itanium are present in some Xeons, so Itanium doesn't win there either.

It was obvious at the Itanium introduction ten years ago that it was NOT the architecture of the future, and nothing has changed that since. The Itanium sales forecasts have been downgraded several times a year, and yet are still absurdly optimistic.

The conclusion I draw from it is that HP is perfectly happy to relegate OpenVMS to a legacy niche, and will likely drop it within a few years, like they did the HP 3000 systems and MPE.

Edited: 18 Aug 2011, 10:49 p.m.

Re: OpenVMS

*Message #5 Posted by **John B. Smitherman** on 18 Aug 2011, 11:05 p.m.,*
in response to message #4 by Eric Smith

We still have 10 DEC VAX/VMS machines in service at work - 6 each 4300's, 3 each 4710's and 1 each Alpha. One had a power supply failure last weekend which had been in service since 1991. Over the last 20 years we've had very few failures - a small number of power supplies and hard drives. Not too bad.

John

Re: HP Getting out of the PC market?

*Message #6 Posted by **BobVA** on 19 Aug 2011, 6:16 p.m.,*
in response to message #3 by Seth Morabito

> Quote:
>
> ... It seems like HP should have kept everything they spun off to Agilent, and spun off the computer division instead...

Agreed. And it's an interesting alternative history to think about.

Re: HP Getting out of the PC market?

*Message #7 Posted by **Marcus von Cube, Germany** on 18 Aug 2011, 4:49 p.m.,*
in response to message #2 by Eric Smith

With the Compaq deal they acquired Digital and Tandem which are valuable assets in the high end market. The NonStop Systems which now are build mainly from stock HP hardware still run the unsurpassed NonStop Kernel operating system invented by Tandem for almost unlimited scalability and very very high reliability. It's the top of the line system (besides the Super Dome Unix boxes) for mission critical enterprise applications.

Re: HP Getting out of the PC market?

*Message #8 Posted by **Paul Gaster** on 18 Aug 2011, 5:13 p.m.,*
in response to message #2 by Eric Smith

Here is another HP story for today:

HP Killing WebOS http://gizmodo.com/5832291/

"A terse line in a press release from the company today reads "HP reported that it plans to announce that it

will discontinue operations for webOS devices, specifically the TouchPad and webOS phones." WebOS phones are great devices, much beloved by users, but they haven't sold well. It seemed like good news for webOS when HP bought Palm, but despite HP's clout, the phones still failed to catch on. There weren't enough apps. There weren't enough updates. And consequently, there weren't enough users. It was already clear that webOS was in very, very much trouble. Especially after Jon Rubinstein's recent departure."

So, that seems to be 1.2 Billion dollars wasted in under a year and a half. Is that some sort of record?

http://www.engadget.com/2010/04/28/hp-buys-palm/

"HP has just announced that it's acquiring Palm to the tune of $1.2 billion,.."

Re: HP Getting out of the PC market?

*Message #9 Posted by **BobVA** on 18 Aug 2011, 6:16 p.m.,*
in response to message #8 by Paul Gaster

Hmm, I'm guessing that the chance of getting an HP-15c or Classic emulator port for my Palm Pre just stopped approaching zero and actually arrived there...

Re: HP Getting out of the PC market?

*Message #10 Posted by **sylvandb** on 18 Aug 2011, 11:18 p.m.,*
in response to message #2 by Eric Smith

Carly F. bought Compaq. It was nothing more than empire building. The PC part of the company was always low profit, and Bill and Dave spoke many times about the folly of pursuing profit in commodity products.

Re: HP Getting out of the PC market?

*Message #11 Posted by **Tim Wessman** on 18 Aug 2011, 3:36 p.m.,*
in response to message #1 by Richard Garner

FYI - Calcs falls under PSG.

TW

Re: HP Getting out of the PC market?

*Message #12 Posted by **Nigel J Dowrick** on 18 Aug 2011, 4:17 p.m.,*
in response to message #11 by Tim Wessman

PSG = Personal Systems Group? If so, then this BBC News story means that this is what is probably being sold off - is this correct?

Nigel (UK)

Re: HP Getting out of the PC market?

*Message #13 Posted by **Seth Morabito** on 18 Aug 2011, 4:33 p.m.,*
in response to message #11 by Tim Wessman

Oh dear. I'm hoping for the best.

Is there anything that can be said publicly before HHC about HP's planned attendance there?

Re: HP Getting out of the PC market?

*Message #14 Posted by **Tim Wessman** on 18 Aug 2011, 5:18 p.m.,*
in response to message #13 by Seth Morabito

Well, I am planning to be there, as is Cyrille. GT Springer may show up for a bit, and two others who are based in San Diego.

Not exactly a secret. And no, I don't know anything else at all regarding the HP changes.

TW

Edited: 18 Aug 2011, 6:24 p.m.

Re: HP Getting out of the PC market?

*Message #15 Posted by **David Ramsey** on 18 Aug 2011, 3:50 p.m.,*
in response to message #1 by Richard Garner

Doesn't surprise me: especially since they killed Voodoo, HP desktop machines have been boring also-rans, no different from Dell or Acer or any of a dozen other PC box makers. They do have some nice workstations, though.

Edited: 18 Aug 2011, 3:50 p.m.

Re: HP Getting out of the PC market?

*Message #16 Posted by **Lode** on 18 Aug 2011, 4:14 p.m.,*
in response to message #1 by Richard Garner

What will this mean to HP printers?

Re: HP Getting out of the PC market?

*Message #17 Posted by **Glenn Dowdy** on 18 Aug 2011, 4:25 p.m.,*
in response to message #16 by Lode

> Quote:
>
> What will this mean to HP printers?

Likely, nothing.

Re: HP Getting out of the PC market?

*Message #18 Posted by **John B. Smitherman** on 18 Aug 2011, 4:49 p.m.,*
in response to message #1 by Richard Garner

I was speaking with some HP'ers this week and believe it or not they said that Compaq branded PC's sell more than HP.

John

Re: HP Getting out of the PC market?

*Message #19 Posted by **Howard Owen** on 18 Aug 2011, 5:26 p.m.,*
in response to message #1 by Richard Garner

IBM got out of the consumer PC market several years ago. Low margins and slow growth, even in good times, isn't a winning combination.

But since the calculator division is part of the potential deal (per Tim Wessman's post) this holds special interest for me. You might think that calculators were iconic products that HP would want to retain. I'm pretty pessimistic about that. IBM sold an iconic product, the IBM Thinkpad, to Lenovo with the rest of the PC business. Lenovo got the right to continue calling it the "IBM Thinkpad" for some time after the sale, in order to better enjoy the benefit of good will. So much for "iconic."

Who would a likely buyer be? Lenovo comes to mind right away.

Re: HP Getting out of the PC market?

*Message #20 Posted by **JustinM** on 18 Aug 2011, 5:51 p.m.,*
in response to message #19 by Howard Owen

My money's on Acer or Asus. The Thinkpads went to Lenovo in China, and I think only the computer companies in SE Asia will continue to produce commodity, low-margin systems. There's no growth left in desktop PCs and laptops are rapidly losing their niche to tablets.

I think in ten years your "computer" will be your phone. On the chance that you need a big screen and a keyboard, you'll just dock your phone like you do your laptop now. No more syncing a phone with a base computer - the phone will be it.

HP saw the writing on the wall this week with the stories of thousands of TouchPads sitting unsold in Best Buys. Apple and Google will be the 800 lb. gorillas of the next phase of personal computing so it makes sense to pull back to their core enterprise services and compete with IBM in the server room.

Re: HP Getting out of the PC market?

*Message #21 Posted by **Ethan Conner** on 18 Aug 2011, 6:46 p.m.,*
in response to message #20 by JustinM

"in ten years your computer will be your phone" It's NOW my computer...and other people that i know. I was laid off earlier this year and found another job,filled out the application and completed the background check all on my iphone. I was even in the interim doing all the unemployment paperwork on the phone. The only reason i ever touch the laptop anymore is to "sync" the phone and that is coming to an end soon. The future is now.

Re: HP Getting out of the PC market?

*Message #22 Posted by **JustinM** on 18 Aug 2011, 10:53 p.m.,*
in response to message #21 by Ethan Conner

You miss my point. I am fully aware that some people have replaced their desktops and laptops with phones. I wasn't saying that it will take ten years for phones to be capable of typical computing activities. My point was that in ten years a "computer" will be a phone - desktops and laptops won't exist anymore. We aren't there yet. Corporate offices don't have phone docks on their desks - they still have desktops and laptops. Have you written a 200 page report on your iPhone lately? What's missing is a means to seamlessly connect the phone to a real input device and a screen you can stand to look at for nine hours a day.

Re: HP Getting out of the PC market?

*Message #23 Posted by **Ethan Conner** on 18 Aug 2011, 11:13 p.m.,*
in response to message #22 by JustinM

Not entirely.....no i have not written a 200 page document on my iphone. To quote a famous phrase among iphone owners.....or android, "there's an app for that." :)

Maybe a move back to engineering?

*Message #24 Posted by **snaggs** on 18 Aug 2011, 7:38 p.m.,*
in response to message #19 by Howard Owen

They still have printers, maybe theyll move the calculator division back there. It could be good news.

Daniel.

Re: Maybe a move back to engineering?

*Message #25 Posted by **NateB** on 18 Aug 2011, 8:34 p.m.,*
in response to message #24 by snaggs

The calculator transitioned from engineering tool to teaching device years ago. I'd think that most of HP's scientific calc sales are due to the FE/PE/PS exams and financial calc sales are due to the financial and real estate exams.

There was mention that HP was going to stop producing the 12c. Perhaps this is why. Bummer. With this news I think the 10,000 15c's will sell out rather quickly. Hopefully I'll be able to get at least two...

Re: HP Getting out of the PC market?

*Message #26 Posted by **NateB** on 18 Aug 2011, 8:24 p.m.,*
in response to message #1 by Richard Garner

New story out now.

Who will buy the calculator division?

*Message #27 Posted by **snaggs** on 19 Aug 2011, 1:14 a.m.,*
in response to message #26 by NateB

> Quote:
>
> As a result, it needs to exit most of its consumer businesses, just as IBM did six years ago

Wow, I thinks thats a good analysis. IBM got rid of its printers too.

Who will buy the calculator division? A small interested firm might be better anyway.

Re: Who will buy the calculator division?

*Message #28 Posted by **Walter B** on 19 Aug 2011, 1:35 a.m.,*
in response to message #27 by snaggs

> Quote:

> Wow, I thinks thats a good analysis.

(Sic!) That's no analysis at all - it's a comment. IMHO, a major share of the financial troubles in recent years stem from the fact these people were named "analysts" for whatever reason (maybe for getting higher wages?), and John Doe (hardly capable of spelling correctly :-(but writing about everything nevertheless) thinks that must be something close to scientific work. Forget it! They are traders, nothing more. [/rant]

Disclaimer: I apologize in advance for spelling and grammar errors - it's a foreign language for me.

Re: Who will buy the calculator division?

*Message #29 Posted by **snaggs** on 19 Aug 2011, 2:07 a.m.,*
in response to message #28 by Walter B

Sorry :)

Been reading bloomberg (yes, more mba's) and theyre talking about the founders trying to block compaq buy etc, its interesting. They seem to think HP wants to re-invet itself as quality.

I'd have tomagree, I never asked them to keep reducing thhe price of the calculator. Most people would rather have rubber keys and something worth keeping for decades.

> Quote:
>
> While the PC unit accounted for 30 percent of sales last quarter, it only generated a 5.9 percent operating margin. That’s less than at any other division in the company.

At least calculators anrt on the bottom!

Edited: 19 Aug 2011, 2:13 a.m.

Re: HP Getting out of the PC market?

*Message #30 Posted by **Calum Tait** on 19 Aug 2011, 8:53 a.m.,*
in response to message #1 by Richard Garner

Unfortunately, I can't see the calculators line surviving and I suspect it won't be long before the printers line gets spun off or sold off either. Both are de facto consumer products. Perhaps Kinpo will buy the rights and re-brand the calculators - or it may not be profitable enough for them. I think we are seeing one more step here towards the end of HP. It sadly reminds me of a once great British brand, GEC, built up over decades by the single-minded and famously penny concious Arnold Weinstock up to become Britain's largest and most profitable diversified technology company and a world leader in many fields. GEC succumbed to short-termist profit demands from gung-ho management and institutional shareholders. They saw in the 1990s, high profit margins from their telecommunications divisions, mainly due the expansion of the internet and subsequent dot-com boom. They decided this would be their "core business" and divested themselves of all the other divisions of the company which at that point were less profitable. They renamed the company "Marconi" and for a couple of years were popular investment due to high dividends. When the dot-com bubble burst and the telecoms equipment market went flat they had nothing to fall back on and within 10 years of being the largest conglomerate in the UK, they went bust. The old GEC was able to trade on its reputation for innovative, quality products and its wide portfolio of product types from components to systems allowed them access to the majority of markets and to cross-sell products. Further, the company's size allowed them to recruit in quantity the best engineers and designers who would then cross-fertilise ideas and solutions, even between separate businesses within the group. The parallels with HP are compelling and sad for me as we seem to learn

nothing from historical errors of management. Is a time when enterprises and governments worldwide are reducing spending the right time to put all your eggs in the basket of enterprise level computers and software? Especially when an upturn in the market doesn't seem to be in near sight. When a company has invested heavily in acquiring a software platform (WebOS) which has a number of advantages over the market leaders and then further invested in providing an excellent tablet and phone platform for it, is it wise to withdraw the product 2 months after launch? It all comes down to short-term profit from a quick sale of businesses and instant cash injections resulting in large management bonuses. It is this greed and near-sightedness which is a fatal flaw in our current market system. I do hope that the HP name survives as it is a brand with a tradition to be proud of and of course I think it would be a crying shame if the last maker of RPN calculators were to cease production. I can't help but feel pessimistic though.

Re: HP Getting out of the PC market?

*Message #31 Posted by **bunuel66** on 19 Aug 2011, 2:40 p.m.,*
in response to message #30 by Calum Tait

A business that makes nothing but money is a poor business. Henry Ford

There is one rule for the industrialist and that is: Make the best quality of goods possible at the lowest cost possible, paying the highest wages possible. Henry Ford

Re: HP Getting out of the PC market?

*Message #32 Posted by **Namir** on 19 Aug 2011, 3:21 p.m.,*
in response to message #30 by Calum Tait

It seems that HP's most trusted analysts projected that the PC market will be fading and that HP, like IBM, need to hone in on rich customers and make a lot of profit. They have missed one important point. If the market they are gunning for is cash-rich, there will be many more players in that market. I really can imagine many Asian Indian and Chinese companies getting a big piece of the pie for that market AND providing these services for less than HP. What will HP do then??? Greed does not have patience and that's a bad thing. I remember when Microsoft came out with MS-Word and Excel for DOS. They were not instant hits. This did not push Microsoft to ditch these products. Instead they stood by them and refined them. When Windows 95 rolled out Microsoft was able to jump ahead of the line and make their office products the best sellers, dethroning Word Perfect who had the lion's share in the word processing market, and likewise Lotus 123. Patience and strategic move pays off--not that they are easy or simple.

Namir

Re: HP Getting out of the PC market?

*Message #33 Posted by **Massimo Gnerucci (Italy)** on 19 Aug 2011, 3:49 p.m.,*
in response to message #32 by Namir

> Quote:
>
> I remember when Microsoft came out with MS-Word and Excel for DOS.

Ok for Word, but Excel?

Microsoft made Multiplan for DOS and Excel for Windows in 1987, after several months of delay (I remember well since I was eager to test it against Multiplan and Lotus 1-2-3). They released it for Mac at first.

Greetings,
Massimo

Edited: 19 Aug 2011, 3:51 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

So what will a 15C LE be like?
*Message #1 Posted by **snaggs** on 18 Aug 2011, 9:19 a.m.*

Will it have a 2 line display? Will it be above the capability of the 35s, the same or simpler? Do you think it will have algebraic mode or just straight RPN?

Daniel.

Re: So what will a 15C LE be like?
*Message #2 Posted by **Miguel Toro** on 18 Aug 2011, 9:23 a.m.,*
in response to message #1 by snaggs

Here you can find the information. The Overview part has been updated.

Miguel

Re: So what will a 15C LE be like?
*Message #3 Posted by **snaggs** on 18 Aug 2011, 9:39 a.m.,*
in response to message #2 by Miguel Toro

> Quote:
>
> Here you can find the information. The Overview part has been updated.
>
> Miguel

Seems to be taken down again. Anyone have a summary? Surely they'll update variables, memory etc.

Re: So what will a 15C LE be like?
*Message #4 Posted by **Jim Yohe** on 18 Aug 2011, 1:09 p.m.,*
in response to message #3 by snaggs

No it's still up.

Re: So what will a 15C LE be like?
*Message #5 Posted by **M. Joury** on 18 Aug 2011, 2:11 p.m.,*
in response to message #4 by Jim Yohe

I can't get to it.

(deleted post)
*Message #6 Posted by **deleted** on 18 Aug 2011, 2:37 p.m.,*
in response to message #5 by M. Joury

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: So what will a 15C LE be like?

*Message #7 Posted by **M. Joury** on 18 Aug 2011, 3:39 p.m.,*
in response to message #6 by deleted

Now it doesn't, now it does. Someone messing with our heads? I tried it several times earlier with no luck but now it works...

Re: So what will a 15C LE be like?

*Message #8 Posted by **Michael de Estrada** on 18 Aug 2011, 4:00 p.m.,*
in response to message #7 by M. Joury

Maybe they're currently adding new content, so it keeps getting taken down. Anyways, why are you all getting so worked up over something that quite clearly has some time to go before it is ready for release. At least it seems likely to occur sometime this year.

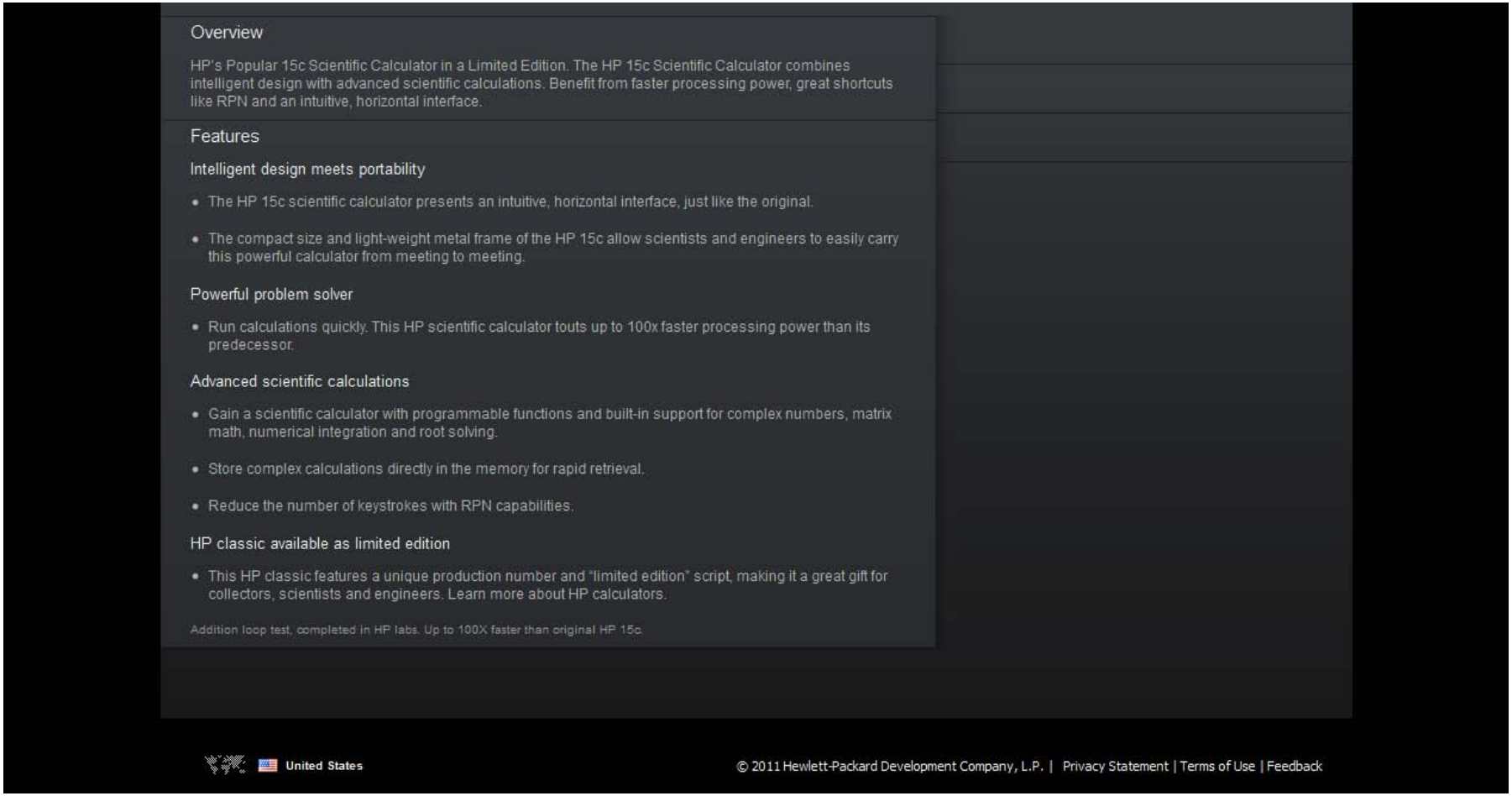
Re: So what will a 15C LE be like?

*Message #9 Posted by **M. Joury** on 18 Aug 2011, 4:40 p.m.,*
in response to message #8 by Michael de Estrada

Because I'm bored? I would hardly call it "worked up". I really don't care if the machine becomes available this month, next month, or in 6 months as long as they come out with one eventually.

Re: So what will a 15C LE be like?

*Message #10 Posted by **NateB** on 18 Aug 2011, 4:09 p.m.,*
in response to message #3 by snaggs



You can find info on the specs here. The only update is speed.

Re: So what will a 15C LE be like?

*Message #11 Posted by **Michael de Estrada** on 18 Aug 2011, 9:28 a.m.,*
in response to message #1 by snaggs

According to what has been published so far and then removed, it will be a replica of the original 15C with a much faster CPU. It will have the same package of the 12C+ with 2 CR2032 batteries. No dual line dot matrix display and no algebraic (gasp) mode.

Edit: Miguel beat me to it. HP keeps putting up and taking down pages.

Edit #2: At the bottom of the HP webpage it says "Addition loop test, completed in HP labs. Up to 100X faster than original HP 15c." This definitely points to the 12C+ processor and clocking, and the actual existence of this product, at least in prototype form. It also indicates that it will be much faster than a 35s.

Edited: 18 Aug 2011, 9:40 a.m.

Re: So what will a 15C LE be like?

*Message #12 Posted by **Marcus von Cube, Germany** on 18 Aug 2011, 11:15 a.m.,*
in response to message #11 by Michael de Estrada

If you look at what we know about the 12C+, the matter should be clear from the beginning. The 12C+ is an exact work-alike of the classic 12C because it runs the original firmware in an emulated

environment.

Guess what HP did to resurrect the 15C? It's just a 12C+ with differently painted keys and the firmware image replaced by that of the 15C. I assume that there were some adjustments to the emulator to support the larger memory space of the 15C compared to the 12C, but this should be minor.

The emulator runs on an Atmel ARM7 microprocessor in a shell that closely resembles the original voyager housing. This explains the speed improvement over the original.

Re: So what will a 15C LE be like?

*Message #13 Posted by **Don Shepherd** on 18 Aug 2011, 11:28 a.m.,*
in response to message #1 by snaggs

Um, why don't you just wait until it is officially announced. Then you will know.

Re: So what will a 15C LE be like?

*Message #14 Posted by **Walter B** on 18 Aug 2011, 1:35 p.m.,*
in response to message #1 by snaggs

It will look and behave like a thirty-year-old pocket calculator, just compute 100x faster.

Very nice compact package, quick and easy access to the functions printed on the keyboard. Well suited for advanced calculations on the fly. OTOH outdated programming model (still key codes :-(instead of mnemonics), very limited memory, plain numeric display, no I/O. Original functionality and original UI - no progress but speed-wise in thirty years.

Ceterum censeo: ... you probably know.

Walter

Re: So what will a 15C LE be like?

*Message #15 Posted by **Gerson W. Barbosa** on 19 Aug 2011, 5:10 p.m.,*
in response to message #14 by Walter B

> Quote:
>
> no progress but speed-wise in thirty years.

That's enough for me. It was my first HP calculator and I still can read the key codes :-)

There is only one thing I may not like in it: on the back of my HP-12C+ it reads:

```
Product of China
Fabriqué en Chine
Hecho en China
Fabricado no China
```

English, French and Spanish are ok but Portuguese is wrong. China is a feminine noun (as most nouns ending in **-a**), therefore the correct contracted form of the preposition plus the definite article is **na** (em + a): Fabricado **na** China. Spelling and grammar mistakes in Chinese products, no matter the language, are generally an indication they are counterfeit. This reason alone might justify the correction. I think I mentioned this before here, but the error is still present in the back of the HP-20b. I wish I had a more persuasive way to convince them to fix it :-)

Romans go home (from Monty Python's Life of Brian)

Gerson.

Re: So what will a 15C LE be like?

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 19 Aug 2011, 5:25 p.m.,*
in response to message #15 by Gerson W. Barbosa

> Quote:
>
> Romans go home (from Monty Python's Life of Brian)

A masterpiece!
:-)

Massimo

Re: So what will a 15C LE be like?

*Message #17 Posted by **Jeroen Van Nieuwenhove** on 18 Aug 2011, 6:48 p.m.,*
in response to message #1 by snaggs

I can even predict the initial reviews in this forum.

First, we will complain about the keys and the display. Both of them will not be up to ancient Voyager standards.

Next, we will attack the sorry battery life, compared to the original 15C. Someone will be claiming his 15C still runs on the original batteries after the batteries of his new 15C LE have already gone dead.

Finally, we will lose ourselves in the emulation vs. simulation debate. Some will argue that a simulation with expanded memory and additional features would have been better, while others will contend that a simulation will always contain some bugs (<cough> 35s <cough>) that a true 15C emulation does not exhibit.

Re: So what will a 15C LE be like?

*Message #18 Posted by **Michael de Estrada** on 18 Aug 2011, 7:25 p.m.,*
in response to message #17 by Jeroen Van Nieuwenhove

I doubt it. Your first complaint will be that you were unable to get one, because only a very small number were available outside the USA. You will then be forced to buy one on TAS for even more than the vintage ones cost.

Re: So what will a 15C LE be like?

*Message #19 Posted by **Thomas Radtke** on 19 Aug 2011, 7:56 a.m.,*
in response to message #18 by Michael de Estrada

> Quote:
>
> I doubt it. Your first complaint will be that you were unable to get one, because only a very small number were available outside the USA.

At least SC offered to ship anywhere, and all who really care likely preordered one. Nothing to complain here, imo.

Re: So what will a 15C LE be like?

*Message #20 Posted by **Michael de Estrada** on 19 Aug 2011, 8:07 a.m.,*
in response to message #19 by Thomas Radtke

And I say "don't count your chickens until they are hatched."

Re: So what will a 15C LE be like?

*Message #21 Posted by **Thomas Radtke** on 19 Aug 2011, 8:11 a.m.,*
in response to message #20 by Michael de Estrada

Right you are.

Re: So what will a 15C LE be like?

*Message #22 Posted by **Jeroen Van Nieuwenhove** on 19 Aug 2011, 7:05 p.m.,*
in response to message #18 by Michael de Estrada

> Quote:
>
> only a very small number were available outside the USA.

You seem to be in the know. Please tell us more ;-) We Europeans might have to wait a little longer and we surely will pay a little more, but eventually these 15C LE will find their way to my local retailer/webshop. I trust a limited edition does not mean that HP will not try to maximize their potential profits from this product.

Edited: 19 Aug 2011, 7:05 p.m.

Re: So what will a 15C LE be like?

*Message #23 Posted by **LMMT** on 19 Aug 2011, 4:22 a.m.,*
in response to message #17 by Jeroen Van Nieuwenhove

If you allow me, I am going even further: some people will be willing to repurpose the new HP-15C to make it work at the speed of the original one. This way, HP will go definitely crazy about us.

Re: So what will a 15C LE be like?

*Message #24 Posted by **Marcus von Cube, Germany** on 19 Aug 2011, 8:32 a.m.,*
in response to message #23 by LMMT

Will the 15C LE support the 12C+ firmware? Just in case... ;-)

Re: So what will a 15C LE be like?

*Message #25 Posted by **Walter B** on 19 Aug 2011, 10:44 a.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> Will the 15C LE support the 12C+ firmware? Just in case... ;-)

This support will not, however, put in a reasonable display :-/

Re: So what will a 15C LE be like?

*Message #26 Posted by **Håkan Thörngren** on 19 Aug 2011, 4:02 p.m.,*
in response to message #25 by Walter B

Hopefully it will not have a decent display. Please keep that useless thing that cannot display alpha characters. Do not put a HP-41 style display in!

Because otherwise I would feel a strong need to repurpose it with my own software, wasting countless hours of work that I could use for other non-HP projects...

So please do not put a decent display in, so I can just ignore it. :/

Re: So what will a 15C LE be like?

*Message #27 Posted by **Paul Gaster** on 19 Aug 2011, 7:46 p.m.,*
in response to message #26 by Håkan Thörngren

I just thought of something that made me a bit sick to my stomach. What if, and this is a big IF, HP somehow used some 35S code for trig functions in the new 15C LE? That would truly be sickening. I wonder how many would buy it then?

Is it even possible to reuse the code from a 35S? I am hoping that someone says no....

Re: So what will a 15C LE be like?

*Message #28 Posted by **Lincoln R.** on 19 Aug 2011, 9:21 p.m.,*
in response to message #27 by Paul Gaster

Probably not possible, the 35S was 6502 based, and the 15C LE will almost certainly be Atmel ARM. Also, I believe the 35S's software was written by Kinpo (the company that was making HP's calcs at the time) and not by HP.

I honestly suspect it will be a new style 12C with different labels and firmware. The modern 12C apparently emulates a Voyager chipset on an ARM, IIRC the displays in Voyagers were the same or quite similar, so HP has little development cost in this other than tracking down the original 15C ROM and getting it to run in the existing emulation,

and having their manufacturing contractor (I think they've mostly been using Inventec lately) print different key labels.

For that matter (and here's a real pipe dream), this architecture would make it trivial to build new 16Cs.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The first victim

*Message #1 Posted by **Walter B** on 17 Aug 2011, 6:02 p.m.*

... of HP announcing a HP-15C LE is found here :-/

Re: The first victim

*Message #2 Posted by **Lode** on 17 Aug 2011, 6:40 p.m.,*
in response to message #1 by Walter B

What, and they didn't even actually announce it yet! Or did they?

Re: The first victim

*Message #3 Posted by **Ethan Conner** on 17 Aug 2011, 6:54 p.m.,*
in response to message #2 by Lode

Looks like someone got officially notified.

Re: The first victim

*Message #4 Posted by **NateB** on 17 Aug 2011, 10:59 p.m.,*
in response to message #3 by Ethan Conner

The project lives.

"the DM-15CC is a new HP-15C clone in the size of a credit card soon new prototypes will be shown..."

Re: The first victim

*Message #5 Posted by **uhmgawa** on 18 Aug 2011, 9:32 p.m.,*
in response to message #3 by Ethan Conner

> Quote:
>
> Looks like someone got officially notified.

I'm not quite sure what is going on there. I've followed it somewhat with interest of a potential HP response to the apparent resale of Voyager firmware but I'd assume from the above they haven't taken issue with it as of yet.

The other interesting comment I'd seen was an initial claim the emulator in use was nonpareil based. Seemed likely by association as the rom image appears to be the cosmetically modified version bundled with a former nonpareil version.

But when the subject of source availability per compliance with GPL licensing arose, it wasn't

nonpareil based anymore:

youtube link

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cool article on HP website

*Message #1 Posted by **gene wright** on 17 Aug 2011, 3:37 p.m.*

The Next Bench

Re: Cool article on HP website

*Message #2 Posted by **Lincoln R.** on 18 Aug 2011, 9:37 p.m.,*
in response to message #1 by gene wright

Hm. I wonder why they're posting this... Could it possibly have something to do with the mythical 15C remake that appeared on HP's website for a while only to disappear?

Re: Cool article on HP website

*Message #3 Posted by **Martin Pinckney** on 18 Aug 2011, 10:06 p.m.,*
in response to message #2 by Lincoln R.

It's obvious why: It's not mythical, it's real. In 5 weeks we'll all know.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A nice trade

*Message #1 Posted by **Chuck** on 17 Aug 2011, 1:23 p.m.*

A good friend of mine had a 41cx from way back (1984) and decided he didn't use it as it should be used and wanted a good caretaker for it. However, he still wanted a calculator with RPN and I had a few duplicates (28S, 12C 35S, 48SX...). He liked the 35S, so.... a new family member.....

It's in impeccable condition, just a little dust from years of sitting; came with the Financial I module and the PPC ROM, of which I know nothing; and has the PPC ROM Pocket Guide that appears to be a preliminary request for routines that culminated in the "phone book size" manual. The commands in the pocket guide are gibberish to me,

but hopefully I'll figure some of it out. Rest assured, I'll be a good caretaker.

Cheers

Re: A nice trade

*Message #2 Posted by **Namir** on 17 Aug 2011, 1:39 p.m.,*
in response to message #1 by Chuck

Nice picture and a very nice calculator swap!! I think you got the better end of the deal!

Namir

Re: A nice trade

*Message #3 Posted by **M. Joury** on 17 Aug 2011, 3:38 p.m.,*
in response to message #2 by Namir

> Quote:
>
> I think you got the better end of the deal!

No kidding!

Re: A nice trade (off-topic, I apologize)

*Message #4 Posted by **Bob** on 18 Aug 2011, 3:19 p.m.,*
in response to message #1 by Chuck

To Chuck – I apologize for an off-topic reply, but I can't find another way to reach you. I read your posts in Archive 19 concerning the ROM bug you found in the GAMMA function on the 42S. I have a new angle on that – would you email me through the forum? Thanks in advance… v/r Bob

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Hrast Programmer's Cool Music

*Message #1 Posted by **Namir** on 17 Aug 2011, 1:11 p.m.*

Hi All,

Fellow HP programmer Hrast Programmer who is well know for his cool HP calculator software and a member of this forum is sharing his talents in music too! He has launched his first album, "Harmony of the Machines", on Musiczeit music service.

What is cool about this music, IMHO, is that when I listen to it I feel it is like the music generated by the internal circuitry of our beloved calculators when they are running a program.

Any case, it is very nice music and I look forward to his upcoming three albums that will be released between the near future and the next year.

Namir

Edited: 17 Aug 2011, 1:12 p.m.

Re: OT: Hrast Programmer's Cool Music

*Message #2 Posted by **HrastProgrammer** on 18 Aug 2011, 1:42 a.m.,*
in response to message #1 by Namir

Hi Namir,

Thanks a lot for the support :-) It is nice to find at least one fan even here, on the forum not related to (electronic) music at all.

In fact, I used HP calculators there, not to produce the actual sound, but to calculate various things while developing my sequencer and some other software I needed ...

Edited: 18 Aug 2011, 1:53 a.m.

Re: OT: Hrast Programmer's Cool Music

*Message #3 Posted by **Namir** on 18 Aug 2011, 8:59 a.m.,*
in response to message #2 by HrastProgrammer

You are welcome Hrast. I hope more folks on this site will enjoy your music.

I certainly plan to get your other albums when release. Please remind me (and others) on Facebook when these albums become available.

Namir

Edited: 18 Aug 2011, 9:00 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9830 tape drive question

*Message #1 Posted by **David Ramsey** on 17 Aug 2011, 11:49 a.m.*

I recently snagged a beautiful 9830a from a long-time HP reseller in San Jose. The machine is in spectacular cosmetic condition; it looks as if it came out of the box just a few months ago.

It has the 8K memory upgrade and I grabbed a slew of ROMs as well as an equally-snazzy 9866 printer.

Everything works great except the tape drive. I can read the pre-recorded Math and Stat packs reliably; the system test cassette reads perhaps 20% of the time, and although I can successfully MARK the two NOS HP tapes I got with the calculator, I've never been able to write anything to them and read it back without getting an ERROR 59 (checksum error) or ERROR 58 (misc tape error: door open, STOP pressed, clear leader problem, etc.) In the latter case there is no obvious physical problem I can see, and yes, the internal tape light works.

I've cleaned the head with alcohol and wiped it down with a microfiber cloth.

Now, this could just be cruddy 35 year old tapes. I've ordered new tapes and a head deGausser which I should receive next week.

The tape drive makes a continuous "tap..tap..tap" sound as the tape is read or recorded at normal speed. With the top of the computer off, a finger on the driving spool motor will feel each "tap" distinctly. Is this sound normal? And does anyone have any suggestions for things I could try?

Re: 9830 tape drive question

*Message #2 Posted by **Tony Duell** on 18 Aug 2011, 4:37 a.m.,*
in response to message #1 by David Ramsey

No, tht sound is not normal, and may be part of the problem.

Unlike audio cassette recorders, the HP9830 tape drive doesn't use a capstan and pinch roller, it just drives the spools. The tape speed is not constant therefore, but that doesn't matter as the data encoding is essentially self-clocking.

Anyway, there are 2 motors inside the drive on a rocking beam, which is moved by a pair of solenoids, one each side. Each motor spindle can be forced against the rubber tyre of the drive spindle. My first guess is that these tyres, which are simple O-rings, have decayed.

I would take out the tape drive, open in up and look at it.

Start by removing the top cover and the keyboard, then undo the fixing screws and lift the tape drive up and out, it's plugged into an edge connector on the backplane. Take out the screws on each side and ease off the mounting bracket. This carries the connector PCB, and the various parts of the tape drive are connected to this by 'plugs' which are actually little PCBs fitted with pins. Carefully unplug all 4 of these.

There's a metal bracket across the back of the motor assembly. It's held on by 5 screws (2 each side, and one in the centre). Take this off, and slide the motor assembly out too. You can now see the drive wheels and the

tyres. There's a sliding brake plate which is sprung against the tyres when the drive is stopped, and this might have made notches in said tyres.

Normally you don't have to remove the drive spindles themselves, but if you want to, take off the front cover next (1 long through-bolt, slide out the window before it falls out, and unscrew the ground wire). Then take off the leaf spring from the back of the drive spindle (1 screw), the circlip on the front side, and the plastic washer. The spindle will slide out rearwards.

My notes suggest a size BS219 O-ring is the right part to use.

Feel free to contact me privately for more information if you need it (and for that matter about any other aspect of the 9830 and 9866).

Re: 9830 tape drive question

*Message #3 Posted by **David Ramsey** on 18 Aug 2011, 4:22 p.m.,*
in response to message #2 by Tony Duell

Why, yes, there is a small notch in one of the O-rings:

That probably accounts for the sound. Guess I'll order some more O-rings. I'll let you know if that makes a difference.

Re: 9830 tape drive question

*Message #4 Posted by **David Ramsey** on 19 Aug 2011, 11:41 a.m.,*
in response to message #3 by David Ramsey

Pending the arrival of new O rings, I swapped jthe existing rings to each other's wheels.

The rings were soft and flexible, indistinguishable from new except for the notch in one of them. Perhaps the computer was stored in an inert atmosphere.

The tapping noise is greatly reduced, although still present. I can now reliably read the systems test cassette, although there's still no joy marking and recording and reading back from a blank tape. About half the time, doing a MARK 3,5000 results in the tape slowly moving all the way to its end, and a subsequent ERROR 58. On the occasion that the MARK operation appears to succeed, attempting a STORE operation will result in ERROR 59 (checksum error); if that succeeds, the error will occur on the LOAD operation.

Hopefully this is bad tapes or a head in need of deGaussing.

Re: 9830 tape drive question

*Message #5 Posted by **David Ramsey** on 19 Aug 2011, 10:07 p.m.,*
in response to message #4 by David Ramsey

Dang. New tapes and deGaussing had no effect; although I will replace both O rings, I suspect that won't have any effect, either. Further suggestions solicited...

Re: 9830 tape drive question

*Message #6 Posted by **Tony Duell** on 20 Aug 2011, 4:30 a.m.,*

in response to message #5 by David Ramsey

OK, it seems like the reading problem was due to the O-rings, since you can now read the pre-recorded tapes you have.

This also pretty much means that the head is OK. As you probably know, the head has 2 windings both of which are used for reading and writing. And much of the electronics must be working too.

The tape interface is one section of the machine which was supposed to be repaired to component level in the field, so the service manual (available from the Australian museum site) has some troubleshooting information. But I will try to provide some more here.

The unit writes 2 tracks. A pulse on one track is a 0, a pulse on the other track is a 1, and a pulse on both together is a byte marker. Tape words are 9 bits long, the middle bit (and thus in the same position relative to a marker no matter which way the tape is moving) is used to indicate a file header.

I don't think the 9830 verifies after writing or marking, so it's perhaps not surpising you don't get errors there.

You want to start on the Read/Write PCB, 09865-66563 (blue and orange handles, of course). When doing a write operation, look at TP2 and Tp3 with a 'scope or logic analyser. These are the outputs of the write encoder circuit. You should see pulses on both of them, as described above.

Now connect the 'scope or LA to the otuputs of the read amplifier. That's the outputs of U4a and U4b -- page 81 of 'my' schematic. Read a good tape to see what to expect, then try to read one of your tapes. See if either signal is missing (or garbled).

If one channel is bad, it shouldn't be too hard to trace the problem. Possibly the write driver circuit on the tape drive head PCB (page 87 of my schematics).

Re: 9830 tape drive question

*Message #7 Posted by **Tony Duell** on 20 Aug 2011, 4:39 a.m.,*
in response to message #6 by Tony Duell

It's also possible the write clock is running way off frequency. When marking a tape (or similar), look at TP1 on the tape controller PCB (09865-99652, blue and red handles, page 79 in 'my' schematic). It should be about 3kHz.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #1 Posted by **gene wright** on 17 Aug 2011, 11:33 a.m.*

If you are coming to the HHC 2011 conference in San Diego next month, great!

If you have an interest, bring your HP 20b or HP 30b and we will get it flashed with the most recent (at that time) 34s firmware.

The committee is thinking of having the programming contest have a category ONLY for the 34s.

Might be interesting to see how the unique abilities of the 34s play out with a programming problem put to a group.

HHC 2011

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #2 Posted by **Eric Smith** on 17 Aug 2011, 12:37 p.m.,*
in response to message #1 by gene wright

I respectfully request that the committee add a programming contest category for the HP-41 family, as there are several new -41 developments recently.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #3 Posted by **gene wright** on 17 Aug 2011, 2:02 p.m.,*
in response to message #2 by Eric Smith

Any programming problem for the 34s would be doable on the 41c family. No problem.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #4 Posted by **Namir** on 17 Aug 2011, 1:41 p.m.,*
in response to message #1 by gene wright

Woooohhooooooooooo ... burning HP-20b/30b calculators!! Yeaaahhh baby ... Yeaaah baby!!! Now that's what I call fun!!!!

If we don't agree to do something special for Monday, then we should sit at the hotel lobby and burn firmware!!!

<G>

Namir

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #5 Posted by **Jim Horn** on 17 Aug 2011, 1:50 p.m.,*
in response to message #4 by Namir

Namir, Namir, Namir... Wait until MONDAY? I suspect there will be more-or-less continuous burning whenever a 20b or 30b appears! Who would want to wait while all sorts of software and such is being exchanged?

Still hope to be there, re-purposed 20b, cable, laptop and all in tow... Maybe will even pick up a 30b just for the event.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #6 Posted by **Namir** on 17 Aug 2011, 3:55 p.m.,*
in response to message #5 by Jim Horn

Jim,

I apologize ... perhaps I misspoke and skipped a few steps. Of course the burning of 20b/30b (sounds like an evil Nazi event that happened in the 30s) will start on Friday! BUT ..... again BUT ... I bet you the smart folks attending HHC2011 (and you know who you are .. besides your brother Joe) will find NEW BUGS (I cannot believe I am saying this) in the machines ... soooooo .. we go back to the drawing board .... more firmware burning ... WHEN?? ... I am listening???? ..... ON MONDAY!!!!!!!!!!

I rest my case!

<bows down>

Namir

Sigh ... it's tough being a genius. So many people misunderstand me ... and think I am being funny!!!

Edited: 17 Aug 2011, 4:40 p.m. after one or more responses were posted

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #7 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 4:03 p.m.,*
in response to message #6 by Namir

The contest will be "Find the bug!" :-)

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #8 Posted by **Namir** on 17 Aug 2011, 4:40 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Marcus,

No truer words have been spoke in our galaxy!!! "Find the bugs" it is!!

namir

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #9 Posted by **Jim Horn** on 17 Aug 2011, 5:21 p.m.,*
in response to message #6 by Namir

I concede to your impeccable logic, Namir! Hope to see you then...

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #10 Posted by **Namir** on 18 Aug 2011, 10:52 a.m.,*
in response to message #9 by Jim Horn

Jim,

My logic is so off the wall, it scares me sometimes!! :=]

It will be a pleasure to see you again Jim. I can tell this HHC meeting is going to be out of this world!!!

Namir

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #11 Posted by **Richard J Nelson** on 18 Aug 2011, 12:59 p.m.,*
in response to message #9 by Jim Horn

HHC 2011 will be exceptional this year. It is the 30th year (actually 32 years of manufacturer) of the HP-12C and I am asking attendees to bring their machines so we may compare them and take a group photo.

Wlodek will bring his collection of 12C's - if he can get the time - and he says that there have been subtle case changes over the years.

And yes, bring your HP-41.

Speaking of the 15C the Swiss machine has been cancelled, but there is a new design planned. see http://www.rpn-calc.ch/.

X < > Y,

Richard rpn-calc

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 4:02 p.m.,*

in response to message #4 by Namir

Burning the firmware is boring. :-/

Applying the overlay is tedious. :-(

Playing with the result is fun! :-)

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #13 Posted by **Namir** on 17 Aug 2011, 4:39 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Maybe I should bring my wife's nephew with me. He is 19 and can put the overlays on the 30b buttons like an artist!!!

:-)

Namir

Edited: 17 Aug 2011, 4:41 p.m.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #14 Posted by **John Keith** on 17 Aug 2011, 8:54 p.m.,*
in response to message #13 by Namir

All he'll need is a stack of overlays and a tip jar- he'll do great!

John

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #15 Posted by **Martin Pinckney** on 17 Aug 2011, 2:07 p.m.,*
in response to message #1 by gene wright

bring your 20b/30b? Leave some space in your bag to bring home the 15cLE.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #16 Posted by **Walter B** on 17 Aug 2011, 4:48 p.m.,*
in response to message #15 by Martin Pinckney

Let's keep our fingers crossed ... :-/

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #17 Posted by **Tim Wessman** on 17 Aug 2011, 11:05 p.m.,*
in response to message #15 by Martin Pinckney

You'd probably better leave a lot of space in your bag. See, the LE stands for Limited Eyesight. We recognized that most of the 15C fans are getting on up there in years. The "images" have been a bit deceiving since there is no reference point. We decided a unit that was about 5x the size of the original would hit the target demographic quite nicely. . . ;-)

TW

P.S. It runs on D batteries.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #18 Posted by **BobVA** on 17 Aug 2011, 11:46 p.m.,*
in response to message #17 by Tim Wessman

Sounds like you found that replica quarter, the size of a sewer lid, that all good lab boys keep stashed for prototype size comparison shots :-)

Edited: 17 Aug 2011, 11:53 p.m.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #19 Posted by **Walter B** on 18 Aug 2011, 1:35 a.m.,*
in response to message #17 by Tim Wessman

LOL
Don't forget the overlay sheets in A4 ;-)

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #20 Posted by **Tim Wessman** on 18 Aug 2011, 2:26 a.m.,*
in response to message #19 by Walter B

A4? We are talking A1 at least!

TW

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #21 Posted by **Norman Dziedzic** on 18 Aug 2011, 7:15 a.m.,*
in response to message #17 by Tim Wessman

I think at that size you could program a Twister game on it...

```
Left foot on trig function-
Right hand on arithmetic-
```

Or use it with your feet like the floor piano in the movie Big with Tom Hanks. It could double as exercise!

I like it ;-)

Edited: 18 Aug 2011, 7:16 a.m.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #22 Posted by **Glenn Dowdy** on 18 Aug 2011, 10:34 a.m.,*
in response to message #17 by Tim Wessman

> Quote:
>
> You'd probably better leave a lot of space in your bag. See, the LE stands for Limited Eyesight. We recognized that most of the 15C fans are getting on up there in years. The "images" have been a bit deceiving since there is no reference point. We decided a unit that was about 5x the size of the original would hit the target demographic quite nicely. . . ;-)
>
> TW
>
> P.S. It runs on D batteries.

Tim, you missed the last design review meeting. We had to switch to 6v lantern batteries, in a belt worn by the user.

HHC 2011 COME ON ALL!

*Message #23 Posted by **Namir** on 18 Aug 2011, 11:37 a.m.,*
in response to message #1 by gene wright

I sure would like to see some of the folks on this site, who have not been to previous conferences, attend HHC2001. Folks like Katie would simply glow in the meeting. I hope she takes the time and fly over to San Diego. There are many other nice folks that contribute here whom we have never seen. Come on out and let's party (am talking here party 34s style!). We love to meet you all in person. I am sure you are tons of fun and so are we (the veteran attendees). All this electronics communication is fine and convenient, but meeting in person is something to behold!

In the past years I have had a blast sitting right next to folks like Vokto Toth (of the www.rskey.org site), Joerg Woerner of the TI DataMath museum (I had fun teasing him about his low-end TI prototype calculators), and Goeff Quickfall's very first HHC conference in Corvallis. They left really special memories, the kind you can never get online!

So get some time off, gather your pennies, gather your courage (if you fear flying) and come on down! YOU WILL NOT BE SORRY! I PROMISE! THIS HISTORY IN THE MAKING.

Maybe calculators are not as important as they used to be, but our love and enthusiasm for them and for that special fellowship we have with each other, is very much alive and kicking.

Namir

Edited: 18 Aug 2011, 11:42 a.m.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #24 Posted by **David Hayden** on 21 Aug 2011, 9:00 a.m.,*
in response to message #1 by gene wright

I hope that Eric Rechlin will be there with 20b and 30b units for sale, along with lots of keyboard overlays for sale too.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #25 Posted by **Walter B** on 21 Aug 2011, 9:09 a.m.,*
in response to message #24 by David Hayden

Why should Eric sell 20bs or 30bs on HP's premises? :-?

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #26 Posted by **Tim Wessman** on 21 Aug 2011, 11:47 a.m.,*
in response to message #25 by Walter B

Why not? Wouldn't bother me.

That way anyone still wanting one could be sure there was one to get.

Considering that 3 years ago everyone was given a 20b, the year after that a 30b, and the year after that I had some spare 20b units for anyone to grab. . . seems kind of unlikely that we'd give out the same thing again.

TW

Edited: 21 Aug 2011, 11:48 a.m.

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #27 Posted by **Walter B** on 21 Aug 2011, 11:53 a.m.,*
in response to message #26 by Tim Wessman

Oh, just assumed you've got a large stock of these and want to sell them. But never mind, it's your business ;-)

Re: HHC 2011 is 5 weeks away --- bring your 20b/30b to be flashed and the programming contest...

*Message #28 Posted by **gene wright** on 21 Aug 2011, 5:08 p.m.,*
in response to message #27 by Walter B

Any unit that Eric sells had to be purchased originally from HP. No sale lost, as I don't believe Eric wandered off with 100s of them at the previous conference. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Strange HP-35 auction on TAS

*Message #1 Posted by **Michael de Estrada** on 16 Aug 2011, 8:22 p.m.*

I just saw this rather strange HP-35 for sale in a TAS auction. It's strange because it presumably is an early version with "the bug" and the s/n is consistent with an early version 2. However, the keyboard and case front appear to be a later version 4. The rear label appears to be undisturbed. It's almost as if someone mated the internals and rear case from a buggy version 2 to the front case and keyboard of a version 4, but I don't know how it was done without any evidence of damage to the label. Anyways, I thought y'all might find this interesting.

Re: Strange HP-35 auction on TAS

*Message #2 Posted by **Dan W** on 16 Aug 2011, 9:20 p.m.,*
in response to message #1 by Michael de Estrada

Definitely a Franken Calculator.

I got quite good at removing the back label and replacing it without leaving much trace. It can be done, but this example is quite excellent. Could be a repro but repro's I have seen are just slightly thicker.

IIRC there should be a short label between the lower rear feet on a Type-2 back.

Re: Strange HP-35 auction on TAS

*Message #3 Posted by **Michael de Estrada** on 16 Aug 2011, 9:48 p.m.,*
in response to message #2 by Dan W

The thicker repro labels I bought from Ben Ong do not have the text at the bottom, e.g. "Made in U.S.A., 3.75V 500mW", but instead the thin silver border line is continuous. All HP-35 versions have some sort of label at the bottom, either a s/n or a label "Hewlett Packard 3.75V 500MW Made IN .... PATENT PENDING". Also, that serial number is quite unusual in that the prefix 1143A is typed, not printed in black, and the 1s are Is.

Edited: 16 Aug 2011, 9:50 p.m.

Re: Strange HP-35 auction on TAS

*Message #4 Posted by **Dan W** on 16 Aug 2011, 10:19 p.m.,*
in response to message #3 by Michael de Estrada

Yea, good catch. I've never seen an HP-35 serial number label all typed like that.

Maybe a factory repair unit.

*Message #5 Posted by **Frank Boehm (Germany)** on 17 Aug 2011, 4:56 a.m.,*
in response to message #1 by Michael de Estrada

The serial number puts it in the range of early V2s with the serial number attached between the lower feet, as

does the bottom part of the case. The sticker looks legit.
However I am a little bit concerned about the ln bug, this should not be present in a factory repair unit - but they did a ROM replacement on the customers PCB for the bugged uints, maybe they ran out of parts?
Btw. there have been original labels on ebay (a couple), so it's not impossible to recreate a 35 - but due to the limited value of a non-red dot, that's a pointless effort.
Alltogether an interesting unit, but probably only for a hardcore collector :)

Re: Strange HP-35 auction on TAS

*Message #6 Posted by **Randy** on 17 Aug 2011, 3:37 p.m.,*
in response to message #1 by Michael de Estrada

The SN label is an HP replacement and as such, the unit was most likely a service exchange unit. I'd bet the unit is all V4, inside and out, and does not have buggy roms. Nothing remarkable, they did this all the time, back in the day.

Re: Strange HP-35 auction on TAS

*Message #7 Posted by **Michael de Estrada** on 17 Aug 2011, 4:07 p.m.,*
in response to message #6 by Randy

But how can you explain the serial number, itself ? The prefix 1143 was used only on the version 1 (Red Dot) and early version 2. By the time the version 4 came out, the s/n prefix, which is presumably a date code, had been changed to a later value. And would HP type a capital "I", instead of the numeral "1" on the label ? As to the bug, well I guess only the eventual buyer will know for sure.

Service replacement ser#

*Message #8 Posted by **Frank Boehm (Germany)** on 18 Aug 2011, 4:08 a.m.,*
in response to message #7 by Michael de Estrada

There are service replacements of later HPs known without a serial# burnt in, instead the original serial# has been stickered on. So I assume this is common practise (concerning the inventory tracking of larger companies, this is the easiest way to go).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 Card Reader 1E

*Message #1 Posted by **Richard L. Taylor** on 16 Aug 2011, 7:43 p.m.*

Hi members and guests, I was playing around with the card reader on my HP41cx and came up with a strange display. With the card reader plugged in, I gave the command SIZE 25 not 025 just key in a 2 and a 5. Then with the back arrow key, delete the 5 then delete the 2. You will end up with a display that shows the number 2 on the left side of the display and the word SIZE on the right side of the display. The back arrow will not clear the display but any other key will. Has any one seen this before?

Re: HP41 Card Reader 1E

*Message #2 Posted by **Eric Smith** on 17 Aug 2011, 12:49 p.m.,*
in response to message #1 by Richard L. Taylor

That's a well-known bug in early versions of the card reader ROM. It happens with any function that gives a three-digit prompt, and I think it may happen under some circumstances for two-digit prompts.

I'm not sure whether it is fixed in 1F, but I believe it is fixed in 1G. A more serious bug fixed in 1G is that the card reader can corrupt the contents of an extended memory module in port 2 or port 4.

I spend some time studying the backarrow bug last month, and found that it was due to the card reader ROM overflowing the four-level hardware return stack in the I/O service poll.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

question for lyuka and the Ostrowski method

*Message #1 Posted by **hugh steers** on 16 Aug 2011, 7:13 p.m.*

hi,

wanted to try out this method. took the code here,

http://www.finetune.jp/~lyuka/technote/fract/ost.html

and tried one of my tests. this is smooth test from the temperature industry.

```
double f(double t)
{
    /* example from pressure */
    double x;
    t = t + 273.15;
    x = 0;
    if (t > 0) {
        x = -6096.9385 / t + 16.635794 - 0.02711193 * t + 0.00001673952 * t * t + 2.433502 *
log(t);
        x = exp(x);
    }
    return x - 1e-5; // value = 1e-5
}
```

not very pretty i know, but it should have a real world solution to a value of 1e-5 (hardcoded) between -275.15 and 100, say.

i do this:

```
int main()
{
    double          a, b, root;
    int             r;


    printf("vwat\n");
    r= ost(a=-271.15, b=100.0, f, EPSILON, ITERATION, &root);
    printf("main: %g, %g, f(%.18g) = %g, %d\n", a, b, root, f(root), r);
    return 0;
}
```

and it gives me -256.

here's the results from my other methods,

```
37 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with brentRoot = -106.310044
100 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with secantRoot = -1.#IND00
8 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with ridderRoot = -106.310044
2 iterations
solve vwat=1e-5 in [-273.150000, 100.000000] with ostRoot = -256.086474
```

secant blows, but brent and ridder are fine. ost is the -256 as mentioned.

is there a way to fix for this, otherwise the method has failed.

thanks for any info, -- hugh.

Re: question for lyuka and the Ostrowski method

*Message #2 Posted by **Namir** on 16 Aug 2011, 10:12 p.m.,*
in response to message #1 by hugh steers

Hugh,

Thanks for the nice link. Interestingly the author uses my favorite test function f(x) = e^x - 3*x^2. Small world! :-)

I am going to look into the code and write a version for Excel VBA.

Namir

Re: question for lyuka and the Ostrowski method

*Message #3 Posted by **Lyuka** on 16 Aug 2011, 11:44 p.m.,*
in response to message #2 by Namir

Hi, Namir

It's not a small world, I've chosen the function because you often use the function as an example :-)

Best regards,
Lyuka

Re: question for lyuka and the Ostrowski method

*Message #4 Posted by **Namir** on 17 Aug 2011, 1:11 a.m.,*
in response to message #3 by Lyuka

Hi Lyuka,

Thank you for a wonderful web page and links. The C and 42S source codes (plus the .raw file for the 42s) are very very nice.

Namir

Edited: 17 Aug 2011, 1:11 a.m.

Re: question for lyuka and the Ostrowski method

*Message #5 Posted by **Namir** on 17 Aug 2011, 7:58 a.m.,*
in response to message #2 by Namir

Lyuka's article about the Ostrowski algorithm comes in an interesting time. For the last week, I have been playing with basic root-seeking algorithms trying to use random numbers as a tool to tweak and improve these algorithms. Here is the pseudo-code for a method that is interesting. It is based on Bisection and uses random numbers:

```
Given:

1. Function Fx(x)=0
```

```
2. Function Rand() that generates uniform random numbers in interval (0,1).
3. Interval {A,B] containing the root of function Fx(x)=0, such that A < B.
4. The Factor value used to tweak root guesses. Optimum value is around 0.75.
5. Toler is smallest size of interval [A.B] used to obtain the root.


FA = Fx(A)
FB = Fx(B)
bFlag = False ' compensation mode flag
Do
  H = Abs(B - A) / 2
  ' do we need to compensate for the last iteration's failure
  ' to shrink the size of interval [A,B] by more than half?
  If bFlag Then
    ' compare the absolute function values at A and B to determine
    ' which end of the interval we will shift the new guess
    ' towards, in hope of getting closer to the root
    If Abs(FA) < Abs(FB) Then
      ' closer to A
      X = A + H * Rand() * Factor
    Else
      ' closer to B
      X = B - H * Rand() * Factor
    End If
  Else
    ' get a random value inside interval {A, B] replacing the
    ' typical Bisection step of calculating X as (A+B)/2
    '
    ' The new value of X reflects success using random numbers
    ' if it shrinks the size of the interval [A,B] by more than
    ' half.
    X = A + (B - A) * Rand()
  End If
  FX = Fx(X)
  If FA * FX > 0 Then
    A = X
    FA = FX
  Else
    B = X
    FB = FX
  End If
  ' did the last iteration fail to shrink the size of
  ' the interval [A,B] by more than half?
  ' If yes, then random selection has failed and we need to
  ' compensate in the next iteration
  bFlag = Abs(B - A) > H
Loop Until Abs(A - B) <= Toler
Refined guess for root = X
```

I have been running solutions in batches of 10000 iterations. The above algorithm does better than the Bisection method between 20% to 50% of the time and saving between 1 to 8 iterations (in significant frequencies). The results depend on the interval [A,B] and where the root is located within the interval. If the root is near the initial boundaries of interval [A,B] then the above algorithm shows more success. Using the "Factor" is the latest aspect of tweaking the algorithm. I am still studying the effect of using Factor and its optimum values.

The above algorithm is not the greatest improvement on Bisection. Like I said before I am looking at using random numbers in tweaking basic algorithms I have used the approach with Newton and Halley's method. So far no success.

Namir

Edited: 17 Aug 2011, 8:15 a.m.

Re: question for lyuka and the Ostrowski method

*Message #6 Posted by **Lyuka** on 16 Aug 2011, 11:40 p.m.,*
in response to message #1 by hugh steers

Hi hugh,

Thank you for your interest on the page " Ostrowski's method " and "SOLVE alternative for the HP 42S " (necessary not to be OT ;-)

Take a look at the return code, it would be '3' for your initial guesses of {-271.15, 100.0}, which means

> Quote:
>
> 3 : The search concentrated in a local flat region of the function. f(x_{n+2}) == f(x_{n+1})

It would occur mainly because of too wide set of initial guesses.
If you try that of {-271.15, 0} or {-100, 100},
the solve will converge to the correct answer of -106.310044029008282.

> Quote:

```
main: -271.15, 100, f(-256.651643757074339) = -1e-05, 3
main: -271.15, 0, f(-106.310044029008282) = 1.52466e-20, 1
main: -100, 100, f(-106.310044029008282) = 1.52466e-20, 1
```

Best regards,
Lyuka

Edited: 17 Aug 2011, 1:38 a.m.

Re: question for lyuka and the Ostrowski method

*Message #7 Posted by **Namir** on 17 Aug 2011, 1:48 a.m.,*
in response to message #6 by Lyuka

I like your C code because it examines the function values for the initial guesses and is able to exit if any of these guesses are at or close to the root. This is what I call the "deluxe version" of an implementation where all scenarios are handled.

Namir

Re: question for lyuka and the Ostrowski method

*Message #8 Posted by **Lyuka** on 17 Aug 2011, 2:05 a.m.,*
in response to message #7 by Namir

It's my pleasure, thank you for saying that :-)

Lyuka

Re: question for lyuka and the Ostrowski method

*Message #9 Posted by **Namir** on 17 Aug 2011, 8:56 a.m.,*
in response to message #8 by Lyuka

Hi,

I was looking at the following part of your C code:

```
   if (0.0 == (f - e) * (f - d)) {
        c = (a + 3 * b) * 0.25;
        if (0.0 == (f = (*func)(c))) { *x = c; return 0; }
```

```
        if (0.0 == (f - e) * (f - d)) { *x = c; return 7; }
    }
```

How about something like:

```
   while (0.0 == (f - e) * (f - d)) {
        c = a + (b-a)*rand()/RAND_MAX;
        if (0.0 == (f = (*func)(c))) { *x = c; return 0; }
    }
```

The suggested code calculates c as a random value in the interval [a,b].

Namir

Re: question for lyuka and the Ostrowski method

*Message #10 Posted by **Lyuka** on 17 Aug 2011, 9:39 a.m.,*
in response to message #9 by Namir

Hi,

It seems good an idea, however the iteration limit must be used.
If the condition kept false several times, it must be concerned that it would be occurring because of too narrow initial guesses, or not.
In such case, the third guess 'c' would better be put outside of the 'a' to 'b' region.
This kind of 'pivot' strategy is difficult to decide.

Best regards,
Lyuka

Re: question for lyuka and the Ostrowski method

*Message #11 Posted by **Namir** on 17 Aug 2011, 10:37 a.m.,*
in response to message #10 by Lyuka

You are right. After I posted the message I thought teh while loop perhaps needed a counter? Also the range for calculating c may need to be wider. You are not obligated to have a < c < b.

Re: question for lyuka and the Ostrowski method

*Message #12 Posted by **Lyuka** on 18 Aug 2011, 4:53 p.m.,*
in response to message #11 by Namir

Hi Namir,

Inspired by your hints of using random() function,
I modified the _ost() function to deal with the case f(x_n+2) == f(x_n+1)
by pivoting the value to the random position between two previous values.

Quote:

```
if (0 == (f - e)) {
    if (p++ > MAXPVT) { *x = c; return 3; }
    c = a + (b - a) * (1.0 + (double)random()) / M2E31;
    f = (*func)(c);
    continue;
}
```

It seems to work well, also for the case of hugh steer's temperature related function.

Best regards,
Lyuka

Edited: 18 Aug 2011, 5:10 p.m.

Re: question for lyuka and the Ostrowski method

*Message #13 Posted by **Namir** on 16 Aug 2011, 11:43 p.m.,*
in response to message #1 by hugh steers

Hugh,

I got to play with Ostrowski's method using f(x)=e^x-3*x^2 and comparing it with Newton's method and the faster Halley's method. Since Ostrowski's method uses two initial guesses (and calculates a third guess as the average of the first two), I used the average of these guesses for the Newton and Halley methods, to even up the score a bit. In this case, Ostrowski's method did better than Newton but not better than Halley.

If I use the first guess for Newton and Halley methods, then depending on that guess and the second guess (used only by Ostrowski's method) I get a few cases where Ostrowski's method outperforms the other two!

Thanks for the fantastic article (and thanks for Luyka for writing that web page). It is a true gem in numerical analysis and for a root-seeking junkie like me!!

Namir

Edited: 17 Aug 2011, 1:23 a.m.

Re: question for lyuka and the Ostrowski method

*Message #14 Posted by **hugh steers** on 17 Aug 2011, 7:12 a.m.,*
in response to message #13 by Namir

all credit goes to lyuka for the article. i followed his post earlier (seems to have disappeared) to investigate this method. yes, i am interested in root methods too. mostly i use ridders method and find it very stable. the code is also small. i wanted to try this method out and compare it.

to lyuka, thanks. it looks like the method finds my function flat. it is true that the curve has a flattened end. this has fooled other methods too. the annoying thing is that this particular example comes from a real world case.

now im thinking if there's a hybrid method involving ostrowski and other ideas.

-- hugh.

Re: question for lyuka and the Ostrowski method

*Message #15 Posted by **Lyuka** on 22 Aug 2011, 4:40 p.m.,*
in response to message #1 by hugh steers

Hi hugh steers,

I've been tried to make my implementation of Ostrowski's method to be able to solve the water saturation pressure related equations, as you shown above, for various initial guesses.

Now, the latest version of the program (Rev.2.8) seems to work well for such kind of equations with almost any initial guesses within the range of [-273.15 : 100], except when the two guesses are at flat region near -273.15.

I've tested the program using the water saturation pressures equations by Sonntag and Wexler as well, to solve it for the pressure to be 1e-5.

Quote:

```
double
s(x)
    double          x;
{
    double          t;
    double          p = 1e-5;


    t = x + 273.15;
    if (t < 0) return 0;
    return exp(((16.635794 + 2.433502 * log(t) + 1.673952e-5 * t * t) -
2.711193e-2 * t)
               - 6096.9385 / t) * 100.0 - p;
}


double
w(x)
    double          x;
{
    double          t;
    double          p = 1e-5;


    t = x + 273.15;
    if (t < 0) return 0;
    return exp(((18.87643845 + 2.858487 * log(t))
        + t * (-2.8354721e-2 + t * (1.7838301e-5 + t * (-8.4150417e-10 + t *
4.4412543e-13))))
        + (-6017.0128 -2991.2729 / t) / t) - p;
}
```

Here is the results of test run of the program.

Quote:

```
main: s(t) is 'P_water_sat_Sonntag'
main:   273.15,       100, s(-125.417920181) = 2.37609682364e-17, r=1
main: -125.986,    40.366, s(-125.417920181) = -4.23516473627e-20, r=1
main:  24.7879,   19.0635, s(-125.417920181) = 2.87991202066e-20, r=1
main: -199.434,   67.0312, s(-125.417920181) = -1.22277676266e-17, r=1
main: -169.498,   13.5149, s(-125.417920181) = 2.87991202066e-20, r=1
main: -38.4868,  -95.0093, s(-125.417920181) = 2.87991202066e-20, r=1
main: -81.5745,  -137.031, s(-125.417920181) = -8.49743452686e-18, r=1
main:  68.7282,   82.1745, s(-125.417920181) = 5.92584249899e-18, r=1
main: -5.49065,  -35.9342, s(-125.417920181) = 2.87991202066e-20, r=1
main: -46.6596,  -220.311, s(-125.417920181) = -1.64154985178e-18, r=1
main: -221.942,  -182.517, s(-125.417920181) = -1.13502414932e-19, r=1
main: -214.685,   26.9286, s(-125.417920181) = -1.13502414932e-19, r=1
main:  99.5987,  -232.548, s(-125.417920181) = 2.87991202066e-20, r=1
main: -162.686,  -44.5434, s(-125.417920181) = -1.13502414932e-19, r=1
main: -88.9695,  -77.5122, s(-125.417920181) = 1.30781887056e-18, r=1
main: -163.997,    89.841, s(-125.417920181) = -6.43745039913e-18, r=1
main:  14.1433,  -76.5951, s(-125.417920181) = 2.87991202066e-20, r=1
main:  59.5242,  -123.805, s(-125.417920181) = -4.23516473627e-20, r=1
main:  -141.63,  -167.431, s(-125.417920181) = -4.23516473627e-20, r=1
main:  69.7847,   28.2524, s(-125.417920181) = -4.23516473627e-20, r=1
main:  81.0914,  -247.121, s(-125.417920181) = -2.31578807779e-18, r=1


main: w(t) is 'P_water_sat_Wexler'
main:  -273.15,       100, w(-125.418952599) = -2.69247289386e-19, r=1
main: -142.961,   59.0403, w(-125.418952599) = -4.11348646816e-19, r=1
```

```
main: -102.359, -265.678, w(-125.418952599) = -7.61196812136e-17, r=1
main:  89.0421, -184.236, w(-125.418952599) = -2.05504751383e-20, r=1
main: -71.7384, -173.644, w(-125.418952599) = -1.37059029852e-18, r=1
main:  10.5368, -133.142, w(-125.418952599) = -1.62664240278e-19, r=1
main: -23.9889, -81.8974, w(-125.418952599) = 5.0500203577e-20, r=1
main: -258.493, -74.7811, w(-125.418952599) = -2.05504751383e-20, r=1
main:  74.1817,  74.5643, w(-125.418952599) = 2.07554174068e-18, r=1
main: -167.066, -4.12663, w(-125.418952599) = -1.62664240278e-19, r=1
main: -141.037, -34.3419, w(-125.418952599) = -7.31096139779e-19, r=1
main: -108.925, -211.217, w(-125.418952599) = 5.0500203577e-20, r=1
main: -149.885,  36.2664, w(-125.418952599) = 5.0500203577e-20, r=1
main: -142.413,  60.2119, w(-125.418952599) = -1.62664240278e-19, r=1
main: -53.4989,  83.7561, w(-125.418952599) = 2.09049253395e-17, r=1
main:  47.2651,  -27.877, w(-125.418952599) = -2.05504751383e-20, r=1
main:  71.6293, -109.128, w(-125.418952599) = -1.62664240278e-19, r=1
main:  30.8803, -124.473, w(-125.418952599) = 9.97751739957e-17, r=1
main:  66.7792, -17.8339, w(-125.418952599) = -1.62664240278e-19, r=1
main: -192.615, -93.1086, w(-125.418952599) = -1.9819578349e-19, r=1
main:  55.6183, -218.051, w(-125.418952599) = -4.60355789388e-18, r=1
```

Best regards,
Lyuka

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A Math Challenge (kind of)

*Message #1 Posted by **Namir** on 16 Aug 2011, 3:20 p.m.*

Hi All,

I am interested in the algorithm that allows me to determine the coefficients (A) and order of a polynomial (N) that:

1. Passes through a specified set of roots (n1 roots).

2. Passes through a specified set of minima (n2 minima).

3. Passes through a specified set of maxima (n3 maximum).

Doing just #1 is easy as pie!! Doing 1 and 2, 1 and 3, or 1, 2, and 3 is hard. Any ideas?

Namir

Edited: 16 Aug 2011, 3:22 p.m.

Re: A Math Challenge (kind of)

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 4:20 p.m.,*
in response to message #1 by Namir

Namir,

is n1 the exact number of roots or the minimum number of roots?

for #1 alone, this is simple, it's just the product (x-xi) where xi are the roots. To put #2 or #3 into the equation, you may or may not need to multiply in more factors so that f'(x) has roots at the specified minima or maxima and f''(x) is positive for #2 and negative for #3.

Can you give a concrete example of values so that we can experiment with the problem?

Re: A Math Challenge (kind of)

*Message #3 Posted by **Namir** on 16 Aug 2011, 4:40 p.m.,*
in response to message #2 by Marcus von Cube, Germany

n1 is the number of roots that you choose (and specify the values of the roots).

Namir

Re: A Math Challenge (kind of)

*Message #4 Posted by **Namir** on 16 Aug 2011, 5:33 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Here is an example:

1. Roots at -1, 0.125, and 1.

2. Maximum at 0.

3. Minimum at 0.5.

Edited: 16 Aug 2011, 5:33 p.m.

Re: A Math Challenge (kind of)

*Message #5 Posted by **C.Ret** on 16 Aug 2011, 7:39 p.m.,*
in response to message #4 by Namir

Namir,

I have to repeat the question of [u][b]Marcus[/u][/b] which is of primary importance. If the three roots you give are the only one of the polymer, there is no solution to your problem.

If -1, 1/8 and 1 are the only and simple roots of the polymer P(x), then P(x) is exactly of degree 3. We have to found the four coefficients a, b, c, and d of P(x):

$$P(x) = a.x^3 + b.x^2 + c.x + d.$$
$$P'(x) = 3a.x^2 + 2b.x + c$$
$$P''(x) = 6a.x + 2b$$

For the three roots $x_1 = -1$, $x_2 = 1/8$ and $x_3 = 1$;

$$P(-1) = 0 \quad -a + b - c + d == 0 \quad \text{(eq.1)}$$
$$P(1/8) = 0 \quad a/512 + b/64 + c/8 + d == 0 \quad \text{(eq.2)}$$
$$P(+1) = 0 \quad a + b + c + d == 0 \quad \text{(eq.3)}$$

From (eq.1) and (eq.3) we have $2b + 2d == 0$, thus $d = b$.

As explain by [u][b]Marcus[/u][/b] at the extremum (minimum and maximum), the first derivate P'(x) is zero, thus :

$$P'(0) = 0 \quad c == 0 \quad \text{(eq.4)}$$
$$P'(1/2) = 0 \quad 3a/4 + b + c == 0 \quad \text{(eq.5)}$$

From (eq.4) and (eq.5) b = -3a/4

The point 0 is a maximum if P"(0) negative.

$$P''(0) < 0 \quad b < 0 \quad \text{(eq.6)}$$

The point ½ is a minimum if P"(1/2) is positive.

$$P''(1/2) > 0 \quad 3a + 2b > 0 \quad \text{(eq.6)}$$
$$3a - 3a/2 > 0$$
$$3a/2 > 0$$

At this point , we have to found a set of coefficients : a > 0, b= -3a/4, c=0 and d=b=-3a/4.

From (eq.2) :

$$a/512 - 3a/128 - 3a/4 == 0$$
$$a == 0$$

Thus, no such a polymer exist ! It may only be a solution if the polymer is of a greater degree.

OK, I found no evident solution, but my approch clearly show that an appropriate algorithm may be lead by linear algebra, system of equations and inequations.

Edited: 16 Aug 2011, 7:59 p.m.

Re: A Math Challenge (kind of)

*Message #6 Posted by **Namir** on 16 Aug 2011, 10:06 p.m.,*
in response to message #5 by C.Ret

A polynomial with a higher degree is fine. This means it will have additional roots (real or complex) and that's fine. As long as the resulting example polynomial has the properties I gave.

Thanks for your efforts!!

Namir

Re: A Math Challenge (kind of)

*Message #7 Posted by **fhub** on 17 Aug 2011, 6:08 a.m.,*
in response to message #4 by Namir

> Quote:
>
> Here is an example:
>
> 1. Roots at -1, 0.125, and 1.
>
> 2. Maximum at 0.
>
> 3. Minimum at 0.5.

The solution (i.e. the lowest degree polynomial) to this problem is:

f(x) = k*(-88*x^5 + 75*x^4 + 88*x^3 - 76*x^2 + 1)

where k can be any positive number.

Franz

Re: A Math Challenge (kind of)

*Message #8 Posted by **Namir** on 17 Aug 2011, 8:32 a.m.,*
in response to message #7 by fhub

Thank you!!

The whole idea about getting a "custom" polynomial arose when I was trying to select simple polynomials to study the calculations of their roots. Using the form of p(x)=product(x - root(i)) was intuitive but yielded a few polynomials that did not have much rise in values between two roots that I was interested in. So I began to ask about getting custom polynomials where I cans specify not only the roots but also certain maxima and minima between these roots.

Namir

Re: A Math Challenge (kind of)

*Message #9 Posted by **fhub** on 17 Aug 2011, 9:19 a.m.,*
in response to message #8 by Namir

Well, if your requirements (given in your first post)

```
1. Passes through a specified set of roots (n1 roots).
2. Passes through a specified set of minima (n2 minima).
3. Passes through a specified set of maxima (n3 maximum).
```

fulfill the condition that all your given extrema are **between** 2 roots **and** maxima and minima are **alternating** (i.e. root,min,root,max,root,min,root, etc), then the algorithm is quite simple (and has been mentioned already in parts):

1) Choose a polynomial of degree n=n1+n2+n3: (highest coeff can be 1)
f(x) = x^n + c[n-1]*x^(n-1) + c[n-2]*x^(n-2) + ... + c[1]*x + c[0]
2) build its derivative f'(x)
3) substituting the zeros in f(x)=0 and the extrema in f'(x)=0 gives you a linear equation system of n equations and variables with a unique solution for all n coeffs c[0]...c[n-1]
4) finally substitute any of your extrema in f''(x) to check the sign, and if this sign is wrong then multiply the function with -1.

I did even use a bit shorter way:
one part of the polynomial you can build directly from the zeros (as you already mentioned), so you just need another part for the extrema, and that's now a polynomial withe the degree n=n2+n3 only!
Looks like this: (for your given example)
f(x)=(x+1)(x-1/8)(x-1)*(x^2+a*x+b)
Now do the same as above, but you only need to substitute the extrema, and you have only a 2x2 system for a and b.

One problem still remains:
If your extrema don't fulfill the conditions I wrote above (e.g. if you want both 0 and 1/2 to be maxima (or minima)), then such a n=n1+n2+n3 polynomial doesn't work - you always get one as maxima and the other as minima (or vice versa, depending on multiplying it with -1 or not). So far I don't know how this problem could be solved too - I've tried an even higher polynomial, but this also didn't work.

BTW: if you don't only give the arguments (x-value) for the extrema but also the function value (y), then of course you'll have to increase the polynomial-degree by 1 for each additional condition.

Franz

Edited: 17 Aug 2011, 9:22 a.m.

Re: A Math Challenge (kind of)

*Message #10 Posted by **bunuel66** on 17 Aug 2011, 3:48 p.m.,*
in response to message #9 by fhub

It seems that the roots for minima and maxima should be alternated. If there is a minimum at x1 then the derivative will have its sign being negative on the left of x1 and positive on the right (- +), conversely for a maximum (+ -). Then lets assume that two minima are consecutive we shall have a sequence of (-+)(-+) for the sign of the derivative, but then we

also have a sequence -(+-)- which shows that there is local maximum between the two minima, which is contradictory with the initial hypothesis. Then if the derivative is continuous (should be for a polynomial) minima and maxima are interleaved. In other words there is no polynomial solution if this condition is not satisfied.

Regards

Re: A Math Challenge (kind of)

*Message #11 Posted by **Kiyoshi Akima** on 17 Aug 2011, 6:07 p.m.,*
in response to message #10 by bunuel66

I don't believe the original requirements stated that all of the maxima (or minima) are given. It's possible for a polynomial to have more than one minima and maxima between two roots.

Re: A Math Challenge (kind of)

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 9:14 a.m.,*
in response to message #7 by fhub

Franz, you caught me on the finish line, I was just verifying my results with Derive. :-)

My normalized result (pasted from Derive):

$$- 88 \cdot x^5 + 75 \cdot x^4 + 88 \cdot x^3 - 76 \cdot x^2 + 1$$

The idea:

P(x)=A(x)*B(x) where B(x) is the product of $(x-x0_i)$ and A(x) is a yet to determine polynomial. I tried with:

$B(x)=u*x^2+v*x+w$.

After some pencil and paper computations I arrived at:

v=8, u=-11/8*v=-11 and w=v/8=1

It has all the requested properties, especially the derivative is 0 at 0 and 1/2 and the second derivative is negative for 0 and positive for 1/2. I let Derive do the dirty work of computing the coefficients of A(x)B(x) and did the normalization by hand.

Re: A Math Challenge (kind of)

*Message #13 Posted by **fhub** on 17 Aug 2011, 9:27 a.m.,*
in response to message #12 by Marcus von Cube, Germany

> Quote:
>
> Franz, you caught me on the finish line, I was just verifying my results with Derive. :-)

Well Marcus, we both seem to be quite similar and come from the same 'good old school'! ;-)

I also did it almost exactly the same way as you, and I also did use Derive (for such simple tasks I even use the old DOS Derive 3!) - really funny! :-)

Re: A Math Challenge (kind of)

*Message #14 Posted by **Patrice** on 17 Aug 2011, 1:31 p.m.,*
in response to message #12 by Marcus von Cube, Germany

hi Marcus,

Are you sure about the polynomial of degree 5 ?

I agree that I did not play with polynomials since a very long time. But as far as I remember, a polynomial of degree 3 can have 3 roots and 1 minima and 1 maxima.

Patrice

Re: A Math Challenge (kind of)

*Message #15 Posted by **fhub** on 17 Aug 2011, 1:42 p.m.,*
in response to message #14 by Patrice

> Quote:
>
> Are you sure about the polynomial of degree 5 ?
>
> I agree that I did not play with polynomials since a very long time. But as far as I remember, a polynomial of degree 3 can have 3 roots and 1 minima and 1 maxima.

I'm not Marcus, but nevertheless ... ;-)

If you construct a 3-degree polynomial with the 3 given roots, then its maximum and minimum are NOT at the given x-values (unless it's by chance). So you have to choose a higher degree to fulfill also these extrema conditions.

Franz

Re: A Math Challenge (kind of)

*Message #16 Posted by **Patrice** on 17 Aug 2011, 1:16 p.m.,*
in response to message #4 by Namir

Hi Namir,

Just to be precise, how should I understand the values ?

```
1)
1. Roots at (-1,0), (0.125,0), and (1,0).
2. Maximum at (0,Mx1).
3. Minimum at (0.5,Mn1).

or

2)
1. Roots at (-1,0), (0.125,0), and (1,0).
2. Maximum at (Mx1, 0).
```

```
3. Minimum at (Mn1, 0.5).
```

Patrice

Re: A Math Challenge (kind of)

*Message #17 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 3:48 p.m.,*
in response to message #16 by Patrice

The solutions presented so far deal with you option (1).

Re: A Math Challenge (kind of)

*Message #18 Posted by **Gilles Carpentier** on 17 Aug 2011, 8:58 p.m.,*
in response to message #4 by Namir

Hi,

here is an HP50G program based on the analyses of Marcus and Franz. It would be easy to generalise it and input the roots, minima and maxima as parameters. I don't verify here the sign of extremums (mini maxi)but it's easy to change (by example in exploring the TABVAR result, and the Up / Down variation around the extremum (Down Up) give a minimum and (Up Down) a maximum).

I got :

```
Eq       : '(144*X^5-116*X^4-144*X^3+121*X^2-5)/144'
Roots    : { -1 '1/4' 1 '-((-5+sqrt70)/18)' '(5+sqrt70)/18' }
Extremum : { '1/2' '-((-13+Sqrt(21949))/180)' '(13+Sqrt(21949))/180' 0 }
TABVAR   : {'-inf' + '-((-13+sqrt(21949))/180)' - 0 + '1/2' - '(13+sqrt21949)/180' +
'+inf' } @ Extract of TABVAR


The prog (must be in 'exact mode', and no numeric of course):


 [ -1 1 '1/4' 1 1 1 ] FCOEF @ Generate the first part of f(x). The even parameters
are for single or multiple roots. Here we suppose single roots so 1
 'X^2+a*X+b' *               @ here we have got f(x) with 2 unknows a and b
 DUP                         @ Garde le résultat au chaud (in french in the text)
 DERVX 0 =                   @ f'(x)=0
 {'X=0' 'X=1/2' } SUBST      @ { f'(0)=0 f'(1/2)=0 }
 AXL ['a' 'b'] SOLVE         @ To solve the system of 2 equations
 EVAL AXL
 1 « SUBST » DOSUBS          @ replace a and b by their values in f(x)
 EXPAND                      @ simplify the equation
 @.............................
 @ And now verify if all is OK
 @.............................
 DUP        'X' ZEROS
 OVER DERVX 'X' ZEROS
```

For generalisation, could be something like :

{ Root1 Multiplicity Root2 Multiplicity etc. }
{ Extremum1 '!' Extremum2 '!' etc....} @ ! is Up or Down arrow char like do the TABVAR command POLY

and change dynamically the number of a b c d... parameters depending of the number of extrema ... and manage the errors and "no solution" issue (mini / maxi inconsistency like 2 max that follow without min ?)

Gilles

PS : generic version :

```
@ INPUT
@   Level 2 : Array of roots ex : [ -1 '1/4' 1]
@   Level 1 : Array of extrema ex :  [0 '1/2' ]
@ OUTPUT
@   Level 1: a polynomial solution ex : '(144*X^5-116*X^4-144*X^3+121*X^2-5)/144'


«
 DUP AXL
 1 « DROP NSUB 96 + CHR STR-> » DOSUBS      @ { 'a' 'b' 'c' ...}
  -> abc
  «
   « 'X' SWAP = » MAP                       @ [ X=Extr1 X=Extr2 ... ]
   SWAP
   AXL 1 « 1 » DOSUBS AXL FCOEF             @ Gener fisrt part of f(x)


   OVER AXL 1 « DROP 'X' NSUB ^ » DOSUBS    @ Gener second part
   1 SWAP +                                 @ 'a+bX+cX^2+...+X^n'
   abc 1 + * SigmaLIST                      @


   *                                        @ Gener f(x) is Part1 * Part2


   DUP
   DERVX 0 =                                @ f'(X)=0
   ROT SUBST AXL
   abc DUP SIZE 1 >
     { AXL SOLVE EVAL AXL }                 @ Find a,b,c etc.
     { EVAL ISOL 1 ->LIST }
   IFTE                                     @ because SOLVE don't work with a single
equation/single unknow


   1 « SUBST » DOSUBS                       @ Replace value of a,b,c ... in f(X)
   EXPAND
»
```

Edited: 18 Aug 2011, 1:51 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Should 34S go off-list?

*Message #1 Posted by **Bill (Smithville, NJ)** on 16 Aug 2011, 7:19 a.m.*

First, let me say I am amazed at the work that has gone into creating the 34S. It really looks like a great product. But I am concerned that the forum is becoming overly dominated by the development details. When I scroll down the forum, it's hard to pick out the non-34S discussions.

I do NOT wish to create a long discussion of why or why not it should go off-list. But I know in just raising the topic, I'm afraid that is what will occur - and that is not what I wish to happen.

On the one hand, by having it on the forum, it may have have encouaged some to participate that might not have if it was at a different location.

On the other hand, a new HP user might get discouraged from seeing such long single topic threads and not participate in the non-34S threads.

I can see it both ways.

Just a thought.

Bill

Re: Should 34S go off-list?

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 8:20 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

We have had this discussion already and the consensus was that we simply do not have an equivalent platform easily available to our primary audience: the regulars of this forum.

BTW, most of the discussion is off-list. My email folder contains about 3600 messages about the subject.

Re: Should 34S go off-list?

*Message #3 Posted by **Don Shepherd** on 16 Aug 2011, 8:44 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Well, Source forge reports 13,261 forum posts. Obviously, someone is using that forum. Since that is where you are developing, doesn't it make sense that that is where the these discussions should occur? Why can't the 34s users (you know who you are) go there? I would think that issue tracking would be much easier in a dedicated environment.

You guys have obviously done good work, but maybe it's time to take these discussions somewhere else. Like Bill, I find this forum much less interesting these days.

Re: Should 34S go off-list?

*Message #4 Posted by **Alexander Oestert** on 16 Aug 2011, 9:36 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Please, please, don't go! Why shouldn't many different interests live under one museum's roof?

Re: Should 34S go off-list?

*Message #5 Posted by **Katie Wasserman** on 16 Aug 2011, 10:06 a.m.,*
in response to message #4 by Alexander Oestert

We were asking if Dave could partition this forum somehow for the 34s and other long topics, but never heard from him, IIRC. It would be a very useful enhancement I think.

Re: Should 34S go off-list?

*Message #6 Posted by **Bill (Smithville, NJ)** on 16 Aug 2011, 11:06 a.m.,*
in response to message #5 by Katie Wasserman

Katie,

Partitioning the forum would be nice. Not sure what the forum software Dave is using and whether it can even be partitioned. Most of the other forums I participate in have subjects or categories. Of course, by having it all in one forum does expose me to items I might not read if they were separated by subjects or category.

I don't mind reading about the general current status of the 34S project. It's the mind numbing (to me) nitty gritty details that bogs me down. Of course I don't have to read them, if I don't wish to.

Bill

Re: Should 34S go off-list?

*Message #7 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 12:03 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

I agree that sometimes the discussions go astray, especially if humans are involved. ;-)

Normally I try to move detail discussions to our internal E-Mail especially if they concern implementation details which are not visible to the user. But sometimes I want to discuss details with the forum members ("Shall we have shortcuts?", "What functions to include?"). Where can I do that if not here?

Re: Should 34S go off-list?

*Message #8 Posted by **Didier Lachieze** on 16 Aug 2011, 12:09 p.m.,*
in response to message #7 by Marcus von Cube, Germany

I have a question about the implementation of the PSE function on the 34s vs. 41C or 42s. What would be the best place for it? This forum, the SourceForge forums or email?

Edited: 16 Aug 2011, 12:10 p.m.

Re: Should 34S go off-list?

*Message #9 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 12:24 p.m.,*
in response to message #8 by Didier Lachieze

If it's a question about something that might be of general interest, just ask in the forum. If in doubt or if it's just a question which might be answered by a short look into the manual(s), email is the best way to ask.

I'm the one who implemented the PSE command in WP 34S so I'm the one to ask in this special case. Use E-Mail please.

Re: Should 34S go off-list?

*Message #10 Posted by **Cristian Arezzini** on 16 Aug 2011, 10:06 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

I for one, wouldn't even have been curious about the 34s if I hadn't seen all the many posts here. And I think that many other HP users might have felt the same curiosity as I did. And I fear that if discussion is moved away, many people who would be curious, won't know enough about this project if it isn't discussed here... I myself have tried in the past to open discussions about the 34s here only if I thought the topic could be interesting for others too; for other things I emailed the developers directly. I for one think this is a good compromise... And after all, the 34s is a project that is very active in the present (and future) as opposed to the past, hence the many posts; and if there seem to be too many posts about it, it could be because at this moment there aren't many active discussions about older models...

All this IMO of course! :)

Cristian

Re: Should 34S go off-list?

*Message #11 Posted by **Thomas Radtke** on 16 Aug 2011, 11:37 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

I was the the evil one raising that topic before :^).

I think development discussions should go to somewhere else, while application cases *should* stay. But likely the development will lead the project to some stable state in the near future, so traffic will eventually go down on the internal issues. That's my hope, and apparently most users either don't mind or even support this branch. So, I'll shut up about it now ;-).

Re: Should 34S go off-list?

*Message #12 Posted by **Lode** on 16 Aug 2011, 11:58 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Most forums support subforums. Unfortunately this one doesn't. It would have been perfect to be in a subforum.

Re: Should 34S go off-list?

*Message #13 Posted by **Tim Wessman** on 16 Aug 2011, 12:46 p.m.,*
in response to message #12 by Lode

And signatures. . . :-(

TW

Re: Should 34S go off-list?

*Message #14 Posted by **Walter B** on 16 Aug 2011, 1:12 p.m.,*
in response to message #13 by Tim Wessman

Hi Tim,
I don't get it. What do you want to tell us?

Re: Should 34S go off-list?

*Message #15 Posted by **Egan Ford** on 16 Aug 2011, 1:18 p.m.,*
in response to message #14 by Walter B

Many other forum packages and Usenet clients have a stored signature field that gets appended to any message as your "signature". E.g. in your case "Ceterum censeo: HP, launch a 43s."

Re: Should 34S go off-list?

*Message #16 Posted by **Walter B** on 16 Aug 2011, 1:39 p.m.,*
in response to message #15 by Egan Ford

:-) Thanks, Egan, for enlightenment!

Re: Should 34S go off-list?

*Message #17 Posted by **Tim Wessman** on 16 Aug 2011, 3:10 p.m.,*
in response to message #15 by Egan Ford

Or something like "Although I work for the HP calculator group, the views and comments expressed here are my own." Terribly difficuly to remember to paste it after each post. . . :-(

--

TW

Although I work for the HP calculator group, the views and comments expressed here are my own.

Re: Should 34S go off-list?

*Message #18 Posted by **Christoph Giesselink** on 16 Aug 2011, 12:48 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Just had a look at the "Daily view for frequent visitors."

Not counted, but it seem that over 60% of the messages are 34S related. IMHO that's too much for a "The Museum of HP Calculators" forum.

Christoph

Re: Should 34S go off-list?

*Message #19 Posted by **Alexander Oestert** on 16 Aug 2011, 1:19 p.m.,*
in response to message #18 by Christoph Giesselink

By coming here once a day I'm still able to read through *all* 100% of the postings in a couple of minutes. The WP34s topics are easily distinguished from the rest by the [WP34s] tag that is consistently used; it's

easy to ignore them if you want to. BTW 60% means a lot of users being interested in the WP34s.

Although the soft- and hardware of the WP34s are both new and still manufactured, by being RPN the whole package is obviously in the museum's realm: dead technology ;) - and I love that!

Re: Should 34S go off-list?

*Message #20 Posted by **Egan Ford** on 16 Aug 2011, 1:20 p.m.,*
in response to message #19 by Alexander Oestert

> Quote:
>
> BTW 60% means a lot of users being interested in the WP34s.

Or a few have a lot to say. :-)

Re: Should 34S go off-list?

*Message #21 Posted by **Cristian Arezzini** on 16 Aug 2011, 1:21 p.m.,*
in response to message #18 by Christoph Giesselink

Well, I don't really think that a museum should only deal with things of the past... :) And by the way: I understand that it can be a little "distracting", but removing the 34s discussions will not increase other discussions. It will just decrease total activity.

Cristian

Re: Should 34S go off-list?

*Message #22 Posted by **Alexander Oestert** on 16 Aug 2011, 1:23 p.m.,*
in response to message #21 by Cristian Arezzini

> Quote:
>
> Or a few have a lot to say. :-)

True!

> Quote:
>
> removing the 34s discussions will not increase other discussions. It will just decrease total activity.

Also true!

> Quote:
>
> But likely the development will lead the project to some stable state in the near future, so traffic will eventually go down on the internal issues.

Most probably true and the solution to this problem!

Edited: 16 Aug 2011, 1:24 p.m.

Re: Should 34S go off-list?

*Message #23 Posted by **Egan Ford** on 16 Aug 2011, 1:29 p.m.,*
in response to message #22 by Alexander Oestert

> Quote:
>
> > Quote:
> >
> > But likely the development will lead the project to some stable state in the near future, so traffic will eventually go down on the internal issues.
>
> Most probably true and the solution to this problem!

I agree as well, at least until the 34sii project starts up.

I want to read about 15c not 34s bugs or emulators

*Message #24 Posted by **snaggs** on 17 Aug 2011, 5:19 a.m.,*
in response to message #21 by Cristian Arezzini

Threads get flushed out by WP34S questions. Its not even a real calculator.

Why dont we have all the Emulators discussing their products here?

Re: I want to read about 15c not 34s bugs or emulators

*Message #25 Posted by **M. Joury** on 17 Aug 2011, 7:35 a.m.,*
in response to message #24 by snaggs

Not a real calculator? Why? Because the firmware is not HP? An RPN design based on multiple HP models running on HP hardware. Sounds real to me.

Re: I want to read about 15c not 34s bugs or emulators

*Message #26 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 9:21 a.m.,*
in response to message #24 by snaggs

Snaggs, the emulator is not the whole story, the real thing is it.

I understand your point and I'm willing to post here on the subject primarily when there are news to tell which might interest the people here. As I've already pointed out, the majority of posts is via email off-list for a very long time.

Re: I want to read about 15c not 34s bugs or emulators

*Message #27 Posted by **M. Joury** on 17 Aug 2011, 11:01 a.m.,*
in response to message #26 by Marcus von Cube, Germany

I think he was also referring to other emulators such as Emu48 and Free42. Which *DO* get discussed here on occasion--in fact I may be posting a question about one of those emulators soon <g>.

Re: Should 34S go off-list?

*Message #28 Posted by **Walter B** on 16 Aug 2011, 1:32 p.m.,*
in response to message #18 by Christoph Giesselink

We had this discussion once before. The WP 34S is perfectly within the forum rules:

> Quote:
>
> This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc. ... Users of this site ... will discuss topics of interest to our community.

This seems to be the case.

As long as we don't have subfora here, people visit this one big forum and "talk" about what does interest them. So IMHO, anyone thinking there's too less "museum talk" shall feel free to change that by raising more interesting "museum topics" instead of complaining about other topics.

My 20m€ only.
Walter

Edited: 16 Aug 2011, 1:33 p.m.

Re: Should 34S go off-list?

*Message #29 Posted by **htom trites jr** on 16 Aug 2011, 4:28 p.m.,*
in response to message #28 by Walter B

I find it fascinating, at least at this level of detail, and hope it does not go away.

Re: Should 34S go off-list?

*Message #30 Posted by **Mike T.** on 16 Aug 2011, 4:33 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

No - Just my 1/2c worth.

I compleatly understand the reason for asking the question but think that particiants on this forum should be able to continue to discuss any topic related to HP calculators (and RPN). If it wasn't for the interest in the subject shown on this site I'm not sure the 34s would have happened and doubt that I would have heard of it otherwise.

Mike T.

Re: Should 34S go off-list?

*Message #31 Posted by **Howard Owen** on 16 Aug 2011, 11:19 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

The problem with banning the topic (or politely asking for it to go away) is that many members apparently find the WP34S to be intensely interesting. I count myself among that number, so I have to make an effort to see your point of view. But I concede that I might be annoyed if it were some other subject that didn't interest me.

It's ok with me if the developers take their nuts-and-bolts topics off to Sourceforge, but I do take Thomas

Radtke's point about use cases. How a particular function or feature on the 34S should function from the user's point of view is very much on topic IMHO. That's an extension of the huge volume of opinion expressed here over the years on how the ideal RPN programmable should work. Those discussions may annoy some users as well, but there's no question they have been considered on-topic here.

Regards,
Howard

Re: Should 34S go off-list?

*Message #32 Posted by **Egan Ford** on 17 Aug 2011, 1:20 a.m.,*
in response to message #31 by Howard Owen

> Quote:
>
> so I have to make an effort to see your point of view.

It is as if we are all in the same room with only a single speaker at a time and we all have to listen or listen enough to see if it is worth listening too. Like a support group. Wait a minute. This IS a support group! We are all so messed up. Competing in programming contests with '80s tech, writing our own firmware for stock calcs, TVM, spending $100s and $100s on our addiction. When will it end. :-)

Hi, my name is Egan, and I am addicted to RPN. It all started when my Dad gave me an 11C--a device with no equal. I was only 13 and I couldn't stop ...

Re: Should 34S go off-list?

*Message #33 Posted by **Howard Owen** on 17 Aug 2011, 1:53 a.m.,*
in response to message #32 by Egan Ford

> Quote:
>
> Hi, my name is Egan, and I am addicted to RPN. It all started when my Dad gave me an 11C--a device with no equal. I was only 13 and I couldn't stop ...

Like many addictions, ours appears to run in families..

Re: Should 34S go off-list?

*Message #34 Posted by **Cristian Arezzini** on 17 Aug 2011, 2:14 a.m.,*
in response to message #33 by Howard Owen

> Quote:
>
> Like many addictions, ours appears to run in families..

Hmmm... my wife raises an eyebrow in mild, unbelieving disapproval every time I get excited about something concerning old calculators... but OK, she's not actually my family blood...

My father loves gadgets of every kind, but he just doesn't understand RPN. I first discovered RPN at college when I bought a 48G... I saw it every day at the book store, and loved it, but I had never actually used or held one. The day I finally bought it, and took it home, my father was there and said cheek-in-tongue something like, "well, it's really nice, but can it do 2+2?" as a joke because it

looked like such a modern, powerful machine. Back then, neither of us even knew that RPN existed. Imagine my frustration when it turned out I actually couldn't make it calculate 2+2... :) But I like such challenges, and of course then it became my favorite calculator, ever.

Cristian

Re: Should 34S go off-list?

*Message #35 Posted by **Egan Ford** on 17 Aug 2011, 1:30 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

> Quote:
>
> a new HP user

Is there such a thing anymore? The only thing older than the tech we cherish is us. I'd wager more than half here have a slide rule and know how to use it, others probably have books of tables. And I'll swear based on past messages that there are a few here that remember the days before '0' was discovered. :-)

OTOH, I know that a few developers here are breeding new users.

Re: Should 34S go off-list?

*Message #36 Posted by **Ethan Conner** on 17 Aug 2011, 4:29 a.m.,*
in response to message #35 by Egan Ford

I'm new to the forum and have been watching for a couple of weeks. I find alot of the detailed posts gibberish to me as it is often way beyond my limited knowledge. My interest stems from drooling over the 41c and 15c in a local department store in the early 80's. So while the forum is dominated by the wp34 i'll just wait patiently till a topic arises that holds more interest for me.

Yes

*Message #37 Posted by **snaggs** on 17 Aug 2011, 5:16 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

They have their own support forum.

Daniel.

Re: Should 34S go off-list?

*Message #38 Posted by **db (martinez, ca.)** on 17 Aug 2011, 9:02 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

No, because this has been as much an RPN forum as an hp forum for the 11 years i've been reading it. "It's a family tradition".

But that's just my opinion, not a vote. This isn't a democracy. It's Dave's site and i'm a guest. So if he thinks there's too much 34s here i guess i'll have to start looking at that sourceforge place too, instead of getting the Readers Digest version here.

Re: Should 34S go off-list?

*Message #39 Posted by **Andrés C. Rodríguez (Argentina)** on 17 Aug 2011, 9:10 a.m.,*

in response to message #1 by Bill (Smithville, NJ)

I would like to keep it here. Eventually Dave Hicks may open a special category (today there are specific "articles" and "memories" forums, with different behavior with regards to persistence of messages, threads, etc.). 34S belongs here IMHO.

Edited: 17 Aug 2011, 9:11 a.m.

Re: Should 34S go off-list?

*Message #40 Posted by **Michael de Estrada** on 17 Aug 2011, 11:28 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

According to the title line of this forum: "This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc." So, frankly, much of what is posted here could be considered off-topic. However, I think the opened nature and inclusiveness of this forum is a benefit, rather than a hindrance, and I've learned a great deal as a result. Also, the development of alternatives to the mainstream HP products is a healthy process, given the stagnation at HP over tha past 20 years. I can live with the slight inconvenience of scanning past threads that don't interest me in order to find those that do.

Re: Should 34S go off-list?

*Message #41 Posted by **Martin Pinckney** on 17 Aug 2011, 12:00 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

It would certainly be preferable to me if the 34s did not so dominate the forum. This has caused me to lose interest in reading or posting.

But that is my personal opinion because I have little interest in the 34s and do have interest in other HP calculator topics. But unless Dave has an opinion that causes him to change the way the forum is structured, it will be whatever the posters want.

Re: Should 34S go off-list?

*Message #42 Posted by **Katie Wasserman** on 17 Aug 2011, 4:31 p.m.,*
in response to message #41 by Martin Pinckney

Martin,

My sentiments exactly.

Thank you for stating them so clearly, -Katie

Re: Should 34S go off-list?

*Message #43 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 5:27 p.m.,*
in response to message #41 by Martin Pinckney

If it were just the team members, the 34S dominance could be easily dealt with. It's mostly a conversation outside our inner circle that fills the threads here. Some members have started to carry the discussions over to our internal email. I appreciate this because it shows a certain feel for the sentiments these discussions have caused for other forum members.

You are invited to ask any of the team members for assistance if you have problems with 34S, be it getting started or solving a specific programming problem. OTH I invite everybody to post interesting solutions to problems of the type we love to deal with in this forum publicly here.

Re: Should 34S go off-list?

*Message #44 Posted by **Don Shepherd** on 17 Aug 2011, 6:06 p.m.,*
in response to message #43 by Marcus von Cube, Germany

> Quote:
>
> It's mostly a conversation outside our inner circle that fills the threads here.

But the inner circle of three dominates the 34s posts. If you would provide a place for development discussions at source forge and direct the fanboys there, I think everyone would benefit.

Re: Should 34S go off-list?

*Message #45 Posted by **Cristian Arezzini** on 18 Aug 2011, 2:29 a.m.,*
in response to message #44 by Don Shepherd

What I don't get is this: OK, the 34s has a lot of activity now. But it's still a RPN calc based on HP hardware so it probably is interesting to most people. And high activity on one topic happens every time there's a new product out, even if some people aren't interested in that product. There have been lots of topic I'm not interested in - i.e. I'm not interested at all in financial calcs, I'm not interested in desktop calcs, nor in things like the HP67 because it's so expensive I'll never be able to afford one... and so on... but I don't think that posts on these subjects detract from my forum experience. If I want to read those topics just out of curiosity, I do; otherwise it's really easy to skip them. I just don't understand why all these topics can't coexist together. If the 34s is moved to another forum, what will probably happen is that I will either stop following this forum, or the new one... I don't think I have the time and commitment to add another forum to the list of things to check daily! :)

Cristian

Re: Should 34S go off-list?

*Message #46 Posted by **Alexander Oestert** on 18 Aug 2011, 2:42 a.m.,*
in response to message #45 by Cristian Arezzini

> Quote:
>
> What I don't get is this: OK, the 34s has a lot of activity now. But it's still a RPN calc based on HP hardware so it probably is interesting to most people. And high activity on one topic happens every time there's a new product out, even if some people aren't interested in that product. There have been lots of topic I'm not interested in - i.e. I'm not interested at all in financial calcs, I'm not interested in desktop calcs, nor in things like the HP67 because it's so expensive I'll never be able to afford one... and so on... but I don't think that posts on these subjects detract from my forum experience. If I want to read those topics just out of curiosity, I do; otherwise it's really easy to skip them. I just don't understand why all these topics can't coexist together. If the 34s is moved to another forum, what will probably happen is that I will either stop following this forum, or the new one... I don't think I have the time and commitment to add another forum to the list of things to check daily! :)

Alexander (sorry for full quote, but I couldn't have said it better)

Re: Should 34S go off-list?

*Message #47 Posted by **Don Shepherd** on 18 Aug 2011, 3:55 a.m.,*
in response to message #45 by Cristian Arezzini

Cristian, you make some good points.

I would not dispute that the 34s is within the guidelines of what this forum is about, and many people are interested in it. And, like you, there are many topics here that don't interest me, like how to repair calculators or HP-41 things or (and especially) possible HP-15c reissues, and so on. It's easy to ignore the things that don't interest me only because the volume of posts for those things is relatively small. But the volume of 34s things is not small, and it's easy to overlook a topic I might be interested in simply because there are so many 34s posts that take up space on my screen at one time.

I think the developers of the 34s were correct in using this forum to announce this project and get feedback from the folks here. But all of these detailed design discussions that have flooded the forum really take away from the usefulness of the forum, in my opinion. It's impossible to know how many former regular members do not access the forum these days because of the 34s, but I suspect the number is not insignificant. And potential new members who arrive here probably think this forum is just for discussing a homebrew calculator that they are not interested in. So, it's really more than just coexisting together. It does detract from the forum experience when so many posts are just endless discussions of product design issues that really should be tracked at another location.

The moderator has not commented on this topic. I have a feeling that Dave would be very reluctant--and righfully so--to prohibit any type of discussion unless it was personally offensive to the members. The 34s discussions aren't offensive, they are just volumnious!

My hope is that these discussions will decrease after HCC next month.

Re: Should 34S go off-list?

*Message #48 Posted by **Cristian Arezzini** on 18 Aug 2011, 4:56 a.m.,*
in response to message #47 by Don Shepherd

> Quote:
>
> But the volume of 34s things is not small, and it's easy to overlook a topic I might be interested in simply because there are so many 34s posts that take up space on my screen at one time.

I see your point, and I can see what you mean. But I noticed one thing: many improvements or features that we have on the wp34s now, were suggested/asked here by "normal users", even recently. I think these non-34s-fans, regular users, would never follow discussions elsewhere, and so we would loose the precious input and suggestions that they make.

I really don't see a way to make everyone happy... :(

Cristian

Re: Should 34S go off-list?

*Message #49 Posted by **Cristian Arezzini** on 18 Aug 2011, 3:12 a.m.,*

in response to message #1 by Bill (Smithville, NJ)

I just did a check, just for fun... I opened all the 34s-related messages in the forum's main page (before archival). I checked, and made a list... and there have been 24 unique users posting on these threads. This is a small community, so I think 24 users is a fair share. My point is that I believe there is enough interest here, for a significant portion of the forum users... Funny fact: I kept track of how many posts people made, and... the three main developers are *not* at the top three places! :)

EDIT: I didn't count posts in this thread of course, that would have been a bias.

Cristian

Edited: 18 Aug 2011, 3:12 a.m.

Re: Should 34S go off-list?

*Message #50 Posted by **HrastProgrammer** on 18 Aug 2011, 4:11 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Wow, I find it fascinating when people want such a wonderful thing named 34S to "go off-list", so they can "read about 15C" or whatever ... ?!? Does 34S prevent anyone from writing anything about other HP calculators, emulators, other equipment, etc? Certainly not!

In my opinion at least, 34S is such a big achievement that has emerged in recent years, that it fully deserves to be part of this forum. Does it dominate the forum at the moment? Yes - but various themes have dominated it in the past, for a few weeks or even months, this is normal when something like that appears. Would the number of posts increase if 34S goes off-list? No - the forum will just return to as it was before, with a few posts per day, 75% of them being "look-what-I-found-on-ebay".

I slowly started to loose interest in following this forum at around 2007-2008, to the point that I didn't look at it for weeks. But, after I read about 34S, I returned its URL to my bookmarks :-)

So, yes, be my guest - remove 34S, this is what we need now ;-)

Just my 2 cents ...

Re: Should 34S go off-list?

*Message #51 Posted by **Jake Schwartz** on 18 Aug 2011, 10:56 a.m.,*
in response to message #50 by HrastProgrammer

Hi,

I am curious: Let's say that the wp34S had actually been introduced by Hewlett-Packard as the "HP34S" in its current exact form - in a case like the 20b/30b (let's say in 20b color but 30b LCD and physical keys) and the same hardware platform. And let's say HP did the crazy thing of giving the R&D developers (Tim, Cyrille?) the unenviable task of requesting feedback directly from the community on the firmware *before its release* so it could be essentially debugged and improved by the collective veterans of the HP users. I bet that the traffic here would be at least as high and possibly higher. And I wonder if anybody would be complaining that the effort should be taken off list then.... If the answer was "no", then I would assert that it belongs here now.

Thanks, Jake

Re: Should 34S go off-list?

*Message #52 Posted by **Alexander Oestert** on 18 Aug 2011, 12:09 p.m.,*
in response to message #51 by Jake Schwartz

Thank you, Jake, for this mind experiment! :-)

Re: Should 34S go off-list?

*Message #53 Posted by **Davd F** on 18 Aug 2011, 5:37 p.m.,*
in response to message #50 by HrastProgrammer

I agree completely. This is an project using stock HP hardware and development tools, emulating classic calculator behavior. I can't think of something more relevant. It's also a beautiful opportunity to have a real discussion on the development. For me it means perhaps once again there will be the possibility of having a really great HP calc in hand, brand new, without going through Ebay, and being able to use it in the lab like the tool it is, without worrying about scratching a collectible. THAT is what HP calculators are about.

I can say that I had been following the forums less in the past few years, but now I check in frequently (also to pick up the 15c rumors.)

That said, it would probably be worthwhile packaging up the current form as a "classic forum" searchable archive, and moving to a more modern forum software package with a few key subforums.

Dave

Re: Should 34S go off-list?

*Message #54 Posted by **Jeroen Van Nieuwenhove** on 18 Aug 2011, 7:24 p.m.,*
in response to message #50 by HrastProgrammer

I agree with Hrast as well. The volume of 34s postings is not overwhelming and these postings can easily be ignored by those who are not interested in this project. There was a similar discussion some years ago about frequent postings concerning auctions on TAS. The frequency of those postings dropped naturally and I think the same will hold for 34s postings. Once the 34s repurpose project becomes more and more mature, postings will be less frequent. Also, let's recognize the 34s pioneers are very busy polishing the ultimate RPN calculator. They deserve more than some credit on this forum for that.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp 34s Overlay

*Message #1 Posted by **Morten Nygaard Åsnes** on 16 Aug 2011, 2:12 a.m.*

I just flashed my hp 30b with the latest wp 34s firmware, and it works, great. Thanks to Paul and Walter for this awesome project, and thanks to Gene for sending a cable all the way to Norway!

Now, the only thing missing is the keyboard overlay, I find it quite hard to use the calculator without it. Any news on when a new batch of overlays will be available? What can I do in the meantime? Is there a source image available that I can print and cut out to use as a rudimentary overlay?

Re: wp 34s Overlay

*Message #2 Posted by **Walter B** on 16 Aug 2011, 2:43 a.m.,*
in response to message #1 by Morten Nygaard Åsnes

God dag Morten,

> Quote:
>
> What can I do in the meantime? Is there a source image available that I can print and cut out to use as a rudimentary overlay?

You can take this:

Find a good printer, adjust the width of the picture if necessary (to 69 mm IIRC), and use it :-)

Walter

Re: wp 34s Overlay

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 3:19 a.m.,*
in response to message #2 by Walter B

Morten,

in the the distribution there is another bitmap which does not use the key tops but arranges all key legends around the keys. It was my first attempt at an overlay. You just need to cut out the keys and tape the overlay onto your keyboard. I had painted the keys of my 30b black (except those that don't change such as the digits.)

Re: wp 34s Overlay

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 16 Aug 2011, 5:52 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Hi Morten

Here is an example of both the real overlay and the paper one referred to above. I used the paper ones for a good long time before my overlays arrived. They are serviceable but you will certainly appreciate the overlay when you get it -- so much better!

One thing that no one else seem to have had issues with is that you want to make sure you clean your keys pretty well before applying the overlay stickers. A few of mine are lifting ever so slightly and I am reasonably sure it was *my* failure to sufficiently clean any remnant finger oil. Maybe someone can recommend to you a good way to do that (alcohol?) that doesn't damage the keyboard. Other than that one (minor) issue, the overlays are just great.

Re: wp 34s Overlay

*Message #5 Posted by **Morten Nygaard Åsnes** on 16 Aug 2011, 8:58 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Cool, will try this. Couldn't find the file in the distribution, but found it on the SourceForge page.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(wp34S) Am I Using alphaRCL Correctly?

*Message #1 Posted by **Jake Schwartz** on 15 Aug 2011, 4:28 p.m.*

Hi,

In the 34S (version 1444 at present), when I store 1.0 in Register 00, clear the alpha register and do alphaRCL 00, alpha shows the "x-bar" symbol. I was expecting it to show the characters for the numeric value in R00 (such as "1.00"), similar to in the HP41. The manual (version 1457) on page 52 indicates that alphaRCL "Interprets the content of the source s as characters and appends them to alpha". Am I interpreting the meaning of alphaRCL incorrectly?

Thanks, Jake

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #2 Posted by **Paul Dale** on 15 Aug 2011, 5:30 p.m.,*
in response to message #1 by Jake Schwartz

Yes, you're misinterpreting it. Try [alpha]RC# instead.

We've got no way to distinguish between numeric and alpha data in registers so we needed two different commands to recall them. [alpha]RCL treats the register as containing alpha data, [alpha]RC# treats it as numeric.

Something slated to be addressed in the successor.

- Pauli

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #3 Posted by **Jake Schwartz** on 15 Aug 2011, 6:30 p.m.,*
in response to message #2 by Paul Dale

Thanks for that clarification....after reading the description for alphaRCL in the index of operations, I unfortunately stopped reading and missed the alphaRC# immediately after. Shame on me. :-)

Jake

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #4 Posted by **Jake Schwartz** on 15 Aug 2011, 6:33 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Something slated to be addressed in the successor.

Has anything been hinted on the goals for that successor? Still destined for the same hardware platform, for instance?

Thanks, Jake

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #5 Posted by **Paul Dale** on 15 Aug 2011, 6:51 p.m.,*
in response to message #4 by Jake Schwartz

Not really, just a few pie in the sky ideas.

We're pretty much stuck with the 30b hardware. There isn't any better reprogrammable hardware at the moment.

- Pauli

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #6 Posted by **Walter B** on 15 Aug 2011, 7:12 p.m.,*
in response to message #5 by Paul Dale

I think we've packed so much into the WP 34S it will be hard to find an habitat for another scientific based on the same hardware. Things will change with a better display, but hardly earlier IMHO.

Walter

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #7 Posted by **Paul Dale** on 15 Aug 2011, 8:03 p.m.,*
in response to message #6 by Walter B

I know how to pack lots more software into the hardware. It will require a lot of code to be rewriting.

Other things mentioned include using flash for programs not RAM. This will ease pressure on the most precious resource on the device. Which will, in turn, allow us to tag register contents as integer/string/real/complex/whatever.

I also suggested removing the 16C integer mode in favour of a more 50g like integer mode. Maintaining carry and overflow requires quite a bit of code space and execution time. People who want these features will still have the 34S which pushes them pretty much to their limits.

But as Walter wrote, the display is the big impediment to doing lots more.

- Pauli

Re: (wp34S) Am I Using alphaRCL Correctly?

*Message #8 Posted by **Walter B** on 16 Aug 2011, 2:07 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> I know how to pack lots more software into the hardware. It will require a lot of

> code to be rewritten.

Correct - with the amount of flash memory available, a lot more is loadable in addition to some quite arcane stuff we've got even now. But IMHO the UI is pretty much loaded already, and I regard this as the limiting factor. So after Gene will have completed his matrix package, including reliably solving systems of equations, I can hardly imagine anything important missing. Perhaps a second constants catalog for esoteric mathematical stuff? ;-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Google onlinecalculator conversions etc.

*Message #1 Posted by **designnut** on 15 Aug 2011, 3:42 p.m.*

I searched Google for calculators and found this. Sam Levy Use Google as a calculator and a currency converter. Example searches: 5+2*2 sqrt(-4) 3 meters in feet dollars to euros 5 GBP in yen I use it for stock information, just enter the code.

Re: Google onlinecalculator conversions etc.

*Message #2 Posted by **hpnut** on 16 Aug 2011, 3:36 p.m.,*
in response to message #1 by designnut

too bad Google has not learned to think RPN. I tried typing 3 ENTER 2 - , then pressed the enter key, it didn't yield the answer I expected. :-(

hpnut in Malaysia

Edited: 16 Aug 2011, 5:48 p.m.

Try Wolfram Alpha

*Message #3 Posted by **snaggs** on 18 Aug 2011, 9:23 a.m.,*
in response to message #1 by designnut

http://www.wolframalpha.com/tour/what-is-wolframalpha.html

You can use the tides in alaska and solve calculus problems with it.

Edited: 18 Aug 2011, 9:25 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s: Matrix success!

*Message #1 Posted by **gene wright** on 15 Aug 2011, 2:31 p.m.*

It isn't pretty yet and has LOTS of room for optimization (I did not even use recall arithmetic so far ha!) but the translation of the PPC ROM M1 thru M5 routines, the QR, BE and BX routines, and the RRM application program from the PPC ROM manual to run on the 34s works.

I successfully computed the determinant of a 7x7 matrix. Ran FAST.

Problem I have at the moment is my batteries are nearly dead (the program showed BYE! as it quit running).

This program will use memory registers 0 through 9 for internal storage. I started the matrix location at register 10 and up. This means an 8x8 determinant or a 6x6 inverse or 6x6 system of linear equations can be done within the 100 register "limit". It is presently 207 steps, but that will go down with recall arithmetic of course.

Now to do a LOT more testing and cleanup of the code before publishing it. Jake and I will have something soon and if not, perhaps it will be unveiled at the HHC conference in a few weeks.

Re: 34s: Matrix success!

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 15 Aug 2011, 3:11 p.m.,*
in response to message #1 by gene wright

Gene,

Do you think this could be a guinea pig for the symbolic add-on to the assembler tool chain? If so, you can send me the code (hopefully with some embedded comments so I can trace it -- I haven't worked with a matrix since i graduated 'a while ago') and I will map it to the new format and send it back to you.

The new tool is designed to make things easier to code. Gone are BACK, SKIP, and GTO. Instead you use the single JMP mnemonic with a symbolic label at your target. The tool figures out the rest.

Calling subroutines becomes a bit more obvious as well: "XEQ 04" becomes "XEQ Calculate_Determinat_but_not_on_Thursday".

Both should make maintenance much easier.

Let know if I can help.

Cheers...

Re: 34s: Matrix success!

*Message #3 Posted by **gene wright** on 15 Aug 2011, 3:18 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Give me an email shout through the forum email or the one you used last time. Let's talk.

Results from AM1 (Albillo Matrix 1) for the 34s

*Message #4 Posted by **gene wright** on 15 Aug 2011, 3:57 p.m.,*
in response to message #3 by gene wright

Time was right at 2 seconds to do the determinant of this 7x7 matrix.

The true determinant is 1.

The 34s RRM program returns: 0.999997119354

Not bad.

For reference, these were the results for other machines from a thread back in January 2008:

Thread

```
HP-15C          1.080204421
HP-71B          0.97095056196
HP-28S          0.970960198039
HP-35s          1.00282960115
CC-40:          1.0028267103..
TI-95           1.0006767082..
TI-85           0.999646804338
HP-48G          0.999945522778
```

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #5 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 4:05 p.m.,*
in response to message #4 by gene wright

Gene, have you considered to use the complex multiply to increase the accuracy of some computations? The intermediate computations in 34S are done at a much higher accuracy then can be achieved with the 16 user visible digits.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #6 Posted by **gene wright** on 15 Aug 2011, 4:07 p.m.,*
in response to message #5 by Marcus von Cube, Germany

No, I have not. This is a first stab at a matrix routine for the 34s. I am merely translating the program and not trying to make it much better. I hope others will be inspired to do that, as it isn't in my quiver of abilities. :-)

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #7 Posted by **Paul Dale** on 15 Aug 2011, 6:00 p.m.,*
in response to message #4 by gene wright

Looks like the loss is about two thirds of the significant digits. The matrix was chosen well.

Complex multiply might assist here. We could also enable the fused multiply add instruction -- although it isn't much easier to use than the multiply. What's really required is a suite of these to handle various stack arrangements.

I'll have a dig though some of the numerical analysis texts I've got to see if there is a "better" algorithm. The Algebraic Eigenvalue Problem or Matrix Computations are probably a good start. Although I'm not sure either covers determinants -- somewhat surprisingly they don't seem to be

calculated all that often.

- Pauli

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #8 Posted by **gene wright** on 15 Aug 2011, 6:12 p.m.,*
in response to message #7 by Paul Dale

Well, I ran the AM1 test because it is a good test.

With the data registers in the 34s, we can "only" do a system of 6x6 or an inverse of a 6x6 system. Determinants can, however, go up to 8x8, so the test was possible.

In reality, I can't imagine (really) anyone today EVER doing something larger than a 6x6 on a handheld. Go find Excel or some PC software package! :-)

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #9 Posted by **Walter B** on 15 Aug 2011, 6:16 p.m.,*
in response to message #8 by gene wright

> Quote:
>
> In reality, I can't imagine (really) anyone today EVER doing something larger than a 6x6 on a handheld.

I concur, as posted here earlier already.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 17 Aug 2011, 10:39 a.m.,*
in response to message #8 by gene wright

> Quote:
>
> In reality, I can't imagine (really) anyone today EVER doing something larger than a 6x6 on a handheld. Go find Excel or some PC software package! :-)

But doesn't that leave the device less capable than a 15C?

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #11 Posted by **Marcus von Cube, Germany** on 17 Aug 2011, 11:34 a.m.,*
in response to message #10 by Palmer O. Hanson, Jr.

My assumption is that the 6x6 limit is imposed by keeping the original matrix together with its inverse. Larger matrices may be processed, given an algorithm that allows inversion in-place.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #12 Posted by **gene wright** on 17 Aug 2011, 12:31 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I hope to present some timing results using AM#1 (a 7x7 matrix) run on the 34s, 41CL at 1X speed, 41CL at 50X speed, and the original 15c soon. Palmer, you remember that matrix because in an earlier thread, you did some analysis on it using even the TI-59 ML02 program. :-)

The RRM approach on the 34s can compute the determinant of an 8x8 matrix.

This is a limitation only because of the 100 register hard limit on the 34s. The 41C (and 41CL) can handle bigger matrices because you can have up to 319 registers available.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 17 Aug 2011, 9:10 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> This is a limitation only because of the 100 register hard limit on the 34s. The 41C (and 41CL) can handle bigger matrices because you can have up to 319 registers available.

Marcus must be correct (see the previous post) about keeping the original matrix intact. The TI-59, which did NOT keep the original matrix intact and also had only 100 registers could do determinants or inverses for 9x9, and 8th order simultaneous equations. So the obvious question is what's more valuable, keeping the original matrix intact, or solving higher orders?

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #14 Posted by **gene wright** on 17 Aug 2011, 10:32 p.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

The RRM program (from the PPC ROM manual) uses the following structure for the matrix:

nxn for the original matrix elements.

another nxn for an identity matrix

and a nx1 column for the coefficients for a system.

So to compute a determinant of a matrix, you just need the square original matrix. The RRM program uses memories 0-9 so the matrix elements can start in memory 10. Since you have 90 registers free, that means you can do an 9x9 determinant. 10 + 81 < 100.

To invert a matrix, you need nx2n registers. That means you can invert a 6x6. 6x(12) + 10 < 100 but 7(14)+10 is not. No 7x7 inverses.

To solve a system of equations, you need nx(2n+1). A 6x6 would use 6(13)+10 < 100 registers, but a 7x7 system uses too many.

(My math was wrong before - I think you can solve a 9x9 determinant, but only a 6x6 inverse or system.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #15 Posted by **Marcus von Cube, Germany** on 18 Aug 2011, 2:40 a.m.,*
in response to message #14 by gene wright

Gene, what's the reason to store a nxn identity matrix? This can certainly be stored more compact.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #16 Posted by **fhub** on 18 Aug 2011, 5:53 a.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> Gene, what's the reason to store a nxn identity matrix?
> This can certainly be stored more compact.

I don't have the PPC-ROM manual, but I guess it uses the following method for the inverse:
Transforming the original matrix to an identity matrix (e.g. with Gauss elimination) - applying the same steps to an identity matrix makes this one then the inverse of he original.

But the n*(2n+1) requirement in his statement "To solve a system of equations, you need nx(2n+1)" is something I don't understand (except the routine uses the inverse):
Gauss elimination (even with pivoting) requires no more than n*(n+1), so definitely 9x9 system could be solved.

Franz

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #17 Posted by **gene wright** on 18 Aug 2011, 7:36 a.m.,*
in response to message #16 by fhub

Those are the register requirements for the PPC ROM application program RRM.

It always computes the inverse if you are solving a system of linear equations.

Example:

3x3 matrix is stored as:

```
1   2   3   1   0   0    6
4   5   6   0   1   0   15
7   8   9   0   0   1   24
```

To do a determinant, you need only the square 3x3 matrix.

To do an inverse, you need the 3x6 matrix.

To solve a system, you need the entire 3x7 matrix.

Again, that is how the RRM program works, which is what has been translated so far.

Seeing as how there has not yet been any other matrix software written for the 34s... ;-)

Here's the link to the PPC ROM documentation for the M1 through M5 routines and the RRM application program. When Jake and I were talking about documentation earlier, this is what we were meaning. No real questions here how something works.

PPC ROM Matrix Routines

Edited: 18 Aug 2011, 7:40 a.m.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #18 Posted by **fhub** on 18 Aug 2011, 7:50 a.m.,*
in response to message #17 by gene wright

> Quote:
>
> It always computes the inverse if you are solving a system of linear equations.

Yes Gene, that's what I guessed. ;-)

Although this needs of course more registers, it also has one advantage: for solving additional equation systems with the same coefficient matrix you can now just use the already computed inverse and don't have to re-calculate everything.

Thanks for the manual,
Franz

No problem and I would *love* for others to write a better routine :-)

*Message #19 Posted by **gene wright** on 18 Aug 2011, 8:31 a.m.,*
in response to message #18 by fhub

All I did was translate the great work done 30 years ago by the PPC ROM authors. I am certain improvements can be made for a 34s-specific routine.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #20 Posted by **Dieter** on 18 Aug 2011, 3:15 p.m.,*
in response to message #17 by gene wright

A matrix can be inverted with several methods. One of them simply adds a unit matrix and uses elementary row operations to convert matrix A into its inverse C. Assuming a 3x3 matrix it looks like this.

```
 a11 a12 a13  1  0  0          1  0  0  c11 c12 c13
 a21 a22 a23  0  1  0    =>    0  1  0  c21 c22 c23
 a31 a32 a33  0  0  1          0  0  1  c31 c32 c33
```

With a bit of tricky programming this algorithm does not require n*2n registers but just n*(n+1) or so.

However, I would like to show a different method which requires not much room and is able to solve linear equation systems and invert matrices. I used this approach thirty years ago for an HP-41 program. The idea is as follows:

A matrix can be inverted by solving a set of linear equation systems with different unit vectors:

```
 First column       Second column        Third
column
  of inverse:        of inverse:          of
inverse:


           1                  0
0
  A * x1 = 0       A * x2  =  1         A * x3  =
0
           0                  0
1
```

The inverse matrix then consists of the three solution vectors x1, x2 and x3.

So, what we need is an algorithm that is able to solve various linear equation systems with the same matrix A, but different vectors b on the right side.

This can be done in a clever way without additional registers. It is best explained with an example of a linear equation system with n = 3 variables:

```
     A      *   x   =   b

  1  1  1      x1       6
  2  3 -2   *  x2   =   2
  4 -2  1      x3       3
```

Usually various elementary row conversions are applied to obtain a matrix with zeroes below the diagonal elements (Gauss algorithm). This is done by adding multiples of certain rows to others:

```
  1  1  1
  2  3 -2   next: add (-2) * row 1
  4 -2  1   next: add (-4) * row 1


  1  1  1
```

```
  0  1 -4
  0 -6 -3   next: add (+6) * row 2


  1  1  1
  0  1 -4
  0  0 -27
```

And we're done.

Now the same row conversions have to be applied to vector b. Usually this is done at the same time the matrix is converted. But since we want to solve for a whole set of vectors b1, b2 and b3 this is done after the matrix has been processed. This means that the factors (-2), (-4) and 6 used for the matrix row conversions have to be stored somewhere. This can be done - and that's the key of this method - by storing these factors in those places that now show the zeroes (here shown in parentheses):

```
  1   1   1          1   1   1         1   1   1
  2   3  -2   =>  (-2)  1  -4  =>  (-2)  1  -4
  4  -2   1       (-4) -6  -3      (-4) (6) -27
```

Now, the same transformations can be applied to vector b:

```
  6                         6
6
  2 add (-2) * row 1 =>   -10                    =>  -
10
  3 add (-4) * row 1      -21 add (6) * row 2       -
81
```

The rest ist trivial: x3 = -81 / -27 = 3, insert this in row 2 to get x2 = 2, insert x3 and x2 in row 1 to get x1 = 1.

This way it is possible so solve multiple linear equation systems with the same matrix A and different vectors b. If b are unit vectors, the solutions are columns of the Inverse of A.

The only drawback here is the fact that the Inverse is not calculated as a whole, i.e. first column 1 of the Inverse is evaluated, then column 2, finally column 3. The inverse matrix cannot be used directly for further calculations.

A real-world algorithm would use some more registers to keep track of exchanged rows to optimize accuracy, but that's another story. ;-)

Dieter

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #21 Posted by **Jake Schwartz** on 18 Aug 2011, 11:07 a.m., in response to message #14 by gene wright*

> Quote:
>
> That means you can invert a 6x6. 6x(12) + 10 < 100 but 7(14)+10 is not. No 7x7 inverses.

This would total 108 required for 7-by-7's and it is interesting that the 34s actually has 112 registers but sadly, the original 4-level stack occupies positions 100 to 103 here. I am almost certain that the X, Y, Z and T registers were numbered at the lower end of the 100-through-111 positions for good reason, but had X through T been at the top of the list instead, there might have been exactly enough registers to achieve the 7-by-7 case :-)

Jake

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #22 Posted by **Marcus von Cube, Germany** on 18 Aug 2011, 11:18 a.m.,*
in response to message #21 by Jake Schwartz

Jake, switch to a different algorithm and an 8x8 linear system shouldn't be a problem. All the lettered registers in the 34S have a special meaning and can only be used with care for other purposes.

Re: Results from AM1 (Albillo Matrix 1) for the 34s

*Message #23 Posted by **Paul Dale** on 20 Aug 2011, 10:27 p.m.,*
in response to message #21 by Jake Schwartz

> Quote:
>
> I am almost certain that the X, Y, Z and T registers were numbered at the lower end of the 100-through-111 positions for good reason, but had X through T been at the top of the list instead, there might have been exactly enough registers to achieve the 7-by-7 case :-)

Actually there isn't a good reason for putting them there, it is more a bit of an historic accident that is fiddle to remove. A, B, C, D, J and K were later additions (so was I but it was not too late) and at that point there were many assumptions about the stack being registers 100 - 104. I've been removing these as I notice them but I'm not confident that all are gone yet.

As Marcus points out all the lettered registers are used for various purposes so rearranging things to free a few more doesn't seem ideal either.

- Pauli

Timing results for the AM1 matrix determinant

*Message #24 Posted by **gene wright** on 18 Aug 2011, 12:20 p.m.,*
in response to message #12 by gene wright

Running the RRM program:

41CL at "Normal" speed: 263 seconds

41CL at TURBO 50 speed: 14 seconds

34s: Just under 2 seconds

15c using Matrix 9: About 14 seconds as well

The Exact determinant is 1.

The HP 41 gets -1.797514... as the determinant.

the 34s gets 0.999997... as the determinant.

FWIW, here are values for the determinant from other calculators.

HP-41 Math Pac -1.814762704

HP-28S 0.970960198039

TI-59 0.9983600987185

TI-95 1.000676708424

TI CC40 1.00282671

HP48S 0.970960198039

HP48G 0.999945522778

TI-86 0.999646804338

Re: Timing results for the AM1 matrix determinant

*Message #25 Posted by **Marcus von Cube, Germany** on 18 Aug 2011, 12:43 p.m.,*
in response to message #24 by gene wright

> Quote:
>
> the 34s gets 0.999997... as the determinant.

Gene, can you retry with the different rounding modes (to -inf, RM 6, to +inf, RM 5)? It would be interesting to see, if the determinant is dependent on this mode.

Edited: 18 Aug 2011, 12:44 p.m.

Results for AM1 in different FIX modes

*Message #26 Posted by **gene wright** on 19 Aug 2011, 4:47 p.m.,*
in response to message #25 by Marcus von Cube, Germany

No difference at all.

Fix 02, Fix 11. Same result.

0.999997119358228

for the determinant.

Re: Results for AM1 in different FIX modes

*Message #27 Posted by **Marcus von Cube, Germany** on 19 Aug 2011, 6:16 p.m.,*
in response to message #26 by gene wright

Gene, the rounding modes don't affect the FIX display or the ROUND command, they are only used when switching back from the internal high precision to the 16 digit register format. Maybe there will be a difference when the programs are using some tricks to benefit from the higher internal precision. Let Pauli have a look at the code.

Re: Results for AM1 in different FIX modes

*Message #28 Posted by **gene wright** on 19 Aug 2011, 6:40 p.m.,*
in response to message #27 by Marcus von Cube, Germany

Pauli has the code.

What would I need to do to put the calculator into these different modes before running the code?

Re: Results for AM1 in different FIX modes

*Message #29 Posted by **Paul Dale** on 20 Aug 2011, 1:18 a.m.,*
in response to message #28 by gene wright

> Quote:
>
> What would I need to do to put the calculator into these different modes before running the code?

The RM command does this.

- Pauli

Ok, help me out ... what page of the 34s manual shows the RM command?

*Message #30 Posted by **gene wright** on 20 Aug 2011, 8:54 a.m.,*
in response to message #29 by Paul Dale

I do not see it in the index of operations.

Sorry - I can't find it.

Re: Ok, help me out ... what page of the 34s manual shows the RM command?

*Message #31 Posted by **Dieter** on 20 Aug 2011, 1:24 p.m.,*
in response to message #30 by gene wright

Gene, simply open the PDF manual (here it's version 2.1) and search for "math geek". ;-) The RM and RM? commands are listed on page 43 of 87, right before RMDR.

Dieter

Foiled again... version 2.1 build 1321 does not have them

*Message #32 Posted by **gene wright** on 20 Aug 2011, 1:53 p.m.,*
in response to message #31 by Dieter

on page 43.

So, 1321 version 2.1 did not have these commands, which is the version I had been using.

Version 2.1 Build 1464 appears to.

I do wish the manual numbering system in the file name had the date or version number, rather than merely on the first page.

Re: Foiled again... version 2.1 build 1321 does not have them

*Message #33 Posted by **Dieter** on 20 Aug 2011, 3:10 p.m.,*
in response to message #32 by gene wright

My manual says it's version 2.1 1381 from 2011-08-03. ;-)

But at least you found it now. The manual's file name indeed should contain the version number. I think that's a good idea.

Dieter

Re: Foiled again... version 2.1 build 1321 does not have them

*Message #34 Posted by **Walter B** on 20 Aug 2011, 4:02 p.m.,*
in response to message #32 by gene wright

Looking at SVN, you find the date the file was committed. Looking into the manual, you find the # of the last windows build covered on first

page, and you see the date of issue on the last page (release notes!). The version # in the file name doesn't make a lot of sense recently, but helps me in my own directory. All will be in line with the next official release. In between, I ask for your understanding - you know you are watching a development project in progress.

Walter

Re: Timing results for the AM1 matrix determinant

*Message #35 Posted by **fhub** on 19 Aug 2011, 8:17 a.m.,*
in response to message #24 by gene wright

Hi Gene,

where can I find this Albillo matrix (AM1)?

I would like to test it on my TI-92+ (accuracy and speed) ...

Franz

Re: Timing results for the AM1 matrix determinant

*Message #36 Posted by **Ángel Martin** on 23 Aug 2011, 3:21 a.m.,*
in response to message #24 by gene wright

No tests with the Advantage MINV???

Re: Timing results for the AM1 matrix determinant

*Message #37 Posted by **gene wright** on 23 Aug 2011, 7:35 a.m.,*
in response to message #36 by Ángel Martin

No, only because the real test is the 34s RRM routine. The 41CL times were only in comparison to the 34s running the same code. :-)

I think someone did the 41 ADV module for the determinant but I was really comparing RRM.

Re: 34s: Matrix success!

*Message #38 Posted by **Marcus von Cube, Germany** on 19 Aug 2011, 8:30 a.m.,*
in response to message #1 by gene wright

Gene, how are the matrices laid out? In rows or columns? Where is the dimension stored?

I'm just working on some support commands which may help to create a comfortable matrix editor/viewer in user code. In principle I try to provide a means to detect numeric input from the user and suspend the program for number entry. R/S will then store the value and return control to the viewer so that up/down, left/right work for navigation.

If we ever release the features, the commands will be KTP? (determine key type) and PUTK (put key into keyboard buffer). They complement the KEY? command already there.

Re: 34s: Matrix success!

*Message #39 Posted by **Walter B** on 19 Aug 2011, 10:41 a.m.,*
in response to message #38 by Marcus von Cube, Germany

> Quote:
>
> If we ever release the features, the commands will be KTP? (determine key type) and PUTK (put key into keyboard buffer).

Don't rely on that, maybe they will carry different names :-) It is not discussed yet.

Link to AM1 Matrix and answers to Marcus' questions

*Message #40 Posted by **gene wright** on 19 Aug 2011, 11:41 a.m.,*
in response to message #38 by Marcus von Cube, Germany

AM1 matrix can be found in the forum here:

AM1 Matrix

Marcus, the matrices are laid out in rows.

Register 07 contains the starting register for element (1,1).

Register 08 contains the number of columns.

Register 09 contains the number of rows.

Registers 00 through 06 are used by the RRM program suite.

So if you wanted a determinant of a 3x3, register 07 contains 10, registers 8 and 9 both contain 3, and register 10 contains (1,1), register 11 contains (1,2), register 12 contains (1,3), register 13 contains (2,1), etc.

For inverse calculations and systems, the columns are increase to contain the identity matrix values and the coefficients.

Here's a link to the PPC ROM matrix routine write-up from the manual. The entire manual is well worth reading. :-)

The RRM routine begins on page 3 of the linked PDF as "Application Program 1". Actually, it looks to me as if the RRM suite can solve a system of equations using only n(n+1) registers - the inverse matrix storage may not be necessary after all from looking at example 1. That means the RRM suite could solve a 9x9 system (90+10 =< 100).

PPC ROM Matrix routines

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #41 Posted by **fhub** on 19 Aug 2011, 1:21 p.m.,*
in response to message #40 by gene wright

> Quote:

> AM1 matrix can be found in the forum here:
>
> AM1 Matrix

Thanks Gene!

To complete your list:

TI-92+: det=1 (exactly!), time about 1 sec ;-)

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #42 Posted by **gene wright** on 19 Aug 2011, 1:33 p.m.,*
in response to message #41 by fhub

Ah, but you may have to be careful.

The HP 50g has a flag that senses when all the elements of a matrix are integers, then it will make sure the determinant is an integer.

It is possible something like that is going on with the TI-92+.

It is nearly impossible to get a 1 without exact integer arithmetic on something like the HP 50g flag thing. :-)

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #43 Posted by **fhub** on 19 Aug 2011, 1:41 p.m.,*
in response to message #42 by gene wright

> Quote:
>
> Ah, but you may have to be careful.
>
> The HP 50g has a flag that senses when all the elements of a matrix are integers, then it will make sure the determinant is an integer.
>
> It is possible something like that is going on with the TI-92+.
>
> It is nearly impossible to get a 1 without exact integer arithmetic on something like the HP 50g flag thing. :-)

Well, since the TI-92+ is a CAS calculator I have of course used it in exact mode (which is its default).
Now I've tried it again and forced it to do in approximate mode, and here the result is 0.999718.

But of course it's nonsense to have a CAS calculator and then not to use its full capabilities ... ;-)

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #44 Posted by **Nick** on 20 Aug 2011, 7:46 p.m.,*
in response to message #42 by gene wright

> Quote:
>
> Ah, but you may have to be careful.
>
> The HP 50g has a flag that senses when all the elements of a matrix are integers, then it will make sure the determinant is an integer.
>
> It is possible something like that is going on with the TI-92+.
>
> It is nearly impossible to get a 1 without exact integer arithmetic on something like the HP 50g flag thing. :-)

Some clarifications first:

The HP50G has no "flag that senses" anything at all. Flags are for setup, not for "sensing". It is the software of the system that sets flag -105 (for approximate mode) as soon as some real number (with a decimal point) is found in the matrix in the process of calculation of the determinant. So the "sensing" is not done by the flags themselves but the flags rather indicate "what should happen" or "what happend". The flags are no "active" parts of the software, that is.

On the HP50G in exact mode no reals but only integers or rationals are involved in calculations. The determinant of AM1 is returned as exactly 1 in 1.7 seconds. (No decimal point, so this is no rounded real or anything like that but a nice integer - as it should be.) There is also no kind of "rounding trick" involved during the calculation since this is a symbolic exact calculation of the CAS of the HP50G, which is way superior for accuracy but also much slower of course. (You can even find determinants of symbolic matrices, etc.) Turning AM1 to a numeric matrix with ->NUM and then calculating its determinant will return 0.999945522778 in 0.4 seconds. This is not a CAS calculation and so the result is quite close but not exact, as we see. And also much faster.

Now, on another point of view, and I have to say that I will be harsh. I apologize a-priori but my mathematical moral is getting angry! Really angry!!! Unbelievably angry!!!

This whole story about re-cooking and re-re-cooking and re-re-re-cooking the same old soupe of numerical recipes as a "mathematical thing" starts getting really dull. Nothing else than dull!! Sorry to say that, but if we think that mathematics is just arithmetic and the word "calculation" applies mainly to real numbers then we do nothing more than insisting to live back in the times of Wilkinson and the ACE project, when the guys were trying to understand numerical phenomena. I understand nostalgia but, ladies and gentlemen, in the mean time we reached 2011 and we have the HP50G or the TIs or other similar devices, all of them small versions of Mathematica if you will. But no, we won't go beyond real numbers and we simply won't get that there are much much much greater questions than the numeric accuracy of AM1 or any other matrix. Yes sir, this is our calculations, but finding a space of categories that maps the triples of semantic computing onto a self-supported sequence is no calculation - this is what this mania with numbers is equivalent to. (Guess what? The above problem can be done on an HP50G that is used for some things more than the never ending numeric contests.) And this is also one of the reasons for many companies to not even think of taking the evolution of calculators any step further - why should they? The kids want just numbers. Oh, but then we complain about HP not developing calcs anymore. Well, what for??? We stagnate ourselves! They gave us jet planes and we insist on driving them like bicycles or even inventing new bicycles. We behave as if using a formula of physics for finding a solution to a problem is physics itself, while finding the formula itself is no physics. This is what we do and nothing more!

Now, if the guys after the first computing machines were so stuborn to exclusively stick on to numbers forever then I would not be able to type this message now (, which I assume would be better too for the polite climate of the forum). But I can type this message and I really *have* to get nervous with this kind of numericology and all the numeric contests that are presented as "mathematics". Mathematics! Hear that, hear that, finding a number that does this and that, or finding the determinant of AM1 is finding an exceptional mathematical truth!! It is not the theorem that is the mathematical truth, no, it is the number, the result of the theorem!! And if this is our exceptional mathematical truths for which we use such tools then it becomes evident that there will be no further evolution of these tools. There will never be any sufficient demand for the next step, be it Sage on an iPhone or some new calc. (I mean really new and not the re-re-re-cooked numeric soups that we run behind.)

With such a thing like the HP50G available we should work on theorems, not on numbers!!!

Now I have to get into my fridge for cooling down a bit. This was really too much for one night.

Ciao.

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #45 Posted by **Werner** on 22 Aug 2011, 3:48 a.m.,*
in response to message #44 by Nick

```
Some further clarifications...
on the 48G/49G/50G, real mode
The flag in question is flag -54 'Use tiny element'.
When set (don't remember if that is default or not), the DET of AM1 is
calculated as 0.999945522778
When flag -54 is clear, the DET routine will first analyse the matrix and
determine (sense ;-) whether it is all-integer or not.
If it is, it will round the result to the nearest integer. Hence, when
calculating the determinant of AM1 in real mode, flag -54 clear, it will
return exactly 1.
```

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #46 Posted by **gene wright** on 22 Aug 2011, 7:40 a.m.,*
in response to message #45 by Werner

Which of course supports my original contention.

Exact mode is one thing.

Tiny Element in approximate mode "cheats" because the 50g "senses" that a matrix is made entirely of integers.

Thanks,

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #47 Posted by **Nick** on 25 Aug 2011, 6:48 a.m.,*
in response to message #46 by gene wright

> Quote:
>
> Which of course supports my original contention.

> Exact mode is one thing.
>
> Tiny Element in approximate mode "cheats" because the 50g "senses" that a matrix is made entirely of integers.
>
> Thanks,

There are several different possible combinations here.

A) In exact mode:

A1) Matrix made of integers. Flag -54 makes no difference, as it should be. The result is always 1. This is the right way.

A2) Matrix made of reals.

A2a) Use tiny element, result: 0.999945... , since the HP50G senses the presence of reals and calculates using numerical methods for DET without any replacing of tiny elements to 0. (This is OK under the main principle of doing things approximately or exactly according to the available arguments.)

A2b) Tiny element -> 0, result 1. Again the same thing considering choice of exact vs approx. The presence of reals causes the calculator to use numerical methods of DET which is OK. But this time it sets all tiny elements to 0, which is also OK considering the state of flag -54.

Note that in both A2a and A2b there is no switch over to approx mode, which suggests that this is only using a numerical method in exact mode. It is not a general switch to approx mode. So the calc is able to do things approximately (if necessary) in exact mode too.

B) In approx mode:

B1) Matrix made of integers.

B1a - Gene's case of interest) Use tiny element, result: 1. (and not 0.999945... !) The HP50G uses exact calculation under approx mode because it finds an exact matrix, and then it just converts the exact result to a real. There is no "cheating" whatsoever. If the HP50G used approximate methods here, the result had to be 0.999945.... and not 1 since it would have to use tiny elements, which would introduce the non-exact result.

B1b) Tiny element -> 0, result 1. Same thing as in B2a. If we take into consideration the case B2a then this suggests that the state of flag -54 is not important when calculating the determinant of an exact matrix in approximate mode. The calc uses the exact method and then simply converts the result to a real.

B2) Matrix made of reals.

B2a) Use tiny element, result: 0.999945... . This is the expected result since we have a numeric matrix and we use tiny elements.

B2b) Tiny element -> 0, result 1. Again, this is the expected result since we have a numeric matrix and we set tiny elements to 0.

Note again that there is no kind of mode switching. The choice of calculation method is taken according to what the HP50G is fed with.

For me this is absolutely the correct behavior. The usage or not of tiny elements should not interfere anyway when using exact integers. Much like Mathematica which will keep on calculating exactly until the user tells it to make approximate results, or will calculate approximately when it finds real numers in its arguments.

The whole concept of exact vs approx "mode" seems to be quite a yesterday to me, anyway. If you can analyze the arguments then you can find out how to calculate. The presence or absence of a dot in the numbers should be enough to let the engine decide what to do. Add a command for conversion frot/to integers/reals and that's it. The rest is thinking in modes - never a good idea.

Ciao

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #48 Posted by **Werner** on 25 Aug 2011, 8:32 a.m.,*
in response to message #47 by Nick

> Quote:
>
> B1a - Gene's case of interest) Use tiny element, result: 1. (and not 0.999945... !) The HP50G uses exact calculation under approx mode because it finds an exact matrix, and then it just converts the exact result to a real. There is no "cheating" whatsoever.

That is not true I'm afraid.
When the matrix contains reals, the same (numeric) algorithm is used whether you're in approx or exact mode.
Clearing flag -54 (Use tiny element) has the following effect:
- it checks up front whether the matrix contains only integers
- if so, it will *round* the computed determinant to the nearest integer.
That constitues *fiddling* with the result, no matter how you look at it. I'm pretty sure it is possible to come up with an example where the exact determinant is x and DET computes x+1 or x-1.
It must be said that the flag's name is misleading. 'Use tiny element' is what it does in SVD and EGV calculations, but not in LU decomp.

Edited: 26 Aug 2011, 1:41 a.m. after one or more responses were posted

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #49 Posted by **Werner** on 25 Aug 2011, 9:06 a.m.,*
in response to message #48 by Werner

.. and an example is very easy:
just take the AM1 matrix from above, but multiply it by 4.
The exact determinant is then 4^7 or 16384, while DET (with flag -54 clear) returns 16383.
If you take AM1*5, the exact result is 78125, DET returns 78118.
This is what fiddling does: it leads you to believe 78118 is the exact determinant, and it is not.

BTW taking AM1*10 results in a perfect 10000000 again, so the 'integer-determining' algorithm is a bit more sophisticated than that, and actually determines the position at which the determinant should be rounded.

Re: Link to AM1 Matrix and answers to Marcus' questions

*Message #50 Posted by **Nick** on 25 Aug 2011, 9:02 a.m.,*
in response to message #46 by gene wright

Some thoughts here about "modes" and why it is not really a good thing on a calculating machine of that caliber. (I use 0.999945.... here just because I am too lazy to write all digits each time.)

When doing mathematics one does not first set the brain to some "exact" or "approximate" mode. We just use the right symbols. A mathematical assertion is clear and unambiguous not because of setting modes but because of the strict language it uses. (Even its inconsistencies are clear. ;-)) This language is made of symbols like numbers, letters, indices, operators, etc. (And we try to keep clarity along with strictness using the least possible concepts and the lest possible symbols.) For example, one could write Det(AM1)=1 or Det(AM1)≈0.999945.... but never Det(AM1)=0.999945..... since the determinant of AM1 is *not* equal to 0.999945.... It is only *approximately* equal to 0.999945.... , which is expressed using ≈ and not = .

The above example, translated to the language of the HP50G would mean that the statement Det(AM1)=0.999945..... is true under the additional premise of approximate mode. In this case using approximate mode is like writing the symbol "≈" . So one could also say that the mathematical symbol "≈" is available on the machine by using approximate mode.

But: As we see here and in so many other examples the usage of modes is anything but clear. The result of the operations in this example can imply that Det(AM1) *is* actually 0.999945..... , and then additional consideration of the state of flag -54 corrects the statement to "Det(AM1) is approximately 0.999945.....". In this case it not so difficult for the user to keep in mind the states of the related flags, but in many many other examples one has to remember many more things that are valid implicitly. In other words the explicitness of the statement is lost. Compare for example the explicit clarity of statements like:

Det(AM1)=1

or

Det(AM1)≈0.999945....

with the implicit clarity of:

Det(AM1)=0.999945.... | approximate mode and usage of tiny elements

where the part "| approximate mode and usage of tiny elements" is not explicitly written but kept as a setting under the numerous modes of the machine.

To make it even more complicated just multiply some numder of AM1 with the variable X and retry the cases in my last message. A completely different behavior just because of the presence of a variable in the matrix.

It seems that the concept of modes was OK for machines with limited RAM that offered some few flags for angles or number representations, but I doubt that this concept is a good choice for a CAS with much RAM. There are many too many things for the user to be aware of, and this makes lowers unnecesserily the clarity. The part "| approximate mode and usage of tiny elements" is simply the symbol "≈" - not really an economic translation, is it? And also not quite obvious when there is no kind of announciator for usage or not of tiny elements. And even less obvious when it is not visible anywhere in the machine what actually "tiny" means, but that's a very long story. (The explanation about "tiny" in the manual is only a tiny part of this long story, which can be used against this statement too. ;-)) And even less less obvious when we take symbolic variables in the matrix. And, and and....

All the above is of course more of an issue about user friendliness through consistency, but there is also a second but: Using so many flags and modes and states introduces hidden dangers against consistency due to unexpected interferences. To make it even worse, the different types of operations like commands, operations, functions, analytic functions, programms etc., the behavior of which is influenced by the modes, don't really help to avoid confusion. Just consider the several representations of a complex number on the HP50G in combination with all the relevant modes under usage of the power function. You will get a lot of possible sub-cases and a lot of possible different results for one and the same mathematical thing, namely (a,b)^c. In many of these cases the result is absolutely correct but in many others of these cases the result is at least not easily understanable. It is not right and it is not wrong and it is both at the same time.

The above is much like the Toolbox of the Mac before OS X. Thousands of functions doing the same thing a bit different - sometimes so, sometimes the other way around, according to "modes". Nobody could manage it consistently anymore and so it started showing severe inconsistencies that were not avoidable. And so the only right decision was to through it away and start from scratch for something else. This brought us OS X. Much more consistent and with much less hidden dangers that can evolve to catastrophes. (I wonder how long it will take until it starts declining under its own growing weight.)

So,

a) just consider the HP50G in exact mode and enter 1 1 + . The result is 2, so it is OK.

b) Now switch to approx mode and enter 1 1 + . The result is 2. since entering the two 1s (without the decimal point) converted them both to 1. For me it is also OK.

c) Now switch to exact mode, enter 1 1, then switch to approx mod and press +. You get 2, an integer and not a real though you are in approx mode. Let's accept that as a consistent result because we are operating with integers, and let's say that integer results should be obtained when integer arguments are used - no matter of mode.

d) But now switch to exact mode, enter 0 1 'X' 'X', then switch to approx mode and integrate. You get 0.5 and not 1/2. Hmm... is that consistent when we have accepted (c)???

You see where it goes to.

Ciao.

Re: 34s: Matrix success!

*Message #51 Posted by **Paul Dale** on 20 Aug 2011, 10:37 p.m.,*
in response to message #1 by gene wright

While I was away a few days, I started fiddling with what I'd like to see a 34S matrix package look like.

I'd like matricies to be written as descriptors of the form BB.RRCC, where BB is the first register, RR is the number of rows in the matrix and CC the number of columns. Simple to use and very easy for the user to remember. Conversion into other forms will be part of the library internals.

Matrix operations should take one or more of the descriptors from the stack as well as any other required arguments and return a result descriptor to the stack & perhaps stored in I if on the stack doesn't make sense for a particular operation. Storing the result descriptor in I might be worthwhile regardless. Attempts to preserve the stack do not seem worthwhile at least to me unless they fall out naturally.

I've coded some utility routines to take a descriptor from the stack and to return the base and dimensions, loop iterators for all elements or for row or column elements.

I used these to code matrix addition and subtraction.

I started thinking about matrix multiply. I'd really like to use the internal SUM command for each result value since it does a Kahan sum which should increase the accuracy a little much of the time and it doesn't use any of the visible registers.

None of this is opposed to what Gene has done either. The M1 - M5 routines will be required in any matrix library and converting them to use slightly different inputs shouldn't be tricky.

- Pauli

Re: 34s: Matrix success!

*Message #52 Posted by **fhub** on 21 Aug 2011, 8:47 a.m.,*
in response to message #1 by gene wright

Looking for matrix routines I remembered a very efficient, accurate and small algorithm (Faddejew-Leverrier), which calculates the determinant, inverse and characteristic polynomial of a nxn matrix in just n iterations - maybe not everyone here knows this method, and so I've made a short pseudo-code for it:

```
----------------------------------------------------------------------
Input: nxn-Matrix A


B := 0  // 0 = nxn zero matrix
c[n] := 1  // c = (n+1)-vector or list [c(n),c(n-1),...,c(1),c(0)]
for k := 1 to n
  B := B + c[n-k+1]*I  // I = nxn identity matrix
  if k = n then Inv := B
  B := A*B
  c[n-k] := -trace(B)/k  // trace = sum of diagonal elements
endfor
B := B + c[0]*I


Output: if B <> 0 then return "iteration not convergent"
1) Det := (-1)^n*c[0] ... determinant |A|
2) if Det = 0
     then return "singular matrix"
     else Inv := -Inv/c[0] ... inverse matrix A^-1
3) CharPoly := Sum(c[k]*x^k,k,0,n) ... characteristic polynomial cp(A)
```

- -

I've coded it for my TI-92+ (although it has functions for 'det' and 'inv') which needed only a few lines, and tried it with the Albillo matrix AM1 - and even running it in approximate mode it returns the exact value 1 for the determinant!

Unfortunately this algorithm would be no advantage for the WP34s, because it also needs a 2nd nxn matrix (B), so the limit would also be a 7x7 matrix for these functions.

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

And they say that a sale value of a hp 41cx is high.

*Message #1 Posted by **robertoataulfo** on 15 Aug 2011, 11:03 a.m.*

Value sale hp41cx is High ?

Re: And they say that a sale value of a hp 41cx is high.

*Message #2 Posted by **David Ramsey** on 15 Aug 2011, 11:23 a.m.,*
in response to message #1 by robertoataulfo

Wow, maybe I should try to sell my Big Mac prototype!

Re: And they say that a sale value of a hp 41cx is high.

*Message #3 Posted by **M. Joury** on 15 Aug 2011, 12:34 p.m.,*
in response to message #1 by robertoataulfo

Ok, I'm sorry, but that is insane. Unless it is Apple desperately trying to buy the machine back before anyone realizes that it is really just a computer :-).

Now my biases are showing!

Re: And they say that a sale value of a hp 41cx is high.

*Message #4 Posted by **Geoff Quickfall** on 15 Aug 2011, 1:57 p.m.,*
in response to message #3 by M. Joury

its not a computer, it's an apple!

hows that for bias!

Geoff

Re: And they say that a sale value of a hp 41cx is high.

*Message #5 Posted by **Howard Owen** on 15 Aug 2011, 6:20 p.m.,*
in response to message #1 by robertoataulfo

Listing is gone as of 3:20 PM PDT.

Was that the "3G Macbook?"

Re: And they say that a sale value of a hp 41cx is high.

*Message #6 Posted by **Cristian Arezzini** on 16 Aug 2011, 6:19 a.m.,*
in response to message #5 by Howard Owen

How did they delete the listing? Usually when an item sells, you can still see the listing... ?

Re: And they say that a sale value of a hp 41cx is high.

*Message #7 Posted by **Howard Owen** on 16 Aug 2011, 11:23 p.m.,*
in response to message #6 by Cristian Arezzini

I think eBay's lawyers may have heard from Apple's lawyers.

That would tend to raise the credibility of the leak, if so.

Re: And they say that a sale value of a hp 41cx is high.

*Message #8 Posted by **M. Joury** on 17 Aug 2011, 7:46 a.m.,*
in response to message #7 by Howard Owen

> Quote:
>
> I think eBay's lawyers may have heard from Apple's lawyers.

I was going to post just this yesterday but didn't because I got sidetracked with "real" work. Do you remember the uproar when Apple "lost" an iPhone 4G in a bar (or some such) and all the talk of law suits and such when some magazine (I believe it was) threatened to open it up?

Apple is *VERY* protective of their intellectual rights. So I am thinking that Howard may be right on the money here.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: WP34s: a small request

*Message #1 Posted by **Paul Dale** on 15 Aug 2011, 1:44 a.m.*

> Quote:
>
> Just to make sure: Does it work for both stack sizes?
>
> Edit: Found the answer myself: Works for SSIZE4 only :-/

This is totally irrelevant.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT, but interesting

*Message #1 Posted by **Don Shepherd** on 15 Aug 2011, 12:05 a.m.*

I graduated from high school in 1968 and enrolled in a computer programming school called ECPI (Electronic Computer Programming Institute). To get into that school, I had to take a "Data Processing Aptitude Test." One of the questions on that test was:

> Quote:
>
> In a certain company, 3/5 of the employees can type, 1/4 can take shorthand, and 1/5 can do both. What percentage can neither type nor take shorthand?

It was a multiple-choice question, with 5 possible answers. I won't list the possible answers. Disregarding the fact that being able to answer this question has almost no bearing on being able to succeed in "data processing," what is the answer? I didn't know it in 1968, and I'm not all that sure I know it in 2011.

I suspect that even if you scored zero on the aptitude test, they would still take your money and enroll you.

Re: OT, but interesting

*Message #2 Posted by **Paul Dale** on 15 Aug 2011, 12:22 a.m.,*
in response to message #1 by Don Shepherd

1 - (3/5 + 1/4 - 1/5) = 1 - 0.65 = 0.35 = 35%.

Minus 1/5 because both the 3/5 and 1/4 included it already and we wouldn't want to double count it.

- Pauli

Re: OT, but interesting

*Message #3 Posted by **robert rozee** on 15 Aug 2011, 1:55 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> In a certain company, 3/5 of the employees can type, 1/4 can take shorthand, and 1/5 can do both. What percentage can neither type nor take shorthand?

my answer would be 35% (or 7/20).

(3/5) - (1/5) can only type = 2/5
1/4 can at least take shorthand, and some of these may also be able to type
(2/5) + (1/4) = 13/20 can either type, or take shorthand, or both.

the remainder (7/20) can do neither. my reasoning is that in conversational english the assertion "60% of our

staff can type" would always include those staff who can both type and do other things. similarly for shorthand.

Re: OT, but interesting

*Message #4 Posted by **Bill (Smithville, NJ)** on 15 Aug 2011, 4:08 a.m.,*
in response to message #1 by Don Shepherd

Hi Don,

Following is a variation of your problem, with no listed answer:

Placement Problem

Apparanty, variations of this question is used on several placement test.

Bill

Re: OT, but interesting

*Message #5 Posted by **Bill (Smithville, NJ)** on 15 Aug 2011, 7:04 a.m.,*
in response to message #1 by Don Shepherd

Don,

I had a similar experience many years ago when I applied for a position with Xerox to repair copiers. They gave each applicant a very long test that included word problems and various logic problems. The test had to be completed in a very short time. They wanted to see how fast you could analyze the problems and come up with an answer. Logic problems actually made a lot sense, since the copiers in those days were controlled by relays, a lot like the early relay computers.

I didn't get the job - it came down to me and one other person. Overall, I scored higher, but they gave the job to the other guy since "I was single and he was married with kids, and needed the job more than I did." Believe it or not, that was exactly what I was told when I was turned down for the position.

Bill

Re: OT, but interesting

*Message #6 Posted by **Don Shepherd** on 15 Aug 2011, 12:51 p.m.,*
in response to message #5 by Bill (Smithville, NJ)

So, they discriminated based upon marital status. I don't know if that is illegal today, but it seems like it should be.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9815 Keyboard Disassembly

*Message #1 Posted by **aj04062** on 14 Aug 2011, 8:52 p.m.*

Does anyone know how to "get into" the keyboard? It looks like I need to de-solder all the contacts you see in this photo.

I'm trying to determine if it is worth the trouble to get into this to repair a collapsed dome. The keys still works, but does not click.

Edited: 14 Aug 2011, 9:29 p.m.

Re: 9815 Keyboard Disassembly

*Message #2 Posted by **Joel Setton (France)** on 15 Aug 2011, 3:17 a.m.,*
in response to message #1 by aj04062

I think you just can't open it. The ball you see are not solder bumps, the keyboard is held together by "nails" which were just pushed-in with a press. They won't come out without destroying the whole thing.
Joel Setton

Re: 9815 Keyboard Disassembly

*Message #3 Posted by **Tony Duell** on 15 Aug 2011, 4:23 a.m.,*
in response to message #1 by aj04062

Those aren't solder blobs, they're metal pins. Some HP9815 keyboards were assembled by screws (lots of them!), others with these pins.

I think you can get them out by warming them with a soldering iron and then using a pair of cutters to grip them and pull them out, Once they're all free, the PCB comes off, and the keys will fall out (I learnt that the hard way!).

If you can find some small self-tapping screws, I think I'd use those to reassemble it.

As to whether it's worth doing, I'd probably not bother. Too much risk in damaging something that still works. Now if a key didn't work at all, I'd take it apart.

Re: 9815 Keyboard Disassembly

*Message #4 Posted by **aj04062** on 16 Aug 2011, 12:25 p.m.,*
in response to message #3 by Tony Duell

Thanks,

It works, so it stays. Testament to the unit's use...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: Which donor?

*Message #1 Posted by **Dan W** on 14 Aug 2011, 8:18 p.m.*

Hi all, thinking of plunging into the WP34s. Simple question, what do you think is the better donor calculator, the 20b or 30b?

I have never actually seen or used either one. But I am hearing/reading the buttons on the 30b are better, and the display might be better. Is the hardware really significantly better?

The 20b color would probably look better with the overlay, and the cost is a bit less.

Thoughts? Any other important differences?

Edited: 14 Aug 2011, 8:18 p.m.

Re: WP34s: Which donor?

*Message #2 Posted by **Paul Dale** on 14 Aug 2011, 8:29 p.m.,*
in response to message #1 by Dan W

30b no doubt about it. The keyboard is a world better. The screen is a bit better.

Agreed the 20b with overlay looks better and is slightly cheaper but that is its only advantages.

Get a 30b, you'll not be disappointed.

- Pauli

Re: WP34s: Which donor?

*Message #3 Posted by **Gerson W. Barbosa** on 14 Aug 2011, 8:31 p.m.,*
in response to message #2 by Paul Dale

Also, it appears the HP-30b comes with a case.

Gerson.

Re: WP34s: Which donor?

*Message #4 Posted by **Walter B** on 15 Aug 2011, 1:20 a.m.,*
in response to message #3 by Gerson W. Barbosa

That "case" works like a elastic sleeve with openings at three sides. I prefer the case of my 17bii+ Silver. YMMV

Re: WP34s: Which donor?

*Message #5 Posted by **Gerardo Rincon** on 14 Aug 2011, 8:45 p.m.,*
in response to message #1 by Dan W

Are there instructions on how to do this? I would love to do it but I don't know where to start...

Re: WP34s: Which donor?

*Message #6 Posted by **Gerson W. Barbosa** on 14 Aug 2011, 9:07 p.m.,*
in response to message #5 by Gerardo Rincon

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=1060

Re: WP34s: Which donor?

*Message #7 Posted by **Walter B** on 15 Aug 2011, 1:29 a.m.,*
in response to message #6 by Gerson W. Barbosa

Get the manual and you'll be picked up on page 3 (page 2 contains the table of contents :-)

Re: WP34s: Which donor?

*Message #8 Posted by **Gerardo Rincon** on 15 Aug 2011, 8:28 p.m.,*
in response to message #7 by Walter B

Could some one tell me what cable to order (and from where) and how do I order/buy a keyboard template?

Edited: 15 Aug 2011, 8:29 p.m.

Re: WP34s: Which donor?

*Message #9 Posted by **M. Joury** on 15 Aug 2011, 9:25 p.m.,*
in response to message #8 by Gerardo Rincon

Gene Wright is distributing them (if he has any left) for a small shipping charge. Send him an email through this forum.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP 41 key assignment file and x memory

*Message #1 Posted by **Geoff Quickfall** on 14 Aug 2011, 6:59 p.m.*

Hello,

now that I have all the xroms available (almost) on the Cl I would like the capabiltiy, similar to the 71B of saving a keyfile to x-memory. This is due to the fact that some XROM take over the CL and configure the key assignments throwing your personal assignments in the trash. Using SK and RK on PPC allow suspension and reactivation of your personal key assignment but store the assignment strings in the main register memory where they can be corrupted by other program usage. I would like to store the key assignments in x-memory where xroms do not have access to them. That way they are available at any time to recall and reactivate.

Using SK and RK on the PPC seem like a good start. SK (suspend keys) uses two storage registers of your choice to store the key assignments. They can be reactivated by RK (reactivate keys).

The two NNN numbers that SK uses are stored in a user defined register set. For example 0.00 in x; followed by xeq SK; stores the key assignments in R00 and R01.

So you would think it would be an easy thing to create a keyfile for xmemory along the lines of:

```
10
"KEY"
CRFLAS


LBL "KEYI"
XEQ "SK"
0
"KEY"
SEEKPTA
CLA
ARCL 00
INSREC
CLA
ARCL 01
INSREC
END


LBL "KEYR"
0
"KEY"
SEEKPTA
CLA
GETREC
ASTO 00
CLA
GETREC
ASTO 01
CLA
XEQ "RK"
END
```

the first three lines create the KEY text file to store the R00 and R01 NNN for recall by SK.

"KEYI" only needs to be run once to store the R00 and R01 contents in the x memory location 00 and 01.

"KEYR" should recall the NNN to their respective storage registers for use with RK at any time.

Instead I get nothing but ABS assigned to all keys as opposed to the original keys.

So you have an idea of what I want, surely an XROM has this routine or function built in somewhere. Again the idea is to create a TEXT or DATA file in xmemory which will allow me to reinstall the key assignments that is safe from main memory REG manipulation. The failing of RK and SK is that they rely on the main REGs which may be altered by any number of routines called upon by an XROM whereas the X-memory is safe from that manipulation.

Any ideas.

also ran the the above programs treating the R00and R01 registers as data, that is I created a DATA file named KEY in x-memory. But that did not work either!

Cheers, Geoff

Edited: 14 Aug 2011, 7:11 p.m.

Re: HP 41 key assignment file and x memory

*Message #2 Posted by **Raymond Del Tondo** on 14 Aug 2011, 7:34 p.m.,*
in response to message #1 by Geoff Quickfall

Hello,

the CCD module features functions related to saving/restoring user keys.
Unfortunately I couldn't include them into my CCD OS/X due to space constraints;-)

HTH

Raymond

Edited: 14 Aug 2011, 7:35 p.m.

Re: HP 41 key assignment file and x memory

*Message #3 Posted by **Geoff Quickfall** on 14 Aug 2011, 7:53 p.m.,*
in response to message #2 by Raymond Del Tondo

Thanks Raymond,

well i have access to all your CCD roms (currently using osx version) but may have to switch to the full CCD again. Considering they are all built into the CL, not a problem. I can call the CCD and plug it in with a routine, save the keys and uplug if the port is required. A routine will do this in less then a second.

Then when i am finished with the current key state, another routine will plug CCD, restore assignments and unplug CCD, again in less then a second.

Thanks for directing back to the CCD, I knew the existed somewhere. Now to find the manual!

Cheers, GEoff

Re: HP 41 key assignment file and x memory

*Message #4 Posted by **M. Joury** on 14 Aug 2011, 8:07 p.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Maybe I misunderstood what you were saying but...

> Quote:
>
> SK (suspend keys) uses two storage registers of your choice to store the key assignments.

I am not 100% sure on this and I don't have a manual handy but I seem to remember that SK/RK only saved and restored the bit-fields denoting that a key was assigned. They do not actually store the key assignments themselves. I believe that it is impossible to store all possible key assignments in two registers--remember that each register can hold 2 key assignments.

What is going on with SK is that it stores the bit-fields denoting that currently reassigned keys and then clears those fields so that the calculator thinks that nothing is assigned. The actual assignments are still in memory. RK restores those bit-fields and thereby reactivates the assignments--the actual assignments are already in memory.

As noted, this is all from memory and it has been a long time since I have messed with any of this so I could very well be mistaken...

Cheers,

Marwan

Re: HP 41 key assignment file and x memory

*Message #5 Posted by **geoff quickfall** on 14 Aug 2011, 8:39 p.m.,*
in response to message #4 by M. Joury

your memory is correct Marwan!

that is one of the problems with SK and RK. Now CCD actually creates a KEY file in x-memory with the use of SAVEK and GETK.

It appears, however that they only save calculator function keys and not global routine labels.

So the search is still on: " a way to create a key x-memory file which includes the entire key assignment state: both calc-functions and global labels."

The treat with the CL is that you carry around in your pocket the entire created ROM library with few exceptions. Some of these ROMs take over the keyboard and overwrite your key assignments without allowing you to return to your assignments unless you:

CLKEYS and then reassign your keys.

With SAVEK and GETK at least the 6 calculator functions I have assigned come back. Still leaves 12 Global routine labels to reassign.

Further, there is an ability on the 41CL to restore a calculator state from the flash memory. But I am trying to circumvent the need to do that by just recalling a key assignment state.

Cheers, Geoff

Re: HP 41 key assignment file and x memory

*Message #6 Posted by **M. Joury** on 14 Aug 2011, 8:57 p.m.,*
in response to message #5 by geoff quickfall

I am holding my breath and waiting for the next production run of the CL. I have my name in for one.

I also remember the SAVEK and GETK routines. I guess the reason that they don't save the global program assignments is that those are associated with and stored as part of the program labels.

Here is one approach that you could use although not very elegant. Create a program that is just composed of global labels and XEQ calls to your regular programs. Make the key assigmnets to the global labels in this new program. You can then save this one program to Extended memory and the key assignments should (IIRC) get saved with it. Then when you need to restore your assignments just restore the program from extended memory. I just tried it. Key assignments get saved as part of the file and will be restored when the program is read back into memory.

Cheers,

-Marwan

Re: HP 41 key assignment file and x memory

*Message #7 Posted by **geoff quickfall** on 14 Aug 2011, 9:46 p.m.,*
in response to message #6 by M. Joury

WHAT AN IDIOT I am!!!!!

Global labels in a program and in conjunction with SAVEK and GETK. I actually used to do that! This is what happens when you put a calcualator away for years. You forget.

Thanks Marwan.

once you have a CL you will put everything away (except the 34S!!)

Geoff

Re: HP 41 key assignment file and x memory

*Message #8 Posted by **M. Joury** on 14 Aug 2011, 10:41 p.m.,*
in response to message #7 by geoff quickfall

Glad I could be of some help :-).

I got through my last 3 years of college with my old 41 and I used to know the darn thing inside and out. These days I sometimes have to go back to the manual for stuff that I once knew backwards and forwards. Must be old age setting in and messing with my memory <g>. I actually had to test my idea to make sure that I was remembering right--I was pretty sure that worked with the card reader but was not 100% sure it worked with extended memory.

Cheers,

Marwan

EDIT:

Does the order in which you do it matter? I think it might--GETK before you read back the

program?

Edited: 14 Aug 2011, 10:44 p.m.

Re: HP 41 key assignment file and x memory

*Message #9 Posted by **geoff quickfall** on 14 Aug 2011, 11:09 p.m.,*
in response to message #8 by M. Joury

the 41CX was my tool during my Masters program. It ran 4 pieces of my lab and was my plotter, data cruncher and printer.

I too new synthetics inside and out but yep, it is a case of:

```
0, STO C
```

;-)

i will check on the order tonight. I just got word I am off to London tomorrow and have to get Wlodek's CL up to snuff for him.

Cheers, Geoff

Re: HP 41 key assignment file and x memory

*Message #10 Posted by **M. Joury** on 14 Aug 2011, 11:49 p.m.,*
in response to message #9 by geoff quickfall

Happy Flying!

Cheers,

-Marwan

Re: HP 41 key assignment file and x memory

*Message #11 Posted by **Garth Wilson** on 14 Aug 2011, 11:10 p.m.,*
in response to message #1 by Geoff Quickfall

Why not just write programs full of PASN instructions? They won't actually read your key assignments, but you can have a program written to make all the assignments for each USER keyboard you want, and since you probably assigned the keys by hand according to how you wanted it, you can put the same thing in the program. Keys that don't get re-assigned can keep their old assignments. The programs can be kept in extended memory if desired so they're not usually resident in main memory. A CX with no modules at all can do this.

Edited: 14 Aug 2011, 11:11 p.m.

Re: HP 41 key assignment file and x memory

*Message #12 Posted by **M. Joury** on 14 Aug 2011, 11:47 p.m.,*
in response to message #11 by Garth Wilson

That would work as well. I actually thought of this but for some reason that I can not define gravitated to the other solution. This method is actually more memory efficient since, as you noted, it does not have to

reside in main memory. You could read it, run it, and program it to delete itself when done. Nice and clean. You could also code the GETK call into it so everything is done in one place.

Cheers,

-Marwan

Edited: 14 Aug 2011, 11:48 p.m.

Re: HP 41 key assignment file and x memory

*Message #13 Posted by **Geoff Quickfall** on 15 Aug 2011, 12:42 p.m.,*
in response to message #1 by Geoff Quickfall

Well I resorted to brute force:

```
LBL "KEYG"
"WA"
-11
PASN
"WC"
-12
PASN
"ST"
-13
PASN
.
.
.
"LO"
-84
PASN
"KEYF"
GETK
"BK"
GETP
END
```

So here is the calc and the reason for the key assignment program. The CL is loaded with:

```
CCD PLUS
PPC 1981
EXT-IL
PRINTER 3B
YFNS-1E
CLUTILS 1H
```

At any time I can plug and unplug any other ROM of choice. Some of these ROMs like the blood glucose ROM assigns functions to the keyboard removing my custom keyboard. To return my keyboard I must remove a program "BK" (full up) and bring "KEYG" to main memory.

XEQ "KEYG"

on the CL immediately loads the custom keyboard, erases itself and calls "BK" back to main, all in a split second. I also have in FLASH another 41CL image, called IGCP. This is a full suite of main memory programs and x-memory data bases that I wrote in 1984 fo my Masters in Palynology. I dug up the cards (I am currently collating data for another article), loaded the routines including assignments. I then using a routine which copies the entire suite of programs into the CL and thence to FLASH. These calculator 'states' contain the key assignments as well as the entire x-memory, flags and main memory including any data in storage registers. Once in FLASH they are protected from Memory Lost or power failures.

Now I just swap the FLASH and have a IGCP or aviate calculator at my whim. Many calculator states can be copied to the FLASH allowing you to have many custom calculators in your pocket!

Ran the CL in the cockpit to Hong Kong from Vancouver (for a total of 6 hours both ways). Not a single ESD event, usually occured on the standard 41 at least once due to the dry cockpit air.

Cheers, Geoff

Re: HP 41 key assignment file and x memory

*Message #14 Posted by **M. Joury** on 15 Aug 2011, 1:00 p.m.,*
in response to message #13 by Geoff Quickfall

Cool! I can't wait. I should start reading the manual now.

Cheers,

-Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A design rule for WP34s library software?

*Message #1 Posted by **Dieter** on 14 Aug 2011, 10:14 a.m.*

The recent discussions on various software to be included in the WP34s library show that there are certain rules and limitations that need to (or at least should) be concerned. So I think it's a good idea if there was something like a standard for such software, a kind of programmer's guide. This might include the following topics and more:

- Which registers can be used or should preferably be used? Some (most? all?) lettered registers are used for internal purposes (stack, parameters etc.), maybe there are one or two that can be used as "official" scratch registers. Or the rule recommends a range like R90-99 or R80-99 for library programs so that the user knows not to use these for his own software (as long as the library is used).
- The same goes for flags. Since there is a vast number of available flags, the use of flag 90-99 could be recommended.
- What about the stack? Consider the quadratic solver. X, Y and Z hold the coefficients, so do we need to preserve the higher registers on return? Should they be zeroed? Does this matter anyway?
- What about initializing modes and handling/changing modes inside library software? For instance, software using trig functions should either use the current angular mode and, if necessary, convert angles to this mode. *If* modes are changed during the library call, they should be reverted to the original setting before return. The same goes for stack mode, display settings, etc.
- What about documentation? What information is mandatory, what is optional?

I am sure this is not a complete list. ;-)

Dieter

Re: A design rule for WP34s library software?

*Message #2 Posted by **Walter B** on 14 Aug 2011, 3:45 p.m.,*
in response to message #1 by Dieter

Thanks for raising this topic. There are no standards yet, but the following may form the base for a discussion here:

> Quote:
>
> - Which registers can be used or should preferably be used? Some (most? all?) lettered registers are used for internal purposes ...

All of them have a specific use: please see the first page about "Memory" in the manual. So I don't recommend using these nor the ones employed for statistics if you want to avoid interfering with such commands. Beyond those, feel free to chose whatever registers you like. I think it's good practice to document them in the program header.

> Quote:
>
> - The same goes for flags.

No user flags but the lettered ones have a specified meaning so far. So here the door is wide open for you. Enjoy (but document)!

> Quote:
>
> • What about the stack? Consider the quadratic solver. X, Y and Z hold the coefficients, so do we need to preserve the higher registers on return?

Depends. I'd vote for some cleanup at the end of a routine. E.g. if a routine uses X, Y, and Z for input and X and Y for output, then it shall work in a 4-level stack like shown below:

```
Stack level   Content at start  ... at end
          T   t                    t
          Z   input parameter 3    t
          Y   input parameter 2    result (part 2)
          X   input parameter 1    result (part 1)
```

I leave it as an exercise to transfer this to an 8-level stack ;-) Remember the commands STOS and RCLS.

> Quote:
>
> • What about initializing modes and handling/changing modes inside library software? For instance, software using trig functions should either use the current angular mode and, if necessary, convert angles to this mode. *If* modes are changed during the library call, they should be reverted to the original setting before return. The same goes for stack mode, display settings, etc.

I concur. STOM and RCLM will help in hosekeeping.

> Quote:
>
> • What about documentation? What information is mandatory, what is optional?

I can't force anybody to document what (s)he does in his/her routine, but I'd welcome documenting registers and flags used as well as input and output. With the housekeeping suggested above, nothing more will be necessary IMHO.

What do you think?

Walter

Re: A design rule for WP34s library software?

*Message #3 Posted by **fhub** on 14 Aug 2011, 3:51 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> All of them have a specific use: please see the first page about "Memory" in the manual. So I don't recommend using these nor the ones employed for statistics if you want to avoid interfering with such commands.

At least for register "J" I haven't seen any usage yet, so this should be safe as scratch register.

Edited: 14 Aug 2011, 3:51 p.m.

Re: A design rule for WP34s library software?

*Message #4 Posted by **Walter B** on 14 Aug 2011, 3:55 p.m.,*
in response to message #3 by fhub

> Quote:
>
> At least for register "J" I haven't seen any usage yet, ...

Not my fault ;-) Please read said page again 8-)

Re: A design rule for WP34s library software?

*Message #5 Posted by **fhub** on 14 Aug 2011, 4:11 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> Not my fault ;-) Please read said page again 8-)

Well dear Walter,

I'm quite sure that register J was NOT mentioned as being used for statistical calculations in former manual versions - that's the 1st point.

And the 2nd point is that you yourself suggest "Unless required for the purposes just mentioned, A-D,I,J and K are available as additional general purpose registers."
So what now?

If I'm sure to be in SSIZE4 mode (or switch to this mode) in a program, I absolutely see no reason to NOT use any of these 'upperstack' registers A-D - they can be perfectly used e.g. as a backup of the usual X-T stack.

Waiting for your next disagreement ... ;-)

Re: A design rule for WP34s library software?

*Message #6 Posted by **Walter B** on 14 Aug 2011, 4:40 p.m.,*
in response to message #5 by fhub

Franz,

> Quote:
>
> I'm quite sure that register J was NOT mentioned as being used for statistical calculations in former manual versions - that's the 1st point.

You're right: J wasn't mentioned this way before v1.11. Who gets the first point now? ;-)

> Quote:

> And the 2nd point is that you yourself suggest "Unless required for the purposes just mentioned, A-D,I,J and K are available as additional general purpose registers."
> So what now?

May I quote myself? I wrote in message #2 above: *I don't recommend using these nor the ones employed for statistics if you want to avoid interfering with such commands.*
So if you want to interfere feel free to use them. But don't expect me appreciating that.

Re: A design rule for WP34s library software?

*Message #7 Posted by **fhub** on 14 Aug 2011, 5:12 p.m.,*
in response to message #6 by Walter B

> Quote:
>
> May I quote myself? I wrote in message #2 above: ...

Well, I also have quoted **you** - with exactly the words you use in your manual.

So do we have 2 Walters here, a 'forum Walter' and a 'manual Walter'?
Both contradicting statements above let me almost believe this.

Re: A design rule for WP34s library software?

*Message #8 Posted by **Walter B** on 14 Aug 2011, 6:11 p.m.,*
in response to message #7 by fhub

IMHO both statements are not contradicting each other :-)

(I'm willing to explain this on request, but am confident you won't need it after reading carefully.)

Re: A design rule for WP34s library software?

*Message #9 Posted by **Paul Dale** on 14 Aug 2011, 6:55 p.m.,*
in response to message #1 by Dieter

The recent discussions were for code in xrom which is a very different beast to a library. Code there cannot touch the user's state and must preserve modes and stack -- xrom exists to implement commands that, to the user, appear exactly like internal ones.

Libraries, on the other hand, are far less restricted. Basically, so long as what the function does and what resources it uses is documented I don't see a problem. Still, it would be nice to avoid using the lettered registers and flags and the statistical registers -- you as a library writer don't know what the user is doing.

- Pauli

Re: A design rule for WP34s library software?

*Message #10 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 5:38 a.m.,*
in response to message #9 by Paul Dale

I think losing the stack isn't an issue for some 'large scale' applications. If you just create a useful

subroutine of sorts it should more or less look like an internal command, even if it needs additional registers to do its work.

Stack size is very much a matter of user preference and a routine or application should only change it if absolutely necessary. The user interface of the VEC application starts with a SSIZE8 command for good reasons and a matrix program may opt for inputing the rows or columns of a matrix via the stack which makes an appropriate stack size mandatory. I don't see a way to restore the user preference because an interactive application does not have complete control all of the time.

OTH, a library routine that needs a specific stack size to operate should make use of STOM and RCLM. The latter routines are designed to directly transfer the state from and to a register and don't interfere with the stack contents.

Re: A design rule for WP34s library software?

*Message #11 Posted by **Paul Dale** on 15 Aug 2011, 5:40 a.m.,*
in response to message #10 by Marcus von Cube, Germany

I can't disagree with any of this. A library is a library and can do anything.

However, XROM isn't a library, it must look exactly like internal commands.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: linear equation system

*Message #1 Posted by **fhub** on 14 Aug 2011, 8:52 a.m.*

Now that we have an extended quadratic equation solver, what about a simple linear equation system solver for 2 variables?
I know this would be handled by a matrix package, but for 2 variables/equations it's just a few bytes and would fit quite well to SLVQ. ;-)

Here's my code for this (SLVL, SLVS or SLVLS ?):

```
/*
  Linear Equation System
  a*x + b*y = c
  d*x + e*y = f


  Mode:   SSIZE8
  Input:  a [ENTER] b .... e [ENTER] f
  Output: X:x Y:y Z:det (or "Invalid data" if det=0)
  Used:   Stack
*/


001 LBL'LS'
002 RCL B
003 RCL[times] Z
004 RCL B
005 RCL[times] A
006 -
007 x=0?
008 ERR 18
009 RCL C
010 RCL[times] Z
011 RCL B
012 RCL[times] B
013 -
014 RCL/ Y
015 RCL B
016 RCL[times] A
017 RCL D
018 RCL[times] A
019 -
020 RCL/ Z
021 0
022 ENTER[^]
023 [cmplx]R[v]
024 RTN
```

It preserves the coefficients of the 2nd equation (d,e,f), puts the coefficient determinant to Z and the solution x,y to X,Y.
Of course it works only in SSIZE8 mode!

With the use of Pauli's 'private' ;-) internal registers it could even preserve ALL coefficients, if e.g. the determinant would be stored to register L (or simply ignored).

If you want you can include it in the XROM, if not then it's just one more little user program ... ;-)

Franz

Edited: 14 Aug 2011, 8:54 a.m.

Re: WP34s: linear equation system

*Message #2 Posted by **Paul Dale** on 14 Aug 2011, 7:00 p.m.,*
in response to message #1 by fhub

> Quote:
>
> Of course it works only in SSIZE8 mode!

and

> Quote:
>
> If you want you can include it in the XROM

are exclusive.

So a library routine it will have to be.

- Pauli

Re: WP34s: linear equation system

*Message #3 Posted by **fhub** on 14 Aug 2011, 7:24 p.m.,*
in response to message #2 by Paul Dale

Yes, I was already afraid that SSIZE8 might be a problem for XROM.
But I can't store 6 values on a 4-level stack - and using registers instead is no good idea IMO, because it's much more complicated to input.

Now for another idea I had today: ;-) Currently register "I" is only used in complex operations and stores the previous imaginary part (Y-value).
What if the same would be done also for real (duadic) operations, i.e. before executing any of these operations the Y-value is stored in I (together with X in L)?
So also for real operations the I-register would work like a "LastY" - this would almost allow a kind of "UNDO" function: after any duadic operation (e.g. done by mistake) you could just do DROP, RCL I, RCL L, and you have the previous stack back again.

I think this would be very easy to implement (if I don't overlook something?), because such a "STO Y to I" could simply be done whenever X is stored in L.

Good idea or not? ;-)

Franz

Re: WP34s: linear equation system

*Message #4 Posted by **Paul Dale** on 14 Aug 2011, 7:13 p.m.,*
in response to message #1 by fhub

Is there a reason you've got three cross products (of the form a b - c d) here but aren't using complex multiply to maintain accuracy?

- Pauli

Re: WP34s: linear equation system

*Message #5 Posted by **fhub** on 14 Aug 2011, 7:38 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Is there a reason you've got three cross products (of the form a b - c d) here but aren't using complex multiply to maintain accuracy?

Yes, there are even a few reasons! ;-)

1) I would have to put all 4 values (used in [cpx]*) at the right position on the stack, which would cost a lot of program steps
2) this correct positioning would also need much more than the 8 stack registers, because the values used for any [cpx]* are used in the following step(s), too (and without actually trying it I doubt that I could use both the real and imaginary part of the complex product, so one of them would always be useless)
3) last but not least I don't care SO much about EXTREMELY high precision (anywhere at 16 digits) like you - when do you (in every-day-problems) really have a linear equation system (2x2) with coefficients which would give wrong results if you don't use your favoured "super-high-precision-tricks"? ;-)

Franz

Re: WP34s: linear equation system

*Message #6 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 5:19 a.m.,*
in response to message #5 by fhub

Franz, neat little program. One more idea which might even allow for Pauli's idea to compute the determinant with a complex multiply: Why not enter the complete system column wise or coefficients first, then right hand side? If the routine would preserve the coefficients in stack levels Z, T, A & B and a allow to enter another set of values for the right hand side to solve a similar system without reentering the matrix.

Pauli, even if in XROM the stack mechanics a nailed to 4 levels, all 8 registers are still available so that a program which expects data in registers A to D can still be written. It may consume more steps but we have some room left.

Re: WP34s: linear equation system

*Message #7 Posted by **Paul Dale** on 15 Aug 2011, 5:36 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Pauli, even if in XROM the stack mechanics a nailed to 4 levels, all 8 registers are still available so that a program which expects data in registers A to D can still be written. It may consume more steps but we have some room left.

XROM is for built in commands. Playing games like this with the stack & registers really isn't appropriate :-(The command has to work regardless of the stack size and the user's settings.

In a library, things are very different however.

- Pauli

Re: WP34s: linear equation system

*Message #8 Posted by **fhub** on 15 Aug 2011, 5:45 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> One more idea which might even allow for Pauli's idea to compute the determinant with a complex multiply: Why not enter the complete system column wise or coefficients first, then right hand side? If the routine would preserve the coefficients in stack levels Z, T, A & B and a allow to enter another set of values for the right hand side to solve a similar system without reentering the matrix.

Yes Marcus, the idea with preserving the coefficients is indeed a very good one, and also using the complex multiply would be preferable, but both ideas require to use additional registers Rnn - it's just not possible to do this with an 8-level stack (at least not without dozens of "stack-swappings"). So if you would say using additional registers is ok, then I would certainly give it a try ... ;-)

But what surprises me a bit more at the moment: my idea above (having an additional "LastY" (i.e. storeing Y in "I") to the usual "LastX" in L) doesn't even seem to be worth any answer!?
- And this although such a "LastY" after a duadic operation would certainly be just as useful as "LastX" for further calculations.
- And this although it would just need an internal "Y -> I" command whenever X is backup'ed in L.

Franz

Re: WP34s: linear equation system

*Message #9 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 5:52 a.m.,*
in response to message #8 by fhub

For me your suggestion about LastY sounds reasonable. Let's wait what the others think about it.

Re: WP34s: linear equation system

*Message #10 Posted by **Paul Dale** on 15 Aug 2011, 5:54 a.m.,*
in response to message #8 by fhub

Since you are pushing the point, I hope you can deal with a bit of negativity :-)

We considered a last Y a long time back. It doesn't work and introduces inconsistencies. Ignoring the lack of RAM for extra registers for a moment...

Complex dyadic operations would require a complex equivalent of last Y. Triadic operations would require a last Z. Fortunately, there are no complex triadic operations yet or we'd require more.

We simply can't stay consistent treading this path.

Now think about the number of times you've used register I as a temporary (& I've seen your

code doing just this and I've done the same many times). Users can and will do this. Adding a last Y using "I" will impact this use of the register.

So, yes we considered this and rejected it.

Now, we could use our final bit in the mode word to specify an optional stack backup before every operation or not. That would achieve pretty much the same thing. Is this worthwhile? I really don't know.

- Pauli

Re: WP34s: linear equation system

*Message #11 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 5:59 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Now, we could use our final bit in the mode word to specify an optional stack backup before every operation or not. That would achieve pretty much the same thing. Is this worthwhile? I really don't know.

This reminds me of the "Last Stack" feature of the RPL machines. I think it's overkill. We should consider to put STOS and RCLS on the keyboard instead (where ITOA and ATOI reside now) and to allow register A as the destination if in SSIZE4 mode.

Re: WP34s: linear equation system

*Message #12 Posted by **Paul Dale** on 15 Aug 2011, 6:02 a.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> This reminds me of the "Last Stack" feature of the RPL machines. I think it's overkill. We should consider to put STOS and RCLS on the keyboard instead (where ITOA and ATOI reside now) and to allow register A as the destination if in SSIZE4 mode.

Allowing A is problematic and would require some work in the argument processing code.

I also think it is overkill.

- Pauli

Re: WP34s: linear equation system

*Message #13 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 7:10 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> Allowing A is problematic and would require some work in the argument processing code.

Yes, I know. But I still thinks it's worth the effort. So with a 4 level stack, A to D can assume the role of a quick backup.

Re: WP34s: linear equation system

*Message #14 Posted by **Paul Dale** on 15 Aug 2011, 7:12 a.m.,*
in response to message #13 by Marcus von Cube, Germany

What about a SWAP4 command?

Swaps X, Y, Z & T with A, B, C, & D.

Not quite as good as a STO/RCL of the stack but useful I think.

- Pauli

Re: WP34s: linear equation system

*Message #15 Posted by **fhub** on 15 Aug 2011, 7:26 a.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> What about a SWAP4 command?

LOL, that's funny: exactly **my** idea from a few days ago ...

All 3 features (Save/Restore/Swap-stack between the lower- and upper-stack were my suggestions a few days ago (and I've even provided user-code for all 3 commands), and what answer did I get? "not needed, you can use STOS and RCLS instead"

And now when Marcus (and even Pauli himself) 'suggest' exactly the same features, they are now suddenly "useful"?

Sorry, but I couldn't resist ... ;-)

Edited: 15 Aug 2011, 7:44 a.m. after one or more responses were posted

Re: WP34s: linear equation system

*Message #16 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 8:26 a.m.,*
in response to message #15 by fhub

Some suggestions just take their time... ;-)

Re: WP34s: linear equation system

*Message #17 Posted by **Paul Dale** on 15 Aug 2011, 5:44 p.m.,*
in response to message #14 by Paul Dale

I've figured out the "best" way to do the swap4 command:

```
LBL'SW4'
```

```
    [cpx]SWAP C
    [cpx]SWAP Z
    [cpx]SWAP C
    [cpx]SWAP A
    RTN
```

Seven instructions = 14 bytes. To introduce an internal command table entry takes 12 bytes and to add a function that does nothing pushes things closer to 40 bytes. To add the relevant swaps pushes this higher. So this is the most compact implementation I can think of.

The question is to do this as a user subroutine -- no extra flash bytes but 7 user steps -- or put it in xrom as is -- 14 bytes -- or to put it in xrom with an internal command to call it -- 30+ bytes -- or to write a dedicated command -- 60+ bytes.

I'm leaning towards letting the user do this one.

- Pauli

Re: WP34s: linear equation system

*Message #18 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 2:10 a.m.,*
in response to message #17 by Paul Dale

Now add another label, LBL 32, and XEQ x<>y does the swap from the keyboard as long as the PC is positioned in the correct region.

Re: WP34s: linear equation system

*Message #19 Posted by **fhub** on 15 Aug 2011, 6:10 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Since you are pushing the point, I hope you can deal with a bit of negativity :-)

Well, a **bit** of negativity won't be a problem for me, but as far as I can remember **each and every** idea or suggestion from me to improve the 34s has been rejected by you so far - either "not useful" or "not possible"!

So since it seems that **all** my ideas are in fact that bad, I guess it's better for me (and you) if I completely resign from the 34s project.

Franz

Edited: 15 Aug 2011, 6:11 a.m.

Re: WP34s: linear equation system

*Message #20 Posted by **Paul Dale** on 15 Aug 2011, 6:53 a.m.,*
in response to message #19 by fhub

Grow up.

We've taken several of your suggestions on board and I expect we'll accept more in the

future. Just not this one.

You're the one who pushed for a comment about this one.

- Pauli

Re: WP34s: linear equation system

*Message #21 Posted by **fhub** on 15 Aug 2011, 7:23 a.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> Grow up.

I would rather say **you** should grow up!
Your usual stubborn argument "because it won't work for **all** functions, we don't implement it **at all**" is pure nonsense, and I really can't hear it anymore!
Because you won't have a LastZ for a **few single** 'exotic' triadic functions (or for complex functions), you don't implement such an extremely useful LastY feature at all?
Just because a few percent of functions (certainly used very seldom) can't profit from such a feature, all other (maybe 95%) functions shouldn't profit from a LastY, too?
Sorry, but that's just ridiculous.
(I guess you would also reject a 2nd prize in a lottery just because you didn't win the 1st prize?)

> Quote:
>
> We've taken several of your suggestions on board

May I laugh?
Yes, I'm good enough for you to improve and optimize some code (crossproduct, TVM, SOLVQ), but when it comes to ideas or suggestions your opinion is that I should better shut up.

Thanks, but I'm not your slave - it's really enough now!

Goodbye - an my best wishes to the WP34s team,
Franz

Re: WP34s: linear equation system

*Message #22 Posted by **Walter B** on 15 Aug 2011, 3:54 p.m.,*
in response to message #21 by fhub

Number 13 and counting ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My IR-printer 82240A doesn´t print right

*Message #1 Posted by **Matti Övermark** on 14 Aug 2011, 4:24 a.m.*

I have an HP IR printer of the first model (A). It has worked flawlessly even though I bought it second hand. S/N is 272**S**10269.

Now there is one or maybe rows missing on the output on paper. * indicates successful printing, - no printing.

```
******       ***        ***********
*       *    *     *           *
**      *    *     *           *
*******      ******            *          and so on
*       *    *     *           *
        -    -     -           -
        -    -     -           -
******       *     *           *

Other data.
* No change with fresh/old batteries, neither when using charger.
* Version D as indicated last in the testpage.
* Prints as requested from all calculators that I have access to.


I tried to see on Randys (fixthatcalc) page, but I found no help.
Anyone know how to solve it?
TIA Matti
```

Re: My IR-printer 82240A doesn´t print right

*Message #2 Posted by **Michael de Estrada** on 14 Aug 2011, 8:04 a.m.,*
in response to message #1 by Matti Övermark

Pending a reply from one of the more expert forum members, I'm going to suggest that the print head has some bad elements. Either that or possibly the connector ribbon has some broken lines or bad connections.

Re: My IR-printer 82240A doesn´t print right

*Message #3 Posted by **Tony Duell** on 15 Aug 2011, 4:27 a.m.,*
in response to message #1 by Matti Övermark

The printhead consists of a vertical column of elements (each corresponding to a dot row), and it appears that some of yours have failed.

I would open it up, disconnect the printhead ribbon from the PCB and check the elements for continuity. If some are open-circuit, you need a new print mechanism (I don't think the printhead is a replacable part, alas).

If the printhead checks out, it could be the driver chip on the PCB (I think that's a standard part and can be replaced) or the microcontroller (custom programmed, only source is another similar printer).

There's a schematic of the 82240B on the HPCC CD-ROM. There are differences, of course, but it might be a start.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Symbolic preprocessor online

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 13 Aug 2011, 5:41 p.m.*

Hi Y'All,

Based on a spec mostly worked out by Pauli, we have cobbled together an interesting addition to the WP 34S assembler tool chain. This is an assembler preprocessor (PP) that currently has the following features:

- It releases the user from the scourge of having to write those darn BACK and SKIP instruction (no more counting!). Just use "JMP SomeLabel" in place of BACK, SKIP, and GTO. Let the tool figure it all out for you.

- You can now use 'soft' labels with any instruction that would take a numeric or single-letter label, such as "XEQ DoThisReallyCoolThing" rather than "XEQ 25" (what's up with that?). Obviously there is a matching symbolic label at the target end of this as well.

- You can now use double quoted strings directly in the source and the tools will figure out that "WP 34S rocks!" needs to get parsed into 4 triple [alpha]'xxx' and a single [alpha] X.*** (Note that there a still a few known bugs in this feature if you decide to use any characters that mean something to regex. Working on it...)

*** Note that this specific example will overrun the alpha window on the screen so perhaps it is not such a good one to try :->

There are at least 3 sample programs in the library as example source for this tool. They are all knockoffs of the originals, suitably modified to take advantage of most of the features above (there is no 'promotion' of JMP to GTO in the example set -- though if you are sharp you may be able to figure out how to force it to occur).
- vector_pp.wp34s
- WHO_pp.wp34s
- 8queens_pp.wp34s

There is a new Assembler document (WP34s_Assembler_Disassembler.pdf, v0.5) that describes much of this in pretty reasonable detail (see Section 8), but basically to assemble any program that has PP code you need to add a new command line switch (-pp):

```
$ wp34s_asm.pl -pp vectors_pp.wp34s 8queens_pp.wp34s WHO_pp.wp34s -o wp34s-4.dat
```

If you don't want to use the new features, just don't use the '-pp' switch. Everything should still work as it did before. However if you feed it PP source without the '-pp' switch...

There are definite restrictions for using this PP code format. The most important is:

- DON'T PUT YOUR OWN NUMERIC LABELS IN UNLESS THEY ARE FOR A SPECIFIC PURPOSE! Use the symbolic labels wherever you can. There are places where this 'rule' cannot be followed (indirect LBLs for example and those connected to hot-keys) and the tool will work with what you have but label re-use is NOT ALLOWED with this tool. However, in most cases, they are just **not** required anymore -- the tool will select and fill these in for you if and when they are required. You might even see some code compression if you are used to using LBLs willie-nillie.

After a run, intermediate information is available in a file called wp34s_pp.lst in the directory you ran from. This file has the post-processed source that was actually assembled. Use this file if you want to debug your program on a machine or the emulator. It will have fully resolved line numbers, etc. (At the moment it does not retain your original comments. Not crapping please! A 'fix' may be in the works but it **is** complicated.)

Note that this is currently ONLY available in Perl so if you are using the EXE version of the assembler, you may have to wait a wee bit.

Probably still more bugs in this so let me know. (For a 'simple' little idea for an extension Pauli just tossed out, the code for this feature set is larger than the whole damn original assembler! :-)

We hope you enjoy it!

Source:

```
LBL'Roc'
CL[alpha]
"WP 34S rocks!"
XEQ Rocks_View
RTN


Rocks_View:: [alpha]VIEW
PSE 08
RTN
```

Into:

```
$ wp34s_asm.pl -pp rocks_pp.wp34s -o wp34s-4.dat; cat wp34s_pp.lst
```

Yields:

```
// Source file(s): rocks_pp.wp34s,
// Source File(s): .__0.894647826747136.tmp
// Preprocessor revision: $Rev: $
001 /*               */ LBL'Roc'
002 /*               */ CL[alpha]
003 /*               */ [alpha]'WP[space]' // "WP 34S rocks!"
004 /*               */ [alpha]'34S'
005 /*               */ [alpha]'[space]ro'
006 /*               */ [alpha]'cks'
007 /*               */ [alpha] !
008 /*               */ XEQ 99 // XEQ Rocks_View
009 /*               */ RTN
010 /*               */ LBL 99
011 /* Rocks_View:: */ [alpha]VIEW
012 /*               */ PSE 08
013 /*               */ RTN
// %LBLs:
//  Label Step
//  99 => 011
// Total of 1 elements
```

(...and before you tell me "That's wrong. LBL 99 is actually at step 010!", its 'effective' location is 011 for the purposes of this tool... :-)

Re: WP34S Symbolic preprocessor online

*Message #2 Posted by **Paul Dale** on 13 Aug 2011, 8:36 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Great work!

I never said it would be a simple extension :-) It is a useful one.

- Pauli

Re: WP34S Symbolic preprocessor online

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 14 Aug 2011, 9:39 a.m.,*
in response to message #2 by Paul Dale

Nah, I was just teasing Pauli!! :-) But is was a strain for my poor brain.

It certainly is a useful concept and I hope someone gives it a good shake. Both the soft labels and JMP instruction should be **very** attractive to people writing code. Your suggested mods to Franz's code with reminder to "...fix the skips up" after the changes then becomes obsolete! Fantastic -- let the tools do the ugly work while the programmer concentrates on more creative tasks. (My soap box/marketing moment...)

I have checked new versions of both the assembler and PP that fix a few bugs related to regex-active characters within the double quote strings (eg: []^$*()\). You can now even embed a double quote itself within the string (I had thought that one was a permanent goner).

Document is updated to remove the dire warnings in the double quote section. (In retrospect, giving bugs some document space was not such a good idea.)

Now given:

```
"a= [pi]r[^2]"
"c=2[pi]r"
"s/^(tu)\s*"$/\1\w{3,4}/"
"So, like, she said, "When?""
```

PP gives you:

```
001 /*    */ [alpha]'a=[space]' // "a= [pi]r[^2]"
002 /*    */ [alpha]'[pi]r[^2]'
003 /*    */ [alpha]'c=2' // "c=2[pi]r"
004 /*    */ [alpha] [pi]
005 /*    */ [alpha] r
006 /*    */ [alpha]'s/^' // "s/^(tu)\s*"$/\1\w{3,4}/"
007 /*    */ [alpha]'(tu'
008 /*    */ [alpha]')\s'
009 /*    */ [alpha]'*"$'
010 /*    */ [alpha]'/\1'
011 /*    */ [alpha]'\w{'
012 /*    */ [alpha]'3,4'
013 /*    */ [alpha] }
014 /*    */ [alpha] /
015 /*    */ [alpha]'So,' // "So, like, she said, "When?""
016 /*    */ [alpha]'[space]li'
017 /*    */ [alpha]'ke,'
018 /*    */ [alpha]'[space]sh'
019 /*    */ [alpha]'e[space]s'
020 /*    */ [alpha]'aid'
021 /*    */ [alpha]',[space]"'
022 /*    */ [alpha]'Whe'
023 /*    */ [alpha]'n?"'
```

Before, the tool chain would have done some pretty strange things -- if one or both section didn't lock up!

Cheers...

Re: WP34S Symbolic preprocessor online

*Message #4 Posted by **fhub** on 14 Aug 2011, 9:21 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Hi Neil!

Thanks for your preprocessor - looks indeed to be a very useful tool. :-)

Unfortunately I have again a problem with it: with my TinyPerl it doesn't work - I get the following error message (already when I try to show the helpscreen with -h).

Global symbol "@label" requires explicit package name at (eval 24) line 244.
Global symbol "@label" requires explicit package name at (eval 24) line 254.

Maybe you can have a look at this problem with TinyPerl - but only if it's easy to fix and doesn't make you too much troubles. ;-)

Franz

Re: WP34S Symbolic preprocessor online

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 14 Aug 2011, 9:53 a.m.,*
in response to message #4 by fhub

> Quote:
>
> Global symbol "@label" requires explicit package name at (eval 24) line 244.
> Global symbol "@label" requires explicit package name at (eval 24) line 254.

Hi Franz,

This is **exactly** the same TinyPerl parser bug that showed up in this thread. The TinyPerl parser is faulty! You already know of my love [not] for TinyPerl.

Why don't you just bite the bullet and get a real Perl environment? Unless you are extraordinarily cramped for disk space, 85MB of space is not really that much in the grand scheme of things.

I will see if I can work around it but it is &^$##$ annoying to have to deal with bad tools when there are perfectly serviceable ones out there. :-<

Re: WP34S Symbolic preprocessor online

*Message #6 Posted by **fhub** on 14 Aug 2011, 10:00 a.m.,*
in response to message #5 by Neil Hamilton (Ottawa)

> Quote:
>
> I will see if I can work around it but it is &^$##$ annoying to have to deal with bad tools

Ok Neil, just ignore my posting - I can live without the preprocessor. ;-)

Re: WP34S Symbolic preprocessor online

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 14 Aug 2011, 10:08 a.m.,*
in response to message #6 by fhub

> Quote:
>
> Ok Neil, just ignore my posting - I can live without the preprocessor. ;-)

Glad to hear it! I am sure that the EXE version will be along soon.

My fear is that it would be the first layer of a very large onion -- this is such a **very** common syntax in Perl (and a great many other script-type languages as well). Maybe you could ask the people who wrote TinyPerl to fix *their* tool instead. That would certainly fix the fundamental problem and would be the better long-term solution.

I look forward to hearing back about what they have to say when you make your request for a bug fix! Please post an update to this forum.

Cheers...

Re: WP34S Symbolic preprocessor online

*Message #8 Posted by **fhub** on 14 Aug 2011, 10:52 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

> Quote:
>
> Maybe you could ask the people who wrote TinyPerl to fix *their* tool instead.

Well, if you look at the TinyPerl website you can see that this project's last update was 2003 (and the last posting in the feedback section is from 2005).
So I'm quite sure that nobody is still working on this project.

Re: WP34S Symbolic preprocessor online

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 14 Aug 2011, 11:45 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

> Quote:
>
> I am sure that the EXE version will be along soon.

I have the EXE version up in the SVN as well. Just as the initial run of *wp34s_asm.exe* resulted in a **BIG** delay while it was dynamically decompressing itself, the combination of *wp34s_asm.exe* spawning a copy of *wp34s_pp.exe* will result in a doubly long initial delay!

Fear not, my experience is that they are cached *somewhere* on your disk so subsequent runs should be quicker. (As I pointed out in earlier posts, this is a function of the Perl PAR Packer tool that created them. I got it to work and comple and I even reduced its size somewhat but don't know a whole lot more about it besides that.)

I have done some initial testing on one Windows installation so if anyone runs into problems with it, let me know.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Refurbishing project

*Message #1 Posted by **Tim** on 13 Aug 2011, 4:30 p.m.*

I have bought a HP30b. I have the cable. I have downloaded the latest files from source forge. I have the program to transfer the program to HP calculator. I am at a lost of what to do next. I am trying to follow the instruction from the website but filenames do not match up. What is the file name to load onto the calculator or do I need to created it form the assembler? Please Advise. I would also be interested in the overlay when available.

Re: WP34S Refurbishing project

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 5:52 p.m.,*
in response to message #1 by Tim

The file is calc.bin. If you've downloaded the zip file then you will find it in the folder named real. If you go directly to the SVN repository it's in trunk/realbuild.

Re: WP34S Refurbishing project

*Message #3 Posted by **Tim** on 15 Aug 2011, 10:24 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I worked!!! Yeah I have a wp342. Just totally awesome. Thanks. Now I need to work on the overlay.

Re: WP34S Refurbishing project

*Message #4 Posted by **Dominic Richens** on 19 Aug 2011, 1:04 p.m.,*
in response to message #1 by Tim

Hi Tim,

> Quote:
>
> I have bought a HP30b. I have the cable. ...

Where did you get your cable from? the wiki says you can by the online but I haven't had any luck googling - I may not be using the right search terms.

cheers!

Dominic

Cable for the 20b/30b ----> 34s

*Message #5 Posted by **gene wright** on 19 Aug 2011, 1:36 p.m.,*
in response to message #4 by Dominic Richens

Send me an email through the forum.

I ask for $3 if sent to a USA address, $5 elsewhere. Paypal preferred. This *barely* covers my cost of materials and probably not my gas to the post office and surely not my time. :-)

Re: WP34S Refurbishing project

*Message #6 Posted by **Patrice** on 19 Aug 2011, 6:56 p.m.,*
in response to message #4 by Dominic Richens

You can ask nicely to Tim Wessman.

the cable was given for free last year at HHC 2010.

If you attends in San Diego, I am sure he will be happy to hand you one.

Patrice

Re: WP34S Refurbishing project

*Message #7 Posted by **M. Joury** on 19 Aug 2011, 8:04 p.m.,*
in response to message #6 by Patrice

Gene has them now. He only asks that the "buyer" covers shipping expenses.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Source for 3M 8242-8 Cold Shrink

*Message #1 Posted by **David Ramsey** on 13 Aug 2011, 12:32 p.m.*

I'm ready to start cleaning the amazing amount of goop out of my 9810 printer and repairing the platen with cold shrink tubing, as described by Tony Duell. The specific part number he mentions is "3M 8242-8 Cold Shrink", but I can't find this anywhere. Most online sites seem to use different criteria; for example, shrinkcon.com specifies minimum and maximum diameters the tubing can handle, rather than part numbers.

If anyone could point me to exactly what to get, I'd appreciate it.

Re: Source for 3M 8242-8 Cold Shrink

*Message #2 Posted by **NateB** on 13 Aug 2011, 1:14 p.m.,*
in response to message #1 by David Ramsey

Here is the PDF spec sheet for the tubing. Perhaps he meant 8424-8. It lists a min/max diameter of 0.1-0.82 inches, which is close to the diameter of 0.85 inches mentioned in this thread.

Re: Source for 3M 8242-8 Cold Shrink

*Message #3 Posted by **David Ramsey** on 14 Aug 2011, 12:40 a.m.,*
in response to message #2 by NateB

I suspect you're correct; I'll order an 8424 kit and cross my fingers...

Re: Source for 3M 8242-8 Cold Shrink

*Message #4 Posted by **Tony Duell** on 14 Aug 2011, 3:19 a.m.,*
in response to message #3 by David Ramsey

Indeed I did mean 8424-8. Sorry....

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

An Attempt to Challenge the Bisection method for root findin

*Message #1 Posted by **Namir** on 13 Aug 2011, 12:18 p.m.*

Early this morning I had a curios idea in my head. How do the following two modifications to the Bisection method stack up against the Bisection method for finding roots?

1. A Random Method where we select a point at random inside the root-bracketing interval. The selected point's function value determines which part of the interval [A,B] to keep in order to zoom in on the root.

2. A Hybrid method in which we alternate between a regular Bisection step that chooses the midpoint in interval [A,B] and random step that chooses at random a point inside [A, B].

I ran 100,000 iterations to find the zero in [3,4] for my function e^x-3*x^2 = 0. The results are:

1. The hybrid method outperformed the Bisection method only in 5% of the iterations. The maximum saving in iterations was 10. The average and std deviation in iterations saved were about 2.0 and 1.26 iterations. 2. The Random method outperformed the Bisection method only in 2% of the iterations. The maximum saving in iterations was 11. The average and std deviation in iterations saved were about 2.5 and 1.72 iterations.

The histogram for the savings in iterations for both methods looks like an exponential decay.

So for now, the Bisection has done better than the above two suggested modifications.

That was fun!!

Namir

Re: An Attempt to Challenge the Bisection method for root findin

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 5:46 p.m.,*
in response to message #1 by Namir

It simply depends on how smooth your function is. The close the two points are the more the function between them looks like a straight line and bisection would give the exact result. (Or did I just mix up bisection with the Regula Falsi?)

Re: An Attempt to Challenge the Bisection method for root findin

*Message #3 Posted by **Namir** on 13 Aug 2011, 7:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

The Bisection looks only at the sign of the functions' values. The Reguli Falsi uses the function values as weights to estimate the new guess inside the root-bracketing interval. I developed the Quartile algorithm a few years ago, which performs better than the Bisection. The new method compares the absolute values of the function to calculate the refined guess (also inside the root-bracketing interval).

Re: An Attempt to Challenge the Bisection method for root findin

*Message #4 Posted by **Dieter** on 14 Aug 2011, 9:41 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> (Or did I just mix up bisection with the Regula Falsi?)

Yes.

Bisection simply means that, if f(x=2) is > 0 and f(x=10) < 0, try x=6 next.

The regula falsi (linear interpolation) uses a *weighted* average instead. If f(x=2) is 8 and f(x=10) is -4, i.e. "twice as close" to zero, the new estimate divides the x-interval [2; 10] the same way. So the next value is 7,33.

Dieter

Re: An Attempt to Challenge the Bisection method for root findin

*Message #5 Posted by **Namir** on 14 Aug 2011, 10:06 a.m.,*
in response to message #4 by Dieter

Reguli False has a little negative feature in that it does not intuitively shrink the root-bracketing interval like Bisection does. If you are using Reguli Falsi, you might as well switch to the tangent method. I believe the HP-34 Solve is based on the tangent method.

Namir

Re: An Attempt to Challenge the Bisection method for root findin

*Message #6 Posted by **Dieter** on 14 Aug 2011, 10:22 a.m.,*
in response to message #5 by Namir

> Quote:
>
> I believe the HP-34 Solve is based on the tangent method.

Since you say HP-34 and not WP-34 I think you refer to the HP-34C. As far as I know the 34C uses a modified secant method, i.e. a variation of the regula falsi. The WP-34s uses Brent's algorithm where several methods are combined.

I assume that "tangent method" refers to something like Newton's algorithm, i.e. place a tangent to the graph and find its intersection with the x-axis. Such a method requires just one initial guess, while HP Solve (just as the 34s) requires two guesses, preferably with opposite signs of the function result.

Dieter

Re: An Attempt to Challenge the Bisection method for root findin

*Message #7 Posted by **Paul Dale** on 14 Aug 2011, 5:57 p.m.,*
in response to message #6 by Dieter

I'm pretty sure the 34C uses a modified secant method. It has checks for going too far and escaping a bracketing interval.

The 34S uses Brent's method which fits a quadratic in the best case. it also has guards and interval bracketing in place.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Problems with repurposing the HP20b/30b

*Message #1 Posted by **Namir** on 13 Aug 2011, 11:09 a.m.*

Hi All,

I have been trying to burn the wp34s on an HP20b and an HP-30b. Gene Wright has kindly mailed me the old serial port cable that connects a PC with either calculator model.

At first I try to use an serial-to-USB adapter cable with Gene's cable to connect my current laptop (running Windows 7) to the calculator. That did not work. No real surprise here.

I then bought an old IBM Thinkpad laptop with Windows XP. I used the same cable system to connect the laptop's USB port to the calculator. That did not work either.

Last night I found in my house and old compact PC that has the old serial port and runs Windows 2000. I powered the old PC up, got to work, and copied the related firmware burning files to that old PC. I then used the serial cable that Gene sent me to connect the old PC and either calculator model. It DID NOT WORK EITHER.

I am using SAM-BA version 2.10 that I got from Gene to burn teh firmware. The cable he sent me was able to easily and quickly erase HP's firmware on the 20b and 30b. But when it comes to burning the wp34s firmware, I am getting a message that the software did not connect with either calculator. In the case of the SAM-BA 2.10 it sees COM1 and am able to select the board type (following a new instruction file I got from Gene) but it is unable to make the connection with either calculator.

Any help is appreciated. What am I doing wrong? Is the Windows 2000 not helping? Do I need to press the Reset and ON button in a particular order and duration before I run the SAM-BA 2.10 application?

Namir

Re: Problems with repurposing the HP20b/30b

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 11:23 a.m.,*
in response to message #1 by Namir

In order to get it to work on with an USB to serial adpater choose one from FTDI. The prolific chips don't work. I've tried it on Windows XP without success.

The erase feature is totally independent from the serial port, it's just a pin on the chip which is tied to high while the processor is running. Once erased, the only software in the device is the SAM-BA boot loader. After the erase, you need to reset the processor and then turn it on again. While not experimenting with it **remove the batteries!**. SAM-BA has no provisions to turn the device off and makes no attempt at saving power. It may be that your batteries are already flat.

Re: Problems with repurposing the HP20b/30b

*Message #3 Posted by **Namir** on 13 Aug 2011, 11:44 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Thanks for the tips. I did take the batteries out of both machines. I used a voltmeter to test the batteries and they seem ok. Whem I put the batteries back and tried to burn the 30b .. IT WORKED!!!I have a wp34s flahsed. YEAAAAAAAAAAAAHHHHHHHHHH!!!

Thanks

Namir

Re: Problems with repurposing the HP20b/30b

*Message #4 Posted by **Katie Wasserman** on 13 Aug 2011, 1:01 p.m.,*
in response to message #3 by Namir

I've re-flashed the 20/30b/12c+/10bii+ many, many times and have also found that a battery pull is frequently "the fix" when I have trouble with a firmware downloaded.

The other tip I'll offer is to pull out and reinsert the 6-pin pogo connector. Sometimes those pogo tips don't make good contact with the pads on the PCB.

I really wish that the firmware download process wasn't so difficult with these ARM machines. The whole system seems inherently problematic: built-in ARM boot routine, the PC software, USB to serial converter, the pogo-pins and the high current draw needed ROM these small power cells, not to mention user error.

I realize that HP never intended these programing ports to be used so frequently, but now that they are the whole process is in need of a makeover. Any suggestions?

Re: Problems with repurposing the HP20b/30b

*Message #5 Posted by **Namir** on 13 Aug 2011, 2:11 p.m.,*
in response to message #4 by Katie Wasserman

Katie,

Thanks for your tips. I will try them. I stayed up last night until 2:30 am working with the old PC and trying to burn the firmware. After getting getting the tip about the batteries from Marcus, the SAM-BA software connected and I was able to burn the 2p34s. My wife's nephew (who is staying with us to study locally) was kind enough to put the overlay labels that I had bought from Eric.

I agree wholeheartedly with you about how complex the setup is. I wish Cyril would write a firmware-burning program that works smoothly with Windows 7 and the USB ports.

Again, thanks for the additional tips.

Namir

Re: Problems with repurposing the HP20b/30b

*Message #6 Posted by **Paul Dale** on 13 Aug 2011, 8:16 p.m.,*
in response to message #3 by Namir

Welcome to the club :-) I hope you enjoy your 34S.

- Pauli

Re: Problems with repurposing the HP20b/30b

*Message #7 Posted by **Namir** on 13 Aug 2011, 8:54 p.m.,*
in response to message #6 by Paul Dale

It's a beauty, especially with the overlay. I bought another 30b so I can alternate the updates between 2 units. This way I always have one machine at least that works.

Namir

Re: Problems with repurposing the HP20b/30b

*Message #8 Posted by **Paul Dale** on 13 Aug 2011, 8:56 p.m.,*
in response to message #7 by Namir

> Quote:
>
> This way I always have one machine at least that works.

Such a lack of confidence !

- Pauli

Re: Problems with repurposing the HP20b/30b

*Message #9 Posted by **Namir** on 13 Aug 2011, 9:59 p.m.,*
in response to message #8 by Paul Dale

Well the cable that burns does not work reliably. It's like gambling in Las Vegas. What can I say?? Wiping out the firmware is by far the most reliable part of the whole operation. Writing the new firmware is a major gamble. Your software is cool and I would like to be able to update the firmware, without having to harass Gene Wright (the man has been very patient and most cooperative with me).

:-)

Namir

PS: I was showing my wife the wp34s calculator. I had a smile from ear to ear. You guys did a fantastic job.

Edited: 13 Aug 2011, 10:01 p.m.

Surprising success with repurposing the HP20b/30b

*Message #10 Posted by **sjthomas** on 13 Aug 2011, 10:48 p.m.,*
in response to message #9 by Namir

Not directly related, but . . .

Last night -- just for the heck of it -- I tried re-flashing both a 20B and a 30B with my early 2008 MacBook (OS X 10.7 Lion), running Windows XP inside a Parallels 6 virtual machine. I used a USB-to-serial adapter cable which is not branded with any name or other identifying information, which I found in a box of computer cables in my garage. Although I didn't expect it to, I was pleasantly surprised that this combination worked!

Stephen

Re: Surprising success with repurposing the HP20b/30b

*Message #11 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 3:51 a.m.,*
in response to message #10 by sjthomas

Good to hear. The Mac System-Profiler should tell you more about the cable. Can you post the vendor id here?

Re: Surprising success with repurposing the HP20b/30b

*Message #12 Posted by **sjthomas** on 15 Aug 2011, 8:29 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Here it is, Marcus:

USB-Serial Controller:

Product ID: 0x2303 Vendor ID: 0x067b (Prolific Technology, Inc.) Version: 3.00 Speed: Up to 12 Mb/sec Manufacturer: Prolific Technology Inc. Location ID: 0x1d100000 / 2 Current Available (mA): 500 Current Required (mA): 100

Re: Surprising success with repurposing the HP20b/30b

*Message #13 Posted by **Marcus von Cube, Germany** on 16 Aug 2011, 3:11 a.m.,*
in response to message #12 by sjthomas

So it's one of the Prolific devices that work. Interesting find.

Re: Problems with repurposing the HP20b/30b

*Message #14 Posted by **gene wright** on 14 Aug 2011, 5:02 p.m.,*
in response to message #9 by Namir

Hey Namir! Don't go letting people think I'm patient and helpful! :-)

Glad it has worked.

Re: Problems with repurposing the HP20b/30b

*Message #15 Posted by **Tim Wessman** on 14 Aug 2011, 9:33 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Apparently something has changed, because prolific chipset converters were the only USB<=>serial sevices I ever could get to work reliably with all my serial stuff (long before I started for HP). My adapters work just fine.

They are several years old though. Someone else I know bought one recently and just had a terrible time getting it to work. No exactly conclusive, but I sure see a lot of people complaining about them online now. . . :-(

TW

Re: Problems with repurposing the HP20b/30b

*Message #16 Posted by **robert rozee** on 14 Aug 2011, 12:09 p.m.,*
in response to message #15 by Tim Wessman

the problems with USB to serial bridges based on the Prolific chip, the PL2303, are twofold:

(1) chinese manufacturers have cloned the PL2303 chip design and are supplying 'fake' devices that only work with certain versions of the drivers - they never developed their own, relying on consumers downloading the drivers from Prolific. the silicon implementation in the fakes is far from perfect, and Prolific have responded by making their drivers try and detect the fakes and refuse to work with them.

(2) the PL2303 was originally designed to be an 'all in one' solution, able to drive and receive RS232 signal levels without the need for a level shifter (such as a MAX232). even the genuine devices do this very poorly, so most reputable manufacturers pair up the PL2303 with a line driver/receiver. needless to say, the cheap bridges you buy on ebay for a couple of dollars out of china don't bother with the line driver/receiver.

if either (1) or (2) hold, you have little hope of any success. BUT, if you can get a bridge that uses a real PL2303 and uses a separate line driver/receiver, then it will work as good as any other (such as an FTDI or Silicon Labs CP2102 based bridge).

Edited: 16 Aug 2011, 4:15 a.m. after one or more responses were posted

Re: Problems with repurposing the HP20b/30b

*Message #17 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 3:55 a.m.,*
in response to message #16 by robert rozee

Chinese crap, sigh! When will they start to sell fake FTDI devices?

For SAM-BA to work, the chip must reliably support 115 Kbps.

Namir, once flashed with 34S there is no need to press the Erase button on the cable, just do ON+D and ON+S (the latter twice).

Re: Problems with repurposing the HP20b/30b

*Message #18 Posted by **Paul Dale** on 15 Aug 2011, 3:59 a.m.,*
in response to message #17 by Marcus von Cube, Germany

They sell fake everything else.

That one is awesome -- it is worthwhile to manufacture a fake controller chip just for this. I imagine the fabrication costs for the chip are huge so these things must sell **very** well.

- Pauli

Edited: 15 Aug 2011, 4:00 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #1 Posted by **uhmgawa** on 13 Aug 2011, 11:05 a.m.*

Message #63 Posted by Walter B on 4 Aug 2011, 1:52 a.m., in response to message #62 by Paul Dale

> Quote:
>
> > Quote:
> >
> > > Quote:
> > >
> > > Anyway each image is independent and persistent across firmware re-selects and of course power off events. The entire memory content, device state, and NUT virtual cpu context is maintained for each model version.
> >
> > Oh well, it would have been nice :-(
>
> AFAI understand, that's a set of logically completely independent applications on one HW. That's more than I've expected :-) So I don't understand the :-(above :-?

Sorry, for the late reply.

I believe what Pauli was really asking was whether the runtime context (user stack and register memory) was available between models such that exchange of data was possible.

That of course exists by default as memory is just one flat space with individual data context being structured identically. The task of shuffling data between models is really an external UI effort as it is unlikely we're going to be patching the legacy firmware to implement such a feature.

That said, depending on the mechanism for prospective data sharing, it would still be quite helpful to have annotated firmware source for all of the Voyager series particularly in the case such sharing involved tweaking individual RWM image context unbeknownst to the corresponding firmware.

I have bits and pieces of the 15c firmware documented from cases where I was chasing KEMU issues. A more comprehensive and scalable approach would be to modify a NUT assembler to accept hex binary in addition to instruction mnemonics so we could start with the binary image, reconstructing the source incrementally, "reassembling" and verifying the image as needed after annotation changes. This assumes some sort of open source like effort to address entire firmware images (and ideally a nod or minimally some indication from HP not to contest such an effort). Having this available is likely useful to HP as well but perhaps not something at the top of the to-do task list.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #2 Posted by **Paul Dale** on 13 Aug 2011, 8:14 p.m.,*
in response to message #1 by uhmgawa

> Quote:
>
> I believe what Pauli was really asking was whether the runtime context (user stack and register memory) was available between models such that exchange of data was possible.

This is exactly what I was wishing for. I'd be happy with just the stack and could make do with just X. For some of the Voyagers the location of X and the stack is known already.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT:A HP-01 for a person like me with no money :-)

*Message #1 Posted by **robertoataulfo** on 13 Aug 2011, 7:50 a.m.*

HP-0.000001 Link

Re: OT:A HP-01 for a person like me with no money :-)

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 16 Aug 2011, 2:00 a.m.,*
in response to message #1 by robertoataulfo

Very nice :-D
I want one!

Johnny

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

rounding, from another posting, a question...

*Message #1 Posted by **geoff quickfall** on 13 Aug 2011, 12:19 a.m.*

funny, but I was taught to round in a statistics course the following way. If the digit was even followed by a five then round up. If the digit followed by a five was odd, round down.

Statistically this resulted, when using a large enough sample, a 50/50 ratio of rounding up for 5 and rounding down for five.

```
132.5 = 133
133.5 = 133
```

cannot find the cite for this anywhere. Calculators certainly do not follow this rule. This means, on a large enough sample the rounding is on majority, upwards, that is .5 is always rounded up even though it is a midway point between the higher and lower answer.

Any thoughts,

Cheers, Geoff

still playing with the 41CL but will get involved with the 34S soon, well after the book and HCC...

;-)

Re: rounding, from another posting, a question...

*Message #2 Posted by **Paul Dale** on 13 Aug 2011, 12:28 a.m.,*
in response to message #1 by geoff quickfall

This is what is known as rounding half to odd. It is well known and unbiased as is ruonding half to even. The latter is more popular.

These should only be used if the fractional portion is exactly 0.5. If e.g. it is 0.5001, then you should always round up. If you are only calculating the single extra digit then every 5 rounds weirdly of course.

The 34S does rounding half even by default. It supports six other rounding modes but not rounding half to odd.

- Pauli

Re: rounding, from another posting, a question...

*Message #3 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 4:43 a.m.,*
in response to message #2 by Paul Dale

This rounding on the 34S is not done for FIX display, only for rounding the intermediate results of the internal algorithms to register format.

Re: rounding, from another posting, a question...

*Message #4 Posted by **Walter B** on 13 Aug 2011, 5:38 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Please see page 44 of the manual :-)

Re: rounding, from another posting, a question...

*Message #5 Posted by **Paul Dale** on 13 Aug 2011, 5:51 a.m.,*
in response to message #4 by Walter B

Nicely written.

The default is round half even which isn't mentioned on page 44 :-)

- Pauli

Re: rounding, from another posting, a question...

*Message #6 Posted by **Walter B** on 13 Aug 2011, 5:56 a.m.,*
in response to message #5 by Paul Dale

Thanks. Added - though it's for math geeks only as stated there ;-)

Re: rounding, from another posting, a question...

*Message #7 Posted by **Paul Dale** on 13 Aug 2011, 6:08 a.m.,*
in response to message #6 by Walter B

Nah, it is for people who care about getting correct answers :-)

Most maths geeks wouldn't know what to do with the different rounding modes :-(Neither would most programmers numerical or otherwise :-(

One quick way to detect many numerically unstable algorithms is to repeat the same computation after changing the rounding mode (e.g. start with round to -infinity and change to rount to +infinity). A stable algorithm will produce a similar result regardless and an unstable one will often produce wildly varying results. This doesn't catch all unstable algorithms but it is an easy starting point.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The OTHER guys calculators

*Message #1 Posted by **Earl Kubaskie** on 12 Aug 2011, 11:28 p.m.*

Hello all. I saw today an ad for the TI Inspire CX series. Any opinions here on these units? In my mid-fifties now, and approaching the 40 year mark as an HP owner/user, I hesitate to dig too deeply into the dark side...

Especially that icky algebraic notation.

Re: The OTHER guys calculators

*Message #2 Posted by **Don Shepherd** on 13 Aug 2011, 1:06 a.m.,*
in response to message #1 by Earl Kubaskie

Earl, I'm just a tad older than you, and a math teacher at middle school level.

It's somewhat of a misnomer to call the NSpire CX series a "calculator." It's really more of a "student mathematical experimenting or learning device." Truthfully, it's more of a PC than a true calculator, containing "apps" for calculator, graphs, geometry, lists/spreadsheet, data/statistics, and notes. A variable or function defined in one app is accessible in the other apps, so, for example, you could use the calculator app to define a function like $f1(x)=3x^2+7$ and use that function in the spreadsheet or, of course, graph app. So it's kind of dynamic. In it's latest iteration, like the Casio Prizm, you can draw or import a picture of something, select some points along a line or curve on the object, and have it derive the equation. That's kind of neat for students discovering math principles, but not terribly useful for an engineer, for example, I think. Or you can dynamically change the shape of a graphed curve (by pointing and dragging) and see how the related equation changes in realtime. If these types of things interest you, you may find it worthwhile. If you're just looking for an engineer's calculator, you probably won't like it.

It's color screen is fantastic, but at my age the letters are a tad on the small size.

And it's not cheap.

Re: The OTHER guys calculators

*Message #3 Posted by **Namir** on 13 Aug 2011, 2:15 p.m.,*
in response to message #2 by Don Shepherd

I have the new TI nspire CX CAS. It is slick and cool. I love the colors and also the power of the CAS part. The symbolic computational part is like having a built-in mathematical handbook. I learned a few years ago that creating some of the nice TI calculators (including the early TI nspire) involved ex-HP folks who had worked in Corvallis.

I am waiting for the replacement of the HP-50g that will put the fear of the digital gods in the TI nspire.

Namir

Re: The OTHER guys calculators

*Message #4 Posted by **Lode** on 13 Aug 2011, 11:50 a.m.,*
in response to message #1 by Earl Kubaskie

It's designed for education and school usage, so if that's what you want, go for it!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s work-around for 41c quirk

*Message #1 Posted by **gene wright** on 12 Aug 2011, 5:53 p.m.*

The HP 41 SIGN command returns +1 for a value of 0.

The 34s returns 0 for a value of 0.

So, what's an efficient way to code around this difference?

Could be:

```
X=0?
SKIP 01
SIGN
```

What do you think?

Re: 34s work-around for 41c quirk

*Message #2 Posted by **fhub** on 12 Aug 2011, 6:14 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> The HP 41 SIGN command returns +1 for a value of 0.
>
> The 34s returns 0 for a value of 0.
>
> So, what's an efficient way to code around this difference?
>
> Could be:
>
> ```
> X=0?
> SKIP 01
> SIGN
> ```
>
> What do you think?

No, that won't work: it gives 0 if x=0 (because it just skips the SIGN in this case).

If you replace SKIP 01 by 10^x (or e^x) it would work as you want!

Franz

PS: Dieter's solution INC X is indeed better (because faster) than my 10^x - I'm just not used to this INC X because none of my other calculators has it.

Edited: 12 Aug 2011, 6:31 p.m.

Re: 34s work-around for 41c quirk

*Message #3 Posted by **Dieter** on 12 Aug 2011, 6:14 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> The HP 41 SIGN command returns +1 for a value of 0.

Yes. And that makes sense. The idea behind this is the ability of the HP41 to check for alpha data:

```
HP-41 series:
SIGN returns
   +1  for x>=0  (i.e. also for x=0)
   -1  for x<0
    0  if x contains alpha data
```

If you want a plain "mathematical" sign-function on the '41, simply use

```
X<>0?
SIGN
```

which requires just a single byte more.

So, returning 1 even for x=0 was and is okay on the HP-41 series since it has an additional benefit. But why should one duplicate this feature on another, different calculator whithout this special background that is the reason for this ..."special" behaviour? Do we really need a SIGN41 function on the 34s ?-)

BTW, as far as I see the code you proposed will not change anything, If x is zero the sign command is skipped and x remains zero (not one). If you really want to duplicate the HP-41 way, this could be done with

```
X=0?
INC X
SIGN
```

But, as already mentioned, I don't think this makes sense on the 34s.

Dieter

Re: 34s work-around for 41c quirk

*Message #4 Posted by **M. Joury** on 12 Aug 2011, 6:26 p.m.,*
in response to message #3 by Dieter

My initial thought was that it should work. But you are right, it doesn't. Your solution does however.

I guess if you were converting an HP-41 program this might be useful.

Re: 34s work-around for 41c quirk

*Message #5 Posted by **Paul Dale** on 12 Aug 2011, 6:36 p.m.,*
in response to message #3 by Dieter

Dieter is correct and suggested the same workaround I thought of when I saw the question :-) The only difference with the workaround is Last X is set incorrectly when X is zero.

We've a total inability to distinguish alpha data from numbers unlike the 41 series. I think I could work around this with reals either by reducing the number of digits by one or reserving lots of NaN values as alpha data. This is pointless since we also support integers for which there is no space available to

distinguish.

This is something that will definitely be addressed in the 34S successor. I'd still differ from the 41 series though. SIGN would still return -1, 0, +1 for negative, zero and positive numbers. We've got NaN for the string case :-)

- Pauli

Agreed, but I need a 41 SIGN equivalent

*Message #6 Posted by **gene wright** on 12 Aug 2011, 6:40 p.m.,*
in response to message #5 by Paul Dale

I am converting some HP 41 programs that store a -1 or 1 depending on the value in X.

Don't think LastX will be a problem, so I think Dieter's approach will work.

I am not advocating for a SIGN41 function. :-) and I like the SIGN function on the 34s, just wanting to make sure I had not overlooked something...

Edited: 12 Aug 2011, 6:51 p.m.

Re: Agreed, but I need a 41 SIGN equivalent

*Message #7 Posted by **Paul Dale** on 12 Aug 2011, 7:07 p.m.,*
in response to message #6 by gene wright

> Quote:
>
> I am not advocating for a SIGN41 function. :-) and I like the SIGN function on the 34s, just wanting to make sure I had not overlooked something...

Don't worry there is no chance of a SIGN41 function :-)

There is a better solution that does Last X correctly too:

```
SIGN
X=0?
INC X
```

Put this into a S41 subroutine if you are keen.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: a small request

*Message #1 Posted by **fhub** on 12 Aug 2011, 1:48 p.m.*

Would it be possible to change the new error message #20 from "Solve failed" to the more general message "no solution"?

Then it could also be used in many other programs (with ERR 20) whenever there is no solution for a problem. :-)

Franz

Re: WP34s: a small request

*Message #2 Posted by **Crawl** on 12 Aug 2011, 2:02 p.m.,*
in response to message #1 by fhub

Seems like a bad idea; that implies the solver knows for a fact that there is no solution, rather than that it merely failed to find a solution. "Routine failed" would be a more general message.

Re: WP34s: a small request

*Message #3 Posted by **fhub** on 12 Aug 2011, 2:13 p.m.,*
in response to message #2 by Crawl

Ok, then let's forget it - I'll do it with an alpha message (which cost lots of bytes however :-(

Re: WP34s: a small request

*Message #4 Posted by **Walter B** on 12 Aug 2011, 7:14 p.m.,*
in response to message #3 by fhub

"Es war schon immer etwas teurer, einen besonderen Geschmack zu haben."

Old tobacco ad.

Re: WP34s: a small request

*Message #5 Posted by **fhub** on 12 Aug 2011, 7:19 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> "Es war schon immer etwas teurer, einen besonderen Geschmack zu haben."
>
> Old tobacco ad.

Mein Gott Walter, /* dieses Lied kennst Du sicher, oder? */

Du bist heute wohl wieder besonders zum Scherzen aufgelegt! ;-)

Re: WP34s: a small request

*Message #6 Posted by **Paul Dale** on 12 Aug 2011, 7:27 p.m.,*
in response to message #3 by fhub

We also have a recently included three characters in two steps command. Not the easiest to use from the keyboard but it is there. The assembler will support it nicely however.

- Pauli

Re: WP34s: a small request

*Message #7 Posted by **fhub** on 12 Aug 2011, 7:36 p.m.,*
in response to message #6 by Paul Dale

Yes I know, but I just thought that such a "no solution" message would be useful for many programs.

BTW, another question:
is it possible anyhow to switch on (in a program) the big "C" announciator as it is done automatically after a [CPX] operation?
I've tried it with 0 ENTER [cpx]+ at the end of a program before RTN (which doesn't change the results in the previous X and Y) to indicate a complex solution, but in a running program this doesn't seem to work: the "C" just didn't appear when the program stopped!?

I did it then with alpha commands, but that needs quite a few bytes ...

Franz

Re: WP34s: a small request

*Message #8 Posted by **Paul Dale** on 12 Aug 2011, 8:02 p.m.,*
in response to message #7 by fhub

You found the way: use alpha.

It doesn't use quite a few bytes BTW: three instructions I think. Clear alpha, a 'C' and one of the alpha views. The big 'C' is just a capital 'C'.

- Pauli

Re: WP34s: a small request

*Message #9 Posted by **fhub** on 12 Aug 2011, 8:24 p.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> three instructions I think. Clear alpha, a 'C' and one of the alpha views.

Yes, that's exactly as I did it. :-)

It was just for a little extension of the implemented SLVQ, which also return complex solutions:

```
/*
  Quadratic Equation:
  a*x^2 + b*x + c = 0


  Input:  a [ENTER] b [ENTER] c
  Output: X:x1 Y:x2, or X:Re(x0) Y:Im(x0) for complex solution (alpha:"C")
  Used:   Stack
*/


001 LBL'QE'
002 CL[alpha]
003 RCL/ Z
004 x[<->] Z
005 RCL+ X
006 /
007 +/-
008 x[^2]
009 RCL L
010 x[<->] Z
011 -
012 x<0?
013 SKIP 05
014 [sqrt]
015 RCL+ Y
016 x[<->]y
017 RCL- L
018 SKIP 05
019 ABS
020 [sqrt]
021 x[<->]y
022 [alpha] C
023 VW[alpha]+ X
024 RTN
```

Edited after Marcus' hint!

Edited: 13 Aug 2011, 4:50 a.m. after one or more responses were posted

Re: WP34s: a small request

*Message #10 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 4:37 a.m.,*
in response to message #9 by fhub

Franz, be aware that the following two lines are not the same:

```
[alpha]'C'
[alpha] C
```

The first line creates a multi byte string which is long enough to hold three characters in just two steps, the second one is just a single step. The effect on the alpha register is the same.

In order to enter a three letter alpha from the keyboard (only available in program mode) press f ENTER f ENTER. You'll see the single quote after [alpha] as a visual feedback.

Re: WP34s: a small request

*Message #11 Posted by **fhub** on 13 Aug 2011, 4:48 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Thanks Marcus - one more byte saved! :-)

If I optimize it even more (and get it down to 14 steps), then maybe Pauli will use it as code for SLVQ ... ;-)

Franz

Re: WP34s: a small request

*Message #12 Posted by **Paul Dale** on 13 Aug 2011, 4:54 a.m.,*
in response to message #11 by fhub

Figure out a compact way to implement this version and I'm not overly concerned about the number of steps :-)

The current SLVQ suffers from cancellation issues.

- Pauli

Re: WP34s: a small request

*Message #13 Posted by **fhub** on 13 Aug 2011, 5:26 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> Figure out a compact way to implement this version and I'm not overly concerned about the number of steps :-)

Well, although not much more code to do it this way, I don't think this would be worth the troubles (or extra bytes).
What then do with complex solutions (i.e. if b^2-4ac<0)? Make a complex division? Well, I guess this would destroy again the accuracy gained from these formulas.

And even with these special formulas you get completely wrong result for ill-conditioned equations - take for example:
x^2 + 10^8*x + 1 = 0

You'd need an internal accuracy of at least 16 digits to get correct solutions for this equation.

Re: WP34s: a small request

*Message #14 Posted by **Paul Dale** on 13 Aug 2011, 5:44 a.m.,*
in response to message #13 by fhub

> Quote:
>
> Well, although not much more code to do it this way, I don't think this would be worth the troubles (or extra bytes).

I think you're wrong :-) Numerical mathematics is a bizarre and arcane art quite unlike the rest of mathematics. This sort of attention to detail makes a difference.

> Quote:
>
> What then do with complex solutions (i.e. if b^2-4ac<0)? Make a complex division? Well, I guess this would destroy again the accuracy gained from these formulas.

I doubt the more complex formulas are losing accuracy here either :-) The accuracy is coming from the b - sqrt(...) where the sqrt(...) term is approximately b. i.e. b - b produces a catastrophic cancellation.

The b^2 - 4ac also risks cancellation but this is less critical. One does have to be careful about calculating this for b^2 approximately equal to 4ac however since it is easy to get the sign wrong :-(e.g. a simplistic application of a fused multiple add here can cause problem. Fortunately the 34S has a complex multiply that can achieve the desired calculation without any rounding issues.

> Quote:
>
> And even with these special formulas you get completely wrong result for ill-conditioned equations - take for example: x^2 + 10^8*x + 1 = 0
>
> You'd need an internal accuracy of at least 16 digits to get correct solutions for this equation.

Clearly, this is exceeding the precision available. But there are plenty of cases in the middle where b^2 >> 4ac and the naïve formula results in b - almost(b) with a huge loss of precision and a resulting incorrect answer.

This middle region is where these more complicated formulas come into their own. Try this reference for a better description.

- Pauli

Edited: 13 Aug 2011, 6:22 a.m. after one or more responses were posted

Re: WP34s: a small request

*Message #15 Posted by **fhub** on 13 Aug 2011, 5:55 a.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> Numerical mathematics is a bizarre and arcane art quite unlike the rest of mathematics.

Correct, and that's exactly the reason why I don't like it very much. ;-) And if I really need such an excessive accuracy - well, them I'm using a CAS with almost _arbitrary_ precision. :-)

Re: WP34s: a small request

*Message #16 Posted by **Paul Dale** on 13 Aug 2011, 6:01 a.m.,*
in response to message #15 by fhub

The 34S needs to produce correct results and retaining accuracy is mandatory. Look at the trouble I had with the statistical functions. With Dieter's assistance, we've managed to get them accurate with correct rounding.

As I mentioned in the discussion about the 35s, a calculator **must** produce correct results all the time. It is a tool and the tool must work properly.

- Pauli

edit to fix silly grammatical / typo error -- I'm having a bad evening :-(

Edited: 13 Aug 2011, 6:24 a.m. after one or more responses were posted

Re: WP34s: a small request

*Message #17 Posted by **fhub** on 13 Aug 2011, 6:07 a.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> The 34S needs to produce correct results and retaining accuracy is mandatory.

Ok, I'll work on these 2 (more accurate) formulas! ;-)

But getting also the complex case will certainly need a few bytes more ...

Re: WP34s: a small request

*Message #18 Posted by **Paul Dale** on 13 Aug 2011, 6:14 a.m.,*
in response to message #17 by fhub

A quadratic solver using the stable formulas which also handles complex roots is pretty much guaranteed to be included. I rate correct and stable answers as more important than everything else :-)

The reason the current solver is there is because it is very small, neat and concise. It is a lovely example of keystroke programming. That it suffers from instability is a minus that should be corrected in due course (sorry Gerson).

- Pauli

Edited: 13 Aug 2011, 6:21 a.m.

Re: WP34s: a small request

*Message #19 Posted by **fhub** on 13 Aug 2011, 7:16 a.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> A quadratic solver using the stable formulas ...

Well, at least for real solutions I already have the code - it's 21 steps compared with 14 in xrom.c.

But the complex case needs more space (and time ... ;-))

Re: WP34s: a small request

*Message #20 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 11:13 a.m.,*
in response to message #19 by fhub

> Quote:
>
> But the complex case needs more space (and time ... ;-))

In the complex case the cancellation isn't a problem except for the term below the square root. The subtraction b - sqrt(..) is never carried out. :-)

Re: WP34s: complex SLVQ

*Message #21 Posted by **fhub** on 13 Aug 2011, 12:10 p.m.,*
in response to message #20 by Marcus von Cube, Germany

> Quote:
>
> In the complex case the cancellation isn't a problem except for the term below the square root. The subtraction b - sqrt(..) is never carried out. :-)

Correct - and right I'm finished with it! :-)

With LBL and RTN it's 37 steps (compared to 16 in xrom.c), could be made 3-4 steps shorter by removing 2 tests (like e.g. a=0?) but this would give 'strange' error messages for some cases.

Two things are not optimal:

- I needed an extra register to get it working also in SSIZE4 mode (I've used "I")
- after execution the solution is in X and Y, but Z and T contain 'garbage' (intermediate results): avoiding this would need quite a few more bytes or at least other Rnn registers, and I don't think this would be a good idea

So let me know if these circumstances are ok and I should post my solution, or if I can throw it away ... ;-)

Franz

Re: WP34s: complex SLVQ

*Message #22 Posted by **Walter B** on 13 Aug 2011, 1:26 p.m.,*
in response to message #21 by fhub

> Quote:
>
> Two things are not optimal:
> - I needed an extra register to get it working also in SSIZE4 mode (I've used "I")

That's suboptimal indeed, since "I" is the second half of complex last x. How about taking "A" instead? Another opportunity may be confining this function to stack size 8 (I knew we would need this stack size for certain tasks d:-)

> Quote:
>
> - after execution the solution is in X and Y, but Z and T contain 'garbage' (intermediate results)

Applying your measure of tidyness (of an earlier thread), the stack levels not needed for the result shall contain what was on the stack before calling complex SLVQ.

Just my 20m€,
Walter

Re: WP34s: complex SLVQ

*Message #23 Posted by **fhub** on 13 Aug 2011, 1:42 p.m.,*
in response to message #22 by Walter B

> Quote:
>
> That's suboptimal indeed, since "I" is the second half of complex last x.

And where's the problem???
"I" is not used at all in this calculation, and also "L" contains garbage at the end - what counts are the 2 solutions in X and Y, nothing else!

> Quote:
>
> Applying your measure of tidyness (of an earlier thread), the stack levels not needed for the result shall contain what was on the stack before calling complex SLVQ.

How could I retain 3 coefficients (a,b,c) AND return 2 solutions (x1,x2) on a 4-level stack, can you please explain this? So the best solution would be _replacing_ the 3 coeffs by the 2 solutions - but this would need again (not so few) bytes.

Ok, I've now finally lost my interest in trying to fulfill your extremely high 'requirements' - if you want and need all these conditions then do it yourself. :-(

Franz

Re: WP34s: complex SLVQ

*Message #24 Posted by **Walter B** on 13 Aug 2011, 1:59 p.m.,*
in response to message #23 by fhub

> Quote:
>
> "I" is not used at all in this calculation, ...

versus

> Quote:

> I needed an extra register to get it working also in SSIZE4 mode (I've used "I")

Now what??

> Quote:
>
> ... what counts are the 2 solutions in X and Y, nothing else!

I don't get it. How do you place 2 complex solutions in two stack levels :-?

Re: WP34s: complex SLVQ

*Message #25 Posted by **fhub** on 13 Aug 2011, 2:08 p.m.,*
in response to message #24 by Walter B

Sorry, don't you really get it or do you just want to annoy me?
"I" is NOT used for CALCULATION but just for STORAGE!

> Quote:
>
> I don't get it. How do you place 2 complex solutions in two stack levels :-?

Since these 2 solutions are complex conjugates, it's enough to put Re(x0) in X and Im(x0) in Y.
The 2nd solution is just Re(x0)-Im(x0)*i

Edited: 13 Aug 2011, 2:09 p.m.

Re: WP34s: complex SLVQ

*Message #26 Posted by **Walter B** on 13 Aug 2011, 5:34 p.m.,*
in response to message #25 by fhub

Thanks for your explanation of the 2 solutions. I should have known that but I didn't :-/

For the other point:

> Quote:

> "I" is NOT used for CALCULATION but just for STORAGE!

You're shouting this - but you didn't tell this before. Keep cool, boy 8-) "Needing" a register may be for any reason (in a calculator I guess most probably for calculations but - as stated several times already - my abilities in clairvoyance are limited). No, I didn't want to annoy you, though I admit it's very easy to tease you - and easy to foresee you will declare your resignation (once again) but won't do it ;-)

Re: WP34s: complex SLVQ

*Message #27 Posted by **fhub** on 13 Aug 2011, 6:42 p.m.,*
in response to message #26 by Walter B

> Quote:
>
> You're shouting this

No, I didn't shout - it's just faster to capitalize words that I want to mark than putting them between 2 "bold"s.

> Quote:
>
> No, I didn't want to annoy you, though I admit it's very easy to tease you

Ahhh, interesting, so you admit you want or try to tease me ... ;-)

Edited: 13 Aug 2011, 6:43 p.m.

Re: WP34s: complex SLVQ

*Message #28 Posted by **Paul Dale** on 13 Aug 2011, 8:30 p.m.,*
in response to message #22 by Walter B

> Quote:
>
> How about taking "A" instead?

No no no no no!!!!!!! Lettered things are

special and shouldn't be used in libraries.

Fortunately, this is intended for XROM. With a suitable prologue and epilogue added to the code, there are another five registers available. These are numbers 00 through 04 and they are completely separate from the same numbered registers the user sees. There are also fifteen extra flags 00-14 FWIW. XROM also operates with a stack size of four regardless of what the user sets -- this might cause problems with stack drop.

So, what I'd be doing is to preserve T & I in two of these extra registers, use a third for the temporary storage of the value. A fourth preserving X if you want Last X done like an internal operation.

Then do the calculation and finally fix things up at the end. Yes this will take more steps. Often quite a few more.

For the b^2 - 4ac calculation use a complex multiply.

Assuming a, b & c are in X, Y & Z respectively (also should work for c, b & a in X, Y & Z).

```
    4           a b c T
    *           4a b c T
    RCL Y       b 4a b c
    cpx *       b^2-4ac b(4a+c) b
c
    x<>y        b(4a+c) b^2-4ac b
c   if only we'd kept the DROPY
instruction :-)
    DROP        b^2-4ac b c c
```

Which, assuming I've got that correct, will calculate the difference without any loss of precision. Also, 4a is still in I.

- Pauli

Edited: 13 Aug 2011, 8:32 p.m.

Re: WP34s: complex SLVQ

*Message #29 Posted by **Paul Dale** on 13 Aug 2011, 8:58 p.m.,*
in response to message #28 by Paul Dale

I noticed your code multiplies 2a by 2c which makes more sense. The principle

stays the same luckily.

- Pauli

Edited: 13 Aug 2011, 9:23 p.m.

Re: WP34s: complex SLVQ

*Message #30 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 5:40 p.m.,*
in response to message #21 by fhub

The register isn't a problem if your code makes it to XROM because we have some private registers there for exactly this purpose. I wouldn't mind that the stack gets used, other functions do the same. It's just not a standard function but a routine. With the help of the private registers we may even save stack level T and restore it. I have no idea what would be the "correct" result for L in this case.

Please post your solution! Chances are high that it will replace what we have now.

Re: WP34s: complex SLVQ

*Message #31 Posted by **fhub** on 13 Aug 2011, 6:20 p.m.,*
in response to message #30 by Marcus von Cube, Germany

Well, with additional internal registers many thing would of course be much easier to code. And about "L" I won't care at all - after such a lot of operations there's just no useful value which should intentionally be placed in "L".

I've now checked all 8 test equations at the link of Gerson, and for 7 of them I get exactly the same solutions. Only in Case 5 my program returns 2 equal real solutions (the same as the real part on this site), when in fact there is a imaginary part, but it is about 3e-10. For this special equation (Case 5) both expressions b^2 and 4ac are VERY big and differ only at the 17th or 18th digit, so that's of course far beyond the 34s precision.
Although I would have an idea how to solve even this problem (b^2-4ac could be factorized as (b+2*sqrt(ac))*(b-

2*sqrt(ac)) which avoids those big numbers and would certainly work), but I don't think it would be worth the troubles and many extra bytes (again an extra codeblock if ac<0!). But also this method could not guarantee always correct solutions if the numbers are still bigger.

So here's my code:

```
/*
  Quadratic Equation (extended
precision)
  a*x^2 + b*x + c = 0


  Input:  a [ENTER] b [ENTER] c
  Output: X:x1 Y:x2, or X:Re(x0)
Y:Im(x0) for complex solution
(alpha:"C")
  Used:   Stack, I
*/


001 LBL'QE'
002 RCL+ X
003 x[<->] Z
004 x=0?
005 ERR 18
006 RCL+ X
007 x[<->]y
008 STO I
009 x[^2]
010 RCL Y
011 RCL[times] T
012 -
013 x<0?
014 SKIP 13
015 [sqrt]
016 RCL I
017 x<0?
018 SKIP 03
019 x[<->]y
020 +/-
021 x[<->]y
022 -
023 x[!=]0?
024 STO/ Z
025 x[<->]y
026 /
027 SKIP 09
028 ABS
029 [sqrt]
030 RCL/ Y
031 RCL I
032 RCL/ Z
033 +/-
034 CL[alpha]
035 [alpha] C
036 VW[alpha]+ X
037 RTN
```

Re: WP34s: complex SLVQ

*Message #32 Posted by **Paul Dale** on 13 Aug 2011, 11:09 p.m.,*
in response to message #31 by fhub

Steps 19, 20 and 21 are a complex conjugate, so replacing them with CONJ

saves two more steps. Then the conditional can be reversed and the skip removed for a third step saved.

That is replace:

```
017 x<0?
018 SKIP 03
019 x[<->]y
020 +/-
021 x[<->]y
```

with

```
017 x>0?
018 CONJ
```

and fix the skips up.

- Pauli

Re: WP34s: complex SLVQ

*Message #33 Posted by **fhub** on 14 Aug 2011, 5:54 a.m.,*
in response to message #32 by Paul Dale

> Quote:
>
> Steps 19, 20 and 21 are a complex conjugate, so replacing them with CONJ saves two more steps.

A nice trick indeed! (maybe you should make a doc file "tips & tricks for 34s programming" ;-))

But this CONJ also changes RegI (where I have stored the coefficient b), so I hope you haven't overlooked this.

> Quote:
>
> there are another five registers available. These are numbers 00 through 04 and they are completely separate from the same numbered registers the user sees

Hey, that's quite unfair if you have more registers than we have! ;-)
Why can't we use them in our programs too? That would simplify programming

a lot ... :-)

Franz

Re: WP34s: complex SLVQ

*Message #34 Posted by **Paul Dale** on 14 Aug 2011, 6:56 a.m.,*
in response to message #33 by fhub

> Quote:
>
> Hey, that's quite unfair if you have more registers than we have! ;-)
> Why can't we use them in our programs too? That would simplify programming a lot ... :-)

You can have them if you're willing to forgo solve, integrate, sum, product and the derivatives. Oh and now the quadratic solver. I'm sure most people would like to keep these functions and not have the extra registers.

It is also not a case of having an extra five registers. All the above are limited to using no more than these five registers in total. They don't even get the luxury of having the stack preserved across callbacks to user code.

- Pauli

Re: WP34s: complex SLVQ

*Message #35 Posted by **Paul Dale** on 14 Aug 2011, 7:01 a.m.,*
in response to message #33 by fhub

> Quote:
>
> A nice trick indeed! (maybe you should make a doc file "tips & tricks for 34s programming" ;-))

I'd like to eventually. I've got other things for the moment.

> Quote:

> But this CONJ also changes RegI (where I have stored the coefficient b), so I hope you haven't overlooked this.

I stopped using register I and restore it afterwards :-) I'm using a complex multiply to retain accuracy under the square root which also loses I.

- Pauli

Re: WP34s: complex SLVQ

*Message #36 Posted by **fhub** on 14 Aug 2011, 7:57 a.m.,*
in response to message #35 by Paul Dale

> Quote:
>
> I stopped using register I and restore it afterwards :-) I'm using a complex multiply to retain accuracy under the square root which also loses I.

Ok, then it's no problem.

BTW, since you mention accuracy:
What do you think about using (b+2*sqrt(ac))*(b-2*sqrt(ac)) instead of b^2-4ac ?
This would eventually help when b^2 and 4ac are VERY big and their difference is beyond the 34s precision - I guess this could also solve example 5 in Gerson's link!?
OTOH it would require quite a few bytes more, so I'm not sure if it's really worth to be used.

And one more thing (rather for Walter than for you):
If I have understood your code in xrom.c, then SLVQ skips the next step (in a program) for complex solutions but NOT for real solutions, right?
This should be described clearly in the manual, because it's not so obvious.

Franz

Edited: 14 Aug 2011, 8:04 a.m.

Re: WP34s: complex SLVQ

*Message #37 Posted by **Paul Dale** on 14 Aug 2011, 8:12 a.m.,*
in response to message #36 by fhub

> Quote:
>
> What do you think about using (b+2*sqrt(ac))*(b-2*sqrt(ac)) instead of b^2-4ac ?

It should address the overflow issues, or at least push them off a bit. I'd be concerned about the second term when b is approximately 2 sqrt(ac). It might not be an issue, but it would have to be investigated.

> Quote:
>
> This would eventually help when b^2 and 4ac are VERY big and their difference is beyond the 34s precision - I guess this could also solve example 5 in Gerson's link!?

The current code handles example 5. The complex multiply addresses the b^2 - 4ac precision loss concerns. The internal code evaluates the multiplies exactly and does the subtraction without any rounding or truncation until the result is returned. i.e. it should be as good as is possible without resorting to extended precision.

- Pauli

Re: WP34s: complex SLVQ

*Message #38 Posted by **fhub** on 14 Aug 2011, 8:20 a.m.,*
in response to message #37 by Paul Dale

> Quote:
>
> I'd be concerned about the second term when b is approximately 2 sqrt(ac). It

> might not be an issue, but it would have to be investigated.

Well, but anywhere you would have to stop - what should you do when those 2 terms are almost equal? You can't completely avoid subtractions in any cases ...

> Quote:
>
> The current code handles example 5. The complex multiply addresses the b^2 - 4ac precision loss concerns.

Aaah, that's fine - so this problem seems to be solved at least with this extended precision. Of course we can't never handle ALL situations correctly when the numbers are getting to big.

Franz

Re: WP34s: complex SLVQ

*Message #39 Posted by **Paul Dale** on 14 Aug 2011, 1:07 a.m.,*
in response to message #31 by fhub

Much goodness in subversion. No build yet.

- Pauli

Re: WP34s: a small request

*Message #40 Posted by **Gerson W. Barbosa** on 13 Aug 2011, 12:25 p.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> A quadratic solver using the stable formulas which also handles complex roots is pretty much guaranteed to be included.

That's really good news!

Palmer O. Hanson has written an excellent quadratic solver that handles some really tough examples:

A "Cadillac " Quadratic Solver for the hp 33s and HP35s

Gerson.

Re: WP34s: a small request

*Message #41 Posted by **Walter B** on 13 Aug 2011, 6:03 a.m.,*
in response to message #15 by fhub

> Quote:
>
> > Quote:
> >
> > Numerical mathematics is a bizarre and arcane art quite unlike the rest of mathematics.
>
> Correct, and that's exactly the reason why I don't like it very much.

Bad luck - calculators are numerical mathematics all over ;-)

Re: WP34s: a small request

*Message #42 Posted by **fhub** on 13 Aug 2011, 6:08 a.m.,*
in response to message #41 by Walter B

> Quote:
>
> Bad luck - calculators are numerical mathematics all over ;-)

That's why I'm USING but not PRODUCING calculators! ;-)

Re: WP34s: a small request

*Message #43 Posted by **Gerson W. Barbosa** on 14 Aug 2011, 6:07 p.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> Figure out a compact way to implement this version

Here's my first attempt at it. Like Franz's, it handles Palmer's examples (except number 5). Too many steps though, "cut a few and it'll be perfect" :-)

Gerson.

```
// Source file(s): wp34s-0.dat
001 LBL B
002 CL[alpha]
003 x[<->]y
004 x[>=]0?
005 SKIP 06
```

```
006 ENTER[^]
007 SIGN
008 STO[times] Y
009 STO[times] Z
010 STO[times] T
011 R[v]
012 RCL Z
013 x=0?
014 ERR 18
015 +/-
016 STO+ X
017 STO 00
018 STO+ X
019 RCL[times] Z
020 RCL Y
021 x[^2]
022 +
023 x<0?
024 SKIP 08
025 [sqrt]
026 +
027 RCL/ 00
028 R[^]
029 RCL/ L
030 STO+ X
031 +/-
032 SKIP 07
033 +/-
034 [sqrt]
035 RCL/ 00
036 +/-
037 x[<->]y
038 RCL/ 00
039 [alpha] C
040 VW[alpha]+ X
041 RTN
// 41 total instructions used.
// 41 total words used.
// 41 single word instructions.
// 0 double word instructions.
```

Edit to correct the listing as per Franz's observation below.

Edited: 14 Aug 2011, 6:31 p.m. after one or more responses were posted

Re: WP34s: a small request

*Message #44 Posted by **fhub** on 14 Aug 2011, 6:23 p.m.,*
in response to message #43 by Gerson W. Barbosa

> Quote:
>
> ```
> 006 ENTER[^]
> 007 SIGN
> 008 STO[times] X
> 009 STO[times] Y
> 010 STO[times] Z
> 011 R[v]
> ```

I guess these 3 "STO[times]" should be Y,Z and T instead. With X,Y and Z in fact none of these values is changed.

Re: WP34s: a small request

*Message #45 Posted by **Gerson W. Barbosa** on 14 Aug 2011, 6:30 p.m.,*
in response to message #44 by fhub

You're right, thanks! It's correct on my wp34s, but not on the

emulator. Will fix the listing.

Gerson.

Re: WP34s: a small request

*Message #46 Posted by **Paul Dale** on 14 Aug 2011, 7:18 p.m.,*
in response to message #43 by Gerson W. Barbosa

The code I've put into xrom is:

```
81ee: 5b59       LBL 89          Entry: QUADRATIC SOLVER
81ef: 5d28       XEQ 40          -> Common entry code
81f0: 3f00       STOS 00
81f1: 2b6d       RCL I
81f2: 2404       STO 04
81f3: 0109       R[v]
81f4: 2c64       RCL+ X
81f5: 3266       x[<->] Z
81f6: 0017       x=0?
81f7: 2312       ERR 18
81f8: 2c64       RCL+ X
81f9: 2402       STO 02
81fa: 2b65       RCL Y
81fb: 0603       [cmplx][times]
81fc: 2401       STO 01
81fd: 001a       x<0?
81fe: 530b       SKIP 11
81ff: 020a       [sqrt]
8200: 0107       x[<->]y
8201: 0109       R[v]
8202: 001c       x>0?
8203: 0536       CONJ
8204: 0302       -
8205: 0018       x[!=]0?
8206: 2865       STO/ Y
8207: 2f02       RCL/ 02
8208: 5d01       XEQ 01
8209: 5e29       GTO 41          -> Normal exit code
820a: 0205       ABS
820b: 020a       [sqrt]
820c: 2f02       RCL/ 02
820d: 2b66       RCL Z
820e: 2f02       RCL/ 02
820f: 0003       +/-
8210: 5d01       XEQ 01
8211: 019c       TOP?
8212: 5301       SKIP 01
8213: 5e2a       GTO 42
8214: 0171       CL[alpha]
8215: 4143       [alpha] C
8216: 9d64       VW[alpha]+ X
8217: 5e29       GTO 41          -> Normal exit code
8218: 5b01       LBL 01
8219: 2b00       RCL 00
821a: 246c       STO L
821b: 2b04       RCL 04
821c: 246d       STO I
821d: 0108       [cmplx]x[<->]y
821e: 2b04       RCL 04
821f: 2b01       RCL 01
8220: 0108       [cmplx]x[<->]y
8221: 013a       RTN
```

Label 40 is the standard entry code -- checks for nesting in xrom.

Label 41 is basically a RTN.

Label 42 is a RTN+1.

It deals with all of Palmer's examples properly.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

A few WP34s questions

*Message #1 Posted by **Cristian Arezzini** on 12 Aug 2011, 3:03 a.m.*

I was playing with the newest version today, and I have a few questions.
1 - In program mode, if I press LBL then a key, it enters the keyboard scan code. Is this intended? Wouldn't it be more intuitive to enter the letter associated to the key?
2- After pressing LBL, if I press [g][ENTER] the display shows LBL' and then I can enter letters; is there a way to modify the overlay to show that if you want to enter ' you have to press [g][ENTER] and not [f][ENTER]?
3- After pressing LBL, if I just want to enter a single letter, I expected to be able to press [f][ENTER] which should be 'alpha'; but after pressing those keys, the display shows LBL 31. Again, is this intended?
4- Do three-letter alpha-commands take more than one step? Because after adding a few, the sum of total program steps plus free space isn't 506 any more...
5- If in run mode, I press XEQ then [f][ENTER], expecting to be able to enter a label, a program runs instead (I think it's the program I labeled 'A'). Again... is this intended?

I don't know if something changed lately or if it's always been like that and I didn't notice. But I seem to remember that the handling of [f][ENTER] was more consistent in always entering INPUT mode, while right now it only does so while in RUN mode, and not after XEQ or LBL. Also [g][ENTER], sometimes it enters " ' " (after LBL or XEQ, it makes you enter several alpha characters) and sometimes just enters the single letter H. That is, unless I totally messed up, after all the last two nights I only got 3 hours of sleep... in which case I apologize in advance! :)

Cristian

Re: A few WP34s questions

*Message #2 Posted by **Paul Dale** on 12 Aug 2011, 4:01 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> 1 - In program mode, if I press LBL then a key, it enters the keyboard scan code. Is this intended? Wouldn't it be more intuitive to enter the letter associated to the key?

This is intentional but we've not yet decided if the experiment is final or not. The concept is to allow shortcuts to some of the numeric labels which means faster entry and an association between keys and functions. Seems like it is causing confusion for you rather than being useful. It is also less consistent in its use of [f] and enter.

> Quote:
>
> 2- After pressing LBL, if I press [g][ENTER] the display shows LBL' and then I can enter letters; is there a way to modify the overlay to show that if you want to enter ' you have to press [g][ENTER] and not [f][ENTER]?

Do you have a pen? :-)

Just ENTER works to get the ' the [f] has always been optional here. Now it does something else.

> Quote:
>
> 3- After pressing LBL, if I just want to enter a single letter, I expected to be able to press [f][ENTER] which should be 'alpha'; but after pressing those keys, the display shows LBL 31. Again, is this intended?

Yes, the shortcuts again. Omit the [f] and it will do what you want.

> Quote:
>
> 4- Do three-letter alpha-commands take more than one step? Because after adding a few, the sum of total program steps plus free space isn't 506 any more...

These instructions take two steps of memory.

> Quote:
>
> 5- If in run mode, I press XEQ then [f][ENTER], expecting to be able to enter a label, a program runs instead (I think it's the program I labeled 'A'). Again... is this intended?

If you press an otherwise undefined key or [f] the a key, you get a shortcut to numeric labels.

> Quote:
>
> I don't know if something changed lately or if it's always been like that and I didn't notice. But I seem to remember that the handling of [f][ENTER] was more consistent in always entering INPUT mode, while right now it only does so while in RUN mode, and not after XEQ or LBL.

Yes things changed recently. I'm not convinced it is a change for the better anymore.

> Quote:
>
> Also [g][ENTER], sometimes it enters " ' " (after LBL or XEQ, it makes you enter several alpha characters) and sometimes just enters the single letter H.

When does it produce a single H ? That isn't intentional and would be a bug.

- Pauli

Re: A few WP34s questions

*Message #3 Posted by **Cristian Arezzini** on 12 Aug 2011, 4:18 a.m.,*
in response to message #2 by Paul Dale

Hi Pauli, thanks for the reply! :)

> Quote:
>
> When does it produce a single H ? That isn't intentional and would be a bug.

Well, I was mistaken in that it's not a capital H, but a capital greek eta. But they do look exactly the same! :) It happens simply when you are in alpha mode (i.e. [f][ENTER][g][ENTER]). Still, I have to admit that when key combinations do different things in different situations, I get a little confused...

Cristian

Re: A few WP34s questions

*Message #4 Posted by **Paul Dale** on 12 Aug 2011, 4:21 a.m.,*
in response to message #3 by Cristian Arezzini

Ahhh yes. At least Eta is documented as being there :-)

- Pauli

Re: A few WP34s questions

*Message #5 Posted by **Walter B** on 12 Aug 2011, 7:02 p.m.,*
in response to message #3 by Cristian Arezzini

> Quote:
>
> Well, I was mistaken in that it's not a capital H, but a capital greek eta. But they do look exactly the same! :)

Such is life :-) Also capital Greek chi looks like X, capital Greek rho looks like P, etc.

> Quote:
>
> It happens simply when you are in alpha mode (i.e. [f][ENTER][g][ENTER]).

As advertised 8-)

Re: A few WP34s questions

*Message #6 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 4:13 p.m.,*
in response to message #2 by Paul Dale

To use f as the "make any key available" prefix is arbitrary and can be changed to any other prefix but f has a similar meaning in some other circumstances (switch between characters and digits in alpha mode) so I decided to use it. We can remove the f prefixing altogether.

What do we gain with the shorthand addressing (with or without f)?

With the removal of the extended single letter labels (such as I) we lost the ability to use more than the four hot keys A to Z in a user interface. Having to remember a numeric label or having to type XEQ ENTER I ENTER instead of a simple XEQ I to enter the interest rate in a TVM application is awkward. So I had the idea to allow a shortcut addressing to some numeric labels. We already have the KEY? command with its row/column codes and it seemed natural to resolve labels following the same scheme. There are still many keys which cannot be addressed this way such as the digit keys or, as you already found out, ENTER. I introduced the f prefix as a way to escape the default meaning of the keys. This makes, as a side effect, XEQ A call a different routine then XEQ f A.

All the changes are in the user interface, to be more precise in the label prompting code. The runtime is

totally unaffected. Pauli and Walter didn't like the somewhat random selection of single character labels beyond D which lead to a silent removal of this feature.

If we remove both the single letter labels and the shortcuts, Franz' TVM application will suffer as will the user interface of the Vector program.

Re: A few WP34s questions

*Message #7 Posted by **Paul Dale** on 12 Aug 2011, 6:25 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> If we remove both the single letter labels and the shortcuts, Franz' TVM application will suffer as will the user interface of the Vector program.

I agree that TVM will suffer if these are removed. The vector code was intended to be a suite of subroutines rather than a stand alone application -- the latter was added later. Having both in the same flash segment as applications risks confusion since they don't define the same shortcut labels....

- Pauli

Re: A few WP34s questions

*Message #8 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 4:15 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> Having both in the same flash segment as applications risks confusion since they don't define the same shortcut labels....

You underestimate the genius of the intended audience. ;-)

Re: A few WP34s questions

*Message #9 Posted by **Walter B** on 13 Aug 2011, 5:51 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> You underestimate the genius of the intended audience. ;-)

And you underestimate the number of questions running up the hotline, especially from such an audience ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C Platinum CHS bug?

*Message #1 Posted by **M. Joury** on 11 Aug 2011, 5:10 p.m.*

I know this has come up before but what I read did not have much info so here goes again...

I was searching for some other info today and came across mention of a weird stack/CHS bug in the 12C Platinum. Specifically the following:

10 ENTER CHS 2 + returns 12 and not -8.

Ok, I guess I can live with that. However, the following was also noted in a post I came across:

```
10 ENTER CHS 2 +
5 ENTER 5 + CHS 2 +
```

Give different answers. This strikes me as being totally inconsistent. So here is my question: Is this considered a bug and does this bug (idiosyncrasy if you prefer) exist in all the 12C Platinum versions? It certainly exists on mine (CNA 01705175).

BTW, I tried this on all the calculators I have out at the moment and the only other ones to exhibit this behavior are the HP65, HP45, and HP25 although it was argued that this is documented in the HP25 manual and therefore is NOT a bug. I don't have any of the manuals available right now so I can't verify one way or the other. With the listed machines the behavior is identical with respect to both examples given above. The HP35 (NOT S) does something completely different returning 8 for both examples above (at least it is consistent).

Cheers,

Marwan

Re: HP 12C Platinum CHS bug?

*Message #2 Posted by **Michael de Estrada** on 11 Aug 2011, 5:43 p.m.,*
in response to message #1 by M. Joury

These are not bugs, but simply the way the calculator executes a stack lift. On the HP-35, Once you press ENTER, any further operations apply to the next value being entered into the X register, so the 10 in your example has been lifted into the Y register, and the negative sign is applied to the 2 that is keyed in after it. So in this case you have +10 -2 = +8. On the HP-45, when you ENTER the 10, a +10 is lifted into the Y register, then the CHS is cancelled when you key in the 2, so you end up with +10 in the Y register and +2 in the X register, and the result is +10 +2 = +12. Basically, the proper and consistent way to use any RPN calc is to key in all parts of a number (mantissa, sign, exponent, sign) prior to entering it into the stack to avoid this type of problem. The proper way to calculate -10 + 2 = -8 is to key in 10 CHS ENTER 2 +

Edited: 11 Aug 2011, 5:49 p.m.

Re: HP 12C Platinum CHS bug?

*Message #3 Posted by **Vladan Dugaric** on 11 Aug 2011, 6:12 p.m.,*

in response to message #2 by Michael de Estrada

Standard 12 gives -8 when 10 ENTER CHS 2 + is keyed in, so 12C+ definitely gives a different result.

HP-41CX also gives -8, so it is likely that the emulation in 12C+ has a bug somewhere (it is supposed to give the same result as the emulated 12C).

Even Nonpareil emulation of 12C gives -8 (and it is likely that 12C+ is based on nonpareil emulation).

Vladan

Edited: 11 Aug 2011, 6:14 p.m.

Re: HP 12C Platinum CHS bug?

*Message #4 Posted by **Michael de Estrada** on 11 Aug 2011, 6:18 p.m.,*
in response to message #3 by Vladan Dugaric

Not a bug, just improper user entry. Try 10 CHS ENTER 2 +, and you'll get the correct answer -8 on every machine, every time.

Re: HP 12C Platinum CHS bug?

*Message #5 Posted by **M. Joury** on 11 Aug 2011, 8:43 p.m.,*
in response to message #4 by Michael de Estrada

Sure, that works, and that is how I would usually do it. But the results are inconsistent among calculators so if nothing else it is an idiosyncrasy.

Re: HP 12C Platinum CHS bug?

*Message #6 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 6:18 p.m.,*
in response to message #3 by Vladan Dugaric

Vladan, M. Joury is talking about the 12C Platinum which is a complete reimplementation of the 12C with enhancements. The software writers introduced a few bugs in the process of reinventing the wheel. The 12C+ emulates the 12C hardware and runs the original ROM so the results on a 12C+ should match those of the 12C.

Re: HP 12C Platinum CHS bug?

*Message #7 Posted by **M. Joury** on 11 Aug 2011, 8:41 p.m.,*
in response to message #6 by Marcus von Cube, Germany

It does.

-Marwan

Re: HP 12C Platinum CHS bug?

*Message #8 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 6:15 p.m.,*
in response to message #2 by Michael de Estrada

The sequence 10 ENTER CHS 2 + on my 15C puts 10 in X, duplicates the value (stack lift disabled) then executes a monadic operation on X, replacing X by -X. This enables stack lift again so that the 2 pushes 10 into Z, -10 into Y and 2 in X. + adds -10 to 2 and replaces X by the result, dropping both input values so

that 10 is now in Y which can be easily checked with Rv.

Re: HP 12C Platinum CHS bug?

*Message #9 Posted by **M. Joury** on 11 Aug 2011, 8:39 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Yup. 15C was one of the machines I tried. As was the WP34S <g>. Both gave -8 as a result for both problems. So do the following machines:

```
HP-41
HP-42
HP-67
HP-32Sii
HP-33S
HP-35S
HP-12C
HP-12C+
HP-34C
HP-32E
```

Edited: 11 Aug 2011, 8:40 p.m.

Re: HP 12C Platinum CHS bug?

*Message #10 Posted by **Tommy** on 12 Aug 2011, 4:46 a.m.,*
in response to message #9 by M. Joury

Yes, it is a bug. The CHS is not listed as a neutral operation (15C manual Appendix B)

The CHS is neutral during digit entry.

"After digit entry termination, CHS and EEX are lift-enabeling". The ENTER terminates the first number

/Tommy

Re: HP 12C Platinum CHS bug?

*Message #11 Posted by **Ken Shaw** on 12 Aug 2011, 10:44 a.m.,*
in response to message #10 by Tommy

This answer is the most sensible to me.

In the 15C and others, the sequence "10 ENTER CHS" appears to intentionally enter 2 numbers (+10 into Z and -10 into Y), so that anything following will replace the display. Most of us performing this sequence probably don't think about the Z value and intend only to work with the X and Y registers, making -8 the expected result.

But if you think about what Michael Estrada said, our habit of ignoring the Z value is equivalent to an incorrect input method for RPN, where if we didn't want +10 in the Z register, we really should be typing "10 CHS ENTER" and not "10 ENTER CHS".

Just my C$0.02

Edited: 12 Aug 2011, 10:47 a.m.

Re: HP 12C Platinum CHS bug?

*Message #12 Posted by **M. Joury** on 12 Aug 2011, 11:13 a.m.,*
in response to message #11 by Ken Shaw

Unless I am misunderstanding what you are saying, I don't think that is right.

'Z' never gets involved. Assuming a clear stack to begin with (all zeroes) on the 15C:

```
10 CHS ENTER -->  Y: -10;  X: -10
10 ENTER CHS -->  Y: 10;  X: -10
```

Nothing ends up in 'Z'.

You get the EXACT same results on the 12CP, *BUT* on that machine CHS after ENTER appears to DISABLE stack lift (see my additional comments at the end). So any digits entered after that overwrite the -10 in the X register.

Per Tommy (from the HP-15C manual:

> Quote:
>
> "After digit entry termination, CHS and EEX are lift-enabeling". The ENTER terminates the first number

This is identical to the operation of *MOST* hp calculators that I have tested including the original HP-12C and the HP-12C+.

I agree with Michael that this entry method is suspect and probably not the best way to do things but most other HP's handle it as I would expect. Also, see Gerson's reply in this same thread for an example where the behavior of the 12CP might get you in trouble.

One final point (made earlier) is that the result is not consistent. CHS after ENTER behaves differently than, say, after '+'. Try:

```
5 ENTER 5 + CHS 2 +
```

This gives you a result of -8 on every machine I have tested *OTHER THAN* the HP-35 which gives you 8. In the above example the CHS operation either enables stack lift or is neutral ('+' enabled it), either way the result is different.

I just realized that I think I know what is going on:

On most HP's CHS is neutral *EXCEPT* after digit entry (as suggested by the HP-15C manual). On the HP-12CP it is *ALWAYS* neutral and since ENTER disables stack lift CHS (neutral) leaves stack lift disabled and the next digit overwrites 'X'. That also explains the behavior with 5 ENTER 5 + where '+' enables stack lift and CHS (neutral) does not effect it so -10 is 'lifted' into 'Y when the next digit is entered. I will have to play around with this some and see if my assumption is consistent.

Cheers,

-Marwan

Re: HP 12C Platinum CHS bug?

*Message #13 Posted by **Ken Shaw** on 12 Aug 2011, 3:46 p.m.,*
in response to message #12 by M. Joury

No, you didn't misunderstand. I made a mistake in trying to be too brief with my post. By leaving out the "2" following "10 ENTER CHS", of course nothing ends up in Z, so I should have left the original sequence intact. Reconsider my post with the extra digit entry at the end.

I was just trying to emphasize the important difference when the CHS came before ENTER rather than after. The benefit of the 15C method of entry with the additional stack lift is that it keeps the concept of CHS being postfix. When it's applied to the "2" as a prefix notation, the result is unexpected for most of us. But if we kept to the rule as suggested by Mike Estrada, the problem wouldn't arise.

Hopefully I've cleared up the mess I started.

Re: HP 12C Platinum CHS bug?

*Message #14 Posted by **M. Joury** on 12 Aug 2011, 4:50 p.m.,*
in response to message #13 by Ken Shaw

Makes sense to me. But to address one thing you said:

> Quote:
>
> When it's applied to the "2" as a prefix notation, the result is unexpected for most of us.

I think that this is only happening on the HP-35. On the HP-12CP and the other machines with the same behavior the CHS is *NOT* applied to the '2'. It simply is completely neutral as far as enabling stack lift and the '2' overwrites the -10 in the 'X' register.

In other words the 'Z' register is NOT effected on the 12CP. What you end up with after 10 ENTER CHS 2 (before the final '+'):

```
On the 15C:  Z:   10;  Y:  -10;  X:    2
On the 12CP: Z:    0;  Y:   10;  X:    2
On the 35:   Z:    0;  Y:   10;  X:   -2
```

So we have here 3 different approaches to handling this keystroke sequence. 1 and 3 at least give consistent results when considering the other example given earlier (5 ENTER 5 + CHS 2 +). I believe that, per the HP-15C manual, CHS should ENABLE stack lift after digit entry termination.

As it happens I generally use the approach offered by Michael, but I am sure that, as suggested by Gerson in his posting, I have on occasion forgotten the CHS until after I pressed enter. On the 12CP this would return an unexpected result.

Cheers,

-Marwan

Edited: 12 Aug 2011, 5:58 p.m. after one or more responses were posted

Re: HP 12C Platinum CHS bug?

*Message #15 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 5:37 p.m.,*
in response to message #14 by M. Joury

Marvan, you should replace "T:" by "Z:" in your post. Otherwise this makes it perfectly clear.

Edit: done. :-)

Edited: 13 Aug 2011, 4:39 a.m. after one or more responses were posted

Re: HP 12C Platinum CHS bug?

*Message #16 Posted by **M. Joury** on 12 Aug 2011, 5:58 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Oops :-). I will fix it. Thanks!

Re: HP 12C Platinum CHS bug?

*Message #17 Posted by **M. Joury** on 11 Aug 2011, 8:34 p.m.,*
in response to message #2 by Michael de Estrada

I would agree that the HP35 action does not qualify as a bug since, at the very least, the results for the two problems are consistent. On the HP35 the monadic +/- appears to push the leading sign onto the stack and any digits entered thereafter are negative. But the inconsistency with the results on the HP-12C Platinum (and others mentioned) makes it appear like a bug to me.

Furthermore, with the 12CP the monadic negation operator simply disapears. It does not effect 10 and it does not effect 2. The reason, of course, is that CHS appears to disable stack lift on the 12CP and therefore -10 is overwritten by 2. So what you end up with is 10 in the Y register and 2 in the X register. This is not how *most* HP calculators appear to work.

It would appear that CHS after ENTER on the 12CP (and some others) operates differently than at other times (with 5 ENTER 5 + CHS 2 + the CHS operator does NOT disable stack lift or else the final result, assuming an initial stack filled with zeroes, would be 2).

Cheers,

Marwan

Edited: 11 Aug 2011, 8:56 p.m.

Re: HP 12C Platinum CHS bug?

*Message #18 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 4:23 p.m.,*
in response to message #17 by M. Joury

On the 12CP, CHS simply leaves stack lift alone which is a bug because it acts on the number in X (changing the sign) without preserving this changed value as an "automatic intermediate result". If you read the explanation of RPN in the 12C manual you know what I mean.

Re: HP 12C Platinum CHS bug?

*Message #19 Posted by **M. Joury** on 12 Aug 2011, 5:18 p.m.,*
in response to message #18 by Marcus von Cube, Germany

Yes, as I mentioned elsewhere, I suddenly realized that on the 12CP the CHS is *ALWAYS* neutral as far as enabling or disabling stack lift. Per the HP-15C manual (quoted by Tommy):

Quote:

"After digit entry termination, CHS and EEX are lift-enabeling".

So, one could argue that other machines that have this behavior are "as designed" but for the 12CP which is supposed to be a more advanced version of the 12C I would say it is a bug. It would appear that at some point (at least two) the implementation of RPN changed. It changed after the HP-35 (all other classics have the second implementation?) and, apparently, again after the Woodstocks. The Implementation of the 12CP is a throwback to that in the HP-45, HP-65, and Woodstocks. Was the HP-67 the first with the third implementation? BTW, the HP-55 can be added to the machines that do it the second way.

Cheers,

-Marwan

Re: HP 12C Platinum CHS bug?

*Message #20 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 5:45 p.m.,*
in response to message #19 by M. Joury

We had some stack lift problems with the 34S firmware recently. The whole stack lift business is a bit convoluted at best. On the 34S we could easily change the way ENTER works: Instead of duplicating X and lifting the stack it could simply terminate digit entry. In such a scenario, stack lift is **always** enabled. With this approach (borrowed from the RPL machines) 2 ENTER x will no longer produce the result 4 as on a classic RPN calculator. But it would ease the implementation significantly and there will be no ambiguities left.

Re: HP 12C Platinum CHS bug?

*Message #21 Posted by **M. Joury** on 12 Aug 2011, 6:03 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Marcus, I hear what you are saying. I have implemented an RPN simulator for the HP-39gs and the hardest part to get right was the stack lift. It seems so easy and yet it is not really trivial.

Cheers,

-Marwan

Re: HP 12C Platinum CHS bug?

*Message #22 Posted by **Katie Wasserman** on 12 Aug 2011, 10:55 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Quote:

With this approach (borrowed from the RPL machines) 2 ENTER x will no longer produce the result 4 as on a classic RPN calculator

... and thus be duplicating the behavior of the base 20b/30b machine.

I don't like this option at all and is one of the reasons why I don't use the 20b/30b.

Edited: 12 Aug 2011, 10:56 p.m.

Re: HP 12C Platinum CHS bug?

*Message #23 Posted by **BruceH** on 11 Aug 2011, 6:16 p.m.,*
in response to message #1 by M. Joury

> Quote:
>
> Is this considered a bug ...

I would say so: it's not the same as the original 12C (which gives -8) so it's certainly a bug in the sense that keystroke programs published for one machine won't necessarily work on a Platinum.

> Quote:
>
> ...and does this bug (idiosyncrasy if you prefer) exist in all the 12C Platinum versions? It certainly exists on mine (CNA 01705175).

It's in my Anniversary Edition Platinum.

Re: HP 12C Platinum CHS bug?

*Message #24 Posted by **Gerson W. Barbosa** on 11 Aug 2011, 6:45 p.m.,*
in response to message #23 by BruceH

If this is not a bug it is a very cumbersome feature, to say the least. In article #654, last edited on 12/30/2006, I wrote:

> Quote:

```
3) Pay attention to what appears to be a bug in the HP-12C Platinum: negating
a number just entered by pressing
   the CHS (change sign) key does not work the way it used to on the classic
HP-12C. For instance:


   Keystrokes                Display


   45 ENTER                   45.00000000
   CHS                       -45.00000000          The number displayed by the
calculator is negative,
   5                          5.
   +                          50.00000000          yet it has been interpreted
as a positive number.



   15 ENTER                   15.00000000          we've just entered 15,
   CHS                       -15.00000000          but then we rememember we
want to compute sin(-15) and press CHS
   R/S                        0.258819045          then R/S. Wrong result, the
calculator shows sin(15) instead!


   So, either we enter the correct number the first time or we remember to
press ENTER after pressing CHS:


   15 CHS R/S                -0.258819045          sine(-15)
   15 ENTER                   15.00000000
```

```
CHS ENTER              -15.00000000
R/S                    -0.258819045          sine(-15), as expected.
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Desperate For HP 17BII Help

*Message #1 Posted by **Michael Roback** on 11 Aug 2011, 3:15 p.m.*

I recently inherited a 17BII calculator that had been in storage without batteries installed for a long time. I cannot power it on with the on button. However when I depress the on button with a function key it powers on. Also, I can do the self test and it comes back with the calculator being okay. While powered on, I can scroll through the functions but when I go to enter data, the numbers do not always register. I have put batteries in backwards to clear and reset with no success. Also I am unable to turn the calculator off by pressing the shift and off key. I have to take batteries out to turn the calculator off. I of course have installed brand new batteries. Any help or ideas? Is the calculator toast. Should I throw it away. It is probably more expensive to repair than it it worth. Can it be disassembled and the contacts cleaned?? Not sure how to do that. I am stuck. Please help if you can. Thank you! I appreciate any help :).

Re: Desperate For HP 17BII Help

*Message #2 Posted by **gene wright** on 11 Aug 2011, 5:49 p.m.,*
in response to message #1 by Michael Roback

A used 17BII costs between $30 and $50 on the auction site e b a y.

Consider that vs. your time/effort to try to repair the unit, which may not work in any case.

That's how I would approach the decision. I would lean toward finding another unit, but that's just me.

Re: Desperate For HP 17BII Help

*Message #3 Posted by **BruceH** on 11 Aug 2011, 6:25 p.m.,*
in response to message #2 by gene wright

Don't bother with all the risks of buying a second-hand old model on TAS when the current 17bII+ is a very nice machine indeed. Buy new.

Re: Desperate For HP 17BII Help

*Message #4 Posted by **Jose Gonzalez Divasson** on 12 Aug 2011, 3:08 a.m.,*
in response to message #3 by BruceH

Both machines are excellent and worth their prices in their own way. The original with its excellent key feel, better pocketability (for your jacket pocket: it's thinner, and the case is thinner as well); the new with its far superior LCD screen, different but equally excellent key feel and the additional currency menu (I doubt that anyone would fill the additional 24 kb of memory - in fact I doubt that anyone used up the 8 kb of the original)

A deeper comparison can be found Here

Re: Desperate For HP 17BII Help

*Message #5 Posted by **Paul Gaster** on 12 Aug 2011, 3:54 p.m.,*
in response to message #1 by Michael Roback

You could send it to Randy at http://www.fixthatcalc.com/ I checked his list and it is $49 to get fixed, plus you pay for shipping to get it to him. He does good work. I have sent him 2 calculators to fix and he did a great job.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Talking about the WP 34s at the internal HP calculator forum

*Message #1 Posted by **gene wright** on 11 Aug 2011, 2:55 p.m.*

This is an internal forum at HP where people can post questions, etc about calculators. I have tried to drum up some interest in the WP 34s and 41CL there.

You will probably have to register to view the content. FYI.

Business Support Forum on the HP Servers

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #2 Posted by **Walter B** on 11 Aug 2011, 3:30 p.m.,*
in response to message #1 by gene wright

Everything's readable without registration for me. Thanks for posting. There seems to be far less activity in months, however, than at a single day on the museum forum. So well, it's another channel, but apparently a minor one.

Thanks anyway,
Walter

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #3 Posted by **gene wright** on 11 Aug 2011, 4:03 p.m.,*
in response to message #2 by Walter B

Good! Did not know you could read it without registration.

Yes, it has quieted down, but I wanted to again point people in the direction to find out more info.

On another note...I have the first draft of the matrix programs for the 34s keyed in. Debugging now. 197 lines is all it takes. Could do a 6x6 system or inverse, 8x8 determinant. That's a limit based on 100 registers available.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #4 Posted by **Walter B** on 11 Aug 2011, 4:49 p.m.,*
in response to message #3 by gene wright

Sounds good. With respect to matrix size requirements, please note I posted a statement in another thread recently.

Just my 20m€, of course, as usual :-)

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #5 Posted by **gene wright** on 11 Aug 2011, 4:52 p.m.,*
in response to message #4 by Walter B

Oh, I agree. 8x8 determinant is more than enough and 6x6 system / inverse is really awfully big too.

These should handle the "normal" matrix work, assuming they are debugged well. :-)

Would be good to put a "check mark" in the box on "matrix math" with the 34s description, IMO.

34S matrix programs

*Message #6 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 4:59 p.m.,*
in response to message #5 by gene wright

Gene, I was wondering how a usable editor / browser for matrix data could be implemented with the current command set. Or do the routines depend on manual data entry?

Re: 34S matrix programs

*Message #7 Posted by **gene wright** on 11 Aug 2011, 5:23 p.m.,*
in response to message #6 by Marcus von Cube, Germany

The plan is to also include the PPC ROM application program "MIO" from the PPC ROM manual. It helps with the loading / viewing of the matrix.

What you say? You don't have a copy of the PPC ROM manual? :-) Shame on you! lol.

Re: 34S matrix programs

*Message #8 Posted by **Walter B** on 11 Aug 2011, 5:39 p.m.,*
in response to message #7 by gene wright

Everyone owning a museum DVD has got a copy of said telephone directory. And I've even got a printed one :-)

Re: 34S matrix programs

*Message #9 Posted by **gene wright** on 11 Aug 2011, 5:47 p.m.,*
in response to message #8 by Walter B

Good! No wonder you made many very good decisions on the 34s. ;-)

But, what I am working on is a very vanilla port of M1 through M5, BX, QR, BE from the PPC ROM and then RRM and MIO from the M1 routines application programs.

First draft, which should fit into the 506 step flash bank with few problems, will not use the REG-SWAP features of the 34s because the programs are written assuming XX.YY in X and TT.ZZ in Y for register swaps, for example. Once it is *working* then refinements can be worked on.

So, no secret what these will look like. They will be as much like those in the PPC ROM manual as possible. :-)

OT: PPC Manual

*Message #10 Posted by **Mark Hardman** on 11 Aug 2011, 9:30 p.m.,*
in response to message #7 by gene wright

I have a copy of the PPC manual--in fact you were the source! I traded a HP-19C **case** for the manual. Boy, did I get the better end of that deal!

Mark Hardman

Re: 34S matrix programs

*Message #11 Posted by **Paul Dale** on 11 Aug 2011, 5:58 p.m.,*
in response to message #3 by gene wright

Great news.

197 steps? I think there isn't enough functionality there. You've got 506 steps for this library :-)

Check the back of the 15c for a start. Then consider:

- Eigen decomposition
- Joran normal form
- SVD
- Smith canonical form
- Cholesky decomposition
- Matrix log and exponential
- Anything from JMB's superb site.

Remember the 34S motto: "if something is worth doing, it is worth utterly overkilling". I just made that up, it isn't really the motto but it is almost apt.

- Pauli

Edited: 11 Aug 2011, 6:06 p.m. after one or more responses were posted

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #12 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 6:06 p.m.,*
in response to message #11 by Paul Dale

We can throw in another user flash region if desired or some yet unknown tricks for the user interface. Tell us what's missing and we'll consider.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #13 Posted by **Paul Dale** on 11 Aug 2011, 6:09 p.m.,*
in response to message #12 by Marcus von Cube, Germany

I was thinking more of pre-filling one of the user flash regions with this library but another such region is always beneficial :-) Even a read only flash region is possible.

We've a little space at present so if there is a specific command that saves a lot of steps or increases performance, let us know and we'll consider it...

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #14 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 6:21 p.m.,*
in response to message #13 by Paul Dale

I'm thinking of a neat way to display row / column indexes in the alpha area without disturbing the user's display settings.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #15 Posted by **Walter B** on 11 Aug 2011, 6:36 p.m.,*
in response to message #14 by Marcus von Cube, Germany

How about "r2;c2" ? Or - if space is really tight - "2;2" based on everybody knowing it's "row;column"? Just crossed my mind.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #16 Posted by **Paul Gaster** on 12 Aug 2011, 2:27 p.m.,*
in response to message #15 by Walter B

> Quote:
>
> How about "r2;c2" ? Or - if space is really tight - "2;2" based on everybody knowing it's "row;column"? Just crossed my mind.

Good ideas, but I have a very similar and slightly different suggestion. How about we use the 42S notation? The first element in a matrix on a 42S is 1:1=0.00 Most would be familiar with this notation already, but any slight variation would be fine and people would recognize it easily.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #17 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 4:32 p.m.,*
in response to message #16 by Paul Gaster

The problem is the available set of commands in the 34S for handling the alpha register. The only available command aRC# formats the number according to the current display format. If you just want 2 instead of 2.0000 (depending on what is set by the user) you need to set a proper format first. For single digits adding 48 and using XTOA helps but is not the best possible solution.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #18 Posted by **Dieter** on 12 Aug 2011, 5:56 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Maybe there's something I miss here, but isn't the [alpha]IP command intended for exactly this case? It appends the integer part of a number to Alpha, no matter which display format is currently set, without any decimals, trailing zeroes or radix marks.

Dieter

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #19 Posted by **Paul Dale** on 12 Aug 2011, 6:27 p.m.,*
in response to message #18 by Dieter

Thanks Dieter.

Seems we'd both forgotten about the existence of this one :-(

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #20 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 4:25 a.m.,*
in response to message #19 by Paul Dale

The 34S exceeds our intellectual capacities. ;-)

Now, with aIP and KEY? available, Franz' browser idea can be implemented in user code. :-)

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #21 Posted by **Walter B** on 13 Aug 2011, 5:59 a.m.,*
in response to message #20 by Marcus von Cube, Germany

> Quote:
>
> The 34S exceeds our intellectual capacities. ;-)
>
> Now, with aIP and KEY? available, Franz' browser idea can be implemented in user code. :-)

... and thus I'd vote for letting Franz do it :-)

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #22 Posted by **fhub** on 13 Aug 2011, 6:12 a.m.,*
in response to message #21 by Walter B

> Quote:
>
> ... and thus I'd vote for letting Franz do it :-)

Njet, forget it!
The loop with checking for the 4 arrow keys and displaying the current matrix element would be no problem, but when the user enters any number (to change the current matrix element) things would become VERY complicated.

This would definitely be MUCH easier to do with internal code.

Edited: 13 Aug 2011, 6:13 a.m.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #23 Posted by **Marcus von Cube, Germany** on 13 Aug 2011, 10:49 a.m.,*
in response to message #22 by fhub

I agree. It looks like a viewer would be easy to implement while an editor would be much harder.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #24 Posted by **Paul Dale** on 13 Aug 2011, 8:10 p.m.,*
in response to message #23 by Marcus von Cube, Germany

You need an "edit this element" key which is a bit more cumbersome.

Doing a full fledged editor in flash wouldn't be fun. The command line support just isn't set up for it. Adding a command to parse alpha as a number would be a bit easier.

Something to think about...

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #25 Posted by **Marcus von Cube, Germany** on 15 Aug 2011, 2:27 a.m.,*
in response to message #24 by Paul Dale

Maybe the following works:

Navigate to the element in question
Hit R/S
Enter a number
Hit R/S

The loop which queries the keyboard for the arrow

keys needs to check the ENTRY? flag to determine if it has been interrupted and needs to store the modified value in the currently selected location. The first R/S may be made automatic by a new command that allows to feed a key into the keyboard buffer so that the loop can terminate itself as soon as the user presses a digit entry key. Another command my help to detect if a key code is one of the digit entry keys 0-9, ., +/- or EEX.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #26 Posted by **Paul Dale** on 11 Aug 2011, 7:07 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Use STOM and RCLM ???

This is exactly the kind of thing they are inlcuded for :-)

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #27 Posted by **Paul Dale** on 11 Aug 2011, 7:11 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Something like this ought to work:

```
LBL 00
RCLM L
FIX 00
aCLR
aRC# X
alpha ;
aRC# Y
STOM L
RTN
```

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #28 Posted by **gene wright** on 11 Aug 2011, 8:03 p.m.,*
in response to message #27 by Paul Dale

That may work well, Pauli and could help with the MIO port.

But...

Don't you guys go getting too excited. This is a basic port and I'm not doing much intelligence with it. I had a math *minor* in college and never had linear algebra. What I know (which isn't much) I learned studying for the actuarial exam (several times).

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #29 Posted by **Paul Dale** on 11 Aug 2011, 8:14 p.m.,*

in response to message #28 by gene wright

> Quote:
>
> I had a math *minor* in college and never had linear algebra.

Oh well. I did an awful lot of maths at university and loved linear algebra but that was a long time ago and much has been forgotten over the years. Use it or lose it really applies.

I'd love to find some time to spice up the matrix library but I'm kept pretty busy playing with the lower level firmware.

I forgot, a least squares solver could be handy too. Done via one of the standard decompositions rather than the more usual formula (X'X)^-1 X' Y.

- Pauli

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #30 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 4:36 p.m.,*
in response to message #27 by Paul Dale

Pauli, you know we had a more elegant solution which was removed with the advent of the register browser. I vote for having a variant of aRC# which only converts the integer part without a trailing dot.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #31 Posted by **fhub** on 12 Aug 2011, 5:02 p.m.,*
in response to message #30 by Marcus von Cube, Germany

> Quote:
>
> Pauli, you know we had a more elegant solution which was removed with the advent of the register browser. I vote for having a variant of aRC# which only converts the integer part without a trailing dot.

A wonderful solution would be a kind of matrix browser (like the register browser), where you navigate with the 4 arrow keys within the matrix, the current position is shown in the alpha display and the value in X. And if you type in a value and [ENTER] the value would be stored in the current matrix element.

But this could certainly only be done in the firmware itself and not by a user program - and I doubt that there's enough space left for such a feature.

Franz

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #32 Posted by **Marcus von Cube, Germany** on 12 Aug 2011, 5:48 p.m.,*

in response to message #31 by fhub

The size of a row or column is not known to the firmware, only to the user program. In a future version which may natively support matrices, such an editor is a viable option.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #33 Posted by **fhub** on 12 Aug 2011, 6:08 p.m.,*
in response to message #32 by Marcus von Cube, Germany

> Quote:
>
> The size of a row or column is not known to the firmware, only to the user program.

Well, of course I meant that the browser should be called "with a special matrix", and the information about this matrix is stored anywhere (e.g. in a register with a value ss.rc, meaning: ss=start register, r=#rows, c=#cols of the matrix)

> Quote:
>
> In a future version which may natively support matrices, such an editor is a viable option.

Aaah, that sounds interesting!
I hope I'll live long enough to see such a version ... :-)

Edited: 12 Aug 2011, 6:09 p.m.

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #34 Posted by **Walter B** on 12 Aug 2011, 7:09 p.m.,*
in response to message #33 by fhub

> Quote:
>
> Aaah, that sounds interesting! I hope I'll live long enough to see such a version ... :-)

Depends. Do it yourself and you'll determine the speed 8-)

Re: Talking about the WP 34s at the internal HP calculator forum

*Message #35 Posted by **Paul Dale** on 11 Aug 2011, 9:05 p.m.,*
in response to message #3 by gene wright

Any idea of the execution times for these maximal sized problems?

Just out of interest.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s: flash problems

*Message #1 Posted by **fhub** on 11 Aug 2011, 4:18 a.m.*

I've reported 2 problems about programs in flash lately:

1) line numbers of programs in flash are one too high (program starts with 002)

2) executing a program in flash which ends with a RTN kicks the programcounter out of flash

Any idea if (and when) this will be fixed?

Franz

Re: WP34s: flash problems

*Message #2 Posted by **Paul Dale** on 11 Aug 2011, 4:28 a.m.,*
in response to message #1 by fhub

The line number will be fixed very soon.

The RTN issue is more complex and we've not decided what to do yet.

- Pauli

Re: WP34s: flash problems

*Message #3 Posted by **fhub** on 11 Aug 2011, 4:40 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> The line number will be fixed very soon.

Not "very soon" - it's already done (as I just can see)! :-)

> Quote:
>
> The RTN issue is more complex and we've not decided what to do yet.

I'm just curious: what's the problem with it?
Won't it be logical to just reset the programcounter to the top of the current flash area? (as it is done in RAM, too)

Re: WP34s: flash problems

*Message #4 Posted by **Paul Dale** on 11 Aug 2011, 4:53 a.m.,*

in response to message #3 by fhub

> Quote:
>
> I'm just curious: what's the problem with it?
> Won't it be logical to just reset the programcounter to the top of the current flash area? (as it is done in RAM, too)

There are two reasons to use a flash segment for a library. One is as a mini-application like your TVM code. In this case you want the PC to go back to the start of flash. The other is a library of utility subroutines, in this case you don't want the PC going back to the start of the flash segment.

So yes, it is logical to do what you're asking and it is also not logical at the same time.

And that is exactly all I'm going to say on this matter at this time.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41C display problem

*Message #1 Posted by **Alexander Oestert** on 11 Aug 2011, 4:01 a.m.*

Hi experts!

I have recently acquired a 41C, serial No. 1947..., with a screwed on CPU PCB, so not easily removed.

Keying in numbers or letters shows something like this

The flaw occurs on the third position from the left, its shape depending on the number/character I'm keying in on the first (!) position. Most characters give something like an R shape on the third position, characters like "I", "J", "1" or "7" will produce a more slender shape in the third display position. In any case there is also an underscore in the second position and some semicolon and points all around. If this is too hard to understand I will make a video... ;)

I've helped myself by putting a program on a key in USER mode that shifts the display by four alpha spaces to the right. But this is not very convenient.

Does anyone know what can be done against this? Is it a matter of (ultra sonic) cleaning the keyboard and display? Is the graphic engine gone for good?

Thanks in advance!

Re: HP 41C display problem

*Message #2 Posted by **Raymond Del Tondo** on 11 Aug 2011, 4:32 a.m.,*
in response to message #1 by Alexander Oestert

Two causes come to mind:

- contact problem of either CPU pcb and/or LCD tray pcb
- defective LCD driver

In any case, you may have to remove the CPU pcb and check the contacts.
Often there is some acid residue (or corrosion, the green stuff) from leaked batteries.
Also check the contact points between the LCD and the kbd pcb.
I had various of the old units where at least one of the metal strips had gone loose.

HTH

Ray

Re: HP 41C display problem

*Message #3 Posted by **Alexander Oestert** on 11 Aug 2011, 4:51 a.m.,*

in response to message #2 by Raymond Del Tondo

Thanks, I will follow your hints!

A.

Re: HP 41C display problem

*Message #4 Posted by **Alexander Oestert** on 11 Aug 2011, 5:19 a.m.,*
in response to message #2 by Raymond Del Tondo

I disconnected the CPU PCB from the keyboard PCB and found it clean. Nevertheless I cleaned it with isopropyl alcohol.

Then, I found the leftmost (looked at from the back) of the connections between the LCD and the keyboard PCB to be loose. I soldered it back on to the keyboard PCB, but there seems to be no lead coming from the soldering point on the keyboard PCB. It looks like I soldered it to the PCB plastic?!?! Should there be something?

Edited: 11 Aug 2011, 5:19 a.m.

Re: HP 41C display problem

*Message #5 Posted by **Raymond Del Tondo** on 11 Aug 2011, 7:44 a.m.,*
in response to message #4 by Alexander Oestert

No, depending on the revision of the LCD pcb, there won't even be a metal bridge;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Your opinion about this custom USB charger for vintage Calculators

*Message #1 Posted by **Namir** on 10 Aug 2011, 9:09 p.m.*

Hi All,

The TAS site has the following auction. The auction sells custom made USB cables that will charge HP-35, 45, 65, 80, and 67. The seller explains the voltage and current provided by his custom USB cable.

Your opinion? Ok to buy?

Thanks,

Namir

Edited: 10 Aug 2011, 9:09 p.m.

Re: Your opinion about this custom USB charger for vintage Calculators

*Message #2 Posted by **Paul Dale** on 10 Aug 2011, 9:11 p.m.,*
in response to message #1 by Namir

This has come up before and the consensus was it won't hurt the calculator and will eventually charge it.

I've got one I use with a 45 and haven't had any problems.

- Pauli

Re: Your opinion about this custom USB charger for vintage Calculators

*Message #3 Posted by **Namir** on 10 Aug 2011, 9:22 p.m.,*
in response to message #2 by Paul Dale

Thanks Pauli!! I needed someone to give me the green light to buy such an adapter.

Namir

Re: Your opinion about this custom USB charger for vintage Calculators

*Message #4 Posted by **BobVA** on 10 Aug 2011, 9:56 p.m.,*
in response to message #1 by Namir

I've used one for several months. No problems so far.

Regards, Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CostCentral (Erie) update on HP-15C LE

*Message #1 Posted by **Mark Henderson** on 10 Aug 2011, 2:41 p.m.*

I ordered a 15C LE from CostCentral (Erie) on 7/25 and inquired about order status today, here's what they replied (quickly):

"HP is not releasing the calculator until October; they have not specified an exact date yet."

I am continuing to hold my breath, despite all the very valid arguments presented here :-)

Re: CostCentral (Erie) update on HP-15C LE

*Message #2 Posted by **Lode** on 10 Aug 2011, 2:48 p.m.,*
in response to message #1 by Mark Henderson

Yeah, it's October in the US and November in Europe. It's unfair :(

Re: CostCentral (Erie) update on HP-15C LE

*Message #3 Posted by **Thomas Radtke** on 10 Aug 2011, 3:40 p.m.,*
in response to message #2 by Lode

To enter the european market, you need to translate documentation and ensure compliance to local regulations. That could be a reason to have a later launch over here, if that will be the case in the first place.

It's interesting that I can still import it as a private person. Did so with the 35s and, of course, got english docs, which violates the regulations. Hopefully, it works out with the 15C LE the same way.

The cost is probably the same.

Re: CostCentral (Erie) update on HP-15C LE

*Message #4 Posted by **Michael de Estrada** on 10 Aug 2011, 3:54 p.m.,*
in response to message #3 by Thomas Radtke

I think it would be a relatively simple matter to replicate the old documentation that was written in other languages such as German. For example, looking at my original handbook in English, it seems that that only significant changes would be to Appendix F, which deals with batteries, warranty and service.

Edited: 10 Aug 2011, 4:36 p.m.

Re: CostCentral (Erie) update on HP-15C LE

*Message #5 Posted by **Thomas Radtke** on 11 Aug 2011, 2:35 a.m.,*
in response to message #4 by Michael de Estrada

Michael,

documentation and conformance is not only about what is visible to the end-user.

Thomas

Re: CostCentral (Erie) update on HP-15C LE

*Message #6 Posted by **Michael de Estrada** on 11 Aug 2011, 9:10 a.m.,*
in response to message #5 by Thomas Radtke

I understand that, but wouldn't most of those other factors be taken care of by the fact that very similar products such as the 12c+ are already being sold worldwide. Can you show me a concrete example where I'm wrong in this assumption?

Re: CostCentral (Erie) update on HP-15C LE

*Message #7 Posted by **Thomas Radtke** on 11 Aug 2011, 10:05 a.m.,*
in response to message #6 by Michael de Estrada

Since I don't know the hardware of the 15C LE, I cannot comment on what's necessary to bring it to the european market.

However, I'm a Technical Writer concerned with docs and regulations (and risk analysis since we're producing machines). As always, it is not as trivial as it looks. You're invited to visit my office :-).

Re: CostCentral (Erie) update on HP-15C LE

*Message #8 Posted by **bill platt** on 11 Aug 2011, 11:04 a.m.,*
in response to message #7 by Thomas Radtke

It seems like the European market has more barriers to entry than the U.S. Or do you see the same amount of regulatory overlay going from EU to US now, too?

Re: CostCentral (Erie) update on HP-15C LE

*Message #9 Posted by **Thomas Radtke** on 11 Aug 2011, 11:46 a.m.,*
in response to message #8 by bill platt

While we do export AHUs to the US and non EU countries in eastern europe and do care for all regulations to be met, the US isn't much of a problem since placing is done by an independant office. If the company I'm working for would have been liable for its devices, we wouldn't have entered the market in the first place, since any problem with a larger machine can ruin a small company like ours quickly. So, regulations aren't a problem, but legal practise is.

Re: CostCentral (Erie) update on HP-15C LE

*Message #10 Posted by **Paul Dale** on 10 Aug 2011, 5:07 p.m.,*
in response to message #2 by Lode

Quote:

Yeah, it's October in the US and November in Europe. It's unfair :(

Down here in the antipodes, if past history is anything to go by, it will be 2014 before it gets released at a very inexplicable price in the $350 - $400 range. That's assuming it even gets released.

- Pauli

Re: CostCentral (Erie) update on HP-15C LE

*Message #11 Posted by **Erturk Kocalar** on 10 Aug 2011, 9:48 p.m.,*
in response to message #10 by Paul Dale

I'm surprised why oct? I would have released it before school starts so some students get it. By October, it is more a Christmas gift category. Which could be from HP to us :)

My fingers crossed.

Re: CostCentral (Erie) update on HP-15C LE

*Message #12 Posted by **Walter B** on 11 Aug 2011, 12:53 a.m.,*
in response to message #11 by Erturk Kocalar

Don't expect anything rational. Though the individuals in the calculator "department" are good guys AFAIK, the overall organisation of this launch looks like a big mess from outside.

My 20m€ only.

Re: CostCentral (Erie) update on HP-15C LE

*Message #13 Posted by **Howard Owen** on 11 Aug 2011, 3:13 p.m.,*
in response to message #11 by Erturk Kocalar

My guess is they will hand it out at HHC (9/24 - 9/25) and announce it around the same time. I expect the product launch will take place at the VAR meeting, thus vindicating Tim Wessman's statement that it would NOT be launched at HHC. Availability in stores a week later would be consistent with an October date.

Caveat conference goer: I am totally blowing smoke on these predictions. If you buy a ticket to HHC and they **don't** hand out 15Cs, don't blame me. :)

Re: CostCentral (Erie) update on HP-15C LE

*Message #14 Posted by **Thomas Radtke** on 12 Aug 2011, 11:13 a.m.,*
in response to message #11 by Erturk Kocalar

In one of the links presented here, HP stated it would be a "great gift" IIRC, indicating that xmas is targeted.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting overview of the HP-15C limited edition

*Message #1 Posted by **From Hong Kong** on 10 Aug 2011, 1:23 p.m.*

Interestingly, I found the following overview taken from a page snapshot that appeared on August 6, 2011.

[url:http://webcache.googleusercontent.com/search?hl=en&biw=1003&bih=463&gs_sm=e&gs_upl=547l9047l0l10375l15l14l1l2l2l0l359l3000l0.2.5.4l11l0&q=cache:3XBAGI0_1h4J:http://www8.hp.com/us/en/products/calculators/product-detail.html?oid=5153395+hp-15c+limited+edition&ct=clnk]

Overview

HP¡¦s Popular 15c Scientific Calculator in a Limited Edition. The HP 15c Scientific Calculator combines intelligent design with advanced scientific calculations. Benefit from faster processing power, great shortcuts like RPN and an intuitive, horizontal interface.

Features

Intelligent design meets portability

- The HP 15c scientific calculator presents an intuitive, horizontal interface, just like the original.
- The compact size and light-weight metal frame of the HP 15c allow scientists and engineers to easily carry this powerful calculator from meeting to meeting.

Powerful problem solver

- Run calculations quickly. This HP scientific calculator touts up to 100x faster processing power than its predecessor.

Advanced scientific calculations

- Gain a scientific calculator with programmable functions and built-in support for complex numbers, matrix math, numerical integration and root solving.
- Store complex calculations directly in the memory for rapid retrieval.
- Reduce the number of keystrokes with RPN capabilities.

HP classic available as limited edition

- This HP classic features a unique production number and ¡§limited edition¡¨ script, making it a great gift for collectors, scientists and engineers. Learn more about HP calculators.

Edited: 10 Aug 2011, 1:28 p.m.

Re: Interesting overview of the HP-15C limited edition

*Message #2 Posted by **Walter B** on 10 Aug 2011, 4:22 p.m.,*
in response to message #1 by From Hong Kong

The only feature missing is a reasonable display - reflecting the progress in 30 years since the launch of the original. Come on, HP :-) you don't want to bring a new calculator with key code programs in 2011, do you?

Edited: 10 Aug 2011, 4:35 p.m.

Re: Interesting overview of the HP-15C limited edition

*Message #3 Posted by **Tommy** on 11 Aug 2011, 5:00 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> The only feature missing is a reasonable display

Naaa... It´s the only one I can read without glasses :-) /Tommy

Re: Interesting overview of the HP-15C limited edition

*Message #4 Posted by **exschr** on 11 Aug 2011, 5:58 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> The only feature missing is a reasonable display - reflecting the progress in 30 years since the launch of the original. Come on, HP :-) you don't want to bring a new calculator with key code programs in 2011, do you?

right, but it's even unaltered way better than the last scientific 35s with it's limited program labels!
My personal killing feature!
(But that is personal preference of mine and that might not always be convincing to others.)

:-) Roger

Re: Interesting overview of the HP-15C limited edition

*Message #5 Posted by **M. Joury** on 11 Aug 2011, 8:15 a.m.,*
in response to message #4 by exschr

Are you saying that the 15C has MORE program labels than the 35S? Or are you complaining about single character labels (I agree with you there).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 35S keyboard problem

*Message #1 Posted by **Nick R** on 10 Aug 2011, 10:26 a.m.*

I'm interested to know what the final consensus is on the HP 35S keyboard. Is it prone to mechanical defects that causes missed keystrokes or is the problem caused by keys being pressed too quickly, or off centre?

Re: HP 35S keyboard problem

*Message #2 Posted by **M. Joury** on 10 Aug 2011, 10:32 a.m.,*
in response to message #1 by Nick R

Personally I have never had a problem with the 35S keyboard. From what I have read it appears to me that the problems seen are a software rather than hardware issue caused by rapid input. I have never *tried* to break it with rapid keystroke sequences and in normal use I have not encountered any issues. People that are actually having problems can tell you more.

Cheers

Re: HP 35S keyboard problem

*Message #3 Posted by **Thomas Radtke** on 10 Aug 2011, 11:35 a.m.,*
in response to message #1 by Nick R

Cursor-up key is more or less gone on my sample, but it seems I'm the only user in this forum to have such a problem.

I guess care needs to be taken when pressing the 35s' cursor keys as they are not hinged. Very bad design decision, imo.

Re: HP 35S keyboard problem

*Message #4 Posted by **NateB** on 10 Aug 2011, 1:17 p.m.,*
in response to message #1 by Nick R

I think it is a problem with the keys being pressed too quickly. The 50g has a similar problem that can be fixed by changing the keytime setting to a smaller value.

If I press a key as fast as possible, the 35s will only register 8 of the 10 presses.

Re: HP 35S keyboard problem

*Message #5 Posted by **Morten Nygaard Åsnes** on 10 Aug 2011, 1:27 p.m.,*
in response to message #1 by Nick R

I don'tthink it can be a software problem. For me it only happens with the RCL key. I have to press it very firmly to make sure it registers.

Re: HP 35S keyboard problem

*Message #6 Posted by **Bart (UK)** on 11 Aug 2011, 9:30 a.m.,*
in response to message #5 by Morten Nygaard Åsnes

I believe there is defintely a software issue with the keys. At first when I was learning the 35s I did not have a problem, but as I got more used to it I began getting missed key strokes. This becomes partcularly apparent when typing in programmes or working through a formula I am familiar with. Quite often the 'busy' annunciator will come on too. It was particularly annoying when I was typing in Pauli's game (see article 1035).

-B

Re: HP 35S keyboard problem

*Message #7 Posted by **Silvio A. Bensi** on 10 Aug 2011, 1:52 p.m.,*
in response to message #1 by Nick R

I bought my 35s in 2009 (CNA 72701623) and use it daily, although not heavily. Missed keystrokes due to quick typing is not new for me, but 2 months ago the "+" key started to fail. When I press it on the inferior left side, it fails 5 to 6 times in 10. I feel the click, but it does not conclude the operation. There is another mechanical problem with the "SIGMA+" key: it is unbalanced and inclined to the left, though it continues working with no fail.

Silvio

Re: HP 35S keyboard problem

*Message #8 Posted by **Nick R** on 10 Aug 2011, 4:48 p.m.,*
in response to message #7 by Silvio A. Bensi

It sounds like there's definitely doubt as to the durability of the keys on the 35S. That's enough to put me off buying one at the retail price. I'd thought of getting one to sit next to my vintage HP35 as a comparison, but that would be like parking a Lada next to a Ferrari. It seems that in the last few years the reduction in the MSRP of certain makes of calculator has been matched by a reduction in MTBF. I'd call this the China Syndrome. If the much-anticipated HP15C LE does actually materialize, I doubt that the construction quality will prove to be much better, and perhaps LE may end up standing for Lousy Engineering. I hope I'm wrong.

Nick

Re: HP 35S keyboard problem

*Message #9 Posted by **Michael de Estrada** on 10 Aug 2011, 5:09 p.m.,*
in response to message #8 by Nick R

> Quote:
>
> If the much-anticipated HP15C LE does actually materialize, I doubt that the construction quality will prove to be much better, and perhaps LE may end up standing for Lousy Engineering.

I doubt it. It should be physically identical to the HP-12C+, which AFAIK is quite good and solid, and nothing like the junky and flimsy construction of the HP-35s. I would expect it's quality to be closer to that of the HP-50g, which is quite good and much better than the HP-35s.

Re: HP 35S keyboard problem

*Message #10 Posted by **M. Joury** on 10 Aug 2011, 5:54 p.m.,*
in response to message #9 by Michael de Estrada

Michael,

Your bias is showing <g>. While the 35S does have faults I don't find the construction to be one of them.

The problem with this approach to inquiring about quality is you have no idea whether those NOT responding are having problems or not. The number of responses to the original query does not really indicate a hardware problem since you WILL get failures--that's simply the nature of the beast--the question becomes what is the failure rate. Anecdotal evidence of the kind being gathered here does not provide an answer. You need a far larger sample to unequivocally answer that question. I even have a 41 that after years and years of dutifully registering every keystroke, every time, suddenly began missing the '5' key. Does that make the 41 "junk"? Hardly.

I am not saying that there is NOT a hardware problem, just that it is very hard to be sure there is one with the answers received so far. And yes, I have seen other complaints about missed keys, but, again, is that hardware or software, I don't know. Even Pauli (I believe it was) said that they would have used the 35S as a basis for their work had it been flashable.

Cheers,

Marwan

Re: HP 35S keyboard problem

*Message #11 Posted by **Michael de Estrada** on 10 Aug 2011, 7:06 p.m.,*
in response to message #10 by M. Joury

The issue here is one of durability and consistent quality. If a calculator like your HP-41C works for decades before finally experiencing a failure, it is much better made than a calculator like the HP-35s that fails after only a few years of use. I have a heavily used HP-32SII whose keyboard buttons work as well as the day it was removed from it's box. Not to mention an even older and more heavily used HP-15C. When was the last time you ever heard anyone complain about the quality and durability of a Pioneer or Voyager ? Also, just because you don't hear a lot of complaints, doesn't mean there aren't a lot of people that simply haven't reported them, because most users don't even frequent this forum.

Re: HP 35S keyboard problem

*Message #12 Posted by **M. Joury** on 10 Aug 2011, 9:46 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> Also, just because you don't hear a lot of complaints, doesn't mean there aren't a lot of people that simply haven't reported them, because most users don't even frequent this forum.

And there's the rub. Until we have a nice large sample we can't tell how bad (or good) the situation is.

And yes, I do agree with your statements about the quality of the machines you mention. The point I was getting at was that sample size is important even when discussing durability.

My first 41C had a memory problem (failure) very early on in it's life. It was fixed under warranty and never had a problem after that. However, I could have assumed that because it failed soon after purchase that the durability of the machine was questionable. That would have been a bad assumption based on too small a sample size.

I am not arguing that the 35S has great hardware--although I have not had a problem with mine. What I am saying is that given the sample size I simply don't know. Remember, the squeaky wheel gets the grease, in this case that might mean that those most dissatisfied with their machines are the most vocal.

Another example is my 50g. I have two and one of them has a funny sound to the click on one of the keys. Still responds fine but it does not sound right to me. I could jump to the conclusion that quality control is poor since 1/2 does not meet my version of spec. I might even be right but again the sample size does not warrant a conclusion one way or another.

I would love to see a true random sample of say 1000 units tested to verify hardware functionality. Now if the sample set was truly random that would probably be a valid basis on which to make a conclusion as to the quality of the machine's hardware. Unfortunately that isn't going to happen on this forum.

I would add that I probably agree that the quality of the 35S does not match that of earlier machines such as the 32Sii but I would argue that that does not make it "junk" in it's own right.

I would also say that my one really big complaint about the 35S is that they never bothered to fix anything. Is this the only mid-range/high-end HP that has never had a ROM update?

Edited: 10 Aug 2011, 9:49 p.m.

Whats flimsy about the 35s

*Message #13 Posted by **snaggs** on 10 Aug 2011, 9:37 p.m.,*
in response to message #9 by Michael de Estrada

I was worried after reading all this type of bosh in the forum, but found it all to be not true and greatly exaggerated.

Re: HP 35S keyboard problem

*Message #14 Posted by **Cristian Arezzini** on 10 Aug 2011, 2:26 p.m.,*
in response to message #1 by Nick R

I really don't know how fast you guys can type, but personally, the fastest I can manage is about 12 digits per second on my 35s (I can enter 123123123123 in just under a second) and they all register consistently and reliably. I don't know if I have a faster than average calculator, or if I just type too slow for you, but does anybody *really* need the capability to type more than 12 digits per second?

Cristian

Re: HP 35S keyboard problem

*Message #15 Posted by **Silvio A. Bensi** on 10 Aug 2011, 2:50 p.m.,*

in response to message #14 by Cristian Arezzini

You have to include operations too. I suggest you to try a chain of one-digit calculations in RPN mode. The longest, the best. And try to use two fingers (both thumbs, for example.

Re: HP 35S keyboard problem

*Message #16 Posted by **Marcus von Cube, Germany** on 10 Aug 2011, 4:29 p.m.,*
in response to message #15 by Silvio A. Bensi

Typing with two fingers may be a special problem if the keyboard does not have two key roll-over. This is a software thing to implement or not. Without it, only one key is detected and a second key pressed at the same time is ignored. With two key roll-over properly implemented the second key is accepted even while the first one is still down. This is what I've done in WP 34S. (At least I tried to implement it correctly.) To get multi key roll-over (three or more) you need diodes in the key matrix which would increase the production costs and is only really useful on large keyboards, not on a calculator.

Re: HP 35S keyboard problem

*Message #17 Posted by **Cristian Arezzini** on 11 Aug 2011, 12:15 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I made a few quick tests, and a second key pressed while the first one is still down is correctly detected in every case I've tried. It also works for many three-key combination - i.e. press 1 and hold, press 2 and hold, press 3 - the display shows 123 and it doesn't change regardless of how you release the keys. It also works for 789, 147, 258, and many more. Two I've found that don't work are 456 and 753 - for these, only the first two keys pressed register. I suppose it has to do with the row/column key encoding?

I've also noticed that digits are entered as soon as the key is *pressed*, while operations are performed when the key is *released*. Do you know why?

Cristian

Re: HP 35S keyboard problem

*Message #18 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 6:50 a.m.,*
in response to message #17 by Cristian Arezzini

Cristian, thanks for testing. It looks like the keyboard driver is not too bad.

Executing a function on key release may be associated with SST/BST showing the step and executing it when the key is released or something to that avail. Maybe it's a provision for NULL (like on the 41C) without ever being fully implemented.

I can press as fast as Ilike

*Message #19 Posted by **snaggs** on 10 Aug 2011, 9:32 p.m.,*
in response to message #1 by Nick R

I just tried pressing 2+2+ etc as fast as I could 66 times and nothing was missed.

My serial is CNA 03701109 if that helps with production dates.

Re: I can press as fast as Ilike

*Message #20 Posted by **Thomas Radtke** on 11 Aug 2011, 7:01 a.m.,*
in response to message #19 by snaggs

[nonsense deleted]

I can't beleive production went on in 2010 w/o correcting bugs ...

Edited: 11 Aug 2011, 7:03 a.m.

Re: I can press as fast as Ilike

*Message #21 Posted by **snaggs** on 11 Aug 2011, 7:15 a.m.,*
in response to message #20 by Thomas Radtke

Its probably the same production run.

Then again, mine doesnt have any bugs so maybe they fixed them?

Happy to try anything you can reproduce. Can also post youtube videos of the bugs not happening, as opposed to user error being repeated as heresay.

Daniel.

Re: I can press as fast as Ilike

*Message #22 Posted by **Thomas Radtke** on 11 Aug 2011, 7:48 a.m.,*
in response to message #21 by snaggs

> Quote:
>
> Then again, mine doesnt have any bugs so maybe they fixed them?

Missed that. You worked through the whole buglist and found all points to be fixed? That would be great.

Re: I can press as fast as Ilike

*Message #23 Posted by **Bart (UK)** on 11 Aug 2011, 9:43 a.m.,*
in response to message #21 by snaggs

You did everything in the Bug List (article 735)? Yes, please post youtube videos of any of those that you can verify as fixed (e.g. no.1 would not be easy to verify). Perhaps HP did another "silent roll-out" (as with the 12C+, but this time so silent they did not even let the forum know?)

Re: I can press as fast as Ilike

*Message #24 Posted by **snaggs** on 11 Aug 2011, 10:00 a.m.,*
in response to message #23 by Bart (UK)

Not everything, i.e I dont know what (1) is. I expect much is just user error and heresay.

Looked at the so called Cos and Tan "bugs". Its algorithm is less accurate than the Pioneers for values 89.99999 to 89.9999999, at 89.99999999 its the same. For values not near the extreme its more accurate than the 42s etc. So do we say the 42s is bugged? Of course not.

4 and 5 are irrelevant

8 Once again, minutia

9. Works fine on my 35s

10. Is purely opinion

11. Works fine on mine

15. Works fine on mine, though I used RPN as I dont know how they put an eqn one line. People were complaining that i had an ALG mode, so if kts an obscure ALG mode bug, who cares?

16. Is just people programming bad, a continuous loop will overflow or crash most computers.

After finding all this stuff was bs I coulnt be bothered with the rest. Dont believe everything written on the internet, try for yourself!

Edited: 11 Aug 2011, 10:01 a.m.

Re: I can press as fast as Ilike

*Message #25 Posted by **Alexander Oestert** on 11 Aug 2011, 11:46 a.m.,*
in response to message #24 by snaggs

> Quote:
>
> 15. Works fine on mine, though I used RPN as I dont know how they put an eqn one line. People were complaining that i had an ALG mode, so if kts an obscure ALG mode bug, who cares?

To write an equation on a program line, just press [EQN] and copy the equation given in the example. Note that the first minus sign is a unary minus, thus has to be keyed in with [+/-]

My 35s reproduces this bug. That is really weird and gives me the creeps. Apart from that, I love this machine for everyday math!

Re: I can press as fast as Ilike

*Message #26 Posted by **Cristian Arezzini** on 11 Aug 2011, 11:48 a.m.,*
in response to message #24 by snaggs

> Quote:
>
> 16. Is just people programming bad, a continuous loop will overflow or crash most computers.

Here I disagree. The last computer I had that crashed if the user entered a continuous loop, was the Commodore 64, and that only if you programmed it in machine language. With any modern programmable device, a continuous loop can crash the program, but not the whole operating system. What would you say if in your computer, you wrote a small program with a loop, and that, besides locking the whole computer, also wiped all your personal data and programs? :) There should always be a way to stop execution of a user program, on a

modern programmable machine.

Re: I can press as fast as Ilike

*Message #27 Posted by **Thomas Radtke** on 11 Aug 2011, 12:00 p.m.,*
in response to message #24 by snaggs

So, with all the bugs being irrelevant or b/s to you, the 35s is for you. Enjoy it :-).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[alpha][space] in WP34S

*Message #1 Posted by **fhub** on 10 Aug 2011, 5:36 a.m.*

Marcus has put the text "TVM Slv" at the beginning of my program, but unfortunately this [alpha][space] doesn't really separate both words, it's almost looking like TVMSlv. :-(

But if I look at some error messages (e.g. "Bad mode") this 'space' is ok, it has the full width of a character.

In the opcode table I see [alpha][space] twice, so are there maybe 2 different definitions of the 'space' character (one for normal and one for small text)?

If not then maybe the appearance of this 'space' character could be made a bit wider?

Re: [alpha][space] in WP34S

*Message #2 Posted by **Paul Dale** on 10 Aug 2011, 5:49 a.m.,*
in response to message #1 by fhub

One space is narrow, the other isn't. I've renamed the narrow one which is being picked up by mistake here.

This has nothing to do with the small font which applies to the entire display or not at all.

- Pauli

Re: [alpha][space] in WP34S

*Message #3 Posted by **fhub** on 10 Aug 2011, 5:56 a.m.,*
in response to message #2 by Paul Dale

Ok, then the problem is solved, thanks. :-)

But I'm just curious: for what purpose one would need such a narrow-space when it's almost invisible?

Re: [alpha][space] in WP34S

*Message #4 Posted by **Paul Dale** on 10 Aug 2011, 5:58 a.m.,*
in response to message #3 by fhub

Making the various status indicators on the top line line up correctly. The various indicators don't move around when other indicators are present or not.

- Pauli

Re: [alpha][space] in WP34S

*Message #5 Posted by **fhub** on 10 Aug 2011, 6:06 a.m.,*
in response to message #4 by Paul Dale

Ok, now I got it!

One more question: if I find the same name (token) in the opcode table more often then only once (with 2 different opcodes), is this then a mistake (i.e. should I report it), or is this normal?

Re: [alpha][space] in WP34S

*Message #6 Posted by **Paul Dale** on 10 Aug 2011, 6:14 a.m.,*
in response to message #5 by fhub

It depends on the op-code.

You already know about CLx being there twice. +/- is the other one that legitimately has two definitions.

There are no other duplicates but if they ever appear, it is likely bad.

- Pauli

Re: [alpha][space] in WP34S

*Message #7 Posted by **fhub** on 10 Aug 2011, 6:30 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> You already know about CLx being there twice. +/- is the other one that legitimately has two definitions.

But then I wonder how Neil's assembler can handle these 2 tokens?
A short look at his perl script I don't see anything 'special' for these 2 tokens, so how should the assembler know WHICH opcode it should produce when he finds one of these 2 names in a source file?
Or don't the 2 opcodes (in this case) matter because they have the same code?

Re: [alpha][space] in WP34S

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 7:12 a.m.,*
in response to message #7 by fhub

Well spotted Franz. This had been discussed previously here.**.

I am a bit with you that I am not exactly sure of the end effect but I suspect that it only has a real difference when editing keyboard entry. Pauli will have to confirm this.

What happens in the assembler is that, when the op-code map is expanded it is placed into 2 hashes. One is keyed on the op-code (hex value) with the payload being the mnemonic (op-code => mnemonic). The other is the opposite: mnemonic => op-code. The first is primarily used by the disassembler, the other by the assembler.

Since I don't over-write any key that previously exists in a hash***, in both cases (CLx and +/-), the duplicate mnemonic in the mnemonic=>op-code table is not recorded -- it is just abandoned. The effect is that when assembling source you will **always** get the first op-code in the op-code map for these respective mnemonics. This results in a definite

loss of information when in source form. (This was also noted in the thread mentioned above.)

So far I don't think it has caused any problems but...

** Note that the date stamps on the thread are often inverted and non-linear. Don't try and follow it linearly from top to bottom.

*** I discovered the duplicates because of the defensive programming habit of always checking a hash table for an existing entry before loading a (key,payload) pair. I think you can still enable the original warning message associated with this by using an undocumented (to the outside world, that is) debug switch on the command line.

Re: [alpha][space] in WP34S

*Message #9 Posted by **fhub** on 10 Aug 2011, 7:29 a.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

> Quote:
>
> This had been discussed previously here.**.

Ahhh, I must have overlook this discussion, thanks Neil!

I came across this problem with this [alpha][space] in the TVM program, and as you explained: your assembler just took the first opcode in the table, and exactly this was the 'narrow' space.

> Quote:
>
> So far I don't think it has caused any problems but...

Well, the 'space' above was the first then, but I'd say it's indeed a very dangerous situation - as Pauli explained the CLx and +/- go indeed to different code parts, it's just a matter of "which comes first in the opcode table" whether it would work or not.
Not a good solution IMO ...

Re: [alpha][space] in WP34S

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 7:37 a.m.,*
in response to message #9 by fhub

As I said, there is a loss of precision in source form (predicted and documented)...

The only solution is to add some differentiating information to the two mnemonics. Otherwise I cannot tell them apart.

Re: [alpha][space] in WP34S

*Message #11 Posted by **fhub** on 10 Aug 2011, 7:53 a.m.,*
in response to message #10 by Neil Hamilton (Ottawa)

> Quote:
>
> Otherwise I cannot tell them apart.

Yes, I know it's not your fault of course ... ;-)

Now to a completely different question (about your assembler):
While writing my TVM program it happened a few times that I had to insert or delete a line in the source code. Now of course all following line numbers changed, and to get them in order again I've used the following method so far: assemble the source and the disassemble back the *.dat file.
But now in my source I've added several comments in many code lines (after the command with a //), and of course all those comments are gone with my assemble/disassemble method above, so I always had to put these comments in again.

Now my question: is there any (undocumented) trick for your assembler, so that I can use it to ONLY renumber the source lines (without producing any 34s code) and it would keep all comments?

I know I could just write a small program for that purpose myself, but if we already have such a powerful tool like your assembler, I thought that maybe this could be done with your tool, too. ;-)

Edited: 10 Aug 2011, 7:53 a.m.

Re: [alpha][space] in WP34S

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 8:00 a.m.,*
in response to message #11 by fhub

I am not sure I totally follow. Are you looking for the '-ns' switch to turn step numbers off completely? I think there is a section in the manual about this -- along with the reason for it being there (differencing).

Step numbers are an all or northing deal in the output. They are **totally** ignored on input.

Re: [alpha][space] in WP34S

*Message #13 Posted by **fhub** on 10 Aug 2011, 8:17 a.m.,*
in response to message #12 by Neil Hamilton (Ottawa)

> Quote:
>
> I am not sure I totally follow.

Oh god, that's the problem explaining something in a foreign language! ;-)

No, I meant something else:
I have a program listing (WITH linenumbers) produced by your disassembler in *.wp34s format.

E.g. now I add/insert one more command quite at the beginning of the program, so I would have to change all following line numbers manually (I know it's not absolutely necessary because re-assembling this changed file just ignores line-numbers, but it just doesn't look nice).
So all I would want is that the assembler could take this file with the added line and produce a new source(!) file with all line-numbers corrected.

Pauli must have any tools which can do this, because yesterday I posted a few changes to my TVM program, and already a few minutes later these changes were updated in the SVN file and all line-numbers were fixed, too.

But I guess your assembler isn't prepared for this task ...

Edited: 10 Aug 2011, 8:18 a.m.

Re: [alpha][space] in WP34S

*Message #14 Posted by **Paul Dale** on 10 Aug 2011, 8:22 a.m.,*
in response to message #13 by fhub

> Quote:
>
> Pauli must have any tools which can do this, because yesterday I posted a few changes to my TVM program, and already a few minutes later these changes were updated in the SVN file and all line-numbers were fixed, too.

I don't have any tools to do this. I used the UNIX command line utility "cat -n" to renumber the relevant sections followed by some clean up editing. It was a manual effort using preexisting tools.

- Pauli

Re: [alpha][space] in WP34S

*Message #15 Posted by **fhub** on 10 Aug 2011, 8:26 a.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> I used the UNIX command line utility "cat -n" to renumber ...

Ahh, a happy UNIX user. ;-)

It seems I'll have to look for (or write myself) a Windows counterpart for this "cat" ...

Re: [alpha][space] in WP34S

*Message #16 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 9:04 a.m.,*
in response to message #15 by fhub

> Quote:
>
> It seems I'll have to look for (or write myself)
> a Windows counterpart for this "cat" ...

Do yourselve a big favour and get cygwin.

Re: [alpha][space] in WP34S

*Message #17 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 8:48 a.m.,*
in response to message #13 by fhub

I am not sure I follow yet -- language or no language.

The assembler regenerates the 'step' numbers from scratch unless you ask it not to with the '-ns' switch. (They are really steps, not lines.)

If you are trying to compare 2 files, one with step numbers to one without step numbers or with "different" step numbers, you can use a variety of command line tools to do this. Many O/S's have a command called "cut". You could try this on the files with line numbers and compare the 2 outputs:

```
$ cut -c 4- your-file-with-step-numbers > your-cleaned-filename
```

The 4 is appropriate for a file without the "000" type step numbers. If you have "000:" style, use "-c 5-".

If the comment sections get in the way, you will have to scrub those through other means. (This is more difficult with "/* ... */" because you need a state machine -- this is the main reason I personally favour the "//" style comment. They are trivial to deal with.)

```
$ grep -v "^[ \t]*//" your-file-with-step-numbers | cut -c 4- > your-cleaned-filename
```

Or, count the lines that need to be removed from the top:

```
$ tail -40 your-file-with-step-numbers | cut -c 4- > your-cleaned-filename
```

Where you must replace '-40' with the number of lines **counting from the bottom** that you are looking to compare.

Repeat this process for both files, if required, and run them through your favorite compare utility.

Re: [alpha][space] in WP34S

*Message #18 Posted by **fhub** on 10 Aug 2011, 9:03 a.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

> Quote:
>
> I am not sure I follow yet -- language or no language.

You're right Neil, better let's forget it. ;-)

You're talking about completely different things ...

Re: [alpha][space] in WP34S

*Message #19 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 11:55 a.m.,*
in response to message #18 by fhub

OK, I guess I finally got what you are looking for. Try this. If the line currently doesn't have any step number it will pass straight through. If it does have a step number, it will be regenerated in sequence (lines with no step number will put a hole in your final sequence). Hint, it is keying on the step number being there -- doesn't matter what it is though -- every line could be 000 for all it cares.

We'll call it "renum.pl".

```
#!/usr/bin/perl -w
my $step = 1;
while(<>) {
  chomp; chomp;
  if( /^\s*\d{3}(:{0,1}.+)/ ) {
    printf "%03d%0s\n", $step++, $1;
  } else {
    print "$_\n";
  }
}
```

You use it like this:

```
$ renum.pl < my_disjointed_step_num.wp34s >
clean_step_num.wp34s
```

No doubt it could be written much shorter or in any one of a dozen other languages.

No support offered... :-)

Edit: There was a typo in the formated print line: one too many %0s specifiers. Now fixed. (I guess I have supported it now, haven't I. :-)

Edited: 11 Aug 2011, 5:39 p.m. after one or more responses were posted

Re: [alpha][space] in WP34S

*Message #20 Posted by **fhub** on 10 Aug 2011, 12:30 p.m.,*

in response to message #19 by Neil Hamilton (Ottawa)

> Quote:
>
> OK, I guess I finally got what you are looking for. Try this.

WOW, it's working perfectly, many thanks! :-)

If I look at something like "if(/^\s*\d{3}(:{0,1}.+)/)" I must really say that this Perl is a horrible language - but it seems to be quite powerful OTOH if it needs just so few steps to perform this task.

And IMO these few lines are indeed worth being included in your assembler (maybe with a new option - renum), would be a nice enhancement.

Thanks again,
Franz

Re: [alpha][space] in WP34S

*Message #21 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 12:59 p.m.,*
in response to message #20 by fhub

> Quote:
>
> If I look at something like "if(/^\s*\d{3}(:{0,1}.+)/)" I must really say that this Perl is a horrible language - but it seems to be quite powerful OTOH if it needs just so few steps to perform this task.

While Perl supports this structure, this is standard search terminology available in many languages called regular expressions (often called regex for short).

That particular one is not as ugly as it at first appears:

```
/  /   -- the evaluation delimiters
^\s*   -- zero or more (*) whitespaces
(\s)
\d{3}  -- exactly three ({3}) numerals
(\d)
:{0,1} -- 0 or 1 colons (could also be
written :? but I find the more verbose one
clearer)
.+     -- 1 or more (+) of any character
(.)
(  )   -- retain this pattern as a temp
variable called $1
```

Piece of cake!

The rest is Perl and it is a wonderful language for doing this sort of thing. So, respectfully, many many people would take some amount of offense to Perl being called ugly. There are many other languages I would use that term with before I labeled Perl with such a moniker.

And, no, this will not be going in the assembler. You now have the script you need as a separate tool.

The assembler is not a Swiss army knife. It is a screw driver. Occasionally you might want to pry a can open with it, but is not appropriate for carving a roast beef or opening wine bottles.

Re: [alpha][space] in WP34S

*Message #22 Posted by **Marcus von Cube, Germany** on 10 Aug 2011, 12:43 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

I can't follow your discussion. ;-)

The first thing I do with a line numbered source file before I start adding contents to it: Get rid of the nasty numbers. YMMV but my preference is not to have them in the source.

Neil, what if your assembler had a listing option which produced a file with all comments intact and the step numbers added along with the binary output? One such file shall be generated per assembly run. The numbers can help those who prefer to type the stuff in on their calculator instead of loading it.

Re: [alpha][space] in WP34S

*Message #23 Posted by **Neil Hamilton (Ottawa)** on 10 Aug 2011, 1:40 p.m.,*
in response to message #22 by Marcus von Cube, Germany

I don't bother using step numbers either but I don't necessarily get rid of existing ones unless I need to for a secondary purpose (such as diff-ing). The assembler simply ignores them. But if they exist, by garr!, they had better be in the proper 3-digit format with or without a single colon. Otherwise the assembler declares an error and dies. It is very strict on this because it would otherwise be very difficult to parse some of the other operations (single digits, for example).

As far as another output from the assembler, it is possible but I would have to be convinced it had to be within that tool. My preference is for single purpose tools. Maybe we

could expand upon the one-off I threw out (above) to do what you want. It works but its error control is nonexistent. If I put the comment FSM into it (about 30 lines of Perl all by itself), it could assign line numbers as required.

> Quote:
>
> Neil, what if your assembler had a listing option which produced a file with all comments intact and the step numbers added along with the binary output? One such file shall be generated per assembly run. The numbers can help those who prefer to type the stuff in on their calculator instead of loading it.

I am not sure I get this. If they are typing it in to the calculator, this is implying an assembly-type operation. If that is the case, then the source already exists (possibly pencil-and-paper type). Maybe what you want is just a source formatter that assigns step numbers. If that is the case, stay tuned for the next stage of the assembly project -- that you saw an advanced peek at last week (a symbolic label preprocessor). That tool will essentially do mostly what you want, albeit with scrubbing of comments. But it does assign line numbers. I might be able to figure out how to retain comments within that development. That was not a priority when it was started because it was intended to be an intermediate file format flow-through tool. Let me think on that a bit....

Re: [alpha][space] in WP34S

*Message #24 Posted by **Marcus von Cube, Germany** on 10 Aug 2011, 4:21 p.m.,*
in response to message #23 by Neil Hamilton (Ottawa)

When I started IT, the compiler used to produce a listing of sort as a standard feature. So did any of the assemblers which used to output the source together with the generated op-codes. The op-codes aren't too interesting in this respect but step numbers are.

Pauli brought up the argument of type-in type usage due to lack of the cable. If you are going to type in a complete library, any help in verifying the result is helpful, including step numbers. You can of course use the disassembler but then you lose all the manual formatting (empty lines, indentation) and the comments. A nicely formatted listing is a good documentation, too.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why complain about the 35s? I love it!

*Message #1 Posted by **snaggs** on 10 Aug 2011, 5:33 a.m.*

Gone back to Uni to do a Maths major. I went to the bookshop and examined the Casio calculator on the booklist and thought, what a piece of crap!

So I went home and rumaged around for my old HP 32sII calculator. Couldn't find it, but did find my 49g+ which I'd mistakingly bought thinking it would be better than my 32sII.

Ffter a week was still struggling to use the bloody thing, and remembered why I hated it all those years ago. Big, FUGLY and stupid.

Back on the internet, time to just get a calculator for "calculating". I found this forum, and started reading and reading.. apparently the new calculators are crap.. the old ones are better, so then..

32sII was crap, the 32s was better No!! the 42s is the best ever made, I mock your 32's 42s? What about the I/O please, give me my 41 Are you kidding me? It all stopped in 1979 with the 15C

After spending a week on ebay searching and loosing on some very pricey auctions for 2nd hand caculators, I thought, stuff it, I'll buy the 35S. At least it will let HP know I'm interested while I wait for a NOS 42s unopened in box to turn up for $50.

Well, my 35s arrived. Its fantastic! I don't have 10 years under my belt with a particular calculator, so some small change is fine with me.

I find the 35s very easy to use. I like the double stack, its small, nice buttons, easier to find things. Way more functions on keys and not hidden in menus (like the 49g+).

To top it off, it looks like its from the set of Battle Star Galactica, ORIGINAL VERSION.

Whats not to like?

So, if your not a die hard 35 year HP user like some people hear, don't worry, you'll love it and in 35 years you'll probably be complaining about the discontinuation of the 35s.

Daniel.

Re: Why complain about the 35s? I love it!

*Message #2 Posted by **Thomas Radtke** on 10 Aug 2011, 6:05 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> Whats not to like?

This.

Re: Why complain about the 35s? I love it!

*Message #3 Posted by **snaggs** on 10 Aug 2011, 8:33 a.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> This.

I applaud your boundary testing, but I wonder how relevant those are for the majority.

Re: Why complain about the 35s? I love it!

*Message #4 Posted by **Thomas Radtke** on 10 Aug 2011, 8:40 a.m.,*

in response to message #3 by snaggs

> Quote:
>
> I applaud your boundary testing, but I wonder how relevant those are for the majority.

That's easy: If you manage to memorize the buglist, and take into account some still undiscovered problems (what's already there indicate some kind of careless programming of the firmware), then this calculator is maybe for you.

If you, OTOH, are a professional and depend on good results, the 35s is not for you.

Re: Why complain about the 35s? I love it!

*Message #5 Posted by **snaggs** on 10 Aug 2011, 8:49 a.m.,*
in response to message #4 by Thomas Radtke

> Program entry bug for large programs. Create a 999 step program and then try to > enter a new LBL. You're not allowed. Delete one step, create the LBL and put the > step back and all is fine.

Lets take this for example, how many times a day do you think the average user will encounter this?

Daniel

Re: Why complain about the 35s? I love it!

*Message #6 Posted by **Thomas Radtke** on 10 Aug 2011, 9:12 a.m.,*
in response to message #5 by snaggs

> Quote:
>
> Lets take this for example, how many times a day do you think the average user will encounter this?

How many strange bugs must a calculator have to easily find something like this early after the 35s was released, hm?

Re: Why complain about the 35s? I love it!

*Message #7 Posted by **Mike Morrow** on 10 Aug 2011, 1:04 p.m.,*
in response to message #5 by snaggs

> Quote:
>
> ...how many times a day do you think the average user will encounter this?

HP abandoned support of the incompetently designed HP 35S immediately after introduction, as shown by the massive list of firmware errors that have been ignored in the five years since. But...you are correct...the HP 35S sure does looks pretty.

Performance-wise, the HP 35S is a fine product for those who aren't concerned about reliability, accuracy, or usability of results...people who are indifferent students, professionals whose work does not use a scientific calculator, or people who are otherwise not invested in any meaningful or philosophical manner to what the machine produces.

If that's you, then you've got something that will bring you much satisfaction. Enjoy!!

Thats very patronising

*Message #8 Posted by **snaggs** on 10 Aug 2011, 9:44 p.m.,*
in response to message #7 by Mike Morrow

Gven its been along time since I've done maths, Ive been revising *everything* from Year 8 maths onwards, doing about 50 problems a day to cath up. Havnt got a wrong answer yet.

Ill let you know when find I find one.

The massive list is filled with irrelevant boundary testing.

> Quote:
>
> HP abandoned support of the incompetently designed HP 35S immediately after introduction, as shown by the massive list of firmware errors that have been ignored in the five years since. But...you are correct...the HP

35S sure does looks pretty.

Performance-wise, the HP 35S is a fine product for those who aren't concerned about reliability, accuracy, or usability of results...people who are indifferent students, professionals whose work does not use a scientific calculator, or people who are otherwise not invested in any meaningful or philosophical manner to what the machine produces.

If that's you, then you've got something that will bring you much satisfaction. Enjoy!!

Re: Why complain about the 35s? I love it!
*Message #9 Posted by **Paul Dale** on 10 Aug 2011, 10:07 a.m.,*
in response to message #3 by snaggs

Bugs 1, 9, 15 and 16 are all potentially serious. Some more so than others. None of these are "boundary" conditions.

Programs that lock up the device? (16)

Weird crashes and lock up requiring battery removal? (1 -- although the specifics of these have never been isolated).

Plain wrong results when not near any singularities or ill conditioning (15).

Incorrect display (9).

These are not boundary testing, they are a sure sign of poor implementation. Bugs 4 and 5 also fall squarely into this category. Didn't anyone do even a shallow test of these two?

Bug 15 is the clincher for me. The answer isn't even remotely correct. It is completely bogus. I cannot trust any calculator that cannot evaluate expressions properly -- that is what a calculator is primarily for after all.

Many of the others are pretty esoteric I'll agree but the sheer number of them and that the more serious ones above are present is indicative to me and others of many underlying yet undiscovered problems.

I really wanted to like the 35s when it was released. It looks nice and it has a decent keyboard. Then the bugs started being discovered :-(

- Pauli

Re: Why complain about the 35s? I love it!
*Message #10 Posted by **Bart (UK)** on 11 Aug 2011, 9:58 a.m.,*
in response to message #3 by snaggs

> Quote:
>
> I applaud your boundary testing, but I wonder how relevant those are for the majority.

Well, for those of us used to using our HP's to the boundary without problems, some of these are a big problem.

Re: Why complain about the 35s? I love it!
*Message #11 Posted by **snaggs** on 11 Aug 2011, 10:25 a.m.,*
in response to message #10 by Bart (UK)

Which? And how?

Especially given that at least one third are not bugs. The list is also by someone who has a bias as the creator of his own calculator software (which is ironically buggy).

Daniel

Re: Why complain about the 35s? I love it!
*Message #12 Posted by **M. Joury** on 11 Aug 2011, 10:45 a.m.,*
in response to message #11 by snaggs

> Quote:

> The list is also by someone who has a bias as the creator of his own calculator software (which is ironically buggy).

Not fair. First, I believe that the list was a compilation. Second, this list came out well before the WP34S. And, third, bugs in the WP34S actually get fixed!

Cheers,

Marwan

Re: Why complain about the 35s? I love it!

*Message #13 Posted by **Cristian Arezzini** on 11 Aug 2011, 11:26 a.m.,*
in response to message #12 by M. Joury

> Quote:
>
> Not fair. First, I believe that the list was a compilation. Second, this list came out well before the WP34S. And, third, bugs in the WP34S actually get fixed!

Seconded!! I too have a 35s and I honestly like it, and for the way I use it I have never encountered the bugs; but it's true that the developers of the 34s fix bugs almost immediately. I myself have reported a few and I think that no company could give such a wonderful "customer support". They even added a few feature I requested, mere hours after I requested them!! And bear in mind that the whole 34s project has been brought on by 3-4 people in their spare time, for free, and they don't have a huge company backing them, which makes their achievement all the more incredible IMO. That said, I still like my 35s, and I don't want to bash it, but it would have been only fair (and standard practice for a serious company) to release a fixed rom after the bugs were discovered... after all, they have had the time, and they're a business, and they need to "fidelize" customers...

Cristian

I dont get these bugs

*Message #14 Posted by **snaggs** on 10 Aug 2011, 10:43 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> This.

6 dont get it, works either way 9, shows correct value

Just did fifteen and pressed run 20 times, always same answer

-466.9270

16. Im still new to RPN programming, how do I find SF 10?

As for the rest, youve written a loop without an exit conditiom. Isnt this just bad prgoramming? I once crashed a big As/400 with a bad loop I wrote, did use 200 gig of virtual memory first (this was alot 10 years ago).

Re: I dont get these bugs

*Message #15 Posted by **DeboT** on 11 Aug 2011, 10:27 a.m.,*
in response to message #14 by snaggs

> Quote:
>
> 16. Im still new to RPN programming, how do I find SF 10?
>
> As for the rest, youve written a loop without an exit conditiom. Isnt this just bad prgoramming?

Yes, but with the PSE present, the loop can be broken by pressing the R/S button and no loss of memory. In point 16 example, you are likely to loose all memory i.e. ALL 32k of programmes, formulas, etc. (I have tried all kinds of techniques to break out of the loop and *allways* ended up loosing all memory).

So, knowing this I keep a written backup (no I/O!) of my programmes. If I do make a mistake and lock up the calculator (it happens right?), I can key in my programmes again (which takes hours - did anyone mention this machine has no I/O?) - **only to be impeded by the annoying missed keys syndrome**!

Otherwise, it's quite a nice calculator (at least the nCr works properly)

Re: I dont get these bugs

*Message #16 Posted by **bill platt** on 11 Aug 2011, 11:46 a.m.,*
in response to message #15 by DeboT

I refuse to do any large-scale "permanent" programming on any non-IO machine. I just think it is crazy.

I was seriously behind the curve, living happily with my 11c all the way up to 1995 and then until 2001 with a 32sii. Then I discovered I/O. Why waste any time on non I/O for anything other than small ad-hoc programming?

Edited: 11 Aug 2011, 12:31 p.m. after one or more responses were posted

Re: I dont get these bugs

*Message #17 Posted by **Michael de Estrada** on 11 Aug 2011, 11:58 a.m.,*
in response to message #16 by bill platt

I agree 100%. That's why the limited memory of the HP-32SII doesn't bother me one bit, and the massive memory of the HP-35s is irrelevant. All my serious programming is contained in my HP-48SX and HP-50g.

Re: I dont get these bugs

*Message #18 Posted by **snaggs** on 11 Aug 2011, 5:13 p.m.,*
in response to message #16 by bill platt

Fair enough. Given all of the custom roms being written, Im suprised no one has done a usb i/o hack for the 35s. The box itself is nice. If they could also work out how to implement multi-labels the job would be done.

Re: I dont get these bugs

*Message #19 Posted by **Marcus von Cube, Germany** on 11 Aug 2011, 5:30 p.m.,*
in response to message #18 by snaggs

The 35S lacks any possibility to update / extend the functionality once the thing is built because the ROM is just that, read only. So there isn't a chance for an outside party to enhance or bug-fix the device. Only HP or their contractors have the option to create new ROM contents and only for newly produced machines.

I dont get the COS bug either?

*Message #20 Posted by **snaggs** on 10 Aug 2011, 11:18 p.m.,*
in response to message #2 by Thomas Radtke

> Quote:
>
> This.

On my 35s

89.99999999 (is that close enough to 90 to make the bug happen?). I get;

1.74532925199 E-10

On the 42s on my iPhone I get, wait for it;

1.74532925199 E-10

Clearly I'm missing something. I can take a photo if you want.

My serial is CNA 03701109

Daniel.

Re: I dont get the COS bug either?

*Message #21 Posted by **M. Joury** on 10 Aug 2011, 11:39 p.m.,*
in response to message #20 by snaggs

I am also having trouble recreating this one. 89.99999999 COS matches answer on 42S and 48SX. Ditto for the TAN bug.

EDIT:

Never mind. I see the problems. For COS I see a problem with the following:

89.99

89.999

89.9999

89.99999 (truncated?)

89.999999 (truncated?)

89.9999999 (truncated?)

89.99999999 (correct?)

How very odd...

Mind you, I have to question whether the error is really significant given that the error at ir's worst appears to be less that 1E-14. It is a bug however. The errors are more significant for TAN. Reason I didn't see it initially is that for 89.99999999 TAN both the 35 and the 42 give the same answer.

Cheers

Edited: 11 Aug 2011, 12:12 a.m.

Interestingly, more accurate than 42s for other values

*Message #22 Posted by **snaggs** on 11 Aug 2011, 12:46 a.m.,*
in response to message #21 by M. Joury

I agree, is a bit sloppy that they're loosing nth degree accuracy (for no good reason), not sure its the end of the world, given we should all know our exact values for 90 degrees!

Interestingly, have a look at the wildy different accuracy's of trig functions on calculators;

http://www.rskey.org/~mwsebastian/miscprj/models.htm

In order of accuracy for arcsin (arccos (arctan (tan (cos (sin (9))))))

HP 35S, 8.99999986001
HP 42S, 8.99999864267
HP 32S, 8.99999864267
HP 41C, 9.000417403
HP 15C, 9.000417403

Funnily, its more accurate than the 42S etc for other trig values. Its obviously a different algorithm, but maybe not a bug??

Edited: 11 Aug 2011, 12:48 a.m.

Re: Interestingly, more accurate than 42s for other values

*Message #23 Posted by **Paul Dale** on 11 Aug 2011, 1:47 a.m.,*
in response to message #22 by snaggs

> Quote:
>
> I agree, is a bit sloppy that they're loosing nth degree accuracy (for no good reason), not sure its the end of the world, given we should all know our exact values for 90 degrees!

You're doing maths. You will do most everything in radians. Asking for people to know exact multiples of Pi / 2 is a very different thing.

Quickly, which of these numbers isn't a near multiple of Pi/2?

```
 26.7035375555
-36.1283155163
  7.85398163397
 17.2877595947
  9.42477796077
```

Since your calculator cannot be relied on to return accurate results, you have to do this by eye.

As I've mentioned, I like the esthetics of the 35s and have written what must be one of the largest programs for it. However, a calculator must instill faith in its results and the 35s lets me down here.

For almost any other HP calculator I have faith that the answer I get is as close to right as is reasonable. I have confidence that a program I write will operate as written.

- Pauli

Re: Interestingly, more accurate than 42s for other values

*Message #24 Posted by **Paul Dale** on 11 Aug 2011, 2:36 a.m.,*
in response to message #22 by snaggs

> Quote:
>
> Interestingly, have a look at the wildy different accuracy's of trig functions on calculators;

...

> Quote:
>
> HP 35S, 8.99999986001
> HP 42S, 8.99999864267
> HP 32S, 8.99999864267
> HP 41C, 9.000417403
> HP 15C, 9.000417403

I think you'll find this is demonstrating the exact opposite of what you hope :-)

Calculating these operations with intermediate results correctly rounded to 10 and 12 significant digits:

```
Operation       10 digits       12 digits


9               9.000000000     9.00000000000
SIN             0.1564344650    0.156434465040
COS             0.9999962727    0.999996272743
TAN             0.01745499985   0.0174549998555
ATAN            0.9999962724    0.999996272744
ACOS            0.1564416604    0.156434441642
ASIN            9.000417403     8.99999864267
```

I see the values in the final row in the table you presented above but for the older HPs not the 35s. This indicates that the older HPs are performing their calculations with correct rounding in the last digit for all these operations. You cannot ask for better accuracy than that.

The 35S on the other hand certainly isn't correctly rounding its results. That the final result appears "better" is a pure fluke of randomness not because it is better designed or implemented -- it isn't.

- Pauli

Edited: 11 Aug 2011, 2:38 a.m.

Re: Interestingly, more accurate than 42s for other values

*Message #25 Posted by **snaggs** on 11 Aug 2011, 4:23 a.m.,*
in response to message #24 by Paul Dale

Sorry I cant do nice formatting on this forum like you did, but 35s

9 0.15643446504 0.999996272743 0.0174549998555 0.999996272743 0.156434462627 8.99999986001

Whats wrong that? The first Atan is more accurate than the 42s, and it ends up with a more accurate result.

How can you say its not doing it correctly?

Re: Interestingly, more accurate than 42s for other values

*Message #26 Posted by **Paul Dale** on 11 Aug 2011, 4:46 a.m.,*
in response to message #25 by snaggs

I'm using *pre* tags to format this nicely.

Here are your results again slightly annotated:

```
9
0.15643446504     SIN
0.999996272743    COS
0.0174549998555   TAN
0.999996272743    ATAN
0.156434462627    ACOS
8.99999986001     ASIN
```

> Quote:
>
> Whats wrong that? The first Atan is more accurate than the 42s, and it ends up with a more accurate result.
>
> How can you say its not doing it correctly?

ATAN(0.0174549998555) is to thirty significant digits **0.999996272743**534515028695045928. I've made the first 12 significant digits bold. Look at the thirteenth digit, it is a **5**. I don't know about you, but I was taught to round things larger than 5 up.

In this case the *correctly rounded* result is **0.999996272744** which is what the older devices are getting. This is the correct answer for *any* device producing results with 12 decimal digits. The 35s is *wrong* here. It isn't rounding its results correctly. Yet another reason to not trust its arithmetic. This is cascading in later calculations and in this case just happens to produce what appears to be a more "accurate" result. It isn't, the 42s is producing the ideal perfect result for this calculation for a device using 12 decimal digit numbers.

Don't believe me? I'd suggest some further reading from William Kahan's pages. He designed the algorithms the older HP devices are using and he also writes quite well and has plenty of examples where seemingly silly insignificant errors like this cascade out of proportion and completely ruin all the later results.

- Pauli

Re: Interestingly, more accurate than 42s for other values

*Message #27 Posted by **Thomas Radtke** on 11 Aug 2011, 5:19 a.m.,*
in response to message #26 by Paul Dale

> Quote:
>
> ATAN(0.0174549998555) is to thirty significant digits **0.999996272743**534515028695045928. I've made the first 12 significant digits bold. Look at the thirteenth digit, it is a **5**. I don't know about you, but I was taught to round things larger than 5 up.

I don't, but rounding half to even would also produce a result different from the 35s output in this case.

Re: Interestingly, more accurate than 42s for other values

*Message #28 Posted by **Paul Dale** on 11 Aug 2011, 5:29 a.m.,*
in response to message #27 by Thomas Radtke

> Quote:
>
> I don't, but rounding half to even would also produce a result different from the 35s output in this case.

Rounding half even is for the exactly halfway case only. That's why I wrote *larger than 5 up* :-)

Exactly 5 is a special case. i.e. if the result were 0.99999627274350000000000000000000 then round half even would come in to play. Not that it matters in this case.

- Pauli

Re: Interestingly, more accurate than 42s for other values

*Message #29 Posted by **Thomas Radtke** on 11 Aug 2011, 5:36 a.m.,*
in response to message #28 by Paul Dale

Sorry Pauli, I managed to misread what you wrote. You're right of course.

Re: Interestingly, more accurate than 42s for other values

*Message #30 Posted by **snaggs** on 11 Aug 2011, 6:18 a.m.,*
in response to message #26 by Paul Dale

> Quote:
>
> ATAN(0.0174549998555) is to thirty significant digits **0.999996272743**534515028695045928. I've made the first 12 significant digits bold. Look at the thirteenth digit, it is a **5**. I don't know about you, but I was taught to round things larger than 5 up.

But its not wrong, it is the right result, the original ended with a 3, and the inverse does of tan comes back. Have you thought they might actually be storing some variables in a higher resolution?

How can you say its more accurate for the Atan result to be different from what the original was! Thats madness.

> Quote:
>
> Don't believe me? I'd suggest some further reading from William Kahan's pages. He designed the algorithms the older HP devices are using and he also writes quite well and has plenty of examples where seemingly silly insignificant errors like this cascade out of proportion and completely ruin all the later results.
>
> - Pauli

Thanks, I will have a read.

Im just happy there is a 35s, otherwise there would be no future. Im probably a bit younger than some here and have another 30 years to cover. What do you think my chances of getting a NOS 42s in 2041 will be?

Its not perfect but there is nothing else close available new. If someone starts building brespoke low volume calculators at exhorbitant prices Id buy one. At the moment there is no other alternative.

I think the nit picking in this forum exagerates the delta between the 35s and nirvana.

Ps. Just had a read, basically Matlab is inaccurate on anything less than 68k based Apple Mac. I trust you will dutifully dispose of your new computer and buy a vintage Mac.

Edited: 11 Aug 2011, 6:34 a.m.

Re: Interestingly, more accurate than 42s for other values

*Message #31 Posted by **Paul Dale** on 11 Aug 2011, 6:36 a.m.,*
in response to message #30 by snaggs

> Quote:
>
> Thats madness.

Not madness, just floating point arithmetic. Forget just about everything you know about normal arithmetic, it doesn't apply anymore.

A couple of examples to confuse:

- a + (b + c) is not always equal to (a + b) + c.
- With binary arithmetic, x * 0.01 is not the same as x / 100.

Have a look at the WP34S, it is more akin to what the 35s could have been. I'm biased of course, but I've tried to make the results as good as possible.

- Pauli

Re: Interestingly, more accurate than 42s for other values

*Message #32 Posted by **snaggs** on 11 Aug 2011, 6:49 a.m.,*
in response to message #31 by Paul Dale

I understand floating point, 19 years as a programmer.

1. Does the 35s store itermediatory values in higher precision 2. Why does it get more accurate answers?

Where can I buy a 34s? What about the bug reports posted at the top of the forum?

As I said, make a bespoke calculator and Ill buy it. (people criticise the printed 35s keys and your talking stickers?). There are some double standards here.

Re: Interestingly, more accurate than 42s for other values

*Message #33 Posted by **Paul Dale** on 11 Aug 2011, 7:16 a.m.,*
in response to message #32 by snaggs

> Quote:
>
> I understand floating point, 19 years as a programmer.

The former doesn't necessary follow from the latter :-) See What Every Computer Scientist Should Know About Floating-Point Arithmetic. I'd be surprised if just about any programmer didn't learn something.

> Quote:
>
> Where can I buy a 34s? What about the bug reports posted at the top of the forum?

The 34S is a repurposed 30b. It is available ready flashed. e.g. http://www.thecalculatorstore.com/ but there might be others.

Yes, there have been bugs and no doubt there will be more. They have always addressed quickly. We've also had no numeric issues for quite a while now and not many of those ever. e.g. the forensic test gives the proper correctly rounded result for a sixteen decimal digit device.

> Quote:
>
> As I said, make a bespoke calculator and Ill buy it. (people criticise the printed 35s keys and your talking stickers?). There are some double standards here.

The stickers are an economy measure. Commit to buying a couple of thousand devices and we can get a printed keyboard ;-) I'm not willing to commit to that kind of quantity.

- Pauli

Re: Interestingly, more accurate than 42s for other values

*Message #34 Posted by **snaggs** on 11 Aug 2011, 7:24 a.m.,*
in response to message #33 by Paul Dale

Why dont you offer the OS to HP license free? Where can I read more about the UI etc. Im sure I can learn more but years ago I did units on scientific computing where we had to evaluate algorithms for significance. Mainly C and fortran.

If HP released the 34s would the 42s crowd be happy?

1000 units is not that much. If you can deliver youd raise that in pre-orders.

Daniel.

Ps. Sorry for the criticism of the stickers, but its not a serious alternative.

Re: Interestingly, more accurate than 42s for other values

*Message #35 Posted by **Paul Dale** on 11 Aug 2011, 7:33 a.m.,*
in response to message #34 by snaggs

> Quote:
>
> Why dont you offer the OS to HP license free?

We already did. Weren't interested.

> Quote:
>
> Where can I read more about the UI etc.

The manual is on the sourceforge site both separately and in the zip archive -- there is a windows gui emulator there to play with too. The leading edge is in subversion.

> Quote:
>
> If HP released the 34s would the 42s crowd be happy?

Probably not, it isn't a complete super set of the 42s :-) I think a lot of people would be happy with it though.

> Quote:
>
> 1000 units is not that much. If you can deliver youd raise that in pre-orders.

I wrote thousands :-) I'm not willing to commit to purchasing that many in the hopes that it sells.

> Quote:
>
> Ps. Sorry for the criticism of the stickers, but its not a serious alternative.

The stickers are very good and quite usable. Mine aren't showing any sign of wear after quite a bit of use. Also no sign of coming off. If they ever do wear, they can be replaced.

- Pauli

Are you kiddng?

*Message #36 Posted by **snaggs** on 11 Aug 2011, 7:01 a.m.,*
in response to message #31 by Paul Dale

This is the future?

Re: Are you kiddng?

*Message #37 Posted by **Paul Dale** on 11 Aug 2011, 7:18 a.m.,*
in response to message #36 by snaggs

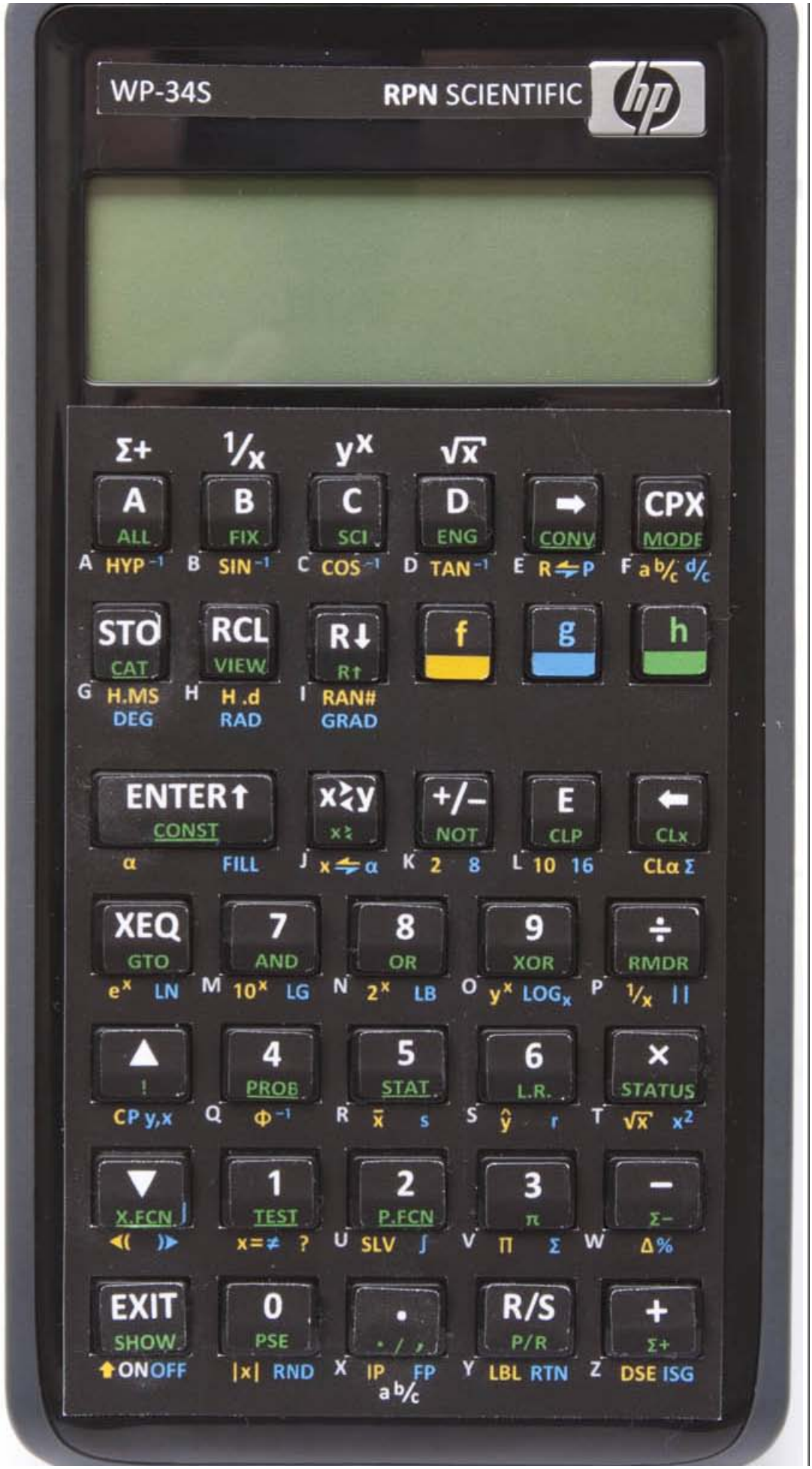
Nope. There is a *much* nicer overlay now. That is also based on a 20b which has a poor keyboard. The 30b is much better in this regard.

- Pauli

No, this is the future...

*Message #38 Posted by **gene wright** on 11 Aug 2011, 7:32 a.m.,*
in response to message #36 by snaggs

I am removing the earlier picture from my public dropbox folder. This is a much better representation of the beauty of the 34s.


WP-34S
RPN SCIENTIFIC
Σ+ 1/x yˣ √x
A ALL
B FIX
C SCI
D ENG
CONV
CPX MODE
A HYP⁻¹ B SIN⁻¹ C COS⁻¹ D TAN⁻¹ E R⇄P F a b/c d/c
STO CAT
RCL VIEW
R↓ R↑
f
g
h
G H.MS DEG H H.d RAD I RAN# GRAD
ENTER↑ CONST
x≷y x≷
+/− NOT
E CLP
CLx
α FILL J x⇄α K 2 8 L 10 16 CLα Σ
XEQ GTO
7 AND
8 OR
9 XOR
÷ RMDR
eˣ LN M 10ˣ LG N 2ˣ LB O yˣ LOGx P 1/x ||
▲ !
4 PROB
5 STAT
6 L.R.
× STATUS
CP y,x Q Φ⁻¹ R x̄ s S ŷ r T √x x²
▼ X.FCN
1 TEST
2 P.FCN
3 π
− Σ−
◀( )▶ x=≠ ? U SLV ∫ V Π Σ W Δ%
EXIT SHOW
0 PSE
• . / ,
R/S P/R
+ Σ+
ON OFF |x| RND X IP FP a b/c Y LBL RTN Z DSE ISG

Re: No, this is the future...
*Message #39 Posted by **Paul Dale** on 11 Aug 2011, 7:34 a.m.,*
in response to message #38 by gene wright

Thanks Gene. That is much better.

- Pauli

.I guess beauty is in the eye of the beholder
*Message #40 Posted by **snaggs** on 11 Aug 2011, 10:11 a.m.,*
in response to message #38 by gene wright

I think Ill stick with the "completely useless" 35s. You guys were pretty quick to cover up and get rid of that other photo.

I guess when I fail all my exams and assignments from all the bugs Ill learn my lesson *cough*

Re: .I guess beauty is in the eye of the beholder
*Message #41 Posted by **Cristian Arezzini** on 11 Aug 2011, 11:43 a.m.,*
in response to message #40 by snaggs

> Quote:
>
> [...] You guys were pretty quick to cover up and get rid of that other photo.[...]

Hmmm... So what, if they did? I didn't even see what the other photo was, but the second picture is what a 34s looks like, if you do it properly. So if the previous photo was of some home-made, hand-cut, flimsy early prototype cover, it's only normal that it looked uglier. The 34s as it is, is a wonderful calculator, and with the professionally-cut vinyl stickers it looks much better than many other commercial calcs. You should at least try the emulator before bashing it. As I said elsewhere, I too have a 35s and I like it, but for everyday use I use the 34s. Of course, I wish it had the two-line display of the 35s, and its nice body shape...

Coverup? not at all. lol
*Message #42 Posted by **gene wright** on 11 Aug 2011, 12:43 p.m.,*
in response to message #41 by Cristian Arezzini

The first photo which you linked to in my public dropbox account ...

(which by the way is great...email me to get a referral so I can get even more space to store stuff online ...free)

... was the very first attempt at an overlay from a .jpg file I printed and taped over the 20b.

About 1-2 weeks later, Eric Rechlin had created the overlay system in use now which is marvelous.

If you were trying to get / use a 34s today, it would look like the picture you see now in this thread, not the one I did about 3 days after the firmware was running on the calculator.

So, please, no accusations of bias, which are unfounded.

Re: Coverup? not at all. lol
*Message #43 Posted by **JustinM** on 11 Aug 2011, 11:22 p.m.,*
in response to message #42 by gene wright

> Quote:
>
> If you were trying to get / use a 34s today, it would look like the picture you see now in this thread

Unfortunately, it would look an awful lot like a stock 20b or 30b, since the overlays haven't been available for almost two months.

Overlay status

*Message #44 Posted by **Walter B** on 12 Aug 2011, 12:58 a.m.,*
in response to message #43 by JustinM

Justin,

Please contact Eric Rechlin via the museum mail and ask him about his progress in this matter. He doesn't respond to everybody but you can try ;-)

HTH,
Walter

Re: Overlay status

*Message #45 Posted by **M. Joury** on 12 Aug 2011, 8:13 a.m.,*
in response to message #44 by Walter B

I emailed him a few days ago. He told me that they should be available in a couple of weeks or so.

Cheers,

-Marwan

Re: Overlay status

*Message #46 Posted by **Walter B** on 12 Aug 2011, 11:17 a.m.,*
in response to message #45 by M. Joury

> Quote:
>
> He told me that they should be available in a couple of weeks or so.

:-D Most precise! ;-)

Re: Overlay status

*Message #47 Posted by **M. Joury** on 12 Aug 2011, 12:09 p.m.,*
in response to message #46 by Walter B

LOL -- Precision is in the eye of the beholder?

Still, better than a "couple of months or so" :-).

Re: Overlay status

*Message #48 Posted by **JustinM** on 12 Aug 2011, 12:07 p.m.,*
in response to message #45 by M. Joury

Thanks for the update, Marwan. I emailed him about a month ago through his website and didn't get a response. I didn't want to bother him again.

On the other hand, using a "blanknut" 34s will probably help once I do get an overlay. I've memorized a lot of the layout just by referring to the diagram in the manual and picturing it on the 30b. I've gotten where I don't really even "see" the 30b's keyboard anymore. I shouldn't have too many problems finding functions once the keyboard is actually labeled!

A major difference to take into account

*Message #49 Posted by **Walter B** on 11 Aug 2011, 4:38 p.m.,*
in response to message #40 by snaggs

Feel free to use whatever calculator you prefer. We - being older members of this forum - can

only recommend. And FYI, some of us (not me) are real hardcore experts in this matter.

I think, however, that you tend to compare apples and oranges:

- The HP 35S is put on the market by a huge company. HP was famous for its calculator quality decades ago already, so they should really know how. And they came out with a pretty buggy 35S - falling short of their own quality standards as incorporated in earlier calculators.
- The WP 34S is the work of a small gang (two heads most of the time, three since March, with occasional support by a few more). It's a hobbyist project as you can read here (3.5MB Owner's Manual).

Being hobbyists we know we can't compete in packaging and cosmetics with an industrial process. HP is not interested in making keys and keyplates for this project - and we can't put the money of our families in a stock of some 10,000 calculators. With the adhesive overlay Eric Rechlin produced, however, the UI of the WP 34S comes as close to a true calculator as it can in this economic world IMHO. And we take pride from the fact we offer a comparable, if not better RPN scientific calculator than HP provides for the time being.

Just FYI,
Walter

Re: Interestingly, more accurate than 42s for other values

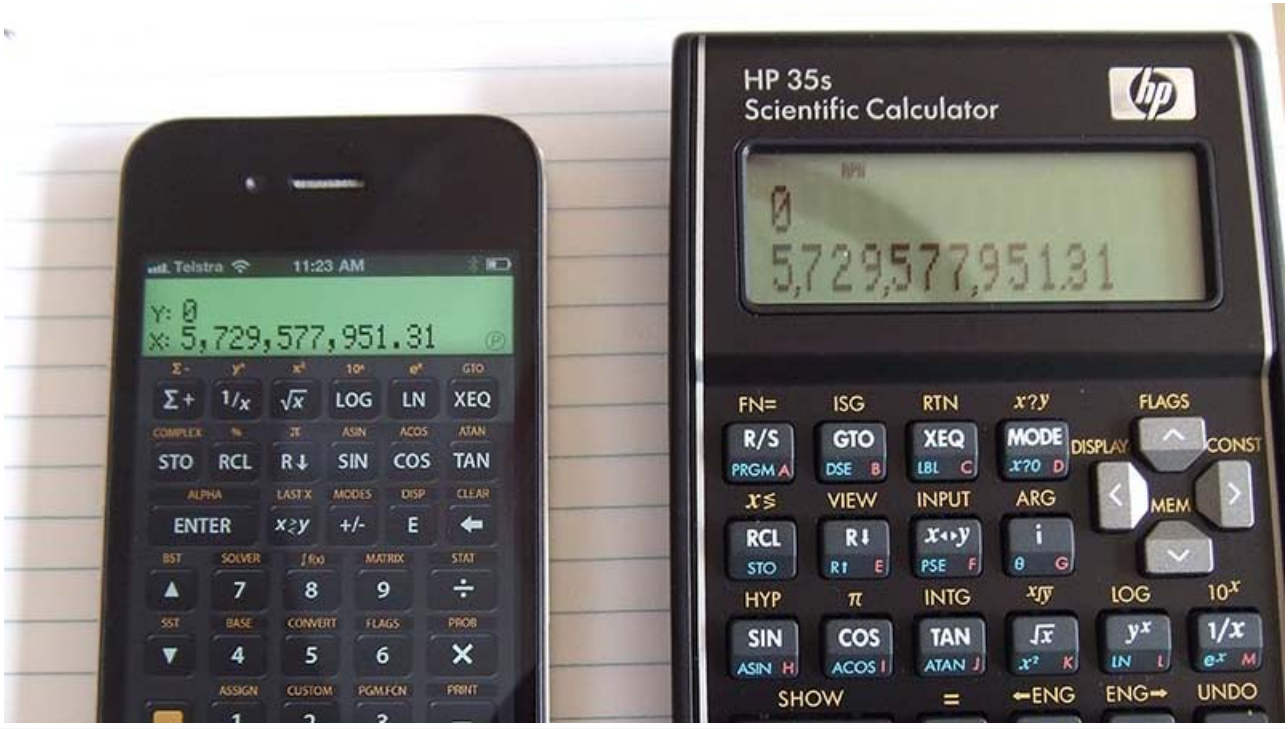
*Message #50 Posted by **bill platt** on 11 Aug 2011, 11:54 a.m.,*
in response to message #26 by Paul Dale

A certain person named Lorenz found out about the importance ordinary correct rounding can have on nonlinear systems...:-)

Photo of 42s vs 32s on TAN, where is the bug?

*Message #51 Posted by **snaggs** on 10 Aug 2011, 11:32 p.m.,*
in response to message #2 by Thomas Radtke

?????



Re: Photo of 42s vs 32s on TAN, where is the bug?

*Message #52 Posted by **Andrés C. Rodríguez (Argentina)** on 12 Aug 2011, 11:07 a.m.,*
in response to message #51 by snaggs

Please note that the Free42 or 42S running on the iPhone (or iPod Touch) is not an exact emulation of the HP 42S. It's functionally

very similar, but it doesn't run the HP 42S ROM image or internal code.

Re: Photo of 42s vs 32s on TAN, where is the bug?

*Message #53 Posted by **sylvandb** on 12 Aug 2011, 12:55 p.m.,*
in response to message #52 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Please note that the Free42 or 42S running on the iPhone (or iPod Touch) is not an exact emulation of the HP 42S.

Does your critique apply to just the iOS version or does it apply to Free42 on any platform?

Are you aware of any difference in calculation results between Free42 (decimal) and the HP 42S? (Free42 iOS is only decimal math.)

Re: Photo of 42s vs 32s on TAN, where is the bug?

*Message #54 Posted by **Andrés C. Rodríguez (Argentina)** on 12 Aug 2011, 5:59 p.m.,*
in response to message #53 by sylvandb

It's not a critique, just something I believe may be convenient to clarify.

I understand that any details about Free42 internals (such as precision, algorithms, etc.) applies to all versions, not just iOS versions.

I understand that Free42 Decimal works with more precision than the physical HP-42S calculator. You can look at the Free42 website or contact Thomas Okken for detailed information.

Best regards,

(Please disregard any idiomatic mistake)

Re: Photo of 42s vs 32s on TAN, where is the bug?

*Message #55 Posted by **Paul Gaster** on 12 Aug 2011, 11:03 p.m.,*
in response to message #51 by snaggs

Instead of using six nines after the decimal try seven. 89.9999999 I do have a 33s with a 2007 date code and it should have the same trig results as the 35s. Note these trig inaccuracies started with the 33s.

33s: 572,960,832.397 Free42: 572,957,795.131

The cos and tan bugs exist and you should not assume they show up at the same angle. Try a few things and you will see.

Re: Why complain about the 35s? I love it!

*Message #56 Posted by **John B. Smitherman** on 10 Aug 2011, 7:00 a.m.,*
in response to message #1 by snaggs

Hi Daniel. It misses keystrokes for me. I don't believe it's anything mechanical going wrong but rather it's a software problem. By pushing a variety of keys extremely fast I can see the "Busy" indicator displayed and when it appears the keystrokes don't register reliably. If I slow down it seems to perform better.

Good luck with your math major.

Regards,

John

Re: Why complain about the 35s? I love it!

*Message #57 Posted by **Calum Tait** on 10 Aug 2011, 7:30 a.m.,*
in response to message #1 by snaggs

I too like my 35s which I bought a couple of years ago as a replacement for the dreadful 33s I had endured for about 5 years. It is definitely much better in some respects, most noticeably the key feel, larger Enter key and slightly better display. I have two 35s', one which I use at work and one at home and for most things it has reasonably utility. There are however some quite major annoyances in the method of operation not to mention bugs. Like you, I searched for a reasonably priced older model to try and after a long wait eventually found one at a

reasonable price in the shape of an early 11C which, while lacking some of the features and speed of the 35s, is just much more pleasant and logical to use and program. It also feels much more durable. The 11C is now my regular calculator at home (I wouldn't risk it at work as I have lost a few items there unfortunately) and I am enjoying writing simple but useful programs for it. So much so that I also now like the idea of a 41C eventually for the card expansion and storage. I expect a good one will come along at some point at the right price - like most collectables, it is just a case of waiting for the right one. So while I would concur with you that the 35s is usable as a day-to-day calculator, I can see the point of seeking out the older models, not just as collection pieces but to use as working calculators. They come from a time when HP cared about their products and sought to give their users the best experience they can. The newer products unfortunately tend to feel what they are - the product of a third party who has developed and assembled a cheap product which emulates older, higher quality models and is trading on the back of an established brand name. That seems to be the way of the world now sadly.

Re: Why complain about the 35s? I love it!

*Message #58 Posted by **snaggs** on 10 Aug 2011, 8:45 a.m.,*
in response to message #57 by Calum Tait

I think the logical argument is subjective. Im not saying your opinion is invalid, just that it might not be shared by everyone.

I find it better than the 32sIi with the exception of live comma's during input.

Put it this way;

1. How does the 35S compare to the Casio or TI counterparts? 2. Do you think its more than a few tweaks away from perfect?

Daniel

Re: Why complain about the 35s? I love it!

*Message #59 Posted by **Paul Gaster** on 10 Aug 2011, 11:34 a.m.,*
in response to message #58 by snaggs

I think the 35S is vastly inferior to the Casio FX-115ES. The Casio can do these things out of the box that the 35S cannot: vector cross product, matrix math, as in determinants, inverse, etc., solve a quadratic and cubic equation, straight forward rectangular to polar conversion, ..and maybe more too, those are just off the top of my head

You can get most of that with programming the 35S, but it is very hard. You cannot just use the programs in the manual because many of those programs use the same labels. The 35S does not allow you to reuse labels, so you need to rewrite the programs or find alternates. Then if you get it programmed correctly you have to pray you never run the batteries dry because you would lose everything.

Edited: 10 Aug 2011, 11:35 a.m.

Re: Why complain about the 35s? I love it!

*Message #60 Posted by **Brian K** on 10 Aug 2011, 1:25 p.m.,*
in response to message #59 by Paul Gaster

This is the one thing that annoys the p*ss out of me.

Why no I/O capabilities???

Re: Why complain about the 35s? I love it!

*Message #61 Posted by **Norris** on 10 Aug 2011, 1:58 p.m.,*
in response to message #60 by Brian K

> Quote:
>
> Why no I/O capabilities???

Seems like this question gets asked and answered every few weeks. For the record:

A major market -- quite possibly the biggest single market -- for the HP-33S or 35S is for use on NCEES exams. These are the professional licensing exams required for engineers (particularly civils) and surveyors in the US. If you look up the 33S or 35S at Amazon.com, for example, you will see that the "Customers Who Bought This Item Also Bought" list includes numerous NCEES study manuals.

Today, the vast majority of people who buy advanced programmable calculators choose graphing calculators. But graphing calculators are not permitted on NCEES exams -- so this is a niche (perhaps the last remaining niche) for traditional scientific calcs only. And a 33S or 35S is the most powerful allowed option for these exams. In fact, some vendors still sell 33S/35S

exam software (perhaps the last remaining form of commercial calculator software).

NCEES disallows calculators with I/O capabilities. If the 35S had them, it would be banned from this market, just as graphing calcs are.

Edited: 10 Aug 2011, 2:08 p.m.

Re: Why complain about the 35s? I love it!

*Message #62 Posted by **Mike Morrow** on 10 Aug 2011, 1:49 p.m.,*
in response to message #59 by Paul Gaster

> Quote:
>
> I think the 35S is vastly inferior to the Casio FX-115ES.

The Casio fx-115ES (a.k.a. fx-991ES) is one of the most remarkable handheld machines I've ever come across in the past 39 years...and it now sells for about $13 at some of the major US retail stores. It's the first non-RPN/RPL machine that I found worth learning to use comfortably.

But of course, it's not (very) programmable. It has those built-in functions you mention, plus numerical differentiation and integration (using Gauss-Kronrod quadrature). Plus, 40 constants and 40 unit conversions. It's just a very nice, very capable, very low cost but durable unit that I've carried around and used daily for more than three years!

IMHO, its biggest downside is the auto-shutdown that takes place after about three minutes of non-use. Any results that were shown in the display will be gone when the machine is turned back on.

I'd take it along before I'd take an HP 35S (four times the price). I also greatly prefer it to TI handhelds, including the TI-89 Titanium HW4. I see only two attractive calculators in the current HP product line: HP 50G and HP 30b.

Re: Why complain about the 35s? I love it!

*Message #63 Posted by **Marcus von Cube, Germany** on 10 Aug 2011, 4:09 p.m.,*
in response to message #62 by Mike Morrow

Mike, you should consider the re-purposed 30b AKA 34S.

Here is a page full of 35s programs!

*Message #64 Posted by **snaggs** on 10 Aug 2011, 9:55 p.m.,*
in response to message #59 by Paul Gaster

http://homepage.mac.com/nwjh/HP-35S

Has most of the things you listed.

Also,

Page 4-10 of the manual shows rectangular to polar conversion page 17-10 of the manual shows vector cross product

Do you have a 35s or just relaying what youve hard others say?

Re: Here is a page full of 35s programs!

*Message #65 Posted by **Michael de Estrada** on 10 Aug 2011, 10:45 p.m.,*
in response to message #64 by snaggs

The point is that inexpensive calcs like the Casio FX-115ES feature capabilities such as vector cross product as intrinsic operations, whereas they have to be programmed into the HP-35s, which is an inexcusable omission for a calc sold at its price. Also, given the limited 1-character label system in the HP-35s, the cross product program alone consumes the 3 letters R, E and C, so they are no longer available for other programs. Of course, HP decided to discontinue the great HP-42s, which allows variable and label names up to 7 characters long and has the vector cross product as a built in function along with complete matrix capabilities, even with complex numbers. Now, admittedly, the HP-35s inherited all these limitations from the HP-32SII, however, it's really just a cheaper version in a pretty modern looking package that only has emotional value IMO.

Re: Here is a page full of 35s programs!

*Message #66 Posted by **snaggs** on 11 Aug 2011, 12:05 a.m.,*

in response to message #65 by Michael de Estrada

> Quote:
>
> The point is that inexpensive calcs like the Casio FX-115ES feature capabilities such as vector cross product as intrinsic operations, whereas they have to be programmed into the HP-35s, which is an inexcusable omission for a calc sold at its price.

Ok, but the Casio isn't programmable, isn't RPN and isn't built as well. I'm sure your right, but you'll also get more features in a Toyota compared to a BMW for the money, or a bigger engine in a Ford.

I still don't think it detracts from the HP 35s. Which is very cheap at $59 compared to what they used to cost in the past. Personally, I'd rather they increase the price and further increase quality (i.e. include paper manual). However, this would further reduce value for money.

> Quote:
>
> Also, given the limited 1-character label system in the HP-35s, the cross product program alone consumes the 3 letters R, E and C, so they are no longer available for other programs.

You could re-write it to use 1 variable. Some people break down their programs into routines for re-use, but I'm sure you already know that.

> Quote:
>
> Of course, HP decided to discontinue the great HP-42s, which allows variable and label names up to 7 characters long and has the vector cross product as a built in function along with complete matrix capabilities, even with complex numbers. Now, admittedly, the HP-35s inherited all these limitations from the HP-32SII, however, it's really just a cheaper version in a pretty modern looking package that only has emotional value IMO.

But you'd agree the HP 35s is better than the HP 32S, the 32Sii, has more memory, more variables. It also has a two line display. Its also 1/3 to 1/4 of the price of a 32sII on ebay!

My point is its a good calculator! Is it the last best calculator that HP ever need to make? No, but from what I read in these forums, you'd think it was terrible!

If they sell alot of these and bring out a mkII, it really wouldn't take much to turn it into a 42s killer.. if you had multi-label programs, and a SD card reader, it would be pretty close right?

Re: Here is a page full of 35s programs!

*Message #67 Posted by **M. Joury** on 11 Aug 2011, 12:16 a.m.,*
in response to message #66 by snaggs

> Quote:
>
> You could re-write it to use 1 variable. Some people break down their programs into routines for re-use, but I'm sure you already know that.

I believe that Michael is referring to the labels needed to call 3 programs. Not to the memory variables.

Re: Here is a page full of 35s programs!

*Message #68 Posted by **snaggs** on 11 Aug 2011, 12:21 a.m.,*
in response to message #67 by M. Joury

> Quote:
>
> I believe that Michael is referring to the labels needed to call 3 programs. Not to the memory variables.

Yes, my point was the program listen on 17-11 of the user guide for Vector cross product uses 3 labels, but with the GOTO feature in the 35s, it doesn't need to. You could re-write it to use just 1 label.

Sure, your still limited to 26 labels, and doesn't replace the 42s, but its not the end of the world, and better than the 32s or 32sII, which don't seem to have the same level of dersion heaped upon them.

Daniel.

Re: Here is a page full of 35s programs!

*Message #69 Posted by **M. Joury** on 11 Aug 2011, 9:12 a.m.,*
in response to message #68 by snaggs

Yes, you are correct. I wasn't looking at the program and focused on your use of the word "variable", sorry.

And yes, I made that exact point about label usage in a recent discussion of the 35S. It is far superior to the 32S, 32Sii and 33S in regard to labels (and some other things too).

Re: Here is a page full of 35s programs!

*Message #70 Posted by **Paul Gaster** on 11 Aug 2011, 1:24 a.m.,*
in response to message #64 by snaggs

> Quote:
>
> http://homepage.mac.com/nwjh/HP-35S
>
> Has most of the things you listed.
>
> Also,
>
> Page 4-10 of the manual shows rectangular to polar conversion page 17-10 of the manual shows vector cross product
>
> Do you have a 35s or just relaying what youve hard others say?

I had one and sold it. Did you try to see what labels are used by these programs? Do you not understand the amount of work involved to get a 35S to be at the same level of capabilities as the Casio?

Let me try to explain in detail this time.

That page you linked to has the quadratic formula on it. He has no program for vector cross product, or matrix operations, or the rectangular to polar conversion. So your statement "Has most of the things you listed." is incorrect. He has one thing we need, the quadratic program. For that program, you use one label, Q, and yet still can't do a cubic like the Casio. You could try the program in the manual too if you like.

The rectangular to polar in the manual is a bit of a hack and has its shortcomings. People here had a better solution. If you ask HP about this they send you a PDF with the solution that the guys here came up with. No kidding, and that's how I had to get it. Label used for this program: Z

Vector Cross product. Yes, go ahead and use the manual. Labels R, E, and C get used up.

If you want matrix operations, you can go here and type in all 400+ lines:
http://www.stefanv.com/calculators/hp35s_matrix_multitool.html He did a great job, but over 400 lines, yikes. Good luck.
Label used: M

That's a lot of work to get a 35S to do the same things as the Casio, and the Casio is under $20 at Walmart, Office Max, etc. so it's cheap and easily replaceable as well.

If you do get the 35S programmed with all the above then you have to be nervous about losing battery power, because if you do, it's all gone. And, since HP decided to put the rubber feet on the battery door of the 35S, it is possible that you can knock the door off and the batteries could get dislodged. I know that is it a long shot, but stranger things have happened. The 33s did not have this problem since it had metal plates to hold the batteries in place, plus the door had no feet on it. You could lose the battery door of a 33s and it wouldn't even matter. That was a major ergonomic step backwards for the 35S in my opinion.

Anyway, you seem to like your 35S so enjoy. Good luck with all the programming.

Edited: 11 Aug 2011, 1:43 a.m.

Re: Here is a page full of 35s programs!

*Message #71 Posted by **sylvandb** on 12 Aug 2011, 1:39 p.m.,*
in response to message #70 by Paul Gaster

> Quote:

> I had one and sold it. Did you try to see what labels are used by these programs? Do you not understand the amount of work involved to get a 35S to be at the same level of capabilities as the Casio? ... That's a lot of work to get a 35S to do the same things as the Casio, and the Casio is under $20 at Walmart, Office Max, etc. so it's cheap and easily replaceable as well.

How do I use the Casio with RPN? Seems like that is even more work. Or if your criteria is cheap then that $20 is easily beatable.

In 1985 I needed something with more oomph than the TI-30 I'd been using since 1976, and a programmable was strongly recommended. After comparing what was available for under $200, the choice was either a TI with LEDs and I/O, or the HP 15C. The 15C had no I/O, but seemed to be higher quality, but used RPN. The 15C was a newer design, and more expensive than the TI. I decided on the 15C and never regretted that decision.

After using RPN for 25 years anything else is just a toy, not a tool. I wish Casio, Sharp, etc. would produce RPN calculators comparable to their current products. But they don't. And as such any comparison I see with an RPN calculator has only one possible outcome -- RPN or nothing.

My next calculator tool was a 28S (gift from my wife, and she got a 48SX!). Now I mostly just collect them... A toy would do all I need from a calculator, but why buy a toy that causes me to lose my place and/or my results when I use it?

I have several old HPs now, and a new 12c (25th platinum) and a 35S. The 35S seems fine. It has never caused me to lose my place in a calculation or lost my results forcing me to rekey. I cannot say the same for the TI-84's my boys are required to have for school.

Probably someday I'll pick up a 30b or maybe two, and maybe one of the faster 12c's. They just aren't quite special enough yet for me to lay out the cash. Now if my HP stock would get back to $65 or so...

Re: Here is a page full of 35s programs!

*Message #72 Posted by **gene wright** on 12 Aug 2011, 2:26 p.m.,*
in response to message #71 by sylvandb

I would recommend taking that 30b and flashing it to a 34s.

You'll enjoy that machine.

Re: Why complain about the 35s? I love it!

*Message #73 Posted by **bill platt** on 11 Aug 2011, 12:04 p.m.,*
in response to message #58 by snaggs

I switched to a 35s for a while. Before that, I switched to a 33s for a while. Going back to the 32sii was like coming home :-)

Actually, I use all these devices less and less, to a trivial extent now. And my favorite isn't even RPN any longer!

I bought my children 33s machines. They are much better than the 35s. The keyboard "looks funny" but the direct feature set and non menu function set is way better. And you can decompose polar to rectangular. In other words, it is a *useful* calculator that doesn't cost a lot. Whereas the older HPs which are better, cost a lot.

Edited: 11 Aug 2011, 12:06 p.m.

Re: Why complain about the 35s? I love it!

*Message #74 Posted by **Michael de Estrada** on 11 Aug 2011, 12:49 p.m.,*
in response to message #73 by bill platt

I got rid of my HP-33s, because I didn't like the buttons, the decimal point was invisible (early S/N, later ones fixed that), and it ate batteries. The HP-35s is much better in this regard, however, I still use my HP-32SII a lot more. If I do in fact receive the HP-15C LE that I've ordered, I may put the HP-35s up for sale as well.

Edited: 11 Aug 2011, 12:49 p.m.

Re: Why complain about the 35s? I love it!

*Message #75 Posted by **Paul Dale** on 10 Aug 2011, 7:50 a.m.,*
in response to message #1 by snaggs

Try the 34S :-)

Not that I had much real use for a calculator doing honours mathematics at university.

- Pauli

Re: Why complain about the 35s? I love it!
*Message #76 Posted by **Don Shepherd** on 10 Aug 2011, 9:22 a.m.,*
in response to message #1 by snaggs

> Quote:
>
> 32sII was crap

There went your credibility.

Re: Why complain about the 35s? I love it!
*Message #77 Posted by **Thomas Radtke** on 10 Aug 2011, 9:26 a.m.,*
in response to message #76 by Don Shepherd

> Quote:
>
> There went your credibility.

I understood that to be just a fictive statement, not the OPs opinion.

Re: Why complain about the 35s? I love it!
*Message #78 Posted by **M. Joury** on 10 Aug 2011, 9:54 a.m.,*
in response to message #77 by Thomas Radtke

Right. I think that the point he was trying to make is that each generation is considered worse than the last by some. -- 35S is crap compared to the 32Sii and before that the 32Sii was denigrated in comparison to the 32S, etc.

Re: Why complain about the 35s? I love it!
*Message #79 Posted by **Don Shepherd** on 10 Aug 2011, 11:32 a.m.,*
in response to message #78 by M. Joury

OK, perhaps I misread him. Sorry.

I haven't noticed many complaints about the 32sii vis a vis the 32s. I've got both and I really like them. I know the sii is a bit slower at program execution, but not in a major way. I like the simplicity of the keyboard of the 32s, and I like the alpha prompt capability and algebraic solver and fractions of the sii.

Edited: 10 Aug 2011, 11:37 a.m.

Re: Why complain about the 35s? I love it!
*Message #80 Posted by **Paul Gaster** on 10 Aug 2011, 11:40 a.m.,*
in response to message #79 by Don Shepherd

It is a red flag for me whenever I see someone use the word "maths".

Re: Why complain about the 35s? I love it!
*Message #81 Posted by **Don Shepherd** on 10 Aug 2011, 12:41 p.m.,*
in response to message #80 by Paul Gaster

Paul, I may be wrong but it seems that the rest of the world uses "maths" as we in the US use "math." I'm not sure why this is so, but I've seen it many times.

Re: Why complain about the 35s? I love it!
*Message #82 Posted by **Paul Gaster** on 10 Aug 2011, 1:51 p.m.,*
in response to message #81 by Don Shepherd

Thanks for pointing that out, I had no idea. I wanted more info and found some interesting conversation on the topic

here: http://www.dailywritingtips.com/math-or-maths/

Re: Why complain about the 35s? I love it!

*Message #83 Posted by **Thomas Radtke** on 10 Aug 2011, 11:56 a.m.,*
in response to message #79 by Don Shepherd

> Quote:
>
> I haven't noticed many complaints about the 32sii vis a vis the 32s.

... and especially the 35s had a warm welcome here. I remember very well the excitement, and even when the first problem was encountered (P<>R), people solved it in a real community effort. Together we managed to write two programs doing it and leaving the stack intact. But the many bug reports eventually killed all excitement. It became clear that the 35s is impossibly a serious tool to the professional.

The original poster may use it ... at his own risk ;-).

I still dont think boycotting helps

*Message #84 Posted by **snaggs** on 10 Aug 2011, 10:10 p.m.,*
in response to message #83 by Thomas Radtke

Theres a bunch of guys in HP who make calculators. im sure Carly did give them a beating as a non-core business unit in her new HP.

However, when these guys finally get approval to take a scientific calculator to market, and the old voices get listened to i terms of look and feel etc, then if you want a better and improved 2nd iteration, you better support whats left of the old guys in the calculator division and buy one.

Buying 20 year old calculators on ebay doesnt turn up on the calculator divisions balance sheet, and lack of interest in RPN becomes a self fullfilling prophecy.

Re: I still dont think boycotting helps

*Message #85 Posted by **Nick R** on 11 Aug 2011, 12:29 a.m.,*
in response to message #84 by snaggs

I don't quite see how buying an unsatisfactory product brings an improved version that much closer. From the sound of it, there hasn't been any move by the company thus far to correct the software bugs that have been discovered by end users.

Re: I still dont think boycotting helps

*Message #86 Posted by **Michael de Estrada** on 11 Aug 2011, 10:14 a.m.,*
in response to message #85 by Nick R

I think the attitude of the OP is that we should all be grateful that HP even sells any RPN calcs anymore, regardless of how faulty they are because there are no alternatives. Fortunately, there are a few afficionados who have provided alternatives outside the HP corporate circle. Meanwhile, I'll continue to use and enjoy my many vintage HP and even non-HP RPN calcs that are still fully operational due to their robust construction. IMO the only currently produced HP scientific calc that is worth a dang is the HP-50g, and it wouldn't bother me one bit if they discontinued production of all the other models, including the HP-35s. Were it not for the various PE and NCEES exams, I'm not sure the HP-35s would have a significant market, given that for the same price one can buy a decent graphing calc, which is what most students and professionals prefer. I retired 2 1/2 years ago from my company, where only the older engineers such as myself used RPN calcs, and the company was supplying the junior engineers with TI graphing calcs. As to what I used when I took my EIT exam, it was a slide rule and a CRC book of math tables.

Re: I still dont think boycotting helps

*Message #87 Posted by **sylvandb** on 12 Aug 2011, 2:09 p.m.,*
in response to message #84 by snaggs

> Quote:
>
> Theres a bunch of guys in HP who make calculators. im sure Carly did give them a beating as a non-core business unit in her new HP. ... you better support whats left of the old guys in the calculator division and buy one.

I'd love to be wrong, and somebody please correct me if you _know_ otherwise, but I wouldn't describe the team as being "a bunch" and I'm pretty sure there are no old calculator guys doing calculators at HP.

In other words, the last products the old calculator guys did were the pioneer line, the first of the RPL and graphing models, the palmtops (95lx, 100lx, 200lx) and some of the early laptops (omnibook 300, remember the funky little popout mouse?). Those products were designed in corvallis. The calculator responsiblity was relocated to singapore (or somewhere asia-pacific) without personnel, and everybody in corvallis went on to other things.

That's when calculators mostly languished and died at HP. Responsibility moved from asia to australia, and then most recently to a kind of distributed operation again with all new folks.

I agree with supporting the calculator folks at HP. They are doing great work in a challenging environment.

Just don't be confused into thinking the current folks have inherited anything from the folks that did the old machines that everyone here is always raving about. The old guys are gone and 99% of what they did was lost during the shuffle starting in the early to mid-1990's. Those old calculator guys don't even recognize HP as being the same "Hewlett-Packard Company" that they used to work for, because it isn't -- neither figuratively nor technically (the old Hewlett-Packard Company of California split apart and the part that kept the name was acquired by HP of Delaware and the intellectual property was transferred to yet another company, Hewlett-Packard Development Company L.P. of Texas, with HP Delaware allowed a perpetual license under condition that any new IP would be owned by HP Texas).

Re: Why complain about the 35s? I love it!

*Message #88 Posted by **M. Joury** on 10 Aug 2011, 12:39 p.m.,*
in response to message #79 by Don Shepherd

> Quote:
>
> I haven't noticed many complaints about the 32sii vis a vis the 32s.

Neither have I. I just *think* that is what the OP was trying to say.

I am not lucky enough to have a 32S (maybe one day) but I have no issues with my 32Sii other than it isn't a 42Sii <g>.

Cheers

Re: Why complain about the 35s? I love it!

*Message #89 Posted by **Raymond Del Tondo** on 10 Aug 2011, 2:39 p.m.,*
in response to message #88 by M. Joury

Slightly OT, but not too far:

The late production HP-32S (not II) used the same recessed LCD as the 32SII , which means much better readability due to larger "digits" and non-glare LCD cover, and the much nicer relatively uncluttered keyboard of the 32S, of course;-)

Ray

Youve misunderstood

*Message #90 Posted by **snaggs** on 10 Aug 2011, 9:59 p.m.,*
in response to message #76 by Don Shepherd

I was relaying my experience reading the various opinions on these forums and elsewhere. One guy says the 32sIi is great, then I read its crap compared to the 35s, another says its a poor cousin to the 42s, then some compain at the 42s etc and so on

> Quote:
>
> There went your credibility.

Re: Youve misunderstood

*Message #91 Posted by **Mike Morrow** on 10 Aug 2011, 11:10 p.m.,*
in response to message #90 by snaggs

Other than display contrast and no memory I/O, the only real complaint about the HP 42S by knowledgeable people has been the lack

of any subsequent HP RPN scientific that even approaches the capability of the 1988 HP 42S since that was discontinued in 1995.

Many of us had hoped that the HP 35S, whose "35" designation is said to honor the original HP-35, would motivate HP to **finally** produce a new RPN machine that was similar to or better than the 20-year old HP 42S. But HP grossly failed the opportunity. (HP doesn't even have enough attention to detail to get arrows on the yellow and blue shift keys pointing the correct direction...yellow functions are UP, not UP AND LEFT, and blue functions are DOWN, not UP AND RIGHT. Sheesh...how hard would that have been?)

Sadly, the HP 35S is a worthy successor to nothing...well, except maybe to the HP 6S (if you can live without the solar cell). :-)

Edited: 10 Aug 2011, 11:12 p.m.

Re: Youve misunderstood

*Message #92 Posted by **snaggs** on 11 Aug 2011, 12:17 a.m.,*
in response to message #91 by Mike Morrow

> Quote:
>
> Many of us had hoped that the HP 35S, whose "35" designation is said to honor the original HP-35, would motivate HP to **finally** produce a new RPN machine that was similar to or better than the 20-year old HP 42S.
>
> Quote:
>
> But HP grossly failed the opportunity. (HP doesn't even have enough attention to detail to get arrows on the yellow and blue shift keys pointing the correct direction...yellow functions are UP, not UP AND LEFT, and blue functions are DOWN, not UP AND RIGHT. Sheesh...how hard would that have been?)

The HP 41C had sloped keys like the 35s and it has BLUE on the bottom of the key, same as the 35s.

Its easier to read than the 32sII was, thanks to the sloped keys. I see it as an improvement, and is consistent with previous products.

> Quote:
>
> Sadly, the HP 35S is a worthy successor to nothing...well, except maybe to the HP 6S (if you can live without the solar cell). :-)

Other than your hopes that it would replace the 42s not being met (which given its a 30 series, what ever gave you that idea?), why isn't it?

If you ranked all HP RPN scientifics made, it would have to be in the top four, some people don't mind the lack of IO and love the 42s, some people want horizontal format, and want a 15c, but after that, the next best is the 35s.

For $59, it probably doesn't deserve the kind of derision your directing at it.

Daniel.

Re: Youve misunderstood

*Message #93 Posted by **Paul Dale** on 11 Aug 2011, 2:00 a.m.,*
in response to message #92 by snaggs

> Quote:
>
> If you ranked all HP RPN scientifics made, it would have to be in the top four, some people don't mind the lack of IO and love the 42s, some people want horizontal format, and want a 15c, but after that, the next best is the 35s.

This entirely depends on what criteria you use to rank them. I certainly wouldn't rate it in my top four based on any criteria I really care about. I suspect very few here would. 41c, 41cv, 41cx, 15c, 42s, 32s, 32sii, 11c, 34c, 32s, 67. All are superb calculators and all for good reason. Toss the 34S and 41CL into the mix as well (they are kind of HP RPN calculators).

For accuracy, 15c, 11c, 10c, 32s, 32sii, 42s would be my top six. William Kahan designed the algorithms for the Voyagers and did a splendid job of it. Most subsequent HPs have used these.

For esthetics, the list is very variable. Many people only like red LEDs, other hate dot matrix. It would be impossible to make a list that everyone would agree on but for some people it would make the top four for others the bottom.

Light weight? It would go okay there.

In terms of most known bugs, it scores very well indeed :-)

Battery life? The three scientific Voyagers would have to be top of the list followed by the 41 series. 20+ years one on set is not unheard of for a Voyager.

Ones I reach for to do casual calculations? Definitely not even mentioned on that list.

In the class of HP RPN scientific dot matrix calculators with over 16kb of RAM it is number 1 or 2.

Speed? It goes okay here some of the time.

Still, if it is what you like use it. You are not going to convince anyone here that it compares well with the classics...

- Pauli

Re: Youve misunderstood

*Message #94 Posted by **snaggs** on 11 Aug 2011, 4:36 a.m.,*
in response to message #93 by Paul Dale

Can we really realistically expect anyone to make a red LED calculator. Heck, why not nixie tubes. Not sure this is a valid criteria.

I like the old machines too, but for a non-collector, HP newbie, should I get a Casio or TI or HP 35s?

I think you can say its a good calculator.

Daniel

Re: Youve misunderstood

*Message #95 Posted by **bill platt** on 11 Aug 2011, 12:23 p.m.,*
in response to message #94 by snaggs

The market speaks. It is Ti and Casio, with the HP being a niche.

That is a sure sign that HP blew the opportunity. I agree with Mike Morrow on that point.

New products ultimately need to be better than old products and need to be superior to competing new products. The Casio comparison is apt.

Edited: 11 Aug 2011, 12:25 p.m.

Re: Youve misunderstood

*Message #96 Posted by **M. Joury** on 11 Aug 2011, 1:58 p.m.,*
in response to message #92 by snaggs

I am one of those that actually likes the 35S. But no, sorry, not in my top 4. I think that Pauli makes some good points that no matter how you choose your criteria for rating this machine there are not many areas in which it is top 4.

That does not make it a *bad* machine in my opinion but neither is it an all-time great by any measure.

Better than the 33S? Yes (IMHO). Better than the 32Sii? In some ways--worse in others. Better than the 42S? Not even close. Better than the 41 series? Even less close. Better than the 15C? It has some advantages over that machine (actual mnemonics in programs) but many, MANY, disadvantages. Better than the 34C? Not in my book. The 55, 65, 67? Again, not in my book.

I like the 35S and use it now and again but it will never replace my 41 or 42 (never mind my RPL based machines) and with the 34S available it actually slipped one place (still waiting for the keyboard overlay to become available again).

Re: Youve misunderstood

*Message #97 Posted by **Mike Morrow** on 12 Aug 2011, 10:51 a.m.,*
in response to message #92 by snaggs

> Quote:
>
> The HP 41C had sloped keys like the 35s and it has BLUE on the bottom of the key, same as the 35s.

OK...let's try this again.

Look at the yellow shift key. See the arrow going UP and to the LEFT? That should indicate that the yellow function label associated with any key is...yes...ABOVE and to the LEFT of the associated key. But it's not. It's **directly ABOVE** the key.

Look at the blue shift key. See the arrow going UP and to the RIGHT? That should indicate that the blue function label associated with any key is...yes...ABOVE and to the RIGHT of the associated key. But it's not. It's **BELOW and slightly LEFT** of the central face of the key.

Clear?

When so little attention even to small and easily corrected cosmetic detail has been exercised by the manufacterer, it's a certainty that much more significant problems will be found elsewhere. In that respect, the HP 35S more than **fully meets** all expectations!

> Quote:
>
> Other than your hopes that it would replace the 42s not being met (which given its a 30 series, what ever gave you that idea?), why isn't it?

Sigh! The HP 35S is **NOT** part of any "30 series" that you just attempted to fabricate from whole cloth. The 30-series machines are the Spice models of the late 1970s and early 1980s, such as the HP-34C. There have also been other HP machines that are "thirty-something", such as the HP-35, HP 38G, HP 39GS, and HP 30b, to list some. Do you imagine these to be part of *your* 30-series too? In fact, the HP 32S and 32Sii are part of the Pioneer series. The HP 33S is not part of any other series, **nor is the HP 35S**. Some study before posting could *possibly* aid you if a factual presentation is a goal.

> Quote:
>
> If you ranked all HP RPN scientifics made, it would have to be in the top four...

I'll assume that what you intended to say was actually "If all models of HP RPN scientifics ever made were ranked, the HP 35S would have to be in the top four..."

That, of course, is patent nonsense and an indicator of unfamiliarity with the subject. The errors of the HP 35S design, uncorrected after almost five years of production, earn it well the status as possibly the worst design that HP has ever tried to pawn off.

> Quote:
>
> For $59, it probably doesn't deserve the kind of derision your directing at it.

In an age where a capable laptop or notebook PC can be had for less than $300, the persistently defective HP 35S is a very poor value indeed and in fact.

Throughout, your argument seems to be that as long as *most of the time* a correct result is produced, the product is satisfactory. In that view, if the HP 35S added 2.000 plus 2.000 and got 4.001, that would be acceptible because only one case out of an infinite number of possibilities was incorrect. Unlike programmers, most in the scientific and (especially) engineering professions must have significantly higher and better standards.

Those whose standards are, er, "relaxed" may certainly relish their HP 35S hot dog. But don't expect knowledgeable members of this forum to bestow an *imprimatur* to the selection, nor accord the praise and approval that you are obviously seeking. It's not going to happen.

Edited: 13 Aug 2011, 11:17 a.m.

Re: Why complain about the 35s? I love it!

*Message #98 Posted by **Brandon Poindexter** on 10 Aug 2011, 7:50 p.m.,*
in response to message #1 by snaggs

I also have used my HP 35s since I got mine in 2008. Its been a blast for me personally. I'm certain that for more demanding engineering area's of use this may be inadequate in terms of accuracy and what have you, but then there are people like myself who want a *quality* calculator that they can buy brand spanking new, and go through a couple years of College along with it and apply their own scuffs, scratches, and bumps on their HP 35s. Each of which I could tell a story about years later. I'm going to be starting my second year here at Purdue, and I have had a lot of fun working with this thing. I love the looks. I love the feel (vs calcs. of today). And I love programing it and discovering new ways to do problems. My personal HP 35s have been drenched in rain countless times while waiting for the city bus, and

still works perfectly. I have also not replaced the batteries yet in the 3 years of steady use and ownership. So all in all I am happy with the HP 35s. It was either this or getting the TI-30XA's! (cant use multi-line calcs, but some profs. haven't noticed what i use. . . yet)

Re: Why complain about the 35s? I love it!

*Message #99 Posted by **Jeff Johnson** on 11 Aug 2011, 10:34 a.m.,*
in response to message #98 by Brandon Poindexter

Been eyeballing the posts and want to throw my 2 cents worth in. Nobody is really wrong here. For the purists, the 35S doesn't stack up to some of the vintage hardware. But for those who use the 35S for everyday calculations, it's a great performer. The keyboard has a better feel than any other brand on the market. The bug list? To be honest, my real-world, daily "engineering" calculations consist of basic algebra, logs and trigs. No boundary extremes, only a few short programs that I wrote and regularly use. For that purpose, it truly is a nice, daily driver calculator. I don't care for the feel or methodology of the TI or Casio calcs. Would I love to have all the bugs fixed and the keyboard layout re-done? You bet. But I can also wait without grousing all the time.

Re: Why complain about the 35s? I love it!

*Message #100 Posted by **bill platt** on 11 Aug 2011, 12:28 p.m.,*
in response to message #99 by Jeff Johnson

> Quote:
>
> . I don't care for the feel or methodology of the TI or Casio calcs.

That is an important point. The Methodology. I know what you mean. Sharps, Casios, and perhaps to a lesser extent TI methodology drive me nuts. (Except the Sharp BASIC machines, which were totally fantastic but that is another story...)

Edited: 11 Aug 2011, 12:29 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Frozen HP-71B

*Message #1 Posted by **aj04062** on 9 Aug 2011, 8:12 p.m.*

I recently pulled my HP-71B out of it's box to experiment with again. I had left some brand new alkalines in it. I know it was working when I put it away. When I went to turn on it came on but is now frozen. I don't know if the characters are important (looks like the last values that we put in) but they are: 22222220**-*7 cursor then a strange character

I have tried several discharging approaches with no success. Does anyone have a foolproof way to discharge the cap? It sure seems like this is the issue.

I've tried shorting the contacts, repeated ON button pressing and letting it sit 24hrs.

I also tried most ideas on this link old thread

Edited: 9 Aug 2011, 8:35 p.m.

Re: Frozen HP-71B

*Message #2 Posted by **Mike** on 9 Aug 2011, 9:04 p.m.,*
in response to message #1 by aj04062

Have you just tried resetting the 71B? ON / (Init1).

Edited: 9 Aug 2011, 9:07 p.m.

Re: Frozen HP-71B

*Message #3 Posted by **aj04062** on 9 Aug 2011, 10:46 p.m.,*
in response to message #2 by Mike

Yes, It will not get that far. It is totally frozen on the characters I described.

Edited: 9 Aug 2011, 10:47 p.m.

Re: Frozen HP-71B

*Message #4 Posted by **Vladan Dugaric** on 10 Aug 2011, 4:38 a.m.,*
in response to message #1 by aj04062

To discharge, take the batteries out, then open the card reader port and short pins 1 and 11 (or all of them) using something conductive. This only takes a second or so, no need to keep shorted for a long time. Then put the batteries back in and the 71 should be completely reset.

Vladan

Re: Frozen HP-71B

*Message #5 Posted by **aj04062** on 10 Aug 2011, 7:57 p.m.,*
in response to message #4 by Vladan Dugaric

Shorted Pins 1 & 11 and installed new batteries. Nothing but a blank screen. I then cleaned the battery contacts as I discovered one spring set was corroded and wasn't passing current.

IT's ALIVE!

THANKS ALL!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: Alpha Labels and Alpha Catalogs

*Message #1 Posted by **Didier Lachieze** on 9 Aug 2011, 12:03 p.m.*

With the RTN+1 instruction on the WP34s you can code routines that behave as test instructions with a return to the step following the routine call if the result is True, or to the step after if the result is False.

So I was trying to program a new "y=z?" test when I realized first that with 3 characters allowed for Alpha labels I have to shorten the name. So I decided to try with LBL 'y=z' (which may not be the best name for a test ..).

However I've not been able to enter the '=' character which is in the [TEST] Alpha Catalog. It seems that when entering an Alpha label (after entering [f][LBL][ENTER]) you cannot access any Alpha catalog while you're supposed to be in Alpha mode.

I've not seen this limitation documented in the manual, so I don't know if it's a bug or a feature :-)

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #2 Posted by **Marcus von Cube, Germany** on 9 Aug 2011, 2:39 p.m.,*
in response to message #1 by Didier Lachieze

It's obviously not the full alpha mode. I've recently worked on all this and I may look into it again in more detail but I cannot promise any success in this special case. Maybe Pauli has an idea.

EDIT: I'm afraid this will not be an easy task. I've just reread the code and mixing the two states "alpha label entry" and "alpha entry" with full catalogue support is next to impossible.

Edited: 9 Aug 2011, 3:15 p.m.

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #3 Posted by **Walter B** on 9 Aug 2011, 4:23 p.m.,*
in response to message #1 by Didier Lachieze

Bonsoir Didier,

Good find! You can't access any alpha catalogue while you are in temporary alpha mode. So all the characters shown on page 9 are accessible, almost all those stored in the catalogues are not. Frankly, I never tried inserting such a character, so thanks for pointing this out. Due to some specialties I'll add another page after page 9 showing what's possible in label-entry mode. Maybe we can bring the '=' to the surface nevertheless, but I'll have to check.

Merci bien,

Walter

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #4 Posted by **Paul Dale** on 9 Aug 2011, 5:55 p.m.,*
in response to message #3 by Walter B

I knew about this little problem and was wondering how long until it was noticed by others :-)

We're looking to see if we can allow catalogues during label entry. As Marcus mentioned, it isn't easy but just might be possible.

We can, however, map additional characters to some of the otherwise unused keyboard locations (including catalogue keys). Up and down arrow are already present on the arrow keys e.g. We don't have complete freedom over where to put such characters but there is some wriggle room still.

- Pauli

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #5 Posted by **Didier Lachieze** on 10 Aug 2011, 3:07 a.m.,*
in response to message #4 by Paul Dale

Talking about the Virtual active keyboard in alpha mode I find a bit disturbing that [h][3] doesn't bring the lower case Pi symbol as indicated on the layout but instead the pound symbol and that to get the lower case Pi symbol you have to press [f][EXIT] to go to lower case and then [g][/] ...

As you associate the $ to the S letter ([h][6]), Euro to the U letter ([h][2) and Yen or Yuan to the Y letter ([h][R/S]), I would have put the pound with the P letter on [h][/] and have used [h][3] for the small Pi which is more intuitive, at least for me.

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #6 Posted by **Walter B** on 10 Aug 2011, 6:43 p.m.,*
in response to message #5 by Didier Lachieze

Bonsoir Didier,

> Quote:
>
> As you associate the $ to the S letter ([h][6]), Euro to the U letter ([h][2) and Yen or Yuan to the Y letter ([h][R/S]), I would have put the pound with the P letter on [h][/] and have used [h][3] for the small Pi which is more intuitive, at least for me.

I took your suggestion and arranged the virtual alpha keyboard accordingly :-) Now it's up to Pauli to implement it in the SW.

Merci bien,

Walter

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #7 Posted by **Paul Dale** on 10 Aug 2011, 7:41 p.m.,*
in response to message #6 by Walter B

Done. I hope.

- Pauli

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #8 Posted by **Didier Lachieze** on 11 Aug 2011, 3:28 a.m.,*
in response to message #7 by Paul Dale

Thanks!

I've seen in your comments that with this change you're losing the ^-1 from the keyboard, however I've looked to the key mapping and I see that now lower case PI is available at three locations: [h][3] , lower case [g][/] and also [h][EEX]. I don't think we need the latest one which could be a good location for ^-1, unless you have other plans.

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #9 Posted by **Paul Dale** on 11 Aug 2011, 3:34 a.m.,*
in response to message #8 by Didier Lachieze

pi shouldn't have been on the EEX key. It will be gone from there.

I don't see a relationship between EEX and ^-1 and I doubt Walter will either so it doesn't make sense to put ^-1 there. It is in the alpha superscripts catalogue so it hasn't been lost.

It kind of makes sense on h-shift B to associate it with 1/x.

- Pauli

Re: WP34S: Alpha Labels and Alpha Catalogs

*Message #10 Posted by **Walter B** on 11 Aug 2011, 3:15 p.m.,*
in response to message #8 by Didier Lachieze

> Quote:
>
> lower case PI is available at three locations: [h][3] , lower case [g][/] and also [h][EEX].

That was very old washing: lower case pi lived under [EEX] in the last quarter of 2010. It went to [3] thereafter for obvious reasons. It's regular habitat as a letter, however, is [g][/] as explained on pp. 9 and 10 of the manual.

And for all the characters beyond what's directly accessible on the keyboard, please look on page 67. All letters for tout le Français are featured d:-)

FWIW,
Walter

Edited: 11 Aug 2011, 3:21 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

10 or 12 digits?

*Message #1 Posted by **Kiyoshi Akima** on 8 Aug 2011, 11:00 p.m.*

Just playing around with the 12CPlatinum, I discovered that it's a 12-digit calculator, unlike the other Voyagers I've played with (excluding the 16C in integer mode, of course). So I have to ask, is the 12C+ a 10-digit or 12-digit machine?

Re: 10 or 12 digits?

*Message #2 Posted by **Tim Wessman** on 8 Aug 2011, 11:45 p.m.,*
in response to message #1 by Kiyoshi Akima

10. Pure emulator.

12c platinum has a sorted history. First version with the silver body used binary math and had serious issues. Later versions fixed all the issues with the SW and began using a 12/15 digit BCD math library.

TW

Edited: 8 Aug 2011, 11:47 p.m.

Re: 10 or 12 digits?

*Message #3 Posted by **Kiyoshi Akima** on 9 Aug 2011, 3:22 a.m.,*
in response to message #2 by Tim Wessman

Thx. I thought it was pure emulation but wanted to be sure.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Guess who wrote this?

*Message #1 Posted by **robertoataulfo** on 8 Aug 2011, 6:42 p.m.*

I have no personal knowledge of computers

Re: Guess who wrote this?

*Message #2 Posted by **Kiyoshi Akima** on 8 Aug 2011, 11:19 p.m.,*
in response to message #1 by robertoataulfo

In 1943, the chairman of a major company said, "I think there is a world market for maybe five computers."

In 1977, the founder of an electronics company said, "There is no reason anyone would want a computer in their home."

(Edited to correct typos.)

Edited: 8 Aug 2011, 11:19 p.m.

Re: Guess who wrote this?

*Message #3 Posted by **Eric Smith** on 9 Aug 2011, 12:43 a.m.,*
in response to message #2 by Kiyoshi Akima

In all fairness, there probably wasn't a market for more than around five computers of the type that could be built in 1943.

Re: Guess who wrote this?

*Message #4 Posted by **Martin Pinckney** on 9 Aug 2011, 4:02 p.m.,*
in response to message #3 by Eric Smith

You are probably right - one in the U.S., one in Great Britain (they both had them), one in USSR, one in Germany, and one in Japan (they wished they had them).

Re: Guess who wrote this?

*Message #5 Posted by **Paul Berger (Canada)** on 9 Aug 2011, 4:17 p.m.,*
in response to message #4 by Martin Pinckney

Germany had computers, Konrad Zuse was bulding electro-mechanical computers in Germany starting in the early 1940s.

Re: Guess who wrote this?

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 10 Aug 2011, 12:59 a.m.,*
in response to message #2 by Kiyoshi Akima

Quote:

In 1977, the founder of an electronics company said, "There is no reason anyone would want a computer in their home."

Back in those days we had a saying about the use of personal computers

"Computers; O.K. for aerospace, but not safe around the house."

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Issues with the SLV command in WP34s

*Message #1 Posted by **fhub** on 8 Aug 2011, 5:45 p.m.*

I've tested now the new error message "Solve failed" for the SLV command and in principle it is working. But in my tests I saw that SLV is still working unreliable.

I've used the simple function x^2-3 and found that the solver has big problems when the 2 initial guesses are equal - and this may happen quite quickly when the user presses the ENTER key after his 2nd guess and before calling SLV.
Ok, I know that this is in fact an user error, but who has really never done this before: entering 2 start values? - well, 0 ENTER 1 ENTER - and now call the solver? - ok, [f]SLV.
But now of course X=1 and Y=1 and SLV is called with 2 equal guesses - and it fails! Unfortunately not with the new error message "Solve failed" but with completely wrong 'results' in X and Y, and a function value in Z which is far away from 0 (what it should be) - but for THIS problem a bit later.

For the above mentioned function x^2-3 this happens for all initial guesses from -1.7 to +1.7 whenever both guesses are the same.
So I would say that the SLV routine should definitely make sure that it is NOT called with 2 equal inital guesses - either it should give any error message in this case, or the 2nd guess should automatically be changed a bit. One possible solution might be the following short code at the begin of the SLV routine:
x=y?
INC X (or any other change of X)

This might of course lead to another problem when the changed X-value is not within the definition interval of the function, but this would certainly happen not very often and would definitely be better than a wrong result.

And now to the other problem mentioned before: also if (because of such 2 equal start values) the solver fails, it should of course not give wrong results but display the new implemented error message - but it doesn't do it (at least not for the above function and all values -1.7...+1.7.

So there must still be something not ok in the SLV routine; it should in fact NEVER provide a 'solution' (which is none) whenever the function value in Z is not (at least nearly) zero - not even if the last 2 calculated argument values (which are in X and Y) are very close to each other.

You see, this SLV routine needs indeed some further improvements ...

Franz

Re: Issues with the SLV command in WP34s

*Message #2 Posted by **Paul Dale** on 8 Aug 2011, 6:43 p.m.,*
in response to message #1 by fhub

Should be fixed now.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Been a while since I looked...

*Message #1 Posted by **jimi** on 8 Aug 2011, 3:29 p.m.*

..at the prices on older HPs. I have to say I'm a little shocked. It looks like prices on my two favorites have really changed. The 15C seems to have taken a dump, maybe based on speculation about the LE? The 41CX though, holy cow. There is a boxed one on that auction site going for over $1000 right now, and there isn't a decent one to be had for less then about $400. Unreal. I guess they all go through trends. I sort of wished I hadn't looked.

Re: Been a while since I looked...

*Message #2 Posted by **Michael de Estrada** on 8 Aug 2011, 3:43 p.m.,*
in response to message #1 by jimi

You need to just keep watching for a while. Prices are all over the place, such as this .

I wouln't draw any sweeping conclusions from one particular auction. Also, just because someone asks a particular price, doesn't mean they will get it.

Re: Been a while since I looked...

*Message #3 Posted by **Namir** on 8 Aug 2011, 5:05 p.m.,*
in response to message #1 by jimi

Prices are down in general.

Namir

Re: Been a while since I looked...

*Message #4 Posted by **Michael de Estrada** on 8 Aug 2011, 6:31 p.m.,*
in response to message #3 by Namir

It's hard to generalized when they fluctuate so wildly. My previous post showed a recent example of a low price, however, this is an example of a very high price on a recent auction.

Re: Been a while since I looked...

*Message #5 Posted by **M. Joury** on 8 Aug 2011, 7:11 p.m.,*
in response to message #4 by Michael de Estrada

Yes, but you have to admit it appears to be in immaculate condition. I have several 65's and in general they are in better condition than my 67's but none that nice.

Re: Been a while since I looked...

*Message #6 Posted by **Michael de Estrada** on 8 Aug 2011, 7:20 p.m.,*
in response to message #5 by M. Joury

I've seen mint HP-65 complete sets with handbook, leather and hard case go for a lot less. That one doesn't even include the AC adapter, which in IMO is absurd for that price.

I won all :-). I thought the offer of the day.

*Message #7 Posted by **robertoataulfo** on 8 Aug 2011, 8:37 p.m.,*
in response to message #6 by Michael de Estrada

I won all :-). I thought the offer of the day !!!!

Re: I won all :-). I thought the offer of the day.

*Message #8 Posted by **M. Joury** on 8 Aug 2011, 8:42 p.m.,*
in response to message #7 by robertoataulfo

OK, that's insane. I might even be tempted to sell one of my brand new in the box HP41CX's if I thought it would fetch that much! I might even throw in a card reader and printer.

Funny, mine happens to be in Albuquerque as well...

Edited: 8 Aug 2011, 8:43 p.m.

Re: I won all :-). I thought the offer of the day.

*Message #9 Posted by **Howard Owen** on 8 Aug 2011, 10:02 p.m.,*
in response to message #7 by robertoataulfo

That is a hoot!

In addition to having brass bearings on price, the guy has lifted the entire Wikipedia page on the 41C, complete with hyperlinks.

Re: I won all :-). I thought the offer of the day.

*Message #10 Posted by **Randy** on 8 Aug 2011, 10:05 p.m.,*
in response to message #9 by Howard Owen

Anybody notice the N cell batteries installed incorrectly in the battery tray?

Re: I won all :-). I thought the offer of the day.

*Message #11 Posted by **Michael de Estrada** on 8 Aug 2011, 10:25 p.m.,*
in response to message #10 by Randy

Well, technically, only two of the four cells are installed incorrectly, so he's half right. I think that's one of the old Los Alamos calcs, so maybe it works on 0 vdc.

Edited: 8 Aug 2011, 10:30 p.m.

Re: I won all :-). I thought the offer of the day.

*Message #12 Posted by **Walter B** on 9 Aug 2011, 1:27 a.m.,*
in response to message #11 by Michael de Estrada

Do you mean also the Pu battery is included? That would explain the price indeed!

Re: Been a while since I looked...

*Message #13 Posted by **jimi** on 8 Aug 2011, 10:28 p.m.,*
in response to message #5 by M. Joury

> Quote:
>
> Yes, but you have to admit it appears to be in immaculate condition. I have several 65's and in general they are in better condition than my 67's but none that nice.

Oh I know. When I first saw the auction, it was only in the high 200s, and I was thinking I'd like to have a nice CX. I've had Cs and CVs, but never a nice CX. I know I wouldn't lock mine away though...I'd use that sucker.

I got an original 41C when I was 15, which was pretty fundamental in teaching me a lot about programming in general, not to mention all the cool stuff I did with it. I had to sell the whole boxed set about ten years ago during some hard times (lost job), and it kills me that I'll never get it back. I figured if I found another nice one, that it would at least make me feel a little better about it.

I had dug out a couple of 15Cs and a 16C to sell, which was when I saw the prices.

Re: Been a while since I looked...

*Message #14 Posted by **M. Joury** on 8 Aug 2011, 10:58 p.m.,*
in response to message #13 by jimi

From what I have seen 41's vary wildly in price. Some go cheap some go for a ridiculous sum. I have yet to figure out the rhyme or reason to why but if you keep looking you may come upon something decent that you are willing to spring for.

The 15C has been much more consistently high until recently. I personally have not noticed a drop in prices but anecdotal evidence seems to indicate that it might be happening.

The 42S generally fetches pretty high prices as well (or it did when I last checked) and at that point they were generally fetching more than an equivalent condition 41. I just looked and there appear to be two 42S's listed at the moment, both well above $300 and at least one in apparently terrible condition. That one is listed by an individual that I believe is well known on this forum and his prices are generally way out of line.

Re: Been a while since I looked...

*Message #15 Posted by **Michael de Estrada** on 8 Aug 2011, 11:24 p.m.,*
in response to message #14 by M. Joury

All models vary in price over time. For a long time there were no HP-70s listed on TAS, and when they started to appear, initial prices were very high. One sold for nearly $1000, and it wasn't perfect or complete. Then over time as more and more appeared, prices came down to the point that I recently picked one up for $123.50. So, patience is a virtue in collecting vintage calcs. I paid $200 for a very clean HP-42s, which included the spiral bound manual and new batteries. Tonight, two auctions concluded with very low prices for the items that were sold, to wit:

A complete and mint boxed HP-67 for $385

A working HP-29C for $208.50

I really had to restrain myself from bidding on those.

Re: Been a while since I looked...

*Message #16 Posted by **M. Joury** on 8 Aug 2011, 11:46 p.m.,*
in response to message #15 by Michael de Estrada

Yes, true, prices do vary over time. What I was getting at is that from what I have seen over the years prices for 41s vary greatly during the same period. Right now there is a 41C listed for 175 right along with the one mentioned earlier for 2,500. At the moment there are not a whole lot of listings for 41s but at times there are quite a few listed at once with a great discrepancy in price.

BTW, I was also tempted by the two auctions you mentioned. <g>

Cheers

Re: Been a while since I looked...

*Message #17 Posted by **Michael de Estrada** on 10 Aug 2011, 8:47 a.m.,*
in response to message #16 by M. Joury

Also, last night a clean working HP-27 with handbook sold for only $208.51. Another low price record. Another example of what happens when there is only one high bidder. Since the winning bidder put in a snipe bid with only 3 seconds to go in the auction, I suspect that the actual bid was much higher to guarantee a win.

Re: Been a while since I looked...

*Message #18 Posted by **Frido Bohn** on 10 Aug 2011, 6:56 a.m.,*
in response to message #3 by Namir

> Quote:
>
> Prices are down in general.

For a special case I can confirm this. I recently made a bargain while winning this auction.
And imagine: as I unpacked the engine I discovered an HP-IL module in its port!
The HP71 is in mint condition - the bezel a little bit scrached - but it works as it should. Obviously, the selling guy did not know what he had in his hands and placed the auction in a not so favorable section ("historical data processing").

Re: Been a while since I looked...

*Message #19 Posted by **Xavier A. (Brazil)** on 11 Aug 2011, 12:42 p.m.,*
in response to message #18 by Frido Bohn

Mensch! Das ist ein eherlich billiger Preis! Congratulations!

Been a while since I looked...

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 35 Keyboard Malfunction

*Message #1 Posted by **aj04062** on 7 Aug 2011, 7:10 p.m.*

I just got an early 35 with the BUG and a raised dot on the 5. I was testing it out after getting it going and I noticed the whole row of keys starting with the 1/x key register as different keys. I disassembled and cleaned the keyboard but that did not cure.

Ideas?

I cleaned the keyboard to motherboard contact some but not thoroughly yet.

Thanks!

Edited: 8 Aug 2011, 6:45 a.m. after one or more responses were posted

Re: HP 35 Keyboard Malfunction

*Message #2 Posted by **John Robinson** on 7 Aug 2011, 11:53 p.m.,*
in response to message #1 by aj04062

I'd look for corrosion shorting two of the "row" lines, which could be on the keyboard circuit board or on the logic circuit board. Although if two lines were shorted, then you would expect odd behaviour from two rows of keys. Maybe there is somewhat of a short from the row line to another line causing the problem.

Have you tested for continuity from a keyboard row all the way through to the CPU chip ?

Cheers, John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Little help about 17bII+

*Message #1 Posted by **Horacio R** on 7 Aug 2011, 6:57 p.m.*

Hi, years ago I had a 17bII+ silver, nice machine, however due to missing keystrokes (specially 1 and 0) ended up in warranty claim, HP honored the warranty but again they sent another faulty unit. Both were discarded :(

Does any one knows if this issue has been cleared? I would appreciate any input in this theme. I believe/hope that in some point this issue has been solved, however there must be some units that still have this problem then the serial number becomes important...

Thanks HR

Re: Little help about 17bII+

*Message #2 Posted by **Paul** on 8 Aug 2011, 1:35 p.m.,*
in response to message #1 by Horacio R

I too have a silver 17bII+ (following an unfortunate combination of tea and a gold 17bII).

Occasionally I've had missing keystrokes, like you mainly with the "1". Over time I've come to believe this is a buffering problem rather than mechanical and reflected my habit of repeatedly pressing the CLR button before beginning a new calc. Now I've put myself on the straight and narrow and only press the CLR button once all seems good - no missing keystrokes.

I guess when one pays a lot for a calculator one has to learn to live with its eccentricities. Indeed I've just bought an expensive push bike and when I commented that the peddles were “plasticky”, the dealer thought I was lucky to get peddles included - there's something about paying more for less.

Re: Little help about 17bII+

*Message #3 Posted by **BruceH** on 11 Aug 2011, 6:34 p.m.,*
in response to message #1 by Horacio R

I have serial CNA7330nnnn and have no problems.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My collection on local TV

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 7 Aug 2011, 4:12 p.m.*

Yesterday our local TV-station TV-Midt/Vest brodcasted a 6m50s report regarding my interest in collecting HP-calculators. Sadly for most of you it is in danish language. But you may se one or two interesting things anyway. Of cause far from all calculators are mentioned. Some non-HP things are shown.
Well have a look at this link
Thanks!

Johnny Bjoern Rasmussen, Denmark

Re: My collection on local TV

*Message #2 Posted by **Namir** on 7 Aug 2011, 4:43 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Nice collection Johny!!! I love the way you display your calculators. It was nice of your local TV station to report on your hobby.

Namir

Re: My collection on local TV

*Message #3 Posted by **Lode** on 7 Aug 2011, 5:18 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Even though I didn't understand the language, I loved seeing these things in operation and the way they were laid out. Nice video and collection, thanks!

Edited: 7 Aug 2011, 5:18 p.m.

Re: My collection on local TV

*Message #4 Posted by **Geir Isene** on 7 Aug 2011, 5:23 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Cool! No problem understanding Danish.

Congratulations on a nice show and also a very nice collection.

I was on the same show (but in Norway) three years ago.

Re: My collection on local TV

*Message #5 Posted by **Ángel Martin** on 10 Aug 2011, 6:51 a.m.,*
in response to message #4 by Geir Isene

It´s reasuring to see countries where TV stations make something valuable with their programs, beyond the pure hypno-toad usual stuff or worse yet!.

Congrats on your collection and thanks for sharing. I guess now we know who else beats us all the time in all those TAS events :-)

Re: My collection on local TV

*Message #6 Posted by **Maximilian Hohmann** on 7 Aug 2011, 5:42 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Hello!

Beautiful. I wish I had the space for showcases like yours... But now I know, that I understand the two most important Danish words: "Hewlett" and "Packard" :-)

Did you say the HP25 was the first programmable when you held it in the camera?

Regards, max

Re: My collection on local TV

*Message #7 Posted by **Joerg Woerner** on 7 Aug 2011, 7:25 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Johnny,

Nice to see the Epson HX-20 / HC-20 - for sure one of the important milestones in mobile computing.

Congratulations for your wonderful presentation!

Good for you to collect HP calculators, my TI collection would fill easily a 2 hours documentation ;-))

Cheers, Joerg

Re: My collection on local TV

*Message #8 Posted by **Matthias Wehrli** on 8 Aug 2011, 10:40 a.m.,*
in response to message #7 by Joerg Woerner

A very nice collection. Unfortuantelly there is no TV show in Switzerland like this (or they never thought about showing my collection).... So I have to make my presentations on the web.. Maybe I should give them an update....

Re: My collection on local TV

*Message #9 Posted by **Namir** on 8 Aug 2011, 11:12 a.m.,*
in response to message #8 by Matthias Wehrli

Matthias,

Any TV shows that presents your collection has to do at least a 2-hour show! You have the best collection I have seen in person--well worth the six-hour train ride between Geneva and Basel. Recently, I visited Richard Nelson in his house in Arizona (not too far from where my own son is living now). His collection is very nice too, and occupies many rooms. Recently, my wife re-organized my own collection. Makes it easier to locate various models.

Namir

Edited: 8 Aug 2011, 12:44 p.m.

Re: My collection on local TV

*Message #10 Posted by **Matthias Wehrli** on 8 Aug 2011, 1:32 p.m.,*
in response to message #9 by Namir

Namir

My collection has apparently burned itself into your mind. Thank the honor. I still remember your visit to my house. It really was a beautiful day when I remember you ... Will you come again to Switzerland? My house is open to you.

Edited: 8 Aug 2011, 1:32 p.m.

Re: My collection on local TV

*Message #11 Posted by **Johnny Bjoern Rasmussen** on 8 Aug 2011, 3:28 p.m.,*
in response to message #10 by Matthias Wehrli

Thank you all for your very kind words. I am deeply thankfull and honored. I find my collection to be quite humble and not so unique as some of your collections but the working units are there to be played with. Both the HP's and the other stuff.
If any of you find your way to Denmark you are very welcome to pay a visit to our house to see and play with the items in my collection.
I will also like to express my wishes to some kind of mainland European conference or meeting. Our house is open to such idea.
Matthias, you have held a couple of meetings earlier. Have you any plans in for future meetings?

Johnny Bjoern Rasmussen, Denmark
www.hpmuseum.dk

Edited: 8 Aug 2011, 3:29 p.m.

Re: My collection on local TV

*Message #12 Posted by **Juergen Keller** on 8 Aug 2011, 4:53 p.m.,*
in response to message #11 by Johnny Bjoern Rasmussen

> Quote:
>
> I will also like to express my wishes to some kind of mainland European conference or meeting. Our house is open to such idea.

Great idea! Although Matthias' home is much closer to me. I really enjoyed the last meeting in Allschwil and would join a meeting even if it's as far away as Denmark. Currently there are many interesting things to show and talk about.

Re: My collection on local TV

*Message #13 Posted by **Håkan Thörngren** on 8 Aug 2011, 4:29 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Very nice collection and superb presentation! I would not even dream of being able to pull anything like that off.

I once tried to build a collection, but stopped due to the slow progress I had and also the cost involved. I tried to be a bit cheap and mostly picked things up locally, and they were far between...

I managed to at least get a couple of LED machines and some voyagers. I would really have liked to get a 10C, a woodstock and a 97, but sadly no.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Extended TVM-solver for the WP34s

*Message #1 Posted by **fhub** on 6 Aug 2011, 11:09 a.m.*

I've now finally finished my extended TVM-program. :-)

The first version of such a TVM-solver I've written in the good old HP-41 days, and since then ported it to many other different calculators (Sharp PC-1500, HP-48, TI-92+ ...).

I call it 'extended' because it has 2 additional parameters NP and NI (in English PF and CF for payment/compound frequency) which allows to set different periods for payments and compounding.
And furthermore it also handles 'perpetual payments' (i.e. where N=infinite), anticipative discount rates (NI<0) and continuous (or theoretical) compounding (NI=0).

It has 256 steps and is in *.wp34s format, so it can be compiled with the WP34S assembler - and a quite detailled description is included.

Let me know if there's any interest - I could either post it directly here in the forum or upload the file to my website.

Franz

Edited: 6 Aug 2011, 11:12 a.m.

Re: Extended TVM-solver for the WP34s

*Message #2 Posted by **Walter B** on 6 Aug 2011, 12:19 p.m.,*
in response to message #1 by fhub

> Quote:
>
> Let me know if there's any interest - I could either post it directly here in the forum or upload the file to my website.

For sure there's interest! I'd suggest uploading your file to SourceForge where the WP 34S lives. If you agree, please send it to any member of the development team, and we'll put it in for you :-)

Walter

Re: Extended TVM-solver for the WP34s

*Message #3 Posted by **fhub** on 6 Aug 2011, 1:54 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> I'd suggest uploading your file to SourceForge where the WP 34S lives. If you agree, please send it to any member of the development team, and we'll put it in for you :-)

Well Walter, I prefer a place where I have access to.
What if I would like to change anything?
Or what if a bug has to be fixed - although that's very unlikely because my programs never have bugs. ;-)

I've sent it now to Marcus ...

Of course feel free to add my 'Extended TVM-Solver' to your project site at Sourceforge if you want, but first make sure that it will meet your high quality standards for WP34s programs ... :-)

Franz

Edited: 8 Aug 2011, 8:28 a.m. after one or more responses were posted

Re: Extended TVM-solver for the WP34s

*Message #4 Posted by **Marcus von Cube, Germany** on 6 Aug 2011, 3:13 p.m.,*
in response to message #3 by fhub

I'm sure it will meet our standards. :-)

WP 34S features are still emerging and so it may be necessary to adapt existing software. Remember the recent discussion about labels beyond A to D. We are willing to keep the included programs in sync with the current feature set. If we find any discrepancy between used and available features we will happily adapt the code included in the package, including yours.

Re: Extended TVM-solver for the WP34s

*Message #5 Posted by **fhub** on 9 Aug 2011, 5:55 a.m.,*
in response to message #4 by Marcus von Cube, Germany

A short note, Marcus:

I guess your changes of the shortcut labels are now permanent, so maybe it would be a good idea to also fix the TVM-solver code, because with the current build it doesn't work anymore as expected.

LBL G, H and I (in lines 047, 054 and 061) should be changed to LBL 21, 22 and 23 resp.

And there's a small typo in the description at th beginning:
After "Keyboard-Layout:" in 00N the 00 should be replaced by 2 spaces - I don't know where these 2 zeros are coming from!?

And maybe the 3 occurences of 'FIN' could be changed to 'TVM', but that's just a matter of taste and I let this be your decision. ;-)

Franz

Edited: 9 Aug 2011, 5:57 a.m.

Re: Extended TVM-solver for the WP34s - Update!

*Message #6 Posted by **fhub** on 9 Aug 2011, 6:14 a.m.,*
in response to message #5 by fhub

BTW, I've found a nice trick for the problem to clear the stack but retain the X register (which

was in discussion about my previously used method):

```
RCL- X
FILL
RCL L
```

Of course no big deal, but saves one byte again ... ;-)

PS: Once again I forgot something: since now there's this new error message for SLV, I've also changed this message in the program.
And furthermore I've also included the financial equations which are used in TVM in case someone is interested in these formulas.

The updated current version of TVM can be found here:
http://www.hpmuseum.org/guest/fhub/tvm.zip

Edited: 9 Aug 2011, 7:22 a.m.

Re: Extended TVM-solver for the WP34s - Update!

*Message #7 Posted by **Marcus von Cube, Germany** on 9 Aug 2011, 8:02 a.m.,*
in response to message #6 by fhub

An updated version of your code is now in the pre-compiled library. :-)

I have yet to check the latest ZIP package for the documentation changes.

Re: Extended TVM-solver for the WP34s - Update!

*Message #8 Posted by **fhub** on 9 Aug 2011, 8:08 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> An updated version of your code is now in the pre-compiled library. :-)
>
> I have yet to check the latest ZIP package for the documentation changes.

Yes, you should better use this new ZIP, because it contains a few corrections.

You only have to add your 'Intro' (=Vorspann) ... :-)
(maybe a 'sound intro' would be nice, too ;-))

Edited: 9 Aug 2011, 8:10 a.m.

Re: Extended TVM-solver for the WP34s - Update!

*Message #9 Posted by **Marcus von Cube, Germany** on 9 Aug 2011, 11:25 a.m.,*
in response to message #6 by fhub

Franz,

> Quote:
>
> - program 'TVM' should be loaded into and called from RAM

Any reason for this? The program should work fine in the library space.

Re: Extended TVM-solver for the WP34s - Update!

*Message #10 Posted by **fhub** on 9 Aug 2011, 11:54 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> Any reason for this? The program should work fine in the library space.

Well, I've made some 'strange' experiences while testing the program, and since I have no explanation for this I thought it would be safer to have it in RAM.

The problem was the following:
I've opened the catalog with [h]CAT and clicked ENTER. I don't know exactly what internally happens when doing this, but it seems that the program-counter is then in the Flash-ROM and everything is working fine: I can list the program with [h]P/R and I can XEQ the shortcut labels, but: only those which end with a GTO 00 statement - if e.g. I do a XEQ 09 (which ends with RTN) to evaluate the TVM expression, the program-counter seems to be 'out of flash' after this RTN, and from that moment on none of the number-labels (00-09) is working anymore: trying to XEQ them just gives "No such label" (and also [h]P/R doesn't list the program anymore). I have to select the TVM program once more from the catalog to make it work again. Exactly the same happened after I made a GTO.. (I just wanted to restart it with R/S to reset all values) - after that the 34s also seems to 'forget' my TVM program.

So I believe that manually starting or excuting a program that ends with a RTN (or doing a GTO..) sets the program-counter back into the RAM, and so the program in the flash-ROM is no longer accessable (unless you chose it again).
I'm not sure if this is intended this way, but I just have too little internal knowledge about the WP34s - and I also haven't found any detailed infos about this so far.

Franz

Edited: 9 Aug 2011, 11:59 a.m.

Re: Extended TVM-solver for the WP34s - Update!

*Message #11 Posted by **Marcus von Cube, Germany** on 9 Aug 2011, 12:04 p.m.,*
in response to message #10 by fhub

I'll check it with Pauli. Thanks for the info. As long as you stick to the hot keys, everything is fine from the library space.

Re: Extended TVM-solver for the WP34s - Update!

*Message #12 Posted by **fhub** on 9 Aug 2011, 1:08 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I just saw another small issue: when you go to program mode and view the listing of a flash program, then the first step starts with 002 (and also all other line numbers are one too high).

And for the other problem above - I think it's just the way RTN is implemented:

if a RTN at the end of a subroutine is executed, then it goes back to the address on the return-stack IF the subroutine was call from within a program. But if the user executes this subroutine manually, then there is no return address on the stack, and so the RTN command just jumps to the beginning of the programspace in RAM!

And this is the point: maybe it should not always return to the top of the programspace in RAM, but to the top of the 'currently selected' programspace, i.e. to the top of the Flash when this Flash was the last being used.

Edited: 9 Aug 2011, 1:23 p.m.

Re: Extended TVM-solver for the WP34s - Update!

*Message #13 Posted by **Marcus von Cube, Germany** on 9 Aug 2011, 2:35 p.m.,*
in response to message #12 by fhub

Regarding the listing issue I need to check it for myself.

You have fully understood the RTN problem. I've started a discussion with Pauli what the best way to treat this would be. Your proposal is one possible option.

Re: Extended TVM-solver for the WP34s - Update!

*Message #14 Posted by **fhub** on 9 Aug 2011, 6:49 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> As long as you stick to the hot keys, everything is fine from the library space.

Yes, but - after thinking more about it - this is also working only because my hotkey routines don't end with a RTN but with a STOP command. If they had a RTN at the end then after the first call of such a routine the program counter would be out of the flash again and every further hotkey usage would fail.

So it's indeed really a problem for every program called or used directly from the flash space. :-(

Re: Extended TVM-solver for the WP34s

*Message #15 Posted by **Paul Dale** on 6 Aug 2011, 8:00 p.m.,*
in response to message #3 by fhub

> Quote:
>
> Well Walter, I prefer a place where I have access to.

Ask and I'll give you subversion access.

> Quote:

> Of course feel free to add my 'Extended TVM-Solver' to your project site at Sourceforge if you want, but first make sure that it will meet your high quality standards for WP34s programs ... :-)

The program looks good. Only two very minor things to consider changing. Alpha registers are special so the saving and restoring the value into K at steps 13 and 15 isn't the best -- it will prevent using the statistical distributions and this financial package together. I'd suggest using L for this since that has been destroyed anyway rather than a grabbing another numeric register. Damn, CLSTK wipes out L so that won't work :-(

The other is the relevance of some of the error messages -- "bad mode" is used everywhere else to indicate that the device is in integer/real mode and the operation selected is only valid in real/integer mode. Like I said, fairly minor.

There are also a couple of SKIP statements that SKIP to a RTN. Why not just replace them with a RTN. e.g. Lines 78 and 84. Also, we're in the process of rethinking the extra labels again so there will likely be further changes in this area.

Anyway, a good library routine to have.

- Pauli

Edited: 6 Aug 2011, 8:08 p.m.

Re: Extended TVM-solver for the WP34s

*Message #16 Posted by **Paul Dale** on 6 Aug 2011, 8:18 p.m.,*
in response to message #15 by Paul Dale

How about this to avoid using K:

```
010 LBL 00      // return after input or calculation
011 FS?C 00
012 SKIP 04
013 STO L
014 0
015 FILL
016 RCL L
017 STOP        // wait for input or calculation
018 BACK 01     // [R/S] -> clears ENTRY? flag
```

Costs one step and saves using one register.

This also avoids zeroing the I register which CLSTK does.

- Pauli

Edited: 6 Aug 2011, 8:20 p.m.

Re: Extended TVM-solver for the WP34s

*Message #17 Posted by **fhub** on 7 Aug 2011, 5:11 a.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> Costs one step and saves using one register.

Well, I've now changed it (a 2nd time) to:

```
010 LBL 00      // return after input or calculation
011 FS?C 00
012 SKIP 03
013 STO 09
014 CLSTK       // remove intermediate results
015 RCL 09
016 STOP        // wait for input or calculation
017 BACK 01     // [R/S] -> clears ENTRY? flag
```

Now it uses R09 instead of K - this register is only used internally and is always re-initialized before any new calculation, so using it here won't hurt (and all following line numbers don't change with this method).

Edited: 7 Aug 2011, 5:37 a.m.

Re: Extended TVM-solver for the WP34s

*Message #18 Posted by **fhub** on 7 Aug 2011, 4:58 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Damn, CLSTK wipes out L so that won't work :-(

Haha, using L is exactly what I also tried first.

> Quote:
>
> The other is the relevance of some of the error messages -- "bad mode" is used everywhere else ...

Well, it's the best error message I found for this case. ;-)
Trying to use a 'final' value (FV) for an 'infinite' number of periods (N) is something that could also be seen as "being in a bad mode". :-)

> Quote:
>
> There are also a couple of SKIP statements that SKIP to a RTN. Why not just replace them with a RTN. e.g. Lines 78 and 84.

That's just my tidiness: I like to have a 'logical' program structure, and one thing that belongs to this is that a procedure of function has exactly one entry point and one exit point. So it's easier to see where the end of a subroutine is: just look for the next RTN - with several RTNs this is a bit confusing.

And for your other suggestion to replace this register K usage:
Well, clearing the stack at the end won't really be necessary at all - once again the fault of my tidiness. ;-) I just don't like to have any useless (intermediate) results on the stack. But maybe a simple FILL (the stack with the result) would be the best solution and even save a few bytes more!? :-)

Franz

Re: Extended TVM-solver for the WP34s

*Message #19 Posted by **Walter B** on 7 Aug 2011, 5:47 a.m.,*
in response to message #18 by fhub

> Quote:
>
> Well, clearing the stack at the end won't really be necessary at all - once again the fault of my tidiness. ;-) I just don't like to have any useless (intermediate) results on the stack. But maybe a simple FILL (the stack with the result) would be the best solution and even save a few bytes more!?

Hmmmh, my understanding of tidiness at the end of a routine is having the result in X, and the other levels containing what was therein before calling said routine. Finishing a routine with CLSTK or FILL is a strategy of "burnt soil" IMHO ;-)

Walter

Re: Extended TVM-solver for the WP34s

*Message #20 Posted by **fhub** on 7 Aug 2011, 6:11 a.m.,*
in response to message #19 by Walter B

> Quote:
>
> Hmmmh, my understanding of tidiness at the end of a routine is having the result in X, and the other levels containing what was therein before calling said routine. Finishing a routine with CLSTK or FILL is a strategy of "burnt soil" IMHO ;-)

Yes, in a strict sense you're right, Walter. :-)

But this would require saving the stack before and restoring it after any calculations.
And since there's no such command in the WP34s (unless you're using still other registers Rnn), you would have to code it yourself.
Ok, not really a big problem (in SSIZE4 mode):

```
SaveStack:
cpx STO A
cpx x<>y
cpx STO C
cpx x<>y


RestoreStack:
cpx RCL C
cpx RCL A
```

But this would cost another few bytes in the (always too small) RAM ... ;-)

BTW, the 2 routines above together with

```
SwapStack:
cpx x<>A
cpx x<>y
cpx x<>C
cpx x<>y
```

would be a nice enhancement of the 34s commands: S-SAVE, S-REST and S-SWAP (or S-STO, S-RCL and S-SWP) like the similar R-commands, won't it? :-)

(SaveStack and SwapStack work even in SSIZE8 mode, only RestoreStack needs some modifications for SSIZE8)

Franz

Edited: 7 Aug 2011, 7:17 a.m.

Re: Extended TVM-solver for the WP34s

*Message #21 Posted by **Paul Dale** on 7 Aug 2011, 8:22 a.m.,*
in response to message #20 by fhub

What about STOS and RCLS ??

We don't have a swap stack command but it doesn't seem all that useful to me.

- Pauli

Re: Extended TVM-solver for the WP34s

*Message #22 Posted by **fhub** on 7 Aug 2011, 8:31 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> What about STOS and RCLS ??

Well, you seem to have overlooked my comment "(unless you're using still other registers Rnn)". ;-)

> Quote:
>
> We don't have a swap stack command but it doesn't seem all that useful to me.

You can never have enough stack manipulation commands ... :-)
Such a SwapStack command would be like a 'quad' x<>y (compared to the existing 'cpx' x<>y)

Franz

Edited: 7 Aug 2011, 8:53 a.m.

Re: Extended TVM-solver for the WP34s

*Message #23 Posted by **fhub** on 7 Aug 2011, 9:20 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> What about STOS and RCLS ??

I just had another idea:
What if these commands would accept A as destination (STOS A and RCLS A)?

Of course this should only use 4 stack registers (storing XYZT and recalling ABCD) even in SSIZE8 mode - this would then (almost) exactly do what I've intended with my above SaveStack and RestoreStack: in SSIZE4 it saves and restores XYZT, and in SSIZE8 it would just act as XYZT->ABCD (for STOS A) and ABCD->XYZT (for RCLS A).

Edited: 7 Aug 2011, 9:21 a.m.

Re: Extended TVM-solver for the WP34s

*Message #24 Posted by **Walter B** on 7 Aug 2011, 10:46 a.m.,*
in response to message #23 by fhub

Well Franz, you've got 100 general purpose registers - use four of them at a nice address :-)

Re: Extended TVM-solver for the WP34s

*Message #25 Posted by **fhub** on 7 Aug 2011, 10:51 a.m.,*
in response to message #24 by Walter B

> Quote:
>
> Well Franz, you've got 100 general purpose registers - use four of them at a nice address :-)

100? My other calculators let me use thousands registers ... ;-)

Re: Extended TVM-solver for the WP34s

*Message #26 Posted by **Walter B** on 9 Aug 2011, 4:34 p.m.,*
in response to message #25 by fhub

Honestly, what do you want to do with more than 100 general purpose registers in such a calculator? Will be difficult to keep track of them already :-/

Re: Extended TVM-solver for the WP34s

*Message #27 Posted by **fhub** on 9 Aug 2011, 4:51 p.m.,*
in response to message #26 by Walter B

> Quote:
>
> Honestly, what do you want to do with more than 100 general purpose registers in such a calculator? Will be difficult to keep track of them already :-/

Well, as soon as you would like to deal with matrices, 100 registers are almost nothing.

Re: Extended TVM-solver for the WP34s

*Message #28 Posted by **Walter B** on 9 Aug 2011, 5:35 p.m.,*

in response to message #27 by fhub

> Quote:
>
> as soon as you would like to deal with matrices, 100 registers are almost nothing.

You're right in principle, but

1. I won't like to deal with them, since IMHO matrix math exceeds the limits of the UI of such a small scientific calculator - people are used to viewing a whole matrix at once nowadays, which is obviously impossible with the HW given,
2. if I were forced do deal with them, I won't employ any matrices larger than 4x4,
3. even with 5x5, two complete different systems of linear equations are easily stored simultaneously in the memory provided so far,
4. I didn't hear a widespread request for matrix math library routines yet.

Thus I don't see a problem here :-) YMMV

Edited: 9 Aug 2011, 5:40 p.m.

Re: Extended TVM-solver for the WP34s

*Message #29 Posted by **fhub** on 9 Aug 2011, 5:55 p.m.,*
in response to message #28 by Walter B

Yes, I agree with you in (almost) all points - matrix math is definitely "one shoe number too large" (as we say in German ;-)) for the 34s.
And if you have to address them via sequential register numbers Rnn (instead of A[i,j]) the handling would in fact be a nightmare.

But I'm using it on the HP48GX and the TI92+ without problems, and especially on the latter it really makes fun - but of course not 100x100 monsters. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Close to perfect

*Message #1 Posted by **Tommy** on 5 Aug 2011, 7:00 p.m.*

While waiting for the re-birth of this so-much-spoken-of gadget, I'm reading the Owner's Handbook (in Swedish 1983) and playing with the details. My question was, is it worth so much fuzz? In my opinion I must say it is almost perfect. A little bit slow perhaps. But yes, it is still competitive after 30 years!

But I found something odd when working in complex mode. Why does it force you to use radians in trig and log? If it *must* use radians, why not automatically switch the trig-annunciator to RAD? Or even better, allow all trigonometric modes when working in complex mode (as when calculating P <-> R conversions in complex mode).

If you enter complex mode by accident (key f I) and you are using degrees, you will get wrong results. Every non-complex calculation should give the same result in C-mode as in normal mode.

One final detail: It would be nice if the f-CLEAR-REG key also made a CF-8 (exit complex mode) (f-CLEAR-"REG/C").

Still, I love my 15C. Still, waiting…

/Tommy

Re: HP-15C Close to perfect

*Message #2 Posted by **Michael de Estrada** on 5 Aug 2011, 7:55 p.m.,*
in response to message #1 by Tommy

Only trig, not log, require input in radians. This is because radians are the true primary unit for trig functions, and the conversion to degrees or grads is just a convenience that has been implemented as the default in most calculators. I used to program computers in Fortran, and the trig units were radians. Some primitive calculators such as the Sinclair Scientific require radians as the trig units with no provision to change the mode to degrees.

Re: HP-15C Close to perfect

*Message #3 Posted by **Namir** on 6 Aug 2011, 11:10 a.m.,*
in response to message #2 by Michael de Estrada

Recently I began to find software packages that define trig function sind(), cosd(), and tand() to take angles in degrees. The same packages also offer sin(), cos(), and tan() to take angles in radians. I think it's nice touch to have the degree-flavor of trig functions.

Of course you can always define the sind(), cosd(), and tand(), asind(), acosd(), and atand() in your favorite programming tools if they only support radian versions of the trig and inverse trig functions.

Namir

Edited: 6 Aug 2011, 11:12 a.m.

Re: HP-15C Close to perfect

*Message #4 Posted by **Thomas Klemm** on 6 Aug 2011, 1:45 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> Only trig, not log, require input in radians.

The output of *log* is in radians.

Kind regards
Thomas

Re: HP-15C Close to perfect

*Message #5 Posted by **Thomas Klemm** on 6 Aug 2011, 1:38 p.m.,*
in response to message #1 by Tommy

> Quote:
>
> Why does it force you to use radians in trig and log?

What's the expected result of say: *ln(-1)*? Do you really want to make that dependant on the trigonometric mode? This would result in a different value for $(-1)^i$ when using the following formula:

$z^w = e^{ln(z)\,w}$

In *RAD*-mode: $ln(-1) = i\,Pi$, thus $(-1)^i = e^{i\,Pi\,i} = e^{-Pi}$

In *DEG*-mode: $ln(-1) = i\,180$, thus $(-1)^i = e^{i\,180\,i} = e^{-180}$

In *complex*-mode the trigonometric functions are coupled to the exponential function by means of Euler's formula: $e^{i\,x} = cos\,x + i\,sin\,x$

Therefore you can not redefine the trigonometric functions depending on a mode without violating fundamental laws of mathematics.

> Quote:
>
> If it *must* use radians, why not automatically switch the trig-annunciator to RAD?

Because then you couldn't enter a complex number in polar mode with the angle in degrees. And that's something convenient.

IMHO it's perfect as it is implemented. It's the same in the HP-42s or HP-48.

Kind regards
Thomas

Edited: 6 Aug 2011, 1:48 p.m.

Re: HP-15C Close to perfect

*Message #6 Posted by **Tommy** on 7 Aug 2011, 4:54 a.m.,*
in response to message #5 by Thomas Klemm

> Quote:
>
> Do you really want to make that dependant on the trigonometric mode?

No, that is the same as with SQRT(-1). All perfect in normal mode

But in C-mode I would say Yes.

In normal mode the polar conversion functions uses the x- and y-registers. But in C-mode the polar conversion functions uses the Re x and Im x registers. That means that the user must know what he is doing.

And in C-mode the HP15C quietly changes mode to RAD. I do not like when a program quietly changes anything.

My first thought was that it was impossible to handle degrees in C-mode. That it violated something fundamental.

But when I realized that it accepted values in degrees in the Im x register when using the P<->R functions but not when using e, I was starting to think. (Page 134 in Owners handbook)

Suppose You want to solve the following problem: What is the angle, in degrees, corresponding to the value of i?

Solution A using ->P, C-mode and degree–mode: 0 ENTER 1 f-I f-(i) g->P Result: 1 and f-(i) shows 90 degrees (as expected)

Solution B using Eulers formula, C-mode and degree-mode: 0 ENTER 1 f-I f-(i) g->LN Result: 0 and f-(i) shows 1,57 degrees (NOT expected) (Angle in RAD)

In my opinion, this is inconsistent.

Further more, if the user by accident enters the C-mode and makes a simple 45 ENTER TAN (in degree-mode) he will be really confused. In my opinion, that is an erroneous behavior.

If this user doesn't find page 121 in Owners manual "Deactivating Complex Mode" , he is in big problems.

Best regards /Tommy

Re: HP-15C Close to perfect

*Message #7 Posted by **Thomas Klemm** on 7 Aug 2011, 6:53 a.m.,*
in response to message #6 by Tommy

I asked:

> Quote:
>
> Do you really want to make that dependant on the trigonometric mode?

Your answer was:

> Quote:
>
> No

But then you state:

> Quote:
>
> C-mode and degree-mode: 0 ENTER 1 f-I f-(i) g->LN Result: 0 and f-(i) shows 1,57 degrees (NOT expected) (Angle in RAD)

Which I interpret as: yes, I want *ln* to behave differently depending on the angle-mode. But then you will get wrong results as the example in my previous post shows.

> Quote:
>
> In my opinion, this is inconsistent.

I'd rather say your answer to that question is.

It seems I failed to explain to you, why you can't make a calculator behave the way you expect it and at the same time make it consistent with mathematics. On the other hand I understand your frustration beeing caught in **C**-mode and not finding out how to deactivate it. It's just your proposed solution doesn't work.

Cheers
Thomas

Re: HP-15C Close to perfect

*Message #8 Posted by **Ángel Martin** on 8 Aug 2011, 3:01 a.m.,*
in response to message #5 by Thomas Klemm

I'm probably getting too high-level here but to me this dilemma is not representative of what a complex number represents when used as argument of a function - in RECTangular form.

For instance, what's the meaning of "angular mode" when calculating SIN(1+i)? Certainly not angles, or radians, or GRADs either, just a complex value with real and imaginary parts.

So to me the angular mode is a value conversion for real magnitudes, not applicable to the complex plane.

Things get blurry of course when you enter real-only arguments in complex mode (or using complex functions, like in the 41Z). In this case the assumption is that they are just real parts, thus must be RAD. Also P<->R tend to make things a little confusing, as that surely depends on the selected angular mode.

The angular mode only comes to the picture when you want to display the number(s) in POLAR form, and then the calculator must adhere to the selected mode of course.

So for instance the 41Z has a POLAR mode. If you enter a complex argument in this form it'll look at the angular mode to interpret the proper "units" of the angle, and then proceed accordingly. This is done by the function "^IM/AG" in the input stage, and function ZAVIEW in the output step.

All other inputs are assumed to be in rectangular form, and thus independent from the angular mode settings.

Cheers, ÁM

Re: HP-15C Close to perfect

*Message #9 Posted by **Thomas Klemm** on 8 Aug 2011, 4:58 p.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> For instance, what's the meaning of "angular mode" when calculating SIN(1+i)? Certainly not angles, or radians, or GRADs either, just a complex value with real and imaginary parts.

As far as I understood Thommy, he's not so much concerned about something like *SIN(1+i)*. His scenario goes more like: my calculator is accidentially in *complex*-mode and I want to calculate something like *sin(60)*, but that darn little beast doesn't behave as I expected and instead ignores *DEG*-mode.

So what's this *DEG*-mode and why can't we have it in *complex*-mode? In *DEG*-mode the entry to the three triangular functions *sin*, *cos* and *tan* are scaled to radians **before** entering the actual function. On the other hand the result of the inverse trigonometric functions is scaled back from radians to degrees **after** leaving it.

Does this *DEG*-mode has any influence on the exponential function in *real*-mode? Of corse, no! But in *complex*-mode *exp*, *cos* and *sin* are coupled through Euler's equation.

In fact all the other transcedental functions can be expressed using only *exp(z)* and its inverse *ln(z)*. So we only have to consider these two. If anything goes wrong with them the others will be affected as well.

So what's happening when we calculate z^w by using *exp(z)* and *ln(z)*? First we'd calculate *ln(z)*. The imaginary part of this expression is an angle so in fact this could be transformed to degrees as Thommy suggested. But you would never do that with the real part. However, scaling only the imaginary y-axis introduces an asymmetry. Nothing goes wrong as long as w is a real number. But when you allow the exponent to be a complex number the two axes are rotated. In the case of $w = i$ both axes are exchanged. Before we apply the exponential function we must transform the angle back to radians. So we will scale the imaginary axis back again. But alas, what we thought was the imaginary axis is in fact the real axis but rotated due to the multiplication by i.

Instead of scaling up and down the same axis we end up magnifying the imaginary axis and shrinking the real axis which of course is not the same as what we get when we'd refrain from scaling alltogether. Thus we can't have angular modes with the complex version of the exponential and logarithmic functions. Since they depend on these the same is true for the trigomometric functions as well.

Best regards
Thomas

Edited: 8 Aug 2011, 5:18 p.m.

Re: HP-15C Close to perfect

*Message #10 Posted by **Tommy** on 9 Aug 2011, 8:41 a.m.,*
in response to message #9 by Thomas Klemm

> Quote:
>
> Thus we can't have angular modes with the complex version of the exponential and logarithmic functions. Since they depend on these the same is true for the trigomometric functions as well.

I fully agree. So, back to my original post:

> Quote:
>
> If it *must* use radians, why not automatically switch the trig-annunciator to RAD?

Of course you must sacrifice the ability to use degrees when P <-> R in C-mode. The price is either exiting C-mode or convert the answer using g ->DEG. What would you gain? You would gain a calculator even closer to perfect, which was my main concern.

Best regards

/Tommy

Re: HP-15C Close to perfect

*Message #11 Posted by **Ángel Martin** on 10 Aug 2011, 6:40 a.m.,*
in response to message #10 by Tommy

I concur with you: if it takes RAD as de-facto mode it should indicate it so setting RAD on.

Alternatively a clearer complex mode, or a complex prefix (like in the 41Z) will eliminate any doubts, yet I can imagine how tight things must be in the 15C firmware, so space probably was at a premium to sacifice it in those usability enhncements.

Cheers, ÁM

Re: HP-15C Close to perfect

*Message #12 Posted by **Paul Dale** on 10 Aug 2011, 7:48 a.m.,*
in response to message #11 by Ángel Martin

The 34S indicates RAD when the complex prefix is pressed BTW :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SAMBA flashing

*Message #1 Posted by **Lode** on 5 Aug 2011, 3:46 p.m.*

Hello,

This site leaves many questions unanswered for me: http://www.wiki4hp.com/doku.php?id=34s:quick_start

Some of the questions I have are:

1) What's the name of the cable mentioned in point 3? It's hard to find it without knowing its name.

2) There's a red warning saying the serial port version only works on Windows XP. USB looks much more convenient to me though. Is there any reason why one would want to do it with serial port? Does the USB way work with HP calculators?

3) How can one get such a cable in Europe?

4) Is it hard to make a ROM for this calculator? Is it done in assembly? Is an emulator available? For Linux? Is a compiler available? Again, for Linux?

Thanks!

Re: SAMBA flashing

*Message #2 Posted by **M. Joury** on 5 Aug 2011, 3:58 p.m.,*
in response to message #1 by Lode

To answer one (implied?) question: I certainly could not get it to work under Windows 7 even with all the compatibility mode settings turned on. Maybe someone else has succeeded and can tell me how. Luckily I had a Windows XP desktop available and was able to complete the flashing that way.

Re: SAMBA flashing

*Message #3 Posted by **Cristian Arezzini** on 5 Aug 2011, 4:04 p.m.,*
in response to message #2 by M. Joury

Why don't you try installing a virtual WinXP "inside" one of your hard disks, using VirtualBox? VirtualBox works great for me under Linux, but it exists for Windows too... and it can surely emulate XP under 7.

Cristian

Re: SAMBA flashing

*Message #4 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 4:15 p.m.,*
in response to message #3 by Cristian Arezzini

Virtual PC from Microsoft is free, too. But you need a copy XP to install within. Why XP? Only Atmel and Microsoft can tell you.

The cable is a custom made one which was originally available through some HP people here in the forum and is now distributed by Gene Wright for the cost of shipping.

Re: SAMBA flashing

*Message #5 Posted by **M. Joury** on 5 Aug 2011, 5:44 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Yes, I could do that. I have tried various virtual machines over the years and for this sort of thing they should work great. However, I was hoping for a native Windows 7 solution. As long as I have a WinXP box sitting around I guess I will just live with that. Of course if I had a 64 bit machine and Win7 Pro or Ult. I could simply use XP mode. Ah well, all sorts of solutions when the time comes to ditch XP.

Cheers

Re: SAMBA flashing

*Message #6 Posted by **Tim Wessman** on 5 Aug 2011, 6:10 p.m.,*
in response to message #5 by M. Joury

I have the soucre code in delphi pascal for our flashing utility. If someone wants to take a look at it for win7 (either to fix or use as a base for a native win version), just contact me.

TW

Re: SAMBA flashing

*Message #7 Posted by **Cristian Arezzini** on 5 Aug 2011, 4:02 p.m.,*
in response to message #1 by Lode

As far as I know:

> Quote:
>
> 1) What's the name of the cable mentioned in point 3? It's hard to find it without knowing its name.

It's a special programming cable made by HP, you won't find it for sale. On that same point 3 it says who to ask to, he's in these forums.

> Quote:
>
> 2) There's a red warning saying the serial port version only works on Windows XP. USB looks much more convenient to me though. Is there any reason why one would want to do it with serial port? Does the USB way work with HP calculators?

I run Linux, and I used the serial cable connected to a good quality serial-to-usb converter, and flashed the calculator using a virtual install of WinXP under VirtualBox. Worked on first try. I don't know if there is a native flasher for Linux...

> Quote:
>
> 3) How can one get such a cable in Europe?

See point 1! :)

> Quote:
>
> 4) Is it hard to make a ROM for this calculator? Is it done in assembly? Is an emulator available? For Linux? Is a compiler available? Again, for Linux?

There's a development kit, it is programmed in C (or C++?) and compiled for that CPU. There's an emulator, made for Windows but runs great in Linux using Wine.

Cristian

Re: SAMBA flashing

*Message #8 Posted by **Tim Wessman** on 5 Aug 2011, 4:08 p.m.,*
in response to message #7 by Cristian Arezzini

Ask Gene Wright - cyrille or I don't ship out the cables anymore.

TW

Re: SAMBA flashing

*Message #9 Posted by **Lode** on 5 Aug 2011, 4:20 p.m.,*
in response to message #7 by Cristian Arezzini

Sounds cool. Virtualbox is quite a fragile program on my PC (for various reasons, such as being the only program which requires special babysitting everytime the kernel upgraded and me being dependent on an older version of it). So it sounds like a pain in the neck to program these HP calculators in Linux :(

Being able to program such devices with such nice keys, and learn some assembly for that kind of CPU, sounds like an interesting hobby project, so I'm pondering. All this windows emulation stuff seems, as I said before, a pain in the neck though, so it seems like it'd be an annoying hobby project.

These cables seem something really mysterious though :/ What do they cost? Gene Wright, are you here? :)

What standard do these cables use? Is it an open standard?

And again, why does only the serial port version, and not the USB variant, of these cables work with HP calculators?

Thanks!

Edited: 5 Aug 2011, 5:11 p.m. after one or more responses were posted

Re: SAMBA flashing

*Message #10 Posted by **gene wright** on 5 Aug 2011, 4:29 p.m.,*
in response to message #9 by Lode

Email me through the forum.

Include your email address.

Sadly, my retirement fund will not be appreciably increased by the handling of these cables. :-)

Re: SAMBA flashing

*Message #11 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 5:01 p.m.,*
in response to message #9 by Lode

The plug on the calculator side has connections for resetting the processor and for erasing the flash memory. This makes the cable so special. On the PC end it's a plain old serial connection. With a proper FTDI chip it would have been trivial for HP to support USB instead of RS232. I've made a USB connection through a cable available from FTDI (USB to TTL 3.3V) which works fine for serial connections but which does not provide a means to reset the calculator or to erase the flash. With the WP 34S firmware this works also for flashing but it assumes that the firmware is actually working because setting the SAM-BA boot bit is performed through software.

The WP 34S firmware is free, it's on wp34s.sf.net. It's not written in assembly language but in C. HP's firmware and the SDK is partly written in C++ and is based on an expensive toolkit by IAR. WP 34S is compiled with GCC. See yagarto.de for the package we are using.

Writing software for the device is relatively straight forward if you start with HP's SDK or with WP 34S as a basis. Starting from scratch may be fun but will take its time to get the hardware running. On the Atmel site are some base files to get the chip running.

Re: SAMBA flashing

*Message #12 Posted by **Katie Wasserman** on 5 Aug 2011, 5:19 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I've been able to flash using Win7 32-bit and SAMBA version 2.6. I have to try this with an FTDI converter but it works fine on my laptop that has a built-in serial port (even though it's a new core i5 machine).

SAMBA 2.6 seems to work the best of all the versions. It's no longer available on the Atmel site but I've got it here. You'll need install to the EXE and then copy the patch files in the ZIP into the correct folders.

Edited: 5 Aug 2011, 5:21 p.m.

Re: SAMBA flashing

*Message #13 Posted by **M. Joury** on 5 Aug 2011, 5:46 p.m.,*
in response to message #12 by Katie Wasserman

Thanks Katie, I'll give that SAMBA version a try on my Win 7 box.

Edited: 5 Aug 2011, 5:48 p.m.

Re: SAMBA flashing

*Message #14 Posted by **Andrés C. Rodríguez (Argentina)** on 5 Aug 2011, 5:14 p.m.,*
in response to message #1 by Lode

I was able to flash my HP-30B (now WP-34S) from my Windows 7 notebook (32 bit OS version), via an USB

port. I used a USB to RS232 converter made with an FTDI chip, and with SAM-BA 2.6. Current version of SAM-BA (2.10) doesn't work in my environment. I also used the special cable, contact Gene Wright about this item.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Not even a mention of the 41C

*Message #1 Posted by **Iqbal** on 5 Aug 2011, 2:44 p.m.*

http://whoknew.news.yahoo.com/?nc&vid=26149281

Re: Not even a mention of the 41C

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 3:00 p.m.,*
in response to message #1 by Iqbal

Neither of the HP 35.

Re: Not even a mention of the 41C

*Message #3 Posted by **Namir** on 5 Aug 2011, 3:20 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Both the HP-35 and the HP-65 are in the Smithsonian museum of technology.

Namir

Re: Not even a mention of the 41C

*Message #4 Posted by **Kiyoshi Akima** on 5 Aug 2011, 3:50 p.m.,*
in response to message #1 by Iqbal

Interesting that the blurb claims the "first calculator" was an upgrade from the "calculators then in use."

Re: Not even a mention of the 41C

*Message #5 Posted by **Frank Wales** on 6 Aug 2011, 10:30 a.m.,*
in response to message #1 by Iqbal

> Quote:
>
> http://whoknew.news.yahoo.com/?nc&vid=26149281

So, how can the Mark I have been "The World's First *Electronic* Calculator", when it wasn't an electronic calculator? It was an electro-mechanical calculator, as a glance through its operation manual clearly shows.

Unless the distinction between solid-state circuitry and gears and relays isn't important in defining the world's first "forerunner of all modern computers", of course.

In other news, Curtas Do Not Look Like That.

Re: Not even a mention of the 41C

*Message #6 Posted by **Dan W** on 6 Aug 2011, 4:35 p.m.,*
in response to message #5 by Frank Wales

> Quote:
>
> In other news, Curtas Do Not Look Like That.

So in a news story purporting to give us some interesting historical tidbits on early calculators, they photoshop a Curta to look like a grenade. And they present it as truth, never bothering to state it was, apparently, a joke.

Mainstream news is disgusting to me. Every story I see, which I have some detailed knowledge of (mainly aerospace or astronomy topics) has falsehoods that could easily be corrected if they cared.

I remember after this huge duststorm that hit Phoenix last month I decided to watch one of the alphabet national news shows to see what they had to say. In a story about 1 minute long there were 4 falsehoods. All of them designed to make it more extreme, unusual, and apocalyptic than it really was.

Re: Not even a mention of the 41C

*Message #7 Posted by **bill platt** on 6 Aug 2011, 8:44 p.m.,*
in response to message #6 by Dan W

Yep. It is true. They screw up all the time.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

the HP-65 required more from the user

*Message #1 Posted by **Don Shepherd** on 5 Aug 2011, 12:19 p.m.*

OK, let's discuss something other than a 15c reissue. That conversation is getting boring.

I've always found it interesting that the F^{-1} shift key on the HP-65 has no key legend present on (or next to) the actual key. HP obviously assumed that the HP-65 user would be astute enough to know about inverse or complementary functions. These are the actual F and F^{-1} functions on the 65, and none of the F^{-1} functions are labelled on the keyboard:

key	F	F^{-1}
-	SF1	CF1
+	TF1	TF1 not
x	SF2	CF2
/	TF2	TF2 not
7	LN	e^x
8	LOG	10^x
9	SQRT	x^2
4	SIN	ARCSIN
5	COS	ARCCOS
6	TAN	ARCTAN
1	R->P	P->R
2	D.MS+	D.MS-
3	->D.MS	->decimal
0	->OCT	->decimal
.	INT	FRAC

It seems that current calculator keyboards might be simplified if manufacturers assumed that users knew these things. But I guess that may not be true anymore.

Here's another interesting find in the HP-65 manual:

> Quote:
>
> As an additional feature, the "octal to decimal" conversion will accept non-octal arguments containing the digits 8 or 9. A non-octal number such as 998 will be interpreted as $(9x8^2) + (9x8) + 8 = 656$.

Wow! That's a "feature"?

Edited: 5 Aug 2011, 1:24 p.m. after one or more responses were posted

Re: the HP-65 required more from the user

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 12:45 p.m.,*
in response to message #1 by Don Shepherd

The HP 35 has an ARC key inverting the trig functions. The assumption that HP calculator users know about math is older then the 65. :-)

TI calculators used to have an INV key which works the same but without the implicit shift function as on the 65. On a TI-59 the RTN command is entered as INV SBR.

The downside of an INV or f^-1 key is that a generic additional shift offers more options for assigning functions to keys. In many cases, g acts as f^-1 on HP calculators for the functions/keys where it makes sense but not as a general rule. What is the inverse of |x|? The WP 34S maps RND to the blue shifted and |x| to the yellow shifted zero.

Re: the HP-65 required more from the user

*Message #3 Posted by **Dieter** on 5 Aug 2011, 1:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> TI calculators used to have an INV key which works the same but without the implicit shift function as on the 65.

Yes, the "2nd" key had to be pressed. And in LRN mode (i.e. during program entry) the sequence even had to be INV 2nd, not the other way round.

> Quote:
>
> What is the inverse of |x|?

That's easy: |x| makes the answer non-negative, so the inverse function makes it non-positive - like |x| CHS. #-)

Dieter

Re: the HP-65 required more from the user

*Message #4 Posted by **Thomas Radtke** on 5 Aug 2011, 1:11 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> TI calculators used to have an INV key which works the same but without the implicit shift function as on the 65.

You can even 'invert' a 'second' function on some TIs :-).

Re: the HP-65 required more from the user

*Message #5 Posted by **Dieter** on 5 Aug 2011, 1:02 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> OK, let's discuss something other than a 15c reissue. That conversation is getting boring.

Ah, great. :-)

> Quote:
>
> I've always found it interesting that the F^{-1} shift key on the HP-65 has no key legend present on (or next to) the actual key. HP obviously assumed that the HP-65 user would be astute enough to know about inverse or complementary functions.

This technique has been used by TI in various calculators. They had an INV key for similar purposes. On the one hand its use was quite obvious with functions like sin or lnx, on the other hand there were others where it was less so. For instance, on the 58/59 an INV SBR was a simple RTN, pressing INV List printed the data registers, and INV Mean returned ...the standard deviation. #-)

Today most sophisticated calculators offer more functions than even a keyboard with three prefix keys and an additional INV or F^{-1} can handle. That's why there are menus. The basic problem regarding the keyboard layout is the question which functions might go into a menu and which have to be accessed directly.

> Quote:
>
> Here's another interesting find in the HP-65 manual:
> ...
> Wow! That's a "feature"?

Well, I'd say accepting octal values with digits > 7 sounds more like a bug. But then - if it's documented this way, it's fine by me. ;-)

Dieter

Re: the HP-65 required more from the user

*Message #6 Posted by **Mike Morrow** on 5 Aug 2011, 1:37 p.m.,*
in response to message #5 by Dieter

> Quote:
>
> I'd say accepting octal values with digits > 7 sounds more like a bug. But then - if it's documented this way, it's fine by me. ;-)

That's obviously one of many examples in compute-world where a bug is "resolved" through documentation rather than by fixing the error.

Edited: 5 Aug 2011, 1:38 p.m.

Re: the HP-65 required more from the user

*Message #7 Posted by **Juergen Keller** on 5 Aug 2011, 1:47 p.m.,*
in response to message #5 by Dieter

> Quote:
>
> Today most sophisticated calculators offer more functions than even a keyboard with three prefix keys and an additional INV or F-1 can handle. That's why there are menus.

This was already the case with the HP-41. The solution was a fully customizable keyboard with overlays. I like this concept because each individual has its own preferences regarding key assignments. Together with

the extensibility via modules it was easy to create a fully customized calculator for special applications. That was a key feature why the HP-41 was so successful.

Re: the HP-65 required more from the user

*Message #8 Posted by **Ángel Martin** on 8 Aug 2011, 3:15 a.m.,*
in response to message #7 by Juergen Keller

I completely agree with Jürgen here on the 41 approach: it was a paradigm shift (pun intended), just compare the arguable cluttered 67's keyboard with three (no less!) shift keys to the unassuming simplicity of the 41: a deceiving impression of lack-of power for some, but a masterpiece in human factors design if you ask me.

I've taken the single SHIFT key concept to its full extent on the 41Z, with the "Z" key. Pressed once it "turns" the normal functions into their complex-mode equivalents (no need for key assignments but ZKBRD of course). Pressed twice it accesses the "secondary" complex keyboard (in red on the overlay).

Combining it with the standard SHIFT key produces more options, like "Z"-SHIFT accesses all the shifted-complex keyboard functions (in blue on the overlay), and then "Z", SHIFT, SHIFT goes to the "dedicated" function groups, like Hyperbolics, Multi-valued NEXT, and Bessel functions. A feast of options from within just a single (well, two) key(s).

Cheers, ÁM

Re: the HP-65 required more from the user

*Message #9 Posted by **Don Shepherd** on 8 Aug 2011, 4:22 a.m.,*
in response to message #8 by Ángel Martin

Good points Angel and Jurgen.

Re: the HP-65 required more from the user

*Message #10 Posted by **Michael de Estrada** on 5 Aug 2011, 1:07 p.m.,*
in response to message #1 by Don Shepherd

Corrections:

key_____ F_____ F-1

1_____ R->P_____ P->R

2_____ D.MS+_____ D.MS-

Anyways, I never found this system to be very convenient and never understood why HP adopted it, since all their other calcs, such as HP-55 and HP-67 use the f (yellow) and g (blue) shift convention with all the legends being shown. It doesn't really simplify anything, since it has the same number of keys and shifted keys as the HP-67. I imagine that's the reason HP abandoned it on subsequent models.

Interestingly, some non-HP calcs also use this system, such as the Mostek chip based RPN calcs (Corvus 500, Omron 12SR, APF Mark 55 etc.). I find that there is always a slight delay as my brain tries to remember what the inverse function is for one of the missing legends.

As to the octal "feature", I can only say wow ! That's pretty nerdy.

Edited: 5 Aug 2011, 1:12 p.m.

Re: the HP-65 required more from the user

*Message #11 Posted by **Don Shepherd** on 5 Aug 2011, 1:28 p.m.,*
in response to message #10 by Michael de Estrada

Thanks Michael, I changed the original per your note.

Yeah, that octal "feature", I can't imagine a valid use for such a thing. If you're going to convert octal to decimal, a non-octal digit in your input would be an error I would say, as Dieter pointed out.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Nonpareil stuck

*Message #1 Posted by **Arnaud Amiel** on 5 Aug 2011, 4:25 a.m.*

I am using nonpareil 0.77 on windows. All calculators work fine except the 45. Luckily I have the real one on my desk just next to me but on the nonpareil, the digits keep running like crazy, the exponents are stuck at 00 but the rest is just changing very quickly and randomly. Asking reset in the menu does not help in any ways. How can I get the 45 to work again?

Thanks for your help

Arnaud

Re: Nonpareil stuck

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 5:37 a.m.,*
in response to message #1 by Arnaud Amiel

Nonpareil with a broken ACT? ;-)

Re: Nonpareil stuck

*Message #3 Posted by **Mark Henderson** on 5 Aug 2011, 2:37 p.m.,*
in response to message #2 by Marcus von Cube, Germany

LOL!!!! That is hilarious!!!

Re: Nonpareil stuck

*Message #4 Posted by **Eric Smith** on 5 Aug 2011, 10:00 p.m.,*
in response to message #1 by Arnaud Amiel

I've never seen that, and don't have any idea what could cause it, other than if the ROM file for the 45 is corrupted.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hits awful close to home!

*Message #1 Posted by **Dave Shaffer (Arizona)** on 4 Aug 2011, 2:55 p.m.*

Found THIS while wandering around the web.

An appalling number of these apply to me, and I suspect a lot of others here. In particular, about 40% of the way down is an explicit reference to our favorite type of calculator, and the last couple are relevant to anybody who has an HP-01.

I suspect the above link will be around only for today, so I have put a copy at my site where it will reside for a while.

Re: Hits awful close to home!

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 4 Aug 2011, 3:13 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

A few weeks ago a friend sent me this:

The Knack

I agree, WAY too close to home!

Edit: Sorry wrong link. Now corrected...

Edited: 4 Aug 2011, 9:29 p.m.

Re: Hits awful close to home!

*Message #3 Posted by **bill platt** on 4 Aug 2011, 10:06 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Oh no. I am doomed.

I think this one has been around a while--"wristwatch" who wears them any longer? "450MHz Pentium"? So this dates to 1998? Still pretty much right on. Dilbert is still my hero!

Re: Hits awful close to home!

*Message #4 Posted by **mike reed** on 5 Aug 2011, 11:05 p.m.,*
in response to message #3 by bill platt

I actually did something very similar to the following:

An engineer comes home after work one day and his wife greets him and asks "i need something from the store, but I'm busy and can't go just now - would you mind going for me?"

"No problem" he replies, "What do you need?"

"I need a gallon of milk. If they have eggs get six."

He goes marketing and returns home about 45 minutes later, carrying 6 gallons of milk.

"Why the hell did you get 6 gallons of milk?" his incredulous wife demands.

He replies in confusion "They had eggs!"

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C LE: "Discontinued"

*Message #1 Posted by **Peter Murphy (Livermore)** on 4 Aug 2011, 10:29 a.m.*

"We're sorry, but this product is no longer available."

<http://www.digitalspyders.com/store/office-machines-supplies/business-machines/calculators/hewlettpackard-calculators-nw250aaaba-p-725880.html>

Re: HP 15C LE: "Discontinued"

*Message #2 Posted by **Thomas Radtke** on 4 Aug 2011, 10:40 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

The whole stock of zero calculators has been sold infinitely fast. Empty stock in no time - congratulations.

Re: HP 15C LE: "Discontinued"

*Message #3 Posted by **Borja** on 4 Aug 2011, 12:28 p.m.,*
in response to message #2 by Thomas Radtke

I would pay to know what are HP saying if they have learned of the avalanche of preorders :)

I'm quite sure they didn't expect it.

Re: HP 15C LE: "Discontinued"

*Message #4 Posted by **Glenn Dowdy** on 4 Aug 2011, 1:17 p.m.,*
in response to message #3 by Borja

> Quote:
>
> I would pay to know what are HP saying if they have learned of the avalanche of preorders :)
>
> I'm quite sure they didn't expect it.

How much would you pay? The "avalanche" of pre-orders hasn't/won't affect any plans for HP.

Re: HP 15C LE: "Discontinued"

*Message #5 Posted by **Norman Dziedzic** on 4 Aug 2011, 3:02 p.m.,*
in response to message #3 by Borja

There has definitely been a breakdown somewhere in the system. Whether it is at HP or the distributors who listed the hardware or both of them, something went awry.

Given the current situation, I can't imagine why HP does not make a statement to clear up the confusion and let some of it's most loyal calculator users know what is going on. I can see absolutely no down side for HP to be straight and honest with the few 1000 (maybe optimistic here...) people on this forum as to the status of the illusive 15C LE. Unless, of course, they mean go all Oprah and surprise us with our own free calculator (see, this is how rumors get started).

Mistakes happen all the time. Owning up to them and being open an honest with your customers is the only upstanding way to deal with them. Do they think that if they tell us good news or bad news that it will change the sales of the 15C LE (or anything other calculator for that matter)? I mean it's not like TI or Casio or anyone else is going to beat them or surprise the market by releasing their own landscape, RPN scientific calculator.

I urge Mr Wessman to make an "official" HP statement regarding the appearance and disappearance of the 15C LE calculator at HP internet distributors. I believe after this debacle that HP does owe it to it's loyal customers and fans. My customer's would expect nothing less of my and my company and I expect no less from HP.

[I will now return to the idealistic world I came from ;-)]

Edited: 4 Aug 2011, 3:03 p.m.

Re: HP 15C LE: "Discontinued"

*Message #6 Posted by **Eric Smith** on 4 Aug 2011, 3:28 p.m.,*
in response to message #5 by Norman Dziedzic

You're completely missing the point. From HP's point of view there definitely is a downside to talking publicly about unannounced products, and there is not enough upside to making a statement here for it to be worthwhile, since any statement they make here is definitely public. Expecting a public statement about this is absurd.

So something went slightly awry? So what? Things go awry all the time. HP hasn't done anything seriously wrong, i.e., anything that has caused harm to their customers. It's not like they absconded with your money. It's arguable that they haven't done anything even slightly wrong.

If you have actually already placed an order with an HP reseller, it is a matter between you and that reseller. They will most likely give you a choice between keeping the order active pending a product announcement, or cancelling the order.

Re: HP 15C LE: "Discontinued"

*Message #7 Posted by **Norman Dziedzic** on 4 Aug 2011, 4:11 p.m.,*
in response to message #6 by Eric Smith

I guess I will respectfully agree to disagree with you. This is so small in the scope of hp I bet the entire production of a 15c LE would be eclipsed by a week or maybe a day of inkjet cart. sales.

I believe no matter what they say or don't say, if the calc is real sales figures will be the same.

Since you didn't state an example of a negative repercussion of letting us know (at least at a very simplistic level) what is going on, I still cannot see a down side. Upside to me is building trust with a customer base.

Regarding Pre-orders, luckily I am a procrastinator and have not place an order.

Re: HP 15C LE: "Discontinued"

*Message #8 Posted by **Thomas Radtke** on 4 Aug 2011, 4:43 p.m.,*
in response to message #7 by Norman Dziedzic

Shareholders might take an overeager webmaster at HP as a sign of a coming profit collapse, so better be silent! ;-)

Re: HP 15C LE: "Discontinued"

*Message #9 Posted by **Eric Smith** on 4 Aug 2011, 5:31 p.m.,*
in response to message #7 by Norman Dziedzic

> Quote:
>
> you didn't state an example of a negative repercussion of letting us know

The same reasons most companies NEVER talk about unannounced products.

One reason, but certainly not the only one or even the most important one, is the Osborne Effect.

The most important reasons have to do with legal liability, and I'm not qualified to give legal advice.

> Quote:
>
> Upside to me is building trust with a customer base.

With you and the maybe two other "customers" who feel slighted? That's a totally insignificant upside for HP. Frankly, they don't care whether you and those two other people never buy another HP product again as long as you live; in fact, they might see THAT as an upside. They didn't do anything to harm you, and they certainly are not going to apologize for not harming you, or explain how it came to pass that they did whatever it was that didn't harm you.

Disagree all you want, but I'd gladly wager on HP's continued silence on this matter. If you really feel so strongly that HP owes you something, you should write to their CEO, rather than complaining here.

Of course, this is all my opinion, and I don't work for or speak for HP.

Re: HP 15C LE: "Discontinued"

*Message #10 Posted by **Norman Dziedzic** on 4 Aug 2011, 8:45 p.m.,*
in response to message #9 by Eric Smith

Thank you for the link to the Osborne Effect. It was interesting reading.

You are right that I should have directed my request to HP in general and not any individual.

Tim, I apologize for using your name in my rant.

Legal issues are everywhere I suppose. I don't even pretend to understand most of them.

I do think more than 2 people are concerned, excited, frustrated etc at the prospect of a new 15C but your underexageration perhaps matches my overexageration that there might be 1000 people looking at this forum.

I guess big business is a lot different than the small business I am involved in on a daily basis. Following your comments, shame on me for thinking a big business could care about their customers. But I have to believe that a big business still is a bunch of individuals who want to take pride in their jobs and the products they make and sell. I do think that the people in the calculator group care. Their rules and laws obviously prevent them from reacting to one geek's rant but that doesn't mean they don't care to me.

Re: HP 15C LE: "Discontinued"

*Message #11 Posted by **gene wright** on 4 Aug 2011, 8:49 p.m.,*
in response to message #10 by Norman Dziedzic

1) Legal issues cannot be minimized. People in general are nuts. Companies must take that into account.

2) The Osborne effect is real. Suppose HP announced today that next June they would ship the HP 67CXi for $29. If that showed up in the paper, how many calculators would people buy in the meantime?

Re: HP 15C LE: "Discontinued"

*Message #12 Posted by **Michael de Estrada** on 4 Aug 2011, 9:20 p.m.,*
in response to message #11 by gene wright

> Quote:
>
> The Osborne effect is real. Suppose HP announced today that next June they would ship the HP 67CXi for $29. If that showed up in the paper, how many calculators would people buy in the meantime?

But last I checked the year is 2011, not 1982. How is this relevant to the current discussion? What current product would we consumers stop buying if they made the HP 15C LE announcement now? The 15C LE is a grain of sand in the HP financial ocean. Personally, I don't care whether they announce it now or later, just as long as they actually produce one within my lifetime and I am able to buy one without having to get a second mortgage on my home.

Re: HP 15C LE: "Discontinued"

*Message #13 Posted by **gene wright** on 4 Aug 2011, 10:49 p.m.,*
in response to message #12 by Michael de Estrada

Companies learned through things like the Osborne effect that if you pre-announce products, people quit buying existing products. Period. Obviously, existing practice by companies around the world confirm what Eric and I are talking about.

This doesn't even cover the legal aspects of announcing products in advance. That can lead to all sorts of legal problems. If you don't know what those are, then please don't be so quick to dismiss these real concerns.

The only times companies announce products in advance are:

1) When they want to stifle a competitor. By announcing Product XYZ, perhaps our competition will give up.

or

2) When they do not have a similar product from which sales will be taken away.

Suppose Company A, let's call them, makes tablet computers. It is selling pretty well but they decide "Let's announce that we are introducing an improved model at 1/2 the cost with 10X the features in 3 months!"

What happens to sales once that is on cnn.com and all over the web?

I'm with Eric. Should be intuitively obvious to all.

Edited: 4 Aug 2011, 11:07 p.m.

Re: HP 15C LE: "Discontinued"

*Message #14 Posted by **Michael de Estrada** on 5 Aug 2011, 12:44 a.m., in response to message #13 by gene wright*

I guess I'm not intuitive, because it's not obvious to me. Also, I don't subscribe to the notion that people in general are nuts.

Re: HP 15C LE: "Discontinued"

*Message #15 Posted by **gene wright** on 5 Aug 2011, 8:39 a.m., in response to message #14 by Michael de Estrada*

Maybe that's why Apple is so open about their future product plan? After all, they have nothing at all to lose by revealing what they will begin selling in 2 months. It won't affect customer purchases at all.

Given our un-litigious society, no companies are ever sued for vaporware products or for having products that in any way don't live up to hype or leaked information.

And, yes, you may not be intuitive or at least, you may not have been exposed to a business environment.

Those who have been exposed, who have been sued, who have seen sales dry up for current products because customers are waiting for future ones, see things differently.

Re: HP 15C LE: "Discontinued"

*Message #16 Posted by **Michael de Estrada** on 5 Aug 2011, 8:51 a.m.,*

in response to message #15 by gene wright

This all sounds pretty paranoid and bitter to me. Well, time for me to crawl back under the rock where I've been living all my life.

Re: HP 15C LE: "Discontinued"

*Message #17 Posted by **Howard Owen** on 5 Aug 2011, 10:40 a.m.,*
in response to message #16 by Michael de Estrada

Bitter, maybe, but regrettably not paranoid.

Re: HP 15C LE: "Discontinued"

*Message #18 Posted by **gene wright** on 5 Aug 2011, 11:11 a.m.,*
in response to message #17 by Howard Owen

Eh, not particularly bitter, as this situation or similar situations have not affected me personally, but lawsuits happen all the time to companies for all sorts of reasons, and that is a valid corporate concern.

Re: HP 15C LE: "Discontinued"

*Message #19 Posted by **Howard Owen** on 5 Aug 2011, 3:23 p.m.,*
in response to message #18 by gene wright

Well, I'm kind of bitter about it, in a "what has the world come to" kind of way. I try not to let such things dominate my days though. :)

Re: HP 15C LE: "Discontinued"

*Message #20 Posted by **Paul Guertin** on 5 Aug 2011, 12:43 p.m.,*
in response to message #16 by Michael de Estrada

To twist Gene's words:

Companies in general are nuts. People must take that into account.

Re: HP 15C LE: "Discontinued"

*Message #21 Posted by **Thomas Radtke** on 5 Aug 2011, 1:34 a.m.,*
in response to message #13 by gene wright

Hi Geen!

> Quote:
>
> Companies learned through things like the Osborne effect that if you pre-announce products, people quit buying

> existing products. Period. Obviously, existing practice by companies around the world confirm what Eric and I are talking about.

It may be overlooked here, even by the original poster, that this thread was not about forcing a pre-announcment. Actually HP already did that indirectly and additional forces came into play (still not customers).

So, things are different because the prospect of a new 15C was given with the first 15C LE sighting.

I further didn't took the original post as rant or intended to get an 'apologize', but maybe I'm wrong.

Last not least: HP might not care, as the calculator market likely is next to nothing in HPs revenues, but the 15C LE won't touch current sales of other calculators, and I'm sure you agree with me here. There's no product to replace with it. It's a gesture maybe, or something to enter the retro-market, don't know. And it just looks wrong how things developed and HP could correct that.

Before Eric gets a heart attack: I request *nothing*, I'm just stating what I think (we had this discussion in another thread, and I got the impression Eric's all over me just because I find it *reasonable* for HP to comment the situation).

Thanks.

Re: HP 15C LE: "Discontinued"

*Message #22 Posted by **Eric Smith** on 5 Aug 2011, 1:51 a.m.,*
in response to message #21 by Thomas Radtke

I wasn't intending to jump all over anyone, and I'm sorry if it seemed that way. I've only been trying to explain why I think that anyone who expected or requested HP to publicly clarify anything regarding the appearance of an officially unannounced calculator on some web sites (including HP's) will be disappointed.

Edited: 5 Aug 2011, 1:52 a.m.

Re: HP 15C LE: "Discontinued"

*Message #23 Posted by **Howard Owen** on 5 Aug 2011, 4:40 p.m.,*
in response to message #21 by Thomas Radtke

> Quote:
>
> It may be overlooked here, even by the original poster, that this thread was not about forcing a pre-announcment.

Absolutely true. Peter merely noted another dealer drawing its horns in, and you posted an amusing divide-by-zero joke. (Which I much appreciated :)

> Quote:
>
> I further didn't took the original post as rant or intended to get an 'apologize', but maybe I'm wrong.

Also clearly true. There has been a sort of meta-thread running through these discussions regarding HP's product launch and it popped up here.

Le HP 15C: "Finis"

*Message #24 Posted by **Namir** on 5 Aug 2011, 10:18 a.m.,*
in response to message #13 by gene wright

Gene,

I am with you buddy. But how does the HP-15 LE (or LE HP-15C if you like French ... :-)) will compete with current calculates, like the HP-35S and HP-33S??? The HP-15C mainly and exclusively appeals to nostalgic users, that's all. I really don't see how a young college student who MIGHT think of getting a new HP-35S will ditch his plans to get that machine, in favor of Le HP-15C (pun intended here).

:-)

Namir

Edited: 5 Aug 2011, 10:19 a.m.

Re: Le HP 15C: "Finis"

*Message #25 Posted by **Michael de Estrada** on 5 Aug 2011, 10:46 a.m.,*
in response to message #24 by Namir

That's the point I was attempting to make, but I think it was lost somewhere in translation from English to English.

Re: Le HP 15C: "Finis"

*Message #26 Posted by **Walter B** on 5 Aug 2011, 11:28 a.m.,*
in response to message #25 by Michael de Estrada

> Quote:
>
> I really don't see how a young college student who MIGHT think of getting a new HP-35S will ditch his plans to get that machine, in favor of Le HP-15C

Maybe for the reason the HP-15C is properly designed, can handle P<>R conveniently, and has a smaller footprint? But I admit it's just an old calculator (though a quite good one) featuring an old fashioned display :-/

Ceterum censeo ...

Walter

Edited: 5 Aug 2011, 6:37 p.m.

Re: Le HP 15C: "Finis"

*Message #27 Posted by **gene wright** on 5 Aug 2011, 10:56 a.m.,*
in response to message #24 by Namir

It is a general thing.

HP corporate simply has policies, like ALL large companies will, that they do not announce future products for the reasons given in a separate post.

If a leak of a possible future product comes out, they will certainly not confirm or deny such a leak because it would go against those policies. To expect otherwise is not aware of the business world.

Again, why do companies not just tell the world what they are going to sell next year or next month?

1) Legal implications

and

2) Sales Erosion

and

3) Corporate policies put in place because of risks from #1 and #2.

There may or may not be a future product actually coming out. If it were coming out, there may or may not be any sales erosion.

However, point #3 above has been put into place in almost every large publicly traded company because of #1 and #2 having happened to them or to other companies previously.

Regarding my earlier statement about people in general being "nuts", my observation is based upon the speed with which lawsuits are brought because someone buys "hot coffee" and then burns their mouth when they drink it without seeing how hot it is first, etc.

Re: Le HP 15C: "Finis"

*Message #28 Posted by **Namir** on 5 Aug 2011, 2:17 p.m.,*
in response to message #27 by gene wright

Gene,

I am certainly in agreement with you about the rights of corporations to keep matters under wrap, until the right moment arrives for a product launch. It just that the HP15-C LE is a

"nostalgic" product and not one with cutting edge technology (such as color graphing CAS calculators). It's like AT&T or Verizon relaunches an old rotary land-line phone. A product like this will not interfere with the sales of digital mobile phones.

Namir

Edited: 5 Aug 2011, 2:17 p.m.

Re: Le HP 15C: "Finis"

*Message #29 Posted by **Howard Owen** on 5 Aug 2011, 4:27 p.m.,*
in response to message #28 by Namir

Let's assume HP actually wants to sell 10K units. Perhaps they have found a way to realize a long cherished dream of this community without losing too much money. (Actually, I suspect they have a plan to make a modest amount off the product.) How can we possibly bitch at them for trying to execute a normal product release?

THEY ARE BRINGING BACK THE 15C FOR CRYIN' OUT LOUD!

IF HP's apparent foul up reduces the impact they wanted to achieve with the 15C LE product launch, I think that's regrettable. Anything that tends to hurt their chances at meeting their bottom line expectations means they'll be less likely to throw such juicy bones to this community in the future.

Re: Le HP 15C: "Finis"

*Message #30 Posted by **Jean-Michel** on 5 Aug 2011, 3:58 p.m.,*
in response to message #24 by Namir

Bonjour Namir

In French we would rather say "HP-15C EL", where EL would stand for Édition Limitée. But for the moment, we don't say anything. We wait...and hope to see! Interesting thread. Thank you guys for sharing. Amicalement.

Re: Le HP 15C: "Finis"

*Message #31 Posted by **Namir** on 5 Aug 2011, 8:08 p.m.,*
in response to message #30 by Jean-Michel

Jean-Michel,

I was just playing with words. I remember in the 80s, the Renault 5 was sold in the US as "Le Car" ... so I took my queue from that by saying "Le HP-15C".

Namir

Re: Le HP 15C: "Finis"

*Message #32 Posted by **Geoff Quickfall** on 5 Aug 2011, 8:18 p.m.,*
in response to message #31 by Namir

in the airplane we have a switch and indicators labelled:

```
LE FLAPS
LE SLATS
```

I always thought it was french for 'the flaps and the slats"

but it isn't ;-)

```
leading edge flaps
leading edge slats
```

;-]

Re: Le HP 15C: "Finis"

*Message #33 Posted by **Namir** on 5 Aug 2011, 10:08 p.m.,*
in response to message #32 by Geoff Quickfall

Hold on Geoff! Maybe the airplane was made in France?

Re: Le HP 15C: "Finis"

*Message #34 Posted by **Geoff Quickfall** on 5 Aug 2011, 11:31 p.m.,*
in response to message #33 by Namir

if it ain't Boeing, I ain't going!

;-)

Re: Le HP 15C: "Finis"

*Message #35 Posted by **Namir** on 6 Aug 2011, 9:48 a.m.,*
in response to message #34 by Geoff Quickfall

I hear you. But the name "Boing" itself makes me nervous. Does it describe the LANDING sound their first airplane made?? I can imagine it now. The prototype lands bouncing and making a succession of "boing" noises!!! This might answer the general question "What's in a name?"

Maybe the airplane should have been named VAROOM or WOOSH .... sounds more confidence inspiring. I can see it now ... The Woosh Jumbo 747 ...

:-)

Namir

Edited: 6 Aug 2011, 9:50 a.m.

Re: Le HP 15C: "Finis"

*Message #36 Posted by **Walter B** on 6 Aug 2011, 10:08 a.m.,*
in response to message #35 by Namir

> Quote:
>
> Maybe the airplane should have been named VAROOM or WOOSH .... sounds more confidence inspiring.

Wasn't there a planet called VAROOM in The Hitchhiker's Guide to the Galaxy? This particular word doesn't inspire confidence in my ears at least ;-)

OTOH, I've got a "Boing" flyer in my family, but landing more like WOOSH so far :-)

Re: Le HP 15C: "Finis"

*Message #37 Posted by **John B. Smitherman** on 6 Aug 2011, 11:36 a.m.,*
in response to message #34 by Geoff Quickfall

> Quote:
>
> if it ain't Boeing, I ain't going!
>
> ;-)

What's wrong with Airbus? Are you apprehensive about flying an airplane designed and made by a committee? ;-)

John

Re: Le HP 15C: "Finis"

*Message #38 Posted by **George Litauszky** on 6 Aug 2011, 12:22 p.m.,*
in response to message #37 by John B. Smitherman

If you move the yoke (rod control), the committee get together to discuss: Maybe your request is achievable? ;)

Edited: 6 Aug 2011, 12:27 p.m.

Re: Le HP 15C: "Finis"

*Message #39 Posted by **Geoff Quickfall** on 6 Aug 2011, 2:11 p.m.,*
in response to message #37 by John B. Smitherman

Tongue in cheek:

```
1. it is called a bus!
2. maintenance require a glue gun.
3. maintenance must know where the
reset button is.


statements over heard on the flight
deck:



trainee airbus pilot:  "Now what is it
doing?"


oldtimer airbus pilot 1: "Oh look, it
is doing it again!"
```

Cheers, Geoff

Re: HP 15C LE: "Discontinued"

*Message #40 Posted by **Les Bell** on 5 Aug 2011, 3:16 a.m.,*
in response to message #11 by gene wright

> Quote:
>
> 1) Legal issues cannot be minimized. People in general are nuts. Companies must take that into account.

A tad cynical, Gene. People in general are pretty decent and constructive - just look at the community that exists around HP calculators. However, it only takes one or two nuts to cause a problem for a company, so your point is still correct.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 15C LE: "Discontinued"

*Message #41 Posted by **hpnut** on 5 Aug 2011, 6:44 a.m.,*
in response to message #40 by Les Bell

Two nuts in this forum are myself and designnut (Sam). We "met" in this forum and Sam has been very generous to me. he has helped me a lot. so has others (not nutters) such as Cyrille and Tim Wessman.

hpnut in Malaysia

Re: HP 15C LE: "Discontinued"

*Message #42 Posted by **Glenn Dowdy** on 5 Aug 2011, 10:54 a.m.,*
in response to message #41 by hpnut

> Quote:
>
> Two nuts in this forum are myself and designnut (Sam). We "met" in this forum and Sam has been very generous to me. he has helped me a lot. so has others (not nutters) such as Cyrille and Tim Wessman.
>
> hpnut in Malaysia

Having worked with Cyrille and Tim...

Re: HP 15C LE: "Discontinued"

*Message #43 Posted by **Reth** on 5 Aug 2011, 5:07 a.m.,*
in response to message #11 by gene wright

> Quote:
>
> People in general are nuts.

Which is the basis of the democracy, right?

Re: HP 15C LE: "Discontinued"

*Message #44 Posted by **Eric Smith** on 4 Aug 2011, 9:11 p.m.,*
in response to message #10 by Norman Dziedzic

Large companies do care about their customers, as a large collection of people. However, they don't have the resources to care about the obscure concerns of a very small number of potential customers. I could be wrong, but it seems to me that only a small fraction of the people participating in this forum think that HP did anything in this case that would require them to issue any public statement.

If a single customer had a concern about something that was of potential concern to a large number of customers, there would be a reasonable chance that they would do something. It's been known to happen in the past. But that's not the case here. Only a handful of people are upset about some information that leaked out about a product that may or may not be in development. That's not something that concerns a large number of customers.

Again, this is just my opinion.

Edited: 5 Aug 2011, 12:09 p.m. after one or more responses were posted

Re: HP 15C LE: "Discontinued"

*Message #45 Posted by **DaveJ** on 5 Aug 2011, 12:23 a.m.,*
in response to message #44 by Eric Smith

> Quote:
>
> If a single customer had a concern about something that was of potential concern to a large number of customers, there would be a reasonable change that they would do something. It's been known to happen in the past. But that's not the case here.

Correct. There is nothing HP need to do in this case, there is no crisis to solve or anything to answer, so they will say nothing.

As part of my video blog I have caused a great deal of "PR nightmare" to companies like Agilent (formally HP), Microchip, Fluke, Extech, and Telstra. And all of them have responded to the issue raised publicly in record time. But ONLY because they saw it as a huge deal and a potential PR disaster for them. And it helps that companies are paranoid about social media issues these days ;-) Microchip thought an issue I raised was such a big deal, the CEO called me up personally to apologise and set the record straight.

Dave.

Re: HP 15C LE: "Discontinued"

*Message #46 Posted by **DaveJ** on 5 Aug 2011, 12:13 a.m.,*
in response to message #10 by Norman Dziedzic

I'm siding with Eric on this one too.

The reason companies don't make statements like this are many, but it basically comes down to risk and company procedure. For reasons that are probably many and complex, which almost certainly have nothing at all to do with the calculator division. Tim or another calc division employee wouldn't be stupid enough to make a statement without getting it cleared from "higher up". And can you imagine them trying to get approval to say something on the companies behalf on a calc forum? If you think that would be easy, then you haven't worked in such an industry or big company. The answer is ALWAYS no.

You want a downside scenario? Ok. How about HP make a statement announcing the product and date to appease a few calc nerds. Excellent. All the re-sellers start taking pre-orders again all is right with the world. Then something goes wrong, horribly wrong, and they can't deliver, for a long time (or maybe not at all?) for any one of a dozen reasons I could easily envision.

Oops, the proverbial has hit the fan. HP get a bad rep, re-sellers get pissed off, and maybe even legal problems somewhere along the line...

All that risk to satisfy a few calc nerds on a forum? I don't blame them for keeping their mouth shut.

Dave.

Re: HP 15C LE: "Discontinued"

*Message #47 Posted by **Forrest Switzer** on 4 Aug 2011, 10:54 p.m.,*
in response to message #9 by Eric Smith

The past couple of weeks shows me no upside from HP. It demonstrates to me just how screwed up HP is. They cant even manage a release or rumor of a release. It is amazing they can find their way to work in the morning.

Re: HP 15C LE: "Discontinued"

*Message #48 Posted by **Tim Wessman** on 4 Aug 2011, 11:42 p.m.,*
in response to message #47 by Forrest Switzer

I don't. My wife has to drop me off. :-)

TW

Re: HP 15C LE: "Discontinued"

*Message #49 Posted by **Forrest Switzer** on 5 Aug 2011, 12:05 a.m.,*
in response to message #48 by Tim Wessman

:-)

Re: HP 15C LE: "Discontinued"

*Message #50 Posted by **DaveJ** on 5 Aug 2011, 12:30 a.m.,*
in response to message #47 by Forrest Switzer

> Quote:
>
> The past couple of weeks shows me no upside from HP. It demonstrates to me just how screwed up HP is. They cant even manage a release or rumor of a release.

I wouldn't be too harsh. This kind of thing happens all the time to huge companies like this with countless websites in countless countries, countless resellers, and embargoed press releases going out to all and sundry. Things slip out easily.

As a product reviewer who often gets products to review before release under an embargo, I see info slip out like this all the time.

Dave.

Re: HP 15C LE: "Discontinued"

*Message #51 Posted by **Forrest Switzer** on 5 Aug 2011, 1:20 a.m.,*
in response to message #50 by DaveJ

I work in an Engineering Company with over 260 international offices, and over 15,000 employees. You certainly will not see something on our own web site, that hasn't been clearted by multiple levels of management. I can see things happening by mistake at outside retailers, but not for more than a couple of hours, without HP putting a stop to it. HP had to understand what was happening almost instantly. Is there no one in their own sales department that has a clue about when, and what, gets released. This went on for days.

We have talked before about the crazy things that happen in HP sales. Where

they don't know what they are selling. We have also talked before about goofy things at their web site. Releases without supporting documents, etc.

Unfortunately this all seems to me to point to a total lack of support and/or concern about their calculator business. If it isn't an embarrasement to HP, then that is even a worse sign.

And, Tim - you know that none of my rant applies to any participant (or former) in this forum. You guys are great.

Forrest

Re: HP 15C LE: "Discontinued"

*Message #52 Posted by **Thomas Radtke** on 5 Aug 2011, 1:44 a.m.,*
in response to message #51 by Forrest Switzer

> Quote:
>
> Unfortunately this all seems to me to point to a total lack of support and/or concern about their calculator business. If it isn't an embarrasement to HP, then that is even a worse sign.

Exactly.

To name an upside for breaking the silence *in this case*: It's just good PR :-).

Re: HP 15C LE: "Discontinued"

*Message #53 Posted by **Reth** on 5 Aug 2011, 5:13 a.m.,*
in response to message #51 by Forrest Switzer

Can't agree more or say it better!

Re: HP 15C LE: "Discontinued"

*Message #54 Posted by **NateB** on 5 Aug 2011, 9:01 a.m.,*
in response to message #51 by Forrest Switzer

The link to the PDF spec sheet for the 12c 30th Anniversary Editon is still on the HP site, and that product has yet to be announced.

Who knows what HP thinks about their calculator business. I find it amazing that in the last year or so HP calc enthusiasts have developed/released more HP calculator products than HP has.

Re: HP 15C LE: "Discontinued"

*Message #55 Posted by **sylvandb** on 5 Aug 2011, 4:54 p.m.,*
in response to message #51 by Forrest Switzer

> Quote:
>
> I work in an Engineering Company with over 260 international

offices, and over 15,000 employees.

15,000 employees? Let us know when your company outgrows t-ball. Seriously. That's like a 1 year old trying to play in the majors with the 20-somethings. Multiply your employee count by 20+ to get into the ballpark of HP.

Checked out how many employees HP has lately? (well over 300,000 last I checked, and even more than 15,000 contract/temp employees)

Checked out how many levels of management? And how many were added by the previous two CEOs while claiming to "flatten" the organization and "increase the span of control" ? (While I was there it went from 6 to 9 levels between the CEO and I, and neither of us changed our placements on the org chart.)

More people means each individual's span of control is reduced, and more levels of management means more working up the chain on your end and down the chain on the other end to get to someone who can do what needs to be done. It never happens quickly, especially for unusual things like "unpublish those pages".

Calculators are almost insignificant to HP. They can't "wag the dog" because calculators aren't even big enough to be noticed by the tail. That means limited special requests, and definitely minimal leverage to try and change corporate policy and practice.

I would bet that everything published on the HP page was approved by many levels of management.

I would also bet that HP employees are people and sometimes make mistakes which can cascade thru many levels before being caught, and the more levels it passes the harder it is to fix.

Finally, don't forget that when there are so many people involved, the people that know (the calculator folk) are not allowed and are not able to touch the websites, and the people that touch the websites don't know (calculator products and schedules). It makes it aggravatingly difficult to do anything off the typical production path, like clean up after the mistaken publication of an unreleased product.

Re: HP 15C LE: "Discontinued"

*Message #56 Posted by **Martin Pinckney** on 5 Aug 2011, 5:11 p.m.,*
in response to message #55 by sylvandb

Size should not be an excuse for stupidity, but I suppose it has become one. Or perhaps complexity is the excuse.

But one wonders what all those 300,000 people *do*, since HP doesn't actually make anything any more.

Re: HP 15C LE: "Discontinued"

*Message #57 Posted by **Michael de Estrada** on 5 Aug 2011, 5:49 p.m.,*
in response to message #56 by Martin Pinckney

> Quote:
>
> But one wonders what all those 300,000 people do, since HP doesn't actually make anything any more.

They're all in sales and accounting.

Re: HP 15C LE: "Discontinued"

*Message #58 Posted by **Miguel Toro** on 4 Aug 2011, 11:19 p.m.,*
in response to message #6 by Eric Smith

Hi,

What I do not understand is that while the LE is not officially announced, it is listed , though. Should this not be considered an official statement? So, if HP does not even bother to remove the page, why are people in the company not allowed to discuse about it? HP is already doing so, I think.

Miguel

Re: HP 15C LE: "Discontinued"

*Message #59 Posted by **Michael de Estrada** on 5 Aug 2011, 1:13 a.m.,*
in response to message #58 by Miguel Toro

It's not on the regular HP calculator page though. Note that it's "www8.hp.com" and not "www.hp.com"

Re: HP 15C LE: "Discontinued"

*Message #60 Posted by **Miguel Toro** on 5 Aug 2011, 8:58 a.m.,*
in response to message #59 by Michael de Estrada

Michael, the regular HP pages are :

http://www8.hp.com/us/en/home.html, for US

http://www8.hp.com/ca/en/home.html, for Canada

Re: HP 15C LE: "Discontinued"

*Message #61 Posted by **Michael de Estrada** on 5 Aug 2011, 10:00 a.m.,*
in response to message #60 by Miguel Toro

We must live in parallel universes. This is what I find:

http://www.hp.com/country/us/en/prodserv/calculator.html

Re: HP 15C LE: "Discontinued"

*Message #62 Posted by **Miguel Toro** on 5 Aug 2011, 10:33 a.m.,*
in response to message #61 by Michael de Estrada

May be :-), you can try the addresses I gave, so you can enter mine.

The point being that the information is published in an HP web server, accessible freely by anyone and with even a Facebook "like" button, and it has not been removed. So, this item exists, i suppose it will be probably sold some time in the future and it is a nice thing from HP.

Edited: 5 Aug 2011, 10:45 a.m.

Re: HP 15C LE: "Discontinued"

*Message #63 Posted by **Don Shepherd** on 5 Aug 2011, 11:31 a.m.,*
in response to message #60 by Miguel Toro

Who's to say that "www8.hp....." really belongs to HP? I'm sure "www.hp..." does, but it seems like I read somewhere that people could begin making up their own domain names, and maybe someone did to see all the brouhaha that would result here from the 15c reissue.

Personally, I don't see the appeal.

Re: HP 15C LE: "Discontinued"

*Message #64 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 12:33 p.m.,*
in response to message #63 by Don Shepherd

www8.hp.com *is* HP because hp.com is HP. To fake a sub-domain you need access to the respective DNS server for that domain. www8 is just one of the many servers which are necessary to carry and deliver all the info HP is willing to share over the Net. www.hp.com is the central portal which redirects most of the requests to the other servers.

Re: HP 15C LE: "Discontinued"

*Message #65 Posted by **Jandro Kirkish** on 5 Aug 2011, 5:58 p.m.,*
in response to message #63 by Don Shepherd

Whois www8.hp.com:

Registrant: Domain Administrator Hewlett-Packard Company 3000 Hanover St. Palo Alto CA 94304 US hp.domains@hp.com +1.8005247638 Fax: +1.6508522936

Domain Name: hp.com

Registrar Name: Markmonitor.com Registrar Whois: whois.markmonitor.com Registrar Homepage: http://www.markmonitor.com

Administrative Contact: Domain Administrator Hewlett-Packard Company 3000 Hanover St. Palo Alto CA 94304 US

Re: HP 15C LE: "Discontinued"

*Message #66 Posted by **Les Bell** on 5 Aug 2011, 8:44 p.m.,*
in response to message #63 by Don Shepherd

"www8" is just one host in a web server farm. You see the same thing if you visit IBM's web site and browser around - within a click or two you're on www-304.ibm.com or similar. Any sufficiently complex web site is distributed across multiple servers to support different applications, not to mention scalability and reliability.

And that host name is definitely in the hp.com domain, under HP's control.

Best,

--- Les
[[http://www.lesbell.com.au]]

Re: HP 15C LE: "Discontinued"

*Message #67 Posted by **Don Shepherd** on 6 Aug 2011, 2:51 a.m.,*
in response to message #66 by Les Bell

Thanks Les (and Marcus and Jandro). I had never seen the www8 URL before, so I thought maybe it was non-legit.

Don

Re: HP 15C LE: "Discontinued"

*Message #68 Posted by **Howard Owen** on 4 Aug 2011, 4:45 p.m.,*
in response to message #5 by Norman Dziedzic

We certainly have been damaged! Our lust for the 15C has not been satisfied, nor quenched in the cold reality of an official denial that any such machine was planned. Many of us, who have pined after a reissue of this beloved Voyager, must defer gratification until September (I predict.) How dare HP build a calculator specifically designed to appeal to antique HP calculator fans, without telling us in advance, *particularly when they have apparently already told their dealers about it?*

We sure are hard to please. :)

Re: HP 15C LE: "Discontinued"

*Message #69 Posted by **Neil Hamilton (Ottawa)** on 4 Aug 2011, 5:08 p.m.,*
in response to message #68 by Howard Owen

I love the tongue firmly paced within the cheek! Whole heartedly agree!

So what that HP did an "oops!"? We'll just have to wait a bit longer. No real harm unless you are put out by the fact that you jumped the gun and put in an order for a product that clearly wasn't shipping.

> Quote:
>
> ...in the cold reality of an official denial that any such machine was planned.

However, I seem to recall that they did not deny that it was **planned**. They denied that there was

an **ongoing launch**.

I note that a jaundice person might take Tim Wessman's queries about merged steps as an attempt at misdirection, seemingly to make us think that any such pending launch might be further away than it might actually be.

Good thing I am not a jaundice person -- my bilirubin level is well within the norm!

Re: HP 15C LE: "Discontinued"

*Message #70 Posted by **Tim Wessman** on 4 Aug 2011, 5:47 p.m.,*
in response to message #69 by Neil Hamilton (Ottawa)

Sorry, but nope. You guys are amazingly good at drawing random meanings from the slightest letter/omission/word/syllable.

I just never new exactly what was meant by merged steps. I keep seeing it in the wp34 threads and wanted to know. I appreciate efficient programming, and I'd wondered how the old calcs managed to do it so well.

If everyone keeps insisting that myself, cyrille, glenn, or any of the other HP people that read here and/or comment, must start talking about internal HP information, it would not surprise me if we were outight banned from *ever* posting. :-(

TW

Re: HP 15C LE: "Discontinued"

*Message #71 Posted by **Howard Owen** on 4 Aug 2011, 9:21 p.m.,*
in response to message #70 by Tim Wessman

Expecting you to violate confidentiality is silly. But I'm guessing your employer would be a lot more concerned if you were to *answer* the questions! :)

Re: HP 15C LE: "Discontinued"

*Message #72 Posted by **Thomas Radtke** on 5 Aug 2011, 2:23 a.m.,*
in response to message #70 by Tim Wessman

> Quote:
>
> If everyone keeps insisting that myself, cyrille, glenn, or any of the other HP people that read here and/or comment, must start talking about internal HP information, it would not surprise me if we were outight banned from *ever* posting. :-(

Hoping for something, or finding something HP could do reasonable doesn't mean to insist on it (in my understanding of the english language).

When I was taken wrong it probably was my own fault due to language problems - I'm not a native speaker.

BTW, long live the HP-15C! I hope Valentin Albillo is well.

Re: HP 15C LE: "Discontinued"

*Message #73 Posted by **Arnaud Amiel** on 5 Aug 2011, 3:01 a.m.,*
in response to message #70 by Tim Wessman

> Quote:
>
> If everyone keeps insisting that myself, cyrille, glenn, or any of the other HP people that read here and/or comment, must start talking about internal HP information, it would not surprise me if we were outight banned from *ever* posting. :-(

When I was working for hp, anything I posted on a forum such as this one had to be followed by something along the lines of "These are my views only and do not represent anything official form hp". Company policy made it so that I had to attach this to my signature. Isn't it still the case?

Arnaud

Re: HP 15C LE: "Discontinued"

*Message #74 Posted by **DaveJ** on 5 Aug 2011, 6:56 a.m.,*
in response to message #73 by Arnaud Amiel

> Quote:
>
> When I was working for hp, anything I posted on a forum such as this one had to be followed by something along the lines of "These are my views only and do not represent anything official form hp". Company policy made it so that I had to attach this to my signature. Isn't it still the case?

That is quite common.
At my previous company they actively encouraged us to participate in forums but didn't require that statement, we just had to use "common sense" and "think before you post". Everything was fine until you said something (with the best of intentions) someone higher up didn't like for whatever reason, and then you got hammered for it :->

Most learned very quick to simply keep their mouth shut most of the time and didn't bother participating.

Dave.

Re: HP 15C LE: "Discontinued"

*Message #75 Posted by **Borja** on 4 Aug 2011, 5:38 p.m.,*
in response to message #5 by Norman Dziedzic

I don't think it's a big deal. I mean, the unexpected disclosure, etc. They will eventually sell it, we will be happy (or will start to fumble about the printing quality of the carton box barcode...) ;)

But I wonder about the HP's marketing department. Remember that April 1st hoax, when several people insisted on ordering two non existant calculators at a really hefty price?

HP is perceived as a grey brand just like Dell. Except that they sell a product with an Apple-esque following: calculators. Now, there's an information leak and some of their dealers get a lot of orders. I don't know how many have been ordered, but I'm sure some of the dealers don't get queries from abroad often.

Re: HP 15C LE: "Discontinued"

*Message #76 Posted by **Victor Quiros** on 4 Aug 2011, 8:27 p.m.,*
in response to message #75 by Borja

HP Hong Kong also lists the 15C. Curiously, it is listed under "single & multifunction printers".
http://www8.hp.com/hk/en/products/printers/product-detail.html?oid=5153395

Re: HP 15C LE: "Discontinued"

*Message #77 Posted by **Walter B** on 4 Aug 2011, 6:25 p.m.,*
in response to message #5 by Norman Dziedzic

Norman,

> Quote:
>
> I can see absolutely no down side for HP to be straight and honest with the few 1000 (maybe optimistic here...) people on this forum as to the status of the illusive 15C LE.

I hate to tell you but I am pretty sure you're at least an order of magnitude away from the truth about the number of forumers, probably even two. I'd guess (without counting) there are some 30 ± 10 people showing up here every once and a while. Certainly less than 50. Though these may be peers for an unknown number of quiet readers, it's far below the numbers HP marketeers may start to look at.

This forum is a place at least one HP guy visits regularily for different reasons, but certainly no place where HP recruits its customers - we are all addicts already ;-)

Walter

Re: HP 15C LE: "Discontinued"

*Message #78 Posted by **Katie Wasserman** on 4 Aug 2011, 8:48 p.m.,*
in response to message #77 by Walter B

Pardon me while I turn this thread in another direction....

Walter,

Interesting that you think the number of people here is so low. I'm sure that your right in that fewer than 50 people post semi-regularly but I'm willing to bet that several times that number read this forum at least occasionally and go for years without posting, if ever. The only real evidence I have to support this theory is the occasional email that I receive from someone I've never seen post, asking me about such and such thing related to a post of mine. I'm willing to bet that all the regular posters on this forum get such emails and that for every email like this we get there are many people who never email us but still read our posts.

OTOH, a "few 1000" seems like a very high number to me but I suppose possible. Perhaps Dave has some statistics on unique visitors to this site and their frequency of visitation, maybe

he can give us more insight on this. (Are you still there Dave?)

-Katie

Re: HP 15C LE: "Discontinued"

*Message #79 Posted by **Michael de Estrada** on 4 Aug 2011, 9:35 p.m.,*
in response to message #78 by Katie Wasserman

Right on, Katie. I too have received numerous emails via the forum's messaging system with various questions or comments from members who I've never seen post. Also, I've sold many calculators to folks who don't post, but did read my ad or simply read one of my posts indicating that I might be interested in selling something. In fact I just sold one today to one such silent member, which is why I removed my ad. Also, understand that this particular forum is linked to many TAS ads, where people come to get good info when they bid on calcs or accessories. It wouldn't surprise me if the forum viewership is in the many thousands.

Edited: 4 Aug 2011, 9:36 p.m.

OT: MoHPC User Estimate/WAG

*Message #80 Posted by **Mark Hardman** on 4 Aug 2011, 10:17 p.m.,*
in response to message #78 by Katie Wasserman

The most recent 500 forum messages were posted by 95 unique users.

If we double that for those that "lurk", a conservative guess might be about 200 active users.

Edited: 4 Aug 2011, 10:17 p.m.

Re: OT: MoHPC User Estimate/WAG

*Message #81 Posted by **Walter B** on 5 Aug 2011, 1:03 a.m.,*
in response to message #80 by Mark Hardman

Thanks for counting :-) So my guess may have been low by a factor of 5, Norman's high by a factor of 10. And please note I've mentioned above the active forumers *may be peers for an unknown number of quiet readers* - where unknown means I've really no idea about its size. A number in the range of some 1E4 would look plausible to me, however.

Walter

Re: HP 15C LE: "Discontinued"

*Message #82 Posted by **DaveJ** on 5 Aug 2011, 1:01 a.m.,*
in response to message #78 by Katie Wasserman

It's called the "1% rule" or the 90-9-1 rule. And it applies to virtually every online forum, including this one I'm sure:

http://en.wikipedia.org/wiki/1%25_rule_(Internet_culture)

In this case the lurkers would include transient visitors and viewers from search results.

Dave.

Re: HP 15C LE: "Discontinued"

*Message #83 Posted by **db (martinez, ca.)** on 5 Aug 2011, 10:08 a.m.,*
in response to message #78 by Katie Wasserman

Katie; Your "several times 50" sounds about right to me. You remember about four years ago when Giancarlo compiled a .pdf of the 60 people that had mentioned where they live and in some cases: their age, work and which hp they use. I'd believe that about 3 times that many people didn't bother to respond or didn't feel that they "qualified" as part of the community yet. Even with a couple of hundred of us though; on a planet with nearly seven billion people we truly are insignificant by percentage.

btw: If anyone is newish and wants to see who we were (cattle ranchers or physicists, from 20s to 80s) or to add yourself- Giancarlo's pdf is linked in the 102nd post here

Re: HP 15C LE: "Discontinued"

*Message #84 Posted by **Howard Owen** on 4 Aug 2011, 9:43 p.m.,*
in response to message #77 by Walter B

> Quote:
>
> .. but certainly no place where HP recruits its customers - we are all addicts already ;-)

Amplifying on what Katie said, HP doesn't look for customers here, but for advocates. We feel strongly about old HP calculators. We can (quite justifiably) be counted on to applaud new machines that tend to bring back an earlier era when quality was king. I find it tempting to overestimate our influence, but notice they have Richard Nelson, a well known advocate for the sort of values many of us subscribe to, editing HP Solve. Members of this forum often contribute. It's a social media strategy in the very best way. They get a lot of free marketing assistance, as long as they keep paying attention to our perspectives and values.

If they sell out the 15C LE, it won't be due to members of this community buying 3 apiece. But the influence we may yield with our co-workers, families and friends lists could make a difference.

Re: HP 15C LE: "Discontinued"

*Message #85 Posted by **Iqbal** on 7 Aug 2011, 9:57 p.m.,*
in response to message #5 by Norman Dziedzic

When ACO was in charge of calculator production, I had asked the CEO to purchase 10,000 Hp42S calcs.(I was getting some financers). At this point they had just discontinued the 42S service calculators. This could have been sometime in 2002 or therabouts. He told me for them to even think of it, they would have to get an order of at least 100,000 units.

Re: HP 15C LE: "Discontinued"

*Message #86 Posted by **John Stark** on 4 Aug 2011, 9:54 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

To all:

This idiocy is one reason I collect slide rules and do my math/financial work on Classics (45/80/67). Anything beyond that gets put on a PC with all the trimmings.

My 0.02.

John Stark

Re: HP 15C LE: "Discontinued"

*Message #87 Posted by **uhmgawa** on 5 Aug 2011, 8:14 a.m.,*
in response to message #86 by John Stark

> Quote:
>
> To all:
>
> This idiocy is one reason I collect slide rules and do my math/financial work on Classics (45/80/67). Anything beyond that gets put on a PC with all the trimmings.
>
> My 0.02.
>
> John Stark

Well I suppose by the above measure most of us can wear that label at some point being guilty of buying (or not) based on passion and emotion in general. This is just one instance.

I may well have missed it in the collective flurry surrounding this issue, but perhaps it was all just part of a well intentioned plan by HP to reintroduce the model? With a final component to gauge the bottom line consumer interest by bringing it as close as possible to a commercial reality and examining the pre-sales numbers to estimate the required manufacturing ramp?

Edited: 5 Aug 2011, 8:22 a.m.

Re: HP 15C LE: "Discontinued"

*Message #88 Posted by **Dan W** on 5 Aug 2011, 8:53 p.m.,*
in response to message #86 by John Stark

> Quote:
>
> To all:
>
> This idiocy is one reason I collect slide rules and do my math/financial work on Classics (45/80/67). Anything beyond that gets put on a PC with all the trimmings.
>
> My 0.02.
>
> John Stark

Similar story here, though most often I use the 55 or 67/97.

Which leads me to my main interest in the 15C - the form factor. These Classics are great but not really that pocketable. IMHO there really is a market for a small RPN, and not just with collectors.

Re: HP 15C LE: "Discontinued"

*Message #89 Posted by **uhmgawa** on 5 Aug 2011, 10:37 p.m.,*
in response to message #88 by Dan W

> Quote:
>
> Which leads me to my main interest in the 15C - the form factor.

Although an opinion often leading to hot debate, personally I agree.

> Quote:
>
> These Classics are great but not really that pocketable. IMHO there really is a market for a small RPN, and not just with collectors.

It is possible to reduce the vertical profile by perhaps half, but there really isn't too much you can do to compress the other two dimensions. The pitch on the keypad is about as minimal as it can comfortably get and still accommodate human digits and readable key legends. Anything much less and you'd need to have at it with a stylus or fingernail for accurate entry. It is possible to move some keys into the bezel location, perhaps even reducing the size of the display, but that seems clunky. I believe there are well thought out reasons for the footprint to be as it is.

One alternate possibility is a clamshell housing but that will require the display to be offset to either side or changed to portrait profile -- assuming the goal was to have the calc fold in its longest dimension.

Realistically I'm not sure whether a pocket-able calc is a real world use case at the present. Even back then I suspect that metric was more of a marketing commentary on its size than expected usage. Could just be me though.

here you go!

*Message #90 Posted by **Geoff Quickfall** on 5 Aug 2011, 4:22 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

It is listed here:

http://www.antichthon.gc

;-)

Geoff

it's a Greek site!

Re: here you go!

*Message #91 Posted by **Martin Pinckney** on 5 Aug 2011, 4:27 p.m.,*
in response to message #90 by Geoff Quickfall

Something seems to be wrong with that URL.

Re: here you go!

*Message #92 Posted by **Geoff Quickfall** on 5 Aug 2011, 4:35 p.m.,*
in response to message #91 by Martin Pinckney

Sorry, cryptic joke.

"Antichthon" is greek for Counter Earth, a mythical planet identical to earth exactly opposite in our orbit.

Which is, the location of the 15C+ LE...

;-)

Geoff

Re: HP 15C LE: "Discontinued"

*Message #93 Posted by **Gerson W. Barbosa** on 5 Aug 2011, 5:27 p.m.,*
in response to message #1 by Peter Murphy (Livermore)

> Quote:
>
> "We're sorry, but this product is no longer available."

"Oh ye men of little faith!"

Re: HP 15C LE: "Discontinued"

*Message #94 Posted by **Jim P** on 5 Aug 2011, 8:26 p.m.,*
in response to message #93 by Gerson W. Barbosa

Well, I don't often post here but all this speculation about the reissue of an old machine that has no alphanumerics AND which may or may not ever see the light of day again does show a serious passion about an iconic device!

That only the 12C remains in production out of this series is a mystery since it doesn't have any trig functions (OK so most of us don't ever need them!) but every other competitor (eg TI, Sharp, Casio) with a financial calculator sticks them in, and so does HP in its 20b and 30b models. And the 10bII+. SO....

Kindly build an HP12C, stick the trig functions onto a third shift function (and the other 15C goodies) and sell it for the same price. You'll keep all the accountant customers and get a few of the engineers/scientists as well. And you might make everyone here a bit happier. Call it 12Cb++SE or something. (You could also build a 15C, put the financial functions on it with another shift key, and get the same effect.)

Or is this just being plain silly...?

Re: HP 15C LE: "Discontinued"

*Message #95 Posted by **Michael de Estrada** on 5 Aug 2011, 8:43 p.m.,*
in response to message #94 by Jim P

No need to make all those modifications. Just resurrect the HP-27.

Re: HP 15C LE: "Discontinued"

*Message #96 Posted by **Kiyoshi Akima** on 5 Aug 2011, 9:10 p.m.,*
in response to message #95 by Michael de Estrada

Except that the 27 isn't programmable. Both the 12C and the 15C are.

Re: HP 15C LE: "Discontinued"

*Message #97 Posted by **Michael de Estrada** on 5 Aug 2011, 9:39 p.m.,*
in response to message #96 by Kiyoshi Akima

True, but I suspect that the majority of 12C users don't ever program them and the programming features are extremely limited. If you are really seriously interested in programming, then it makes more sense IMO to base the combo scientific/financial calc on the 15C. I own both original 12C and 15C calcs, and have programmed the 15C extensively, but only programmed the 12C using a simple example in the manual so I could learn how to do it. The only use I have for the 12C is TVM, which is built in and requires no programming. The 27 is a really neat little calc that fits in both my shirt pocket and my hand. The Voyagers, while very shirt pocketable, leave much to be desired as hand helds, due to the landscape layout.

Re: HP 15C LE: "Discontinued"

*Message #98 Posted by **Jim Yohe** on 6 Aug 2011, 2:47 a.m.,*
in response to message #97 by Michael de Estrada

> Quote:
>
> The Voyagers, while very shirt pocketable, leave much to be desired as hand helds, due to the landscape layout.

Amen!

Re: HP 15C LE: "Discontinued"

*Message #99 Posted by **spb** on 6 Aug 2011, 6:49 a.m.,*
in response to message #97 by Michael de Estrada

> Quote:
>
> The Voyagers, while very shirt pocketable, leave much to be desired as hand helds, due to the landscape layout.

I've never really understood this complaint. I don't think there's ever been a calculator I can key faster than a Voyager series. When I'm using one I'm holding it with both hands and keying with my thumbs. This works out to being something like touch typing---because both hands are `anchored' on either side of the calculator, once you know where everything else you can locate it without having to watch what you're doing. With most handhelds, I end up holding the calculator in one hand and keying with the other. Since my keying hand isn't `anchored' in the same way, I'm left essentially doing `hunt and peck' keying, which is much slower.

Re: HP 15C LE: "Discontinued"

*Message #100 Posted by **Mike Morrow** on 6 Aug 2011, 1:32 p.m.,*

in response to message #99 by spb

> Quote:
>
> I've never really understood this complaint.

The basis is obvious...you stated it! The only people who find the Voyagers anything but an abomination as a **handheld** calculator are those who don't mind that it takes **both** hands to operate one. Portrait models suffer no such limitation, and can be used with ease in either one- or two-hand mode.

Then, there's that specious and baseless argument that Voyagers are really intended as **desktop** machines, so it really doesn't matter if one-hand operation is horrendously awkward. Portrait models serve equally as well in desktop use.

It's disappointing that HP is digging up another Voyager relic, when an HP 42S resurrection would have added some real value to the current HP line. Though the 42S is at least an order of magnitude better machine than the 15C in almost every detail except cosmetics, its alphanumeric capability by itself would have justified its replacement of the 15C.

A modern equivalent to the 24-year old HP 42S (complete with its full DM display, tone function, and IR output) in the excellent HP 30b package would have been far more exciting and useful. Throw in more memory and real-time clock/calendar and financial functions and one would have a machine that would still be popular 50 years from now. Technology has been available for much more than a decade to do all of that.

A new HP 15C **Limited** Edition??? Humbug! "Limited" applies to more than just quantity. As the Obamas would say...We are not impressed!

Re: HP 15C LE: "Discontinued"

*Message #101 Posted by **Eric Smith** on 6 Aug 2011, 2:56 p.m.,*
in response to message #100 by Mike Morrow

It would be far easier for HP to bring back the 15C than the 42S, because the 15C hardware is very similar to that of the 12C, and they already did all of the engineering to reimplement the 12C with a modern microprocessor. Since that has been done, reissuing a 15C would be relatively easy.

Bringing back the 42S would require a great deal more engineering. While I agree that it would be nice if they would do it, I don't think we should hold our breath.

It is also far from obvious that a reissued 42S would sell as well as a reissued 15C. The 15C was a huge success in the mid-1980s, while the only available evidence (admittedly anecdotal) is that the 42S didn't sell well by any dealers other than Educalc. Obviously a reissued 42S would sell well to the people in this forum, but that doesn't indicate that it would sell well to anyone else.

HP has very limited resources to spend on calculator engineering, so they have to invest those resources where they expect to get the best return. Even if a reissued 42S would sell just as well as a reissued 15C, it wouldn't be as effective a use of the limited resources due to the much larger engineering investment it would require.

The 32S and 32SII apparently sold far better than the 42S, and that market segment

is now covered by the 33s and 35s.

[The usual disclaimer applies: this is just my opinion, and I don't speak for HP.]

Re: HP 15C LE: "Discontinued"

*Message #102 Posted by **Mike Morrow** on 6 Aug 2011, 4:27 p.m.,*
in response to message #101 by Eric Smith

> Quote:
>
> > Bringing back the 42S would require a great deal more engineering. While I agree that it would be nice if they would do it, I don't think we should hold our breath.

I'm sure you're correct...it will never happen. It just seems sad that there will never be a successor to the finest RPN calculator of all time, so I lament what will never be...a small, handheld, non-RPL machine with all the capabilities of the 42S. But one can't help thinking that such a machine could be ordered by HP from Kinpo, in a 30b package, and be ready within a year.

> Quote:
>
> > It is also far from obvious that a reissued 42S would sell as well as a reissued 15C. The 15C was a huge success in the mid-1980s, while the only available evidence (admittedly anecdotal) is that the 42S didn't sell well by any dealers other than Educalc.

I owned an HP-41C and -41CX, but I was a very enthusiastic purchaser and user of the HP-15C after I found out all that the little wonder could do that wasn't natively available on the HP-41. (IMHO, the Advantage Module did a rather poor job of adding some HP-15C function to the HP-41.) The 15C was my favorite for eleven years of daily use.

I did not learn of the massive advance that the 42S represented over my favorite 15C, of its unique capabilities in the HP product line, until after the 42S was discontinued in 1995. It took several years to finally acquire a couple, but the wait was worth it.

I think you are correct about the 42S not selling as well, but HP did a very poor, unenthusiastic, half-assed marketing job for the 42S. I kept up with the calculator market 20 years ago. All the HP marketing emphasis was on the HP 28S in 1988 and HP 48SX in 1990. For the contemporary 42S...little was said! Had I known what the 42S offered, I'd have had one in 1988. But I did **not** know, and that was **all** HP marketing's fault.

The alphanumeric capability of the 42S makes it far easier to use and program than the 15C. The complex number handling is far more natural and comprehensive. A long-term 15C user (like me), who is not just hung up on 15C cuteness, **simply must** fall in love with the 42S once what it offers above the 15C is appreciated.

> Quote:

> The 32S and 32SII apparently sold far better than the 42S, and that market segment is now covered by the 33s and 35s.

I bought a 32SII when I couldn't get a 42S, hoping that the 32SII had most of the capability of the 15C as a subset of its functions. I was very wrong, especially about the absolutely terrible complex number support that was "Pioneer"ed by the 32S/SII, then drearily continued with the 33S and 35S. I had to continue using my 15C until I found a 42S.

Edited: 6 Aug 2011, 5:53 p.m.

Re: HP 15C LE: "Discontinued"

*Message #103 Posted by **Jeff O.** on 7 Aug 2011, 10:58 a.m.,*
in response to message #102 by Mike Morrow

> Quote:
>
> especially about the absolutely terrible complex number support that was "Pioneer"ed by the 32S/SII, then drearily continued with the 33S and 35S

The 35s does not share the complex number support system of the 32s/sii and 33s. Key in the real part, press "i", then key in the imaginary. Superior to the 42s, IMHO.

Re: HP 15C LE: "Discontinued"

*Message #104 Posted by **Neil Hamilton (Ottawa)** on 7 Aug 2011, 11:53 a.m.,*
in response to message #103 by Jeff O.

> Quote:
>
> Superior to the 42s, IMHO.

While I generally like the 35S (and own one but not a 15C or 42S -- just emulators/simulators for those I'm afraid), the 35S does make it awkward to do things like the denominator of the "problem" presented on page 135 of the 15C manual:

```
          2i(-8+6i)^3
-----------------------------
(4-2(sqrt(5))i)(2-4(sqrt(5))i)
```

While it is possible, you have to "do the limbo" to do it. This is much easier on the 42S/15C/33S etc.

That being said, the complex stuff in the 35S is very intuitive. Too bad about the R->P/P->R though.

I guess you can't win.

Re: HP 15C LE: "Discontinued"

*Message #105 Posted by **Jeff O.** on 8 Aug 2011, 1:13 p.m.,*
in response to message #104 by Neil Hamilton (Ottawa)

> Quote:
>
> the 35S does make it awkward to do things like the denominator of the "problem" presented on page 135 of the 15C manual:
>
> ```
>                2i(-8+6i)^3
>       ------------------------------
>       (4-2(sqrt(5))i)(2-4(sqrt(5))i)
> ```
>
> While it is possible, you have to "do the limbo" to do it. This is much easier on the 42S/15C/33S etc.

I would do that example as follows (key functions in brackets):

```
Keystrokes         Display
8[+/-][i]6[ENTER] -8.0000 i6.0000
3 [y^x]           352.0000 i936.000
[i] 2             i 2
[x]               -1872.0000 i704.0
5[sqrt]           2.2361
[i]2[+/-]         i-2
[x]               0.0000 i-4.4721
4[+]              4.0000 i-4.4721
5[sqrt]           2.2361
[i]4[+/-]         i-4
[x]               0.0000 i-8.9443
2[+]              2.0000 i-8.9443
[x]               -32.0000 i-44.721
[/]               9.3982 i-35.1344

28 total keystrokes
```

I guess I do not view the above as requiring the limbo bar to be too low, just familiarity with the 35s. The keystroke sequence presented in the 15C manual takes 34 keystrokes. With the 35s, you do have to start "inside" the values in the denominator (with the square root of 5) to avoid pushing the previously calculated value for the numerator off the top of the stack, but I consider this to be more of a typical 4-level stack management issue than any defect in the 35s complex number support. In fact, when I tried it on my 42s, I had to start inside the bottom factors for the same reason, plus I had to then do some swaps to get the values in the right places in the stack before turning them into complex numbers. It is possible to do the problem on the 33s without storing intermediate values, but requires pretty careful stack management and "limbo-esque" entry of the denominator values due to the fact that it has only a two level complex stack. (Actually the 15C requires the same stack manaement, i.e., you must divide the numerator by the first factor in the denominator, then enter the second factor in the denominator and divide again. With the 35s, you can calculate the numerator, then enter both factors in the denominator, multiply, then divide. Not a big deal, just shows what's possible.)

For the sale of completeness, here is the keystroke sequence require on the 32S/32SII/33S

```
32S/32SII/33s sequence:
Keystrokes              Display
```

```
6[ENTER]                6.0000
8[+/-]                  -8.0000
0[ENTER]                0.0000
3                       3
[shift][CMPLX]          CMPLX
y^x                     352.0000 (on the 33s you can see
the imaginary component of 936 in the y register)
2[ENTER]                2.000
0                       0
[shift][CMPLX]          CMPLX
[x]                     -1872.0000 (on the 33s you can
see the imaginary component of 704 in the y register)
5[srqrt]                2.2361
2[+/-]                  -2
[x]                     -4.4721
4                       4
[shift][CMPLX]          CMPLX
[/]                     -295.4551(on the 33s you can see
the imaginary component of 154.3288 in the y register)
5[srqrt]                2.2361
4[+/-]                  -4
[x]                     -8.9443
2                       2
[shift][CMPLX]          CMPLX
[/]                     9.3982(on the 33s you can see the
imaginary component of 35.1344 in the y register)


34 total keystrokes on the 33s, 35 on the 32s/32sii if
you want to see the imaginary part by exchanging x and y

...
```

Edited: 8 Aug 2011, 2:00 p.m.

Re: HP 15C LE: "Discontinued"

*Message #106 Posted by **Mike Morrow** on 7 Aug 2011, 2:33 p.m.,*
in response to message #103 by Jeff O.

> Quote:
>
> Key in the real part, press "i", then key in the imaginary.
> Superior to the 42s, IMHO.

Entering a new complex number is only the **smallest** part of any machine's complex number processing. But to discuss this aspect, a new complex number is manually entered on the 42S by entering the real part on the stack, then the imaginary part, then hitting the COMPLEX key. That is consistent with related operations such as entering and converting polar or rectangular coordinates. The only alleged down side, which seems to have caused a few folks a bit of self-generated anguish, is that one can't fill the four-level stack with four new differing **manually-entered** complex numbers. But should this ever threaten to be a problem, one simply has to perform the appropriate pending operations to collapse the stack and ensure that the X and Y level are then available to support manual entry of a new complex number.

To claim **true** complex domain support, a machine must execute all of its functions that are mathematically defined in the complex domain by operating on or generating the appropriate values. For a few random examples, try that 35S to evaluate these:
1. arcsin(2)
2. ln(-2)

3. arctan(1+i)
4. cosh(1+i)
5. cos(1+i)
6. arcsinh(1+i)
7. ln(1+i)
8. exp(1+i)
9. i^i
10. arccosh(0.5)

The 42S handles all these (as do the RPL machines). Its sophisticated firmware creates a generalized complex domain machine capable of operating on or producing complex results naturally with the same ease as most machines do only in the real domain. (FWIW, the 15C is similar but slower, though with its limited display what is child's play on the 42S requires some mental effort to keep things straight on the 15C.)

The 35S is very much akin to the unsatisfactory 32S and 33S, in which only an extremely limited and unnatural set of **exceptions** are allowed for which the complex domain is supported...and these are all nothing but the most trivial complex functions. That is **fundamentally and monumentally** inferior to the 42S.

Edited to remove "doubled" word and to add example 10.

Edited: 8 Aug 2011, 1:38 p.m. after one or more responses were posted

Re: HP 15C LE: "Discontinued"

*Message #107 Posted by **Michael de Estrada** on 7 Aug 2011, 3:37 p.m.,*
in response to message #106 by Mike Morrow

You *can* perform the log computation if you enter the value as a complex number, i.e. 2 +/- i 0 ln. However, it certainly is more convenient in the HP 50g, where you simply type 2 +/- ln.

Re: HP 15C LE: "Discontinued"

*Message #108 Posted by **Jeff O.** on 8 Aug 2011, 7:39 a.m.,*
in response to message #106 by Mike Morrow

I did not meant to imply that there are not a lot of shortcomings to the 35s complex number support, only that it is not really a simple extension of the 32s/sii/33s family. I think that the ability to directly enter the number by keying in the "i", (or angle, if you wish), with the complex value then held in a single stack level, with the ability to have a 4-level stack full of directly entered complex values, was a major advancement on the 35s. If you put an “i” key on a 42sii++ (or whatever), with the ability to upload/download programs, it would be just about the perfect calculator.

Edited: 8 Aug 2011, 12:33 p.m.

Re: HP 15C LE: "Discontinued"

*Message #109 Posted by **M. Joury** on 6 Aug 2011, 4:14 p.m.,*
in response to message #100 by Mike Morrow

Yes, yes, YES! Only put it in the 17bii+ package (the real descendant of the Pioneers and it already has the dot matrix LCD in place) and give me I/O. Sure I'll buy 3 HP15C LE's but I would probably buy 6 HP42S machines with Mike's upgrades and I/O for offline storage. OK, maybe not 6, but you get the point.

Re: HP 15C LE: "Discontinued"

*Message #110 Posted by **Michael de Estrada** on 6 Aug 2011, 4:49 p.m.,*
in response to message #109 by M. Joury

I/O for offline storage is key for any calculator with more than 1 Kb of non-volatile memory. it's not an issue with the 15C or 32SII with their very limited memory, but it is the main shortcoming of the 42s and others like the 35s and 28s. Imagine having laboriously keyed in 5 Kb or more worth of programs and data, only to have to reset the machine and lose it all. That is why I do most of my programming on the 48SX and 50g with their Serial RS232 or USB and SD card capabilities. It's also a lot more convenient to develop and / edit programs on a text editor on a PC or Mac than in the calculator.

Re: HP 15C LE: "Discontinued"

*Message #111 Posted by **Mike Morrow** on 6 Aug 2011, 4:53 p.m.,*
in response to message #109 by M. Joury

> Quote:
>
> Only put it in the 17bii+ package...

It's true that a very good argument can be made that, just as the Voyager HP-12C framework remains upon which to resurrect the 15C, the Pioneer HP 17bii framework remains upon which to resurrect the 42S. I believe there are few hardware differences other than keyboard markings and firmware that separate the 17bii from the 42S.

However, the HP 30b industrial design is very easy to like...it's compact and very mechanically solid. IMHO, it is one of the best in HP calculator history. That's why my hypothetical New-42 would use something like that. Plus, truth be told, I have always hated the color scheme of the Pioneers...brown and orange...blah!

And the processor speed of the 30b is stunning...it completes the old Savage benchmark at 10 times the speed of the 50g, and 100 times the speed of the 42S, producing identical numerical results! I'd like to have something equivalent to that under the hood of a New-42, capable of a full dot-matrix display and much more RAM.

Edited: 6 Aug 2011, 5:07 p.m.

Re: HP 15C LE: "Discontinued"

*Message #112 Posted by **M. Joury** on 6 Aug 2011, 6:43 p.m.,*
in response to message #111 by Mike Morrow

Well maybe a combination of the two...

I was referring to the new 17bii+ with it's silver front and sloping keys. That would make a very nice basis for the keyboard of a 42S IMHO. The LCD is already in place with basically the same capability as the one in the 42S (maybe even the very same LCD?). And with 32K of non-volatile RAM there is more than enough room for programs and data.

However, I have to agree an updated processor such as that in the 30b would be spectacular however it would need more non-volatile memory than is available in that machine. The 32K in the 17bii+ would work nicely.

Here is an interesting article on this subject: HP Solve #23

Cheers

Re: HP 15C LE: "Discontinued"

*Message #113 Posted by **Raymond Del Tondo** on 6 Aug 2011, 7:16 p.m.,*
in response to message #109 by M. Joury

> Quote:
>
> Only put it in the 17bii+ package (the real descendant of the Pioneers and it already has the dot matrix LCD in place) and give me I/O

1+

The 17bII+ Silver has the best housing of all HP calc since the Pioneers IMHO. Even if the internal electronics of the 17bII+ Silver may be outdated from today's view, it has the best overall form factor, and it has a really good high-contrast dot matrix LCD with anti-glare cover, not that awful not-fish-not-flesh partly alphanumeric (ugly) LCD like the 20b/30b with super shiny surface.

Too bad that the 17bII+ Silver doesn't have the pcb 6-pin connector for firmware updates. Let's hope for a successor with the same housing and LCD, but with the suitable connector and firmware update support:-)

Re: HP 15C LE: "Discontinued"

*Message #114 Posted by **Eric Smith** on 6 Aug 2011, 9:12 p.m.,*
in response to message #113 by Raymond Del Tondo

The 17bii+ doesn't have a connector for firmware updates because it doesn't have flash memory. If I'm not mistaken, it uses a masked-ROM microcontroller from GeneralPlus, with a 6502-equivalent core. Those are extremely inexpensive, not well suited to running C code, and not available with flash memory.

On the other hand, suitable microcontrollers with flash memory generally don't have enough LCD drive for the 17bii+/42s display. They either have segmented LCD drive for no more than a few hundred segments, or a "controller" but no on-board drivers for an active matrix LCD, which is far more expensive and uses too much power for disposable coin cells.

One possibility would be to use two microcontrollers, one with flash memory for the "brains" of the operation, and one with masked ROM and LCD drive just to serve as an LCD controller. Of course, this pushes up the cost by a non-trivial amount.

I imagine that HP may eventually have a calculator with a 17bii+ like graphic display and flash upgrade capability, but probably not in the near future.

Re: HP 15C LE: "Discontinued"

*Message #115 Posted by **uhmgawa** on 6 Aug 2011, 11:52 p.m.,*
in response to message #114 by Eric Smith

> Quote:
>
> One possibility would be to use two microcontrollers, one with flash memory for the "brains" of the operation, and one with masked ROM and LCD drive just to serve as an LCD controller. Of course, this pushes up the cost by a non-trivial amount.

It may just be more straightforward and less expensive to use a chip-on-glass graphic LCD. I've never encountered a conventional uC with a controller able to drive a graphic panel of significant resolution. Even dismissing that, the interconnect between controller and LCD glass becomes complex, expensive, and less reliable at such interconnect counts where a COG is more attractive if the device in question can accommodate the modest asymmetry of the panel.

Re: HP 15C LE: "Discontinued"

*Message #116 Posted by **Eric Smith** on 7 Aug 2011, 5:05 a.m.,*
in response to message #115 by uhmgawa

A CoG LCD is generally more expensive than a microcontroller or driver under a blob of epoxy with a heat-sealed flex cable to a bare LCD. That's why you find that construction in just about every LCD calculator that has a midrange dot matrix display, including things like the Casio fx115ES and Sharp EL-W516B.

At higher dot matrix resolutions that becomes impractical, but I'm not sure about the 131x16 resolution of the 17bii+. I haven't taken a 17bii+ apart so I'm not sure how it is constructed.

Presumably the extremely low cost of the GeneralPlus (formerly SunPlus) 6502-core microcontrollers with their ability to drive a moderately large dot matrix LCD made them the most cost-effective solution for calculators like the 17bii+. Cost is undoubtedly a huge concern, far more than firmware update capability.

Low-end calculators usually use microcontroller chips from other Taiwanese and Chinese microcontroller vendors that are even less well-known to mainstream electronics and software engineers. At one of the HHC conferences a few years ago I was given some breadboard

prototypes of low end scientific calculators (possibly the HP 8s or 10s), and they had microcontrollers I'd never heard of before, but I was able to dig up some documentation on them (in English, even!) by a Google search.

Re: HP 15C LE: "Discontinued"

*Message #117 Posted by **uhmgawa** on 7 Aug 2011, 10:03 a.m.,*
in response to message #116 by Eric Smith

> Quote:
>
> A CoG LCD is generally more expensive than a microcontroller or driver under a blob of epoxy with a heat-sealed flex cable to a bare LCD. That's why you find that construction in just about every LCD calculator that has a midrange dot matrix display, including things like the Casio fx115ES and Sharp EL-W516B.

My greatest beef with heat seal interconnect is reliability. Nearly every LCD display I've encountered with intermittent drive problems was of heat seal construction. Frankly I'm amazed it works as well as it does considering the Rube Goldberg inspired process. But to be fair the approach does avoid bloating the glass footprint compared to COG and like COG has a slimmer vertical profile than zebra interconnect. Maybe I've just had bad luck with cheap heat seal products.

The arm7 12Cs (and 35s IIRC) use a heat seal interconnect so time will tell how those products fare in this respect.

> Quote:
>
> Presumably the extremely low cost of the GeneralPlus (formerly SunPlus) 6502-core microcontrollers with their ability to drive a moderately large dot matrix LCD made them the most cost-effective solution for calculators like the 17bii+. Cost is undoubtedly a huge concern, far more than firmware update capability.

Special purpose uCs with LCD controllers may have more design consideration to quiescent current draw. IMHO not all LCD controllers do as well as they could in this respect. LCD modules are often the worst offenders frequently using simple passive resistive voltage dividers to generate the bias voltages.

But agreed cost constraint appears to be the predominant design consideration for contemporary products, regrettably HP included. I suppose that is just a non-negotiable reality of competing in today's market.

Re: HP 15C LE: "Discontinued"

*Message #118 Posted by **Mike Morrow** on 7 Aug 2011, 3:36 p.m.,*
in response to message #116 by Eric Smith

> Quote:
>
> A CoG LCD is generally more expensive than a microcontroller or driver under a blob of epoxy with a heat-sealed flex cable to a bare LCD. That's why you find that construction in just about every LCD calculator that has a midrange dot matrix display, including things like the Casio fx115ES and Sharp EL-W516B.

The Casio fx-115ES screen presents an interesting comparison to the HP 42S or HP 17bii, because many more display elements are required for the fx-115ES.

The fx-115ES has a 31x96 (2976 pixel) LCD with 18 annunciators.
The 42S/17bii have a 16x131 (2096 pixel) LCD with 8 annunciators.

Whatever hardware is controlling the fx-115ES display has about 50 percent more capacity than would be needed for a 42S display.

The fx-115ES can operate from the small solar cell in the corner, or, it is claimed, for about 1000 hours from one 357 bettery. Total power consumption of this fairly capable system must be very low.

The heart of the fx-115ES is under one of those blobs of black epoxy.

Edited: 7 Aug 2011, 8:41 p.m.

Re: HP 15C LE: "Discontinued"

*Message #119 Posted by **uhmgawa** on 8 Aug 2011, 1:31 p.m.,*
in response to message #118 by Mike Morrow

> Quote:
>
> The fx-115ES can operate from the small solar cell in the corner, or, it is claimed, for about 1000 hours from one 357 bettery. Total power consumption of this fairly capable system must be very low.

I have an fx-115ES from the local MalWart which was collecting dust after I lost interest and and stuck it back in the blister pack. Your comments above made me curious so I popped it open and had a look:

```
current draw (LR-44)          Notes


630nA                         "off"
21.5uA                        idle, blank screen,
cursor blink
57.8uA                        idle, setup menu
52-52.5uA                     running trans forensic
"9", display off
```

So that 1000 hours estimate may be quite conservative and under conditions of the processor running continuous -or- idle with perhaps a 50% pixel drive of the display. Depending upon the dropout voltage for the device (or perhaps the polarization threshold of the panel) it could be double that for an LR44 at 60uA draw. Also it seems the display is blanked during processing likely to avoid brownout when powered solely from the PV cell under modest illumination. I didn't think to check if the 3x charge pump was disabled when the panel was blanked but it wouldn't be a surprise.

> Quote:
>
> Whatever hardware is controlling the fx-115ES display has about 50 percent more capacity than would be needed for a 42S display.

Indeed. However while I'm unfamiliar with the 42S the display of the fx-115ES has about the worst contrast I can recall in a calculator, likely as a result of keeping the LCD dynamic power consumption in check. How does the 42s display compare?

> Quote:
>
> The heart of the fx-115ES is under one of those blobs of black epoxy.

Although my presence lurking here probably gives away my bias, I have to admit the fx-115ES is a pretty slick effort given the design constraints, resulting product and price point. But admittedly my familiarity with it is superficial.

Re: HP 15C LE: "Discontinued"

*Message #120 Posted by **Thomas Radtke** on 7 Aug 2011, 3:45 a.m.,*
in response to message #114 by Eric Smith

> Quote:
>
> If I'm not mistaken, it uses a masked-ROM microcontroller from GeneralPlus, with a 6502-equivalent core. Those are extremely inexpensive, not well suited to running C code, and not available with flash memory.

Eric,

why isn't the 6502 well suited for C-compilers? IIRC, the RISC route was taken because compilers can optimize better on limited instruction sets, while CISC CPUs are best when writing asm-code by hand, but I might be wrong here.

Another question comes to mind: Has the 35s firmware been written by hand? That would indicate why there never was a firmware update ;-).

Thomas

Re: HP 15C LE: "Discontinued"

*Message #121 Posted by **Eric Smith** on 7 Aug 2011, 4:56 a.m.,*
in response to message #120 by Thomas Radtke

The 6502 is a CISC processor. It is certainly "reduced" in some ways compared to the 6800 that was its predecessor, but it lacks some of the important distinguishing features of a RISC, which are a large number of general registers (typically 16 or 32), and orthogonality of use of registers and address modes.

The 6502 is poorly suited for C code because of the 256-byte limit on the stack, which often necessitates using a software-maintained stack, and the lack of a stack-relative addressing mode for accessing local variables in a stack frame. Both result in significant problems with code size and execution time.

I've written quite a lot of 6502 code over the years. While C isn't as big a step up from assembly as I would like, I definitely find myself much more productive in C than in 6502 assembly. As a result, I would definitely be biased toward microcontrollers that are better suited for execution of C code.

I've been told that the 33s, 35s, and 17bii+ firmware are written in C.

Re: HP 15C LE: "Discontinued"

*Message #122 Posted by **uhmgawa** on 7 Aug 2011, 1:25 p.m.,*
in response to message #121 by Eric Smith

> Quote:
>
> The 6502 is poorly suited for C code because..

All true. The other issue which compounds the problem of 8-bit processors as efficient C runtime models is lack of the ability to natively manipulate an address bus and/or std int width data type.

> Quote:
>
> I've written quite a lot of 6502 code over the years..

In the dim past I used to work for MOS Technology/Commodore.

The 6502 still figures prominently into my nightmares.

> Quote:
>
> I would definitely be biased toward microcontrollers that are better suited for execution of C code.

Thoroughly agree. It appears NXP has been quite aggressive introducing ARM uCs at price points below many of the 8-bit competition. They still IMHO have some work to knock out what I'd call "clunk factor" in the overall products but are nevertheless impressive. I picked up a lot of lpc1114 in lqfp-48 for about US$1.50/ea a few months ago from Avnet.

Re: HP 15C LE: "Discontinued"

*Message #123 Posted by **spb** on 6 Aug 2011, 4:55 p.m.,*
in response to message #100 by Mike Morrow

> Quote:
>
> The basis is obvious...you stated it! The only people who find the Voyagers anything but an abomination as a **handheld** calculator are those who don't mind that it takes **both** hands to operate one. Portrait models suffer no such limitation, and can be used with ease in either one- or two-hand mode.

I don't think I see the distinction you're trying to make. Either you're holding the calculator in both hands or you have it sitting on your desk and you're keying with one hand. If you're holding a Voyager in both hands, it is faster than a Pioneer or 41C (for example) because you can reach the entire keyboard without moving your hands. If you've set your calculator on your desk you're keying a Voyager or a Pioneer in exactly the same way (hunt and peck).

So what's the disadvantage? In one usage case the Voyager is faster and in the other case they're the same as any other calculator (if we're just talking about keying speed).

Re: HP 15C LE: "Discontinued"

*Message #124 Posted by **Mike Morrow** on 6 Aug 2011, 5:40 p.m.,*
in response to message #123 by spb

> Quote:
>
> Either you're holding the calculator in both hands or you have it sitting on your desk and you're keying with one hand.

Nope...there's another mode: Holding the calculator in one hand and keying it with that same hand....easily done for quick ad hoc calcs that come up, while the other hand is busy with a pen or other tool. Of course such is not too comfortable for a long programming or debugging session, but I do that far less frequently. I've often done one-hand ops with portrait calcs ever since acquiring my first

(Bomar 901B) in 1972. Of course, my Voyagers don't allow any of that...they're much more difficult to use with one hand than even the much larger and heavier 50g.

My objection to landscape goes away if the width of the keyboard can be easily spanned by the width of the palm as it is for most portrait calculators. HP has never made anything like that, but Casio and others did.

Re: HP 15C LE: "Discontinued"

*Message #125 Posted by **spb** on 7 Aug 2011, 4:55 p.m.,*
in response to message #124 by Mike Morrow

> Quote:
>
> Nope...there's another mode: Holding the calculator in one hand and keying it with that same hand....easily done for quick ad hoc calcs that come up, while the other hand is busy with a pen or other tool. Of course such is not too comfortable for a long programming or debugging session, but I do that far less frequently.

I see what you're saying, although I find doing this with any calculator about equivalently awkward. Perhaps this has something to do with different hands or different thresholds for aggravation.

Even given that, though, I still think that when I'm evaluating a tool I do so in terms of what it's good at, not what it isn't. When I'm thinking about how easy (or hard) it is to use a calculator, I'm thinking of using it for whatever it is it's capable of doing. With an advanced scientific programmable, it strikes me as odd to evaluate it in terms of how comfortable it is for `quick ad hoc calcs'. I'm not saying that you're wrong to think this way yourself. I just don't see much of an argument there. I mean you would probably find it easier to use a simple four function calculation for the sort of thing you're talking about, but I don't think it follows that non-four function are an `abomination' (as you characterised Voyagers) because they're slightly less convenient to use when you only need the basic four functions.

Re: HP 15C LE: "Discontinued"

*Message #126 Posted by **Howard Owen** on 6 Aug 2011, 5:05 p.m.,*
in response to message #100 by Mike Morrow

For the 35th anniversary of the HP-35, we got the HP-35S. For the 30th anniversary of the 12C we are getting a 12C anniversary edition, and an HP-15C re-release. The 25th anniversary of the introduction of the HP-42S is in 2013, so who knows? It's probably the right time to start agitating about it. :)

Re: HP 15C LE: "Discontinued"

*Message #127 Posted by **uhmgawa** on 8 Aug 2011, 9:01 p.m.,*
in response to message #100 by Mike Morrow

> Quote:

> It's disappointing that HP is digging up another Voyager relic, when an HP 42S resurrection would have added some real value to the current HP line. Though the 42S is at least an order of magnitude better machine than the 15C in almost every detail except cosmetics, its alphanumeric capability by itself would have justified its replacement of the 15C.

That seems quite high praise for the 42S. I've never owned a 42S so I'd be curious to hear the opinion of other folks.

From a quick dig it appears there is sufficient data to produce an experimenter's clone. And given once we drift away from reuse of an existing Voyager carcass, a 15C work-alike requires a graphic LCD. So there may be an argument to do so for a model which has native support for a matrix display rather than using the same for little more than the convenience of effecting annunciators under an emulated segment display.

Re: HP 15C LE: "Discontinued"

*Message #128 Posted by **M. Joury** on 8 Aug 2011, 11:08 p.m.,*
in response to message #127 by uhmgawa

This may be sacrilege here, but give me a 42S over a 15C any day. The 15C was (and is) a great machine but the 42S is just hands down (IMHO) a better calculator. As stated, the alpha capability alone is a big bonus never mind partitioned programs, named variables, powerful solver, more memory, and faster speed. If you know the 41 just consider the 42S to be the same machine on steroids in a Pioneer package without I/O. Had the 42S had I/O it would be my all time favorite HP calculator. As it is it is a close second to the 41.

Come out with a new 42S with I/O, time capability such as is available in the 17bii and 27S, and 32K RAM and HP would have a winner.

Again, this is just my 2 cents worth...

Cheers,

Re: HP 15C LE: "Discontinued"

*Message #129 Posted by **Walter B** on 9 Aug 2011, 1:49 a.m.,*
in response to message #127 by uhmgawa

FYI, HP's persistant refusal to launch a successor of the 42S while OTOH releasing financial calcs every once and a while caused our WP 34S project. You'll find lots of information about alternative calculator designs - including display discussions - when you search the archives for the last eight years at least.

Though I agree financial calcs seem urgently necessary, I see little to no effect of HP's sales in the last four years. So perhaps the almost unlimited susceptibility of this market segment explains HP's strategy ;-)

Walter

Re: HP 15C LE: "Discontinued"

*Message #130 Posted by **Howard Owen** on 5 Aug 2011, 10:12 p.m.,*
in response to message #94 by Jim P

> Quote:
>
> You'll keep all the accountant customers and get a few of the engineers/scientists as well.

I could be wrong, but from what I've heard around here and elsewhere, the HP-12C owes part of its success to conservatism in its user base. That is, financial professionals adopted it as a standard and it has stuck. As a group, they are reluctant to abandon a tool that works. If that's so, a nice new calculator that adds functions, an additional shift key or what-have-you might not appeal to those users.

I'd sure buy one though. :)

Re: HP 15C LE: "Discontinued"

*Message #131 Posted by **Bart (UK)** on 6 Aug 2011, 4:15 a.m.,*
in response to message #94 by Jim P

> Quote:
>
> Kindly build an HP12C, stick the trig functions onto a third shift function (and the other 15C goodies) and sell it for the same price.

Maybe that's why HP is so quiet about the 30th Anniversay 12C and the Limited Edition 15C - they're the same machine!! ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: cpx DROP & CLx ?

*Message #1 Posted by **fhub** on 4 Aug 2011, 6:23 a.m.*

While developing my TVM program I came across 2 problems:
I wanted to use [cpx]DROP and [cpx]CLx but couldn't do it.

What's the right way to get a [cpx]DROP ? After [cpx] I opened the menu [h]P.FCN and selected DROP, but the [cpx] wasn't accepted.
Then I just tried [cpx][<-] but the left-arrow just canceled the [cpx] again. So how to do it?

And with [cpx]CLx there's also a problem: [cpx][h][<-] doesn't work too for the same reason - the left-arrow key cancels also this attempt.
BTW, I've now looked in the opcode-table and saw that there is no [cpx]CLx at all!? But the token CLx appears twice, with opcode 0x0001 and 0x0140. Is this a bug?

Franz

Re: WP34S: cpx DROP & CLx ?

*Message #2 Posted by **Didier Lachieze** on 4 Aug 2011, 6:36 a.m.,*
in response to message #1 by fhub

[cpx]DROP is found in the X.FCN catalog: [CPX][h][X.FCN][D] gives cDROP

Re: WP34S: cpx DROP & CLx ?

*Message #3 Posted by **Paul Dale** on 4 Aug 2011, 6:37 a.m.,*
in response to message #1 by fhub

> Quote:
>
> What's the right way to get a [cpx]DROP ?

Complex DROP is in the complex X.FCN catalogue. I've had this argument with Walter several times and splitting functions between the complex X.FCN and the P.FCN catalogues is inconsistent to my mind. Having a complex function not in the complex X.FCN catalgoue is inconsistent to Walter.

Anyway, every complex function not on the keyboard is in the complex X.FCN. Or should be.

> Quote:
>
> And with [cpx]CLx there's also a problem: [cpx][h][<-] doesn't work too for the same reason - the left-arrow key cancels also this attempt.

Complex CLx makes no sense as a command.

> Quote:
>
> BTW, I've now looked in the opcode-table and saw that there is no [cpx]CLx at all!? But the token CLx appears twice, with opcode 0x0001 and 0x0140. Is this a bug?

No.

- Pauli

Edited: 4 Aug 2011, 6:38 a.m.

Re: WP34S: cpx DROP & CLx ?

*Message #4 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 6:48 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> Anyway, every complex function not on the keyboard is in the complex X.FCN. Or should be.

There is a shorthand to get to the complex X.FCN. Just CPX and [V] are needed, the green shift is optional. :-)

Re: WP34S: cpx DROP & CLx ?

*Message #5 Posted by **fhub** on 4 Aug 2011, 6:52 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> Complex DROP is in the complex X.FCN catalogue. I've had this argument with Walter several times and splitting functions between the complex X.FCN and the P.FCN catalogues is inconsistent to my mind. Having a complex function not in the complex X.FCN catalgoue is inconsistent to Walter.

DROP in P.FCN and cpxDROP in X.FCN ???
That's indeed more than inconsistent!
And BTW: DROP is not a function but a command (or an operation).

> Quote:
>
> Complex CLx makes no sense as a command.

Well, that's a matter of opinion. If almost all other stack operations have a CPX counterpart, it would just be consistent if CLx would have, too (deleting X and Y registers at once).

Edited: 4 Aug 2011, 6:53 a.m.

Re: WP34S: cpx DROP & CLx ?

*Message #6 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 7:15 a.m.,*
in response to message #5 by fhub

> Quote:
>
> Well, that's a matter of opinion. If almost all other stack operations have a CPX counterpart, it would just be consistent if CLx would have, too (deleting X and Y registers at once).

We once had it but the problem is what to do with stack lift here. CLx disables stack lift such as ENTER^ does. But we cannot disable stack lift for two entries as would be needed if you wanted to replace X and Y after the cCLx. The equivalent of CLx for complex numbers would be cDROP in this case. I admit it is a bit tricky to replace X & Y with zero each but it can be done with CLx; ENTER^ if you don't care about the rest of the stack or with CLx; STO Y.

Edited: 4 Aug 2011, 7:17 a.m.

Re: WP34S: cpx DROP & CLx ?

*Message #7 Posted by **fhub** on 4 Aug 2011, 7:50 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> I admit it is a bit tricky to replace X & Y with zero each but it can be done with CLx; ENTER^ if you don't care about the rest of the stack or with CLx; STO Y.

Yes I know, every CPX stack manipulation can be emulated by a few 'normal' operations (with more or less effort), and this missing [cpx]CLx isn't really a big problem. It's just so that after I saw this CPx twice in the opcode-table, I thought you might have just overlooked to tag one of them with the [cpx] property.

Re: WP34S: cpx DROP & CLx ?

*Message #8 Posted by **Alexander Oestert** on 4 Aug 2011, 7:34 a.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> splitting functions between the complex X.FCN and the P.FCN catalogues is inconsistent to my mind. Having a complex function not in the complex X.FCN catalgoue is inconsistent to Walter.

Can't you just put it in X.FCN and P.FCN as well? Or would that take too much memory?

Re: WP34S: cpx DROP & CLx ?

*Message #9 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 7:52 a.m.,*
in response to message #8 by Alexander Oestert

That's certainly possible. If we do it, cRCF (RCL from flash) and cDROP will both be duplicated. The rest in CPX X.FCN are math functions which only belong there.

Re: WP34S: cpx DROP & CLx ?

*Message #10 Posted by **Paul Dale** on 4 Aug 2011, 8:19 a.m.,*
in response to message #8 by Alexander Oestert

The most likely outcome is that complex drop stays in the *complex* x.fcn catalogue and drop will appear in both the x.fcn and p.fcn catalogues. This way we maintain consistency both ways -- all complex operations are in the complex x.fcn catalogue and their counterparts are in the x.fcn. The p.fcn copy is for utility only.

Still, I'm waiting for Walter to chime in -- he's been very busy with a new job recently and is far less responsive than previously.

- Pauli

Re: WP34S: cpx DROP & CLx ?

*Message #11 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 8:45 a.m.,*
in response to message #10 by Paul Dale

Pauli, cRCF needs to be duplicated as well.

Re: WP34S: cpx DROP & CLx ?

*Message #12 Posted by **Paul Dale** on 4 Aug 2011, 10:32 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Nope.

All complex functions are in the complex X.FCN catalogue. They do not and shall not be duplicated. Walter will back me up here since we discussed this one just yesterday!

- Pauli

Re: WP34S: cpx DROP & CLx ?

*Message #13 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 2:48 p.m.,*
in response to message #12 by Paul Dale

Sorry, I misunderstood you. You aren't duplicating cDROP but DROP. But then the same question arises for cRCF versus RCF. The latter two are I/O commands which belong entirely into P.FCN. Solving all consistency problems looks like solving the Gordian nod to me.

Re: WP34S: cpx DROP & CLx ?

*Message #14 Posted by **Paul Dale** on 4 Aug 2011, 6:47 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> Solving all consistency problems looks like solving the Gordian nod to me.

Yes :-(Just like pleasing everyone :-)

But we try to keep things sane nonetheless.

- Pauli

Re: WP34S: cpx DROP & CLx ?

*Message #15 Posted by **Paul Dale** on 4 Aug 2011, 6:41 a.m.,*
in response to message #1 by fhub

The documentation doesn't give the keystroke sequence for complex DROP. That is an issue.

- Pauli

Re: WP34S: cpx DROP & CLx ?

*Message #16 Posted by **Walter B** on 4 Aug 2011, 5:10 p.m.,*
in response to message #15 by Paul Dale

You're right. The manual is corrected now but not committed yet :-)

And you're right again: Every complex operation not accessible on the keyboard directly is found in [CPX][X.FCN]. Thus that's the place to find [^c]DROP as well 8-)

Some background: Sorting items in catalogs is not trivial, since ASCII has some very special order for whatever historical reason. So we had to define our own sorting sequence. By no means, however, you'll get e.g. [^c]DROP following DROP directly in a sorted list.

And finally, [CPX][CLx] doesn't give any return on invest. You'll reach the same result via [CLx][CLx] with the same number of keystrokes.

Walter

Edited: 4 Aug 2011, 5:12 p.m.

Re: WP34S: cpx DROP & CLx ?

*Message #17 Posted by **Neil Hamilton (Ottawa)** on 4 Aug 2011, 5:15 p.m.,*
in response to message #16 by Walter B

> Quote:
>
> And finally, [CPX][CLx] doesn't give any return on invest. You'll reach the same result via [CLx][CLx] with the same number of keystrokes.

Are you sure about that? I think if I punch [CLx][CLx], the second [CLx] is redundant since the stack did not drop. (At least that is the way my SVN 1356 works -- and my 11C.)

Re: WP34S: cpx DROP & CLx ?

*Message #18 Posted by **Walter B** on 4 Aug 2011, 5:41 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

Point taken. Obviously, that was too fast writing late at night ;-)

Use [^c]DROP instead 8-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: Another poll about single letter labels

*Message #1 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 4:46 a.m.*

We've had a recent discussion about the single letter labels available in the 34S firmware. The original set of labels included only the four letters A to D. We recently expanded this set to a somewhat random looking set of A, B, C, D, G, H, I, J, K, L, P, T, W, Y, Z. The restrictions are mainly forced by how the keyboard works for alpha entry. Letters on keys which have a meaning when answering a label prompt are missing from the list. X is missing because it conflicts with GTO.nnn, a direct command to navigate program memory.

We have three options:

1.) Go back to A to D for the sake of a clean interface. Remove the other labels.

2.) Leave it as it is now. Not very consistent but working and of some use as long as we don't have a user keyboard.

3.) Expand it to all letters of the alphabet. This would be a consistent approach. It's easy to implement on the external assembler tool but it would need a redesign of the handling of the input on a label prompt. I would vote for giving GTO.nnn a new home and using LBL .X (X being any letter) in cases where the key in question would otherwise be interpreted as a digit or ->. The dot would be optional in the unambiguous cases.

My own favorite is option three. We'd like to hear your opinions.

Re: WP 34S: Another poll about single letter labels

*Message #2 Posted by **Paul Dale** on 4 Aug 2011, 5:04 a.m.,*
in response to message #1 by Marcus von Cube, Germany

We need to fill in the context here about the cleanness and consistency of the layout and loss thereof with the extras.

There was also a fourth option that Walter suggested which hasn't got a mention.

And my suggestion of arithmetic labels for the four operator keys which was only commented on by one person outside the development team.

I'm not going to comment on the third since that is elsewhere in the forums and it doesn't seem all that sensible. I'll let Walter comment on the first two.

- Pauli

Re: WP 34S: Another poll about single letter labels

*Message #3 Posted by **fhub** on 4 Aug 2011, 5:41 a.m.,*
in response to message #2 by Paul Dale

Quote:

> And my suggestion of arithmetic labels for the four operator keys which was only commented on by one person outside the development team.

Well, that was me! ;-)
And my main point was: why display "LBL +" instead of "LBL Z" in program mode, when the keystrokes are exactly the same?
This "LBL +" is looking really ugly (something like redefining the addition operator), and what would be the next consistent step? Labels with names like "LBL x<>y", "LBL +/-" or "LBL Rv"?

Now to Marcus' poll: I also prefer his 3rd solution.
Maybe the GTO.nnn could be changed to GTO[^]nnn and GTO[v]nnn where [^] and [v] are the up/down-arrowkeys (if they don't already have any other meaning after GTO).

Franz

Re: WP 34S: Another poll about single letter labels

*Message #4 Posted by **Alexander Oestert** on 4 Aug 2011, 5:31 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Please understand this as a complete layman's viewpoint ;)

Couldn't this problem

> Quote:
>
> Letters on keys which have a meaning when answering a label prompt are missing from the list.

be overcome by preceding the letter key with any combination of f, g and h (that is different from any otherwise meaningful combination) if it's meant to be a single letter label and thereby making the whole alphabet available?

Re: WP 34S: Another poll about single letter labels

*Message #5 Posted by **fhub** on 4 Aug 2011, 5:50 a.m.,*
in response to message #4 by Alexander Oestert

> Quote:
>
> Couldn't this problem
>
> ...
>
> be overcome by preceding the letter key with any combination of f, g and h (that is different from any otherwise meaningful combination) if it's meant to be a single letter label and thereby making the whole alphabet available?

Well, that would need at least 2 additional keystrokes (e.g. [f][g]X) preceding the letter key, so there's no difference to just enter the alpha-mode (with [ENTER]X[ENTER]).

And it would make it a bit complicated in other situations when you've pressed the wrong prefix for a function: then you couldn't just fix this by pressing the other (correct) prefix.

Franz

Edited: 4 Aug 2011, 5:51 a.m.

Re: WP 34S: Another poll about single letter labels

*Message #6 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 6:38 a.m.,*
in response to message #4 by Alexander Oestert

> Quote:
>
> Couldn't this problem ... be overcome by preceding the letter key with any combination of f, g and h (that is different from any otherwise meaningful combination) if it's meant to be a single letter label and thereby making the whole alphabet available?

At the moment these keys do nothing in label entry mode so they are free.

As for GTO.nnn and GTO..: The current implementation needs two key strokes for GTO (h+XEQ) plus the dot plus the address while h+dot do nothing while not in alpha mode. We could either make the prefix h redundant for GTO. (XEQ. does nothing now) or the key GTO so just h+. does the trick. We will lose quick jumps in alpha mode but these are a bad idea anyway because alpha mode would still be active at the new position. The h+. solution would free the dot as a prefix for short labels.

Re: WP 34S: Another poll about single letter labels

*Message #7 Posted by **Didier Lachieze** on 4 Aug 2011, 6:13 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I also prefer the third proposal, but when I started to use the 34S I was pleased to find that the GTO.nnn and GTO.. are supported and work as on vintage HP calculators, so I would be disappointed to loose them.

What about using the up arrow [^] (or down arrow [v]) as suggested by Franz, but to access the single letter labels? Such as [GTO][^][X] for GTO X.

Edited: 4 Aug 2011, 6:14 a.m.

Re: WP 34S: Another poll about single letter labels

*Message #8 Posted by **Paul Dale** on 4 Aug 2011, 6:22 a.m.,*
in response to message #1 by Marcus von Cube, Germany

There isn't much point voting at the moment. There is information explaining the situation that hasn't been given.

Any votes at the moment are made from a position of ignorance.

Patience.

- Pauli

Re: WP 34S: Another poll about single letter labels

*Message #9 Posted by **Paul Dale** on 4 Aug 2011, 10:55 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I really don't like option 3. It breaks consistency of the layout and doesn't really save much. LBL . X vs LBL ENTER X ENTER. The latter keeping consistency, allowing shifted characters (more labels) and extra characters (many more labels). The former confusingly allowing the . to be omitted for some keys but not others -- most people would end up always putting the . in I suspect.

The second and third options break our layout consistency in several ways which haven't been mentioned publicly. Walter can and likely will put this better than I will but I'll try...

Currently, all commands with a single alpha argument are special.

Alpha flag operations change how the device operates (or turn an annunicator on or off). They are not freely changeable like the numeric flags, they have side effects. Thus, these are *special*.

Alpha registers **all** have system defined purposes that make them not general purpose registers. Thus, these too are *special*. That we let users use the ones they don't otherwise require as general purpose registers is simply a bonus.

Alpha labels are our hot keys. In this way they are different to and distinct from numeric labels. Thus, these are also *special*.

See the trend here? Introducing these shortcut alpha labels completely breaks this internal consistency. Some labels are now general purpose, some aren't. Both Walter and myself dislike this and I'm usually the one pushing for weird and wonderful extra features and getting beaten down.

The keyboard and entry engines are very consistent currently and this makes them easy to use. I believe that this is the main reason why people are finding that the 34S is nice and easy after the initial shock of the very cluttered keyboard. Once you get the hang of things, everything is where you expect and logically arranged. I really would like to maintain this.

Adding the extra labels leaves new (and even experienced) users in a bind. Is this one special or not? Do I need the . prefix or not. We've already had one query about why no X label and that from somebody who is quite familiar with the device. Marcus thought this important enough to explicitly spell out in the description above. None of this is good.

There is another far more minor issue to do with indirect access. The numeric positions of the lettered registers vs the flags and labels don't match up currently and these proposals make things much worse. This is quite minor however.

Even Walter's alternative suggestion (which is for some of the additional letters to be usable as labels) grates with me. I'll let Walter put this forward if he so desires.

- Pauli

Re: WP 34S: Another question

*Message #10 Posted by **fhub** on 4 Aug 2011, 11:12 a.m.,*
in response to message #9 by Paul Dale

Would it be possible to add another error message "No solution", or isn't there any space for it anymore?

Would be nice for the SLV command when it fails ... :-)

Re: WP 34S: Another question

*Message #11 Posted by **fhub** on 4 Aug 2011, 11:24 a.m.,*

in response to message #10 by fhub

> Quote:
>
> Would be nice for the SLV command when it fails ... :-)

BTW, I just found that the SLV command in manual mode (i.e. not running in a program!) just returns a nonsense result when the equation has no solution (I've tried it with x^2+1).

So if you use SLV manually in calculator mode you don't see if the returned value is in fact a solution, or just a temporary value of the solving process when it fails.
That's not really nice - maybe any error message (like my "no solution" above, or at least a "false") could be displayed in this case!?

Edited: 4 Aug 2011, 11:56 a.m.

Re: WP 34S: Another question

*Message #12 Posted by **Paul Dale** on 4 Aug 2011, 7:44 p.m.,*
in response to message #10 by fhub

Yeah, this is worthwhile...

The solver does return the function evaluation so you can check easily but a message would be better.

- Pauli

Re: WP 34S: Another question

*Message #13 Posted by **fhub** on 8 Aug 2011, 4:39 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> The solver does return the function evaluation so you can check easily but a message would be better.

Hi Pauli,

I see in the SVN that you're working on error messages - I hope you don't forget to implement also one for SLV.
At least a "false" if it fails (as all other tests display,too) ...

Franz

Re: WP 34S: Another question

*Message #14 Posted by **Paul Dale** on 8 Aug 2011, 5:06 a.m.,*
in response to message #13 by fhub

Error or step jump from solve is a lot harder than it looks :-(

I'm not really working on error messages, just streamlining things.

- Pauli

Re: WP 34S: Another question

*Message #15 Posted by **fhub** on 8 Aug 2011, 5:36 a.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> Error or step jump from solve is a lot harder than it looks :-(

Hmmm? I don't understand!?

I had a short look at the SLV routine in xrom.c and I see there a few EXITp1. Aren't these exactly the places where the solver fails and thus makes a RTN+1?
So why not just add here a command to display "false" (only in manual mode, not for a running program)?
Or do you want to say that SLV isn't working correctly (i.e. skipping the next instruction on fail) in program mode, too?

Franz

Re: WP 34S: Another question

*Message #16 Posted by **Paul Dale** on 8 Aug 2011, 5:52 a.m.,*
in response to message #15 by fhub

Of course those are the places. The problem isn't where to put the change but what the change needs to be.

The suggestion of a command that displays false if not run from a program isn't the answer -- the solver code is a running program. It is indistinguishable from a user program.

The problem boils down to solve doesn't know where it came from.

I've no idea what you're getting at with your last question. Solve must skip a step in the calling program if it doesn't converge. This is not negotiable.

Displaying "false" on failure in run mode isn't ideal either although it matches other conditional tests. An error is more appropriate and matches older devices' solver better.

I'm still thinking about this one, it hasn't been forgotten.

- Pauli

Re: WP 34S: Another question

*Message #17 Posted by **fhub** on 8 Aug 2011, 6:03 a.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> The problem boils down to solve doesn't know where it came from.

Ok, not knowing one's origin is of course always bad. ;-)

I just don't understand this problem in comparision with all other test functions (like SF?, x=0? etc.). Why do these functions 'know' if they have been called from within a program or directly from a user input, but SLV does _not_?

Edited: 8 Aug 2011, 6:22 a.m. after one or more responses were posted

Re: WP 34S: Another question

*Message #18 Posted by **Paul Dale** on 8 Aug 2011, 6:17 a.m.,*
in response to message #17 by fhub

Solve is *****not***** a conditional test from the firmware's point of view. It is a user program. This should be clear enough from looking at the xrom dump.

The RTN+1 command is *faking* a conditional test. No more no less.

- Pauli

Re: WP 34S: Another question

*Message #19 Posted by **fhub** on 8 Aug 2011, 6:26 a.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> Solve is *****not***** a conditional test from the firmware's point of view. It is a user program.

Ok, but: although I don't know the complete 34s structure, but shouldn't there at least be a 'higher-level' routine (the parser) which would (or should) know whether the state is "program running" or "user mode" when it 'sees' a SLV command? And so this 'parser' could set any internal flag (running yes/no) before it calls the SLV routine?

But maybe I'm completely wrong with my understanding of this internal flow ...

Re: WP 34S: Another question

*Message #20 Posted by **Paul Dale** on 8 Aug 2011, 6:31 a.m.,*
in response to message #19 by fhub

That would require some RAM to store the flag.

RAM is full.

Completely full.

Doing it this way would work but it would also mean losing something else.

That said, I think I've got a solution which I'm in the process of testing.

- Pauli

Re: WP 34S: Another question

*Message #21 Posted by **fhub** on 8 Aug 2011, 6:45 a.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> That would require some RAM to store the flag.
>
> RAM is full.
>
> Completely full.

Oh my god, not even a few bytes left? Poor WP34s! :-(

Maybe you should work on a RAM extender ... ;-)

Re: WP 34S: Another question

*Message #22 Posted by **Paul Dale** on 8 Aug 2011, 6:50 a.m.,*
in response to message #21 by fhub

Nope, not a byte of battery backed RAM left (which is where this must live).

I think there is one bit left in the user mode settings word which isn't useable here.

There are a few bits free in the LCD bitmap memory but they don't survive the lower power modes and thus can't be used in the solver.

We've really pushed the hardware to the limit :-)

- Pauli

Re: WP 34S: Another question

*Message #23 Posted by **fhub** on 8 Aug 2011, 7:28 a.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> That said, I think I've got a solution which I'm in the process of testing.

Well, looking at your recent changes (TST_TOP, TOP? and isTop) - isn't this exactly the way I've suggested?
Of course I don't have your internal knowledge of your code, so I can't say exactly what to put in where and which commands have to be added in detail, but what you have done know is just what I meant: testing whether SLV is called from within a program or by the user (TOP).

So not everything someone else suggests is just nonsense - but it seems to be hard to admit this ... for some people ... ;-)

Re: WP 34S: Another question

*Message #24 Posted by **Paul Dale** on 8 Aug 2011, 7:46 a.m.,*
in response to message #23 by fhub

No it isn't anything like any of your suggestions.

Your suggestions in order were:

- *So why not just add here a command to display "false"* -- there is no command to display false. The new error message isn't sufficient by itself.
- *I just don't understand this problem in comparision with all other test functions (like SF?, x=0? etc.).* -- solve still isn't a conditional test and cannot be made into a real one.
- *And so this 'parser' could set any internal flag (running yes/no) before it calls the SLV routine?* -- no such flag exists.

You did get the location of the changes correct and I'd already said they were the spots.

> Quote:
>
> testing whether SLV is called from within a program or by the user (TOP).

You never wrote this anywhere.

I can't read minds here let along halfway around the world.

That said, this is the obvious path to the solution, the difficulty is detecting this state. Checking for an empty return stack hasn't been mentioned before this.

> Quote:
>
> So not everything someone else suggests is just nonsense - but it seems to be hard to admit this ... for some people ... ;-)

I think you need a chip removed from your shoulder.

- Pauli

Edited: 8 Aug 2011, 7:46 a.m.

Re: WP 34S: Another question

*Message #25 Posted by **fhub** on 8 Aug 2011, 8:06 a.m.,*
in response to message #24 by Paul Dale

> Quote:
>
> No it isn't anything like any of your suggestions.
>
> Your suggestions in order were: ...

bla bla bla ...
All that has nothing to do with the problem and its solution in principle.

> Quote:
>
> Quote: testing whether SLV is called from within
> a program or by the user (TOP).
>
> You never wrote this anywhere.

Well, then look at message #19 above.

But I give up, it's just useless to discuss with a stubborn and complacent guy like you.

Cheers,
Franz

Edited: 8 Aug 2011, 8:09 a.m.

Re: WP 34S: Another question

*Message #26 Posted by **Marcus von Cube, Germany** on 8 Aug 2011, 9:51 a.m.,*
in response to message #25 by fhub

Franz, don't give up!

We are working on a solution. When we're done, SLV will behave like a conditional test, hopefully. :-)

BTW, I've worked hard on the keyboard handler. This saves us space in flash but needs thorough testing. The latest version in SVN contains the changes. Please report back any findings! Try the catalogues and all keyboard commands.

Re: WP 34S: Another question

*Message #27 Posted by **fhub** on 8 Aug 2011, 11:04 a.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:

> Franz, don't give up!

Well Marcus, I don't give up the WP34s project (zumindest NOCH nicht), but I give up talking to and discussing with Pauli because his arrogance is just annoying me!

I made a suggestion for this SLV problem, he answered "impossible!" and then, just a few minutes later, he implemented it almost the same way as I had described it. And finally he even denies that my idea had anything to do with 'his' solution - that's simply incredible!

But ok, let's forget it and talk about your latest changes to 34s:
Although for the user there's no difference now in accessing these additional XEQ shortcuts, in my opinion this internal change from e.g. LBL G to LBL 21 is no good idea.
Why? Well, I would say that these number labels LBL 00-99 are mostly used for subroutines but it's usually not indended that a user calls such a subroutine directly with XEQ 00-99.
But as it is now the chance is quite high that a user might press any of these 'shortcut' keys after XEQ **by mistake**, and so this would run the corresponding subroutine.
My consequence from this new 'feature'(?) is, that it's the best to avoid using in programs any of these labels with keycode-numbers(with the exception of course that exactly this key would be wanted as a shortcut key).

Well, just my opinion of course, but this change is probably a source of confusions and mistakes in future programs.

Franz

Re: WP 34S: Another question

*Message #28 Posted by **Walter B** on 8 Aug 2011, 1:59 p.m.,*
in response to message #25 by fhub

Franz,

mal unabhängig von dem gegenwärtigen Fall, den man offensichtlich unterschiedlich wahrnehmen kann: Deine dauernden Ankündigungen erscheinen mir langsam etwas albern. Könnte es vielleicht sein, dass du *auch* etwas schwierig bist? Ich bin übrigens ebenfalls nicht ganz

einfach, versuche aber nicht jedes Mal jemanden in die Pfanne zu hauen (nur manchmal) ;-)

(For our unilingual friends: I took the opportunity to talk German to Franz - in the good ol' meaning of "mit dem hab' ich mal deutsch gered't". No idea whether Google is able to translate this correctly.)

Back on topic: I think the task is clear to everyone, and any suggestion may foster the progress of the project. Often innovations are triggered by dialogues though its different participants may not always understand each other correctly - the abilities in clairvoyance are simply not equally distributed on this planet ;-)

FWIW

Walter

Re: WP 34S: Another poll about single letter labels

*Message #29 Posted by **Walter B** on 4 Aug 2011, 6:02 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Pauli has explained most of the reasons already why we prefer option 1 over 2 and 3. The only thing I want to add is: Perhaps the easiest way to get an idea what's the point is looking to the manual, page 18. And remember you are using a calculator which will not change its physical surface entering temporary alpha mode (see page 9 showing only a virtual change).

So I'd recommend reading at least page 18 thoroughly. Thereafter (!), if there will be anything you'll be missing still, please tell me.

Walter

Re: WP 34S: Another poll about single letter labels

*Message #30 Posted by **fhub** on 4 Aug 2011, 6:30 p.m.,*
in response to message #29 by Walter B

> Quote:
>
> So I'd recommend reading at least page 18 thoroughly. Thereafter (!), if there will be anything you'll be missing still, please tell me.

Well Walter, I still don't understand what's the (or your) problem with option 2 (keeping the current state).

Ok, it may be a bit inconsistent, but that happens with other things too (think of STO/RCL with Z and T, which also is handled differently than e.g. X and Y).

The current use of extended labels (option 2) is working already (so it needs no additional programming), it definitely requires less keystrokes for those additional label than having to use them with [ENTER], and if someone doesn't like this - well, nobody is forced to use this shorter way.

Franz

Re: WP 34S: Another poll about single letter labels

*Message #31 Posted by **Walter B** on 4 Aug 2011, 6:59 p.m.,*
in response to message #30 by fhub

Well Franz, the current state is option 1 8-)

Re: WP 34S: Another poll about single letter labels

*Message #32 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 5:27 a.m.,*
in response to message #31 by Walter B

It's just a conditional compile and I'm not happy with Pauli's decision to silently disable it. I'm still more with Franz then with Walter and Pauli. Option two is a pragmatic approach. I'm a pragmatic person.

The problem with *not* having one of option 2 or 3 or a variant thereof is that we just lose functionality which cannot be replicated with the remaining features. Let me explain. If we tell users to stick to pure alpha labels instead at the expense of having to press one or two additional keys, they will still lose an important aspect of the short labels, their locality. If you want to have more than one application making use of let's say a variable named I or a function to add two objects, this will not be possible without distinctive names for the operations because alpha labels are global and the search order is independent of the current state of the program counter.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-28S/Clamshell Keyboard Test

*Message #1 Posted by **aj04062** on 3 Aug 2011, 8:40 p.m.*

I have tried this test on several calmshells I own. I can't get any of them to pass this test. I start at "A". Is this right? It seems odd that 5 of these all flunk, but seem to work fine.

Re: HP-28S/Clamshell Keyboard Test

*Message #2 Posted by **Geoff Quickfall** on 3 Aug 2011, 8:50 p.m.,*
in response to message #1 by aj04062

try invoking the keyboard test as follows:

turn on calculator:

while pressing the 'on' key, press and release the 'next' key. then release the 'on' key. you will get the promptm "keyboard test".

now, as before, start at the left keyboard starting with 'a' and press each key left to right descending one row at a time until the left keyboard is complete. move to the right keyboard and repeat starting with the upper right assignable key.

Cheers, Geoff

Re: HP-28S/Clamshell Keyboard Test

*Message #3 Posted by **aj04062** on 3 Aug 2011, 9:02 p.m.,*
in response to message #2 by Geoff Quickfall

That works great. Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

YouTube demonstration of the 41CL

*Message #1 Posted by **Geoff Quickfall** on 3 Aug 2011, 4:11 a.m.*

This video demonstrates for the beta testers the use of the simple routine "YCTOF" which was sent to them via a PDF. I you would like a copy email me.

This also for any die-hard HP 41C fan as it demonstrates a fantastic option available to the CL user. The ability to copy many calculator-states to the FLASH memory where it resides impervious to MEMORY LOST states or power interupts.

In fact, lets say you use the Blood Glucose monitor XROM. This XROM takes over the calculator at turn on. Reserves 100 storage registers and reassigns the entire keyboard. It actually turns the 41C into a dedicated Blood Glucose monitor to the exclusion of all other routines.

The CL will allow you to record your Blood Glucose data and the store the entire calculator state to FLASH. Once there, another state can be recalled to the calculator memory.

In my case, I record lab data to a calculator state which has a suite of Palynology Climate routines. Then when I go to work, I copy the Palynology state to the CL board and recall my aviation suite of programs from the FLASH.

Enjoy the video (my second youtube adventure)

The use of the "YCTOF" routine and a short plug unplug routine at the end...

Cheers, Geoff

Re: YouTube demonstration of the 41CL

*Message #2 Posted by **robertoataulfo** on 3 Aug 2011, 1:58 p.m.,*
in response to message #1 by Geoff Quickfall

```
using the module HEPAX to restore the entire contents of the hp just use 'HGETA'.
```

Re: YouTube demonstration of the 41CL

*Message #3 Posted by **Geoff Quickfall** on 3 Aug 2011, 2:26 p.m.,*
in response to message #2 by robertoataulfo

A little more explanation please ;-)

I am not familiar with HEPAX although I intend to be. Do you store the contents to a specific location and then when prompted, supply the location.

Can the function store to more then one location? Does it store X-memory contents also?

Cheers, Geoff

Re: YouTube demonstration of the 41CL

*Message #4 Posted by **Geoff Quickfall** on 3 Aug 2011, 2:50 p.m.,*
in response to message #3 by Geoff Quickfall

Ah! I see, HEPAX is fantastic:

HEPAX QRG link

But this works with a physical HEPAX module only? If so can the virtual HEPAX module contained in the CL be used to store to multiple locations on the CL of many calculator states. Does the HEPAX module have more then one 4K location for the storage of the calculator states.

Questions and more questions. Also, how long does the entire transfer to the safe memory location work. 22 seconds on the CL becomes minutes without TURBO50 initiated.

Cheers, Geoff

Re: YouTube demonstration of the 41CL

*Message #5 Posted by **gene wright** on 3 Aug 2011, 3:45 p.m.,*
in response to message #4 by Geoff Quickfall

The CL can run Hepax and it will be as if you have a Hepax installed.

However, I believe the Hepax "save the calculator state" functions save them to memory within the Hepax structure itself - at the expense of having one of the 41CL port locations hold the Hepax module as well as the space for the saved files.

Probably two port locations used.

And, finally (ha), the Hepax memory locations are probably mapped to RAM locations within the 41CL structure, which would not survive a total power loss the way your approach of copying to the calculator state to flash.

Don't think Hepax can be running on the 41CL with the Hepax memory mapped to flash.

Re: YouTube demonstration of the 41CL

*Message #6 Posted by **Geoff Quickfall** on 3 Aug 2011, 4:46 p.m.,*
in response to message #5 by gene wright

Thanks Gene for the explanation. I was thinking along the same lines, plus not many states can be stored as in the CL.

The CL can do the following:

```
save the data collected on the a survey to the flash (acting as a survey
dedicated computer).


recall the aviation calculator state to fly out of the survey zone acting as a
flight computer.


swap that state with the Palynology lab data I have turning the it into an
Palynology computer.


swap and recall the data loaded into the Blood Glucose monitor (acting as a
Blood Glucose dedicated monitor) for that days intake, swap that back to FLASH
```

```
and recall whatever else you have loaded.
```

So the above hypothetical example has created 4 devices in one without the need of a physical module or the other mass storage HPIL, RS232 connections required by other systems. Also as you stated, protected from prolonged power interupts... In fact, you can swap the CL board out of a damaged shell and into a spare shell and all the data goes with it.

Cheers, Geoff

Re: YouTube demonstration of the 41CL

*Message #7 Posted by **Ángel Martin** on 5 Aug 2011, 8:11 a.m.,*
in response to message #5 by gene wright

HEPAX RAM is mapped to the ROM ports of the 41 address bus. The CL has a whole different memory structure, and only part of it is addressed to the 41. So you could have different SETS of HEPAX RAM stored into either CL flash or CL-RAM, ans swap them at will using MMU commands.

Gene's right for the HEPAX to work it has to be in CL-RAM, otherwise the WROM instruction wouldn't work.

What the HEPAX HGETA/HWRTA functions will do for you is a convenient write all / read all. That combined with the MMU y-functions makes an unprecedented control and versatility - way beyond the CY, or even the ML2k - although the ML2k has the incredible advantage of being all PC-controlled using the USB bus.

Cheers, ÁM

Re: YouTube demonstration of the 41CL

*Message #8 Posted by **Raymond Del Tondo** on 3 Aug 2011, 4:19 p.m.,*
in response to message #4 by Geoff Quickfall

Slightly OT, because CY not CL:

Restoring a W&W 41 CY (2x 32K) from my special CY-INIT ROM takes ~70 seconds with normal speed (speedup not active).
This includes:
- storing RAMBOX64a and -b
- my CCD OS/X
- David Assembler
- my Ext IL+
- Mainframe Labels
- clearing the remaining pages A,C,E

The above actions are performed twice, once for each of the two banks.
So copying 10 pages takes ~50 seconds, and clearing 6 pages takes ~20 seconds.
Not very fast compared to a CL, but still not bad for a device with age ~25 years;-)

Ray

Re: YouTube demonstration of the 41CL

*Message #9 Posted by **designnut** on 4 Aug 2011, 1:00 a.m.,*
in response to message #1 by Geoff Quickfall

Geoff, I have long used J&J One Touch meters as they have free software to use in a PC to download, store and display your readings. It is fairly common now as other makers followed. I use the "standard day" presentation and the serial reading presentation. Moving the cursor onto a displayed reading will show the date and time and value. Regards, sam

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Amazing! An HP-32SII is faster than an HP-35s

*Message #1 Posted by **Michael de Estrada** on 2 Aug 2011, 9:34 p.m.*

I've always preferred my old HP-32SII over my HP-35s for many reasons: better keys, better display, more solid feel, better primary key assignment such as separate STO and RCL keys etc. However, I've always assumed that at least the HP-35s would be faster with it's more modern processor, but such is not the case. I wrote a simple benchmark program to loop on the calculation of natural logarithm and exponential functions, and found out that the HP-35s takes 50% longer to run this benchmark. All this despite the fact that the batteries in the HP-32SII last much longer. IMO, the HP-35s not only is *not* an improvement over the much older Pioneer calc, it is actually a step backwards. How sad ! :-(

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #2 Posted by **bill platt** on 2 Aug 2011, 10:46 p.m.,*
in response to message #1 by Michael de Estrada

Interesting. But I think it gets more complicated, in terms of speed, if you do other tests you will get results which favor the 35s...

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #3 Posted by **Michael de Estrada** on 3 Aug 2011, 12:06 a.m.,*
in response to message #2 by bill platt

Can you provide an example ?

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #4 Posted by **gene wright** on 3 Aug 2011, 9:00 a.m.,*
in response to message #3 by Michael de Estrada

Sure...

1) Storing 2400 numbers into registers. 35s is much faster than the 33s or 32s2.

2) Sorting 500 numbers in registers.

etc.

:-)

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #5 Posted by **Raymond Del Tondo** on 3 Aug 2011, 10:45 a.m.,*
in response to message #4 by gene wright

Not to forget the super high speed when it comes to draining batteries in the 35s:-)

(Has been mentionned somewhere here, but suits well as a knock-down...)

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #6 Posted by **Thomas Radtke** on 3 Aug 2011, 4:57 a.m.,*
in response to message #1 by Michael de Estrada

We discussed this years ago. As the 35s has to consider more datatypes, it is expected to have slower execution speed. The 32SII is slower than the 32S, btw.

The 35s is not a step backwards. It just has too many bugs :-(.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #7 Posted by **Don Shepherd** on 3 Aug 2011, 5:07 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> I wrote a simple benchmark program to loop on the calculation of natural logarithm and exponential functions

Michael, part of this may be the looping commands, ISG/DSE. I don't have a 35s handy, but I found out a long time ago that the looping commands on the 33s were not terribly efficient, in terms of speed (I even put a postit note in my 33s manual: "Don't use ISG/DSE"). If you have some significant loops, it is much faster on the 33s to code them without using ISG/DSE, even though it requres more instructions. The 33s itself is a pretty fast machine, but the looping commands are not.

I don't know if the 35s inherited this looping slowness from the 33s.

I do know that the 32sii looping commands are fast.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #8 Posted by **Miguel Toro** on 3 Aug 2011, 8:51 a.m.,*
in response to message #1 by Michael de Estrada

Speed is not the only criterion to assert improvement. I wrote this Cash Flow Analysis program using vectors and indirect addressing. Something like this cannot be programmed on a HP 32sii (which I love, Pioneers are my favorites).

Regards,

Miguel

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #9 Posted by **Michael de Estrada** on 3 Aug 2011, 10:37 a.m.,*
in response to message #8 by Miguel Toro

Actually, the HP-32SII also has indirect addressing capabilities and the vector capabilities of the HP-35s are very limited (3 dimension maximum, no cross-product). The HP-35s does indeed have a few additional capabilities such as a catalogue of physics constants, but not enough IMO to offset its other deficiencies. Certain operations, such as rectangular-polar coordinate conversions are simpler and more convenient on the 32SII than the 35s.

Edited: 3 Aug 2011, 10:38 a.m.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #10 Posted by **bill platt** on 3 Aug 2011, 1:15 p.m.,*
in response to message #9 by Michael de Estrada

Two egregious errors in the 35s were the elimination of a "simple" rectangular to polar method (35s requires the imaginary number business and even worse was the totally messed up and elaborate base conversion which is next to useless for normal things.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #11 Posted by **Thomas Radtke** on 4 Aug 2011, 2:16 a.m.,*
in response to message #10 by bill platt

> Quote:
>
> [...] 35s requires the imaginary number business [...]

That would have been ok for infrequent use, imo. Unfortunately, and I guess that was the point the developer simply forgot, polar coordinates cannot be easily composed/decomposed from and to stack, respectively - one has to type them in :-/.

After all those years, I still cannot understand why there never was a new revision of the firmware, or even better, a 35sII w/o those silly cursor keys.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #12 Posted by **bill platt** on 4 Aug 2011, 11:03 a.m.,*
in response to message #11 by Thomas Radtke

Yes, exactly the problem. Here you have an advanced calculator, with gbs of memory, full programmabiliy, and yet you cannot pull R-P/P-R to/from the stack? Just ridiculous!

It is a great mystery that HP has not reworked this machine. They put real effort into straightening out the 33s. Why not the 35S?

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #13 Posted by **Thomas Radtke** on 4 Aug 2011, 11:17 a.m.,*
in response to message #12 by bill platt

Maybe a larger production run and fewer sales than with the 33s. It would be interesting to know production dates of recently sold calculators. I wouldn't be too surprised if all were produced in 2007 and 2008 at last.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #14 Posted by **Miguel Toro** on 3 Aug 2011, 7:49 p.m.,*
in response to message #9 by Michael de Estrada

The point was that the 35s allows to do things and to create applications that are not possible or very difficult on the 32sii, even if it is buggy as everyone knows, that is enough not to dismiss it completely.

It is really nice to have some financial programs in my scientific calculator, so not to carry a 12c around. The 35s allows having this done very easily so I carry it everywhere letting me to keep my old pioneers save at home. Just check the link.

Vector capabilities are limited but combined with indirect addressing and the amount of memory in this calculator, as in this case, then a lot of very fun programs may be done.

Just my two cents...

Miguel

Edited: 3 Aug 2011, 7:51 p.m.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #15 Posted by **Don Shepherd** on 3 Aug 2011, 8:12 p.m.,*
in response to message #14 by Miguel Toro

> Quote:
>
> It is really nice to have some financial programs in my scientific calculator

Then use the 32sii with the TVM program listed in its manual. And if you ever need to do work in other number bases, you'll find it's a breeze on the 32sii but you'll probably take a hammer to the calculator if you try to do it on the 35s.

I'd use a 33s before a 35s, and the 32sii tops both of them. But that's just my opinion, and we're all entitled to one.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #16 Posted by **Miguel Toro** on 3 Aug 2011, 8:37 p.m.,*
in response to message #15 by Don Shepherd

I use this and this instead. The first is not in the manual (cannot be done in the 32sii, either) and the second is more accurate. TVM is not the only trick the 35s can do, financially ;-)

Miguel.

Edited: 3 Aug 2011, 8:54 p.m.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #17 Posted by **Michael de Estrada** on 3 Aug 2011, 9:23 p.m.,*
in response to message #16 by Miguel Toro

Thing is, both the 32SII and 35s are scientific calculators, and that's how I use them. Anyway, I don't do a lot of fancy programming on either of those calculators; instead, I use my HP-50g.

But getting back to the topic of my orginal post, namely relative speed of these two calcs, I pulled up an example that is shown in the manuals for both calculators, finding the root of a cubic polynomial using the solver. Again, the 32SII is faster than the 35s, so it seems that in many real world ways the 35s is not an improvement.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #18 Posted by **M. Joury** on 3 Aug 2011, 11:36 p.m.,*
in response to message #17 by Michael de Estrada

Michael,

While I like the 32Sii it is near the bottom of my list when I grab for a calculator so maybe I should just stay out of this :-). However, while it is true that the 32Sii is faster than the 35S in many areas this is largely due (as discussed earlier) to the greater number of data types that the 35S can handle.

So, the question becomes, aside from speed how else can these calculators be compared? Let's start by accepting the fact that the 35S has bugs that are problematic for some (so far I have not been effected by them) and that this in and of itself may make the 35S unusable for many. For those it may be that the 32Sii or the 33S are the only choices.

For me, however, programming capability is a big draw. I play with these things to program them. It has been many years since I have needed the "higher math" capability of any of my calculators (I think the last time was when I took my Astronomy Comprehensive Exams to graduate from college and that was more years ago than I am willing to share--I will say that the 41 I used back then was in it's relative infancy).

In the area of programming the 35S has many nice additions over the 32Sii and even the 33S.

1. A less cluttered keyboard thanks to the sloping face keys. At least I find it easier to use the keyboard on the 35S than I ever did on the 32/33 (leaving aside the really silly placement of STO as a shifted function).

2. Much more memory than the 32Sii. For some programs this is essential although I love trying to squeeze every last byte out of a program to make it fit in the 32.

3. Many more memory registers, although you have to address them indirectly. Depending on what you are trying to do this can be a huge plus.

4. Two indirect addressing register (I and J) instead of one. The 32/33 do get a little back here since, with them, the indirect register (i) is separate from the 26 primary registers while with the 35S the I and J registers are part of the 26 primary register set.

5. Can jump to line numbers. For example GTO A100. This allows much better utilization of the available memory than is offered by the 33S which is limited to 26 labels. Good luck trying to use all of the 32K available with 26 labels. I guess one could have lots (and LOTS) of equations. With the 35S one can have 26 separate programs labeled A-Z whereas this is not possible with the 32/33 for anything but the most trivial programs. At an extreme with the 35S one could even have multiple programs with a single alpha label.

6. The ENTER key is in the right place (this is a dig at the 33S and obviously does not refer to the 32Sii which also has it's ENTER key in the right place).

7. The arrow keys are primary which is a bonus when single stepping. In this case the 33S beats the 32Sii as it also has it's arrow keys in the primary plane.

I might be able to think of other features that are improved on the 35S but my point here is not to try to convince you that the 35S is better (as noted earlier it may not even be

usable for you) but to show that it does have certain advantageous features. Whether your requirements make use of these features is for you to decide and from what you said it would seem that the 32 suits your needs better and is the better solution for you.

Finally, as I stated earlier, the 32Sii is one of the LAST calculators I reach for. This is also true of the 35S. My calculators of choice are (somewhat in order) the 41, 42, 48 (S/X, G/X), and (believe it or not) the 39GS which I like playing with for a completely different set of reasons. The WP34S is also becoming a go-to machine for me (Thanks Pauli, Walter, and Marcus!) and, oh yes, I like the 17bii for it's solver. All these machines have one thing in common: Separate programs (functions in the 17bii) that can be named by multi-character labels that make it clear what the program/function is supposed to do. Maybe I am getting old but trying to remember what the program labeled 'A' is supposed to do just seems like too much trouble.

Cheers,

Marwan

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #19 Posted by **Paul Dale** on 3 Aug 2011, 11:54 p.m.,*
in response to message #18 by M. Joury

> Quote:
>
> Let's start by accepting the fact that the 35S has bugs that are problematic for some (so far I have not been effected by them)

You've never needed to checksum a program (for archival purposes e.g.)? That is one bug I think just about everyone who programs the 35s will have hit :-)

Is it a show stopper? No. However, it does indicate a carelessness of implementation that is unforgivable in what is supposed to be a precision instrument. Lets face it, long gone are the days when calculators producing dubious results is tolerable. They are ubiquitous and cheap. They should just work.

I'd even go as far as claiming that most if not all of the 35s bugs are indicative of such carelessness :-(

That all said, I actually quite like the 35s: lots of memory, decent keyboard, okay display. It isn't, however, my grab for calculator. To the extent I gave mine to one of my children for their entertainment.

- Pauli

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #20 Posted by **M. Joury** on 4 Aug 2011, 12:39 a.m.,*
in response to message #19 by Paul Dale

Yes, I am aware of the checksum bug, and yes, I guess it is one that does "concern" me. But as you say, not a show stopper. I guess, having programmed on so many machines that do not offer this feature, I never really missed it.

Although, again, I agree with you that the bugs in the 35S show a lamentable

carelessness, what I find worse is that those same bugs, to the best of my knowledge, have NEVER been fixed! That is truly a sad commentary on how much importance the developers place on their work. It would have been wonderful if the calculator was flashable and HP provided ongoing updates to cure it of it's ills.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #21 Posted by **Paul Dale** on 4 Aug 2011, 1:06 a.m.,*
in response to message #20 by M. Joury

If it were flashable, the 34s would have used that as a basis instead :-)

- Pauli

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #22 Posted by **Thomas Radtke** on 4 Aug 2011, 11:27 a.m.,*
in response to message #18 by M. Joury

> Quote:
>
> 1. A less cluttered keyboard thanks to the sloping face keys. At least I find it easier to use the keyboard on the 35S than I ever did on the 32/33 (leaving aside the really silly placement of STO as a shifted function).

Yes indeed, the arrangement of the functions/keys is way better on the 35s. I love the 32SII and got used to it, but the key assignment is somewhat strange. STO being a shifted function was no show-stopper to me. I don't use it often.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #23 Posted by **bill platt** on 4 Aug 2011, 11:01 a.m.,*
in response to message #14 by Miguel Toro

The 33s did that, too, without messing up all the useful functionality of the32sii. In fact the 33s improved a few things, once the bugs were fixed--which HP did make sure to do.

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #24 Posted by **Antonio Maschio (Italy)** on 4 Aug 2011, 11:55 a.m.,*
in response to message #1 by Michael de Estrada

I have a HP-35s, but for everyday calculations I always find myself using unconsciouslessly either my old HP-11C or my newer (but old styled) HP-12C.

Who knows....

-- Antonio

Re: Amazing! An HP-32SII is faster than an HP-35s

*Message #25 Posted by **Neil Hamilton (Ottawa)** on 4 Aug 2011, 1:08 p.m.,*
in response to message #24 by Antonio Maschio (Italy)

Antonio,

I find myself in the nearly the same situation (minus the 12C). My trusty old 11C, S/N from May '82 (and on my 3rd or 4th set of batteries!), is still my first choice for most calculations though my new crop of 34S machines (one at home, one at work) are what I am reaching for when I have to do HEX or logical stuff.

I must say that I love the complex math on the 35s. I find it more intuitive than the 42S (though I only have free42). I too miss the R->P and P->R functions but Pauli's published workarounds help out there.

I have an emulator for 15C on my iPad but find the complex math somewhat of a challenge to keep straight with the (effectively) limited stack (even with the parallel imaginary stack). The 34S takes a bit to get used to with the complex math but the 8-level stack sure helps.

I really can not get my knickers in a knot over the issues with the 35S. Probably because I don't use it for much programming. The keyboard is worlds ahead of the 33S and the display is positively lovely. If the form factor were smaller (and maybe landscape!) and it was flashable, what a machine it could become! Sigh!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #1 Posted by **Geoff Quickfall** on 2 Aug 2011, 6:36 p.m.*

The video captions say it all, and it is a short video!

For all of you, the calculator states are identical:

```
x-memory
program registers
storage registers
plug in xroms
plug in modules
```

The program uses synthetics and CCD functions along with an x-memory data base.

here is the link: speed comparison

Cheers, Geoff

p.s. I will try to make the next one a little more entertaining.

Edited: 2 Aug 2011, 6:41 p.m.

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #2 Posted by **Namir** on 2 Aug 2011, 7:32 p.m.,*
in response to message #1 by Geoff Quickfall

Wow ... and add video maker to you set of talents!!! I feel with my skills that I live in the stone age!

Namir

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #3 Posted by **Geoff Quickfall** on 2 Aug 2011, 7:41 p.m.,*
in response to message #2 by Namir

Shucks Namir...

;-)

now if I could master Mathematics as you have, now THAT would be a feat!

Geoff

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #4 Posted by **Namir** on 2 Aug 2011, 10:29 p.m.,*
in response to message #3 by Geoff Quickfall

I am blushing!

:-)

Looking forward to seeing you in San Diego! I love to see the group sit in the lobby area and chat after the conference. You tell the coolest stories as a pilot. I missed the HHC last year because I went with the Mrs to Nice, Vienna (and yes I went to visit Freud's apartment) and then to Venice. No such nonsense this year.

Namir

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #5 Posted by **Marcus von Cube, Germany** on 3 Aug 2011, 5:25 a.m.,*
in response to message #1 by Geoff Quickfall

That's the difference between *working* and *usable*!

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #6 Posted by **C.Ret** on 3 Aug 2011, 8:55 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hi,

Really nice video, the video camera is perfectly fixe and the two calculator displays perfectly readable. It's not as easy as it seem to get it right.

So, I notice that the HP-41 on the right (CX) is much fair that the one on the left (41CL) because she adjust running time to leave you time to enter any data on the first one and only prompting you for an entry when you have already finish with the first one and are ready to process.

Did anyone else notice how the 41CX is spending all her time not to stress you by spreading too much result at the time and prompting you for entries without a delay?

Really, the 41CL is not good for stress and too fast at business, ...

And you know, the more you do at work, the more your boss ask you to do!

Re: A speed comparison of the 41CL versus the 41CX (and my first YOUTUBE video)

*Message #7 Posted by **Ángel Martin** on 8 Aug 2011, 2:33 a.m.,*
in response to message #1 by Geoff Quickfall

Thanks for this graphic evidence Geoff, it surely reminds me my hysterical laughter and mouth-opening moments when doing my own comparisons using the 41Z functions with and without TURBO mode!

The CL is soooo much more that what meets the eye!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Ángel Martin, my Open Source Hero

*Message #1 Posted by **Geir Isene** on 2 Aug 2011, 4:14 p.m.*

I just had to :)

Re: Ángel Martin, my Open Source Hero

*Message #2 Posted by **Geoff Quickfall** on 2 Aug 2011, 4:53 p.m.,*
in response to message #1 by Geir Isene

DITTO

working with Angel on the CL utilities project is a treat!

Geoff

Re: Ángel Martin, my Open Source Hero

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 2 Aug 2011, 5:34 p.m.,*
in response to message #1 by Geir Isene

LIKE

:-)

Re: Ángel Martin, my Open Source Hero

*Message #4 Posted by **Geir Isene** on 2 Aug 2011, 5:43 p.m.,*
in response to message #1 by Geir Isene

Feel free to leave a comment on my blog. There are a few thousand readers, and I would like to inspire at least a tenth of a percent to dive into MCODE'ing ;)

Re: Ángel Martin, my Open Source Hero

*Message #5 Posted by **Geoff Quickfall** on 2 Aug 2011, 6:26 p.m.,*
in response to message #4 by Geir Isene

Sign me up, with the CL it is a treat!!

Re: Ángel Martin, my Open Source Hero

*Message #6 Posted by **robertoataulfo** on 2 Aug 2011, 6:35 p.m.,*
in response to message #1 by Geir Isene

```
Who is Angel Martin?
Creator of the 41x series?
Where did he learn as much knowledge about Mcode?
Like us, spending sleepless nights?
And not to create jealousy :-)
Diego Diaz (Clonix) and Mount (HP-41CL)
After this one could win Clonix and an HP-41CL :-)


My Names is Angel. Angel Diego Mount
Ready to create Mcode ;-)
```

Re: Ángel Martin, my Open Source Hero

*Message #7 Posted by **John B. Smitherman** on 2 Aug 2011, 9:13 p.m.,*
in response to message #1 by Geir Isene

Regarding Open Source - Linux developers want to be as open as Angel Martin.

Regarding Hero - Superman sleeps in Angel Martin pajamas.

Good job Angel!

John

Re: Ángel Martin, my Open Source Hero

*Message #8 Posted by **Ángel Martin** on 8 Aug 2011, 2:26 a.m.,*
in response to message #7 by John B. Smitherman

Guys, Guys, thanks - this is flattering and a bit blushfull for a modest chap like me :-) I didn't do more than many others, just "too late" when no-one else was at it and thus it appears to be more than what it actually is.

What I do stand for however it the open access and sharing character of all those little things - that's what you can say I'm glad about.

You caught me without web access (still sporadic this couple of weeks), tryin'to unwind a little in the old country as they say.

Have a good one, and keep the beat loud!

ÁM

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP7470A plotter with the HP-IL interface

*Message #1 Posted by **Richard L. Taylor** on 2 Aug 2011, 1:19 p.m.*

Of all the user programs written for the HP41, how come there are very few if any, written for the HP 7470A plotter with the HP-IL interface using the plotter module?

Re: HP7470A plotter with the HP-IL interface

*Message #2 Posted by **Garth Wilson** on 2 Aug 2011, 1:43 p.m.,*
in response to message #1 by Richard L. Taylor

HPGL is just text, and you can write your own programs and don't need the plotter module, although I suspect it has functions in Mcode so it would run faster. There's a related topic at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=148248 .

Re: HP7470A plotter with the HP-IL interface

*Message #3 Posted by **Juergen Keller** on 3 Aug 2011, 3:20 a.m.,*
in response to message #1 by Richard L. Taylor

Probably because it was sooo slow? Here you can see it in action ...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CL update from a user

*Message #1 Posted by **Geoff Quickfall** on 2 Aug 2011, 12:46 p.m.*

Well, what to say, where to start!

Monte Dalrymples package is superb.

I have just created a routine which will allow you to store in FLASH RAM up to four CALCULATOR-STATES protected from power loss and the dreaded "MEMORY LOSS".

For example, I have a set of routines which require 100 memory registers and 500 lines of programming. This set of routines requires reassigning of all the keys to specific sub routines. Also included are synthetic commands and synthetic routines which sort data and etc... I created this set of programs back in 1984 in the lab during my Palynology/Climate research.

Today I have as set of routines with SIZE=25 and 3 PRGM REG left over. Also an assigned set of keys:

Well I got a call the other day from my University supervisor asking about co-authouring an article based on my

data from 1984 so I dug up my Palynology Magnetic cards and lo and behold, they work.

Firstly, I copied my AVIATION suite of programs to the CL flash memory and then downloaded with the card reader my Palynology routines.

That got me thinking, HOW DOES ONE save multiple calculator states in a CL for future reference using a routine to automate the procedure.

Firstly a definition: CALCULATOR-STATE is the unique set of memory registers applicable to a specific set of duties; for example I have the requirement for two CALCULATOR-STATES:

```
AVIATION          280 PRGM registers used, x-memory data and asci files, key assignments
PALYNOLOGY        217 PRGM registers used, 100 STO registers required
                  x-memory alpha data, synthtetics, key assignments.
```

Another CALCULATOR-STATE state may involve the data stored in a number of registers such as a SURVEY routine. After collecting data, store the calculator state in a FLASH RAM address and then do the next days transect and store that CALCULATOR-STATE in another location.

So here is the routine and you can see how flexible the entire system is:

```
LINE    COMMAND                 DESCRIPTION


1.      LBL "YCTOF"             CALCULATOR TO FLASH
2.      TURBO50                 GO FAST
3.      "1: 0C9  2: OD1"        DISPLAYS CHOICE OF FOUR DIFFERENT LOCATIONS:
4.      AVIEW                   0C9000, 0D1000, 0D9000, 0E2000
5.      PSE
6.      "3: 0D9  4: OE2"
7.      AVIEW
8.      GETKEY                  USES THE KEYPRESS TO CHOOSE THE CORRECT SUB ROUTINE.
9.      "COPYING"               COPYING IS DISPLAYED UNTIL "DONE" APPEARS SO YOU DON'T
10.     AVIEW                         FREAK OUT WHILE IT IS RUNNING!
11.     GTO IND X               USED TO DIRECT THE PROCESS TO THE CORRECT SUB ROUTINE.
12.     LBL 72                  IF 1 SELECTED USE ADDRESS STARTING AT 0C9000.
13.     XEQ 20
14.     "0C9000"                ERASE THE ADDRESS BLOCK.
15.     YFERASE
16.     "800>0C9"               COPY THE CALCULATOR-STATE TO THE ADDRESS BLOCK.
17.     YFWR
18.     GTO 13
19.     LBL 73                  IF 2 SELECTED USE ADDRESS STARTING AT 0D1000.
20.     XEQ 20
21.     "0D1000"                ERASE THE ADDRESS BLOCK.
22.     YFERASE
23.     "800>0D1"               COPY THE CALCULATOR-STATE TO THE ADDRESS BLOCK.
24.     YFWR
25.     GTO 13
26.     LBL 74                  IF 3 SELECTED USE ADDRESS STARTING AT 0D9000.
27.     XEQ 20
28.     "0D9000"                ERASE THE ADDRESS BLOCK.
29.     YFERASE
30.     "800>0D9"               COPY THE CALCULATOR-STATE TO THE ADDRESS BLOCK.
31.     YFWR
32.     GTO 13
33.     LBL 62                  IF 4 SELECTED USE ADDRESS STARTING AT 0E2000.
34.     XEQ 20
35.     "0E2000"                ERASE THE ADDRESS BLOCK.
36.     YFERASE
37.     "800>0E2"               COPY THE CALCULATOR-STATE TO THE ADDRESS BLOCK.
38.     YFWR
39.     GTO 13
40.     LBL 20                  PLACES YFNS IN RAM SO YFERASE AND YFWR ARE AVAILABLE.
41.     062>80C
42.     YMCPY
43.     80C-RAM                 PLACES YFNS RAM IN TO PORT 1 LOWER.
44.     PLUG1L
45.     RTN
46.     LBL 13                  PLACES YFNS BACK IN PORT 1 L.
47.     "YFNS"
48.     PLUGIL
49.     DONE                    DISPLAYS "DONE" TO LET YOU KNOW THE ROUTINE HAS
```

```
50.     AVIEW                   FINISHED.
51.     END
```

• WHEN THE USER ABORTS THE ROUTINE AT THE ADDRESS LOCATION PROMPTS BY PRESSING “C” THE CALCULATOR EXITS THE PROGRAM IMMEDIATELY WITH THE DISPLAY “DONE”.

• WHEN THE USER SELECTS AN ADDRESS THE ROUTINE TAKES ABOUT 22 SECONDS TO COMPLETE AND “DONE” IS DISPLAYED WHEN THE ROUTINE IS COMPLETED.

Some standard caveats when dealing with any type of FLASH RAM:

DO NOT INTERUPT THE PROGRAM AS IT IS RUNNING, THIS IS DUE TO THE YFERASE AND BELIEVE ME YOU DO NOT WANT THE CONSEQUENCES ON YOUR HEAD!!!

MAKE SURE YOU HAVE A GOOD SET OF BATTERIES AS YFERASE IS VERY UNFORGIVING!!!

The upshot is that we are finding so many new and exciting ways to use the HP 41CL.

Last night, I loaded from withing the XROMs the CL has in its Library the ZENROM XROM. I saved 5 program registers just converting some commands to the synthetic equivalent.

I now have a QRG pocket PDF produced (if you want one, email me) which records which routines I need and in which XROM they are located.

My CL has the following XROMS loaded and displayed by CAT II:

```
1  -EXT FCN 2D
2  -CX EXT FCN
3  -TIME 2C      PHYSICAL TIME MODULE
4  -CX TIME
5  -PRINTER 3B   PHYSICAL IR MODULE
6  -YFNS 1C      CL FUNCTIONS (ALWAYS RESIDENT)
7  -CCD"OS/X     VIRTUAL XROM FROM RESIDENT XROM LIBRARY
8  C PPC 1981    VIRTUAL XROM FROM RESIDENT XROM LIBRARY
9  EXT IL ROM    VIRTUAL XROM FROM RESIDENT XROM LIBRARY
10 -CLUTILS 1H   ANGEL MARTINS CL UTILITIES ROM FOR THE CL!
   -SYS/EXT      ANGEL MARTINS CL UTILITIES ROM FOR THE CL!
```

The CLUTILS 1H XROM was loaded via Diego Diaz's CLONIX in a very simple procedure. However, some of the testers (and myself) are now experimenting with the serial port built into the CL and using a stereo jack in a port cover to RS232 on the computer. More on this later.

At any time I can swap out, or add more XROMS up to the standard limit of pages. YFNS must always reside in a 4K page so it stays in PORT 1 Lower. But that leaves 7 4K pages for 7 4K ROMS or 3 8K ROMS or, well you get the picture. The IR module and time module do not occupy the pages available for XROM images.

Well I can go on but...maybe later!

Geoff

oh, did I say it was fast!!!

Edited: 2 Aug 2011, 12:54 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Message to Diego Diaz about HP 41 flex PCB

*Message #1 Posted by **Alexander Oestert** on 2 Aug 2011, 8:57 a.m.*

Hi Diego,

I tried to contact you from your Clonix site about the replacement flex PCBs you are describing there. Are there still some you would sell? I would be glad if you could contact me about this via forum email.

Does anyone else know a source for flex PCBs to repair the HP 41? Can they be (easily!) DIYed? Is there another way to replace a corroded flexible PCB in order to have a working module compartment?

Thanks to all!

A.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34 S 2.1 released on SourceForge

*Message #1 Posted by **Marcus von Cube, Germany** on 2 Aug 2011, 7:00 a.m.*

We've updated the release package on SourceForge. As usual, it's still a beta package.

Serial I/O should now reliably work on devices without a crystal installed. If your calculator is a bit on the slow side, just enter 95 or some such as the percentage value for the real speed compared to the nominal speed before you use one of the serial I/O commands like RECV or SENDP. Values between 80 and 120 are valid. Other values are ignored, as is generally the case on the emulator or with the crystal installed and activated.

To determine the speed, time a short loop CLx; INC X; BACK 01 for 30 seconds. The result should be about 191000. To get the correction factor for your calculator, divide the actual value by 1910.

Re: WP34 S 2.1 released on SourceForge - installing the library

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Aug 2011, 4:23 p.m.,*
in response to message #1 by Marcus von Cube, Germany

You may have noticed that the commands 'TVM' and 'WHO' had to be removed from the image due to space reasons. But not all is lost! Leave the calculator connected to the cable and transfer the newly available library file wp34s-1.dat via the serial interface:

Start the emulator with the file in its directory so it is automatically installed in region 1. CAT should show a bunch of alpha labels. A file wp34s.ini needs to be in the same directory with the name of the COM port in the first line of the file. Mine reads COM9: which is the same port that is used by SAM-BA. Quit SAM-BA before you attempt to use serial I/O on the emulator.

Now start RECV on the calculator. It's located in P.FCN as are the other I/O commands. If you have the crystal modification installed, activate it first for better reliability, if not you may need to provide a speed correction factor in X as mentioned in the previous post.

On the emulator, the new command SENDL with an argument of 1 for the library region sends the file to the calculator. "OK" should be displayed on the emulator and "Program" on the calculator. Disconnect the cable after the successful transfer as it draws power from the batteries.

Now issue the command PSTO 1 (or any other area) to save the library in flash. The program memory may be cleared for your own use thereafter.

Enjoy!

P.S.: My modified WP 34S (a former 30b) with its FTDI 3.3V cable worked perfectly fine with SAM-BA and the I/O commands. No need to connect the programming cable. Just a paper clip for the necessary reset after flashing was needed. :-)

Edit 1: I've heard of a case where the calculator runs only at 80% nominal speed and is unable to communicate via the interface. I'd be interested to hear from your experiences.

Edit 2: The serial commands have moved from X.FCN to P.FCN in the most recent upload as of today.

Edited: 3 Aug 2011, 6:38 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Help with Testing Random Number Generators

*Message #1 Posted by **Namir** on 1 Aug 2011, 12:05 p.m.*

Hi All,

I am interested in learning about testing for high performance random number generators that can be used in Monte Carlo methods. Such methods require "Rolls Royce" versions of RNG and not you regular "Ford" versions (apologies to car makers for comparison).

Any good links to such tests?

Thanks!

Namir

Edited: 1 Aug 2011, 12:06 p.m.

Re: OT: Help with Testing Random Number Generators

*Message #2 Posted by **spb** on 1 Aug 2011, 5:57 p.m.,*
in response to message #1 by Namir

The standard starting point for serious randomness testing is probably Marsaglia's diehard tests. It is over a decade old, and it doesn't include some modern approaches (phase space visualisations, for example), but it's probably a pretty good starting point.

What's the application? It isn't really meaningful to talk about any measure of randomness in the abstract; you can only meaningfully talk about whether some measure is suitable for a particular application, threat model, or whatever.

Re: OT: Help with Testing Random Number Generators

*Message #3 Posted by **allen** on 1 Aug 2011, 7:07 p.m.,*
in response to message #1 by Namir

Chapter 3 of TAOCP is devoted to RNG entirely. Although I'm sure other people have done more recent work, it's still worth the 175 pg read.

Re: OT: Help with Testing Random Number Generators

*Message #4 Posted by **Namir** on 1 Aug 2011, 7:36 p.m.,*
in response to message #1 by Namir

Thanks guys for the tips!

Namir

Re: OT: Help with Testing Random Number Generators

*Message #5 Posted by **htom trites jr** on 1 Aug 2011, 11:10 p.m.,*
in response to message #4 by Namir

It's a joy to see someone asking about testing PRNG, rather than how to make fast ones. A good PRNG is a *hard* problem to solve.

Re: OT: Help with Testing Random Number Generators

*Message #6 Posted by **Paul Dale** on 1 Aug 2011, 11:20 p.m.,*
in response to message #1 by Namir

The GNU Scientific Library has some links to generators and test suites.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reviews about loose keys: Is it really that bad?

*Message #1 Posted by **Lode** on 1 Aug 2011, 8:34 a.m.*

In the reviews of recent HP calculators, it is often mentioned that keys get loose and don't register, so numbers you type might miss some digits etc...

I'm wondering: is it really that bad, or are the reviews exaggerated?

I've got this old Ti calculator with rubbery keys. These keys are annoying and mushy compared to the nice clicky keys of several HP calculators. However, after 6 years of spending in a secondary school backpack and heavy use, and living on many years after that, the keys of this Ti still work and register every press.

So this Ti definitely has very cheap keys. But they don't break or get loose.

So is it really true that HP has managed to make keys that are even worse than this Ti, and break after just a few months, on its recent models?

Thanks.

Re: Reviews about loose keys: Is it really that bad?

*Message #2 Posted by **Michael de Estrada** on 1 Aug 2011, 9:24 a.m.,*
in response to message #1 by Lode

Only in Belgium.

Re: Reviews about loose keys: Is it really that bad?

*Message #3 Posted by **Lode** on 1 Aug 2011, 9:29 a.m.,*
in response to message #2 by Michael de Estrada

Is there something wrong with my post? I didn't want to troll in any case. Please let me know how I can improve my posts and I'll take it into account. Thanks.

Re: Reviews about loose keys: Is it really that bad?

*Message #4 Posted by **Marcus von Cube, Germany** on 1 Aug 2011, 10:17 a.m.,*
in response to message #3 by Lode

To me, your post looks perfectly ok. I don't understand Michael's humor. ?-(

Back to the key question: The mechanics of the very first HP calculator keys are quite sophisticated, say expensive. With a retail price of several 100 dollars this is no problem. When prices dropped, cheaper mechanics needed to replace the former key construction. HP has managed (at least to some extent) to preserve the typical feel of the keys but in some cases not the durability. I've a 71B with a sunk key. It still works but there must be something broken inside.

TI and other manufacturers have had a similar problem. The keyboards of the SR-50(A) and its twins were quite good. The step to the cheap TI-30 construction (carried over to the high end TI-59) was a disaster. Bouncing keys everywhere. :-(They learned their lesson and switched to the mushy but reliable rubber dome technique. The keys are quite reliable but the feeling is a bit less pleasing then it could be.

HP-71B keys are reliable

*Message #5 Posted by **Vladan Dugaric** on 1 Aug 2011, 11:03 a.m.,*
in response to message #4 by Marcus von Cube, Germany

it is the neoprene membrane between the key and the snap dome that got a hole in it and that is why the key is sunk.

I opened mine and de-staked keyboard from case, turned rubber membrane over (it is slightly asymmetric, so now the key hits a slightly different place on the membrane and all keys are fine now), then re-staked the keyboard.

You can only do this once, though, if you don't want to reconstruct the heat stakes.

Vladan

Re: HP-71B keys are reliable

*Message #6 Posted by **Marcus von Cube, Germany** on 1 Aug 2011, 11:41 a.m.,*
in response to message #5 by Vladan Dugaric

Vladan, thanks for the tip. I'll leave it untouched for the time being except when more keys start to sink in.

Re: Reviews about loose keys: Is it really that bad?

*Message #7 Posted by **Don Shepherd** on 1 Aug 2011, 10:41 a.m.,*
in response to message #1 by Lode

I don't have the most recent HP10bii+, but I think people have said that its keys are fine. I do have a 30b and 12c+ from the last two years, and those keys are great.

Re: Reviews about loose keys: Is it really that bad?

*Message #8 Posted by **John B. Smitherman** on 1 Aug 2011, 10:59 a.m.,*
in response to message #7 by Don Shepherd

Lode, I have trouble with the 35s recognizing keystrokes if I try to press the keys too quickly. Slowing down improves the accuracy.

Regards,

John

Re: Reviews about loose keys: Is it really that bad?

*Message #9 Posted by **gene wright** on 1 Aug 2011, 12:08 p.m.,*
in response to message #8 by John B. Smitherman

I believe that is due to the keyboard processing routines in the internals of the unit, and not the

keyboard itself.

As far as I know, the 35s keyboard really does not miss keys, but if you press them VERY VERY fast, it appears the scanning routines can miss a keystroke.

And, that is a somewhat educated guess on my part.

Re: Reviews about loose keys: Is it really that bad?

*Message #10 Posted by **Lode** on 1 Aug 2011, 12:17 p.m.,*
in response to message #9 by gene wright

I don't seem to have any problems at all with the 35s keys. I can press them as fast as humanly possible and they all register. The only minor issue is that the "+" key makes a different sound than all the other keys...

Re: Reviews about loose keys: Is it really that bad?

*Message #11 Posted by **Thomas Radtke** on 1 Aug 2011, 1:07 p.m.,*
in response to message #9 by gene wright

> Quote:
>
> I believe that is due to the keyboard processing routines in the internals of the unit, and not the keyboard itself.

I thought the same. But after about one year of moderate use, the Arrow-Up key failed to register reliably. You hear the click, but got a response only after pressing slightly harder. As other keys are ok, probably this is due to the strange arrangement of the curser keys and the fact that they aren't hinged.

Much more of a desaster is my 20b, on which all keys need a firm press to register.

Hopefully other HP calculators do better.

Re: Reviews about loose keys: Is it really that bad?

*Message #12 Posted by **Marcus von Cube, Germany** on 1 Aug 2011, 6:31 p.m.,*
in response to message #11 by Thomas Radtke

Thomas, it would be interesting to see if the keyboard of your 20b becomes more responsive with the 34S firmware. If yes, the HP firmware may be part of the problem.

Re: Reviews about loose keys: Is it really that bad?

*Message #13 Posted by **Thomas Radtke** on 2 Aug 2011, 6:55 a.m.,*
in response to message #12 by Marcus von Cube, Germany

I installed it once, but haven't noticed any improvements on this. It's probably about *how* the keys are pressed. There's no guidance, and it literally feels like balancing the keytop on this rubber dome when touching any 20b key.

Anyway, the 20b doesn't have a good concept mechanically at all. Function follows form. Looks great, works terribly. And that's really sad, since it is small and has an excellent LCD. A 30b without the extremely bevelled edges would have been a good thing, imo.

Re: Reviews about loose keys: Is it really that bad?

*Message #14 Posted by **Katie Wasserman** on 1 Aug 2011, 1:04 p.m.,*
in response to message #7 by Don Shepherd

Yep, the keys on the 10bii+ are quite nice. No missed keystrokes, and all have nice "click" with just the right amount of force needed to activate. But I slightly prefer the keys on the 12C+ with their higher profile and longer travel.

Re: Reviews about loose keys: Is it really that bad?

*Message #15 Posted by **Bart (UK)** on 2 Aug 2011, 5:42 a.m.,*
in response to message #14 by Katie Wasserman

I have the 10bII in that shape (i.e. the second version), and find it quite nice. The keys are a bit lower than the 12C & 12C+, but still good none the less. Apparently it is the fisrt 10bII (brown model) that is quite bad - but I do not have personal experience of that.

Re: Reviews about loose keys: Is it really that bad?

*Message #16 Posted by **M. Joury** on 1 Aug 2011, 11:08 a.m.,*
in response to message #1 by Lode

I have used many of the recent HP calculators including the 12C+, 12CP, 14Bii, 35S, 20B, 30B, and all the graphing calcs and so far the only one I have had problems with is the 20B which has a mushy key feel and does not always register for me.

To add a disclaimer... I have not used any of these machines the way I used (and still use) my HP-41 and so long term reliability is still an unknown for me.

Re: Reviews about loose keys: Is it really that bad?

*Message #17 Posted by **Maximilian Hohmann** on 1 Aug 2011, 11:15 a.m.,*
in response to message #1 by Lode

Hello!

> Quote:
>
> So is it really true that HP has managed to make keys that are even worse than this Ti...

Some series of HP-48s have entire rows of keys failing (I also have one of those...), something that I have never seen in any other brand of calculators. The reason however lies not in the keys themselves, but in the poor connection between the keyboard and the main PCB. The construction of the calculator makes it very difficult or almost impossible to repair this simple fault.

Regards, max

loose keys: Is it really that bad?

*Message #18 Posted by **bill platt** on 1 Aug 2011, 11:52 a.m.,*
in response to message #17 by Maximilian Hohmann

A long time ago I read an article on how to fix this problem. You can actually take the 48 apart without

destroying anything. The pressure pad under the zebra connector is the problem.I have one machine with this problem. If I press on the faceplate, above the F button, it works perfectly.

I also heard from someone else that merely taking the batteries out and soaking in distilled water, then drying for a week under a fan, will do the trick. Doesn't sound permanent though. I haven't been able to find either of these old posts or writings and I am too impatient to care (and have too many 48 machines that work fine anyway).

Problems with the 35s keys not registering were quite different from the old "TI-itis" of the 1970s. Problems with the 1st batch of the 49G+ were mechanical in nature and were remediated by a key-rubbing process, though a warranty replacement was offered if I remember correctly. HP changed them to work better and then made the 50G and that apparently made the problem go away completely. I don't have a 50G and never even held one in my hand.

Re: Reviews about loose keys: Is it really that bad?

*Message #19 Posted by **Nigel J Dowrick** on 1 Aug 2011, 4:35 p.m.,*
in response to message #1 by Lode

I think that the **real** low point was the HP-49G+, released in 2003. At the time this was the highest of HP's high-end calculators, with sophisticated software and expandability. However its keyboard felt and sounded like a cheap toy and was equally (un)reliable. The machine was unusable. Since then HP has released the HP-50g, with similar features and (in my view) an entirely satisfactory keyboard. If it's this machine you are thinking of buying, you'll have no problems. The same is true for most recent machines (the HP-20b and the HP-35s are the only two with question marks over them so far as I know, and my HP-20b works fine).

I don't understand the comment about Belgium either!

Nigel (UK)

Re: Reviews about loose keys: Is it really that bad?

*Message #20 Posted by **Bart (UK)** on 2 Aug 2011, 5:49 a.m.,*
in response to message #1 by Lode

See my take on the 12C Platinum with silver keyboard..
I also have the 25th anniversary edition and the black keyboard version, the keys are much better on those.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

VINTAGE SHARP CS-4800

*Message #1 Posted by **robertoataulfo** on 1 Aug 2011, 8:21 a.m.*

Someone could give more information about it? (Scientific, financial)

Item number:220822937134

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Merged Steps?

*Message #1 Posted by **Tim Wessman** on 1 Aug 2011, 1:00 a.m.*

Ok, I feel really dumb for asking this, but I am definitely one of the younger generation and never really used RPN programmables. The 49 was where I really cut my teeth. With the talk of the wp34 i keep seeing "merged program steps" and wasn't 100% certain I understood that.

Does "merged steps" just mean encoding the f or g into the byte with the keycode as well? Would things like GTO then just take an extra byte for the number part? What other commands would require more space? Would there ever be a 3 byte command?

For a simple example, if you have a calc with 100 merged steps this means you could do 100 simple steps, or 50 more complicated ones (yeah, not useful, but I am just checking my understanding).

Thanks for clarifying my ignorance! :-)

TW

Re: Merged Steps?

*Message #2 Posted by **David Ramsey** on 1 Aug 2011, 1:08 a.m.,*
in response to message #1 by Tim Wessman

Yes, "merged steps" means multiple keystrokes only take one program step.

Under the hood, this means designing an instruction set that can handle all possible valid keystroke combinations, and then encoding/decoding keystrokes so that something like "STO IND 04" can be represented in one instruction.

The concept's only valid on keystroke-programmable calculators; for calcs like your 49 that have an actual programming language, it's not an issue.

Re: Merged Steps?

*Message #3 Posted by **Eric Smith** on 1 Aug 2011, 1:18 a.m.,*
in response to message #1 by Tim Wessman

The HP-12C is a fair example of "merged program steps". Anything that can be a program line in a 12C occupies exactly one byte of program memory, and there are no multi-byte instructions.

I'm not sure whether that's true of the 12c Platinum.

Re: Merged Steps?

*Message #4 Posted by **Tim Wessman** on 1 Aug 2011, 1:27 a.m.,*
in response to message #3 by Eric Smith

Hmm. I could see that working fine on the 12c due to the limited nature of things. I am guessing the 15 has some multibyte commands then since it had quite a bit more memory.

Dunno what the 12cp does. Since it was done by china and I've looked at the 35s code, I doubt it is pretty!

TW

Re: Merged Steps?

*Message #5 Posted by **Paul Dale** on 1 Aug 2011, 1:31 a.m.,*
in response to message #4 by Tim Wessman

> Quote:
>
> I am guessing the 15 has some multibyte commands then since it had quite a bit more memory.

Yes, the 15C has two byte instructions. See the op-codes decoded: http://www.brouhaha.com/~eric/hpcalc/hp15c/tennant83.html.

- Pauli

Re: Merged Steps?

*Message #6 Posted by **Paul Dale** on 1 Aug 2011, 2:05 a.m.,*
in response to message #5 by Paul Dale

Are you aware of the increase the registers in the 15C effort of a few years ago.

It would be wonderful if the non-existent limited edition took advantage of this :-)

- Pauli

Re: Merged Steps?

*Message #7 Posted by **Gerson W. Barbosa** on 1 Aug 2011, 1:31 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> It would be wonderful if the non-existent limited edition took advantage of this :-)

Yes, it would, but apparently it did not:

```
Specifications
Memory
Memory registers
65
```

Re: Merged Steps?

*Message #8 Posted by **robert rozee** on 1 Aug 2011, 2:00 p.m.,*
in response to message #7 by Gerson W. Barbosa

but if it is using a simulator to run the original 15c rom image, then all one needs to do is get a copy of the firmware, patch it as documented elsewhere, and the extra memory will be there.

of course, this would require HP to make available the firmware, which they are only likely to do if a bug is found, necessitating making a replacement available...

Re: Merged Steps?

*Message #9 Posted by **Gerson W. Barbosa** on 1 Aug 2011, 3:15 p.m.,*
in response to message #8 by robert rozee

Now that speed is not a problem anymore, double memory should be the next goal. It this can be achieved with a simple firmware patch, so much the better. I'd like the 15C to be able to solve at least a 3x3 complex linear system. It does, but then programs are limited to about 150 steps and 11 memory registers (R0

through R9 plus I) when complex mode is set. Not so bad, but it could be better.

Who said "65 registers is all you'll ever need"? :-)

Re: Merged Steps?

*Message #10 Posted by **Walter B** on 1 Aug 2011, 1:24 a.m.,*
in response to message #1 by Tim Wessman

Tim,

Please see the top paragraph here. BTW, we are very pleased with the WP 34S taken as reference by you :-)

Walter

Re: Merged Steps?

*Message #11 Posted by **Paul Dale** on 1 Aug 2011, 1:27 a.m.,*
in response to message #1 by Tim Wessman

A calculator with non-merged steps pays one step of programming memory for each key stroke. The very earliest programmables are in this category as is the 30B.

Fully merged means that every possible instruction takes a single step. e.g. the 34C, 11C, 16C.

Then there are partially merged where some commands are merged even though they are multiple keystrokes and some aren't. The 65 and 15c fall into the category.

The 41 series kind of mixed things up by having properly variable length instructions -- many commands are one byte, those with an argument are two and ones with text arguments or text itself are longer. Talking about merged steps here starts becoming meaningless. The 42S must have extended this scheme to fit all its functions in.

The 34S is strictly partially merged. Although, for most intents and purposes, fully merged is more appropriate. The only instructions which aren't a single step are those that take an alpha argument. i.e. alpha labels and commands that use alpha labels. All other commands including those that reference numeric and hot key labels are a single step. This is regardless of the number or type of key strokes required to access them and regardless of the argument or if indirection is being used. I managed this by increasing the op-code size to sixteen bits: we've 26489 legal op-codes currently and 504 distinct commands.

- Pauli

Re: Merged Steps?

*Message #12 Posted by **Tim Wessman** on 1 Aug 2011, 1:32 a.m.,*
in response to message #11 by Paul Dale

Yeah, 16 bits would definitely give the needed space. :-)

I was wondering how so much was getting put in a "merged" step thinking that meant 8.

TW

Re: Merged Steps?

*Message #13 Posted by **Paul Dale** on 1 Aug 2011, 1:39 a.m.,*
in response to message #12 by Tim Wessman

We're close to having used half of the sixteen bits and it wouldn't be hard to envisage needing a lot more on a device with extra RAM.

Right from the start I decided that the op-codes would have to be larger than eight bits and sixteen is the next natural size. We've got more distinct functions than will fit in a byte and I thought this would be the case well before implementing many of them. So either I'd need a system of command prefixes and more code in the instruction decode state machine or a longer word size.

I'm surprised you didn't look at the sources to answer your step related questions ;-)

- Pauli

Re: Merged Steps?

*Message #14 Posted by **Tim Wessman** on 1 Aug 2011, 1:51 a.m.,*
in response to message #13 by Paul Dale

Why bother when I can just ask? ;-)

Also, I tend to try avoiding looking at sources if possible to anything remotely close to a calculator. Saves the potential of ever being influenced by something I see and potential legal issues if someone ever claims something was copied.

TW

Re: Merged Steps?

*Message #15 Posted by **Paul Dale** on 1 Aug 2011, 2:01 a.m.,*
in response to message #14 by Tim Wessman

> Quote:
>
> Also, I tend to try avoiding looking at sources if possible to anything remotely close to a calculator. Saves the potential of ever being influenced by something I see and potential legal issues if someone ever claims something was copied.

Fair enough. The lawyers rule as usual :-(

I can't think of anything in the 34S you would want or need to copy -- you've got the hardware support and power management, you've got a trustworthy maths library. The keyboard decode and instruction execution aren't anything special. Our floating point format is more compact but part of the IEEE standard. We do some clever things with function pointers to save space (128Kb even aligned instruction addresses fit into 16 bits :-) but again nothing a competent embedded software guy wouldn't be able to do. And everything is open source and meant to be read.

Still I do understand where you're coming from.

- Pauli

Re: Merged Steps?

*Message #16 Posted by **Katie Wasserman** on 1 Aug 2011, 1:57 a.m.,*
in response to message #12 by Tim Wessman

The 32s/ii is a great example of a fully merged programmable calculator. It puts all functions into one step taking 1.5 bytes and includes small integers (0 thru 254) in that as well. Furthermore it stores all other numbers in packed format so that they take a fixed amount of space and appear as one program step too. This means that the number 100 takes 1.5 bytes and that the number 1000 takes 9.5 bytes, and the number 1.23456789012E123 also takes 9.5 bytes. While this might seem like a waste for numbers like 1000, in practice this calculator is extremely efficient with program storage and extremely easy to program.

Re: Merged Steps?

*Message #17 Posted by **Paul Dale** on 1 Aug 2011, 2:06 a.m.,*
in response to message #16 by Katie Wasserman

This would put the 32s/ii into the partially merged category wouldn't it? Likewise, the equations/prompts in programs are a single step but multiple "base units".

Still, one of my favourite calculators BTW.

- Pauli

Re: Merged Steps?

*Message #18 Posted by **Marcus von Cube, Germany** on 1 Aug 2011, 3:19 a.m.,*
in response to message #17 by Paul Dale

Compacting numbers and strings is on our todo list for the successor of the 34S.

Re: Merged Steps?

*Message #19 Posted by **db (martinez, ca.)** on 1 Aug 2011, 9:18 a.m.,*
in response to message #18 by Marcus von Cube, Germany

"our todo list for the successor of the 34S"

it gets better?

Re: Merged Steps?

*Message #20 Posted by **Marcus von Cube, Germany** on 1 Aug 2011, 10:03 a.m.,*
in response to message #19 by db (martinez, ca.)

If we don't run out of ideas, it will! :-)

Re: Merged Steps?

*Message #21 Posted by **Katie Wasserman** on 1 Aug 2011, 12:55 p.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> This would put the 32s/ii into the partially merged category wouldn't it? Likewise, the equations/prompts in programs are a single step but multiple "base units".

It could be that I'm not understanding your comment correctly but.....

I don't think that "fully merged" was ever meant to include arbitrary length string data like equations and alpha prompts, how could it unless string data were simple stored outside of the code stream and be pointed to by the code. Non-base 10 numbers work the same as base 10 numbers on the 32s/ii taking up 9.5 bytes each. You could argue that it's not fully merged becasue numbers are 9.5 vs 1.5 for everything else, but I'd extend the meaning to "fully merged" to allow for this.

I can't think of any calculator that makes better use of memory.

Re: Merged Steps?

*Message #22 Posted by **Thomas Chrapkiewicz** on 1 Aug 2011, 8:45 a.m.,*
in response to message #1 by Tim Wessman

Tim:

Having cut my 'programmable calculator' teeth on an HP65, merged keystrokes were a welcome feature.

On the HP65, GTO 00 required two (of the precious 100) program steps.

STO and RCL were merged.

Also of course, 'in those days' of numeric LED displays, the keystrokes were displayed in numeric format. Even though it's been over 35 years, those keycodes are still burned in my

memory (3301 is STO 1, 41 is ENTER, 84 is R/S,... etc...).

TomC

Re: Merged Steps?

*Message #23 Posted by **David Ramsey** on 2 Aug 2011, 11:48 a.m.,*
in response to message #22 by Thomas Chrapkiewicz

> Quote:
>
> Also of course, 'in those days' of numeric LED displays, the keystrokes were displayed in numeric format. Even though it's been over 35 years, those keycodes are still burned in my memory (3301 is STO 1, 41 is ENTER, 84 is R/S,... etc...).

Yeah, and the key codes made sense, representing the row and column number of the key. To my horror, on the 9810, the key codes are essentially random. And no, nothing's merged.

Re: Merged Steps?

*Message #24 Posted by **Katie Wasserman** on 2 Aug 2011, 1:29 p.m.,*
in response to message #23 by David Ramsey

> Quote:
>
> To my horror, on the 9810, the key codes are essentially random. And no, nothing's merged.

Yeah it's seemingly random and it's in octal so only the digits 0 thru 7 seem to make any sense at all. OTOH if you have the Printer Alpha ROM you can read the mnemonics which makes programming much easier. The blindingly fast speed of this beast helps compensate for the lack of merging of keystrokes.

Re: Merged Steps?

*Message #25 Posted by **Tony Duell** on 6 Aug 2011, 4:39 a.m.,*
in response to message #24 by Katie Wasserman

The HP9810 keycodes make a certain amount of sense -- to the machine, but not to the user.

They are 6 bit numbers, hence 2 octal digits. They are the keycodes sent by the keyboard, and the codes stored in the logically 6-bit wide program memory (this memory is physcially 3 bits wide, consisting of 3 1103 DRAM chips, each keyciode occupies 2 consecutive loctions in the physical DRAM, odd-numbered bits in one location, even numbered bits in another. No I've not just been reading the current Datafile...)

You can work out the keycodes from the keyboard schematic diagram of course, but I will agree a Printer Alpha ROM is very handy...

Re: Merged Steps?

*Message #26 Posted by **Bart (UK)** on 1 Aug 2011, 10:43 a.m.,*
in response to message #1 by Tim Wessman

I think that the concept of merged program steps really "comes into its own" in fixed-number-of-steps key-stroke programmable calculators. I also wish to differentiate from RPN programmable and key-stroke programmable (i will explain later).

Being a *slightly* younger member of the forum, my first programmable calculator was the 28C, i.e. RPL like your 49. However, later I obtained the 20S on which I learnt key stroke programming. It is an algebraic, but I think the same concept of key-stroke programming holds for RPN calculators with key-stroke programming too.

A key-stroke programmable just records the actual key strokes and plays the back as if the keys were being pressed by the user. So unmerged step programming would result in e.g. shift-asin to be 2 program steps for one function. Some of the first models had some merging e.g. "STO 1" & "RCL 1". Now the 20S has 99 programming steps, irrespective of number

of keystrokes per step. So being fully merged, you basically have one program step for a function such that things like "Lshift-hyp-sin" are three steps merged into 1 line, allowing the user much more efficient use of space (numbers take 1 step per digit, therefore it's more efficient to load constants for a program into memory registers - e.g. the 20s does not share prog & register memory).

Now, the 32s was mentioned, this has RPN programming. The concept of "merged steps" becomes mory fuzzy. Again a single function per line, but now the function name or symbol is diplayed e.g. 10^x or SINH. However, the 32s counts bytes, all functions are defined and use 1.5 bytes, as do numbers from 0 to 99. Now, to have a number say 100 in the program costs 9.5 bytes, so it is "cheaper" to do e.g.:
...
A02 10
A03 x^2
...
this "unmerges" steps but only uses 3 bytes compared to 9.5!

As mentioned, the 32s diplayes the function name or symbol, key-stroke programmables display all the key-codes of the keys used to access the function, in the one merged line. e.g. this pic on wikipedia: HP20s.jpg displays the keycodes for Rshift-LBL-A. Do these point to a reserved function thus using a fixed number of bytes? Or is there enough memory for the max. number of keycodes per line * max number of available lines? I don't know.

The 35s of course adds even more complexity to it's programming, allowing whole formulas to be put on one line - but this is not merged program steps, it just eats memory. Of course, where lines refer to a function accessed using multiple keystrokes, it is a merged step.

Anyway, a long post revealing my personal observations made by playing around on various programmables.

-Bart

Re: Merged Steps?

*Message #27 Posted by **gene wright** on 1 Aug 2011, 12:14 p.m.,*
in response to message #26 by Bart (UK)

Some of the early TI programmables were really really bad at using memory locations for program steps.

INV SIN took two bytes or program steps.

The 30b does something similar.

Essentially (to me) it is as if a non-merged step calculator program is recording and playing back a macro instead of encoding the actual instruction to be executed.

Pressing g GTO 09 on the 12c requires pressing 4 keystrokes but is encoded as one byte and takes one step.

On the very early SR 52, GTO 174 would take 4 steps of the available 224, which made it very tough to program.

Re: Merged Steps?

*Message #28 Posted by **Andrés C. Rodríguez (Argentina)** on 1 Aug 2011, 3:55 p.m.,*
in response to message #1 by Tim Wessman

Merged steps were introduced in the HP-25, IIRC. Around November 1975, HP published a 2-page ad in Popular Electronics magazine (that's the one I had, perhaps there were other similar in other magazines) in which the HP-25 was introduced. The HP-25 was shown as a new programmable, with the HP-65 and HP-55 behind it in the main photo.

The HP 25 has only 49 program steps, but introduced what was then called "key phrases", meaning something similar to the "merged steps" of our time. As the possible commands were less than 256, each operation used just one byte, but this was not the main concern. Nobody was counting bytes, but we were surely counting the very scarce steps (or program lines).

I never had a 65 or 55, so this is not from direct experience, but I understand that a command like "GTO 33", "FIX 9" or "STO + 5" needed more than one program line (or step) on those models. In the HP 25, such operations take just one program step each.

The display showed the program line number on the left side and up to three keycodes (row and column, except for digits). For instance, if program step # 18 contains "GTO 10", the diaplay will show "18 13 10".

It's interesting to see how the available 256 opcodes were assigned to the possible operations on the HP-25.

We had:

```
10 digits
10 FIX
10 SCI
10 ENG
08 conditionals
50 GO TO (GTO 00 was a special case)
06 trigs
02 >Rect & >Polar
01 Pi
04 logs
02 square and square root
01 power
02 1/x and %
02 INT and FRAC
01 ABS
03 Sigma +,- and clear sums
02 Mean and Sdev
04 Basic Math
08 RCL
08 STO
32 STO arithmetic
03 Programming (STOP, PAUSE and NOP)
07 Stack & registers (Enter, x<>y, Roll Down, CLx, CHS, EEX, LASTx)
02 Clear Stack and Clear Regs
01 Decimal point
02 HMS and HR
03 Angular modes (DEG, RAD, GRAD)


194 in total.
```

Such an arrangement leaves some opcode space free, which was put to use on the HP-29, but with many differences. For instance, having more registers and 98 program steps would not permit keeping the same scheme. Label addressing (instead of step number addressing) and secondary registers were some of the measures taken to keep opcode space. On the HP 67, the usage of register bank switching via the "P<>S" operation, and the separation of display mode and number-of-digits choice also were measures to keep opcode space (DSP 0-9 and FIX-SCI-END consumed only 13 opcodes, instead of the 30 needed before).

Disclaimer: These data are just from my memory as I'm writing this answer, and are believed to be true; but I'm not doing research to fully support them, so there may be some inaccuracies. Detailed and precise information about opcodes in those old models are to be found in Eric Smith's works and also in articles in his web site.

[/pre]

Re: Merged Steps?

*Message #29 Posted by **Jake Schwartz** on 1 Aug 2011, 7:47 p.m.,*
in response to message #28 by Andrés C. Rodríguez (Argentina)

In that same month, the November 1975 HP Journal had a nice Woodstock article, including a discussion of HP25 programming with merged keystrokes and "key phrases":

ory. Eight comparisons allow the program to react depending on the data in the calculation stack. Together with the GTO (Go To step number) operation, programs can branch and loop based on numeric results. A function that is new to pocket calculators is PAUSE. When encountered in a program, the calculator stops for a second, displays the most recent result, and then continues the program. This is useful when programming iterative functions because one can

Fig. 3. *HP-25 Programmable Scientific Calculator*

HP-25 Programmable Scientific

The HP-25 was originally conceived as an advanced scientific calculator. It was specified as having 2048 microinstructions, twice as many as the HP-21. Also, it was to contain a new integrated circuit, a sixteen-register data storage chip. Because of improved microinstructions and experience gained by microprogramming the HP-21, the HP-25 finally appeared not only as a scientific calculator with many more functions than the HP-21, but more importantly, with 49 steps of user programming.

The real power of the HP-25 is its easy programming. The programming is based on key phrases rather than keystrokes. A key phrase is simply a sequence of keystrokes that together perform one function or operation. For example, both f SIN and STO + 5 are key phrases, but they contain two and three keystrokes, respectively. The program memory contains numbered locations for 49 key phrases. When the user writes a program, the calculator merges keystrokes into key phrases and stores the instructions in program memory.

Editing a program is particularly easy. In program mode, the display shows the step number and the key phrase stored there (see page 6). The key phrase is displayed as the row-column coordinates of the keystrokes that make it up. The digit keys are represented by a zero followed by the digit, and the other keys are described by a row digit followed by a column digit. For example, the f key is in the first row of keys and the fourth column, so its coordinate is 14. The key phrase f SIN appears as 14 04, and STO + 5 appears as 23 51 05.

One innovative feature of the HP-25 is the behavior of the SST (Single Step) key in run mode. This key was designed to help the user debug programs. It allows the user to execute his program one key phrase at a time. When the SST key is held down, the display shows the line number and the key phrase that is to be executed next. Releasing the SST key executes just that key phrase, and the numerical results appear in the display. This new feature makes debugging programs quite easy because the user can tiptoe through his programs, seeing both the key phrases and their results, one phrase at a time. The display when the SST key is held down includes the step number, so checking program flow and branching is easy.

The HP-25 contains a number of functions that make programming simpler. In program mode, the SST key and the BST (Back Step) key allow the user to step forward and backward through the program memwatch the function converge or diverge.

The HP-25 has line-number-based static programming. Key phrases go into numbered locations in memory, overwriting the previous contents. Branching in the program is to the step number of a phrase. This is in contrast to the HP-65 type of programming.[3] In the HP-65, keycodes shift around in the unnumbered memory as steps are inserted and deleted, and branching goes to label keycodes contained in the memory.

The HP-25 merges keystrokes into key phrases using a microcoded finite state machine. The machine carefully checks for undefined key sequences. When a valid key phrase is completed, an eight-bit code is fabricated. If the calculator is in run mode, the code is immediately decoded and executed. In program mode, the code is copied into the program memory and then decoded to generate the row-column display. The data registers used for program storage are 56 bits long. Each register can contain seven key phrase codes. Seven such registers comprise the program memory, so all together there are 49 key phrase locations.

The HP-25 contains a data storage integrated circuit with sixteen registers of 56 bits each (14 BCD digits). Seven registers are for user programming, eight are for user data, and one is used for the LAST x function.

Another innovative feature of the HP-25 is a new mode of formatting the displayed result, called engineering notation. This is a selectable format that makes calculated answers easier to understand. Imagine a problem that deals in physical units of measure, such as seconds. Say the answer to the problem in scientific notation is 5.00 −05. Now this is a valid answer, but not as clear as it could be. Setting the HP-25 into engineering notation gives the answer as 50.0 −06 which is easy to read instantly as 50 microseconds. Engineering notation forces the power-of-ten exponent to be a multiple of three and adjusts the decimal point to give the correct answer. If the above answer is multiplied by 10, it gives 500. −06 or 500 microseconds. Multiplying again by ten gives 5.00 −03 or five milliseconds.

Re: Merged Steps?

*Message #30 Posted by **M. Joury** on 1 Aug 2011, 8:34 p.m.,*
in response to message #29 by Jake Schwartz

Thank you!

Re: Merged Steps?

*Message #31 Posted by **Don Shepherd** on 1 Aug 2011, 8:50 p.m.,*
in response to message #29 by Jake Schwartz

Thanks for the article Jake, it's very interesting.

Re: Merged Steps?

*Message #32 Posted by **BobVA** on 6 Aug 2011, 9:04 a.m.,*
in response to message #1 by Tim Wessman

Funny how one's perspective changes. When discussing merged program steps I now instantly gravitate to the memory efficiencies discussed above. But when I started out with the HP-25 it only meant a nice improvement in the LED-based user interface, particularly to someone just learning programming.

Also, I'd like to take this opportunity to note that "Merged Steps" would have made an awesome name for a 80's dance band.

Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: more direct LBLs and XEQs

*Message #1 Posted by **fhub** on 31 July 2011, 10:43 a.m.*

Hi,

I've just seen that now almost all 1-letter labels can be used directly - an excellent improvement! :-)

But maybe even one more could be added, and that is X. This X is on the decimal point, and this point is not used when entering other numeric labels, so it could be added, too.
Well, at least if I haven't overlooked something ... ;-)

Franz

Re: WP34S: more direct LBLs and XEQs

*Message #2 Posted by **Marcus von Cube, Germany** on 31 July 2011, 12:59 p.m.,*
in response to message #1 by fhub

You have overlooked something. GTO.nnn moves the PC directly to a step number. This isn't a programmable command but its existence makes it impossible to input a GTO X statement. And a label which cannot be reached by all available commands is not as useful as it could be. So we decided to leave this one out.

BTW, the change triggered another change because we have again exhausted all flash. In order not to lose another library region, I have started moving things from XROM to a default library. 'WHO' is already gone from XROM and TVM will leave next. They are not lost but you need to install a library file on the emulator or the device to get them back.

Edit: The change is in (TVM and an enhanced WHO are now in a library.)

A new command, LSEND n, directly sends a library region from the emulator to the calculator (where it arrives in RAM first). The command name may change later but the function will likely not.

Edited: 31 July 2011, 2:27 p.m. after one or more responses were posted

Re: WP34S: more direct LBLs and XEQs

*Message #3 Posted by **fhub** on 31 July 2011, 1:20 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> You have overlooked something.

Damned, I knew it ... :-(

Re: WP34S: more direct LBLs and XEQs

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 31 July 2011, 3:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Edit: The change is in (TVM and an enhanced WHO are now in a library.)

Ahh, jeese! I am blushing! I haven't done squat compared to you 3.

Thanks for the thought.

Re: WP34S: more direct LBLs and XEQs

*Message #5 Posted by **Marcus von Cube, Germany** on 31 July 2011, 3:58 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

I compiled the lib with *your* tool. :-)

Re: WP34S: more direct LBLs and XEQs

*Message #6 Posted by **Paul Dale** on 31 July 2011, 5:21 p.m.,*
in response to message #1 by fhub

Very observant :-) These extra labels haven't actually been properly agreed on yet :-) They've been implemented as a proof of concept only at this stage.

However, I'd expect them or something similar to stay since they seem to be quite useful.

We can change the names of the labels freely so long as they remain a single character. Arithmetic labels anyone?

- Pauli

Re: WP34S: more direct LBLs and XEQs

*Message #7 Posted by **fhub** on 31 July 2011, 5:38 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> Arithmetic labels anyone?

Hmmm? What's this?
Something like "LBL +" and "XEQ +"?

Aaah, then I could finally define my own 'addition routine' ... ;-)

Franz

Re: WP34S: more direct LBLs and XEQs

*Message #8 Posted by **Paul Dale** on 31 July 2011, 5:57 p.m.,*
in response to message #7 by fhub

> Quote:

> Something like "LBL +" and "XEQ +"?
>
> Aaah, then I could finally define my own 'addition routine' ... ;-)

Exactly.

- Pauli

Re: WP34S: more direct LBLs and XEQs

*Message #9 Posted by **fhub** on 31 July 2011, 6:03 p.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> Exactly.

Well, I believe this would rather lead to confusion than being a real benefit.

Why not rather make PEEK and POKE, so we could write self-modifying code? ;-)

Edited: 31 July 2011, 6:05 p.m.

Re: WP34S: more direct LBLs and XEQs

*Message #10 Posted by **fhub** on 31 July 2011, 6:13 p.m.,*
in response to message #9 by fhub

> Quote:
>
> Why not rather make PEEK and POKE, so we could write self-modifying code? ;-)

Or implement any 'hidden' bug that we could discover and use it for 'synthetic programming'. A 'flying goose' (while a program is running) as in the good old HP41 times would be nice, wouldn't it?

You see, I have lots of ideas ... ;-)

Edited: 31 July 2011, 6:14 p.m.

Re: WP34S: more direct LBLs and XEQs

*Message #11 Posted by **Marcus von Cube, Germany** on 31 July 2011, 6:33 p.m.,*
in response to message #10 by fhub

The goose will fly from right to left if you discover the secret key combination. :-)

To get this on track again: We will NOT have the possibility to make '+' doing anything different than adding X to Y and leaving the result in X.

Except...

Except if you precede it with some other key like XEQ. In fact, the newly available label Z

is just designed for this purpose. Write something sensible behind the label Z and it will be executed when you press XEQ +. Easy and useful I'd say.

Re: WP34S: more direct LBLs and XEQs

*Message #12 Posted by **Paul Dale** on 31 July 2011, 6:37 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus is right. The arithmetic keys won't change their behaviour. Precede them with XEQ and a routine will be called. I was suggesting the name of that routine be '+' instead of 'Z' as the example.

- Pauli

Re: WP34S: more direct LBLs and XEQs

*Message #13 Posted by **fhub** on 31 July 2011, 6:43 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> Except if you precede it with some other key like XEQ. In fact, the newly available label Z is just designed for this purpose. Write something sensible behind the label Z and it will be executed when you press XEQ +. Easy and useful I'd say.

Yes, and it's very comfortable as it is.
I was just afraid that by this 'arithmetic labels" it was meant that this LBL Z should be rnamed internally to LBL +, and we had to write LBL + or XEQ + then in a program. THIS would look a bit strange (if not ugly).

Re: WP34S: more direct LBLs and XEQs

*Message #14 Posted by **Marcus von Cube, Germany** on 31 July 2011, 6:45 p.m.,*
in response to message #13 by fhub

I second your suggestion to leave it as it is now.

Re: WP34S: more direct LBLs and XEQs

*Message #15 Posted by **Paul Dale** on 31 July 2011, 6:38 p.m.,*
in response to message #9 by fhub

> Quote:
>
> Why not rather make PEEK and POKE, so we could write self-modifying code? ;-)

Nope :-)

If you find synthetics on the 34S I've done my job wrong.

On the other hand, everything is exposed so there should be no benefits from synthetics.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C LE - official statement?

*Message #1 Posted by **Thomas Radtke** on 31 July 2011, 3:55 a.m.*

Sorry if I missed it in the various 15C LE threads: Is there an official statement about the 15C Limited Edition? SC still lists my preorder at $94.99, but pulled the 15C LE from the product page.

Will it appear in 2011, or can I forget about the preorder.

Thanks.

Re: 15C LE - official statement?

*Message #2 Posted by **Michael de Estrada** on 31 July 2011, 8:49 a.m.,*
in response to message #1 by Thomas Radtke

I think we have all jumped the gun on this and ignored statements made by those who truly have meaningful knowledge of the inner workings at HP. Two weeks ago Tim Wessman made the statement:

> Quote:
>
> There is no 15c launched in Japan, or anywhere else.

To me that is about as official a statement concerning the status of an HP 15C Limited Edition as you are likely to get.

Re: 15C LE - official statement?

*Message #3 Posted by **hpnut** on 31 July 2011, 10:08 a.m.,*
in response to message #2 by Michael de Estrada

then, pray tell us how it featured in HP websites? assuming they were not the work of hackers.

furthermore, Samson has opened orders (and I placed an order)

Re: 15C LE - official statement?

*Message #4 Posted by **Crawl** on 31 July 2011, 7:27 p.m.,*
in response to message #3 by hpnut

> Quote:
>
> then, pray tell us how it featured in HP websites? assuming they were not the work of hackers.

Yeah, that's what I want to know. The "limited edition" Hp15 image came from hp's official website.

Re: 15C LE - official statement?

*Message #5 Posted by **Thomas Radtke** on 1 Aug 2011, 3:16 a.m.,*
in response to message #3 by hpnut

> Quote:
>
> furthermore, Samson has opened orders (and I placed an order)

I was told all orders are still good. HP just asked to withdraw it from the listing until the official announcement happened. So, it is likely in the works.

Re: 15C LE - official statement?

*Message #6 Posted by **Paul Dale** on 1 Aug 2011, 3:32 a.m.,*
in response to message #5 by Thomas Radtke

Excellent.

Not that this is a surprise in the least.

And to the tune of a Dire Straights classic: "I want my 15C"

- Pauli

Edited: 1 Aug 2011, 3:33 a.m.

Re: 15C LE - official statement?

*Message #7 Posted by **svisvanatha** on 1 Aug 2011, 1:56 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> Excellent.
>
> Not that this is a surprise in the least.
>
> And to the tune of a Dire Straights classic: "I want my 15C"
>
> - Pauli

That would be rockin' as a start-up tune for the 15C LE ! to continue the tune: "Brackets are nothing and the clicks are free"

Re: 15C LE - official statement?

*Message #8 Posted by **Thomas Radtke** on 31 July 2011, 10:37 a.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> I think we have all jumped the gun on this and ignored statements made by those who truly have meaningful knowledge of the inner workings at HP.

Yes indeed. OTOH, since HP messed it up, it would be reasonable to tell us what went wrong, if there were plans to develop this calculator or if there are actually such plans. It's not very amusing to get fooled this way :-(.

Re: 15C LE - official statement?

*Message #9 Posted by **Walter B** on 31 July 2011, 11:20 a.m.,*
in response to message #8 by Thomas Radtke

> Quote:
>
> OTOH, since HP messed it up, it would be reasonable to tell us what went wrong, if there were plans to develop this calculator or if there are actually such plans.

Continue dreaming ... :-/

Re: 15C LE - official statement?

*Message #10 Posted by **Seth Morabito** on 31 July 2011, 3:08 p.m.,*
in response to message #8 by Thomas Radtke

;^)

-Seth

Re: 15C LE - official statement?

*Message #11 Posted by **Michael de Estrada** on 31 July 2011, 3:15 p.m.,*
in response to message #10 by Seth Morabito

So that's what the monolith in 2001: A Space Odyssey really looks like !

Edited: 31 July 2011, 3:16 p.m.

Re: 15C LE - official statement?

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 31 July 2011, 4:31 p.m.,*
in response to message #11 by Michael de Estrada

Nope! Wrong dimensions: the monolith had a ratio of 1-4-9, far from voyagers' golden ratio... ;)

Greetings,
Massimo

Re: 15C LE - official statement?

*Message #13 Posted by **Walter B** on 31 July 2011, 4:38 p.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

I remember us speculating at that time in school: It's real dimensions are 1-4-9-16 d8-)

Walter

Re: 15C LE - official statement?

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 31 July 2011, 4:54 p.m.,*
in response to message #13 by Walter B

Sure! But, alas, not to our (poor) 3D senses...
Other worlds, others beings are waiting out there. ;)

Re: 15C LE - official statement?

*Message #15 Posted by **Andrés C. Rodríguez (Argentina)** on 31 July 2011, 8:11 p.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

And the Monolith seemed to have a capacitive touchscreen or touchpanel; not a positive-feedback rotating-key actuator.

Re: 15C LE - official statement?

*Message #16 Posted by **Keith Midson** on 31 July 2011, 5:34 p.m.,*
in response to message #11 by Michael de Estrada

It's an iPhone 5 ...

Re: 15C LE - official statement?

*Message #17 Posted by **Tim Wessman** on 31 July 2011, 5:21 p.m.,*
in response to message #10 by Seth Morabito

Do sell a large print version of that? I'd love to hang it in my cube. :-)

TW

Re: 15C LE - official statement?

*Message #18 Posted by **Seth Morabito** on 31 July 2011, 7:51 p.m.,*
in response to message #17 by Tim Wessman

Quote:

> Do sell a large print version of that? I'd love to hang it in my cube. :-)
>
> TW

Nope, it's just a graphic I slapped together from two pictures stolen off the Internet :)

But here's a (slightly) larger version you can print out in the convenience of your own home or place of work:

http://www.loomcom.com/m/i_want_to_believe_15c_large.jpg

Re: 15C LE - official statement?

*Message #19 Posted by **Glenn Dowdy** on 1 Aug 2011, 2:31 p.m.,*
in response to message #18 by Seth Morabito

> Quote:
>
> Nope, it's just a graphic I slapped together from two pictures stolen off the Internet :)
>
> But here's a (slightly) larger version you can print out in the convenience of your own home or place of work:
>
> http://www.loomcom.com/m/i_want_to_believe_15c_large.jpg

That version doesn't show the "Limited Edition" graphic.

Re: 15C LE - official statement?

*Message #20 Posted by **Walter B** on 1 Aug 2011, 5:31 p.m.,*
in response to message #19 by Glenn Dowdy

> Quote:
>
> That version doesn't show the "Limited Edition" graphic.

Oh, come on, you may DIY :-)

Re: 15C LE - official statement?

*Message #21 Posted by **Ángel Martin** on 1 Aug 2011, 1:14 a.m.,*
in response to message #17 by Tim Wessman

Careful what you hang in your cube, these things give ideas... :-)

Re: 15C LE - official statement?

*Message #22 Posted by **hpnut** on 1 Aug 2011, 4:19 a.m.,*
in response to message #10 by Seth Morabito

pie in the sky? or Lucy in the Sky with Diamonds? ;-)

Re: 15C LE - official statement?

*Message #23 Posted by **Eric Smith** on 2 Aug 2011, 4:42 a.m.,*
in response to message #8 by Thomas Radtke

> Quote:
>
> since HP messed it up, it would be reasonable to tell us what went wrong, if there were plans to develop this calculator or if there are actually such plans.

It is NOT reasonable to expect HP, or any large company, to comment on unannounced products, even if there may have been some inadvertent release of information. HP doesn't *owe* us anything.

That said, HP has been much more forthcoming about providing information about their plans to the user community than they ever used to be. Old-timers will remember the famous "HP Blank Stare" that questions about unannounced products *always* elicited back then.

If a new product is in the works, we'll all find out about it when it is officially announced. Until then, don't expect anyone from HP to confirm or deny. As the Mission Impossible taped orders always stated, "...the secretary will disavow any knowledge...", or in the immortal words of Lao Tzu, "those who know do not speak, and those who speak do not know".

Re: 15C LE - official statement?

*Message #24 Posted by **Howard Owen** on 1 Aug 2011, 5:38 p.m.,*
in response to message #2 by Michael de Estrada

> Quote:
>
> I think we have all jumped the gun on this and ignored statements made by those who truly have meaningful knowledge of the inner workings at HP.

I think it was the resellers who jumped the gun.

Honestly, so many authorized resellers offering the same product all at once seems to me to rule out the possibility that the 15C LE doesn't exist. Clearly someone leaked the official photo, and the dealers felt they were released from their NDAs. (Such agreements often contain clauses stating that obligations end once the information is made public elsewhere.) Then, I'm guessing, HP got back to each of those dealers, and gently pointed out that they might not continue to be authorized resellers of they didn't pull the information and cease taking pre-orders.

The timing of the release may or may not have been affected by this fiasco, but the fact that a 15C rerelease product exists is confirmed, in my opinion.

> Quote:
>
> There is no 15c *launched* in Japan, or anywhere else.

Note *present tense*. (Emphasis added.)

Re: 15C LE - official statement?

*Message #25 Posted by **Walter B** on 1 Aug 2011, 7:13 p.m.,*
in response to message #24 by Howard Owen

> Quote:
>
> > Quote:
> >
> > There is no 15c *launched* in Japan, or anywhere else.
>
> Note *present tense*. (Emphasis added.)

What you emphasize looks like *past* tense to me, as a foreigner.

Re: 15C LE - official statement?

*Message #26 Posted by **Howard Owen** on 1 Aug 2011, 7:58 p.m.,*
in response to message #25 by Walter B

> Quote:
>
> What you emphasize looks like *past* tense to me, as a foreigner.

English makes no sense. :)

Launched can be present tense, "it is launched," past tense, "it was launched" or future, "it will be launched." The verb "to be" is carrying the tense. An implied "to be" is present tense, at least in this case.

I'm not enough of a language wonk to give you a detailed explanation, and the above may have errors, but that's how it works.

Edit: There is a "to be" verb in the sentence.

> Quote:
>
> There *is* no 15c launched in Japan, or anywhere else.

And "is" signifies present tense. I don't know if such a thing as "implied to be" exists. :) My former emphasis of *launched* was incorrect.

Edited: 1 Aug 2011, 8:11 p.m.

Re: 15C LE - official statement?

*Message #27 Posted by **Michael de Estrada** on 1 Aug 2011, 8:15 p.m.,*
in response to message #25 by Walter B

IIRC from my school days, there is a "present perfect tense" where a verb preceeding a past participle carries a past action into the present time. So if we say "launched", we are implying "HP has launched" in this case. It's like saying it's a fait accompli. It is a condition that is active in the present and carries forward to the future until we are told otherwise. So, I take TW's statement to mean "whoa boys, don't count yer chickens 'til they're hatched." Maybe there will be a HP-15C LE in the future, and maybe not. But, right now, regardless of what has been posted on the WWW, and regardless of how many orders have seemingly been placed, it's just like vaporware. Hopefully, it will all come to pass, but I'm not certain that it will, any more than I'm certain that the world

economy is not reeling inexorably in a death spiral towards extinction.

Re: 15C LE - official statement?

*Message #28 Posted by **Eddie W. Shore** on 1 Aug 2011, 9:56 a.m.,*
in response to message #1 by Thomas Radtke

I don't think there will be a re-release, at least not this year.

Re: 15C LE - official statement?

*Message #29 Posted by **Miguel Toro** on 1 Aug 2011, 11:35 a.m.,*
in response to message #28 by Eddie W. Shore

There is still hope. it has not been removed from here.

:-)

Re: 15C LE - official statement?

*Message #30 Posted by **Michael de Estrada** on 1 Aug 2011, 11:37 a.m.,*
in response to message #29 by Miguel Toro

Maybe I need to move to India.

Re: 15C LE - official statement?

*Message #31 Posted by **Miguel Toro** on 1 Aug 2011, 12:16 p.m.,*
in response to message #30 by Michael de Estrada

Not necessarily! Look also here !!??

I find all this affaire very insteresting.

Edited: 1 Aug 2011, 12:17 p.m.

Re: 15C LE - official statement?

*Message #32 Posted by **Katie Wasserman** on 1 Aug 2011, 1:07 p.m.,*
in response to message #31 by Miguel Toro

Let's try to get he "Like" counter on that page up in the many thousands, maybe HP will get the message that it's time to release this! :)

Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #33 Posted by **uhmgawa** on 1 Aug 2011, 11:40 p.m.,*
in response to message #32 by Katie Wasserman

> Quote:
>
> Let's try to get he "Like" counter on that page up in the many thousands, maybe HP will get the message that it's time to release this! :)

Folks might find this interesting. It is a project I've had on the back burner for some time.

Although recently I fabricated boards and built a prototype which is depicted here:

KINOMI Project

[Note you'll need to enable the YouTube closed captioning feature to render the accompanying explanation. It is the red "CC" button in the lower right of the video window.]

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #34 Posted by **Paul Dale** on 1 Aug 2011, 11:55 p.m.,*
in response to message #33 by uhmgawa

Where do we get one????

- Pauli

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #35 Posted by **Michael de Estrada** on 2 Aug 2011, 12:04 a.m.,*
in response to message #33 by uhmgawa

Who needs HP when there are folks like you out there.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #36 Posted by **Paul Dale** on 2 Aug 2011, 12:09 a.m.,*
in response to message #35 by Michael de Estrada

You need HP for the shell and keys :-)

- Pauli

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #37 Posted by **uhmgawa** on 2 Aug 2011, 11:58 a.m.,*
in response to message #36 by Paul Dale

> Quote:
>
> You need HP for the shell and keys :-)

Indeed, injection molding (particularly the double-shot key legends) isn't at all cheap. Although CNC milling of key blanks and perhaps even the shell may be feasible in prototype quantities. 3D printing might get you part way there but not an equal.

Incidentally, although HP long ago abandoned double-shot molded key legends in favor of printing, from a repurposing perspective they are more useful. The printed legend can be buffed/polished off leaving a blank key. The blank can be cnc engraved and filled with epoxy paint which will effectively get you back to the service of double shot molded keys. The blue g-shift key legends which were

always painted can also be redone as such.

The other issue is the keyboard and bottom legend plate. I must be missing something as I'm unsure why HP is still printing on top of an aluminum base. Using a bottom printed polycarbonate label would be far more durable and probably no more expensive even with a metalized layer added as a static shield.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #38 Posted by **Thomas Radtke** on 2 Aug 2011, 12:22 p.m.,*
in response to message #37 by uhmgawa

> Quote:
>
> The other issue is the keyboard and bottom legend plate. I must be missing something as I'm unsure why HP is still printing on top of an aluminum base. Using a bottom printed polycarbonate label would be far more durable and probably no more expensive even with a metalized layer added as a static shield.

I have a Casio FX-4500p, on which this polycarbonate lable (I guess it is one) became loose on one edge. Don't know if it is just a protective layer or if the legends are printed on it, but it doesn't look nice anymore. In addition, the legends are hard to read.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #39 Posted by **John Robinson** on 2 Aug 2011, 2:00 a.m.,*
in response to message #33 by uhmgawa

Yeah - where do we get a Kinomi module from ??

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #40 Posted by **Walter B** on 2 Aug 2011, 2:17 a.m.,*
in response to message #33 by uhmgawa

Hey, that's great work! Buy and carry one, get three free :-) Want to buy! (instead of a LE)

To Michael: We continue needing HP for the mechanical HW and basic electronics. This includes the famous keys. And it will - hopefully sometimes - include more versatile displays. HP, are you reading?

Walter

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #41 Posted by **uhmgawa** on 2 Aug 2011, 10:09 a.m.,*
in response to message #40 by Walter B

> Quote:

> Hey, that's great work! Buy and carry one, get three free :-) Want to buy! (instead of a LE)

The original motivation for the effort was experimental with the goal of producing a minimal footprint NUT/Voyager emulator, yielding competitive performance (emulation speed, power consumption, new features) on contemporary microcontrollers. I believe that has been achieved as the KINOMI module demonstrated employs a commodity 8-bit flash uC running at 8Mhz. The emulator is written in C without (yet) any comprehensive code analysis nor optimization outside of being carefully implemented for that execution environment. That said it achieves a general throughput of 5-6x over native when executing on an 8-bit uC running at 8Mhz.

In minimalist form the core NUT/Voyager emulator is only about 8KB of code. In addition to this exists support for a serial debug console, an ISA bus driver for interface to the LCD controller, and in the version depicted logic to support firmware selection between multiple images. The largest component of the footprint is the actual Voyager/NUT firmware which weighs in at 7.5~15KB per model. Even then a single purpose 15C KINOMI module can be realized with a $2 32KB flash microcontroller. The prototype demonstrated including 11c/12c/15c/16c firmware has an overall footprint of 52KB, with the entire emulator and associated support code consuming only 14.5KB of that total.

Most of the module configurations thus far contain external flash in the form of high endurance EEPROM (1e6 erase cycles) such that user data can be retained indefinitely without relying on the internal button cells. In addition to this the module version demonstrated has an IRDA (optical) interface allowing data to get in/out of the unit without a physical connection. Getting this to fit in the 14x14.6mm real estate void of the original 44-pin LQFP NUT was a substantial challenge.

If there is sufficient interest, I may just release the work as an open source project.

Thanks,

-john

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #42 Posted by **Edward Cheng** on 2 Aug 2011, 12:22 p.m.,*
in response to message #41 by uhmgawa

I am very interested in this kinomi project. It is a great work and I looked in awe.

After viewing the video, I would like to ask some quesrtions concerning this.
1.What kind of 8-bit ÂµC did you use? Is it kind of BGA?
2.How did you mount the whole board onto the LQFP site?
Caould you post a bigger picture of it? (I cannot see clearly in the video.)
3.How did you program the ÂµC?

Thanks in advance.

By the way, I happen to find out the analogy between *kinomi* (æœ¨ã®å®Ÿ) and *nuts*.
(Of course, after consulting the dictionary.)

Best regards,
Edward CG

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #43 Posted by **uhmgawa** on 2 Aug 2011, 4:01 p.m.,*
in response to message #42 by Edward Cheng

> Quote:
>
> I am very interested in this kinomi project. It is a great work and I looked in awe.
> After viewing the video, I would like to ask some quesrtions concerning this.
> 1.What kind of 8-bit ÂµC did you use? Is it kind of BGA?

The packages are 0.5mm pitch MLF. The uCs used are either an atmega328p (single image) or atmega1284p. However considering the relatively small price difference and the fact the 1284p has sufficient i/o ports to drive the key matrix directly, I don't see any reason to continue on with the 328p. Especially as we gain 4x flash (128KB) and 8x SRAM (16KB) capacity with the 1284p.

> Quote:
>
> 2.How did you mount the whole board onto the LQFP site?

The bottom side of the KINOMI pcb was needed for bypass capacitors as I was out of top surface real estate and that was the compromise of avoiding a 4 layer board. In order to keep the vertical profile minimal and allow a FFC debug connector on the module, the KINOMI board thickness was reduced to 0.8mm and the bottom side components are all 0201 surface mount devices.

Adding on the IRDA transceiver bumped off even the FFC connector so debug connection to that version of the module is accomplished with plated vias in the board to which mates a custom connector constructed from tempered stainless steel probes. This is not as cumbersome as it sounds.

The bottom of the KINOMI board has land pads mating with those on the Voyager main PCB. Connection is via copper standoffs of 0.4mm diameter oriented with and sandwiched between each set of mating pads. A layer of 0.05mm kapton tape acts as a insulation guard between the bottom SMD and Voyager PCB traces.

> Quote:

> Caould you post a bigger picture of it? (I cannot see clearly in the video.)

Yes, I will put together something in a bit. It may just be the schematics, gerbers and a few jpegs in an archive.

> Quote:
>
> 3.How did you program the ÂµC?

The uC was physically programmed with a avrdude running on a linux box.

The emulator "KEMU" used in the project was written in C as a linux application, and then ported to an SH1, SIMAVR (an AVR core emulator), the m328p, and finally m1284p. The SH1, SIMAVR and m328p ports probably no longer build and are inconsequential at this point.

I would love to have avoided the AVR core 328p/1284p uCs. But except for raw speed of the current Cortex-M0 devices, the AVRs require far less power consumption (particularly in power-down mode) and provide larger on-chip flash and RWM in uCs offering these minimized power levels relative to ARM counterparts.

Use of an 8-bit cpu as a C language target is amazing in the fact gcc works as well as it does. But there are numerous issues which manifest as code inefficiencies which aren't or can't be optimised out. The harvard architecture of the AVR core is also maddening when dealing with storage of constant data in flash. But it is workable with effort and I myself was amazed the KEMU core weighed in under 8KB.

> Quote:
>
> Thanks in advance.
>
> By the way, I happen to find out the analogy between *kinomi* (æœ¨ã®å®Ÿ) and *nuts.*
> (Of course, after consulting the dictionary.)

;) Yes "kinomi" means "nut" in Japanese.

Thanks,

-john

Edited: 3 Aug 2011, 2:18 a.m.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #44 Posted by **uhmgawa** on 2 Aug 2011, 11:34 a.m.,*
in response to message #40 by Walter B

> Quote:
>
> To Michael: We continue needing HP for the mechanical HW and basic electronics. This includes the famous keys. And it will - hopefully sometimes - include more versatile displays. HP, are you reading?

I have support (somewhere) for rendering to a 128x32 graphic module which works out well using a 9x20 proportional font for the main display and a 7x9 fixed font for the annunciators. It also has the obvious benefit of freeing you from trying to intelligently encode user interaction into 7 segments. But I sense attempting such improvements may put the effort on a slippery slope in terms of feature creep where you're departing from the elegance of the original design.

The other more practical issue is I've never seen a suitable graphic display which approached the contrast quality of the low 2:1 multiplex rate segments used in the original voyagers, although they were designed out from 1988.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #45 Posted by **Walter B** on 2 Aug 2011, 1:15 p.m.,*
in response to message #44 by uhmgawa

> Quote:
>
> I have support (somewhere) for rendering to a 128x32 graphic module which works out well using a 9x20 proportional font for the main display and a 7x9 fixed font for the annunciators. It also has the obvious benefit of freeing you from trying to intelligently encode user interaction into 7 segments. But I sense attempting such improvements may put the effort on a slippery slope in terms of feature creep where you're departing from the elegance of the original design.

Sure you're right. And I agree the present KINOMI 4-in-1 model is so great it should be released. Nevertheless I'd welcome a further step (for a KINOMI 2.0) incorporating such a 128x32 dot matrix LCD (or something alike) for allowing exactly what you rightfully avoided so far: feature creep :-)

Why? We experienced our WP 34S being severely limited by - among others - its low resolution LCD. A dot matrix as you mentioned would open a wealth of opportunities for an open-source calculator allowing softkeys and menus like the high end Pioneers did. And the Voyager package features a very attractive mechanical environment for such a project IMHO :-)

Of course, these are only my 20m€. YMMV

Walter

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #46 Posted by **Katie Wasserman** on 2 Aug 2011, 1:40 p.m.,*
in response to message #45 by Walter B

> Quote:
>
> And I agree the present KINOMI 4-in-1 model is so great it should be released.

While I think that this is an interesting project, like the other 15C-clone project won't HP assert its copyright over the ROM images used in the KINOMI project? I wouldn't fault them for doing so at all since they have the existing 12C+ and (apparently) soon to be released 15C+ using the same ROM images.

-Katie

Hey HP, are you considering a 16C+?

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #47 Posted by **uhmgawa** on 2 Aug 2011, 3:05 p.m.,*
in response to message #46 by Katie Wasserman

> Quote:
>
> While I think that this is an interesting project, like the other 15C-clone project..

Wow, I hadn't realized there was a related project underfoot. I've been away from this forum too long. I suppose I'm happy to have been ignorant of it until I finished the KINOMI prototype otherwise it would still be collecting dust. :P

But this is a little bizarre as I'd considered using an LPC1114 and in fact have prototypes in development. However while fast, it has a flash size limitation of 32KB precluding on-uC support of multiple images. Locating the firmware in say an external SPI flash, even with hardware assist, slows execution dramatically and the emulator instruction fetch needs to implement some sort of caching scheme which adds its own overhead. Ask me how I know.

The specified current consumption for the LPC1114 is a factor of 10 higher than any uC used in a KINOMI module when in its respective lowest power-down mode retaining data in R/W memory. Also for KINOMI use the voltage limit for an LPC1114 would require a regulator to drop the 4.5V supply and potentially a level translator to drive the ISA bus. Not too agreeable within a 14x14.6mm module. However to be fair the attraction of using a dirt cheap Cortex-M0 is so compelling that the LPC1114 is still on my list for other configurations.

> Quote:
>
> won't HP assert its copyright over the ROM images used in the KINOMI project?

Personally I don't want to take on that argument with HP. KINOMI doesn't have any relation to the legacy firmware other than being able to execute the images faithfully, and includes sufficient voyager emulation to support a serial console, alternate (graphic) displays, keypad scanning, ISA bus protocol driver, etc.. Voyager firmware images are available from unauthorized sources, however I've used images extracted from devices I own personally -- which is why a 10C is missing from the lineup.

One use case for KINOMI was as a single model functional upgrade (or repair) module for Voyagers. In that scenario a KINOMI could be swapped for the NUT, and upon first boot extract the R2D2 rom image(s), self-programming them into it's on board flash. Doing so we haven't distributed the originally purchased firmware outside of the device so we shouldn't have any concerns.

> Quote:
>
> I wouldn't fault them for doing so at all since they have the existing 12C+ and (apparently) soon to be released 15C+ using the same ROM images.

Personally and honestly I have a great deal of respect for HP and in particular their engineering achievement in these devices. This has been the primary motivation here. Otherwise actually gainful use of my time exists invested in other pursuits. However back when I started poking at KINOMI, there was no promise of a reintroduced 15C/16C and dealing with the near casualty cases on EEEbay at mind-numbing prices was IMHO insane.

The prototype I've demonstrated is really just a proof of concept device. I suppose it might be productizable in some scenario, perhaps with key legend overlays but that doesn't seem to have general appeal and I doubt it is going to make anybody rich. It may be attractive to some as an expermenter's device which is why I considered making it an open project.

Thanks,

-john

Edited: 5 Aug 2011, 8:34 a.m.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #48 Posted by **uhmgawa** on 2 Aug 2011, 3:23 p.m.,*
in response to message #45 by Walter B

> Quote:
>
> A dot matrix as you mentioned would open a wealth of opportunities for an open-source calculator allowing softkeys and menus like the high end Pioneers did. And the Voyager package features a very attractive mechanical environment for such a project IMHO :-)

Removing the segment display also gets rid of the R2D2 ISA driver which, believe me, was somewhat of a haunted house to drive reliably due to undocumented timing/logic quirks.

I was avoiding the need to cut the heat stakes for board removal and found a way to extract a NUT lqfp without destroying it nor cook the elastomer zebra strips on the other surface of the board. However an LCD upgrade would require board removal and honestly, resetting the ABS heat stakes isn't that horrendous. What will trip up the effort though is finding a suitable graphic display with the same window area as the original segment display. And it needs to be a straight reflective (not transreflective) device in order to avoid further reduction in contrast. Reflective LCDs are quite rare off-the-shelf these days.

Once the main PCB is removed we have some flexibility to mill the window area to a new footprint and perhaps replace the aluminum bezel, but this is starting to approach the point of diminishing returns. IOW we'd probably be better off to make the actual enclosure needed.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #49 Posted by **Bart (UK)** on 2 Aug 2011, 4:41 p.m.,*
in response to message #33 by uhmgawa

Wow!! A fantastic project :-)

I had been thinking along the lines of using the 12C+ to re-make the 15C, just as everybody else here has;-).

My thoughts for a dedicated 15C:

- The code would have to be re-written to avoid HP copyright, else convince HP to allow free distribution for re-flashing 12C+'s, they'd be getting their money from those anyway.
- Eric Rechlin could make keyboard overlays, they would probably be easier to apply that the 20b/30b as the voyagers have a slight recess.
- Dallas Osborne has already made metal badges for voyagers, and could make 15C ones.
- Next challenge would be the keys. If they made the same as the original silver 12C platinum keyboard then perhaps replacement ones can be made. Assuming the insides of the 12C+ is the same as the platinum in the link above, they can be replaced quite easily and the PCB re-fastened with screws as demonstrated.
- the last but by no means least challenge would be the bezel. It would have to be cleaned of the gold lacquer and re-done with clear lacquer. Or make a gold (brass?) 15C badge and have our own "special gold edition" 15C?

Anyway, some of my thoughts of the challenges, which although are not minor - they also not insurmountable.

-B

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #50 Posted by **uhmgawa** on 3 Aug 2011, 10:29 a.m.,*
in response to message #49 by Bart (UK)

> Quote:
>
> Wow!! A fantastic project :-)
>
> I had been thinking along the lines of using the 12C+ to re-make the 15C, just as everybody else here has..

I didn't realize until a few days ago there was semi-credible (+/-) evidence an encore 15C was looming from HP. Up to that point I'd been picking up occasional 91sam7l 12Cs from EEEbay with the intention of doing a KEMU port. I still may as with 128KB of flash multiple firmware images can be supported. The problem however is battery backed RWM being limited to 2KB which is a little tight although probably a 15C/16C/12C is feasible.

It would have been be helpful if HP laid out the board for a (depopulated) high endurance SPI EEPROM as that could have been used as secondary storage for "swapped out" images. EEPROM is useful in general to hold model image context and lessen the reliance on residual battery energy to hold a near brown-out power rail while the user fumbles with battery replacement. An EEPROM could be grafted on but the COB entombed in a blob of epoxy substantially frustrates that option. Note the specified erasure wear limit for EEPROM of interest is 1E6 cycles which is the same order of magnitude as the cycle life of the keypad tactile dome switches. Ironically the EEPROM would be the easier replacement of the two.

One thought I had was to create a retrofit PCB in order to address such issues as well as adding on perhaps an IRDA/optical communication so the device isn't a closed box. That's the one feature I feel the Voyagers have been lacking but no one really can fault such a shortcoming in an 1981 design. ;)

Anyway if a 15C+ does surface in the form of a repackaged 12C+ it would be enough motivation to create an upgrade board minimally including the above enhancements.

> Quote:
>
> My thoughts for a dedicated 15C:
> [ul]
> • The code would have to be re-written to avoid HP copyright..

What code are you referring to? If that of the Voyager model specific firmware, I don't think it would be realistic to replicate given it has 30+ years of soak in a

deployed product and was originally blessed by William Kahan.

Edited: 3 Aug 2011, 11:34 a.m.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #51 Posted by **Bart (UK)** on 3 Aug 2011, 12:14 p.m.,*
in response to message #50 by uhmgawa

> Quote:
>
> > Quote:
> >
> > My thoughts for a dedicated 15C:
> >
> > - The code would have to be re-written to avoid HP copyright..
>
> What code are you referring to? If that of the Voyager model specific firmware, I don't think it would be realistic to replicate given it has 30+ years of soak in a deployed product and was originally blessed by William Kahan.

I was referring to HP objecting to the use of the actual ROM image (see the "News" statement at the top of the Nonpareil page). However, they may even object to a re-implementation that exactly mimics the 15C.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #52 Posted by **Thomas Radtke** on 3 Aug 2011, 1:33 p.m.,*
in response to message #51 by Bart (UK)

> Quote:
>
> However, they may even object to a re-implementation that exactly mimics the 15C.

There are some simulators for sale, however, I don't know how good they are as I haven't tried any of them.

To me, the most interesting aspect of the 15C code is that it's probably without important bugs.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #53 Posted by **uhmgawa** on 3 Aug 2011, 2:01 p.m.,*
in response to message #52 by Thomas Radtke

> Quote:

> To me, the most interesting aspect of the 15C code is that it's probably without important bugs.

Exactly. With someone like William Kahan overseeing the numerical algorithm development and 30+ years of soak in the hands of professional consumers, that's a pretty tough effort to eclipse.

Although I've seen some interesting behavior of the 15C firmware during the development of KEMU such as scenarios where the subroutine stack is allowed to overflow. And keycodes which aren't generated by the voyager key matrix causing interesting things such as toggling between '.' <-> ',' modes, entering firmware self test, causing an unconditional power-off. At one point I recall finding read accesses to nonexistent memory however that could have been related to a bug I was chasing in KEMU at the time.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #54 Posted by **uhmgawa** on 3 Aug 2011, 1:32 p.m.,*
in response to message #51 by Bart (UK)

> Quote:
>
> I was referring to HP objecting to the use of the actual ROM image (see the "News" statement at the top of the Nonpareil page). However, they may even object to a re-implementation that exactly mimics the 15C.

That certainly seems to be grey area. I pinged Eric some time ago on what may have transpired there but he was mum on the subject.

Realistically I don't think HP is going to call the cops on anyone experimenting with firmware images which they legitimately own. Beyond that I suspect you get to conduct a different kind of experiment. I think crossing the line of selling the firmware for profit in any scenario, will result in a thoroughly unpleasant interaction with HP.

The DM-15C clone may well be the canary in the coal mine in that respect unless HP dismisses that effort with a 15C re-release some time soon.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #55 Posted by **Marcus von Cube, Germany** on 3 Aug 2011, 3:02 p.m.,*
in response to message #50 by uhmgawa

In the 34S I've overcome the RAM limit by writing to the flash from within the firmware. The flash survives minimum 10,000 writes. That should be good for some context switches.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #56 Posted by **Paul Dale** on 3 Aug 2011, 6:17 p.m.,*
in response to message #50 by uhmgawa

> Quote:
>
> An EEPROM could be grafted on but the COB entombed in a blob of epoxy substantially frustrates that option.

There are eight GPIO pins bought out from the processor in one of the non-populated headers. These could be used to support a serial EEPROM or some serial RAM to expand the capabilities of the device.

- Pauli

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #57 Posted by **uhmgawa** on 4 Aug 2011, 1:43 a.m.,*
in response to message #56 by Paul Dale

> Quote:
>
> There are eight GPIO pins bought out from the processor in one of the non-populated headers. These could be used to support a serial EEPROM or some serial RAM to expand the capabilities of the device.

I don't see anything I'd call a header on the unit in front of me. Did you rather mean depopulated 0603 devices, of which there are several?

Incidentally was a schematic for this device ever included in the developer's kit or otherwise made available? I didn't find anything close in what I'd squirreled away about a year ago.

Thanks.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #58 Posted by **Paul Dale** on 4 Aug 2011, 1:47 a.m.,*
in response to message #57 by uhmgawa

There was/is a schematic in the 20b's development kit.

The pads I was talking about are labelled J8 just below the big exoxy blob. The connection pin outs are also published. Both for the 20b.

I've not opened a new 12c but I was hoping there are similar inside but am probably wrong :-(

- Pauli

Edited: 4 Aug 2011, 1:50 a.m.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #59 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 3:26 a.m.,*
in response to message #58 by Paul Dale

Pauli, you are talking about the 20b. The device in question is the 12C+ which is obviously different.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #60 Posted by **Paul Dale** on 3 Aug 2011, 7:11 p.m.,*
in response to message #50 by uhmgawa

> Quote:
>
> The problem however is battery backed RWM being limited to 2KB which is a little tight although probably a 15C/16C/12C is feasible.

2kb is a many times more than any voyager has. The 15c has 64 registers (plus a few extras). The rest have half this. There should be space for all the voyagers with some to spare. The 34S firmware uses less than 100 bytes for system stuff -- a lot less in fact. (2048-100) / 7 = 278 voyager registers. Four models with 32 registers and one with 64 is 192 registers total. This leaves 86 for the stuff I glossed over about -- that is 17 registers for each model.

Take out the 10c and the space equation gets even better.

Of course, the effort to rework the emulator to use the available RAM efficiently is another matter entirely :-)

Finally, I'd be more than happy with a 12c/15c/16c combination. The 11c and 10c don't add any functionality beyond what these three have.

Any possibility of preserving the stack registers across mode changes?

- Pauli

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #61 Posted by **uhmgawa** on 4 Aug 2011, 12:53 a.m.,*
in response to message #60 by Paul Dale

> Quote:
>
> 2kb is a many times more than any voyager has. The 15c has 64 registers (plus a few extras). The rest have half this. There should be space for all the voyagers with some to spare.

Other data exists in addition to that visible from the user's application perspective. Even within a single emulation scenario, CPU and hardware registers need to be maintained which consumes additional memory. Eg: KEMU currently uses 95 bytes per virtual NUT cpu context alone.

Requirements such as the host's runtime stack and overall global state data are most conveniently located in RWM which persists over power-down events. Add to that other optional features such as the command line interface, etc.. and that 2K starts to get full pretty quick. For example the 4-model build as demonstrated weighs in at:

```
/usr/bin/avr-size kemu_m1284p.elf
   text    data     bss     dec     hex filename
  51322     220    2019   53561    d139 kemu_m1284p.elf
```

data+bss total already exceeds 2K and we still haven't accounted for the host runtime stack. Some of this can surely be steered into the 91sam7l's 4K volatile RWM but not much.

> Quote:
>
> Of course, the effort to rework the emulator to use the available RAM efficiently is another matter entirely :-)

Footprint minimization was one of the primary motivations for KEMU. And I'd say it is quite conservative in terms of flash and RWM consumption. Actually with over half of the flash currently unused in the m1284p 4-model build, there is an opportunity to relax code reuse and introduce more efficient special-purpose routines where warranted. Reconfiguring-in features such as the disassembler is another possibility.

I took a look at where the m328p build was, configured with a single 15c model and dropping out the firmware select logic:

```
/usr/bin/avr-size kemu_avr.elf
   text    data     bss     dec     hex filename
  25779     162     726   26667    682b kemu_avr.elf
```

That still includes CLI support, keypad scanner, and ISA bus driver so you could easily bandsaw another 2~3KB off that total depending upon interface requirements leaving you with an excess of 8K to glue KEMU into the intended application.

> Quote:
>
> Finally, I'd be more than happy with a 12c/15c/16c combination. The 11c and 10c don't add any functionality beyond what these three have.

I agree. The 11c was tossed into the mix only because I own one and had a firmware image lying around. I can't think of a reason to include the 10c other than for historical completeness.

> Quote:

> Any possibility of preserving the stack registers across mode changes?

Maybe the demo didn't make that clear or perhaps the closed captioning was problematic -- I myself had trouble getting the caption text to render without the most recent Adobe flash player.

Anyway each image is independent and persistent across firmware re-selects and of course power off events. The entire memory content, device state, and NUT virtual cpu context is maintained for each model version. One generalization which is possible given the current structure is supporting multiple instances of each model subject to memory limitations. Eg: allowing a number of independent 15c instances among which the user could select as needed. This is really just a UI/packaging issue as it otherwise should drop into the current structure. On that note the presence of high endurance EEPROM would be a natural location to contain "swapped out" instances with the added benefit of being retained across battery failures.

-john

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #62 Posted by **Paul Dale** on 4 Aug 2011, 1:16 a.m.,*
in response to message #61 by uhmgawa

The 34S manages with the stack in the 4kb of volatile RAM. It is written as a single event processing loop and thus the idle state doesn't require any return stack to return from.

We also found another 55 bytes of RAM in the LCD controller which can be used to store things that have to survive the on but idle state but not complete power off. Much of our user interface state has ended up here. It is copied to and from the 4kb of volatile RAM.

It is surprising how much stuff we moved from persistent RAM to volatile RAM.

> Quote:
>
> Anyway each image is independent and persistent across firmware re-selects and of course power off events. The entire memory content, device state, and NUT virtual cpu context is maintained for each model version.

Oh well, it would have been nice :-(

- Pauli

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #63 Posted by **Walter B** on 4 Aug 2011, 1:52 a.m.,*

in response to message #62 by Paul Dale

> Quote:
>
> > Quote:
> >
> > Anyway each image is independent and persistent across firmware re-selects and of course power off events. The entire memory content, device state, and NUT virtual cpu context is maintained for each model version.
>
> Oh well, it would have been nice :-(

AFAI understand, that's a set of logically completely independent applications on one HW. That's more than I've expected :-) So I don't understand the :-(above :-?

Walter

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #64 Posted by **uhmgawa** on 4 Aug 2011, 2:23 a.m.,*
in response to message #62 by Paul Dale

> Quote:
>
> Oh well, it would have been nice :-(

I wouldn't outright discount at least a 12c/15c/16c version on the 91sam7l. Dropping the 11c will reclaim nearly 400 bytes which is probably sufficient or at least quite close. Otherwise some restructuring of the logic is needed to deal with prospective volatile state. For example the current KEMU implementation leverages the simplification of being able to power-down at arbitrary points during emulator execution.

Some packing may be possible in the NUT cpu context for idle images. Also the CLI and display decode buffer don't need to be persistent.

But I think saving idle images to EEPROM is conceptually a preferable solution. Unfortunately it requires a modification to the 91sam7l version. Somewhat ironic as there is more than enough empty component side real estate where an MLF EEPROM could have been placed.

Edited: 4 Aug 2011, 9:39 a.m. after one or more responses were posted

Re: Voyager Re-Engineering, was: Re: 15C LE -

official statement?

*Message #65 Posted by **Marcus von Cube, Germany** on 4 Aug 2011, 3:36 a.m.,*
in response to message #64 by uhmgawa

I've already mentioned it in this thread. You can always consider the on board flash memory as writable from within the firmware.

Re: Voyager Re-Engineering, was: Re: 15C LE - official statement?

*Message #66 Posted by **uhmgawa** on 4 Aug 2011, 8:39 a.m.,*
in response to message #65 by Marcus von Cube, Germany

> Quote:
>
> I've already mentioned it in this thread. You can always consider the on board flash memory as writable from within the firmware.

Indeed it is. The difference is Atmel specifies the 91sam7l flash with an endurance of 10K erase cycles where the eeprom of interest has an endurance of 1M cycles (and about 20x longer projected data retention.) Depending on intended write frequency wearout could be a concern. Logistically an external 8-pad MLF part reaching wearout is also much more easily corrected vs. die eternally bonded to the pcb. Even replacement of a 0.5mm pitch lqfp-128 pin version of the 91sam7l isn't a welcome task. If vacant space exists my inclination would be to add an 8-pad MLF land prospectively to the pcb for these collective reasons. If left depopulated it isn't costing us anything.

Although my bias is to avoid feature creep, another option is use of socketed transflash (micro SD) in SPI mode. Acceptable voltage range may need to be accommodated and active current consumption could be an issue. But the option of end user demountable storage is quite compelling.

Re: 15C LE - official statement?

*Message #67 Posted by **Lyuka** on 2 Aug 2011, 9:44 a.m.,*
in response to message #31 by Miguel Toro

> Quote:
>
> Power
> 2 CR2032 batteries

Oh, the new 15C LE uses two batteries.

Re: 15C LE - official statement?

*Message #68 Posted by **Michael de Estrada** on 2 Aug 2011, 9:52 a.m.,*
in response to message #67 by Lyuka

Same as 12C+

Re: 15C LE - official statement?

*Message #69 Posted by **Mark Hardman** on 1 Aug 2011, 2:10 p.m.,*
in response to message #29 by Miguel Toro

Here's a new vendor that has the lowest retail price I've seen so far ($76.29). It looks like they ship internationally.

www.digitalspyders.com

Mark Hardman

Re: 15C LE - official statement?

*Message #70 Posted by **Michael de Estrada** on 1 Aug 2011, 2:22 p.m.,*
in response to message #69 by Mark Hardman

I saw that too. Shipping is a bit higher, $10 for FEDEX ground within the USA, although the cost doesn't change for added quantity. They also presumably take orders for the HP-12C 30th Anniversary. It will be interesting to see how long this vendor page stays up.

Re: 15C LE - official statement?

*Message #71 Posted by **hpnut** on 1 Aug 2011, 9:40 p.m.,*
in response to message #69 by Mark Hardman

Quote:

> Here's a new vendor that has the lowest retail price I've seen so far ($76.29). It looks like they ship internationally.
>
> www.digitalspyders.com
>
> Mark Hardman

they don't do international sales. they have no clue on its availability either. here's their email to me:

Hi Sorry,

Don't know when this is coming in and no we don't ship internationally.

If you have a relative in the US, have them buy and ship it to you.

Thanks,

Sales Team DIGITAL SPYDERS INC. TF 877-289-2787 http://www.digitalspyders.com/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is this what an HP 35 may have looked like????

*Message #1 Posted by **Geoff Quickfall** on 31 July 2011, 12:18 a.m.*

Took the prototype case and inserted a working 35 logic and keyboard pca. Only thing missing is the silk screened bezel.

The LED cover lens is clear.

Is this what an HP 35 may have looked like????

Geoff

Edited: 31 July 2011, 12:20 a.m.

[Return to Index | Top of Index]

Is this what an HP 35 may have looked like????

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.07 supports RainEQ

*Message #1 Posted by **Raymond Del Tondo** on 30 July 2011, 11:07 p.m.*

Hello all,

here's an update for SpeedUI.

SpeedUI 11.07 is a minor update only, but with deep impact for users of the Eqation Writer.
If RainEQ (raineq.lib) is installed, it will be used instead of the built-in EQW.
This means that existing equations will be edited in RainEQ,
and new eqations will be created using RainEQ.

The display/editing speed difference is dramatical:
The built.in EQW needs much time to display the equation,
but RainEQ displays the equation nearly instantly!

RainEQ and some related documentation is available on www.hpcalc.org .

For installation/uninstallation, please take a look into
StartHere.pdf supplied with the latest SpeedUI archive.

The new version is available here:
http://www.hpmuseum.org/guest/deltondo/speedui.pdf (Walkthrough PDF)
http://www.hpmuseum.org/guest/deltondo/sui_1107.zip (SpeedUI zip archive)

but not on www.hpcalc.org (since the site has not been updated for a long time)

Have fun:-)

Raymond

Re: SpeedUI 11.07 supports RainEQ

*Message #2 Posted by **Mark Hardman** on 30 July 2011, 11:16 p.m.,*
in response to message #1 by Raymond Del Tondo

Eric updated his site six days ago. The list of additions includes SpeedUI 11.06.

Re: SpeedUI 11.07 supports RainEQ

*Message #3 Posted by **Raymond Del Tondo** on 30 July 2011, 11:31 p.m.,*
in response to message #2 by Mark Hardman

Thank you for this info:-)

From now on, SpeedUI updates will also be posted to hpcalc.org again.

[Edit: Syntax]

Edited: 30 July 2011, 11:34 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP19C printer head...yeah! I know!

*Message #1 Posted by **Geoff Quickfall** on 30 July 2011, 3:33 p.m.*

I have searched the archives for print head replacement, repair, HP 19C repair and etc.

Lots of useful data there including resistance readings on older IR printers compared to newer printer heads.

The print heads are a different size in the IR printer then the 19C. It appears the print head in the 97 series is more similar.

The question is, and most of the postings cease at this point (going back to 2003):

Has anyone been successful in transplanting either the IR print head or the 97 or other series print heads into a 19C?

Cheers, Geoff

Edited: 30 July 2011, 3:34 p.m.

Re: HP19C printer head...yeah! I know!

*Message #2 Posted by **BobVA** on 31 July 2011, 9:59 a.m.,*
in response to message #1 by Geoff Quickfall

Did both of the 19's you were working on have duff print heads? Or are you trying to get both working?

Given the comments in this post it sounds like the 97 may be the only bio-compatible transplant donor. A repair procedure was all sketched out there, but if anyone tried it it they didn't post back.

If you take a shot at it, shoot lots of pictures and post the travelogue!

OT: I spent yesterday restoring a very forlorn HP-97S; practically like working on a tractor, compared to the brain surgery required for the 19c.

Interestingly enough the 97s didn't have an interface cable attached. I was wondering if the poor, battered fellow got promoted to office duty in his dotage and some fastidious engineer or accountant removed his cable.

Good luck with the 19c! Bob

Edited: 31 July 2011, 10:00 a.m.

Re: HP19C printer head...yeah! I know!

*Message #3 Posted by **Katie Wasserman** on 31 July 2011, 1:20 p.m.,*
in response to message #2 by BobVA

The 97/97s is indeed a pleasure to work on especially compared to the 19c. Unfortunately 97s' with missing cables and pods are pretty common I have one too. I was thinking of creating a pod of my own

and invest,igated the signal lines in the (missing) cable. Once I had that I figured a single microcontroller with a ton of i/o lines would be an relatively easy way to replace the pod, but instead came up with this. One other regular on this forum followed my design (and caught a schematic error, thank you) and has enhanced their calculator too.

Re: HP19C printer head...yeah! I know!

*Message #4 Posted by **Geoff Quickfall** on 31 July 2011, 1:36 p.m.,*
in response to message #3 by Katie Wasserman

Well, I have two 19Cs, one prints the top half only and has a lower section printer head that is dead. I watched it happen but was not quick enough to save it.

The lighting was low. The printing had stopped but the head did not park. It started to glow. Immediately turned of the calc and cooled the head with compressed air.

Not in time to save it. The donor, which is a pretty looking battery charger with no hope of resurection (corrosion, missing traces and etc) actually melted the guide bar and imbedded the printing head in it!

So I have a working 19C with a half dead print head and a non working 19C which I got an LED to light up. A dead ACT chip. But it works as a charger!

I too found about 10 postings going back 10 years but there were no follow ups of the 97 procedure. I only have one 97 fully working and pristine with Katies mod on the printer and a fully functional card reader so I AM not experimenting with it. I do have four IR printers but the heads are different sizes and the resistance values are completely different.

This project will have to wait!

Geoff

maybe printing two of the book!

97S Interfacing / 19C print head replacement

*Message #5 Posted by **BobVA** on 31 July 2011, 4:41 p.m.,*
in response to message #4 by Geoff Quickfall

> Quote:
>
> ... I watched it happen but was not quick enough to save it.

Uggh - I HATE it when something like that happens. My sympathies.

I'll keep my fingers crossed that TAS offers up the right half of a bisected 97 to you (perhaps the victim an unfortunate industrial accident in a saw mill.) They tend to work so well, that may be what it takes to get a junker. I've got one parts machine, but unfortunately it didn't have the printer assembly when I got it. (And some guy was standing on it at a ham fest.)

Katie: Thanks for that pointer. I've added that to "The List of Stuff I've Got To Do". Looks like a nice project. I haven't written any interrupt driven code in a decade or more, so I was glad to see you didn't need any. I'm pretty familiar with the BS2, so perhaps I'll be able to grasp the SX.

The photos were also interesting - whoever swiped the cable from my 97s didn't have the courtesy to replace the cap on the IDC connector.

I recently built a clock from a old power plant tachometer (whose scale was handily was numbered zero to twelve) using a BS2, a DAC to drive the meter movement and a 1302 RTC. One gimmick from that that you may find handy: I wrote a "signal" byte (i.e. known value) at the start of the 1302 RAM. My code uses it as a start-up check to detect a back-up power failure and react accordingly. (I'm using a cap for backup, so it's only good for a couple of days.) Might be fun to do something similar with your circuit, perhaps writing a checksum of bytes 0-30 in byte 31.

I'd been idly thinking about building a PC interface box for a spare 97 card reader to allow a PC to read/write 67/97 cards, but I'm now thinking the approach you suggested is a *lot* simpler.

Sending a program from a PC to the 97 using your interface looks pretty straight-forward, and I think that would cover 95% of the use cases for such an arrangement. (Probably not that much call for reading a card into a PC.)

Cheers,

Bob

PS: While I had the hood up on the 97, I used the technique described in this post of jumping test points "F" and "H" on the reader circuit board to allow writing to a write-protected card (I needed to fix a damaged HP Standard Pac card). It got me thinking about adding a switch to do this in the future, but perhaps it would be an ideal "f" function to add to your board (driving a reed relay to close the circuit between the points.)

Edited: 31 July 2011, 5:07 p.m.

Re: 97S Interfacing / 19C print head replacement

*Message #6 Posted by **Katie Wasserman** on 31 July 2011, 7:01 p.m.,*
in response to message #5 by BobVA

Bob,

Yeah, this code doens't use interrupts (probably one of the only SX programs I've written that doens't) so it might work with a higher-speed version of the BS2.

You're idea for the DS1302 signature is a good one and I use something similar for the "macro" function in my 97 code, but it's not needed for knowing the the RTC needs to be reset. The backup CR1225 cell will keep the clock running for close to 20 years, in theory.

I like your idea of implementing an 'ff' function to override the card write protection!

-Katie

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT:Retiring an old friend :-)

*Message #1 Posted by **robertoataulfo** on 30 July 2011, 3:24 p.m.*

```
He has helped me very well over the past 20 years would now like to let him rest.
I wonder how do I replace.
I want to use the Casio FX-50X, FX-60X, PB-7XX and Sharp PC-14XX.
I do not want to use the computer.
Some mp3 (model) that I can use?
```

Re: OT:Retiring an old friend :-)

*Message #2 Posted by **Bill (Smithville, NJ)** on 30 July 2011, 4:26 p.m.,*
in response to message #1 by robertoataulfo

I take it you still want to save/load files to the Casio & Sharp, but don't wish to use cassettes? If so, I don't think MP3 compressed files will work. I tried a couple of times and never could get it to work. I have used a small recorder that will save in WAV files with no compression and that works fine.

For the Sharp pocket computers, there's several programs that will convert WAV files to BIN files to TXT files. They work pretty good. See the following link:

WAV2BIN

I've used the method described to transfer some cassette programs I had and they worked fine.

Bill

Re: OT:Retiring an old friend :-)

*Message #3 Posted by **robertoataulfo** on 30 July 2011, 4:37 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

```
Thanks for the reply but I do not want to use a computer
```

Re: OT:Retiring an old friend :-)

*Message #4 Posted by **Marcus von Cube, Germany** on 30 July 2011, 6:36 p.m.,*
in response to message #3 by robertoataulfo

You may not want to use a computer for regular or portable storage but it's still a good place to store an archive of your software. The above mentioned WAV2BIN for Sharp and my own package CASette I/O Utilities for Casio and friends are very useful because you can translate the WAV files to BASIC text and vice versa. If your portable recorder can create a WAV file, it should be easy to copy it to the PC for further treatment.

Re: OT:Retiring an old friend :-)

*Message #5 Posted by **Bill (Smithville, NJ)** on 30 July 2011, 7:30 p.m.,*
in response to message #3 by robertoataulfo

Well, you can use some of the small digital recorder/players that will record in high qualty (minimum compression). Best is one that creates files with no compression. I use a Edirol by Roland Model R-09 that will save in WAV format as well as MP3 on a SD card. Works great. Bought it mainly to record live concerts, but it works great with my Sharp pocket computers.

Bill

Re: OT:Retiring an old friend :-)

*Message #6 Posted by **Eric Rechlin** on 30 July 2011, 7:51 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

Most portable MP3 players will play audio files with lossless compression (such as FLAC), so he doesn't have to specifically use MP3 format but can still compress to fit more audio.

Eric

Re: OT:Retiring an old friend :-)

*Message #7 Posted by **Steve Leibson** on 30 July 2011, 5:47 p.m.,*
in response to message #1 by robertoataulfo

Take a look at the Zoom H1. It's a great personal audio recorder. Great flexibility in recording rates and records in WAV and MP3. Extremely light. Extremely small. Lasts a long, long time on batteries. SDHC card storage for infinite capacity. Intuitive user interface. Lots of controls. External mic/line input for your needs. Costs $100. Yes, I have one and use it for audio but not for calculator program storage.

Edited: 30 July 2011, 5:49 p.m.

Re: OT:Retiring an old friend :-)

*Message #8 Posted by **Bill (Smithville, NJ)** on 30 July 2011, 8:03 p.m.,*
in response to message #7 by Steve Leibson

Hi Steve,

I'm going to hi-jack this thread. :)

Just looked at the specs on the Zoom H1 and it looks interesting. Have you used it for live concerts? How did it do?

Couple of years ago, I was looking at two digital recorders - the Edirol R-09 and the M-Audio Microtack. They were basically comparable but the R-09 had replaceable batteries versus non-replaceable rechargables on the M-Audio. I went with R-09 and am very pleased with it. But it wasn't cheap at the time.

So, was just wondering how a $100 recorder today compares with an older more expensive recorder. I know prices keep coming down, while features go up.

We have free concerts on the beach here, and I've been very pleased with the recording results. I usually sit about 20-30 feet from the stage and the sound system speaker are about 15-20 feet either side. I do get some low level chatter from the people around me, but it's really not too bad. Occansionaly, catch the sounds of a motor boat or airplane, but that's just the ambiance of recording live.

Sorry for hi-jacking the thread, but was curious abot the H1.

Thanks,

Bill

H1 performance

*Message #9 Posted by **Steve Leibson** on 1 Aug 2011, 9:42 a.m.,*
in response to message #8 by Bill (Smithville, NJ)

Hi Bill,

I've not recorded concerts with the H1. Mostly, I use it for 1-on-1 interviews. I am really impressed with the quality of the recording. I cannot compare it to other digital recorders myself, but there are a few reviews to read on amazon.com and sweetwater.com.

--Steve

Re: OT:Retiring an old friend :-)

*Message #10 Posted by **Eric Smith** on 30 July 2011, 11:15 p.m.,*
in response to message #7 by Steve Leibson

I use an Olympus LS11 in raw mode (uncompressed WAV files), and it works great. It is not inexpensive, alas. I have no idea how the performance compares to the Zoom H1.

Re: OT:Retiring an old friend :-)

*Message #11 Posted by **Bill (Smithville, NJ)** on 31 July 2011, 1:56 p.m.,*
in response to message #10 by Eric Smith

Hi Eric,

The LS11 looks interesting. And the price is about the same as I paid for the R-09. It's good to see that there are a lot of options. I'm still amazed how good these little recorders are. Sure beats using my Marantz portable cassette deck; though the Marantz still does a great job.

Bill

Re: OT:Retiring an old friend :-)

*Message #12 Posted by **robert rozee** on 31 July 2011, 9:20 p.m.,*
in response to message #11 by Bill (Smithville, NJ)

looks like there is an LS-7 as well, at 2/3rd of the (new) cost of the LS-11

addendum: searching on amazon for 'pcm recorder' (without quotes) brings up a number of offerings from different manufacturers, several for around the us$100 mark

Edited: 31 July 2011, 9:34 p.m.

Re: OT:Retiring an old friend :-)

*Message #13 Posted by **Garth Wilson** on 30 July 2011, 6:56 p.m.,*
in response to message #1 by robertoataulfo

Is it just that you want something smaller? How about a microcassette recorder? The Sony M-670V is an excellent one, as microcassettes go.

The front is about two by four inches, and thickness is about 3/4". IOW, it's very small! I got mine on TAS for around $20, although you'll have to watch for awhile to find them that cheap. Frequency response in high-speed mode is 6kHz. I've been using a couple of them, although I have not tried with data. I have not noticed any dropouts with TDK MC90 tapes.

Re: OT:Retiring an old friend :-)

*Message #14 Posted by **Bill (Smithville, NJ)** on 30 July 2011, 7:40 p.m.,*
in response to message #13 by Garth Wilson

Hi Garth,

I've tried some of the microcassette recorders with some good results. You need to use good quality tape and the tape, while readable on the source recorder, wasn't always readable on a different recorder. But I seem to remember that was true with the data recorders also.

For several of the Sharp computers, you could buy a printer/microcassette accessories. I have several, and they all have mixed results on re-reading the microcassettes. I'm thinking the speed control on the microcassete drives are varying or the belts have expanded or slipping.

The best is still a wav file - you can easily share the programs with other users and it's easy to create safe, backup copies.

Bill

Re: OT:Retiring an old friend :-)

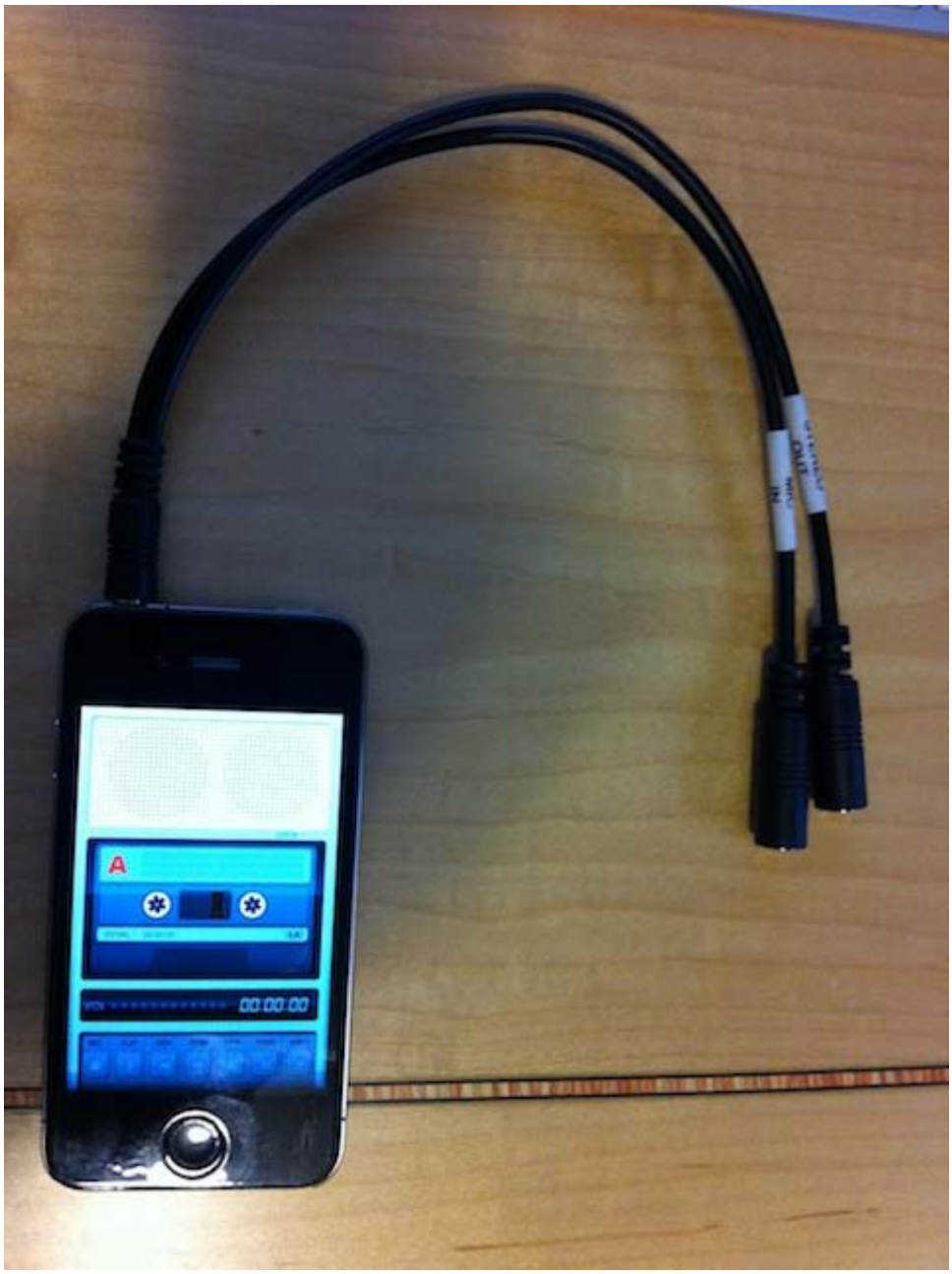
*Message #15 Posted by **robertoataulfo** on 1 Aug 2011, 7:41 p.m.,*
in response to message #14 by Bill (Smithville, NJ)

```
Meets my needs?

ICDPX820 Link
```

Re: OT:Retiring an old friend :-)

*Message #16 Posted by **Egan Ford** on 4 Aug 2011, 4:26 p.m.,*
in response to message #1 by robertoataulfo

This may be an option:



It's an iPhone app. I am sure there are others like this for other smart phones. I tested it with my Apple //e cassette ports. I was able to download a BASIC program audio file and play it to my //e and run it.

One less gadget to carry around. Just a thought.

Re: OT:Retiring an old friend :-)

*Message #17 Posted by **Marcus von Cube, Germany** on 5 Aug 2011, 5:15 a.m.,*
in response to message #16 by Egan Ford

Does the app have a name?

[Return to Index | Top of Index]

Go back to the main exhibit hall

OT:Retiring an old friend :-)

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 cryptography

*Message #1 Posted by **Geir Isene** on 30 July 2011, 1:26 p.m.*

The program CRYPT implements the Vigenére cipher for the HP-41, and as long as the key is at least as long as the XM file to be encrypted, you will have perfect security (a one-time pad).

Check out the program here.

Key: HP-41C

*Message #2 Posted by **C.Ret** on 30 July 2011, 3:33 p.m.,*
in response to message #1 by Geir Isene

Py,

bxank GEu frz thiv srypwwwrapkqs imstume nwiJion. Yt iv HealoG useiCB fou Aeeplvw mevAqges iDs prAJs puqLate.

Q stiot havh q quhAJion, Mhat qI 'tkm ch auister zqnge Dqlue' ItangqDg frz ? WkG is gmvaulw Laluh 58 ?

Edited: 30 July 2011, 4:08 p.m. after one or more responses were posted

Re: Pass: HP-41C

*Message #3 Posted by **Geoff Quickfall** on 30 July 2011, 3:34 p.m.,*
in response to message #2 by C.Ret

No.

Re: Pass: HP-41C

*Message #4 Posted by **C.Ret** on 30 July 2011, 3:43 p.m.,*
in response to message #3 by Geoff Quickfall

Ah! Ah!

It's a good practice to always answer "No !" to any non-understandable question.

But, unfortunately, my question expects neither “yes” nor “no” as an answer!

Edited: 30 July 2011, 3:46 p.m.

Re: Pass: HP-41C

*Message #5 Posted by **Geoff Quickfall** on 30 July 2011, 5:10 p.m.,*
in response to message #4 by C.Ret

Well, I tried but you are too wiley for me!!!

I was going to say MAYBE! or THAT DEPENDS!

;-)

Edited: 30 July 2011, 5:11 p.m.

Re: HP-41 cryptography

*Message #6 Posted by **Geir Isene** on 31 July 2011, 5:13 p.m.,*
in response to message #1 by Geir Isene

I updated the CRYPT program (v. 0.4) to accommodate for keys with lengths up to 300 characters. Now you can get a one-time pad of up to 300 characters on your HP-41 :)

Re: HP-41 cryptography

*Message #7 Posted by **spb** on 1 Aug 2011, 6:07 p.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> The program CRYPT implements the Vigenére cipher for the HP-41, and as long as the key is at least as long as the XM file to be encrypted, you will have perfect security (a one-time pad).

This not quite true. Or rather it is only true if the key is random noise, which is probably not true for most uses of a Vigenére system.

If the key is a random bitstream, then you're getting one bit of randomness for every bit of key. In that case if your key is at least as long as your plaintext then the encrypted text is unconditionally secure (in the information theoretic sense---you could still screw up and accidentally disclose your key in some way, reuse it, or something like that). If your key is an English word (or a string of them) then you're only getting *maybe* 1 bit of randomness per character. Assuming an 8 bit encoding for both the plaintext and the key, that's only 1/8th of the randomness you'd need for the kind of security you're talking about.

It's also probably worth noting that if you *are* using a truly random key and you're interested in unconditional security then just XORing the key and the plaintext to obtain the encrypted text is almost certainly preferable to using a Vigenére system: it's much less prone to errors due to implementation problems because of its simplicity, and it is certainly going to be faster.

In the real world all of this probably doesn't actually matter, particularly if the messages you're encrypting are relatively short (and therefore correspondingly difficult to cryptanalyse). I'm just making a (somewhat pedantic) point about the claims to be equivalent to a one time pad.

Re: HP-41 cryptography

*Message #8 Posted by **Geir Isene** on 2 Aug 2011, 2:53 a.m.,*
in response to message #7 by spb

Despite the good pedantic points; Given that the user does indeed supply a truly random key - the file would result in a One-time pad. So, possible.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B package

*Message #1 Posted by **fhub** on 30 July 2011, 11:33 a.m.*

Similar to my HP-50g package some time ago I've now also made a complete HP-71B package, including ROMs and improved keyboard support.

The two main enhancements are:
- directly clickable shifted functions (only for the larger view)
- full keyboard support, i.e. you can enter everything (also all special characters) on the usual PC keyboard (no need anymore for getting these special chars by complicated key combinations)

I've made a German, a US and a UK(GB) keyboard version, if you have a US keyboard then just run 'Keyb-US.bat' once (for a UK/GB keyboard run 'Keyb-UK.bat' once).
And you should look at the file 'Keys.txt' for special keyboard shortcuts.

To make full usage of the PC keyboard I had to use the 2 keys <Shift> and <Ctrl> in a special way: if you press&release one of these keys, then they act as the 71B prefix-keys [f] and [g], but when you press <Shift> in combination with another PC-key, then you just get the corresponding keyboard character.
(but I've also made <F1> and <F2> as alternatives for [f] and [g] in the usual way)
For the German keyboard even <Ctrl> or <AltGr> work for the special characters @{[]}.

If you're interested in this very comfortable way of using the HP71B emulator - you can find it here on my website:
http://fhub.110mb.com/HP71B.zip
Update: Added UK keyboard and fixed a bug in US keyboard.

And still some other good news:
I've found an official website where you can download all 3 manuals (Owner/Reference/Service) for the HP71B:
http://www.hpmuseum.net/collection_document.php
Just scroll down a few pages to "Handheld" where you can find links for all these 71B manuals.

Much fun with this fantastic HP71B emulator made by Christoph Giesselink! :-)

Edit: Since now my website server is working again, I've now also put my last HP-50g package (incl. the update) there:
http://fhub.110mb.com/HP50g.zip

Franz

Edited: 31 July 2011, 6:38 a.m. after one or more responses were posted

Re: HP-71B package

*Message #2 Posted by **Ángel Martin** on 30 July 2011, 12:15 p.m.,*
in response to message #1 by fhub

Fantastic!, thanks a million!

Re: HP-71B package

*Message #3 Posted by **fhub** on 30 July 2011, 12:23 p.m.,*
in response to message #2 by Ángel Martin

> Quote:
>
> Fantastic!, thanks a million!

Well, it's nothing compared with your contributions to the HP41 world (e.g. all your interesting ROMs, etc. ...) :-)

Franz

Re: HP-71B package

*Message #4 Posted by **Don Shepherd** on 30 July 2011, 12:15 p.m.,*
in response to message #1 by fhub

> Quote:
>
> I've found an official website where you can download all 3 manuals (Owner/Reference/Service) for the HP71B

All HP calculator manuals, and much more, are included in the hpmuseum DVD at a very reasonable price. I don't recall a single post where someone was disappointed after they acquired this.

Re: HP-71B package

*Message #5 Posted by **fhub** on 30 July 2011, 12:36 p.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> All HP calculator manuals, and much more, are included in the hpmuseum DVD at a very reasonable price. I don't recall a single post where someone was disappointed after they acquired this.

Well, I know and you're certainly right, but on one hand I probably won't need more than 5% of its content, and on the other hand payings from Europe to USA aren't so easy (if you don't have such modern things like a credit card or a paypal account ;-))

Re: HP-71B package

*Message #6 Posted by **Namir** on 30 July 2011, 12:22 p.m.,*
in response to message #1 by fhub

Well done Franz. I love the clickable shifted keys. They significantly reduce the number of mouse clicks.

:-)

Namir

Re: HP-71B package

*Message #7 Posted by **fhub** on 30 July 2011, 12:32 p.m.,*
in response to message #6 by Namir

> Quote:
>
> I love the clickable shifted keys. They significantly reduce the number of mouse clicks.

Yes, but for the 71B the mouse in fact isn't necessary at all - you can operate it completely with your PC keyboard and the usual keys.

Only operating it by voice would still be more comfortable ... ;-)

Edited: 30 July 2011, 12:32 p.m.

Re: HP-71B package

*Message #8 Posted by **Namir** on 30 July 2011, 4:53 p.m.,*
in response to message #7 by fhub

You are right. The only thing that is a bit tricky are the "(" and ")" characters. I was able to find them on the keyboard.

Cheers,

Namir

Re: HP-71B package

*Message #9 Posted by **fhub** on 30 July 2011, 5:45 p.m.,*
in response to message #8 by Namir

> Quote:
>
> You are right. The only thing that is a bit tricky are the "(" and ")" characters. I was able to find them on the keyboard.

Aren't these on the shifted 9 and 0 keys on your US keyboard? Or do you have any other country layout?

For KeybGR they are on 8 and 9, but of course I can't make files for a few dozens of different countries. ;-)

Franz

Re: HP-71B package

*Message #10 Posted by **fhub** on 30 July 2011, 1:29 p.m.,*
in response to message #1 by fhub

BTW, since I don't have a US keyboard here, I've made this US version after a file with the layout and the scan codes of such an US keyboard. So I hope I got everything right!?

Let me know if any key doesn't work as it should, i.e. produces any other character than usual ...

Only for the 2 keys with `~ and \| there is no mapping because the 71B doesn't have any key combination for these chars (and also not for the underscore _)

Franz

Re: HP-71B package

*Message #11 Posted by **Vladan Dugaric** on 30 July 2011, 7:05 p.m.,*
in response to message #10 by fhub

I was tinkering with your US keyboard layout and made one for British keyboard. There were just several modifications necessary to get there from the US KMI file.

Here are the changes for KBD-US.KMI to make KBD-GB.KMI:

Replace Scancode 50 section with:

```
Scancode 50                     # 2 "
        SetFlag 0
        IfPressed 16
                Map 50 403
                Map 50 312
        Else
                Release 314
                Map 50 312
        End
End
```

Replace Scancode 51 section with:

```
Scancode 51                     # 3 #
        SetFlag 0
        IfPressed 16
#               Map 51 403
        Else
                Map 51 313
        End
End
```

Replace Scancode 221 section with:

```
Scancode 221                    # ] }
        SetFlag 0
        Map 221 403
        IfPressed 16
                Map 221 113
        Else
                Map 221 309
        End
End
```

Replace Scancode 222 section with:

```
Scancode 222                    # # ~
        SetFlag 0
        IfPressed 16
        Else
                Map 222 403
                Map 222 313
        End
End
```

Replace Scancode 192 section with:

```
Scancode 192                    # ' @
        SetFlag 0
        Map 192 403
        IfPressed 16
```

```
                Map 192 314
        Else
                Map 192 111
        End
End
```

In addition, create a new .bat file Keyb-GB.bat:

```
@echo off
cls
copy KBD-GB.KMI HP-71B.KMI > nul
echo.
echo Keyboard-Layout: GB
echo.
```

This maps all existing characters on HP-71B keyboard to the appropriate keys on British PC-105 keyboard. All nice features of the US keyboard package are retained.

Franz, I think the best thing would be if you added these two files to your version so that it would be hosted in only one place instead of scattered all over the net. If it would be easier for you, I can email them to you so you don't have to edit the .KMI file.

Vladan

Edited: 30 July 2011, 7:11 p.m.

Re: HP-71B package

*Message #12 Posted by **fhub** on 31 July 2011, 6:45 a.m.,*
in response to message #11 by Vladan Dugaric

> Quote:
>
> I was tinkering with your US keyboard layout and made one for British keyboard.

Many thanks Vladan, very good job! :-)

I've now included also your British keyboard and uploaded a new version (same link as in the first posting) - I just named it UK instead of GB, because I think this is more usual. ;-)

And your work had still another advantage: I saw that I had forgotton one line in the US keyboard for the key "] }", so they won't work correctly in my first version - it's now also fixed in the new upload.

Thanks again,
Franz

Re: HP-71B package

*Message #13 Posted by **fhub** on 31 July 2011, 6:48 a.m.,*
in response to message #10 by fhub

> Quote:
>
> Let me know if any key doesn't work as it should, i.e. produces any other character than usual
> ...

Well, the first bug has appeared with the US keyboard:
I forgot one command, and so the right brackets] and } didn't work correctly.

It's fixed and also includes a UK keyboard now, so if you have a US or UK keyboard, please download the file again:
http://fhub.110mb.com/HP71B.zip

Franz

Edited: 31 July 2011, 6:51 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41 MCODE Question - Page #4 Library

*Message #1 Posted by **Ángel Martin** on 30 July 2011, 6:32 a.m.*

Greetings fellow MCODErs, here's a question for those still practicing the arcane arts..

ok, so I have successfully compiled a library of frequently-used MCODE routines and they are placed in a custom-made page#4. It is not a take-over rom, it just sits there and waits for the other modules to call upon it.

This Lib#4 can be configured in the ML2k, Clonix, and of course the CL - so not a problem. Also V41 supports it, so emulation is possible for trouble-shooting.

Works like a charm, finally all that unused space is put to work for a practical cause. BTW I have reserved addresses 0x4100 to 0x41FF for NoVRAM 64 settings, not a problem,

And the question, you ask? Well I though it'd be a nice touch if upon startup the library page announced itself with a friendly message, something like "#4 ON-LINE". Problem is page #4 does not offer polling points as interrupts, so no chance to use that method.

I tinkered a bit using the take-over address 0x4000, with the sole purpose of showing the message and then returning control back to the OS - but all my attempts have failed so far. It just keeps repeating the message upon every light-sleep event, duh.

Can anyone offer some suggestions? Sure the work-around is for another module to check for its presence and report on its behalf, but that's not so elegant.

Best, 'AM

Re: 41 MCODE Question - Page #4 Library

*Message #2 Posted by **Håkan Thörngren** on 30 July 2011, 5:43 p.m.,*
in response to message #1 by Ángel Martin

I would say don't. I rather have my HP-41 come up as fast as possible, no need for a splash message.

If you really need to do it, I suggest you look at the return address on the stack. It will be different if you come from deep or light sleep. You should probably also call PACH11 (0x3f5).

Re: 41 MCODE Question - Page #4 Library

*Message #3 Posted by **Raymond Del Tondo** on 30 July 2011, 8:25 p.m.,*
in response to message #2 by Håkan Thörngren

> Quote:
>
> I would say don't. I rather have my HP-41 come up as fast as possible, no need for a splash message.

1+

Back in the early eighties, when I learned how to use the interrupts, I also made startup messages.
I thought it would be cool if the calc showed me some random greeting text upon turn-on.
But soon the messages became disturbing, and thus I removed the code.

If you can't live w/o a msg flash, I'd suggest to make it optional, using a flag or s.t. ;-)

Re: 41 MCODE Question - Page #4 Library

*Message #4 Posted by **gene wright** on 30 July 2011, 10:35 p.m.,*
in response to message #3 by Raymond Del Tondo

1+

No startup message please :-)

Re: 41 MCODE Question - Page #4 Library

*Message #5 Posted by **Ángel Martin** on 31 July 2011, 2:28 a.m.,*
in response to message #4 by gene wright

So you guys must love working with your Windoze systems, right? Coming to think about it, they do little more than putting up splash messages the whole time...

I've changed the approach and now it's only a warning message when the library is NOT on-line - done by the other modules that use it, of course.

Eric's reminder of the disabled printer ROM is timely and important: that would create a conflict, so it's up to the user not to let that happen.

Re: 41 MCODE Question - Page #4 Library

*Message #6 Posted by **Eric Smith** on 30 July 2011, 11:16 p.m.,*
in response to message #1 by Ángel Martin

Warning: using page 4 is problematic on a real 41 if you have the HPIL module installed with the printer functions "disabled". The switch on the module doesn't actually disable the printer ROM, it just moves it to page 4.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Woodstock LED question

*Message #1 Posted by **Mark Henderson** on 29 July 2011, 1:01 p.m.*

In my Woodstock collection I have 2 distinct types of LED displays:

1. Small, round decimal point 2. Larger, triangular decimal point (dropped down a little relative to digits)

Did one pre-date the other? Which one?

Re: Woodstock LED question

*Message #2 Posted by **Adam Vaughn** on 29 July 2011, 1:17 p.m.,*
in response to message #1 by Mark Henderson

Both were made at the same time. The difference is due to the fact that, in Europe, the comma is used where a decimal point would normally be used in the US, and vice-versa. I'm not sure about the Woodstock series, but the Spice series calculators have a jumper inside which allows the display to show either one. -Adam

Re: Woodstock LED question

*Message #3 Posted by **Michael de Estrada** on 29 July 2011, 1:51 p.m.,*
in response to message #2 by Adam Vaughn

I have several Woodstocks, all made in the USA based on the "A" serial numbers, and they exhibit both types of decimal delimiter (period and comma), so I'm not sure that this is a strictly sales market issue. OTOH, it is definitely the case with Spices, and is indicated in the serial number with an asterisk (*) prefix.

Edited: 29 July 2011, 1:52 p.m.

Re: Woodstock LED question

*Message #4 Posted by **Mark Henderson** on 29 July 2011, 5:16 p.m.,*
in response to message #3 by Michael de Estrada

Interesting... All the Woodstocks I'm looking at (and I have about 7...) are "A" models. Originally I thought the oldest models had the "comma", but now I'm thinking it's the later models (in my collection). I'll have to look at the S/Ns more carefully... Or is it by model? My HP25 and 25C both have "points". My HP21s, HP22s and HP29 all have "commas"... I prefer the "point", BTW.

Re: Woodstock LED question

*Message #5 Posted by **Michael de Estrada** on 29 July 2011, 5:47 p.m.,*
in response to message #4 by Mark Henderson

I don't think it's model-specific. My HP-25 has a comma and my HP-21, 22 and 29C have points.

Re: Woodstock LED question

*Message #6 Posted by **Kees van der Sanden** on 30 July 2011, 3:33 p.m.,*
in response to message #5 by Michael de Estrada

Some time ago I repaired a few Woodstock models. I observed that two different types of displays were used. One was coded 1990-0495 and the other 1990-0559. At first sight they look identical. Unfortunately I didn't look for a difference on the point/comma.

Re: Woodstock LED question

*Message #7 Posted by **Kiyoshi Akima** on 29 July 2011, 5:26 p.m.,*
in response to message #1 by Mark Henderson

Okay, I realize the 19C is only related to the Woodstocks, but if you have one then look at the decimal point through a magnifying glass. It's neither a dot nor a comma.

Re: Woodstock LED question

*Message #8 Posted by **Mark Henderson** on 29 July 2011, 5:35 p.m.,*
in response to message #7 by Kiyoshi Akima

Yes, the 19C is "Special" in this regard (that little HP logo)! There is also something else special about the 19C (compared to Woodstocks) - the decimal point takes up a whole digit position, like the Classics did (and I love that about Classics). Interesting that the 29C and 19C share so much but differ in this regard? IIRC correctly the HP-65 follows Classic convention, the HP-67 follows Woodstock convention (because the 67 is of course more related to Woodstock than to Classic).

Re: Woodstock LED question

*Message #9 Posted by **Michael de Estrada** on 29 July 2011, 5:50 p.m.,*
in response to message #8 by Mark Henderson

I'm not sure what difference you mean, but the displays on my 2 HP-67s look the same to me as all my Classics. The only change was the addition of a separate low battery indicator LED dot.

Edited: 29 July 2011, 5:55 p.m.

Re: Woodstock LED question

*Message #10 Posted by **Mark Henderson** on 30 July 2011, 2:22 p.m.,*
in response to message #9 by Michael de Estrada

Yes, you are right of course, I did not recall correctly!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

which HP desktop is this for us$50 buy-now?

*Message #1 Posted by **robert rozee** on 29 July 2011, 9:11 a.m.*

ebay listing number 190560374449
http://cgi.ebay.com/190560374449

who will be first to buy it? :-)

addendum: it's just sold... to g***a

Edited: 29 July 2011, 10:20 a.m. after one or more responses were posted

Re: which HP desktop is this for us$50 buy-now?

*Message #2 Posted by **John B. Smitherman** on 29 July 2011, 9:32 a.m.,*
in response to message #1 by robert rozee

Is it RPN?

John

Re: which HP desktop is this for us$50 buy-now?

*Message #3 Posted by **robert rozee** on 29 July 2011, 9:37 a.m.,*
in response to message #2 by John B. Smitherman

yes - and i see now that in the body of the auction it gives the model number. am a little surprised that one of the regulars on here hasn't snapped it up yet!!

(sits back and continues counting up the minutes on my stopwatch)

Re: which HP desktop is this for us$50 buy-now?

*Message #4 Posted by **Walter B** on 29 July 2011, 11:39 a.m.,*
in response to message #3 by robert rozee

It was no international auction anyway. This reduces the set of potential buyers to 5% ;-)

Re: which HP desktop is this for us$50 buy-now?

*Message #5 Posted by **Cristian Arezzini** on 29 July 2011, 12:43 p.m.,*
in response to message #4 by Walter B

Yes, I would have bought it immediately if he shipped to Italy. By the way, based on what he said, it is probably working, he just couldn't understand RPN. I only hope it went to someone who knows what it is and doesn't toss it.

Cristian

Re: which HP desktop is this for us$50 buy-now?

*Message #6 Posted by **Chan Tran** on 29 July 2011, 9:52 p.m.,*
in response to message #5 by Cristian Arezzini

They said it's the 91.

Re: which HP desktop is this for us$50 buy-now?

*Message #7 Posted by **Cristian Arezzini** on 30 July 2011, 3:56 a.m.,*
in response to message #6 by Chan Tran

Yes, I mean, I hope who bought it isn't someone who wanted the other two, and says "This is just a weird non-working junk, I'll toss it away"...

Cristian

Re: which HP desktop is this for us$50 buy-now?

*Message #8 Posted by **aj04062** on 31 July 2011, 8:26 p.m.,*
in response to message #7 by Cristian Arezzini

AHA!

I agree everyone, that's why I snapped it up!

I love the "TOS" iPhone app. I can sit on the beach and shop away.

I can't imagine the 91 can't be resurrected.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Chinese Calculator Prices

*Message #1 Posted by **DaveJ** on 29 July 2011, 6:54 a.m.*

A spin-off from another thread:

80 cent chinese scientific calculators

The link says it all.
And they would be making a profit on those bulk prices...

80 cents is what it cost for just ONE key switch on my uWatch, even in bulk.

Dave.

Re: Chinese Calculator Prices

*Message #2 Posted by **DaveJ** on 29 July 2011, 7:00 a.m.,*
in response to message #1 by DaveJ

I just noticed that *everything* on their entire site seems to be 80 cents!

Dave.

Re: Chinese Calculator Prices

*Message #3 Posted by **Maximilian Hohmann** on 29 July 2011, 7:21 a.m.,*
in response to message #1 by DaveJ

Hello!

> Quote:
>
> And they would be making a profit on those bulk prices...

Absolutely incredible! But not only calculators. Recently I bought a watch from Hongkong through eBay "Buy it Now": Modeled after an Omega Seamaster (but not a fake or replica watch as these get confiscated by our customs), all stainless steel case and bracelet, automatic movement with glass bottom and mineral glass crystal, packaged in a nice gift box. Directly from the manufacturer. The price? One Euro. A replacement mineral glass crystal for watches can not be found for less than 20 Euros here. How much longer can this go on?

Regards, Max

Edited: 29 July 2011, 7:22 a.m.

Re: Chinese Calculator Prices

*Message #4 Posted by **Bart (UK)** on 29 July 2011, 7:25 a.m.,*

in response to message #1 by DaveJ

Again I recognise the Sharp EL-506P keys. Does that make the EL-506P the most cloned scientific calculator?

Edit: the EL-506P was the first calculator I ever purchased. I think I paid ~£25 at the time :-).

Edited: 29 July 2011, 7:27 a.m.

Re: Chinese Calculator Prices

*Message #5 Posted by **Crawl** on 29 July 2011, 9:08 a.m.,*
in response to message #4 by Bart (UK)

Some of them seem like Casio ripoffs.

This one seems like its keyboard is almost, if not exactly, the same as this one.

Re: Chinese Calculator Prices

*Message #6 Posted by **Bart (UK)** on 29 July 2011, 7:32 a.m.,*
in response to message #1 by DaveJ

It gets better, I select curency to GB pound and the prices change to £0.06!!

Likely a fake company.

*Message #7 Posted by **Frank Boehm (Germany)** on 29 July 2011, 8:35 a.m.,*
in response to message #1 by DaveJ

No company data: buyer beware.
I'd suggest to check with Alibaba (they recently removed lots and lots of fake sellers, so the present sellers are more or less trustworthy...).
While some list calculators for less than 1 USD, most are in the 2-3 USD range.
The huge problem: most listed sellers are just traders and not manufacturer, so not the first choice place to purchase your goods from.

Re: Chinese Calculator Prices

*Message #8 Posted by **robert rozee** on 29 July 2011, 10:16 a.m.,*
in response to message #1 by DaveJ

dave - have you looked at the prices for small components (including switches) on ebay? the prices out of china are pretty good, and the quality is mostly quite passable. for instance, i've just bought (just 10 as samples) the following through-hole small switches:
10,ALPS 6X6X5MM Tactile Push Button Switch Momentary
these are for an hp-15c desktop clone i'm working on.

or there's these ones, much like the ones you use in the uWatch:
15× EVQPJS04K PUSHBUTTON TACT SWITCH 6×3½×4.3mm SMD/SMT

Re: Chinese Calculator Prices

*Message #9 Posted by **Katie Wasserman** on 29 July 2011, 10:26 a.m.,*
in response to message #8 by robert rozee

I sometimes buy electronic parts directly from sellers in China via ebay, DealExtreme or other such places

and am generally very pleased with the quality and especially the price. They usually ship for free or nearly so but that's the the rub, it can take a month to get things.

Edited: 29 July 2011, 10:26 a.m.

Re: Chinese Calculator Prices

*Message #10 Posted by **DaveJ** on 29 July 2011, 6:57 p.m.,*
in response to message #8 by robert rozee

Yes, occasionally I check ebay if I don't care about component quality.
The problem with projects like the uWatch is that many of the components are chosen for very specific physical and/or as aesthetic functional purposes as well as electrical/functional. It's not like buying regular components to just populate a PCB in a box.

Dave.

Re: Chinese Calculator Prices

*Message #11 Posted by **bill platt** on 29 July 2011, 7:41 p.m.,*
in response to message #10 by DaveJ

The supply chain seems to matter. For instance if you want a good LED, you have to buy a known chip through a cmpany with a track record. They are all made in China, but the "warrantee" is what matters....because they all look the same, even when they are not.

Re: Chinese Calculator Prices

*Message #12 Posted by **Ren** on 29 July 2011, 10:29 a.m.,*
in response to message #1 by DaveJ

I'm a bit surprised that a .org web address is obviously commercial in nature. When I bought my .org IIRC it had a no commerce stipulation.

Ren

dona nobis pacem

.org

*Message #13 Posted by **Frank Boehm (Germany)** on 29 July 2011, 3:25 p.m.,*
in response to message #12 by Ren

That's history. No one cares anymore. I think the .gov, .mil and .edu are the only "classics" still restricted. On a sidenote, I'm still unhappy about the "old rules" - I would have reserved me a nice boehm.de domain, but the .de was only available to companies back then.

Re: .org

*Message #14 Posted by **Marcus von Cube, Germany** on 29 July 2011, 4:21 p.m.,*
in response to message #13 by Frank Boehm (Germany)

So go for boehm.name!

Re: Chinese Calculator Prices

*Message #15 Posted by **Frank Wales** on 29 July 2011, 7:47 p.m.,*
in response to message #1 by DaveJ

> Quote:
>
> A spin-off from another thread:
>
> 80 cent chinese scientific calculators
>
> The link says it all.
> And they would be making a profit on those bulk prices...
>
> 80 cents is what it cost for just ONE key switch on my uWatch, even in bulk.
>
> Dave.

The News page has this text on it:

This store is for demo purpose only. No order will be proceed.

Oh Well!!

*Message #16 Posted by **Namir** on 29 July 2011, 9:16 p.m.,*
in response to message #15 by Frank Wales

Just hot air ... after all ... sigh!!!

Namir

Edited: 29 July 2011, 9:16 p.m.

Re: Chinese Calculator Prices

*Message #17 Posted by **Keith Midson** on 30 July 2011, 6:35 p.m.,*
in response to message #15 by Frank Wales

Even if you could buy them, the minimum order is 5000 pieces!!! Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Undocumented 50g shortcuts ?

*Message #1 Posted by **Glenn Shields** on 29 July 2011, 12:00 a.m.*

After being inspired by the 50g AUR shortcut listing, I stumbled upon a 'feature' which I can't find in the AUR or user's guide or anywhere else: in the EQW, enter a fraction (like 2/(3+4)), highlight either the numerator or denominator, then press L.S. followed by either R.A. or L.A. and the fraction flips, with the highlighted part still hightlighted. Then, select the 3 or 4 alone. Now these keystrokes will reverse them (3 + 4 becomes 4 + 3, highlight remaining). Also, another shortcut which I read on some post (where?) that in a 3D plot window, using TOOL and NEXT will rotate the plot around a 3rd axis not available using the four arrow keys alone. Does anyone know where, if at all, these features may be mentioned? Thanks in advance, Glenn in West LA

Re: Undocumented 50g shortcuts ?

*Message #2 Posted by **George Litauszky** on 29 July 2011, 12:29 p.m.,*
in response to message #1 by Glenn Shields

There are lot of shortcuts in the 48G UM too.
Note: I discovered that in a 3D plot window I can to enlarge and reduce the plot's size with the "+" and "-" buttons.

Re: Undocumented 50g shortcuts ?

*Message #3 Posted by **Glenn Shields** on 29 July 2011, 5:28 p.m.,*
in response to message #2 by George Litauszky

Thanks, that is nice.

Re: Undocumented 50g shortcuts ?

*Message #4 Posted by **Glenn Shields** on 4 Aug 2011, 12:21 p.m.,*
in response to message #3 by Glenn Shields

One more thing, the 50g remains so interesting, and "deep" as Tim Wessman said in his recent Community post (about the "?" function). After 2 years of being challenged by the AUR to modify the Phonelist program to add a "delete" routine, a solution presented itself (I have been using it as an organizer, along with the flash memory so nothing gets lost). The main problem to solve is the fact that the choose box returns only the second item of the list {"name" "number}, so in order to modify the 'names' list to let POS search for the position of the item to delete, I added a routine to combine each element into one string, using DOLIST. Then with the result of POS, the original list can be broken down using SUB into two pieces (without the item to be deleted), then combined with "+" . The method of modifying 'names' and re-storing it is pretty inelegant, but is the method given in the AUR.

So, first add a third choose item, {"DELETE AN ENTRY" 3}, and a third CASE element, "c 3 ==", then copy the same "you must add a name" routine, then ELSE names 1 << obj-> drop " " swap + + 1 ->list >> DOLIST 'nms' STO

This rewrites 'names' into single-string items, to be operated on by POS. This is entered between ELSE

and WHILE. After WHILE comes "DELETE AN ENTRY" 1 CHOOSE REPEAT nms swap POS dup names swap 1 swap 1 - SUB names ROT 1 + swap dup SIZE rot swap SUB + 'names' STO.

This uses POS to pick out all entries up to (POS - 1), then uses SIZE to pick out (POS + 1 throuth SIZE). As for the case if the entry is first or last on the list, it turns out that SUB is a very forgiving function -- if the indices fall outside the range of the list, it returns a blank list {}. How convienient!! Then throw a 'nms' purge at the end to clean up. What fun!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Clear case 65 - fess up!

*Message #1 Posted by **Keith Midson** on 28 July 2011, 11:09 p.m.*

Hi all, I REALLY wanted this one, but someone wanted it more - TAS item 170672942314. Cheers, Keith

Re: Clear case 65 - fess up!

*Message #2 Posted by **hpnut** on 28 July 2011, 11:18 p.m.,*
in response to message #1 by Keith Midson

buying a pig in a poke? there's no picture of the red LEDs on!

Re: Clear case 65 - fess up!

*Message #3 Posted by **Michael de Estrada** on 28 July 2011, 11:19 p.m.,*
in response to message #1 by Keith Midson

I saw it too. Nearly $2000 for a clear plastic back. Whoever it is, also likes model airplanes.

Re: Clear case 65 - fess up!

*Message #4 Posted by **Keith Midson** on 28 July 2011, 11:25 p.m.,*
in response to message #3 by Michael de Estrada

I was the second highest bidder at US$1850, and I was questioning my sanity going that high. BUT I do have a decent collection of clear cased HP's (71B, 28S, 19Bii, 67, 17B and 30B). I'm not into model airplanes though ... Keith

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Not HP but I want one

*Message #1 Posted by **Paul Dale** on 28 July 2011, 8:08 p.m.*

This is a great idea: Wrongulator.

Maybe the 34S should have a "wrong" mode added :-)

- Pauli

Re: Not HP but I want one

*Message #2 Posted by **Michael de Estrada** on 28 July 2011, 8:51 p.m.,*
in response to message #1 by Paul Dale

Looks like the calculator equivalent of a whoopee cushion.

Re: Not HP but I want one

*Message #3 Posted by **Egan Ford** on 29 July 2011, 11:51 a.m.,*
in response to message #1 by Paul Dale

Evil redefined! And it's black.

Re: Not HP but I want one

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 29 July 2011, 1:10 p.m.,*
in response to message #1 by Paul Dale

This reminds me of the "gifts" that get passed out by vendors at technical seminars. Such as the USB memory stick I got who's activity LED would go out when the thing was actively writing/reading -- the exact opposite of what the 1 page instruction sheet said it did, or the original 486sx's with the broken floating point unit (now that was a clever "Say, how about we do this!?" over a few beers on a Friday afternoon!) -- or was that just an urban myth?

I suspect some marketing-type (no offense intended toward marketing-types -- some of my best friends are marketing-types -- I would just be sad if my sister/brother married one :-) figured that they would make the best of a bad situation and try and sell a dud design anyway. Kind of clever actually.

Re: Not HP but I want one

*Message #5 Posted by **PeterP** on 1 Aug 2011, 2:39 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

no urban myth. I had one of them...

Re: Not HP but I want one

*Message #6 Posted by **Norman Dziedzic** on 29 July 2011, 4:02 p.m.,*
in response to message #1 by Paul Dale

This reminds me of a story a friend of mine told me.

His family had a small business and right before he left on vacation he altered the keys on a standard desktop "10-key" calculator. Normally they sit 1-2-3 bottom row and up to 7-8-9 on the top. He swapped the top and bottom rows to look like a phone kyepad.

He thought he'd get a good laugh when he got back and did...especially when he found out his father had sent it out for service and the manufacturer said they couldn't figure out what was wrong with it!! :-)

Re: Not HP but I want one

*Message #7 Posted by **Lode** on 29 July 2011, 4:34 p.m.,*
in response to message #1 by Paul Dale

One that always gives 80085 as an answer could be called the "Boobulator"!

Re: Not HP but I want one

*Message #8 Posted by **spb** on 30 July 2011, 6:59 a.m.,*
in response to message #1 by Paul Dale

> Quote:
>
> Maybe the 34S should have a "wrong" mode added :-)

The Soviet-era Elektronika MK-54 had an `Error' button.

The Elektronika MK-52 (not 54) is a fairly well-known calculator; it was used as a backup onboard the Soyuz missions. It was replaced by the MK-61, which was designed to be functionally identical to the MK-52 but have a different form factor (the 61 being a Pioneer to the 52's Voyager).

Similarly, the MK-54 was designed to be functionally equivalent to the earlier B3-34, which was a hugely popular early Soviet programmable. But for some reason or other---presumably to save manufacturing costs---the MK-54 used *exactly the same body* as the MK-61. This might make sense until you realise that the MK-61, like the MK-52, has two shift keys while the B3-34 has only one.

So the MK-54 ends up with a shift key it literally has no use for. As a result, using it as a prefix before any other function yields an immediate `Error'; an error button.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s: TVM problem?

*Message #1 Posted by **gene wright** on 28 July 2011, 4:30 p.m.*

I can get the TVM example in the manual to work to solve for a payment, but I can't get it to work solving for the interest rate.

I don't see any disclaimer about the interest rate being a special case... ?

Here's what I did:

-800 STO 80

90000 STO 81

0 STO 82

0 STO 83

360 STO 84

Then set up a program for:

LBL IYR

SLV 01

NOP

RTN

LBL 01

STO 83

XEQ TVM

RTN

and I get positive infinity as the result seemingly regardless of the initial guess.

The answer should be about 0.85 (or 0.0085 since it does not use the x100 view).

Help?

Gene

Re: 34s: TVM problem?

*Message #2 Posted by **Marcus von Cube, Germany** on 28 July 2011, 4:43 p.m.,*
in response to message #1 by gene wright

What happens if you XEQ 01 with your estimated solution in X?

Re: 34s: TVM problem?

*Message #3 Posted by **gene wright** on 28 July 2011, 5:02 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I single-stepped to LBL 01.

Keyed in 0.008 and pressed R/S. I saw -36.6560 in the display.

Re: 34s: TVM problem?

*Message #4 Posted by **Marcus von Cube, Germany** on 28 July 2011, 5:09 p.m.,*
in response to message #3 by gene wright

If your assumption is correct, the result should be near zero. Maybe you didn't get the signs of the parameters right?

Re: 34s: TVM problem?

*Message #5 Posted by **Dieter** on 29 July 2011, 9:49 a.m.,*
in response to message #4 by Marcus von Cube, Germany

The result actually *is* close to zero - for i = 0,008 it's just 36,66 "money units", which is close to nothing compared to the other values. The correct interest rate (0,00846072 to six significant places) returns a value less than 0,0003.

Gene's problem most probably is the TVM routine not handling zero interest rates combined with the requirement of two non-zero initial guesses. See my other post below.

Dieter

Re: 34s: TVM problem?

*Message #6 Posted by **Paul Dale** on 28 July 2011, 5:41 p.m.,*
in response to message #3 by gene wright

The 12c give 0.85 as the answer to this problem so there is an issue with the TVM routine in XROM. I couldn't be bothered fixing a financial function though :-)

The TVM code is exactly:

```
LBL'TVM'
RCL 80
RCL 81
RCL+ 82
1
RCL+ 83
RCL 84
y[^x]
DEC X
/
RCL+ 81
RCL[times] 83
FC? 80
SKIP 03
```

```
RCL 83
INC X
/
+
RTN
```

Anyone care to try fixing the equation?

The solver also makes mistakes from time to time...but that doesn't seem to be the issue here.

- Pauli

Re: 34s: TVM problem?

*Message #7 Posted by **Jim Horn** on 28 July 2011, 8:08 p.m.,*
in response to message #6 by Paul Dale

Perhaps I'm mistaken, but the formula shown in the manual is "PMT-"..., not "PMT+"... so I'd expect the second from last step to be a "-", not a "+". Yes?

Re: 34s: TVM problem?

*Message #8 Posted by **Paul Dale** on 28 July 2011, 9:16 p.m.,*
in response to message #7 by Jim Horn

I think the + is correct.

If you set the initial bounds to .8 and .9 the solver finds the root in about ten iterations: 0.008460723396753903.

Some other bounds I tried failed. So this is more like the solver going awry.

- Pauli

Re: 34s: TVM problem?

*Message #9 Posted by **Miguel Toro** on 28 July 2011, 10:30 p.m.,*
in response to message #8 by Paul Dale

Hi Pauli,

I think that Jim is correct. I compared the program with the formula in the manual and based on that the last instruction before RTN should be "-", if I am not mistaken.

Salut,

Miguel

Re: 34s: TVM problem?

*Message #10 Posted by **Paul Dale** on 28 July 2011, 11:44 p.m.,*
in response to message #9 by Miguel Toro

The solver gets the correct answer with a plus and not with a minus but I'll verify the formula this evening.

- Pauli

Re: 34s: TVM problem?

*Message #11 Posted by **Paul Dale** on 29 July 2011, 12:07 a.m.,*
in response to message #6 by Paul Dale

I checked this and I am fairly confident the function is correct.

I don't know where Walter got the equation in the manual from but the one being solved is:

```
PMT + I/k (PV + (PV + FV) / ( (1 + I)^n - 1 ) = 0
```

This is a rearangement of the PMT = equation in the manual.

I don't see where people are coming from saying the first + should be a -.

- Pauli

Re: 34s: TVM problem?

*Message #12 Posted by **Miguel Toro** on 29 July 2011, 1:25 a.m.,*
in response to message #11 by Paul Dale

Hi,

Yes, you are right. The equation in the manual should then read "PMT +" and so on and not as it is now.

Thanks,

Miguel

TVM

Edited: 29 July 2011, 1:28 a.m.

Re: 34s: TVM problem?

*Message #13 Posted by **Walter B** on 29 July 2011, 1:59 a.m.,*
in response to message #12 by Miguel Toro

IMHO the top equation on page 76 of the manual is just a rearrangement of the equation for PMT in the next row.

Walter

Re: 34s: TVM problem?

*Message #14 Posted by **Bart (UK)** on 29 July 2011, 6:37 a.m.,*
in response to message #13 by Walter B

Editions of the manual from at least 1.4 up to Edition 2.0 released with build 1107, p72 has the formula incorrect.
Later Edition 2.0 (again) of the manual released with build 1173, p73 has the formula corrected.

Suggestions:

Walter:
Better version numbering (many changes were made to the manual released as version 2.0) - perhaps add an alphabetical letter to it?
Forumers:
Use the lateast version of the manual (latest I can find is version 2.1 released with build 1344)

Note: these are observations and suggestions, I am not telling anyone what to do. Please take it in the spirit of trying to help.

Re: 34s: TVM problem?

*Message #15 Posted by **Miguel Toro** on 29 July 2011, 9:00 a.m.,*
in response to message #14 by Bart (UK)

Thank you Bart for pointing to the lastest version of the manual.

By the way, I would like to thank Pauli, Walter and Marcus fos this amazing development of a calculator. This is an awesome work what you are doing here, guys!

Regards,

Miguel

Re: 34s: TVM problem? Something about our manual

*Message #16 Posted by **Walter B** on 29 July 2011, 12:20 p.m.,*
in response to message #14 by Bart (UK)

Bart,

> Quote:
>
> Editions of the manual from at least 1.4 up to Edition 2.0 released with build 1107, p72 has the formula incorrect.
> Later Edition 2.0 (again) of the manual released with build 1173, p73 has the formula corrected.
>
> Suggestions:
> Walter:
> Better version numbering (many changes were made to the manual released as version 2.0) - perhaps add an alphabetical letter to it?
> Forumers:
> Use the lateast version of the manual (latest I can find is version 2.1 released with build 1344)

Thanks for your report and suggestions. No need for excuses - we've proven we can take whatever comes, but you have to take our response as well ;-) That said, let's start:

- Edition 1.4 didn't contain TVM at all.
- Please note you are closely watching a development project. Almost everything we do is reflected in SourceForge. I don't know any other calculator

development being so open to the community. OTOH you may see a lot of errors, features coming and going again. If you don't want to cope with that, please wait for the official release.
- With respect to edition counting: You may have noticed we update our files frequently. If each and every little change or correction would get a new number, the editions would run up to hilarious values IMHO. So we refrain from doing this.
- But help is near: SourceForge does the counting for us :-) And you find a screen shot of a recent build on the title page of each manual - this may give you some idea what's covered.
- Real bugs are still found - thanks to the community for reporting them.
- IF you want to see the latest committed edition of the manual, look here: http://wp34s.svn.sourceforge.net/viewvc/wp34s/doc/ and choose the file "Manual_wp_34s_...". Again, this may be full of errors still - TIA to everybody reading it and reporting to me whatever (s)he thinks is wrong / misleading / arcane / annoying / whatever ... There will happen nothing worse than you get an answer thanking you (see above) etc. ;-)

Disclaimer: This is written to advance understanding, no offence intended.

HTH,

Walter

Re: 34s: TVM problem? Something about our manual

*Message #17 Posted by **Bart (UK)** on 30 July 2011, 6:54 a.m.,*
in response to message #16 by Walter B

> Quote:
>
> - Edition 1.4 didn't contain TVM at all.

You are right, it was another version 2.0 I was looking at, released with a build in June (I don't think there was ever a 1.4 released?)

> Quote:
>
> - Please note you are closely watching a development project.

Yes, my last sentence intended to convey that these are observations, not criticisms. As I commented in this thread I hold you all in high regard and am very thankful for the effort and time spent on this project.

> Quote:
>
> - With respect to edition counting: You may have noticed we update our files frequently. If each and every little change or correction would get a new number, the editions would run up to hilarious values IMHO. So we refrain from doing this.

The TVM section changed from one formula to four formulas, which I personally think is quite a major change.
However:

> Quote:
>
> - But help is near: SourceForge does the counting for us :-) ...

Indeed, we can always reference a manual together with the sourceforge no. i.e. "edition 2.1 - 1327" ;-)

Thank you again for all the effort,
Bart

Re: 34s: TVM problem? Something about our manual

*Message #18 Posted by **Walter B** on 30 July 2011, 8:16 a.m.,*
in response to message #17 by Bart (UK)

> Quote:
>
> I don't think there was ever a 1.4 released?

None that you could see :-)

> Quote:
>
> As I commented in this thread I hold you all in high regard and am very thankful for the effort and time spent on this project.

Thank you for your kind words in other posts as well. Generally, however, my response goes just to the post I'm answering. I apologize for not taking into account all of your publications ;-)

> Quote:
>
> The TVM section changed from one formula to four formulas, which I personally think is quite a major change.

Three more formulas in a 80 page paper, well ... YMMV :-)

Walter

Re: 34s: small manual error

*Message #19 Posted by **fhub** on 30 July 2011, 10:09 a.m.,*
in response to message #18 by Walter B

For Walter:

Looking in the manual for S.L and S.R I found a small bug:
The statements about multiplication or division with a factor 10^n are correct, but not the **decimal point/comma** is shifted left or right (for S.L

or S.R) but the number itself, i.e. its **digits** are shifted as the function name suggests - the radix is in fact shifted exactly in the opposite direction as the function name says.

Franz

Edited: 30 July 2011, 10:10 a.m.

Re: 34s: small manual error

*Message #20 Posted by **Walter B** on 30 July 2011, 5:02 p.m.,*
in response to message #19 by fhub

Franz, you're right. Maybe we shall swap the command names.

Walter

Re: 34s: small manual error

*Message #21 Posted by **fhub** on 30 July 2011, 5:40 p.m.,*
in response to message #20 by Walter B

> Quote:
>
> Franz, you're right. Maybe we shall swap the command names.

But then it won't correspond anymore with the shifting functions of binary integers. I would just say you should simply explain it in the manual as "shifting the numbers/digits left or right" instead of the radix, which is also the usual understanding for binaries.

Franz

Re: 34s: small manual error

*Message #22 Posted by **Walter B** on 30 July 2011, 6:13 p.m.,*
in response to message #21 by fhub

Well, the commands were called S.L / S.R on purpose ;-) But we may as well call them SDL / SDR :-)

Walter

Re: 34s: small manual error

*Message #23 Posted by **fhub** on 30 July 2011, 6:18 p.m.,*
in response to message #22 by Walter B

> Quote:
>
> But we may as well call them SDL / SDR :-)

Indeed not a bad idea! This dot in the mid seemed always a bit 'suspicious' to me. :-)

Re: 34s: small manual error

*Message #24 Posted by **Marcus von Cube, Germany** on 30 July 2011, 6:23 p.m.,*
in response to message #23 by fhub

SDL and SDR would nicely translate to Shift Decimal (or Digit) Left / Right.

In the various binary modes the commands could even be context sensitive shifting the digits depending on the base.

Edited: 30 July 2011, 6:24 p.m.

Re: 34s: small manual error

*Message #25 Posted by **fhub** on 30 July 2011, 6:30 p.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> SDL and SDR would nicely translate to Shift Decimal (or Digit) Left / Right.

Yes, that was exactly my idea too.

> Quote:
>
> In the various binary modes the commands could even be context sensitive shifting the digits depending on the base.

Oh, I think this would give a problem when you use this command in a program - running it in different base modes would then give different results. :-(

Re: 34s: small manual error

*Message #26 Posted by **Paul Dale** on 30 July 2011, 7:38 p.m.,*
in response to message #22 by Walter B

We're those two my initial suggestions? Or at least quite like to them? Just checked -- I used SLD and SRD :-)

I'd prefer not making these commands available in integer mode if I can help it. They are provided to make breaking a real number into and out of digit fields quick and easy --

they operate by incrementing or decrementing the real's exponent field directly. Combine them with IP and FP and a lot of steps are saved in addition to executing faster.

In integer mode, they'll correspond to multiplication or division by a power of the base (which can be any value 2 through 16). There is no way to simplify the operation into shifts and adds and all the overflow and underflow conditions will have to be detected and handled. More effort than it is worth for a specialised function.

- Pauli

Edited: 30 July 2011, 7:39 p.m.

Re: 34s: small manual error -> SDL & SDR

*Message #27 Posted by **Walter B** on 31 July 2011, 11:24 a.m.,*
in response to message #26 by Paul Dale

FYI, SDL and SDR are now in and documented.

Walter

Re: 34s: TVM problem? Something about our manual

*Message #28 Posted by **Walter B** on 31 July 2011, 4:49 p.m.,*
in response to message #17 by Bart (UK)

> Quote:
>
> > Quote:
> >
> > - But help is near: SourceForge does the counting for us :-) ...
>
> Indeed, we can always reference a manual together with the sourceforge no. i.e. "edition 2.1 - 1327" ;-)

I forgot: We also have a date in the very last row of the release notes - on the last page of the manual. So belt and braces ... :-)

Walter

Re: 34s: TVM problem?

*Message #29 Posted by **Dieter** on 29 July 2011, 8:02 a.m.,*
in response to message #6 by Paul Dale

I haven't checked the formula, but there is one thing I would strongly recommend: Please avoid coding the TVM-formula literally, i.e. do *not* write it as (1+i)^n - 1. We should be glad to have ln1+x and e^x-1 on the 34s, so please, please use it and write this term as e^x-1(n*ln1+x(i)):

```
...
RCL 83
LN1+x
RCLx 84
e^x-1
...
```

It's shorter and, most important, provides exact results even for low interest rates. If you're not convinced, please see the example in the 15C Advanced Functions Handbook p. 173 and 180ff.

I also do not know what initial guesses for the interest rate are used for the 34s solver routine. The standard pac of the 34C with its included TVM program might be a useful source here.

Dieter

Re: 34s: TVM problem?

*Message #30 Posted by **Paul Dale** on 29 July 2011, 8:26 a.m.,*
in response to message #29 by Dieter

Dieter, thanks for that. I can't believe I missed this improvement :-(

The 34S doesn't provide any initial guesses, the user gets to do that.

- Pauli

Re: 34s: TVM problem?

*Message #31 Posted by **Dieter** on 29 July 2011, 9:41 a.m.,*
in response to message #1 by gene wright

Gene, you will get an +/- infinity error because the TVM routine cannot handle zero interest rates - in this case it tries to divide by zero. You can see this if you enter values very close to zero (0.0001, 1E-10, 1E-15...) followed by XEQ 01 and the results will approach -550, while i = 0 returns the mentioned error. This would not happen if the TVM equation was programmed so that it can handle this case as well.

$$i \to 0 \quad \Rightarrow \quad \frac{(1+i)^n - 1}{i} \quad \to \quad n$$

Instead, the TVM routine tries do divide by (1+0)^n - 1 = 0 and therefore throws an error. Due to the limited precision of the current implementation this is the case for i < 1E-15 (results first lose precision and finally the error message appears).

The Solver does not provide any intial guess for the interest rate, so it's up to you to set two estimates in X and Y. If X or Y are zero the mentioned error will abort the calculation. If there are two good guesses before invoking SLV 01 (say: 0,001 ENTER 1), the 34s will return the correct result. I tried this on the emulator (an old version, 2.0 1054) and it returned the correct result 0,00846072 or 0,846%.

So, the problem occured because of two ...special features of the TVM routine: First, it does not provide any intial guess - it's up to you to set guess1 ENTER guess 2. And second, the TVM equation is unable to handle i = 0. It should be rewritten to do so.

So your approach was fine - and you will get the correct result if (and only if) you provide two non-zero guesses for the interest reate.

Dieter

Edited: 29 July 2011, 9:56 a.m.

Re: 34s: TVM problem?

*Message #32 Posted by **fhub** on 29 July 2011, 10:40 a.m.,*
in response to message #31 by Dieter

Hi Dieter,

it seems I'm not the only 'financial interested guy' here. ;-)

Here's my TVM routine which handles also i=0 correctly, and I've also rearranged the equation a bit to make the code shorter (except the new i=0 handling of course):

```
LBL 'TVM'
RCL 83
x!=0?
SKIP 03
RCL+ 84
RCL* 80
SKIP 10
1/x
FS? 80
INC X
RCL* 80
RCL+ 81
RCL 83
ln1+x
RCL* 84
e^x-1
*
RCL+ 81
RCL+ 82
RTN
-------
20 steps
```

I've tested it with the above mentioned values and it works perfectly, almost any initial guesses (except complete nonsense values of course) now give the correct solution, and the first guess may even be 0 now. :-)

But the problem that most users forget to give 2 initial guesses still exists - and I'd really prefer if the values for I would have to be entered in % (and not as interest 'rate', i.e. divided by 100), because this is much more usual for us humans (and also easier to input).

Franz

PS: my rearranged TVM formulas:

i=0: n*PMT+PV+FV=0

i!=0: ((1/i+k)*PMT+PV)*((1+i)^n-1)+PV+FV=0 with k=0 for END payments and k=1 for BEG payments

And if the interest value "I" is given in %, then TVM looks like this:

```
LBL 'TVM'
RCL 83
x!=0?
SKIP 03
RCL+ 84
RCL* 80
SKIP 13
1
%
STO Y
1/x
FS? 80
```

```
INC X
RCL* 80
RCL+ 81
x<->y
ln1+x
RCL* 84
e^x-1
*
RCL+ 81
RCL+ 82
RTN
-------
23 steps
```

Edited: 29 July 2011, 1:19 p.m. after one or more responses were posted

Re: 34s: TVM problem?

*Message #33 Posted by **Tim Wessman** on 29 July 2011, 11:37 a.m.,*
in response to message #32 by fhub

Here's a comment from the math library that might interest you:

```
//PSI =  w^(N-1)+w^(N-2)+...w+1;   w=1+i
//Two Cases depending on the value of i:
//                    |     i=0     |       i#0          |
//            PSI     |      N      |  [w^N - 1]/i       |
//            w^N     |      1      |    (1+i)^N         |
// Algorithm: For   0 # |i|<<1  accuracy is preserved by using
//                  the functions:  E(x)=e^x-1  &  L(x)=Ln(1+x).
//                PSI=[(1+i)^N-1]/i = E{N*L(i)}/i
```

TW

Edited: 29 July 2011, 11:38 a.m.

Re: 34s: TVM problem?

*Message #34 Posted by **fhub** on 29 July 2011, 11:49 a.m.,*
in response to message #33 by Tim Wessman

> Quote:
>
> Here's a comment from the math library that might interest you:

Thanks Tim!

'math library' of which calculator?
Maybe I can find some other interesting things there ... ;-)

Franz

Re: 34s: TVM problem?

*Message #35 Posted by **Tim Wessman** on 29 July 2011, 2:45 p.m.,*
in response to message #34 by fhub

That code comment is from the Saturn Math library. I imagine you want more info about the Napier math library though.

Napier is a platform independent C recreation of the saturn math library developed using the Saturn ASM from several units. Developed as part of the 20b and since used in the 30b, 10bII+,

12cp iphone app, some other software calculators (like what comes with the calcpad), and will be used in things moving forward.

That is why the solver in the 30b gets exact results as the 48 series, and the forensics are identical.

TW

Edited: 29 July 2011, 2:48 p.m.

Re: 34s: TVM problem?

*Message #36 Posted by **gene wright** on 29 July 2011, 12:14 p.m.,*
in response to message #31 by Dieter

Ah thanks. I did not see a reference that two guesses were required in the manual.

But, hey... my question may lead to a better TVM routine in the unit. Woohoo.

To TVM or not to TVM?

*Message #37 Posted by **Dieter** on 29 July 2011, 1:46 p.m.,*
in response to message #36 by gene wright

In fact we now got a proposal for a better TVM routine in the 34s. Maybe there's an even better solution - let me think one step further:

Mathematically, the TVM equation usually does not require any guesses at all to solve for one of their variables. This is because for PV, FV, PMT and N there are more or less simple closed form solutions that do not require any guessing - if you want to know the value for an annual payment, simply calculate it directly. The interest rate is the only exception here - for this case there is no explicit solution, so the Solver is required for an iterative approach. This leads to the Solver numerically solving the TVM equation for the interest rate i, which in turn requires two guesses given by the user.

In other words, providing a TVM equation is only useful for this single case, i.e. when the interest rate is unknown. This is where the 34s differs from the way other HPs work:

The 35s, for example, also can store such an equation in order to solve for any of its variables. The essential point here is the ability of the 35s to solve for all variables (except i) **without any interaction of the user**. No initial guesses are required as the user wants to solve for PMT, FV or other values, and the result shows up immediately because it is calculated **directly** by the 35s. The solver built into this device is able to realize that every variable (except i) shows up only once in the TVM equation, so that it can solve directly for this variable by rearranging the equation. No guesses required. Only if it's the interest rate that has to be solved for, it has to rely on an iterative approach, requiring two guesses.

This is what makes the difference between a "sophisticated solver" like the one in the 35s and a purely numeric solver like the one in the 34s (and 34C, 15C etc.). The more "intelligent" version like the one in the 35s is a nice example for using the solver with not more than just one single equation, even in cases where an explicit solution exists - the calculator will return this explicit solution without any initial guesses or more or less time-consuming iterations.

On devices where such a solution is not possible, I think it's much better to code the direct solution for every single variable. So does the TVM program in the HP-41 standard pac: variables like PV, FV, PMT and N are evaluated directly, while the interest rate is calculated by iteration. A first estimate is set by the program, the user does not have to care about this.

So, what's the use of an TVM equation in the 34s? It is nice for determining the interest rate, using the built-in solver, after the user has provided two initial guesses. Simply because there is no other way to solve for this variable. For all other cases a simple direct solution exists - but since the current approach uses the iterative solver in these cases as well, the user has to enter two estimates for each and every variable - and hope that they are good enough to lead to the correct result.

That's why I think the TVM equation does not make much sense in the 34s. As opposed to calculators with more sophisticated solvers like the 35s. For other devices, I think four routines with the explicit solutions of the four variables are a far better solution. So I would recommend to either omit the TVM equation completely, or, if this functionality is really required, provide the four direct solutions. If you dislike both suggestions, at least there should be a clear hint in the manual and the given example, pointing out that using the TVM equation does not only require calling the solver but also two initial guesses. No, I do not think that "this is obvious because it applies to every call of the solver anyway". Just to be sure. ;-)

Dieter

Re: To TVM or not to TVM?

*Message #38 Posted by **fhub** on 29 July 2011, 2:27 p.m.,*
in response to message #37 by Dieter

> Quote:
>
> So I would recommend to either omit the TVM equation completely, or, if this functionality is really required, provide the four direct solutions.

Well, of course your 2nd suggestion would be the best solution, but there's just not enough space for all 4 formulas, and financial calculations are simply not of high priority in the WP34s project (I know what I'm talking about - I made some experiences in the past here with my suggestions about this issue ;-)).

But I definitely don't agree with your 1st suggestion - although the method with the solver is not optimal, but why should then this TVM equation be completely removed now that my improved version above works so much better and it uses just a few bytes?

With the same argument you could remove the whole solver because it can't solve EVERY equation - or the integration routine because it certainly can't integrate EVERY function.

And back to TVM:
If someone really needs a better TVM routine, there's always the possibility to write those 4 rearranged solution formulas by himself.

Franz

Re: To TVM or not to TVM?

*Message #39 Posted by **Marcus von Cube, Germany** on 29 July 2011, 4:32 p.m.,*
in response to message #38 by fhub

There are certainly better TVM machines then the 34S. Take the 30b for example. ;-)

TVM was implemented as a goody and it still needs some coding around to be useful. It's more of a proof of concept or nice example with some generic value.

It shouldn't be too complicated to code the four equations for a direct solution and set up a routine for the i solver with automatic guesses. This can then be put in a library file and stored in flash. That's the preferred way of adding features to the 34S which do not require extended precision (only internally available) or hardware support (like serial I/O). Many math problems can be solved in user code and be provided as a library. Matrix and vector arithmetic is one the areas which needs a volunteer to port some existing code.

Re: To TVM or not to TVM?

*Message #40 Posted by **Paul Dale** on 29 July 2011, 7:14 p.m.,*
in response to message #37 by Dieter

I looked at including individual routines to solve for each of the parameters using the closed form formulas where possible and the space require was larger than I could justify for a piece of functionality that really is just a nice to have tack on in a scientific calculator.

That doesn't mean I'm closed to the idea, just that I'm not going to spend the time writing very compact but still properly functioning versions of this for each of the five possibilities.

- Pauli

Re: To TVM or not to TVM?

*Message #41 Posted by **Paul Dale** on 29 July 2011, 7:17 p.m.,*
in response to message #37 by Dieter

> Quote:
>
> That's why I think the TVM equation does not make much sense in the 34s.

This matches my thoughts too but Walter seemed adamant about having it and the implementation then was only about forty bytes (now it is fifty).

- Pauli

Re: To TVM or not to TVM?

*Message #42 Posted by **Walter B** on 30 July 2011, 3:38 a.m.,*
in response to message #41 by Paul Dale

> Quote:
>
> > Quote:
> >
> > That's why I think the TVM equation does not make much sense in the 34s.
>
> This matches my thoughts too but Walter seemed adamant about having it ...

In fact TVM is the only reason why I reach out for a financial calculator. Thus I requested this - thinking it may be more useful than much of the arcane mathematical items we kept adding ;-)

Walter

Re: To TVM or not to TVM?

*Message #43 Posted by **Paul Dale** on 30 July 2011, 3:44 a.m.,*
in response to message #42 by Walter B

> Quote:
>
> ...much of the arcane mathematical items we kept adding ;-)

You vetoed a lot of really good really arcane stuff :-)

Who wouldn't love having Mills's constant built into the device?

- Pauli

Re: To TVM or not to TVM?

*Message #44 Posted by **Walter B** on 30 July 2011, 4:33 a.m.,*
in response to message #43 by Paul Dale

> Quote:
>
> Who wouldn't love having Mills's constant built into the device?

Do you want me to start a poll? TVM vs. Mill's? ;-)

Walter

Re: To TVM or not to TVM?

*Message #45 Posted by **Paul Dale** on 30 July 2011, 4:36 a.m.,*
in response to message #44 by Walter B

Come on Mills's constant would win by a landslide :-P It is hard to think of a more exciting number.

And no, no poll is required. I require my delusions to stay intact :-)

- Pauli

Re: 34s: TVM problem?

*Message #46 Posted by **Paul Dale** on 29 July 2011, 7:10 p.m.,*
in response to message #31 by Dieter

Thanks for the suggestions. I've modified the TVM routine to handle the i of zero case. Initial estimates of 0 and 1 work now. So do estimates of 0.8 and 0.9 which aren't even close to bracketing the solution. It is still possible to confuse the solver with estimates that are on the silly side.

- Pauli

Re: 34s: TVM problem?

*Message #47 Posted by **fhub** on 30 July 2011, 1:30 a.m.,*

in response to message #46 by Paul Dale

> Quote:
>
> I've modified the TVM routine to handle the i of zero case.

I've looked at your modification, but it's not quite ok.
As you do it (with the PLUS and then the SKIP(11) jumps again to the last PLUS), the value PMT is added once more, so your expression is now PV+FV+N*PMT**+PMT**.

Simply making SKIP(11) to SKIP(12) would be ok, BUT it leaves the first entered PMT on the stack, so there has to be done a bit more (e.g. move this first PMT at the end before the last PLUS)

BTW, why don't you use my code posted above which is just 20 steps compared to your 24?

Franz

Edited: 30 July 2011, 2:06 a.m.

Re: 34s: TVM problem?

*Message #48 Posted by **Paul Dale** on 30 July 2011, 3:03 a.m.,*
in response to message #47 by fhub

> Quote:
>
> I've looked at your modification, but it's not quite ok.
> As you do it (with the PLUS and then the SKIP(11) jumps again to the last PLUS), the value PMT is added once more, so your expression is now PV+FV+N*PMT**+PMT**.

The code as written is fine. It leaves PMT in Y but that is harmless since this routine is meant to be called by the solver and the solver does it own thing with the stack.

> Quote:
>
> BTW, why don't you use my code posted above which is just 20 steps compared to your 24?

I tried your code, it didn't work starting with guesses of 0.8 and 0.9 :-(It was easier to fix my code than figure out what was wrong.

- Pauli

Re: 34s: TVM problem?

*Message #49 Posted by **fhub** on 30 July 2011, 3:18 a.m.,*
in response to message #48 by Paul Dale

> Quote:
>
> The code as written is fine. It leaves PMT in Y ...

No, the code is NOT fine! It doesn't leave PMT in Y but adds it once more to PV+FV+N*PMT.

And BTW, a guess of 0.8 and 0.9 would mean 80 and 90% !!!
Not very useful guesses I'd say (especially if the interest rate of this problem is 0.85%) ...

Edited: 30 July 2011, 3:23 a.m.

Re: 34s: TVM problem?

*Message #50 Posted by **Paul Dale** on 30 July 2011, 3:33 a.m.,*
in response to message #49 by fhub

> Quote:
>
> No, the code is NOT fine!

Oops, I should look harder :-(Fixed now.

> Quote:
>
> And BTW, a guess of 0.8 and 0.9 would mean 80 and 90% !!!
> Not very useful guesses I'd say (especially if the interest rate of this problem is 0.85%) ...

I know it is a bit silly, however it is a legitimate initial guess. Especially for someone who forgets to supply any guesses. Robust code shouldn't care too much.

- Pauli

Re: 34s: TVM problem?

*Message #51 Posted by **fhub** on 30 July 2011, 4:00 a.m.,*
in response to message #48 by Paul Dale

> Quote:
>
> I tried your code, it didn't work starting with guesses of 0.8 and 0.9 :-(It was easier to fix my code than figure out what was wrong.

Absolute nothing was wrong with my code! I've now tried it here again exactly with your nonsense guesses of 0.8 and 0.9, and the correct result is given without any problems.

I really don't know what's your problem with me, but no matter what I post - everything is either criticized or claimed to be wrong, even if I'm 100% right.

I've now really enough of your behaviour - I wish you much fun and success in your WP34S development, but don't expect to see any further contribution to your project from ME here in the future!

Franz

Re: 34s: TVM problem?

*Message #52 Posted by **Paul Dale** on 30 July 2011, 4:20 a.m.,*
in response to message #51 by fhub

I just tried your code again and the answer it gives for starting guesses of .8 and .9 is 0.4891696495606895. The solver is getting confused and convergence is *very* slow reaching its iteration limit before a solution is obtained.

I've triple checked what I've typed in against what you wrote above and am pretty sure I've got the code right. Could you verify that what you're running matches what you entered above.

Just to be absolutely sure, the code I'm running is:

```
ADDR  OPCODE     MNEMONIC


0001: 5b64       LBL A
0002: 6100       SLV 00
0003: 013a       RTN
0004: 013a       RTN
0005: 5b00       LBL 00
0006: 2453       STO 83
0007: 8803       PSE 03
0008: 5301       SKIP 01
0009: 1354 4d56  GTO'TVM'
000b: 5b67       LBL D
000c: 2b53       RCL 83
000d: 0018       x[!=]0?
000e: 5303       SKIP 03
000f: 2c54       RCL+ 84
0010: 2e50       RCL[times] 80
0011: 530a       SKIP 10
0012: 020b       1/x
0013: 6d50       FS? 80
0014: 5a64       INC X
0015: 2e50       RCL[times] 80
0016: 2c51       RCL+ 81
0017: 2b53       RCL 83
0018: 0211       LN1+x
0019: 2e54       RCL[times] 84
001a: 0212       e[^x]-1
001b: 0303       [times]
001c: 2c51       RCL+ 81
001d: 2c52       RCL+ 82
001e: 013a       RTN
```

- Pauli

Re: 34s: TVM problem?

*Message #53 Posted by **fhub** on 30 July 2011, 4:43 a.m.,*
in response to message #52 by Paul Dale

> Quote:
>
> Could you verify that what you're running matches what you entered above.

Yes, it's the same code.
But I must stand corrected: I've in fact confused this 4.89E-1 with the true value 8.46E-3, so with these guesses my routine does indeed not work.

But that doesn't change anything on the above mentioned fundamental problem you seem to have with me ...

Franz

Re: 34s: TVM problem?

*Message #54 Posted by **Walter B** on 30 July 2011, 5:23 a.m.,*
in response to message #53 by fhub

Franz,

Based on my experience, some people here are not accustomed to the direct way we learn in our country. OTOH, you can't expect others being excited about your suggestions everytime, so some "marketing" may be worth considering. And never forget you may get answers of a similar kind - so get used to take them.

Walter

Re: 34s: TVM problem?

*Message #55 Posted by **Dieter** on 30 July 2011, 8:13 a.m.,*
in response to message #54 by Walter B

> Quote:
>
> Based on my experience, some people here are not accustomed to the direct way we learn in our country.

...in our countr*ies* - Franz is from Austria. But well, the Holy Roman Empire is not much more than 200 years ago now, so it's still easy to confuse these things. ;-)

> Quote:
>
> OTOH, you can't expect others being excited about your suggestions everytime, so some "marketing" may be worth considering.

Advertising. Marketing is much, much more than that.

Dieter

Re: 34s: TVM problem?

*Message #56 Posted by **Paul Dale** on 30 July 2011, 5:30 a.m.,*
in response to message #53 by fhub

I'd don't have any major issues with you or what you write, your input has been very useful thus far (in fact one of the most useful) and I think that every problem you've identified has been improved upon. We've both made silly mistakes today and I can live with that. Mistakes are part of life. If nobody made mistakes, life would be really dull. If you report a problem & I can't reproduce it means we've got a misunderstanding, not that either of us is wrong. Believe it or not, I actually believe testers' reports unlike many software developers.

However, this is (at least) the fourth time you've threatened to stop reporting problems. Either stop reporting them or stop saying you'll stop reporting them -- it gets tedious :-) I'd prefer you kept reporting issues and short comings -- we still need all the constructive input we can get. I'm hopeful of a final software release for the HHC in September.

BTW: I like problem reports regardless of who makes them or what they are about. Just don't expect your pet solution to be implemented blindly -- every issue you've raised thus far has resulted in an email discussion between Marcus, Walter and myself. I'll freely admit that we've not implemented your pet solution for many of these issues, but that is usually due to short comings that we'd prefer to avoid. We're trying to make the 34S the best calculator we can and we've got to consider the global impact and community response rather than just avoiding the local problem. That said, I believe we've adequately explained these short comings each time but I might be mistaken.

There is a lot going on with the 34S and I've only so much time to dedicate to it -- I'll also admit that I've been a bit abrupt at times, that is often a result of a bad day at work flowing over. For this I apologise. There is also a language barrier between us which might or might not have excited things -- again I apologise. My German is almost unheard of and your English is very good. Deceptively good in fact -- at times I forget that it isn't your native language. I've had the same problem with Dieter's posts at time as well :-(And Walter's myriad emails.

I've certainly not ignored all your suggestions, your vector cross product code is in the library, a very nice and compact piece of code and a good programming effort. I tried your TVM solution (twice now) and I don't know why it isn't working globally but I don't think I can commit the time to figuring this out for the sake of eight or ten bytes of flash.

I also thought about adding the percentage interest rate to the TVM code instead of the raw value. I'm quite undecided on this one. BTW: "S.R 02" is equivalent to dividing by 100 and much faster. This would be a viable replacement for % in your code.

Since you are actually coding for the 34S and have an interest in the TVM calculation, how about trying to implement the financial bank I mentioned? I can pretty much guarantee than a reasonable attempt will be included.

- Pauli

Re: 34s: TVM problem?

*Message #57 Posted by **Paul Dale** on 30 July 2011, 3:28 a.m.,*
in response to message #1 by gene wright

I've got a suggestion.

First up, I remove TVM from the xrom segment. What is there does what we wanted of it when we decided to include it, however it seems that it doesn't do what the community wants.

Secondly, this community writes a suite of financial functions in user code. We then include this code as the one of the user program flash segments as part of the build process. The contents and nature of this suite is completely open. Use the solver or use the dedicated formulas. Add other financial functions. The only limit will be the whole shall be one program flash segment only. That's 506 steps unless some trickery is performed.

I'll make a few suggestions and ideas but nothing hard and fast:

- Avoid using lettered registers as temporaries, they are the easiest ones for users to use and firmware ought to avoid them.
- The four hot keys are available if a program stops with a R/S rather than a RTN.

- Subroutines are cheap and space saving, use lots.
- Make the source compatible with the assembler.

So what do people think of this suggestion?

What other functionality suites could be included in a similar manner?

Volunteers?

- Pauli

PS: I'd do the two steps in the opposite order -- get the suite going and then I'll remove the TVM routine.

Re: 34s: TVM problem?

*Message #58 Posted by **Marcus von Cube, Germany** on 30 July 2011, 3:53 a.m.,*
in response to message #57 by Paul Dale

I second Pauli's suggestion. Here is a head start for a library application:

```
LBL 'FIN'
SSIZE4        // We need registers A to D
CLa
"Finance"
aVIEW
LBL 00
STOP
LBL A
ENTRY?
SKIP 01
XEQ 'F-A'    // compute A
STO A
GTO 00
LBL B
...
```

This allows A, STO A, RCL A as keys to compute, set or examine parameter A. Hitting A will compute A if the entry flag was not set, otherwise it will store A. You will have easy access to four different parameters. Giving the subroutine that does the actual work an alpha label will make it available to other programs.

After each computation, the PC is moved to the beginning of the application in order to make the hot key labels the first to be found when the respective keys are pressed.

This suggestion is not in contradiction to Pauli's hint not to use the lettered registers. In this case, it's the user interface and it makes perfect sense to use the lettered registers here, because they match the hot key labels.

Happy coding!

Pauli, I'd like to have some more special labels such as "I" so that XEQ I may be used.

Edit: Added command to set stack size to 4. This might not be the best idea but somehow, A to D need to be made available for general use.

Edit: Corrected SSIZE4.

Edited: 30 July 2011, 10:26 a.m. after one or more responses were posted

Re: 34s: TVM problem?

*Message #59 Posted by **Walter B** on 30 July 2011, 4:38 a.m.,*
in response to message #58 by Marcus von Cube, Germany

Marcus,

Watch it: it's called SSIZE4 :-)

Walter

Re: 34s: TVM problem?

*Message #60 Posted by **Paul Dale** on 30 July 2011, 4:42 a.m.,*
in response to message #58 by Marcus von Cube, Germany

> Quote:
>
> Pauli, I'd like to have some more special labels such as "I" so that XEQ I may be used.

We have the op-code space for some more but I'm not sure how much extra flash it will consume....

- Pauli

Re: 34s: TVM problem?

*Message #61 Posted by **Marcus von Cube, Germany** on 30 July 2011, 12:53 p.m.,*
in response to message #60 by Paul Dale

> Quote:
>
> We have the op-code space for some more but I'm not sure how much extra flash it will consume....
>
> - Pauli

I've started working on it but will not have the time to finish it this WE. Maybe Pauli can take over.

Re: 34s: TVM problem?

*Message #62 Posted by **Dieter** on 30 July 2011, 9:14 a.m.,*
in response to message #58 by Marcus von Cube, Germany

Fine - let me add some remarks:

First, "Finance" is much, much more than TVM, so I would suggest something more like a simple "TVM". ;-)

Using registers and labels with the same letter is not new, but still a good idea. That's how basically all TVM programs since the days of the 65 worked. ;-) However, all these solutions had one major advantage: there were five (!) hotkeys A to E, which really is quite nice if there are also five variables. ;-) These five softkeys would match the five financial keys of HP's financial calculators. Even the sequence was the same:

```
N    I%   PV   PMT  FV
```

Looks like a quite logic and intuitive layout to me. Compare that with the current TVM equation which

uses registers 80 - 84 for PMT, PV, FV, I%/100 and N.

So, to make your idea work there has to be a fifth hotkey, something like this XEQ I you suggested. Or maybe there even is a solution for a fifth "E" hotkey ?-)

Regarding the mathematical part and its coding for the 34s: The solution in the 41C standard pac may give a first idea. It can be found on this website. There are some details in this program that deserve a closer look:

Basically the 41C program works just like your idea: The "Entry?" test is handled by flag 22, and even STO A or RCL A can be handled by the HP-41 since pressing "A" to "E" here is a shortcut for the register addresses 01 to 05 used by the program. The question wheter to use an interest rate in percent or its decimal value is answered by simply using both: input and output are percentages (R02) while the program internally uses i/100 (R09) and 1+i/100 (R07).

If the interest rate has to be calculated the program first checks whether there is a periodic payment or not (PMT=0?). In the latter case the interest rate can be evaluated directly. Otherwise the usual iterative approach is required. Since the 41C does not feature a solver, a kind of Newton's method is used here. Before that, an initial guess of plus or minus 1E-9 is set, so that the routine will correctly find either a positive or negative interest rate. For the following iteration the choice of the equation to solve is crucial. The two different TVM equations given by Franz and Pauli show the importance of this point.

BTW - setting a common endpoint for each routine, in your example at Lbl 00, was good practice in the days of the 67/97 and even 41 (when local Alpha labels were used). But does it really make a difference in a calculator as fast as the 34s? Anyway - I like it as it reminds me of the good old days when the '41 was new. ;-)

Dieter

Edited: 30 July 2011, 10:04 a.m.

Re: 34s: TVM problem?

*Message #63 Posted by **Marcus von Cube, Germany** on 30 July 2011, 10:35 a.m.,*
in response to message #62 by Dieter

Dieter, if you have more then one application that uses hot keys in the same region it makes a difference where the PC is positioned. So good practice isn't the only explanation.

Having "only" 4 hot keys is a problem here where 5 variables need to be accessed. It's hopefully not to hard to overcome this in the firmware. If LBL I will not be implemented by Pauli, still LBL 'I' can be used which is called by XEQ ENTER^ I ENTER^. For setting the interest rate, STO I will then be the quicker manual key stroke sequence.

Re: 34s: TVM problem?

*Message #64 Posted by **Paul Dale** on 30 July 2011, 9:14 p.m.,*
in response to message #62 by Dieter

> Quote:
>
> First, "Finance" is much, much more than TVM, so I would suggest something more like a simple "TVM". ;-)

TVM is certainly the starting point. However, if we're putting aside a whole page of flash for this, a

lot more than just TVM will fit.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

Project Euler Problem 39: Statistical Mode on the HP 48GX?

*Message #1 Posted by **Peter Murphy (Livermore)** on 28 July 2011, 2:12 p.m.*

Problem 39 in effect seeks the (unique) statistical mode of 325 positive integers, each 1000 or smaller. I sorted the list, used 2 << minus >> DOSUBS to identify the positions of the boundaries at which values changed, used DeltaLIST to find the distances between those positions, and deduced the mode from the MAX of those distances.

That worked, but it's roundabout. Can anyone point me to a standard approach, on the 48GX, to finding the mode in such a case? Thanks.

Re: Project Euler Problem 39: Statistical Mode on the HP 48GX?

*Message #2 Posted by **C.Ret** on 29 July 2011, 3:24 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Hi,

As you, I am trying to solve most of the Euler's Problems by using only vintage system.

I see nothing wrong with your roundabout to found the most frequent value from a list (statistical mode).

What’s trigger me is why are you saying that you have to seek the most frequent perimeter value in a list of as much as 325 elements when 190 only is enough.

How are you building this list of 325 elements? Is there no way to detect the most frequent value (statistical mode) during the building process?

In my code, I use one array (counting array) to record occurrences of each perimeter. No need to record perimeter elsewhere, since the index of this counting array gives the perimeter value (since only integer values are valid for this exercise). I simply have to track the max value position in this counting array to get the answer immediately at the end of the list building process.

Edited: 29 July 2011, 3:33 a.m.

Re: Project Euler Problem 39: Statistical Mode on the HP 48GX?

*Message #3 Posted by **Paul Dale** on 29 July 2011, 3:38 a.m.,*
in response to message #2 by C.Ret

> Quote:
>
> Is there no way to detect the most frequent value (statistical mode) during the building process?

In general no, there is no exact method.

There are several method for estimating the mode with one pass through the data. These are estimates only

and not terribly precise. I referenced a few when I did my PhD thesis (which had a chapter on mode estimation) many many many years ago. I've no idea if the state of the art has moved along since then or not.

The mode is definitely the poor cousin of the three common measures of centrality.

- Pauli

Re: Project Euler Problem 39: Statistical Mode on the HP 48GX?

*Message #4 Posted by **Peter Murphy (Livermore)** on 29 July 2011, 9:44 p.m.,*
in response to message #3 by Paul Dale

Thanks C .Ret and Paul for helpful replies.

Given that my roundabout approach works, and given Paul's implication that once-through methods are likely to be good approximations only, I think that I'll go on to another Project Euler problem.

I will treat this as an application of a pauli exclusion principle.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #1 Posted by **Brian K** on 28 July 2011, 1:54 p.m.*

I purchased those two calculators for the purpose of picking one for my son to use in his upcoming school year.

Well, I got them both and have now gotten around to opening them up, and to my surprise they're the exact same machine under the hood.

Same screen, same buttons with the same functions.

The Casio has a built-in equation solving function, the HP has arguable better aesthetics and buttons.

I guess I shouldn't have been surprised... At least they were cheap!

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #2 Posted by **Gerson W. Barbosa** on 28 July 2011, 2:09 p.m.,*
in response to message #1 by Brian K

> Quote:
>
> ...to my surprise they're the exact same machine under the hood.

Casio fx-115 ES offers numerical integration. Does Smartcalc 300s also?

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #3 Posted by **Brian K** on 28 July 2011, 2:38 p.m.,*
in response to message #2 by Gerson W. Barbosa

It appears it does not.

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #4 Posted by **Gerson W. Barbosa** on 28 July 2011, 2:42 p.m.,*
in response to message #3 by Brian K

So it is more like the fx-85 ES, perhaps.

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #5 Posted by **Brian K** on 28 July 2011, 3:20 p.m.,*
in response to message #4 by Gerson W. Barbosa

That may be the case, I haven't had time to really dig into either of them.

I was simply struck by the fact that they initially appeared almost functionally identical.

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #6 Posted by **Gerson W. Barbosa** on 28 July 2011, 5:14 p.m.,*
in response to message #5 by Brian K

The fx-115 ES has an outstanding numerical integrator, as discussed in this older thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=160194

I guess the Smartcalc 300s would cost a bit more if it were a rebranded 115-es.

Re: So I bought a Casio 115ES and an HP Smartcalc 300s

*Message #7 Posted by **Paul Gaster** on 29 July 2011, 10:58 a.m.,*
in response to message #6 by Gerson W. Barbosa

The Casio also can solve a 2x2 or 3x3 system of equations, do some matrix math, solve a quadratic or a cubic equation, cross or dot product with vectors, work with complex numbers, and probably a few other things I have forgot. It's a nice calculator for the money.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: You know a smaller calculator?

*Message #1 Posted by **robertoataulfo** on 28 July 2011, 9:02 a.m.*

You know a calculator smaller than this? (Casio mini-micro)

Comparing Casio mini-micro x Sharp EL-8061

Edited: 28 July 2011, 4:10 p.m. after one or more responses were posted

Several!

*Message #2 Posted by **Maximilian Hohmann** on 28 July 2011, 9:22 a.m.,*
in response to message #1 by robertoataulfo

Hello!

Without looking at my database, several come to mind instantly:

First of course the HP-01 (and all other calculator watches).

Then the original CalcuPen (red LED :-)) (and all other calculator pens)

Then the calculating paper clips (in various sizes)

The the calculating Smarties (again in various sizes)

When I'm home tonight, I can post some pictures if you are interested.

Regards, max

Re: Several!

*Message #3 Posted by **robertoataulfo** on 28 July 2011, 10:20 a.m.,*
in response to message #2 by Maximilian Hohmann

Only calculators. No watches pens etc. :-)

Re: Several!

*Message #4 Posted by **Raymond Del Tondo** on 28 July 2011, 10:21 a.m.,*
in response to message #2 by Maximilian Hohmann

At least the Casio Micro Mini is one of the smallest calcs with real hard plastic keys,
Nearly all of the calcs you mention have either pin-size keys, or rubber keys, or pin-size rubber keys;-)

However we should not forget that the Casio has a small footprint, but is relatively thick.

Ray

Re: Several!

*Message #5 Posted by **Lode** on 28 July 2011, 4:24 p.m.,*
in response to message #2 by Maximilian Hohmann

Are those calculating smarties, um, edible?

Re: Smarties

*Message #6 Posted by **Maximilian Hohmann** on 28 July 2011, 4:46 p.m.,*
in response to message #5 by Lode

Hello!

> Quote:
>
> Are those calculating smarties, um, edible?

Well, with enough beer to go along, it may just be possible to swallow them in one piece!

I went looking: The small Smarties calculator measures 64mm across, so it's slightly larger than the Casio micro-mini. But it has proper hard plastic keys, not rubber keys! And it's less than one centimetre high, so the volume is smaller than the Casio.

I also remember several keychain and cigarette-lighter calculators (can't find them in my mess right now...) that are quite small, but I don't remember what type of keys they have.

Regards, max

Re: OT: You know a smaller calculator?

*Message #7 Posted by **Michael de Estrada** on 28 July 2011, 10:52 a.m.,*
in response to message #1 by robertoataulfo

I have a pair of true credit card size calculators that I picked up as freebies at a trophy shop. They have true mechanical hard buttons, and include a storage memory with arithmetic, percent and square root. They also have an easily replaceable standard G10 (LR54 / LR1130) battery. They weigh 24 grams.

Edited: 28 July 2011, 10:58 a.m.

Re: OT: You know a smaller calculator?

*Message #8 Posted by **Gerson W. Barbosa** on 28 July 2011, 1:44 p.m.,*
in response to message #7 by Michael de Estrada

The diameter of the 1 Real coin he's used as a reference is 27 mm or $1\ ^{1}/_{16}$". This means the frontal area of a credit card sized calculator is about 80% greater than that of the CASIO mini-micro. This shouldn't apply to volume and weight, however.

Edited: 28 July 2011, 2:19 p.m.

Re: OT: You know a smaller calculator?

*Message #9 Posted by **Dan W** on 28 July 2011, 4:36 p.m.,*
in response to message #7 by Michael de Estrada

I have a Casio SL-800, which is the same size and thickness as a credit card. Solar powered, too thin for batteries. Still works.

Of course, if you ever put it in your wallet, don't expect it to work after sitting on it.

(That's just an image I found on the web, not mine.)

Re: OT: You know a smaller calculator?

*Message #10 Posted by **Ren** on 29 July 2011, 10:58 a.m.,*
in response to message #9 by Dan W

> Quote:
>
> I have a Casio SL-800, which is the same size and thickness as a credit card. Solar powered, too thin for batteries. Still works.
>
> Of course, if you ever put it in your wallet, don't expect it to work after sitting on it.

Yeah, they break real easily, DAMHIKT (Don't Ask Me How I Know That)

B^)

Ren

dona nobis pacem

Re: OT: You know a smaller calculator?

*Message #11 Posted by **Frank Boehm (Germany)** on 28 July 2011, 3:08 p.m.,*
in response to message #1 by robertoataulfo

I'd say the Sharp EL-8061 is smaller, but one would need to measure them exactly and calculate the "front area".

Re: OT: You know a smaller calculator?

*Message #12 Posted by **Gerson W. Barbosa** on 28 July 2011, 3:14 p.m.,*
in response to message #11 by Frank Boehm (Germany)

15(H)x43(W)x61(D) mm, according to this site. My estimations were 41.8 x 61.0 mm.

Edited: 28 July 2011, 3:17 p.m.

Re: OT: You know a smaller calculator?

*Message #13 Posted by **DaveJ** on 28 July 2011, 6:34 p.m.,*
in response to message #11 by Frank Boehm (Germany)

and

Dave.

Re: OT: You know a smaller calculator?

*Message #14 Posted by **Gene Wright** on 28 July 2011, 10:56 p.m.,*
in response to message #13 by DaveJ

I have the 2nd (silver) one of these.

One of my co-workers went by the distributor's office in Hong Kong and picked up a few samples for me. ;-)

Gave away two as door prizes at HHC last year.

Re: OT: You know a smaller calculator?

*Message #15 Posted by **DaveJ** on 29 July 2011, 12:37 a.m.,*
in response to message #14 by Gene Wright

Are they any good?

Years ago a looked at getting a bulk lot, price I think was under $1ea in QTY!

Dave.

Re: OT: You know a smaller calculator?

*Message #16 Posted by **Paul Dale** on 29 July 2011, 2:19 a.m.,*
in response to message #15 by DaveJ

How many is a bulk lot?

I'd love a dozen of these to leave around everywhere.

An RPN credit card sized solar would be better of course...

- Pauli

Re: OT: You know a smaller calculator?

*Message #17 Posted by **DaveJ** on 29 July 2011, 6:04 a.m.,*
in response to message #16 by Paul Dale

I can't recall, but I'm sure it was in the several thousand category, perhaps even 5K. I think I published the numbers on here somewhere at the time...

Dave.

Re: OT: You know a smaller calculator?

*Message #18 Posted by **Paul Dale** on 29 July 2011, 6:19 a.m.,*
in response to message #17 by DaveJ

A bit of digging and the carton holds 400 pieces. That is a manageable quantity.

Of course, you'd have to convince the supplier that you want a sample run to test sales :-)

I've got a friend who has done this buying Christmas lights a couple of times:
http://www.youtube.com/watch?v=CwJ5xPlRlT4.

- Pauli

Re: OT: You know a smaller calculator?

*Message #19 Posted by **DaveJ** on 29 July 2011, 6:34 a.m.,*
in response to message #18 by Paul Dale

I think when I was looking at the time there was only one distributor, and the units had to be factory ordered, with no stock. Hence a larger minimum. But now there seems to be no shortage of dealers for it. Yeah, 400 would probably be doable.

Dave.

Re: OT: You know a smaller calculator?

*Message #20 Posted by **DaveJ** on 29 July 2011, 6:47 a.m.,*
in response to message #19 by DaveJ

There you go:

LINK

80 cents each in 5000qty

Dave.

Re: OT: You know a smaller calculator?

*Message #21 Posted by **robert rozee** on 29 July 2011, 8:16 a.m.,*
in response to message #20 by DaveJ

i was able to select 20 units at $0.80 each, $5.00 total shipping,
but when i got half way through the checkout process hit the following:

"Payment Method
Sorry, we are not accepting payments from your region at this time.
Please contact us for alternate arrangements."

:(

Re: OT: You know a smaller calculator?

*Message #22 Posted by **Paul Dale** on 29 July 2011, 8:33 a.m.,*
in response to message #21 by robert rozee

It is probably due to the failing US economy :-)

Seriously though, the Australian dollar price is more in line with the European and UK prices (A$0.13). 5k units wouldn't be excessively expensive -- unless the 5k minimum is cartons. At thirteen cents each, I'd spring for a hundred or two to help make the MOQ.

- Pauli

Re: OT: You know a smaller calculator?

*Message #23 Posted by **robert rozee** on 29 July 2011, 2:26 a.m.,*
in response to message #15 by DaveJ

ditto here - if someone got a bulk lot i'd be happy to buy a dozen for own use and to hand out to friends. last time i looked at this model i couldn't find anywhere to buy it from :(

Re: OT: You know a smaller calculator?

*Message #24 Posted by **Bart (UK)** on 29 July 2011, 7:24 a.m.,*
in response to message #13 by DaveJ

I recognise the Sharp EL-506P keys here. Let me gues, the statistics functions on the memory keys are accessed by entering the STAT mode using 2ndF-ON? (altough STAT mode is not shown on the ON key?)

Re: OT: You know a smaller calculator?

*Message #25 Posted by **Jake Schwartz** on 28 July 2011, 7:46 p.m.,*
in response to message #1 by robertoataulfo

What about the "vintage" 2000 HPCC 4.9G?

Jake

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: ALL n mode

*Message #1 Posted by **Didier Lachieze** on 28 July 2011, 2:41 a.m.*

I've noticed the following while using the ALL n mode with rev. 1324:

1. When in mode ALL n (n#0), at power ON the number in X is displayed in mode ALL 0. Any key press restores the ALL n mode.
   Exemple:

   ```
   h ALL 4 3 1/x EEX 3 /
   ```

   Display shows: 0.00033333333

   ```
   g OFF ON
   ```

   Display shows: 3.33333333333 E-4

   ```
   Press a key (f, g, h STO or RCL)
   ```

   Display shows: 0.00033333333

2. Not all numbers are displayed the same way under ALL n (n#0).
   Exemple:

   ```
   h ALL 3 3 1/x EEX 3 /
   ```

   Display shows: 3.33333333333 E-4

   ```
   3.33 EEX 4 +/- ENTER
   ```

   Display shows: 0.000333 instead of 3.33 E-4

Re: WP34S: ALL n mode

*Message #2 Posted by **Paul Dale** on 28 July 2011, 3:00 a.m.,*
in response to message #1 by Didier Lachieze

> Quote:
>
> When in mode ALL n (n#0), at power ON the number in X is displayed in mode ALL 0. Any key press restores the ALL n mode.

Seems like a bug :-(

> Quote:
>
> Not all numbers are displayed the same way under ALL n (n#0).

By design. If all digits fit on the screen in a fixed like mode, they will be shown as such. ALL has always

worked this way. Our ALL is simple less aggressive about switching to scientific mode base on the argument.

- Pauli

Edited: 28 July 2011, 3:10 a.m.

Re: WP34S: ALL n mode

*Message #3 Posted by **Didier Lachieze** on 28 July 2011, 3:11 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> By design. If all digits fit on the screen in a fixed like mode, they will be show as such. ALL has always worked this way. Our ALL is simple less aggressive about switching to scientific mode base on the argument.
>
> - Pauli

A bug in the manual ? ;-) The manual says:

```
For x > 10^13 or x < 10^n, display will switch to SCI
or ENG with the maximum number of digits displayable
(see SCIOVR and ENGOVR).
```

so according to the manual 3.33 E-4 should be displayed in SCI or ENG mode under ALL 3 mode.

Re: WP34S: ALL n mode

*Message #4 Posted by **Paul Dale** on 28 July 2011, 3:18 a.m.,*
in response to message #3 by Didier Lachieze

Sounds like a problem with the manual.

ALL mode has always stayed in FIX if all the digits fit the display. That is what this is doing.

- Pauli

Re: WP34S: ALL n mode - bug fixed

*Message #5 Posted by **Marcus von Cube, Germany** on 28 July 2011, 6:50 a.m.,*
in response to message #1 by Didier Lachieze

> Quote:
>
> When in mode ALL n (n#0), at power ON the number in X is displayed in mode ALL 0. Any key press restores the ALL n mode.

It was a bug which had to do with some uninitialized data. Thanks for pointing it out. It's fixed and rebuilt.

Edited: 28 July 2011, 6:50 a.m.

Re: WP34S: ALL n mode - bug fixed

*Message #6 Posted by **Didier Lachieze** on 28 July 2011, 6:39 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Kudos to the WP-34S team (Pauli, Walter and Marcus) !!!

I'm amazed by your responsiveness and how fast you implement changes: bug fix or new features such as DELp. And the manual is kept up to date at the same pace, I just downloaded the latest revision (1357) and the description for ALL has been updated and DELp is already in :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15C Redux in Canada?

*Message #1 Posted by **Les Wright** on 27 July 2011, 10:44 p.m.*

CostCentral.com, which seems to be everyone's source here, ships only to the US.

Any Canadian fans catch wind of a Canadian distributor? My googling efforts are failing me...

Les

Re: HP15C Redux in Canada?

*Message #2 Posted by **aj04062** on 27 July 2011, 11:03 p.m.,*
in response to message #1 by Les Wright

Try these guys:

http://www.fticomputer.com/

They seem to be the only ones left taking orders:

Can anyone confirm this is the correct P/N? HP 15C SCIENTIFIC CALCULATOR [NW250AA#ABA]

Re: HP15C Redux in Canada?

*Message #3 Posted by **Michael de Estrada** on 27 July 2011, 11:13 p.m.,*
in response to message #2 by aj04062

Yes, that is the correct P/N. However, who are these guys and can they be trusted ? Payment is by PayPal, which means you are charged immediately rather than at shipment time.

Re: HP15C Redux in Canada?

*Message #4 Posted by **Les Wright** on 27 July 2011, 11:15 p.m.,*
in response to message #2 by aj04062

Thanks. Just ordered two, paid thru PayPal, accepted a Canadian shipping address. They only ship UPS, which I normally hate, because brokerage fees are often well in excess of the sales taxes that would've been assessed by Canada Customs had it come in by USPS.

Hope this is legit!

Les

P.S. That is the right part number. Googling took me to a Samson Cables page which said the item wasn't for sale!

Re: HP15C Redux in Canada?

*Message #5 Posted by **Les Wright** on 28 July 2011, 9:26 p.m.,*
in response to message #4 by Les Wright

Just got an email from that company indicating that that item has been discontinued and my PayPal amount will be refunded.

Does this thing REALLY exist? Or is it a hoax like the 67CX?

Re: HP15C Redux in Canada?

*Message #6 Posted by **Michael de Estrada** on 28 July 2011, 11:04 p.m.,*
in response to message #5 by Les Wright

Those who don't know can't say, and those who do, won't.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Program Labels

*Message #1 Posted by **M. Joury** on 27 July 2011, 10:08 p.m.*

I have tried to search the web to see if this was ever discussed and have found nothing. So I ask: Why was the decision made to limit program labels to 3 characters?

While FAR superior to what is available on the 32/33/35 and obviously better than the Voyager series it would have been nice to have the capability of the 41/42 calculators in this area. Was there some specific implementation limitation that did not allow for longer labels or made such an implementation more difficult?

Re: WP34S Program Labels

*Message #2 Posted by **Paul Dale** on 27 July 2011, 11:47 p.m.,*
in response to message #1 by M. Joury

It was discussed, just not here.

Implementing longer names is more difficult as you guessed.

Three characters fit nicely into two op-codes in program memory and I implemented double length op-codes just for this. Going longer would require some design work to allow longer op-codes in program memory. This would have the advantage that strings and numbers could possibly be merge into single steps. But I'm under no delusions as to the difficulty involved.

As usual feel free to submit a patch :-)

- Pauli

Re: WP34S Program Labels

*Message #3 Posted by **Marcus von Cube, Germany** on 28 July 2011, 4:55 a.m.,*
in response to message #2 by Paul Dale

Having longer labels or packing strings and numbers in variable length op-codes would be really nice but I have no illusions that it will be easy. The main problem is navigating backwards in the code either manually or via BACK.

A relatively simple implementation would involve a single "add another three characters to the previous instruction" instruction which is automatically appended if a label gets longer. The instruction is otherwise treated as a NOP. But it will affect label search, the label browser and most probably more pieces of the code.

I can imagine the feature will appear some time but there is no free lunch: Adding features will definitely cost us another library region. I've recently made a suggestion to Pauli and Walter for kind of a user keyboard (using -> as a prefix as suggested here). Both features together will probably fit in another K of flash sacrificing a library region for the purpose.

Re: WP34S Program Labels

*Message #4 Posted by **M. Joury** on 28 July 2011, 9:03 a.m.,*
in response to message #3 by Marcus von Cube, Germany

It sounds like you have given this some thought. Implementation details would be interesting and I don't know enough about how it is currently implemented to make any suggestions. My simplistic approach would be an opcode to denote "label-characters follow" followed by a length. For going backwards you would need something similar on the end as well but probably with the order reversed (length.TerminatingOpcode). Unfortunately this uses 4 bytes just to manage the strings even if you have a single character label and this gets expensive. A hybrid approach could retain the current 1/2/3 character labels you have now and implement the above idea for labels longer than 3 characters. And then of course there is the approach you suggest which, given your familiarity with the code, is probably a better approach.

As the source code is primarily C I'd like to take a look, time permitting, and see if any ideas jump out at me. Unfortunately at the moment I am pretty much swamped with my real job so it may be a while before I get to it.

Thanks for the info that you and Pauli provided!

Re: WP34S Program Labels

*Message #5 Posted by **Paul Dale** on 28 July 2011, 5:29 p.m.,*
in response to message #4 by M. Joury

I won't go into top many details but a rough outline is possible.

Op-codes are two byte integers. For alpha labels two of these are paired into four byte integers. Stepping forwards is easy, we know the length of the op-code by partially decoding it. Stepping backwards is more difficult, we have to look at every possible length to see if there is an op-code of that length ending just before where we are. Currently, there are only two op-code lengths and thus two places to look so this isn't too bad. Going to op-codes of 1 - 17 bytes like the 41 series would make this more difficult. I think the 41 solves the problem by rescanning from the start to find the previous instruction -- we could do this too and certainly have the speed to do it instantly but it isn't how it is coded currently.

Then we come to label searches. Since we've only two op-code sizes (2 and 4 bytes), I take a big short cut here and build the label op-code in an integer variable. Then I can quickly search for this label using a tight loop that pretty much just does an integer compare and a pointer increment. Again, this could be coded around but it will be more involved matching longer opcodes.

These decisions were made a long time ago before the possibility of using internal flash for program storage was realised. Would I do things different if we started again? Definitely.

- Pauli

Re: WP34S Program Labels

*Message #6 Posted by **Marcus von Cube, Germany** on 28 July 2011, 6:06 p.m.,*
in response to message #5 by Paul Dale

Pauli, my fault. :-(

;-)

Re: WP34S Program Labels

*Message #7 Posted by **Paul Dale** on 28 July 2011, 6:20 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Not at all. It is good to elucidate about what turned out to be sub-optimal decisions.

At the time the decision was made I was sure it was a good way to do things. If the ground rules hadn't changed in the meantime, it would still be a good way.

Of course back then the device had about 500 program steps and no possibility for more step or backups. It has grown considerably.

We learn from our mistakes after all :-)

- Pauli

Re: WP34S Program Labels

*Message #8 Posted by **M. Joury** on 28 July 2011, 6:39 p.m.,*
in response to message #7 by Paul Dale

Thank you both for your outline of how the code currently works. If I may ask two questions: What module would you start with if trying to decipher the opcode parsing and IP increment code? And what compiler are you currently using?

I would like to take a look to see if any ideas strike me for a way to implement variable length opcodes to handle labels. As far as that goes, are there any other areas that would benefit from multi-byte opcodes? I believe that string handling was mentioned earlier?

Thanks,

Marwan

Re: WP34S Program Labels

*Message #9 Posted by **Paul Dale** on 28 July 2011, 7:10 p.m.,*
in response to message #8 by M. Joury

You will want to look in xeq.c for the instruction decode and execute xeq() is the function that handles all command execution. Both user commands from the keyboard and programs go through here -- keyboard commands are converted to op-codes (in keys.c). If we're in program mode, they are stored and if not, they are executed. This is another thing I'd do differently, I'd have the command tables have a flag to decide if something is stored or executed in program mode -- there are specially coded exceptions for CLP, CLALL and DELp.

As for increment and decrement of the PC, inc() and dec() again in xeq.c Be very very careful with these, they are fragile beyond belief but don't appear to be.

I don't know the compiler, Marcus handles that aspect now.

Strings and numbers could benefit from longer op-codes. I've a disabled command that appends three characters to alpha but no keyboard interface for it. I have a good idea how to do the same for numbers but again no real idea how to present this to the user.

Better than packing keystrokes would be to store the compiled number and strings directly -- this is greatly complicated by integer and real modes however.

The next iteration (with a different model number) will likely address all this and more. Don't hold your breath waiting :-)

- Pauli

Re: WP34S Program Labels

*Message #10 Posted by **M. Joury** on 28 July 2011, 7:22 p.m.,*
in response to message #9 by Paul Dale

Thanks Pauli,

I'll take a quick look. However, any in-depth work may have to wait a while. As you noted elsewhere we all do this as a hobby and unfortunately my day job is demanding my attention these days <g>.

Cheers,

Marwan

Re: WP34S Program Labels

*Message #11 Posted by **Marcus von Cube, Germany** on 29 July 2011, 3:57 a.m.,*
in response to message #10 by M. Joury

Marwan, we are using a GCC 4.2 cross compiler (yagarto.de) for the real build and Visual Studio 10 (or VC++ Express) for the emulator.

Re: WP34S Program Labels

*Message #12 Posted by **M. Joury** on 29 July 2011, 9:34 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Thanks Marcus,

I'll stick with VS for now since I am very familiar with it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 19C continuing saga...pictures!!!

*Message #1 Posted by **Geoff Quickfall** on 27 July 2011, 8:05 p.m.*

One simple question.

I spent an hour working on this calculator mechanically removing the cemented blue corrosion. I used a dental pick and fiberglass brush. Ethanol and a natural bristled paint brush to rinse with.

What can I soak this in to dissolve the blue corrosion.

Now to the calculator. I purchased this one for parts for the ACT chip and swap to the 19C from this post:

The other 19C

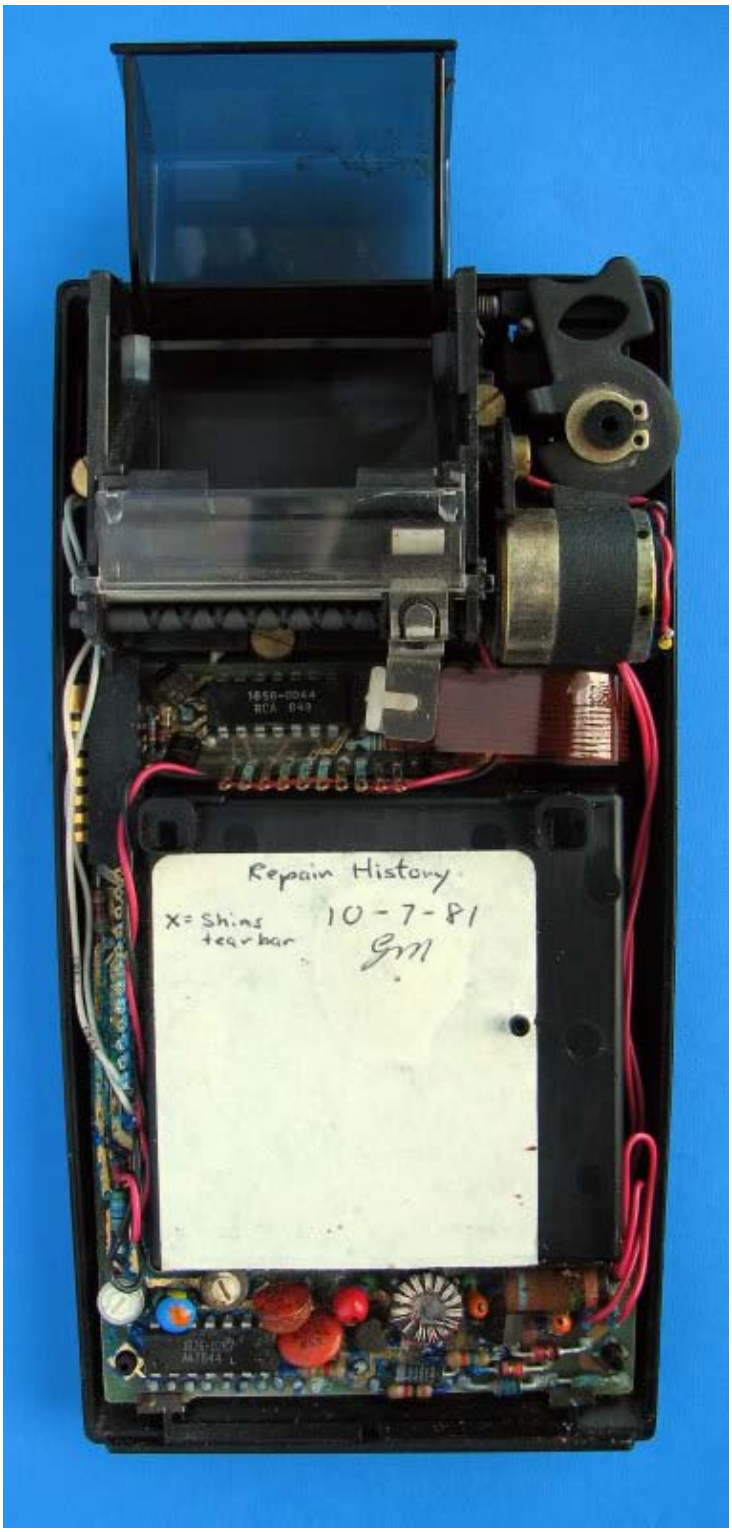
The calculator was missing the LED red plastic lens and the calc was described as non-working, with original battery pack. So I had no illusions that it would function. Wasn't cheap (100USd) but I can justify as it is for the book.

Here is a top view with the missing lens:

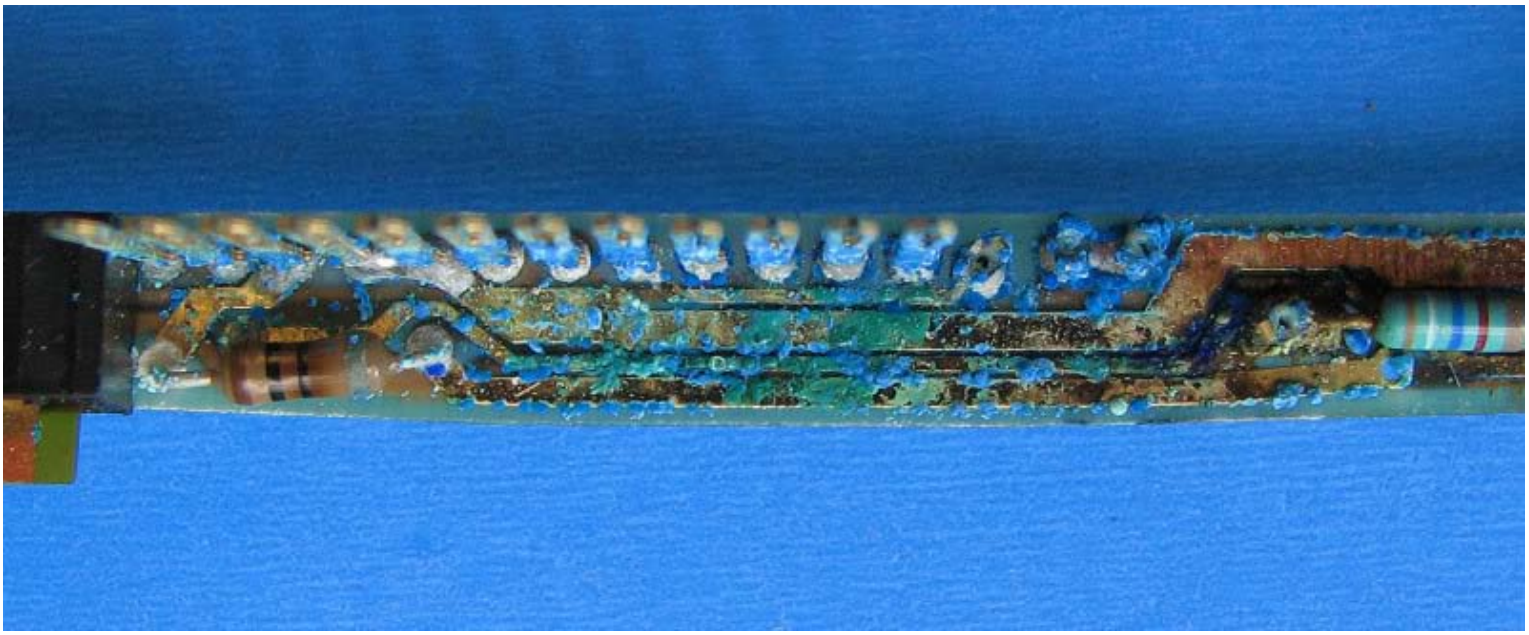
For the heck of it, I removed the battery pack (not bad) and cleaned the minor dusting of white powder off the contacts. Then attached an alternate battery pack with clips to the appropriate contacts.

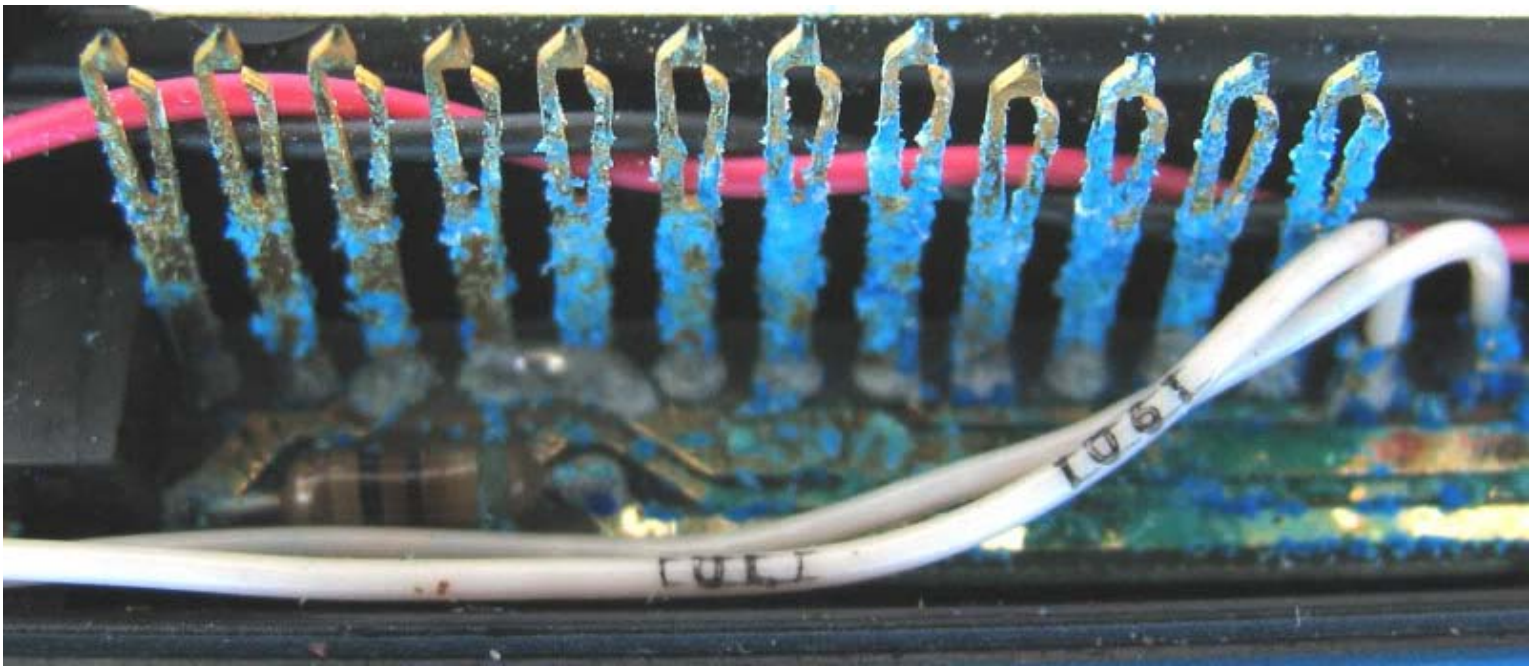
It not only lit up but PRX printed the display. All 98 program registers and functions were perfect!! So now the "Other calculator" is to be the donor.

Started to disassemble and was met by this internal label:

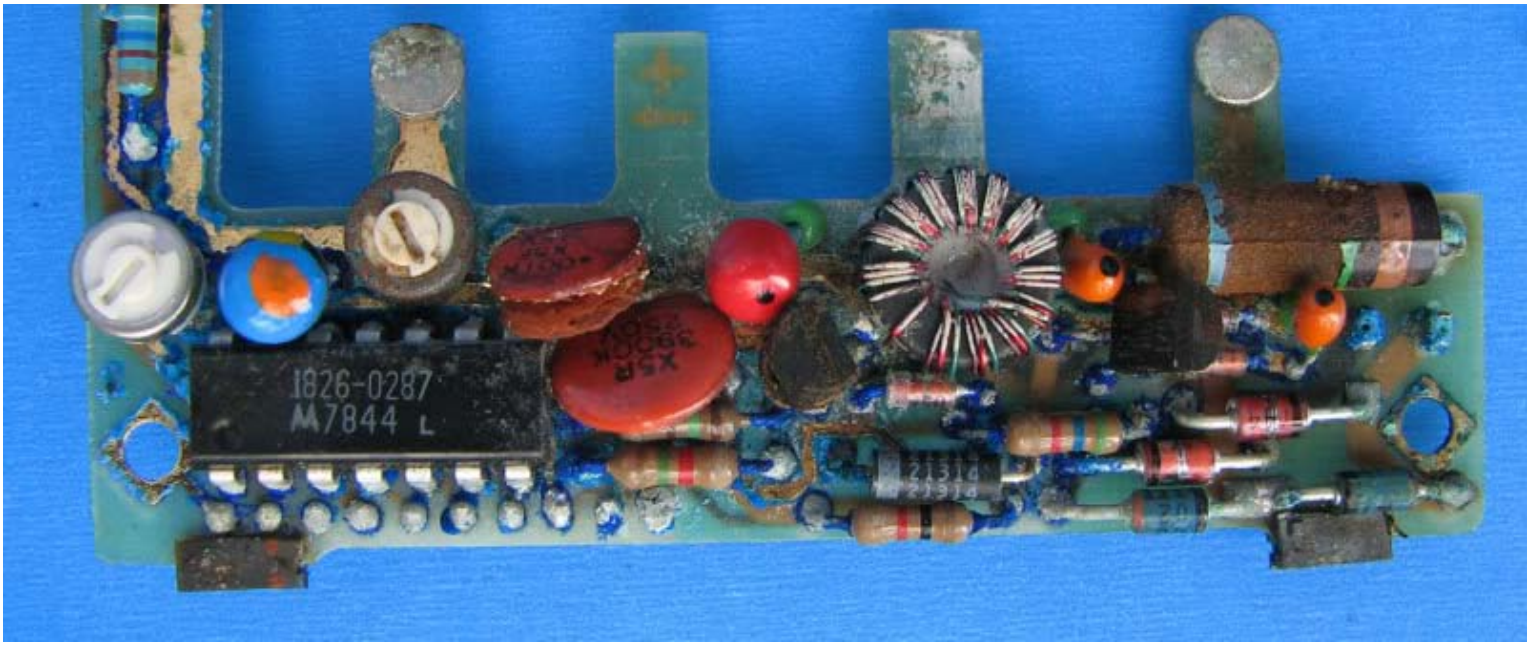


Investigating further; HOLY COW look at the before pictures and you tell me if it should have lit up!!!!

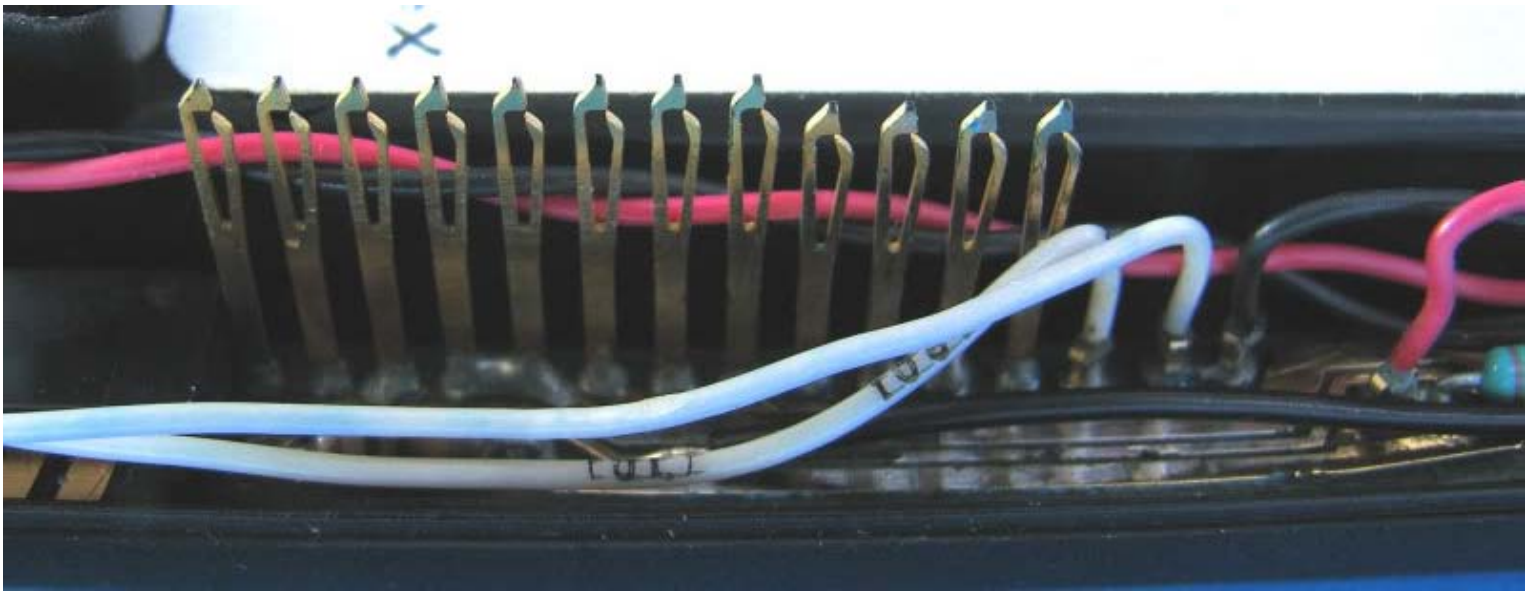


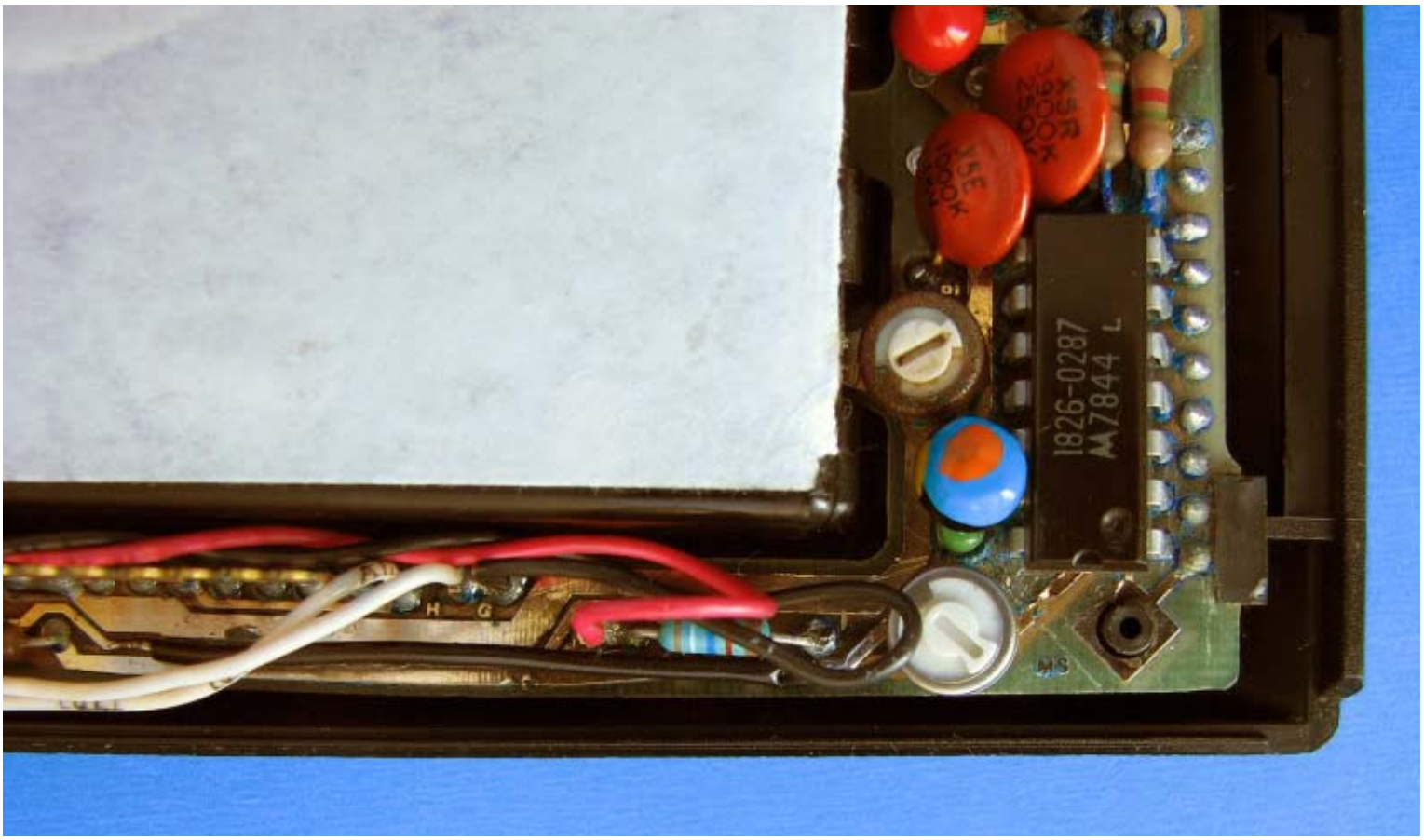


Even the two capacitors at the battery contact PCA were delaminated and rotting. I actually thought there were three caps on this board:

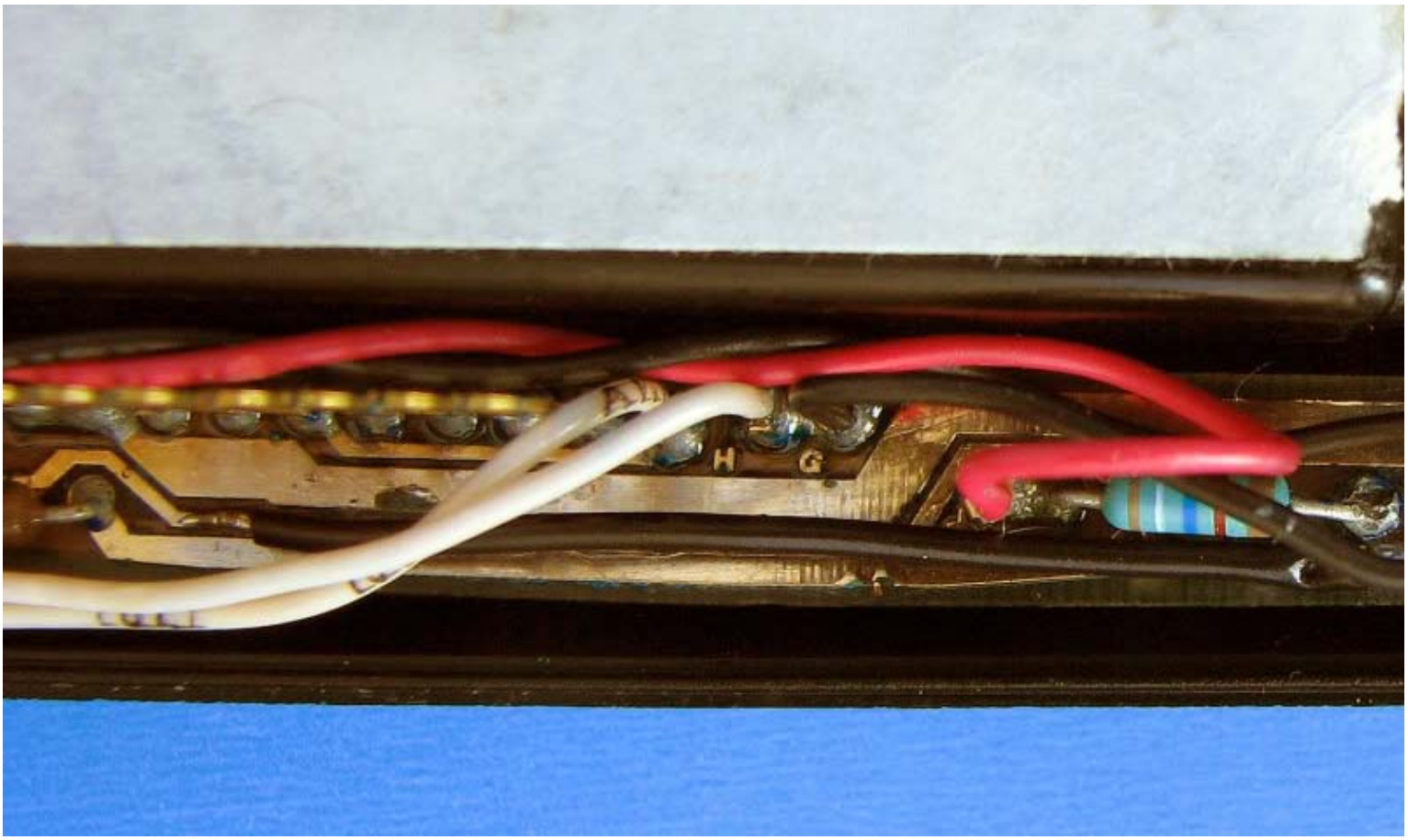


So time to clean up.

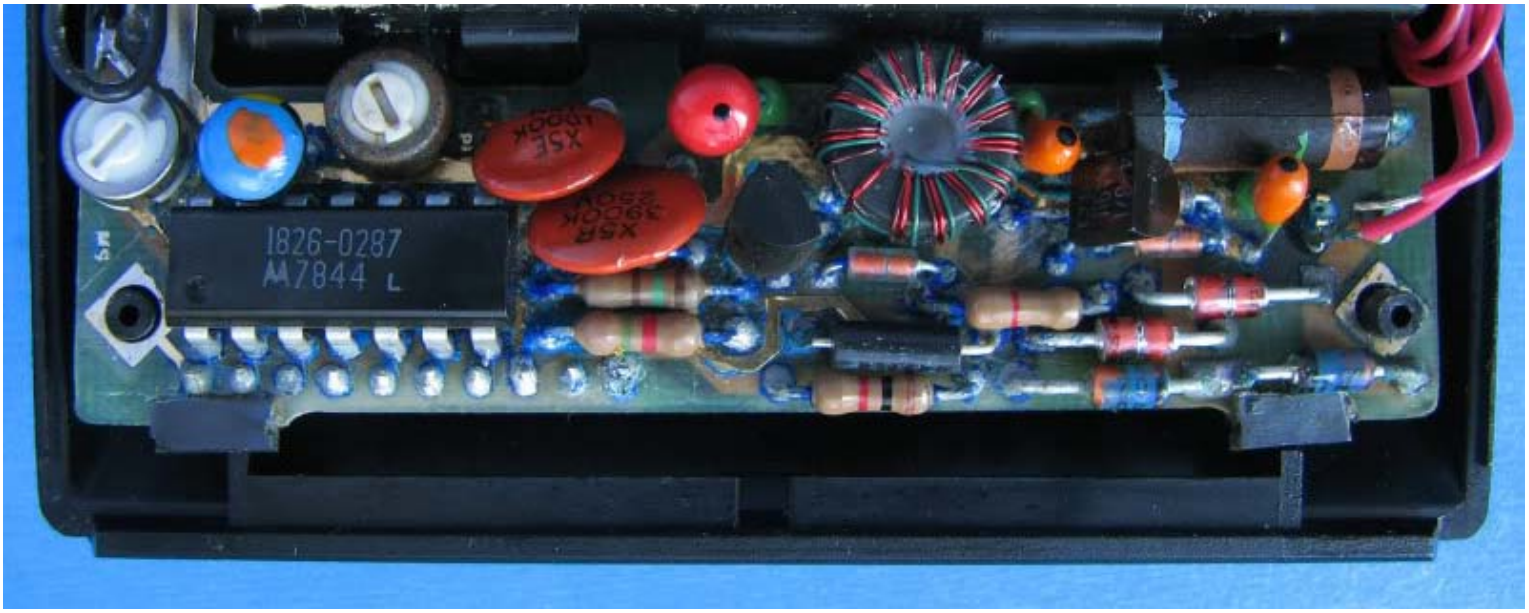




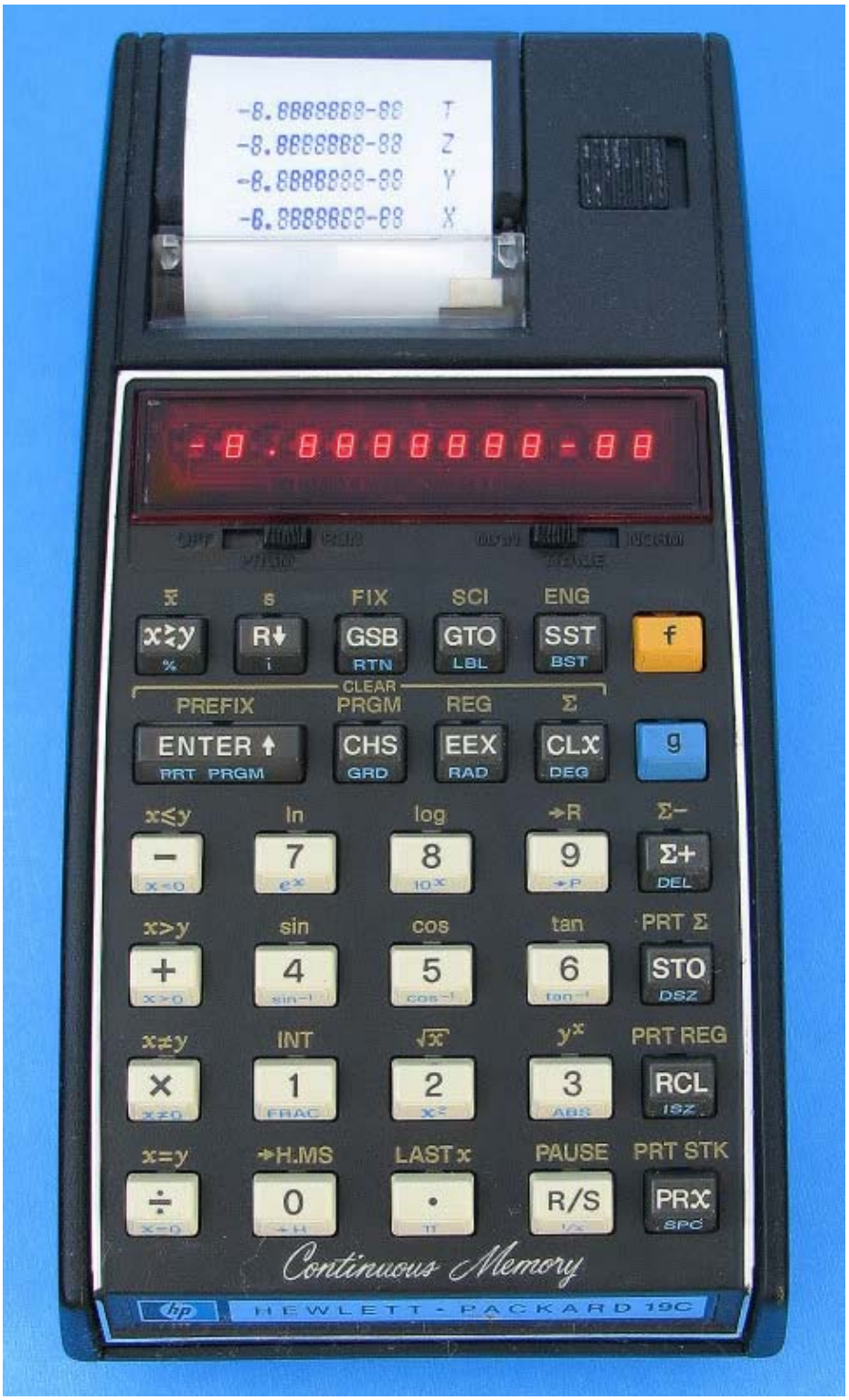
On these two photos most of the contaminant was removed and unfortunately a trace was missing a section after cleaning. Corroded through for a 1cm section. This was bridged by a black wire seen below.



I used the donor with two good caps to replace the two bad caps (but functioning):



So now here it is with the donor lens in place and back to the first question. What does one use to dissolve the blue (vinegar bath?).


-8.8888888-88 T
-8.8888888-88 Z
-8.8888888-88 Y
-8.8888888-88 X
-8.8888888-88
Continuous Memory
HEWLETT - PACKARD 19C

Cheers, Geoff

THE CL is AWESOME! it is the only calculator I use now! Unsolicited advertising for the CL.

Edited: 27 July 2011, 8:06 p.m.

Re: HP 19C continuing saga...pictures!!!

*Message #2 Posted by **aj04062** on 27 July 2011, 8:41 p.m.,*
in response to message #1 by Geoff Quickfall

Hoochie Mamma, that's a wicked lot of corrosion.

I've used vinegar baths. I usually warm it up in the microwave so the acid can really be active. It's fun watching the chemistry experiment in action.

I usually place it under the vent in my kitchen as I have no idea what gaseous byproducts are being emitted.

Adam

Edited: 27 July 2011, 8:42 p.m.

Re: HP 19C continuing saga...pictures!!!

*Message #3 Posted by **Bart (UK)** on 28 July 2011, 4:54 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Here is some advice our good friend Luiz gave me some time ago (he refers to pictures that are unfortunately no longer available):

"The TI59 board (right side) has a lot of oxidation, and the TI58C board (left) seems cleaner, right? They had both about the same oxidation level before I left the TI58C resting for about 20 hours in a solution of 30 to 40% alcohol vinegar with hot water (could touch it without feeling pain...). You can see some of the copper oxide in the TI58C´s PC100A contacts, and also notice the missing copper (parts totally destroyed).

Battery leakage is mainly basic (PH), and the alcohol vinegar is acid, so they react with each other and the remains of the reaction (a salt, right?) is easily removed with a paint brush, current water and neutral detergent. As you can see, I removed the LED display, power supply and some components (transistors, elect. caps, "SSS" module contacts, etc.) prior to clean it up.

I have been doing this for some time (woodstocks and these TI's, mostly) and have successfully removed copper oxide from them. In one particular case, a TI59 board with extensive oxidation damage, had the remains of many copper tracks being dissolved or popped out of the mainboard.

The hot water accelerates the reaction, but after some time its temperature raises down and the reaction decelerates as well. Anyway, I always keep my eyes over the board during the process and never let it stays for more than 20-22 hours."

Hope this helps
Bart

Re: HP 19C continuing saga...pictures!!!

*Message #4 Posted by **Mark Henderson** on 28 July 2011, 3:08 p.m.,*
in response to message #3 by Bart (UK)

Yesterday I worked on a non-working 29C purchased in January from TAS. Upon opening it had the (expected) corrosion, not as severe as the 19C here, but clearly enough to cause problems. Soaked for only a few minutes in warm water with white vinegar and a drop of dish washing liquid, brushed with a nylon brush, air-blast dried. Some cleaning of the case and keys, reassemble - and it WORKS! Perfectly!! So happy! I also have a working 19C and love the calc (especially that the X-register is preserved through power-off, unlike all the other LED "C" models). So today all my work is being done on my almost-as-new-looking 29C!!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP 19C continuing saga...pictures!!!

HP Forum Archive 20

[Return to Index | Top of Index]

HP calculator model unknown

*Message #1 Posted by **Guzzi850** on 27 July 2011, 4:37 p.m.*

I just bought a HP calculator at a garage sale last week and was wondering if someone might be able to identify the model. It looks like the calculator is built on a HP-10C chassis. The square HP logo in the upper right hand corner fell off and there is no "HEWLETT PACKARD" sign in the lower left corner because under the "ON" button is a yellow "ON/OFF", under the "f" button is a yellow "USER 1" and under the "RCL" button is a yellow "USER 2". The ten key and decimal section is outlined in yellow and the top 3 keys in the upper left (yellow functions) is marked "FURLONGS, TIME and LENGTH". The serial number is 2838A68406.

Thanks for any info.

Edited: 27 July 2011, 10:44 p.m. after one or more responses were posted

Re: HP calculator model unknown

*Message #2 Posted by **Marcus von Cube, Germany** on 27 July 2011, 4:54 p.m.,*
in response to message #1 by Guzzi850

A photo would be interesting. May that be a 10C or similar with a custom ROM?

Re: HP calculator model unknown

*Message #3 Posted by **Walter B** on 27 July 2011, 5:21 p.m.,*
in response to message #1 by Guzzi850

That's definitively nonstandard. A picture, however, will be most helpful.

Re: HP calculator model unknown

*Message #4 Posted by **BobVA** on 27 July 2011, 6:12 p.m.,*
in response to message #1 by Guzzi850

Perhaps the same one mentioned in this thread?

Cheers, Bob

Edited: 27 July 2011, 6:12 p.m.

Re: HP calculator model unknown

*Message #5 Posted by **robert rozee** on 28 July 2011, 1:26 a.m.,*
in response to message #1 by Guzzi850

try this link folks:
http://www.flickr.com/photos/spiked_heels/5983487456

Re: HP calculator model unknown

*Message #6 Posted by **Raymond Del Tondo** on 28 July 2011, 3:51 a.m.,*
in response to message #5 by robert rozee

Thanks for the link:-)

So it's an 11C with custom kbd overlay.

Ray

Re: HP calculator model unknown

*Message #7 Posted by **Ren** on 28 July 2011, 3:56 p.m.,*
in response to message #5 by robert rozee

That's the ill-fated HP-13C, launched on the 13th Anniversary of Apollo 13!

B^)

Ren

dona nobis pacem

Re: HP calculator model unknown

*Message #8 Posted by **Guzzi850** on 30 July 2011, 11:26 p.m.,*
in response to message #7 by Ren

Do you know where I could get a users manual.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: The Tau Manifesto

*Message #1 Posted by **Howard Owen** on 27 July 2011, 12:51 p.m.*

"If you were still a [Pi] partisan at the beginning of this section, your head has now exploded. "

The Tau Manifesto

Re: OT: The Tau Manifesto

*Message #2 Posted by **Crawl** on 27 July 2011, 3:14 p.m.,*
in response to message #1 by Howard Owen

I was half-way to being convinced before I even read that article. After all, pi is the ratio between circumference and diameter, but how often do we use *diameter* in equations? We always use radius.

And the "prettiest" formula with pi, as he himself mentions, is

pi*r^2

which, again, uses radius, not diameter.

Re: OT: The Tau Manifesto

*Message #3 Posted by **Gerson W. Barbosa** on 27 July 2011, 3:51 p.m.,*
in response to message #2 by Crawl

3:14 p.m.

Does this mean some resistance? :-)

Re: OT: The Tau Manifesto

*Message #4 Posted by **Csaba Tizedes (Hungary)** on 28 July 2011, 3:21 a.m.,*
in response to message #2 by Crawl

Err... The radius is not measurable. No one science will be lives without applications and experiments - and all theories in all science fields based on measuring. The diameter is MORE acceptable than a "theoretically founded" distance, like radius. BTW I'm a mechanical engineer :P :)

Re: OT: The Tau Manifesto

*Message #5 Posted by **Gerson W. Barbosa** on 27 July 2011, 3:45 p.m.,*
in response to message #1 by Howard Owen

I quite agreed with the idea when I first read about it some years ago but I disliked the proposed symbol. The new symbol (pi without one leg rather than with an extra one) is definitely a better choice. Incidentally the Portuguese word for lathe is *torno*, which makes sense since it's a turning tool.

A bit late for Tau Day, anyway here is the first pandigital approximation to tau :-)

```
sqrt(sqrt(51432/((6*7-9)*8^0)))
```

Re: OT: The Tau Manifesto

*Message #6 Posted by **Paul Dale** on 27 July 2011, 6:02 p.m.,*
in response to message #1 by Howard Owen

The PI Menifesto has a less rabid and one-sided view of the cases for and against both. Well worth the read.

- Pauli

Re: OT: The Tau Manifesto

*Message #7 Posted by **Gerson W. Barbosa** on 27 July 2011, 6:28 p.m.,*
in response to message #6 by Paul Dale

Conclusion: tau is a lame pi :-)

Re: OT: The Tau Manifesto

*Message #8 Posted by **Howard Owen** on 27 July 2011, 10:22 p.m.,*
in response to message #7 by Gerson W. Barbosa

Yet another geometric argument for the primacy of pi. It would seem the Tauists have only one leg to stand on!

Re: OT: The Tau Manifesto

*Message #9 Posted by **Egan Ford** on 27 July 2011, 6:44 p.m.,*
in response to message #6 by Paul Dale

Thank you Paul. You made my day.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41 magnetic cards

*Message #1 Posted by **Giancarlo** on 27 July 2011, 11:32 a.m.*

Hello, i have a HP41c and a card reader. Testing them together i have the following error when trying to store a program on the card: CARD ERR

it is the first time i am able to test the refurbished card reader.

The card reader manual shows that this happens when the card is not recognized as a HP41 one.

Do you know how i can understand if a card is made for the HP41 or for the HP67 or HP97?

Do you think that the issue is a different from my understanding?

Thanks

Giancarlo from Italy

Re: HP 41 magnetic cards

*Message #2 Posted by **M. Joury** on 27 July 2011, 11:39 a.m.,*
in response to message #1 by Giancarlo

Are you asking if perhaps you have a 67/97 card and that is why it is not working? Or are you asking if perhaps you have something OTHER than a 41/67/97 card?

If it is the first question the answer is that the 41/67/97 cards are all the same. If the second I would assume that the only other possibility would be a 65 card and I believe that even those are compatible.

Also a damaged card will potentially show a variety of errors so if you have not already done so try another card.

Cheers

Re: HP 41 magnetic cards

*Message #3 Posted by **Geoff Quickfall** on 27 July 2011, 12:22 p.m.,*
in response to message #1 by Giancarlo

Try writing with the card reader a simple TEST program:

```
LBL TEST
"TEST"
AVIEW"
END
```

Write it to the card, then CLP "TEST". Then read the card. This will confirm the card reader read and write ability. If the other card continues with CARD ERROR then it is the card. Corrupted by age or magnetic field.

sometimes, rarely, some card reader that have been repaired do not function in other card readers. Also the capacitors will dry with age and need replacing. I have a card reader that when readin,g tells me CARD ERROR or CHECKSUM intermittantly but these cards are perfect in other card readers. I have tried everything physical to this reader; new pinc roller, new dampening couple, head cleaning. Next will be capacitor replacement.

Geoff

Edited: 27 July 2011, 12:36 p.m.

Re: HP 41 magnetic cards

*Message #4 Posted by **Dieter** on 27 July 2011, 2:50 p.m.,*
in response to message #1 by Giancarlo

Here are some basic facts that may help to find out what's going on.

- Magnetic cards are the same for the 41, 67 and 97. AFAIK they can even be used in the 65. When the 41 appeared there were no new cards - the card reader simply took the same cards that had been used with the 67/97 before.
- The 41 card reader is able to read both its own data formats (programs, data, status cards etc.) as well as cards written by a 67 or 97. In the latter case the 67/97 program or data is translated by the card reader.
- Cards can be checked by using the verify command (XEQ "VER"). The card reader then asks for a card, and after it has passed trough the reader the card type is identified: TYPE: P TR 02 for instance means that this is the second track of a card or card set with a 41-program. HP67/97 cards are type 7P (program) resp. 7D (data).
- So a valid 67/97 card does *not* return an error message, instead the card is correctly identified as what it is.
- CARD ERR shows up if the VER function cannot identify the information stored on the card currently checked. This may be a card that is completely empty (does not contain any information at all) or a card that cannot be read properly (no valid information can be retrieved).

So, if a VER-test of the card in question returns a CARD ERR, the card reader could not read any kind of useable information. This can mean two things: Either the card is blank or has been erased, or become faulty in some other way. Or there is some valid information on the card, but your card reader is unable to read it (try the same card in another reader). If the card may be overwritten, just try to store some information on it, as Geoff already proposed. Write a short program, XEQ PACK, switch back to program mode and pass a card through the reader. Clear the program and try to read it back. Also try a VER, which should display TYPE: P TR 01.

Dieter

Re: HP 41 magnetic cards

*Message #5 Posted by **Giancarlo** on 28 July 2011, 3:32 p.m.,*
in response to message #4 by Dieter

Hello and thank you so much for helping me debugging this issue.

I tried Geoff program but i got a CARD ERR trying to store it on the card.

The VER command shows the same CARD ERR. I tried a dozen of cards. Unfirtunately tha cards are part of the same lot some they all can be damaged.

I should try these cards on a different reader but there are few hp41 around me. I will contact other italian

members of the forum to help.

If you have other suggestion please do not hesitate to help.

My first hp has been a hp28 so the hp41 is new to me...

Thanks

Giancarlo from Italy

Re: HP 41 magnetic cards

*Message #6 Posted by **M. Joury** on 28 July 2011, 4:09 p.m.,*
in response to message #5 by Giancarlo

I believe that you will get a CARD ERR if the card is empty. So if you don't have any recorded cards you may not be able to test the read capability.

When you try to record a program how do you do it? Are you in program mode? If not the card reader is trying to READ the card and will give an error since there is no data on it. I realize that you are probably aware of this but since you said that you were new to the 41 I thought I would mention it.

Re: HP 41 magnetic cards

*Message #7 Posted by **Dieter** on 28 July 2011, 5:16 p.m.,*
in response to message #5 by Giancarlo

You say you are new to the HP-41. So once again I would like to stress two points of my previous post that are absolutely essential here:

- If you acquire a batch of magnetic cards, they most probably are completety empty. As already mentioned, any empty card will result in a CARD ERR when using the VER command. Simply because there's no recognizable info on it. The same is true if you attempt to read a blank card. Once again: CARD ERR is **perfectly normal** if you try to **read** (!) or **VER**ify a blank, empty card!
- How exactly did you try to write a program to an empty card? Please state every single step. As mentioned, the HP-41 must be in **program mode**! You have to see the current program step in the display when the card is inserted in the card slot! If you see a number like 0.0000 the reader tries to **read** (!) this most probably empty card, resulting in a CARD ERR.

Giancarlo, please precisely tell us every single step you do when you try to record a program.

Dieter

Re: HP 41 magnetic cards

*Message #8 Posted by **Giancarlo** on 28 July 2011, 5:52 p.m.,*
in response to message #7 by Dieter

Hello, YES it WORKED! Sorry but i didn't know that i had to switch to programming mode to write data on a card.

Thank you very much for your help and support.

I will take my hp-41 with me on vacation.

bye

Giancarlo from Italy

Re: HP 41 magnetic cards

*Message #9 Posted by **Dieter** on 29 July 2011, 8:27 a.m.,*
in response to message #8 by Giancarlo

Giancarlo wrote:

> Quote:
>
> YES it WORKED!

Great. :-)

> Quote:
>
> Sorry but i didn't know that i had to switch to programming mode to write data on a card.

That's why I wrote "...**switch back to program mode** and pass a card through the reader" in my first post. ;-)

Finally, here are some useful details:

- The calculator has to be in program mode only if you want to record a **program**. This does not apply if you are recording the content of data registers or if you want to create a status card etc., because in these cases dedicated functions like WDTA, WDTAX, WSTS, WALL etc. are used. Please see the manual for further details.
- Before a program is recorded it is strongly recommended to remove all useless Null-bytes from program memory. They would occupy valuable memory and slow down the calculator. These Null-bytes should be removed with XEQ PACK. Insert the card after this packing operation.
- A card has two sides (tracks), each of which can hold up to 112 bytes. That's not very much, so in most cases it is useful to check how many tracks a program will occupy, and if a short program will fit on a single card or if a second or third one is required. There is an easy way to do so: use WPRV. This function originally is intended for recording programs with an additional protection, so that they cannot be read, modified or printed afterwards. But it is also useful to check the number of tracks required for a program. So, after XEQ PACK try a WPRV and see something like RDY 01 OF 03, in this case prompting for the first track of three total tracks required to record this program. Press the cancel key (backspace) to abort this function and record your program the usual way by simply inserting a card in program mode.

Dieter

Edited: 29 July 2011, 8:29 a.m.

Re: HP 41 magnetic cards

*Message #10 Posted by **M. Joury** on 29 July 2011, 11:37 a.m.,*
in response to message #9 by Dieter

I will add a few more details.

1. As noted you should remove NULL bytes. Another way to do this (and to add an END to the end of your program is to press **GTO ..** although if you do this you have to position back to the program using GTO or the **CATALOG 1** function before going back into program mode to write the card.

2. The HP41 is a pretty clever little beastie. One of the things it does when a program is first run is to "compile" the branches (GTO and XEQ) so that after the first time through the calculator knows where to go and does not have to search for the label. There are short form and long form jumps but that is a whole 'nother discussion. The point here is that if you run your program and execute all jumps before you write it to a card the compiled version will be recorded and the program will run a little faster the first time after it is read back in. Not a big difference (although it can add up a little for a long program) but every bit helps. Also a **PACK** or **GTO ..** instruction will decompile the program since after packing the jumps destinations are no longer valid. So **PACK** first and then run the program to compile it and then write it to card.

3. Any key assignments for global labels within the program being written are also written out to the card. To use these key assignments later the calculator has to be in **USER** mode when the card is read back in.

4. While reading in a program if you do not have an END at the end of the last program in memory the program being read in will replace it.

5. The 41 card reader can read and translate HP 67/97 programs. The card reader basically duplicates those functions that are not found on the HP 41 such as **P<>S**.

I would strongly suggest that you get hold of a manual for the HP41 and any peripherals that you own if you do not already have them. This is quite a complex system and it will be hard to learn all the idiosyncrasies and tricks all on your own. This site offers a soft copy of all the manuals if you are interested. I actually own the manuals but find myself using the soft copy more often than not on those rare occasions (very rare after 30+ years of playing with the darn thing(s) <g>) that I need them.

Cheers

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Did CostCentral remove the HP15C page?

*Message #1 Posted by **Cristian Arezzini** on 27 July 2011, 9:14 a.m.*

I went to the CostCentral site to pre-order my two 15C's, but the page redirects me to the homepage. I can't seem to find the 15C in their shop anymore. What's going on? Have they already pre-sold all their allowance? :(

Cristian

Re: Did CostCentral remove the HP15C page?

*Message #2 Posted by **Bart (UK)** on 27 July 2011, 9:29 a.m.,*
in response to message #1 by Cristian Arezzini

Yes, and so did compsource. and Samson Cables upped the price to $109.99 (they must have noticed too and decided to milk their monopoly).

Re: Did CostCentral remove the HP15C page?

*Message #3 Posted by **Cristian Arezzini** on 27 July 2011, 10:11 a.m.,*
in response to message #2 by Bart (UK)

Hmmm... that's too bad. I'm wondering, did they also cancel the already made pre-orders? Or will they honor them?

Cristian

Re: Did CostCentral remove the HP15C page?

*Message #4 Posted by **Michael de Estrada** on 27 July 2011, 10:18 a.m.,*
in response to message #3 by Cristian Arezzini

My pre-ordered HP-15C still appears active in the CostCentral system. I'm keeping my fingers crossed.

Re: Did CostCentral remove the HP15C page?

*Message #5 Posted by **M. Joury** on 27 July 2011, 10:43 a.m.,*
in response to message #3 by Cristian Arezzini

I contacted them for information and they said that my order will ship out when the calcs come in. So it looks like they intend to honor pre-orders. I am trying to get more information out of them but they are being pretty close-mouthed (or should that be closed-mouthed) about it.

Cheers

Edited: 27 July 2011, 10:44 a.m.

Re: Did CostCentral remove the HP15C page?

*Message #6 Posted by **M. Joury** on 27 July 2011, 2:03 p.m.,*
in response to message #5 by M. Joury

I did get a response. Basically I had asked why the item was pulled and if the 12C 30th Anniversary Edition was going to be relisted (it was also pulled). To paraphrase the answer I received:

>>>>>>> I believe that we pulled the item due to the number of orders received. <<<<<<<

Seems like maybe they are not sure they can fill all the orders? This may be bad news for those that don't get their orders in early since it might mean skyrocketing prices.

I really wish that HP would just make 100,000 of the darn things and alleviate the whole supply/demand problem. I am quite sure that they will be able to sell even that many though it would certainly take longer.

Re: Did CostCentral remove the HP15C page?

*Message #7 Posted by **Jeff Fontaine (Canada)** on 27 July 2011, 10:24 a.m.,*
in response to message #1 by Cristian Arezzini

Hello,

I just got an email from compsource, where I ordered yesterday two 15C, and got a confirmation.They just canceled it !

> Quote:
>
> Thank you for your CompSource order. Unfortunately, the item you ordered has been discontinued and we are not expecting anymore from the manufacturer. We apologize for this inconvenience, but your order has been cancelled and payment has been refunded. Please allow at least 72 hours for your refund to post to your account. We do appreciate your business and hope you will shop with CompSource Inc. again. If you have any questions or concerns feel free to contact me at jolivares@csource.com.

Very honest !

JF Fontaine

Re: Did CostCentral remove the HP15C page?

*Message #8 Posted by **robert rozee** on 27 July 2011, 10:49 a.m.,*
in response to message #7 by Jeff Fontaine (Canada)

could it be the 'new' 15C never existed, and that these companies listed the item based simply on the rumours of its imminent arrival? perhaps even the discussions on here helped fuel the fires...

Re: Did CostCentral remove the HP15C page?

*Message #9 Posted by **Michael de Estrada** on 27 July 2011, 11:18 a.m.,*
in response to message #8 by robert rozee

I think there is sufficient circumstantial evidence that it does exist at least as a prototype. However, the exact production quantities and dates are still uncertain. I think that some suppliers have pulled back

due to the flood of greedy speculators trying to place enormous orders.

Re: Did CostCentral remove the HP15C page?

*Message #10 Posted by **Howard Owen** on 27 July 2011, 1:42 p.m.,*
in response to message #8 by robert rozee

One does not put an item up for sale based on rumors. Clearly, HP cracked down on these earlybirds.

Clarification: so many HP authorized retailers do not put an item up for sale based on rumors. :)

Edited: 27 July 2011, 1:47 p.m.

Re: Did CostCentral remove the HP15C page?

*Message #11 Posted by **Michael de Estrada** on 27 July 2011, 1:49 p.m.,*
in response to message #10 by Howard Owen

Well, if that is the case, why is Samson Cables still accepting orders ?

Re: Did CostCentral remove the HP15C page?

*Message #12 Posted by **Eric Rechlin** on 27 July 2011, 2:38 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> Well, if that is the case, why is Samson Cables still accepting orders ?

They are an interesting case. They claim to be an authorized retailer, but then they violate the restrictions imposed on authorized retailers (notably, the prohibition of shipping overseas), so I'm not sure what is going on there. It's why I am not an authorized retailer, because I don't want to be prevented from shipping overseas.

Eric

Re: Did CostCentral remove the HP15C page?

*Message #13 Posted by **Michael de Estrada** on 27 July 2011, 3:02 p.m.,*
in response to message #12 by Eric Rechlin

SYNNEX has stopped listing it as well. Interesting.

Re: Did CostCentral remove the HP15C page?

*Message #14 Posted by **Dave Shaffer (Arizona)** on 27 July 2011, 12:49 p.m.,*
in response to message #7 by Jeff Fontaine (Canada)

> Quote:
>
> Very honest !

Well, fairly honest:

> Quote:

> Please allow at least 72 hours for your refund to post to your account.

Somehow, these guys manage to get your charge in in milliseconds, but why does the refund take 3 days? !?!

Has anyone else noted that the speed of light (even allowing for coax cable velocity factor) seems awfully slow for some financial transactions? Stuff that should happen in seconds takes days.

Re: Did CostCentral remove the HP15C page?

*Message #15 Posted by **Michael de Estrada** on 27 July 2011, 1:04 p.m.,*
in response to message #14 by Dave Shaffer (Arizona)

A better question is why they charged your card / bank account prior to the actual ship date ? All the outfits I deal with don't do that and CostCentral did not do this on the HP-15C order. The only time it is acceptable to bill for something prior to shipment is when it's a custom-built item, such as the Levolor blinds I recently bought through Lowes and I had to pay up front when I placed the order.

Edited: 27 July 2011, 1:06 p.m.

Re: Did CostCentral remove the HP15C page?

*Message #16 Posted by **M. Joury** on 27 July 2011, 1:29 p.m.,*
in response to message #14 by Dave Shaffer (Arizona)

> Quote:
>
> > Has anyone else noted that the speed of light (even allowing for coax cable velocity factor) seems awfully slow for some financial transactions? Stuff that should happen in seconds takes days.

Only when it benefits the banks and big corporations.

Re: Did CostCentral remove the HP15C page?

*Message #17 Posted by **Martin Pinckney** on 27 July 2011, 11:01 p.m.,*
in response to message #14 by Dave Shaffer (Arizona)

> Quote:
>
> > Somehow, these guys manage to get your charge in in milliseconds, but why does the refund take 3 days?!?!
> >
> > Has anyone else noted that the speed of light (even allowing for coax cable velocity factor) seems awfully slow for some financial transactions? Stuff that should happen in seconds takes days.

It's common practice. The company takes advantage of the "float." PayPal does this on all transactions. Uploads of $ are instant, downloads take several business days. Obviously it's a conscious decision.

Re: Did CostCentral remove the HP15C page?

*Message #18 Posted by **Victor Quiros** on 27 July 2011, 10:37 a.m.,*
in response to message #1 by Cristian Arezzini

I tried to pre-order from Cost Central yesterday in the afternoon (I have a postal address within the US), but got an "out of stock" message. Shortly after that I wasn't able to access the HP 15C page any more. Pre-ordered then from Samson Cables, flawlessly. Un saludo.

Re: Did CostCentral remove the HP15C page?

*Message #19 Posted by **Patrick Rendulic** on 27 July 2011, 11:49 a.m.,*
in response to message #18 by Victor Quiros

Pre ordered one at samsoncables for $94.99. Now it has gone up at $109.99. Should have pre ordered 2 or 3 ... .

We will see.

Re: Did CostCentral remove the HP15C page?

*Message #20 Posted by **Namir** on 27 July 2011, 10:29 p.m.,*
in response to message #19 by Patrick Rendulic

Samson Cables no longer lists the new HP-15C.

Namir

Re: Did CostCentral remove the HP15C page?

*Message #21 Posted by **Cristian Arezzini** on 27 July 2011, 11:30 p.m.,*
in response to message #20 by Namir

Oh wow. It seems I was able to slip my order in just before they shut it down then. I hope they'll honor it! :) Though the fact that every seller is withdrawing the 15c is worrying. Could that have been a "plot" by HP to see how people would really react to a 15C re-issue?

Cristian

Re: Did CostCentral remove the HP15C page?

*Message #22 Posted by **Tim Wessman** on 27 July 2011, 11:52 p.m.,*
in response to message #21 by Cristian Arezzini

Well, keep it up and maybe somebody will finally decide a 15c reintro would sell.

TW

Edited: 27 July 2011, 11:54 p.m.

The plot thickens

*Message #23 Posted by **Michael de Estrada** on 28 July 2011, 12:15 a.m.,*
in response to message #22 by Tim Wessman

How about this ?

Re: Did CostCentral remove the HP15C page?

*Message #24 Posted by **Bart (UK)** on 28 July 2011, 8:20 a.m.,*
in response to message #22 by Tim Wessman

Perhaps it was just a big experiment to see how many orders would come in within 2 days at various prices and one with an outside-of-USA shipping option. So now HP can make a better assessment of how many to produce?

Re: Did CostCentral remove the HP15C page?

*Message #25 Posted by **Raymond Del Tondo** on 28 July 2011, 10:13 a.m.,*
in response to message #24 by Bart (UK)

If this was a test balloon only, then this SC preorder
may have been the last order I made for a new "hp".
So let's hope the 15C LE is real...

OT: In a few days, I'll release an updated version of SpeedUI,
with support for the RainEQ EQ writer directly from the stack.
Although it is only software, then SpeedUI nevertheless exists:-)

Ray

Re: Did CostCentral remove the HP15C page?

*Message #26 Posted by **Paul Dale** on 28 July 2011, 5:20 p.m.,*
in response to message #24 by Bart (UK)

Never put down to malice what can be attributed to stupidity. Then apply Occam's razor.

There was nothing underhanded or sinister about this, HP released some details to their distributors and some shops jumped the gun. HP realised the oops and asked for the items in question to be pulled.

Nice simple explanation fitting well with the administrivia of every large organisation I've ever worked for :-)

- Pauli

Re: Did CostCentral remove the HP15C page?

*Message #27 Posted by **Jeroen Van Nieuwenhove** on 28 July 2011, 7:12 p.m.,*
in response to message #26 by Paul Dale

I agree with Pauli. Let's calm down. Even assuming that roughly 5.000 15C enthousiasts are jumping up and down right now and have made pre-orders or are simply contemplating making pre-orders for (in total) 10.000 units, I am quite sure that a production run of only 10.000 units for a new item is quite unsound from a commercial point of view. If HP has finally decided to reissue a 15C, I wager that they need at least 50.000 sold units to recoup their investments.

My guess is that they are trying to find out the ideal MSRP for this product. All this jumping up and down is only going to affect the price setting for this product. Calm down and wait, there will be enough units of this product for everyone. It is ultimately a niche product, TAS prices nonwithstanding.

I for one am going to wait at least until an official announcement and a MSRP price from HP before ordering this product.

If this reissue is really going to happen, I would like to thank those who have convinced HP management of this. Thank you, really.

Edited: 28 July 2011, 7:43 p.m.

Re: Did CostCentral remove the HP15C page?

*Message #28 Posted by **Juergen Rodenkirchen** on 28 July 2011, 4:26 p.m.,*
in response to message #20 by Namir

> Quote:
>
> Samson Cables no longer lists the new HP-15C.

But it's still possible to pre-order as "special order". SC will inform you about this option if you subscribe to their "new HP Calculators notification list". There's hope ;-) Juergen

Re: Did CostCentral remove the HP15C page?

*Message #29 Posted by **Howard Owen** on 27 July 2011, 1:45 p.m.,*
in response to message #1 by Cristian Arezzini

It seems as though early demand was sharp. I wonder if we enthusiasts will snap up all of the limited edition units. Perhaps "if" is not the question, but "how soon?"

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Useless HP-41 observation of the day

*Message #1 Posted by **Eric Smith** on 27 July 2011, 7:04 a.m.*

I was looking at differences in CATALOG behavior on the 41CX vs. the earlier models. The 41CX adds CATALOG 4 (EMDIR), 5 (ALMCAT), and 6 (key assignments), and shows byte counts on ENDs in CATALOG 1.

Anyhow, I happened to notice something that I thought was broken on the 41CX, but it turns out was unchanged from the 41C and 41CV.

If you put the value 1 in a register, say register 21, you can use "CATALOG IND 21" (pressing shift for indirect) and get catalog 1.

However, if you put the value 1 in a stack register, such as X, then press "CATALOG IND ST X" (pressing shift for indirect then decimal for stack), you get catalog 3. It appears that catalog indirect from the stack always gives catalog 3, regardless of the selected stack register.

Re: Useless HP-41 observation of the day

*Message #2 Posted by **Ángel Martin** on 27 July 2011, 12:17 p.m.,*
in response to message #1 by Eric Smith

Interesting observation. To tell the truth I've got so used to the CCD catalog(s) that never use the "standard" feature.

[IND] is handled by the OS very differently from the [ST] so it's not so surprising. I realize I'm saying this to somebody who nows it much better than myself, but it's my only idea about root causes.

Nothing Useless in the HP-41 observation of the day

*Message #3 Posted by **Geoff Quickfall** on 27 July 2011, 12:38 p.m.,*
in response to message #2 by Ángel Martin

;-)

I am with Angel, I have been using CCD for years now so don't see the normal cat functions. Got to admit though, never IND cat functioned before!

Geoff

Re: Useless HP-41 observation of the day

*Message #4 Posted by **robert rozee** on 27 July 2011, 12:51 p.m.,*
in response to message #1 by Eric Smith

eric - unrelated to this thread, you mentioned a report back in 2006 posting on here:
"In the Matter of Certain Portable Electronic Calculators, Investigation No. 337-TA-198"

did you ever manage to get a hold of this? i just persuaded google books to let me download a pdf of it, 12mb with all pages stored as just graphics. made for some interesting reading, i found it first while looking for info on a TI calculator chip, then traced back to your 2006 posting.

Re: Useless HP-41 observation of the day

*Message #5 Posted by **Bill (Smithville, NJ)** on 27 July 2011, 2:45 p.m.,*
in response to message #4 by robert rozee

Robert & Eric,

If you have an Android Tablet, you can get it free from the Android Market in Books. I grabbed it, but it seems I have to be connected to the internet to read the book. Not sure if there's a way to download so I could read it offline. First time I grabbed a book from the marketplace, so I'll have to play around with it.

Not sure if you would be able to read it on a phone, but it's fairly easy to read on the tablet.

Bill

Re: Useless HP-41 observation of the day

*Message #6 Posted by **Eric Smith** on 27 July 2011, 3:05 p.m.,*
in response to message #4 by robert rozee

I got the PDF directly from the USITC web site: USITC - 337 Publications Past Years

Lots of other interesting cases there, like the one on floppy disk drives.

Re: Useless HP-41 observation of the day

*Message #7 Posted by **robert rozee** on 28 July 2011, 10:34 a.m.,*
in response to message #6 by Eric Smith

excellent - their copy is searchable text! :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: how to delete a program?

*Message #1 Posted by **Didier Lachieze** on 27 July 2011, 1:55 a.m.*

Hello, I'm sorry if this has been already discussed but if you have several programs in the RAM, how do you delete only one of them?

CLP clears all program memory and I've not found in the manual a way to delete a single program, except by deleting it set-by-step.

Would it be possible to add a END instruction similar to the one in the 41/42 so that CLP 'lbl' would delete the program from the label 'lbl' to the next END?

Re: WP34S: how to delete a program?

*Message #2 Posted by **Paul Dale** on 27 July 2011, 2:02 a.m.,*
in response to message #1 by Didier Lachieze

> Quote:
>
> CLP clears all program memory and I've not found in the manual a way to delete a single program, except by deleting it set-by-step.

These two are the only ways.

> Quote:
>
> Would it be possible to add a END instruction similar to the one in the 41/42 so that CLP 'lbl' would delete the program from the label 'lbl' to the next END?

Possible, certainly. Simple no.

- Pauli

Re: WP34S: how to delete a program?

*Message #3 Posted by **Walter B** on 27 July 2011, 2:43 a.m.,*
in response to message #2 by Paul Dale

:-)

Re: WP34S: how to delete a program?

*Message #4 Posted by **gene wright** on 27 July 2011, 8:48 a.m.,*
in response to message #3 by Walter B

What about a DEL instruction which takes as its argument the number of steps from the current

position forward to delete?

Just an idea.

Re: WP34S: how to delete a program?

*Message #5 Posted by **Marcus von Cube, Germany** on 27 July 2011, 9:15 a.m.,*
in response to message #4 by gene wright

Interesting idea. Can you think of a keyboard mapping?

Re: WP34S: how to delete a program?

*Message #6 Posted by **gene wright** on 27 July 2011, 10:34 a.m.,*
in response to message #5 by Marcus von Cube, Germany

No keyboard mapping for access other than perhaps simply putting it into the P.FCN catalog.

Re: WP34S: how to delete a program?

*Message #7 Posted by **Paul Dale** on 27 July 2011, 6:04 p.m.,*
in response to message #4 by gene wright

The same idea I've been thinking about how to implement... Can't promise it will happen.

- Pauli

Re: WP34S: how to delete a program?

*Message #8 Posted by **Didier Lachieze** on 27 July 2011, 7:15 p.m.,*
in response to message #4 by gene wright

Good idea! I understand that moving to individual programs separated by END instructions can have a huge impact on lot of functions at that stage of development. A DEL instruction as suggested in the P.FCN catalog would be very nice to have.

Re: WP34S: how to delete a program?

*Message #9 Posted by **fhub** on 27 July 2011, 7:33 p.m.,*
in response to message #8 by Didier Lachieze

> Quote:
>
> Good idea! I understand that moving to individual programs separated by END instructions can have a huge impact on lot of functions at that stage of development. A DEL instruction as suggested in the P.FCN catalog would be very nice to have.

Such an END statement won't be a problem at all, if it were just ignored by the usual interpreter and only used for clearing programs (something like a 'dummy' instruction or a NOP).
It could be only used by the CLP command, which would then clear the program where the program counter currently is, from the above END (or 000 when it's the 1st program) to the following END statement. With this method the user won't even have to enter any line number(s) for CLP, it would simply delete the 'current' program.

Or CLP could ask the user (as it does now for confirmation) if it should clear the "Current" or "All" programs.

Edited: 27 July 2011, 7:39 p.m.

Re: WP34S: how to delete a program?

*Message #10 Posted by **Paul Dale** on 27 July 2011, 7:48 p.m.,*
in response to message #9 by fhub

> Quote:
>
> Such an END statement won't be a problem at all,

Since it seems so easy to you, I look forward to seeing your implementation.

It is not this straightforward.

Also, END cannot act as a NOP, it has a defined behaviour. It has to act like a return, catch skips over it in either direction and stop label addressing searches.

- Pauli

Re: WP34S: how to delete a program?

*Message #11 Posted by **fhub** on 27 July 2011, 7:53 p.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Since it seems so easy to you, I look forward to seeing your implementation.
>
> It is not this straightforward.
>
> Also, END cannot act as a NOP, it has a defined behaviour. It has to act like a return, catch skips over it in either direction and stop label addressing searches.

Once again you don't understand at all what I mean!

Maybe you should read a bit more detailled what I wrote:
"...if it were just **ignored by the usual interpreter** and only used for clearing programs"

Re: WP34S: how to delete a program?

*Message #12 Posted by **Paul Dale** on 27 July 2011, 7:58 p.m.,*
in response to message #11 by fhub

I understood your suggestion, you seem to misinterpreted my response.
Implementing END as you suggest will bring calls for it to be done *properly* that is what my last sentence was about.

Even if we just do what you suggest, I don't think it is as simple or easy as you are making out. Feel free to implement it and prove me wrong here.

- Pauli

Re: WP34S: how to delete a program?

*Message #13 Posted by **fhub** on 27 July 2011, 8:15 p.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> Implementing END as you suggest will bring calls for it to be done *properly*

Sorry, but I've no clue what you mean with this!?
My idea of such an 'END' (or you can call it whatever you want, even a '---' would be possible) is that it should just work as a physical separator betweeen programs which have no connection to each other. And this separator can of course be simply ignored by an routines which e.g. search for any labels.

What I mean looks like the following structure:

```
LBL 'PRG1'
...
...
...
RTN
END (or ---)
LBL 'PRG2'
...
...
RTN
END
LBL'PRG3'
...
etc.
```

So where would any problem when the program counter is e.g. within PRG2 and you execute a CLP: this would just delete the block from LBL'PRG2' to (and including) the next END.

So this END should simply act as an additional marker for the CLP command, but otherwise should be ignored by any other program routines (like searching for labels etc.).

Re: WP34S: how to delete a program?

*Message #14 Posted by **Paul Dale** on 27 July 2011, 8:52 p.m.,*
in response to message #13 by fhub

> Quote:
>
> Sorry, but I've no clue what you mean with this!?

Read the HP-41 or HP-42 manuals. They have an END that finishes programs. This is what will be wanted.

- Pauli

Re: WP34S: how to delete a program?

*Message #15 Posted by **M. Joury** on 27 July 2011, 9:47 p.m.,*
in response to message #14 by Paul Dale

You are absolutely right. That IS what would be wanted <g> plus more. This is one of my big complaints with the 32/33/35 series as well as the Voyager calcs. Program separation was a great feature to have in the 41C and 42S.

Among the advantages you mention I would also add that labels within a program are local so reuse is not an issue. Plus all programs would start at step 1 no matter where they were in memory.

So you are right, more would be asked for and it is NOT easy to implement.

Re: WP34S: how to delete a program?

*Message #16 Posted by **Walter B** on 28 July 2011, 1:23 a.m.,*
in response to message #15 by M. Joury

Originally, CLP was meant to work as requested now:

> Quote:
>
> Clears current program after confirmation.

in v1.2. This request was explained further in v1.11:

> Quote:
>
> Clears the current program after confirmation. This program is the one the program pointer is in.

but never made it into the code, so I removed it from the manual in v1.18.

Walter

Re: WP34S: how to delete a program?

*Message #17 Posted by **Paul Dale** on 28 July 2011, 3:02 a.m.,*
in response to message #4 by gene wright

> Quote:
>
> What about a DEL instruction which takes as its argument the number of steps from the current position forward to delete?

Done :-)

There is a DEL[sub-p] command in the program catalogue. This command takes an argument 00 - 99 and that many steps will be deleted starting with the current step. If the argument is zero, all

steps from the current one to the end of program memory will be removed.

The name is subject to ratification by Walter and quite likely will change. The implementation is probably full of bugs where I missed corner cases.

About one third of our bug fix flash buffer was used adding this feature.

- Pauli

Re: WP34S: how to delete a program?

*Message #18 Posted by **Didier Lachieze** on 28 July 2011, 3:14 a.m.,*
in response to message #17 by Paul Dale

Thanks!

Re: WP34S: how to delete a program?

*Message #19 Posted by **Paul Dale** on 28 July 2011, 4:50 a.m.,*
in response to message #17 by Paul Dale

Looks like we're having a slight change of plan. I think I'll be able to implement a delete up to but not including a label instead. Almost as good as a program END.

- Pauli

Re: WP34S: how to delete a program?

*Message #20 Posted by **Marcus von Cube, Germany** on 28 July 2011, 5:00 a.m.,*
in response to message #19 by Paul Dale

A proper name would be DELto, taking a label in any case. What will happen, if the label is not found? Abort or delete to end? How to delete to end? DELto . nnn might mean delete up to step nnn.

Re: WP34S: how to delete a program?

*Message #21 Posted by **Paul Dale** on 28 July 2011, 5:02 a.m.,*
in response to message #20 by Marcus von Cube, Germany

No DEL.nnn Step numbers are the reason for the change to labels. I'm not going back :-)

- Pauli

Re: WP34S: how to delete a program?

*Message #22 Posted by **Paul Dale** on 28 July 2011, 5:01 a.m.,*
in response to message #19 by Paul Dale

A first attempt is committed to SVN.

DEL[sub-p] takes either a numeric, hot key or alpha label and deletes up to but not including that label.

- Pauli

Re: WP34S: how to delete a program?

*Message #23 Posted by **fhub** on 28 July 2011, 5:33 a.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> A first attempt is committed to SVN.
>
> DEL[sub-p] takes either a numeric, hot key or alpha label and deletes up to but not including that label.

Ok, I'm coming back to 'END' again: ;-)

I can guess what confused you with the word 'END' as end-marker for a program: you probably thought you would have to completely change you code for searching labels (after a XEQ) in memory.
But in fact this END could just be an alternative (synonym) for RTN, with the only difference that RTN could also be WITHIN a program (even more often than once, e.g. after a conditional test), whereas this END should really exist only at the intended/physical end of a program.

With this method you won't even need a new command like DELp, you just need to modify the existing CLP routine to delete all lines upto and including the next END statement (any maybe even backwards to but not including the previous END). No need to change any other routines (like searching for labels) at all ...

And this method would have the further advantage that the user doesn't have to know (and enter= the name of the next label when he just wants to delete the current program.

Franz

Edited: 28 July 2011, 5:36 a.m.

Re: WP34S: how to delete a program?

*Message #24 Posted by **Paul Dale** on 28 July 2011, 5:40 a.m.,*
in response to message #23 by fhub

We simply cannot have an END instruction that doesn't behave like the 41c's END.

- Pauli

Re: WP34S: how to delete a program?

*Message #25 Posted by **fhub** on 28 July 2011, 5:47 a.m.,*
in response to message #24 by Paul Dale

> Quote:
>
> We simply cannot have an END instruction that doesn't behave like the 41c's END.

Ok, I finally understand now: you're suffering from ENDophobia ... ;-)

Re: WP34S: how to delete a program?

*Message #26 Posted by **Marcus von Cube, Germany** on 28 July 2011, 6:58 a.m.,*
in response to message #25 by fhub

It's just respect for the ingenious implementation in the 41C and 42s calculators.

Don't understand us wrong, please! We know that the feature is useful and your simplified approach will certainly work. But it will trigger a lot of further requests which we cannot fulfill.

There will be another incarnation of what is now the 34S that's oriented closer on the 41C and 42s. But it requires a mayor rewrite of most of the firmware and will most likely be renamed to another number then 34.

Re: WP34S: how to delete a program?

*Message #27 Posted by **fhub** on 28 July 2011, 7:07 a.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> It's just respect for the ingenious implementation in the 41C and 42s calculators.

Well, then why not just call this new statement EOP (end-of-program) instead of END ?

Re: WP34S: how to delete a program?

*Message #28 Posted by **Paul Dale** on 28 July 2011, 7:21 a.m.,*
in response to message #27 by fhub

What's in a name? That which we call a rose by any other name would smell as sweet.

Re: WP34S: how to delete a program?

*Message #29 Posted by **fhub** on 28 July 2011, 7:49 a.m.,*
in response to message #28 by Paul Dale

> Quote:
>
> What's in a name?

Well, it was just to avoid your dislike of the name END. ;-)

BTW, although it's certainly more than 15 years when I've used my HP41 the last time, but I absolutely don't understand (or remember) what could be so 'special' (or ingeniuos) about this

END statement!?

I've just had a look the the HP41 programs on JMB's site (which you always use as reference), and I see that every program there terminates with an END.
So if a user would like to port any of these HP41 programs to WP34S, then what should he use instead of this END statement of the HP41? I guess a RTN is the correct (and only) choice, right? But this RTN does also NOT behave exactly as the END on the HP41 (as you've stated), so why could not just be used an END statement instead of this RTN (with the SAME behaviour as RTN)? This would at least making the deletion of a program easier.

Re: WP34S: how to delete a program?

*Message #30 Posted by **Marcus von Cube, Germany** on 28 July 2011, 11:57 a.m.,*
in response to message #29 by fhub

Franz, I'm thinking about a proper implementation of END as known from the 41C. It doesn't come for free. We need to sacrifice some program steps or even numeric registers for the proper handling of the current program and the return stack. You will not talk us into a half hearted implementation just for the sake of a simple program delete command. Be patient, let's discuss the ramifications internally, and if we come to a solution we'll talk about it here.

Re: WP34S: how to delete a program?

*Message #31 Posted by **M. Joury** on 28 July 2011, 1:41 p.m.,*
in response to message #30 by Marcus von Cube, Germany

Hear, hear! And thank you very much. As I noted earlier this is one feature that I would love to see implemented long term.

Re: WP34S: how to delete a program?

*Message #32 Posted by **Didier Lachieze** on 28 July 2011, 6:43 p.m.,*
in response to message #31 by M. Joury

+1

Re: WP34S: how to delete a program?

*Message #33 Posted by **Paul Dale** on 28 July 2011, 7:42 a.m.,*
in response to message #23 by fhub

I think I've got a fix for END issue.

When **you** write *your* programs, finish each with a LBL'END' or a LBL 97 or LBL

whatever.

To delete a program: DELp'END' or DELp 97 or DELp whatever.

You get your no-operation END. Nobody will complain that it isn't a real END.

Problem solved :-)

- Pauli

Re: WP34S: how to delete a program?

*Message #34 Posted by **fhub** on 28 July 2011, 7:59 a.m.,*
in response to message #33 by Paul Dale

> Quote:
>
> Problem solved :-)

Well, I would say there's an even better solution:

I'll stop reporting any bugs or making any suggestions to improve the WP34S in the future - problem solved, too!

I guess this is the first time you agree with me, right? ;-)

Re: WP34S: how to delete a program?

*Message #35 Posted by **Cristian Arezzini** on 28 July 2011, 10:43 a.m.,*
in response to message #34 by fhub

Well, I don't think that stopping reporting bugs will improve anything... I think that suggesting new things and reporting bugs is great, but we shouldn't expect them to implement everything we wish. After all, they're doing this for fun. I too made a few suggestions (some privately, too) and many were not accepted. I was disappointed but I accepted that, and I kept on reporting and asking! :) It's too bad that I can't program C, if I could I would probably try to submit patches myself, but being unable to do so, I can just suggest and hope that those who can program, agree with my ideas. And in this case, the suggestion of a "Lbl 'End'" makes sense... if it's not possible to have a proper 'End' command, this more or less does what you need - as you can put one after each program, and so the calc will delete until the end of the current program. So, in a way, it is problem solved.

This is all in my opinion of course, but I really don't think we should take these things personally - after all it's their project and their free time, we can't expect them to do what we want, not until we pay them! :)

Cristian

Re: WP34S: how to delete a program?

*Message #36 Posted by **Marcus von Cube, Germany** on 28 July 2011, 12:00 p.m.,*
in response to message #35 by Cristian Arezzini

Cristian, we have had the same type of discussions internally for some time. Many "brilliant" ideas weren't implemented because they either were too demanding on space (flash and ram) or they were just not so "brilliant" as they seemed to be.

Re: WP34S: how to delete a program?

*Message #37 Posted by **Paul Dale** on 28 July 2011, 6:31 p.m.,*
in response to message #35 by Cristian Arezzini

I agree with Cristian here. Reporting bugs is always helpful. I think everything you've reported thus far has been improved upon if not fixed.

Making suggestions as to how to you'd like the problem fixed are also welcome.

Resolutely sticking to these suggestions or trivial variations thereof after they been explained to be flawed isn't so helpful.

Getting upset is positively counter-productive.

Chill out, it is a hobby for us all.

- Pauli

Re: WP34S: how to delete a program?

*Message #38 Posted by **Walter B** on 29 July 2011, 1:34 a.m.,*
in response to message #35 by Cristian Arezzini

... and be patient: if it's a really good idea, it will turn up again. See e.g. the history of CLP ;-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Switched from 48G to 50G and need shortcut to RAND function

*Message #1 Posted by **Travis (Kansas)** on 26 July 2011, 7:51 p.m.*

So I received a 48G in High School for Christmas in 1992 and it got me through engineering courses in college and has served me well for the better part of two decades. It started flaking out a few months ago and sadly couldn't be fixed with fresh batteries like in the past.

My wife though is super-awesome and did the research to buy me a new 50G for my birthday. I enjoy the new things in can do, as well as the familiar stuff that the old 48-G did.

My only complaint is that my work requires the use of a random number generator and while the 50-G has it (in several places!), it requires several keystrokes to get there. On the 48G, I could go to Math mode, choose probability, and then just hit F4 any time I wanted to spit out a random number. If I needed 8 in a row, I could just hit F4 and 8 random numbers would be in my stack.

Can anyone suggest a faster way to achieve the same thing on the 50G? I tried HP customer support, and they suggested this forum (because supporting their own products isn't a good business model?).

Thanks in advance for any ideas.

Re: Switched from 48G to 50G and need shortcut to RAND function

*Message #2 Posted by **Norris** on 26 July 2011, 8:12 p.m.,*
in response to message #1 by Travis (Kansas)

> Quote:
>
> On the 48G, I could go to Math mode, choose probability, and then just hit F4 any time I wanted to spit out a random number. If I needed 8 in a row, I could just hit F4 and 8 random numbers would be in my stack.

On my 50G, I get to the RAND function as follows:

Left-shift (white arrow key)
MTH (P key)
NXT (L key)
PROB (A key)

Then RAND is F4 (D key) and you can hit it as much as you like, as on the 48G.

I think this is basically the same approach that you used on the 48G, but it may take one or two extra keystrokes on the 50G (don't have a 48 for comparison right now).

****

If it seems like the 50G requires too many keystrokes to reach the RAND key, you could make a custom menu

that included the RAND function (and any other functions that you might want quick access to). Then you could bring up the custom menu, with your desired functions, at any time with:

Left-shift (white arrow key)
CUSTOM (H key)

****

If that still seems like too many keystrokes to reach the RAND key, then you could try writing a program does nothing except run the RAND function:

<< RAND >>

Save this program as a variable named: Rand (You can't call it RAND because that name is already used by the function)

Then you could bring up a list of variables at any time with one keystroke:

VAR (J key)

This should display an F-key labeled "Rand", which will run the program (and therefore the RAND function) every time you hit it.

However, this approach will not be as effective if you accumulate lots of variables (i.e. more than 6) in the current directory. In this case, the VAR key may not show the "Rand" variable at first. You would have to push NXT (the L key) to scroll through all the variables until "Rand" shows up.

Edited: 26 July 2011, 9:00 p.m.

Re: Switched from 48G to 50G and need shortcut to RAND function

*Message #3 Posted by **NateB** on 26 July 2011, 9:15 p.m.,*
in response to message #2 by Norris

You can also assign << RAND >> to a specific key that can accessed by putting the 50g in USER mode.

For example,

```
<< RAND >>
ENTER
44.0
ENTER
ASN
```

Would assign RAND to the SYMB key (4th row,4th column, unshifted = 44.0). When the calc is in USER mode, you'd only need press the SYM key. See Ch.20 of the HP 50g user's guide for more on customization.

Re: Switched from 48G to 50G and need shortcut to RAND function

*Message #4 Posted by **Allen** on 26 July 2011, 10:14 p.m.,*
in response to message #1 by Travis (Kansas)

> Quote:
>
> I tried HP customer support, and they suggested this forum....

That's funny!! Not sure why they would suggest forum > manual?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Outstanding collection of HP-01

*Message #1 Posted by **Pascal** on 26 July 2011, 3:41 p.m.*

Hello,

I came across a web site about led watches that has a comprehensive section dedicated to HP-01's, with excellent pictures and descriptions of rare models and prototypes. I couldn't find a reference to it on hpmuseum so I thought I share this with you.

See http://www.led-forever.com/

Enjoy,

Pascal

Re: Outstanding collection of HP-01

*Message #2 Posted by **Lode** on 26 July 2011, 4:04 p.m.,*
in response to message #1 by Pascal

Cool pictures, but brown text as a jpg image on a background with busy patterns made out of the same brown? Really? That's pretty hard to read!

Re: Outstanding collection of HP-01

*Message #3 Posted by **Pascal** on 27 July 2011, 1:21 a.m.,*
in response to message #2 by Lode

I fully agree with you and I think the author did this in purpose in order to protect the web site content from being copied (see also all images watermarked).

Re: Outstanding collection of HP-01

*Message #4 Posted by **Cody** on 27 July 2011, 2:34 p.m.,*
in response to message #3 by Pascal

No one will stay on that site long enough to steal any content. It looks like it has some interesting information, but I closed the page after I tried to read the first sentence, and I never plan on visiting again.

Also, by making the text into images, web crawlers will not load the site into their search engine index, making the site hard to find.

Maybe the author could read the content because he knew it by heart, but for the rest of us, the site is a painful reminder of just how poor the internet can be.

Re: Outstanding collection of HP-01

*Message #5 Posted by **Jim Horn** on 26 July 2011, 7:53 p.m.,*
in response to message #1 by Pascal

Wow - we all know about "Cricket", the HP-01. Great to see some examples of "Firefly", the '02. Too bad the '03 which was in planning (extended functionality, including scientific?) didn't make it.

Re: Outstanding collection of HP-01

*Message #6 Posted by **Namir** on 26 July 2011, 8:15 p.m.,*
in response to message #1 by Pascal

Nice to see info about the HP-02. I remember seeing the HP-01 on the hand of an Iraqi HP rep (working out of Athens). I thought the 01 was way too expensive and I still do!

:-)

Namir

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

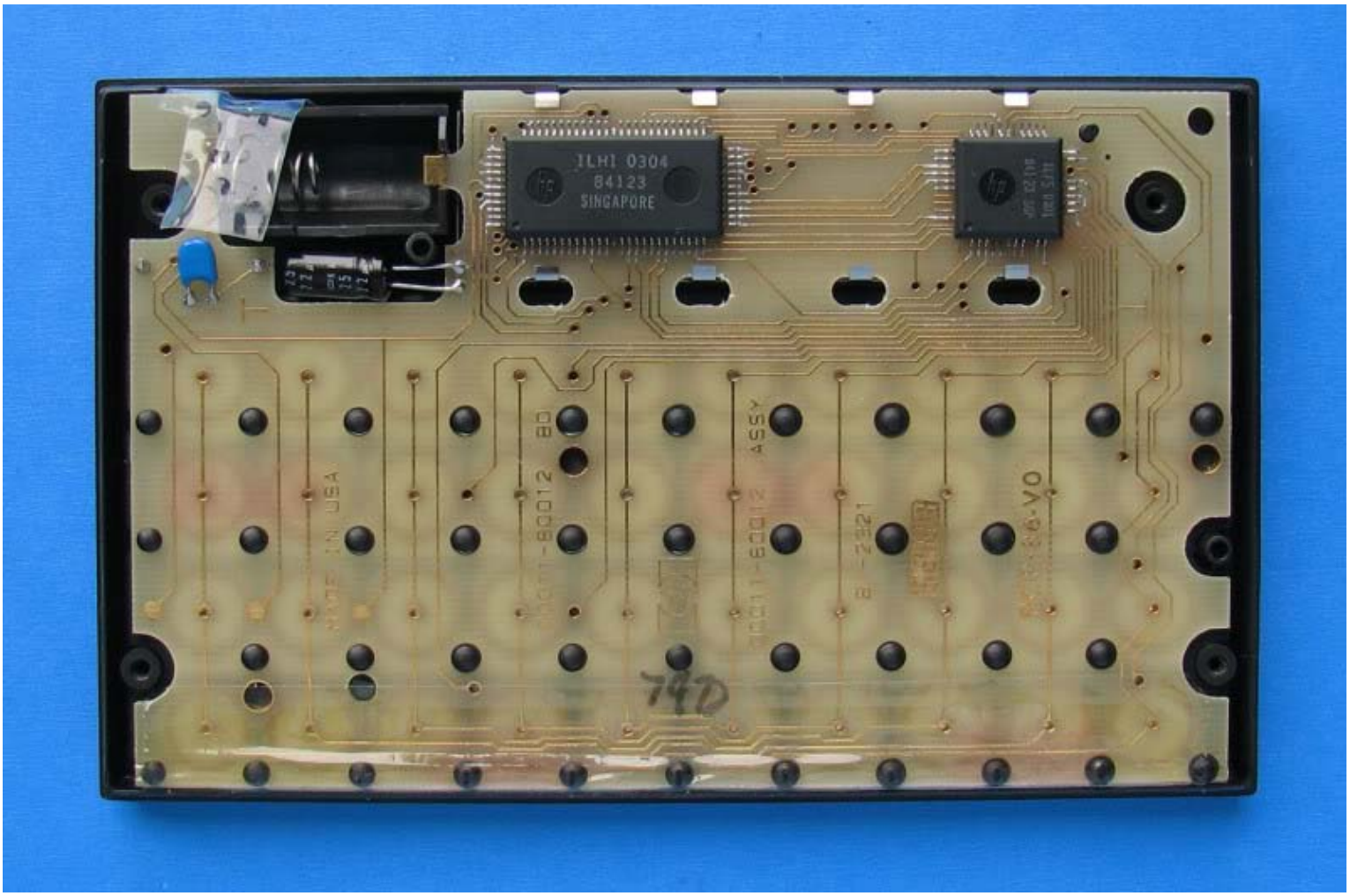
[Return to Index | Top of Index]

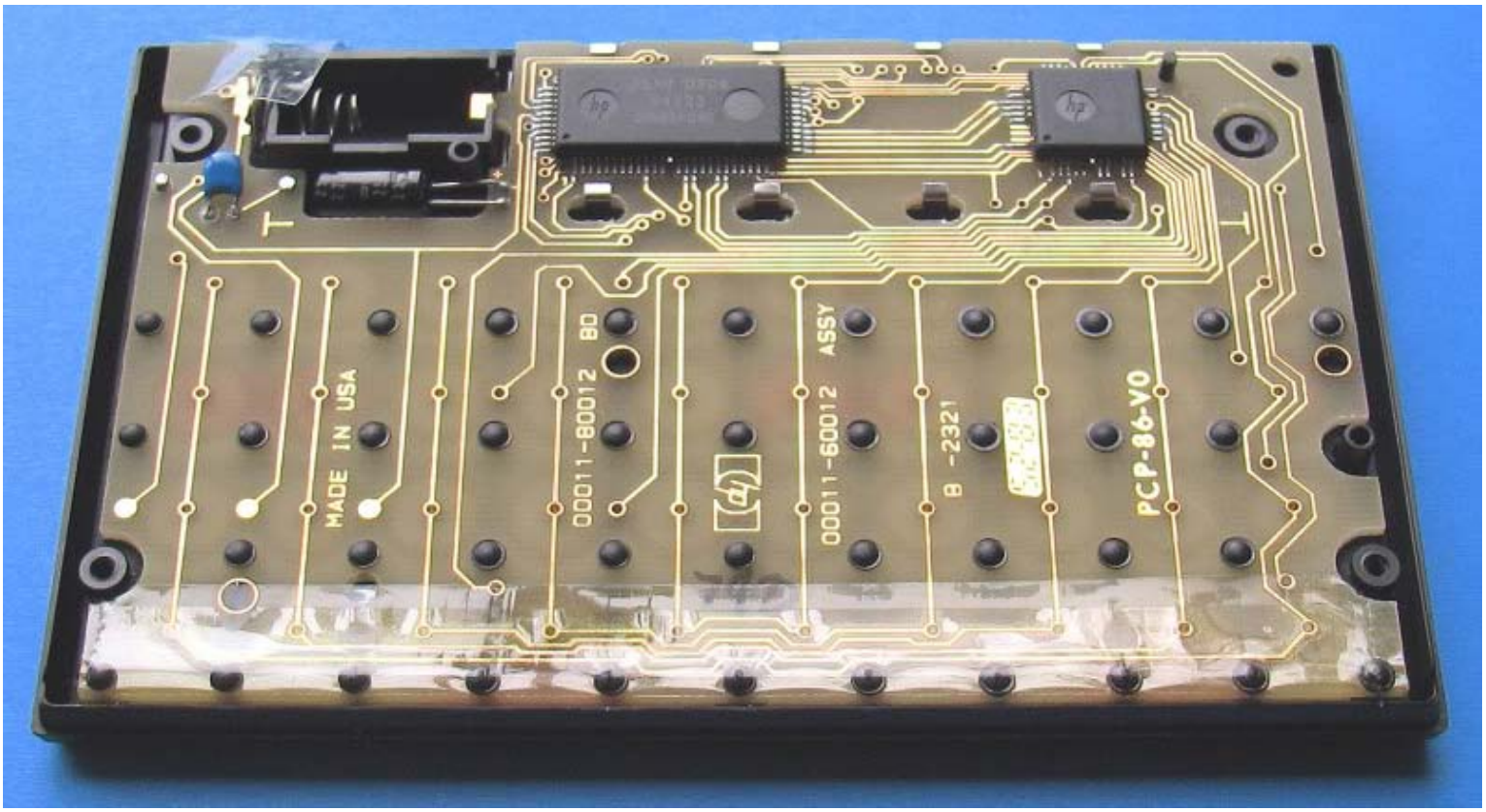
Question about HP calculator traces.

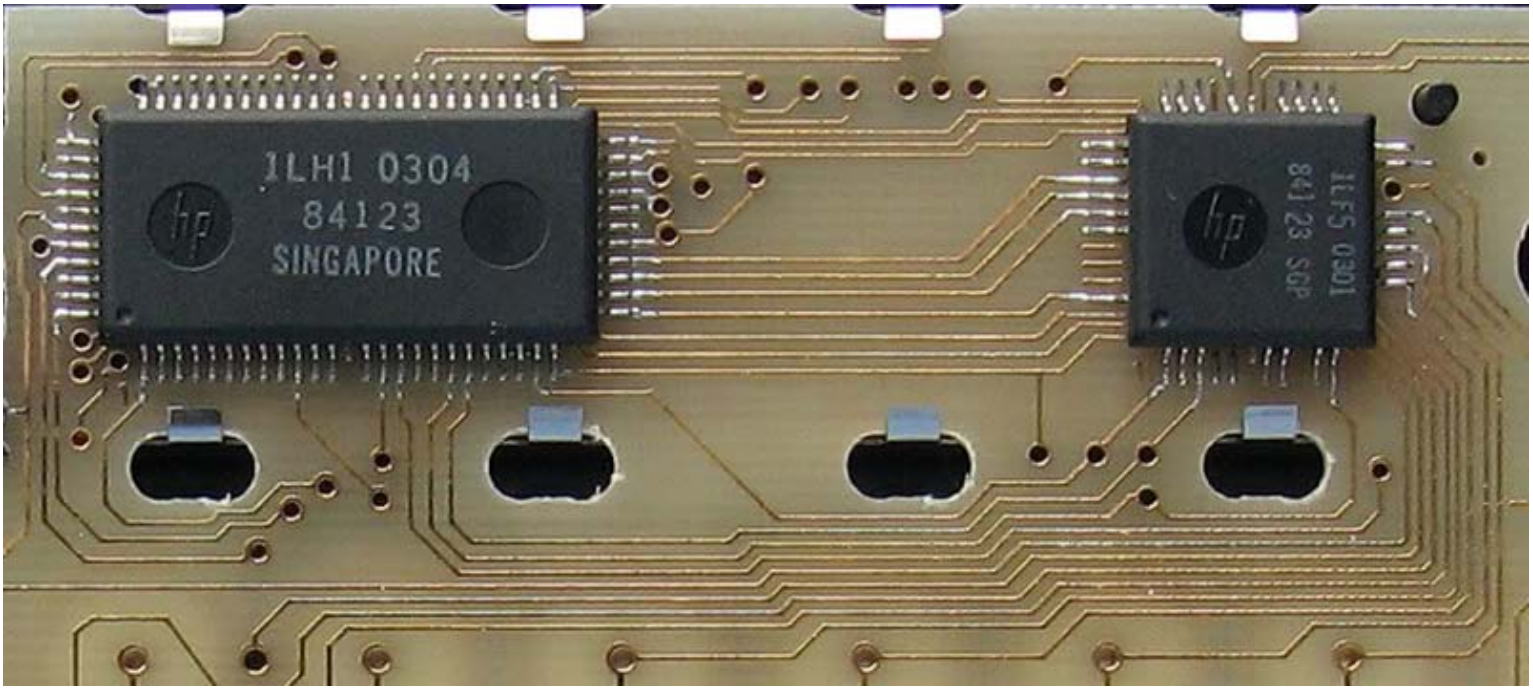
*Message #1 Posted by **Geoff Quickfall** on 26 July 2011, 2:46 p.m.*

hello experts,

I was just asked, are the traces gold in HP. Specifically the 12C (see pictures) and subsequent models. I remember reading a brochure about the traces in the early 80's but cannot find and citations for the trace composition.







Geoff

Re: Question about HP calculator traces.

*Message #2 Posted by **Cristian Arezzini** on 26 July 2011, 3:35 p.m.,*
in response to message #1 by Geoff Quickfall

I don't know for sure but I'd say copper, plated with gold. I don't think it's solid gold because I've seen total corrosion on some traces, and gold should be really resistant to chemical attacks; on the other hand, if it wasn't gold at least externally, it wouldn't be so shiny after 20+ years (I've seen bare metal traces from old Russian calculators, they were dull and whitish, badly oxidised though still working).

Cristian

Re: Question about HP calculator traces.

*Message #3 Posted by **Jim Yohe** on 26 July 2011, 5:09 p.m.,*
in response to message #1 by Geoff Quickfall

Most PCB traces are made of copper covered with a coating of soldermask with very few were ever fully plated with gold. Those that were and not covered with soldermask are from the early history of etched PCBs. If what you're seeing (photos) is in fact gold it's only a light plating, otherwise it could just be very clean copper that hasn't oxidized.

The electronics industry realized it wasn't necessary to fully plate traces with gold for two very good reasons, (1) oxidation could be stopped with a light plating of nickel, and (2) solder-mask could be used to cover traces and in between pads to serve both purposes of reduced oxidation and eliminate bridging/shorting during the wave solder process.

Today the composition of a PCB trace (actually contact pads) that will need gold plating is usually:

1) Base copper, before scrubbing, of about 1/2 oz or 1.4 mils (thousandths of an inch) (12.7 um) (sorry ... my "u" is supposed to represent a micron or micrometer),

2) Plated copper of about 18 to 25 um,

3) Nickel of between 1 to 2.5 um, and finally

4) Gold of between 0.8 to 1.3 um.

Edited: 26 July 2011, 5:11 p.m.

Re: Question about HP calculator traces.

*Message #4 Posted by **Jim Horn** on 26 July 2011, 5:31 p.m.,*
in response to message #1 by Geoff Quickfall

Hi, Geoff,

For much of that period (I was with HP's Instrument Group from 1979 through 1989) the standard HP circuit board process was what you show in the pictures. Specifically, the bare boards were coated with photoresist. The resist was removed where the traces were to be (*not* where they were to be removed as is usually the case). The boards were then gold plated. The resist was removed. Finally, the board was etched.

Note that the gold plating provided the etch resist function - i.e. the copper was etched where it was *not* gold plated. The resulting boards were very solderable (gold wets very easily with PbSn eutectic solder) and don't degrade over time. Connector pads are "free" too, as were key pads for snapdome switches which were popular in HP designs including top-of-the-line lab instruments.

As mentioned, solder resist, HASL (hot air solder levelled) tinning of the pads, screened solder resist, etc. have made this all obsolete. Today's high density surface mount packages (I've seen .25mm lead spacing) make newer techniques necessary. We won't be seeing many boards done this way any more.

Re: Question about HP calculator traces.

*Message #5 Posted by **Geoff Quickfall** on 26 July 2011, 7:06 p.m.,*
in response to message #4 by Jim Horn

Jim,

many thanks for that description of the HP technique. Richard was looking for some answers and I am supplying the pictures.

Would I be correct in the assumption that a 1980 11C would have a similar trace pattern to the 12C, but of course, a different ROM set.

Cheers, Geoff

thanks for all the responses here, I was specifically looking at the HP technology.

Geoff

Re: Question about HP calculator traces.

*Message #6 Posted by **Jim Horn** on 26 July 2011, 7:52 p.m.,*
in response to message #5 by Geoff Quickfall

The whole family (for that matter, all Corvallis machines) used that board process. So the 11C should be the same.

That said, my '11C (HP property - so I don't have it anymore) was, if I recall, a blob coated IC on the back of the display with no other ICs in the calculator. I believe I got it in the later '80s though, and don't believe they were out by 1980. So they may have changed the chip packaging from the earlier SMD parts to the bonded / 'blob' approach.

Re: Question about HP calculator traces.

*Message #7 Posted by **Eric Smith** on 27 July 2011, 5:37 a.m.,*
in response to message #6 by Jim Horn

Interesting. I've seen the innards of many Voyager-series calculators, and I haven't seen any of them with blobs prior to the 12C Platinum (introduced 2003). Maybe yours was a test of a cost-reduction that didn't get put into production?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S bug

*Message #1 Posted by **fhub** on 26 July 2011, 9:37 a.m.*

Ooops, found one of this nasty animals again:

FP? should give the opposite result compared with INT? but in fact returns the same value!

5 FP? gives true
5.1 FP? gives false

BTW, the new implemented NEXTP is indeed a good idea! :-)

Franz

Re: WP34S bug

*Message #2 Posted by **Walter B** on 26 July 2011, 1:37 p.m.,*
in response to message #1 by fhub

Hallo Franz,

Thanks for reporting! This bug must have been introduced recently. It's buggy now but works as advertised in build 1108 on my 20b.

Walter

Re: WP34S bug

*Message #3 Posted by **Marcus von Cube, Germany** on 26 July 2011, 1:59 p.m.,*
in response to message #2 by Walter B

It's working again in the latest build. :-)

Re: WP34S bug

*Message #4 Posted by **fhub** on 26 July 2011, 3:31 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Yes, FP? is back again, thanks Marcus! :-)

Franz

Edited: 26 July 2011, 6:09 p.m. after one or more responses were posted

Re: WP34S bug

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 26 July 2011, 3:52 p.m.,*
in response to message #4 by fhub

Franz,

If you publish them, I will translate them to the assembler's syntax and put them in the "./library" directory.

Can you make sure you write a little description of the I/O so I don't have to make a mistake reverse engineering anything.

Thanks...

Re: WP34S bug

*Message #6 Posted by **Paul Dale** on 26 July 2011, 5:20 p.m.,*
in response to message #5 by Neil Hamilton (Ottawa)

See also JMB's excellent site which has HP-41 programs for factorisation already. These programs port across unchanged usually.

Even so, there are far better algorithms for finding factors that the trial division. The above link has some but there are plenty of others.

- Pauli

Re: WP34S bug

*Message #7 Posted by **fhub** on 26 July 2011, 5:54 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> Even so, there are far better algorithms for finding factors that the trial division.

Ok, I've got it - program deleted ...

Edited: 26 July 2011, 5:55 p.m.

Re: WP34S bug

*Message #8 Posted by **Paul Dale** on 26 July 2011, 6:05 p.m.,*
in response to message #7 by fhub

Why delete your code? It was a good example of 34s programming.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How many HP-15C will we buy?

*Message #1 Posted by **Reth** on 26 July 2011, 6:30 a.m.*

I mean, the forum. I only "got" one, as I promised a few years back to "bring it back" petition.

Re: How many HP-15C will we buy?

*Message #2 Posted by **Keith Midson** on 26 July 2011, 6:32 a.m.,*
in response to message #1 by Reth

I just preordered 2. I think I said I'd buy three on the petition. Oops! Keith

Re: How many HP-15C will we buy?

*Message #3 Posted by **Thomas Radtke** on 26 July 2011, 6:32 a.m.,*
in response to message #1 by Reth

None or one.

Edit: Just preordered one.

Edited: 26 July 2011, 7:27 a.m. after one or more responses were posted

Re: How many HP-15C will we buy?

*Message #4 Posted by **Joel Setton (France)** on 26 July 2011, 6:39 a.m.,*
in response to message #3 by Thomas Radtke

One pre-ordered at this time.
Joel Setton

Re: How many HP-15C will we buy?

*Message #5 Posted by **SteveH** on 26 July 2011, 7:43 a.m.,*
in response to message #4 by Joel Setton (France)

Where are you pre-ordering from? HP or a third party?

I was wondering if these were available for pre-order in the UK but haven't seen any sign of them yet.

Re: How many HP-15C will we buy?

*Message #6 Posted by **Bart (UK)** on 26 July 2011, 8:10 a.m.,*
in response to message #5 by SteveH

Samson Cables are taking pre-orders and ship to the UK:
http://www.samsoncables.com/catalog/prodDetail.cfm?Prod_ID=434&Sku=HP15C

It'll cost you ~£90.50 in total to get to the UK via the cheapest shipping option (breakdown using current pricing and exchange rates which will likely be different by the time it ships and is charged to your account/card).

Edited: 26 July 2011, 8:12 a.m.

Re: How many HP-15C will we buy?

*Message #7 Posted by **Cristian Arezzini** on 26 July 2011, 7:02 a.m.,*
in response to message #1 by Reth

I'll buy one for sure (and I didn't sign the petition so I'll even out Keith :) If it turns out to be a really limited run, I'll buy two immediately, and keep one "safe and clean" while using the other. If it's a longer run, maybe one will do for now. When will we know the actual number of units produced?

Cristian

Re: How many HP-15C will we buy?

*Message #8 Posted by **DaveJ** on 26 July 2011, 8:22 a.m.,*
in response to message #7 by Cristian Arezzini

> Quote:
>
> I'll buy one for sure (and I didn't sign the petition so I'll even out Keith :) If it turns out to be a really limited run, I'll buy two immediately, and keep one "safe and clean" while using the other. If it's a longer run, maybe one will do for now. When will we know the actual number of units produced?

We already know, it's in another thread. 10,000 units are being produced, so claims an official dealer.

Dave.

Re: How many HP-15C will we buy?

*Message #9 Posted by **hpnut** on 26 July 2011, 8:40 a.m.,*
in response to message #8 by DaveJ

I wonder if the serial # will be engraved :-) or paste-on bits of paper :-(

it does matter to me that it should be the former.

Re: How many HP-15C will we buy?

*Message #10 Posted by **Gerson W. Barbosa** on 26 July 2011, 10:09 a.m.,*
in response to message #9 by hpnut

Laser-etched, I read somewhere. Pre-ordered two units as signed on the petition.

Re: How many HP-15C will we buy?

*Message #11 Posted by **Cristian Arezzini** on 26 July 2011, 10:01 a.m.,*
in response to message #8 by DaveJ

> Quote:
>
> We already know, it's in another thread. 10,000 units are being produced, so claims an official dealer.

Hi Dave, I had seen that quote, but I didn't know it was official. It sounded to me more like speculation. If it's 10.000, well then I'll buy two immediately! :) Incidentally, this would also mean that they're unlikely to be found used on TAS for $20...

Cristian

Re: How many HP-15C will we buy?

*Message #12 Posted by **M. Joury** on 26 July 2011, 10:08 a.m.,*
in response to message #11 by Cristian Arezzini

In fact I was thinking quite the opposite. I was thinking that with only 10,000 units some TAS sellers may hoard if they are tracking this and try to make a killing when all supply is gone.

Cheers.

Re: How many HP-15C will we buy?

*Message #13 Posted by **Ángel Martin** on 26 July 2011, 10:49 a.m.,*
in response to message #7 by Cristian Arezzini

One pre-ordered - will see how it stands up against the 41CL :-)

Re: How many HP-15C will we buy?

*Message #14 Posted by **Maximilian Hohmann** on 26 July 2011, 7:35 a.m.,*
in response to message #1 by Reth

Hello!

None for now. Later, when they can be found on eBay for less than 20 Euros, one for the sake of collecting. Same as with with the real 15C. Real calculators have red displays and glow in the dark.

Regards, max

Re: How many HP-15C will we buy?

*Message #15 Posted by **M. Joury** on 26 July 2011, 8:29 a.m.,*
in response to message #1 by Reth

3 as I said in the petition many tears ago.

Re: How many HP-15C will we buy?

*Message #16 Posted by **Jonathan Eisch** on 26 July 2011, 11:30 a.m.,*
in response to message #1 by Reth

A while back, I was looking at the petition and I was surprised by the ~6/person average. I wrote to the webmaster, Chris W, asking if he could send the counts from his database, and he replied very quickly with

the result as of that date (May 11, 2011). I've posted the table from him on google docs, if you'd like to take a look.

-Jonathan

Re: How many HP-15C will we buy?

*Message #17 Posted by **M. Joury** on 26 July 2011, 1:03 p.m.,*
in response to message #16 by Jonathan Eisch

Very interesting. Some of these are obviously dealers since I can't think of anyone that would want 5,000 for personal use. This of course means that the web site results are skewed since many of these will be resold (presumably).

Re: How many HP-15C will we buy?

*Message #18 Posted by **Jonathan Eisch** on 26 July 2011, 11:46 p.m.,*
in response to message #17 by M. Joury

> Quote:
>
> Very interesting. Some of these are obviously dealers since I can't think of anyone that would want 5,000 for personal use.

And the *18* people who wanted exactly *997*? That's why I made a cumulative column, as eventually the numbers might not be reliable. Personally, past 5 I'm not so sure, but that still makes for >20000.

-Jonathan

Edited: 26 July 2011, 11:47 p.m.

Re: How many HP-15C will we buy?

*Message #19 Posted by **David Ramsey** on 26 July 2011, 11:34 a.m.,*
in response to message #1 by Reth

Just one pre-ordered at Sampson. I expect HP will be handing them out to HHC attendees...well, I *hope* they will.

Re: How many HP-15C will we buy?

*Message #20 Posted by **Geoff Quickfall** on 26 July 2011, 2:30 p.m.,*
in response to message #1 by Reth

I ordered 10,000 of them last year directly from HP. I will be selling them at 200 USd each. Contact me at hoax.st.com for details!

;-)

okay, just one!

Geoff

Re: How many HP-15C will we buy?

*Message #21 Posted by **Ángel Martin** on 26 July 2011, 5:17 p.m.,*
in response to message #20 by Geoff Quickfall

LOL, great posting! :-)

Re: How many HP-15C will we buy?

*Message #22 Posted by **Geoff Quickfall** on 26 July 2011, 6:24 p.m.,*
in response to message #21 by Ángel Martin

;-)

Re: How many HP-15C will we buy?

*Message #23 Posted by **Howard Owen** on 26 July 2011, 5:03 p.m.,*
in response to message #1 by Reth

I just ordered one.

Re: How many HP-15C will we buy?

*Message #24 Posted by **Howard Lazerson** on 27 July 2011, 12:29 a.m.,*
in response to message #23 by Howard Owen

why is it being produced with the thin li batteries rather than the older button type which last for a longer time- my 11c is still is still goingstong on 3 yr old batteries, Howard

Re: How many HP-15C will we buy?

*Message #25 Posted by **DaveJ** on 27 July 2011, 2:13 a.m.,*
in response to message #24 by Howard Lazerson

> Quote:
>
> why is it being produced with the thin li batteries rather than the older button type which last for a longer time- my 11c is still is still goingstong on 3 yr old batteries, Howard

Because it's a completely new processor architecture that uses an ARM processing running an emulator.
This means it has to run at a higher frequency than the old processor, and hence consumes more power.

And if it's still like the original 20B design then the processor runs in bursts of 30MHz when it does something (e.g. key press, processing or whatever).
This makes it MUCH faster than the original 15C, at the expense of a drastic reduction in battery life.

If the new 15C does that, then it would be a very poor design decision IMO.

I talked about this way back in an old blog:
http://www.eevblog.com/2009/04/16/eevblog-4-low-power-calculator-design-and-fpgas/

Cyrille (the HP calc designer) said at the time:

> Quote:
>
> I will try to make things better to only going to high speed when doing calculations that I

> know are likely to be slow in the future…

They probably could have used button cells if they really optimised the power consumption, but CR2032 cells are a much more sensible choice IMO.

Dave.

Re: How many HP-15C will we buy?

*Message #26 Posted by **Tim Wessman** on 27 July 2011, 11:12 a.m.,*
in response to message #25 by DaveJ

The way it works on the 20/30b (currently), and the 10bII+ is that certain keys and operations kick the speed up high when intense calculations are possible, while it normally cruises along at a minimal speed.

In the case of the 10bII+, this means the best fit stat operation, inverse student, the IRR key, the NPV key, and the I key. If the operation takes more than 200 iterations to complete, the speed is also dropped again from the high speed.

Other than this, it cruises along at 2mhz normally when running, and shuts everything down except the screen and a keyboard interrupt between calculations. However, the power usage between 1, 2, and 15mhz really is not hugely significant (32mHz will definitely take a bite out of things though as above a certain level the chip loses efficiency quickly) . The screen, with the accompanying LCD driver, is the biggest consumer of power by far.

The biggest power saving is if you can drive the LCD without a regulator. The 12c and 10bII+ can use this (which is why there is no contrast adjustment, it is running directly from batteries) while on the 20/30 you can adjust the contrast. To support the higher pixel density it has to be regulated.

You will never get the same battery life as the original nuts. Chip designers just don't care much about super efficient battery life anymore. The biggest drain in devices now is the screen. This includes the atmel based calculators.

TW

Edited: 27 July 2011, 12:40 p.m.

Re: How many HP-15C will we buy?

*Message #27 Posted by **Eric Rechlin** on 27 July 2011, 2:44 p.m.,*
in response to message #26 by Tim Wessman

> Quote:
>
> > Chip designers just don't care much about super efficient battery life anymore.

It's not so much that they don't care, but that it's not possible. With the much smaller lithography they are using in all fabs now, there is a lot more leakage of current that you just can't get around.

Eric

Re: How many HP-15C will we buy?

*Message #28 Posted by **Lode** on 28 July 2011, 3:54 a.m.,*
in response to message #27 by Eric Rechlin

Don't say it's not possible, it is possible, get machines with larger lithography for battery efficient chips. Apparently there exists an older technology that has an advantage in one parameter over the current ones, so why completely drop it?

Re: How many HP-15C will we buy?

*Message #29 Posted by **Eric Rechlin** on 28 July 2011, 11:42 a.m.,*
in response to message #28 by Lode

> Quote:
>
> Don't say it's not possible, it is possible, get machines with larger lithography for battery efficient chips. Apparently there exists an older technology that has an advantage in one parameter over the current ones, so why completely drop it?

It's not possible unless you want to front a billion dollars to build a fab. Sure, everything is technically possible, but from an engineer's perspective something can be impossible if you can't find someone to build it.

Eric

Re: How many HP-15C will we buy?

*Message #30 Posted by **Eric Smith** on 28 July 2011, 12:36 p.m.,*
in response to message #29 by Eric Rechlin

If you want larger process geometry (lithography), you certainly don't need to spend a billion dollars building a fab. There are still plenty of 350, 250, and 180 nm fabs in operation churning out chips that don't need to be in sub-100 nm. There are even some 500 nm (0.5 micron) fabs running. The mask costs at 250 nm or larger are MUCH less than at 180 nm and smaller, so it is actually quite cost-effective to get chips made on a larger, low-leakage process.

You only have to spend billions of dollars when you're building new bleeding-edge fabs, which you obviously don't do when you want to make low-power chips for calculators and other low-end consumer electronics.

The tradeoff of using an older, larger process is that they don't run as fast, and you don't get as much on-chip memory. For any calculator other than a high-end graphing, that's not a problem.

I'm not sure what process geometry is used for the Atmel AT91SAM7L128 (used in the 10bii+, 12c, 20b, 30b), but it is almost certainly NOT being made in a sub-90nm process.

The Energy Micro EFM32G "Gecko" microcontrollers Richard Ottosen and I are using for our latest prototypes use an ARM Cortex-M3 core in a TSMC 180nm ULP (ultra-low-power) process, and can achieve under 1uA current in a low-power sleep mode with a 32kHz timer running, with 16KB of battery-backed internal SRAM

(unlike the Atmel part, which only battery-backs 2KB).

In our prototype, my firmware is waking up at 100 Hz running on a 40kHz crystal, and we're seeing sleep current of around 10.1 uA. When we having it running at roughly 14 MHz (on an internal RC oscillator), we have a total current of around 7.2 mA, of which about 1.5 mA is from a character LCD module, so the microcontroller is only consuming about 5.5 mA. At that clock rate, we're seeing performance about 14x that of the HP-41C (or about 25x that of the original 12C/15C), and that is on a very unoptimized code base in debug mode, so I expect that we will eventually have much higher performance for the same clock frequency and current.

Re: How many HP-15C will we buy?

*Message #31 Posted by **Marcus von Cube, Germany** on 28 July 2011, 4:34 p.m.,*
in response to message #30 by Eric Smith

Eric, these are interesting figures. I was thinking, the Atmel would consume only little power but having an active timer at such a low power rate is stunning. Would you mind measuring the current draw of an original 20b or 30b in different situations and likewise the 34S. I'm unable to measure to great accuracy what you have obviously done with your design.

Re: How many HP-15C will we buy?

*Message #32 Posted by **Bart (UK)** on 27 July 2011, 3:53 p.m.,*
in response to message #26 by Tim Wessman

> Quote:
>
> You will never get the same battery life as the original nuts.

How would battery drain compare if the 10bII+ was to run at the same clock speed as the nuts?

Re: How many HP-15C will we buy?

*Message #33 Posted by **Bart (UK)** on 27 July 2011, 9:25 a.m.,*
in response to message #1 by Reth

One - as promised in the "bring back the 15C" petition, but haven't ordered one, yet. I intend support a dedicated HP dealer as local to UK as possible - TheCalculatorStore (that's in the EU anyway - will we ever become the USE (United States of Europe)?).

Re: How many HP-15C will we buy?

*Message #34 Posted by **Marcus von Cube, Germany** on 27 July 2011, 9:32 a.m.,*
in response to message #33 by Bart (UK)

José from thecalulatorstore has already put me on the list for one. :-)

Edited: 27 July 2011, 10:04 a.m.

[Return to Index | Top of Index]

How many HP-15C will we buy?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Power Requirements

*Message #1 Posted by **Marcus von Cube, Germany** on 26 July 2011, 6:14 a.m.*

After having worked on the power saving code recently, I just made new measurements of the power drain of my lab 20b. Here are the results (all values in mA):

```
State      FAST    SLOW
-----------------------------------------------------
off           0             No display
sleep      0.15             LCD running
idle       0.82             LBL B; PSE 99; GTO B
debug      1.66             ON+D
serial     6.60     3.15    without the cable connected
run        20.5     8.99    LBL A; GTO A
```

SLOW can be set with the SLOW command or ON+1 (the latter behaving exactly like a low power situation). The SLOW command survives a power cycle, ON+1 is transient.

I'll probably reduce speed to the slow mode (20 MHz) for serial I/O if it proves to be reliable enough, just to save some power during the "Wait..." phase. The cable furnished by HP draws about 1.5 mA alone, even while the calculator is turned off!

I'd love to see measurements by people with better lab equipment then mine. How is the original firmware by HP (20b and 30b) performing in a similar setup? I'm looking forward to your feedback.

Re: WP 34S Power Requirements

*Message #2 Posted by **Paul Dale** on 26 July 2011, 7:05 a.m.,*
in response to message #1 by Marcus von Cube, Germany

The converse of SLOW is (of course) FAST.

SLOW slows the device down and saves power, FAST speeds it up again. By default the 34S runs in FAST mode.

As Marcus, mentioned the speed setting is preserved over a power cycle and the state is saved in the mode flags (STOM/RCLM) and in the flash backup. This means that the speed setting is pretty sticky.

- Pauli

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #3 Posted by **Marcus von Cube, Germany** on 27 July 2011, 4:57 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Having viewed DaveJ's Video Blog #4 I'm rethinking my approach at the high operating speed versus power loss in the batteries.

I might reduce the normal operation speed in manual mode (no program running) to a much lower value and bump it up to maximum speed only for long running calculations. This will slow down operations like factorial

considerably but would save battery power while the calculator is used for manual calculations. What do you think and what slow down factor wold be acceptable?

Dave, your opinions, please! You're probably the one to verify my measurements.

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #4 Posted by **DaveJ** on 27 July 2011, 6:54 a.m.,*
in response to message #3 by Marcus von Cube, Germany

I don't have a WP 34S, so cannot verify anything unfortunately, but I can't think of a good reason why slower speed wouldn't be a wise default choice for non-programming mode.

To me, battery life is top of the priority list for a hand held calculator. As the device is useless if it doesn't work. And the lower the power consumption the longer "bonus time" you have between the battery indicator coming on and having it just die on you.

Is the battery indicator used in the WP 34S?, and if so, at what voltage? (and is it adjustable?)

Perhaps have it as a user option if possible? Defaulting to the lowest power, and have an optional "turbo" mode.

Dave.

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #5 Posted by **Paul Dale** on 27 July 2011, 6:58 a.m.,*
in response to message #4 by DaveJ

If you've got a 20b or 30b I can "improve" it for you :-)

We have two speed settings. Marcus should be able to elucidate as to the exact settings and the low battery thresholds. I do know the clock is slowed if the battery voltage drops too low.

- Pauli

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #6 Posted by **DaveJ** on 27 July 2011, 8:35 a.m.,*
in response to message #5 by Paul Dale

I don't have either unfortunately.
And alas, I don't think I have much need for another scientific calc, unless it can go on my wrist!

And DAMN you people! :-P, I haven't been on the forum for ages and almost forgot all about my Mk2 uWatch design. And I come back to all this new calc excitement and I may just have caught the bug again...

Dave.

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #7 Posted by **Cristian Arezzini** on 27 July 2011, 9:02 a.m.,*
in response to message #6 by DaveJ

> Quote:

> And DAMN you people! :-P, I haven't been on the forum for ages and almost forgot all about my Mk2 uWatch design. And I come back to all this new calc excitement and I may just have caught the bug again...

Which is good, since I have wanted a uWatch for a long time but you won't make a new batch, and so I can't wait for a Mk2 to come out (though I'd also be happy to find an old, used mk1! :)

Cristian

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #8 Posted by **Marcus von Cube, Germany** on 27 July 2011, 9:10 a.m.,*
in response to message #6 by DaveJ

Dave, I thought you were collecting every electronic toy you can get at. ;-)

The battery indicator comes on at 2.4V and slows down the device to a maximum of 20 MHz. The same effect can be achieved by the user with a command. Somewhere near 1.9V the device will be turned off by the firmware.

Most of the time, the processor sleeps with the core completely turned off and only the LCD drivers and PIOC running to wake it up. Then there is a more active idle mode with interrupts running. This mode can be seen with the PSE command. The mode is used whenever the firmware does more then just waiting for the next keystroke but not executing a command.

Whenever the calculator is doing something beyond this, it's switched to either 20 or 37 MHz.

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #9 Posted by **Paul Dale** on 27 July 2011, 6:08 p.m.,*
in response to message #6 by DaveJ

> Quote:
>
> And alas, I don't think I have much need for another scientific calc, unless it can go on my wrist!

Not even one with a parallel operation on the keyboard :-)

> Quote:
>
> And DAMN you people! :-P, I haven't been on the forum for ages and almost forgot all about my Mk2 uWatch design. And I come back to all this new calc excitement and I may just have caught the bug again...

Put me on the pre-order list :-)

- Pauli

Re: WP 34S Power Requirements - (especially but not only for DaveJ)

*Message #10 Posted by **DaveJ** on 27 July 2011, 10:14 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> Not even one with a parallel operation on the keyboard :-)

Damn, so there is!

> Quote:
>
> Put me on the pre-order list :-)

Helps if I design it first :->
I think I'll scrap my existing designs with the capacitive touch keyboard like on the uCalc.
I'm now eyeing off a nice large touch screen. Albeit still only 128x64, but it's big so you can actually use it.
And now I have a bright idea of utilising an existing commercial modular watch band attachment, allowing the unit to simply snap in and out of the watch band, so it could be used as either a watch or a tiny pocket calc.

Alas, consulting work just popped up this last hour which will be whipping my butt for the next week at least :-(

If anyone knows of any small low power touch screen LCD's, please link them my way.

Dave.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Assembler bug fix and doc update

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 26 July 2011, 6:08 a.m.*

Bug fixed in assembler when using output of disassembly with specified opcode tables ('-opcodes' switch). It emitted a "#" as a comment marker instead of the accepted "//" causing the disassembled output to not be directly re-accepted by the assembler.

SVN documentation updated with several typos fixed in the same area (section 5.2). As well, you can find a 'diff' version at:

http://web.ncf.ca/njsdham/wp34s/doc/WP34s_Assembler_Disassembler_diff_9Jul2011_to_26Jul2011.pdf

Regards...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S broken build :-(- Please update!

*Message #1 Posted by **Marcus von Cube, Germany** on 26 July 2011, 3:07 a.m.*

I've just fixed a major problem with writing to flash. Power saving is a nasty thing on this platform.

You will need to update your device before you try to write to flash! If you have already loaded user code that you do not want to lose, use the new serial I/O to backup to the emulator first.

Edited: 26 July 2011, 3:11 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Working HP-70 sells for $123.50 on TAS

*Message #1 Posted by **Michael de Estrada** on 25 July 2011, 10:58 p.m.*

Last Thursday a very clean fully functional HP-70 sold on TAS for only $123.50, after we've seen similar units sell for much more and even almost exceeding $1000. It was advertised as clean but untested, although the seller did allow for returns. So, how do I know that it is in good working condition ? Yes, indeed, I'm the lucky guy who won it, and I'm still amazed that I got it so cheap. I suppose the fact that the seller refused to ship outside the USA had something to do with it, and perhaps some of you outside the USA were watching and would have bid more if you had been given the opportunity. Still, I'm amazed that no one here was willing to bid more. The only other mitigating factor was that the auction ended at an awkward time, late afternoon on a weekday, when many people are between work and home, which is not an issue for me since I'm retired. I was fully expecting a last minute sniper bid, but it never came. So, today I received the HP-70, and the only issue is a touchy ON/OFF switch, which needs to be positioned half-way to work consistently and worn silver trim under the display. No corrosion, no cracks or scratches, labels intact and perfect, perfect keyboard and display, perfect battery door and latches etc. According the the MoHPC, the HP-70 is rated "Very Difficult" to find, and the lowest price recorded is $285. Perhaps it is time to downgrade its rarity ?

Re: Working HP-70 sells for $123.50 on TAS

*Message #2 Posted by **M. Joury** on 25 July 2011, 11:25 p.m.,*
in response to message #1 by Michael de Estrada

I saw that particular auction and was VERY tempted to bid on it. In fact last year or even 6 months ago I would have. At this time however pretty much anything is out of range for me (I had money put aside for the HP15C :-) but anything unplanned is a non-starter). So yes, I believe that the economy is having a negative (positive? depending on your view) impact on prices.

Cheers.

Re: Working HP-70 sells for $123.50 on TAS

*Message #3 Posted by **aj04062** on 25 July 2011, 11:48 p.m.,*
in response to message #2 by M. Joury

I've seen these too and wondered. How about the season? Summer folks are probably out playing.

Re: Working HP-70 sells for $123.50 on TAS

*Message #4 Posted by **M. Joury** on 26 July 2011, 12:22 a.m.,*
in response to message #3 by aj04062

That too <g>.

Re: Working HP-70 sells for $123.50 on TAS

*Message #5 Posted by **Michael de Estrada** on 26 July 2011, 12:39 a.m.,*
in response to message #4 by M. Joury

Well, there were six other bidders in this auction, so it's not like I was the only one that was interested. And one of those bidders a month ago was willing to bid twice as much on another HP-70 that he or she didn't win. Anyway, I'm just glad I got lucky in this case, and won't question my good fortune. Who knows, maybe an HP-95C will just show up at my door some day.

Edited: 26 July 2011, 12:40 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-28S Keyboard

*Message #1 Posted by **aj04062** on 25 July 2011, 10:46 p.m.*

Hi,

I just obtained a beautiful condition 28s with the leather case. Only problem is that the on key does not register unless you press on the keyboard contact.

I took the overlay off and tried to seat the cover down harder by pressing on the case and melting the stakes nearby. This did not work.

Is the only solution to remove all the stakes and replace the contact foam?

Re: HP-28S Keyboard

*Message #2 Posted by **Geoff Quickfall** on 25 July 2011, 11:53 p.m.,*
in response to message #1 by aj04062

check out the following link:

shucking the clamshell

You have discovered the main flaw of the clamshells. large case and a lot of flexing. in fact there may be many stakes that look good from under the keyboard bezel but are broken at the base. they look whole but are not.

so you will see the repair i did. once painted on the back it looks good and is a lasting repair.

The keyboard stakes most supseptable are the ones by the clasp section. this combined with the depressed foam causes the failure. yes, all the stakes must be milled and then remelted. the broken ones must be replaced. quite a common failure unfortunately.

Get an HP 41CL and get rid of the rest ;-) Of course just kidding. email me if you need more info.

Geoff

this repair is in the book for this HCC

Re: HP-28S Keyboard

*Message #3 Posted by **Ron Ross** on 26 July 2011, 1:43 p.m.,*
in response to message #1 by aj04062

Sadly, but I advise to remove the battery cover, remove the batteries and then repair the calculator via replacement from e**y. The battery cover and batteries may come in handy with the new clamshell.

Any other repair solution will take lots of time and still have a high probabilty of failure. Just my thoughts.

Re: HP-28S Keyboard

*Message #4 Posted by **Geoff Quickfall** on 26 July 2011, 2:27 p.m.,*
in response to message #3 by Ron Ross

Got to mildly disagree with the following Ron:

> Quote:
>
> high probabilty of failure

of course, it is dependent on how much time you want to input. This repair was done over two hours with an overnight set on the styrene solvent.

Problem is, this is such a ubiquitous failure (design) at the latch area heat stakes that finding a donor will be problematic. Just ask Randy and his 19BII failure rate.

In any case (pun intended) I have repaired 7 of these in the manner indicated and they are running perfectly! Use the 28S pictured in cockpit to see how durable the new stakes are and the foam replacement is.

Working fine, great machine, poor case design. Now if the hinge was broken then that would be a different story.

Cheers, Geoff

Edited: 26 July 2011, 2:28 p.m.

Re: HP-28S Keyboard

*Message #5 Posted by **aj04062** on 26 July 2011, 4:39 p.m.,*
in response to message #4 by Geoff Quickfall

I'll try the repair at some point in the future.

It's a shame as the unit is unscathed on the outside. Probably just sat there and broke on it's own... Leather case looks really nice too.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

55 already registered for HHC 2011 in San Diego! Sign up today

*Message #1 Posted by **gene wright** on 25 July 2011, 6:00 p.m.*

HHC 2011 attendees so far!

This looks to be one of the best years yet. Great presentations, the unveiling of the HP 65CXi calculator with 128GB of mental flash ram. Don't miss all the excitement!

If you're thinking about coming, sign up today!

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #2 Posted by **Marcus von Cube, Germany** on 26 July 2011, 2:32 a.m.,*
in response to message #1 by gene wright

I'm still listed with 50%. The figure can be easily doubled. :-)

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #3 Posted by **Howard Owen** on 26 July 2011, 3:07 a.m.,*
in response to message #1 by gene wright

Dang, I was hoping for the 71B+ quantum handheld with the optional constant time matrix ROM.

You know, I think I'll settle for an HP-15C. :)

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #4 Posted by **Jake Schwartz** on 26 July 2011, 10:43 a.m.,*
in response to message #1 by gene wright

Ironically, the last high point in conference attendance (after the low of 19 on 9/15/2001 in Chicago, just 4 days after September 11th) was also in San Diego (in 2007) when the 35S was introduced. If I remember correctly, roughly 70 folks showed up to celebrate the 35th anniversary of the HP35. Perhaps this time we should be lighting 30 candles on a birthday cake for the PPC ROM, since the machine on which it runs is being reborn in the 41CL, not to mention that the 34S continues the sophisticated programming language of the 41 series.

Jake

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #5 Posted by **David Ramsey** on 26 July 2011, 11:38 a.m.,*
in response to message #1 by gene wright

Hey, Gene, is there is cost to attend this gig? The web site doesn't mention any...

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #6 Posted by **Namir** on 26 July 2011, 1:05 p.m.,*
in response to message #5 by David Ramsey

There is a "love" gift (said with tongue and cheek) that you "offer" when you register.

:-)

Namir

Yes, there is a cost for the conference, but ...

*Message #7 Posted by **gene wright** on 26 July 2011, 1:24 p.m.,*
in response to message #6 by Namir

It is usually fairly minimal.

Depends on the conference expenses.

Years when we have to pay for the meeting area / conference room tend to be more expensive than when we have the conference at a facility where the meeting space is donated, as it is this year.

The committee will be discussing the cost, but I certainly !! expect it to be less than $50 and more than $0.

Re: 55 already registered for HHC 2011 in San Diego! Sign up today

*Message #8 Posted by **Jim Yohe** on 26 July 2011, 2:04 p.m.,*
in response to message #6 by Namir

Remember the "HP 65CXi calculator with 128GB of mental flash ram" Gene mentioned originally? ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-25

*Message #1 Posted by **robertoataulfo** on 25 July 2011, 1:04 p.m.*

What is the maximum voltage that can be used on HP-25?

Re: HP-25

*Message #2 Posted by **Michael de Estrada** on 25 July 2011, 1:20 p.m.,*
in response to message #1 by robertoataulfo

Unofficially, I'd say at least 3 vdc, since I've used AA alkaline 1.5 vdc cells w/o any problems.

Re: HP-25

*Message #3 Posted by **hpnut** on 25 July 2011, 1:21 p.m.,*
in response to message #1 by robertoataulfo

Hi Roberto,

do look up this discussion http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv011.cgi?read=29484

the answer suggested is 3,2Vcc.

Re: HP-25

*Message #4 Posted by **hpnut** on 25 July 2011, 1:25 p.m.,*
in response to message #1 by robertoataulfo

Jacques Laporte is an authority on the Woodstock series.

http://www.jacques-laporte.org/Woodstock/ws_HW_main.htm

Re: HP-25

*Message #5 Posted by **robertoataulfo** on 25 July 2011, 2:12 p.m.,*
in response to message #4 by hpnut

Thanks Men

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Already forgot how to use a normal calculator...

*Message #1 Posted by **Brian K** on 25 July 2011, 11:43 a.m.*

I think in an earlier post I detailed how I always wanted to learn RPN/RPL, and was working my way back through college algebra/geometry/trigonometry on an HP 48g and 50g.

I've spent so much time lately in RPN that I needed to do some simple math, and the only calculator I had available was Windows CALC.EXE.

I was absolutely stymied by calc.exe's apparant inability to add five numbers together and divide by five.

"Why is it telling me the average is 5?"

"I wish I could see the stack, how can I be screwing this up?"

After about thirty seconds I realized my error, and then it was actually painful to make myself think in... infix notation, I think it's called?

"Enter the number, plus, second number, plus, keep going, now 5, divide, crap, that should have been divide, THEN five, but wait it only divided the last value by five" etc. etc. etc.

Re: Already forgot how to use a normal calculator...

*Message #2 Posted by **Marcus von Cube, Germany** on 25 July 2011, 12:41 p.m.,*
in response to message #1 by Brian K

Get yourself a Mac. The included calculator can be made into RPN mode. :-)

Re: Already forgot how to use a normal calculator...

*Message #3 Posted by **Gerson W. Barbosa** on 25 July 2011, 1:57 p.m.,*
in response to message #2 by Marcus von Cube, Germany

One of the reasons I haven't got a Mac yet is it lacks a Brazilian ABNT2 keyboard.

Re: Already forgot how to use a normal calculator...

*Message #4 Posted by **Thomas Radtke** on 25 July 2011, 2:25 p.m.,*
in response to message #3 by Gerson W. Barbosa

... and an intuitive UI. But then, who needs all this if he can have RPN! ;-P.

Thomas - waiting for a free42 port to AROS ;-).

Re: Already forgot how to use a normal calculator...

*Message #5 Posted by **Thomas Radtke** on 25 July 2011, 12:55 p.m.,*

in response to message #1 by Brian K

Besides lerning that keystrokes, don't forget to find out first if there is operator precedence or if trig functions are maybe still postfix. Brian, where's your head? You cannot just *use* an algebraic calculator! ;-)

I still remember when I got my 32SII. I was so upset about RPN (at that time, I was used to the 20S), that I was about returning it to my dealer. Fortunately, he convinced me to keep it and gave me a 25% (roughly) discount. Only one week later I was in love with this machine :-).

Re: Already forgot how to use a normal calculator...

*Message #6 Posted by **Bart (UK)** on 25 July 2011, 1:01 p.m.,*
in response to message #1 by Brian K

Yep, you're hooked ;-)

There are several Windows RPN calculators you can try, the two I have are:
A simulator of the HP-42S by Thomas Okken: Free42
A windows-calc like calculator with RPN mode: Calc98

Cheers
-B

Re: Already forgot how to use a normal calculator...

*Message #7 Posted by **Paul Guertin** on 27 July 2011, 9:03 p.m.,*
in response to message #6 by Bart (UK)

Under Windows, I've been using Bernt Ribbum's Xcalc for the past 15 years or so. It isn't skinned like an HP calculator, but works very well, has never surprised me and it has a mini-mode that uses very little screen real estate (though this was more important in the days of 800x600 14-inch CRTs). It's always been freeware, but now it's open source as well. You can find it here.

Re: Already forgot how to use a normal calculator...

*Message #8 Posted by **Egan Ford** on 25 July 2011, 1:03 p.m.,*
in response to message #1 by Brian K

I thought RPN was "normal", are you saying that I am abnormal? :-)

Re: Already forgot how to use a normal calculator...

*Message #9 Posted by **Jim Yohe** on 25 July 2011, 2:28 p.m.,*
in response to message #8 by Egan Ford

Exactly! RPN has been "normal" for me for so long it's hard to switch back and forth when using various HP calc's (RPN/Alg).

Re: Already forgot how to use a normal calculator...

*Message #10 Posted by **Brian K** on 25 July 2011, 3:06 p.m.,*
in response to message #9 by Jim Yohe

You know, it's funny, I now completely understand why someone would purchase even a simple RPN pocket calculator and carry it around all the time.

Fortunately I can just load up an HP calculator emu on my android and have the same utility without my wife making quite as much fun of me.

Although there is something tantalizing about the HP 50G compatible belt holsters out there...

Re: Already forgot how to use a normal calculator...

*Message #11 Posted by **designnut** on 25 July 2011, 4:54 p.m.,*
in response to message #10 by Brian K

I started with the 35 so no problem there. Iworked with a texh that could use either alternately. Practice makes perfect. I do wonder of most users of the 39-50 can actually use them beyond the math keyboard. I hear "I don't do much progrramming" so whats the point? sam

Re: Already forgot how to use a normal calculator...

*Message #12 Posted by **Ren** on 26 July 2011, 1:42 p.m.,*
in response to message #1 by Brian K

A few years ago, probably through this forum, I found WRPN was a nice RPN "app" for a windows machine.

I think I have it "handy" on a few USB thumb drives as well.

So, find it, install it on your PC, and get back to "normal"!

B^)

Ren

dona nobis pacem

Re: Already forgot how to use a normal calculator...

*Message #13 Posted by **Bart (UK)** on 27 July 2011, 9:01 a.m.,*
in response to message #12 by Ren

And how could I forget..., our good curator has a list of HP and RPN simulators and emulators:
http://www.hpmuseum.org/simulate/simulate.htm

Re: Already forgot how to use a normal calculator...

*Message #14 Posted by **Chris Randle (UK)** on 26 July 2011, 3:02 p.m.,*
in response to message #1 by Brian K

My eight-year-old just pulled an HP 10s from my desk drawer. A few seconds later she came back and said, "Where's the enter?". Have I done a good job, or what?!!

It gets better. She swapped it for a 50g which had been reset to factory settings. Back again a minute later with, "How do you get this back to normal?"

Of course, she'll have to attend remedial classes when she gets given a Casio at school, so I shouldn't be too smug.

Edited: 26 July 2011, 3:10 p.m.

Already forgot how to use a normal calculator...

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Corrected command to build WP 34S assembler tables

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 25 July 2011, 6:38 a.m.*

Hi All,

There is a typo in the Assembler documentation regarding building new opcode tables for SVN revision translations. Section 5.2, Figures 5.2 and 5.3, give incorrect command lines for doing this. The command line parameter "opcodes" is missing.

The correct command is (your path may vary):

```
$ calc opcodes > svn_XXXX.op
```

I will issue an updated manual in the next little while.

Sorry for the inconvenience (and thanks for spotting this Cristian!).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C clone?

*Message #1 Posted by **Joel Setton (France)** on 25 July 2011, 5:19 a.m.*

Folks, has anyone heard of this before:

http://www.rpn-calc.ch/

Is it a hoax?

Joel Setton

Re: HP-15C clone?

*Message #2 Posted by **Bart (UK)** on 25 July 2011, 6:28 a.m.,*
in response to message #1 by Joel Setton (France)

Hi

This was discussed here a few weeks ago, see this thread (with the same name ;-):
HP 15C Clone

-B

Re: HP-15C clone?

*Message #3 Posted by **Lode** on 25 July 2011, 2:51 p.m.,*
in response to message #1 by Joel Setton (France)

Does anyone know if the ROM of this one is reprogrammable? Preferably using USB and Linux.

Re: HP-15C clone?

*Message #4 Posted by **DaveJ** on 26 July 2011, 1:35 a.m.,*
in response to message #1 by Joel Setton (France)

And I'm guessing the new official 15C will kill this project then?

Dave.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s unit conversions

*Message #1 Posted by **Cristian Arezzini** on 25 July 2011, 1:33 a.m.*

I just had to use the wp34s conversions in "real life" for the first time yesterday, and I had a problem with the user interface. Basically, I had to convert a few values from cm to inches. I entered the value, entered the Conv menu, chose the appropriate conversion, and read the result on the display. Then to convert the other values I had to do it all again, because if you try to enter another number, the calculator just changes units, keeping the same argument, until you press Enter or Exit. Now, in real life it never happens that if, for example, you need to convert 12.34 cm in inches, then you have to convert 12.34 lbs to kg or whatever; it's much more likely that if you are converting cm to inches, you will need to convert more of the same units.

So I would suggest the following modification: you enter the Conv menu, choose the units, then press Enter to acknowledge the actual conversion you need; then you can repeatedly enter arguments and they are all converted, without the need to re-do everything from scratch. Then if you press Enter twice, the calc could exit the conv menu leaving the latest value on the stack; or pressing Exit would just exit without modifying the stack.

What do you all think? I think this (or something similar) would be much more user-friendly in "real life" than it is now! :)

Cristian

Re: Wp34s unit conversions

*Message #2 Posted by **Walter B** on 25 July 2011, 1:51 a.m.,*
in response to message #1 by Cristian Arezzini

Ciao Cristian,

I'm not sure I got you right. When I do some conversions of the same kind, e.g. cm to inches, I work like this:

```
12,3
[f][CONV][C][v][v]
[XEQ]
3,4
[f][CONV]
[XEQ]
5,6
[f][CONV]
[XEQ]
etc.
```

This looks easy enough for me. YMMV.

Walter

Re: Wp34s unit conversions

*Message #3 Posted by **Cristian Arezzini** on 25 July 2011, 2:29 a.m.,*
in response to message #2 by Walter B

Walter, I just tried it again, and it works as you said - and it indeed is easy enough. I could have sworn that yesterday, everytime I re-entered the Conv menu, it started again from the first item in the menu. I have re-flashed since yesterday, but I doubt anything has changed there - I suppose I was just doing something wrong. Again. :(Anyway, it is ok indeed, just disregard my above post!

Cristian

Re: Wp34s unit conversions

*Message #4 Posted by **Marcus von Cube, Germany** on 25 July 2011, 4:20 a.m.,*
in response to message #3 by Cristian Arezzini

Cristian, which revision are you running and on which hardware? I'm still tracking down the lock-ups other users have reported.

The strange behavior of the CONV menu might be caused by just reading the values while still in the menu and then trying to reenter the new input value which will definitely not work. You need to XEQ or ENTER^ first.

Re: Wp34s unit conversions

*Message #5 Posted by **Paul Dale** on 25 July 2011, 5:02 a.m.,*
in response to message #1 by Cristian Arezzini

The conversions are designed to change the value in X rather than just viewing the converted value. The latter is useless in a program. The lower line display was a later addition and is useful but the primary purpose is still to do a conversion. Press XEQ or ENTER to convert and exit the catalogue.

I suspect your typing digits caused the catalogue to navigate elsewhere which confused things. Digits enter alpha characters and these cause navigation like all catalogues.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New HP15C Priced at $129

*Message #1 Posted by **DaveJ** on 24 July 2011, 7:17 a.m.*

This supplier has it listed:
http://www.costcentral.com/proddetail/HP_15C_SCIENTIFIC_CALCULATOR/NW250AAABA/11421304/

with an MSRP or $129
But they have it on sale for $80.52

Dave.

Re: New HP15C Priced at $129

*Message #2 Posted by **Les Bell** on 24 July 2011, 7:19 a.m.,*
in response to message #1 by DaveJ

Bargain of the year, I'd say.

--- Les
[http://www.lesbell.com.au]

Re: New HP15C Priced at $129

*Message #3 Posted by **DaveJ** on 24 July 2011, 7:49 a.m.,*
in response to message #2 by Les Bell

> Quote:
>
> Bargain of the year, I'd say.

The 15C market on ebay will no doubt plummet.
Gone instantly will be the market of enthusiasts who still buy them to use.

I wonder if they have nailed the battery life, or still run the thing at a crazy high frequency?

Dave.

Re: New HP15C Priced at $129

*Message #4 Posted by **robert rozee** on 24 July 2011, 8:51 a.m.,*
in response to message #3 by DaveJ

as i recall there was a simple(ish) patch that could be made to the 15c rom to double the available memory space when run on the nonpareil emulator. given the new hardware will have more than enough spare ram available, i wonder if (1) the new 15c will make use of this extra ram, or (2) if someone will be able to do a little hacking of the (new) firmware package to implement said end result...

Re: New HP15C Priced at $129

*Message #5 Posted by **bill platt** on 24 July 2011, 12:51 p.m.,*
in response to message #3 by DaveJ

you mean you think this will stop happening?

http://cgi.ebay.com/Hewlett-Packard-HP-15C-Calculator-very-low-hour-usage-/160618674472?pt=Calculators&hash=item25659e7928

Darn. And I thought I had finally found a currency and inflation hedge for retirement.

Re: New HP15C Priced at $129

*Message #6 Posted by **hpnut** on 25 July 2011, 12:35 a.m.,*
in response to message #5 by bill platt

Geee....I didn't know the HP 15C came with a built-in hour meter to track usage :-)

Re: New HP15C Priced at $129

*Message #7 Posted by **bill platt** on 24 July 2011, 12:57 p.m.,*
in response to message #3 by DaveJ

aybe already has:

http://cgi.ebay.com/Lot-2-Working-Hewlett-Packard-HP-11C-15C-Calculators-/250857370168?pt=Calculators&hash=item3a6843b238

;-)

Re: New HP15C Priced at $129

*Message #8 Posted by **Michael de Estrada** on 24 July 2011, 9:01 a.m.,*
in response to message #1 by DaveJ

I just ordered one. It accepted my order and has a 2 - 3 week estimated delivery time. It is listed as a special order, so I assume it is not yet in stock. Total cost with FEDEX Ground shipping was $88.52.

Re: New HP15C Priced at $129

*Message #9 Posted by **Alexander Oestert** on 24 July 2011, 10:49 a.m.,*
in response to message #8 by Michael de Estrada

Are you sure it's hardware or could it be software?

Re: New HP15C Priced at $129

*Message #10 Posted by **Michael de Estrada** on 24 July 2011, 10:56 a.m.,*
in response to message #9 by Alexander Oestert

It's definitely hardware. It has the HP P/N NW250AA#ABA.

Re: New HP15C Priced at $129

*Message #11 Posted by **Alexander Oestert** on 24 July 2011, 11:20 a.m.,*
in response to message #10 by Michael de Estrada

Too bad...

"We're sorry but at this time CostCentral only ships to the 50 U.S. states."

Re: New HP15C Priced at $129

*Message #12 Posted by **Gerson W. Barbosa** on 24 July 2011, 11:54 a.m.,*
in response to message #11 by Alexander Oestert

Samson Cables ships worldwide, but they don't have it yet.

Re: New HP15C Priced at $129

*Message #13 Posted by **Joel Setton (France)** on 25 July 2011, 1:14 a.m.,*
in response to message #11 by Alexander Oestert

---------- "We're sorry but at this time CostCentral only ships to the 50 U.S. states." ----------

... which means it's available to only 5% of the world's population. What a shame! Where's globalization when you need it?

Joel Setton

Re: New HP15C Priced at $129

*Message #14 Posted by **Walter B** on 25 July 2011, 1:59 a.m.,*
in response to message #13 by Joel Setton (France)

Bonjour Joel,

That topic was brought up several times here already. Result in short: All people are equal. But some people are simply more equal than others ;-)

(Disclaimer for the 5%: No intention to offence, just reporting an observation in real life.)

Walter

Re: New HP15C Priced at $129

*Message #15 Posted by **Michael de Estrada** on 25 July 2011, 8:49 a.m.,*
in response to message #13 by Joel Setton (France)

Bonjour Joel,

Have you attempted to order it from here ?

This reseller previously showed that they expected stock in early September, although they now do not show an eta.

Anyways, I have to believe that HP has resellers throughout the world that will be carrying this product.

Michael

Re: New HP15C Priced at $129

*Message #16 Posted by **Joel Setton (France)** on 25 July 2011, 3:16 p.m.,*
in response to message #15 by Michael de Estrada

Thanks Michael for your response. I tried it but they charge $57 for shipment to France, which is approximately $40 more than the actual USPS cost. Duh.

Joel

Re: New HP15C Priced at $129

*Message #17 Posted by **Gerson W. Barbosa** on 25 July 2011, 6:50 p.m.,*
in response to message #16 by Joel Setton (France)

Samson Cables is now accepting pre-orders. They ship worldwild and offer various shipping options. Four years ago I bought twice from them.

http://www.samsoncables.com/catalog/prodDetail.cfm?Prod_ID=434&Sku=HP15C

Edited to fix a typo

Edited: 25 July 2011, 7:14 p.m.

Re: New HP15C Priced at $129

*Message #18 Posted by **Joel Setton (France)** on 26 July 2011, 2:41 a.m.,*
in response to message #17 by Gerson W. Barbosa

Tanks Gerson, I just ordered with Samson Cables. They got my business because they ship international and charge USPS shipping at-cost.

Now I can't wait for it! When we eventually receive these calculators, I wonder who in this community will receive Serial Number 00001?

Joel Setton

Re: New HP15C Priced at $129

*Message #19 Posted by **Gerson W. Barbosa** on 26 July 2011, 9:59 a.m.,*
in response to message #18 by Joel Setton (France)

De rien, Joel,

More importantly, I read somewhere the serial number will be laser-etched. Hopefully no misaligned labels anymore.

Gerson.

Re: New HP15C Priced at $129

*Message #20 Posted by **hpnut** on 26 July 2011, 1:18 p.m.,*
in response to message #18 by Joel Setton (France)

Woohoo! I've placed an order with Samson too. I will bet that their price will be lower than the Malaysia country dealer's price, even after international airshipping. I will probably get the calculator earlier than the official release in my country.

hpnut in Malaysia

Re: New HP15C Priced at $129

*Message #21 Posted by **Dave Britten** on 26 July 2011, 11:16 a.m.,*
in response to message #17 by Gerson W. Barbosa

Sweet, I'm in for one.

It's remarkable that I not only have pre-ordered a calculator, but was also able to find someone willing to marry me.

Re: New HP15C Priced at $129

*Message #22 Posted by **Donald Williams** on 26 July 2011, 12:30 p.m.,*
in response to message #21 by Dave Britten

WOW! She must really want that calculator.

Re: New HP15C Priced at $129

*Message #23 Posted by **Dave Britten** on 26 July 2011, 12:32 p.m.,*
in response to message #22 by Donald Williams

We've been married 4 years, actually, so I don't think she can use that excuse. :)

Re: New HP15C Priced at $129

*Message #24 Posted by **Gerson W. Barbosa** on 24 July 2011, 11:23 a.m.,*
in response to message #10 by Michael de Estrada

And also software, perhaps:

"What's in the box

Calculator, batteries, Owner's Handbook, Advanced Functions Guide, product CD with virtual calculator, protective sleeve"

Re: New HP15C Priced at $129

*Message #25 Posted by **Alexander Oestert** on 24 July 2011, 11:36 a.m.,*
in response to message #24 by Gerson W. Barbosa

Where did you find the "What's in the box" statement? I couldn't :(

Re: New HP15C Priced at $129

*Message #26 Posted by **Gerson W. Barbosa** on 24 July 2011, 11:48 a.m.,*
in response to message #25 by Alexander Oestert

In the first link DaveJ has provided here, under Specifications (What's included).

Re: New HP15C Priced at $129

*Message #27 Posted by **Alexander Oestert** on 24 July 2011, 11:58 a.m.,*
in response to message #26 by Gerson W. Barbosa

Ahhh, Thanks!

Re: New HP15C Priced at $129

*Message #28 Posted by **David Ramsey** on 24 July 2011, 11:27 a.m.,*
in response to message #8 by Michael de Estrada

I'm just gonna hope HP hands 'em out at HHC this year...

Edited: 24 July 2011, 11:27 a.m.

Re: New HP15C Priced at $129

*Message #29 Posted by **M. Joury** on 25 July 2011, 9:24 a.m.,*
in response to message #8 by Michael de Estrada

Has anyone else ordered? Mixed reviews on the supplier depending on what site you check for reviews. Anyone have any additional info on Cost Central?

Re: New HP15C Priced at $129

*Message #30 Posted by **Michael de Estrada** on 25 July 2011, 10:11 a.m.,*
in response to message #29 by M. Joury

They seem to have very good ratings . Also, they state that "Our company is a HP authorized sales and service center."

In any event, they accepted my order but did not charge my credit card account, so the worst that can happen is they don't deliver.

Edited: 25 July 2011, 10:16 a.m.

Re: New HP15C Priced at $129

*Message #31 Posted by **M. Joury** on 25 July 2011, 10:40 a.m.,*
in response to message #30 by Michael de Estrada

Thanks Michael,

I did notice the "HP Authorized Dealer bit". One site I checked showed good ratings (actually very good) the other showed mediocre. I found that odd but not necessarily indicative of anything. I think I'll place an order.

Also, New HP12C 30th Anniversary

*Message #32 Posted by **Michael de Estrada** on 25 July 2011, 10:54 a.m.,*
in response to message #31 by M. Joury

Here

Re: Also, New HP12C 30th Anniversary

*Message #33 Posted by **M. Joury** on 25 July 2011, 11:05 a.m.,*
in response to message #32 by Michael de Estrada

Yup :-). Thanks! Done!

Re: New HP15C Priced at $129

*Message #34 Posted by **Nigel J Dowrick** on 24 July 2011, 4:40 p.m.,*
in response to message #1 by DaveJ

This calculator blog: TheCalculatorStore: says that **two** new products have been announced this week, and one "loved product" is being discontinued. One of the new products is clearly the HP-15C: any ideas about the other, or about what is being discontinued?

Nigel

Re: New HP15C Priced at $129

*Message #35 Posted by **NateB** on 24 July 2011, 7:36 p.m.,*
in response to message #34 by Nigel J Dowrick

Perhaps the HP33S?

Re: New HP15C Priced at $129

*Message #36 Posted by **Raymond Del Tondo** on 24 July 2011, 8:01 p.m.,*
in response to message #35 by NateB

10bII ;-)

Re: New HP15C Priced at $129

*Message #37 Posted by **JustinM** on 24 July 2011, 8:09 p.m.,*
in response to message #34 by Nigel J Dowrick

I suspect the other "new" product is the 30th Anniversary Edition 12c.

Re: New HP15C Priced at $129

*Message #38 Posted by **DaveJ** on 24 July 2011, 8:30 p.m.,*
in response to message #34 by Nigel J Dowrick

"fast!" is mentioned as a feature.

That can only mean the 15C is running at a high clock rate and will likely chew through the poor CR2032 batteries fairly quickly.

Dave.

Re: New HP15C Priced at $129

*Message #39 Posted by **Brandon Poindexter** on 24 July 2011, 10:29 p.m.,*
in response to message #34 by Nigel J Dowrick

Wait wait, are they discontinuing the HP 12c after this 30th Anniversary Edition?

Re: New HP15C Priced at $129

*Message #40 Posted by **DaveJ** on 24 July 2011, 10:38 p.m.,*
in response to message #39 by Brandon Poindexter

> Quote:
>
> Wait wait, are they discontinuing the HP 12c after this 30th Anniversary Edition?

Doubt it, the 12C is no doubt one of their most consistent revenue streams.

Dave.

Re: New HP15C Priced at $129

*Message #41 Posted by **Brandon Poindexter** on 24 July 2011, 11:12 p.m.,*
in response to message #40 by DaveJ

Well I did get an email from TheCalculatorStore containing this:

"**The Financial Anniversary model**

The second is the 30th anniversary of a current product. After this anniversary release, I have been told that the product "will be put to sleep", in dog's parlance. So it will be time to make our final purchase. Same shape as the above, it will be packed as well as a collector's item."

Though it might be that they will put the 12c 30th AE "to sleep" but it seems likely that the 12c in general will be gone in a few years or less.

Edited: 24 July 2011, 11:14 p.m.

Re: New HP15C Priced at $129

*Message #42 Posted by **Katie Wasserman** on 24 July 2011, 11:40 p.m.,*
in response to message #41 by Brandon Poindexter

> Quote:
>
> Though it might be that they will put the 12c 30th AE "to sleep" but it seems likely that the 12c in general will be gone in a few years or less.

I'm sure that the 30th AE will end at some point within the year, but why do you think that HP will discontinue this incredible product that they have? That would be madness.

Did you know that real estate associations give regular for-credit classes courses on how to use an HP-12C. It's not just a calculator it's an institution!

Re: New HP15C Priced at $129

*Message #43 Posted by **DaveJ** on 24 July 2011, 11:44 p.m.,*
in response to message #42 by Katie Wasserman

> Quote:
>
> I'm sure that the 30th AE will end at some point within the year, but why do you think that HP will discontinue this incredible product that they have? That would be madness.

Yes, this just doesn't make sense.
They went to all the effort to redesign the Voyager architecture using the new ARM processor so that they could keep the massively popular 12C alive. (The 15C is just a simple spin-off from that effort, just a different ROM and keycaps basically)

I know nothing about the finance industry, but I was of the understanding that the 12C was THE only calculator to have?
They could probably charge double and still have the same market?

Dave.

Re: New HP15C Priced at $129

*Message #44 Posted by **Pal G.** on 25 July 2011, 10:40 a.m.,*
in response to message #34 by Nigel J Dowrick

Perhaps the most interesting item mentioned in the "The Calculator Store" blog post is this (in bold):

"I have received this week information about two new products. Now we are getting more details: suggested retail price, packaging, distribution, **number of units to be produced**, date of distribution."

Re: New HP15C Priced at $129

*Message #45 Posted by **hpnut** on 25 July 2011, 11:24 a.m.,*
in response to message #34 by Nigel J Dowrick

I received this newsletter from thecalculatorstore:

As you know, there is a lot of noise about a couple of new "old" products from HP. Let us elaborate about both of them. As we have seen them in several sites, we don't know if our commitment to keep silent until they are announced is void - in any case, we will refrain from "calling names".

The Scientific Reissue

The first of them has been spotted in the indian HP website, in Japan, and as available in some distributors. It is not: HP confirmed me that is intended to ship in mid september, and that it is not distributed yet anywhere.

It is a scientific calculator with LCD screen, and "in landscape format". It will come in a collector's edition gift box, with a higher quality pouch than its current financial sibling (yet another hint), with a printed manual and a CD with the advanced functions manual and a Windows emulator. It is limited to 10.000 units, and it will be priced around 100 €. I still do not have the final cost number to make my own pricing.

The Financial Anniversary model

The second is the 30th anniversary of a current product. After this anniversary release, I have been told that the product "will be put to sleep", in dog's parlance. So it will be time to make our final purchase. Same shape as the above, it will be packed as well as a collector's item.

For both units I have pictures that I cannot publish - but you can readily find them on the web!

As I do not know the final price, I am not taking any order for any of them - but I am taking reservations. Do not worry - it'll be competitive!

I'll post no link until I am authorised to."

well, well - limited edition means 10 000 units? that's way short of 83 377 predicted by the Bring Back the HP 15C people at hp15c.org :-)

Re: New HP15C Priced at $129

*Message #46 Posted by **Michael de Estrada** on 25 July 2011, 12:55 p.m.,*
in response to message #45 by hpnut

Well, 100 € = 144 USD at the current exchange rate, which is a bit more than the $129 MSRP in the USA. The real question is whether there will be any discounting off MSRP. I ordered mine in the USA at a 37% discount and another reseller is offering a 34% discount.

Also, it would be interesting to see how the projected production run of 10000 units is distributed to the various resellers. I know that one of the USA resellers had ordered 4750 units, which is a bit less than 5% of the total projected number. Maybe 50% USA and 50% for the remainder of the world ?

Re: New HP15C Priced at $129

*Message #47 Posted by **M. Joury** on 25 July 2011, 1:37 p.m.,*
in response to message #46 by Michael de Estrada

4750 / 10000 a little less than 5%? Is there a misprint somewhere? Are there actually 100,000 units being made? Or did you mean a little less than 50%? If a single distributor is getting nearly half the available units that won't leave many to go around.

Cheers

Re: New HP15C Priced at $129

*Message #48 Posted by **Michael de Estrada** on 25 July 2011, 1:41 p.m.,*
in response to message #47 by M. Joury

Oops.

Re: New HP15C Priced at $129

*Message #49 Posted by **Thomas Radtke** on 25 July 2011, 1:12 p.m.,*
in response to message #45 by hpnut

> Quote:
>
> [...] it will be priced around 100 €.

Good argument to get an original 15C from TAS US, *if* prices drop. But then, requests from Europe will keep the current prices stable, I fear.

Re: New HP15C Priced at $129

*Message #50 Posted by **Bart (UK)** on 25 July 2011, 8:15 p.m.,*
in response to message #45 by hpnut

> Quote:
>
> Do not worry - it'll be competitive!

```
Samson cables:                  $ 94.99
Shipping:                       $ 16.00 (US International Air Mail)
Total:                          $110.99


Convert to GBP:                 £ 68.77 (£1=$1.6139 HMRC exchange rates for VAT)
VAT:                            £ 13.72
Total:                          £ 82.52
Royal Mail:                     £  8.00 (charge for collecting VAT)
Grand total:                    £ 90.52


Convert to Euro:                 102.90€(£1=€1.1368 HMRC exchange rates)


TheCalculatorStore:
Ship to UK:                       18.00€
Max price to be “competitive”:   ~85.00€(inc. VAT, no further VAT charged between EU
countries)
```

edit: moved € to after the numerals before I get flamed ;-)

Edited: 25 July 2011, 8:29 p.m.

Re: New HP15C Priced at $129

*Message #51 Posted by **Gerson W. Barbosa** on 25 July 2011, 8:54 p.m.,*
in response to message #50 by Bart (UK)

Not to mention there is a chance the price may be lowered:

"If we are able to offer lower pricing at release, we will automatically lower the price on all pre-orders."

Independently of this, I have pre-ordered two units, so now there are only 9,998 units left :-)

Regards,

Gerson.

Re: New HP15C Priced at $129

*Message #52 Posted by **BobVA** on 25 July 2011, 9:27 p.m.,*
in response to message #51 by Gerson W. Barbosa

Now 9,996 :-)

Bob

Edited: 25 July 2011, 9:27 p.m.

Re: New HP15C Priced at $129

*Message #53 Posted by **Gerson W. Barbosa** on 25 July 2011, 9:31 p.m.,*

in response to message #52 by BobVA

and decounting... :-)

Re: New HP15C Priced at $129

*Message #54 Posted by **Borja** on 26 July 2011, 3:56 a.m.,*
in response to message #53 by Gerson W. Barbosa

Two more ordered from Samson Cables.

Yay!

Re: New HP15C Priced at $129

*Message #55 Posted by **DaveJ** on 26 July 2011, 1:30 a.m.,*
in response to message #45 by hpnut

> Quote:
>
> It is limited to 10.000 units, and it will be priced around 100 €.

Given the US$129 MSRP, I'd guess the wholesale buy price for the dealers is around the $60 mark.

10,000 units at circa $60 is $600K gross income for HP.
So I guess that's the minimum point at which it becomes interesting enough to HP to do a new product.
Unless someone was able to convince the powers-that-be to do it for the love.
But of course a large part of the design has been amortized over the new 12C units.

An interesting figure none the less.

Dave.

Re: New HP15C Priced at $129

*Message #56 Posted by **Eric Rechlin** on 26 July 2011, 1:41 a.m.,*
in response to message #55 by DaveJ

> Quote:
>
> Given the US$129 MSRP, I'd guess the wholesale buy price for the dealers is around the $60 mark.

Too bad it doesn't work that way. The wholesale price for HP calculators is typically around 75% of MSRP, not the 47% that you are assuming.

I'm actually very surprised that the 15C is being listed for $80 with a claimed MSRP of $129. I suspect the real MSRP is probably closer to $99 given a street price of $80.

Eric

Re: New HP15C Priced at $129

*Message #57 Posted by **DaveJ** on 26 July 2011, 3:26 a.m.,*
in response to message #56 by Eric Rechlin

The practical difference between $600K and say $750K is pretty moot, so the exact figure doesn't really matter. But thanks for the clarification.

So either the suppliers have the MSRP quite wrong, or this calc has a lower wholesale price, or the suppliers are "doing it for the love" :->

Dave.

Re: New HP15C Priced at $129

*Message #58 Posted by **Don Shepherd** on 26 July 2011, 4:37 a.m.,*
in response to message #56 by Eric Rechlin

> Quote:
>
> The wholesale price for HP calculators is typically around 75% of MSRP

Wouldn't that depend upon the volume, as in most industries? I would assume that Office Depot pays less for a 12c than a reseller who sells 2 or 3 per month.

Re: New HP15C Priced at $129

*Message #59 Posted by **Eric Rechlin** on 26 July 2011, 2:34 p.m.,*
in response to message #58 by Don Shepherd

> Quote:
>
> Wouldn't that depend upon the volume, as in most industries? I would assume that Office Depot pays less for a 12c than a reseller who sells 2 or 3 per month.

Somewhat. You can buy from HP's top-level distributor if you do a very high volume, and then you can get the best prices. Otherwise, if you don't sell hundreds of calculators a month, you have to buy from a second-tier distributor. That's what I have to do.

However, it has now gotten ridiculous. Presently I am buying my calculators from Amazon.com just like anyone else, because it is now cheaper for me to buy a calculator on Amazon.com (even in quantities of 1!) than to go through any of HP's second-tier distributors. Yes, that means the wholesale price of, say, an HP 50g is now higher than the Amazon.com price.

It's like HP is trying to put me out of business.

Eric

Re: New HP15C Priced at $129

*Message #60 Posted by **bill platt** on 26 July 2011, 4:08 p.m.,*
in response to message #59 by Eric Rechlin

They probably are. As far as they are concerned, the transaction cost for small customers is not worth their time, and that is why they have distributors...and so on...and Direct to Market is effectively a Huge distributor. The same dynamic has occurred with music sales.

Re: New HP15C Priced at $129

*Message #61 Posted by **Dave** on 26 July 2011, 10:21 a.m.,*
in response to message #56 by Eric Rechlin

Eric, do you plan to sell them?

Re: New HP15C Priced at $129

*Message #62 Posted by **Ron Ross** on 26 July 2011, 1:53 p.m.,*
in response to message #61 by Dave

I ask as well. Erik, I would pre-order two from you immediately, if you state that you will carry or make available within one or two weeks of Samson cables. I have bought from both of you, but I admit, I am partial to buying from you.

Re: New HP15C Priced at $129

*Message #63 Posted by **Eric Rechlin** on 26 July 2011, 2:31 p.m.,*
in response to message #62 by Ron Ross

> Quote:
>
> I ask as well. Erik, I would pre-order two from you immediately, if you state that you will carry or make available within one or two weeks of Samson cables. I have bought from both of you, but I admit, I am partial to buying from you.

Since you are in the US, just order it from the CostCentral site above. You can't beat the ~$89 shipped price going with anyone else. It's not like I'd be making much money off it; I'm sure I'll have to sell them for more than that just to avoid losing money.

Eric

Re: New HP15C Priced at $129

*Message #64 Posted by **Eric Rechlin** on 26 July 2011, 2:28 p.m.,*
in response to message #61 by Dave

> Quote:
>
> Eric, do you plan to sell them?

Yes, but I do not yet have a specific date so I haven't wanted to list it.

My guess is Samson Cables saw the $80 price, ordered some himself, and figured that he could resell them at a profit for $95. Then he listed it to snatch up the pre-order market.

I would rather not list it for pre-order until I have a specific availability date, because that can lead to false expectations. However, maybe I should just stoop to Samson's level and list it for pre-order as well at the same price, with the same vague timing suggested for delivery.

Eric

Re: New HP15C Priced at $129

*Message #65 Posted by **M. Joury** on 26 July 2011, 3:15 p.m.,*
in response to message #64 by Eric Rechlin

Hi Eric,

I have already pre-ordered my 15C's with CostCentral but I too have done business with you in the past and would rather buy from you in the future. I am also planning on getting at least one and maybe as many as three of the 30th anniversary 12C calcs. Do you plan on carrying these as well?

Thanks,

Marwan

Re: New HP15C Priced at $129

*Message #66 Posted by **Eric Rechlin** on 26 July 2011, 4:25 p.m.,*
in response to message #65 by M. Joury

> Quote:
>
> Do you plan on carrying these as well?

I plan to carry everything I can get. Just be aware that I won't be the first to get it, nor will I have the best price, because I simply cannot compete with the Neweggs and the Amazon.coms of this world.

Eric

Re: New HP15C Priced at $129

*Message #67 Posted by **Brandon Poindexter** on 26 July 2011, 6:38 p.m.,*
in response to message #64 by Eric Rechlin

To the people who have ordered from CostCentral, did they charge your card when you ordered "today"? Or do they charge only when they ship/have them in stock?

Re: New HP15C Priced at $129

*Message #68 Posted by **Michael de Estrada** on 26 July 2011, 7:29 p.m.,*
in response to message #67 by Brandon Poindexter

They have not charged my card / bank account. My order appears in their system as "ordered" but not "invoiced". They will not charge me until they process and ship the order.

Re: New HP15C Priced at $129

*Message #69 Posted by **M. Joury** on 26 July 2011, 10:13 p.m.,*
in response to message #67 by Brandon Poindexter

Mine has not been charged yet.

Re: New HP15C Priced at $129

*Message #70 Posted by **hpnut** on 25 July 2011, 3:41 a.m.,*
in response to message #1 by DaveJ

This is what my Malaysia country dealer wrote to me:

"Hi,Mr Arjunaidi.

Here’s updatedinformation on the 15c Limited Edition from HP

The 15c Limited Edition is a special unit and has not been released as yet, but the user community has heard about it .

It should be available in the Oct time line and can be ordered.

Will send you more info when received.

Thanks

KS TAY"

I am happy it's not so "limited edition" after all :-)

hpnut in Malaysia

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Card reader bug

*Message #1 Posted by **Eric Smith** on 24 July 2011, 6:47 a.m.*

There is a card reader bug that is present in the 1E version of the card reader (and probably 1D), and fixed in the 1G version. I haven't got a 1D or 1F to check. I discovered the bug around 1981, and I think I saw it mentioned by someone else in the PPC Journal at one point.

With the card reader plugged in, press the key sequence

```
GTO . EEX 0 0 backspace backspace
```

What you should see after that is

```
GTO .1__
```

If you have the bug, the display rotates so it reads

```
0      GTO .1
```

From study of a instruction trace, it appears that the bug is due to the card reader ROM's I/O service poll routine violating one of the requirements of the mainframe polling code. From the mainframe source code:

> Quote:
>
> All subroutine levels are available except in I/O service entry. If PKSEQ is set then I/O service routines must either preserve three subroutine returns on the subroutine stack or else terminate the partial key sequence.

The CR-1E I/O service poll code uses two levels of subroutines. Perhaps the CR-1G ROM was changed to not need two levels of subroutines, though I haven't yet disassembled the code to determine what the actual changes are.

Re: Card reader bug

*Message #2 Posted by **Les Bell** on 24 July 2011, 7:02 a.m.,*
in response to message #1 by Eric Smith

Hi, Eric,

Mine has the bug, but how can I tell which version it is?

The serial number is 2036S45246, if that's any indication.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Card reader bug

*Message #3 Posted by **Geoff Quickfall** on 24 July 2011, 8:42 a.m.,*
in response to message #2 by Les Bell

I have about 5 of these, let me check. Four on the table being restored as we speak.

Version is seen by catalog function.

Geoff

Re: Card reader bug

*Message #4 Posted by **Les Bell** on 24 July 2011, 9:02 a.m.,*
in response to message #3 by Geoff Quickfall

Mine just says "CARD READER", Geoff - no version number at all.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Card reader bug

*Message #5 Posted by **Eric Smith** on 24 July 2011, 3:11 p.m.,*
in response to message #4 by Les Bell

Without a version letter in the catalog, it is probably 1D. I haven't heard of anyone finding the earlier versions, so 1A-1C were probably only in prototypes.

If you really want to check, you can use the diagnostic ROM's ROM check, which will display the full identifier, or you can use the ZenROM or other means to look at ROM locations EFFB through EFFE.

Re: Card reader bug

*Message #6 Posted by **Ángel Martin** on 25 July 2011, 6:08 a.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> other means to look at ROM locations EFFB through EFFE

Function PGTRAIL in the TOOLBOX-II module (and others) will show the last four words before the checksum (a.k.a. the "page trail"). Input is the page#, 0-15.

Re: Card reader bug

*Message #7 Posted by **Les Bell** on 25 July 2011, 6:15 a.m.,*
in response to message #5 by Eric Smith

I don't have those ROM's, but comparing with Geoff's serial number list, I'd say it's a 1D.

Best,

--- Les

[http://www.lesbell.com.au]

Re: Card reader bug

*Message #8 Posted by **Geoff quickfall** on 24 July 2011, 3:01 p.m.,*
in response to message #1 by Eric Smith

I have a 1E, 1F, 1G and three that state Card Reader only:

```
display      version       serial number


CARD RDR     1E             2056S46900
CARD RDR     1F             2319S81056
CARD RDR     1G             2703S80162
CARD READER  ??             2044S45132
CARD READER  ??             2023A00100
CARD READER  ??             1935A00179
```

It would seem that the early card readers just state "CARD READER" with a CAT II display.

I will check the bug on 1F and I think Wlodeks book mentions it in the bug section.

Cheers, Geoff

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CV "HFF" ROM set

*Message #1 Posted by **Eric Smith** on 24 July 2011, 5:12 a.m.*

For the first half of the product life of the HP-41CV, and the tail end of the product life of the HP-41C, the mainframe ROMs used were the "GFF" ROMs, which fixed most of the serious known bugs of earlier ROMs. Some of those bug fixes upset early synthetic programming fans, such as fixing "bug 2" which allowed program memory and status registers to be accessed by addresses that wrapped around, and "bug 3" which allowed altering system flags. Of course, other methods were developed for doing those things without reliance on bug 2 and bug 3.

Around late 1983, the HP-41CV changed to using the "HFF" ROM set. As far as I know, there is no published explanation of the difference between ROM 0 revisions G and H. Aside from the version number and checksum, there are two actual changes, at address range 01c9..01f3, and the single word at 081a. I haven't figured out the latter, but I've discovered what the 01c9 change does.

The HP-41 mainframe ROMs have code to support expansion ROMs using "buffers" of registers allocated in main RAM, just after the key assignments. The first register of a buffer contains two copies of the buffer number, used by an expansion ROM to identify the buffer it owns, and a buffer length which is used to locate the next buffer, or the end of the buffers.

There was a longstanding bug in the mainframe ROMs which would cause a hard lockup if the length of a buffer was mismarked as zero. The code to scan the buffers would sit in a tight loop looking at the same zero-length buffer forever. This situation could easily be caused by buggy synthetic programs. The ON-backspace trick wouldn't recover from this, because the buffer check happened before the ON-backspace check. Recovery generally requires removing the batteries until the RAM contents are lost.

The code change at 01c9 in the 0H ROM, and also the 0N ROM of the 41CX, fixes this bug! They reversed the order of the tests, so that the ON-backspace test is done before the buffer scan, so that it can avoid the zero-length buffer lockup.

It has been reported that the 41CV with HFF ROMs may have the "buzz mode" of the 41CX (PPCJ v10n9p24), but I don't have a 41CV with HFF ROMs so I can't confirm that.

Edited: 24 July 2011, 5:13 a.m.

Re: HP-41CV "HFF" ROM set

*Message #2 Posted by **Håkan Thörngren** on 25 July 2011, 4:48 p.m.,*
in response to message #1 by Eric Smith

Hmm, 081a changed to NOP (deleted, bug) in H ROM, what did it do before?

> Quote:
>
> Around late 1983, the HP-41CV changed to using the "HFF" ROM set. As far as I know, there is no published explanation of the difference between ROM 0 revisions G and H. Aside from the version number and checksum, there are two actual changes, at address range 01c9..01f3, and the single word at 081a. I haven't figured out the latter, but I've discovered what the 01c9 change

does.

Re: HP-41CV "HFF" ROM set

*Message #3 Posted by **Eric Smith** on 26 July 2011, 1:22 a.m.,*
in response to message #2 by Håkan Thörngren

I've been looking at the code, but I haven't puzzled it out yet.

Re: HP-41CV "HFF" ROM set

*Message #4 Posted by **Håkan Thörngren** on 26 July 2011, 8:35 a.m.,*
in response to message #3 by Eric Smith

I checked and understand. It is a bug. It used to increment the number of instructions in an XROM before checking if a given instruction number was in range.

If you have an instruction XROM **i,j** and look it up for execution, it will scan the ports for a module with ID **i** plugged in. Now if **j** is just one instruction beyond was is actually in the FAT, it will incorrectly think it found the instruction, take the FAT 0,0 trailer and build an execution address from it.

What it should do is keep looking for another module with the same ID **i**, but with more FAT entries. This is what happens in H ROM.

To take an example, if you look for XROM 10,30, it means you are looking for a module with at least 31 instructions (it starts with 0). So it starts scanning for XROM 10. When found it will load the number of instructions in the FAT. Say it is 30, meaning it has instructions 0-29. In H ROM it loads the instruction count and compare 30<30, so it is false and it will keep looking for another XROM 10 with more instructions. In G ROM it increments the count and compare 30<31, which is true and it will build an instruction address using the FAT trailer words. It should end up executing from the first address in the ROM page.

> Quote:
>
> I've been looking at the code, but I haven't puzzled it out yet.

Re: HP-41CV "HFF" ROM set

*Message #5 Posted by **Eric Smith** on 26 July 2011, 2:13 p.m.,*
in response to message #4 by Håkan Thörngren

Cool! Thanks for the details! I think that bug was described in the PPCJ or Wlodek's book, but I had no idea that they had bothered to fix it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Xpander

*Message #1 Posted by **Geoff Quickfall** on 23 July 2011, 10:03 p.m.*

I have aquired an Xpander in wonderful shape, no manual and surprisingly, no files under the e-Lessons or Math Xpander.

I have a compact flash from an old Cassiopea and was wondering if any Xpander people had some of the original math files that came with the machine? If so drop me a line please. I can put them on the flash and transfer them back to the Xpander.

It took me a day to figure out how to reduce the contrast (on and - key) which is pretty standard for HP but not Windows CE machines!

Any help, thanks!

Geoff

Re: Xpander

*Message #2 Posted by **Prabhu Bhooplapur** on 23 July 2011, 11:58 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff,

You have an email.

Prabhu

Re: Xpander

*Message #3 Posted by **Geoff Quickfall** on 24 July 2011, 12:06 a.m.,*
in response to message #2 by Prabhu Bhooplapur

Many thanks Prabhu!!!!!!!!!!!!

Re: Xpander

*Message #4 Posted by **Arnaud Amiel** on 25 July 2011, 3:09 a.m.,*
in response to message #1 by Geoff Quickfall

I believe that the CF does not work in the Xpander. I never tried though but if memory serves me right (mine is in a box hard to reach) it is not even connected

Arnaud

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting article in August 2011 Scientific American

*Message #1 Posted by **Don Shepherd** on 23 July 2011, 9:47 p.m.*

It's called "Why Math Works" and it asks the question "Is math invented or discovered." The author is an astrophysicist and the discussion is a bit deep, but it is an interesting read for the layman, including those of us who push buttons on HP calculators.

Re: Interesting article in August 2011 Scientific American

*Message #2 Posted by **dbatiz** on 24 July 2011, 2:39 a.m.,*
in response to message #1 by Don Shepherd

I'm sure there are more profound thinkers out there that will take issue with my opinion. However in the spirit of discussion I offer the following: When either using linear regression to approximate values between data points, or using calculus to predict planetary movements; math seems to be validated by how well it can represent and predict situations in the real world. As such, all the interactions, cause/effect, variables and relationships already exist and are waiting patiently to be discovered by intellects capable of seeing beyond obvious, quantifying the subtle, and finding the connection between the apparently un-related.

Again, only my opinion, each discovery sheds light on the fantastic complexity, elegance and care of our creation.

Very respectfully,

David

Re: Interesting article in August 2011 Scientific American

*Message #3 Posted by **Thomas Radtke** on 24 July 2011, 3:08 a.m.,*
in response to message #1 by Don Shepherd

My view on this topic:

As math originated from natural philosophy, its foundation reflects our perception of the world. If a farmer owning n cows buys another cow and subsequently counts the herd, he will likely reckon n+1 cows.

Thousands of years later, observations in our nature still guiding the way math is being developed, e.g. Newtons calculus. Few hundered years ealier, Cavalieri failed to invent it. There had to be a question in physics to do it right ;-).

Re: Interesting article in August 2011 Scientific American

*Message #4 Posted by **Mark Hardman** on 24 July 2011, 9:59 a.m.,*
in response to message #3 by Thomas Radtke

> Quote:

> Thousands of years later, observations in our nature still guiding the way math is being developed, e.g. Newtons calculus. Few hundered years ealier, Cavalieri failed to invent it. There had to be a question in physics to do it right

Careful there Thomas. Walter will be all over you that it was indeed Leibniz that invented the calculus first and not Newton. For once I'd actually agree with him ;-) Furthermore, Leibniz's invention of the calculus stemmed from his pure mathematical studies into the "tangent problem."

Re: Interesting article in August 2011 Scientific American

*Message #5 Posted by **Thomas Radtke** on 24 July 2011, 10:22 a.m.,*
in response to message #4 by Mark Hardman

> Quote:
>
> Careful there Thomas. Walter will be all over you that it was indeed Leibniz that invented the calculus first and not Newton. For once I'd actually agree with him ;-) Furthermore, Leibniz's invention of the calculus stemmed from his pure mathematical studies into the "tangent problem."

I don't want to discuss that in depth, especially not with Walter ;-). To me, Newtons way to solve the problem is much more obvious. It just looks like Leibniz had taken the idea from Newton to make a theory, where other mathmaticians had to fail.

Re: Interesting article in August 2011 Scientific American

*Message #6 Posted by **John B. Smitherman** on 24 July 2011, 11:05 a.m.,*
in response to message #5 by Thomas Radtke

Not to throw fuel on the fire... here's an interesting article on the Newton vs Leibniz debate:

Link

Regards,

John

Re: Interesting article in August 2011 Scientific American

*Message #7 Posted by **Thomas Radtke** on 24 July 2011, 11:13 a.m.,*
in response to message #6 by John B. Smitherman

> Quote:
>
> Not to throw fuel on the fire...

All the fuel has been burned long ago. No new insights here.

Re: Interesting article in August 2011 Scientific American

*Message #8 Posted by **John B. Smitherman** on 24 July 2011, 8:49 a.m.,*
in response to message #1 by Don Shepherd

Don, deep stuff and very interesting.

Here's a link to a book by the same author of the SA article - Mario Livio, "Is God a Mathematician"

Link

and another book by George Lakoff and Raphael Nunez, "Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being"

Link

Both are interesting reading.

Regards,

John

Re: Interesting article in August 2011 Scientific American

*Message #9 Posted by **David Hayden** on 24 July 2011, 10:36 a.m.,*
in response to message #1 by Don Shepherd

Math is a model of the physical world. The properties of the physical world are definitely discovered, not invented.

The model (math) is both invented *and* discovered. We invent pieces of it and then discover the various properties that follow from the pieces to keep it consistent. The value "i" is a perfect example. We invented i=SQRT(-1) and huge amount of math followed from this.

Re: Interesting article in August 2011 Scientific American

*Message #10 Posted by **Tommy** on 24 July 2011, 11:16 a.m.,*
in response to message #9 by David Hayden

I agree. An other beautiful example is the invention of zero as a placeholder. I think the Olmec people was first, but India often gets credit for this achievement.

Re: Interesting article in August 2011 Scientific American

*Message #11 Posted by **Mark Hardman** on 24 July 2011, 1:16 p.m.,*
in response to message #9 by David Hayden

And yet, if we were a species of infinitesimally small beings and lived in a quantum space where the laws of physics that govern the trajectories of cannonballs and planetary orbits no longer applied, I wonder what sort of mathematical framework we would have invented. It certainly would not have been the calculus of Newton and Leibniz.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OOT: connector for ribbon cable

*Message #1 Posted by **PeterP** on 23 July 2011, 9:33 p.m.*

Hi, very off off topic, but a quick plea to the electronic gurus here:

I have a 16 wire rainbow flat ribbon cable attached to an LCD that I want to connect to my Arduino. Soldering single leads on the 16 cables sounds tiresome and full of risk of shorts so I would like to attach a header, ideally via press on (or crimp on? not sure what the right term is)

I've searched all the usual subjects (digikey, mauser, etc) but kind find a suitable connector.

I can work with a single row connector or with a double row connector, ideally male but I would take a female single row as well at this point. (the 2-row female ones dont work because they have the wrong wiring - the one that I have on the board is also a female 2-row one so you cant make them work together (I tried all sorts of tricks but it wont work).

So - where can I find either

1. single row male 16 wire crimp on header to attache to 16 wire flat ribbon cable
2. single row female 16 wire crimp on header to attach to 16 wire flat ribbon cable
3. 2-row male 16 wire crimp on header to attach to 16 wire flat ribbon cable

Thanks so much for your kind help and please accept my apologies for the OOT.

Cheers

Peter

Re: OOT: connector for ribbon cable

*Message #2 Posted by **Garth Wilson** on 23 July 2011, 10:30 p.m.,*
in response to message #1 by PeterP

IDCs for ribbon cables are dual-row female. You can put the ribbon in from either side and turn it over if you need to. There should be a way that will work.

Re: OOT: connector for ribbon cable

*Message #3 Posted by **PeterP** on 23 July 2011, 11:09 p.m.,*
in response to message #2 by Garth Wilson

Thank you guys for the responses, seems it makes sense I was not able to find a male single row 16 wire header, as they dont really exist. Good to know. As for the IDC, Garth if you can help me out, I was not able to make it work.

The internal makeup of the IDC female connectors seems to be as follows:

```
2 4 6 8 10 12 14 16
```

```
1 3 5 7 9  11 13 15
```

so whichever way you feed in the cable, you always have it going from left to right from 1/2 to 15/16.

the receptor on the board is *ALSO* a IDC female, so it has the same wiring. To make the two work together, I would need a connector that looks exactely the opposite and I dont think you can fashion one from the IDC connectors (I tried it all four ways):

```
1 3 5 7 9  11 13 15
2 4 6 8 10 12 14 16
```

You can never have the '1' pin on the 'far' side of the cable.

What am I missing?

Thanks again for your help!

Cheers

Peter

Re: OOT: connector for ribbon cable

*Message #4 Posted by **Garth Wilson** on 24 July 2011, 2:34 a.m.,*
in response to message #3 by PeterP

Your first pinout is industry standard. The second one is not, but you can get it if you put the pin header on the oposite side of the board.

Re: OOT: connector for ribbon cable

*Message #5 Posted by **Paul Berger (Canada)** on 23 July 2011, 10:35 p.m.,*
in response to message #1 by PeterP

I looked at a picture of an arduino and it look like the connectors are the standard 1/10" or 2.5mm spaced connectors in groups of 8, it also appears that the gap between the groups of 8 is wider than 1/10" which would likely mean that you would not be able to use a single 16 pin strip. It would be helpful to know what sort of ribbon cable you have, but the most common type that is used for Insulation Displacement Connectors (IDC) has wires spaced at 1/5" or 1.25mm and is designed for two row IDC with the wires alternating between rows, I have never seen a single row IDC like this, it would likely require a different pitch of ribbon cable.

I will also warn you about separating, stripping and soldering the wires onto a connector, not only is it tedious, the wires are quite fine and when solder they are a bit on the fragile side and if flexed at the solder joint break off easily.

The ideal connector for single rows like this, uses individual wires with a metal connector crimped onto the end and fit into a plastic shell, however special tools are required to crimp on the connectors.

Re: OOT: connector for ribbon cable

*Message #6 Posted by **PeterP** on 23 July 2011, 11:11 p.m.,*
in response to message #5 by Paul Berger (Canada)

there are various configurations, the header that I have is the standard 1-row 16 header female or a standard IDC 2-row 16 wire headers (they are on a separate PCB which I use to drive an LCD with only one wire from the Arduino instead of the normal 8 needed)

Cheers

Peter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CORDIC in Degrees vs. Radians

*Message #1 Posted by **Mike Fikes** on 23 July 2011, 12:27 p.m.*

On a Voyager (15C) in degrees mode, cos 60 = 0.5. The same is true for a Pioneer (20S).

If, instead, this is performed in radians mode, first converting 60 degrees to radians using ->RAD, this results in

```
15C: 0.5000000002
20S: 0.499999999997
```

My question: How do these machines produce exactly the right answer when in degrees mode?

Is CORDIC internally performed always either degrees or radians (with the necessary conversions of input being done first)? Or is it internally performed using the mode that the calculator is set to?

Re: CORDIC in Degrees vs. Radians

*Message #2 Posted by **Gerson W. Barbosa** on 23 July 2011, 1:36 p.m.,*
in response to message #1 by Mike Fikes

HP calculators round the answer to the number of digits of the display. Thus, on the 32SII 60 -> RAD returns 1.04719755120, a worst approximation to pi/3 than 1.04719755119660 which would be used internally when in DEG mode. In RAD mode the internal results are

```
   cos(1.04719755120 rad) = 0.499999999997054
cos(1.04719755119660 rad) = 0.499999999999998
```

or

```
0.499999999997
0.500000000000
```

respectively, when rounded to 12 digits.

Gerson.

Re: CORDIC in Degrees vs. Radians

*Message #3 Posted by **Mike Fikes** on 23 July 2011, 2:06 p.m.,*
in response to message #2 by Gerson W. Barbosa

Is the following accurate?

When in degrees mode, the 15C internally converts the input to a radians representation that employs guard digits (in other words, a representation with more than 10 digits), which is then passed to the CORDIC routine. The (greater than 10-digit) output of CORDIC is then rounded to the 10 digits of the display.

Re: CORDIC in Degrees vs. Radians

*Message #4 Posted by **Gerson W. Barbosa** on 23 July 2011, 2:35 p.m.,*

in response to message #3 by Mike Fikes

Yes, I think things occur like that. These past threads might be of interest to you:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103151

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103356

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62301

Edited: 23 July 2011, 2:37 p.m.

Re: CORDIC in Degrees vs. Radians

*Message #5 Posted by **Mike Fikes** on 23 July 2011, 4:31 p.m.,*
in response to message #4 by Gerson W. Barbosa

Yep, post #16 in the first thread you referenced indicated the following with respect to trig in degree mode on the 15C:

> Quote:
>
> For example, the HP41, HP15, etc., are known to do internal arithmetic with 13 digits although final results are only 10 digits. That is, a 13 digit approximation to PI/180 is used to convert the argument from degrees to radians.

Thanks :)

Re: CORDIC in Degrees vs. Radians

*Message #6 Posted by **Eric Smith** on 24 July 2011, 4:49 a.m.,*
in response to message #1 by Mike Fikes

It is possible to do CORDIC operations in degrees, grads, or other angular units, but generally HP calculators don't do that. They internally convert to radians. As Gerson has noted, they use extra digits in internal calculations to get a more accurate result than if you did the conversion from the keyboard.

I say "generally" because I have no idea how models like the 6s, 8s, 9s, 9g, and 30s work internally.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHP-16K EPROMS on HHP PE

*Message #1 Posted by **Prabhu Bhooplapur** on 23 July 2011, 7:47 a.m.*

Hi,

Can anyone confirm if the EPROMs of HHP PE can be used on HHP-16K unit?

Is there anyway to ascertain the proper functionality of HHP-16K unit? The setup instructions booklet is silent on this topic.

Thanks,

Prabhu

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S: missing vector cross product

*Message #1 Posted by **fhub** on 23 July 2011, 5:34 a.m.*

I saw that the cross product is still missing in the vector library, so that's a good chance to write my first WP34s program. ;-)

Here's the pure code which fulfills all conditions required in vectors.txt (at least I hope so) - you just have to give it a label of your choice:

```
STO C
RCL* B
RCL T
RCL* T
-
x<>y
STO I
RCL* T
RCL A
RCL* D
-
x<>z
STO J
RCL* A
RCL B
RCL* I
-
R^
STO L
Rv
```

Just 20 steps, not so bad for my first program ... :-)

Franz

Re: WP 34S: missing vector cross product

*Message #2 Posted by **Paul Dale** on 23 July 2011, 6:39 a.m.,*
in response to message #1 by fhub

Give me a break, I only added vectors.txt yesterday.

I'll add your code instead of writing my own :-)

- Pauli

Re: WP 34S: missing vector cross product

*Message #3 Posted by **Paul Dale** on 23 July 2011, 6:52 a.m.,*
in response to message #1 by fhub

The vectors.txt file is updated. vectors.wp34s will be in due course I expect. I think that 112 steps is pretty lean for this lot :-) Thank to Franz for the final piece.

- Pauli

Re: WP 34S: missing vector cross product

*Message #4 Posted by **fhub** on 23 July 2011, 7:18 a.m.,*
in response to message #3 by Paul Dale

I must say that writing this cross product was really a nightmare:
taking care of where all those stack values are moves during the calculation, avoiding stack overflows and finally fulfilling your conditions about storing the 2nd vector to L,I,J (and keeping the 1st one on the stack) increased the number of my grey hairs. ;-)

And with all these troubles I had an idea which would greatly simplify such calculations (with so many parameters on the stack):
What about having a 2nd copy of the 8 stack registers?
One command could duplicate the original stack into this 2nd copy, and then you could just do all calculations with these '2nd-stack' registers on the usual stack: since the order (and naming) of the 2nd-stack won't change, it would be much easier to adress the stackregister names.

Maybe this 2nd stack registers could be named with a dot preceding the names (.X, .Y, ...C, .D) and adressed with the sequence RCL XEQ (because XEQ is almost the only key which is still free to use after a STO/RCL), which would then display "RCL .__" and wait for any stackregister name (X to D).
Of course this should also work with STO XEQ, and there should be 2 commands to copy (or backup) the normal stack to this 2nd stack and vice versa (maybe STO STO and RCL RCL).

Well, just a dream of me - but it would indeed make programming much easier ...

Franz

PS: I know this could be done with the usual registers Rxx (and STOS), but I also know that you don't like changing any registers during 'usual' calculations within a program.

Edited: 23 July 2011, 7:22 a.m.

Re: WP 34S: missing vector cross product

*Message #5 Posted by **Paul Dale** on 23 July 2011, 7:22 a.m.,*
in response to message #4 by fhub

Not possible: no RAM left.

We do have save and restore stack operations: STOS & RCLS. They save/restore the stack to the numbered registers only.

- Pauli

Re: WP 34S: missing vector cross product

*Message #6 Posted by **fhub** on 23 July 2011, 7:44 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> Not possible: no RAM left.

Ok, and what about a few more stack manipulation commands?

It would be nice to have something like Rv and R^ not for the whole stack but just for a part of it (e.g. only do a roll-down/up on the first 3 registers X,Y,Z).

Edited: 23 July 2011, 8:43 a.m.

Re: WP 34S: missing vector cross product

*Message #7 Posted by **gene wright** on 23 July 2011, 9:35 a.m.,*
in response to message #6 by fhub

While we are thinking of stack commands :-) how about something like these?

Y <> Z

Y <> T

Z <> T

Re: WP 34S: missing vector cross product

*Message #8 Posted by **fhub** on 23 July 2011, 10:33 a.m.,*
in response to message #7 by gene wright

> Quote:
>
> While we are thinking of stack commands :-) how about something like these?

Yes, not a bad idea - my HP-48GX has much more (useful!) stack manipulation commands than are available on the WP34S.
But the major problem is certainly the limited space on the WP34S, wheras the 48GX doesn't suffer from such space restrictions. ;-)

Re: WP 34S: missing vector cross product

*Message #9 Posted by **Paul Dale** on 23 July 2011, 7:43 p.m.,*
in response to message #7 by gene wright

And the other four stack levels??

- Pauli

Re: WP 34S: missing vector cross product

*Message #10 Posted by **gene wright** on 23 July 2011, 7:51 p.m.,*
in response to message #9 by Paul Dale

True true... but I do think at least these for the standard 4 levels would be useful.

How about a general <> function?

Is that possible?

X<> already prompts for the other location. Is it possible to code for both? :-)

Re: WP 34S: missing vector cross product

*Message #11 Posted by **Paul Dale** on 23 July 2011, 8:00 p.m.,*
in response to message #10 by gene wright

It isn't possible. The op-codes used for commands don't have enough space to hold two register addresses. So it would have to be a separate command for each at about eighty bytes per -- even supporting just swaps of Y, Z and T with anything will eat into our feeble memory reserve. It is possible I could streamline things and reduce the space use a little by reusing code profusely. I don't think supporting the specific individual functions will be any smaller.

I did have a general rearrange the (4 level) stack plus last X in a completely general manner instruction but it was lost. It replaced a lot of the traditional stack operations rather nicely but would have been really confusing for users.

There is hope however, define them yourself and stash them in a flash segment. For example:

```
LBL'Z<>T'
X<> Z
X<> T
X<> Z
RTN
```

or

```
LBL'Z<>T'
cpx Rv
x<>y
cpx R^
RTN
```

- Pauli

Re: WP 34S: missing vector cross product

*Message #12 Posted by **htom trites jr** on 23 July 2011, 7:55 p.m.,*
in response to message #9 by Paul Dale

Cleanest is to implement "stack-dup and stack-pop". Upon entry, your code does a stack-dup; this gives you a copy of the current stack and status. Do what you will (including calling other program segments.) When you're done, you explicitly write results into the lower stack and status registers, and then execute a stack-pop, which throws away all of your unsaved values, leaving the calling code with your results. Stack-pop gets really messy if you modify the structure of the "top stack".

Re: WP 34S: missing vector cross product

*Message #13 Posted by **Marcus von Cube, Germany** on 24 July 2011, 2:16 a.m.,*
in response to message #12 by htom trites jr

You will need a register area from the numerical registers for this. DUP is already there: STOS. Recalling only part of the stack can be done with R-CPY. R-CPY needs X for its argument so you need to take care of this in an extra step.

Pauli, a command ROLLv with an argument for the number of rolls might be helpful.

Re: WP 34S: missing vector cross product

*Message #14 Posted by **Paul Dale** on 24 July 2011, 5:08 a.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> Pauli, a command ROLLv with an argument for the number of rolls might be helpful.

Number of rolls as in the number of times Rv is executed or the number of registers being rolled?

I suspect this suggestion will upset the RPL haters :-)

To be honest, I've never needed either nor even wanted the capability and I've done more than a little RPL programming in my time.

- Pauli

Re: WP 34S: missing vector cross product

*Message #15 Posted by **Marcus von Cube, Germany** on 24 July 2011, 3:19 p.m.,*
in response to message #14 by Paul Dale

Pauli, I meant the number of rolls to perform.

Re: WP 34S: missing vector cross product

*Message #16 Posted by **fhub** on 24 July 2011, 3:54 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> I meant the number of rolls to perform.

Well, I would say Rv and R^ only the first n stack-registers is more important. Performing n rolls (as you suggest) needs just pressing the same key (Rv or R^) n-times, but imagine the following situation:

You need the value from stack-register A during your calculation, and after that it's not needed anymore. In this case a "R^ A" would be very comfortable, wheras you would have to key in the following sequence to achieve the same:

```
x<>y
x<> Z
x<> T
x<> A
```

And you know how many keystrokes this would need
(especially the "x<> _") ... :-(

Franz

Edited: 24 July 2011, 3:56 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CL UTILS rom listing of functions

*Message #1 Posted by **gene wright** on 22 July 2011, 3:49 p.m.*

Already, the beta community of the 41CL world has been busy developing utilities and applications using Monte's amazing product.

Here is a the current list of the functions in the 41CL Utilities ROM. If you don't have a 41CL yet, you are missing all the fun. :-)

41CL UTILS function list

Re: HP 41CL UTILS rom listing of functions

*Message #2 Posted by **Ángel Martin** on 23 July 2011, 7:02 a.m.,*
in response to message #1 by gene wright

http://www.wiki4hp.com/doku.php?id=41cl:replacement_cpu_board:cl_rom_and_routines&#current_status

Edited: 23 July 2011, 7:03 a.m.

Re: HP 41CL UTILS rom listing of functions

*Message #3 Posted by **Geoff Quickfall** on 23 July 2011, 10:04 p.m.,*
in response to message #1 by gene wright

I used to wonder if I placed my 41CX near my 42S machines if it would develop an inferiority complex.

Today I woke up and found the 41CL had eaten the 42S for breakfast and was carrying on a conversation with the WP34S over coffee.

What next!

Geoff

;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Happy Pi Day! (again)

*Message #1 Posted by **Gerson W. Barbosa** on 22 July 2011, 3:14 p.m.*

Pi Day is a harmless nerdity, so no problem having two of them in the same year, 130 days apart from each other :-)

For people using the European date system (dd/mm/yyyy), 22/07 matches exactly Archimedes' upper bound for pi. Without algebra, trigonometry and a positional number system, Archimedes was able to place pi between the bounds $6336/2017\frac{1}{4}$ and $14688/4673\frac{1}{2}$. He widened very slightly the interval and established the more simple approximations $3\frac{10}{71}$ and $3\frac{1}{7}$, the latter being the *de facto* value for pi in Europe during more than fifteen centuries, so much that some believed that was an exact value, not an approximation. Archimedes used Euclidean geometry. Essentially, he established those bounds by calculating the perimeters of two 96-gon polygon, one inscribed and the other circumscribed to a one-unit diameter circumference, having started with hexagons and doubling the number of the polygons five times. There are evidences went even further, but because accumulated copying errors along the centuries the bounds in a surviving palimpsest are way off: 211875/67441 and 197888/62351. 211872/67441 and 195888/62353 are plausible reconstructed values and implied Archimedes might have gone up the 1536-gon.

The Archimedes' Method was the first analytical method for computing pi. It is far from being efficient, but it is simple and beautiful nonetheless. It offers only linear convergence, giving 0.6 decimal digits per iteration and requires the extraction of square roots. However, there are hidden relationships between the bounds that allows for two-, three- and four-fold speed-ups, perhaps even more.

In another post, I have presented some programs and a couple of formulas that give 1.8 digits per iteration. I've found a relationship between them and had WolframAlpha solve the equation (just submit "solve (p-(27*(a^2*b)^(1/3)-4*(2*a+b))/15)/((9*a*c/(4*a-c)-7/3*(a-4*c))/10-p)==128/19 for p" to W|A). The result can be simplified to:

```
  pi ~ (513*(a^2*b)^(1/3) - 24*a*(288*a/(c - 4*a) + 97) - 76*b + 1792*c)/2205


where
  a = lower bound
  b = upper bound
  c = next lower bound
```

This gives 2.4 digits per iteration.

For checking purpose only, we can use trigonometry and evaluate the following:

```
n:=14
a:=3*2^n*sin(pi/(3*2^n))
b:=3*2^n*tan(pi/(3*2^n));
c:=3*2^(n+1)*sin(pi/(3*2^(n+1)))
p:=(513*(a^2*b)^(1/3)-24*a*(288*a/(c-4*a)+97)-76*b+1792*c)/2205
```

On W|A the input line "compute {n=14, p=(513*(a^2*b)^(1/3)-24*a*(288*a/(c-4*a)+97)-76*b+1792*c)/2205, a=3*2^n*sin(pi/(3*2^n)), b=3*2^n*tan(pi/(3*2^n)), c=3*2^(n+1)*sin(pi/(3*2^(n+1)))} to 42 places" will return:

```
a ~  3.14159265145076765170425364049221902044 8
b ~  3.14159265786784441984400852933675983498 5
c ~  3.14159265305503684169112318041547420225 7
n ~ 14.00000000000000000000000000000000000000
p ~  3.14159265358979323846264338327950288406              (our underlining emphasizes the matching digits)
```

Notice that the perimeters of the inscribed and circumscribed 49152-gons (3*2^14) and the perimeter of the inscribed 98304-gon give only 9 digits of accuracy and yet the relatively simple expression involving them, evaluated only in the last iteration, gives out pi to 36 significant digits.

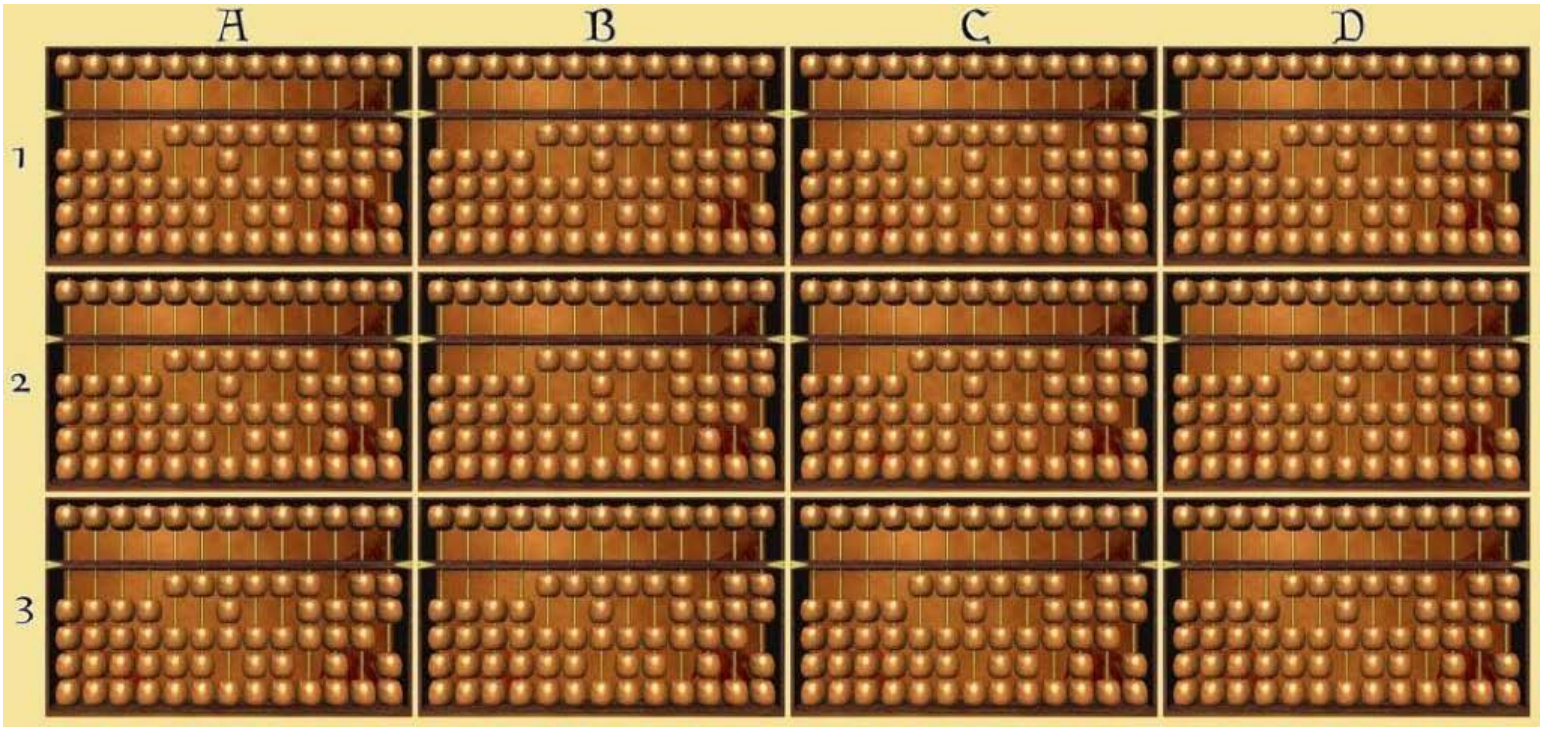
As a comparison, in early 17th century Ludolph Van Ceulen used a polygon with 2^62 sides to achieve the same accuracy. If he had investigated how the bounds related to each others, for only the first few iterations, he might have discovered at least the simple weighted mean, which would have allowed him to find the first 50 digits. The lack of mechanical calculators, however, did not encourage numerical investigations.

The Excel sheet excerpt below may require some editing for clarity, but it gives an idea how the limits can be found numerically:

```
        A       B       C                       D                       E                       F                       G
H                       I                       J
 1                      (lower bound)           (upper bound)
 2      n       3*2^n   (3*2^n*sin(pi/(3*2^n))  (3*2^n*tan(pi/(3*2^n))  (pi - an)/(pi  - an+1)  (pi/an - 1)/(pi/an+1 - 1)
(4*an+1 - an)/3 (3*an*an+1)/(4*an - an+1)       (H-pi)/(pi-G)   (7*G + 3*H)/10
 3                      (a)                     (b)
 4      0       3       2,59807621135332        5,19615242270663        3,83859210528741        4,43242437059372
3,13397459621556        3,16311169400545        2,82474118512721        3,14271572555253
 5      1       6       3,00000000000000        3,46410161513775        3,95907081843196        4,09873171487929
3,14110472164033        3,14278367587695        2,44095982743118        3,14160840791132
 6      2       12      3,10582854123025        3,21539030917347        3,98973131852282        4,02415855279584
3,14156197063157        3,14166504789936        2,35943056841153        3,14159289381191
 7      3       24      3,13262861328124        3,15965994209750        3,99743055062314        4,00600772065997
3,14159073296874        3,14159714747608        2,33980893047569        3,14159265732094
 8      4       48      3,13935020304687        3,14608621513143        3,99935749514110        4,00149994832716
3,14159253350506        3,14159293398155        2,33494921116754        3,14159265364801
 9      5       96      3,14103195089051        3,14271459964537        3,99983936486646        4,00037486339965
3,14159264608378        3,14159267110686        2,33373691378455        3,14159265359070
```

```
10      6       192     3,14145247228546        3,14187304997982        3,99995984066625        4,00009370815163
3,14159265312066        3,14159265468449        2,33343335829224        3,14159265358981
11      7       384     3,14155760791186        3,14166274705685        3,99998995986230        4,00002342619481
3,14159265356047        3,14159265365821        2,33330304269466        3,14159265358979
12      8       768     3,14158389214832        3,14161017660469


                                                                        ->   4                  ->  4
->  7/3


                                                                Solve                   Solve                   Solve
                                                                (pi - an)/(pi  - an+1) = 4   (pi/an - 1)/(pi/an+1 - 1) = 4   (H-
pi)/(pi - G) = 7/3
                                                                for pi to get F         for pi to get   G       for pi
to get J
```

If only Van Ceulen had a spreadsheet application... Definitely calculating devices were very limited back then :-)



Edited to fix some typos

Edited: 23 July 2011, 3:18 p.m. after one or more responses were posted

Re: Happy Pi Day! (again)

*Message #2 Posted by **Egan Ford** on 22 July 2011, 3:26 p.m.,*
in response to message #1 by Gerson W. Barbosa

Happy Pi Day to you too!

Excellent article. Thanks.

BTW, for those that may have missed my "official" Pi Day post here it is again: Pi Day Rematch: Apple II vs. HP-41C and a follow-up: Post Pi Day Post.

Re: Happy Pi Day! (again)

*Message #3 Posted by **Gerson W. Barbosa** on 22 July 2011, 3:43 p.m.,*
in response to message #2 by Egan Ford

Thank you, Egan!

Notice that the post time is 3:14 pm and the edit time 3:18, the digits of 1/pi since today is 7/22 also. Well, the latter was not intentional but the explanation fits nicely :-)

I certainly didn't miss your really excellent Pi Day post. I have yet to run Robert Bishop's Apple PI on the emulator. By the way, my first computer was a somewhat limited Apple II clone. When I was studying Calculus I wrote a graph plotting program for it:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=146977

Too bad the picture is missing. It was a nice heart!

Regards,

Gerson.

Re: Happy Pi Day! (again)

*Message #4 Posted by **Egan Ford** on 23 July 2011, 2:42 p.m.,*
in response to message #3 by Gerson W. Barbosa

> Quote:
>
> Notice that the post time is 3:14 pm ...

I missed that. Very clever.

Re: Happy Pi Day! (again)

*Message #5 Posted by **Gerson W. Barbosa** on 23 July 2011, 3:06 p.m.,*
in response to message #4 by Egan Ford

Or just very nerdish :-)

Thanks for the follow-up to your Pi Day article. I knew about Shank's mistake but I had never seen it in print.

Re: Happy Pi Day! (again)

*Message #6 Posted by **Oliver Unter Ecker** on 22 July 2011, 6:55 p.m.,*
in response to message #1 by Gerson W. Barbosa

For your enjoyment: This

```
6666,-2%{2+.2/@*\/10.3??2*+}*
```

generates the first 1000 digits of Pi in GolfScript, a stack-based language. Taken from GolfScript Examples.

Re: Happy Pi Day! (again)

*Message #7 Posted by **Gerson W. Barbosa** on 22 July 2011, 7:24 p.m.,*
in response to message #6 by Oliver Unter Ecker

...using Vieta's formula, if I were to guess.

Re: Happy Pi Day! (again)

*Message #8 Posted by **Gerson W. Barbosa** on 24 July 2011, 11:03 p.m.,*
in response to message #1 by Gerson W. Barbosa

This approach can be carried out one step further when we eventually obtain a formula that yields 3 digits per iteration:

```
pi ~ (640*c*(28*c-139*a)/(c-4*a)+4*b*(3737+14256*b/(d-4*b))+1056*d-2568*a-6453*(a^2*b)^(1/3))/11655

where

  a: lower bound
  b: upper bound
  c: next lower bound
  d: next upper bound
```

This is a five-fold improvement over the original method. At least two iterations have to be executed since the approximation formula requires two successive sets of bounds. Here are the results obtained from the first four iterations, starting with hexagons and dodecagons:

```
  6-12    3.141592925577355371
 12-24    3.141592653812338501
 24-48    3.141592653590001584
 48-96    3.141592653589793440
    pi    3.141592653589793238
```

The digits per iteration ratio approaches asymptotically 3 as the number of iterations increases. It is a bit greater initially, as we can see. Notice that the 48-gon suffices for the approximation to pi displayed in 12-digit calculators.

Re: Happy Pi Day! (again)

*Message #9 Posted by **Gerson W. Barbosa** on 29 July 2011, 8:00 p.m.,*
in response to message #8 by Gerson W. Barbosa

My HP-50g has boldly computed the first 1000 decimal places of pi using this algorithm (up to the 6*2^333-gon, 10.5 times more sides than a *googolgon*!) in "only" 2h 59m 11s, thanks to the use of the formula above. Otherwise, it would have taken about fifteen hours to go up to the required 6*2^1667-gon. It is a good calculator, I won't ask it to "compute to the last digit of pi" :-)

As a comparison, the second program (Brent-Salamin algorithm) does it in only four minutes. Both programs require the LongFloat library for the HP-49G/50g by Gjermund Skailand and Thomas Rast.

http://www.hpcalc.org/details.php?id=5363

```
%%HP: T(3)A(R)F(.);
DIR
  QUICKARCH
  \<< DUP 3 + 'DIGITS' STO 3 / 1 - 3 DUP FSQRT 2 FMULT ROT 1 SWAP
    START OVER DUP2 FMULT 2 FMULT UNROT FADD FDIV SWAP OVER FMULT FSQRT SWAP
    NEXT DUP2 OVER DUP2 FMULT 2 FMULT UNROT FADD FDIV SWAP OVER FMULT FSQRT \-> a b d c
    \<< 28 c FMULT 139 a FMULT FSUB c 4 a FMULT FSUB FDIV 640 FMULT c FMULT b d 4 b FMULT FSUB FDIV 14256 FMULT 3737
FADD 4 b FMULT FMULT FADD 1056
    d FMULT FADD 2568 a FMULT FSUB a DUP FMULT b FMULT 3 FXROOT 6453 FMULT FSUB 11655 FDIV ZZ\<-\->F DROP \->STR DUP
HEAD "." + SWAP TAIL + DUP
    SIZE 1 - "  " REPL
    \>>
  \>>
  DIGITS 1002
END


1000 QUICKARCH  ->


3.14159265358979323846264338327950288419716939937510582097494459230781640628620899862803482534211706798214808651328230664709384460955058223172535940812848111745028410270193852110555964462294895493038196442881097566593344612847564823378678316527120190914564856692346034861045432664821339360726024914127372458700660631558817488152092096282925409171536436789259036001133053054882046652138414695194151160943305727036575959195309218611738193261179310511854807446237996274956735188575272489122793818301194912983367336244065664308602139494639522473719070217986094370277053921717629317675238467481846766940513200056812714526356082778577134275778960917363717872146844090122495343014654958537105079227968925892354201995611212902196086403441815981362977477130996051870721134999999837297804995105973173281609631859502445945534690830264252230825334468503526193118817101000313783875288658753320838142061717766914730359825349042875546873115956286388235378759375195778185778053217122680661300192787661119590920164201989


BSP:


%%HP: T(3)A(R)F(.);
\<< 1 + 'DIGITS' STO .5 R\<-\->F 1 2 FSQRT 2 FDIV 1
  DO DUP2 OVER FADD 2 FDIV ROT ROT FMULT FSQRT OVER 4 ROLL FSUB DUP FMULT 4
    ROLL 2 FMULT DUP2 FMULT 6 ROLL SWAP FSUB ROT 5 ROLLD 4 ROLLD SWAP ROT 5 ROLL
  UNTIL 0 F.EQ
  END FMULT 2 FMULT ROT FDIV NIP ZZ\<-\->F DROP \->STR DUP HEAD "." + SWAP TAIL +
\>>


=======================================


Program Quick_Archimedes;


var a, b, c, d, p: real;
              i, m: byte;
                 n: integer;


function Sqrt(x: Real): real;


var s, t: Real;


begin
  if x<>0 then
    begin
      s:=x/2;
      repeat
        t:=s;
        s:=(s+x/s)/2
      until s=t;
      Sqrt:=s
    end
    else
```

```
      Sqrt:=0
end;


function Cbrt(x: Real): real;


var c, t: Real;


begin
  if x<>0 then
    begin
      c:=x/2;
      repeat
        t:=c;
        c:=(2*c+x/(c*c))/3
      until Abs(c-t)<1e-16;
      Cbrt:=c
    end
    else
      Cbrt:=0
end;


begin
  ReadLn(m);
  n:=6;
  a:=3;
  b:=2*Sqrt(3);
  ClrScr;
  WriteLn(' n-gon',' ':10,'a',' ':21,'b',' ':21,'p',#10);
  for i:=1 to m-1 do
    begin
      WriteLn(n:4,a:22:17,b:22:17);
      b:=2*a*b/(a+b);
      a:=Sqrt(a*b);
      n:=2*n
    end;
  WriteLn(n:4,a:22:17,b:22:17);
  d:=2*a*b/(a+b);
  c:=Sqrt(a*d);
  p:=(640*c*(28*c-139*a)/(c-4*a)+4*b*(3737+14256*b/(d-4*b))+1056*d-2568*a-6453*Cbrt(a*a*b))/11655;
  WriteLn(2*n:4,c:22:17,d:22:17,p:22:17)
end.


 n-gon          a                     b                     p


   6   3.00000000000000000   3.46410161513775460
  12   3.10582854123024915   3.21539030917347248
  24   3.13262861328123820   3.15965994209750049
  48   3.13935020304686722   3.14608621513143498
  96   3.14103195089050965   3.14271459964536831   3.14159265358979344


>

=======================================
```

Update: **FINV FY\|^X** has been replaced with **FXROOT** in the first program. **3 FINV FY\|^X** was taking about 30 minutes; **3 FXROOT** takes less than 27 seconds.

Edited: 4 Aug 2011, 11:43 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Did HP or any 3rd party make a 64K card for the 48 series?

*Message #1 Posted by **mr-scorpio** on 22 July 2011, 12:41 p.m.*

Hi there, As the Subject enquires, did HP or any 3rd party make a 64K card for the 48 series? It seems common opinion is that the 32K cards are too small, thus next to useless? (Is 32K useful still though?)

Then there seems to be a leap in size from 32 to 128K .. which are like gold dust & extremely expensive for what they are. I've actually seen a 256K card for only $10 more than a 128K ..

Thus as a middle ground?, did anyone make a 64K card?

Cheers

Edited: 22 July 2011, 12:41 p.m.

Re: Did HP or any 3rd party make a 64K card for the 48 series?

*Message #2 Posted by **Alejandro Paz (Germany)** on 22 July 2011, 12:45 p.m.,*
in response to message #1 by mr-scorpio

The thing is that 32kx8 SRAM and 128kx8 SRAM are common, while 64kx8 were less common...

Re: Did HP or any 3rd party make a 64K card for the 48 series?

*Message #3 Posted by **Martin Pinckney** on 22 July 2011, 11:50 p.m.,*
in response to message #1 by mr-scorpio

I do remember seeing a reference to a 64k card once, but that's about it.

As far as utility of the 32k ones, probably as program storage rather than simply dding to memory, but it all depends on personal usage.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

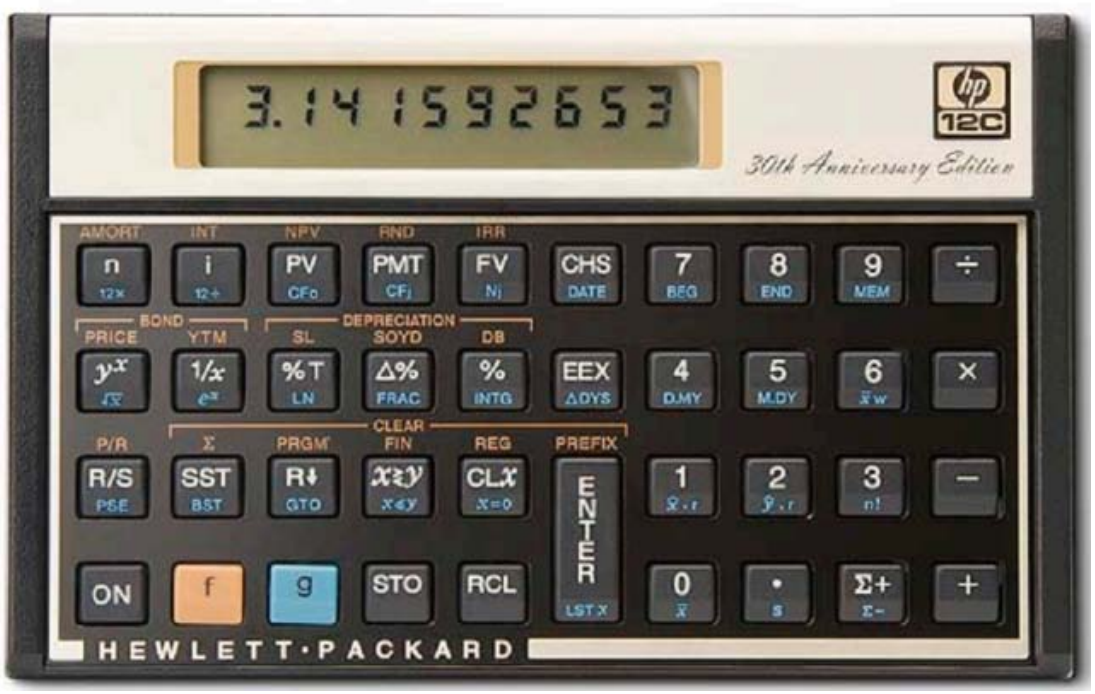
HP Forum Archive 20

[Return to Index | Top of Index]

12c 30th Anniversary Spec Sheet

*Message #1 Posted by **NateB** on 21 July 2011, 8:43 p.m.*

I ran across the Spec Sheet for the 12c 30th Anniversary Edition today.



Re: 12c 30th Anniversary Spec Sheet

*Message #2 Posted by **Alexander Oestert** on 22 July 2011, 2:04 a.m.,*
in response to message #1 by NateB

Hey, it's a pure RPN machine!

And this picture at least explains the keyed in PI on the '15C Limited Edition', probably done by the same photographer...

Re: 12c 30th Anniversary Spec Sheet

*Message #3 Posted by **hpnut** on 22 July 2011, 6:32 a.m.,*
in response to message #2 by Alexander Oestert

yipeee, a pure RPN calculator!

Re: 12c 30th Anniversary Spec Sheet

*Message #4 Posted by **John B. Smitherman** on 22 July 2011, 7:59 a.m.,*
in response to message #1 by NateB

Is this the 12c+ or yet another incarnation?

John

Re: 12c 30th Anniversary Spec Sheet

*Message #5 Posted by **Katie Wasserman** on 22 July 2011, 8:18 a.m.,*
in response to message #4 by John B. Smitherman

It looks to me like just the 12C+ with some writing on it. The 25th Anniversary Edition of the 12CP used the same font, BTW. I think that these anniversary releases are a great way to sell extra machines to those of us that feel we need to collect every edition.

HP has a history of releasing anniversary editions, where just a label is added, of some calculators, the 14B, 32s, and 28s come to mind. Are there others?

Re: 12c 30th Anniversary Spec Sheet

*Message #6 Posted by **x34** on 22 July 2011, 11:32 a.m.,*
in response to message #5 by Katie Wasserman

48GX ASEE edition (however, not Anniversary).

Edited: 22 July 2011, 11:36 a.m.

Re: 12c 30th Anniversary Spec Sheet

*Message #7 Posted by **Jake Schwartz** on 22 July 2011, 5:29 p.m.,*
in response to message #5 by Katie Wasserman

> Quote:
>
> the 14B, 32s, and 28s come to mind. Are there others?

How about the 35th-anniversary commemorative 35S?

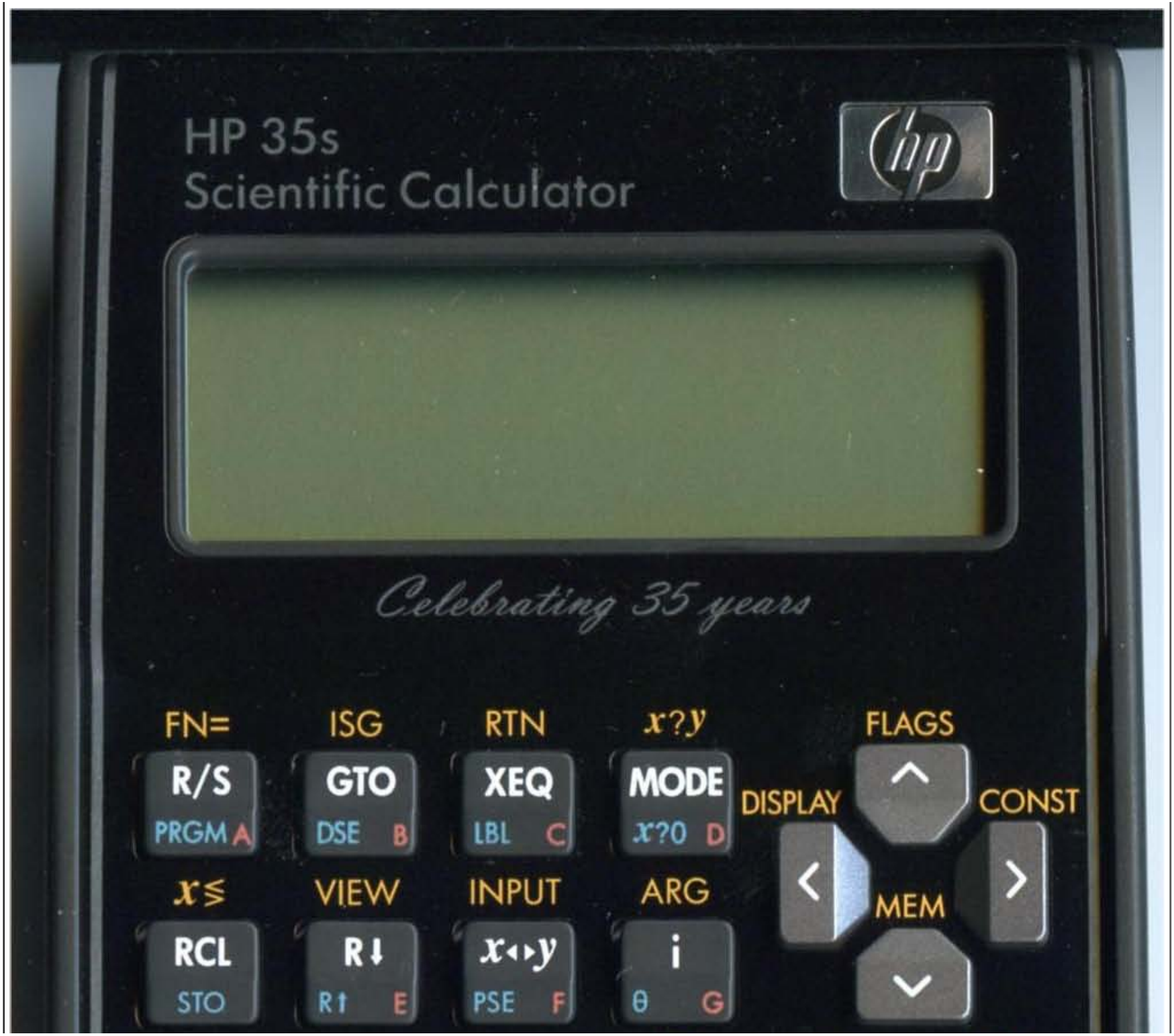
[img:http://www.pahhc.org/2011/35th Anniv 35S.jpg]

Jake

Re: 12c 30th Anniversary Spec Sheet

*Message #8 Posted by **Jake Schwartz** on 22 July 2011, 5:32 p.m.,*
in response to message #7 by Jake Schwartz

Let's try that again:


HP 35s
Scientific Calculator
Celebrating 35 years
FN=
ISG
RTN
x?y
FLAGS
R/S
PRGM A
GTO
DSE B
XEQ
LBL C
MODE
x?0 D
DISPLAY
CONST
x≤
VIEW
INPUT
ARG
MEM
RCL
STO
R↓
R↑ E
x↔y
PSE F
i
θ G

HYP π INTG $\sqrt[x]{y}$ LOG 10^x
SIN ASIN H
COS ACOS I
TAN ATAN J
$\sqrt{x}$ x^2 K
y^x LN L
$1/x$ e^x M
SHOW = ←ENG ENG→ UNDO
ENTER LAST x
+/− ABS N
E RND O
( ) [ ] P
CLEAR
∫ →°F HMS→ →RAD %CHG
EQN SOLVE Q
7 →°C R
8 →HMS S
9 →DEG T
÷ %
→lb →MILE →in nCr
4 →kg U
5 →KM V
6 →cm W
× nPr
LOGIC →gal SEED L.R
1 BASE X
2 →I Y
3 RAND Z
− SUMS
OFF , /c Σ− $\bar{x}, \bar{y}$
C ON
0 SPACE (I)
• FDISP (J)
Σ+ !
+ S, σ

Re: 12c 30th Anniversary Spec Sheet
*Message #9 Posted by **Keith Midson** on 23 July 2011, 1:50 a.m.,*
in response to message #1 by NateB

So does this mean it's for sale now? I can't find it anywhere online. Keith

---

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP wants to hear your 12c stories...

*Message #1 Posted by **Gene Wright** on 21 July 2011, 4:58 p.m.*

Thought I would forward this along.

Please do not email your stories to me! :-)

Gene

==========

“Hi all,

Our PR team will be putting together a sizzle reel of complimentary quotes and stories about the 12c. Ideally, they’d like to include a combination of everyday people and business VIP’s. Would you be interested in sending an e-mail out to the calculator User Group to let them know that I am looking for people with interesting stories, complimentary quotes, etc. about the 12c that they would like to share with us to include in our broadcast media pitch?

Thanks!

If you are an HP-12C user and you are interested in participating send your email to:

CalcEnthusiasts@hp.com

Re: HP wants to hear your 12c stories...

*Message #2 Posted by **Martin Pinckney** on 21 July 2011, 5:27 p.m.,*
in response to message #1 by Gene Wright

They want enthusiasm? Tell 'em to solicit comments about 15c, 27s or 42s.

What's a 12c?

Re: HP wants to hear your 12c stories...

*Message #3 Posted by **Dan W** on 21 July 2011, 5:44 p.m.,*
in response to message #2 by Martin Pinckney

I agree. I have a great 42S story I'd be happy to share.

Why is it that HP focuses so much on financial calculators?

Re: HP wants to hear your 12c stories...

*Message #4 Posted by **Laura (San Diego)** on 22 July 2011, 7:43 p.m.,*
in response to message #2 by Martin Pinckney

HP Can do that too. just send your thoughts/stories about the 15c to calcenthusiasts@hp.com

Re: HP wants to hear your 12c stories...

*Message #5 Posted by **Alexander Oestert** on 21 July 2011, 5:30 p.m.,*
in response to message #1 by Gene Wright

Dear HP,

I'm willing to share lots of complimentary stories about my new 'HP 15c Limited Edition' as soon as you will sell it to me. Send some and I will send a nice story by email for each!

Take care, A.O.

Re: HP wants to hear your 12c stories...

*Message #6 Posted by **NateB** on 21 July 2011, 6:09 p.m.,*
in response to message #1 by Gene Wright

I love my 12C. Every night I place it under my pillow and hope that it turns into a 15C.

All joking aside, I'm excited to see the 30th Anniversary Edition. The fact that the 12C has been in production for so long truly is amazing. (It also gives me hope that we'll see a Limted Edition 15C, although I'm worried about just *how* limited it will be...)

Edited: 21 July 2011, 8:31 p.m.

Re: HP wants to hear your 12c stories...

*Message #7 Posted by **JustinM** on 21 July 2011, 9:40 p.m.,*
in response to message #1 by Gene Wright

My 12c story: When my younger brother graduated with a business/accounting degree about five years ago, I got him a 12c for a graduation present. At the time, I only owned a 48G and didn't know the difference between the RPL and XYZT RPN machines. I tried to teach him how to use RPN but I didn't do a very good job of it because the stack didn't respond the way I was used to. I don't think he was particularly enthused about it. I've never seen him use it, he's never mentioned it, and I've never seen it again.

Probably not what HP wants for its "broadcast media pitch".

Re: HP wants to hear your 12c stories...

*Message #8 Posted by **Laura (San Diego)** on 22 July 2011, 7:58 p.m.,*
in response to message #7 by JustinM

I think a 17bII+ is ideal for accountants. you can store all the typical accounting equations in the Solve menu. When I took accounting, I put ROE, ROA, RNOA, etc. in my calculator so I didn't have to remember the formulas.

Re: HP wants to hear your 12c stories...

*Message #9 Posted by **Katie Wasserman** on 21 July 2011, 11:21 p.m.,*
in response to message #1 by Gene Wright

Should I tell the one where a 12C in my pocketbook took a bullet for me on the mean streets of New York? Nah, that's too boring...

How about this thrilling one that happened just yesterday....

I was having a discussion about the 12c with one of my clients. This was prompted by his annual forgetting of how to swap the radix and thousands separator symbols that accidentally happens from time-to-time when you use a 12C every day, all day. [We get this same question on the forum at least once a month, why doens't HP put this on the back-plate of the calculator.] He's been using a 12C for 25 years at work and at home, he loves it!

He then went on to tell me that when he was shopping for home mortgages with a broker he was able to stay several seconds ahead of the broker as far as affordability calculations were concerned. He was keying in the numbers on his 12C while the broker was using a desktop PC and waiting for a response. The broker had no idea how anyone could come up with results before the computer did. And this was with an original 12C, with a 12C+ (he doens't have one yet) he'd be several seconds faster still.

-Katie

Re: HP wants to hear your 12c stories...

*Message #10 Posted by **Bart (UK)** on 22 July 2011, 5:14 a.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> Should I tell the one where a 12C in my pocketbook took a bullet for me on the mean streets of New York?

What? You made no attempt to save the 12C?

Re: HP wants to hear your 12c stories...

*Message #11 Posted by **Katie Wasserman** on 22 July 2011, 7:50 a.m.,*
in response to message #10 by Bart (UK)

> Quote:
>
> What? You made no attempt to save the 12C?

I had this foolish sense of human superiority that day, I really learned my lesson.

Re: HP wants to hear your 12c stories...

*Message #12 Posted by **Ron Ross** on 22 July 2011, 9:24 a.m.,*
in response to message #11 by Katie Wasserman

And it WAS'NT an Hp 15c!

Re: HP wants to hear your 12c stories...

*Message #13 Posted by **Ángel Martin** on 22 July 2011, 3:46 a.m.,*

in response to message #1 by Gene Wright

Never used, borrowed or bought a 12c in the last 30 years - I guess that's also becoming a record to write home about!

On the other hand, the 41....

Re: HP wants to hear your 12c stories...

*Message #14 Posted by **Kiyoshi Akima** on 22 July 2011, 1:41 p.m.,*
in response to message #13 by Ángel Martin

> Quote:
>
> Never used, borrowed or bought a 12c in the last 30 years - I guess that's also becoming a record to write home about!

I bought a 25 in 1975, never owned a financial calc until I received a 20B at HHC2010 almost 35 years later. Finally bought a 12CPlatinum at a pawn shop yesterday.

Re: HP wants to hear your 12c stories...

*Message #15 Posted by **Ángel Martin** on 22 July 2011, 3:22 p.m.,*
in response to message #14 by Kiyoshi Akima

Well done, that's probably the best place to buy it, if not the only acceptable one.

Edited: 22 July 2011, 3:23 p.m.

Re: HP wants to hear your 12c stories...

*Message #16 Posted by **hpnut** on 22 July 2011, 8:16 p.m.,*
in response to message #14 by Kiyoshi Akima

> Quote:
>
> I bought a 25 in 1975, never owned a financial calc until I received a 20B at HHC2010 almost 35 years later. Finally bought a 12CPlatinum at a pawn shop yesterday.

hmmm... i wonder if someone failed in the financial market and decided to pawn his/her 12C? LOL!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The Babbage Engine ?

*Message #1 Posted by **Patrice** on 21 July 2011, 12:13 p.m.*

Hi all,

Anyone knowing if the Babbage Engine is still showed at the coputer museum in LA ?

Patrice

Re: The Babbage Engine ?

*Message #2 Posted by **Eric Smith** on 21 July 2011, 1:35 p.m.,*
in response to message #1 by Patrice

I don't know of any in LA. The first complete Difference Engine #2 to be constructed is on display at the Science Museum in London. The second is on display at the Computer History Museum in Mountain View, CA, which is near the south end of the San Francisco peninsula.

Re: The Babbage Engine ?

*Message #3 Posted by **Patrice** on 21 July 2011, 4:52 p.m.,*
in response to message #2 by Eric Smith

Looks like you are right about the location.

But from France, it is pretty close. And for me, it was not obvious that Mountain View was the name of the city.

Patrice

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34 again

*Message #1 Posted by **Paul Dale** on 21 July 2011, 3:28 a.m.*

We ran out of op-codes for commands with arguments. It turns out that 128 of these wasn't enough even though I thought it was overkill when I laid the op-codes out. Thus, I've been forced to renumber them.

This means there is no binary compatibility between older versions and the current (subversion 1268). Sorry about that, I don't like changing the op-codes.

The assembler/disassembler will handle the jump once it gets updated.

On a positive note, I've managed to squeeze a few more kilobytes out of the firmware and it seems likely that most of this will go into additional user program pages :-)

- Pauli

Re: WP34 again

*Message #2 Posted by **Cristian Arezzini** on 21 July 2011, 4:42 a.m.,*
in response to message #1 by Paul Dale

Luckily we have the assembler now so these opcode changes aren't much of a problem! :)

I have a somewhat "unrelated" question, but your menition of freed memory reminded me: some time ago I remember you asked about what constants we would like to be added. I suggested planetary masses (at least earth, moon and sun) and if possible a few other astronomical values, useful for orbit calculations. Is there any news on these constants? Were they "rejected" or is it still being thought?

Thanks, Cristian

Re: WP34 again

*Message #3 Posted by **Paul Dale** on 21 July 2011, 4:47 a.m.,*
in response to message #2 by Cristian Arezzini

Those constants can still be considered.

Give us a list of what you want and we'll likely include them. Constant names are limited to four characters. Please include values :-)

- Pauli

Edited: 21 July 2011, 4:49 a.m.

Re: WP34 again

*Message #4 Posted by **Cristian Arezzini** on 21 July 2011, 9:22 a.m.,*

in response to message #3 by Paul Dale

These are the constants I've been using more frequently, and their values:

Sun mass: 1.98892±0.00025 x 10E30 Kg Symbol: M with a subscript symbol made of a dot inside a circle. As this symbol isn't available, maybe M and subscript S would be OK.

Earth mass: 5.972245 ± 0.000082 x 10E24 kg Symbol: M with a subscript + in a circle. As above, maybe M and subscript E?

Moon mass: 7.3477 × 10E22 kg Symbol: M with subscript L

Earth mean radius: 6371.0 km Symbol: R with the same symbol as above (again, R and subscript E?)

Moon mean radius: 1737.10 km Symbol: R and subscript M

Then, the orbital semi-major axis for the moon is 384,399 km and for the Earth is 149,598,261 km but I don't know the symbols for these... :(Maybe M and E with subscript (sma)? :)

Cristian

Re: WP34 again

*Message #5 Posted by **fhub** on 21 July 2011, 11:44 a.m.,*
in response to message #4 by Cristian Arezzini

I would rather suggest 'm' for mass, 'r' for radius and 'd' for distance (which is more standard-like), and then subscripts 'S', 'M' and 'E' for sun, moon and earth.

So maybe this way:
m_E, m_M, m_S for mass
r_E, r_M, r_S for radius
d_EM, d_ES for distance (or r_EM and r_ES if you prefer)

But I must agree: having these constants is indeed a godd idea. :-)

BTW, aren't your semi-MAJOR axis values in fact MEAN values for these distances???

Franz

Edited: 21 July 2011, 11:52 a.m.

Re: WP34 again

*Message #6 Posted by **Cristian Arezzini** on 21 July 2011, 2:16 p.m.,*
in response to message #5 by fhub

> Quote:
>
> I would rather suggest 'm' for mass, 'r' for radius and 'd' for distance (which is more standard-like)

OK, I just said M and R because that's what I usually find in books and websites, I thought it was a "special case" symbol. Everything is OK though, as long as they're included! :)

> Quote:

> BTW, aren't your semi-MAJOR axis values in fact MEAN values for these distances???

I'm not sure I understand what you mean. As far as I know, the semi-major axis of an ellipse is the mean between the smallest and biggest distance from a focus and the ellipse... so yes, it's a sort of "average distance", during the orbit, between the central body (which sits in a focus) and the orbiting body (which is closest at one end of the major axis, and farthest at the other end of the same major axis)...

Cristian

Re: WP34 again

*Message #7 Posted by **fhub** on 21 July 2011, 3:37 p.m.,*
in response to message #6 by Cristian Arezzini

> Quote:
>
> I'm not sure I understand what you mean. As far as I know, the semi-major axis of an ellipse is the mean between the smallest and biggest distance from a focus and the ellipse... so yes, it's a sort of "average distance", during the orbit, between the central body (which sits in a focus) and the orbiting body (which is closest at one end of the major axis, and farthest at the other end of the same major axis)...

Ok, it seems to be just a language problem. ;-)

I thought 'major' axis would be the bigger (and 'minor' the smaller) axis of the ellipse, but maybe this naming is different in English. But however we call them, your values are the usual constants used in astronomical calculations.

Well, nice to see here an other astronomy fan (like me)! :-)
My special interest are solar and lunar eclipses, and I've written a quite powerful program for eclipses - its name is 'WinSomofi' and I have worked on it for MANY years (because I've in fact done ALL calculations myself). Unfortunately the webserver of my homepage is currently unavailable again (as so often), but if you would like to try my program(s) you can check the following link in the next days (when the server is working again):
http://fhub.110mb.com/

[Edit] I just saw that my program is also available from another astronomy site:
http://www.pixelsetphotons.com/index.php?/Logiciels/Ephemerides/winsomofi.html
The download link is under the picture after 'Telechargez'!

Franz

Edited: 21 July 2011, 3:46 p.m.

Re: WP34 again

*Message #8 Posted by **Cristian Arezzini** on 21 July 2011, 5:05 p.m.,*
in response to message #7 by fhub

> Quote:

> I thought 'major' axis would be the bigger (and 'minor' the smaller) axis of the ellipse,

Well, it actually is so... The semi-major axis is half of the "bigger diameter" of the ellipse. The fact is that the center body does not sit on the center of the ellipse, but on a focus; which means that the two extremes of the major axis are the periapsis and apoapsis. Thus, half of the "major diameter" is a value between the smallest and the biggest distance between the two bodies. Or at least this is how I understood it! ;)

> Quote:
>
> Well, nice to see here an other astronomy fan (like me)!

I've been an astronomy fan for years, but I've sort of "decreased" my active observations... I used to have a telescope, but I don't have enough room in my new house, so I only have a binocular now.

Now I'm actively interested in space exploration, both manned and unmanned, and I observe passing satellites. Sometimes I calculate their orbits, that's why I use the constants! :)

> Quote:
>
> I've written a quite powerful program for eclipses - its name is 'WinSomofi' and I have worked on it for MANY years

I downloaded it, and it looks nice! I'm not on Windows - I use Linux exclusively - but it works with Wine... Thanks for sharing it!

Cristian

Re: WP34 again

*Message #9 Posted by **fhub** on 21 July 2011, 6:09 p.m.,*
in response to message #8 by Cristian Arezzini

> Quote:
>
> I downloaded it, and it looks nice!

And it has a few nice features, but since it was just a private project for me I didn't make a good description.
There's only a short textfile (IIRC it's info.txt) describing the functions which can be accessed with different mouseclicks - it's definitely worth to look at this textfile and try out these features (especially a right mouseclick at the world map gives a globe view which can even be rotated. :-))

Ok, now I stop being off-topic any longer ... ;-) Franz

Edited: 21 July 2011, 6:12 p.m.

Re: WP34 again

*Message #10 Posted by **Walter B** on 21 July 2011, 3:41 p.m.,*
in response to message #6 by Cristian Arezzini

M and R or m and r or whatever you choose else are no problem at all. Subscripts, however, are limited. Please turn to page 65 of the latest edition of the manual (build 1265) to see what is featured.

Background: Though we thought 256 characters in two fonts being next to overkill for the small dot matrix provided, we've filled every little byte so far.

Walter

Re: WP34 again

*Message #11 Posted by **fhub** on 21 July 2011, 3:53 p.m.,*
in response to message #10 by Walter B

> Quote:
>
> Subscripts, however, are limited.

Well, these constants don't necessarily have to be named with subscripts - an underscore like m_E for example would also be ok (or any other good separation character).

Franz

Re: WP34 again

*Message #12 Posted by **Bart (UK)** on 21 July 2011, 5:02 p.m.,*
in response to message #10 by Walter B

> Quote:
>
> Though we thought 256 characters in two fonts being next to overkill for the small dot matrix provided, we've filled every little byte so far.

How much is enough? Just that little bit more... ;-)

Re: WP34 again

*Message #13 Posted by **Cristian Arezzini** on 21 July 2011, 5:23 p.m.,*
in response to message #10 by Walter B

Seeing that the subscripts are limited - and that m(e) is already taken for electron mass - we can just leave the underscores as typed on the message above... Unless someone finds a more intuitive (or easier to remember) way! :)

Re: WP34 again

*Message #14 Posted by **Paul Dale** on 21 July 2011, 6:23 p.m.,*
in response to message #4 by Cristian Arezzini

Will see what we can get in and what names they'll end up with.

We've got the WGS84 diameter of the Earth constants already. They aren't quite the mean radius figure you provided, rather they are the major and minor diameters of the planet.

- Pauli

Re: WP34 again

*Message #15 Posted by **fhub** on 21 July 2011, 6:44 p.m.,*
in response to message #14 by Paul Dale

> Quote:
>
> We've got the WGS84 diameter of the Earth constants already. They aren't quite the mean radius figure you provided, rather they are the major and minor diameters of the planet.

And rather they usually aren't used at all. In almost all calculations the 'average' value is used, which is defined as (2*major+minor)/3.

Re: WP34 again

*Message #16 Posted by **Paul Dale** on 21 July 2011, 7:01 p.m.,*
in response to message #15 by fhub

I use the WGS constants continuously in my day job, so "usually aren't used at all" certainly isn't correct. In fact I'd hazard a guess that "almost all calculations" done worldwide use the WGS constants -- how many GPS receivers are there in the world? They don't use the average.

In astronomy, things might be different of course. I'm not an astronomer.

Anyway, I said we'd try.

- Pauli

Re: WP34 again

*Message #17 Posted by **Paul Dale** on 22 July 2011, 7:14 a.m.,*
in response to message #4 by Cristian Arezzini

Cristian, do you have any references for the values you gave?

I'm finding that the numbers aren't quite matching data I find on NASA's web sites. e.g. the mass of the Earth is given as 5.97219e24 +/- 0.00060e24 (source). Likewise, the masses are out a little compared to values given in NASA's Horizons database.

I'd really like any values we include to be the best currently known.

- Pauli

Re: WP34 again

*Message #18 Posted by **Dave Shaffer (Arizona)** on 22 July 2011, 11:31 p.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> best currently known.

This may well change from day to day!

You should probably adopt values from some currently recognized authority.

As an astronomer, I would push whatever the IAU (International Astronomical Union) gives as their current standard. There may well be values from the US NIST, or ISO (International Standards Organization), too.

It is generally better to use an "official" value of some sort, with proper reference - which can be corrected later, if necessary. For really precise work, it is better to know what you have done, so it can be properly undone later! You say something like "I used WGS84 values." Then everybody knows what you did.

For not so precise work, it doesn't matter very much.

Re: WP34 again

*Message #19 Posted by **Paul Dale** on 23 July 2011, 12:32 a.m.,*
in response to message #18 by Dave Shaffer (Arizona)

This is exactly what I've been trying to do.

We pulled most of the constants and conversions from NIST and I've just gone through and updated to the latest list (2010). The WGS84 constants came from that standard. However, I'm having trouble locating a canonical source for the astronomical constants that have been added. NASA or IAU seem like the obvious choices and I'd prefer to use the latter but the IAU web site isn't very forthcoming unlike NASA's.

Do you have a link to the IAU's definitions of these? Or better yet, send me a file with them :-)

- Pauli

Edited: 23 July 2011, 7:41 p.m. after one or more responses were posted

Re: WP34 again

*Message #20 Posted by **Dave Shaffer (Arizona)** on 23 July 2011, 2:36 p.m.,*
in response to message #19 by Paul Dale

> Quote:
>
> Do you have a link to the IAU's definitions of these? Or better yet, send me a file with them :-)

Here's a link to the IAU 2009 system of constants:

http://maia.usno.navy.mil/NSFA/IAU2009_consts.html

Note that in any such system, there are generally NO masses given for planets, etc. The value that counts for calculating things like orbits is the product of the object's mass

times the gravitational constant (capital "G") - or GM. This is because we don't really know what the mass of anything large (like the Earth) is! You get it by doing something like determining the period of an orbit, and then plugging in a value of G. G is VERY HARD to measure! You measure the actual gravitational attraction between masses, which isn't very big.

On the other hand, though, you get the product GM from the orbit period directly, which you can measure to much higher accuracy. In the IAU table, "G" is given to 6 digits, whereas GM(E) has 10 digits

Hence, serious orbit or geodetic or other scientific calculations use the product GM.

On the IAU page, you will see lots of mass ratios - gotten from orbit periods.

So, putting in an Earth mass (or for other objects), while convenient, perhaps, isn't quite right for maximum accuracy.

Masses of a celestial objects

*Message #21 Posted by **Marcus von Cube, Germany** on 23 July 2011, 3:44 p.m.,*
in response to message #20 by Dave Shaffer (Arizona)

> Quote:
>
> So, putting in an Earth mass (or for other objects), while convenient, perhaps, isn't quite right for maximum accuracy.

I'm just doing some reading about this and I agree that GM is generally the "better" value. What we can do is provide the constants for G and M with the best known accuracy and they should match. Providing the GM values might be useful, too. Since GM is given to many more digits then G, multiplying the values of G and M for a given object will result in a less accurate result for GM. Getting at the mass by dividing GM by G would lead to an artificial accuracy for the mass which we should avoid.

Isn't if funny that it's even possible to determine the mass of the sun? :-)

Re: WP34 again

*Message #22 Posted by **Paul Dale** on 23 July 2011, 7:40 p.m.,*
in response to message #20 by Dave Shaffer (Arizona)

Dave, thanks for the reference. I'll see what I can pull in. I've been grabbing data and updating our values using Nasa's Horizon database. I assume this is reputable as well :-)

Interesting that the IAU document you referenced provides three different values for GM of Earth :-(At least one of the three matches the WGD84 value I included which is the first bit of sanity I've found.

- Pauli

Re: WP34 again

*Message #23 Posted by **fhub** on 24 July 2011, 4:12 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> I'll see what I can pull in. I've been grabbing data and updating our values using Nasa's Horizon database.

Pauli, I just saw in the latest build that you've implemented these astronomical values (radius and semi-major) in **km** !?

Is that really a good idea??? This is not the usual SI unit!

Franz

Re: WP34 again

*Message #24 Posted by **Paul Dale** on 24 July 2011, 5:19 p.m.,*
in response to message #23 by fhub

Cristian used km up above. It is also the unit used by NASA's Horizon database which is where the values I used came from. This is the first mention of km being the incorrect unit here, no complaints when Cristian produced values.

With no voices to the contrary, why wouldn't I then use km? It certainly seems like they are the appropriate unit here.

- Pauli

Re: WP34 again

*Message #25 Posted by **fhub** on 24 July 2011, 5:26 p.m.,*
in response to message #24 by Paul Dale

> Quote:
>
> Cristian used km up above. It is also the unit used by NASA's Horizon database which is where the values I used came from. This is the first mention of km being the incorrect unit here, no complaints when Cristian produced values.
>
> With no voices to the contrary, why wouldn't I then use km? It certainly seems like they are the appropriate unit here.
>
> - Pauli

Well, there's a ig difference between 'talking' about any values (or writing them in a table (**with km added**) or using these values in a calculation! If the value recalled from the WP34S is in km, then it's definitely useless for any calculations, just because you get wrong results, point!

But do whatever you want ...

Edited: 24 July 2011, 5:27 p.m.

Re: WP34 again

*Message #26 Posted by **Walter B** on 25 July 2011, 1:37 a.m.,*
in response to message #25 by fhub

Franz,

I'm with you in this matter. Whatever put into our CONST catalogue, shall be in SI whenever possible.

Walter

Re: WP34 again

*Message #27 Posted by **Cristian Arezzini** on 25 July 2011, 1:50 a.m.,*
in response to message #26 by Walter B

I posted them in km because that's the unit I usually use; and that's OK with the 50g because there, units are attached to the number, and the calc takes care of the appropriate conversions. But I agree that on the 34s, which doesn't attach units to values, SI units should be used instead - just for consistency if nothing else.

By the way, I really appreciate the sun and earth symbols! Thanks! :)

Cristian

Edited: 25 July 2011, 1:52 a.m.

Re: WP34 again

*Message #28 Posted by **Cristian Arezzini** on 23 July 2011, 1:31 p.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> Cristian, do you have any references for the values you gave?

Hi Pauli, Sorry for the delay in replying, I somehow missed your message. As for Earth mass determination, that value was found by Gundlach & Merkowitz in 2000, and was supposed to be the most accurate measurement, but I can't of course prove this statement; as for the other values, I used to use what I had on my university's physics books, but then I found new, and I thought more accurate, data online, and I have used those since; but I can't vouch for their accuracy in any way. If you found them in a more official page like NASA, by all means use those - I suspect a small difference in the value won't change my results by much anyway! :)

Cristian

Re: WP34 again

*Message #29 Posted by **Marcus von Cube, Germany** on 21 July 2011, 5:54 a.m.,*

in response to message #1 by Paul Dale

> Quote:
>
> On a positive note, I've managed to squeeze a few more kilobytes out of the firmware and it seems likely that most of this will go into additional user program pages :-)

I've added a few. :-)

Now exactly 8 KB of flash are available to the user, 6 for library programs and 2 for the SRAM backup. We may add another page depending on which features will be included or excluded.

Re: WP34 again

*Message #30 Posted by **Paul Dale** on 21 July 2011, 5:59 a.m.,*
in response to message #29 by Marcus von Cube, Germany

This works out as 6x506 steps in library regions plus 506 steps in the backup and 506 steps in RAM. That a total of 4048 steps of program plus 112 + 112 registers. We're heading towards the 42S's level of capability :-)

- Pauli

Re: WP34 again (to Paul, Eric, & Gene)

*Message #31 Posted by **db (martinez, ca.)** on 21 July 2011, 9:48 p.m.,*
in response to message #30 by Paul Dale

Paul;
That's about twice the memory of a CV. Maybe a lot more than twice considering how well your baby uses it's space. The only bad thing in all of this is that the bean counters at hp are going to think that all the sales of the 30b are going to business types, so maybe they need to come out with yet another business calculator instead of a scientific programmable with alpha. -That's ok. We have the 34S.

Eric;
I'm going to assume that the best guess on how many users of the 34 there are is how many faceplates you have shipped. I realize that this is a labor of love for you that entailed a large hardware investment and i hope no one here will start spouting that you make money on this. But anyway; could you tell us how many of us there are?

Gene:
Get with it man. Sleep when you're dead.

Re: WP34 again (to Paul, Eric, & Gene)

*Message #32 Posted by **JustinM** on 21 July 2011, 10:50 p.m.,*
in response to message #31 by db (martinez, ca.)

> Quote:
>
> I'm going to assume that the best guess on how many users of the 34 there are is how many faceplates [that] have shipped.

Another indicator is the download statistics at Sourceforge. Looking at June, there were 540

downloads. There was a spike of 92 downloads on 6/9 corresponding to the 2.0 beta release. Through June, there were about 20 downloads/day after that. In July, it's been about 10-15 per day and a total MTD of 198.

I haven't been able to figure out if that is only counting the main wp34s.zip or any downloads of any files from the wp34s sourceforge repository, including the SVN.

If it's just the wp34s.zip file, that would put the user population around 500 since 2.0 beta was released. If it includes SVN downloads, it probably points to about 100 - 200 users, with a few dozen that are frequently downloading new SVN builds.

Re: WP34 again (to Paul, Eric, & Gene)

*Message #33 Posted by **Paul Dale** on 21 July 2011, 11:14 p.m.,*
in response to message #31 by db (martinez, ca.)

> Quote:
>
> That's about twice the memory of a CV. Maybe a lot more than twice considering how well your baby uses it's space.

It is a lot more than twice. The CV has about 2k bytes in total. We've about 4k steps plus registers. For any command that takes an argument, the CV needs 2 bytes. Whereas, the 34S only needs one step. For many of the extended commands we've got the 41cv would need to use XROM. With recall arithmetic & some other instructions, I'm finding that a lot more of the commands that I end up using have an argument.

> Quote:
>
> The only bad thing in all of this is that the bean counters at hp are going to think that all the sales of the 30b are going to business types, so maybe they need to come out with yet another business calculator instead of a scientific programmable with alpha.

I doubt we're even enough sales to be considered an insignificant market segment :-(

- Pauli

Re: WP34 again (to Paul, Eric, & Gene)

*Message #34 Posted by **Eric Rechlin** on 22 July 2011, 12:05 a.m.,*
in response to message #31 by db (martinez, ca.)

> Quote:
>
> Eric;
> I'm going to assume that the best guess on how many users of the 34 there are is how many faceplates you have shipped. I realize that this is a labor of love for you that entailed a large hardware investment and i hope no one here will start spouting that you make money on this. But anyway; could you tell us how many of us there are?

I sent 66 to 28 unique addresses.

I plan to make another batch in a couple weeks. I have some other things that I need to do first,

however.

Eric

Re: WP34 again (to Paul, Eric, & Gene)

*Message #35 Posted by **Marcus von Cube, Germany** on 22 July 2011, 5:13 a.m.,*
in response to message #34 by Eric Rechlin

Eric, have you ever considered to ask a professional print shop for a batch of overlays?

Re: WP34 again (to Paul, Eric, & Gene)

*Message #36 Posted by **Ángel Martin** on 22 July 2011, 7:32 a.m.,*
in response to message #34 by Eric Rechlin

> Quote:
>
> I have some other things that I need to do first, however.

Would that be some 41Z overlays perhaps?? :-)

I'm looking forward to those!

Re: WP34 again

*Message #37 Posted by **Neil Hamilton (Ottawa)** on 21 July 2011, 6:33 a.m.,*
in response to message #1 by Paul Dale

> Quote:
>
> The assembler/disassembler will handle the jump once it gets updated.

So done! Assembler now at SVN 1274 op-codes.

6 flash pages! Wow! I am going to get lost...

Re: WP34 again

*Message #38 Posted by **Paul Dale** on 21 July 2011, 6:46 a.m.,*
in response to message #37 by Neil Hamilton (Ottawa)

Actually seven pages of code, the backup region is quite usable for user programs.

I suspect we've actually surpassed the 42S in terms of programability :-) Less steps, but the 34S's are fully merged and often more powerful. Still lacking matrix operations though.

- Pauli

Re: WP34 again

*Message #39 Posted by **Ángel Martin** on 21 July 2011, 7:12 a.m.,*
in response to message #38 by Paul Dale

Will this allow Bessel functions to be included? (Real & Complex plz.)

Re: WP34 again

*Message #40 Posted by **Paul Dale** on 21 July 2011, 7:25 a.m.,*
in response to message #39 by Ángel Martin

I never got the complex Bessel functions working :-(Ignoring this for a moment....

Real Bessel functions are 1.7kb. Complex are going to be double that at a guess but assume there is some efficiency and they "only" take 5kb for both real and complex. We would have to reduce user flash to four pages plus the back up region to fit this in assuming we take out all the other optional things. Keeping the currently included optional functions, would reduce the user flash pages to two plus the backup.

So no, no native Bessel functions.

Enough doom and gloom. I am reasonably confident that a user program for the Bessel functions would fit into a page or two of flash which seems like a far better use of the space. User programs are short compared with native versions.

- Pauli

Edited: 21 July 2011, 7:26 a.m.

Re: WP34 again

*Message #41 Posted by **gene wright** on 21 July 2011, 7:30 a.m.,*
in response to message #38 by Paul Dale

matrix programs are still on my list. Real life keeps getting in my way.

Re: WP34 again

*Message #42 Posted by **Paul Dale** on 21 July 2011, 7:46 a.m.,*
in response to message #41 by gene wright

I know. A page of two of flash should adequately cover these.

- Pauli

Re: WP34 again

*Message #43 Posted by **Marcus von Cube, Germany** on 21 July 2011, 2:00 p.m.,*
in response to message #42 by Paul Dale

We could include some 'default' pages which are automatically included.

Re: WP34 again

*Message #44 Posted by **gene wright** on 21 July 2011, 2:09 p.m.,*
in response to message #43 by Marcus von Cube, Germany

Assuming I get them written... :-(

I'm afraid the 41CL is also competing for my limited time. Perhaps if I learn not to sleep?

:-)

Re: WP34 again Ver 1300?

*Message #45 Posted by **Norman Dziedzic** on 24 July 2011, 3:34 p.m.,*
in response to message #1 by Paul Dale

I haven't flashed my 30b hardware in a while. I know that there have been a lot of changes.

I tried to follow the original instructions for flashing the calculator and now I'm stuck with the display saying "Erased" and a 0 in the number field. No key press does anything.

Am I missing something?

Edited: 24 July 2011, 10:27 p.m. after one or more responses were posted

Re: WP34 again Ver 3000?

*Message #46 Posted by **Norman Dziedzic** on 24 July 2011, 3:36 p.m.,*
in response to message #45 by Norman Dziedzic

After pressing reset on the back, the display says Restored and then the next keypress makes all segments come on black and I cannot adjust the contrast to see if any keypress makes a difference.

Re: WP34 again Ver 3000?

*Message #47 Posted by **Marcus von Cube, Germany** on 24 July 2011, 3:39 p.m.,*
in response to message #45 by Norman Dziedzic

Norman, probably a broken build. Try a reset. If that doesn't help, get a slightly older image until you find one that works.

Edit: The build works in principle, see next post.

Edited: 24 July 2011, 4:06 p.m.

Re: WP34 again Ver 3000?

*Message #48 Posted by **Marcus von Cube, Germany** on 24 July 2011, 4:05 p.m.,*
in response to message #45 by Norman Dziedzic

> Quote:
>
> I haven't flashed my 30b hardware in a while. I know that there have been a lot of changes.

It's not a broken build. I've just flashed the latest revision on my 20b and it runs. The many changes render any info which might have been stored in flash memory with an older version useless. You should use the "Erase" button on the cable to get into SAM-BA mode, just to make sure there is no residual data in flash memory.

Another hint: Check the voltage of your batteries and report the value back here, please.

Edited: 24 July 2011, 4:37 p.m.

Re: WP34 again Ver 3000?

*Message #49 Posted by **JustinM** on 24 July 2011, 4:53 p.m.,*
in response to message #48 by Marcus von Cube, Germany

Marcus, I just tried flashing from 1196 to revision 1300 and got similar results that Norman did. Something different I noticed this time was that the 'Lock region' dialog said (0 to 14) instead of the usual (0 to 15). After flashing, I got 'Erased', but the minus sign on the far left of the display was lit. If I pushed a shift key, the letter ('g' or 'h') would appear in the upper display, but repeating that shift key wouldn't clear it. The second key press would lock up the unit.

I tried reflashing and ended up locking up SAM-BA. I had to kill the process and start all over. I reflashed back to 1196 (last rev I had downloaded, and I knew it worked), and it's working again. BATT shows 2.8V.

Re: WP34 again Ver 3000?

*Message #50 Posted by **JustinM** on 24 July 2011, 5:17 p.m.,*
in response to message #48 by Marcus von Cube, Germany

Just tried to update from 1196 to 1288. I did the usual cable button sequence, and tried to send the 1288 calc.bin file. SAM-BA locked up again, the process started using 50% CPU, and nothing appeared to be sent in the log window. The pop-up that says "Please Wait" just turned into a white rectangle. I had to kill SAM-BA again.

This time, I went through the cable button presses, restarted SAM-BA and reconnected. I then executed the "Erase All Flash" script and resent the 1288 file. It sent normally this time, but still asked to lock region (0 to 14). I entered 'No' as usual.

I'm now getting some pretty weird behavior with 1288. The dot matrix display is randomly missing pixels, mostly in the second row from the top. I tried to recheck BATT but it displays -0o0'0.00" (0.00 in HMS) rather than outputting the voltage.

If I enter numbers onto the stack, they just disappear. Using Rv or R^ doesn't show anything on the stack. I'll keep working backwards and let you know what I see.

Re: WP34 again Ver 3000?

*Message #51 Posted by **Marcus von Cube, Germany** on 25 July 2011, 4:08 a.m.,*
in response to message #50 by JustinM

Can you try with fresh batteries, please? A SAM-BA lockup cannot be attributed to the file you're just downloading, it must be something different.

I changed (increased) the number of possible user flash regions. This explains why the file is shorter and the lock dialog differs.

Re: WP34 again Ver 3000?

*Message #52 Posted by **Paul Dale** on 24 July 2011, 5:09 p.m.,*
in response to message #45 by Norman Dziedzic

I suspect there is something broken in the build. My 20b took the image perfectly, my 30b is behaving as you describe -- I figured I busted the flash due to low batteries during programming but it seems too much of a coincidence for several unit to be failing the same way -- then again I said that about the old batteries last week.

- Pauli

Re: WP34 again Ver 3000?

*Message #53 Posted by **JustinM** on 24 July 2011, 5:51 p.m.,*
in response to message #52 by Paul Dale

I didn't mention it, but I've got a 30b also. I just tried 1286 and I'm still getting the corrupted dot matrix display. The keyboard is really sluggish and dropping keystrokes. Attempting to multiply two 6-7 digit numbers locked up the unit.

I dropped back to 1233 to a rev that looked like it was before the serial and speed changes were done. Looks like normal operation - no display corruption or keyboard issues. Let me know if you need more testing on the more recent builds to find where the regression happened. I'll try 1262 next - that looks like where Marcus released the serial I/O but before the opcode and speed changes.

Re: WP34 again Ver 3000?

*Message #54 Posted by **Paul Dale** on 24 July 2011, 5:55 p.m.,*
in response to message #53 by JustinM

I guess trying 1262 would be worthwhile to isolate the changes.

Marcus is going to have to be the one to fix this -- I've no hardware debug setup -- and he is busy at the moment.

Interesting that the 20b hardware doesn't have the problem. There must be more differences that we know about.

- Pauli

Re: WP34 again Ver 3000?

*Message #55 Posted by **JustinM** on 24 July 2011, 6:28 p.m.,*
in response to message #54 by Paul Dale

Instead of working up from 1233 I thought it would be more helpful to work backwards from 1286. I continued having the corrupted dot matrix, dropped keystrokes, and lock-ups when doing multiplication with 1283 and 1280. Reverting to 1273 cleared up all of those issues and restored normal operation. It looks like the regression occurred with 1280.

Re: WP34 again Ver 3000?

*Message #56 Posted by **Paul Dale** on 24 July 2011, 6:37 p.m.,*
in response to message #55 by JustinM

Thanks for this. The SLOW and FAST command infrastructure looks like the smoking gun here. There are no other significant changes between 1273 and 1280.

Thanks for looking.

- Pauli

Re: WP34 again Ver 3000?

*Message #57 Posted by **JustinM** on 24 July 2011, 6:52 p.m.,*
in response to message #56 by Paul Dale

You're welcome, Pauli. Glad I could contribute.

Re: WP34 again Ver 3000?

*Message #58 Posted by **Marcus von Cube, Germany** on 25 July 2011, 4:13 a.m.,*
in response to message #57 by JustinM

I'll look into this. There were some updates to the speed changing code which I later reverted manually. I may have broken something in the process.

BTW, I can only debug the 20b, my 30b doesn't have the JTAG connector modification. Debugging the power saving code is next to impossible on either unit.

Re: WP34 again Ver 3000?

*Message #59 Posted by **Paul Dale** on 25 July 2011, 4:20 a.m.,*
in response to message #58 by Marcus von Cube, Germany

I can confirm the problem on the 30b with new batteries (checked with a multimeter at 3.2V roughly). I also confirmed that the image was written correctly using the compare file option in sam-ba.

- Pauli

WP 34S 2.1 1306 is online

*Message #60 Posted by **Marcus von Cube, Germany** on 25 July 2011, 6:30 a.m.,*
in response to message #59 by Paul Dale

Hi folks!

Thanks for pointing me to the 30b hardware problems. The power saving code was the culprit. I was violating the processor specs for core voltage and flash read wait states when running at full speed. The 20b did like it better than the 30b.

In the course of the action, we've updated the version number to 2.1. There is more user flash available now (program regions 0 to 8, 9 in total). As a trade off, some of the serial commands (SOPEN, SCLOSE, SEND1, RECV1, aSEND, aRECV) are gone as are the FACTOR and MULADD commands. The remaining headroom will most probably go into bug fixing and some constants and conversions.

As soon as the documentation is up to date and Neils assembler matches the release, we'll prepare a new release package.

Re: WP 34S 2.1 1306 is online

*Message #61 Posted by **Paul Dale** on 25 July 2011, 6:39 a.m.,*
in response to message #60 by Marcus von Cube, Germany

Barring bugs and fixes, this will be the release firmware.

At least until we change our minds :-)

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #62 Posted by **Neil Hamilton (Ottawa)** on 25 July 2011, 6:54 a.m.,*
in response to message #60 by Marcus von Cube, Germany

> Quote:
>
> As soon as the documentation is up to date and Neils assembler matches the release, we'll prepare a new release package.

I have an assembler revision to SVN 1305 opcodes (backspace, backspace, backspace)... but it is already out-of-date (likely before I even checked it in!).

Wow. Wait 15 minutes and things change! :-)

So... I have an assembler revision to SVN 1309 opcodes. (I think I'll get offline before its evolution creeps and/or jerks some more :-)

IMPORTANT: See note, elsewhere, about correction to command line for building translation opcode tables for the assembler.

Cheers...

Re: WP 34S 2.1 1306 is online

*Message #63 Posted by **Paul Dale** on 25 July 2011, 7:01 a.m.,*
in response to message #62 by Neil Hamilton (Ottawa)

Oops, unintended side effect of the automatic sorting of the constants table. Oh well.

Sorry,

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #64 Posted by **Neil Hamilton (Ottawa)** on 25 July 2011, 7:17 a.m.,*
in response to message #63 by Paul Dale

No worries mate! Keeps me on my toes...

Cheers...

Re: WP 34S 2.1 1306 is online

*Message #65 Posted by **Didier Lachieze** on 25 July 2011, 10:36 a.m.,*
in response to message #62 by Neil Hamilton (Ottawa)

Hello Marcus,

I've flashed the 1306 revision on my 30b (coming from the official 2.0 1133 build). It works fine, however I've noticed that the command VERS doesn't show anymore the build version: it just shows "34S 2.1" without 1306.

Re: WP 34S 2.1 1306 is online

*Message #66 Posted by **Marcus von Cube, Germany** on 25 July 2011, 10:42 a.m.,*
in response to message #65 by Didier Lachieze

How did you download the file? Directly from the SVN repository with your browser? This will return a blank revision number.

Re: WP 34S 2.1 1306 is online

*Message #67 Posted by **Didier Lachieze** on 25 July 2011, 11:24 a.m.,*
in response to message #66 by Marcus von Cube, Germany

> Quote:
>
> How did you download the file? Directly from the SVN repository with your browser? This will return a blank revision number.

Yes, this is what I did. Is there any other way to download the latest revision?

Re: WP 34S 2.1 1306 is online

*Message #68 Posted by **JustinM** on 25 July 2011, 11:27 a.m.,*
in response to message #66 by Marcus von Cube, Germany

What is the proper way to download the latest calc.bin file from SVN so that it will show the revision number? Should we use SVN from the command line? How is that different from downloading with the browser?

Re: WP 34S 2.1 1306 is online

*Message #69 Posted by **Marcus von Cube, Germany** on 25 July 2011, 12:23 p.m.,*
in response to message #68 by JustinM

> Quote:

> What is the proper way to download the latest calc.bin file from SVN so that it will show the revision number? Should we use SVN from the command line?

Not necessarily from the command line but a regular SVN client is the way to go. Tortoise SVN is a Windows client that links into Explorer. I'm using modules that extend the development environments Eclipse and Visual Studio besides a command line client. It depends on what I want to achieve.

> Quote:
>
> How is that different from downloading with the browser?

The revision number is inserted into the binary file during the download. The file stored in the repository (and accessed via the web browser) has a blank field in place of the number. The reason must be SVN internal.

Re: WP 34S 2.1 1306 is online

*Message #70 Posted by **Didier Lachieze** on 26 July 2011, 3:46 a.m.,*
in response to message #69 by Marcus von Cube, Germany

Thanks Marcus, I've installed Tortoise SVN, downloaded the latest calc.bin and now I have revision 1315 on my WP-34S :)

Re: WP 34S 2.1 1306 is online

*Message #71 Posted by **fhub** on 25 July 2011, 7:30 a.m.,*
in response to message #60 by Marcus von Cube, Germany

> Quote:
>
> ... gone as are the FACTOR and MULADD commands.

Hmmm? What did these commands, Marcus?
Can't even find them in the last manual ...

Franz

Re: WP 34S 2.1 1306 is online

*Message #72 Posted by **Paul Dale** on 25 July 2011, 7:33 a.m.,*
in response to message #71 by fhub

Smallest factor of an integer and a fused multiply add.

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #73 Posted by **fhub** on 25 July 2011, 7:38 a.m.,*
in response to message #72 by Paul Dale

> Quote:
>
> Smallest factor of an integer and a fused multiply add.
>
> - Pauli

Thanks, but I still can't imagine what 'fused multiply add' means!?

Re: WP 34S 2.1 1306 is online

*Message #74 Posted by **Paul Dale** on 25 July 2011, 7:46 a.m.,*
in response to message #73 by fhub

http://tinyurl.com/429c5z7 :-)

It is a multiply and add without an intermediate rounding step. Really really useful when writing numerical code. The 34S instruction set allows this to be done fairly easily other ways.

- Pauli

Edited: 25 July 2011, 8:05 a.m.

Re: WP 34S 2.1 1306 is online

*Message #75 Posted by **fhub** on 25 July 2011, 8:31 a.m.,*
in response to message #74 by Paul Dale

> Quote:
>
> It is a multiply and add without an intermediate rounding step. Really really useful when writing numerical code. The 34S instruction set allows this to be done fairly easily other ways.

One always can learn something new! :-)

Well, I won't really miss this MULADD then ...

OTOH this FACTOR command is (or better was) quite useful (I've tried it now on an older SVN build): it's very easy to get a full prime-factorization with it. So have we now to write a complete program for this task, or is there any other 34S command useful for this purpose?

Franz

Edited: 25 July 2011, 8:36 a.m.

Re: WP 34S 2.1 1306 is online

*Message #76 Posted by **Paul Dale** on 25 July 2011, 8:42 a.m.,*
in response to message #75 by fhub

Think about complex operations for multiply adds.

Yes, factor will have to be written in user code. Including factor means one less page of program flash and I doubt the factor program will be that large. This lets people who don't want to factor numbers have other programs instead -- more versatile this way.

I also suspect you haven't found the thirty second plus execution times for factor :-)

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #77 Posted by **Marcus von Cube, Germany** on 25 July 2011, 9:10 a.m.,*
in response to message #76 by Paul Dale

FACTOR would fit in the current build but the head room for bug fixes will diminish. If we get enough votes for either FACTOR or MULADD we may reconsider.

The user mode serial commands need 700 bytes (I've just rechecked it) which would cost us a program region. Pauli loves program regions but we might not all agree to the extent of space reserved for this. We've more than 4500 steps in flash alone at the moment. Maybe 4000 is still enough.

Another thought came up recently: We may add a special KEY label command which acts similar to the labels A to D which are bound to the hot keys. We're thinking of having a key combo starting with the right arrow and some other key to directly start a subroutine in RAM or flash. Not all keys will be available to this because they are already defined but many will do. We are coming closer to the 41C with this approach.

Re: WP 34S 2.1 1306 is online

*Message #78 Posted by **fhub** on 25 July 2011,*

9:26 a.m.,
in response to message #77 by Marcus von Cube, Germany

> Quote:
>
> FACTOR would fit in the current build but the head room for bug fixes will diminish.

Do you need such a head room for bug fixes? Are there still any bugs at all? ;-)

> Quote:
>
> If we get enough votes for either FACTOR or MULADD we may reconsider.

Well, you have at least my vote for FACTOR, but I know that doesn't count ...

Franz

Edited: 25 July 2011, 9:51 a.m.

Re: WP 34S 2.1 1306 is online

*Message #79 Posted by **Marcus von Cube, Germany** on 25 July 2011, 10:45 a.m.,*
in response to message #78 by fhub

Franz, your vote counts as 1. Add my vote and we have a total of 2 votes so far.

Re: WP 34S 2.1 1306 is online

*Message #80 Posted by **fhub** on 25 July 2011, 12:22 p.m.,*
in response to message #79 by Marcus von Cube, Germany

> Quote:
>
> Franz, your vote counts as 1. Add my vote and we have a total of 2 votes so far.

Since this 'voting' is already in a very deeply nested posting, it will stay at 2 I'm afraid. :-(

I'm currently writing such a 'FACTOR' code myself, and it's in fact not difficult

(or long) at all, but I guess the 'native' routine would definitely be faster.

Re: WP 34S 2.1 1306 is online

*Message #81 Posted by **Gerson W. Barbosa** on 25 July 2011, 12:30 p.m.,*
in response to message #77 by Marcus von Cube, Germany

> Quote:
>
> If we get enough votes for either FACTOR or MULADD we may reconsider.

MULADD

Re: WP 34S 2.1 1306 is online

*Message #82 Posted by **fhub** on 25 July 2011, 12:36 p.m.,*
in response to message #81 by Gerson W. Barbosa

> Quote:
>
> MULADD

Can be simulated with 3 commands:

```
1
[CPX] *
DROP
```

Re: WP 34S 2.1 1306 is online

*Message #83 Posted by **Paul Dale** on 25 July 2011, 5:48 p.m.,*
in response to message #82 by fhub

Almost at least. There are sign issues with this solution :-) Easily worked around of course.

The presence of a full precision complex multiply mostly removes the need for a separate multiply add instruction. This is the main reason I don't mind losing this one. Real multiply add takes an extra instruction or three and the integer version is just multiply then add. If we didn't have complex multiply, the multiply add instruction would be a must have.

As for factor, I'd like to see a user code

implementation before the decision to include this again is finalised. There are better algorithms than the one used in the firmware which will likely be faster for large numbers.

Multiply add and factor use 584 bytes for both. We've got about 600 bytes of head room for bug fixes. So putting them back in is possible so long as there aren't too many more bugs lurking.

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #84 Posted by **fhub** on 25 July 2011, 6:24 p.m.,*
in response to message #83 by Paul Dale

> Quote:
>
> Almost at least. There are sign issues with this solution :-)

Are you sure? I don't believe you ... ;-)

I guess this MULADD should return x*y+z, correct?

Well, my first entered 1 makes the 2 complex numbers y+z*i and 1+x*i, and their [CPX]* gives exactly this y*x+1*z = x*y+z as imaginary part (which is returned because of my last DROP). So I can't imagine what should be wrong with my code!?

> Quote:
>
> As for factor, I'd like to see a user code implementation before the decision to include this again is finalised.

Well, here's a quite simple (but a bit tricky) solution - optimized for length (only 19 steps) and not for speed (which is no problem with the PC-emulation):

```
ENTER
sqrt
IP
```

```
STO K
1
x<>y
DROP
2
x<y?
SKIP 01
DEC X
+
x>K?
SKIP 04
cpx ENTER
RMDR
x!=0?
BACK 11
DROP
```

Edited: 25 July 2011, 6:26 p.m.

Re: WP 34S 2.1 1306 is online

*Message #85 Posted by **Paul Dale** on 25 July 2011, 6:38 p.m.,*
in response to message #84 by fhub

Doh! Should have thought through the multiply better :-(Need caffeine :-)

Hugh uses a more complex & faster algorithm for the built in -- see the bottom of int.c -- I might have broken this when I reduced the small prime table in the "is prime" tester.

With a user code factor finder this small, I don't see much point including the built in.

Speed will be a problem on the emulator when you factor very large numbers. Reals store integers of sixteen digits or less exactly and integers can go well beyond that (2^64 - 1).

- Pauli

Re: WP 34S 2.1 1306 is online

*Message #86 Posted by **fhub** on 25 July 2011, 6:47 p.m.,*
in response to message #85 by Paul Dale

> Quote:
>
> With a user code factor finder this small, I don't see much point including the built in.

Well, I haven't yet looked at your

FACTOR code but I'm sure it's much faster. I'm just trying for the factors 2 and then all odd integers (upto sqrt(x) maximum), so it will definitely be no good choice for very large integers. OTOH, for factoring such big numbers I'll certainly use my CAS instead of the WP34S ... ;-)

Re: WP 34S 2.1 1306 is online

*Message #87 Posted by **Paul Dale** on 25 July 2011, 10:23 p.m.,*
in response to message #84 by fhub

```
2
x<y?
SKIP 01
DEC X
+
```

Change be changed to:

```
2
x>=? Y
SIGN
+
```

to save a step.

Well, I think it can, I've not actually tried it.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S - Getting connected...
*Message #1 Posted by **Marcus von Cube, Germany** on 20 July 2011, 11:18 a.m.*

WP 34 Serial I/O

I've added some serial I/O stuff to the most recent WP 34S builds for Windows and the hardware. You will need the cable provided by HP or a modified 20b or 30b to make use of this. The original cable draws power from the batteries and should be disconnected while not in use.

Communication is between a 34S and another 34S. The Windows emulator counts as a valid partner so you can exchange data between your calculator and the PC. Since PCs tend to have more than one port it is necessary to tell the emulator which one to use. Create a file "wp34s.ini" in the directory where the state files reside and put the name of the port as the only line in this file. Mine says "COM9:" without the quotes. This is the very same port that SAM-BA uses to access the calculator for flashing.

Sending programs, registers or all RAM

The commands mentioned here are found in the X.FCN catalog.

The commands to send and receive have a fixed timeout of some 10 seconds for setting up the connection. After a period of inactivity "I/O Error" is shown which indicates that no communication has occurred. The timeout value is fixed and cannot be changed. If I/O Error appears in the middle of a transmission you should try again. The little "=" sign is lit while the serial port is in use. The ON/EXIT key can be used to abort a communication.

Start the command RECV on the receiving device. It will display "Wait...".

On the sender you have three choices:

SENDP will send the user program space. If all went well, the receiver will display "Program".

SENDR will send the registers 00 to 99. If all went well, the receiver will display "Register".

SENDA will send the complete 2 KB of non volatile memory. If all went well, the receiver will display "All RAM".

User program access to the serial port

We have removed this functionality for the time being.

The P.FCN catalog has commands to access the serial port to send and receive individual bytes or short strings.

SOPEN will open the port with either default parameters of 9600 baud, 8 bits, no parity and 1 stop bit, or with the settings taken from the alpha register. The default settings (empty alpha) look like this:

9600,8N1

The port used on the hardware does not support values <> 8 for the bits parameter. The number of stop bits is always set to 1. Parity may be E, O or N. The baud rate divisor is calculated from the baud rate value. Without a crystal this is not very accurate but I did not have problems with my development 20b here. You can omit parameters which have the default value. I/O Error is returned if the parameters are invalid or the port cannot be accessed (Windows).

SCLOSE disables the serial port.

The little "=" is on while the port is active. Power saving is very much disabled because the timing of the serial port depends on the clock speed. So its advisable to turn the port off with SCLOSE after the transfers are done.

SEND1 takes an integer value from X and sends the low order byte to the port.

RECV1 takes a timeout value in 0.1 second units from X and returns a byte received via the serial port. The value is -1 for timeout, -2 for transmission errors or -3 for manual abort with the ON/EXIT key.

[alpha]SEND sends the contents of the alpha register with a CR as the delimiter.

[alpha]RECV takes a timeout value from X just like RECV1 and reads data into the alpha register. A CR ands the transmission normally but timeouts or errors stop the transmission, too. You can only check the length of alpha after the transfer, no error code is returned. We may change this to return a code in X but this isn't implemented yet.

A command to send the X register might be useful as would be options to change the delimiter (CR) for string transfers.

Edited: 26 July 2011, 3:10 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How to ? hp41 + advantage

*Message #1 Posted by **Patrice** on 20 July 2011, 1:55 a.m.*

Hi all,

How to shift a binary value ?

How to shift 2000 of 8 bits ?

is it 2000 256 / INT

or is it a combination of bit clearing and rotate ?

Thanks Patrice

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Latest HP Solve issue posted

*Message #1 Posted by **gene wright** on 19 July 2011, 1:50 p.m.*

HP Solve new issue

Enjoy.

Re: Latest HP Solve issue posted

*Message #2 Posted by **Walter B** on 19 July 2011, 2:28 p.m.,*
in response to message #1 by gene wright

I'd like to enjoy, but this link doesn't work here (nor does Richard Nelson's he mailed). Response is "Bad Request". Please check. TIA

Walter

Re: Latest HP Solve issue posted

*Message #3 Posted by **Jake Schwartz** on 19 July 2011, 2:40 p.m.,*
in response to message #2 by Walter B

How about this URL:

http://h20331.www2.hp.com/hpsub/downloads/U__HP_01_Newsletters_HP_Calculator_eNL_07_July_201.pdf

Jake

Re: Latest HP Solve issue posted

*Message #4 Posted by **Walter B** on 19 July 2011, 3:00 p.m.,*
in response to message #3 by Jake Schwartz

Thanks. Works with MS IE. Looks like a problem between Firefox and HP :-/

Edit: Thanks a lot for your article about our baby! I'm sure Pauli and Marcus will appreciate it as well. Though it didn't look so recently, we are still confident to get the WP 34S walking within the next weeks (please watch the plural!). If we had confined the function set, walking might have been observed earlier, but nobody can prove this ;-) Anyway, thank you again :-)

Walter

Edited: 19 July 2011, 3:30 p.m.

Re: Latest HP Solve issue posted

*Message #5 Posted by **Geoff Quickfall** on 19 July 2011, 2:37 p.m.,*
in response to message #1 by gene wright

Works for me, of course it may have been fixed in the meantime.

Oh what to do. Work on the book, read HPSolve, play with the 34S, the 41CL or go to work and talk to Wlodek tomorrow in person.

HMMMMM

Off to London tonight! ;-)

bye

Geoff

Re: Latest HP Solve issue posted

*Message #6 Posted by **Marcus von Cube, Germany** on 19 July 2011, 4:01 p.m.,*
in response to message #5 by Geoff Quickfall

> Quote:
>
> or ... talk to Wlodek tomorrow in person

No question!

Re: Latest HP Solve issue posted

*Message #7 Posted by **Paul Dale** on 19 July 2011, 5:37 p.m.,*
in response to message #1 by gene wright

Two small factual errors in the 34S article.

There are 112 registers -- X, Y, Z, T, L, I, A, B, C, D, J, K plus the numbered ones.

There are 104 flags -- A, B, C, D in addition to the numbered ones. Of these A is linked to an annunicator and D allows dangerous returns but B and C are altered by operations in integer mode but are freely usable in real mode.

A lessor point, I started coding the design before approaching Walter for assistance with the layout. The article implies (to me at least) that the reverse occurred. I won't deny that the outward appearance is now mostly Walter's doing.

- Pauli

Re: Latest HP Solve issue posted

*Message #8 Posted by **Jake Schwartz** on 20 July 2011, 11:24 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> Two small factual errors in the 34S article

More is definitely better.... I simply miscounted in the registers and flags...my bad. Hopefully, the overall effect of publicizing the project will still be a positive thing, despite these two numbers being slightly off.

Jake

Re: Latest HP Solve issue posted

*Message #9 Posted by **Ángel Martin** on 21 July 2011, 2:12 a.m.,*
in response to message #8 by Jake Schwartz

> Quote:
>
> Hopefully, the overall effect of publicizing the project will still be a positive thing,

That's a sure thinkg Jake, a great article that does justice to the great work put into the 34S.

BTW I was hoping to find a similar coverage on the CL, but I guess will have to wait for another issue.

Best wishes, 'AM.

Re: Latest HP Solve issue posted

*Message #10 Posted by **Walter B** on 20 July 2011, 4:18 p.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> A lessor point, I started coding the design before approaching Walter for assistance with the layout.

You are right :-) The story is even older: we both contributed to the doomed OpenRPN project some years earlier. And my records show I started playing with layouts in 2005 - pure vapourware at that time.

Walter

Re: Latest HP Solve issue posted

*Message #11 Posted by **Paul Dale** on 20 July 2011, 5:45 p.m.,*
in response to message #10 by Walter B

I guess something was fated to happen :-)

- Pauli

Re: Latest HP Solve issue posted

*Message #12 Posted by **Tommy** on 20 July 2011, 8:36 a.m.,*
in response to message #1 by gene wright

Page 35: "This should make HHC 2011 an especially exciting conference with so many new machines (5?) to talk about." Interesting...

Re: Latest HP Solve issue posted

*Message #13 Posted by **Garth Wilson** on 20 July 2011, 3:37 p.m.,*
in response to message #1 by gene wright

The article on HP manuals was of particular interest to me, since part of my work is writing installation and user

manuals for our products, and I consider the manuals that came with my 41cx and 71 and their modules to be my models.

Fastest Math in the West!

*Message #14 Posted by **Seth Morabito** on 20 July 2011, 3:56 p.m.,*
in response to message #1 by gene wright

Wow, I **need** a copy of that "Fastest Math In the West" tiger poster shown in tiny black and white on Page 40.

Has anyone ever seen one of these floating around? Or a good picture of one? :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Introducing Emu71 for Windows

*Message #1 Posted by **Christoph Giesselink** on 19 July 2011, 12:27 p.m.*

I'm proud to announce a new emulator for the HP-71B calculator "Emu71 for Windows" (Emu71/Win) on my web page at http://hp.giesselink.com. The emulation core is independent from Jean-Francois Garnier's Emu71 (Emu71/DOS), the HPIL IO-processor simulation is a ported version base on the IO-processor simulation of Emu71/DOS. A big thank to Jean-Francois allowing me to use his source code.

Emu71/Win base on the sources of Emu28 and so on the source code base introduced with Emu48. So Emu71/Win inherited all advantages and also the disadvantages of the Emu48 family emulators.

Main differences to Emu71/DOS

- pure Win32 program / sources could be compiled for pure x64 program
- skins for different appearance (two included)
- multi instance / multi session ability, each session is saved in an own document
- slower than Emu71/DOS but of course a lot faster than the real calculator at calculations
- simulated graphic display with possibilty of contrast, blinking and row driver programming, but limited to the regular 22 characters
- display output is much slower than Emu71/DOS because scrolling and other relevant display output timings are controlled by the calculator firmware and so have the same speed than the original calculator
- exact simulation of the original memory layout (16KB build with 16*1KB chips)
- no limitations in RAM / ROM configuration
- diagnostic ROM works
- allowing multiple HP 82401A HP-IL Interface modules (HP 82402A Dual HP-IL Interface simulation, but not limited to only two interfaces)
- no integration of HP-IL devices, all devices must be connected over Virtual HP-IL (TCP/IP)

Hope you will enjoy this new emulator.

Christoph Giesselink, July 2011

Re: Introducing Emu71 for Windows

*Message #2 Posted by **gene wright** on 19 July 2011, 12:51 p.m.,*
in response to message #1 by Christoph Giesselink

Dumb question #1: The older 71 emulator expects the rom to be in a .bin format, rom71.bin.

The new windows script is looking for file HP71B.ROM

Same format? Different?

I've probably missed where this is explained, but it seems different than the DOS version?

Re: Introducing Emu71 for Windows

*Message #3 Posted by **Christoph Giesselink** on 19 July 2011, 1:23 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> Dumb question #1: The older 71 emulator expects the rom to be in a .bin format, rom71.bin.
>
> The new windows script is looking for file HP71B.ROM
>
> Same format? Different?
>
> I've probably missed where this is explained, but it seems different than the DOS version?

There's a short description about the ROM image format at http://hp.giesselink.com/Emu71/EMU71.HTM#s3.

Emu71/Win accept two formats: packed and unpacked images, so the images from Emu71/DOS are ok. Simple rename it to HP71B.ROM at put it into the Emu71/Win installation directory.

Christoph

Re: Introducing Emu71 for Windows

*Message #4 Posted by **hugh steers** on 19 July 2011, 2:28 p.m.,*

in response to message #3 by Christoph Giesselink

Awesome!

at last a 32 bit version! Also, i compiled the code and it works.

i'm going to have to have a hack about with this.

thanks very much all those involved.

-- hugh.

Re: Introducing Emu71 for Windows

*Message #5 Posted by **Egan Ford** on 19 July 2011, 4:28 p.m.,*
in response to message #1 by Christoph Giesselink

> Quote:
>
> Main differences to Emu71/DOS

- Open Source

Thanks!

> Quote:
>
> slower than Emu71/DOS but of course a lot faster than the real calculator at calculations

Why?

Re: Introducing Emu71 for Windows

*Message #6 Posted by **Christoph Giesselink** on 19 July 2011, 7:47 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> slower than Emu71/DOS but of course a lot faster than the real calculator at calculations
>
> Why?

The Saturn CPU core implementation of Emu71/DOS is completely written in 86 assembler and highly optimized to run on old and slow DOS machines, whereas the Saturn CPU core of Emu71/Win is written in C highly optimized to simulate the Saturn CPU with all it's hardware bugs as realistic as possible.

Christoph

Re: Introducing Emu71 for Windows

*Message #7 Posted by **Namir** on 19 July 2011, 9:16 p.m.,*
in response to message #1 by Christoph Giesselink

Christopher,

I cannot say thank you enough times. Running the old EMU71 has become complicated with Windows 7. I had to resort to virtual machines running Window XP. Your Windows version is a dream and I love it!!!!

Namir

Re: Introducing Emu71 for Windows

*Message #8 Posted by **Namir** on 19 July 2011, 11:05 p.m.,*
in response to message #1 by Christoph Giesselink

I was able to install the MATH and JPCROMX ROM modules in the 71B emulator. Your software is awesome!!!

:-)

Namir

Re: Introducing Emu71 for Windows

*Message #9 Posted by **Howard Owen** on 19 July 2011, 11:36 p.m.,*
in response to message #1 by Christoph Giesselink

Whoo hoo! I figured you might be up to something like that! Does it talk to the PIL-Box?

Re: Introducing Emu71 for Windows

*Message #10 Posted by **Howard Owen** on 20 July 2011, 12:52 a.m.,*
in response to message #9 by Howard Owen

Yes, it does work with the PIL-Box, using Christoph's HP-IL over TCP/IP. This an instant hit in my apartment!

Re: Introducing Emu71 for Windows

*Message #11 Posted by **J-F Garnier** on 20 July 2011, 3:53 a.m.,*
in response to message #1 by Christoph Giesselink

I'm very happy that Christoph released this Emu71 for Windows version. I regularly received requests to port my Emu71/DOS to Windows but was not able to do it due to 1) lack of knowledge on Windows GUI development 2) lack of time.

As usual with Christoph's emulators, the simulation is almost perfect and much closer to the original than Emu71/DOS. When I started Emu71 in 1995, my PC was using a 386 CPU, and my first targets were emulation efficiency to get a speed improvement vs the original and support for large memory modules, to have a powerful Emu71 environment so I didn't try to reproduce every low-level details especially for display/keyboard management and original memory layout.

Jean-Francois

Re: Introducing Emu71 for Windows

*Message #12 Posted by **x34** on 20 July 2011, 5:38 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph, is there ready QWERTY kmi keyboard mapping file? I see only QWERTZ files.

[EDIT] Actually, they seems to be QWERTY, but i have problems with keybindings on my notebook. No way to differ + and = keys, misplaced braces etc. Where can I find info on editing KML keyboard mappings, especially SHIFTED keys?

Edited: 20 July 2011, 5:59 a.m.

Re: Introducing Emu71 for Windows

*Message #13 Posted by **Christoph Giesselink** on 20 July 2011, 6:46 a.m.,*
in response to message #12 by x34

For those which have a QWERTY keyboard, the sequence

```
Scancode 89                     # Y
        Map 89 106
End

Scancode 90                     # Z
        Map 90 301
End
```

in the file KEYB71.KMI must be changed to

```
Scancode 89                     # Y
        Map 89 301
End

Scancode 90                     # Z
        Map 90 106
End
```

A full description of the KML language script is available at http://hp.giesselink.com/Emu48/KML20R15.ZIP.

Christoph

Re: Introducing Emu71 for Windows

*Message #14 Posted by **x34** on 20 July 2011, 7:42 a.m.,*
in response to message #13 by Christoph Giesselink

Cristoph, actually Scancode 89 # Y Map 89 106 End

Scancode 90 # Z Map 90 301 End

are CORRECT for QWERTY, no need to change them. But braces (including curly), + and = keys are misplaced.

Thanks for link to KML docs.

Re: Introducing Emu71 for Windows

*Message #15 Posted by **Mike (Stgt)** on 20 July 2011, 7:45 a.m.,*
in response to message #1 by Christoph Giesselink

Congratulation Christoph!

All Saturn-based calculaters I know are now covered by your emulators. Reason to open a bottle!

> Quote:
>
> Hope you will enjoy this new emulator.

Yes I do enjoy it like all the other emulators (not simulations) too. As your HP71 comes with virtual HPIL I hope that simulated IL perpherals will show up some time, like HP2225B, Video Interface, and more.

Currently I try to do a 7470 HPGL plotter in ooREXX: virtual HPIL done, HPIL interface almost done (listener works), display of graphic pending. For testing my HPIL interface I would need (in addition to Christoph's HP71) an HP41 with virtual HPIL. Alas with no knowledge of C I am not able to modifiy Nonpareil.

Once more thank you.

Ciao.....Mike

Re: Introducing Emu71 for Windows

*Message #16 Posted by **robertoataulfo** on 20 July 2011, 9:03 a.m.,*
in response to message #15 by Mike (Stgt)

```
Who could send me the roms (2CDCCCC). I do not have the "71B" to extract the ROMs.
thanks
```

Re: Introducing Emu71 for Windows

*Message #17 Posted by **Mike (Stgt)** on 20 July 2011, 9:09 a.m.,*
in response to message #16 by robertoataulfo

Have a look at JFG's site.

Hope this helps.

Ciao.....Mike

KMI keyboard problems

*Message #18 Posted by **x34** on 20 July 2011, 9:03 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph, please consult.

If I write

```
Scancode 49
        IfFlag 1
                Map 49 403
                Map 49 311
        Else
                Map 49 311
        End
End


KMI compiler says:
63: Too many parameters for IfFlag (1 expected).
Fatal Error at line 63.


Documentation says:


        IfFlag INTEGER
                <COMMANDS>
        Else
                <COMMANDS>
        End
```

So, should I use some delimiter for COMMANDS or only one command is actually allowed? I have no errors reported, if only one command is used.

Edited: 20 July 2011, 9:04 a.m.

Re: KMI keyboard problems

*Message #19 Posted by **Howard Owen** on 20 July 2011, 10:09 a.m.,*
in response to message #18 by x34

Maybe this would work?

```
Scancode 49
        IfFlag 1
                Map 49 403
        End
        Map 49 311
End
```

Ok, what am I doing wrong? :-)

*Message #20 Posted by **gene wright** on 20 July 2011, 10:31 a.m.,*
in response to message #19 by Howard Owen

I install the windows version of Emu71 into the default folder structure it suggests.

Before running the emulator, I copy ROM71.BIN to the folder that Emu71 was just installed to and rename it to HP71B.ROM.

At that point, I double-click Emu71 and it opens a dialog box asking me to choose my KML script. It defaults to Christoph's Real HP71B for 1024x768 and the Emu71 directory location it shows is the one it just installed Emu71 into.

When I click OK, I get the following result:

Title: Christoph's Real HP71B for 1024x768

Author: Christoph Giesselink

Hardware Platform: Saturn

Calculator Model : T

Cannot open Rom HP71B.ROM.

Bitmap REAL71BL.BMP loaded.

Debug Off

This KML Script doesn't specify the ROM to use, or the ROM could not be loaded.

Press Cancel to Abort.

Thoughts?

By the way, even though I renamed the ROM71.BIN file to HP71B.ROM, Windows still shows the file type as a VLC Media File (.bin).

So, it thinks it is a movie file I think, but knows that it is a binary. Why would that matter to Emu71?

Edited: 20 July 2011, 10:34 a.m.

Re: Ok, what am I doing wrong? :-)

*Message #21 Posted by **Christoph Giesselink** on 20 July 2011, 11:09 a.m.,*
in response to message #20 by gene wright

I don't know what's really happen, but I think you created something like HP71B.ROM.BIN.

Windows with default settings normally hide the extention of a filename. Renaming files in such a configuration may cause unpredictable results.

Sorry I don't know the original English text, so I use translations of my German version

1. Open the Windows-Explorer
2. Enable the menu if neccessary (Win Vista + 7)
3. goto "Extras" "Folder Options..."
4. press tab "View"
5. in "Extended settings" disable checkbox "Hide extentions at known file types"
6. then press "ok"

Now you should see all file names with their real extention.

Christoph

Re: Ok, what am I doing wrong? :-)

*Message #22 Posted by **gene wright** on 20 July 2011, 11:57 a.m.,*
in response to message #21 by Christoph Giesselink

Thank you, that fixed it.

The file was a .ROM.BIN

Re: Ok, what am I doing wrong? :-)

*Message #23 Posted by **Alexander Oestert** on 20 July 2011, 11:19 a.m.,*
in response to message #20 by gene wright

I'm sorry I'm not able to give you a solution but I can provide the following: I installed the package on two different machines under XP each, one EeePC and a desktop PC. On the netbook, everything works flawlessly, math ROM included. On the PC I get the same result as you do. On both machines I can see all file extensions.

EDIT: I now installed it a second time on the desktop PC, copied the bin files in the folder and now renamed the 71 ROM by copying the string from the post above: HP71B.ROM Before I had typed it myself. What can I say - it now works!

Edited: 20 July 2011, 11:28 a.m.

Re: KMI keyboard problems

*Message #24 Posted by **x34** on 20 July 2011, 10:57 a.m.,*
in response to message #19 by Howard Owen

It would not help for

```
Scancode 49
  IfFlag 1
     Map 49 403
     Map 49 117
  Else
     Map 49 118
  End
End
```

The problem was in caching (?) KMI files. I redefined file name in KML file, everything is OK now. many COMMANDS work, but why and who cached old KMI file is out of my understanding. I think it is some problem with Windows 7 security settings. I am not familiar with this OS, so it is my fault only. Waiting for Linux version!

I think i'll get suitable keymap in half an hour.

Question about copying source code

*Message #25 Posted by **Namir** on 20 July 2011, 11:07 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph,

If I have an HP-71B source code listing in a Windows text files. How can the emulator read that file?

Namir

Re: Question about copying source code

*Message #26 Posted by **Christoph Giesselink** on 20 July 2011, 11:37 a.m.,*
in response to message #25 by Namir

> Quote:
>
> If I have an HP-71B source code listing in a Windows text files. How can the emulator read that file?

The only way is using the keyboard macro recorder in "Tools/Macro/Play...".

Therefore you have to convert a Windows text file into keyboard macro file first. Therefore use the command line tool "ASC71MAC.EXE" delivered with the installer version or available as separate tool. But the "Keyboard Macro Play" process is very very slow, and sometimes on some PC hardware Emu71/Win misses keystrokes, especially when a HPIL module is installed.

A more convenient way I suggest for larger files, import them as usual in Emu71/DOS and save the file into a floppy disk LIF image file. Then load this file with the combination of Emu71/Win and ILPer to the memory of Emu71/Win.

Another way inserting all programs saved in an independent port of Emu71/DOS is including the Emu71/DOS port file into Emu71:

Therefore:

1. shut off the emulated calculator
2. call "Edit/Port Configuration..."
3. "Add"
4. Module Type: RAM, Size: Datafile
5. enter the filename of the independent port file
6. press "Apply"
7. in the case your selected file is an independent port file, you see it in the window above
8. finally press "OK"

The difference to a ROM file is, that you really make a copy of the data in the emulator RAM, and not only a link to the original data file.

Christoph

Re: Question about copying source code

*Message #27 Posted by **Howard Owen** on 20 July 2011, 8:30 p.m.,*
in response to message #25 by Namir

Hi, Namir.

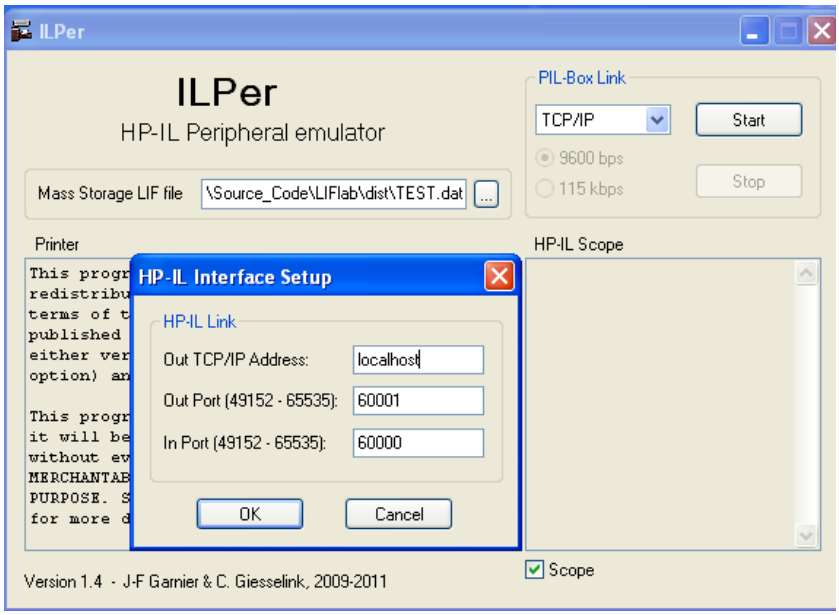
I have an extremely geeky way to get files onto my 71B using my LIFlab software. You need Perl for Windows, such as the Active Perl Community Edition Then you can grab my LIFlab software here.

This software is a bit rough, but the following process will get a 71B BASIC program in a DOS/Unix text file into a LIF image suitable for use with ILper and EMU71.

```
# First we create an empty LIF volume
hbo@quirk|501> ./lifinit.pl -v TEST.dat


# Yup, it's empty
hbo@quirk|502> ./lifdir.pl -v TEST.dat


Volume:
filename   type       size       date/time
-------------------------------------------
0 sectors used; 2382 sectors available; 2382 sectors free


# Here is our test file - a 71B basic program in a text file
hbo@quirk|503> cat BASTEST.txt


0010 ! * Trivial 71B BASIC program for testing
0100 DISP "I'm trivial. Pleased to meet you"
0200 END


# Now we encode this file as a 71/41 TEXT file.
hbo@quirk|504> ./enc.pl BASTEST.txt >BASTEST.t71


# The lifadd.pl program requires us to give the LIF type when we add a file
# to a LIF volume. Here's how to get a list of types LIFlab supports:


hbo@quirk|505> ./lifadd.pl -T


APPT75 BASIC71 BASIC75 BASIC85 BIN71 BPROG85 DATA71 DATA85 FORTH71 KEY41
KEY71 LEX71 LEX75 pBASIC71 pBASIC85 pBIN71 pBPROG85 pDATA85 pFORTH71
PROG41 ROM41 ROM75 sBASIC71 sBIN71 sDATA sDATA71 sFORTH71 sKEY71 sLEX71
spBASIC71 spBIN71 spFORTH71 STAT41 sTEXT TEXT TEXT75 VCALC75 WALL41


# The one we want is TEXT
hbo@quirk|506> ./lifadd.pl -t TEXT -f BASTEST.t71 -v TEST.dat
Volume:
filename   type       size       date/time
-------------------------------------------
BASTEST    TEXT       256
1 sectors used; 2382 sectors available; 2381 sectors free
```

Now that you have your LIF image, you can get at it from a real 71B, ore EMU71 using ILper. (In the former case, you would need the PIL-box, but in the latter you wouldn't .)

Here's how the configuration of ILper would look to support EMU71:



And here's how the EMU71 tcp/ip setup should look:

Note that the IN/OUT port numbers are swapped between the two.

Finally, here's the proof of the pudding: we TRANSFORM our test program from text on the virtual drive to BASIC on EMU71 and run it:

I am totally in debt to Tony Duell and his lifutils package for Linux. He distilled knowledge of LIF from several sources into succinct and readable code. My software is a bit rough, but usable. Any bugs are no doubt my fault. That leads me to warn you to make backups of your LIF image files if they have anything in them you want to save.

Regards,
Howard

Re: Emu71 SuperKeyboard-US

*Message #28 Posted by **fhub** on 20 July 2011, 1:42 p.m.,*
in response to message #1 by Christoph Giesselink

Hi,

I've made special KML and KMI files for this new Emu71B (so far only for the 1024x768 layout):

In the KML file I've included code for all shifted functions (as I've done it with my HP-50g emulator 2 weeks ago), so now you can directly access all shifted (yellow and blue) functions by clicking on their labels.
If you don't like this for the blue functions (because you have to click quite exactly on the lower half of the button), then just remove the first block of "Button 1xxx" (with a number higher than 1000) upto "Button 101".

The KMI file I've made is for US keyboards, and I've added a few special key combinations (just look into the file to see them).
One change I've made is that I have swapped the 2 following keys (which I believe is more comfortable):
the Shift-button is yellow [f] and the Ctrl-button is blue [g]

There are still 2 keys (~ and \) on US-keyboards which have no corresponding keys on the HP71B, so I've commented out these 2 keys (the are at the end of the KMI file) - make your own shortcuts for them if you want.

Here's the link for this file:
http://www.spaadyshare.net/547tgz0or8h1/HP71B-US.zip

Franz

PS, I forgot to say: many thanks to Christoph for this fantastic Emu71 program - this is really a great gift for all emulator fans like me! :-)

Edited: 20 July 2011, 1:56 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s: Anyone have an instruction timing table?

*Message #1 Posted by **gene wright** on 18 July 2011, 8:13 p.m.*

This used to be done by the user community in the PPC days.

What I'm wondering is whether such a table for opcode instruction timing exists. Something like:

+ : 10 ms

- : 11 ms

etc. The reason this might be handy is if you then saw something in the table like this:

Multiply : 20 ms Divide : 500 ms

if you understand what I mean. Without such a list, there might be a few operations on the 34s that are out of kilter and MUCH slower than one would expect. If roll up takes 10x as long as roll down, then perhaps it would be best to either try optimizing the roll up code more or doing four roll down instructions.

So... anyone have something like this yet?

Re: 34s: Anyone have an instruction timing table?

*Message #2 Posted by **Paul Dale** on 18 July 2011, 8:54 p.m.,*
in response to message #1 by gene wright

Not that I'm aware of. About the only way to figure out timings would be to write a small program that looped lots. I'd also expect some variation based on arguments.

I do know that all the logarithms (and functions that use logarithms) are slow.

- Pauli

Re: 34s: Anyone have an instruction timing table? - example of a "slow" function

*Message #3 Posted by **gene wright** on 18 July 2011, 9:13 p.m.,*
in response to message #2 by Paul Dale

It appears that the ROUND function is particularly slow. Any chance :-) this function could be reviewed for some optimization? :-) And, of course, please don't take this as any criticism at all!

==========

Jake found:

If I store a long decimal value in R05 and take the little program

LBL C

RCL 05

x<>X (acting as a NOP)

Roll down

1

+

GTO C

and starting with zero in X and run it for roughly 5 seconds, it counts up to 5613.

If I then replace the x<>X with ROUND, things get interesting.

Setting the display to FIX 0, the count after ~5 seconds is 3463.

With FIX 1, it reached 3330.

With FIX 2, it reached only 47.

With FIX 5, the count reached 46.

With FIX 11, the count was about the same.... 46.

And all the ones in between 3 and 11 seemed to count only up to 45-47 each.

The ROUND function surely makes the 34S run at a much slower pace.

Re: 34s: Anyone have an instruction timing table? - example of a "slow" function

*Message #4 Posted by **Paul Dale** on 19 July 2011, 12:44 a.m.,*
in response to message #3 by gene wright

It will be fast in everything except FIX mode :-)

The reason being that it does a 10^x internally which requires logs. I'm guessing multiplication by 0 and 1 are special cased.

I might be able to do something with it to speed up the FIX case too.

- Pauli

Re: 34s: Anyone have an instruction timing table? - example of a "slow" function

*Message #5 Posted by **Paul Dale** on 19 July 2011, 12:50 a.m.,*
in response to message #3 by gene wright

And a fix is in. Should be much faster once built (rev 1256 or later) -- probably later this evening. Let me hope it works properly still :-)

x<>X isn't a good NOP here, it goes through a very different code path than ROUND. ABS or +/- are better for the NOP.

- Pauli

Edited: 19 July 2011, 8:17 a.m. after one or more responses were posted

Great! A timing table would allow focused optimization :-)

*Message #6 Posted by **gene wright** on 19 July 2011, 8:07 a.m.,*
in response to message #5 by Paul Dale

Thanks. That's great.

Perhaps some of us (yep, I know... suggest and you volunteer) should try this type of thing with other instructions?

It would help point out areas that would benefit from optimization or instructions that just seem much slower than "normal".

Will test the fix in the program shortly. Thanks again.

Re: Great! A timing table would allow focused optimization :-)

*Message #7 Posted by **Paul Dale** on 19 July 2011, 8:15 a.m.,*
in response to message #6 by gene wright

> Quote:
>
> yep, I know... suggest and you volunteer

You be learning :-)

> Quote:
>
> It would help point out areas that would benefit from optimization or instructions that just seem much slower than "normal".

Anything involving logarithms (which includes powers) will be slow. Most other things seem to be fast enough. A quick scan over the source code will identify problematic functions easily enough.

Even if slow functions are identified, there is no guarantee that they can be sped up. Some functions just can't and others will get too much larger to avoid the problematic subroutines. This one was nice and easy -- no space gain, an acceptable portability loss and a good speed improvement.

- Pauli

Edited: 19 July 2011, 8:20 a.m.

Re: Great! A timing table would allow focused optimization :-)

*Message #8 Posted by **gene wright** on 19 July 2011, 8:54 a.m.,*
in response to message #7 by Paul Dale

I understand.

However, if we can find them through example code like the stuff for ROUND, then you may be able to adjust them. You might not, but at least it could be looked at. :-)

Re: 34s: Anyone have an instruction timing table? - example of a "slow" function

*Message #9 Posted by **Jake Schwartz** on 19 July 2011, 10:24 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> x<>X isn't a good NOP here, it goes through a very different code path than ROUND. ABS or +/- are better for the NOP.

...yeah, well, that was what came into my head at that moment :-) I think it was a sufficient measuring method anyway, since the loop with x<>X still ran very fast as compared to ROUND. I'll use ABS next time.

Jake

The real NOP instruction?

*Message #10 Posted by **gene wright** on 19 July 2011, 5:36 p.m.,*
in response to message #9 by Jake Schwartz

Actually, why not just use NOP as the NOP?

:-)

Re: The real NOP instruction?

*Message #11 Posted by **Marcus von Cube, Germany** on 19 July 2011, 5:42 p.m.,*
in response to message #10 by gene wright

Because it is not a monadic operation like ABS or ROUND that modifies the X register and sets LastX. NOP is simply ignored by the execution engine and therefore carries considerably less overhead.

Re: The real NOP instruction?

*Message #12 Posted by **gene wright** on 19 July 2011, 6:13 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I think the real thing Jake was doing with this instruction was to simply see how the loop count was affected by replacing a NOP with the ROUND instruction at various FIX settings.

X<>X worked, since it just essentially did nothing, as would NOP since it really does do nothing. :-)

The "trouble" remains that ROUND slows down considerably if FIX is much greater than 2 or 3. :-(

I understand that will stay that way if it has to call 10^x which uses the log routines which are (relatively compared to the blinding speed the 34s shows in other areas) slow.

The reason it was a concern to us in the first place is that we have gotten used to having the 34s blow away any other machine when it is running something but the little code we were testing here was SLOWER than existing machines.

We don't like the 34s to be slower. ;-)

(Again, just in case my text here is not clear... none of this is in any way meant to be critical of anything. We're all just trying to help find places to tweak for improvements!).

Re: The real NOP instruction?

*Message #13 Posted by **Paul Dale** on 19 July 2011, 6:31 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> X<>X worked, since it just essentially did nothing, as would NOP since it really does do nothing. :-)

Both of these go via very different code paths than a monadic function like round. NOP takes no arguments and does nothing with last X and doesn't even call a worker routine. x<>X goes through the *commands with arguments* path which again don't bother with last X but instead decodes the argument. To get a representative idea of the timing, it will be best to use as similar a function as possible. In this case, however, ROUND is so slow it probably doesn't matter much.

As for being slower, I've not tested but I'll take your word for it. The 10^x/log is gone from the code path so that clearly wasn't the big expensive operation :-(Digging a bit deeper ends up in some code in the decimal library we're using (which I haven't been bothered to figure out how exactly it works). Unless I suddenly get motivated to fix the library (which isn't all that likely), ROUND is going to stay slow. Better slow and correct than fast and wrong.

- Pauli

Pauli, Round still seems slow.

*Message #14 Posted by **gene wright** on 19 July 2011, 11:03 a.m.,*
in response to message #5 by Paul Dale

I did Jake's test with build 1257 and it still drops from counts in the thousands at Fix < 3 or 4 down to counts of 50-60 at Fix 5 or higher.

Pauli check ROUND yourself please...

*Message #15 Posted by **gene wright** on 19 July 2011, 8:26 p.m.,*
in response to message #5 by Paul Dale

You did think a "fix" was in that should speed up the ROUND instruction.

Can you do some checks using Jake's example above?

Re: Pauli check ROUND yourself please...

*Message #16 Posted by **Paul Dale** on 19 July 2011, 11:28 p.m.,*
in response to message #15 by gene wright

I implemented what I thought would be the fix and it didn't work. This stuff happens, my idea as to where the problem was was incorrect.

I'm not planning on digging further into the underlying problem at the moment. The slowness comes from decQuantizeOp() in decNumber/decNumber.c but it isn't clear to me where.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Xpander article

*Message #1 Posted by **Egan Ford** on 18 July 2011, 4:38 p.m.*

http://www.evilmadscientist.com/article.php/xpander

Re: Xpander article

*Message #2 Posted by **Karl-Ludwig Butte** on 19 July 2011, 4:56 a.m.,*
in response to message #1 by Egan Ford

Hi Egan,

thanks a lot for sharing this article. I'll never understand that HP decided to cancel the Xpander project back then. Now Casio is successfull with the Classpad300 & 330 and already Casio heralded the next technical generation with the fx-CG20. Next year will be the 40th anniversary of the HP-35. This would be a perfect chance to reclaim the title "No. 1 calculator manufacturer". But to do this something really spectacular would be needed, like e.g. "Around the world of Mathematics with HP-Calculators" and should cover the whole world - not just the U.S. HP - are you listening ?

What do you fellow members of this forum think ?

Kind regards

Karl

Re: Xpander article

*Message #3 Posted by **hpnut** on 19 July 2011, 6:08 a.m.,*
in response to message #2 by Karl-Ludwig Butte

Yes, i agree. HP does not live upto to its motto "HP Invent!" :-(

at least as far as calculators go. bring back the classics!

Re: Xpander article

*Message #4 Posted by **Arnaud Amiel** on 19 July 2011, 6:25 a.m.,*
in response to message #3 by hpnut

> Quote:
>
> bring back the classics!

I would not call this living to its motto...

Anyway, there were a few drawbacks with the Xpander. I am lucky enough to have one and the screen is a bit cracked. Don't know how it happened, I took it out of its case before my last move and it was a

bit cracked...

Re: Xpander article

*Message #5 Posted by **Tim Wessman** on 19 July 2011, 10:21 a.m.,*
in response to message #2 by Karl-Ludwig Butte

One name should explain it all - Carly.

It was days from launch, production was ramped up, they had done a ton of work with testing boards to ensure it would be allowed despite having a touchscreen and stylus, had units seeded to thousands of educators, had hosted a large educator conference to teach them about the potential, and in short was getting ready to radically change things.

But HP doesn't do education. We only sell computers. . .

TW

PS - I have one too that cyrille left me when he moved to France. I'd never really had the chance to play with it much until then. It honestly was a bit too basic and needed a lot of work to flesh out features and capabilities, but it would have been a solid first release.

Edited: 19 July 2011, 10:23 a.m.

Re: Xpander article

*Message #6 Posted by **Jake Schwartz** on 19 July 2011, 10:34 a.m.,*
in response to message #5 by Tim Wessman

At the HPCC 20th-Anniversary HP calc conference at the Imperial College in London, both Cyrille and Jean-Yves Avenard spent loads of time talking about work at the ACO "division" in Australia and the events surrounding ACO's demise, which caused the abrupt cancellation of both Xpander and the Jornada X25 PDA (along with everything else). It was very enlightening. If it hadn't been for the subsequent efforts of Fred Valdez in San Diego, the calc group might not have been in existence today.

Jake

Re: Xpander article

*Message #7 Posted by **Jake Schwartz** on 19 July 2011, 10:38 a.m.,*
in response to message #6 by Jake Schwartz

> Quote:
>
> At the HPCC 20th-Anniversary HP calc conference at the Imperial College in London....

Whoops! I forgot to say that this was in 2002.

Jake

Re: Xpander article

*Message #8 Posted by **Patrice** on 19 July 2011, 6:16 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> One name should explain it all - Carly.

The whicked witch ?

Re: Xpander article

*Message #9 Posted by **Arnaud Amiel** on 20 July 2011, 4:15 a.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> It honestly was a bit too basic and needed a lot of work to flesh out features and capabilities, but it would have been a solid first release.

I agree that it is a good platform for high school and could have easily evolved towards something more powerful. I love the elements table applet it has. Lots of similar things could have been made if the drive had been there.

Re: Xpander article

*Message #10 Posted by **Karl-Ludwig Butte** on 20 July 2011, 9:16 a.m.,*
in response to message #5 by Tim Wessman

Hello Tim,

thanks a lot for your answer and the information. It must've been very frustrating for all involved at that time. I find it difficult to get information about what happened to and within Hewlett-Packard after the founders retired. I read "Bill & Dave" and Dave Packard's book - better say, I devoured them. But the retreat of Bill and Dave must have had such a deep impact on the company although it took some time until the negative effects showed up. But I can only speculate. Do you have any URLs or recommended books and/or articles to better understand why things happened as they did ?

Thank you very much in advance.

Kind regards

Karl

Re: Xpander article

*Message #11 Posted by **Tim Wessman** on 20 July 2011, 2:58 p.m.,*
in response to message #10 by Karl-Ludwig Butte

Not really. I was just barely graduating high school at the time.

TW

Re: Xpander article

*Message #12 Posted by **Pal G.** on 20 July 2011, 5:22 p.m.,*
in response to message #10 by Karl-Ludwig Butte

http://www.amazon.com/s/ref=nb_sb_noss?url=search-alias%3Daps&field-keywords=hp+carly&x=0&y=0

Re: Xpander article

*Message #13 Posted by **Karl-Ludwig Butte** on 21 July 2011, 3:52 a.m.,*
in response to message #12 by Pal G.

Hi Tim, Hi PalG,

thanks a lot to both of you for your answers. Now let's see which titles of the comprehensive amazon-list is available in Germany ;-)

Kind regards

Karl

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s builds 1249 and 1250 crash on real hardware

*Message #1 Posted by **gene wright** on 18 July 2011, 4:14 p.m.*

I know builds are often handoffs between you guys, but just an FYI.

Both the 1249 and 1250 builds "crash".

When I run a program, the screen blanks and sits there. When I press ON, it displays "Restored"

Re: 34s builds 1249 and 1250 crash on real hardware

*Message #2 Posted by **Walter B** on 18 July 2011, 4:26 p.m.,*
in response to message #1 by gene wright

Thanks for the feedback. We'll look into it. Emulator build 1250 seems to work as usual :-)

Walter

Re: 34s builds 1249 and 1250 crash on real hardware

*Message #3 Posted by **Marcus von Cube, Germany** on 18 July 2011, 4:50 p.m.,*
in response to message #1 by gene wright

Gene I was suspecting this. Testing will start tomorrow. Have you cleared the calculator or are you trying to run what has been in the calculator before? Does the crash depend on the program you are trying to run?

Re: 34s builds 1249 and 1250 crash on real hardware

*Message #4 Posted by **gene wright** on 18 July 2011, 5:07 p.m.,*
in response to message #3 by Marcus von Cube, Germany

1) It cleared the calculator when I loaded the new firmware. Erased was displayed and memory was empty.

2) It does not matter what program is run. LBL A, +, GTO A does the same thing as a longer program.

3) When it displays "Erased" is the calculator really totally erased? Any other way to clear it completely in case some bit is floating somewhere it should not be?

and... no problem on the testing. That's what I was doing. Beta software testers have to be willing to run into problems. That's our job! :-)

Re: 34s builds 1249 and 1250 crash on real hardware

*Message #5 Posted by **Etienne Victoria** on 18 July 2011, 5:10 p.m.,*
in response to message #1 by gene wright

Same thing here with 1249 (obtained via SVN client.

However, I forgot to Erase prior but had nothing saved in Flash.

However, new operation yields errors such as:

1 2* 2* 2* 2* 2* 2* 2* 2* 2 * gives 512 --> Correct

2 * gives 100 --> Not correct

Along with very slow keyboard response including prefix keys.

Will retry after full erase as I did not follow the procedure correctly.

Etienne

Re: 34s builds 1249 and 1250 crash on real hardware

*Message #6 Posted by **Paul Dale** on 18 July 2011, 5:31 p.m.,*
in response to message #5 by Etienne Victoria

Hmmm, I just tried these exact steps and running a short looping program and neither failed on 1249 for me. However, what you are seeing is quite a bit like what I saw immediately after upgrading (and also like something I saw last week running much older firmware).

I changed the batteries and the problems went away. It would be quite a surprise if this is the cause of three people experiencing failures within a day of each other but it might be worth a try. BATT indicated 2.9 with the old batteries which should be fine.

We'll still investigate since it seems unlikely that this is the root cause.

- Pauli

Update ... SST works, R/S does not and my BATT reading

*Message #7 Posted by **gene wright** on 18 July 2011, 5:39 p.m.,*
in response to message #5 by Etienne Victoria

More info:

LBL A, +, GTO A

will work fine if you single-step through the program. Push R/S however and it goes off to la-la land.

AND

BATT indicates 2.7 on my unit. Hmm...

Edited: 18 July 2011, 5:41 p.m.

Replaced batteries. BATT now 3.1 and programs run

*Message #8 Posted by **gene wright** on 18 July 2011, 5:54 p.m.,*
in response to message #7 by gene wright

So, moral of the story... 2.7 BATT went to la la land, 3.1 batt runs.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #9 Posted by **Marcus von Cube, Germany** on 18 July 2011, 6:02 p.m.,*
in response to message #8 by gene wright

It looks like 40 MHz is too demanding. The next revision will run at about 15% less speed. I had increased the speed considerably, especially for "non crystallized" machines, in order to get good baud rate divisor values. This might have been too much for some devices.

Dumb question I'm sure...

*Message #10 Posted by **gene wright** on 18 July 2011, 6:14 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Any way to set the speed value by the user?

Re: Dumb question I'm sure...

*Message #11 Posted by **Marcus von Cube, Germany** on 18 July 2011, 6:25 p.m.,*
in response to message #10 by gene wright

You can set test mode (ON+1) which emulates a low battery situation. This will set the speed to one third of what you have now.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #12 Posted by **Jim Yohe** on 18 July 2011, 6:17 p.m.,*
in response to message #8 by gene wright

I seem to remember a discussion about what the proper voltage and someone (Marcus?) said he programmed the 34s to show a low battery warning at a level different than the 30b.

Perhaps that level needs to be looked at once again to determine when it actually should show the warning so these failures don't show up unexpectedly.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #13 Posted by **Marcus von Cube, Germany** on 18 July 2011, 6:27 p.m.,*
in response to message #12 by Jim Yohe

The maximum speed was simply set too high. I'd be glad if someone will test with the most recent build and some worn out batteries.

I'll check back here tomorrow...

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #14 Posted by **fhub** on 18 July 2011, 6:37 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Another question:
Does the emulator also emulate the speed of the real calculator, or does it always run with the maximum speed depending on the PC?

Edited: 18 July 2011, 6:38 p.m.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #15 Posted by **Marcus von Cube, Germany** on 19 July 2011, 3:12 a.m.,*
in response to message #14 by fhub

The emulator is just a native C program which does not have an idea of the speed of the ARM processor. So it runs as fast as it can.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #16 Posted by **fhub** on 19 July 2011, 5:56 a.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> The emulator is just a native C program ...

Ahhh, so it's rather a simulator than an emulator, correct?
(I thought it may work like some other emulators which emulate the CPU and then run the original ROM code).

And how do you then get the calculator ROM (calc.bin)?
Do you write it in original ARM code or is there just a cross-compiler (C to ARM) in the HP20b-SDK which creates this ROM?

Edited: 19 July 2011, 6:14 a.m.

Re: Replaced batteries. BATT now 3.1 and programs run

*Message #17 Posted by **Marcus von Cube, Germany** on 19 July 2011, 7:28 a.m.,*
in response to message #16 by fhub

I've two separate environments:

Microsoft Visual Studio for the emulator.

Eclipse with the Yagarto GCC cross compiler and some Unixish tools.

The command line version compiles nicely under Linux or Mac OS with the compilers provided there.

The project is just a collection of source files which may be compiled (with some conditional compilation inside) into the various incarnations of the software. It took some time to get all the right pieces together. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g - Make menus more like HP48g

*Message #1 Posted by **Brian K** on 18 July 2011, 2:40 p.m.*

I'd like my HP50g to behave more like an HP48g when it comes to things like, say, units.

Currently on my 50g I hit RSHIFT, Units, and then a menu pops up in the middle of the screen where I use the directional pad to select unit types/etc.

On my HP 48g, pressing RSHIFT and Units gives me LENG AREA VOL TIME SPEED MASS on the soft key/function key menus at the bottom of the screen.

Is there any way to make the 50g display the same way the 48g does?

Re: HP 50g - Make menus more like HP48g

*Message #2 Posted by **Brian K** on 18 July 2011, 2:43 p.m.,*
in response to message #1 by Brian K

Never mind, looks like I may have found it. System flag 117. Going to try it shortly.

edit

Excellent, that was it. I should have known it would be something simple...

/edit

Edited: 18 July 2011, 2:53 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Which cold shrink kit for 9810 printer platen?

*Message #1 Posted by **David Ramsey** on 18 July 2011, 1:00 p.m.*

Title says it all. Tony mentioned that I should use the "smallest" kit, but I don't know what that is.

For example, this kit:

3M 7622 Cold Shrink Wrap Kit 7622-T-110

...is shown as:

insulation OD 0.64" to 1.08"

...but I don't know if that would fit.

Re: Which cold shrink kit for 9810 printer platen?

*Message #2 Posted by **Tony Duell** on 19 July 2011, 4:06 a.m.,*
in response to message #1 by David Ramsey

I think that is much too large. It needs to fit on the metal spindle from the original platen, which IIRC is about 1/4" in diameter.

I think the kit I used as 3M 8424-8. If you send me an e-mail (ard@p850ug1.demon.co.uk), I'll send you some more information.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48GX - Silly question?

*Message #1 Posted by **mr-scorpio** on 18 July 2011, 12:13 p.m.*

Hi there, Still finding my way around the 48GX. Maybe a silly question. I remember seeing on both the TI-92+ & TI-89, that if you keyed in the factorial 100! - it calculated & displayed the whole 157 digit factorial, that you could literally scroll though. It could even calculate higher values..

Putting aside the reason for a 'need' for this... Can, or is there a way that the HP 48GX can ALSO display either the details of an exponent of large calculation OR the results to such a high degree of digits, like 100!

48GX 100! = 9.33262154439E157 TI-89 100! = All 157 digits

IF TI deemed this ability useful ... What is HP's response in like for like capability?

Many thanks Al

Re: 48GX - Silly question?

*Message #2 Posted by **Vladan Dugaric** on 18 July 2011, 12:49 p.m.,*
in response to message #1 by mr-scorpio

HP-50G gives all digits too. You just have to use Exact mode and type the number without a decimal point.

Re: 48GX - Silly question?

*Message #3 Posted by **bill platt** on 18 July 2011, 12:50 p.m.,*
in response to message #1 by mr-scorpio

You need ALG48 or Erable (I can't remember whether either will do it) or other software loaded onto the 48GX to do that. In the 49G and all later versions (49G+, 50G) HP incorporated that feature as "exact" mode.

Re: 48GX - Silly question?

*Message #4 Posted by **Mike Morrow** on 18 July 2011, 12:55 p.m.,*
in response to message #1 by mr-scorpio

> Quote:
>
> 48GX 100! = 9.33262154439E157 TI-89 100! = All 157 digits
>
> IF TI deemed this ability useful ... What is HP's response in like for like capability?

It's called the HP 49g+ and the HP 50g. (Integer calculations in EXACT vs. APPROXIMATE mode. The HP 48 series has no equivalent mode.)

Re: 48GX - Silly question?

*Message #5 Posted by **mr-scorpio** on 18 July 2011, 1:07 p.m.,*
in response to message #4 by Mike Morrow

Ah.. So it's a CAS feature. that explains things. Many thanks Al

Re: 48GX - Silly question?

*Message #6 Posted by **Alejandro Paz (Germany)** on 18 July 2011, 3:31 p.m.,*
in response to message #1 by mr-scorpio

The 48GX is from 93 and the TI-92 (the first one with such a feature) is from 95 :). That may explain why they cannot be actually compared. (I like some features from the 92 but I hardly use it).

Edited: 18 July 2011, 3:32 p.m.

Re: 48GX - Silly question?

*Message #7 Posted by **C.Ret** on 19 July 2011, 5:49 a.m.,*
in response to message #1 by mr-scorpio

Hi,

This is not a silly question, but an interessant computing challenge on both HP28 and HP48 advanced calculators.

Fortunately, and without any "Erable" add-in or any newer CAS feature, any HP-48 are able to compute and display any digits of the n! factorial by using a quite easy and not so elaborated dFACT program which was compose by myself in 1989 for the same purpose on a HP-28S.

For easy reading and printing dFACT returns all digits of the n! factorial into the stack by ten-digit numbers. Printing will be easy with print stack command PRST and storing all this stuff in a list by using DEPTH ->LIST sequence.

```
 « -> n                          @ input n from stack
   « n ->STR 33 CHR + 61 CHR +   @ put string "n!=" on top of stack
     2 'd' STO                   @ initialize dimension d
     1                           @ initialize stack with 1!
     1 n FOR k                   @ main loop n!=1*2* ... *k*...*n
        0                        @ zero carry
        2 d FOR p                @ for each of the d ten-digit-number
           p ROLL                @ p-th ten-digit from stack
           k *                   @ multiply by k
           +                     @ add carry
           1E10 MOD              @ ten-digit rest
           LAST / IP             @ set and round carry
           SWAP p ROLLD          @ roll ten-digit back in stack
        NEXT
        IF DUP                   @ test last carry
        THEN                     @ if any
           d ROLLD               @ add one more ten-digit in stack
           'd' 1 STO+            @ increase d value
        ELSE
           DROP                @  erase null carry
        END
     NEXT
   »
»
'dFACT' STO
```

Examples:

```
0 dFACT                 -->2:                "0!="
                           1:                    1
```

```
1 dFACT                 -->2:                 "1!="
                           1:                    1


5 dFACT                 -->2:                 "5!="
                           1:                  120


13 dFACT                -->2:                "13!="
                           1:           6227020800


14 dFACT                -->3:                "14!="
                           2:                    8
                           1:           7178291200


17 dFACT                -->3:                "17!="
                           2:                35568
                           1:         74280960000
```

Upto ther nothing special and results are equivalent to built-in FACT instruction.

```
23 dFACT                -->4:                "23!="
                           3:                  258
                           2:           5201673888
                           1:           4976640000



100 dFACT              --->17:               "100!="
                           16:             93326215
                           15:           4439441526
                           14:           8169923885
                           13:           6266700490
                           12:           7159682643
                           11:           8162146859
                           10:           2963895217
                           9:            5999932299
                           8:            1560894146
                           7:            3976156518
                           6:            2862536979
                           5:            2082722375
                           4:            8251185210
                           3:            9168640000
                           2:                     0
                           1:                     0
```

Main inconvenient is exponential computation time, on HP28C/S : 10! Need only 2"00, 50! nearly 11"48, 100! is about 44"94, 150! as long as 1’45"05, . . . , 400! In nearly 16’30" and at least 446! in 21 very long minutes.

Source (in Fench only): http://www.silicium.org/forum/viewtopic.php?f=46&t=20757&start=45

Re: 48GX - Silly question?

*Message #8 Posted by **bill platt** on 19 July 2011, 12:26 p.m.,*
in response to message #7 by C.Ret

Very Cool!

Re: 48GX - Silly question?

*Message #9 Posted by **mr-scorpio** on 20 July 2011, 5:14 a.m.,*
in response to message #7 by C.Ret

Excellent little program! Thank you for the suggestion

Re: 48GX - Silly question?

*Message #10 Posted by **Gerson W. Barbosa** on 20 July 2011, 8:19 a.m.,*
in response to message #7 by C.Ret

> Quote:
>
> Main inconvenient is exponential computation time,

Anyway, your algorithm appears to be about three times faster than the one in the last message of this old thread, for the HP-41/HP-42S:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=108035

The author has used a LOG instruction somewhere in his program, which may have slowed it down a bit.

Thanks for sharing it.

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41C - connection missing?

*Message #1 Posted by **Alexander Oestert** on 18 July 2011, 7:53 a.m.*

Hi all,

I have a very nice looking HP 41C (squared corners display) that stopped working right in the middle of something. So I disassembled it and applied some WD-40 to several points as a solvent and as a contact enhancement. I must have put it in the wrong places. My 41C didn't wake up after reassembly. I took it apart a second time and was able to get the keyboard top utrasonically cleaned at a local optician.

When reassembling the thing I found that the row of connectors between the keyboard PC and the LCD looked like this in the top left corner:

There are three soldered connectors but it looks as if a fourth is missing, there's even solder on the two contacts on both PCs, though there is no conductive path leading away from the contact on the keyboard PC. All pictures that I could find on the i-net show only three connectors in that place. Is mine missing a connector or is it plain normal?

Edited: 18 July 2011, 9:59 a.m.

Re: HP 41C - connection missing?

*Message #2 Posted by **Hans Brueggemann** on 18 July 2011, 3:16 p.m.,*
in response to message #1 by Alexander Oestert

alexander,
three connections are correct. maybe, somebody tried to "hack" it and connected a fourth wire just to find out, whether there were some extra features to discover.

hans

Re: HP 41C - connection missing?

*Message #3 Posted by **Alexander Oestert** on 18 July 2011, 4:16 p.m.,*
in response to message #2 by Hans Brueggemann

Besides from the case not looking pre-opened before I opened it, why would anybody solder in a connection going nowhere?

Re: HP 41C - connection missing?

*Message #4 Posted by **Geoff Quickfall** on 18 July 2011, 6:41 p.m.,*
in response to message #1 by Alexander Oestert

there were a few revisions on the LCD panel. You have a later revision due to the appearance of the epoxy caps.

I have seen four and three connections at this point including HP swaps for service. Also, the connections may be factory made with 4 contacts, and when the revision came out, three contacts were required so the forth was removed.

WD 40 is a lousy contact cleaner. It actually coats the contacts. Clean them with a lint free cloth and rubbing alcohol (enthanol) or contact cleaner. I use a fibre glass pen to clean up dirty contacts.

```
Clean the contacts on the logic pca.
Clean the contacts on the battery module bloc.
Clean the contacts on the keyboard pca.
Check the screw posts for cracks.
Check the screw post threads, ie does the screw grip the screw post or is it stripped.
```

No conspiracy on the missing contact ;-)

Geoff

Re: HP 41C - connection missing?

*Message #5 Posted by **Alexander Oestert** on 19 July 2011, 12:38 a.m.,*
in response to message #4 by Geoff Quickfall

Thanks to both of you for your kind replies.

> Quote:
>
> WD 40 is a lousy contact cleaner. It actually coats the contacts.

Yeah, I found that out the hard way... I cleaned all the contacts I could reach with isopropyl alcohol afterwards and dipped the keyboard part in an ultrasonic bath. The latter did only half the job and the machine was still acting erratically, so I took a deep breath and soaked it in warm water with dishwashing detergent for an hour and dried it over night. Tadahh! Now it's working, but still doesn't always react to the ON key at the first press. I haven't decided if I will take a deeper look into that flaw or if I will just be happy with what I've got.

> Quote:
>
> No conspiracy on the missing contact ;-)

Was there even the word *conspiracy* back in the 80's??? ;-)

Edited: 19 July 2011, 12:40 a.m.

Re: HP 41C - connection missing?

*Message #6 Posted by **Geoff Quickfall** on 19 July 2011, 4:07 a.m.,*
in response to message #5 by Alexander Oestert

Time to invest in some de-oxit:

deoxit site

Your local electronics shop may have it. Look for deoxit gold in a tube.

Before you do that, take a strand of copper wire from a standard house hold cord. Locate the pinhole on the reverse side of the keyboard that corresponds to the ON key bubble contact. Push it into the pinhole and move it around. Introduce some isopropanol to the hole and swish the wire around. With compressed air blow air into the pinhole. let dry.

See if that helps.

next take the tube of deoxit and press the nozzle against the hole. Squeeze a tiny amount into the hole and work the key. I have fixed many intermittant keys including the on key. As you use the key the response gets better over time.

Geoff

[Problem solved] at least looks like it ;-)

*Message #7 Posted by **Alexander Oestert** on 19 July 2011, 5:02 a.m.,*
in response to message #6 by Geoff Quickfall

Hi Geoff,

thanks for the deoxit link. As I'm located in Germany the nearest source for it seems to be UK ebay, where I found some items.

Unfortunately the ON key is not my only problem anymore. After working well for a while, the display constantly showed NULL after pressing the SUM+ key and the 41 stopped working altogether. Now I get only a row of @ in the display when I reinsert the batteries. Or parts of @ characters or some strange signs scattered all over the place.

I performed ON <- resets and ON ENTER <- resets repeatedly, taking out and reinserting batteries with no avail. I cleaned (with isopropyl alcohol, not WD-40!) and checked the pressurized connector of the battery compartment as well as the foam connectors to the CPU board. They all seem to look ok. I could even measure connectivity through the foam connector to the printed leads underneath.

I think I will let the 41 rest for a while, maybe there is still some humidity inside the keyboard causing it to act up. The funny thing about humidity is that I found this document from HP

Reset the HP41

which is about possible static electricity affecting the calculator, that says one should *increase* humidity to solve problems... ;-) So I just soak it again and try to operate it under water! ;-)

EDIT: I didn't keep my promise to let both of us rest - me and the 41. I 'screwed' with it one more time and assembled it in a way I hadn't before. When I took it apart the first time, a brown plastic rail came off and I didn't see where from. As it had the exact length of the CPU board, on reassembly I put it under it on the side of the battery compartment. This thin plastic rail also has the exact length of the LCD display, which is where I put it now: in the gap between the top of the calculator casing and the LCD. And voilà, it's working. That rail probably screwed up the connection of the CPU board and the keyboard PCB, because it wasn't meant to be there. Can anybody confirm this? TIA

Edited: 19 July 2011, 7:10 a.m.

Re: [Problem solved] at least looks like it ;-)

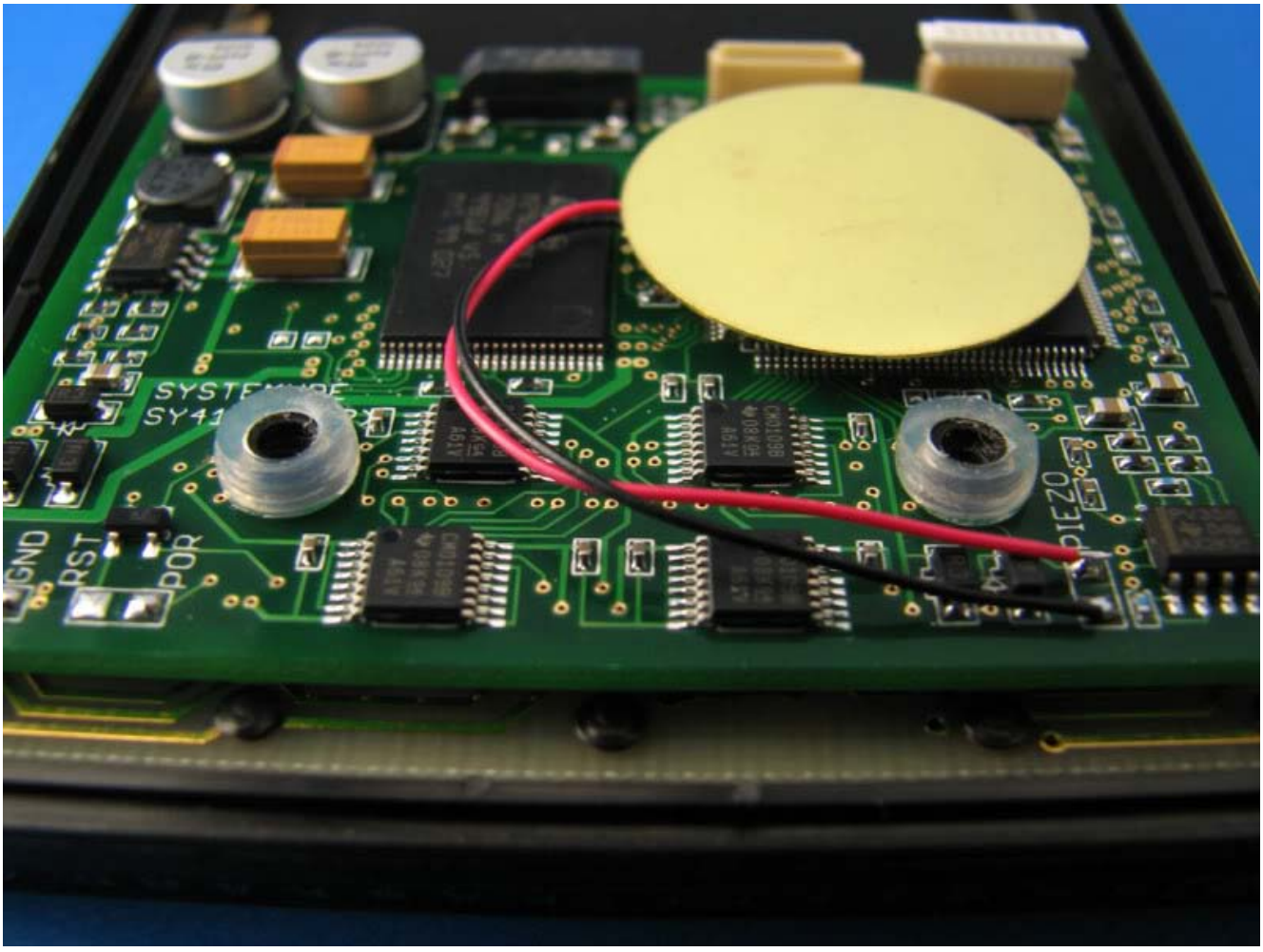
*Message #8 Posted by **Geoff Quickfall** on 19 July 2011, 2:15 p.m.,*
in response to message #7 by Alexander Oestert

The rail is a dust protector and probably something to with shock protection for the LCD. Yep it belongs at the top of the LCD panel.

This sounds like a connection problem a the CPU (logic pca) to keyboard pca. You say 41C, is the logic pca, is it attached by hex nuts or was it pressed into place by the back shell cover?

Focus on the the keyboard, logic connection. Open it up and place it in front of a fan for a couple of days. It sounds like you gave it a real soak. Did you rinse with water? If not, rinse with water to remove the soap residue, (avoid getting the LCD wet). Then place it vertically LCD panel up in front of a fan. Leave it for a couple of days just to be sure. DO NOT use a hair dryer on high (LCD damage) be patient.

If you have hex nut board attachments then the screw post that the hex nut attaches to may be stripped. If so try this:



You can substitute stryene tubing cut the same length as the screw post, that is, when added the tubing is flush or slightly proud of the screw post when the board is added. The photo is silicon tubing for use with card reader restorations.

Do you have an email? I have just finished a design for reinforcing screw posts, repairing stripped posts and cracked posts. I have to clean it up for a posting here.

Geoff

PS that is the 41CL board in place in a tall keys 1933Axxxxx serial numbered case! incase you oldtimers were wondering!!!!

Edited: 19 July 2011, 2:16 p.m.

Re: [Problem solved] at least looks like it ;-)

*Message #9 Posted by **Alexander Oestert** on 19 July 2011, 4:51 p.m.,*
in response to message #8 by Geoff Quickfall

Thanks a lot, again, Geoff!

It's the pressed-by-back-cover-version and my problem was entirely solved by taking away the plastic rail from underneath the CPU PCB and putting it in the right place. The screw post are ok, too. I really gave it a good soaking: 30 minutes completely under warm water, after the ultra sonic bath at the optician! And I dried it with a cold (!) blow drier and by putting it in my closed convertible in the summer sun. I'm not the patient kind of guy, you see...!!!

Added bonus: after the ultrasonic cleansing, the thing looks like new.

Edited: 20 July 2011, 6:10 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Serendipity

*Message #1 Posted by **Bob Patton** on 17 July 2011, 9:38 p.m.*

Bored, Sunday morning, I checked local Craig's List for the first time in many months. Searching "calculator", the first pop-up was a 32S II posted an hour earlier, at a fair but reasonable price. E-mail got an immediate response and a phone number. The fellow had two 32S IIs, a 12C and a 10B. We met a couple of hours later and consummated a package deal. The machines are beautiful. Sometimes you just get lucky. What's your latest find?

Re: Serendipity

*Message #2 Posted by **Paul Dale** on 17 July 2011, 9:56 p.m.,*
in response to message #1 by Bob Patton

The 34s and 41cl :-)

- Pauli

Re: Serendipity

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 17 July 2011, 9:58 p.m.,*
in response to message #1 by Bob Patton

> Quote:
>
> What's your latest find?

A K&E 4080-5 for three dollars. That's the twenty inch log log model.

Re: Serendipity

*Message #4 Posted by **bill platt** on 18 July 2011, 10:44 p.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

Holy Smokes! You can almost calculate earth reentry on the fly with that one!

Re: Serendipity

*Message #5 Posted by **Marcus von Cube, Germany** on 18 July 2011, 3:20 a.m.,*
in response to message #1 by Bob Patton

Not an HP but a Casio fx-5500L on flea market for less then 2€. I do not recall the exact amount, I just gave the seller all the small coins I could find in my purse.

Re: Serendipity

*Message #6 Posted by **Brian K** on 18 July 2011, 9:41 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Is the Casio FX 5500L particularly valuable?

I've got one downstairs in my "old electronics" cabinet, still has the little plastic flip case that it came in.

Re: Serendipity

*Message #7 Posted by **Marcus von Cube, Germany** on 18 July 2011, 1:37 p.m.,*
in response to message #6 by Brian K

> Quote:
>
> Is the Casio FX 5500L particularly valuable?

I've no idea, it has just a formula storage as a simple means of programming. But for the price it's a nice calculator. :-)

Re: Serendipity

*Message #8 Posted by **Ren** on 21 July 2011, 11:46 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Not an HP but a Casio fx-5500L on flea market for less then 2€. I do not recall the exact amount, I just gave the seller all the small coins I could find in my purse.

purse^H^H^H^H^H European Shoulder Bag!

B^)

(a joke based on a (USA) car insurance commercial)

Ren

dona nobis pacem

Re: Serendipity

*Message #9 Posted by **Bart (UK)** on 18 July 2011, 5:59 a.m.,*
in response to message #1 by Bob Patton

This past week I aquired an HP-85B in a flight case. Powers up fine and although the seller said the printer paper advances, I haven't tried printing as I want to check the rubber bits first. It belonged to Prof. George Isaak, leader of the Solar Oscillations Network. Unfortunately there were no data tape carridges with it.

Re: Serendipity

*Message #10 Posted by **David Ramsey** on 18 July 2011, 11:16 a.m.,*
in response to message #9 by Bart (UK)

Brand new (not NOS, but newly manufactured) DC100 cartridges are available from Athana.com, about $55/each.

Re: Serendipity

*Message #11 Posted by **Bart (UK)** on 18 July 2011, 8:25 p.m.,*
in response to message #10 by David Ramsey

Thank you, I will look into that.

Re: Serendipity

*Message #12 Posted by **David Ramsey** on 18 July 2011, 11:18 a.m.,*
in response to message #1 by Bob Patton

A Texas Instruments SR-60 (which Gene is trying to get me to give a talk on at HHC), and a 9810a. Both I just stumbled across on TAS after not looking at it for months.

Re: Serendipity

*Message #13 Posted by **gene wright** on 18 July 2011, 11:24 a.m.,*
in response to message #12 by David Ramsey

Trying?

I thought we had a deal! :-)

Re: Serendipity

*Message #14 Posted by **David Ramsey** on 18 July 2011, 7:30 p.m.,*
in response to message #13 by gene wright

Oh, I've already started working on it, Gene. But everyone else, remember: it was his idea!

Re: Serendipity

*Message #15 Posted by **Geoff Quickfall** on 18 July 2011, 6:51 p.m.,*
in response to message #1 by Bob Patton

In the box; box still shrink wrapped from the UBC bookstore; a never opened or used HP 67.

Beside it an unused battery pack charger.

Had to open it, and found the books shrink wrapped, along with the prgramming pad and etc.

Cost:

100 Canadian Dollars ($80USd at the time) in 2007.

Geoff

Re: Serendipity

*Message #16 Posted by **Gerry Schultz** on 18 July 2011, 7:16 p.m.,*
in response to message #15 by Geoff Quickfall

OMG, what a find Geoff... I'm sooo jealous.

Gerry

Re: Serendipity

*Message #17 Posted by **Mike Morrow** on 18 July 2011, 8:56 p.m.,*
in response to message #15 by Geoff Quickfall

Many university bookstores seem to lack a policy of clearing out merchandise that hasn't sold, even after years on the shelf. In 1997 at the University of Alabama at Huntsville bookstore, I found two "new" un-opened HP 42S units. They had 1993 serial numbers, and had apparently been on the shelf for four years. I bought both, paying $114 each. I thought I was very lucky because the HP 42S got very very hard to find after it was discontinued in 1995. I had been looking for one for two years. One of these two is still NIB, the other is still near perfect after 14 years of almost daily use. The HP 42S remains my favorite calculator of all time in a collection that goes back to a Bomar 901B I bought in 1972.

Then, there's that old HP-35 that I got in 1978 (with hard case and accessories) by trading a fellow engineer my new but surplus TI-58. It has an 1143Axxxxxx serial number and yes, it is a "red dot" model. I attached no particular importance to that at the time.

But Geoff, how many years had your HP-67 been on the shelf? It sounds like some sort of record for unsold merchandise.

I'm thankful for stores like my local Walmart, which cleared out its inventory of TI-89 Titanium HW 4 models last year for $42.50. I almost think the TI-89 is worth that. :-)

Re: Serendipity

*Message #18 Posted by **M. Joury** on 18 July 2011, 10:58 p.m.,*
in response to message #17 by Mike Morrow

Found 4 HP-42S units at the UVA bookstore in '99. But a brand new 67 in 2007? Wow!

Re: Serendipity

*Message #19 Posted by **Geoff Quickfall** on 19 July 2011, 4:13 a.m.,*
in response to message #17 by Mike Morrow

An Archeology prof invited me over to his place in 2007. I had coauthored a palynology paper about some Queen Charlotte island native sites.

We were talking when i spied the 67 box sitting on a desk in the living room with some other HP accessories. My surprise was that it was still shrink wrapped with the UBC bookstore price and logo 450 Canadian.

I asked him about it and he told me he purchased, moved and forgot about it. He was writing a paper which required stat analysis so he got it down from the closet.

I explained to him what it was worth to a collector, and what problems it would have if he opened it (gummy wheel). He did not want to be bothered as his casio would do the job. WOULD I LIKE IT?

YES, but its worth quite a few dollars. He said "its yours for 50.00"

I replied, make it 100 and you have a deal. Still feel guilty about not bidding him up higher ;-)

By the way, he was 96 and finishing another Archeology article.

Amazing!

Geoff

Re: Serendipity

*Message #20 Posted by **Calum Tait** on 21 July 2011, 6:19 a.m.,*
in response to message #1 by Bob Patton

Just acquired a very early HP-11C complete with the bug at very moderate cost. I count myself as lucky as it was advertised as scratched but on arrival it turned out to have no more than a few minuscule marks and a slight bump in one corner of the keyboard faceplate. I have treated it to new rubber feet as the ones on it were rather soft and also to a new case - both bought at little cost from California. With new batteries I now have rather a nice calculator.

Re: Serendipity

*Message #21 Posted by **Julián Miranda (Spain)** on 21 July 2011, 1:00 p.m.,*
in response to message #1 by Bob Patton

Around year 2000 I saved for months to get a Faber Castell 2/83 slide rule from Venezuela. A month later paying at bookstore they opened a drawer and saw some slide rules. I got to an agreement and bought six 5" Faber Castell slide rules for around 12 euros. When I was leaving the owner showed up to ask if I would be interested in another big slide rule that didn't fit in the drawer, I said yes and for another 6 euros I got a new 2/83.

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP 34S - major changes!

*Message #1 Posted by **Marcus von Cube, Germany** on 17 July 2011, 3:59 p.m.*

We've made some major changes to WP 34S recently which will likely break many functions:

- The first message you'll see is "Erased". If not, you should manually force a clear.
- The assembler is no longer compatible with the current set of op-codes. (Edit: Already fixed by Neil)
- The flash image has yet to be tested.

I've added the lost flash region again. The commands to save and restore user state have changed:

STOM nn will save the user settable mode settings in register nn. The register contents may be inspected in 64 bit integer mode but shouldn't be viewed in decimal mode since it's a pure binary value. Type STO, then MODE (the CPLX key), then the destination.

RCLM nn will restore these settings from a register. The user has the sole responsibility for the validity of the restored value! Type RCL, then MODE (the CPLX key), then the destination.

I'll stop for now, it is getting late here. If the software crashes, just go back to an older release...

Edit: command names have changed.

Edit again: Walter has won the internal command naming contest. ;-)

Edited: 19 July 2011, 5:37 p.m. after one or more responses were posted

Re: WP 34S - major changes!

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 17 July 2011, 5:24 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> - The assembler is no longer compatible with the current set of op-codes.

Assembler is now up-to-date for SVN 1242 opcodes.

Hurray for the 4th flash page being back!

Re: WP 34S - major changes!

*Message #3 Posted by **Marcus von Cube, Germany** on 17 July 2011, 5:36 p.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Thanks for the hurray! We need testers to make sure the space savings haven't introduced more bugs then can be fixed in the limited flash space left now.

Re: WP 34S - major changes!

*Message #4 Posted by **Paul Dale** on 17 July 2011, 5:50 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Another big squeeze. The things effected are commands that don't take arguments from the stack (but they are allowed to return values to the stack or not) and every command that accesses user settable state has changed (both read and write accesses).

The first saved us a kilobyte, the second about half and put back the user state save and restore commands.

> Quote:
>
> The register contents may be inspected in 64 bit integer mode but shouldn't be viewed in decimal mode since it's a pure binary value.

What Marcus failed to mention is that looking at the state value in real mode is capable of locking up the device. Something on my to do list.

- Pauli

Re: WP 34S - major changes!

*Message #5 Posted by **Marcus von Cube, Germany** on 17 July 2011, 5:59 p.m.,*
in response to message #4 by Paul Dale

Since you can store any bit pattern in a register when in integer mode or by storing Alpha, the lockup, if any, could already be produced in earlier versions of the firmware.

Re: WP 34S - major changes!

*Message #6 Posted by **Paul Dale** on 21 July 2011, 3:24 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Actually, this doesn't seem to be a problem.

Look at but don't modify the value in real mode. Not that looking at it there is at all interesting.

Officially, the mode word is opaque and cannot be user modified without risking a complete lock up.

- Pauli

Re: WP 34S - major changes!

*Message #7 Posted by **Cristian Arezzini** on 17 July 2011, 11:46 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I haven't followed the latest developments very closely, but if opcodes changed again that means that if I update I'll loose my programs... Is there a way to convert them? Can the assembler be used to do so?

Re: WP 34S - major changes!

*Message #8 Posted by **Paul Dale** on 17 July 2011, 11:52 p.m.,*
in response to message #7 by Cristian Arezzini

You will need to disassemble them using the version of the assembler that matches your firmware and then reassemble them with the latest.

- Pauli

Re: WP 34S - major changes!

*Message #9 Posted by **Paul Dale** on 18 July 2011, 3:18 a.m.,*
in response to message #7 by Cristian Arezzini

Updating is also optional :-) The basic functionality seems to be pretty robust & has been for a while.

- Pauli

Re: WP 34S - major changes!

*Message #10 Posted by **Cristian Arezzini** on 18 July 2011, 3:31 a.m.,*
in response to message #9 by Paul Dale

I know! :) In fact I haven't reflashed since 1151. But as many changes are being introduced lately, I would like to stay a bit more "current"...

Cristian

Re: WP 34S - major changes!

*Message #11 Posted by **Marcus von Cube, Germany** on 18 July 2011, 4:37 a.m.,*
in response to message #10 by Cristian Arezzini

The serial routines are in but totally untested (because I need to implement the emulator counterpart for them first.) You should wait until I do announce the new features here.

I would say updating is necessary not optional :-)

*Message #12 Posted by **gene wright** on 18 July 2011, 10:25 a.m.,*
in response to message #9 by Paul Dale

The stack changes are critical enough that updating should be a necessity.

The earlier builds do not handle the stack the way all earlier RPN HP's have done. If you wish to use any code previously written as a base and convert it to the 34s, then you really must update or debugging the code will be a nightmare.

The SST change is another reason to reflash if you ever plan to step through code to debug. Seeing the step executed and its result in the display is critical to work like previous calculators.

So, IMO, update!

Re: I would say updating is necessary not optional :-)

*Message #13 Posted by **Namir** on 18 July 2011, 10:56 a.m.,*
in response to message #12 by gene wright

URL for the latest update, please? I go to the typical URL ad get an old version.

Re: I would say updating is necessary not optional :-)

*Message #14 Posted by **gene wright** on 18 July 2011, 11:23 a.m.,*
in response to message #13 by Namir

Latest Version list

the URL above always shows the latest builds but remember - these are often NOT necessarily stable. :-)

download and use at your own risk.

Re: I would say updating is necessary not optional :-)

*Message #15 Posted by **Namir** on 18 July 2011, 11:50 a.m.,*
in response to message #14 by gene wright

Thanks Gene! What s the URL for the emulator?

Namir

Re: I would say updating is necessary not optional :-)

*Message #16 Posted by **fhub** on 18 July 2011, 1:11 p.m.,*
in response to message #15 by Namir

> Quote:
>
> What s the URL for the emulator?

I'm using the following link:
http://wp34s.svn.sourceforge.net/viewvc/wp34s/

Here you can see immediately the current version at the top after the item "Directory revision:".
If this number is newer than your latest verison, then just click on this number and you'll get the site with ALL files changed with this revision, and you can also download the files from here.

For the emulator you need the following files (which are all in trunk\windows\bin):
wp34sgui.exe
wp34s.exe (not absolutely necessary)
emulator.dll
1 Medium 34s.skin
2 Compact 34s.skin
3 LED 34s.skin
wp34s_medium.bmp
wp34s_compact.bmp
wp34s_LED.bmp

Edited: 18 July 2011, 1:13 p.m.

Re: I would say updating is necessary not optional :-)

*Message #17 Posted by **Walter B** on 18 July 2011, 1:26 p.m.,*
in response to message #16 by fhub

... and once you've downloaded these, you will only need updating wp34sgui.exe until the layout will change.

Walter

Re: I would say updating is necessary not optional :-)

*Message #18 Posted by **fhub** on 18 July 2011, 1:32 p.m.,*
in response to message #17 by Walter B

... and sometimes also emulator.dll is updated. ;-)

(not-updated files don't even appear in the revision list)

Re: I would say updating is necessary not optional :-)

*Message #19 Posted by **Marcus von Cube, Germany** on 18 July 2011, 1:45 p.m.,*
in response to message #17 by Walter B

> Quote:
>
> ... and once you've downloaded these, you will only need updating wp34sgui.exe until the layout will change.

... or until I change the linkage between the exe and the emulator dll. That's what I had to do today. You will need emulator.dll because it contains a new function which is called by wp34s.exe.

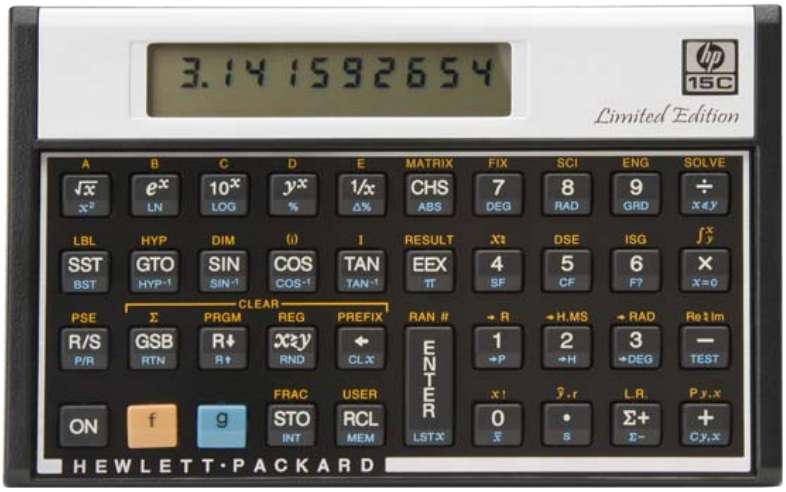
[Return to Index | Top of Index]

Go back to the main exhibit hall

new HP15c released in Japan
*Message #1 Posted by **NateB** on 17 July 2011, 2:26 p.m.*

Here, and on the second page, here

Re: new HP15c released in Japan
*Message #2 Posted by **Lyuka** on 17 July 2011, 2:27 p.m.,*
in response to message #1 by NateB



HP 15C limited edition (NW250AA)

Re: new HP15c released in Japan
*Message #3 Posted by **Gerson W. Barbosa** on 17 July 2011, 2:42 p.m.,*
in response to message #2 by Lyuka

Hello Lyuka,

Do you have information about price? I haven't found any. Thanks!

Gerson.

Re: new HP15c released in Japan
*Message #4 Posted by **Lyuka** on 17 July 2011, 2:59 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hi, Gerson

No other information is available so far. I'm looking forward to see the real New 15C.

Lyuka

Re: new HP15c released in Japan
*Message #5 Posted by **Walter B** on 17 July 2011, 3:26 p.m.,*
in response to message #4 by Lyuka

I'd be most interested in the back side ;-)

Walter

Re: new HP15c released in Japan

*Message #6 Posted by **Gerson W. Barbosa** on 17 July 2011, 4:07 p.m.,*
in response to message #5 by Walter B

Because of the larger battery compartment cover? Hopefully the essential information will be there. Let's hope the number on the display has been keyed in or it is just the result of a keystroke sequence like [g] [pi] [g] [HYP^{-1}] [SIN] [f] [HYP] [SIN] ...

Gerson.

Re: new HP15c released in Japan

*Message #7 Posted by **marais** on 17 July 2011, 5:12 p.m.,*
in response to message #6 by Gerson W. Barbosa

The display seems to have less contrast than the original. But I'll buy 3 anyway.

Re: new HP15c released in Japan

*Message #8 Posted by **Gerson W. Barbosa** on 17 July 2011, 7:18 p.m.,*
in response to message #7 by marais

If it is as good as that of the new 12C, then it's ok. I hope to buy two of them. Looks like HP will have to make another batch :-)

Re: new HP15c released in Japan

*Message #9 Posted by **Jake Schwartz** on 17 July 2011, 5:43 p.m.,*
in response to message #2 by Lyuka

Has anybody noticed the display? When I press PI on my 15C, I get "3.141592654", rather than the last digit being "3". Perhaps the non-math person setting up that display keyed it in manually and didn't know where PI was located on the keyboard. This has me really worried about the smarts of the people in charge.

Jake

Re: new HP15c released in Japan

*Message #10 Posted by **Michael de Estrada** on 17 July 2011, 6:28 p.m.,*
in response to message #9 by Jake Schwartz

Try what Gerson said.

Re: new HP15c released in Japan

*Message #11 Posted by **Gerson W. Barbosa** on 17 July 2011, 6:49 p.m.,*
in response to message #9 by Jake Schwartz

Perhaps he/she knows pi by heart to more digits than the display can hold and just did not want to round it up. The Japanese are great memorizers, as we know. I never went beyond the rounded 12 digits, but recently I have gone a little further: 3.1415926535897932 :-)

Gerson.

Re: new HP15c released in Japan

*Message #12 Posted by **Michael de Estrada** on 17 July 2011, 6:57 p.m.,*
in response to message #11 by Gerson W. Barbosa

I've got better things to do than memorize pi to 16 digits. Like remember the names of all my relatives. :P

Re: new HP15c released in Japan

*Message #13 Posted by **Gerson W. Barbosa** on 17 July 2011, 7:08 p.m.,*
in response to message #12 by Michael de Estrada

Actually, I didn't try to. It's just that they appeared constantly in a problem I was working on that I couldn't help but memorizing them, till when I don't know. There was a time I knew about 30 phone numbers by heart, now I am glad I still know my own ones :-)

Re: new HP15c released in Japan

*Message #14 Posted by **Ángel Martin** on 18 July 2011, 1:32 a.m.,*
in response to message #11 by Gerson W. Barbosa

Maybe they changed the rounding algorithms, hey for what we know it may even have a non-lifting stack pi :-)

Sure it looks suspicious, oversight or intentional??

Re: new HP15c released in Japan

*Message #15 Posted by **gene wright** on 17 July 2011, 10:55 p.m.,*
in response to message #9 by Jake Schwartz

Oh, I would assume someone who does not know the value of PI keyed it in from a list and did not properly round to 3.141592654.

Doh!

Re: new HP15c released in Japan

*Message #16 Posted by **Ángel Martin** on 18 July 2011, 7:39 a.m.,*
in response to message #15 by gene wright

> Quote:
>
> ...value of PI keyed it in from a list and did not properly round to 3.141592654

Hmmm, this is most intriguing - or somebody is tripping us all up knowing how predictable we are.

But it could be related to the extended precision that (supposedly) the new machine has got - who knows, maybe they used a truncation to the classic 10-digit mantissa instead of a ROUNDING?

Gosh I'd hope not...

Re: new HP15c released in Japan

*Message #17 Posted by **Alejandro Paz (Germany)** on 18 July 2011, 1:20 a.m.,*
in response to message #2 by Lyuka

Any sightings on these shores yet ? I also want... 2 :)

Re: new HP15c released in Japan

*Message #18 Posted by **Ángel Martin** on 18 July 2011, 1:27 a.m.,*
in response to message #2 by Lyuka

Now this is a strange market strategy or just a rabid marketing ploy: why Japan first, and why all the surrounding silence in the rest of the world?? It makes no sense in these days of global economy, unless this is a gigantic beta-site plan.

And how limited is limited??

Re: new HP15c released in Japan

*Message #19 Posted by **Walter B** on 18 July 2011, 1:38 a.m.,*
in response to message #18 by Ángel Martin

Very clever - they decided to launch it in the country of the new world champion ;-)

Re: new HP15c released in Japan

*Message #20 Posted by **hpnut** on 18 July 2011, 11:44 a.m.,*
in response to message #18 by Ángel Martin

> Quote:
>
> Now this is a strange market strategy or just a rabid marketing ploy: why Japan first, and why all the surrounding silence in the rest of the world?? It makes no sense in these days of global economy, unless this is a gigantic beta-site plan.
>
> And how limited is limited??

if HP had taken note of the Bring Back the HP 15C campaign, they would have released it in Australia, France, Germany, Hong Kong or USA first to gauge the response.

http://hp15c.org/Countries.php

I was also wondering if such a newly re-introduced 15C would depress the auction prices in TAS ;-)

new HP15c released in US

*Message #21 Posted by **Lyuka** on 18 July 2011, 12:06 p.m.,*
in response to message #2 by Lyuka

The color pdf manual of the hp-15C got available online now!
(though its contents are of 1987)

You will find the small hp-15C image in the page below, with 'Limited edition' letters on it!

'HP 15c Adv. Prog. Scientific Calculator '

Lyuka

Re: new HP15c released in US

*Message #22 Posted by **hpnut** on 18 July 2011, 12:26 p.m.,*
in response to message #21 by Lyuka

Hi Lyuka,

I still can't find the HP 15C in the shopping cart!

http://www.shopping.hp.com/can/calculator/HP/1/storefronts;HHOJSID=fZkJTkdpXq1HJsqnlKz42LX1TlxnfnGbQhGbQhtM2PkfpQzL1KV1!1516178979?jumpid=in_R329_prodexp/hhoslp/psg/lateralnav_calculators

so HP is just into releasing manuals of classics, eh? ;-)

hpnut in Malaysia

Re: new HP15c released in US

*Message #23 Posted by **hpnut** on 18 July 2011, 12:35 p.m.,*
in response to message #21 by Lyuka

Lyuka,

thanks for the heads up. the color pdf manual is nice, as are the interesting art illustrations in it.

Re: new HP15c released in US

*Message #24 Posted by **Katie Wasserman** on 18 July 2011, 2:21 p.m.,*
in response to message #21 by Lyuka

You do realize that the color manual is the scan from Dave's DVD set available here. The watermark "copyright MoHPC" is still on some of the pages.

Re: new HP15c released in US

*Message #25 Posted by **robert rozee** on 18 July 2011, 2:37 p.m.,*
in response to message #21 by Lyuka

> Quote:
>
> The color pdf manual of the hp-15C got available online now!
> (though its contents are of 1987)
> [...]
> Lyuka

look at the bottom of the third page of the pdf, there is in light grey, the text "Scan Copyright (c) MoHPC". a little odd for a manual being genuinely published by hp?

addendum: LOL, looks like katie spotted it at the same time as me!

Edited: 18 July 2011, 2:40 p.m.

Re: new HP15c released in US

*Message #26 Posted by **Eric Rechlin** on 18 July 2011, 3:34 p.m.,*
in response to message #25 by robert rozee

> Quote:
>
> look at the bottom of the third page of the pdf, there is in light grey, the text "Scan Copyright (c) MoHPC". a little odd for a manual being genuinely published by hp?
>
> addendum: LOL, looks like katie spotted it at the same time as me!

Technically HP owns the copyright for the manual. I think it's a little obscene that the HP Museum tries to claim copyright.

Eric

Re: new HP15c released in US

*Message #27 Posted by **Steve Simpkin** on 18 July 2011, 4:00 p.m.,*
in response to message #26 by Eric Rechlin

From the wording, I think the HP Museum Copyright is strictly for the scanning process. AFAIK, the HP Museum had permission to scan and re-distribute these manuals. I suspect that HP also reserved the right (either implied or explicitly) to use the scanned copies from the HP Museum as

well.

Re: new HP15c released in US

*Message #28 Posted by **Eric Rechlin** on 19 July 2011, 12:45 a.m.,*
in response to message #27 by Steve Simpkin

> Quote:
>
> From the wording, I think the HP Museum Copyright is strictly for the scanning process.

I am not a lawyer, but I believe this has no legal basis. If you take a photograph of a painting, you do not own copyright of the photograph because no original work was created. I don't know if there is case law to support this, but I would imagine the exact same thing would apply to scanning a painting (or a manual or whatever).

The HP Museum does not own the copyright of the PDF manuals for this reason. HP does, however, just like they have the copyright of the original manuals. HP is completely within their rights to distribute the scanned manuals that say "Copyright MoHPC", and it is entirely possible, if not likely, the MoHPC is violating federal law by claiming copyright here.

Eric

Re: new HP15c released in US

*Message #29 Posted by **Jim Yohe** on 19 July 2011, 3:04 a.m.,*
in response to message #28 by Eric Rechlin

David Hicks wrote me not long ago for a somewhat related topic and said the museum had permission from HP to scan out of production calculator documentation.

Re: new HP15c released in US

*Message #30 Posted by **gene wright** on 19 July 2011, 9:03 a.m.,*
in response to message #29 by Jim Yohe

Hey Jim.

I think Eric's point isn't that HP did not give Dave permission to scan these old documents, but whether the Museum can claim copyright to them.

Re: new HP15c released in Japan

*Message #31 Posted by **Ivan Latorre** on 23 July 2011, 11:28 a.m.,*
in response to message #2 by Lyuka

Excellent news! Too many years have passed since the release of the 35s.

Me wants one!

Re: new HP15c released in Japan

*Message #32 Posted by **db (martinez, ca.)** on 17 July 2011, 5:20 p.m.,*
in response to message #1 by NateB

A constantly improving WP-34S and a new 15C both available now.

These are the good old days.

Re: new HP15c released in Japan

*Message #33 Posted by **Walter B** on 17 July 2011, 5:26 p.m.,*
in response to message #32 by db (martinez, ca.)

Thank you :-)

Re: new HP15c released in Japan

*Message #34 Posted by **Massimo Gnerucci (Italy)** on 17 July 2011, 7:00 p.m.,*
in response to message #32 by db (martinez, ca.)

> Quote:
>
> A constantly improving WP-34S and a new 15C both available now.
>
> These are the good old days.

Right, not to mention 41-CL... ;)

Greetings,
Massimo

Re: new HP15c released in Japan
*Message #35 Posted by **db (martinez, ca.)** on 17 July 2011, 11:41 p.m.,*
in response to message #34 by Massimo Gnerucci (Italy)

How did i forget the 41cl? Sorry Monte!

When is the final version coming out? I have a 41 with a dead PCB waiting.

Re: new HP15c released in Japan
*Message #36 Posted by **Monte Dalrymple** on 18 July 2011, 6:18 p.m.,*
in response to message #35 by db (martinez, ca.)

I don't have a schedule for when there might be another assembly batch.
You were on the list for one of the first twenty, but I never heard back
from you, so it went to someone else.

Re: new HP15c released in Japan
*Message #37 Posted by **db (martinez, ca.)** on 18 July 2011, 11:11 p.m.,*
in response to message #36 by Monte Dalrymple

I don't think i am qualified to be one of the beta testers. Better that someone who can give you both complaints and possible solutions got it first. I guess i should have said something.

I've probably been on your list since we sat next to each other at the San Jose HHC where you gave the talk. I can wait a bit longer, but i'm still anxious to get one.

Re: new HP15c released in Japan
*Message #38 Posted by **robertoataulfo** on 17 July 2011, 7:15 p.m.,*
in response to message #1 by NateB

Link Manual 15C LE?

Re: new HP15c released in Japan
*Message #39 Posted by **Peter Murphy (Livermore)** on 17 July 2011, 7:24 p.m.,*
in response to message #38 by robertoataulfo

1. It's in Japanese, I think.

2. It says (copyright) YHP 1983.

Probably not what we're hoping for.

Re: new HP15c released in Japan
*Message #40 Posted by **Patrice** on 17 July 2011, 9:33 p.m.,*
in response to message #38 by robertoataulfo

Looks like the manual is just a scan of the 1986 one.

Look at the batteries at the end.

Patrice

Re: new HP15c released in Japan
*Message #41 Posted by **Jim Yohe** on 17 July 2011, 10:04 p.m.,*
in response to message #40 by Patrice

Pages 260-263

Re: new HP15c released in Japan
*Message #42 Posted by **Paul Dale** on 17 July 2011, 7:58 p.m.,*
in response to message #1 by NateB

I want....

- Pauli

Re: new HP15c released in Japan

*Message #43 Posted by **hpnut** on 18 July 2011, 1:19 a.m.,*
in response to message #42 by Paul Dale

I want too, at HP 30B price :-)

Re: new HP15c released in Japan
*Message #44 Posted by **Walter B** on 18 July 2011, 1:33 a.m.,*
in response to message #43 by hpnut

I dunno - I would really want it with Michael's display. But I may buy one if it's priced reasonably here.

Walter

Re: new HP15c released in Japan
*Message #45 Posted by **hpnut** on 18 July 2011, 6:11 a.m.,*
in response to message #44 by Walter B

I want HP to keep it pure RPN, no AOS pls!

the recent models all have algebraic, the manuals suffer as a result of having to explain how to use the calculators in RPN and AOS modes.

p.s. heheh, having JTAG connectors is a good idea, too, to allow power users to "repurpose" the HP 15C :-)

Re: new HP15c released in Japan
*Message #46 Posted by **Ángel Martin** on 18 July 2011, 7:35 a.m.,*
in response to message #45 by hpnut

> Quote:
>
> having JTAG connectors is a good idea, too, to allow power users to "repurpose" the HP 15C :-)

into a basic business calc perhaps? - LOL.

So how limited is limited edition?

Re: new HP15c released in Japan
*Message #47 Posted by **Dave Britten** on 18 July 2011, 7:41 a.m.,*
in response to message #46 by Ángel Martin

> Quote:
>
> So how limited is limited edition?

Probably depends on how many we buy, and how many more production runs they have to make to shut us up.

Re: new HP15c released in Japan
*Message #48 Posted by **Michael de Estrada** on 18 July 2011, 12:08 p.m.,*
in response to message #47 by Dave Britten

Until there is some hard evidence that this is actually happening, it could just be a hoax. All we have is an unverified image that could just be the result of good artwork. Remember the old saying "Don't count your chickens until they are hatched."

Re: new HP15c released in Japan
*Message #49 Posted by **hpnut** on 18 July 2011, 12:30 p.m.,*
in response to message #48 by Michael de Estrada

Do you have the HP 67CX in mind? ;-)

http://209.197.117.170/item/product2.htm

Re: new HP15c released in Japan
*Message #50 Posted by **Martin Pinckney** on 18 July 2011, 12:49 p.m.,*
in response to message #48 by Michael de Estrada

Where's Tim in all this? If it's true, he can't stay silent for *too* long.

Re: new HP15c released in Japan
*Message #51 Posted by **Michael de Estrada** on 18 July 2011, 12:52 p.m.,*
in response to message #50 by Martin Pinckney

Exactly. Which is why I'm skeptical.

Re: new HP15c released in Japan

*Message #52 Posted by **Jim Yohe** on 18 July 2011, 1:18 p.m.,*
in response to message #50 by Martin Pinckney

I was thinking the same thing. He's been pretty silent on it.

Re: new HP15c released in Japan

*Message #53 Posted by **Tim Wessman** on 18 July 2011, 1:24 p.m.,*
in response to message #52 by Jim Yohe

What do I need to chime in about?

I'm just sitting back enjoying the whole show. :-)

TW

Edited: 18 July 2011, 1:26 p.m.

Re: new HP15c released in Japan

*Message #54 Posted by **Glenn Dowdy** on 18 July 2011, 1:36 p.m.,*
in response to message #53 by Tim Wessman

Yeah, quiet is as quiet does.

Re: new HP15c released in Japan

*Message #55 Posted by **Jim Yohe** on 18 July 2011, 1:50 p.m.,*
in response to message #53 by Tim Wessman

Just watching on the sidelines as the speculation mill churns ... :-)

Re: new HP15c released in Japan

*Message #56 Posted by **Steve Simpkin** on 18 July 2011, 1:23 p.m.,*
in response to message #48 by Michael de Estrada

Well if it is a hoax, it is a very good one.
If you go to HP's Customer Care website at "www.hp.com/cposupport/eschome.html" and type "HP-15C" (without the quotes) in the product location box, you will be sent to HP's HP-15C support page. The product picture shows the "Limited Edition" text under the name badge. Here you can also download a scanned color English copy of the HP-15C Owner's Handbook (dated June 1987).
Again if this is a hoax, it is an inside job on HP's North American and Japanese websites.

Thank you Lyuka for posting this information.

Re: new HP15c released in Japan

*Message #57 Posted by **Scott Newell** on 18 July 2011, 3:46 p.m.,*
in response to message #56 by Steve Simpkin

> Quote:
>
> Well if it is a hoax, it is a very good one.

My thought as well.

Maybe I'm remembering wrong, but haven't the last few calc introductions shown up in places like Amazon *before* the HP website? Seems strange that this time the website would actually be up to date (or even correct)!

Re: new HP15c released in Japan

*Message #58 Posted by **Mike T.** on 18 July 2011, 11:46 a.m.,*
in response to message #1 by NateB

Interesting - I wonder how long before the rest of the rest of the world gets them...? I want one!

A long time ago one a chap I know at University moved to Japan and as a result we lost touch - perhaps it is time to renew his acquaintance..?

Though the 15c appears to have its own page but doesn't feature on the page listing all the available models, though as I don't read Japanese it is hard to tell what is what..

Mike T.

Edited: 18 July 2011, 11:51 a.m.

Re: new HP15c released in Japan

*Message #59 Posted by **Peter Murphy (Livermore)** on 18 July 2011, 1:16 p.m.,*
in response to message #1 by NateB

HP corporate switchboard told me this:

* Call HP at 1-800-752-0900.

* Ask (by voice prompt) for presales information and/or product information.

* Stay on the line and do what you must to speak to a human.

I did all that.

The human hadn't heard this news. I gave him the first of the two URLs in NateB's 17 July 2:26 p.m. message. He put me on hold for a while and returned with this:

Yes it was released in Japan yesterday 17 July. No, he has product information only, not prices, not even of US products and definitely not on this. He has no information regarding possible release in the USA.

If it becomes available in the USA, however, pricing and ordering information thereon will be at the Home Office (HO): 1-888-999-4747.

And have a great day, he says.

Re: new HP15c released in Japan

*Message #60 Posted by **Martin Pinckney** on 18 July 2011, 1:24 p.m.,*
in response to message #59 by Peter Murphy (Livermore)

Then I suppose we will hear from Tim soon. Or not. HP has some strange ways...

Re: new HP15c released in Japan

*Message #61 Posted by **Tim Wessman** on 18 July 2011, 1:27 p.m.,*
in response to message #60 by Martin Pinckney

There is no 15c launched in Japan, or anywhere else.

TW

Re: new HP15c released in Japan

*Message #62 Posted by **Glenn Dowdy** on 18 July 2011, 1:38 p.m.,*
in response to message #61 by Tim Wessman

Especially with bad pi.

Re: new HP15c released in Japan

*Message #63 Posted by **NateB** on 18 July 2011, 1:42 p.m.,*
in response to message #61 by Tim Wessman

Emulator then? That was my original thought...

Re: new HP15c released in Japan

*Message #64 Posted by **Martin Pinckney** on 18 July 2011, 1:47 p.m.,*
in response to message #61 by Tim Wessman

Maybe Peter Murphy (Livermore) is in on the 'hoax'?

Re: new HP15c released in Japan

*Message #65 Posted by **Jim Yohe** on 18 July 2011, 1:59 p.m.,*
in response to message #64 by Martin Pinckney

April Fools is three months past ...

Re: new HP15c released in Japan

*Message #66 Posted by **Lyuka** on 18 July 2011, 1:53 p.m.,*
in response to message #61 by Tim Wessman

Dear Tim,

> Quote:
>
> There is no 15c launched in Japan, or anywhere else.

Of course, not yet.
It's going to be launched in the near future, you mean, right ? ;-)

Lyuka

Re: new HP15c released in Japan

*Message #67 Posted by **Martin Pinckney** on 18 July 2011, 2:09 p.m.,*
in response to message #66 by Lyuka

If you put the URL of the first site NateB cited into Google Translate, it says the web page is in the Chinese language (even though the address has ja in it).

The translation does not yield much, but at the bottom it says:

©2011 Hewlett-Packard Development Company

So I am speculating (like everyone else here except Tim) that what NateB found is some sort of internal HP site (or masquerading to be one) related to product development. Which is why it's in Chinese. {:-)

Edited: 18 July 2011, 2:11 p.m.

Re: new HP15c released in Japan

*Message #68 Posted by **Michael de Estrada** on 18 July 2011, 2:21 p.m.,*
in response to message #67 by Martin Pinckney

Well, a few weeks ago I had my 65th birthday, and with the government threatning to cut back or eliminate Medicare, I'm not sure how much longer I have to go on this earth. I've decided to specify in my will that my HP-15C is to be buried with me, which should help keep prices up on TAS.

Re: new HP15c released in Japan

*Message #69 Posted by **Lyuka** on 18 July 2011, 2:22 p.m.,*
in response to message #67 by Martin Pinckney

It is all written in not Chinese but Japanese.

#Google Translate must learn CJK more.

Lyuka

Re: new HP15c released in Japan

*Message #70 Posted by **Martin Pinckney** on 18 July 2011, 3:01 p.m.,*
in response to message #69 by Lyuka

> Quote:
>
> It is all written in not Chinese but Japanese.
>
> #Google Translate must learn CJK more.

It's all 'Greek' to me.

Re: new HP15c released in Japan

*Message #71 Posted by **Martin Pinckney** on 18 July 2011, 3:32 p.m.,*
in response to message #69 by Lyuka

> Quote:
>
> It is all written in not Chinese but Japanese.

Lyuka, since you can read it, tell us what is says, please.

Re: new HP15c released in Japan

*Message #72 Posted by **Eric Rechlin** on 18 July 2011, 3:38 p.m.,*
in response to message #71 by Martin Pinckney

> Quote:
>
> Lyuka, since you can read it, tell us what is says, please.

I can't read either Chinese or Japanese but I know enough about the characters used in the two languages to say that this is definitely Japanese. Chinese doesn't use katakana, which some of the characters on that page are.

Eric

Re: new HP15c released in Japan

*Message #73 Posted by **Brandon Poindexter** on 18 July 2011, 4:05 p.m.,*
in response to message #69 by Lyuka

Can anyone tell my how the page was actually found? I mean you go to hp.jp , pull down their drop down menu and select "PDA & (Japanese chars. for calculator)", but they have no actual listing published for the hp 15c.

Re: new HP15c released in Japan

*Message #74 Posted by **Lyuka** on 18 July 2011, 8:06 p.m.,*
in response to message #73 by Brandon Poindexter

The guy at a BBS in Japan who found the page said (like this in Japanese),

> Quote:
>
> The following pages were found while examining the specs of
> the 30b and the 10bII+, thinking about buying something new,
> 'cause there are no further information about the 15C(Limited edition) .
> http://www8.hp.com/jp/ja/products/calculators/index.html

It must be a kind of serendipity :-)

Lyuka

Re: new HP15c released in Japan

*Message #75 Posted by **Frank Rottgardt** on 19 July 2011, 6:45 a.m.,*
in response to message #66 by Lyuka

Evidence for pending HP 15c relaunch dated April 2011

Re: new HP15c released in Japan

*Message #76 Posted by **Walter B** on 19 July 2011, 2:34 p.m.,*
in response to message #75 by Frank Rottgardt

Hallo Frank, this source was discussed here some months earlier already. Please search the archive.

Re: new HP15c released in Japan

*Message #77 Posted by **Walter B** on 18 July 2011, 1:59 p.m.,*
in response to message #61 by Tim Wessman

Ok, congratulations, the pictures are well made. The golden print color just slightly off, like on some newer 12Cs. And the font employed for "Limited Edition" is one only US-Americans would use, so it looked pretty plausible to me.

Walter

Re: new HP15c released in Japan

*Message #78 Posted by **Steve Simpkin** on 18 July 2011, 2:58 p.m.,*
in response to message #77 by Walter B

Walter,
Don't give up quite yet. Tim may just be playing word games with us noting that "There is no 15c launched in Japan, or anywhere else.", **YET**!
As Lyuka pointed out, the "Limited Edition" HP-15C image is shown on HP's North American and their Japanese websites.
Steve

Re: new HP15c released in Japan

*Message #79 Posted by **Thomas Radtke** on 19 July 2011, 1:41 p.m.,*
in response to message #77 by Walter B

I'm sure Tim wouldn't be part of the game if the actual announcement wouldn't follow soon.

Will we again manage to find a US-dealer willing to ship that thing to Germany? :-)

Edited: 19 July 2011, 1:42 p.m.

Re: new HP15c released in Japan

*Message #80 Posted by **Walter B** on 19 July 2011, 2:38 p.m.,*
in response to message #79 by Thomas Radtke

Hallo Thomas, if it will take some time still, maybe the usual HP exchange rate taking 1,0 € for 1.0 $ may turn favourable for us - once ;-)

Re: new HP15c released in Japan

*Message #81 Posted by **Ángel Martin** on 18 July 2011, 3:18 p.m.,*
in response to message #61 by Tim Wessman

> Quote:
>
> There is no 15c launched in Japan, or anywhere else.

Too bad then, I guess we'll flock to the clone and will give him the business instead.

Re: new HP15c released in Japan

*Message #82 Posted by **Don Shepherd** on 18 July 2011, 3:36 p.m.,*
in response to message #81 by Ángel Martin

> Quote:
>
> Too bad then, I guess we'll flock to the clone and will give him the business instead.

I wouldn't worry too much about HP. I'm sure their sales of 12c's are about a billion times what the sales of a 15c reissue would be.

Re: new HP15c released in Japan

*Message #83 Posted by **Reth** on 18 July 2011, 7:39 p.m.,*
in response to message #81 by Ángel Martin

Exactly! Now whoever brings it on the market first, wins. I'd still buy the clone though, there is a word given ;)

Re: new HP15c released in Japan

*Message #84 Posted by **Bart (UK)** on 19 July 2011, 12:10 p.m.,*
in response to message #81 by Ángel Martin

This could be a ploy by HP to play legal cat-and-mouse, asserting their wish to still produce 15C's to have legal clout to stop the clones entering the market (e.g. considering "copyright and fair use" - would the clone impact HPs market? One could argue not if they weren't going to make any more).

Note: I am just throwing some thoughts into the midst. I am not really knowledgeable about legal issues. Just speculating.

Re: new HP15c released in Japan

*Message #85 Posted by **Bart (UK)** on 19 July 2011, 12:30 p.m.,*
in response to message #61 by Tim Wessman

And one could argue that "announced" does not equal "launched" :-)

Re: new HP15c released in Japan

*Message #86 Posted by **Thomas Radtke** on 19 July 2011, 1:45 p.m.,*
in response to message #85 by Bart (UK)

> Quote:
>
> And one could argue that "announced" does not equal "launched" :-)

One could argue that a 15c is not a 15C ;-).

Re: new HP15c released in Japan

*Message #87 Posted by **Mike Morrow** on 19 July 2011, 5:48 p.m.,*
in response to message #86 by Thomas Radtke

Or a HP-15C is not a HP 15C.

Re: new HP15c released in Japan

*Message #88 Posted by **Maarten Ambaum (Reading, UK)** on 19 July 2011, 5:32 a.m.,*
in response to message #1 by NateB

> Quote:

Here, and on the second page, here

That first link now stopped pointing to the15C information. What's going on? HP marketing surely know how to screw up a product launch ...

Re: new HP15c released in Japan
*Message #89 Posted by **NateB** on 20 July 2011, 11:36 a.m.,*
in response to message #88 by Maarten Ambaum (Reading, UK)

All information has been scrubbed. Lyuka's posts are hot-linking the images of the calculator. I wonder how long those will stay up...

Re: new HP15c released in Japan
*Message #90 Posted by **Victor Quiros** on 19 July 2011, 11:01 a.m.,*
in response to message #1 by NateB

Friends, I'm afraid we'll still have to wait from 6 - 12 months to have a definite word on this eventual release, which I truly *wish* :-). Kind regards from San José, Costa Rica.

Re: new HP15c released in Japan
*Message #91 Posted by **Joerg Woerner** on 20 July 2011, 10:56 p.m.,*
in response to message #90 by Victor Quiros

Please check HP Japan's Job Offer postings.

I bet they are searching a new Intern for their product management / web-store ;-))

Cheers, Joerg

Re: new HP15c released in Japan
*Message #92 Posted by **hpnut** on 21 July 2011, 4:18 a.m.,*
in response to message #91 by Joerg Woerner

sigh, i think someone is pulling off a big time hoax on us. I am disappointed :-(

Re: new HP15c released in Japan
*Message #93 Posted by **JustinM** on 21 July 2011, 10:16 p.m.,*
in response to message #92 by hpnut

I don't think this was a hoax. I successfully ran the page through Google Translate before it was removed. It was in Japanese. It was an incomplete product page, with sections for specs and features that were empty. It looked like a rough draft of a web page that was accidentally made accessible on the public internet.

Had the image shown up on some sketchy server or a Chinese rumor site then I'd be more inclined to think the "Limited Edition" logo was photoshopped. The fact that the image was hosted on an actual HP web site gives it a lot more credibility. The colors do look a bit off, the 'f' key is crooked, and pi is truncated instead of rounded, but it could be a prototype with a number typed into the display. As far as the display goes (including the contrast), it could easily have been simulated.

I think this (and the smaller version of this image on the US HP site) just verifies that a re-release will happen, but I wouldn't read anything into the product quality or try to predict timing yet.

Edited: 22 July 2011, 12:16 p.m. after one or more responses were posted

Re: new HP15c released in Japan
*Message #94 Posted by **hpnut** on 22 July 2011, 12:09 a.m.,*
in response to message #93 by JustinM

thanks, Justin.

you are raising my hopes again :-)

hpnut in Malaysia

Re: new HP15c released in Japan
*Message #95 Posted by **NateB** on 23 July 2011, 11:51 a.m.,*
in response to message #93 by JustinM

I have screen captures of the pages before they were taken down if anyone is interested. It was on HP's Japanese site. Also, Google still has the cached images available.

I also managed to dig up the spec sheet for the upcoming 30th Anniversary Edition 12c from the HP website. The part number format for the 12c (NW258AA) matches the part number format listed for the Limited Edition 15c (NW250AA). Also, the values of pi displayed on the 12c are the same as those on the 15...

The 15c and 12c are also starting to show up on vendor sites. Here is an example. List price of $85.00 :)

Edited: 23 July 2011, 12:07 p.m.

Re: new HP15c released in Japan

*Message #96 Posted by **DaveJ** on 23 July 2011, 1:11 a.m.,*
in response to message #1 by NateB

I haven't been on here in a long time it seems. (forgive me for not reading the entire thread...) So this is real? HP have finally released a 15C, presumably based on the new ARM architecture just like I and others predicted? (how long ago was that, and how far were we out by? :->)

Dave.

Re: new HP15c released in Japan

*Message #97 Posted by **db (martinez, ca.)** on 23 July 2011, 1:41 a.m.,*
in response to message #96 by DaveJ

No one is sure it's real. Tim says it's not. That should mean something, but someone finds wiggle-room in his statement. We may still be waiting for you to build one that straps to a wrist.

Have you been following the WP-34S?

Re: new HP15c released in Japan

*Message #98 Posted by **DaveJ** on 23 July 2011, 3:37 a.m.,*
in response to message #97 by db (martinez, ca.)

> Quote:
>
> No one is sure it's real. Tim says it's not. That should mean something, but someone finds wiggle-room in his statement. We may still be waiting for you to build one that straps to a wrist.

Tim had two choices here. 1) Say nothing (which people would usually take no response as being true) 2) Say something (which would have to tow the company line and quell any rumors, but not confirm it). I see he did that nicely ;-)

If it was on the HP Japan site, then it's true. Doesn't mean they can't can it last minute though. But if it made the site, then it's probably gone to far and is likely imminent.

> Quote:
>
> Have you been following the WP-34S?

Just noticed that. Can someone give me a quick low-down? I gathered it's a firmware/decal/key set to turn a 20B financial into a scientific? They keys were always the bugbear, how was that solved?

Dave.

Re: new HP15c released in Japan

*Message #99 Posted by **Paul Dale** on 23 July 2011, 3:41 a.m.,*
in response to message #98 by DaveJ

> Quote:
>
> Can someone give me a quick low-down?

I got sick of waiting for a scientific calculator I wanted to use so I wrote my own. Walter joined up very early to direct the layout and write the manual. Marcus joined earlier this year.

> Quote:
>
> I gathered it's a firmware/decal/key set to turn a 20B financial into a scientific?

Exactly. The sourceforge site has the code and pre-compiled binaries.

> Quote:
>
> They keys were always the bugbear, how was that solved?

By the 30b :-) The 20b's key are unchanged. The 30b, however, has a much nicer keyboard. It really is fairly pleasant to use and it uses the same internals.

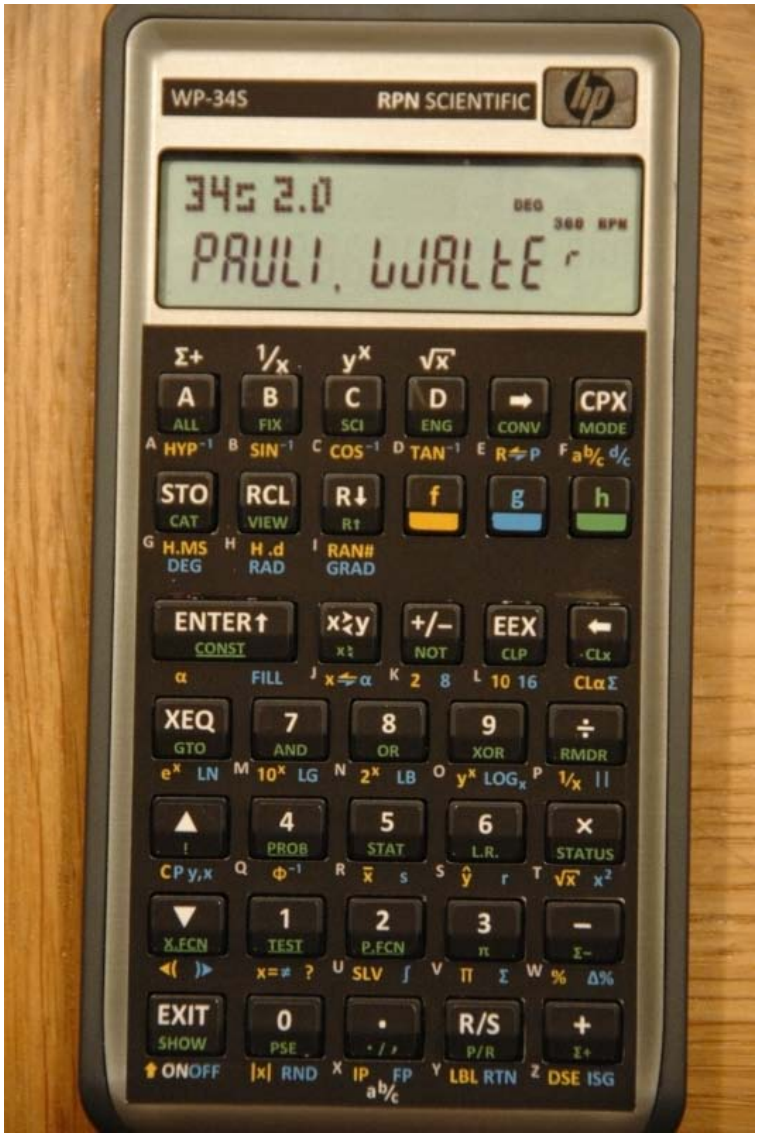
- Pauli

Re: new HP15c released in Japan

*Message #100 Posted by **DaveJ** on 23 July 2011, 7:40 a.m.,*
in response to message #99 by Paul Dale

> Quote:
>
> By the 30b :-) The 20b's key are unchanged. The 30b, however, has a much nicer keyboard. It really is fairly pleasant to use and it uses the same internals.

So these keys are just stickers?



Looks awesome!
Hows the longevity on those?

Dave.

Edited: 23 July 2011, 7:41 a.m.

Re: new HP15c released in Japan
*Message #101 Posted by **Paul Dale** on 23 July 2011, 8:10 a.m.,*
in response to message #100 by DaveJ

I'm not aware of anyone having worn them out yet.

Time will tell.

- Pauli

Re: new HP15c released in Japan
*Message #102 Posted by **DaveJ** on 23 July 2011, 3:49 a.m.,*
in response to message #97 by db (martinez, ca.)

> Quote:
>
> We may still be waiting for you to build one that straps to a wrist.

Well, things have changed since I was last on here.

I'm now a full time video blogger, so in theory I should have a lot more time to spend on projects like the uWatch2 and the uCalc.

But somehow, I haven't!

It might be this:
http://www.youtube.com/watch?v=dzrtEYmuQJQ

But you never know, that calc watch fetish might emerge again!

Dave.

Re: new HP15c released in Japan

*Message #103 Posted by **Paul Dale** on 23 July 2011, 3:58 a.m.,*
in response to message #102 by DaveJ

> Quote:
>
> I'm now a full time video blogger, so in theory I should have a lot more time to spend on projects like the uWatch2 and the uCalc.

Great stuff. Long time coming...

> Quote:
>
> It might be this:
> http://www.youtube.com/watch?v=dzrtEYmuQJQ

These will do it every time.

Congratulations. No time for many many years to come :)

- Pauli

Re: new HP15c released in Japan

*Message #104 Posted by **DaveJ** on 23 July 2011, 7:45 a.m.,*
in response to message #1 by NateB

I found this google cached page for HP India:

LINK

And it says you get a "product CD with virtual calculator" in the box.

And this supplier actually lists it!

http://www.synnex.com/vendors/HEWLETT_PACKARD_CALCULATORS.html

Dave.

Edited: 23 July 2011, 7:49 a.m.

Re: new HP15c released in Japan

*Message #105 Posted by **Katie Wasserman** on 23 July 2011, 9:50 a.m.,*
in response to message #104 by DaveJ

I don't think it's a question mark for long. There's a documentation link on HP's USA site

-Katie

Edited: 23 July 2011, 9:51 a.m.

Re: new HP15c released in Japan

*Message #106 Posted by **DaveJ** on 23 July 2011, 5:55 p.m.,*
in response to message #105 by Katie Wasserman

> Quote:
>
> I don't think it's a question mark for long. There's a documentation link on HP's USA site

Looks like they have removed it.

Dave.

Re: new HP15c released in Japan

*Message #107 Posted by **bill platt** on 23 July 2011, 11:06 a.m.,*
in response to message #1 by NateB

Note the "page not found" has replaced it :-(

Re: new HP15c released in Japan

*Message #108 Posted by **Eric Smith** on 24 July 2011, 4:54 a.m.,*
in response to message #107 by bill platt

Operating an e-commerce web site doesn't appear to be one of HP's core competencies. They routinely fail to have information about shipping products, or fail to allow purchasing them, but then they do have information about unannounced products.

They should outsource their web site to Amazon or something.

Re: new HP15c released in Japan

*Message #109 Posted by **Thomas Radtke** on 24 July 2011, 5:35 a.m.,*
in response to message #108 by Eric Smith

A non-working information flow is rarely corrected by adding another components, imo. My company just introduced XML to get rid of some sources of problems :-). If anything fails, it happens where still word is used or something like web pages are manually edited. It is highly interesting how huge amounts of information can be successfully interpreted by very simple stylesheets and a few php scripts to get everything needed to put out one or two more or less new machines each day.

It takes only a handfull of technical writers to do it right. No need to outsource anything.

Re: new HP15c released in Japan

*Message #110 Posted by **Eric Smith** on 24 July 2011, 6:51 a.m.,*
in response to message #109 by Thomas Radtke

The HP web site problems don't appear to have anything to do with the technical writers.

It wouldn't be "adding another components", it would be replacing one set of components with another.

I've certainly seen plenty of outsourcing projects fail miserably, but I've also seen web and e-commerce sites outsourced to industry-leading companies with great results.

Re: new HP15c released in Japan

*Message #111 Posted by **Thomas Radtke** on 24 July 2011, 7:28 a.m.,*
in response to message #110 by Eric Smith

> Quote:
>
> I've certainly seen plenty of outsourcing projects fail miserably, but I've also seen web and e-commerce sites outsourced to industry-leading companies with great results.

Yes, it all depends on the kind of information to present. If you offer a shop and handle annoncements, you have to connect your data source somehow to another company.

In the best case, only raw data as collected is maintained and everything is derived from it in time. You wouldn't want to provide a selective copy of your raw data to anyone, as this would mean to integrate and maintain one addition component. I'm talking about safety here.

Synchronizing general changes is another problem to be solved. It's far easier to do this in a meeting than to transport all necessary information to another party.

BTW, don't underestimate the scope of technical writers. They don't just write. Actually, sometimes they even don't write at all. The german term for it translates to 'technical editor', which is more to the point.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A question on old calculator prices

*Message #1 Posted by **Cristian Arezzini** on 17 July 2011, 4:47 a.m.*

Now, I know that for out-of-production items there isn't a "right" price, that a calculator - for example - is worth what others are willing to pay for it. But looking at prices on TAS (I'm not an "obsessed" watcher of that site, but sometimes I look around there a bit), I see something strange. Take, for example, the 48GX. I have 4 of them, and three were bought on TAS in the last years. All these used items had decent prices IMO - all of them well below 100 Euro. But I noticed there are sellers (one more than others, but there are several) selling stuff for ridiculous (for me) prices, like, close to $400 for a standard 48GX. Out of curiosity I checked their past sales and they seem to have many happy customers, who paid the "premium price" for their calcs. What I'm wondering is this: if someone who wants a 48GX can find it on TAS for <$100 or for >$300, why should they buy the more expensive ones? I could understand if someone really wants some really rare item, but what about easy-to-find (and cheap) calculators? Why would anyone accept to pay so much more for them? I just don't get it...

Re: A question on old calculator prices

*Message #2 Posted by **Marcus von Cube, Germany** on 17 July 2011, 6:00 a.m.,*
in response to message #1 by Cristian Arezzini

The GX is still in use by professionals. If their current calculator brakes down or gets flaky they just don't think much and get what they can get at the time at the price that is asked for.

Re: A question on old calculator prices

*Message #3 Posted by **Bart (UK)** on 17 July 2011, 6:29 a.m.,*
in response to message #2 by Marcus von Cube, Germany

It seems to me that many people just jump onto eBay and buy the first result that comes up. They are just too lazy to look around. There are many current HP models for sale there that are higher in price than listed on online stores. You can save money on auction sites, but it pays to search elsewhere too.

Re: A question on old calculator prices

*Message #4 Posted by **Cristian Arezzini** on 17 July 2011, 11:43 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hm. I know it can happen with rare items, where someone wants one right now and can only find one, overpriced... But the 48GX, to keep with my example, is always readily available. One has to hunt for the "big deals", but decent prices can be found at any time. Still, looking at his feedback, that seller managed to sell several. That's what I really don't get. Sometimes maybe people are fooled by thinking that if a price is much lower than another one, it must be because the item has some problems...

Fun fact: my wife's mother has an antique furniture shop in New York. Sometimes, when she has an item that doesn't sell for a long time, before throwing it away she tries to substantially increase the price (4- or 5-fold), and then usually the item sells immediately. A few months ago she had a chair from the seventies, listed for $400, unsold for two years; she changed the price to $2500 and it sold within the week. Probably people thought, "Wow, look how expensive it is, it must be really rare"... :)

Re: A question on old calculator prices

*Message #5 Posted by **Bart (UK)** on 17 July 2011, 6:21 a.m.,*
in response to message #1 by Cristian Arezzini

Some sellers seem to want to get rich from selling old calculators. They sell them for about an order of magnitude more than they paid for them - one of them once bid on an HP I was selling and their max bid was many times lower than similar calculators (s)he had on sale.

As for the buyers, if they have that kind of money to spend and are willing to do, so be it - they are probably not willing to wait or look around (i.e. "I want it and I want it now, at any price"). I watch and wait, and recently got a 71B (very good working condition with IL port) for almost 1/10 of the BIN price of those sellers.

I think that unfortunately these high BIN/starting seller prices and the buyers that buy them do have an influence on auction prices. But as my example of the 71B testifies - patience pays off.

Re: A question on old calculator prices

*Message #6 Posted by **Michael de Estrada** on 17 July 2011, 11:04 a.m.,*
in response to message #1 by Cristian Arezzini

Just because someone lists an item at a very high selling price, doesn't mean they will get that price. There is a very notorious seller on the USA TAS site that has been listing the same overpriced items on TAS for years, and they have never sold. What I find far more amazing is that people seem willing to pay more for items on TAS that are available new in stores at MSRP for less. Recently an HP QuickCalc sold for over $10 on TAS, when I found one in my local Office Depot for $4. Typically, vintage HP calcs listed as BIN (Buy It Now) on TAS are priced at about 2X what they would normally fetch in a normal no reserve auction, however, occasionally you will find something at a good price. I found a HP-25C in perfect working and cosmetic condition for $150, whereas they almost always sell for considerably more in regular auctions. I think mostly it's inexperienced buyers who don't have a good sense of the market or even the product who overpay for items. Perhaps the buyer of the QuickCalc just saw the HP logo on the item and automatically thought it was worth more on that basis.

Re: A question on old calculator prices

*Message #7 Posted by **Maximilian Hohmann** on 17 July 2011, 11:44 a.m.,*
in response to message #6 by Michael de Estrada

Hello!

> Quote:
>
> Recently an HP QuickCalc sold for over $10 on TAS, when I found one in my local Office Depot for $4.

Maybe some of the different colours are rarer than others? Who knows... I have bought three of these on eBay (three different colours, all new and boxed (or "sleeved")) and paid 1 Euro each, two of them had the shipping already included in that one Euro. But to be honest, they are worth no more than 50 Cents.

I have also been watching these calculators with outrageous buy-it-now prices over the years (one regular posters on this forum lists hundreds of these on German eBay every second weekend when eBay dosen't charge listing fees) but almost none of them ever sell. But maybe a one-in-a-thousnd sale is worth all the

effort?

Regards, max

Re: A question on old calculator prices

*Message #8 Posted by **Namir** on 17 July 2011, 11:53 a.m.,*
in response to message #7 by Maximilian Hohmann

I have found a few Hungarian sellers on TAS asking for high prices for calculators. A few weeks ago one listed a TI-95 for $400!!! When I contacted him and told him the machine should start at most for $40, he told me that I was funny and I should be watching more TV. The item is still listed (as of this writing) and has not sold. Not sure it will sell for that price.

Namir

Re: A question on old calculator prices

*Message #9 Posted by **Walter B** on 17 July 2011, 3:47 p.m.,*
in response to message #7 by Maximilian Hohmann

> Quote:
>
> I have also been watching these calculators with outrageous buy-it-now prices over the years (one regular poster on this forum lists hundreds of these on German eBay every second weekend when eBay dosen't charge listing fees) but almost none of them ever sell. But maybe a one-in-a-thousnd sale is worth all the effort?

Think I know the same person. Annoying :-(Since the items are not BIN but just outrageous start prices, it's difficult to filter these "offers" out. And the seller is unconvincible though he hardly ever sells any such item. I hate calling for eBay fees, but here it seems the only cure :-/

Just my 20 m€ as usual, Walter

Re: A question on old calculator prices

*Message #10 Posted by **Bart (UK)** on 17 July 2011, 4:35 p.m.,*
in response to message #6 by Michael de Estrada

> Quote:
>
> Just because someone lists an item at a very high selling price, doesn't mean they will get that price.

True, the calculator I mentioned in this thread is still for sale.(After researching the seller, it seems the price I mentioned there was because the seller was on holiday and wanted to dicourage buyers). It started at about £50 I think a year or so before *that* post. i.e. it's been on sale for over 2 years (looking at the revision history it was on sale already in June 2009). It's a generic model of which similar units (e.g. SATEK 8M) usually sell for <£2.00.

I made an offer on it and he was so upset with my price that he banned me from buying any of his products ;(

Edited: 17 July 2011, 4:46 p.m.

Re: A question on old calculator prices

*Message #11 Posted by **Garth Wilson** on 18 July 2011, 1:13 a.m.,*
in response to message #1 by Cristian Arezzini

When I see someone listing an HP41 bar-code scanner for $489 BIN-only price, I just laugh and say, "You're an idiot!" As others have said, they keep listing them week after week and no one buys.

Re: A question on old calculator prices

*Message #12 Posted by **Martin Pinckney** on 18 July 2011, 10:40 a.m.,*
in response to message #11 by Garth Wilson

> Quote:
>
> As others have said, they keep listing them week after week and no one buys.

There is another possible explanation. eB** allows an individual to have two distinct ID's. So perhaps these sellers keep the BIN price outrageously high for one ID, to hopefully affect the market while they sell via their other ID. Then perhaps occasionally they score with the high-priced ID.

Just a thought.

Re: A question on old calculator prices

*Message #13 Posted by **David Ramsey** on 19 July 2011, 1:44 a.m.,*
in response to message #1 by Cristian Arezzini

It's hard to have a real "market" for items with as limited appeal as classic calculators, since there are so few people to whom they are worth anything. I imagine the same is true for other limited-appeal collectible items.

What this means is that any individual calculator is worth whatever someone can be convinced to pay for it. For example, I recently bought an SR-60 on TAS and paid rather a lot of money for it. Joerg Woener, who has hundreds of TI calculators, thinks I overpaid by a factor of three or so, but I'm happy, and they are so rare that Joerg's web site only lists 4 other owners (I'm sure there are many more, but still...), so who's to say what an SR-60 is "worth"?

Yeah, it frosts my lenses when I see some of these TAS yahoos' pricing...I see one infamous fellow has apparently decided that almost everything he has is worth exactly $489. But presumably you're not wishing for some central price-setting authority, so my best advice if you see something you want is "patience, grasshopper..."

Re: A question on old calculator prices

*Message #14 Posted by **Cristian Arezzini** on 19 July 2011, 2:03 a.m.,*
in response to message #13 by David Ramsey

I know that it's the collectors who make the price. Still, I can't get over how ridiculous some sellers are. Right now, for example, there is a BROKEN, non-working 48GX (it doesn't turn on) listed for $299.99. And it's a seller with almost 7000 feedbacks. Elsewhere on the same site, you can find a good, working one for $60. I can't help thinking that - free market and all - the first seller is trying to rip-off someone.

Sorry for the rant, but I just don't get it.

Cristian

Re: A question on old calculator prices

*Message #15 Posted by **Walter B** on 19 July 2011, 2:31 a.m.,*
in response to message #14 by Cristian Arezzini

For sure (s)he is trying to rip off someone - but that's only "fun" as long as somebody lets him(her)self being ripped off. That's all IMHO. No more science ;-)

Edited: 19 July 2011, 2:31 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

41 HP-IL: How to reset?

*Message #1 Posted by **Ángel Martin** on 17 July 2011, 2:00 a.m.*

Recently two of my 41's refused to be operational on the IL loop. Only TRANSMIT ERR messages, both with the 'real' loop and the Pil-Box. Even with no device on the loop, closing both connectors together.

A third machine was working perfectly, so I knew the interface wasn't the issue.

Memory Lost brought them back to a more cooperative state, it all works fine now.

I'm a bit rusty on HP-IL operation, is there any other reset procedure that doesn't involve ML?

Also any ideas as to what caused it in the first place? I'm swapping modules very often amongst the three units, maybe some of them caused the issue...

Best, 'AM

Edited: 17 July 2011, 2:07 a.m.

Re: 41 HP-IL: How to reset?

*Message #2 Posted by **Eric Smith** on 17 July 2011, 3:16 a.m.,*
in response to message #1 by Ángel Martin

I'd try a STOPIO. If that doesn't do it, an ML may be the only option.

Re: 41 HP-IL: How to reset?

*Message #3 Posted by **Ángel Martin** on 17 July 2011, 3:26 a.m.,*
in response to message #2 by Eric Smith

STOPIO didn't respond either (same TRANSMIT ERR) but sure enough ML worked. So there's nothing to do with the IL interface, cables or any devices but with the 41 itself.

Apart from Flag 32 clear for AUTOIO, which other flags should be impacted by the loop operation? Also bits in the c(13) status reg perhaps?

ML is too dramatic a solution for this, there must be another way...

Re: 41 HP-IL: How to reset?

*Message #4 Posted by **Hans Brueggemann** on 18 July 2011, 3:33 p.m.,*
in response to message #1 by Ángel Martin

ángel,
most likely your 41 has flag 33 set. that will prevent the loop from communicating with the peripherals.
unfortunately, if you don't have the HPIL DEV module, you have to clear flag 33 via synthetic programming.

the HPIL DEV module actually has the commands CF33 and SF33 built in especially for this purpose. hope, that helps!
cheers,
hans

Edited: 18 July 2011, 3:34 p.m.

Re: 41 HP-IL: How to reset?

*Message #5 Posted by **geoff quickfall** on 18 July 2011, 6:48 p.m.,*
in response to message #4 by Hans Brueggemann

Well the CCD module will allow you to create those two commands!

YOu have one, don't you ANGEL????

'-)

Geoff

Re: 41 HP-IL: How to reset?

*Message #6 Posted by **Monte Dalrymple** on 18 July 2011, 7:27 p.m.,*
in response to message #5 by geoff quickfall

A simple YPOKE to the right spot will do it.

Re: 41 HP-IL: How to reset?

*Message #7 Posted by **Ángel Martin** on 19 July 2011, 1:45 a.m.,*
in response to message #5 by geoff quickfall

CCD? is that a new digital camera sensor?

:-)

Re: 41 HP-IL: How to reset?

*Message #8 Posted by **Ángel Martin** on 19 July 2011, 1:44 a.m.,*
in response to message #4 by Hans Brueggemann

Flag 33 was not the issue. I certainly have ways to clear/set any flag (Using CFX/SFX in the CCD-Modified, Toolbox and others), so I did it of course. The flag status stayed as changed, even after power-cycling the machine - yet TRANSMIT ERR continued.

And Monte, this wasn't on the CL only, but also on a "regular" CX.

It remains a mystery, now I'm almost looking forward to a new occurence to better diagnose it.

BTW this has happened before to other users, I've seen threads where the only solution was ML as well.

Edited: 19 July 2011, 1:46 a.m.

Re: 41 HP-IL: How to reset?

*Message #9 Posted by **Christoph Klug** on 21 July 2011, 2:17 p.m.,*

in response to message #8 by Ángel Martin

Dear Angel, Maybe the HP41 was in MANIO mode - than TRANSMIT ERR is the result. In this case execute AUTOIO...

Best regards - Christoph Klug

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S - Problem With CLx

*Message #1 Posted by **Jake Schwartz** on 16 July 2011, 1:50 p.m.*

Hi,

While debugging a program on the 34S side-by-side with a 15C, I noticed that in the 34S, currently CLx leaves stack lift enabled, which is not the way HP calcs work. In the HP machines, the purpose of disabling stack lift with CLx was so if an erroneous number was entered, CLx would allow entering a replacement value without affecting the stack. For consistency, they kept this behavior the same while running in a program as well.

Hopefully, it makes sense to change this so it works in the 34S like all other RPN machines.

Thanks, Jake

Re: 34S - Problem With CLx

*Message #2 Posted by **gene wright** on 16 July 2011, 2:02 p.m.,*
in response to message #1 by Jake Schwartz

Agreed.

5 ENTER 6 CLX 8 + should return 13, not 8 as it does now.

Good catch, Jake!

Re: 34S - Problem With CLx

*Message #3 Posted by **Marcus von Cube, Germany** on 16 July 2011, 4:56 p.m.,*
in response to message #2 by gene wright

I think this can be done. Thanks for testing.

Re: 34S - Problem With CLx

*Message #4 Posted by **Paul Dale** on 16 July 2011, 9:08 p.m.,*
in response to message #1 by Jake Schwartz

Definitely a bug, I've got two fixes. One is much cleaner, a tiny bit larger and changers many opcodes. The other is ugly.

- Pauli

Re: 34S - Problem With CLx

*Message #5 Posted by **Paul Dale** on 16 July 2011, 9:15 p.m.,*
in response to message #4 by Paul Dale

And the ugly but smaller fix is applied.

- Pauli

Re: 34S - Problem With CLx

*Message #6 Posted by **gene wright** on 16 July 2011, 9:57 p.m.,*
in response to message #5 by Paul Dale

Wow. That was fast. So the CLX + bug is fixed as well as the stack lift issue with PI or a constant?

Very nice!

Re: 34S - Problem With CLx

*Message #7 Posted by **Paul Dale** on 17 July 2011, 2:45 a.m.,*
in response to message #6 by gene wright

Hopefully they are both fixed. So are complex constants and complex RCL which were also broken by recent changes.

At least, they will be when we do a new build.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Goodbye!

*Message #1 Posted by **George Bailey (Bedford Falls)** on 16 July 2011, 6:08 a.m.*

I had a pleasant time here with most of the forum members. Thanks a lot for that.

Re: Goodbye!

*Message #2 Posted by **Bart (UK)** on 16 July 2011, 7:06 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Hi,
Please reconsider. I've had some heated interchanges with another forum member, and both of us still post here.

Remember that a forum is a very limited means of communication as there are no other clues such as tone, expression and body language. Add to that different languages and cultures ....

Please take this with the kindness it is intended.
-Bart

Re: Goodbye!

*Message #3 Posted by **Eric Rechlin** on 16 July 2011, 4:30 p.m.,*
in response to message #2 by Bart (UK)

If he's so thin-skinned that the posts of one person scare him away, it's probably for the best. I don't want him having a heart attack or something if it happens again.

Re: Goodbye!

*Message #4 Posted by **Marcus von Cube, Germany** on 16 July 2011, 4:55 p.m.,*
in response to message #3 by Eric Rechlin

Eric, I hope the two opponents take the chance of discussing their case privately through the forum email and come back with a final opinion later.

Re: Goodbye!

*Message #5 Posted by **Mike Morrow** on 17 July 2011, 1:24 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> ...I hope the two opponents take the chance of discussing their case privately through the forum email...

Some parties do NOT provide for e-mail contact in their forum profile. Paranoia rules.

Re: Goodbye!

*Message #6 Posted by **Jeff Kearns** on 18 July 2011, 9:50 a.m.,*
in response to message #5 by Mike Morrow

I must have missed the thread that prompted this action. I read through the 34s-lite thread but did not see anything that would warrant a departure from the forum. What happened?

Jeff Kearns

Re: Goodbye!

*Message #7 Posted by **Don Shepherd** on 18 July 2011, 9:59 a.m.,*
in response to message #6 by Jeff Kearns

It's here, ending at message 30. Let's hope George returns, he's a good guy.

Re: Goodbye!

*Message #8 Posted by **Mike Morrow** on 18 July 2011, 11:46 a.m.,*
in response to message #7 by Don Shepherd

Still...the contents of that thread are rather mild (very mild, in fact), compared to heated threads found here and at *all* other public forums.

Re: Goodbye!

*Message #9 Posted by **Michael de Estrada** on 18 July 2011, 12:33 p.m.,*
in response to message #8 by Mike Morrow

The problem with this forum as distinguished from many others is that there appears to be no moderator (s) to make sure that forum rules are observed. It's pretty much a free-for-all here, and sometimes you have to step back to keep from getting run over.

Still, despite some of the crap I've taken from a few members here, I find it extremely informative and interesting.

Re: Goodbye!

*Message #10 Posted by **bill platt** on 18 July 2011, 12:53 p.m.,*
in response to message #9 by Michael de Estrada

Actually it is not a free for all. Dave does moderate but he is very quiet about it.

Furthermore, this topic lends itself to a more collegial old pre-internet usenet sort of feel...

Re: Goodbye!

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 16 July 2011, 10:06 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Please don't leave! From time to time some discussions may become heated, and it's difficult for some

(including me, perhaps) to find the right word or the exact tome to transmit the proper meaning in our messages. Lifestyles, languages, local culture are diverse; and these are factors of communication style.

I like myself the idea of a "34S --" and think, perhaps from lack of detailed knowledge of 34S internals, that taking some features out may be possible and may make sense. It may free resources (granted, what for?) and result in a less dense keyboard. But it may well be that this is complex to implement, and the design team surely know better.

(It seems that the most frequent word in my message seems to be "may"...)

Re: Goodbye!

*Message #12 Posted by **Jim Yohe** on 16 July 2011, 6:20 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

George the best thing to do is just not get drawn into replying to anything that "he who shall not be named" says since he can be pretty insensitive to what forum users ask or say. It won't hurt if you keep checking back for topics that interest you or some bit of information that's shared that you'll find useful. Take care.

Re: Goodbye!

*Message #13 Posted by **Martin Pinckney** on 18 July 2011, 11:16 a.m.,*
in response to message #12 by Jim Yohe

> Quote:
>
> George the best thing to do is just not get drawn into replying to anything that "he who shall not be named" says since he can be pretty insensitive to what forum users ask or say.

It's what I call a "superiority complex." When someone believes they are so much more intelligent that the rest of us, they seem to have difficulty tolerating our (to them) non-cogent utterances.

Re: Goodbye!

*Message #14 Posted by **bill platt** on 18 July 2011, 12:59 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Let it roll off your back. It was simply "lost in translation" and don't worry about it.

Re: Goodbye!

*Message #15 Posted by **Geoff Quickfall** on 18 July 2011, 6:46 p.m.,*
in response to message #14 by bill platt

Bill "lost in translation" is exactly what this was.

Deal with it internationally every day at work. Cultural differences create confusion and that is what I saw from the outset of the postings referred to.

Try sitting beside someone from a different culture. Just the two of you with nothing in common for fifteen hours in an enclosed room. Some cultures are more aggressive, others passive, and language construct causes most of the aggravation.

Come on back George, and to bad you don't have an email address listed.

Also, George Bailey of Bedford Falls. My favourite christmas character.

Cheers, George, hope to read a post from you soon.

Geoff

Re: Goodbye!

*Message #16 Posted by **Martin Pinckney** on 18 July 2011, 11:04 p.m.,*
in response to message #15 by Geoff Quickfall

> Quote:
>
> Bill "lost in translation" is exactly what this was.

That's putting a nice spin on it. Now, I don't really have a dog in this fight, but I have seen similar exchanges before, and I certainly see more than cultural differences going on.

> Quote:
>
> Come on back George...

Now that I agree with.

Re: Goodbye!

*Message #17 Posted by **Mike Morrow** on 18 July 2011, 11:22 p.m.,*
in response to message #15 by Geoff Quickfall

> Quote:
>
> Also, George Bailey of Bedford Falls. My favourite christmas character.

Who represents Mr. Henry F. Potter? :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Good HP calculator for middle school child?

*Message #1 Posted by **Brian K** on 15 July 2011, 2:58 p.m.*

What do you guys think of the HP 38g? It looks like a pretty good match in my opinion. They are dirt cheap on Ebay, unlikely to be the object of theft, and have pretty much all of the primary functions he'll need on un-shifted keys. The applet library on hpcalc.org looks pretty nice.

Also, if it's built anything like the HP48 series it'll last forever.

Any opinions?

There's also the Smartcalc 300s, and I suppose he could even use my HP 35s, but I'd rather he use something older and/or cheaper.

Re: Good HP calculator for middle school child?

*Message #2 Posted by **Marcus von Cube, Germany** on 15 July 2011, 4:36 p.m.,*
in response to message #1 by Brian K

I would probably prefer the most recent incarnation, a 39gs or 40gs which has more memory and is faster. A USB port doesn't harm either. You find them refurbished for very little money on eBay, too.

The applet stuff isn't bad and you can save the setup for some applet under a specific name. This is very much like the document structure of the TI calculators.

Re: Good HP calculator for middle school child?

*Message #3 Posted by **Bruce Bergman** on 15 July 2011, 4:42 p.m.,*
in response to message #1 by Brian K

The 30b might not be a bad choice. It's got far more statistics chops than needed for middle school, and it does have some advanced math. It looks great, nice keyboard and clear display. Plus, it's cheap.

Just a thought...

Re: Good HP calculator for middle school child?

*Message #4 Posted by **Chris McCormack** on 15 July 2011, 8:43 p.m.,*
in response to message #1 by Brian K

Our kids were handed an HP-33S when they needed a calculator on their school supply list. I think they first showed up in fourth grade. When they hit high school and were told to have a 'graphing calculator', the oldest got an HP-48G, the next one received an HP-49G+.

We didn't go with an HP-35S until my daughter signed up for the Fundamentals in Engineering exam.

Re: Good HP calculator for middle school child?

*Message #5 Posted by **Don Shepherd** on 15 July 2011, 9:50 p.m.,*
in response to message #1 by Brian K

From the perspective of a middle school math teacher.

Please don't force your affinity for HP calculators on your middle school math student. If his/her teacher suggests a particular calculator (which, at middle school level, is not likely), then consider that. Otherwise, my experience is that middle school kids don't really need calculators because they won't help them learn what they've got to learn.

Re: Good HP calculator for middle school child?

*Message #6 Posted by **Martin Pinckney** on 15 July 2011, 10:04 p.m.,*
in response to message #5 by Don Shepherd

I would defer to Don on this, as he has first hand experience teaching at this level, which I don't.

What's I do have experience with is the HP-38g. It's actually the second HP I bought, after the 20s, with about 10 years in between.

Taken by itself, (with nothing to compare it to) it is an excellent calculator. Has a lot of built-in math functions, and the Solver. But it is slow, and memory-limited. I obtained a 48sx later. The 48 will do everything the 38 will, and about 4x more. Yet it seems faster (except in any graphics or Equation Writer mode), and seems to not run out of memory as fast. ???

So while I prefer the straight-laced styling of the 38g, I am sure that Marcus is right that the 39/40 would be a better choice.

Re: Good HP calculator for middle school child?

*Message #7 Posted by **Brian K** on 16 July 2011, 8:14 a.m.,*
in response to message #5 by Don Shepherd

There is no calculator requirement at all, and this is strictly for home use for double-checking homework and class assignments.

I'm not particularly interested in forcing any sort of calculator affinity, but I'm not likely to come onto an HP forum and ask for advice on Casio or Texas Instruments!

The 38g doesn't seem to be a very good choice in any event, I downloaded the manual and the emulator and it doesn't seem very good at all. Ordered a smartcalc 300s and a Casio 115es online for $15 total. One of those should be fine.

Re: Good HP calculator for middle school child?

*Message #8 Posted by **Don Shepherd** on 16 July 2011, 9:15 a.m.,*
in response to message #7 by Brian K

Brian, using a calculator to double-check homework and other assignments is a good idea as long as the student knows the underlying math. For example, in middle school, especially 6th grade, we do a lot with fractions and a student has to know how to perform the 4 basic arithmetic operations with them, including finding common denominators and converting between improper fractions and mixed numbers. If a student doesn't really have mastery of these skills and tends to rely on a calculator that can handle fractions, it will become apparent during testing. Parents need to ensure that students know

the basic skills without relying on the calculator. You seem like that type of parent.

I use a fraction-equipped calculator (HP-32sii) all the time when making test answer keys. I first calculate the answers manually (sometimes in a hurry), and I use the 32sii to verify that my answers are correct. You'd be surprized (or maybe not) at how often my original answer was wrong!

Don

Re: Good HP calculator for middle school child?

*Message #9 Posted by **Mike Morrow** on 16 July 2011, 2:45 a.m.,*
in response to message #1 by Brian K

I consider the HP38G to be one of the most ill-conceived and poorly executed calculator designs (HP or otherwise) of all calculators that I've ever seen. This was NOT a successful calculator for HP. There are many reasons why it is so cheap on ebay. It's a real dog.

The LCD also is just terrible...very poor contrast and and tinged an unpleasant green.

Get the recently released and inexpensive HP10bii+ instead. That can be used until something at school specifies the TI graphing calculator that must be used.

Re: Good HP calculator for middle school child?

*Message #10 Posted by **db (martinez, ca.)** on 16 July 2011, 10:22 a.m.,*
in response to message #1 by Brian K

Have you considered the WP-34s, running on a 30b platform?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP45A cleaning out battery mess

*Message #1 Posted by **Fred Lester** on 15 July 2011, 2:40 p.m.*

What is the best way to clean out a calculator.

some of the upper right keys are stiff.

calculator still works but can not clear.

Re: HP45A cleaning out battery mess

*Message #2 Posted by **Jeff O.** on 18 July 2011, 12:41 p.m.,*
in response to message #1 by Fred Lester

Take a look at this thread and see if it provides anything of use.

Re: HP45A cleaning out battery mess

*Message #3 Posted by **Geoff Quickfall** on 18 July 2011, 11:27 p.m.,*
in response to message #1 by Fred Lester

check this link also:

hp 45 clean

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A little brother for the WP 34s? Any need for that?

*Message #1 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 12:30 p.m.*

The last few days I got infected by the WP 34s virus, played with the simulator and skipped through the manual, planning on doing the flashing myself. Luckily or unfortunately, depending on the perspective, I was cured from the virus pretty fast. Why? Not because the WP 34s was not done well. In the contrary, I think the WP 34s is a wonderful thing! But to me it's completely overwhelming: too much on the keyboard, too many functions in the manual, too much of everything.

I realized I'm looking for a 42s kind of machine, which, at least to me, can be operated nearly intuitively. I wouldn't put one more function in my dream machine just because it can be done. Is there an interest for what I would call the little brother of the WP 34s among my fellow afficionados? Could there be a 'WP34s lite'-firmware with a corresponding keyboard overlay?

Re: A little brother for the WP 34s? Any need for that?

*Message #2 Posted by **Marcus von Cube, Germany** on 15 July 2011, 12:59 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

A 10C version ? ;-)

Re: A little brother for the WP 34s? Any need for that?

*Message #3 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 2:36 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> A 10C version ? ;-)

Something like that, but more like the 11c compared to the 15c.

I like most about the 42s the uncluttered keyboard, much better than the 32s's keyboard in my eyes - and the 43s's for that matter.

Sure, there is no 'unnecessary' function in the WP 34s, but I(!) could live without most of them in my everyday life.

So, again, I wouldn't change anything in the 43s, but would like to see a lite version of it with corresponding overlay.

...

Or I will just use my 35s. Maybe that's the smart thing to do ;)

Re: A little brother for the WP 34s? Any need for that?

*Message #4 Posted by **Gerry Schultz** on 15 July 2011, 7:08 p.m.,*
in response to message #3 by George Bailey (Bedford Falls)

George, I agree with you that the 34s' keyboard layout is busy and intimidating. Many of the functions I don't understand and would probably never use but I wouldn't change it one bit! HP hasn't made a new scientific calculator since the 50G. They have produced financial calculators as that's where they make the most money. I think having Marcus, Pauli and Walter (the Gang of Three) donate their free time, step up, design and write a scientific calculator using HP's hardware is a great blessing to the whole community. I also thank both Cryille and Tim of HP with the foresight to build the 20b and 30b with field re-flashing and making an SDK available. The time and energy the Gang of Three have put into this project is staggering to me. I barely have any time to play with the 34s.

Anyway, I'm getting off my main point. With no new HP Scientific calculators on the horizon, the Gang of Three designed an all encompassing scientific calculator to satisfy most people's engineering needs; with limited flash memory and a limited LCD display. So, even though I don't understand most of the functions on this calculator, it forces me to expand my world to make use of this new tool. Or else I'll just ignore them and use what I know. One of the things that I like is that the 34s has the functions of the 16c built in so that forces me to go read the 16c manual and have a calculator to see how that works.

Given the time and energy to get the 34s to this point, will the Gang of Three want to build a lite version of the firmware? I would think they will want to finish this project first, take a month off in the south of France, and then look at the possibility of doing a lite version of the 34s. Of course, then the debate of how many different lite versions are needed, how will the functions be split up into which lite version, debugging and adding new features to fill out the subset calculator... I'd say expect these in 2015 to 2020. Oh, and lets start an escrow account so the Gang of Three can be paid since they will be working for the community and to help them justify all the time away from their family. I'm sorry that I sound sarcastic. If these guys are willing, I will try and help in my own small way.

Thank you to the whole community. See you in September in San Diego,

Gerry

Edited: 15 July 2011, 7:35 p.m.

Re: A little brother for the WP 34s? Any need for that?

*Message #5 Posted by **Paul Dale** on 15 July 2011, 7:43 p.m.,*
in response to message #4 by Gerry Schultz

> Quote:
>
> I would think they will want to finish this project first, take a month off in the south of France...

Definitely correct about the month off.

As for the South of France ... not for me I'm afraid. It is halfway round the world and we've better beaches here :-)

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #6 Posted by **Martin Pinckney** on 15 July 2011, 10:23 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> As for the South of France ... not for me I'm afraid. It is halfway round the world and we've better beaches here :-)

And better-looking beach-goers!

Re: A little brother for the WP 34s? Any need for that?

*Message #7 Posted by **Paul Dale** on 15 July 2011, 11:07 p.m.,*
in response to message #6 by Martin Pinckney

I suspect you'd be disappointed by the beach goers here too.

At least it is still possible to be the only person on the beach.

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #8 Posted by **Bruce Bergman** on 15 July 2011, 1:00 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Yeah, I was wondering when someone was going to mention that. ;-)

I was thinking the same thing back a few months ago. I'd like to see a couple variations of the WP 34S around. We already the amazing full scientific, but what about that "-lite" version? Maybe a version that does nothing but statistics? Oooh, I'd like that! It wouldn't be able to graph much, but if it had a good capability for higher level stats, that might be fun.

For that matter, what about classic emulations? A pure 25c or 34c?

There are so many possibilities! :-)

Re: A little brother for the WP 34s? Any need for that?

*Message #9 Posted by **Paul Dale** on 15 July 2011, 7:50 p.m.,*
in response to message #8 by Bruce Bergman

> Quote:
>
> For that matter, what about classic emulations? A pure 25c or 34c?

Port Nonpareil, it will be far easier.

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #10 Posted by **Jake Schwartz** on 15 July 2011, 1:25 p.m.,*

in response to message #1 by George Bailey (Bedford Falls)

> Quote:
>
> I realized I'm looking for a 42s kind of machine, which, at least to me, can be operated nearly intuitively.

Just for understanding, are you asking for a machine which "only" has the functionality of the 42S, or are you asking for a machine with a 42S-like user interface? Of course, the part I enjoy the most about the UI of the 42S is the availability of a full two-line dot-matrix display and top-row soft keys. This was obviously not available due to the "hampered" (sorry Tim and Cyrille) LCD of the 20b/30b platform (and I understand why it was designed that way intentionally). Personally, I think the 42S is hampered by not having at least one more shift key and at least one additional shift-key plane of functions. As a result, lots more keystrokes are required to do things than ultimately necessary (which is bad IMO). Abandoning the keys with the slanted fronts (like the 41 series and virtually everything prior to the Pioneer-series models) forced the high clutter in those two-shift units (such as on the 21S or 32SII) which would have been less intimidating otherwise. Also the ALPHA system in the 42S pales in comparison (again, in my humble opinion) to the single-key-per-letter method of the 34S and the 41 series (not to mention the 48/49/50). If you are referring to 42S functionality, I am curious which functions you would consider to be unnecessary in the 34S? The programming capabilities of the 42 were fantastic and has no equal in either the 34S or any "native" HP pure-RPN programmable.

Thanks, Jake

Re: A little brother for the WP 34s? Any need for that?

*Message #11 Posted by **Paul Dale** on 15 July 2011, 7:56 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

If you want a 34S-lite, make it. The full source code is freely available to one and all.

You don't need to be an expert programmer to make changes, the majority of the code is straightforward. You'd likely get away with just a passing knowledge of C, again the more obscure language features aren't being used and none of the standard library is. If you can write in a structured programming language, you're well over half way already.

Personally, I'm not going to make a lite version. This one was hard enough and I find it easy and natural to use. Once you get used to the layout and get beyond the information overload stage, it really is a very nice calculator.

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #12 Posted by **Martin Pinckney** on 15 July 2011, 10:27 p.m.,*
in response to message #1 by George Bailey (Bedford Falls)

> Quote:
>
> ... to me it's completely overwhelming: too much on the keyboard, too many functions in the manual, too much of everything.

It was designed by a committee.

And I don't mean the Gang of Three, I mean the Committee of the Whole.

Re: A little brother for the WP 34s? Any need for that?

*Message #13 Posted by **Marcus von Cube, Germany** on 16 July 2011, 3:33 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

I wouldn't call it 34S lite. Since we're repeatedly running out of code space, shuffling features in and out, it may make sense to do specializations of the current function set. I would prefer a machine with more programming features and I can live without most of the high level math and statistics stuff. Others will want more math functions and don't care about programmers' dreams. Some people may want the financial stuff of the 30b back with the programmability of the 34S.

YMMV.

Re: A little brother for the WP 34s? Any need for that?

*Message #14 Posted by **George Bailey (Bedford Falls)** on 16 July 2011, 3:58 a.m.,*
in response to message #13 by Marcus von Cube, Germany

I find that a very interesting idea, if it could be combined with matching overlays. Would that even be possible?

Re: A little brother for the WP 34s? Any need for that?

*Message #15 Posted by **Paul Dale** on 16 July 2011, 4:35 a.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> I wouldn't call it 34S lite.

Me either. 13s has a nice ring :-)

> Quote:
>
> I would prefer a machine with more programming features

I must admit that I'm at a bit of a loss thinking about what additional programming features could reasonably be added. The machine as it stands is already a programmers' dream.

> Quote:
>
> Some people may want the financial stuff of the 30b back with the programmability of the 34S.

Never! :-)

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #16 Posted by **db (martinez, ca.)** on 16 July 2011, 11:41 a.m.,*
in response to message #15 by Paul Dale

Marcus or Paul; I've only followed less than half the threads on your marvelous design, so this may already have been asked. If a function is removed, is there more program or data memory?

I really like using my 34s but i must admit that i haven't printed out the manual yet. I'm waiting for the final version.

Re: A little brother for the WP 34s? Any need for that?

*Message #17 Posted by **Marcus von Cube, Germany** on 16 July 2011, 4:53 p.m.,*
in response to message #16 by db (martinez, ca.)

Program and data memory is limited to 2k due to the hardware design. The program space limit has been addressed by the library spaces which depend on the amount of flash not occupied by the firmware. So there is some dependency between the function set and the amount of space for user programs. I had to remove a program page (506 steps) because of the addition of a set of I/O functions that I believe are of enough importance.

The most recent discussions address some features which take a considerable amount of firmware space but which are of questionable use or quality. We're in a state of moving things back and forth until we're satisfied with the results. We - the developers - are a bit picky about the quality of what we are doing, so things seem to be wage for the public at the time being. I hope most of it will settle in the near future.

Re: A little brother for the WP 34s? Any need for that?

*Message #18 Posted by **db (martinez, ca.)** on 17 July 2011, 5:07 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Marcus;
Thank you for the time you took in answering. I think i understand it conceptually now. This of course leads to another question, a hypothetical one only:
Lets say that someone with enough knowledge of C wants that 506 lines of program space but could do without something fairly large that he doesn't use. Might he loose the library and firmware code for something about that size (say Hyperbolics for instance), then move the I/O functions into the flash area thereby freeing up that page for program memory?
Is that a plausible course of action for someone who wants more program memory and doesn't need cosh?

Re: A little brother for the WP 34s? Any need for that?

*Message #19 Posted by **Marcus von Cube, Germany** on 17 July 2011, 5:32 p.m.,*
in response to message #18 by db (martinez, ca.)

We've only a limited amount of storage for rapidly changing data, say registers. I wouldn't consider user program space "rapidly changing" and it therefore might go to flash memory instead of SRAM. What we have now is a "make a copy of what's in RAM" functionality for our library regions but that may be changed in future versions to a "edit programs directly in flash" scheme. This is certainly evolved because we need to make sure that the flash memory isn't worn out too quickly, but it can be done.

With such a scheme, memory for registers AND user program space is vastly increased, if we can only save enough flash space by condensing the math functionality, or, as you propose, by removing some of the features. At the moment, reducing the flash footprint of the firmware can only give us more library regions which are less flexible then what I was just talking about.

Re: A little brother for the WP 34s? Any need for that?

*Message #20 Posted by **db (martinez, ca.)** on 18 July 2011, 12:04 a.m.,*
in response to message #19 by Marcus von Cube, Germany

Thanks again Marcus. You guys are way ahead of me on what i wish for on the 34. I should have known that.

I remember when i got my cx in 83. I thought 2K was e n d l e s s. That didn't last long. Then i got a 42 and put 6K of programs into it with almost 2K of data storage (that i didn't really use much) and twentysome registers for constants, azimuth, begining coordinates, scratch, etc. That was about right. Maybe i just need three WP-34Ss, with the full 2K, if that happens.

Whatever you guys end up doing though; it's almost unbelievable. Take a bow.

Re: A little brother for the WP 34s? Any need for that?

*Message #21 Posted by **Paul Dale** on 18 July 2011, 12:36 a.m.,*
in response to message #20 by db (martinez, ca.)

I think you're underestimating the 34S a bit :-)

There are 506 program steps in RAM plus another 2024 steps in flash. The latter cannot be directly modified but can be copied to RAM and back or swapped with RAM. Every step except commands using alpha labels are fully merged so that works out as being quite a bit more than the same number of bytes on the 41 or 42. Programs with alpha labels can be accessed directly from flash.

As for data registers, there are 112 in RAM (which includes the stack and last X) and the same again in flash. Individual registers can be recalled (including recall arithmetic) via the RCF commands and the entire flash register set can be recalled or saved to RAM. There is also a block register copy command (R-COPY) that can copy registers from flash to RAM (as well as RAM to RAM).

So, the 34S isn't quite as capable as a 42S but it is beyond the 41 series in programability (but nothing like it in terms of IO or expandability).

- Pauli

Re: A little brother for the WP 34s? Any need for that?

*Message #22 Posted by **db (martinez, ca.)** on 19 July 2011, 12:13 a.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> "....nothing like it in terms of IO or expandability"

it never can be, but you guys aren't done yet either.

So the 34 has a bit more program memory and is more efficient with it than the 41cv or cx. I'll accept that it's not as easy, or i guess the word is "automatic", to use as the 41 is. I'm sure that John Rusch's surveying package "Xtratra" was not

the only program to use every single line of program memory the 41 had, and have to resort to local labels to save space at that. There must be a law of human nature that says: what we have is never quite enough.

Re: A little brother for the WP 34s? Any need for that? (getting OT)

*Message #23 Posted by **Walter B** on 19 July 2011, 12:28 a.m.,*
in response to message #22 by db (martinez, ca.)

> Quote:
>
> There must be a law of human nature that says: what we have is never quite enough.

For sure. History is full of examples. Look at the USA in the 19th century, for instance.

Walter

Re: A little brother for the WP 34s? Any need for that? (getting OT)

*Message #24 Posted by **Mark Hardman** on 19 July 2011, 1:33 p.m.,*
in response to message #23 by Walter B

Or the Third Reich betwen 1933 and 1945 Walter?

Keep it on topic Walter. Some of us take offense my friend and, in this case, you cannot hide behind it being differences in culture and language.

Re: A little brother for the WP 34s? Any need for that? (getting OT)

*Message #25 Posted by **Walter B** on 21 July 2011, 12:38 a.m.,*
in response to message #24 by Mark Hardman

For sure, Mark. As said, history is full of examples ...

Re: A little brother for the WP 34s? Any need for that?

*Message #26 Posted by **Walter B** on 17 July 2011, 3:19 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

At the time we set up the project - not knowing yet it will turn out as WP 34S - the majority of forumers definitively did prefer the 32sii over the 32s or 42s. I.e. our potential customers didn't want a clean keyboard then. That said and taking into account the LCD of the 20b (the 30b wasn't available yet) not allowing for menus with softkeys, Pauli and me started with one menu only (X.FCN).

There is a limited number of keys, and we strived putting maximum functionality on them. OTOH, the layout had to be as simple as possible, consistent, or - as Karl would say - well thought through.

Now, different blends are certainly feasible, bringing some function (sets) to the surface for the cost of others being pushed in menus. I admit I'm not too keen on doing this, since - as Pauli and others wrote earlier - the

WP 34S as is is the best we can imagine and make within the given limits so far. This assessment may change with time, of course. And everyone is free to take the data publicly available and make (!) something better, taking more care of his/her personal preferences.

Just my 20 m€

Walter

Re: A little brother for the WP 34s? Any need for that?

*Message #27 Posted by **Walter B** on 17 July 2011, 7:05 p.m.,*
in response to message #26 by Walter B

Forgot mentioning Etienne's 14-year-old daughter thinks our keyboard layout is cool. So it can't be too complicated, can it? d:-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41 battery Shield - what is it ?

*Message #1 Posted by **John Robinson** on 15 July 2011, 3:16 a.m.*

Ebay 110715485440 I have never seen one of these before, does anyone know what it's for (apart from what it says in the auction), and was it shipped with early 41c or late cx etc ?? I thought part number 82120A is the rechargeable battery pack ???

Cheers, John

Re: HP 41 battery Shield - what is it ?

*Message #2 Posted by **Klaus** on 15 July 2011, 6:10 a.m.,*
in response to message #1 by John Robinson

I had one of those (for a 41c). It has some rivets that can damage the foil in your battery compartment (it damaged mine). It is to be used with the battery holder, the text on it says "don't use with the rechargeable battery pack 82120A".

Re: HP 41 battery Shield - what is it ?

*Message #3 Posted by **Raymond Del Tondo** on 15 July 2011, 7:12 a.m.,*
in response to message #2 by Klaus

The rivets are intentional, for at least two reasons:
- Work with slightly damaged contact foils
- Do not add too much material between the contact foil and the batt poles

The battery shield as such should:
- Protect the foil from leaking batts
- Add some extra retention for the batts when not in the calc

The idea was not bad, but the pre-perforation of the contact foil is a no-go, so I would not recommend using the shield.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Online WP 34s assembler now available

*Message #1 Posted by **Bruce Bergman** on 14 July 2011, 8:02 p.m.*

I've noticed quite a lot of interest in the WP 34S assembler and disassembler in the forums lately. Personally, I think it's a great tool, so I want to help others get easier access to it.

I've created a link on the WP 34S main wiki page to an online version of the assembler. The actual assembler is located here:

Online WP 34S assembler

Basically, you don't need to install Perl, you don't have to install the EXE version of the assembler, and you can get to this anywhere that you have web access.

Go to the page, enter your email address, and paste code into the big box. Then hit the button. The source code will be compiled and emailed to you at the address you provided. Also included will be the .DAT file, a .OUT file (the output of the compile) and the original .WP34S source file that you created.

Note: **THIS IS EXPERIMENTAL!** It may have some bugs, and it may not always work perfectly, so please be patient with it. ;-)

If you have any problems with it, please email me (bruceb @ fatcity dawt com) and I'll check into it.

I'm working on getting the disassembler available online as well.

Enjoy!

Thanks,

Bruce

Re: Online WP 34s assembler now available

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 6:34 a.m.,*
in response to message #1 by Bruce Bergman

Hi Bruce,

Thanks for doing this! I had some vague plans for wrapping a GUI around it some day but this seems easier -- just let you do it. :-D

You might want to put another warning on your page regarding the following:

I think we have discovered an issue between the assembler and the current ZIP bundle. The ZIP bundle is quite old now (19-June-2011?) and both its emulator and calculator binary are incompatible with the assembler.

Since the WP 34s opcode map evolves on timescales that would make a fruit fly blush, the assembler must be

mated to the version of emulator/calculator you are using. This is the most probable reason for the current issue.

The assembler takes an optional command line argument to read in a specified opcode map. Maybe you could provide an optional drop down box to select a specific revision. I (we) can supply a selection of these opcode map files if you think it is worth it. (Recall that one of the main reasons for building this tool was as an insurance policy to guard against this very opcode drift.)

Also, you might want a link to the assembler manual on your web page as it gives guidance on how to properly format the ASCII source.

I have used this tool more than anyone and I still generate and use the expanded syntax guidance table it can optionally create. Perhaps access to that generated output might be another option you can add. Email this guide file as well if you'd like -- its BIG at about 480KB!

In some ways this email output route takes me back to my card deck submission days. I would wait a while for my line printer output (several hours?) only to find out that I had missed a continuation character in column 6(?) of a Fortran card. Perhaps your script could detect if the assembler aborted and display this message right away rather than issuing an email to tell you it didn't recognize the opcode "FORBNIP".

This is a great service for those who don't want to get some grease on their hands, but I think for those who are comfortable with running a command-line operation, the actual assembler Perl script or self-contained EXE will give higher performance (no wait for an email) and access to the other command line options. Several of these command line switches are very useful. I particularly like turning the asterisks on ("-s 3", for example) so I can easily see my labels in a disassembly output.

BTW: Is it actually online yet? I have run 3 test jobs through it and have yet to get an email (1st job was about 10 hours ago).

Thanks again! I hope this widens the usage (and I guess I can expect to have to fix more bugs now :-)

Best regards...

Edited: 15 July 2011, 6:38 a.m.

Re: Online WP 34s assembler now available

*Message #3 Posted by **Bruce Bergman** on 15 July 2011, 11:24 a.m.,*
in response to message #2 by Neil Hamilton (Ottawa)

Hey Neil --

So, already we've found a bug. ;-) At the moment, the incoming mail is getting folded by the application in the wiki, so long lines are being wrapped. If this occurs, an error is thrown and the mail doesn't go out.

So that's why you've tried it a few times and haven't yet received an email. Normally you should get back a compile result within a couple of minutes MAX. Definitely let me know if you're not getting back messages and I'll investigate.

The interim workaround is make sure you don't paste in long lines (basically, comments). Anything less than 80 characters is fine and works okay. I will work on un-wrapping the lines to put them back to the original format, but for now, just avoid including comments.

Note that the mail will not be sent REGARDLESS of any errors, so if you try it today (now) with a long line, you should at least get a reply message. Of course, if you try it with something that will compile,

you'll also get the output and such too.

As for the opcode tables, yes, I was mulling that over last night when I read your other reply to Gerson regarding versions. I will definitely do that. I'll have to think of a good way to (safely) make the script handle that, but it sounds like a must.

And yes, I'll also put up a link to the PDF (should have done that anyhow).

On the next iteration of the assembler, could you please either add a header when it runs that mentions the version number of the assembler, or provide a way to get it ("--version" or something)? I'm concerned about confusing people once this matures and several versions are running around in the wild. If the version number comes out in the output, or I can include it on the wiki page, then at least we'll all know what version is being executed.

Fun stuff! :-)

Thanks!

Bruce

Re: Online WP 34s assembler now available

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 11:48 a.m.,*
in response to message #3 by Bruce Bergman

Hi Bruce,

> Quote:
>
> Anything less than 80 characters is fine and works okay.

The second one I tried was to test the error output and it was a simple (albeit, purposely incorrect) 3-liner that was all short lines. I will try something again.

> Quote:
>
> As for the opcode tables, yes, I was mulling that over last night when I read your other reply to Gerson regarding versions. I will definitely do that. I'll have to think of a good way to (safely) make the script handle that, but it sounds like a must.

Let me know where, and I will supply you with a little group of these. Paul's compressed format is not that large (<30K?? each).

I have not done much (successful) CGI but I assume a dropdown box might be the answer.

Note that if you don't give it anything, it uses its internal table (usually the appropriate choice). It only goes to the external table if you request it to.

Gerson's issue is a bit more fundamental -- the current ZIP is too old to work with any version. But it did highlight the potential issue for compatible versions.

> Quote:
>
> On the next iteration of the assembler, could you please either add a header when it runs

> that mentions the version number of the assembler, or provide a way to get it ("--version" or something)? I'm concerned about confusing people once this matures and several versions are running around in the wild. If the version number comes out in the output, or I can include it on the wiki page, then at least we'll all know what version is being executed.

This is actually there now. Use the "-svn" switch. I had changed my local code (not committed yet) a few days ago to make that the default (n it you use "-no_svn" to turn it off!). With the current one and the "-svn" switch, you get something like this (again, you won't need this switch in the next bump -- but it won't hurt if its supplied):

```
$ ../trunk/tools/wp34s_asm.pl -svn 8queens.wp34s -o temp.dat
// Opcode SVN version: 1199
// CRC16: 520A
// Total words: 32
// Total steps: 31
```

As is noted in the help (or the doc -- I can't recall which), there is subtle difference in using "-o FILE" and redirection in disassembly. With the first, these statistics comments still go to the screen. With direction, they get bundled into the output. That may or may not be useful to you. (Its really a bug but I don't want to change it.)

Re: Online WP 34s assembler now available

*Message #5 Posted by **Bruce Bergman** on 15 July 2011, 2:04 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

I've added the -svn switch to the output, so that will be helpful.

The dokuwiki plugin I use for displaying a form is somewhat limited. I tried experimenting with another plugin, but it didn't work. I'm going to create a second version of the assembler page and see if I can get that working. If so, that will make the addition of the disassembler much easier.

In any case, the aseembler should be working fine now.

thanks,

bruce

Re: Online WP 34s assembler now available

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 3:00 p.m.,*
in response to message #5 by Bruce Bergman

Looking gooood!

I tried both a working sample and a purposely broken sample and got both in emails.

I am still not exactly sure why the script could not be rigged to say "Oops! That was silly of you!" when the assembler throws an error but at least it is up and running! (Likely shows my naive view on the web I/F :-)

Great job. Now I have to get the next improvements done and out the door. As far as I can see, the next improvements should be absolutely compatible from the user interface point-of-view, so no changes to your side expected.

Let me know if/when you might want some of the op-code translation maps. Just drop me a

note on the back channel.

Cheers...

Re: Online WP 34s assembler now available

*Message #7 Posted by **Bruce Bergman** on 15 July 2011, 4:45 p.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

Email is a bit safer. I'm super cautious about the potential exploits of publishing scripts which run live. I'm still considering it though. ;-) With this approach (email), the results are sent to the party who needs it, there are no issues with exploits, and the turn around is pretty quick.

I may have to put up a captcha to avoid getting caught by the spam bots, but so far they're staying away. :-)

thanks,

Bruce

Oh, and I did contact you via the Museum link. Not sure if that went to the right place or not, but yes, please do send those to me. bruceb at fatcity dawt com.

Re: Online WP 34s assembler now available

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 4:57 p.m.,*
in response to message #7 by Bruce Bergman

> Quote:
>
> Oh, and I did contact you via the Museum link. Not sure if that went to the right place or not, but yes, please do send those to me. bruceb at fatcity dawt com.

That goes to a different location so I will get it when I get home. Thanks...

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Sharp PC-1246S

*Message #1 Posted by **robertoataulfo** on 14 July 2011, 3:59 p.m.*

```
I have a 1246S with a special feature (please see photos).
I believe it is to increase the memory.
Someone could help me how to use?


Photo 1
Photo 2
Photo 3
```

Re: OT: Sharp PC-1246S

*Message #2 Posted by **Raymond Del Tondo** on 14 July 2011, 4:31 p.m.,*
in response to message #1 by robertoataulfo

I tend to think it's a speedup switch rather than a memory switch.

OT: I once had one of those 1246S. The rubber coated keyboard is awful, the contact domes under the rubber were very unreliable...

Re: OT: Sharp PC-1246S

*Message #3 Posted by **Maximilian Hohmann** on 14 July 2011, 4:48 p.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> I tend to think it's a speedup switch rather than a memory switch.

It's hard to tell from the third photo, but there could be a second RAM chip soldered on top of the other with the red switch selecting one of the two.

The way to find out would be to enter a short program, set the switch to the other position and see, if it's still there. And vice-versa.

Re: OT: Sharp PC-1246S

*Message #4 Posted by **robertoataulfo** on 14 July 2011, 4:55 p.m.,*
in response to message #3 by Maximilian Hohmann

```
I've tried and nothing has changed (program)
```

Re: OT: Sharp PC-1246S

*Message #5 Posted by **robertoataulfo** on 14 July 2011, 4:51 p.m.,*
in response to message #2 by Raymond Del Tondo

```
Does not increase the speed I've tested (Calculator Speed Benchmark using the N-Queens
```

```
Problem)
```

Re: OT: Sharp PC-1246S

*Message #6 Posted by **Marcus von Cube, Germany** on 14 July 2011, 4:53 p.m.,*
in response to message #5 by robertoataulfo

Max, it may likewise be a higher capacity RAM but the effects of the switch are probably the ones you suppose.

Re: OT: Sharp PC-1246S

*Message #7 Posted by **Eric Smith** on 14 July 2011, 6:50 p.m.,*
in response to message #1 by robertoataulfo

Possibly with double the memory, and the switch selects between two banks?

Re: OT: Sharp PC-1246S

*Message #8 Posted by **robertoataulfo** on 14 July 2011, 7:05 p.m.,*
in response to message #7 by Eric Smith

```
Memory (MEM) reports 7,422 bytes in any position
I think I've found the switch function.
There are two banks of variables (a. .. z).
They are preserved function equal to P <> S HP-67
```

Re: OT: Sharp PC-1246S

*Message #9 Posted by **Eric Smith** on 14 July 2011, 7:16 p.m.,*
in response to message #8 by robertoataulfo

That's basically what I said. I think you'll find that it's not just the variables.

[Return to Index | Top of Index]

Go back to the main exhibit hall

wp34s program

*Message #1 Posted by **Gerson W. Barbosa** on 14 July 2011, 10:37 a.m.*

```
======================================


001 LBL A               027 1/X                 053 *
002 DEC X               028 3                   054 RCL+ 04
003 3                   029 RCL+ L              055 STOP
004 ENTER               030 1/X                 056 RCL 04
005 SQRT                031 STO+ X              057 RCL* 00
006 RCL* L              032 STO+ X              058 SQRT
007 STOS 00             033 +                   059 STO 04
008 4                   034 DEC X               060 PSE 10
009 1/x                 035 +/-                 061 RCL 00
010 STO 05              036 *                   062 STOP
011 *                   037 ENTER               063 ||
012 STO 04              038 RCL* 07             064 STO+ X
013 RCL 02              039 STO- Z              065 STO 00
014 STO 06              040 Rv                  066 1
015 SIGN                041 RCL 05              067 RCL- 05
016 RCL* 05             042 STO* 07             068 SQRT
017 STO 07              043 Rv                  069 DEC X
018 3                   044 DSE 06              070 2
019 1/x                 045 BACK 22             071 /
020 STO+ X              046 X<>Y                072 +/-
021 ENTER               047 8                   073 STO 05
022 +/-                 048 *                   074 2
023 RCL 02              049 RCL* 01             075 STO* 01
024 INC X               050 RCL 05              076 DSE 03
025 RCL- 06             051 SQRT                077 BACK 64
026 STO+ X              052 RCL* L              078 RTN


======================================
```

The curious might want to key this in and see what it does. Others please just ignore it. More details next week.

Re: wp34s program

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 14 July 2011, 11:06 a.m.,*
in response to message #1 by Gerson W. Barbosa

... or you might want to be lazy (Virtues of a programmer) and use the assembler we have provided. :-)

Simply cut and paste the translation below into a file I'll call "barbosa.wp34s".

```
// George W. Barbosa's mystery program
// http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=187663#187663
//
// $ wp34s_asm.pl barbosa.wp34s -o wp34s-0.dat
//
// Emulator will now just read it in directly (provided you are in the right directory).
// Or you can load it into the calculator as well.
//
001 LBL'MYS' // Changed label so it could be more easily found via "h CAT".
002 DEC X
003 3
004 ENTER[^]
005 [sqrt]
006 RCL[times] L
007 STOS 00
```

```
008 4
009 1/x
010 STO 05
011 [times]
012 STO 04
013 RCL 02
014 STO 06
015 SIGN
016 RCL[times] 05
017 STO 07
018 3
019 1/x
020 STO+ X
021 ENTER[^]
022 +/-
023 RCL 02
024 INC X
025 RCL- 06
026 STO+ X
027 1/x
028 3
029 RCL+ L
030 1/x
031 STO+ X
032 STO+ X
033 +
034 DEC X
035 +/-
036 [times]
037 ENTER[^]
038 RCL[times] 07
039 STO- Z
040 R[v]
041 RCL 05
042 STO[times] 07
043 R[v]
044 DSE 06
045 BACK 22
046 x[<->] Y
047 8
048 [times]
049 RCL[times] 01
050 RCL 05
051 [sqrt]
052 RCL[times] L
053 [times]
054 RCL+ 04
055 STOP
056 RCL 04
057 RCL[times] 00
058 [sqrt]
059 STO 04
060 PSE 10
061 RCL 00
062 STOP
063 ||
064 STO+ X
065 STO 00
066 1
067 RCL- 05
068 [sqrt]
069 DEC X
070 2
071 /
072 +/-
073 STO 05
074 2
075 STO[times] 01
076 DSE 03
077 BACK 64
078 RTN
// CRC16: 5ACD
// Total words: 79
// Total steps: 78
```

Re: wp34s program

*Message #3 Posted by **Gerson W. Barbosa** on 14 July 2011, 12:27 p.m.,*

in response to message #2 by Neil Hamilton (Ottawa)

Nice utility! I've downloaded wp34s_asm.exe and wp34s_asm.pl to the wp34s emulator folder. What should I do next? (I don't know Perl). Thanks!

Edited: 14 July 2011, 12:32 p.m.

Re: wp34s program

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 14 July 2011, 1:32 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hi Gerson,

There is a manual in the SVN's "./doc" directory: WP34s_Assembler_Disassembler.pdf.

Basically, you don't need to know any Perl -- even if you use the Perl version. The EXE is the same thing (just SLOWER -- due to its requirement to dynamically decompress [at least the first time], and BIGGER -- same reason). Again, see the document.

To assemble an ASCII source file into a binary image (I'll show the EXE version but the Perl script is the same, just a different extension):

```
$ wp34s_asm.exe YOUR_ASCII_SOURCE.wp34s -o BINARY_IMAGE.dat
```

To disassemble a binary image back into an ASCII source file:

```
$ wp34s_asm.exe -dis BINARY_IMAGE.dat > RECOVERED_SOURCE.wp34s
```

You don't need to use the suggested file extensions but I would encourage these ones to aid in standardization. The ".dat" are eaten directly by the emulator if called "wp34s-0.dat", "wp34s-1.dat", or "wp34s-2.dat". (As of a few days ago, -3 disappeared due to flash space limitations. Can't recall the exact SVN version of this change.)

There are a bunch of options that you can use as documented in the manual.

Paul had a few cool ideas that we are trying to capture this week (or maybe the next) so it should gain some interesting new functionality soon. Most are dealing with symbolic branch targets -- you won't have to count backwards or forwards N-steps, and if you later insert a few new steps in between, you won't have to "fix up" the BACK/SKIP instructions -- these will be automatically handled. A simple example:

```
Loop::      RCL+ 00
            STO/ 01
            x[<->] Y
            BACK Loop
            STO 02
```

If you can afford the disk space, having a proper Perl package installed will result in higher performance (no decompression wait) and the doc explains about where you can get these.

I hope you find it useful! Let us know how you make out.

BTW: All the programs in the SVN "./library" directory have a ".wp34s" counterpart that can be directly assembled by this tool (assuming I haven't made any transcription errors :-). These can be used as examples for writing your own compatible code. We know the syntax is a bit weird and unforgiving. To help, the tool can write an opcode syntax guide using the "-syntax FILENAME" switch. This should help a bit.

Cheers...

Re: wp34s program

*Message #5 Posted by **Gerson W. Barbosa** on 14 July 2011, 5:52 p.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

Hello Neil,

Thanks! I've installed the latest version of Strawberry Perl:

```
>wp34s_asm.pl mpgm.wp34s -o wp34s-0.dat


// CRC16: 5ACD
// Total words: 79
// Total steps: 78


>wp34s_asm.pl -dis wp34s-0.dat > test.wp34s
```

This reverses to the original listing, as expected, but I don't know how to properly load the .dat file into the emulator. I tried the LOAD command, but this is what I got:

```
001 LBL'MYS'
002 DEC X
003 3
004 ENTER[^]
005 ???
006 ???
007 ???
...
```

Most likely I've done something wrong. I'll read through the manual later. For the time being I am not interesting in transferring programs to the real calculator, as I don't have a suitable USB-to-RS232 converter yet.

Regards,

Gerson.

Re: wp34s program

*Message #6 Posted by **Paul Dale** on 14 July 2011, 8:46 p.m.,*
in response to message #5 by Gerson W. Barbosa

Firmware version mismatch between the assembler and the calculator?

- Pauli

Re: wp34s program

*Message #7 Posted by **Gerson W. Barbosa** on 14 July 2011, 9:00 p.m.,*
in response to message #6 by Paul Dale

I'll check that, thanks! Emulator build date is 2011-7-14 (0).

Gerson.

Re: wp34s program

*Message #8 Posted by **Paul Dale** on 14 July 2011, 9:23 p.m.,*
in response to message #7 by Gerson W. Barbosa

The current emulator is broken too :-(

- Pauli

Re: wp34s program

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 14 July 2011, 9:25 p.m.,*
in response to message #5 by Gerson W. Barbosa

Hi Gerson,

No, your commands are correct. The fact that you got the same CRC16 as I did means that the assembly did work. Mail me your DAT file and I'll see if I can figure out what might have occurred. You can mail it to the account attached to this message.

As Paul pointed out, firmware versions are VERY important as the op-code numbers sometimes migrate with the ever-improving state of the development. The assembler can handle this IFF you have the correct op-code tables. (There is info in the manual about this but it can be tricky to create the alternate tables.) However, looking at your message, the first op-code that is wacky is the square root (step 005) and it hasn't changed in a while (0x020a). The version numbers we need to track this are the ones reported by "h X.FCN|3|ENTER" (in other words, the VERS command) from the calculator and the SVN number of the assembler. Tack the -svn switch onto the command line and tell me what number it reports. It is likely:

```
$ wp34s_asm.pl  library/gerson.wp34s -o wp34s-0.dat -svn
// Opcode SVN version: 1210
// CRC16: 5ACD
// Total words: 79
// Total steps: 78
```

Just for interest, if you have an MD-5 or SHA1 tool (look on Wiki), the hashes for the DAT file should be:

```
$ sha1sum wp34s-0.dat
7b5213cf6e9176c282cc1933f578891a89b4bbf6  wp34s-0.dat
$ md5sum wp34s-0.dat
9f875de2bc41422e3c1a639c84103cfc  wp34s-0.dat
```

If you have such a hash tool, let me know what value(s) you got. Either one will do -- no need for both.

If you make sure that the "wp34s-0.dat" file is present in the same directory you started the emulator from, the emulator will automatically read that specific file into emulated flash page 0 (wp34s-1.dat would be read into flash page 1, and -2 into page 2).

Though the current Assembler documentation mentions flash page 3, the latest SVN versions of the calculator have run out flash space -- so only 0-2 for now. :-(

What directory the emulator is starting in depends on how you start it. In Windows, you can create links to programs so you can start them from a shortcut. I am pretty sure you can edit the properties of that shortcut to tell it what directory to start in. (I am running Linux and don't recall the exact sequence off the top of my head.) Make sure that the DAT file is in that directory. (Going from memory here so YMMV.)

Once you start the emulator, because I switched your label from A to 'MYS', the program will

be visible with the calculator's "h CAT" function. Using "h CAT", search for MYS (since you have used the flash page 0 file name, wp34s-0.dat, the CAT function should show it as being in "PG 00") and hit XEQ to run your program directly from emulated flash. There are other ways to do this but this is probably the easiest.

I see Bruce Bergman has kindly built a web front end for the tool here. You could give this a try as well.

I am still working kinks out but I have also run a fair bit of code through on both Windows and Linux with few issues (other than SVN bumps *evolving* the internal opcode numbers!! :-). For example, I had a Great Circle program that, as a last step, converted nautical miles to km but after one SVN bump of the calculator, it was converting astronomical units to km! It changed the distance from Boston to Vancouver to something out of this world -- literally!

This is why the assembler can read in opcode definitions from virtually any SVN revision after 1133 (or some such number).

Re: wp34s program

*Message #10 Posted by **Gerson W. Barbosa** on 14 July 2011, 10:03 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

Hello Neil,

Here are what I have:

```
>wp34s_asm.pl mpgm.wp34s -o wp34s-0.dat -svn


// Opcode SVN version: 1199
// CRC16: 5ACD
// Total words: 79
// Total steps: 78
```

VERS on the emulator returns only

```
34S 2.0
PAULI, WALTEr
```

no build date (like my hardware wp34s which was flashed two or three weeks ago). It is Marcus's stack lift fix as of this afternoon. I replaced only the files wp34s.exe and wp34sgui.exe inside the emulator folder.

Thanks for your concern.

Gerson.

Re: wp34s program

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 14 July 2011, 10:31 p.m.,*
in response to message #10 by Gerson W. Barbosa

Hi Gerson,

It looks like your emulator might be broken as Paul suggested. Mine is the latest on the tree and VERS is showing "34s 2.0 1220" (meaning SVN 1220). The actual complete SVN file set is now at 1222.

The (lack of) SVN number your emulator is showing is mighty peculiar! I would be leery of just updating a few files since this thing is typically built as a set and there may be things in other files that need to be there as well (DLLs, etc.)

My emulator reads in the flash image of your program just fine and if I execute a "PRCL 0", to swap the flash into RAM, I can scroll through your program with no trouble. (I don't know how to *run* the program -- do I seed it with something in X? -- but I can see it. :-)

If I were you I would do a clean SVN checkout to a new directory and try it all again. (I am *not* an SVN expert so there may be cleaner ways of getting a clean checkout but I don't know how to do that. I just use "svn up".)

Let me know what happens.

Cheers...

Re: wp34s program

*Message #12 Posted by **Gerson W. Barbosa** on 14 July 2011, 11:36 p.m.,*
in response to message #11 by Neil Hamilton (Ottawa)

Hello Neil,

I am not familiarized with SVN. Previously I'd dowload the whole build when is was available. I'll try to fix things tomorrow. I realize the assembler is a great tool, so it's worth to learn how to use it. Thanks again!

Regarding the program, it takes two arguments from the stack (see Jim Horn's post just below). The equivalent C++ program is 33 lines long (I'll post it later).

Cheers,

Gerson.

Edited: 14 July 2011, 11:38 p.m.

Re: wp34s program

*Message #13 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 5:31 a.m.,*
in response to message #12 by Gerson W. Barbosa

> Quote:
>
> I am not familiarized with SVN. Previously I'd dowload the whole build when is was available. I'll try to fix things tomorrow. I realize the assembler is a great tool, so it's worth to learn how to use it. Thanks again!

Ahh! I think the root of the problem is becoming clear!

Many of us obsessive ones are running on the bleeding edge of the techo-trinity's every twitch and whim with this project. When I look in the latest ZIP bundle, I see that the newest file puts it at about SVN 1136. We are currently on SVN 1223. The emulator in the bundle is hopelessly out-of-date with the current

assembler. Unfortunately, you will likely have to be up near the latest to make use of the assembler (recall that opcodes "evolve") -- at least for now. These targets are moving fairly rapidly. The assembler was not reliable until about SVN 1161 -- and that one was set up to use that vintage of op-code map.

[WARNING: Using the bundled version will also be a problem with the assembler that Bruce Bergman is hosting as well. His CGI script is simply running the very same assembler from SVN and it is still assuming you are at or near the latest SVN build!]

Not to worry! If you want to pursue the assembler route (and get a more modern version of the calculator!), the best thing you can do is get an SVN client. If you are on Windows, check out TortoiseSVN -- it is quite easy to use and hooks right into Explorer. Use the download address from here. TortoiseSVN needs the https address and a clean directory (and an optional build number -- this is where you want to go).

There are some very stable builds that should get you going and I am sure we can give you some "landing points" for those builds. Normally you would right click on TortoiseSVN to tell it to get the latest -- but in your case you want to tell to get revision XYZ (TBD).

Basically everything was incredibly stable just before the latest series of serial functions went in. If you are still game to try this, I will find a good SVN number and let you know. SVN is not that daunting, and has the wonderful advantage that, if you don't like the version you are running, you just tell it to get another specific version. You can easily backward or forward.

Note that you do get quite a few files with the SVN build but I am assuming that a 140MB and a slightly more involved set of paths won't deter you! :-)

Re: wp34s stability

*Message #14 Posted by **Marcus von Cube, Germany** on 15 July 2011, 12:49 p.m.,*
in response to message #13 by Neil Hamilton (Ottawa)

> Quote:
>
> Basically everything was incredibly stable just before the latest series of serial functions went in.

We had some issues with stack lift and y^ lately which have nothing to do with the serial I/O stuff. The problem is flash space. Fixing bugs and adding features at the same time may lead to some inconsistencies. This will definitely be fixed!

There are sometimes SVN updates which simply don't work but are necessary for Pauli and me to exchange the source files. We are working on the same files sometimes and need to exchange them often. That's what SVN is all about.

Re: wp34s stability

*Message #15 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 1:09 p.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> There are sometimes SVN updates which simply don't work but are necessary for Pauli and me to exchange the source files. We are working on the same files sometimes and need to exchange them often. That's what SVN is all about.

Sorry, Marcus. You said it better than I. It was not a criticism at all. I was just pointing out that there are "islands of stability" if Gerson wanted to give it another try. The last stable island was just before the serial effort began... not that it was necessarily related.

We understand that you have to break a few eggs to make an omelette. :-)

Re: wp34s program

*Message #16 Posted by **Paul Dale** on 15 July 2011, 12:07 a.m.,*
in response to message #10 by Gerson W. Barbosa

No version results from using the web interface to download the subversion files. You need a proper subversion client.

- Pauli

Re: wp34s program

*Message #17 Posted by **Jim Horn** on 14 July 2011, 6:52 p.m.,*
in response to message #1 by Gerson W. Barbosa

Interesting - it appears to compute pi with the number of iterations entered in X and the follow-up iterations in Y or such. When run, it returns the value found. Pressing R/S repeatedly shows number pairs that straddle pi as found. Anything above 14 in X gives pi to the resolution of the

I have to note that RPN programming with all the WP-34S features is remarkably powerful and remarkably write-only. It's not obvious to me yet what algorithm you're using. But it is fun to dig into...

Re: wp34s program

*Message #18 Posted by **Gerson W. Barbosa** on 15 July 2011, 11:34 a.m.,*
in response to message #17 by Jim Horn

> Quote:
>
> it appears to compute pi with the number of iterations entered in X and the follow-up iterations in Y or such.

Quite exactly!

> Quote:

> I have to note that RPN programming with all the WP-34S features is remarkably powerful and remarkably write-only.

I haven't read all through the manual yet, so it is possible the program can be shrunk even more. Minor improvements can always be made. Before posting, for instance, I managed to make it one step shorter so that the three columns were the same height. The following is much easier to read and will compile in Dev-C++ :

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>


int main(int argc, char *argv[])
{
  int i, j, mi, mj, n = 3;
  double a, c, p, h, g, s, x;
  scanf("%d %d", &mi,&mj);
  h = 3*sqrt(3);
  g = h/4;
  x = 1/4.;
  for (i = 1; i <= mi; i++)
  {
    p = x;
    a = 2/3.;
    c = -a;
    for (j = 1; j < mj;)
    {
      c *= 1-1/(2.*j)-4/(2.*j++ +3);
      a -= c*p;
      p *= x;
    }
    s = g+8*n*x*sqrt(x)*a;
    g = sqrt(g*h);
    printf("%12d  %.16f  %.16f  %.16f\n",n,g,h,s);
    h *= 2*g/(g+h);
    x = (1-sqrt(1-x))/2;
    n += n;
  }
  printf("\n");
  system("pause");
  return 0;
}
```

Re: wp34s program

*Message #19 Posted by **Paul Dale** on 15 July 2011, 7:25 p.m.,*
in response to message #17 by Jim Horn

I'd figured out the PI but not the followup portion of the program...

> Quote:
>
> I have to note that RPN programming with all the WP-34S features is remarkably powerful and remarkably write-only. It's not obvious to me yet what algorithm you're using. But it is fun to dig into...

I think this is more a function of RPN programming than the WP 34S feature set :-)

- Pauli

Re: wp34s program

*Message #20 Posted by **Gerson W. Barbosa** on 15 July 2011, 10:04 p.m.,*
in response to message #19 by Paul Dale

> Quote:
>
> I'd figured out the PI but not the followup portion of the program...

```
1 ENTER 20 A  ->  3.141592653589793
```

That's Newton's approximation of pi. In 1666 he obtained 3.1415926535897928 carrying out his calculations to 17 significant digits and evaluating the first 20 terms of his series.

```
6 ENTER 2 A     ->  3.14903810568          Same as above, with only the first two
terms of the series
          R/S   ->  2.59807621135          perimeter of the inscribed triangle
(diameter of the circumference = 1)
                    5.19615242271          perimeter of the circumscribed triangle
          R/S   ->  3.14172962149          sum of the area of he inscribed hexagon
and the area of the sectors comprised between, the latter
                                           ones approximated with the first two
terms of Newton's series
          R/S   ->  3                      perimeter of the inscribed hexagon
                    3.46410161514          perimeter of circumscribed hexagon
          .
          .                                and so on, until the 96-gon (3*2^6)
          .


          R/S   ->  3.14159265360          area of the 96-gon and the approximated
area of the inner sectors
          R/S   ->  3.14103195089          Archimedes' lower bound
          R/S   ->  3.14271459965          Archimedes' upper bound
          R/S   ->  2                      end of iterations
```

The number of correct digits yielded by the approximation of the inner sectors through the Newton's series appear to be

```
d = (n + 1)*lg(4^a) + 1.5
```

where

```
n = number of terms of the Newton's series
a = number of duplications of the sides of the polygons, starting with triangles
lg: base-10 logarithm
```

Thus, if the calculations are carried out with 1000+ digits, we should expect 1001 correct digits when n = 82 and a = 20 (83*lgt(4^20) + 1.5). The drawback is the extraction of 40 square roots which might take some time.

I've come up with a variation of Archimedes' method that will produce about 1.8 digits per iteration. Unlike Newton's method, no Calculus needed, but it will require a cube root extraction in the last iteration (van Ceulen could have used it to compute pi to 70 digits in the 15th century :-). Here are some results obtained on Free42 Decimal:

```
   6  3.14146091177349897863 3978
  12  3.14159094796311999296 6256
  24  3.14159262812349623867 1042
  48  3.14159265319634301272 3174
  96  3.14159265358366284751 6782
 192  3.14159265358969751840 9744
 384  3.14159265358979174309 9584
 768  3.14159265358979321509 8622
```

Regards,

Gerson.

Edited: 15 July 2011, 11:12 p.m.

Re: wp34s program

*Message #21 Posted by **Gerson W. Barbosa** on 16 July 2011, 11:27 p.m.,*
in response to message #20 by Gerson W. Barbosa

> Quote:
>
> I've come up with a variation of Archimedes' method that will produce about 1.8 digits per iteration.

It is essentially the Archimedes' method, only an attempt has been made to improve the approximations. (He did it this way).

Using trigonometry, the Archimedes' lower and upper bounds for pi are, respectively:

```
a = x*sin(pi/x)

b = x*tan(pi/x)

where x=3*2^k,   k=1, 2,...
```

Let's consider the following limit:

```
        x*tan(pi/x) - pi
  lim   ---------------- = 2
x->inf  pi - x*sin(pi/x)
```

then the following weighted arithmetic mean of the bounds gives successively better approximations to pi at each iteration:

```
            2*a + b
   wam   =  ---------       ~   pi
               3
```

Likewise, the following weighted geometric mean appears to hold:

```
   wgm   =  (a^2*b)^(1/3)   ~   pi
```

also

```
         wam(x) - pi      9
  lim   ------------- = ---
x->inf   wgm(x) - pi      4
```

this leads to

```
         9*wgm(x) - 4*wam(x)
   pi = ---------------------,  when x equals infinity
                  5
```

or

```
         27*(a^2*b)^(1/3) - 4*(2*a + b)
   pi ~ ------------------------------
                      15
```

The demonstration may not be rigorously correct, nevertheless we can use the result to write the following wp34s program:

```
001 LBL 77
```

```
002 STO 00
003 3
004 SQRT
005 STO+ X
006 FILL
007 4
008 RCL/ L
009 /
010 *
011 SQRT
012 DSE 00
013 SKIP 01
014 SKIP 06
015 STO 01
016 ||
017 STO+ X
018 FILL
019 RCL 01
020 BACK 10
021 RCL* X
022 RCL L
023 Rv
024 *
025 CUBERT
026 2
027 7
028 *
029 RCL Z
030 RCL+ X
031 RCL+ Z
032 4
033 *
034 -
035 1
036 5
037 /
038 RTN


1 XEQ 77   ->   3.141460911773500
2 XEQ 77   ->   3.141590947963119
3 XEQ 77   ->   3.141592628123497
4 XEQ 77   ->   3.141592653196343
5 XEQ 77   ->   3.141592653583662
6 XEQ 77   ->   3.141592653589791
```

An equivalent C++ program is:

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>


int main(int argc, char *argv[])
{
  char i, m;
  int n = 6;
  double gm, hm, wam, wgm;
// start with inscribed and circumscribed
  scanf("%d", &m);
// hexagons (diameter of the circumference = 1)
  system("cls");
// hm: harmonic mean
  hm = 2*sqrt(3);
// gm: geometric mean
  gm = 3*hm/4;
// 2*sqrt(3): perimeter of the circumscribed
  printf("\       n-gon\t      wgm\t          wam\t\t(9*wgm-4*wam)/5 \n\n");
// hexagon
  for (i = 1; i <= m; i++)
// gm(3/4*2*sqrt(3),2*sqrt(3)) = 3, this is the
  {
// perimeter of the inscribed hexagon
    gm = sqrt(gm*hm);
// wam: weighted arithmetic mean of hm and gm
    wam = (2*gm+hm)/3;
// wgm: weighted geometric mean of hm and gm
```

```
    wgm = pow(gm*gm*hm,1/3.);
// weights of gm and hm: 2 and 1, respectively
    printf("%12d  %.16f  %.16f  %.16f\n",n,wgm,wam,(9*wgm-4*wam)/5);             //
the weighted arithmetic mean of wgm and wam
    hm *= 2*gm/(gm+hm);
// (weights 9 and -4, respectively) will approximate
    n += n;
// pi at a rate of 1.8 correct digits per iteration.
  }
  printf("\n");
  system("pause");
  return 0;
}
```

Output for nine iterations:

```
       n-gon          wgm                  wam           (9*wgm-4*wam)/5


           6  3.1473451902649443  3.1547005383792515  3.1414609117734984
          12  3.1419279179993587  3.1423491305446571  3.1415909479631199
          24  3.1416132628330500  3.1416390562199923  3.1415926281234960
          48  3.1415939364016969  3.1415955404083897  3.1415926531963425
          96  3.1415927336837215  3.1415928338087955  3.1415926535836625
         192  3.1415926585943867  3.1415926648502488  3.1415926535896972
         384  3.1415926539025598  3.1415926542935209  3.1415926535897909
         768  3.1415926536093401  3.1415926536337748  3.1415926535897922
        1536  3.1415926535910144  3.1415926535925416  3.1415926535897927

========================================
```

Update:

$$10\pi \sim \frac{9ac}{4a - c} - \frac{7(a - 4c)}{3}$$

where

a = lower bound
c = next lower bound

avoids the cube root exraction and gives out the same accuracy (1.8 decimal places per iteration).

==

Update:

Found a relationship between the previous formulas and had W|A solve the equation (solve (p-(27*(a^2*b)^(1/3)-4*(2*a+b))/15)/((9*a*c/(4*a-c)-7/3*(a-4*c))/10-p)==128/19 for p) and simplify the result:

```
p ~ (513*(a^2*b)^(1/3) + 24*a*(-(288*a)/(c - 4*a) - 97) - 76*b + 1792*c)/2205
```

where

```
a = lower bound
b = upper bound
c = the next lower bound
```

This gives 2.4 decimal digits per iteration.

Archimedes' 96-gon is enough for 15 correct digits:

```
3.14159265358979259
```

The following procedure can be used to check the formula without running all the iterations:

```
n:=50;
a:=3*2^n*sin(pi/(3*2^n));
b:=3*2^n*tan(pi/(3*2^n));
c:=3*2^(n+1)*sin(pi/(3*2^(n+1)));
p:=(513*(a^2*b)^(1/3)+24*a*(-(288*a)/(c-4*a)-97)-76*b+1792*c)/2205;
```

More details here.

Edited: 22 July 2011, 4:58 p.m. after one or more responses were posted

Re: wp34s program

*Message #22 Posted by **Gerson W. Barbosa** on 20 July 2011, 1:47 a.m.,*
in response to message #21 by Gerson W. Barbosa

FWIW, the TurboBCD program below is equivalent to the 38-step wp34s program above, except for the computation of p inside the loop. Sqrt(x) and Cbrt(x) are necessary because Turbo Pascal BCD lacks these functions. Notice that only eight iterations suffice for an approximation of pi to 17 digits (as the number of iterations grows, the algorithm yields 1.8 digits per iteration).

```
Program Quick_Archimedes;


var a, b, p: real;
       i, m: byte;
          n: integer;


function Sqrt(x: Real): real;


var s, t: Real;


begin
  if x<>0 then
    begin
      s:=x/2;
      repeat
        t:=s;
        s:=(s+x/s)/2
      until s=t;
      Sqrt:=s
    end
    else
      Sqrt:=0
end;


function Cbrt(x: Real): real;


var c, t: Real;


begin
  if x<>0 then
    begin
      c:=x/2;
      repeat
        t:=c;
        c:=(2*c+x/(c*c))/3
      until Abs(c-t)<1e-16;
      Cbrt:=c
    end
    else
      Cbrt:=0
end;
```

```
begin
  ReadLn(m);
  n:=6;
  b:=2*Sqrt(3);
  a:=3*b/4;
  ClrScr;
  Writeln(' n-gon',' ':11,'a',' ':21,'b',' ':21,'p',#10);
  for i:=1 to m-1 do
    begin
      a:=Sqrt(a*b);
      p:=(27*Cbrt(a*a*b)-4*(2*a+b))/15;
      WriteLn(n:5,a:22:17,b:22:17,p:22:17);
      b:=2*a*b/(a+b);
      n:=2*n
    end;
  a:=Sqrt(a*b);
  p:=(27*Cbrt(a*a*b)-4*(2*a+b))/15;
  WriteLn(n:5,a:22:17,b:22:17,p:22:17)
end.
```

Output for eight iterations:

```
 n-gon           a                     b                     p


    6   3.00000000000000001   3.46410161513775460   3.14146091177349899
   12   3.10582854123024916   3.21539030917347249   3.14159094796312001
   24   3.13262861328123821   3.15965994209750050   3.14159262812349626
   48   3.13935020304686722   3.14608621513143498   3.14159265319634303
   96   3.14103195089050965   3.14271459964536831   3.14159265358366287
  192   3.14145247228546209   3.14187304997982388   3.14159265358969753
  384   3.14155760791185767   3.14166274705684855   3.14159265358979177
  768   3.14158389214831843   3.14161017660468956   3.14159265358979324
```

==========

Update:

TurboBCD program using the new formula above, which avoids the cube root extraction whilst keeping the same accuracy (1.8 places per iteration).

```
Program Quick_Archimedes;


var a, b, c, p: real;
          i, m: byte;
             n: integer;


function Sqrt(x: Real): real;


var s, t: Real;


begin
  if x<>0 then
    begin
      s:=x/2;
      repeat
        t:=s;
        s:=(s+x/s)/2
      until s=t;
      Sqrt:=s
    end
    else
      Sqrt:=0
end;


begin
  ReadLn(m);
  n:=6;
```

```
  b:=2*Sqrt(3);
  a:=3*b/4;
  ClrScr;
  Writeln(' n-gon',' ':11,'a',' ':21,'b',' ':21,'p',#10);
  for i:=1 to m-1 do
    begin
      a:=Sqrt(a*b);
      WriteLn(n:5,a:22:17,b:22:17);
      b:=2*a*b/(a+b);
      n:=2*n
    end;
  c:=Sqrt(a*b);
  p:=((9*a*c/(4*a-c)-7/3*(a-4*c))/10);
  WriteLn(n:5,c:22:17,b:22:17,p:22:17)
end.
```

Output for nine iterations

```
 n-gon            a                      b                      p


    6   3.00000000000000001   3.46410161513775460
   12   3.10582854123024916   3.21539030917347249
   24   3.13262861328123821   3.15965994209750050
   48   3.13935020304686722   3.14608621513143498
   96   3.14103195089050965   3.14271459964536831
  192   3.14145247228546209   3.14187304997982388
  384   3.14155760791185767   3.14166274705684855
  768   3.14158389214831843   3.14161017660468956
 1536   3.14159046322805012   3.14159703432152617   3.14159265358979327

=======================================
```

Edited: 21 July 2011, 12:49 p.m.

Re: wp34s program

*Message #23 Posted by **Bruce Bergman** on 14 July 2011, 8:04 p.m.,*
in response to message #1 by Gerson W. Barbosa

Gerson, as a present for you, I've just created an online version of the assembler. Check above in the forum postings for an announcement. :-)

Thanks,

Bruce

Re: wp34s program

*Message #24 Posted by **Gerson W. Barbosa** on 14 July 2011, 8:14 p.m.,*
in response to message #23 by Bruce Bergman

Hey, thank you! Just in time for my birthday next week :-)

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Fair Interview Question?

*Message #1 Posted by **Norman Dziedzic** on 14 July 2011, 9:54 a.m.*

I'm interviewing someone today for a job that could eventually lead to position in my engineering department.

Do you think it is fair to ask them what type of calculator they use?

Re: Fair Interview Question?

*Message #2 Posted by **Alex Mark (Greece)** on 14 July 2011, 10:02 a.m.,*
in response to message #1 by Norman Dziedzic

When I was being interviewed for my current job, the Chief Engineer gave me an old and heavily used HP 15C (that is still working) and asked me to calculate 2+2... He was so amazed when I did it, that I got hired almost instantly...

Thanks, 32Sii...

Alex (Civil Engineer) - Greece

Re: Fair Interview Question?

*Message #3 Posted by **Jeff Kearns** on 14 July 2011, 10:02 a.m.,*
in response to message #1 by Norman Dziedzic

Sure. Then, if the candidate doesn't give you the answer you want and you hire him/her anyway, buy them a nice HP calculator out of your departmental budget and encourage its use.

Jeff

Re: Fair Interview Question?

*Message #4 Posted by **Tim Wessman** on 14 July 2011, 10:07 a.m.,*
in response to message #1 by Norman Dziedzic

I always do. :-)

That can be a good lead in type question to really get at the heart of what the candidate thinks about math, problem solving, and the way they approach things. Even if they don't really use a calculator, it is a good way to then have them reason out what might be the advantages of using one vs other options.

TW

Re: Fair Interview Question?

*Message #5 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 10:25 a.m.,*
in response to message #1 by Norman Dziedzic

It doesn't matter what brand of calculator he uses, if he uses one at all or a spreadsheet, a piece of paper, a slide rule or what have you, as long as he solves the problem.

This is too much a politics/religion-type of question that raises too many emotions (at least with you) that divert from the important questions of a job interview. As soon as you anticipate good and not-so-good answers, don't go there at all. If you are completely neutral about his answers you could ask it - but then: why should you in the first place!?!

The fact alone that you ask this here shows me you shouldn't ask it there! ;)

Edited: 14 July 2011, 10:28 a.m.

Re: Fair Interview Question?

*Message #6 Posted by **John Pierce** on 14 July 2011, 11:41 a.m.,*
in response to message #5 by George Bailey (Bedford Falls)

I don't agree with your premise. One could not ask any question during an interview.

Re: Fair Interview Question?

*Message #7 Posted by **M. Joury** on 14 July 2011, 11:58 a.m.,*
in response to message #6 by John Pierce

I think that the point of George's statement is that the type of calculator (if any) chosen by the candidate does not affect his/her ability to do the work. The corollary that George offers is religion / politics. Is it correct to ask the candidate's opinion of either in an interview? Neither are related to the job at hand and neither help determine the candidate's ability to do said job. The type of calculator chosen falls into the same category in my opinion. Interview questions should be related to the ability of the candidate to perform the duties expected of him/her and questions unrelated to the job that might engender an emotional response should not be asked.

My 2 cents worth...

Re: Fair Interview Question?

*Message #8 Posted by **Mike T.** on 14 July 2011, 5:11 p.m.,*
in response to message #5 by George Bailey (Bedford Falls)

I don't agree as I would want to be sure they could solve the problem in an approprite way.

Even if they got the right answer I'd be concerned abount a candidate that had to break out a spreadsheet or use Wolfram Alpha to find the proability of throwing (a fair) coin and getting three heads, or finding the resistance of two resistors in parallel...

Mike T.

Re: Fair Interview Question?

*Message #9 Posted by **M. Joury** on 14 July 2011, 7:10 p.m.,*
in response to message #8 by Mike T.

And how does the BRAND of calculator they choose to use matter to their ability to solve a problem the appropriate way? Any question related to being able to do the job is fine. No one is suggesting that such questions should not be asked. But asking if you use a HP vs. TI vs. any other brand does not

judge your ability to solve a problem appropriately.

Re: Fair Interview Question?

*Message #10 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 3:54 a.m.,*
in response to message #8 by Mike T.

> Quote:
>
> Even if they got the right answer I'd be concerned abount a candidate that had to break out a spreadsheet or use Wolfram Alpha to find the proability of throwing (a fair) coin and getting three heads, or finding the resistance of two resistors in parallel...

I'd be concerned even more if anyone had to get out his pocket calculator for these answers, when a piece of paper or just his or her head alone would do.

If help is needed, the best candidate will use whatever is available, no matter what specifically it is. This could be the own fingers, a calculator, a super computer, wikipedia, a book, a coworker, his aunt Eleonore...I wouldn't care how the problem was solved, if the answer was correct and delivered in time.

Re: Fair Interview Question?

*Message #11 Posted by **Gerson W. Barbosa** on 14 July 2011, 10:54 a.m.,*
in response to message #1 by Norman Dziedzic

I think it is fair, as long as the answer to that particular question doesn't influence your decision.

Re: Fair Interview Question?

*Message #12 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 3:56 a.m.,*
in response to message #11 by Gerson W. Barbosa

> Quote:
>
> I think it is fair, as long as the answer to that particular question doesn't influence your decision.

And because one can't guarantee this, one avoids these questions altogether.

Edited: 15 July 2011, 3:57 a.m.

Re: Fair Interview Question?

*Message #13 Posted by **Ren** on 14 July 2011, 12:53 p.m.,*
in response to message #1 by Norman Dziedzic

Once my cow-orkers proposed that during a job interview, they gave the interviewee a Stardate. The interviewee would then have to correctly identify the episode Title and guest star.

A correct answer assured them the candidate would fit in with the team.

B^)

Ren

dona nobis pacem

Re: Fair Interview Question?

*Message #14 Posted by **Maximilian Hohmann** on 14 July 2011, 1:24 p.m.,*
in response to message #1 by Norman Dziedzic

Hi!

Don't you have anti-discrimination laws in the US? Here in Germany you would probably not be allowed to ask that question and base your decision on the answer...

And how would I qualify for your position? Although I own almost 1000 calculators I haven't used one at work (engineer and aviator) for 15 years or more. No need at all.

Regards, max

Re: Fair Interview Question?

*Message #15 Posted by **Walter B** on 14 July 2011, 2:49 p.m.,*
in response to message #14 by Maximilian Hohmann

AFAIK, they have only laws for the less important topics like gender, colour, age etc. ;-)

Re: Fair Interview Question?

*Message #16 Posted by **Maximilian Hohmann** on 14 July 2011, 3:04 p.m.,*
in response to message #15 by Walter B

> Quote:
>
> AFAIK, they have only laws for the less important topics like gender, colour, age etc. ;-)

And ideology ("Weltanschauung"). The preference for certain types of calculators is certainly an ideological issue, because professionally, an engineer must be flexible enough to adapt to every kind of technology :-)

Edited: 14 July 2011, 3:05 p.m.

Re: Fair Interview Question?

*Message #17 Posted by **Marcus von Cube, Germany** on 14 July 2011, 3:32 p.m.,*
in response to message #1 by Norman Dziedzic

You can probably ask "Do you work with a calculator?". If the answer is yes, you may ask for a demonstration.

Re: Fair Interview Question?

*Message #18 Posted by **Hans Brueggemann** on 14 July 2011, 6:04 p.m.,*
in response to message #17 by Marcus von Cube, Germany

wow, marcus, that's too close to a "hexenhammer" Bo)
hans

Re: Fair Interview Question?

*Message #19 Posted by **Norman Dziedzic** on 14 July 2011, 9:03 p.m.,*
in response to message #1 by Norman Dziedzic

I didn't ask.

This is a recent graduate and he was nervous enough without wondering why I'm asking him about what calculator he uses.

Re: Fair Interview Question?

*Message #20 Posted by **db (martinez, ca.)** on 14 July 2011, 9:42 p.m.,*
in response to message #1 by Norman Dziedzic

Norman; I think it's fair, as long as you include the Corvus 500, Privileg SR 54 NC and the Electronica RPNs on the correct answer list.

Alex; Every surveyor i know has met at least one (civil) engineer who needs a calculator to do 2+2.

Ren; I remember reading that stardates vary by not only time but position; so if that's true, depending where you are, it's always 4523.3

Tim; Extra points given to applicants whipping out a DC50?

BTW: There was a bean counter at our field office today. He brought the 17bii he bought in college, and uses it in RPN. For the very little that it is worth; he gets extra points from me.

Re: Fair Interview Question?

*Message #21 Posted by **Martin Pinckney** on 15 July 2011, 10:20 p.m.,*
in response to message #20 by db (martinez, ca.)

> Quote:
>
> Every surveyor i know has met at least one (civil) engineer who needs a calculator to do 2+2.

Every surveyor I know depends on a (civil) engineer for his employment!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #1 Posted by **gene wright** on 14 July 2011, 9:52 a.m.*

Try this:

4 ENTER 3 ENTER 2 ENTER PI

On the 15c, you can press Roll Down and see 2, 3, 4, then PI again.

On the 34s, when I press roll down at this point, I see 2, 2, 3, then PI.

Should this keystroke sequence load the stack in the same way?

Or, what have I missed here? :-)

Edited: 14 July 2011, 11:22 a.m. after one or more responses were posted

Re: 34s - stack lift with PI compared to 15c - difference

*Message #2 Posted by **M. Joury** on 14 July 2011, 10:38 a.m.,*
in response to message #1 by gene wright

I don't have a machine handy at the moment (or the emulator) but if it is acting as described I personally think that this is a bug. ENTER should disable stack lift. This should act the same as entering: 4 E^ 3 E^ 2 E^ 3.14159...

Cheers

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #3 Posted by **M. Joury** on 14 July 2011, 11:36 a.m.,*
in response to message #1 by gene wright

I just loaded the emulator on my laptop and was able to reproduce this. I see exactly the same thing as Gene.

Cheers.

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #4 Posted by **Marcus von Cube, Germany** on 14 July 2011, 1:24 p.m.,*
in response to message #3 by M. Joury

Pauli has to look into this.

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #5 Posted by **Hubert Weikert** on 14 July 2011, 1:38 p.m.,*
in response to message #1 by gene wright

It is the same when you insert constants from the constants menu instead of PI.

A short test with on the 35S works like the 15C, even with constants.

Hubert

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #6 Posted by **Marcus von Cube, Germany** on 14 July 2011, 1:56 p.m.,*
in response to message #5 by Hubert Weikert

I agree that it's a bug. We have to wait until Pauli is back. He's in the middle of the night at the moment.

EDIT: It should be fixed now.

Edited: 14 July 2011, 3:36 p.m.

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #7 Posted by **fhub** on 14 July 2011, 2:54 p.m.,*
in response to message #5 by Hubert Weikert

> Quote:
>
> It is the same when you insert constants from the constants menu instead of PI.

And not only with constants - also recalling a value from any register with RCL xx behaves the same way.

Franz

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #8 Posted by **Walter B** on 14 July 2011, 2:39 p.m.,*
in response to message #1 by gene wright

Entering the same as you, Gene, on my 30b I get 2, 2, 3, 4, 0, 0, 0, pi ;-) Same story with constants. It's definitively a bug. Thanks for reporting d:-)

Walter

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #9 Posted by **Marcus von Cube, Germany** on 14 July 2011, 3:15 p.m.,*
in response to message #8 by Walter B

I had a look at it and it's hopefully fixed now. I changed both the constants and the RCL cases. I hope I got

it without breaking anything.

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #10 Posted by **fhub** on 14 July 2011, 3:46 p.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> I had a look at it and it's hopefully fixed now. I changed both the constants and the RCL cases. I hope I got it without breaking anything.

Unfortunately nothing has changed with the new SVN 1214, neither constants nor RCL work different than in the previous version.

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #11 Posted by **Marcus von Cube, Germany** on 14 July 2011, 4:15 p.m.,*
in response to message #10 by fhub

You're right, my testing was incomplete.

Can you try again, please?

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #12 Posted by **fhub** on 14 July 2011, 4:30 p.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> Can you try again, please?

Yes, now it's ok - at least all conditions that I've tested! ;-)

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #13 Posted by **Marcus von Cube, Germany** on 14 July 2011, 4:47 p.m.,*
in response to message #12 by fhub

The problem with my latest fix is that now some functions which are supposed to enable stack lift will no longer do it. Pauli will have to investigate this.

Re: 34s - stack lift with PI compared to 15c - fixed !

*Message #14 Posted by **fhub** on 14 July 2011, 5:06 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> The problem with my latest fix is that now some functions which are supposed to enable stack lift will no longer do it. Pauli will have to investigate this.

Nun, war sowieso "zu früh gefreut" as we say in German. :-(
Constants (from the menu with [h][CONST]) are still making a stack lift - I've overlooked to test this because I've not needed any constants so far (except PI, but this one works).

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #15 Posted by **Paul Dale** on 14 July 2011, 6:06 p.m.,*
in response to message #1 by gene wright

I think I've fixed this one but due to the pervasiveness of the stack lift, it is going to need a lot of testing.

PS: nobody mentioned that complex RCL and complex constants caused problems as well. Do folks even know these commands exist?

- Pauli

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #16 Posted by **Walter B** on 14 July 2011, 6:32 p.m.,*
in response to message #15 by Paul Dale

Maybe it turned out already real is so complex nobody dares using complex ;-)

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #17 Posted by **fhub** on 14 July 2011, 7:16 p.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> PS: nobody mentioned that complex RCL and complex constants caused problems as well. Do folks even know these commands exist?

Complex contants? Are there any in the catalog? ;-)

But why worry about such useless things when I can't even get to work usual things: :-(

No matter what I try, the functions Cx,y and Px,y always return "Domain error"!?
Of course I'm not in any special integer mode (so it should be DECM I guess), but I don't get it ...

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #18 Posted by **Paul Dale** on 14 July 2011, 8:47 p.m.,*
in response to message #17 by fhub

Bug introduced as part of the y-hat fix. Will be fixed soon.

- Pauli

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #19 Posted by **Ángel Martin** on 15 July 2011, 2:33 a.m.,*
in response to message #15 by Paul Dale

The stack lift again - it's amazing how we take certain things for granted, and how detailed our code must be to play along them. I also had a few glitches with the 41Z in this department, so I can understand this dilemma.

Re: 34s - stack lift with PI compared to 15c - difference - anyone else able to repeat this?

*Message #20 Posted by **Paul Dale** on 15 July 2011, 2:43 a.m.,*
in response to message #19 by Ángel Martin

Things would be simplier without being able to disable stack lift. We've got a separate command line so it ought to be possible to do without it. That wouldn't be old calculator friendly however.

- Pauli

Re: 34s - Domain Error on multiply plus SST change

*Message #21 Posted by **Jake Schwartz** on 15 July 2011, 8:47 a.m.,*
in response to message #20 by Paul Dale

Hi, I know we're up to version 1228 now, but last night I loaded version 1220 and now every time I press the multiply key, I get a "Domain Error". Also, I may have missed something a couple of weeks ago, but single-stepping a program seems to have changed. In the past, I would press down arrow and see the step just executed along with the result in X; and now I see the step about to be executed but in X is the result of the last step. This is very misleading to me and was much more intuitive before (and I would say the original way was much more like our other HP machines).

Thanks, Jake

Re: 34s - Domain Error on multiply plus SST change

*Message #22 Posted by **fhub** on 15 July 2011, 9:24 a.m.,*
in response to message #21 by Jake Schwartz

> Quote:
>
> ...and now every time I press the multiply key, I get a "Domain Error".

Yes, the 4 basic operations +-*/ have been removed, because they can easily be done in the head! ;-)

But seriously again, duadic ops were broken for a few SVN versions, but are now working again.

The SVN is currently changing faster than you can download: today suddenly Zeta and Bernoulli were removed, then I went outdoor smoking 2 cigarettes and when I returned they have come back again. But now STOM/RCLM suddenly disappeared (2 quite useful function IMHO).

Franz

Edited: 15 July 2011, 9:37 a.m. after one or more responses were posted

Re: 34s - Domain Error on multiply plus SST change

*Message #23 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 9:40 a.m.,*
in response to message #22 by fhub

> Quote:
>
> The SVN is currently changing faster than you can download...

I think if the trinity are willing to let us peek in at the SVN development stage, we should be patient when things go adrift for a day or two.

Doing engieering for a living, I certainly wouldn't want my customer to have the kind of access that these guys have granted us!

You can always look at the SVN logs and back off a few revisions if you want. That is what this tool is designed for.

How about we report problems and then give them a wee bit of space to crack them. The thinnly veiled sniping is not a positive feedback for anyone.

Then again, maybe I have misiunderstood you. If so, I apologize.

Re: 34s - Domain Error on multiply plus SST change

*Message #24 Posted by **Jake Schwartz** on 15 July 2011, 9:50 a.m.,*
in response to message #23 by Neil Hamilton (Ottawa)

> Quote:
>
> Doing engieering for a living,...

Yeah, I do engineering for a living, too (since 1976). But when there is a posting that something has been addressed, that usually means we should take a crack at it to see how it is (which is what I did).

I am still puzzled about the single-stepping programs issue. Does anyone remember whether this change was supposedly a "feature"? It is counter-intuitive for me.

Jake

Re: 34s - Domain Error on multiply plus SST change

*Message #25 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 10:11 a.m.,*
in response to message #24 by Jake Schwartz

> Quote:
>
> Yeah, I do engineering for a living, too (since 1976).

Do I get to call you an old timer if I *only* started in '80? :-)

> Quote:
>
> But when there is a posting that something has been addressed, that usually means we should take a crack at it to see how it is (which is what I did).

I didn't actually think I was quote you. I saw nothing untoward in your entry. Others however....

But I was not whining about the feedback -- far from it. The feedback is essential to assisting in the verification effort. These guys are overloaded as it is.

I am asking that the unhelpful, negative comments be toned back. We can point out issues without tearing at them -- I am thinking of "death by a thousand paper cuts"...

I guess I have said my piece (or is the "peace" pun more approprite in this case :-).

Re: 34s - Domain Error on multiply plus SST change

*Message #26 Posted by **Marcus von Cube, Germany** on 15 July 2011, 12:40 p.m.,*
in response to message #22 by fhub

You are very good at detecting what we are currently discussing internally. The main issue is flash space. Both STOM/RCLM and Zeta/Bernoulli are large functions in terms of code space. I just need some headroom to debug the serial I/O stuff. If that's done, we'll be putting back what will fit.

STOM/RCLM are useful, I agree, but the implementation is not at a level we want it to be. They will probably reappear in new clothes soon.

Re: 34s - Domain Error on multiply plus SST change

*Message #27 Posted by **fhub** on 15 July 2011, 12:57 p.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> The main issue is flash space. Both STOM/RCLM and Zeta/Bernoulli are large functions in terms of code space.

Well, from earlier experience(s) I know that MY ideas have never been very welcome here, but nevertheless I dare to suggest one further idea:

I'm really curious who would ever need (or use) this 'strange' STATUS display (of flags and labels)!? Maybe I just don't get it, but I see no useful purpose for flags at all in manual calculator mode. For programming flags are of course very useful, but what would I need them for when I do manual calculations?
And so I'm wondering what this "flags display" with STATUS is in fact good for (it's a nice 'Gimmick' but not more).

Now I'm sure this 'feature' need a lot of programming bytes too, so maybe you should think about removing THIS feature instead of storing and recalling a complete calculator

status (or mode). And furthermore this would also free one key which could be used for any other purpose.

Just my 2 (Euro) cents, ;-)
Franz

Re: 34s - Domain Error on multiply plus SST change

*Message #28 Posted by **Paul Dale** on 15 July 2011, 7:22 p.m.,*
in response to message #26 by Marcus von Cube, Germany

STOM/RCLM use about 600 bytes which is way too large for what they do. In addition, they only returned a fraction of the calculator's user settable state so they weren't fulfilling their defined purpose. Things that aren't included (in no particular order and I've likely missed some):

- Fraction maximum denominator
- Fraction denominator mode
- Proper or improper fractions?
- Fractions mode
- Integer or real mode?
- Integer base
- Leading zeros in integer mode
- Integer word size
- Thousands separator?
- Julian to Gregorian calendar change over date

There are about as many settings that weren't included as were. The choice as to what was included seems rather odd to me. We included the radix mark but not the thousands separator. Integer sign mode but not word size or base. Basically, this is a mess.

Some history: these two commands were originally introduced to allow the trig mode to be saved, changed and restored from a program. We no longer need this functionality with the suite of conversions based on the current trig mode. Want a right angle in the current mode "90 DEG->". Want to display your result in radians "->RAD". There is no pressing need for a program to change the trig mode now.

The extras sort of crept in. We are thinking about these two and how to implement them using a lot less space and more fully. As usual suggestions are welcome. However, any suggestion to go back to what was there is a waste of everyone's time...what was there is broken and needs to be fixed.

A question, has anybody actually used these commands in a program? I tried a couple of times and they were more pain than they were worth. I do admit that I was coding for XROM which has special requirements and limitations. Has anyone else used them or tried to use them for something serious? Trying them to see the result doesn't count :-)

- Pauli

Re: 34s - Domain Error on multiply plus SST change

*Message #29 Posted by **Marcus von Cube, Germany** on 16 July 2011, 3:12 a.m.,*
in response to message #28 by Paul Dale

I can imagine it's quite useful to be able to format a number for display or Alpha

append without overwriting the users preferences for the main numeric display. So saving and restoring the display settings seems worthwhile.

Re: 34s - Domain Error on multiply plus SST change

*Message #30 Posted by **Paul Dale** on 16 July 2011, 4:26 a.m.,*
in response to message #29 by Marcus von Cube, Germany

And nowhere have I said that these two commands aren't coming back. Just that they are too big for what they do and they don't actually do what they ought.

- Pauli

Edited: 16 July 2011, 4:27 a.m.

Re: 34s - Domain Error on multiply plus SST change

*Message #31 Posted by **Paul Dale** on 15 July 2011, 7:04 p.m.,*
in response to message #21 by Jake Schwartz

> Quote:
>
> This is very misleading to me and was much more intuitive before (and I would say the original way was much more like our other HP machines).

I can't win. I was given a hard time over the "dubious" SST behaviour of showing the step just executed. I changed to what was asked for which was to show the next step to execute. Now I'm getting a hard time over the new behaviour.

Either way is easy to implement, neither takes noticeably more space than the other. What should we do here? I prefer the old.

- Pauli

SST - old way - should show step just executed and the result

*Message #32 Posted by **gene wright** on 15 July 2011, 10:35 p.m.,*
in response to message #31 by Paul Dale

Showing the next step that will be executed AND the result of the step just finished but not shown seems to be a recipe for all sorts of confusion, IMO. :-)

Re: SST - old way - should show step just executed and the result

*Message #33 Posted by **Marcus von Cube, Germany** on 16 July 2011, 3:14 a.m.,*
in response to message #32 by gene wright

SST is a key where "show what will happen" and "NULL" makes perfect sense but then I'll have to implement key up detection.

Edit: This will break the autorepeat feature. :-(

Edited: 16 July 2011, 3:16 a.m.

Re: SST - old way - should show step just executed and the result

*Message #34 Posted by **Paul Dale** on 16 July 2011, 4:30 a.m.,*
in response to message #33 by Marcus von Cube, Germany

I wouldn't bother NULLing out SST. If you don't have a clue what your program is going to do next then you should switch to program mode and look and if you are too lazy to do that you probably shouldn't be programming.

Like I said, I'm happy to implement this either way. So far 100% of the votes are to show what was executed rather than what will be. Where have those vocal few who wanted the change I wonder?

- Pauli

SST change

*Message #35 Posted by **Jake Schwartz** on 16 July 2011, 1:44 p.m.,*
in response to message #31 by Paul Dale

> Quote:
>
> I can't win. I was given a hard time over the "dubious" SST behaviour of showing the step just executed.

Hi Pauli,

First, let me say that you have been doing a fantastic job with this completely voluntary endeavor....your commitment to the project has been amazing.

Secondly, the SST function showing the step just executed in conjunction with the resulting X register shouldn't be considered "dubious", since that is how every HP RPN calculator works up to this point. Please hear me out as to why it should be this way.

First off, it has been made clear that the flash space is just about exhausted and adding things in at this point means possibly sacrificing existing things in return, which is probably a bad thing. The way it is now (with it showing the step not-yet-executed) has a serious problem when the step (call it step "n") just executed has been either GTO, XEQ or a test function (like "x=y?"). In these cases, the machine displays program step "n+1", which in the case of GTO or XEQ is the incorrect program step shown - it should be the destination label of the branch. In the case of a test instruction, the display always shows step n+1, which is only executed if the test evaluates to true. If the test fails, the step displayed is skipped.....again, very misleading. If it was returned back to the original way of displaying the step just executed, you would see the GTO, XEQ or test correctly, followed by the correct next step, whatever that is. I would bet that changing the logic with the existing situation so it showed the correct next step on GTO or XEQ would be fairly complex and would require eating up more precious flash space which isn't available. Plus, I don't think there is a logical solution at all for test instructions, in that the machine might not yet know what the next step will be, especially if the user moved the program counter (via GTO while out of program mode) to the test instruction and pressed the down-arrow in order to do an "SST" from there.

I hope this all makes sense and will justify returning to the "HP way".

Thanks for reading, Jake

Re: SST change

*Message #36 Posted by **Marcus von Cube, Germany** on 16 July 2011, 4:45 p.m.,*
in response to message #35 by Jake Schwartz

Very well pointed out. Even if Pauli has taken account of some of the points you mention, chances are high he has missed some so it's much better to return to the way it was before the change.

Re: SST change

*Message #37 Posted by **gene wright** on 16 July 2011, 5:30 p.m.,*
in response to message #36 by Marcus von Cube, Germany

I hope so. The behavior desired would probably be best to be the same as previous HP calculators.

Press SST, see the step about to be executed, and then see the result.

On the 34s, it will be:

Press SST, top line shows the step just executed, and the result is shown on the bottom line.

Re: SST change

*Message #38 Posted by **Paul Dale** on 16 July 2011, 9:11 p.m.,*
in response to message #36 by Marcus von Cube, Germany

I hadn't considered these cases, they would be easy to handle -- display to step after it executes when the program counter is updated.

It looks like we'll be heading back to the old way since nobody has voiced any support for the current method even though some people requested the change!

- Pauli

Re: SST change

*Message #39 Posted by **Paul Dale** on 16 July 2011, 9:17 p.m.,*
in response to message #38 by Paul Dale

The SST display has been reverted.

It will be available next build (post 1231).

- Pauli

Edited: 16 July 2011, 9:17 p.m.

Re: SST change

*Message #40 Posted by **Jake Schwartz** on 16 July 2011, 11:30 p.m.,*
in response to message #39 by Paul Dale

Quote:

> The SST display has been reverted.

Thank you very much....it is greatly appreciated.

Jake

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP 34s lockup with [y-hat]

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 14 July 2011, 5:49 a.m.*

I have managed to create a hard lockup in both the emulator and calculator.

Steps to reproduce:

```
- Reset the calculator (back switch on calculator [thanks for pointing that out!], or "h X.FCN
RESET" on either)
- "f [y-hat]"
```

I suspect that it happens when no [SIGMA]+ operations have been previously performed.

Emulator crashes. Calculator never advances beyond the "f" display -- requires reset switch to regain control.

Versions: emulator SVN 1209, calculator SVN 1196.

Re: WP 34s lockup with [y-hat]

*Message #2 Posted by **Paul Dale** on 14 July 2011, 7:06 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Hmmmm, there is a bug there but I'm not sure what or where yet.

I've reproduced this a couple of times now but haven't done it reliably :-(The code looks like it should be generating an error here.

- Pauli

Re: WP 34s lockup with [y-hat] - Fixed?

*Message #3 Posted by **Marcus von Cube, Germany** on 14 July 2011, 8:21 a.m.,*
in response to message #2 by Paul Dale

I debugged it in the emulator and have given Pauli a hint what might be wrong. ((I'm afraid it's his part to fix it.))

Edit: I may have fixed it but tests need to be done. It was a general problem with functions not returning a proper result in some cases.

Be aware that the flash image may be grossly unstable because I've added the serial stuff which is totally untested at this point.

Edited: 14 July 2011, 9:15 a.m.

Re: WP 34s lockup with [y-hat] - Fixed?

*Message #4 Posted by **Paul Dale** on 14 July 2011, 5:24 p.m.,*
in response to message #3 by Marcus von Cube, Germany

This is fixed now. A bad return from the x-hat and y-hat functions could cause a lock up (but not always).

- Pauli

Re: WP 34s lockup with [y-hat] - Fixed?

*Message #5 Posted by **Paul Dale** on 14 July 2011, 5:24 p.m.,*
in response to message #4 by Paul Dale

Well, fix in the next build I should have said.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The WP 34s - Where to get it and how to do it?!?

*Message #1 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 1:40 a.m.*

Given the popularity of the WP 34s project, wouldn't it be nice to have some kind of 'sticky thread' that always would remain visible or maybe a link on the main page, that gathers all the needed information to get started? Especially for newcomers who happen to stumble in or people like me who just don't follow every thread and are too dumb to find all the necessary information. ;)

- a download link for the software (sdk, firmware, desktop)

- where to get the cable or how to build one

- where to get the overlay

- How-to-tutorial

Or even better: one source who would be willing to pack everything needed in one package! Or sell a readily flashed and overlayed WP 34s...

Re: The WP 34s - Where to get it and how to do it?!?

*Message #2 Posted by **Paul Dale** on 14 July 2011, 1:50 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

You could try the WP 34S wiki.

The WP 34S is available at at least one store.

- Pauli

Re: The WP 34s - Where to get it and how to do it?!?

*Message #3 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 3:11 a.m.,*
in response to message #2 by Paul Dale

:(Maybe someday the wiki will be the place to go...right now however it leaves me as dumb as I was before. The how-to is somewhat empty... I thought of something that would take me by the hand and lead me step-by-step.

Still, a 'sticky' thread or a dedicated link on the museum's front page would be something!

Re: The WP 34s - Where to get it and how to do it?!?

*Message #4 Posted by **Marcus von Cube, Germany** on 14 July 2011, 3:13 a.m.,*
in response to message #3 by George Bailey (Bedford Falls)

The problem with this approach (and the wiki as well) is that someone has to maintain it. It's just a

matter of time devoted to the project by one of the volunteers.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #5 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 3:30 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I will wait patiently :)

Re: The WP 34s - Where to get it and how to do it?!?

*Message #6 Posted by **Marcus von Cube, Germany** on 14 July 2011, 5:07 a.m.,*
in response to message #5 by George Bailey (Bedford Falls)

Here is a start: Article.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #7 Posted by **Bart (UK)** on 14 July 2011, 5:06 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Yes, in the articles forum, article no. 1060.

I will try to maintain it. I am also in the process of invetigating the use of a USB-RS232 converter and Windows Vista & Seven.

Regards,
Bart

Re: The WP 34s - Where to get it and how to do it?!?

*Message #8 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 5:59 a.m.,*
in response to message #7 by Bart (UK)

Ha! Great! Everything needed is already there! Very neat!

This deserves its own little link on the front page!

(Just the Gene Wright-thingy doesn't work for me)

Does this work for the 30b as well? And which one is better for this project?

Edited: 14 July 2011, 6:04 a.m.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #9 Posted by **Bart (UK)** on 14 July 2011, 7:29 a.m.,*
in response to message #8 by George Bailey (Bedford Falls)

Hi,

I see what has happened to Gene's contact link and have updated it. You should be able to get a contact form for him now, but it will have a different "subject", just remember update the subject line.

-Bart

Re: The WP 34s - Where to get it and how to do it?!?

*Message #10 Posted by **Jeff O.** on 14 July 2011, 7:49 a.m.,*
in response to message #8 by George Bailey (Bedford Falls)

> Quote:
>
> Does this work for the 30b as well? And which one is better for this project?

WP-34s works exactly the same on a 30b. The 30b has a much nicer keyboard (in my and most people's opinion, I guess there might be someone who prefers the 20b's squishy keys) and a better display. The only downside to the 30b is that the overlay does not look quite as nice as it does on a 20b, since the 30b keyboard is silver and the overlay is black.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #11 Posted by **Lode** on 14 July 2011, 9:53 a.m.,*
in response to message #7 by Bart (UK)

Is there any way to do it in Linux?

Re: The WP 34s - Where to get it and how to do it?!?

*Message #12 Posted by **Marcus von Cube, Germany** on 14 July 2011, 1:21 p.m.,*
in response to message #11 by Lode

Look here: SAM-BA Linux Initiative.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #13 Posted by **Bruce Bergman** on 14 July 2011, 11:36 a.m.,*
in response to message #1 by George Bailey (Bedford Falls)

Hi George --

Yes, the wiki can only be as good as people who contribute to it. I do think it will gain momentum as time goes on. Right now, I'm trying to update at least one article per day to see if I can get some of that momentum going.

Anyhow, here's my take at the Getting Started page:

WP 34S Getting Started

Comments and suggestions welcome!

Thanks,

Bruce

Re: The WP 34s - Where to get it and how to do it?!?

*Message #14 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 2:02 p.m.,*
in response to message #13 by Bruce Bergman

> Quote:

> Anyhow, here's my take at the Getting Started page:
>
> WP 34S Getting Started

This is exactly what I had in mind! Thanks a lot! Now it only lacks a nice link from the museum's front page... (this begins to remind me of Walter B's "43s ceterum censeo"...)

Re: The WP 34s - Where to get it and how to do it?!?

*Message #15 Posted by **Bruce Bergman** on 14 July 2011, 3:35 p.m.,*
in response to message #14 by George Bailey (Bedford Falls)

Well, it's on the front page of the WP 34S section! ;-)

Please do let me know if you see anything missing, or if I can add anything helpful.

Thanks!

Bruce

Re: The WP 34s - Where to get it and how to do it?!?

*Message #16 Posted by **George Bailey (Bedford Falls)** on 14 July 2011, 4:09 p.m.,*
in response to message #15 by Bruce Bergman

> Quote:
>
> Well, it's on the front page of the WP 34S section! ;-)

The museum has a WP 34s section??????

Re: The WP 34s - Where to get it and how to do it?!?

*Message #17 Posted by **Walter B** on 14 July 2011, 4:51 p.m.,*
in response to message #16 by George Bailey (Bedford Falls)

George,

The museum is a museum is a museum. But it features a very vivid cafeteria, a.k.a. THE FORUM, with a lot of people dropping in frequently for getting their piece of blueberry cake and the latest news. IMHO, any request for a special table there must go to Dave in his role as museum director.

Walter

Re: The WP 34s - Where to get it and how to do it?!?

*Message #18 Posted by **JustinM** on 15 July 2011, 12:04 a.m.,*
in response to message #16 by George Bailey (Bedford Falls)

Bruce meant that it's on the first page of the WP34s section in the HP calculator wiki (wiki4hp.com), not the museum.

Bruce, I like your guide. I was thinking about writing something similar after doing a fair

amount of research to figure out where the cable and ARM software came from. A few additions/suggestions:

After I flashed my 30b, the first thing I wanted to do was adjust the contrast down. You do that by holding ON/CE (on a bare 30b) and using the '-' and '+' keys. The second thing I wanted to do was display the version (the Pauli, Walter) screen that you see in everyone's photos. On a bare 30b, you do RCL-blue shift-3-Input. You might add these instructions to section 6.

There appears to be a typo in section 5. The board should be "at91sam7l128-ek", not "at91sam71128-ek". Note that it's a lowercase "L" after the seven, not the number "one".

You might make a note that Eric's overlays are not yet available again, and update the wiki if/when he starts a new run. There is a paper-printable overlay provided in the WP34s zip file that can work in the meantime though.

Edited: 15 July 2011, 12:16 a.m.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #19 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 3:17 a.m.,*
in response to message #18 by JustinM

> Quote:
>
> Bruce meant that it's on the first page of the WP34s section in the HP calculator wiki (wiki4hp.com), not the museum.

Well, yeah, that's - like - my whole point! ;)

Someone who already knows about WP 34s has no problem finding the wiki, using the search in this very forum to find every single thread about it. But wouldn't it be nice to have all those calc nerds who happen to stumble into the museum pointed to this great project? Why keeping it a secret to those 'in the know'?

[WP 34s] ENTER [More contributors] +

[Even better WP 34s]

Re: The WP 34s - Where to get it and how to do it?!?

*Message #20 Posted by **Walter B** on 15 July 2011, 11:33 a.m.,*
in response to message #19 by George Bailey (Bedford Falls)

George, did you contact Dave Hicks already? Please see my post above.

Walter

Re: The WP 34s - Where to get it and how to do it?!?

*Message #21 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 12:12 p.m.,*
in response to message #20 by Walter B

I opened this thread for everybody to read, even the curator, to get an impression what's wanted and what not.

I thereby got the impression the WP 34s-group is fairly happy with its rather secretive existence. ;)

Re: The WP 34s - Where to get it and how to do it?!?

*Message #22 Posted by **Gerry Schultz** on 15 July 2011, 1:40 p.m.,*
in response to message #21 by George Bailey (Bedford Falls)

Perhaps they are a secretive bunch but I don't agree. With the project being such a fast moving target, newbies could become frustrated with features coming and going along with bugs biting them unexpectedly and documentation catching up. When the firmware stabilizes and this small group wrings out and fixes the majority of bugs, then it can be opened more to the public.

I'm thinking less about the 34s and more about carmageddon. I'm looking at the 405 outside my window wondering how well work will go this weekend. I've got staff here both Saturday and Sunday from 4 AM to 11 PM. I'm of the opinion it will be less of an issue than the media makes it but I could be wrong. How would you calculate the probabilities on this?

Gerry

Re: The WP 34s - Where to get it and how to do it?!?

*Message #23 Posted by **gene wright** on 15 July 2011, 2:21 p.m.,*
in response to message #22 by Gerry Schultz

Just stay in your office all weekend or leave now and don't leave home until Tuesday!

Re: The WP 34s - Where to get it and how to do it?!?

*Message #24 Posted by **George Bailey (Bedford Falls)** on 15 July 2011, 3:23 p.m.,*
in response to message #22 by Gerry Schultz

> Quote:
>
> When the firmware stabilizes and this small group wrings out and fixes the majority of bugs, then it can be opened more to the public.

That's a good point! I understand and agree!

Re: The WP 34s - Where to get it and how to do it?!?

*Message #25 Posted by **Walter B** on 15 July 2011, 5:55 p.m.,*
in response to message #21 by George Bailey (Bedford Falls)

George,

> Quote:
>
> I thereby got the impression the WP 34s-group is fairly happy with its rather secretive existence. ;)

Slowly I get the impression needing either English or logic lessons again :-/ AFAIK you wanted a direct link from the MoHPC to the WP 34S. I suggested you contact the curator, cause AFAIK nobody else of us can install such a permanent link. How do you come from this to your verdict quoted above? :-? TIA for enlightenment.

Walter

Re: The WP 34s - Where to get it and how to do it?!?

*Message #26 Posted by **George Bailey (Bedford Falls)** on 16 July 2011, 1:37 a.m.,*
in response to message #25 by Walter B

Walter,

I appreciate what you've done for the WP 34s project, but I don't have your sense of humor.

Yes, I found it neat to have a link installed, but thought it best to ask for like-mindedness amongst others before bothering the curator to get to work.

In the meantime I was convinced by others, that it's too early in the process (software stabilitywise) to frighten newbies off with a permanent link. Besides, it's a museum for **antique** calculators - the still sold 50G as well has no link of his own yet.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #27 Posted by **Walter B** on 16 July 2011, 2:40 a.m.,*
in response to message #26 by George Bailey (Bedford Falls)

George,

> Quote:
>
> Besides, it's a museum for **antique** calculators - the still sold 50G as well has no link of his own yet.

That's coherent with my post above, isn't it?

Walter

Re: The WP 34s - Where to get it and how to do it?!?

*Message #28 Posted by **George Bailey (Bedford Falls)** on 16 July 2011, 3:30 a.m.,*
in response to message #27 by Walter B

> Quote:
>
> George, That's coherent with my post above, isn't it?

> Walter

So?

What is your problem, Walter? I have no intention to pick a fight with you nor do I like the unpleasant undertone. I won't bother you any further.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #29 Posted by **Walter B** on 16 July 2011, 5:15 a.m.,*
in response to message #28 by George Bailey (Bedford Falls)

> Quote:
>
> > What is your problem, Walter? I have no intention to pick a fight with you nor do I like the unpleasant undertone. I won't bother you any further.

That's what people call "den Spieß umdrehen" here, George: first not understanding a friendly hint, then introducing an unpleasant undertone instead of plainly responding "I want to ask if it's wanted here before I ask Dave if it's possible" - you did this only after I insisted on getting an answer. But then you had to add a sentence stressing a well known fact as if it wasn't said in the very same thread before. And - when pointed to this - reacted like a "beleidigte Leberwurst" claiming the other one had a problem. Sorry, this looks pretty irrational IMHO.

I'm slowly getting tired of taking care for hypersensible takers. "Wer austeilt, muss auch einstecken können." For symmetry reasons, I leave a few translations for you.

Walter

Edited for correcting an error in a foreign language.

Edited: 16 July 2011, 5:16 a.m.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #30 Posted by **George Bailey (Bedford Falls)** on 16 July 2011, 6:04 a.m.,*
in response to message #29 by Walter B

What are you talking about?

You know what? Let's just forget about it, I'm not up to your word twisting ability! I'm out.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #31 Posted by **Bart (UK)** on 18 July 2011, 10:22 a.m.,*
in response to message #21 by George Bailey (Bedford Falls)

> Quote:
>
> I thereby got the impression the WP 34s-group is fairly happy with its rather secretive existence. ;)

Gene did put it to a wider audience on an official HP forum, HP community calculator forum, but there was not much response.

So one may ask, is the wider public ready for such a project? :-)

Re: The WP 34s - Where to get it and how to do it?!?

*Message #32 Posted by **JustinM** on 15 July 2011, 2:46 p.m.,*
in response to message #19 by George Bailey (Bedford Falls)

I didn't mean that there shouldn't be a link from the museum front page, you just appeared to be confused by Bruce's earlier statement.

I agree that there should be a more obvious introduction to the project. I came here looking for news or rumors of the HP 15c re-release. I kept seeing WP34s posts and initially ignored them. I think I saw some post titles that said "emulator" and assumed the project was another Nonpareil or an iPhone app, neither of which I have any particular use for.

Once I saw a picture of a 30b with the overlay applied, I was hooked. A real, physical calculator with the look of a classic HP got my attention. It took some research on my part to dig up the right threads and get up to speed on what it can do and how to make one. I got the sense that only forum regulars knew anything about the project.

Re: The WP 34s - Where to get it and how to do it?!?

*Message #33 Posted by **Bart (UK)** on 15 July 2011, 7:09 a.m.,*
in response to message #13 by Bruce Bergman

Nice, I have now linked the article to it.

-Bart

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Board Stacking Connector HP-9815

*Message #1 Posted by **aj04062** on 13 July 2011, 11:31 p.m.*

Anyone know a source for new PCA stacking connectors?

Original is a Teledyne Interconnect 40 pin connector with .100" spacing. The part number is B415U040.

Anyone fixed busted contacts on these before?

Re: Board Stacking Connector HP-9815

*Message #2 Posted by **Joel Setton (France)** on 14 July 2011, 4:26 p.m.,*
in response to message #1 by aj04062

I haven't seen them anyplace but in a 9815. Must have been one of these special, non-standard things that were typical HP fashion.

I did kludge one by splitting a standard PC-edge connector along its length, then gluing the two halves back-to-back with epoxy. After that, a little dose of point-to-point soldering to bridge the contacts did the trick. It didn't look good but it got the calculator to work!

Joel

Re: Board Stacking Connector HP-9815

*Message #3 Posted by **aj04062** on 15 July 2011, 10:06 p.m.,*
in response to message #2 by Joel Setton (France)

For what it's worth, I found out the Teledyne still makes these contacts and sells them for $13 each.

TELEDYNE IMPULSE 9855 Carroll Canyon Road San Diego CA 92131-1103 Phone 858 842-3138 Fax. 858 565-1649

TKC Product Line. Catalog here

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S - possible to correct RTC in SW?

*Message #1 Posted by **BobVA** on 12 July 2011, 10:41 p.m.*

Hi:

I've noticed the (crystal equipped) clock on my WP-34 has an annoying drift - probably due to some mismatch in the crystal/capacitor/chip combination. Is there any way to correct this in the WP-34 software (e.g. like in the HP41c Time Module)? Perhaps by adding/subtracting a correction factor of "x" seconds at some reasonably easy to detect epoch (e.g. date/time roll-over at midnight, etc.)?

What I'm thinking of is a routine that, when the calculator is turned on, will look to see if the date rolled over and, if so, read and correct the clock, then reset it. Possible? If it would slow the calculator could it be made dependent on a flag (e.g. the stored correction value being non-zero)?

While trying to figure this out, I also noticed that the WP-34S doesn't seem to have an "auto execute" flag for user programs? Or did I miss it somewhere?

(I went through the processor data sheets hoping for a clock correction at the hardware level, but no such luck.)

I've got no good reason for worrying about this, other than it just bugs me :-)

Thanks, Bob

Re: WP34S - possible to correct RTC in SW?

*Message #2 Posted by **Allen** on 12 July 2011, 10:58 p.m.,*
in response to message #1 by BobVA

At some velocity near the speed of light this would be relatively unnecessary :)

In reality, not as easy as the suggestion above due to crystal aging, supply voltage, temperature gradient, and a host of other factors.

Re: WP34S - possible to correct RTC in SW?

*Message #3 Posted by **Paul Dale** on 12 July 2011, 11:10 p.m.,*
in response to message #1 by BobVA

> Quote:
>
> I've noticed the (crystal equipped) clock on my WP-34 has an annoying drift - probably due to some mismatch in the crystal/capacitor/chip combination.

I'd suspect the crystal being wrong. When you buy a X ppm crystal, you can pretty much guarantee that it will fall in the range X to X - small ppm. Better crystals get sold as smaller ppm for more $.

> Quote:

> Is there any way to correct this in the WP-34 software (e.g. like in the HP41c Time Module)?

Not in the firmware as it currently stands and there isn't any spare RAM to add the necessary calibration constants. However, it should be possible to write a user program that, when run, fixes the clock based on the time since the last run.

> Quote:
>
> While trying to figure this out, I also noticed that the WP-34S doesn't seem to have an "auto execute" flag for user programs? Or did I miss it somewhere?

There isn't one. It didn't seem all that worthwhile given the complete absence of I/O and peripherals. Likewise, we don't have the 41's ON function since we couldn't see a use for it, why wouldn't you want to save your batteries?

Now it wouldn't be all that hard to add either or both of these, so give us a compelling reason or three as to why they are vital.

- Pauli

Edited: 12 July 2011, 11:15 p.m.

Re: WP34S - possible to correct RTC in SW?

*Message #4 Posted by **BobVA** on 12 July 2011, 11:41 p.m.,*
in response to message #3 by Paul Dale

Thanks Pauli.

The lowest crystal spec I've seen for 32 KHz crystals is around 20 ppm and I'm seeing significantly greater errors. I suspect it's more likely the caps aren't exactly the correct values consequently pulling the frequency off.

I was tinkering with exactly the program you suggested as a fix when I discovered the lack of auto execute. But running it manually as you suggest may make more sense now that I think about it - why fix it until you need it?

Actually that suggests another approach. Could the correction routine be added to the "TIME" function (i.e. the correction gets run when TIME is called)? I was thinking of writing a user program replacement for TIME to do this, but perhaps it's worth including in the firmware?

I see two ways to do it - either reset the clock with the corrected time on every call, or just compute and store a bias value in EEPROM, and add it to the RTC value when TIME is called (saving the time/effort of actually resetting the clock).

Re: Autorun flag. Well, you can't play all those fabulous tricks on your friends that we used to do back in the 41c/42c days using it :-)

Allen: Well, it IS running fast. If my math is correct all I need to do is to store in a drawer that's moving at 3.5E6 m/s and that would fix it right up....

Cheers, Bob

Edited: 13 July 2011, 12:01 a.m. after one or more responses were posted

Re: WP34S - possible to correct RTC in SW?

*Message #5 Posted by **Paul Dale** on 13 July 2011, 12:00 a.m.,*
in response to message #4 by BobVA

> Quote:
>
> Actually that suggests another approach. Could the correction routine be added to the "TIME" function (i.e. the correction gets run when TIME is called)? I was thinking of writing a user program replacement for TIME to do this, but perhaps it's worth including in the firmware?

As I mentioned, there is no RAM left to store the calibration information so this is very unlikely to end up in flash. Putting a hook into the TIME routine to call some user code if it exists would be possible but it hardly seems worthwhile introducing such support for one lone function.

- Pauli

Re: WP34S - possible to correct RTC in SW?

*Message #6 Posted by **BobVA** on 13 July 2011, 12:09 a.m.,*
in response to message #5 by Paul Dale

But the correction factor would be stored in flash, no? For instance, if my clock is running 6 sec/day fast, I was thinking that a value of -6 would be stored in flash, along with a date/time string of when RTC was last set ("TIMESet").

Then when TIME was called it would read the RTC and compute the correct time as

Correct time = RTC + (RTC - TIMESet)*correction factor

Then return "Correct time" to the user?

Sorry if I'm being a bit thick here...

Or is the issue there's no way for the user to store the correction factor to flash (i.e that would require writing another function)? If so, perhaps the user could patch the binary with an appropriate value before flashing the calculator?

Bob

Edited: 13 July 2011, 12:26 a.m.

Re: WP34S - possible to correct RTC in SW?

*Message #7 Posted by **Paul Dale** on 13 July 2011, 1:49 a.m.,*
in response to message #6 by BobVA

Writing a value to flash requires writing an entire 256 byte page. Seems a lot to dedicate for one little value. We could possibly squeeze it onto one of the program pages which have a few bytes free at the end but managing this wouldn't be a lot of fun.

So yes it would be possible but we're unlikely to I suspect. Of course, feel free to code the changes and submit them :-) If they are small enough they'd likely go in.

A user program could dedicate a register or two for the purpose and the user would then know not to use that register or registers. Seems like a workable solution to me.

- Pauli

Re: WP34S - possible to correct RTC in SW?

*Message #8 Posted by **BobVA** on 13 July 2011, 8:15 p.m.,*
in response to message #7 by Paul Dale

Yep - 256 bytes would be overkill. I'm thinking it only needs 9: one signed byte for the correction factor and 8 for the time/date that the RTC was last set. But if you wind up with a few extra bytes when you're doing something else, perhaps you can keep this in mind?

A user program seems like a good solution and an excellent opportunity for me to figure out how to use PSTO. By using the offset computation approach neither of the constants will have to be rewritten, so it should work well with a program stored in flash.

Thanks very much for the explanations!

Cheers, Bob

Edited: 13 July 2011, 8:29 p.m.

Re: WP34S - possible to correct RTC in SW?

*Message #9 Posted by **Paul Dale** on 13 July 2011, 8:45 p.m.,*
in response to message #8 by BobVA

There are only eight bytes clear at the end of a program segment so a different scheme would be required to sneak the data in there.

- Pauli

Edited: 13 July 2011, 8:51 p.m.

Re: WP34S - possible to correct RTC in SW?

*Message #10 Posted by **BobVA** on 13 July 2011, 10:45 p.m.,*
in response to message #9 by Paul Dale

Well...we could drop the seconds (one byte) and the century (one byte) from the standard RTC format, leaving six bytes for the starting time/date, plus one more byte for the correction factor (limiting it to +/-128 sec/day), for a total of seven bytes.

The century can be ignored (there I go, creating a Y3K problem); I don't think the error caused by rounding to the nearest whole minute is enough to worry about, either. Any higher accuracy would probably require keeping a periodic watch on the temperature and calculating a thermal compensation in addition to the fixed drift rate.

I'm using RTC data descriptions in sections 14.5.3 & 14.5.4 of the "AT91SAM7L128/64 Preliminary" data sheet for this, btw.

Re: WP34S - possible to correct RTC in SW?

*Message #11 Posted by **Katie Wasserman** on 13 July 2011, 12:27 a.m.,*
in response to message #4 by BobVA

> Quote:
>
> The lowest crystal spec I've seen for 32 KHz crystals is around 20 ppm and I'm seeing significantly greater errors. I suspect it's more likely the caps aren't exactly the correct values consequently pulling the frequency off.

32Khz crystals vary in their required load capacitance. Many crystals have a 6pf load spec, if you're using 18pf capacitors you'll be way off in frequency. Make sure that the crystal and caps match, but even then you'll only be within the manufacturing tolerance of the crystal.

Alternatively, you can try to fit a tiny trimmer cap in place of one of the fixed capacitors, this will allow you to adjust the clock rate. If you have a good frequency counter you can get it near perfect at least for a given ambient temperature.

Re: WP34S - possible to correct RTC in SW?

*Message #12 Posted by **BobVA** on 13 July 2011, 8:29 p.m.,*
in response to message #11 by Katie Wasserman

You're probably right about the mismatch, or it may be due to not getting the crystal, leads or caps exactly lined up right on the board. It's running about 4 sec/day fast - not sure if that's horrible or within specs for the layout.

I do have a frequency counter, but I'm not sure how much luck I'd have installing a trimmer on the tiny pads they put on the board. Have to poke around on Digikey and see what the options are.

Thanks!

Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S overlay feedback

*Message #1 Posted by **Eric Rechlin** on 12 July 2011, 3:48 p.m.*

I think I may make another batch of overlays for the WP 34S. However, I haven't received a lot of feedback from the first batch, so I am hoping to hear a little more first.

The biggest concern I have heard is that it is extremely hard to apply without causing keys to stick. I have already decided that I will make the holes for the buttons a little bigger, and possibly tweak their alignment a bit, in an attempt to resolve this.

Are there any other concerns? How has durability been? One thing I can do is spray a protective glossy spray on the overlay. This will add glare but it may make it a little more durable. Might this be worth doing?

Anything else anyone wants to add?

Eric

Re: WP 34S overlay feedback

*Message #2 Posted by **M. Joury** on 12 July 2011, 3:53 p.m.,*
in response to message #1 by Eric Rechlin

Hi Eric,

I have not had the pleasure of seeing the overlays yet, but your concern about glare with a gloss overcoat seems valid. How about using a clear matt instead? Would something like this work: Testors Dullcoat

Cheers

Re: WP 34S overlay feedback

*Message #3 Posted by **Cristian Arezzini** on 12 July 2011, 3:54 p.m.,*
in response to message #1 by Eric Rechlin

As for durability, I've only had it for a few weeks, but it's still like new - no sign of peeling whatsoever, anywhere. I agree with making the holes just a little taller - for me, the whole ENTER row became sticky, though easily fixed by passing a very sharp knife tip in the gap above the keys. The biggest problem I had with mine, as I told you, is that any hard object (including a fingernail) that "scrapes" the overlay, even if just lightly, leaves a permanent, "shiny" mark. I'm not so sure I would like a glossy finish; wouldn't it be possible to find a matte protective varnish?

I would also like, as I said before, if the corners were rounded, especially because with the 30b the colour contrast isn't that nice.

Cristian

Re: WP 34S overlay feedback

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 12 July 2011, 4:03 p.m.,*
in response to message #1 by Eric Rechlin

Hi Eric,

In general I found them much easier to apply than I thought they would be given the commentary I had read. Perhaps the the documented experiences (upside down, middle outwards, etc.) helped in that regard. A little bit of VERY SHARP razor blade work fixed the "squishy" keys (and that only happened on my 30b -- the first one I applied -- not my 20b, though I doubt the chassis that is different). If you make the holes bigger, don't make them much bigger.

I find that a few of my keys are lifting a bit. Probably I did not clean my sweaty/oily finger prints well enough before I applied the overlays. I just push them back down and hope for the best...

I agree with the comment that you could easily add a few extra key labels for those that want a different division and/or radix point. Given that the calculator title sticker is either alongside or above (below?) the main template, and has extra room at its end, this would seem a reasonable use of that space. Only a bit more ink and cutting tool life.

In general, mine are working out very well. It is certainly better than the paper overlay I was using! :-)

I did have one issue separating the a couple of key labels from the backing. I thought I had delaminated the label when all it was was the fact that carving tool had penetrated the layer below the glossy backing and that was the layer than had delaminated and stuck to the stick layer. It just gave me pause for a moment -- no biggie.

All in all, I don't think I would change too much. Grand job and thanks for doing this!

Best regards...

Re: WP 34S overlay feedback

*Message #5 Posted by **Walter B** on 14 July 2011, 1:04 a.m.,*
in response to message #4 by Neil Hamilton (Ottawa)

> Quote:
>
> I agree with the comment that you could easily add a few extra key labels for those that want a different division and/or radix point.

Very nice idea :-) Please add my vote to this.

Walter

Re: WP 34S overlay feedback

*Message #6 Posted by **Walter B** on 12 July 2011, 4:16 p.m.,*
in response to message #1 by Eric Rechlin

Eric,

> Quote:
>
> The biggest concern I have heard is that it is extremely hard to apply without causing keys to stick.

> I have already decided that I will make the holes for the buttons a little bigger, and possibly tweak their alignment a bit, in an attempt to resolve this.

I'd vote for increasing the keyholes by 0,5 mm maximum. OTOH, the key stickers / covers may grow 1 mm in either dimension, since much of the "old key surface" is still visible so far.

Since you printed and stamped the first batch, some changes were made in the layout. Please refer to the e-mail you got from me some 10 days ago.

Walter

P.S.: Please print f, g, h white.

Edited: 12 July 2011, 5:54 p.m.

Re: WP 34S overlay feedback

*Message #7 Posted by **Marcus von Cube, Germany** on 12 July 2011, 4:42 p.m.,*
in response to message #1 by Eric Rechlin

Eric, your overlays are very usable. Thanks for your efforts. I would suggest to add another layer of protective film or varnish. The surface is a bit unpleasant on the finger tips and I fear I will wear down the ink some time.

Re: WP 34S overlay feedback

*Message #8 Posted by **Jose Gonzalez Divasson** on 12 July 2011, 5:21 p.m.,*
in response to message #1 by Eric Rechlin

Eric,

The overlays worked well - I second your 2 comments (while all it takes is a little more care when putting the overlay)

While the "holes" might be increased in size, the key covers might as well be made bigger - don't the other users thinks so?

The varnish - good idea as well.

Re: WP 34S overlay feedback

*Message #9 Posted by **Paul Dale** on 12 July 2011, 5:38 p.m.,*
in response to message #1 by Eric Rechlin

I've no problem with the overlays. I like the finish and there is no sign of wear on my most used 34S. I do have a few sticky keys which I'll fix when they get annoying enough.

I've a sad 34S first -- my main test unit's screen broke during reassembly after installing a crystal :-(

It is possible to get satin or matt clear varnishes. They aren't anything like as protective as gloss but they are still better than nothing.

- Pauli

Re: WP 34S overlay feedback

*Message #10 Posted by **BobVA** on 12 July 2011, 9:35 p.m.,*
in response to message #1 by Eric Rechlin

Increasing the hole size a tad is the only "must have" I've noticed. Since you're experimenting though, I'd be interested in a "beta 2" run with a matte coating to see how that works. (Sounds like the layout changed, so I'll need to change the overlay anyway...)

Also, is it possible to set the cut depth just a bit deeper? I had a couple of keys that were difficult to separate from main sticker. If that's not possible, it's not a big deal - very minor issue.

Bob

Re: WP 34S overlay feedback

*Message #11 Posted by **Paul Dale** on 12 July 2011, 9:42 p.m.,*
in response to message #10 by BobVA

The layout hasn't changed.

There are no plans to change it.

- Pauli

Re: WP 34S overlay feedback

*Message #12 Posted by **gene wright** on 13 July 2011, 12:21 a.m.,*
in response to message #11 by Paul Dale

Hey Pauli.

Then what did Walter mean above with:

"Since you printed and stamped the first batch, some changes were made in the layout."

I got my overlay from Eric about a month ago and if the layout had not changed since then, then what is the worry with mentioning a layout change now?

Re: WP 34S overlay feedback

*Message #13 Posted by **Walter B** on 13 July 2011, 1:01 a.m.,*
in response to message #12 by gene wright

What I meant were changes in font sizes, adjustments in positioning and some fine tuning for sake of better readability. I summed up all that as "layout change" since it obviously changed the layout and I don't know a better word in your language. If you know, please tell me. TIA

Walter

Re: WP 34S overlay feedback

*Message #14 Posted by **JimHorn** on 13 July 2011, 1:19 a.m.,*
in response to message #13 by Walter B

The overlay works spectacularly well on my HHC2008 HP-20b. No need to change any dimensions at all. No sticky keys. I'm guarding my second overlay with care in anticipation of

using it on a '30b should I get one (my '20 is a delight and will only disappoint me if I ever try a '30 I suspect).

The one minor item I've noticed is that if a key label is snagged at the edge, the underlying white substrate can show. A moment with a black Sharpie permanent pen fixes that and I suspect we need the white substrate for the white lettering (higher contrast than white ink on a black substrate). A clear top coat may add to the ruggedness - but also may detract from the wearability as pointed out.

So I'm pleased with it as it is. Kudos and many thanks to you, Eric!

Re: WP 34S overlay feedback

*Message #15 Posted by **Paul Dale** on 13 July 2011, 1:43 a.m.,*
in response to message #13 by Walter B

Try "cosmetics".

Or "cosmetic changes".

- Pauli

Re: WP 34S overlay feedback

*Message #16 Posted by **Walter B** on 13 July 2011, 2:20 a.m.,*
in response to message #15 by Paul Dale

Thanks for the hint :-) Reveals some different subtext in different languages: "cosmetic" is a pejorative attribute for changes in German - explains why I didn't use this term describing tedious work :-)

Walter

Re: WP 34S overlay feedback

*Message #17 Posted by **Paul Dale** on 13 July 2011, 2:56 a.m.,*
in response to message #16 by Walter B

Cosmetic doesn't usually have those connotations associated with it. "Shallow" and maybe "trivial" would however.

You could also use "superficial" or "minor".

- Pauli

Re: WP 34S overlay feedback

*Message #18 Posted by **gene wright** on 13 July 2011, 10:38 a.m.,*
in response to message #17 by Paul Dale

It certainly points out how difficult it is to communicate in languages other than our "native" ones.

Makes sense to me now.

When I read Walter's original statement, I immediately went to the sourceforge

location, downloaded the recently updated .bmp file and hunted for changes! :-)

Re: WP 34S overlay feedback

*Message #19 Posted by **Gerson W. Barbosa** on 13 July 2011, 8:14 a.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> There are no plans to change it.

That's great. I've been using mine with no overlay and I am quite used to it now. I would not suggest any change at this stage, however I would ask you whether a shortcut for [g] [OFF], like [ON][v] or [ON][0], might be possible.

Regards,

Gerson.

Re: WP 34S overlay feedback

*Message #20 Posted by **Marcus von Cube, Germany** on 13 July 2011, 9:28 a.m.,*
in response to message #19 by Gerson W. Barbosa

Gerson, just let it sit on your desk and wait until it turns off automatically. ;-)

ON+0 is certainly possible but is it really necessary? We've a flash space problem again. (I'm implementing the serial I/O stuff at the moment.)

Re: WP 34S overlay feedback

*Message #21 Posted by **Walter B** on 13 July 2011, 12:00 p.m.,*
in response to message #19 by Gerson W. Barbosa

Olá Gerson,

Why do you call this a shortcut? ;-)

Walter

Re: WP 34S overlay feedback

*Message #22 Posted by **Gerson W. Barbosa** on 13 July 2011, 12:46 p.m.,*
in response to message #21 by Walter B

Hallo Walter,

Considering the long eight centimeter finger travel from distant [g] shift key to the [ON/CE] key, the [ON][0] sequence would be literally a shortcut :-) Yes, I usually do as Marcus has suggested, I just count on automatic shut-off. In just about every HP calculator I have the shift key required to turn them off is close to the [ON] key. The [g] key being far away from the [ON] key and buried amid other keys is somewhat inconvenient to me. Of course, if there is only one user complaining about this, then other more important issues should be addressed.

Regards,

Gerson.

Re: WP 34S overlay feedback

*Message #23 Posted by **Walter B** on 13 July 2011, 1:46 p.m.,*
in response to message #22 by Gerson W. Barbosa

Bem, Gerson,

I'd like to offer swapping OFF and SHOW. So you won't have to find g "buried amid other keys" but can reach h at the edge easily. I don't see a chance to move the prefixes closer to EXIT, OTOH.

Walter

Re: WP 34S overlay feedback

*Message #24 Posted by **Neil Hamilton (Ottawa)** on 13 July 2011, 2:13 p.m.,*
in response to message #23 by Walter B

I am willing to bet that the majority of the current adopters (ie: those that have one -- or more -- of Eric's overlays) would be somewhat unwilling to swap anything on the keyboard at this stage unless it has a significant advantage.

Turning off the calculator doesn't seem to me to be that significant to justify a change. You get used to the unconventional "g OFF" pretty quickly. (Unconventional only in the sense that it is not "h OFF" instead. There was a thread awhile ago about variations on this very topic and if I knew how to link to threads, I'd link to that thread right <here>... Boy I wish I knew how to link to threads.)

There are several key sequences I do very automatically now; like "h X.FCN|3|ENTER". I seem to do that one in my sleep! :-)

Re: WP 34S overlay feedback

*Message #25 Posted by **Gerson W. Barbosa** on 13 July 2011, 2:23 p.m.,*
in response to message #24 by Neil Hamilton (Ottawa)

Looks like I'd forgotten that thread. Thanks for pointing it out!

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv020.cgi?read=185405

Re: WP 34S overlay feedback

*Message #26 Posted by **Walter B** on 13 July 2011, 2:23 p.m.,*
in response to message #24 by Neil Hamilton (Ottawa)

Neil,

> Quote:
>
> Boy I wish I knew how to link to threads.

Catch the message you want to link to. - Open it. - Copy its address to the clipboard. - Go to the forum message you want to write. - Press "Link" bottom left. - Paste. -

Find a nice text. - Done 8-)

HTH, Walter

Re: WP 34S overlay feedback

*Message #27 Posted by **Gerson W. Barbosa** on 13 July 2011, 2:17 p.m.,*
in response to message #23 by Walter B

Walter.

Yes, using the prefix key at the edge would be more ergonomic. However, the current overlay has become a standard now that many of them have been produced. Also, 'SHOW' would have to be compressed to fit below EXIT together with ON and the yellow arrow. That's why I have suggested a shortcut. But if the latter takes up valuable flash space, then it's better to leave things unchanged.

Regards,

Gerson.

Re: WP 34S overlay feedback

*Message #28 Posted by **Marcus von Cube, Germany** on 13 July 2011, 2:30 p.m.,*
in response to message #27 by Gerson W. Barbosa

I've written (bit not debugged) the serial stuff for the hardware and flash is almost completely full. :-(

Re: WP 34S overlay feedback

*Message #29 Posted by **Walter B** on 13 July 2011, 2:44 p.m.,*
in response to message #27 by Gerson W. Barbosa

I am thinking of this:

And AFAIK there was only a pilot run of overlays made. And everybody here knew the WP 34S is a moving target. So a very limited number of overlays out there will not prevent me from improving the WP 34S layout if possible with our limited ressources.

Just my 20 m€ as usual.

Walter

Re: WP 34S overlay feedback

*Message #30 Posted by **Gerson W. Barbosa** on 13 July 2011, 2:56 p.m.,*
in response to message #29 by Walter B

That's exactly what I wanted in the first place, but was afraid to ask :-)

Re: WP 34S overlay feedback

*Message #31 Posted by **Neil Hamilton (Ottawa)** on 13 July 2011, 3:03 p.m.,*
in response to message #29 by Walter B

> Quote:
>
> So a very limited number of overlays out there will not prevent me from improving the WP 34S layout if possible with our limited ressources.

I agree with you Walter -- it is a moving target and will continue to evolve/improve. I just think that if the "techo-trinity" could limit the changes to something significant, that would find more support.

For example, when you guys locate an undocumented MB of flash and a big wad of RAM that Atmel forgot to mention allowing matrix operations to be added... :-)

For now, if you do put the change in the bottom left corner, many are going to have to get an overlay for the overlay and a new button label. :-D (Oh no! Back to the paper overlay taped over the calculator!)

BTW: Thanks for the hint on the linking.

Cheers...

Re: WP 34S overlay feedback

*Message #32 Posted by **Hubert Weikert** on 13 July 2011, 12:40 p.m.,*
in response to message #1 by Eric Rechlin

Eric,

I am very happy with the overlays, except that the key holes are quite tight, and require very precise assembly. But that is already known...

For durability I have seen up to now no wear. But my fingers are quite dry, so I may not count as a reference.

Thank you for the work and effort to make this possible,

Hubert

Re: WP 34S overlay feedback

*Message #33 Posted by **db (martinez, ca.)** on 14 July 2011, 12:42 a.m.,*
in response to message #1 by Eric Rechlin

Eric;
Mine went on centered and square but might not the next time, so the larger holes may be a good idea.
That spray-on coat may flake in the act of bending the overlay to put it on, and then it would look - well-flaky. Test before mass production.
Hopefully any change that the trinity needs to make will only necessitate a new key or two and not the whole

overlay. That's the kind of thing you can hand out at the conference and not have to mail.
Thanks for making them. They are literally the icing on the cake.

Re: WP 34S overlay feedback

*Message #34 Posted by **JustinM** on 14 July 2011, 11:59 p.m.,*
in response to message #1 by Eric Rechlin

Hi all. I'm new on the forum but have been reading for about a month. I came looking for info on the re-released HP-15C and stuck around after learning about the WP-34s project. After getting a cable from Gene a couple of weeks ago I've now got a flashed 30b. I flashed it again with the 1196 build last weekend. I missed getting one of Eric's first overlays so I can't comment on the initial run. I would like to comment on some of the topics discussed here and earlier about the overlay.

I like the idea of an h-shifted OFF button. Walter's diagram in message #29 is exactly what I had in mind. The ON label looks good on a lower row of text like the 'a b/c' label. I realize that swapping the g and h functions of the EXIT key would require all the original overlays to be replaced, so that should be a consideration.

I prefer the colored shift keys to Walter's preference for white text. The shift keys are some of the most important keys on the keyboard and should have an easy way to visually differentiate them from the other keys. I would even suggest making the entire key cover gold, blue, or green and put the f, g, and h in black font. That would be consistent with the 34C and 67 (except for the green vs. black h-shift key, of course) and the f and g keys of the Voyagers. I would also prefer a 'g' that's like the Arial 'g' instead of the Calibri. The Arial 'g' is more consistent with historical HPs. I realize that the rest of the overlay uses Calibri and changing fonts for one key may not look right though.

On the black ink issue, I have a few suggestions that may or may not work. Eric, have you considered or tested black or transparent vinyl as a base layer? I don't know if the colors will print properly on black vinyl, but that might give the black areas a more durable finish without requiring any overcoat or spray.

With the transparent vinyl, I was picturing placing a black field above each key to print the f and g-shifted functions. The alpha characters and the functions above the A, B, C, and D keys would have to be reworked. My thought with using transparent vinyl is to let the natural black or silver of the 20b or 30b show through. The key hole sizing wouldn't be as critical and could be larger to avoid the sticky key problem. If the overlay's key holes let a bit of a "ring" of the underlying keyboard show through, it wouldn't look bad on the 30b. Putting a black field of ink above each key would cover up "Black S" also. It would cut down on the ink requirement for each printed overlay too.

Finally, on the topic of keys, I'd prefer an EEX exponent key, I like the obelus division key, and I'd like an Enter key without the up arrow on it. In general, I'd like the keyboard to approximate some of the classic styling cues of HP calculators - colored shift keys, EEX, Enter, and an obelus division key. I don't care for the CHS as +/- makes more sense to me.

Thanks to all who have made this project possible. It's been fun to tinker with so far. I haven't been able to put it into more use without an overlay yet, so I'm looking forward to another print run.

Re: WP 34S overlay feedback

*Message #35 Posted by **Paul Dale** on 15 July 2011, 12:10 a.m.,*
in response to message #34 by JustinM

> Quote:
>
> I like the idea of an h-shifted OFF button. Walter's diagram in message #29 is exactly what I had in mind. The ON label looks good on a lower row of text like the 'a b/c' label. I realize that

> swapping the g and h functions of the EXIT key would require all the original overlays to be replaced, so that should be a consideration.

We are not planning on changing the layout for this "trivial" change. If, however, a more significant change becomes necessary then this one will be incorporated as well.

- Pauli

Re: WP 34S overlay feedback

*Message #36 Posted by **JustinM** on 15 July 2011, 12:21 a.m.,*
in response to message #35 by Paul Dale

Fair enough. I agree with not making key changes this late in the project. If you do decide to do it, the design layout that Walter provided works well.

Re: WP 34S overlay feedback

*Message #37 Posted by **Marcus von Cube, Germany** on 15 July 2011, 3:13 a.m.,*
in response to message #36 by JustinM

I'm struggling with flash space at the moment but if we find some more by compressing the code in certain areas, I may introduce a "hold down ON for a second to turn it off" method in addition to g+ON.

Re: WP 34S overlay feedback

*Message #38 Posted by **Andrés C. Rodríguez (Argentina)** on 15 July 2011, 8:22 a.m.,*
in response to message #37 by Marcus von Cube, Germany

That's a very good option! And it brings to the table the possibility of doing things when keys are pressed and hold down... Maybe a case for NULL? :-))

I don't mean to insist. I swear I wasn't thinking about NULL when I started this post, I really like the idea of "timeouted" OFF by itself. But other ideas came as I was writing...

Re: WP 34S overlay feedback

*Message #39 Posted by **Marcus von Cube, Germany** on 15 July 2011, 12:31 p.m.,*
in response to message #38 by Andrés C. Rodríguez (Argentina)

The NULL problem has been discussed here. It's not as easy as it might sound as I have to react on key down and key up, not only on key down. Since we don't have user definable keys except A to D it's much less important to show the key function and let the user decide if he wants it or not.

We had to remove functionality due to space constraints in the last iterations. If I find the room in flash I'll put these back with higher priority then adding new features.

Re: WP 34S overlay feedback

*Message #40 Posted by **Andrés C. Rodríguez (Argentina)** on 15 July 2011, 3:01 p.m.,*
in response to message #39 by Marcus von Cube, Germany

Marcus,

I agree, we already discussed NULL in depth, and the issue against it is clear enough for me; I was just joking at myself with the previous post.

On the other hand, the "keep ON pressed to turn OFF" seems a good idea to me.

Best regards,

Re: WP 34S overlay feedback

*Message #41 Posted by **Neil Hamilton (Ottawa)** on 15 July 2011, 9:01 a.m.,*
in response to message #34 by JustinM

> Quote:
>
> I haven't been able to put it into more use without an overlay yet, so I'm looking forward to another print run.

I have a few slightly used paper ones I'd be willing to let go for a song. Only missing one minus sign... :-)

Re: WP 34S overlay feedback

*Message #42 Posted by **Eric Rechlin** on 16 July 2011, 1:35 a.m.,*
in response to message #34 by JustinM

> Quote:
>
> Eric, have you considered or tested black or transparent vinyl as a base layer?

For black, find me a consumer inkjet printer that can print white ink and maybe we'll have something.

I do have a few options for transparent overlays that may look nice on the 30b, but realize I would still need the white vinyl for the keys themselves.

One possibility are "waterslide" decals, like you use when making model cars or model airplanes. The best way to do this would require disassembling the calculator, applying the waterslide decals, and then putting a clear spray over the whole calculator face. It would probably look very nice but would take a lot of work.

The other, of course, is transparent vinyl, but in both of these cases, I suspect the colors would not look very good due to the inability to print white.

Eric

Re: WP 34S overlay feedback

*Message #43 Posted by **JustinM** on 16 July 2011, 11:19 a.m.,*
in response to message #42 by Eric Rechlin

Ah, I was thinking you had some kind of specialized vinyl printer. Maybe you just mentioned you had a vinyl cutter before and I was thinking you had a printer too. I've had T-shirts screenprinted before and they could do white ink on dark fabrics. I was picturing a similar setup. If you're just using a consumer inkjet then that would limit you to white vinyl.

> Never mind. Carry on.

Re: WP 34S overlay feedback

*Message #44 Posted by **Etienne Victoria** on 16 July 2011, 5:47 a.m.,*
in response to message #1 by Eric Rechlin

The overlay is great:

§ Tools needed: tweezers (actually 2 of them), your finger.

§ Adjusting on the calculator faceplate: Used Eric's method starting from the middle of the keyboard and moving towards the ends. Row by row, adjust the overlay around the key openings with your finger. Another tool might damage the very nice matt finish.

§ Both tweezers are used to put the stickers on the keys. Prior to this I had erased the Hp key labels.

It's been one month now since I put the overlay in place. The stress-tester is my 14th year old daughter which has one of my Wp§34s in absolute daily use and abuse.

In the schoolbag rubbing against books, at her desk... the key stickers did not move and the overlay is still perfectly in place.

...and my daughter thinks the calculator is "cool".

I never thought I would bring kids to RPN with a non-Hp calculator (sorry Den, I don't have one of your gems :-)

Nice work, Paul, Marcus, Walter, Eric and now Neil.

Thanks to all of you.

Etienne

Re: WP 34S overlay feedback

*Message #45 Posted by **Paul Dale** on 16 July 2011, 6:04 a.m.,*
in response to message #44 by Etienne Victoria

> Quote:
>
> ...and my daughter thinks the calculator is "cool".

That's about as high a praise as is possible :-)

There is no need to erase the keys before applying the new labels. They cover the existing text (just).

- Pauli

Re: WP 34S overlay feedback

*Message #46 Posted by **Walter B** on 16 July 2011, 5:04 p.m.,*
in response to message #44 by Etienne Victoria

Merci bien a tu et ta fille :-)

I didn't really expect teenagers thinking this is cool stuff. I admit, however, I am pleased about this verdict. May she live long and prosper and enjoy the realms of mathematics like her dad :-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S TICKS Command: How Much Time?

*Message #1 Posted by **Jake Schwartz** on 12 July 2011, 3:44 p.m.*

Hi,

What is the granularity of the wp34S TICKS command? I could not find this info in the manual, nor in a search of the HP Museum Forum. It appears that a time "TICK" is around 0.1 second, but I wanted to be sure.

Thanks, Jake

Re: wp34S TICKS Command: How Much Time?

*Message #2 Posted by **Marcus von Cube, Germany** on 12 July 2011, 4:31 p.m.,*
in response to message #1 by Jake Schwartz

You got it. TICKS should be accurate to .1 seconds. This depends of course on the accuracy of the oscillator.

I'm pretty sure, Walter will answer with a page in the manual.

Re: wp34S TICKS Command: How Much Time?

*Message #3 Posted by **Paul Dale** on 12 July 2011, 5:34 p.m.,*
in response to message #1 by Jake Schwartz

The granularity is 0.1 seconds give or take the oscillator.

In float mode, a value in seconds is returned.

In integer mode, ten times this value is returned.

- Pauli

Edited: 12 July 2011, 5:34 p.m.

Re: wp34S TICKS Command: How Much Time?

*Message #4 Posted by **Walter B** on 12 July 2011, 6:06 p.m.,*
in response to message #3 by Paul Dale

Hmmmh, I hate to tell you, but that contradicts the documentation. The command is called TICKS after all, not SECONDS [;-)

Walter

Re: wp34S TICKS Command: How Much Time?

*Message #5 Posted by **Paul Dale** on 12 July 2011, 6:40 p.m.,*
in response to message #4 by Walter B

The documentation is wrong then :-) We discussed this and the consensus was what is implemented....

- Pauli

Re: wp34S TICKS Command: How Much Time?

*Message #6 Posted by **Walter B** on 13 July 2011, 1:59 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> consensus was what is implemented....

... which is what is documented since v1.17. Just check d:-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-48G IR connectivity

*Message #1 Posted by **Thomas Radtke** on 12 July 2011, 1:34 p.m.*

I'd like to transfer files between my 48G and my PC.

Here's what I did:

Installing USB-serial converter on Win7 (FTDI/FT232RL)
Connect Jeteye IR device
Setup Windows NT 4.0sp6 in VirtualBox
Connect host port to guest port
Start WinNT
Install Quickbeam

Now, Jeteye works basically. The IR detector scans for devices every three seconds and you see the red LED lighten up at this interval. However, no IR device is detected, allthough the 48G has flag 33 set and is in server mode (and of course just in front of Jeteye).

I'm lost.

Thanks,

Thomas

Re: HP-48G IR connectivity

*Message #2 Posted by **Marcus von Cube, Germany** on 12 July 2011, 1:41 p.m.,*
in response to message #1 by Thomas Radtke

Are you sure the 48G is an IRDA device? I assume it's just serial over IR. You should try without the driver installed. Just use the comport provided by the FTDI driver.

Re: HP-48G IR connectivity

*Message #3 Posted by **Thomas Radtke** on 12 July 2011, 2:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Thank you Marcus,

I didn't noticed the Quickbeam software conforms to IrDA :-/. Ok, deinstalled the package, rebooted NT4. Now not even the LED lights up when I fire up the connectivity software. Of course, I changed the COM port from the no longer available number 4 to number 1, even specified base address and IRQ after that failed, but still to no avail.

Any further ideas?

Re: HP-48G IR connectivity

*Message #4 Posted by **Christoph Giesselink** on 12 July 2011, 2:01 p.m.,*
in response to message #1 by Thomas Radtke

Many year ago I wrote an article about this topic. The article is available at http://www.hpcalc.org/details.php?id=4856.

Christoph

Re: HP-48G IR connectivity

*Message #5 Posted by **Thomas Radtke** on 12 July 2011, 2:49 p.m.,*
in response to message #4 by Christoph Giesselink

"The IR transfer with IrDA hardware between PC and HP calculator might work, but because of the many exceptions, explained above, it mostly will fail."

Yes indeed ;-).

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S files - dumb question

*Message #1 Posted by **fhub** on 12 July 2011, 11:35 a.m.*

In todays SVN 1209 I see an updated file emulator_d.dll (among others).

What's the purpose of those emulator_**d**.* files? **D**ebug versions?

Franz

Re: WP34S files - dumb question

*Message #2 Posted by **Marcus von Cube, Germany** on 12 July 2011, 1:36 p.m.,*
in response to message #1 by fhub

> Quote:
>
> What's the purpose of those emulator_d.* files? Debug versions?

You got it. The problem I'm tackling with this approach is that the emulator kernel written by HP uses the MFC development headers and libraries which are not available with the free Express edition of Visual C++. I've split the package in a dll and an exe. The exe can be compiled with VC++ Express and you can even debug in this environment. It's necessary to provide compiled debug versions of the dlls complete with the symbol tables to make this possible.

Edited: 12 July 2011, 4:17 p.m. after one or more responses were posted

Re: WP34S files - dumb question

*Message #3 Posted by **fhub** on 12 July 2011, 2:05 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Ok, thanks Marcus!

Deinen Link zum "Konkurrenzprodukt" Casio kapiere ich in diesem Zusammenhang allerdings nicht - Du wirst doch nicht etwa "fremdgehen"? ;-)

Re: WP34S files - dumb question

*Message #4 Posted by **Marcus von Cube, Germany** on 12 July 2011, 4:18 p.m.,*
in response to message #3 by fhub

Welcher Link? ;-)

Re: WP34S files - dumb question

*Message #5 Posted by **Walter B** on 12 July 2011, 4:22 p.m.,*
in response to message #4 by Marcus von Cube, Germany

;-)

Re: WP34S files - dumb question

*Message #6 Posted by **fhub** on 12 July 2011, 4:24 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> Welcher Link? ;-)

Du bist ja ganz schön hinterlistig! ;-)

Re: WP34S files - dumb question

*Message #7 Posted by **Marcus von Cube, Germany** on 12 July 2011, 4:26 p.m.,*
in response to message #6 by fhub

Errare humanum est, besonders mit Hilfe von Computern.

Re: WP34S files - dumb question

*Message #8 Posted by **fhub** on 12 July 2011, 4:29 p.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> Errare humanum est, besonders mit Hilfe von Computern.

Oder kurz: Errare computerum est!

Re: WP34S files - dumb question

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 12 July 2011, 4:30 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Time for a silly question.... (given that you obviously have way too much time on your hands :-)

What are the chances that we could get a live stack window for the emulator? And pushing luck *way* beyond the breaking point, a dynamic view into the registers set as well?

Just day dreamming...

Re: WP34S files - dumb question

*Message #10 Posted by **Marcus von Cube, Germany** on 12 July 2011, 4:35 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

Sorry, the emulator is just a development tool for the real hardware, not the main target of the developers. Feel free to enhance it, but don't ask me. I pretty much dislike Windows GUI programming. :-(

Re: WP34S files - dumb question

*Message #11 Posted by **fhub** on 12 July 2011, 4:59 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

> Quote:
>
> What are the chances that we could get a live stack window for the emulator? And pushing luck *way* beyond the breaking point, a dynamic view into the registers set as well?

Yes, that would indeed be a very nice feature!

OTOH it's a pity that Emu42/48 doesn't support this HP20/30b calculator. I guess the hardware differences are not so big, so that an emulation of this calc (i.e. using calc.bin as ROM) shouldn't be too much work - at least not for an expert like Christoph Giesselink.

CHRISTOPH, DO YOU READ THIS? ;-)

Re: WP34S files - dumb question

*Message #12 Posted by **Marcus von Cube, Germany** on 13 July 2011, 3:32 a.m.,*
in response to message #11 by fhub

Franz, stop dreaming!

The 42s and the 20b/30b hardware have almost nothing in common. OK, both have a display and a keyboard, but that's it.

Re: WP34S files - dumb question

*Message #13 Posted by **fhub** on 13 July 2011, 5:10 a.m.,*
in response to message #12 by Marcus von Cube, Germany

> Quote:
>
> Franz, stop dreaming!

Never, that's what makes life interesting, Marcus! ;-)

> Quote:
>
> The 42s and the 20b/30b hardware have almost nothing in common. OK, both have a display and a keyboard, but that's it.

Well, I rather meant Emu48+ with its emulation of the ARM9 processor.
Doesn't the HP20b also have a ARM(7?) CPU?

Edited: 13 July 2011, 5:12 a.m.

Re: WP34S files - dumb question

*Message #14 Posted by **Marcus von Cube, Germany** on 13 July 2011, 9:34 a.m.,*
in response to message #13 by fhub

> Quote:

> Well, I rather meant Emu48+ with its emulation of the ARM9 processor.
> Doesn't the HP20b also have a ARM(7?) CPU?

It's an Atmel AT91SAM7L128 with an ARM 7 core and a bunch of peripherals. But why go the hardware emulator way when the source code is freely available? If you want more brains in the GUI, feel free to improve it! It's just not my interest to do Windows GUI coding beyond what I've done so far. I still have to patch in some more functionality with respect to my current work on the project (I/O) which I'm not looking forward to.

Re: WP34S files - dumb question

*Message #15 Posted by **fhub** on 13 July 2011, 9:52 a.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> If you want more brains in the GUI, feel free to improve it!

Well, I would probably do it if the emulator were written in 'Delphi', but 'C' is not my world.

I even had still another idea: maybe I could write some kind of 'shell' for the WP34S emulator, which just calls WP34S as subprocess, but the only problem is: how to communicate with the emulator?
If there were any external interface in WP34S with which it could be controlled, things would be quite easy, but so the only method I can imagine is to 'send mouseclicks' to this WP34S subprocess - and so far I'm not even sure if this would work at all in Windows.

Re: WP34S files - dumb question

*Message #16 Posted by **Marcus von Cube, Germany** on 13 July 2011, 10:18 a.m.,*
in response to message #15 by fhub

Franz, you can. You just need to write a DLL which replaces the emulator.dll from the project. The interface is relatively thin, most calls go from the dll to wp34s. The main program registers some callbacks which are called by the dll. The main loop is in the dll.

Re: WP34S files - dumb question

*Message #17 Posted by **fhub** on 14 July 2011, 5:20 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Another question, Marcus:

I know you're compiling WP34S with VisualStudio 2008 (or even 2010/11?), but this system is much to big for me to download.
Now I would have the possibility to get the old MSVC6 compiler, which would also have the advantage that it produces compiles that are Win98 compatible.

Now my question: do you know if the WP34S system can be compiled with MSVC6, or is this impossible?

Edited: 14 July 2011, 5:21 a.m.

Re: WP34S files - dumb question

*Message #18 Posted by **Marcus von Cube, Germany** on 14 July 2011, 8:17 a.m.,*
in response to message #17 by fhub

> Quote:
>
> I know you're compiling WP34S with VisualStudio 2008 (or even 2010/11?), but this system is much to big for me to download. Now I would have the possibility to get the old MSVC6 compiler, which would also have the advantage that it produces compiles that are Win98 compatible.

It's Visual Studio 2010, the only version available for purchase and download when I started. The minimum system requirement for this environment (and the code produced by it) is XP. I bought the professional version in order to be able to handle the MFC GUI parts.

> Quote:
>
> Now my question: do you know if the WP34S system can be compiled with MSVC6, or is this impossible?

That's how I started and gave up early. MSVC6 does not understand the "long long" data type, at least not under this name. I started modifying the code of the SDK (before tackling the WP 34S sources) to comply to the old compiler but that wasn't fun.

The main problem was that MSVC6 supports an older version of the MFC library lacking an important API that is used in the emulator. Without this API I was unable to populate the Skins menu. It seemed to be easier to switch to a more recent compiler then.

If you do not want to touch the GUI components you can compile the project with the freely available VC++ Express 2010 edition, but if I understand your intentions right, the GUI is just what you want to do.

It shouldn't be too hard to rewrite the GUI with Delphi if you are able to create a DLL with this environment. You need to understand what HP has done in its emulator, though.

Re: WP34S files - dumb question

*Message #19 Posted by **Walter B** on 12 July 2011, 5:00 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

Keep your fingers crossed that Michael succeeds with his 15C update. Then chances will be elevated you may see two stack levels at a time like 33 years ago. Else no way unless HP rethink their display policy (don't hold your breath) :-/

Walter

Edited: 12 July 2011, 5:01 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unresponsive HP-42s

*Message #1 Posted by **aj04062** on 11 July 2011, 10:11 p.m.*

I've "taken in" 4 42s in need of aide.

They are all disassembled at this point. Two were delivered to me apart. One of these is hopeless with a destroyed processor. The second one is very dirty.

The last two have hope, I think, but need the forums help.

Unit 3 was taken apart and cleaned. I re-assembled and got it to turn on after batteries are installed. However it seems to be bogged down with something and will either be very slow to respond to keystrokes or not at all.

Unit 4 starts up after putting batteries in, but will not respond to any keystrokes.

They both seem to have similar ailments. Is it dirty/bad keyboards?

Re: Unresponsive HP-42s

*Message #2 Posted by **Geoff Quickfall** on 12 July 2011, 12:00 a.m.,*
in response to message #1 by aj04062

Have you checked the foam insert residing under the keyboard pca to logic pca flex pcb.

These have a tendency to compress over time resulting in a lost connection causing unresponsive keys or whole keyboard.

Assemble one and then press gently on the frame between the lower LCD panel and the top of the keys. While pressing at that location also test the keyboards unresponsive keys. If they work it is definitely the foam which must be replaced.

I use an older foam mouse pad as a donor.

Geoff

Re: Unresponsive HP-42s

*Message #3 Posted by **aj04062** on 12 July 2011, 10:26 a.m.,*
in response to message #2 by Geoff Quickfall

I've tried that. Cleaned the contact with alcohol and "erased" the gold contact. No matter how hard I push, it does not change.

I think I need to go through the keyboards and test using Randy's Diagram

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Thomas Okken and free42 ?

*Message #1 Posted by **sylvandb** on 11 July 2011, 1:38 p.m.*

Thomas, you out there?

Looks like Thomas Okken lost his domain (expired and now is an ad park site): http://thomasokken.com/free42/

The old sourceforge page (http://free42.sf.net/) still refers to the now bad page.

:(

Sure glad my registrar (namecheap) sends me an email before expiration.

sdb

Re: Thomas Okken and free42 ?

*Message #2 Posted by **John B. Smitherman** on 11 July 2011, 4:04 p.m.,*
in response to message #1 by sylvandb

sdb, his website (http://thomasokken.com/free42/) works for me.

Regards,

John

Re: Thomas Okken and free42 ?

*Message #3 Posted by **Walter B** on 11 July 2011, 4:16 p.m.,*
in response to message #2 by John B. Smitherman

I concur - the free42 site looks younger than ever.

Walter

Re: Thomas Okken and free42 ?

*Message #4 Posted by **Jim Yohe** on 11 July 2011, 6:12 p.m.,*
in response to message #1 by sylvandb

Site works for me too.

Re: Thomas Okken and free42 ?

*Message #5 Posted by **Egan Ford** on 11 July 2011, 6:30 p.m.,*
in response to message #1 by sylvandb

whois reports:

```
Expiration date: 10 Jul 2012 20:07:32
```

The record was updated today.

Re: Thomas Okken and free42 ?

*Message #6 Posted by **sylvandb** on 11 July 2011, 9:18 p.m.,*
in response to message #5 by Egan Ford

> Quote:
>
> whois reports:
>
> ```
> Expiration date: 10 Jul 2012 20:07:32
> ```
>
> The record was updated today.

Nice. :)

The whois now looks very different than it did a few hours ago!

(And the site is working for me now also.)

sdb

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP50g emulator package

*Message #1 Posted by **fhub** on 11 July 2011, 8:00 a.m.*

Hi,

here's a quite interesting complete HP50g emulator package:
http://www.spaadyshare.net/54rvhm6a68s8/HP50g.zip

Two things are especially remarkable:
1) all shifted functions can be accessed directly by clicking on their label (the most comfortable KML script I've ever seen)
2) a very nice skin for 800x600 resolution (but also bigger skins are included)

Franz

Re: HP50g emulator package

*Message #2 Posted by **Lode** on 11 July 2011, 5:26 p.m.,*
in response to message #1 by fhub

Thanks a lot, this one works in Linux under Wine!

Re: HP50g emulator package

*Message #3 Posted by **fhub** on 13 July 2011, 7:17 a.m.,*
in response to message #1 by fhub

Here's a small update for the HP50g package above:
http://www.spaadyshare.net/549ko26re3md/HP50g_upd.zip

I've improved the BMPs a bit (making some shifted-function labels better readable), and I've included 3 additional KML-scripts ('3D') which give a '3D-effect' (i.e. moving keys) when you click on any calculator key - maybe you'll like it. :-)

It's only an update which contains the KML and BMP files, so the full package above is still needed.

Franz

PS: I'm sure that most members here would know where to find it, but for newbies here's the original HP documentation for the HP-50g:

User's Manual: http://www.hpcalc.org/hp49/docs/misc/hp50gum.zip
User's Guide: http://www.hpcalc.org/hp49/docs/misc/hp50gug.zip
Advanced User's Reference Manual: http://www.hpcalc.org/hp49/docs/misc/hp50gaur.zip

Edited: 13 July 2011, 7:35 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34C display problem

*Message #1 Posted by **Daniel CLEMENT** on 11 July 2011, 4:27 a.m.*

Hello,

I'd like to fix a display problem on a (otherwise fine) HP-34C.

Here are the symptoms: 1) the rightmost digit doesn't light up; 2) on each other digit, the top segment and top left segment are weakly lit when they should be off on 2's, 3's and 4's.

Here is what I believe (I do my best to translate the technical terms from French...): 1) there is a transistor which toggles the right digit, and it is dead; 2) there are transistors which address the defective segments, and they leak. (But then, why would the 1's appear correctly?)

I'd appreciate someone confirms (or not!) these guesses. Can these faulty components be changed separately? A link to a diagram of the 34C electric circuit would also help much.

Thanks a lot in advance - regards, Daniel

Re: 34C display problem

*Message #2 Posted by **Dieter** on 11 July 2011, 2:01 p.m.,*
in response to message #1 by Daniel CLEMENT

Daniel, you probably know that HP used a special manufacturing technique in their Spice series (34C, 32E etc.). In those days they used a solderless construction, i.e. the various chips and other components were fixed / clamped to the PCB by simple pressure.

This way, the contact may become insufficient over time. This also happened with my own 34C: Here and there one ore more segments or even complete digits may drop out. In these cases some careful (!) bending of the case makes the missing segments appear again.

In you happen to own one of the last 34Cs this might be one of the few that have been manufactured in the good old soldered way. If you are not sure, simply weigh it: with the batteries inside the solderless version is about 220-230 g, the soldered version close to 170-180 g.

Dieter

Re: 34C display problem

*Message #3 Posted by **Michael de Estrada** on 11 July 2011, 3:01 p.m.,*
in response to message #2 by Dieter

It doesn't sound like a contact pressure problem, since some of the LED segments exhibit ghosting. I've fixed the pressure problem on mine with a thin strip of electrical tape on the plastic back plate to act as a shim on the LED array fingers. In this particular case, the LED array probably needs to be replaced.

Re: 34C display problem

*Message #4 Posted by **Daniel CLEMENT** on 12 July 2011, 3:19 a.m.,*
in response to message #3 by Michael de Estrada

Thank you for your valuable input.

@Dieter: weight is 220+ g, hence not soldered (is it good news?) I did not know that the display itself was clamped. This sure can account for the last digit missing completely, but could it explain the ghosting on the others? I _carefully_ bent the case, but no luck.

@Michael: I'll try improving the contacts. The end of your answer is what I feared. I don't have a spare LED array --only on working calculators... Perhaps on a Woodstock, but I guess it's not the same. However, a temporary exchange might help.

Yet, don't you like my transistor story? I thought it was pretty consistent with the technology... I have found the hpcc site which has some diagrams, but not the 34C, only the 33C: do you think I could use it instead? I'd like to find out if the display driving is performed by a single chip, or by separate components.

Daniel

Re: 34C display problem

*Message #5 Posted by **Tony Duell** on 12 July 2011, 4:37 a.m.,*
in response to message #4 by Daniel CLEMENT

Electrically there are only really 2 versions of the Spice series -- the -E models and the -C models. The various machines in each group differ in exact processor and memory chips fitted, but they are connected together in the same way. Keyboard, display, PSU module, etc are the same.

Therefore. the HPCC HP33C diagram _is_ of use in repairing a 34C. Just be warned that the IC part numbers will be different.

Re: 34C display problem

*Message #6 Posted by **Daniel CLEMENT** on 13 July 2011, 4:33 a.m.,*
in response to message #5 by Tony Duell

Thank you, I'll get myself a copy of the hpcc diagrams CD.

Tomorrow I'll leave for 2 weeks so I won't be able to try anything on my 34C until August. Then I'll get back to the forum to report progresses (hopefully).

Re: 34C display problem

*Message #7 Posted by **Mike Morrow** on 11 July 2011, 8:04 p.m.,*
in response to message #2 by Dieter

> Quote:
>
> In you happen to own one of the last 34Cs this might be one of the few that have been manufactured in the good old soldered way.

I don't believe that "few" accurately characterizes the population of soldered vs. press-fit Spice models. All

my Spice machines are of the soldered variety, made two or more years before these models were discontinued. I wouldn't be surprised if the press-fit models were the less common of the two, but that's just a guess.

Randy of FTC would be the best authority on the relative percentages.

Re: 34C display problem

*Message #8 Posted by **Randy** on 11 July 2011, 8:30 p.m.,*
in response to message #7 by Mike Morrow

I would agree many soldered models where manufactured and many solderless where created during repair but at this point I think it is more a case of how many have not made the one way trip to the bin.

My very un-scientifically estimate would at least ten to one, solderless to soldered, based on a sample of about 70 units that I have either purchased on ebay or repaired over about an eight year period. FWIW, the 34C and 38C lead the numbers of soldered machines, I don't remember ever seeing a single soldered 31/32E low end machine.

Re: 34C display problem

*Message #9 Posted by **Michael de Estrada** on 11 July 2011, 9:45 p.m.,*
in response to message #8 by Randy

I guess we all have different experiences in this regard. I currently have 12 Spices, all fully functional, and only 3 of them are of the soldered variety. However, one of the soldered units is an HP-32E and the others are an HP-33C and HP-37E. I have one HP-34C and two HP-38Cs, all of which are press-fit. Of course, many of the press-fit units were cobbled together from parts in several units, and I've had 4 or so other units that acted as donors to create the 9 good units. There was recently an HP-34C on TAS that I bid on but did not win, which I believe was most likely a soldered unit, based on the serial number.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(Almost) amusing WP34s bug(?)

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 10 July 2011, 4:20 p.m.*

Either interesting or (maybe) a battery killer...

The rate that the 'WHO' program zips through the messages is dependent on what base you are operating in.

All of the main bases (octal, decimal, and hex) run very fast -- can't quite make out the messages.

Binary stalls at the very first message -- I had to remove the batteries to get it back again. :-)

I haven't tried the all other bases but something tells me that a similar pattern will emerge.

Does this mean that PSE is base/mode dependent? I'll investigate some more.

Cheers...

Re: (Almost) amusing WP34s bug

*Message #2 Posted by **Walter B** on 10 July 2011, 4:42 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Neil,

Thanks for your observation. I could reproduce and extend your findings. Bases 7 and 4 work as fast as bases 8, 10, and 16. Base 3 leads to the same stall you observed with base 2. I consider this being a bug. We will look into that.

Walter

P.S.: A paper clip reset does it - no need to remove the batteries 8-)

Edited: 10 July 2011, 5:16 p.m.

Re: (Almost) amusing WP34s bug

*Message #3 Posted by **Marcus von Cube, Germany** on 10 July 2011, 5:40 p.m.,*
in response to message #2 by Walter B

I'm wondering why a reset is necessary. Shouldn't any keyboard entry end a PSE? Might have to do with XROM.

Edit: I found it. Pauli's "Verschlimmbesserung":

```
#ifdef REALBUILD
DIG(5)
EEX
DIG(3)
```

```
DSZ(st(X))
BACK(1)
#else
PAUSE(8)
#endif
```

Edited: 10 July 2011, 6:01 p.m. after one or more responses were posted

Re: (Almost) amusing WP34s bug

*Message #4 Posted by **Paul Dale** on 10 July 2011, 5:55 p.m.,*
in response to message #3 by Marcus von Cube, Germany

That conditional is the problem but removing it will introduce a different bug.

Now to figure out how to make this work in integer mode as well as real. Or do we just switch to real on entry like some of the other xrom routines...

- Pauli

Edited: 10 July 2011, 5:56 p.m.

Re: (Almost) amusing WP34s bug

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 10 July 2011, 6:54 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> P.S.: A paper clip reset does it - no need to remove the batteries 8-)

Doh! I can always claim I didn't have a paper clip :-)

Anyway, it stopped what I assumed was large battery consumption...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s - Verifying Flashing

*Message #1 Posted by **Thomas Chrapkiewicz** on 10 July 2011, 12:41 p.m.*

Hello:

I have flashed a HP30b with the latest code from sourceforge.

How do I verify validity of the flashing?

I have concerns as the response from the reflashed machine does not match the .pdf file flashing instructions. The On/PMT sequence seems to toggle Debug mode.

I have used X.fncs/Vers and get:

34s 2.0 1133

I presume this is correct.

Thanks, TomC

Re: WP34s - Verifying Flashing

*Message #2 Posted by **Walter B** on 10 July 2011, 1:10 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Thomas,

ON + D is observed correctly as documented :-)

I didn't experience *any* incomplete flash so far, though I can't tell you about any verification procedure.

Walter

Re: WP34s - Verifying Flashing

*Message #3 Posted by **Thomas Chrapkiewicz** on 10 July 2011, 1:30 p.m.,*
in response to message #2 by Walter B

Walter:

Thank you for the prompt response!

TomC ps: Nice Job!!!! Thank you!!!

Re: WP34s - Verifying Flashing

*Message #4 Posted by **Marcus von Cube, Germany** on 10 July 2011, 2:36 p.m.,*
in response to message #2 by Walter B

Thomas,

the HP procedures assume that you're flashing a firmware from them. If you reflash the 20b/30b with another 20b/30b image you get a 20b/30b which responds to ON+D as documented by HP.

If you reflash the 20b/30b with a WP 34S image you get a WP 34S which responds to ON+D as documented by Walter. :-) There is not a single bit of HP code left after reflashing and therefore HP's documentation about the behavior of you calculator no longer holds.

One of the differences concerns the reflashing process itself: There is no longer the need to clear all of flash memory in order to get the device into SAM-BA boot mode. ON+D followed by a double ON+S (ON+6) does the trick. The documentation tells you more about the details. The main benefit is that this will preserve a previously created backup of the RAM in your calculator and all installed libraries.

If the calculator boots you can be pretty sure that the flashing has completed. If you are in doubt, SAM-BA provides a verify mechanism.

Edited: 10 July 2011, 2:37 p.m.

Re: WP34s - Verifying Flashing

*Message #5 Posted by **Tim Wessman** on 10 July 2011, 6:00 p.m.,*
in response to message #2 by Walter B

As a note, niether Cyrille nor myself have ever seen a failed flash either in the thousands of times we've flashed things. If it connects and sends, it is good.

TW

Re: WP34s - Verifying Flashing

*Message #6 Posted by **Mike T.** on 11 July 2011, 5:03 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Perhaps a 'ROM' checksum check (self test) could be added using a few of the spare bytes? Posibly using STO ENTER like the old SPICE series? I would not be suprised if it was already there as the guys producing the WP34 firmware seem to have done an excellent job.

Mike T.

Re: WP34s - Verifying Flashing

*Message #7 Posted by **Paul Dale** on 11 July 2011, 5:32 p.m.,*
in response to message #6 by Mike T.

There isn't a ROM checksum. Wouldn't be difficult to add one. Adding one that checked for the correct value would be a little harder but not much. Honestly, this hasn't come up -- I've not had a bad flash and it seems HP hasn't either.

STO ENTER can't be used for this purpose.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A suggestion for easy improvement of the HP17bII+

*Message #1 Posted by **Jose Gonzalez Divasson** on 10 July 2011, 7:34 a.m.*

While I know that financial calculators are not particularly loved here, I think that HP has made some that deserve attention even from engineers. Annd I feel that with a couple of small changes it would improve acceptance of wider audiences

Suggestions for a change in HP17bII

Re: A suggestion for easy improvement of the HP17bII+

*Message #2 Posted by **Tim Wessman** on 10 July 2011, 10:38 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

>would it be too difficult to enhance the math menues of the 17bII+ with the additional math functions provided in the 19bII

Yes.

TW

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Adding a crystal to the wp34s - how?

*Message #1 Posted by **Cristian Arezzini** on 10 July 2011, 6:22 a.m.*

I just received the components to add a crystal to the repurposed 30b (thanks Eric). I opened the calculator, and it's quite obvious where I should put the crystal; but I have no idea where to put the capacitors (there are many empty pads), and I couldn't find any info around. So... Where do the capacitors go? :)

Thanks, Cristian

Re: Adding a crystal to the wp34s - how?

*Message #2 Posted by **Paul Dale** on 10 July 2011, 6:29 a.m.,*
in response to message #1 by Cristian Arezzini

They go immediately to either side of the crystal.

They are labelled C3 and C4 on the 20b's PCB.

- Pauli

Re: Adding a crystal to the wp34s - how?

*Message #3 Posted by **Walter B** on 10 July 2011, 6:50 a.m.,*
in response to message #2 by Paul Dale

... and they are really small. Precision soldering :-/

Walter

Re: Adding a crystal to the wp34s - how?

*Message #4 Posted by **Cristian Arezzini** on 10 July 2011, 6:59 a.m.,*
in response to message #2 by Paul Dale

OK, thanks! They really are smaller than I expected... I hope I won't damage anything!

Cristian

Re: Adding a crystal to the wp34s - how?

*Message #5 Posted by **Etienne Victoria** on 10 July 2011, 8:51 a.m.,*
in response to message #4 by Cristian Arezzini

For my 47 years old eyes, a magnifier was mandatory.

Also, no ristretto or Red Bull for 12 hours prior to the modification and you should be set.

Steroids necessary to open the 30B case.

I succeeded by pressing hard on the side with thumb and inserting a FINE PLASTIC spudge in the opening whilst keeping the central part flat with the palm.

And yes, you need 3 hands for this: my daughter helped on this one :-)

Etienne

Edited: Didn't notice that Cristian had already opened the case. Sorry

Edited: 10 July 2011, 11:35 a.m. after one or more responses were posted

Re: Adding a crystal to the wp34s - how?

*Message #6 Posted by **Marcus von Cube, Germany** on 10 July 2011, 11:07 a.m.,*
in response to message #5 by Etienne Victoria

HP should have added the capacitors, at least. I don't think it adds to manufacturing costs in any sensible way.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Stand-alone version of WP34s assembler available

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 9 July 2011, 1:04 p.m.*

All,

Though the executable is big (5.6MB) and clunky slow (if has to decompress itself -- each time -- before it runs), it is available for any Windows environment without an installed Perl package. Other than that, it has none of the drawbacks of the TinyPerl build attempted a few weeks ago, and behaves identically to the main Perl script.

The Assembler documentation in SVN has been updated and includes some commentary about this addition as well. (A 'red-lined' difference of the document is also available at: WP34s_Assembler_Disassembler_diff_30Jun2011_to_9Jul2011.pdf)

The main Perl script is still, and will continue to be, the main development but the executable will be topped-up from time to time (its an ugly, multi-computer chore to create, ugh!!).

On another note, after a month wandering in the wilderness of Canada Post, my overlays have arrived (thanks Eric!) so I can finally retire my paper overlay. My photography doesn't hold a candle to others I have seen, but here is the comparison (I haven't flashed in a bit):

I too have had the mushy keys on <-, and to a lesser extent EEX and +/-. I am going to try a sharp razor blade to release the keys. You can just make out a bit of hacking I tried on the <- key with a less than sharp xacto blade.

Other than that minor issue, the new overlays are great.

Cheers...

Re: Stand-alone version of WP34s assembler available
*Message #2 Posted by **fhub** on 9 July 2011, 2:04 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

> Quote:
>
> ... it is available ...

Now the only question is: WHERE? ;-)

Re: Stand-alone version of WP34s assembler available
*Message #3 Posted by **Etienne Victoria** on 9 July 2011, 2:25 p.m.,*
in response to message #2 by fhub

On the SVN repository in the usual directories here

Best

Etienne

Re: Stand-alone version of WP34s assembler available
*Message #4 Posted by **fhub** on 9 July 2011, 2:36 p.m.,*
in response to message #3 by Etienne Victoria

> Quote:
>
> On the SVN repository in the usual directories here

Thanks!

That really strange: I'm always using the following link
http://sourceforge.net/projects/wp34s/develop
but there's still SVN 1196 (even with refreshing the browser cash)!?

Franz

Edited: 9 July 2011, 2:38 p.m.

Re: Stand-alone version of WP34s assembler available
*Message #5 Posted by **Marcus von Cube, Germany** on 9 July 2011, 2:42 p.m.,*
in response to message #4 by fhub

Franz, get yourself an SVN client like TortoiseSVN. The latest WP 34S release is 1197.

Re: Stand-alone version of WP34s assembler available
*Message #6 Posted by **fhub** on 9 July 2011, 2:47 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Well Marcus, I doubt this program would work on my old Win98 notebook I'm using here for internet! ;-)

And so far the link for the WP34S-SVN I've posted above has always worked fine - I don't know what's the matter today, maybe a problem on my ISP!?

Re: Stand-alone version of WP34s assembler available
*Message #7 Posted by **Hubert Weikert** on 9 July 2011, 3:06 p.m.,*

in response to message #1 by Neil Hamilton (Ottawa)

Hello Neil,

Congratulations! Have you used pp or have you found something better?

Hubert

Re: Stand-alone version of WP34s assembler available

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 9 July 2011, 5:02 p.m.,*
in response to message #7 by Hubert Weikert

Hi Hubert,

Yes, this was done using "pp". Once I got it all together it worked quite well. There were some problems with which Perl package was used and I'd have to go back and find out which one I eventually used.(I think I mentioned more details in an email to you last week.)

There is about 14MB (compressed to ~5MB) of unicode that I am still trying to figure out if I can remove. I have tried several tricks -- including just deleting the darn stuff -- but, as yet no luck. I am still looking for a solution that will make it smaller. Making it smaller will also make it faster since the majority of the time is taken decompressing the image.

The Assembler documentation gives a bit more detail.

BTW: It may *not* work with VERY old versions of Windows (ie: Windows 98). I have no way to test this but I do recall seeing something in some "pp" documentation that may indicate this.

Cheers...

Re: Stand-alone version of WP34s assembler available

*Message #9 Posted by **fhub** on 9 July 2011, 5:20 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

> Quote:
>
> BTW: It may *not* work with VERY old versions of Windows (ie: Windows 98).

Win98 is VERY old? Well, I'm much older myself ... :-)

But here on my Win98 notebook it seems to work fine so far!

Re: Stand-alone version of WP34s assembler available

*Message #10 Posted by **fhub** on 9 July 2011, 3:59 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

> Quote:
>
> Though the executable is big (5.6MB) and clunky slow (if has to decompress itself -- each time -- before it runs)

Hi again,

I've now looked into your EXE and I saw that the biggest part in it is for Unicode support (in the subfolder lib\unicore).
Maybe you could try to compile it without Unicode support?
I don't know if this is possible, but it would dramatically reduce the size of the EXE and also its decompression time, and Unicode is certainly not necessary for your assembler.

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can't quite indentify this calculator

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 9 July 2011, 11:07 a.m.*

My local engineering society rag came wrapped in an advertisement for life insurance that had a couple of pictures on it -- one of which I cannot quite figure out. The first is obviously an HP41C of some type:

The second is something I can't quite fathom:

.

It has a blue ENTER key. There is a yellow ISG label above the key below the ENTER. The key below the ENTER appears to be CHS.

Anyone know what this is? Is it a Frankenstein? Photoshop (if so, why??)?

Re: Can't quite indentify this calculator

*Message #2 Posted by **Raymond Del Tondo** on 9 July 2011, 11:30 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Hi,

it seems that the people who made the ad actually like ThinkPads;-)

From early 200x on, ThinkPad computers and IBM/Lenovo keyboards have a blue ENTER/Return/Endline key.

Apart from that, the photos in the brochure were surely meant to support the ad text in some way, and maybe they simply thought it looks best this way.

As you can see from the ISG/CHS key in the 2nd pic, they placed elements with PS, and maybe they also thought that a key legend like CHS/ISG looked better than "-"/x=y?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

50G has stopped plotting?

*Message #1 Posted by **Glenn Becker** on 9 July 2011, 6:36 a.m.*

Good morning all -

I am being driven nuts by this and don't have my manuals handy ... but my 50G seems to no longer be drawing plots, even of simple functions. I get coordinate axes ... if I ask the calc for things like slope, etc. I get the correct values, but no plot is drawn.

I have tried setting/unsetting a few flags, but nothing has helped.

I have tried resetting the unit by pressing ON F3 (and alternatively by pushing a paper clip into the small hole in the back) but I am not sure the unit is resetting properly, either: I get a brief flash of the "powered by <something> kernel" and then the display is immediately back -- with, apparently, the same settings.

I'm sure I'm doing something silly, but I can't figure out what it is.

Glenn

Re: 50G has stopped plotting?

*Message #2 Posted by **Glenn Becker** on 10 July 2011, 6:21 p.m.,*
in response to message #1 by Glenn Becker

I wound up doing a complete reset by removing all the batteries. I think I just had the calc at some extreme zoom level or something. All better now, and learning more about this unit every day. :^)

Re: 50G has stopped plotting?

*Message #3 Posted by **Chris Randle (UK)** on 11 July 2011, 6:01 p.m.,*
in response to message #2 by Glenn Becker

Hi Glenn,

If it was a case of an extreme zoom level, then you can reset it by purging the PPAR variable in the current directory. You can change the zoom level with LS+WIN (press and *hold* the white left-shift key and press F2). Edit the min and max H-View values to something better. -6.5 to 6.5 is the default. The Auto key (F4) will adjust the V-View for the current H-view range.

An alternative way to do a machine reset is ON+A+F and answer "NO" to "Try To Recover Memory?"

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

50G has stopped plotting?

HP Forum Archive 20

[Return to Index | Top of Index]

9810 works, briefly

*Message #1 Posted by **David Ramsey** on 8 July 2011, 9:22 p.m.*

Well, my TAS 9810 arrived today. Did you know that the rubber printer roller can disintegrate into goo so liquid that it actually soaks into the paper roll? Well, it can.

The card reader rollers had turned into something like brittle cork. Messy, but easier to deal with than goo.

Took it apart, removed PCVs, cleaned connectors, plugged everything back in and...it works! Came up, and aside from two bad segments in one digit of the "keyboard" register display, everything seemed functional. Bolted it back together and....nothing. Won't turn on, no power fan, no horrible smoking components, just as though it was receiving no power at all.

Fuses OK, power switch OK. No voltages on the nicely labeled measuring points on the power supply.

Any suggestions?

Re: 9810 works, briefly

*Message #2 Posted by **David Ramsey** on 9 July 2011, 12:59 a.m.,*
in response to message #1 by David Ramsey

Never mind...there's a short somewhere near the power switch. If I apply pressure to the lower right end of the keyboard, it works fine. Just a matter of tracking it down...

Re: 9810 works, briefly

*Message #3 Posted by **BobVA** on 9 July 2011, 7:53 a.m.,*
in response to message #2 by David Ramsey

Post a couple of pictures one you get it sorted - that's just a cool looking machine. Glad you got it working.

Re: 9810 works, briefly

*Message #4 Posted by **David Ramsey** on 9 July 2011, 12:27 p.m.,*
in response to message #3 by BobVA

Well, I probably won't get time to work on the short issue for a week or so, but here are some photos anyway. First, the 2011 quail chicks:

I catch and release quail chicks in my yard every year. The little buggers can run like lighting and make inertialess 90-degree turns. Considering I'm 55, I'm kinda proud I can still catch 'em.

What? Oh, the 9810! Well, the first thing I noticed was when I removed the printer paper:

Yeah, that's going to be a LOT of fun to clean up internally. The card reader, on the other hand, will be easier:

As you can see from this slightly blurry photo, the drive rollers have turned to some crumbly brown material.

The edges of the circuit boards, on the other hand, are pristine. Is this gold plating?

The keyboard/X register has one digit with two dead segments. I don't suppose these LEDs are still made...?

Here's another shot of the display...

Here it is in program mode. I have a simple little program I use to do basic functional testing; it calculates how long it would take to fly a ship from here to Pluto (using 3.7e9 miles as the distance) assuming it could accelerate at 1g halfway then decelerate the remainder. On an HP-67, this program takes several seconds to run. On an HP-41, it takes just under 2 seconds. On the 9810, it's instantaneous.

The primitive version of RPN is confusing: having the result of an operation end up in the Y register is weird; you have to roll the result down to X to perform a subsequent unary operation.

Here are the options the calculator came with.

The exterior of the machine is quite battered: stains, chips in paint and plastic, and so forth. I won't try any cosmetic restoration, though: it has earned its stripes, as it were.

I would like to get a math module, because it feels weird to have an HP calculator without transcendentals. I will also eventually repair the printer and card reader, and although I have Katie's writeup on the latter, I have nothing on the former.

Also, I have no mag cards. Maybe Katie will sell me one or two.

Edited: 15 July 2011, 4:20 p.m. after one or more responses were posted

Re: 9810 works, briefly

*Message #5 Posted by **BobVA** on 9 July 2011, 1:19 p.m.,*
in response to message #4 by David Ramsey

Looks cool! Thanks for putting those up.

It is indeed gold. Fortunately for us, HP was generous with it back in the day. I doubt all our old treasures would work so well today if they hadn't. I was restoring an old HP DVM a couple of weeks ago and the internal construction was very reminiscent of HP calculators. Lots of gold plating and, interestingly enough, one of those weird gold "comb" connectors like the ones between boards on the older calculators. In the DVM it was used to connect a PCB with a large hybrid circuit (A2D, signal buffers, etc.) to the main board.

Is the LED display a monolithic unit? Or can you swap, say, the "X" and perhaps "Z" displays? That would at least move the problem to a less noticed location and also confirm the problem is the LED, vs. a connector or something like that.

If you score a math module, perhaps you can start doing some curve fits on quail population trends. Always good to have a dissertation topic in your back pocket :-)

Thanks again, Bob

Edited: 9 July 2011, 1:19 p.m.

Re: 9810 works, briefly

*Message #6 Posted by **David Ramsey** on 9 July 2011, 1:27 p.m.,*
in response to message #5 by BobVA

> Quote:
>
> Is the LED display a monolithic unit? Or can you swap, say, the "X" and perhaps "Z" displays? That would at least move the problem to a less noticed location and also confirm the problem is the LED, vs. a connector or something like that.

The display is a single, easily removed, plug-in circuit board that contains the drivers and all three registers (I believe there's a photo on the Museum's 9810 page). Each LED digit is individually soldered on.

I think it would be relatively simple to unsolder and swap the problematic digit with another one; I've done similar things on Classic series calculators (where the LEDs were in 5-digit segments). I'm not going to risk it here, though, because the best possible outcome it still a digit with missing segments, just in another part of the display, and the worst possible outcome is a display with more problems (if not completely dead).

It's still pretty easy to find an old Classic for spare parts; not so another 9820! Frankly I would be reluctant to try it even if I had several new LED digits for this display!

Re: 9810 works, briefly

*Message #7 Posted by **Tony Duell** on 10 July 2011, 4:02 a.m.,*
in response to message #6 by David Ramsey

There are 2 versions of the display board. They are totally interchangable, and differ only in the displays themselves. The rest of the electronics works in the same way.

The older one has 45 individual 7 segment modules fitted to it. The later one has 9 off 5-digit modules. These appear to be electrically the same as the displays used in the classic series handhelds (HP35, etc), but with the pins bent differently. But of course I don't recomend raiding an HP35 to fix an HP9810.

It sounds like you have the older display board anyway. In the absence of any spares, I'd do what others suggest and move the dud displays to a less-used position. Individual segments missing is almost always a problem with the displays themselves, of course.

Re: 9810 works, briefly

*Message #8 Posted by **Katie Wasserman** on 9 July 2011, 2:23 p.m.,*
in response to message #4 by David Ramsey

David,

Take a look at this thread for suggestions on how to remake the printer platen.

There are two different length cards made for the 9810: one about 6 inches the other about 10.5 inches. I have a few extras of the 6 inch cards if you need a couple of test with. I found some large 3M magnetic cards somewhere that I was able to cut down to around 8 inches and use successfully as well. (I'm not sure if I have any of those left or not. PM me on this.)

I need to do some repair work on my 9810 too, it's not booting up. But was 100% functional not too long ago....

-Katie

Re: 9810 works, briefly

*Message #9 Posted by **David Ramsey** on 10 July 2011, 12:15 a.m.,*
in response to message #8 by Katie Wasserman

Katie, thanks for the card offer, but Etienne Victoria is already sending me a couple (from France!), which should be all I ever need.

Hopefully your 9810's problem is as simple as mine was.

Re: 9810 works, briefly

*Message #10 Posted by **Tony Duell** on 11 July 2011, 4:31 a.m.,*
in response to message #8 by Katie Wasserman

It will actually record on any length of card (within reason). I think you can even get 9100 cards to hold a few program steps. There are optical sensors in the card reader that detect when the leading edge of the card has got past the head (start recording) and when the trailing edge is getting near the head (stop recording).

Another common card reader problems is that the bulbs for these sensors burn out. That's easy to cure and the bulbs are still available.

As for the machine that's not starting up, my procedure is basically to check all the PSU outputs, then check if the clock circuitry is running properly. You can power up the clock PCB on its own (either from a 5V bench supply or by plugging it into the machine with the other logic boards removed) and check the muClk and Bitclk signals. You should get 16 of the latter then 1 of the former, 16 of the latter and so on.

After that, I connect a logic analyser to the test connector on the CPU control board, trace the microcode, and sit down with the listing.

Re: 9810 works, briefly

*Message #11 Posted by **Katie Wasserman** on 11 July 2011, 11:14 a.m.,*
in response to message #10 by Tony Duell

Tony,

Thank you for the tips! Isn't there also a POP(not) indication from the 5 volt supply that might be the issue with a machine that doesn't boot up?

-Katie

Re: 9810 works, briefly

*Message #12 Posted by **Tony Duell** on 12 July 2011, 4:41 a.m.,*
in response to message #11 by Katie Wasserman

Yes there is a POP signal (Power On Preset, what is more commonly called a 'rst' signal now). It clears the microcode program counter, basically, to get the microcode starting at location 1717 (split octal).

But if it's stuck you'll find the problem when you try to trace the microcode with a logic analyser and find that it's totally stuck. I suppose it could fail to operate at all, and thus cause the processor not to start cleanly, but I think you'll find that when you try to trace the microcode too.

Re: 9810 works, briefly

*Message #13 Posted by **aj04062** on 9 July 2011, 5:35 p.m.,*
in response to message #4 by David Ramsey

Hey Dave/Katie,

I have the Mathematics Module. Is there any way to transfer some of the functions you want to a card? This would imply that I GET MY CARD READER GOING!

Just a thought.

Re: 9810 works, briefly

*Message #14 Posted by **David Ramsey** on 10 July 2011, 11:03 a.m.,*
in response to message #13 by aj04062

> Quote:
>
> Hey Dave/Katie,
>
> I have the Mathematics Module. Is there any way to transfer some of the functions you want to a card? This would imply that I GET MY CARD READER GOING!
>
> Just a thought.

Although at this point I know very little about the 9810, I suspect the various plug-in modules contain machine code, not keystroke sequences that could be recorded to a card, sigh.

Re: 9810 works, briefly

*Message #15 Posted by **Eric v d Wateren** on 10 July 2011, 2:36 p.m.,*
in response to message #14 by David Ramsey

David,

Thanks for sharing your pictures, they (apart from the wonderful quail picture) look very familiar. I had a similar experience with my unit that required a major clean up due to a liquified printer roller... Thanks to Tony Duell's help it is now again in great condition, including new card reader rollers.

By the way, I should have a spare Math module. If you are interested you're welcome to have it. Just drop me a line at 'vdwateren at netscape.net'.

Congratulations with your aqcuisition and enjoy it!

Best regards, Eric

Re: 9810 works, briefly

*Message #16 Posted by **Tony Duell** on 10 July 2011, 4:51 a.m.,*
in response to message #2 by David Ramsey

Much more likely to be an open-circuit than a short. The power switch directly controls the mains input, and if yuo get a short there you'll blow fuses.

The power switch itself can fail. I've never never had any success with taking them apart and cleaning them, nearly always there are broken plastic parts. Finding a mechanically-similar switch is a problem if you need to replace it.

Getting the swtich out is not totally trivial either. It goes like this:

Remove the complete keyboard assembly and turn it over so that it's resting on the keys. Have the the display window section overhanging the edge of the bench.

Unplug the interconnection PCB between the keyboard and the encoder PCB, then unplug the cable from the other end of the encoder PCB, undo the screws and remove said PCB.

Undo the 6 screws holding the keyboard to tbe bezel. 4 are easy to see at the sides, the other 2 are reached through holes in the keyboard PCB. Remove the keyboard from the bezel.

Undo the 6 screws holding the front strip to the keybaord. Remove the strip. Now you can see the 2 screws holding the switch in place.

The switch can be tested in the obvious way (look at the schematics...)

You may find that the screws were originally anchored with threadlock or similar. I find it best to clean up the threads using taps and dies (4-40 and 6-32 UNC) before refitting them. And don't bother with any threadlock, unless you are shipping the unit in an army tank it's not going to come apart by itself.

When you come to ressemble it, the only difficult part is refitting the bezel. I do it like this :

Put the keybaord into the bezel and fit the 4 side screws (the easy ones to get to) loosly. The bezel should be just lifted off the bench.

With long-nose pliers, fit the rear center screw, fiddling it between the 'switches'. Put a screwdriver

through the hole in the PCB, locate the screw and start it into the bezel thread.

Put the remaining screw on the screwdriver tip and 'ram' it into the front hole in the PCB. If it doesn't locate, shake it out and try again. With all screws located, tighten them up evenly.

Re: 9810 works, briefly

*Message #17 Posted by **David Ramsey** on 10 July 2011, 11:10 a.m.,*
in response to message #16 by Tony Duell

> Quote:
>
> Much more likely to be an open-circuit than a short. The power switch directly controls the mains input, and if yuo get a short there you'll blow fuses.
>
> The power switch itself can fail. I've never never had any success with taking them apart and cleaning them, nearly always there are broken plastic parts. Finding a mechanically-similar switch is a problem if you need to replace it.

Yeah, looking at the switch carefully I don't see any obvious problems with the solder connections, so it may well be a mechanical issue inside the switch. The switch doesn't *feel* broken when you operate it, though, so I'll want to look at this very carefully.

Given the generally horrible cosmetics of this example, I have no problem with replacing it with a functionally identical switch mounted in a hole drilled in the right lower side of the case. I don't have the machine apart now but as I recall the switch has 6 contacts, 4 of which are in use, and a resistor bridges each pare of contacts. Normally I'd call this a "triple pole single throw" type switch, but hopefully you can tell me what it REALLY is...

(Yes, I've ordered the CD with the schematics, but I assume it'll be a couple of weeks to get here...)

Edited: 10 July 2011, 11:13 a.m.

Re: 9810 works, briefly

*Message #18 Posted by **Tony Duell** on 11 July 2011, 4:23 a.m.,*
in response to message #17 by David Ramsey

In England we'd call it a 'Double Pole Double Throw' switch. Or 'DPDT', 'Double Pole Form C', 'Double Pole Changeover'. Electrically, it has to be rated to switch mains voltage (250V) at about 2A.

Mains comes in on the middle pin of each side of the switch (which is the 'moving contact'. The contacts that are made when the switch is in the 'on' position feed the mains to the voltage selector and transformer. The contacts that are made in the 'off' position connect a 1M resistor across the output of the mains filter to discharge the capacitors in said filter when the machine is unplugged. I believe this was a prodution modification, early machines don't have this resistor (and you could, if unlucky, get a small shock from the pins of the mains plug after unplugging the machine).

For testing you can bridge the switch by soldering a wire link between the middle pin and the 'end pin' carrying a wire on each side of the switch. That is one link between the grey wire and the white/brown/black wire and a second link between white/grey and the white/brown/red wires. Remember you are dealing with the mains so be careful nothing can sort to things it shouldn't.

Re: 9810 works, briefly

*Message #19 Posted by **David Ramsey** on 11 July 2011, 11:32 a.m.,*
in response to message #18 by Tony Duell

I'm on the road now but will check this out when I return, and make sure that I'm not about to smoke the PS.

Re: 9810 works, briefly

*Message #20 Posted by **Mike Morrow** on 10 July 2011, 11:42 a.m.,*
in response to message #16 by Tony Duell

Lacking an exact switch replacement, one would likely do better bypassing the existing switch electrically. A power cord with in-line switch would replace the function. This would also preserve the possibility of restoring all back to original status, should an exact replacement be found later.

Re: 9810 works, briefly

*Message #21 Posted by **David Ramsey** on 10 July 2011, 8:25 p.m.,*
in response to message #20 by Mike Morrow

> Quote:
>
> Lacking an exact switch replacement, one would likely do better bypassing the existing switch electrically. A power cord with in-line switch would replace the function. This would also preserve the possibility of restoring all back to original status, should an exact replacement be found later.

True: since the switch connects to the rest of the machine via a 4-pin Molex connector, it's easy to wire around. All I need to know is which of the four pins on the mating connector I need to short to turn it "on", and then I can build a shorting plug to keep in on internally, and use the switched power cord as per your suggestion...

Re: 9810 works, briefly

*Message #22 Posted by **Tony Duell** on 11 July 2011, 4:25 a.m.,*
in response to message #21 by David Ramsey

It's actually a 5 pin Molex (I think it's Molex and not AMP) connector, the middle pin is not used. It's non-trivial to find this housing now too.

But numbering the pins from either end, the switch connects 1 to 4 and 2 to 5 when it's turned on.

Re: 9810 works, briefly

*Message #23 Posted by **David Ramsey** on 11 July 2011, 11:35 a.m.,*
in response to message #22 by Tony Duell

Hm. Well, it *would* be trivial to replace the 5 pin Molex with a 4 pin version...in fact I could probably just push the pins out of the existing connector and into a 4 pin shell, allowing future restoration of the Historically Correct Part.

Re: 9810 works, briefly

*Message #24 Posted by **David Ramsey** on 12 July 2011, 8:20 p.m.,*
in response to message #16 by Tony Duell

When I see stuff like this, I rejoice, because it means that even someone of my *extremely limited hardware skills* can deal with it:

One wire had corroded and come lose from the middle connector. I will note that the quality of the hand soldering on this switch was not the best: note the "solder ball" appearance which means that the connections weren't heated well when the solder was applied. Still, it works and it was easy to strip a few mm of insulation from the broken wire, clean off the existing solder, and re-solder it.

My power switch now works perfectly.

BTW, getting that last keyboard retaining screw in initially frustrated me: the screws are non-magnetic, so that trick doesn't work. Then I had an inspiration: dip the tip of the screwdriver in platen goo, touch to screw, insert! Works a champ.

Re: 9810 works, briefly

*Message #25 Posted by **Katie Wasserman** on 13 July 2011, 10:56 a.m.,*
in response to message #24 by David Ramsey

My power switch fell apart completely. I salvaged the metal frame that was holding the switch together and mounted a sub-mini toggle switch in that frame. In this way the two screws that were holding the switch in place still are holding it in place.

My problem now is that the machine needs a while to warm up before it starts working. This can take a few minutes if it's cold or about 2 seconds if it's warm. I don't know what's wrong but once it's on it stays and and works 100%.

What the normal delay from when the power switch is turned on to when you see all zeros on the display?

Thanks, -Katie

Re: 9810 works, briefly

*Message #26 Posted by **David Ramsey** on 13 July 2011, 12:15 p.m.,*
in response to message #25 by Katie Wasserman

> Quote:
>
> My power switch fell apart completely. I salvaged the metal frame that was holding the switch together and mounted a sub-mini toggle switch in that frame. In this way the two screws that were holding the switch in place still are holding it in place.

That's probably more elegant than anything I would have done. Hopefully the submini toggle can handle the current.

> Quote:
>
> My problem now is that the machine needs a while to warm up before it starts

> working. This can take a few minutes if it's cold or about 2 seconds if it's warm. I don't know what's wrong but once it's on it stays and and works 100%.

Do you just have to wait, or do you have to turn it on, let it warm up, then turn it off and on again? I can only suspect this is a power supply problem (low voltage?) since none of the electronics should be temp sensitive, unless maybe it's a case of "heat expansion making a contact that should be made". But considering my minimal hardware knowledge, someone else should chime in.

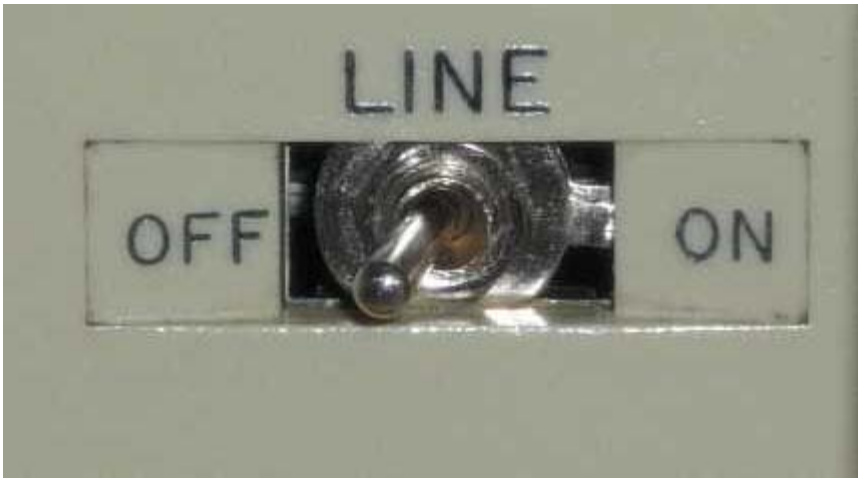
> Quote:
>
> What the normal delay from when the power switch is turned on to when you see all zeros on the display?

3 seconds or a fraction under. All the status LEDs on the keyboard light up immediately, and the display follows shortly thereafter.

Re: 9810 works, briefly

*Message #27 Posted by **Katie Wasserman** on 13 July 2011, 10:03 p.m.,*
in response to message #26 by David Ramsey

Thanks for that. The sub-mini toggle switch is rated for 3A 125V, it should be fine.



I let the machine stay on for a long time and now it's working perfectly, even when it's cooled down to room temperature. I suspect that the issue is/was with one or more electrolytic capacitors. Without use, over time they loose their ability to store charge and need to be "reformed". If they're not too far gone reforming can be done at their normal operating voltage -- i.e., "the calculator fixed itself".

Edited: 13 July 2011, 10:15 p.m. after one or more responses were posted

Re: 9810 works, briefly

*Message #28 Posted by **David Ramsey** on 13 July 2011, 10:11 p.m.,*
in response to message #27 by Katie Wasserman

Well, replacing the electrolytics on the PS boards should be pretty simple...

Re: 9810 works, briefly

*Message #29 Posted by **Katie Wasserman** on 13 July 2011, 10:22 p.m.,*
in response to message #28 by David Ramsey

I agree, replacing the caps is simple, but I'm not so sure it's the power supply ones because the voltages were all very steady with very low ripple. Anyway, if it acts up again I work on doing just that.

Re: 9810 works, briefly

*Message #30 Posted by **David Ramsey** on 14 July 2011, 10:37 p.m.,*
in response to message #29 by Katie Wasserman

In other news, I received my O rings from smallparts.com today. Now I have a bag of 100, if anyone needs any spares. Using your instructions I'm hoping repairing the card reader will be relatively simple. SR-60 cards physically fit in the slot with only a mm or so of clearance on each side, so perhaps they will work.

Re: 9810 works, briefly

*Message #31 Posted by **Katie Wasserman** on 14 July 2011, 10:55 p.m.,*
in response to message #30 by David Ramsey

The card reader in the 9810/20 is remarkably robust, the SR-60 cards should work. BTW the o-ring fix to the reader in my calculator has never failed to work in the past 10 years. Not that I was using it much but there's no deterioration or slippage over time.

Re: 9810 works, briefly

*Message #32 Posted by **David Ramsey** on 15 July 2011, 1:41 p.m.,*
in response to message #31 by Katie Wasserman

A question on card reader repair (yeah, I know it's been 10 years):

Access to the drive wheels are blocked by the black plastic card guide:

The bottom end of said card guide is secured by a snap ring:

I have snap ring pliers but that sucker's on pretty tight and I'm worried about damaging it. Your instructions don't mention this, but it would seem a necessary step to getting to the drive wheels...unless I'm doing something wrong.

Hints?

Update: Never mind! The solution is to unscrew the shaft securing the bottom part of the card guide from the drive belt side of the reader. Duh.

Edited: 15 July 2011, 2:09 p.m.

Re: 9810 works, briefly

*Message #33 Posted by **David Ramsey** on 15 July 2011, 4:03 p.m.,*
in response to message #32 by David Ramsey

And...success! Wrestling the O rings on was tedious, but patience and many, many tries won out.

I tested the reader feed mechanism by manually running an SR-60 card through it, turning the motor by hand. OK, that works.

Reassembled everything, wrote a small program, stuck the SR-60 card in and pressed RECORD. The card's entire length fed through and stopped.

Turned the calculator off, waited 30 seconds, turned it back on and verified program memory was clear. Inserted the card and pressed LOAD.

Success! The 20 or so program steps read in and executed perfectly.

The SR-60 cards are long, but otherwise fit as though they were made for the machine. Makes me wonder...

Re: 9810 works, briefly

*Message #34 Posted by **Katie Wasserman** on 15 July 2011, 7:09 p.m.,*
in response to message #33 by David Ramsey

> Quote:
>
> The solution is to unscrew the shaft securing the bottom part of the card guide from the drive belt side of the reader

That sounds about right. Ten years is a long time for my memory cells to retain something, I'm glad you figured it out!

It's a fast calculator and good to write programs for. It's easier if you have the alhpa/printer ROM to see nemonics for your listings and fun to use the FMT key to print alphabetics from programs. The fan noise is loud though, which detracts from long-term use. I suppose I could slow it down or replace it with a quieter one, but I don't want to take a chance on it overheating and shortening the IC's lifetimes.

Re: 9810 works, briefly

*Message #35 Posted by **David Ramsey** on 15 July 2011, 8:08 p.m.,*
in response to message #34 by Katie Wasserman

It is startlingly fast, much faster than, say, an HP-41 or 42 and

about a zillion times faster than the SR-60.

It's amazing how well the card reader works. I haven't had a bad read or write yet. Just need to remember to end programs with END instead of STOP or RTN, because otherwise the card reader will keep on running...

Re: 9810 works, briefly

*Message #36 Posted by **Tony Duell** on 10 July 2011, 3:58 a.m.,*
in response to message #1 by David Ramsey

Yes, I had a paper platen roller turn to goo (in an HP9820, which is mechanically identical). Based on some advice in this forum, I used 3M Cold Shrink to replace it. You want the smallest size cold shrink kit, which contains 2 rubber tubes (which you have to force onto the spindle) and the cold shink itself. Put that over the sleeves, pull out about half the support (this will make sense if you are doing it), then put the remaining cold shrink on top as a second layer. Finally trim to length.

Cleaning off this goo is the big problem though. You hae to completely strip the printer. It gets on the printhead, the driver PCB (at the bottom), and even onto the main backplane and keyboard connector. I found propan-2-ol helps in cleaning it up, but it still takes a lot of elbow grease.

For the card reader roller, I use a rather different technique to the one normally suggested here. I remove the old hubs with a puller and then fit a new, machined brass hub with grooves to take a pair of 1" outside-diameter O-rings.

Sometimes I can't get the hubs off without damaging the spindle, so I have to replace that too (1/8" diameter, I use stainless steel).

The only downside to this method is that you need a small lathe.

My datafile articles on the HP9800s do cover repairing the printer and card reader, but in part 8, which will (hopefully) be published at the end of next year. I don't suppose you want to wait that long :-). But I will be happy to talk you trhough any repairs.

There are some pictures in my flickr account of repairing the printer and card reader. Actually listed as for an HP9820, but it's the same.

Re: 9810 works, briefly

*Message #37 Posted by **David Ramsey** on 10 July 2011, 11:17 a.m.,*
in response to message #36 by Tony Duell

I can't locate your Flickr images using your name or various permutations of "HP 9820". Pointers...?

Re: 9810 works, briefly

*Message #38 Posted by **Tony Duell** on 11 July 2011, 4:11 a.m.,*
in response to message #37 by David Ramsey

Try tony_duell :-)

I don't see why this URL should be banned, the link is :

http://www.flickr.com/photos/tony_duell/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

(deleted post)
*Message #1 Posted by **deleted** on 8 July 2011, 2:02 p.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator Business, back then

*Message #1 Posted by **Frank Boehm (Germany)** on 8 July 2011, 6:15 a.m.*

Serious Calculator Business

Re: Calculator Business, back then

*Message #2 Posted by **Walter B** on 8 July 2011, 12:02 p.m.,*
in response to message #1 by Frank Boehm (Germany)

Very interesting pictures. Thanks for sharing.

One point, however. The publisher wrote:

> Quote:
>
> There were no calculators in 19th-century Russia.

There were no calculators *anywhere on this planet* in the 1860s, beyond different types of abaci and slide rules, except a *very low* number of working mechanical calculating devices. This was no Russian speciality IMHO.

Walter

Re: Calculator Business, back then

*Message #3 Posted by **Marcus von Cube, Germany** on 8 July 2011, 3:14 p.m.,*
in response to message #2 by Walter B

"Calculator" used to be a profession, not a device.

Re: Calculator Business, back then

*Message #4 Posted by **db (martinez, ca.)** on 9 July 2011, 12:24 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Marcus; True.

Re: Calculator Business, back then

*Message #5 Posted by **Walter B** on 9 July 2011, 1:00 a.m.,*
in response to message #4 by db (martinez, ca.)

Marcus, db,

True but missing the point. Those calculators or computers were not meant in the picture caption quoted. Please compare Palmer's post below.

Walter

Re: Calculator Business, back then

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 8 July 2011, 10:39 p.m.,*
in response to message #1 by Frank Boehm (Germany)

The complete text was:

> Quote:
>
> There were no calculators in 19th century Russia. Arithmetic was done with the help of an abacus; so of course, this provided a niche for the peasantry -- wood carvers, in particular.

I noted from the picture that most of the wires had ten beads, but some wires had only four. I didn't understand what that was about until I found the following discussion in Wikipedia:

> Quote:
>
> The Russian abacus, the schoty (ñ÷¸òû), usually has a single slanted deck, with ten beads on each wire (except one wire which has four beads, for quarter-ruble fractions. This wire is usually near the user). (Older models have another 4-bead wire for quarter-kopeks, which were minted until 1916.)

If you go to the next picture in the series on Russian peasantry you will find the following text:

> Quote:
>
> Knife grinders were much needed in Russia. Among the lower classes there was no money to just buy a new knife when one went blunt, and even the wealthy would send out their knives for resharpening.

One can only wonder what world the author of the texts in the Russian peasantry series was in. Maybe I'm just sensitive on the sharpening of knives subject. Even in this 21st century I still sharpen my knives rather than buy new ones when my old ones become dull. I suppose that Ms. Michelle Collet would identify me as "of the lower classes."

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50G - ROM upgrade under Linux

*Message #1 Posted by **Glenn Becker** on 7 July 2011, 11:44 a.m.*

Hi all -

Has anyone upgraded the ROM on a 50G under Linux? I maintain a Windows-free computing environment at my house, and as I am looking forward to tackling a multivariable calculus course in the fall, I'm using the 50G a lot more. I'd like to know if there is a way to do this.

At worst, I guess I could try running the Win connectivity software under Wine, but I'd prefer a native solution.

Thanks,

Glenn

Re: HP 50G - ROM upgrade under Linux

*Message #2 Posted by **Gerson W. Barbosa** on 7 July 2011, 11:58 a.m.,*
in response to message #1 by Glenn Becker

Just download the HP-50g ROM update file to an SD card and follow the instructions at Educalc.net:

http://www.educalc.net/284489.page

Regards,

Gerson.

Re: HP 50G - ROM upgrade under Linux

*Message #3 Posted by **Egan Ford** on 8 July 2011, 1:58 p.m.,*
in response to message #2 by Gerson W. Barbosa

> Quote:
>
> Just download the HP-50g ROM update file to an SD card ...

IMHO, Windows or non-Windows, the SD card update is preferable.

Re: HP 50G - ROM upgrade under Linux

*Message #4 Posted by **Bill Zimmerly** on 8 July 2011, 1:52 p.m.,*
in response to message #1 by Glenn Becker

Glen,

I've found VirtualBox to be a great solution for running Windows XP software under Linux. I've used QEMU and Wine extensively, and believe VirtualBox to be the better of them - especially with TI calculator software.

VirtualBox

- Bill

Re: HP 50G - ROM upgrade under Linux

*Message #5 Posted by **Egan Ford** on 8 July 2011, 2:20 p.m.,*
in response to message #4 by Bill Zimmerly

> Quote:
>
> ...Wine extensively...

Christoph Giesselink's emulators (http://hp.giesselink.com/emu48.htm) work well with WINE. So if x49gp is too much hassle, then emu48 (the debug4x build) works great with WINE.

Re: HP 50G - ROM upgrade under Linux

*Message #6 Posted by **Egan Ford** on 8 July 2011, 2:17 p.m.,*
in response to message #1 by Glenn Becker

You do not need Windows at all to enjoy the 50g. The 50g without Windows:

1. Can flash with SD card.
2. Can be truly emulated (i.e. true ARM 50g emulation). http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART. Screen shot here: http://sense.net/~egan/hpgcc3/pics/x49gp-osx.png. NOTE: Please do not ask me to port to Windows.
3. With DOSBox/DOSEMU you can emulate a printer and print to it: http://sense.net/~egan/virtual82240b/. More information here: http://groups.google.com/group/comp.sys.hp48/tree/browse_frm/thread/c694a8c429f4c623/8204b04a11a19d27?rnum=1&_done=%2Fgroup%2Fcomp.sys.hp48%2Fbrowse_frm%2Fthread%2Fc694a8c429f4c623%3F#doc_8204b04a11a19d27, Or natively in Unix/Linux: http://www.hpcalc.org/details.php?id=7081
4. Write HPGCC2 programs (http://sense.net/~egan/hpgcc/) or HPGCC3 programs (http://hpgcc3.org/).

You do not need Windows to get the most out of your 50g. I cannot think of a single thing that you'd ever need Windows for. However, if it comes to that, VirtualBox (mentioned above) is a great solution for the emulation of legacy operating systems. :-)

Re: HP 50G - ROM upgrade under Linux

*Message #7 Posted by **Glenn Becker** on 10 July 2011, 6:22 p.m.,*
in response to message #6 by Egan Ford

Many thanks to all who replied -- I look forward to exploring some of these options. %^D

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Project Euler Problem 11 on the HP 48GX?

*Message #1 Posted by **Peter Murphy (Livermore)** on 6 July 2011, 10:17 p.m.*

I have a 48GX, bought Not Working and revived by Randy Sloyer. I am using Project Euler to help me learn to use it, purely for fun; I have no practical application in mind.

Project Euler Problem 11 seeks the largest product of four adjacent integers in a 20 x 20 matrix. I solved it by compiling a list of the maximum such products for each row, column, and diagonal and then using RNRM to extract the greatest of those.

Can anyone suggest smarter ways to solve the problem, and/or applicable commands more sophisticated than those required to extract rows, columns, and diagonals?

Re: Project Euler Problem 11 on the HP 48GX?

*Message #2 Posted by **Gilles Carpentier** on 7 July 2011, 1:48 a.m.,*
in response to message #1 by Peter Murphy (Livermore)

Hi,

I solved it like this (with the 50G). My solution is quick & dirty and not very smart. I am not sure it's pefect but it gave the good answer. I remember now i was lucky to find the solution without testing others diagonals (just few lines to add). The first try was the good one so i stopped here.

How do you do with RNRM ?

EDIT : "I solved it by compiling a list of the maximum such products for each row, column, and diagonal and then using RNRM to extract the greatest of those."

To find the greatest value (num, alpha ...) in a list , you can also do :

<< MAX >> STREAM

«

```
{
{ 08 02 22 97 38 15 00 40 00 75 04 05 07 78 52 12 50 77 91 08 }
{ etc...}
}


0 0

  -> t t2 m
  «
    t AXL 't2' STO

    @ Diag 1
```

```
    « n '61+(n-4)*20' EVAL 2 ->LIST » 'n' 4 20 1 SEQ

    1
     «
       « 't2' n GET » 'n' ROT LIST-> DROP 19 SEQ
     »
    DOSUBS

    t + t AXL TRAN AXL +

    1
      «
        4 « * * * DUP m < « DROP » « 'm' STO » IFTE » DOSUBS
      »
    DOSUBS
    m
  »
»
```

Edited: 7 July 2011, 4:13 a.m.

Re: Project Euler Problem 11 on the HP 48GX?

*Message #3 Posted by **Peter Murphy (Livermore)** on 7 July 2011, 9:33 a.m.,*
in response to message #2 by Gilles Carpentier

Hello Gilles,

And thanks for the helpful reply.

You say,

"To find the greatest value (num, alpha ...) in a list , you can also do :

<< MAX >> STREAM"

That's clearly the best way; thanks for pointing out the MAX/STREAM combination and for showing me the format that makes it work. They're both valuable lessons, and just what I hoped for when I posted this.

To use RNRM I had to turn the list into an array with OBJ-> ->ARRY, a waste of time.

I used ->DIAG to extract the diagonals, successively paring away rows or columns of the matrix to expose successive diagonals. I thought that that was efficient; is there a better way?

To extract the oppositely directed diagonals, I extracted all the columns, made them a list, used REVLIST to reverse them, and reconstituted the matrix. Then I could use ->DIAG as before. Is there a better way to do that? Would a loop to swap symmetrically located pairs of matrix columns be better, for example?

Unfortunately, I am a very poor reader of RPL, so I can't appreciate any additional lessons contained in your code.

All the best,

Peter

G

*Message #4 Posted by **Gilles Carpentier** on 7 July 2011, 6:41 p.m.,*
in response to message #3 by Peter Murphy (Livermore)

Hello !

You wrote :

"I had to turn the list into an array with OBJ-> ->ARRY, a waste of time."

AXL do the job and toggle list <-> matrice :

{ 1 2 3 } AXL -> [1 2 3]

[1 2 3] AXL -> { 1 2 3 }

It's very quick (but i've a doubt. perhaps it's a new 49/50 command)

About ->DIAG, as I understand it returns only the larger diagonal...

"Would a loop to swap symmetrically located pairs of matrix columns be better, for example?"

Have you try the TRAN command ?

TRAN Type: Command Description: Transpose Matrix Command: Returns the transpose of a matrix.

(not sure it works on a 48...)

Generaly, you can avoid using loops for list processing with DOLIST and DOSUBS commands

Edited: 7 July 2011, 6:44 p.m.

Re: G

*Message #5 Posted by **Oliver Unter Ecker** on 7 July 2011, 6:49 p.m.,*
in response to message #4 by Gilles Carpentier

If TRAN doesn't exist, TRN will (this one's been around since the 28C), which does the same for real matrices.

DOSUBS is so worth learning... it's the swiss army knife of list processing.

Re: G

*Message #6 Posted by **Peter Murphy (Livermore)** on 8 July 2011, 9:47 a.m.,*
in response to message #4 by Gilles Carpentier

Bonjour Gilles,

->DIAG indeed returns a vector that contains the major diagonal elements of a matrix. But the input matrix does not have to be square.

So if I lop off the leftmost column (or the topmost row) of a 20 x 20 matrix, ->DIAG will return a vector containing 19 elements; lop off another column (or another row) and get a vector containing 18 elements. etc. COL- or ROW- do the surgery.

Thus I get all 33 diagonals of the principal orientation.

I had hoped that taking the transpose of the matrix would allow me to get the oppositely oriented diagonals, but it does not; TRN swaps column 1 with row 1, column 2 with row 2, ..., column 20

with row 20, but it leaves those diagonals in the same orientation.

Swapping columns 1 and 20, columns 2 and 19, ..., and columns10 and 11 does the trick, however. That's where I chose to extract the columns as a list, reverse the list, and reconstitute the matrix; a loop seemed to be the only other way to do the swapping.

Thanks very much for suggesting DOLIST and DOSUBS as a better alternative.

Add those to MAX and STREAM, you've enlarged my vocabulary by four comands. Now I must learn how to use them!

All the best,

Peter

Re: Project Euler Problem 11 on the HP 48GX?

*Message #7 Posted by **Oliver Unter Ecker** on 7 July 2011, 6:23 p.m.,*
in response to message #2 by Gilles Carpentier

Nice code, Gilles! (As always...)

I skipped this problem when I worked through the first PE problems because it just seemed tedious and unrewarding...

Peter's mention of \->DIAG instilled some curiosity and glimpse of a possible elegant solution. The command was missing in ND1, so I went ahead and implemented it, along with a couple more.

Here's the RPL+ result:

```
<< #11_data =m
   0 @ max product kept on stack
   m
   m transpose concat
   m diagonals concat
   m flip diagonals concat
   1
   << 4 [ * * * MAX ] DOSUBS >>
   DOSUBS
>>
```

The new command "diagonals" returns a matrix of the diagonals of a given matrix, and "flip" mirrors a matrix horizontally.
(MorphEngine commands outside the 50g command set are in small letters, for easier typing on a mobile device.)

The running max product is maintained on the stack, and I believe that should also be applicable to your solution, and maybe speed things up somewhat. (It does make the code smaller.)

The solution thread to this problem reveals there were no clever solutions. Everyone brute-forced it and many guessed the right numbers. The solutions in "J" are concise but (to me) not exactly readable.

Oh, in RPL+, lists and vectors are unified. Hence no need for conversions back and fro.
(Peter: Gilles AXL command does conversion, too. Your OBJ\-> \->ARRAY conversion isn't redundant. AXL is just the nicer 50g syntax to accomplish the same.)

Re: Project Euler Problem 11 on the HP 48GX?

*Message #8 Posted by **Gilles Carpentier** on 7 July 2011, 7:16 p.m.,*

in response to message #7 by Oliver Unter Ecker

Hi !

Oliver Unter Ecker wrote :

"The running max product is maintained on the stack, and I believe that should also be applicable to your solution, and maybe speed things up somewhat. (It does make the code smaller.)"

Very fine ! It works ;) For better comprehension, here a version without diagonal :

```
«
0
{
{ 08 02 22 97 etc ..........
}

DUP AXL TRAN AXL +

 1
  «
   4 « * * * MAX » DOSUBS
  »
 DOSUBS
»
```

I don't like at all my diagonals solution ;) But i've a new idea to test ....

Edited: 8 July 2011, 1:49 a.m.

Re: Project Euler Problem 11 on the HP 50G?

*Message #9 Posted by **Gilles Carpentier** on 10 July 2011, 1:19 p.m.,*
in response to message #8 by Gilles Carpentier

Here is new idea to tests the 2 diagonals:

```
«
 0               @ Initialise maximun
 {
  { 08 02 22 97 38 15 00 40 00 75 04 05 07 78 52 12 50 77 91 08 }
  { 49 49 99 40 17 etc ..... 20x20 list
 }
 DUP             @ Horizontal
 AXL TRAN AXL    @ Vertical
 OVER            @ For Diagonales 1 & 2


 1
  «
    « 0 » 'n' 1.  NSUB 1. SEQ
    « 0 » 'n' 1. 21. NSUB - 1. SEQ
    2. PICK 4. PICK + OVER +          @ Diag 1
    2. ROLL 4. ROLL + ROT +           @ Diag 2
    +
  »
 DOSUBS


 AXL TRAN AXL


 + +              @ Add horiz. + vert. + diago.


 1
  « 4 « * * * MAX » DOSUBS »
 DOSUBS
»
```

Edited: 10 July 2011, 3:01 p.m.

Re: Project Euler Problem 11 on the HP 28C/S ?

*Message #10 Posted by **C.Ret** on 11 July 2011, 4:31 a.m.,*
in response to message #9 by Gilles Carpentier

Hi,

The uses of AXL and TRAN to manipulate the list of data are interresinting. But I am in difficulty to clearly understand how much computation are made by the calculator, especially in DOSUB sequences.

In comparison, here is the way I resolve Euler11 on my HP 28S.

First step is to enter the array of 20x20 datas. This is really a lot of typing (and double check), HP28C/S have no i/o facility.

```
[[ 08 02 22 97 38 15 00 40 00 75 04 05 07 78 52 12 50 77 91 08 ]
 [ 49 49 99 40 17 ...
                          20x20 arry
 [                                        ...             ]]
'DATA11' STO
```

Second step, computing the product of 4 consecutive elements in any directions.

Thericaly, we have 8 directions to consider: left, right, up, down, up-left, up-right, down-right, down-left. By luck, multiplication is commutative; we don't have to seek in all the 8 directions, only half of it since right is equivalent to left, up to down etc.

The reduce set of scan we have to perform are only horizontal, vertical, direct diagonal (down-right '\') and indirect diagonal (up-right or '/') of the matrix. This is dividing the number of scans by two.

Now, considering the organization of the data matrix, one may notice a regular disposition of the element position (or indexes):

```
[[ 1  2  3 ...  18 19 20 ]
 [ 21 22 23 ...  38 39 40 ]
 [ 41 42 43 ...  58 59 60 ]
 [ 61 62 63 ...  78 79 80 ]
 [ ...
                   ..400 ]]
```

This mean that horizontal scanning can be performed by increasing indexes by one, vertical scanning by increasing index by 20, direct diagonal scanning by increasing index of 21 or 19 for inderct diagobal.

```
Horizontal indexing    vertical indexing       diagonal \ indexing     diagonal
/ indexing
[* 1* 2* 3* 4* 5 ...    [* 1* 2  3  4  5 ...    [* 1* 2  3  4  5 ...    [  1
2  3 *4* 5 ...
[ 21 22 23 24 25 ...    [*21*22 23 24 25 ...    [ 21*22*23 24 25 ...    [ 21
22*23*24 25 ...
[ 41 42 43 44 45 ...    [*41*42 43 44 45 ...    [ 41 42*43*44 45 ...    [
41*42*43 44 45 ...
[ 61 62 63 64 65 ...    [*61*62 63 64 65 ...    [ 61 62 63*64*65 ...
[*61*62 63 64 65 ...


  0 +1 +1 +1              0 +20 +20 +20             0 +21 +21 +21           4 +
```

```
19 + 19 + 19
```

To minimize computation time, I paln to scan the entire data matrice only one time, from element 1 up to 400. At each step, the HP28S have to compute product of consecutive element in the four directions by playing with index increases from this INDEX table :

```
[[ 0  1  2  3 ]                @ horizontal
[  0 20 40 60 ]                @ vertical
[  0 21 42 63 ]                @ diagonal   \
[  3 22 41 60 ]]               @ diagonal   /
'IND' STO
```

Please note that we don't have to scan the full matrix since the last 3 lines and the 3 last columns are already involved in previous steps of the run. This reduce again the among of computation, only 72.25% of the matrix positions have to be consider.

This lead to the 'quite' brute force scan algorithm :

```
«
  0                                @ initialize max
  0 16 FOR l                       @ scan line
     1 17 FOR c                    @ scan column
        1 4 FOR d                  @ scan directions
           1 4 FOR j               @ scan element in each direction
               'DATA11'
                 20 l * c +        @ index i of (l,c) position
                'IND'              @ index Table : (direction x j-th element of
four-product)
             { d j }
                      GET +        @ get index offset and add it to index i of
(l,c) position
                            GET    @ get element from DATA11
           NEXT
           * * *                   @ product of the 4 extracted elements
           MAX
        NEXT
     NEXT
   NEXT
»
```

This code is a bit "crude". It uses no elaborated strategy or sophisticate instruction, since HP28C/S have few appropriate commands for matrix manipulations. By the less, any of you who have any idea or comment or any other strategy to optimize this problem on aged RPL is welcome.

Re: Project Euler Problem 11 on the HP 28C/S ?

*Message #11 Posted by **Gilles Carpentier** on 11 July 2011, 6:56 a.m.,*
in response to message #10 by C.Ret

Bonjour C.Ret !

I like your sense of bytes economy and optimisation :D I like the idea of a index table.

But is there a problem here ? : it seems to me your algo don't test horizontal & vertical products for the lines 18 to 20 ?

Edited: 11 July 2011, 7:01 a.m.

Re: Project Euler Problem 11 on the HP 28C/S ?

*Message #12 Posted by **C.Ret** on 11 July 2011, 8:13 a.m.,*
in response to message #11 by Gilles Carpentier

Bonjour Gilles

You are right! My code miss to check any horizontal products from line 18 to 20 as well as any vertical products from column 17 to 20 ! This makes two gross errors! Lucky I am than the greatest four elements product was not in the edge of the data matrix!

I have to correct my code by using a more 'complex' approach! In fact, my second attempt seems not to be so complex, it's only using a complex INDex matrix instead of the too loosely mono-dimensional indexing of first attempt.

As testing if line, row (l,c) element are in the correct interval is too much code and tests, I propose to short-cut all these tests by using the IFERR THEN END structure. Any attempt to get an element out of the matrix bound will be detected and trapped.

```
[[
      ... 20 x 20 ...
 [                        ]]
'DATA11' STO


[[ (0,0) (1,0) (2,0) (3,0) ]
 [ (0,0) (0,1) (0,2) (0,3) ]
 [ (0,0) (1,1) (2,2) (3,3) ]
 [ (0,3) (1,2) (2,1) (3,0) ]]
'IND'


As in previous version IND is the table of offsets, but using complex
(x,y) coordinate for line/column offset values.


«
  0                                @ initialize max
  1 20 FOR l                       @ scan ALL lines
     1 20 FOR c                    @ scan ALL columns
        1 4 FOR d                  @ scan ALL directions
           1 4 FOR j               @ scan 4 elements in each direction
               'DATA11'
                l c R->C           @ (l,c) position  into complex number
               'IND'               @ complex index Table
             { d j }
                       GET +       @ get index offset (x,y) and add it to
index i of (l,c) position
             C->R 2 ->LIST         @ convert (l+x,c+y) complex position
index into list index { l+x c+y }
               IFERR
                           GET     @ try getting (l+x,c+y) element from
DATA11
               THEN
                        DROP2 0    @ if error (out of matrix bound, return
0 )
               END
           NEXT
           * * *                   @ product of the 4 extracted elements
           MAX
        NEXT
     NEXT
   NEXT
»
```

Thank you for your attentive readings !

Re: Project Euler Problem 11 on the HP 28C/S ?

*Message #13 Posted by **Gilles Carpentier** on 11 July 2011, 2:09 p.m.,*
in response to message #12 by C.Ret

Hi,

another way would be to add 3 lines and columns fill with 0 and use your first version just changing the loop values

Re: Project Euler Problem 11 on the HP 28C/S ?

*Message #14 Posted by **C.Ret** on 12 July 2011, 2:43 p.m.,*
in response to message #13 by Gilles Carpentier

Yes, you are right again.

Extending the matrix and padding the matrix with 0 makes it !

But, why padding with 0, why not with 1 ? Supposing we have en matrix full of low numbers (i.e. less than 20), and suppose that the greatest products appears to be at one borders with only 2 or 3 elements (supposing that only border's element are great numbers!

Perhaps, I may change my last version by returning 1 instead of 0 ?

Another question is whenever or not is it needed to take this border effect into consideration? I have notice that may first version don't scan the end-border regions (last three columns or rows) of the data matrix only after your notice it ! Fortunately, the greatest four element product is not in one of these regions, so even the erroneous first version of my code is able to found the expected result.

That's the problem with Euler, of few of us may get the expected answer by using an erroneous algorithm or a buggy code!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Clone

*Message #1 Posted by **Bunuel66** on 6 July 2011, 4:20 a.m.*

Hi everybody.

I'm new on the forum even if a old HP fan ;-) I found that recently: http://www.rpn-calc.ch/ What did you think of it? Wouldn't it be also an option for a 34s case?

Regards from southern France

Re: HP 15C Clone

*Message #2 Posted by **Daniel CLEMENT** on 6 July 2011, 5:54 a.m.,*
in response to message #1 by Bunuel66

Hello (from France too--but more to the North!)

For one thing I can't access the video of the prototype in action. Have you seen it? Is it conclusive?

I do think it is interesting, but from the rendered pictures I would say that the matrix display is dud. The indicators appear to overlap with the commas (see pic. 16).

Does the video confirm this, or is it a side effect of the rendering?

Regards, Daniel

Re: HP 15C Clone

*Message #3 Posted by **bunuel66** on 6 July 2011, 6:27 a.m.,*
in response to message #2 by Daniel CLEMENT

I have not had any trouble to see the video. Maybe your brower is missing some plugin. That said, the display is clearly a dot display not the quality of the original but let say it is good enough. Yes the rendered pictures show some overlap but it doesn't look that bad. May be fixed later on. From a quality standpoint I'm expecting something like the old TI Galaxy 67 which was one of the greatest TI product. I'm a bit dubious about legal aspects. I'm not sure the HP15C are open source and free neither the saturn emulation. I'm sure they pick all that in the 'free world' of the web but it's still questionable. The price is not that bad, but I expect to see the actual product, not just some drawings and a breadboard. BTW I had a similar idea using an arduino kit. Justthe idea, not any time to start ;-(

Regards

Re: HP 15C Clone

*Message #4 Posted by **Walter B** on 6 July 2011, 12:50 p.m.,*
in response to message #3 by bunuel66

The video works here as well.

With respect to the item itself, a dot matrix display is a welcome step towards more flexibility. The "running" display looks like with a 7-segment LCD, however. 132 x 16 pixels would allow for alphanumeric output of two lines of text or digits like on the 42S - that's what we always wanted to get from HP. I'll contact this guy and ask a few questions in German.

Walter

Re: HP 15C Clone

*Message #5 Posted by **Walter B** on 7 July 2011, 12:54 a.m.,*
in response to message #4 by Walter B

OK, controller info is found here. 8kB RAM :-) and 32kB flash ROM :-/ On the dm XVC, a serial port is (shall be) accessible from outside through the battery door (RS232 TTL).

I'll wait a little bit until I see the plastic parts as well.

Walter

Re: HP 15C Clone

*Message #6 Posted by **Jean-Michel** on 6 July 2011, 7:31 a.m.,*
in response to message #2 by Daniel CLEMENT

Salut Daniel.

Would you mind telling us where you are from? I'm living near Orléans and would be very pleased to meet another HP fan if you don't live to far from me, and also if you agree, of course :-) I'm already in touch with others from foreign countries, but we will probably never meet... due to the distances!

A bientôt j'espère. ("Hope to see you soon", for non French speaking persons)

Salutations Jean-Michel.

Re: HP 15C Clone

*Message #7 Posted by **bunuel66** on 6 July 2011, 9:10 a.m.,*
in response to message #6 by Jean-Michel

Southern France = Toulouse ;-)

Re: HP 15C Clone

*Message #8 Posted by **Jean-Michel** on 6 July 2011, 1:35 p.m.,*
in response to message #7 by bunuel66

Bunuel66 : je demandais à DANIEL d'où il était, pas à toi. J'avais bien lu que tu es du sud de la France...

(For non French speaking : nothing important.)

Re: HP 15C Clone

*Message #9 Posted by **Daniel CLEMENT** on 7 July 2011, 1:29 a.m.,*

in response to message #6 by Jean-Michel

Hello Jean-Michel

I'm living in Caen, Normandy at present. But Orleans is my birth place and I've been living there for 20+ years.

Salutations, Daniel

Now returning to the DM XVC discussion...

Re: HP 15C Clone

*Message #10 Posted by **robert rozee** on 6 July 2011, 8:24 a.m.,*
in response to message #1 by Bunuel66

the name Michael Steinmann is attached to the video file, with someone by the same name writing some comments on facebook:
http://www.facebook.com/group.php?gid=34501949976&v=wall

i'd have delved a little deeper, but don't have a facebook account.

the item itself looks quite genuine at first glance, and not a monumental task to accomplish when you think about it. is kind of funny really, that hp will be left with egg on it's face if a young fellow in europe trumps them at re-releasing one of their more famous calculators on a shoestring budget.

Re: HP 15C Clone

*Message #11 Posted by **Jean-Michel** on 6 July 2011, 1:50 p.m.,*
in response to message #10 by robert rozee

Hello all.

I watched the video as you did. Where are the molded parts ? I just see a printed plastic film instead of an actual keyboard with molded keys. The website says :"the 3D models necessary for the moulds were also used to render the pictures." Good to know, but you sure have an idea of the HUGE cost of moulds for plastic injected parts, so could someone explain to me how a single person could make this incredible investment ? Or am I missing something ?

Kind regards from France. JM.

Re: HP 15C Clone

*Message #12 Posted by **Raymond Del Tondo** on 6 July 2011, 3:39 p.m.,*
in response to message #11 by Jean-Michel

Maybe he used kinda "3D printer" , and the model is made of ... soap ?

Re: HP 15C Clone

*Message #13 Posted by **Jeff Kearns** on 7 July 2011, 2:27 p.m.,*
in response to message #12 by Raymond Del Tondo

Gents,

The models to which he refers are almost certainly 3-D models generated in a 3-D CAD package

like SolidWorks. Not 'soap' models from the 1970's. I can't imagine how he could fund the actual mold injection process but I like the effort he has put into this so far.

This is a very interesting project as far as I am concerned. I hesitate to criticize what this fellow (or anyone) is doing until I know more - BUT - I did fill out the form for a pre-order!! I would buy one for sure if it is as advertized. Reminds me of the 41CL project. I want one of those too!

Jeff Kearns

Re: HP 15C Clone

*Message #14 Posted by **Walter B** on 7 July 2011, 3:45 p.m.,*
in response to message #13 by Jeff Kearns

FYI, I did file a pre-order as well for the same reason as Jeff did. If it will be as advertized, the LCD alone in such a package will be worth the $$ IMHO - maybe (!) we can even do some repurposing then ;-)

Walter

Re: HP 15C Clone

*Message #15 Posted by **Hubert Weikert** on 7 July 2011, 4:22 p.m.,*
in response to message #14 by Walter B

Also joined the preorder queue.

Hubert

Re: HP 15C Clone

*Message #16 Posted by **Katie Wasserman** on 7 July 2011, 5:13 p.m.,*
in response to message #15 by Hubert Weikert

I'm just curious about this .... does it make use of the 15C ROM image, if so hasn't HP asserted it's copyright of that?

Re: HP 15C Clone

*Message #17 Posted by **Egan Ford** on 7 July 2011, 11:55 p.m.,*
in response to message #16 by Katie Wasserman

> Quote:
>
> I'm just curious about this .... does it make use of the 15C ROM image

The video posted by Cody below answers that.

Re: HP 15C Clone

*Message #18 Posted by **Katie Wasserman** on 8 July 2011, 12:45 a.m.,*
in response to message #17 by Egan Ford

Egan,

I'm feeling pretty stupid, I don't see how that video answers my question. Is there some function demonstrated that results in a different result than a real 15C would? If not, how can I tell if it's an Voyager processor emulator running the 15C ROM image or a really good emulation of a 15C from scratch?

-Katie

edit....

I found this on the developer's site:

> Quote:
>
> runs on a battery saving LPC1114 ARM processor emulating the NUT processor

Now that DOES answer my question. Since it would just be plain silly to emulate that processor without running the original ROM image.

Edited: 8 July 2011, 12:56 a.m.

Re: HP 15C Clone

*Message #19 Posted by **Lode** on 8 July 2011, 4:21 a.m.,*
in response to message #18 by Katie Wasserman

I thought I had read somewhere that the original ROM image was lost even to HP themselves. Is it not lost after all then?

Re: HP 15C Clone

*Message #20 Posted by **Ángel Martin** on 8 July 2011, 5:31 a.m.,*
in response to message #19 by Lode

I believe that applies to the 42S code, not the 15C.

The urban legend grows...

Re: HP 15C Clone

*Message #21 Posted by **Didier Lachieze** on 8 July 2011, 6:33 a.m.,*
in response to message #20 by Ángel Martin

Well I think that the 15C code is also lost, unless I'm wrong, only the 41, 71 and 75 source code were published by HP and are still available (not including RPL units here). However 15C rom image is present in every 15C unit and can be extracted with the right tools and cleverness. Same apply to 42S.

Edited: 8 July 2011, 6:37 a.m.

Re: HP 15C Clone

*Message #22 Posted by **Ángel Martin** on 9 July 2011, 1:29 a.m.,*
in response to message #21 by Didier Lachieze

One thing is to extract the code and another ro understand its intricacies and HW dependencies. Those would have to be touched up to make it compatible with the new CPU, or the design chganges. This is close to mission impossible without the SOURCE code, IMHO.

Re: HP 15C Clone

*Message #23 Posted by **sylvandb** on 10 July 2011, 12:53 a.m.,*
in response to message #22 by Ángel Martin

> Quote:
>
> One thing is to extract the code and another ro understand its intricacies and HW dependencies. Those would have to be touched up to make it compatible with the new CPU, or the design chganges. This is close to mission impossible without the SOURCE code, IMHO.

There isn't near enough code to be anywhere close to "mission impossible" if someone is familiar with the processor.

A man-day or two per k-byte of instructions will usually suffice if you have some idea of what the code does. It goes quicker if you have interactive debugging (trace, breakpoints, etc.) or slower if there was intentional obfuscation or extreme byte-saving tricks.

In some ways it's easier if it was written as assembly (or machine) code originally. At least then you have the same structure as existed in the original. On the other hand, well written high-level language usually compiles to an obvious and easily understood structure so you can get lucky that way. Unfortunately most code isn't well written, and a high-level language tends to multiply the resulting executable size by an order of magnitude or more, so usually it is easier if it was originally assembly code.

The 15c is more code than the other Voyagers, but it still isn't very big. Of course, an emulator might be easier than reworking the old code... That's what HP did.

(I used to take apart a lot of code (mostly Z80, some 8080, 6502 and 8086) and could read and write hex 8080 and Z80 code as if it were the assembler mnemonics. Spending a few weeks taking something apart, patching and putting it together will do that for you.)

Re: HP 15C Clone

*Message #24 Posted by **Mike Morrow** on 8 July 2011, 11:23 a.m.,*
in response to message #20 by Ángel Martin

Were one really really motivated, or if one had the appropriate secretarial resources, the HP 42S firmware could always be non-invasively **slowly*** extracted *manually* using the built-in RAM/ROM scanner, 16 hexadecimal nybbles at a time. The 64K-byte ROM would likely require one person less than ten 8-hour days to display and transcribe approximately 8000 segments of the firmware in this manner, and then double check. It would be much faster if some voice recognition process was used. I wouldn't want to do it...mind-numbing no matter what way it was done.

I've valued that memory scanner facility and appreciated HP designing easy access to it. I've only used it to check the firmware version on 17BII or 42S units I've come across or to alter the RAM location that temporarily doubles 42S speed. This scanner is a feature that is rare on HP products. It is non-existent on most calculators, including the Voyagers and the HP-41. A big disappointment found after I bought an HP 48GX was that, unlike my old HP48SX, HP had eliminated such easy owner access to machine internals.

Edited: 8 July 2011, 2:04 p.m.

Re: HP 15C Clone

*Message #25 Posted by **Jeff O.** on 8 July 2011, 7:20 p.m.,*
in response to message #24 by Mike Morrow

> Quote:
>
> ...the HP 42S firmware could always be non-invasively **slowly*** extracted *manually* using the built-in RAM/ROM scanner, 16 hexadecimal nybbles at a time. The 64K-byte ROM would likely require one person less than ten 8-hour days to display and transcribe approximately 8000 segments of the firmware in this manner, and then double check. It would be much faster if some voice recognition process was used. I wouldn't want to do it...mind-numbing no matter what way it was done.

I do not recall the procedure in detail, or how automated it was, but there was a way to extract the 42S rom by sending it to a 48G via the infra-red output of the 42S. A special program, called "BINPRINT" if I recall correctly, was used on the 48G to capture the characters. I could try to find details if you are interested.

Re: HP 15C Clone

*Message #26 Posted by **Marcus von Cube, Germany** on 9 July 2011, 7:11 a.m.,*
in response to message #25 by Jeff O.

It's INPRT or INPRINT if I'm not mistaken and you need a well equipped 48G, memory wise. You can then "IR print" from the monitor in the 42S and capture the output with the

48G. This does not work with a 49G or 50G. It's described in the docs for emu42 (hardware emulator for the high end pioneers).

Re: HP 15C Clone

*Message #27 Posted by **Jeff O.** on 9 July 2011, 1:25 p.m.,*
in response to message #26 by Marcus von Cube, Germany

I thought it was BINPRNT (or similar) because it captured binary. But I could certainly be wrong.

Re: HP 15C Clone

*Message #28 Posted by **Egan Ford** on 9 July 2011, 1:58 p.m.,*
in response to message #27 by Jeff O.

No need to guess. It is documented here:
http://hp.giesselink.com/Emu28/CPROMUPL.ZIP

> Quote:
>
> The INPRT program has one big problem, it don't accept 0 characters, so it cannot be used for binary transfers. Raymond Del Tondo made a derivation of this program without this limitation. I called it BINPRT and is used on the HP48 for capturing the IR output of the calculators.

Re: HP 15C Clone

*Message #29 Posted by **Gerson W. Barbosa** on 8 July 2011, 9:47 a.m.,*
in response to message #18 by Katie Wasserman

Katie,

Judging by the misaligned "r" in "running" I'd say it's based upon Eric Smith's Nonpareil simulator, which uses the actual HP-15C ROM image.

Gerson.

Re: HP 15C Clone

*Message #30 Posted by **Egan Ford** on 8 July 2011, 11:14 a.m.,*
in response to message #29 by Gerson W. Barbosa

Exactly. That is Eric's watermark.

Re: HP 15C Clone

*Message #31 Posted by **Katie Wasserman** on 8 July 2011, 1:46 p.m.,*
in response to message #30 by Egan Ford

I didn't realize it was "the mark of Eric".

Anyway, I'm sure the HP lawyers will squash this project before too long. They forced Eric to remove the 15C ROM image from his site, didn't they? They go after those 12C clone makers in China too.

Re: HP 15C Clone

*Message #32 Posted by **reth** on 9 July 2011, 7:06 p.m.,*
in response to message #31 by Katie Wasserman

> Quote:
>
> I'm sure the HP lawyers will squash this project before too long.

What a joke - HP gladly pay lawyers big bucks to "squash" projects rather than paying a few to produce it themselves... HP actually have shown how much they care about calculators given the fact they have lost the documentation as indicated by some. I also pre-ordered one and hope it gets produced.

Re: HP 15C Clone

*Message #33 Posted by **Thomas Radtke** on 10 July 2011, 4:02 p.m.,*
in response to message #32 by reth

It's their intellectual property, so they can do with it what they want, including nothing. But isn't there an HP emulator for the iphone?

What really bothers me is that the windows Nonpareil implementation is gone 'due to legal issues'. OTOH, *x versions are still floating around. Unfortunately, I'm unable to do the port myself :-(.

Re: HP 15C Clone

*Message #34 Posted by **reth** on 11 July 2011, 5:53 a.m.,*
in response to message #33 by Thomas Radtke

> Quote:
>
> It's their intellectual property, so they can do with it what they want, including nothing.

Really? Did I state the opposite?

Re: HP 15C Clone

*Message #35 Posted by **Thomas Radtke** on 11 July*

2011, 6:21 a.m.,
in response to message #34 by reth

> Quote:
>
> Really? Did I state the opposite?

Nope, and I meant no offense. Hopefully, I may comment a post even when there's no need to correct anything, just to add things.

Re: HP 15C Clone

*Message #36 Posted by **Gerry Schultz** on 8 July 2011, 2:25 p.m.,*
in response to message #18 by Katie Wasserman

I know the 41C is built with the Nut uP, but does the 15C use a modified Nut? I checked the 15C web page on this website but this wasn't clear to me.

Gerry

Re: HP 15C Clone

*Message #37 Posted by **Eric Smith** on 8 July 2011, 2:50 p.m.,*
in response to message #36 by Gerry Schultz

The Voyager calculators, including the 15C, use the 1LF5-0301 or 1LM2-0001 Nut processors, or in later models, versions of the 1LQ9, 1RR2, or 2AF1.

The HP-41 uses the 1LA5-0001, 1LF5-0002, or 1LF5-0003 Nut processors.

The 1LF5-0301 used in some Voyager calculators is a variant of the 1LF5-0002/0003 used in some HP-41 calculators. The differences are primarily in the power supply and electrical specifications.

Re: HP 15C Clone

*Message #38 Posted by **Gerry Schultz** on 8 July 2011, 7:40 p.m.,*
in response to message #37 by Eric Smith

Thanks, Eric. The part numbers sure do tell the story of the development of the Nut processor.

Gerry

Re: HP 15C Clone

*Message #39 Posted by **Paul Dale** on 7 July 2011, 5:27 p.m.,*
in response to message #13 by Jeff Kearns

> Quote:
>
> I can't imagine how he could fund the actual mold injection process but I like the

effort he has put into this so far.

It might have something to do with the 80,000 would buy figure listed on hp15c.org He does link there. Selling that many would amortise the cost of the molds to a reasonable level.

- Pauli

Re: HP 15C Clone

*Message #40 Posted by **exschr** on 8 July 2011, 4:43 a.m.,*
in response to message #13 by Jeff Kearns

Looking at the pictures it seems to me that he uses a rubber-key-mat operating the microcontact on the PCB instead of injection mold keys like we are used to on our voyagers!

just my 2c
Roger

Edited: 8 July 2011, 10:50 a.m.

Re: HP 15C Clone

*Message #41 Posted by **Cody** on 10 July 2011, 9:14 p.m.,*
in response to message #10 by robert rozee

With so much demand for a new 15c, I have to think it would be quicker and easier to repurpose the new 12c in the same way the 30b has become the WP 34s.

I understand why the 20b/30b project was chosen first to provide the most returns and functionality, but perhaps the new 12c can get the same treatment now to satisfy everyone.

It seems like with the new 12c platform, the biggest concerns of key feel and quality casing have already been solved. A new ROM and quality overlay seem simple compared so building a new calculator from scratch.

Re: HP 15C Clone

*Message #42 Posted by **Walter B** on 11 July 2011, 1:35 a.m.,*
in response to message #41 by Cody

Cody,

All you wrote is true. Remember, however, the very limited display of the 12C. IMHO, the display in Michael's clone is the decisive point as mentioned above. Personally, I won't repurpose a 12C with only a 7-segment display.

Walter

Re: HP 15C Clone

*Message #43 Posted by **Paul Dale** on 11 July 2011, 2:01 a.m.,*
in response to message #42 by Walter B

I'm with Walter on this one. The seven segment display really inhibits what can be done. You'd be flat out doing better than the 15c and if you want that port an older version of non-pareil and you're

done.

- Pauli

Re: HP 15C Clone

*Message #44 Posted by **Paul Dale** on 11 July 2011, 2:58 a.m.,*
in response to message #41 by Cody

I wonder if it would be possible to take the 12c firmware image and splice in the 15c rom.... It would depend on how good the NUT emulation HP wrote is.

- Pauli

Re: HP 15C Clone

*Message #45 Posted by **Marcus von Cube, Germany** on 11 July 2011, 8:10 a.m.,*
in response to message #44 by Paul Dale

You will have to emulate the additional RAM in the 15C, too. If HP did not foresee this in the 12C+, you're lost. And how do you get at the 12C+ image in the first place?

Re: HP 15C Clone

*Message #46 Posted by **Paul Dale** on 11 July 2011, 5:30 p.m.,*
in response to message #45 by Marcus von Cube, Germany

I vaguely remember someone mentioned reflashing their 12c with later firmware and if true, that means an image is available.

- Pauli

Re: HP 15C Clone

*Message #47 Posted by **Katie Wasserman** on 11 July 2011, 8:12 p.m.,*
in response to message #46 by Paul Dale

I believe that TW makes the latest 12C+ available to an individual upon request. I don't think it's publicly available for download.

Re: HP 15C Clone

*Message #48 Posted by **Cody** on 7 July 2011, 11:29 a.m.,*
in response to message #1 by Bunuel66

Here's a direct link to the youtube video of the prototype.

He has a pre-order page up with a ship date around November 2011, but without any pictures of the final product, I don't feel comfortable committing to an order.

Re: HP 15C Clone

*Message #49 Posted by **Csaba Tizedes (Hungary)** on 12 July 2011, 5:27 a.m.,*
in response to message #1 by Bunuel66

```
Some idea and comments:
```

1.) If it have 132x16 pixel LCD why don't use normal (e.g. 5x7 pixel) alphabet? This right-angled dummy seven segment things seems so ugly, I think...

2.) 15C shape is very good, but, why we need to copy the original? Faceplate arrangement, labels, colors, etc is OK, but the left and right handed gray ends of case made to thinner will be looks so better than the original!

3.) Why don't made it thinner than original?

4.) I don't want to take off battery cover to use RS232. After the 5th use of this function the users will be lost the cover. RS232 port without cover / or plugged with rubber cap the good solution, I think.

5.) Changeable faceplate OR "snap-on" faceplate for USER functions or for program LBLs?

6.) LCD and keyboard backlight?

7.) And my old desire: 1:50 and/or 1:20, 1:100 scales on backplate or on the top side of calculator (for measuring drawings, maps, to made sketches on site...!)

Thanx for reading!
Csaba

Re: HP 15C Clone

*Message #50 Posted by **reth** on 12 July 2011, 9:53 a.m.,*
in response to message #49 by Csaba Tizedes (Hungary)

> Quote:
>
> 7.) And my old desire: 1:50 and/or 1:20, 1:100 scales on backplate or on the top side of calculator (for measuring drawings, maps, to made sketches on site...!)

and what about a bottle opener and a cork screw? ;)

Re: HP 15C Clone

*Message #51 Posted by **Dave Shaffer (Arizona)** on 12 July 2011, 11:59 a.m.,*
in response to message #50 by reth

> Quote:
>
> and what about a bottle opener and a cork screw? ;)

The Swiss Army calculator!?

Re: HP 15C Clone

*Message #52 Posted by **Walter B** on 12 July 2011, 12:52 p.m.,*
in response to message #49 by Csaba Tizedes (Hungary)

Csaba,

> Quote:

> 1.) If it have 132x16 pixel LCD why don't use normal (e.g. 5x7 pixel) alphabet? This right-angled dummy seven segment things seems so ugly, I think...

I guess Michael wanted to mimic the 15C.

> Quote:
>
> 2.) 15C shape is very good, but, why we need to copy the original? Faceplate arrangement, labels, colors, etc is OK, but the left and right handed gray ends of case made to thinner will be looks so better than the original!

Please see above. And I assume he didn't want to use it for peeling potatoes ;-)

> Quote:
>
> 3.) Why don't made it thinner than original?

Space?

> Quote:
>
> 4.) I don't want to take off battery cover to use RS232. After the 5th use of this function the users will be lost the cover. RS232 port without cover / or plugged with rubber cap the good solution, I think.

I'm with you here.

> Quote:
>
> 5.) Changeable faceplate OR "snap-on" faceplate for USER functions or for program LBLs?

Again. Though it won't help with the blue labels.

> Quote:
>
> 6.) LCD and keyboard backlight?

Here I disagree. If you want a flashlight, buy a flashlight.

> Quote:
>
> 7.) And my old desire: 1:50 and/or 1:20, 1:100 scales on backplate or on the top side of calculator (for measuring drawings, maps, to made sketches on site...!)

Reminds me on some old sliderules, e.g. ARISTO's 867U with one scale for cm and the other one for Royal British thumbs ;-) Most recent calculators, however, don't get close enough to the desk for proper measuring.

Just my 20 m€.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

10bii+ Trig Bug

*Message #1 Posted by **Katie Wasserman** on 5 July 2011, 10:50 p.m.*

I was just thinking about what the 10bii+ would be like as a re-purposed RPN calculator and playing around with it when I found a trig bug. Try this in degrees mode:

```
270
SIN
(you'll correctly get -1.00)
270
TAN
(you'll see OFLO flash and get correctly get -1.00E500)
270
COS
(you'll correctly get 0.00)
270
TAN
(you'll see OFLO flash and get 1.00E500 -- the bug)
```

This is in version 7-13-2010. I hope that this is the only bug, I use the 10bii+ a bunch and find it to be a really nice (if non-RPN) machine.

-Katie

p.s. There's still a yet-to-be-found Easter Egg in there.

Edited: 5 July 2011, 10:51 p.m.

Re: 10bii+ Trig Bug

*Message #2 Posted by **Tim Wessman** on 5 July 2011, 11:51 p.m.,*
in response to message #1 by Katie Wasserman

I have not been able to reproduce the sign change thing. Is that what you are referring to? Or the fact that it does the overflow and then returns a number?

270 is undefined as it is an infinity sign change. Could you please explain more?

TW

Edited: 5 July 2011, 11:52 p.m.

Re: 10bii+ Trig Bug

*Message #3 Posted by **Katie Wasserman** on 6 July 2011, 1:24 a.m.,*
in response to message #2 by Tim Wessman

Correct, I am referring to the sign change.

In the first case the TAN of 270 returns -1.00E500 in the second it returns +1.00E500. You need to do these steps in the order I wrote starting with a ALL CLEAR. I can reproduce this on both 10bii+

calculators that I have.

I realize that TAN 270 is infinite but in one case it's negative infinity and the other it's positive infinity. Apparently the sign of the last result obtained before the TAN function is the determining factor.

More....

Actually, it turns out that an overflow condition always carries over the sign from the previous calculation. This happens even for something like factorial, for example:

```
1
-
2
=
300
!
```

results in -1.00e500

The 10bii (not +) results in +1.00e500

Edited: 6 July 2011, 1:54 a.m.

Re: 10bii+ Trig Bug

*Message #4 Posted by **Thomas Radtke** on 6 July 2011, 5:21 a.m.,*
in response to message #1 by Katie Wasserman

A side note: It would be very esthetic to omit a (likely wrong) result at all on overflow.

Edited: 6 July 2011, 5:21 a.m.

Re: 10bii+ Trig Bug

*Message #5 Posted by **Katie Wasserman** on 6 July 2011, 11:42 a.m.,*
in response to message #4 by Thomas Radtke

I agree and I believe that the 20b/30b takes this approach. However the 10bii+ was intended to replace the 10bii and needs to be upwardly compatible with it in all respects. One of which is just flashing OFLO and returning 1e500 when an overflow occurs.

Re: 10bii+ Trig Bug

*Message #6 Posted by **Thomas Radtke** on 6 July 2011, 5:01 p.m.,*
in response to message #5 by Katie Wasserman

Yes, the 20b at least omits it.

Just noticed the german error message on overflow (300!): "Keine Amortisation". Strange.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-42s Bad Screen?

*Message #1 Posted by **aj04062** on 5 July 2011, 9:11 p.m.*

Just bought on TAS. Seller did not disclose. I think I will return as hey will accept.

I think the screen is bad, Concur?

Re: HP-42s Bad Screen?

*Message #2 Posted by **Paul Dale** on 5 July 2011, 10:00 p.m.,*
in response to message #1 by aj04062

Sure looks bad.

- Pauli

Re: HP-42s Bad Screen?

*Message #3 Posted by **Geoff quickfall** on 6 July 2011, 2:23 a.m.,*
in response to message #2 by Paul Dale

Can be replaced but getting in is the tough part!

Geoff

if advertised and this was missed in the description, send it back as it will only continue to delaminate.

Cheers

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-48G IR Test Failure

*Message #1 Posted by **aj04062** on 5 July 2011, 9:08 p.m.*

Can anyone say what the typical root cause might be? Would it be the LEDs?

If so, are the pair from the HP-38s the same?

I can't get a unit I bought to send or receive.

Thanks!

Re: HP-48G IR Test Failure

*Message #2 Posted by **BobVA** on 6 July 2011, 5:51 a.m.,*
in response to message #1 by aj04062

It's been awhile since I've done this, but as I recall you need to place a piece of white paper (or similar reflective surface) in front of the IR port (about an inch or so away) for this to work properly. Did you try that? (Or am I thinking of another calculator?)

Regards, Bob

Edited: 6 July 2011, 5:52 a.m.

Re: HP-48G IR Test Failure

*Message #3 Posted by **aj04062** on 6 July 2011, 6:48 a.m.,*
in response to message #2 by BobVA

I did try that and it didn't work.

I swapped both LEDs with ones from a 38g parts machine I had. No luck. I then tried to print with the unit and it did print, so I know the send is working. When I try to send an object to another hp-48, no luck. This doesn't make sense to me.

Re: HP-48G IR Test Failure

*Message #4 Posted by **Thomas Chrapkiewicz** on 6 July 2011, 8:41 a.m.,*
in response to message #3 by aj04062

A simple check to see if the transmitting LED is working is by viewing it (on the LCD display) with a pocket camera (or smartphone camera), as the image sensor in the camera is IR sensitive and you can 'see' the LED illuminating with IR when it is transmitting.

TomC

Re: HP-48G IR Test Failure

*Message #5 Posted by **Paul Berger (Canada)** on 6 July 2011, 9:01 a.m.,*
in response to message #3 by aj04062

I tried the test on my 48G and 48GX and the test passes even if the IR is pointing off into space, on the GX it will fail if the card cover is not in place, as warned in the manual. You are likely able to print as the print communication would be one way, however when you are trying to transfer to another calculator there would likely be some handshaking between then which would fail if the receive circuit is bad. My 48S has this problem it prints but the IR test fails and it will not communicate with other calculators.

Re: HP-48G IR Test Failure

*Message #6 Posted by **aj04062** on 6 July 2011, 6:25 p.m.,*
in response to message #5 by Paul Berger (Canada)

Do you think this is a failure in the LED or in the rest of the circuitry?

Re: HP-48G IR Test Failure

*Message #7 Posted by **Paul Berger (Canada)** on 6 July 2011, 8:57 p.m.,*
in response to message #6 by aj04062

I have not looked into it too much, the 48S is kind of a junker so I was not too concerned, however with what little looking I did it seems that the photo-transistor does detect IR pulses which would lead me to believe it is OK and the problem is somewhere beyond that. Schematics for the 48 can be found at http://www.hpcalc.org/hp48/docs/misc/.

Re: HP-48G IR Test Failure

*Message #8 Posted by **Paul Berger (Canada)** on 10 July 2011, 9:22 p.m.,*
in response to message #6 by aj04062

Well I fixed the IR on my 48S it appears that there was an intermittent connection between the second transistor and the input pin on the processor, it started working while I as probing around so I replaced that connection with a piece of wire wrap wire.

While inside the 48S I noticed that the processor is not a Clarke as most documentation lists as the saturn version used in the 48S/SX but is in fact a Yorke with the speed pin tied low so that it runs at 2MHz. I did see an article that claimed that early production runs of Yorke did not yield a lot of chips that would run reliably at 4MHZ perhaps these found there way into late production 48S/SX. The serial number of my S suggests it was built week 46 of 1992.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

June's over - No new calcs :) - Interesting TI product

*Message #1 Posted by **John Stark** on 5 July 2011, 6:30 p.m.*

To all:

June is over and no rumours or announcements from HP of new (or reintroduced) calculators.

Whaddya' think ??

John Stark

PS:

Saw and used for a bit the new Texas Instruments Nspire CX colour-screen calculator.

Stunning packaging,display, and battery life; build quality not bad.

Would be a dream machine if somehow merged with HP-50 series or similar operating system; however TI places this unit as an "educational", rather than a "workaday" calc.

Are you listening, HP ?? Some great display and design ideas here for a high-end calculator.

Nonetheless, can't give up RPN and LED's for now.

Hope all (in USA) had a great 4th ; Canadian friends a fine Canada Day.

John

Re: June's over - No new calcs :) - Interesting TI product

*Message #2 Posted by **Thomas Radtke** on 6 July 2011, 5:30 a.m.,*
in response to message #1 by John Stark

A workhorse doesn't really need the ability to play doom on it, imo. I'm sure b/w displays still offer the best readability, and an operating system stripped down to the absolute minimum reduces the number of bugs contained. Both features characterize a good calculator.

Re: June's over - No new calcs :) - Interesting TI product

*Message #3 Posted by **David Ramsey** on 6 July 2011, 11:45 a.m.,*
in response to message #1 by John Stark

The nSpire is a teaching tool, not a calculator in the sense we think of it. As a teaching tool, it seems to be very nice, though.

Re: June's over - No new calcs :) - Interesting TI product

*Message #4 Posted by **Lode** on 7 July 2011, 7:46 a.m.,*
in response to message #1 by John Stark

I'm personally not very interested in it because:

-it's for schools, not for engineers

-it does not have a battery life of multiple years, but of multiple hours

-it is more like a smartphone, PDA or computer than like a calculator, I mean, I can just put an app on my phone that does math and I've also got a color screen calculator, it's not very magical (admittedly this is the same as the second point)

-it is not something that makes maximum use of its hardware, but sort of locked down

Edited: 7 July 2011, 8:32 a.m.

Re: June's over - No new calcs :) - Interesting TI product

*Message #5 Posted by **Cody** on 7 July 2011, 11:47 a.m.,*
in response to message #1 by John Stark

The sad difference between the Nspire series and say, the TI-89, is that the calculator is incredibly crippled in terms of usability. I've never been more frustrated with any calculator than the Nspire CAS. Much like the iPad makes a good media consumption device, the Nspire seems like its purpose is also simply to consume electronic lesson plans distributed by a teacher.

Actually using the Nspire is maddening how many button presses it takes to accomplish simple calculations. The trig functions are hidden behind a single button, which takes multiple presses or using the navigation pad to navigate to the correct function. Trying to access the solve function is also several menu levels deep with no easy shortcut.

I haven't seen the Nspire CX screen, but the black and white screen of the current models is an abomination completely unreadable under normal indoor lighting conditions. The backlit LCD on the CX series would correct this problem, but then the power consumption jumps, necessitating the use of a rechargeable lithium ion battery, which of course has a limited lifespan before replacement is needed.

TI spent more time locking down the calculator than addressing usability. With just a couple buttons, you can accidentally put the Nspire series in press to test mode, which activates a flashing red led and restricts access to any 3rd party programs along with removing access to built in functions. To get out of press to test requires connecting to a computer or another calculator.

It's true than the Nspire CX is a stunning looking calculator, but all joy ends there sadly. With TI playing a cat and mouse game with developers, they have also alienated an entire enthusiast community.

Aside from the improved hardware, the Nspire series is a significant step down when compared to the HP50g or even the TI-89. If the Nspire series encourages HP to release a new product, at least there will be some benefit to us. Hopefully HP can see beyond the glitz that TI has included just for show and provide a legitimate tool that enables one to quickly and efficiently get the answer for which he is looking.

Re: June's over - No new calcs :) - Interesting TI product

*Message #6 Posted by **John Stark** on 7 July 2011, 7:09 p.m.,*
in response to message #5 by Cody

Dear Cody:

You have articulated my feelings completely.

The Nspire IS a locked-down teaching machine, NOT a tool for everyday calculating.

My opinion is that from a styling and physical user experience ("OOB Experience") viewpoint alone, the Nspire is a possible (starting) point for HP to use in a new generation of "RPL" or 49-50G based calculators.

Agreed that battery life and use of rechargeable cells breaks with (recent) HP tradition, but I would LOVE an HP.45 with 80-100 hours between charges.

Li-ion batteries and colour displays, I'm afraid, are the trend of today and tomorrow.

BTW, I believe the future of display technology is somehow linked to E-readers such as the "NOOK", and the "KINDLE"; they have high resolution displays that are easy on the batteries and the eyes.

Just some food for thought. You guys are a lot more hard-headed and experienced in engineering and product design than I am. I operate primarily by feeling, and some elements of the Nspire's design appealed to me, although its functionality STANK.

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Question about random number generators

*Message #1 Posted by **Namir** on 5 July 2011, 4:01 a.m.*

Using the linear congruential generator method to calculate a sequence of pseudo-random numbers:

```
S(n+1) = (A * S(n) + C) mod M
```

The S() is the integer seed values. The random number between 0 and 1 is calculated using:

```
X(n) = S(n) / M
```

What do you think if one uses the following algorithm instead:

```
S(n+1) = (A * S(n) + C) mod M
if S(n+1) < S(n) then
  X(n) = S(n+1) / S(n)
Else
  X(n) = S(n) / S(n+1)
End If
```

Namir

Re: Question about random number generators

*Message #2 Posted by **Paul Dale** on 5 July 2011, 4:29 a.m.,*
in response to message #1 by Namir

I'd be very surprised if this wasn't biased. It is also more computation.

- Pauli

Re: Question about random number generators

*Message #3 Posted by **Garth Wilson** on 5 July 2011, 4:36 a.m.,*
in response to message #2 by Paul Dale

What do you want to run it on? If there's a timer/counter and its value might be anything when you need the random number, you could bring that into the derivation.

Re: Question about random number generators

*Message #4 Posted by **Namir** on 5 July 2011, 5:19 a.m.,*
in response to message #3 by Garth Wilson

Just a general random number generator. My very basic tests show that the new algorithm generates a good spread. BUT ... MORE testing is needed.

Another more complex algorithm I had developed last year uses a VIRTUAL CLOCK. The clock ticks each time you call it's random number generator. This way, it is independent of the real CPU clock. That algorithm seems to do well.

Of course when you use RNG for Monte Carlo methods, you need very good ones (based on this book I am reading).

Cheers from southern France!

Namir

Re: Question about random number generators

*Message #5 Posted by **Paul Dale** on 5 July 2011, 5:52 a.m.,*
in response to message #4 by Namir

A very good rule of thumb regarding random number generators is to not try to invert your own. It is **very** easy to stuff it up in a way you won't recognise. I.e. it is easy to produce what you think is randomness when in reality, you've produced nothing of the sort.

So, find a reputable pseudo random number generator and stick with that. Linear congruential is quite popular. Mersenne twister is gaining popularity. The 34s uses the Taus generator from the GNU scientific library.

But use a reputable, known, tried and tested algorithm. If you're planning cryptographic applications, choose one specialised for that, the ones I've mentioned here are not suitable.

- Pauli

Re: Question about random number generators

*Message #6 Posted by **Bart (UK)** on 5 July 2011, 8:39 a.m.,*
in response to message #5 by Paul Dale

I have used Mersenne Twister with good results on Monte Carlo type simulations with iterations around 1E7. How would the 34s Taus generator compare?

-Bart

Edited: 5 July 2011, 9:06 a.m.

Re: Question about random number generators

*Message #7 Posted by **marais** on 5 July 2011, 3:46 p.m.,*
in response to message #6 by Bart (UK)

So have I, but its implementation goes far beyond of what's achievable on pocket calculators.

Re: Question about random number generators

*Message #8 Posted by **Paul Dale** on 5 July 2011, 5:47 p.m.,*
in response to message #6 by Bart (UK)

The primary problem with the MT algorithm is the amount of state it requires. It requires more data in its state vector than the 34s has persistent RAM :-) Tau on the other hand requires twelve bytes of state.

The Tau generator has a much smaller period than MT, only about 10^28 instead of

something like 10^6000 but either of these is more than large enough for a calculator. They are more than large enough for a super computer. Tau is also supposed to be faster which is relevant on a low speed computing device.

Both are reputable and pass the usual battery of tests to which these things are subjected (the spectral test is only the beginning). They are not suitable for cryptographic applications however. That is a completely different story with much more stringent requirements.

The GSL documents their random number generators quite well.

- Pauli

Re: Question about random number generators

*Message #9 Posted by **Bart (UK)** on 7 July 2011, 5:03 a.m.,*
in response to message #8 by Paul Dale

Thanks Pauli,

The period sure seems long enough. I am still learning to use my recently "acquired" 34s, and I'm curios to try and run some of my simulations on it :-). Having so many useful functions already built into the calculator really helps to keep programs short! (as I discovered many years ago when I went from a 28C to an fx-850p - the fx had more than double the memory but I used it all up rewriting functions that were built into the 28).

Thank you for the link, it is an interesting read.

Regards
Bart

Re: Question about random number generators

*Message #10 Posted by **Paul Dale** on 7 July 2011, 5:26 a.m.,*
in response to message #9 by Bart (UK)

> Quote:
>
> The period sure seems long enough.

I'd hope so. By my rough calculations, assuming that one FLOP is sufficient to generate the next number in sequence (which it isn't even close), it would take the current world's fastest super-computer approximately 3.8e19 years to get the RNG to repeat. I don't think you'll be running out :-)

> Quote:
>
> Having so many useful functions already built into the calculator really helps to keep programs short!

It is definitely a programmers' calculator.

- Pauli

Edited: 7 July 2011, 7:09 a.m.

Re: Question about random number generators

*Message #11 Posted by **Oliver Unter Ecker** on 5 July 2011, 8:20 p.m.,*
in response to message #5 by Paul Dale

Thank you for this discussion!

It helped me decide that ND1 will support the Mersenne twister with the next update.
(I was just working on adding ARC4, which will also be available, for crypto-applications.)

Re: Question about random number generators

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 5 July 2011, 8:46 a.m.,*
in response to message #1 by Namir

There is a specific chapter in "The Art of Computer Programming", vol 2- Seminumerical Algorithms, by Donald Knuth. It includes a memorable example of a random number generator that seems to be very random, but it fails badly, prompting for a clear statement "Never use a randomly chosen method to create random numbers".

AFAIK, the critical test for randomness is the "spectral test", which sort of measures the "white noise" quality of a pseudo-random sequence. The congruential one used for HP-41C applications, where S(n+1)=FRAC(S(n) * 9821 + 0.211327) is reported as passing the "spectral test".

As all these bits of data are just from memory, I apologize for possible inaccuracies and idiomatic mistakes. HTH.

Re: Question about random number generators

*Message #13 Posted by **Thomas Radtke** on 5 July 2011, 9:51 a.m.,*
in response to message #12 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> AFAIK, the critical test for randomness is the "spectral test", which sort of measures the "white noise" quality of a pseudo-random sequence. The congruential one used for HP-41C applications, where S(n+1)=FRAC(S(n) * 9821 + 0.211327) is reported as passing the "spectral test".

An interesting test is to calculate 'how much' a series is a cyclic difference set. Years ago, I implemented this in a simple Java spreadsheet program to quickly check the 'randomness' of a given series. By definition of this method, a series is at maximum random if self-similarity is minimal.

Re: Question about random number generators

*Message #14 Posted by **Marcus von Cube, Germany** on 5 July 2011, 9:59 a.m.,*
in response to message #13 by Thomas Radtke

I think one of the problems you can run into are sequences that repeat themselves and are short compared to the number of possible values given the machine accuracy. If you have such cycles you split the random numbers into distinct sets which do not overlap.

Another possible outcome is that the sequence converges or bounces around only a few values. This

may happen only after a million cycles. But it may happen.

Re: Question about random number generators

*Message #15 Posted by **Thomas Radtke** on 5 July 2011, 10:16 a.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> I think one of the problems you can run into are sequences that repeat themselves [...]

That would be a very predictable sequence, and so not really random. The CDS method perfectly identifies this. When using a ranom number generator, you should use it inside a unique series only anyway.

> Quote:
>
> [...] and are short compared to the number of possible values given the machine accuracy.

I'm not sure I understand. I calculate the algebraic difference, *not* doing boolean algebra (i.e. test on equalty). That's a little different from the usual CDS thing, I admit.

> Quote:
>
> Another possible outcome is that the sequence converges or bounces around only a few values. This may happen only after a million cycles. But it may happen.

And here I'm sure I don't understand what you mean ;-).

Re: Question about random number generators

*Message #16 Posted by **Marcus von Cube, Germany** on 5 July 2011, 10:42 a.m.,*
in response to message #15 by Thomas Radtke

Thomas, I was not replying to you directly but to the complete thread. But I try to answer you questions anyway. ;)

Given you have a sequence S(n+1) := F(S(n)). The numeric precision of your device is limited. So you have only a limited set V of values, the set having N elements. Depending on F you split this set in subsets. The simplest function F is identity (not random at all). S(n+1) := S(n) for every S in V. You split V in N subsets.

If your function F cycles through just the half of the possible values and there are starting seeds S and S' which create distinct subsets, you split V in two subsets, one containing S and the other containing S'. This may still be a good random sequence but it limits the possible number of random numbers in a single sequence to a subset of the possible values. If the split is asymmetric (one set much larger than the other) you can either get a good sequence or a very bad one, depending on the seed.

F might have another unwanted behavior. Even if F can produce all numbers in V in a single run, there may be values in the sequence which lead to more or less short cycles. You can enter the cycle from anywhere in V but once in the loop, F never produces values outside the loop.

Edited: 5 July 2011, 10:44 a.m.

Re: Question about random number generators

*Message #17 Posted by **Thomas Radtke** on 5 July 2011, 11:01 a.m.,*
in response to message #16 by Marcus von Cube, Germany

> Quote:
>
> Thomas, I was not replying to you directly [...]

Great misunderstanding :-D.

Re: Question about random number generators

*Message #18 Posted by **Katie Wasserman** on 5 July 2011, 10:58 a.m.,*
in response to message #1 by Namir

> Quote:
>
> Anyone who attempts to generate random numbers by deterministic means is, of course, living in a state of sin.

-- John von Neumann

Or southern France, as the case may be.

Edited: 5 July 2011, 11:00 a.m.

Re: Question about random number generators

*Message #19 Posted by **C.Ret** on 5 July 2011, 2:24 p.m.,*
in response to message #18 by Katie Wasserman

By luck, I am living in North-East of France and I am only involve with pseudo-random numbers set and ions spectrometric generators.

This perhaps explain why I usely make differencies between : - a set of random data, - a random set of data, - a set of random data, - data of a random set, - to set data from a random, and so on !

Re: Question about random number generators

*Message #20 Posted by **hugh steers** on 6 July 2011, 9:15 a.m.,*
in response to message #1 by Namir

you would need to, in addition to the usual constraints on A, C and M, ensure low correlation between S(n) and S(n+1).

This is to say, S(n) would have to pass the serial correlation test, achieved by having low partial quotients of A/M. The partial quotients are the numbers that come out from the euclidian algorithm for GCD(A,M).

See knuth V2, 3.3.3, theorem D and K.

Re: Question about random number generators

*Message #21 Posted by **David Hayden** on 8 July 2011, 11:05 a.m.,*
in response to message #1 by Namir

The X86 processors have a random number generator built into the hardware (RDRAND instruction). It uses a combination of truly random numbers, generated by an entropy source on the chip, and a pseudo-random number generator that is periodically seeded from the entropy source.

Dave

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL

*Message #1 Posted by **robertoataulfo** on 4 July 2011, 4:07 p.m.*

```
How can I have a HP-41CL?
The possibility of having new production?
I entered the site and the author made &amp;#8203;&amp;#8203;it clear that one of 41CL stayed with
him.
This indicates that not going to produce?
I appreciate any information
```

Edited: 4 July 2011, 4:10 p.m.

Re: HP-41CL

*Message #2 Posted by **exschr** on 4 July 2011, 4:35 p.m.,*
in response to message #1 by robertoataulfo

The first batch is out (approx. 20 units) and are beeing thoroughly tested
These beta units are absolutely great and as soon as the testing has finished there might start a production of the next batch (Alpha units?!)

To get more informations check:
http://www.systemyde.com/hp41/
or send an email to:
Monte Dalrymple
monted@systemyde.com

Hope this helps Roger

Re: HP-41CL

*Message #3 Posted by **Geoff Quickfall** on 5 July 2011, 2:48 p.m.,*
in response to message #1 by robertoataulfo

Have to concur with Roger,

The HP 41CL is much more then advertised. Unbelievable power at your finger tips.

Just for example, faster, I mean fast. Recoverable state in case of MEMORY LOSS or loss of power. Recoverable in the sense that you can copy your entire calculator to USER FLASH RAM which is writable; 'YFRM' to FLASH and copy-able; 'YMCPY' from FLASH.

No need for card reader, cassette, disc drive back up. In fact I now have two calculator states resident in flash. A suite of programs taking up 250 program registers and 200 x-memory registers stored in a FLASH RAM address belonging to my Palynology studies. And a suite of programs with aviation related programs and x-memory.

The following information relates to the creation of the FLASH RAM files and the copy back. No need to understand the commands as you will learn them and they are part of the CL functions which get plugged into

PORT 1 Lower (PLUG1L).

Sequence of steps to create the write from 800 to OC9 and 804 to OCF:

```
1.      TURBO50
2.      "062>812"
3.      YMCPY
4.      “812-RAM”       YFNS in RAM so YFWR can be used.
5.      PLUG1L
6.      “800>0C9
7.      YFWR
8.      “804>OCF
9.      YFWR
10.     “YFNS”
11.     PLUG1l
```

The above inputs can be automated in the form of a program!

Now at a complete “MEMORY LOSS” state:

```
1.      MMUCLR          basic reboot steps to enable MMU etc.
2.      “YFNS”
3.      PLUG1L
4       MMUEN
5.      TURBO50
6.      “0C9>800”       copy calc state from FLASH back to 800
7.      YMCPY           and 804.
8.      “0CF>804”
9.      YMCPY
10.     XEQ “PG”        see below
11.     XEQ “SGMT”      see below
```

```
1.      LBL PG          my suite of standard modules
2.      “YFNS”
3.      PLUG1L
4.      “CCDX”
5.      PLUG1U
6.      “PPCM”
7.      PLUG2
8.      RTN
```

```
1.      LBL SGMT        my clock is set to GMT (+7) hours for
2.      TURBO50         labelling.  Programs with date and for
3.      DATE            the world time program with city airport
4.      PROMPT          identifiers.
5.      SETDATE         The need for this routine is during a power
6.      TIME?           loss or MEMORY LOSS the time module has a
7.      PROMPT          power interupt and as such needs a reset.
8.      SETIME
9.      "+-GMT"         The CL in TURBO50 is so fast that the
10.     PROMPT          SETIME function occurs when you hit R/S
11.     T+X
12.     CLA
13.     TIME
14.     ATIME
15.     AVIEW
16.     END
```

To switch to another state:

ON+CLR and follow the MEMORY LOSS state example but substitute the calculator state memory address that you now require. As you can see it is no leap to run some programs, collect the data, store the data in FLASH and then switch calculator states and run programs for other reasons, switch back and continue with the previous state.

Well you get the picture, everything creates more ideas and the emails between the Beta testers includes creating ROMS, which would substitute the need for a backup state, unless you have data involved to serial communications with import and export functions to, well check out the link Roger posted.

I think with WP34S and HP 41CL this is an extremely interesting year. I forsee, with the availability of the CL the prices for used 41C, CV and CXs going up!

Cheers, Geoff

I have barely scratched the surface of the CL capabilities!

RE-EDITED TO FIX SGMT ROUTINE SO IT WORKS!

Edited: 6 July 2011, 2:52 p.m. after one or more responses were posted

Re: HP-41CL

*Message #4 Posted by **robertoataulfo** on 5 July 2011, 3:08 p.m.,*
in response to message #3 by Geoff Quickfall

```
HP-41CL is fantastic, wonderful, etc..
But will he stay in the hands of only 21 people? :-(
Now I know what I felt when I showed my friends my HP-41CY.
I'm paying for my sins.
I want an HP-41CL.
Geoff has no heart you doing all this suffering had to be banned here,;-).
```

Do be careful with Geoff's material... and about those 21 units ... Re: HP-41CL

*Message #5 Posted by **gene wright** on 5 July 2011, 3:48 p.m.,*
in response to message #4 by robertoataulfo

The beta testers are still working out the best ways to copy things to ram and flash ram, as well as loading new .rom images into the 41CL.

The procedures to write to flash are very dangerous is you do not know what you are doing OR if you make a mistake. Think how things were with the early synthetic programmers investigating register c and then increase the risks. :-)

that said, Monte had people sign up to buy HP 41CL units but when the time came, quite a few of the original 20 never responded to his email about wanting a 41CL.

That may lead Monte to the (hopefully wrong) conclusion that people **say** they want a 41CL board but when the time comes, who will pay for it?

Monte may be forced to have a pay-in-advance model with the next batch (which I think won't happen until the beta testing process winds down a bit).

CAVEAT

*Message #6 Posted by **geoff quickfall** on 5 July 2011, 4:26 p.m.,*
in response to message #5 by gene wright

As Gene says, have to be careful with copying to FLASH RAM. The locations chosen have involved a LOT of reading, EMAILING and confirmations.

I posted them to show you what the CL can do and its potential. After all this is Beta testing. So those of you without a CL board don't do this ;-)

Those of you with a beta CL board, READ the MANUAL!

Enough of the serious stuff now.

Gene is correct, for Monte not to show a deficit, those that want one must follow through!

Cheers, Geoff

My four phases of 41C life:

```
my first 41C                1980
my foray into synthetics    1982
my first 41CX               1984
my first 41CL               2011
```

31 years later and the 41 (CL) is a 21st century machine!

Geoff

Edited: 5 July 2011, 4:26 p.m.

Re: HP-41CL

*Message #7 Posted by **BobVA** on 5 July 2011, 8:46 p.m.,*
in response to message #3 by Geoff Quickfall

Gene / Geoff:

I wondered where you lot had gotten to! Thanks for the dispatch from the front.

If one of you 41CL-o-nauts could post a similar report occasionally it would make very interesting reading for those of us following along at home.

(I read Monte's article in Circuit Cellar and was amazed at what he's accomplished.)

Regards, Bob

Re: HP-41CL

*Message #8 Posted by **Geoff Quickfall** on 5 July 2011, 10:51 p.m.,*
in response to message #7 by BobVA

Bob

WILCO

Geoff

what with the wp34S, the book, the CL, the car... who has time to eat!

Anyone, and I mean ANYONE, who enjoyed the HP 41 in the past will love this machine.

this is even beats the SNIPE known as the "43S".

Cheers again.

Re: HP-41CL

*Message #9 Posted by **Walter B** on 6 July 2011, 12:14 a.m.,*
in response to message #8 by Geoff Quickfall

Geoff,

Where did you see a "43S" ?

Looking forward to your book - hope Marcus can get some specimens in San Diego :-)

Walter

Re: HP-41CL

*Message #10 Posted by **db (martinez, ca.)** on 6 July 2011, 12:57 a.m.,*
in response to message #9 by Walter B

Walter; Have you never asked for or been asked for a metric crescent wrench? Don't Europeans hunt for the wiley Snipe?

If not, look up snipe hunt on wikipedia.

Joerg is gonna love this one. He thought we were crazy before...

Re: HP-41CL

*Message #11 Posted by **Geoff Quickfall** on 6 July 2011, 2:21 a.m.,*
in response to message #9 by Walter B

DB got it in one!

Hunting the Snipe, that elusive bird! Sort of like a wild goose chase?

Great science fiction series starting with an alien aloof survey of the planets with technology. The alien was called a snipe because the astronomers had been looking for so long and not found extraterrestrial life. Can't remember the series though or the author: Baxter?

Geoff

Edited: 6 July 2011, 2:22 a.m.

Re: HP-41CL

*Message #12 Posted by **Ángel Martin** on 6 July 2011, 8:49 a.m.,*
in response to message #7 by BobVA

> Quote:
>
> I wondered where you lot had gotten to! Thanks for the dispatch from the front.

Yes, we're all heads-down trying to absorb the new machine's capabilities and (literally) studying its marvels. It's a wondrous accomplishment, way better than the most optimistic expectations... and yet best.

Back to study!

Re: HP-41CL automation

*Message #13 Posted by **Geoff Quickfall** on 6 July 2011, 3:15 p.m.,*

in response to message #12 by Ángel Martin

Angel is correct, emails flying, never so much fun since sythetics came about for the C.

Just to show how easy a full copy of the entire calculator state can be I converted the manually input sequence of keys in the first post to a program. The program copies the key assignments, memory registers, program registers, extended memory, flag status... well you get the idea. Similar to a WRTA or WALL command but with the added bonus of carrying all extended memory along with it!

Calculator to Flash "YCTOF"

```
001 LBL "YCTOF"
002 TURBO50
003 "062>812"
004 YMCPY
005 "812-RAM"
006 PLUG1L
007 "0C9000"
008 YFERASE
009 "800>0C9"
010 YFWR
011 "804>0CF"
012 YFWR
013 "YFNS"
014 PLUG1L
015 END
```

I have run the above program and it functions correctly. It takes 44 seconds to run in TURBO50 mode. You can see at that there is a copy command to RAM (YMCPY) and two copy commands to FLASH (YFWR)which explains the time lag.

When a MEMORY LOSS ocurrs for various reasons like 0 STO C ;-) for you synthetic nuts or power interupt or conflict between the ROMS (all things which afflicted the 41C for a novice or pro). You have a safe image which can be restored in about 25 seconds with the following manual key inputs.

```
1  MMUCLR
2  "YFNS"
3  PLUG1L
4  TURBO50
5  "0C9>800"
6  YMCPY
7  "OCF>804"
8  YMCPY
9  MMUEN
```

Of course, READ the manual if you are lucky enough to get one of these! Genes caveat is absolute, messing with FLASH can be dangerous and relies on explicit knowledge of memory addresses, all supplied in Montes great CL manual:

HP 41CL manual

Geoff

Edited: 6 July 2011, 3:16 p.m.

Re: HP-41CL automation

*Message #14 Posted by **BobVA** on 6 July 2011, 8:22 p.m.,*
in response to message #13 by Geoff Quickfall

Quote:

> ...You have a safe image which can be restored in about 25 seconds with the following manual key inputs.
>
> ```
> 1  MMUCLR
> 2  "YFNS"
> ...
> ```
>
> Geoff

That's a really, really cool (and two decade overdue) capability.

The restore listing should get added to the to the "41CL" label sticker sheet, in a size that would fit the indent in the battery pack.

Cheers, Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Difference in design for 25 and 25c

*Message #1 Posted by **exschr** on 4 July 2011, 3:12 p.m.*

I'm not interested in the user feature "continuous", I know it's the non-volatile memory, but the design difference in HW behind this: is it achieved through exchange of some parts (different parts) or just through adding of additional components?

thanks for hints/pointers/ideas!

Roger

Re: Difference in design for 25 and 25c

*Message #2 Posted by **Marcus von Cube, Germany** on 4 July 2011, 3:37 p.m.,*
in response to message #1 by exschr

The major step was the technology switch from PMOS to CMOS. The latter allows low power memory save as required by continuous memory.

Re: Difference in design for 25 and 25c

*Message #3 Posted by **exschr** on 4 July 2011, 4:36 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi Marcus

Thanks a lot, this was the information I was looking for!
Best regards Roger

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My attendence to HHC 2011

*Message #1 Posted by **Marcus von Cube, Germany** on 4 July 2011, 3:08 a.m.*

Thanks to some generous donations, my trip to San Diego will drain my account much less then anticipated. :-)

Thanks to all donors, especially BruceH who took care of the hotel room bill for the stay (I'll be in the Holiday Inn Express downtown from Sep 19 to 28.)

Thanks also to José who is forwarding $15 for each reprogrammed 34S he is selling through his web site http://www.thecalculatorstore.com/. He's done so several times now. Eric, can you make more overlays for him?

My PayPal account sums up to $200 now (PP has taken its share already.)

I'm looking forward to some very good local beer. :-)

Edit: $200 are history. We've collected some 50% more now. Thank you very much! :-)

Edited: 4 July 2011, 2:53 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A few simple HP 35s programs

*Message #1 Posted by **Lode** on 3 July 2011, 5:14 p.m.*

Hi,

I made a few simple programs for the HP 35s which make it a little bit better imho :)

I tried to let each one keep as much of the original stack as possible intact, this didn't succeed for every function however.

There are: extract im/re, ->R, ->P, lambertw, complex loggamma, complex conjugate, complex asin/acos/atan and complex sqrt.

They're almost all located on or near a key where either a function is similar, or the letter is a good mnemonic.

The polar/rect and lambertw ones were inspired by posts from here but made simpler.

What do you think of the programs?

Got any tips to improve them?

Are there any HP-35s related resources for other useful programs or programming tips and techniques? I found the Matrix Multitool which is very nice, but for the rest I only find surveying related programs...

Any ideas for *games* that can be programmed on a device like this?

Thanks!

```
//Get re in x and im in y. Located on the imaginary number key.
lbl g
eqn: abs(regx-sq(abs(regx))/regx)/2
x<>y
1/x
clx
eqn: abs(lastx+sq(abs(lastx))/lastx)/2
rtn



//Complex conjugate, on the +/- key
lbl n
1/x
clx
sq(abs(lastx))/lastx
rtn



//LambertW, on the W key. Makes a mess of the stack.
lbl w
sto j
fn= v
solve i
rollup
x<>y
rtn
```

```
//LambertW helper function (too bad this costs a whole label, why can't you give line numbers
to SOLVE??)
lbl v
rcl i
e^x
lastx
*
rcl j
-
rtn



//Polar to rect, on the R key representing ->R
lbl r
eqn: regy*sin(regx)
enter
eqn: regx*cos(regy)
rtn



//Rect to polar, on the S key because it's next to the R. Unfortunately lets the oldest stack
value get lost.
lbl s
i
*
+
arg
lastx
abs
rtn



//Complex loggamma, on the z key which is above '!'.
lbl z
1/x
clx
eqn: 0.918938533205+(lastx-0.5)*ln(lastx)-lastx+1/(12*lastx)-1/(360*lastx^3)+1/(1260*lastx^5)
rtn



//Square root of complex numbers, on the square root key
lbl k
1/x
clx
eqn: lastx^0.5i0
rtn



//Complex asin, on the sin key (why doesn't it support this by default anyway?)
lbl h
1/x
clx
eqn: -i*ln(i*lastx+(1-lastx*lastx)^0.5i0)
rtn



//Complex acos, on the cos key
lbl i
1/x
clx
eqn: -i*ln(lastx+((lastx*lastx-1)^035i0))
rtn



//Complex atan, on the tan key
lbl j
1/x
clx
eqn: 0.5*i*ln((1-i*lastx)/(1+i*lastx))
rtn
```

Re: A few simple HP 35s programs

*Message #2 Posted by **Paul Dale** on 4 July 2011, 1:28 a.m.,*
in response to message #1 by Lode

I wrote a game for the 35s which still hasn't made it into the software library but is available as an article and buried in the archives.

Also, we did a group effort on R->P and P->R functions, again available as an article. These behave the same as internal commands with respects to stack operations, LastX etc.

- Pauli

Re: A few simple HP 35s programs

*Message #3 Posted by **Lode** on 4 July 2011, 3:36 p.m.,*
in response to message #2 by Paul Dale

Why is there so much flag 10 logic in these R/P examples? If it's to clear it for the equation, isn't just a single "CF 10" enough? If it's to keep the original state of flag 10: is that really so important to be worth so much extra lines (not to me)? If a program wants to display a message it will set the flag anyway...

The game looks cool! It's going to be a LOT of work to type it over though! I wish there existed a way to automate this inputting. When typing over the "Matrix Multitool", there was one big problem I had: since the calculator updates line numbers automatically when inserting lines, it sometimes messes with line numbers if you need to correct a mistake on an earlier line. It was hell. When I typed that matrix program, I had already added the "RTN" at the end while still typing all previous lines. It had changed almost all GTO's and XEQ's that pointed to the future, into line number 442. When going back to correct each of those, due to deleting and readding the GTO line, some others got messed up as well, etc... Any tips on efficiently entering a long program and not letting it mess up line numbers?

Re: A few simple HP 35s programs

*Message #4 Posted by **Paul Dale** on 4 July 2011, 5:38 p.m.,*
in response to message #3 by Lode

> Quote:
>
> Why is there so much flag 10 logic in these R/P examples?

The logic is there so they act exactly like internal commands -- don't care about the state of the device on entry and don't change the state of the device on exit. Equations don't work if flag 10 is set so that has to be cleared and restored.

> Quote:
>
> If it's to clear it for the equation, isn't just a single "CF 10" enough? If it's to keep the original state of flag 10: is that really so important to be worth so much extra lines (not to me)?

A nice simple solution is to remove the bits you don't want. The 35s isn't even remotely short of program memory so the extra lines are kind of moot.

> Quote:

> If a program wants to display a message it will set the flag anyway...

And if the program neglects to clear this flag afterwards? What about a program that sets it to display messages and then does a rectangular polar conversion. These commands are designed to work regardless. Still, take out the bits you don't want or do your own.

> Quote:
>
> Any tips on efficiently entering a long program and not letting it mess up line numbers?

Nope, it is just painful. When developing the game, I retyped it when substantial changes were made to avoid these issues.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.06 released!

*Message #1 Posted by **Raymond Del Tondo** on 3 July 2011, 4:48 p.m.*

Hello all,

here's an important update for SpeedUI.

SpeedUI 11.06 fixes a menu key bug when in the Units menu,
and replaces the normal soft keys display with a faster one based on UFL.

Several components have been slightly optimized.

Prior to installation of the new SpeedUI,
please remove ALL older SpeedUI components,
since CF.LIB and other components have changed internally,
and all components have been adjusted to the new CF.LIB layout.

For installation/uninstallation, please take a look into
StartHere.pdf supplied with the SpeedUI 11.06 archive.

The new version is available here:
SpeedUI Walkthrough PDF
SpeedUI zip archive

but _not_ on www.hpcalc.org (since the site has not been updated for a long time)

Have fun:-)

Raymond

BTW: This could be considered as my birthday edition, since today's my **48**. birthday:-)

Re: SpeedUI 11.06 released!

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 3 July 2011, 4:58 p.m.,*
in response to message #1 by Raymond Del Tondo

> Quote:
>
> BTW: This could be considered as my birthday edition, since today's my 48. birthday:-)

Happy Birthday Raymond! :)

Massimo

Re: SpeedUI 11.06 released!

*Message #3 Posted by **fhub** on 3 July 2011, 5:10 p.m.,*
in response to message #1 by Raymond Del Tondo

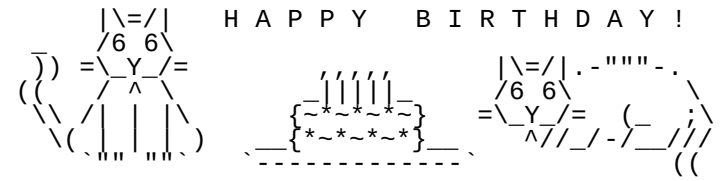
> Quote:
>
> BTW: This could be considered as my birthday edition, since today's my **48**. birthday:-)

What luck for you that your SpeedUI is not for the HP-67 (or even 97)! ;-)

Happy birthday,
Franz

Re: SpeedUI 11.06 released!

*Message #4 Posted by **Juergen Keller** on 3 July 2011, 5:21 p.m.,*
in response to message #1 by Raymond Del Tondo



Re: SpeedUI 11.06 released!

*Message #5 Posted by **Olivier De Smet** on 8 July 2011, 7:45 a.m.,*
in response to message #4 by Juergen Keller

Completly O.T.

I read in an old message that you where looking for a CP/M 68k for a series 200.

Did you find one by luck ?

I will be interested to see how it works with an emulator (Link)

Btw I'm still searching for ROM based language memory dump (basic, hpl, ...)

Olivier

Re: SpeedUI 11.06 released!

*Message #6 Posted by **Juergen Keller** on 8 July 2011, 12:30 p.m.,*
in response to message #5 by Olivier De Smet

> Quote:
>
> I read in an old message that you where looking for a CP/M 68k for a series 200.
>
> Did you find one by luck ?

Unfortunately, no.

> Quote:

> Btw I'm still searching for ROM based language memory dump (basic, hpl, ...)

Don't exactly understand what you mean with this. I have a 9816, so probably I can help ...

Re: SpeedUI 11.06 released!

*Message #7 Posted by **Olivier De Smet** on 9 July 2011, 6:21 a.m.,*
in response to message #6 by Juergen Keller

For the rom dump you need :

hp series 200 unit

9121 or 9122 disk unit, pc with win XP or win98, teledisk utility (best to have a 9122 to use 600K disk)

language in rom : 98603A BASIC 4.0 ROM, ROM HPL 2.0 for 200 Series, ROM BASIC 2.0 for 200 Series (see hpmuseum site)

if so I can make a basic or pascal program to dump the rom on a file (I need to know the release of your basic or pascal)

Then you can use teledisk to make an image of the 3"1/2 disc

Olivier

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is there an easy way to determine how many factors a number has?

*Message #1 Posted by **Don Shepherd** on 2 July 2011, 8:09 p.m.*

My student wanted to know. The classic way is to do the prime factorization for the number, take the exponent of each prime factor and add 1 to it and multiply these together, and the result is the number of factors that the original number has.

The 17b can do it easily in a solver equation:

```
nf=0xL(a:√(n))+2+Σ(i:2:g(a):1:if(mod(n:i)=0:if(i=a:1:2):0))
```

It works on the 17b, 17bii, and 17bii+, although it's much slower on the plus.

Edited: 2 July 2011, 9:45 p.m.

Re: Is there an easy way to determine how many factors a number has?

*Message #2 Posted by **Paul Dale** on 2 July 2011, 9:46 p.m.,*
in response to message #1 by Don Shepherd

I'm not aware of any and I believe that finding this is equivalent in difficult to factorising. I looked at adding this to the 34s firmware but didn't dig too deeply.

Once you have the prime factorisation, determining the factors is straightforward as you've pointed out.

- Pauli

No, there is not!

*Message #3 Posted by **Gerson W. Barbosa** on 3 July 2011, 10:58 a.m.,*
in response to message #1 by Don Shepherd

Otherwise there would be a an easy way to tell whether a number is prime or not. There are a number of interesting properties related to this, however. One of them states that perfect squares, and only them, have an odd number of divisors (more at OEIS). This is the basis for the optimized solution to the 100 doors problem (the following wp34s program will display the doors that will be open after the last pass).

```
001 LBL D
002 2
003 10^x
004 SQRT
005 FP?
006 SKIP 02
007 RCL L
008 PSE 10
009 DEC L
010 x<> L
011 x>1?
012 BACK 08
013 RTN
```

Re: No, there is not!

*Message #4 Posted by **Marcus von Cube, Germany** on 3 July 2011, 2:13 p.m.,*
in response to message #3 by Gerson W. Barbosa

Gerson, wouldn't it be much easier to just compute the squares from 1^2 to 10^2 instead of testing each integer if it is a square?

Re: No, there is not!

*Message #5 Posted by **Gerson W. Barbosa** on 3 July 2011, 2:30 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Yes, it would :-) And it would make for an extremely short wp34s program.

BTW at least a couple of optimized C solutions there follow that approach:

```
#include <stdio.h>

int main()
{
        int i;
        for (i = 1; i * i <= 100; i++)
                printf("door %d open\n", i * i);


        return 0;
}

#include <iostream> //compiled with "Dev-C++" , from RaptorOne

int main()
{
    for(int i=1; i*i<=100; i++)
            std::cout<<"Door "<<i*i<<" is open!"<<std::endl;
}
```

A mathematical explanation, in Spanish:

http://gaussianos.com/el-problema-de-las-100-puertas-y-los-divisores-de-un-numero-natural/

Edited: 3 July 2011, 2:36 p.m.

Re: No, there is not!

*Message #6 Posted by **Ángel Martin** on 3 July 2011, 5:31 p.m.,*
in response to message #5 by Gerson W. Barbosa

at last an explanation I can understand :-)

Re: No, there is not!

*Message #7 Posted by **Gilles Carpentier** on 4 July 2011, 10:14 a.m.,*
in response to message #5 by Gerson W. Barbosa

lol... in RPL could be

"door " { 1 2 3 4 5 6 7 8 9 10 } SQ ADD " is open" ADD MSGBOX

Re: Is there an easy way to determine how many factors a number has?

*Message #8 Posted by **Gilles Carpentier** on 4 July 2011, 9:17 a.m.,*
in response to message #1 by Don Shepherd

On the 50G it's very easy, but it's a little cheating ;)

DIVIS SIZE

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Changing the ROM of a HP-35s?

*Message #1 Posted by **Lode** on 2 July 2011, 2:00 p.m.*

Hello,

Do you think it would be technically possible to change the ROM of a HP-35s?

The hardware of this machine rocks! Nice keys, low battery consumption, alphanumeric LCD, beautiful looks. The software on it is OK but is a bit disappointing imho. I think there should be more potential with this CPU and 30k memory. Like, for example, outputting '-1' instead of 'error' when pressing x^2 button if 'i' is on screen.

Is this ROM located under the same epoxy blob as the CPU? Is such a type of ROM typically modifiable somehow, and if it's truly hardwired read only, to replace it with something else somehow? I have much more software than electronics experience. It would be awesome to learn programming assembly for this CPU (or if there's a compiler for it it's even better) and applying this to the actual device to use it.

It would be fantastic to come up with something that uses roughly the same key layout but is better, and to have the ability to upload ROMs to it with USB from any OS including Linux.

Thanks.

Edited: 2 July 2011, 2:57 p.m.

Re: Changing the ROM of a HP-35s?

*Message #2 Posted by **Marcus von Cube, Germany** on 2 July 2011, 4:11 p.m.,*
in response to message #1 by Lode

> Quote:
>
> Is this ROM located under the same epoxy blob as the CPU?

I'm afraid so. As far as I know, the ROM is on the CPU chip and is mask prommed. No chance to update anything here.

Re: Changing the ROM of a HP-35s?

*Message #3 Posted by **Walter B** on 2 July 2011, 4:44 p.m.,*
in response to message #1 by Lode

> Quote:
>
> It would be fantastic to come up with something that uses roughly the same key layout but is better

This was the basic idea we started our WP 34S project with 8-) after ranting many months about HP unwilling to come out with a scientific successor of the 42S. AFAIK, the 20b, 30b, and 12C are the only HP calcs

allowing to be repurposed in any way by educated users. *And the 10bii and 50g are as well. Developer's tool kits are available for the 20b, 30b, 12C.* That's it, but that's far better than nothing :-)

Of those three, the 20b and 30b sport the most versatile display (and they share the same processor), and the 12C and 30b feature the best keyboards. The intersection is the 30b suiting best to be repurposed for the time being.

Walter

Added the italic text above taking care of Tim's and Pauli's remarks posted below.

Edited: 3 July 2011, 4:21 p.m. after one or more responses were posted

Re: Changing the ROM of a HP-35s?

*Message #4 Posted by **fhub** on 2 July 2011, 5:07 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> AFAIK, the 20b, 30b, and 12C are the only HP calcs allowing to be repurposed in any way by educated users.

The 12C, too?
Interesting, is there any development system available for it?

Franz

Re: Changing the ROM of a HP-35s?

*Message #5 Posted by **Tim Wessman** on 2 July 2011, 11:34 p.m.,*
in response to message #3 by Walter B

10bII+ as well.

TW

Re: Changing the ROM of a HP-35s?

*Message #6 Posted by **Eric Smith** on 3 July 2011, 12:02 a.m.,*
in response to message #3 by Walter B

I don't know any reason why one couldn't do the same kinds of things with a 50g. Like the 12C, 20b, 30b, and 10bii, its firmware is in flash memory. It uses a Samsung S3C2410 SoC with an ARM 9 core.

Re: Changing the ROM of a HP-35s?

*Message #7 Posted by **Paul Dale** on 3 July 2011, 12:18 a.m.,*
in response to message #6 by Eric Smith

This is definitely possible. Without erasing the existing calculator functionality too. My 49g+ died so it won't be me.

- Pauli

Re: Changing the ROM of a HP-35s?

*Message #8 Posted by **Walter B** on 3 July 2011, 2:55 a.m.,*
in response to message #7 by Paul Dale

OK, for those needing a really big stick for hunting, the 50g might be appropriate. Personally, I prefer smaller weapons ;-) But a REASONABLE DISPLAY will be nice, of course d:-)

Walter

P.S.: Strange, but it seems to me we had this discussion more than once before. Presumably getting old d;-)

Re: Changing the ROM of a HP-35s?

*Message #9 Posted by **Bart (UK)** on 2 July 2011, 5:34 p.m.,*
in response to message #1 by Lode

Hi,

See my rather tongue-in-cheek reply to the OP in this thread ;-):
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=161995

Re: Changing the ROM of a HP-35s?

*Message #10 Posted by **Paul Dale** on 3 July 2011, 12:21 a.m.,*
in response to message #1 by Lode

I'd love for the 35s to be reprogrammable. Lots of RAM, nice keyboard, heaps of flash and a good display. The 34s functionality would pale in comparison to what could be done with this platform.

Sadly, not to be.

As it is the 34s pretty much does everything the 35s does except algebraic support and lots of RAM.

- Pauli

Re: Changing the ROM of a HP-35s?

*Message #11 Posted by **Walter B** on 3 July 2011, 2:50 a.m.,*
in response to message #10 by Paul Dale

Not so nice keyboard IMHO: the cursor cross is located one row too high :-(Else six softkeys would have been feasible. Oh HP, why did you do this? You (did?) know better!

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emu48 problem with BEEP patches

*Message #1 Posted by **fhub** on 2 July 2011, 10:29 a.m.*

Hi,

I have a problem with the emulations of 38G and 39G/40G in Emu48:
no matter what I do/try, I just can't get these emulated calcs to beep (e.g. on errors)! :-(

Everything works fine for all other emulations (48SX/GX, 49G and 50g), but all BEEP-patches I've found and I've tried just don't work.

Here's a list of different patch addresses that I've tried, some of them I found in KML-scripts and others in ROM entry list:

For the 38G:
017D0:81B1; =makebeep (internal, undocumented)
8114F:81B1; =makebeep

And for the 39G/40G:
017BC:81B1; =makebeep (internal, undocumented)
017D0:81B1; =makebeep (internal, undocumented)
0F360:81B1; =makebeep

As already said: none of them works! :-(

So has anyone here correct BEEP patch addresses for these 2 emulator ROMs for the 38G and 39G/40G, or does anyone know how maybe I could find out such correct addresses for my ROMs myself?

Franz

Edited: 2 July 2011, 10:30 a.m.

Re: Emu48 problem with BEEP patches

*Message #2 Posted by **Raymond Del Tondo** on 2 July 2011, 11:50 a.m.,*
in response to message #1 by fhub

Hi,

at least for the HP-38G I can't remember ever hearing a tone signal on a real unit at all. On errors there only was an exclamation mark in the display.

These calcs were meant to be used in classrooms, and therefore unwanted tone signals had to be suppressed.

I guess it similar with the 39g/40g.

Re: Emu48 problem with BEEP patches

*Message #3 Posted by **fhub** on 2 July 2011, 12:08 p.m.,*
in response to message #2 by Raymond Del Tondo

Well, maybe you're in fact right - I don't own a real unit of them.

But then I wonder why almost every KML script for these calcs contains a patching line like e.g. this: Patch "BEEP.39G"

Re: Emu48 problem with BEEP patches

*Message #4 Posted by **Christoph Giesselink** on 3 July 2011, 4:35 p.m.,*
in response to message #1 by fhub

> Quote:
>
> For the 38G:
> 017D0:81B1; =makebeep (internal, undocumented)
>
> And for the 39G/40G:
> 017BC:81B1; =makebeep (internal, undocumented)

The above entries are good for me.

The command for beeping on the 38G/39G/40G is

BEEP frequency;duration

BEEP 1000;5 are 1000Hz for 5s.

Short message beeps generated over the =RCKBp (ROM Check Beep) entry aren't simulated.

Christoph

Re: Emu48 problem with BEEP patches

*Message #5 Posted by **fhub** on 3 July 2011, 4:53 p.m.,*
in response to message #4 by Christoph Giesselink

> Quote:
>
> The above entries are good for me.

Yep, it's indeed working - many thanks Christoph! :-)

The problem was that I got no beep after the bootup or for any error messages (as it happens for all other HP emulators), so I didn't even try it with the BEEP command because I was sure it won't work.

So the 38G and 39/40G are using different internal commands for such short error/message-beeps than e.g. the 48/49/50G, because for the latter also these beeps work?

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Draft WP34s Assembler/Disassembler document online

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 30 June 2011, 11:32 p.m.*

I have put an early cut of the PDF online.

Comments welcome!

Re: Draft WP34s Assembler/Disassembler document online

*Message #2 Posted by **Walter B** on 1 July 2011, 1:26 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Looks good. For comparison, Pauli and me started with 11 pages in December 2008 ;-)

Walter

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-48GX SpeedUI problem

*Message #1 Posted by **Tom Sauntry** on 30 June 2011, 9:44 p.m.*

I have tried to install SpeedUI several times now and I can't get it to work except for one quick attempt that later froze. I download the libraries, store them on Port 0 or on my Port 2 RAM card as required. Then I attach them and restart the calculator. It comes up on the stack display okay but the processing icon stays on and the calculator does not respond to any keys. I have tried ON/C/F to clear memory and tried again several times, with and without attaching the libraries. It seems like the CF module starts up and then keeps running, no UI stack displays. Any ideas?

This was the latest V11.05

The last couple of times, I tried to attach the libraries, but nothing shows up as attached when I do RS LIBRARY to see what is attached to the HOME directory.

Re: HP-48GX SpeedUI problem

*Message #2 Posted by **Raymond Del Tondo** on 1 July 2011, 4:08 a.m.,*
in response to message #1 by Tom Sauntry

Hello,

which libraries did you store in which port, and which third-party libraries are installed, and in which ports?

Some of the libraries of the SpeedUI package must be stored in port 0 or 1, like the CF.LIB . For more details please take a look at the MoreInfo.pdf .

Most components should also work from port higher than 1, but it's recommended to store all SpeedUI components in port 0 or 1 for performance reasons, since all higher ports are bank-switched, and thus lead to slower program execution.

Did you install the special UFL library supplied with SpeedUI?

You mention that the library menu doesn't show the SpeedUI components, which indicates that CF.LIB is not stored in port 0 or 1.

As most libraries, the SpeedUI core component is auto-attaching after a turn of-turn on sequence. During warmstart, the CF config code also "attaches" (or better activates) the other installed SpeedUI components.

HTH

Raymond

Re: HP-48GX SpeedUI problem

*Message #3 Posted by **Tom Sauntry** on 1 July 2011, 2:40 p.m.,*
in response to message #2 by Raymond Del Tondo

I switched my RAM card to port 1 and the programs seem to be working as advertised. Thanks for the help. I am looking forward to learning and using SpeedUI.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Curious Sticker on the Back of an HP-35

*Message #1 Posted by **Katie Wasserman** on 29 June 2011, 10:14 a.m.*

Ignoring the fact that this is mis-advertised as a programmable calculator, take a look a the trig function sticker on the back of this HP-35..

Was this sticker offered by HP or possibly one of the companies that made aftermarket products?

Re: Curious Sticker on the Back of an HP-35

*Message #2 Posted by **Michael de Estrada** on 29 June 2011, 10:31 a.m.,*
in response to message #1 by Katie Wasserman

I doubt it came from HP. Also interesting, the S/N says Version 3, but the front label says Version 2.

Re: Curious Sticker on the Back of an HP-35

*Message #3 Posted by **Walter B** on 29 June 2011, 11:22 a.m.,*
in response to message #1 by Katie Wasserman

Since it's far from being coherent, I bet that label was made by somebody else, maybe even DIY.

Walter

Re: Curious Sticker on the Back of an HP-35

*Message #4 Posted by **Dave Shaffer (Arizona)** on 29 June 2011, 12:56 p.m.,*
in response to message #3 by Walter B

I'd agree with Walter - probably by somebody who didn't trust his/her memory of trig functions!

Re: Curious Sticker on the Back of an HP-35

*Message #5 Posted by **db (martinez, ca.)** on 29 June 2011, 1:45 p.m.,*
in response to message #4 by Dave Shaffer (Arizona)

Or it's someone who can't remember the name of the famous Indian Chief, SOH CAH TOA

Re: Curious Sticker on the Back of an HP-35

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 29 June 2011, 2:02 p.m.,*
in response to message #5 by db (martinez, ca.)

Ya know, if you can't spell ... like I can't spell ... I could never figure out if it was "saw coe toa" or "sow ca toa". I was taught "South Of Halifax Comes A Hundred Tons Of Apples" way back in high school (in Halifax, Nova Scotia of course). It just seemed a bit easier to me since you couldn't confuse the A and O order. (Dimwit that I am...)

Re: Curious Sticker on the Back of an HP-35

*Message #7 Posted by **bill platt** on 29 June 2011, 11:42 p.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

I like that one!

Re: Curious Sticker on the Back of an HP-35

*Message #8 Posted by **Nigel J Dowrick** on 30 June 2011, 4:44 a.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

This xkcd strip seems appropriate here:

xkcd: Los Alamos

Nigel (UK)

Re: Curious Sticker on the Back of an HP-35

*Message #9 Posted by **Joerg Woerner** on 29 June 2011, 2:52 p.m.,*
in response to message #5 by db (martinez, ca.)

As a non-native english speaker I had to look up the SOH-... and found this one on Wikipedia:

Another method is to expand the letters into a sentence, such as "Some Old Hippy Caught Another Hippy Trippin' On Acid".

You Americans are funny ;-))

Cheers, Joerg

Re: Curious Sticker on the Back of an HP-35

*Message #10 Posted by **aj04062** on 29 June 2011, 8:55 p.m.,*
in response to message #9 by Joerg Woerner

NICE!

I think this last one is ENTIRELY APPROPRIATE for a calculator of this vintage.

However, I don't think the hippies were carrying the HP-35s at Woodstock. (I know my dates are off but it made me laugh to think a tripping hippie would need to remember trigonometry)

Re: Curious Sticker on the Back of an HP-35

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 4 July 2011, 8:24 p.m.,*
in response to message #1 by Katie Wasserman

I didn't know what this was all about until I looked up the Wikapedia reference. I don't think that I have known anyone who used any of these memory aids for trigonometric relationships. So, I am curious. Did the participants in this forum use this sort of stuff?

In seventh grade geography I was introduced to the memory aid HOMES as a way to remember the names of the Great Lakes. But the teacher commented that it was far better to work from a visualization of the lakes.

Re: Curious Sticker on the Back of an HP-35

*Message #12 Posted by **Forrest Switzer** on 4 July 2011, 11:13 p.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

Nope.

Opposite over hypotenuse. Adjacent over hypotenuse. Opposite over adjacent.

Re: Curious Sticker on the Back of an HP-35

*Message #13 Posted by **Dave Shaffer (Arizona)** on 4 July 2011, 11:46 p.m.,*
in response to message #12 by Forrest Switzer

I'm with Forrest.

I had never heard of SOCATOA (or whatever) until I started teaching Phsyics I in 2000 (some 32 years after I learned trig).

Re: Curious Sticker on the Back of an HP-35

*Message #14 Posted by **Walter B** on 5 July 2011, 2:01 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

Same on this side of the pond. No memory aids (Eselsbrücken) in use for such stuff.

Walter

Re: Curious Sticker on the Back of an HP-35

*Message #15 Posted by **Katie Wasserman** on 5 July 2011, 2:16 a.m.,*
in response to message #14 by Walter B

I remember being told to remember SOHCAHTOA by my high school trig teacher as a help in talking the NY State Regents Exam. But I found that learning how to spell such a word took the same effort as just learning the definitions of the functions.

Re: Curious Sticker on the Back of an HP-35

*Message #16 Posted by **Paul Dale** on 5 July 2011, 3:57 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

I never heard of it before this forum. Not at school, not at university doing mathematics nor doing postgraduate mathematics.

- Pauli

Re: Curious Sticker on the Back of an HP-35

*Message #17 Posted by **Neil Hamilton (Ottawa)** on 5 July 2011, 6:17 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

Yah, yah, yah. I hear that everyone here "just gets" the trigonometric relationships -- and considering some of the spelling capability, it might be just as well :-) For the rest of us slightly dyslexic fools (some with several university degrees, including "physics"!), we sometimes could use a crutch or two. But do we all need it? Naw, but it sure is more fun to know!

I am wondering what you used to remember the resistor colour codes? Mine was a bit racy and probably not entirely appropriate in this day and age (suitably modified for a public audience):

"Bad boys [relish] our young girls but Violet goes willingly."

Oh, but surely y'all just got those as well! :-D

Or how about: "Many velvet elephants met jolly Santa under North Pole." Ooops! I guess that doesn't work anymore...

"30 days has September, April, June, and November, all the rest have 31 save February." Or the knuckles trick.

For me, I am lucky if I remember where my car keys are (or even, "where did I park that darn car? ")...

Re: Curious Sticker on the Back of an HP-35

*Message #18 Posted by **Walter B** on 5 July 2011, 1:16 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

Neil,

> Quote:
>
> I hear that everyone here "just gets" the trigonometric relationships

At the bottom line, you have to remember just one, e.g. sin = opposite / hypotenuse. Then you know cosine being "the other leg". And everything else follows. Feasible, isn't it? Even many engineers know it ;-)

Walter

Re: Curious Sticker on the Back of an HP-35

*Message #19 Posted by **Dave Shaffer (Arizona)** on 5 July 2011, 1:24 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

Have to admit I use (a slightly racier version of) Neil's resistor code!

Depends, perhaps, on your field: I never needed a mnemonic for the planets, but I'm an astronomer (although not a planetary one).

On the other hand, if you want to know "what star is that" when looking up at the sky, DON'T ask a professional. You are much better off with a good amateur for that! We tend to look at much (!) fainter stuff, and just type coordinates in to the computer which controls whatever telescope we are using.

Re: Curious Sticker on the Back of an HP-35

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 5 July 2011, 10:55 p.m.,*
in response to message #1 by Katie Wasserman

Back in the 1940s and 1950s most trigonometry tests were closed book. Students were expected to know the

basic trigonometric relationships. No one would have objected to the use of one of the mnemonic tricks as a memory aid. But if a student had written the mnemonic in the palm of his hand or somewhere on his slide rule it would have been considered cheating. So, wasn't the sticker on the back of an HP-35 a case of cheating?

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S Flag Table via STATUS

*Message #1 Posted by **Jake Schwartz** on 29 June 2011, 9:36 a.m.*

Hi Guys,

I was playing with the wp34S STATUS command the other day to look at flag status and noticed something. In the 34S, presses of down arrow when at the end of the flag list (and up arrow when at the beginning) act as a NOP. On the 50g, when the system flag table is displayed (via MODE > FLAGS), when the end of the list as flag 128 is reached, a further press of the down-arrow key conveniently returns the list back to the beginning. Likewise, when at the top of the list, pressing up-arrow rolls around to the end of the list. This seems to be a nice feature. Would there be any way this could be adopted for the 34S?

Thanks, Jake

Re: wp34S Flag Table via STATUS

*Message #2 Posted by **Marcus von Cube, Germany** on 29 June 2011, 10:33 a.m.,*
in response to message #1 by Jake Schwartz

Anything can be done. If Pauli does it and Walter approves it. :-)

Your suggestion sounds very reasonable and I don't think it's too much work to implement so your chances are high.

I'm working on I/O routines for the next release so that data and programs may be exchanged via a link cable between devices or device and (emulator running on) PC. Stay tuned!

Re: wp34S Flag Table via STATUS

*Message #3 Posted by **Walter B** on 29 June 2011, 11:04 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Jake,

> Quote:
>
> Anything can be done. If Pauli does it and Walter approves it. :-)

:-) In this very case it was the other way round: I had the cyclic flag browsing in the documentation already some months ago - but then it turned out it wasn't implemented. So Pauli must say if it's possible within the limits set - and he will tell you tomorrow at earliest. TIA for your patience.

Walter

Re: wp34S Flag Table via STATUS

*Message #4 Posted by **Paul Dale** on 29 June 2011, 5:36 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> :-) In this very case it was the other way round: I had the cyclic flag browsing in the documentation already some months ago - but then it turned out it wasn't implemented. So Pauli must say if it's possible within the limits set - and he will tell you tomorrow at earliest. TIA for your patience.

Not only possible but very easy & now done. Nobody told me the cyclic behaviour was wanted until now :-(

- Pauli

Re: wp34S Flag Table via STATUS

*Message #5 Posted by **Paul Dale** on 30 June 2011, 5:17 a.m.,*
in response to message #1 by Jake Schwartz

In case people didn't know or have forgotten, the digit keys allow fast steps in this browser too. If you know the flag number you want, just press its first digit.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9810 on TAS

*Message #1 Posted by **David Ramsey** on 28 June 2011, 10:58 p.m.*

Hm. HP 9810A calc, $599 Buy It Now, but seller hasn't plugged it in "for fear of blowing something".

Expensive bet. Still, tempting. Would have jumped already if not for the $ spent on the SR-60.

Re: 9810 on TAS

*Message #2 Posted by **Michael de Estrada** on 29 June 2011, 6:09 a.m.,*
in response to message #1 by David Ramsey

Well, it's Buy it Now or Best Offer, so why not just make an offer ? Also, they have a 7 day return policy, so you don't need to be stuck with a lemon.

Re: 9810 on TAS

*Message #3 Posted by **David Ramsey** on 29 June 2011, 11:07 a.m.,*
in response to message #2 by Michael de Estrada

Mmm...good points. I'll make an offer...

After having my collecting bug re-ignited recently, I've added an HP-85, HP-87, several HPIB disk drives, and the SR-60 to my existing desktop collection of an HP-46, a 9815, and a 9825 (which I just had Larry Atherton refurb the tape drive and printer on).

I am running out of space for these large machines. Perhaps I'll sell the 9815; it works perfectly, but the printer sounds like a machine gun and I've always been annoyed that you can't see your program on the display.

Re: 9810 on TAS

*Message #4 Posted by **Michael de Estrada** on 29 June 2011, 12:05 p.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> I am running out of space for these large machines.

The only large machine I have is an HP 46, which completes the scientific trilogy of HP 45, 46 and 91, and that's all I can handle spacewise. It would be nice to also have an HP 81 to complete the financial trilogy of HP 80, 81 and 92, but unless I move to a larger home it's not in the cards. The only calcs I buy nowadays are handhelds.

Re: 9810 on TAS

*Message #5 Posted by **David Ramsey** on 29 June 2011, 12:13 p.m.,*
in response to message #4 by Michael de Estrada

Yeah, my original collection was "handheld scientifics", but I have all of those, collected over about 30 years.

They accepted my "best offer", so the 9810's mine. Any suggestions anyone might have about what I should do before putting power to it would be appreciated. I believe the standard is to open it up, remove all the plug-in cards, and clean the contacts thereof...but I'm sure there's more.

Re: 9810 on TAS

*Message #6 Posted by **Dave Shaffer (Arizona)** on 29 June 2011, 12:50 p.m.,*
in response to message #5 by David Ramsey

Depends a bit on what test equipment you have.

If it was mine, I would:

open it up, disconnect everything from the power supply (if possible)

Clean out any dead bugs, spider webs, mice droppings, etc. Check for corrosion and any obvious scorch marks

Check the continuity of the power supply INPUT (check across the power plug with an ohm meter), with power switch in both ON and OFF position - checks for shorts and blown fuses or power supply transformer

Plug it in (hold your breath)

If nothing blows up, check the power supply output(s) for the expected voltages. If you have a 'scope, check the DC voltages for AC ripple (or use your multimeter in AC mode on the DC lines). A likely problem, if has been sitting for a long time, is that the electrolytic filter capacitors for the DC output have gone south. They should be relatively easy to replace if necessary.

At that point, it ought to be safe to plug various things back into their slots with power connected

Good luck!

Re: 9810 on TAS

*Message #7 Posted by **David Ramsey** on 29 June 2011, 2:14 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

Thanks for the tips, Dave. I do have a multimeter so I can perform the basic checks you mentioned. I'll post my results here.

Re: 9810 on TAS

*Message #8 Posted by **marais** on 29 June 2011, 4:29 p.m.,*
in response to message #7 by David Ramsey

Congratulations! You may want to have a look at my 9810 ownership experience. It's a gorgeous machine, but it might require some work.

My 9810 repair job

Regards Andreas

Re: 9810 on TAS

*Message #9 Posted by **David Ramsey** on 29 June 2011, 7:59 p.m.,*
in response to message #8 by marais

Interesting information. Using a soldering iron and a multimeter are pretty much the limit of my hardware abilities, so if the machine's dead, I'll have to decide whether to return it or appeal to the community for (paid) help.

Re: 9810 on TAS

*Message #10 Posted by **aj04062** on 29 June 2011, 9:04 p.m.,*
in response to message #9 by David Ramsey

Hey Dave,

I have a recently picked up a 9810 from a Hospital near Philly. I have to debug a keyboard problem, then rebuilt & repair the printer and card reader.

If you're interested, we can embark on the troubleshooting together. Tony Duell in the UK has already helped me A LOT.

BTW, I was "wicked brave" as they say in Maine (or stupid) and plugged this on in and turned it right on. After some funcky behavior it seems to work okay except for the keyboard.

Re: 9810 on TAS

*Message #11 Posted by **Dave Shaffer (Arizona)** on 29 June 2011, 9:44 p.m.,*
in response to message #10 by aj04062

I appreciate the vote of confidence, but I think any help you can get from Tony will be several orders of magnitude more useful than I can offer!

My comments are pretty generic for starting up any old piece of electronics, whereas Tony has been all over the insides of these.

Re: 9810 on TAS

*Message #12 Posted by **Tony Duell** on 30 June 2011, 4:25 a.m.,*
in response to message #11 by Dave Shaffer (Arizona)

I'll be happy to help anyone get one of these machines running again (ditto for the 9820 and 9830, I can't comment as much on the 9821).

I have to be honest, they are not trivial machines to get going in some cases. On the other hand if you do have a nasty logic fault, you will learn a lot tracking it down.

Then there are mechanical repairs. The card reader roller will certainly need replacing, the printer platen may be decayed too. There are various

ways to repair these, I can tell you what I do (and there are some pictures in my flickr account, tony_duell, listed as for the 9820 printer and card reader, the 9810 is the same), but as you'll see from there I have a reasonable workshop.

I hate to blow my own trumpet even more, but I've submitted 8 articles on repairing these machines to HPCC (to go in Datafile). At the moment I am not willing to share said articles (to et them you have to join HPCC), I may well do so in a couple of years time after they are all published. FWIW, the first 5 articles are simply on how the machine should work, understand that and IMHO finding the fault is easy!

Re: 9810 on TAS

*Message #13 Posted by **David Ramsey** on 30 June 2011, 11:39 a.m.,*
in response to message #12 by Tony Duell

> Quote:
>
> I hate to blow my own trumpet even more, but I've submitted 8 articles on repairing these machines to HPCC (to go in Datafile). At the moment I am not willing to share said articles (to et them you have to join HPCC), I may well do so in a couple of years time after they are all published. FWIW, the first 5 articles are simply on how the machine should work, understand that and IMHO finding the fault is easy!

Were I to join HPCC (which I must admit I was unaware of until now), are all of your articles available, or are some still pending?

It seems virtually none of the *Datafile* content is available online, which strikes me as odd and counterproductive in 2011. Even HP makes all of their *HP Journal* content available online.

I have no problem buying a membership, though. God knows it will be less than I paid the Computer History Museum to scan those SR-60 manuals.

Re: 9810 on TAS

*Message #14 Posted by **Eric Smith** on 30 June 2011, 4:01 p.m.,*
in response to message #13 by David Ramsey

How many people would subscribe to Datafile if all its content was available free online? HP didn't have to worry about that sort of thing when they put HP Journal online (and gave out paper copies for free back in the day).

Re: 9810 on TAS

*Message #15 Posted by **David Ramsey** on 30 June 2011, 11:12 p.m.,*
in response to message #14 by Eric Smith

I wasn't suggesting that the content be free, merely that it be available online. It's not as if write the code to implement name and password authorization-- like, say, we do here on this forum-- is particularly difficult.

Re: 9810 on TAS

*Message #16 Posted by **Tony Duell** on 1 July 2011, 4:20 a.m.,*
in response to message #15 by David Ramsey

This has been discussed at HPCC many times. I think it comes down to several issues

-- What is to stop people sharing their password, or distributing the downloaded documents? In other words, a group of people get together, one joins HPCC, and the on-line issue of Datafile gets to all of them. Yes, I realise you can pass round a paper copy too, but it's a lot harder to duplicate it, there's a big difference IMHO between showing a magazine to a friend and giving him a duplicate of it

-- There is no requirement for members to have internet access, ability to view or print files, etc. And I happen to know that a number of members do not in fact have such facilites. We would have to keep the printed version or risk losing some active members.

-- This would then lead to multiple classes of membership which would be more work for the club.

-- It would proasbly have an impact of the sale of Jake's CD-ROMs, which are also a source of income to the club.

But I am not really the person to talk about this. Feel free to pester the other committee members (details on the hpcc web site).

Re: 9810 on TAS

*Message #17 Posted by **Tony Duell** on 1 July 2011, 4:08 a.m.,*
in response to message #13 by David Ramsey

Most are still pending...

Part 1 : CPU Theory was published in the last issue of Datafile (HPCC journal). Part 2 : HP9810/HP9820 memory theory should appear in the next issue, when it gets produced (It's currently about 2 months late!).

The remaining parts from memory are : Part 3 : HP9830 memroy theory; Part 4 : Display, Keyboard and Printer theory; Part 5 : Storage and PSU theory; Part 6 : Dismantling and initial checks;

Part 7 : Electronic troubleshooting; Part 8 : Mechanical repairs.

I am not really the person to comment as to why Datafile is not available on-line. I guess the main reason is that HPCC is a club, not a big company, and we rely on income from membership fees for club expenses. Of course none of the people involved in the club are paid in any way for their work.

Authors of articles do not transfer the copyright to HPCC, they do however grant that HPCC may publish the articles and normally that they may be included in other HPCC and related publications (such as Jake's CD-ROMs of datafile). Authors are therefore welcome to publish their articles online (or on paper) if they so wish. My moral view is that I will not do this during the year that HPCC publishes them in Datafile (and maybe not for at least one more year), after that I would be prepared to make my stuff available.

Re: 9810 on TAS

*Message #18 Posted by **Tony Duell** on 30 June 2011, 4:18 a.m.,*
in response to message #9 by David Ramsey

I hate to say this, but as it's a bit-serial machine, I know that _I_ would have a lot of difficulty fixing logic faults with just a multimeter.

I find I need 3 things to do serious troubleshooting on these machines :

The schematics (available from the Australian museum site) A logic analyser CPU Microcode source listing (ask me nicely...)

Re: 9810 on TAS

*Message #19 Posted by **David Ramsey** on 30 June 2011, 11:34 a.m.,*
in response to message #18 by Tony Duell

> Quote:
>
> I hate to say this, but as it's a bit-serial machine, I know that _I_ would have a lot of difficulty fixing logic faults with just a multimeter.
>
> I find I need 3 things to do serious troubleshooting on these machines :
>
> The schematics (available from the Australian museum site) A logic analyser CPU Microcode source listing (ask me nicely...)

Actually, I'd have a lot of difficulty tracking logic errors in a 9810 even with an entire lab full of professional equipment, since I don't have the knowledge to use it.

Purely mechanical repairs like card reader rollers are one thing (although this may largely be academic since I don't have any 9810 cards. Perhaps I can cut

an SR-60 card down to fit); programming, which I am actually quite good at, is another; but hardware work at this level...well...

I will do the obvious stuff already mentioned, and perhaps it will *Just Work*. It's not unprecedented. If it doesn't, I'll comfort myself with the fact that there are knowledgeable folks here willing to help.

Re: 9810 on TAS

*Message #20 Posted by **Tony Duell** on 1 July 2011, 4:14 a.m.,*
in response to message #19 by David Ramsey

Yes, you are absolutely correct. I have said many times that the most important piece of test gear is your brain :-)

More seriously, all the multimeter, logic analyser, 'scope, etc do is enable you to gather evidence as to what the machine is doing. You can't directly see electrical signals, and you can't directly interpret any signal at 8MHz, so you need test gear to be able to follow what the signals are doing.

However, IMHO the _only_ way to find a fault goes like this : Understand what the machine should be doing, make measurements to find out what it is doing, then work out why the 2 are different.

This may be straightforward (for example if you're missing some segments in one row of the display, I'd home in on the driver chips for that row), it may be complicated (a totally blank display can be caused by a fault in the CPU, memory, PSU, display driver, etc). But only by goinging logically through the machine will you find the fault and cure it.

Making random changes, boardswapping and the like, will get you nowhere fast.

Re: 9810 on TAS

*Message #21 Posted by **marais** on 1 July 2011, 12:24 p.m.,*
in response to message #20 by Tony Duell

I'd like to add that the 74LS688-based address comparator we used to track down the current uCode address on my 9810 might be a worth a try, if you do not have a logic analyzer. I don't have one either, although it's on my wishlist for quite some time.

Re: 9810 on TAS

*Message #22 Posted by **David Ramsey** on 1 July 2011, 1:09 p.m.,*
in response to message #20 by Tony Duell

Well, if it were a modern machine, it'd be easy: I have more motherboards, processors, memory, video cards, cases, and power supplies than I know what to do with (I test hardware for a reviews web site). I can (and have) swapped stuff out to isolate problems, and I've been in the computer industry since the late 70s and so can generally zero in on a problem quickly.

At least many of the 74-series ICs in the 9810 are still available, unlike, say, the special TI chips in an SR-60.

Re: 9810 on TAS

*Message #23 Posted by **marais** on 2 July 2011, 4:53 a.m.,*
in response to message #22 by David Ramsey

It's true that most of the chips are still available. I recall that one owner had problems with a triple or quadruple logic gate, and had to build an equivalent circuit with two smaller gates. When I did my repair job, I bought most of the 74 circuits required, to be ready for futur service needs. I think the most difficult tasks on this type of machine concern mechanical parts; unlike Tony, I do not have a lathe, but I am considering getting one.

Re: 9810 on TAS

*Message #24 Posted by **Joel Setton (France)** on 2 July 2011, 5:22 a.m.,*
in response to message #23 by marais

I quite agree, that's one of the nice things in these early machines.

The 9815 is also built from standard linear and 74LSxx chips. The only exception is the masked ROMS, but in later units (and in the 9815S), these can be replaced with standard EPROMs which are pin-for-pin compatible with the original chips.

Of course, as sales volumes increased, it made economic sense for HP to produce custom chips, which also resulted in pocket-sized calculators!

Joel Setton

Re: 9810 on TAS

*Message #25 Posted by **Mike Morrow** on 2 July 2011, 12:23 p.m.,*
in response to message #24 by Joel Setton (France)

> Quote:
>
> Of course, as sales volumes increased, it made economic sense for HP to produce custom chips, which also resulted in pocket-sized calculators!

The HP-9800 series is contemporary with the HP-35 (1972), so I doubt there was any linear progression from HP's desktops to HP's handhelds.

At Georgia Tech so long ago (1972, 73), an HP-9820A was used to control a digital circuit simulator. It connected to a panel that accepted special jumper-plug boards that were similar to the 1940s/50s-era programming boards used in some early computers. On this board various types and number of logic gates were represented which students would connect appropriately with jumpers to configure and test their solution to assigned digital design problems. I really liked the 9820A, which could be also be diverted to normal calculator use. I still have a couple of its magnetic program cards. I don't recall what I had programmed on them, because the associated thermal paper listings faded a few years after printout.

In the mid-1990s, I was given an excellent condition but (of course) non-working HP-9820A that powers up but does little else. I've not tried any troubleshooting due to higher priority projects. Still, it has nostalgic value as an example of the first HP that I ever used. (The HP-35 and -45 were in the college bookstore at the time, but I could never have afforded one.)

(Edited to correct my 9200A typo in the last paragraph to 9820A.)

Edited: 2 July 2011, 6:06 p.m. after one or more responses were posted

Re: 9810 on TAS

*Message #26 Posted by **Tony Duell** on 30 June 2011, 4:16 a.m.,*
in response to message #6 by Dave Shaffer (Arizona)

You can easily 'disconnect everything from the power supply' The power supply regulators are on the 3 PCBs under the metal plate at the right side of the machine. The mains transformer is on the rear panel, and the secondary (output) windings are wired to edge connectors on the base of the machine. The PSU boards plug both into those and into edge connectors on the main backplane.

So if you remove the PSU boards you can apply mains and test the mains trasformer. If you remove all the other parts from the backplane (memory box, CPU boards, display, printer, card reader controller, keyboard signal cable) you can fit the PSU boards, power up and check that the power supply outputs are all correct.

Most of them are avaialable on testpoints on the PSU boards (labelled on the metal cover plate). The 5V line isn't, but you can easily fidn that on one of the edge conenctors. The chassis is connected to the machine's 0V rail and you can connect the -ve multimeter probe there.

The mains on/off switch is, of course, on the keyboard assembly. It's connected by the 5 pin in-line connector. Unless that is connected, you can't power anything up. Be careful not to touch the connections on the back of this switch, it's live mains!

The cooling fan is connected to the primary (mains) side of the transformer. If that's running, you know that power is getting that far, but nothing more.

Don't forget to check (and if necessary reset) the voltage selector switches on the back before appling mains. Burning out the power transformer will ruin your day.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Update of ILPer, the HP-IL peripheral simulator

*Message #1 Posted by **Christoph Giesselink** on 28 June 2011, 3:51 p.m.*

I just updated ILPer, the HP-IL peripheral simulator program created by Jean-Francois Garnier. ILPer was developed as printer and mass storage simulation in connection with the PIL-Box hardware and real calculators like the HP-41 and the HP-71B with the HP-IL interface module. The disadvantage of this solution was, that you only could connect one ILPer instance on the PC side of the PIL-Box. The new version of ILPer now has also an interface to link more than one peripheral simulation together. I called the new connection method "Virtual HP-IL". The programs and a description of the used technique for the transport layer can be found on my HP page at http://hp.giesselink.com under "Virtual HP-IL".

Of course the new version 1.4 of ILPer is fully backwards compatible to his latest version 1.35.3. So it still could be connected with the PIL-Box as standalone system. In this case you only have the advantage of the minor improvements like the new *.lif file filter, remembering the display position, the possibility of the automatic activation of the "Start" button after program start, new settings saving method, ...

I especially want to thank Mike for his suggestions and his assistance by reading the additional manuals of the published material.

Regards

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #2 Posted by **John Robinson** on 28 June 2011, 9:32 p.m.,*
in response to message #1 by Christoph Giesselink

Thanks Christoph, that's great !!. Is the source still Visual Basic, or has it migrated now ?

Also, where will future updates come from ? Jean-Francois Garnier or yourself ??

Thanks John

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #3 Posted by **Christoph Giesselink** on 29 June 2011, 2:58 p.m.,*
in response to message #2 by John Robinson

All programs are written in Visual C++ (sources included). The latest Visual Basic version of ILPer was v1.35. I migrated the ILPer sources in fall/winter 2009-2010 to Visual C++ to fix some issues I recognized during my work with the PIL-Box. The versions 1.35.1 to 1.35.3 published over JFG web page were already versions which base on the migrated Visual C++ sources. Because I done the migration before, it was no problem for me to add the new TCP/IP (IPv4) interface.

For those who already had a closer look to the sources, you will recognized that they are already prepared for the IPv4/IPv6 (dual stack) protocol. To activate the IPv6 stack I need to use a newer compiler version,

which has the disadvantage of installing an additional runtime package by the user and the build EXE file will not run on older Win OS revisions like Win98 or Win2K depending on the used compiler.

I'm in contact with Jean-Francois and he told me that he's very busy a the moment. So I decided to publish the update and the additions by my own for some reasons. But be sure that further updates of ILPer will base on now published v1.4 version, either published by JFG or by me.

Regards

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #4 Posted by **Mike (Stgt)** on 30 June 2011, 7:07 a.m.,*
in response to message #3 by Christoph Giesselink

Well, I am a 'big iron' dinosaur (VM/CMS) and as such a big devotee of everything virtual. So my daydream would be an emulated HP-41 as controller. By virtual HP-IL I could use the Hercules System/370, ESA/390, and z/Architecture Emulator with extend NutEm to do so (yes, I have an simulation of the Nut CPU (HP41 and Voyagers) written in FORTRAN). Alas there are several hurdles to overcome - it will stay a daydream.

Using Open Object Rexx (an extension of REXX I know from the host - and preventing to use C) I wrote a sniffer for the virtual HP-IL. From this starting point I try to do a simulation of a device. Hopefully ready some day.

A big thank you to Christoph for bringing virutal HP-IL to life.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #5 Posted by **Egan Ford** on 30 June 2011, 10:52 p.m.,*
in response to message #4 by Mike (Stgt)

> Quote:
>
> So my daydream would be an emulated HP-41 as controller.

Doesn't EMU41 already do this?

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #6 Posted by **Mike (Stgt)** on 4 July 2011, 8:35 a.m.,*
in response to message #5 by Egan Ford

Yes, JFG's EMU41 does it, of cause. Alas, only in conjunction with the PIL-Box - if I got it right. I'd like a 'virtual only' set up.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #7 Posted by **Marcus von Cube, Germany** on 4 July 2011, 10:13 a.m.,*
in response to message #6 by Mike (Stgt)

The problem with DOS and networking is that:

1/ DOS has a severe memory limit
, 2/ There is no standard TCP/IP stack available
, 3/ Finding a DOS network driver might be tricky.

Each stack (FTP software, IBM, Microsoft) comes with its own set of libraries which must be linked into the program. I don't know the memory requirements of EMU41 or EMU71 but TCP/IP is taking its share, too, so that 1/ might be a real constraint.

Marcus

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #8 Posted by **Mike (Stgt)** on 4 July 2011, 10:33 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Well, ooRexx gives me access to TCP/IP and looks for me as a TCP/IP-novice good enough. And it runs in a DOS window - yes - _window_, so besides the HP200LX I have no pure DOS machine any more. If you run EMU41 on a Windooze-PC, are all of the constrains you mention still true?

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #9 Posted by **Marcus von Cube, Germany** on 4 July 2011, 10:51 a.m.,*
in response to message #8 by Mike (Stgt)

I'm not a DOS on Windows specialist but it's not unlikely that the emulated DOS environment also emulates the MS TCP/IP stack for 16 bit programs.

Are you sure that ooRexx is a DOS program and not a Windows command line (CLI) application? There is a huge difference between the two environments! Coming from OS/2, I know (and like) Rexx pretty well. I cannot imagine that it can be run on top of plain DOS. Long filename support and the presence of DLLs in the installation directory of ooRexx would speak for a native Windows CLI application.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 4 July 2011, 3:49 p.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> Coming from OS/2, I know (and like) Rexx pretty well. I cannot imagine that it can be run on top of plain DOS.

I used Rexx on MS and PC-DOS well before OS/2: it could be done.
I should still have the floppies somewhere...

Greetings,
Massimo

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #11 Posted by **Mike (Stgt)** on 5 July 2011, 5:30 a.m.,*
in response to message #9 by Marcus von Cube, Germany

You are right, ooREXX is not a DOS program, there are AIX, Linux, and Windows installations. I once had two REXX for DOS, one came with PC-DOS V7 (IIRC), the other was BRexx from Vasilis Vlachoudis of the Cern Laboratory.

And TCP/IP on DOS? Well, I mentioned before that I am _not_ the connoisseur of TCP/IP, but I used an eMail system on a HP200LX connected to a modem or via IRda to a mobile phone. It based on WWW/LX what is freeware today. I assume that this program installed some TCP/IP capability to this 2nd to none DOS machine. So for sure you do not need Windows or similar to access the Internet.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #12 Posted by **Marcus von Cube, Germany** on 5 July 2011, 9:50 a.m.,*
in response to message #11 by Mike (Stgt)

My first TCP/IP experiences were on DOS, too: "FTP Software" with a NE2000 network card (with packet driver) and coax cabling. We were juggling with all the possible high memory tricks available at the time to cram everything we needed into the machines.

With virtual DOS environments (e. g. on Windows or OS/2) things become easier because the network software interface can be reduced to a thin compatibility layer which maps the calls to the host operating system. You still need the proper libraries because there is no standard API. DOS lacks dynamic libraries to hide the implementation and DOS itself has no network API either.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #13 Posted by **Christoph Giesselink** on 4 July 2011, 4:05 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Hello,

the DOS operating system has no TCP/IP support. There have been (quite expensive) 3rd party products implementing a TCP/IP stack for pure DOS programs years ago.

AFAIK Windows 3.x was the first MS OS containing an API for the Win integrated TCP/IP stack. So you have to write a "Windows" program to use the TCP/IP stack.

Furthermore on modern servers the NetBIOS and WINS services are more and more disabled, without them you loose the connection to other PC's over the network.

I fully agree with Marcus that the available DOS memory is also an important aspect. On a real DOS machine the network card drivers need alone ~100KB-150KB, not counted the additional memory inside the application (emu41).

IMHO one possible solution for Windows would be using a Null-Modem emulator (like com0com) and a special bridge software (similar to ILPilbox) translating the serial data from the emu41 COM port to the virtual HP-IL loop.

Of course it also should be possible to use two PIL-Boxes. With Emu41 and one PIL-Box you have the emulated 41 in real HP-IL world and then connected with a 2nd PIL-Box and the program ILPilbox you have connection to the virtual HP-IL interface. ;-)

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #14 Posted by **Mike (Stgt)** on 5 July 2011, 6:40 a.m.,*
in response to message #13 by Christoph Giesselink

Your last suggestion does not comply with my 'all virtual' stipulation. <G>

Ciao.....Mike

BTW, recently I had some achievements by recoding a 'state machine' according 'HP82166A HP-IL Interface Spec.', now I need to link the device with 'internal messages'. Work in progress.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #15 Posted by **Egan Ford** on 4 July 2011, 3:55 p.m.,*
in response to message #6 by Mike (Stgt)

> Quote:
>
> I'd like a 'virtual only' set up.

There are patches for nonpareil for exactly that. E.g., I have virtual mass storage, 80 and 40 column video, and printer.

It's been two years since I played with this, but it should still work.

Patch: http://kdntl.pagesperso-orange.fr/hp41/nonpareil-patch-doc.html

My 2009 PPT with a few screen shots: http://sense.net/~egan/HHC%202009%20HPIL.pdf

I tested this primarily with OS/X and Linux, however I was able to get it to build and work with Windows/Cygwin.

I should have added that EMU41 already emulates HP-IL with devices without a PIL-Box. I guess I may not really understand exactly what you want to accomplish.

Edited: 4 July 2011, 4:00 p.m.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #16 Posted by **Christoph Giesselink** on 4 July 2011, 4:34 p.m.,*
in response to message #15 by Egan Ford

> Quote:

> There are patches for nonpareil for exactly that. E.g., I have virtual mass storage, 80 and 40 column video, and printer.

Sorry I don't understand the "tcp" option in the modified Nonpareil version. From my reading understanding you can't create a loop?

It seem for me that one Nonpareil instance can work as server, another instance as client and so they can exchange data.

The "Virtual HP-IL" is a real loop, so the server port must always be different to the client port.

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #17 Posted by **Egan Ford** on 4 July 2011, 6:57 p.m.,*
in response to message #16 by Christoph Giesselink

> Quote:
>
> From my reading understanding you can't create a loop?

Sure you can. You can start nonpareil with a virtual printer, serial port and storage all on a virtual loop. You can print, save/restore, etc... All communication is HP-IL.

The tcp option allows you to create other virtual devices without having to patch them into nonpareil. HP-IL frames are wrapped with TCP frames. At this time no virtual HP-IL devices have been created.

Khanh-Dang had planned on creating a dedicated virtual loop for use with standalone virtual devices, but he never got around to it.

All the code is there, someone just needs to run with it.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #18 Posted by **Mike (Stgt)** on 5 July 2011, 7:35 a.m.,*
in response to message #17 by Egan Ford

Sorry for interfering your communication, but if you read your append once more it is so obvious:

> Quote:
>
> At this time no virtual HP-IL devices have been created

> Quote:
>
> ...but he never got around to it

> Quote:
>
> ...someone just needs to run with it

Christoph's 'virtual HP-IL' is available. And works so far.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #19 Posted by **Egan Ford** on 5 July 2011, 11:12 a.m.,*
in response to message #18 by Mike (Stgt)

I think there is a bit of confusion here. The nonpareil patch creates a virtual HP-IL loop in RAM and has built into it various virtual HP-IL devices, e.g. printer, disk, tape, serial, etc...

All communication between the various devices is via HP-IL. This is no different than EMU41 emulating HP-IL. Both nonpareil and EMU41 support the PIL-Box as a bridge from the virtual to the physical.

The nonpareil patch has another virtual device, 'tcp'. I.e. a way to tunnel HP-IL through TCP/IP. The intended purpose of this was to support other virtual devices without having to link them into the nonpareil executable. At this time none have been created, or released I should say. I have a version with just the virtual loop and the devices but without the controller. The intended purpose was to provide virtual devices to the PIL-Box, however the tcp interface should usable as well.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #20 Posted by **Mike (Stgt)** on 5 July 2011, 11:58 a.m.,*
in response to message #19 by Egan Ford

Thank you for clarification. I will have a look to the patched Nonpareille.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #21 Posted by **Christoph Giesselink** on 5 July 2011, 1:10 p.m.,*
in response to message #19 by Egan Ford

I just checked the sources in the diff file especially the file hpil_io_tcp.c which seem to be the implementation for the tcp option in the expanded Nonpareil version.

In function hpil_io_peripheral_tcp_main() is the implementation for the server, line 255 is reading a frame and in line 287 the modified frame is writing back. Both functions read() and write() use the same socket so both communications use the same port (in this case by default 4141).

IMHO that's a big and important difference to the design of "Virtual HP-IL". A "Virtual HP-IL" device has different ports for receiving and transmitting frames (like you have two cables in reality).

Example for "Virtual HP-IL" with three devices

```
HP41/71 ---port60001--> Device1 ---port60002--> Device2
   ^                                                |
   +--- <--port60000--- Device3 <--port60003--- <--+
```

Example for "Nonpareil with tcp extension"

```
HP41 ---port4141--> Device
 ^                    |
 +-- <--port4141--- <--+
```

So you see, the tcp implementation in the modified Nonpareil version don't create a loop because send and receive share the same port and so you can create only a connection between the emulated HP41 and one device.

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #22 Posted by **Egan Ford** on 5 July 2011, 1:45 p.m.,*
in response to message #21 by Christoph Giesselink

> Quote:
>
> So you see, the tcp implementation in the modified Nonpareil version don't create a loop because send and receive share the same port and so you can create only a connection between the emulated HP41 and one device.

You can create multiple connections by defining multiple ports.

E.g. in hpil.conf:

```
#HP82182A
#set printer_switch 1
#printer mode=manual

#HP82163
#video 32 zoomx=2 zoomy=2

#HP92198 (two displays)
video 80 zoomx=1 zoomy=1
video 80 zoomx=1 zoomy=1

#HP9114B
#disc file=/Users/egan/.nonpareil/foo.lif

#HP82161A
tape file=/Users/egan/.nonpareil/foo.lif

#PIL-Box
pilbox tty=/dev/cu.usbserial-FTE03NXR debug init=con
speed=115200

#New HP-IL devices
tcp listen port=1111
tcp host=127.0.0.1 port=1112
tcp listen port=1113

E.g.:
emulated device

^
```

```
|
V
np/hp41 -> np/hp-il-display -> np/hp-il-storage ->
np/tcp-port-1111
   ^
|
   '------ np/tcp-port-1112 <- np/tcp-port 1113 <--------
-'
                  ^                   ^
                  |                   |
                  V                   V
             emulated device     emulated device
```

It is not exactly the way you do it, but it is still a virtual loop with multiple devices.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #23 Posted by **Marcus von Cube, Germany** on 5 July 2011, 2:21 p.m.,*
in response to message #22 by Egan Ford

Can the two methods be mixed and matched?

1/ Is the protocol the same (TCP vs. UDP)?
2/ Are the frames formatted the same?
3/ If (1) or (2) are not both true, can an intermediate server be created to translate between the two?

Since there doesn't seem to exist a device implementation for NP, it might be a good idea to replace the NP protocol by the ILPer one to solve the compatibility issue. Both IP address(es) and ports need to be configurable because the device(s) might reside on different (virtual) machines.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #24 Posted by **Christoph Giesselink** on 5 July 2011, 3:08 p.m.,*
in response to message #23 by Marcus von Cube, Germany

> Quote:
>
> Can the two methods be mixed and matched?

Not directly.

> Quote:
>
> 1/ Is the protocol the same (TCP vs. UDP)?

Yes, it is, TCP.

> Quote:
>
> 2/ Are the frames formatted the same?

Yes, they are. Each frame has 16 bit in network byte order.

> Quote:
>
> 3/ If (1) or (2) are not both true, can an intermediate server be created to translate between the two?

To use ILPer in combination with Nonpareil Emu41 you need a bridge software (ILTCP?) like the ILPilbox software.

```
+-------+              +--------+
| Emu41 |---port4141-->| Bridge |---port60001--
>Device1---port60002-->Device2
|       |<--port4141---| ILTCP? |
|
+-------+              +--------+
|
                           ^
|
                           +---- <--port60000---
Device3<--port60003-- <--+
```

> Quote:
>
> Since there doesn't seem to exist a device implementation for NP, it might be a good idea to replace the NP protocol by the ILPer one to solve the compatibility issue. Both IP address(es) and ports need to be configurable because the device(s) might reside on different (virtual) machines.

The TCP/IP server inside ILPer, ILScope and ILPilbox accept frames from any IP address, so the configuration dialogs want to have the IP address of the next device only, but of course the two port numbers.

I will publish a software which will use the "Virtual HP-IL" in the next weeks.

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #25 Posted by **Marcus von Cube, Germany** on 5 July 2011, 4:02 p.m.,*
in response to message #24 by Christoph Giesselink

> Quote:

> Quote:
>
> 1/ Is the protocol the same (TCP vs. UDP)?
>
> Yes, it is, TCP.

How do you handle the loop setup? Is it temporary in the sense that each connection is established just for a single packet and then closed, or is permanent? Then how do you setup the complete loop? You can't start all servers at the same time?

I think its much easier to use UDP instead because its connectionless. A server just listens for packets, checks if it is meant, acts upon the data if necessary and sends a response or the unmodified packet to its next partner. There is no error if the partner cannot be reached but the controller will monitor the arrival of the packet it had sent and will either raise an error or try again, just as it would if the physical loop were broken. I have the feeling that the handling will be much easier for a device and the logic in the controller is already there. With this scheme, its no problem to stop a device and replace it with some other, just acting on the same ports or interfaces. If you want to add or remove a device, you need to stop and reconfigure its neighbors but the rest of the loop is not affected.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #26 Posted by **Christoph Giesselink** on 5 July 2011, 5:01 p.m.,*
in response to message #25 by Marcus von Cube, Germany

> Quote:
>
> How do you handle the loop setup? Is it temporary in the sense that each connection is established just for a single packet and then closed, or is permanent?

When the client get his first frame to send, the client setup the connection and stay permanent. If sending failed to an established connection, the client automatically reopens the connection and then send the frame again.

> Quote:
>
> Then how do you setup the complete loop? You can't start all servers at the same

> time?

Yes, I can start all servers at the same time, because the clients establish their connection at the first frame and not at program startup.

> Quote:
>
> I think its much easier to use UDP instead because its connectionless. A server just listens for packets, checks if it is meant, acts upon the data if necessary and sends a response or the unmodified packet to its next partner. There is no error if the partner cannot be reached but the controller will monitor the arrival of the packet it had sent and will either raise an error or try again, just as it would if the physical loop were broken. I have the feeling that the handling will be much easier for a device and the logic in the controller is already there. With this scheme, its no problem to stop a device and replace it with some other, just acting on the same ports or interfaces. If you want to add or remove a device, you need to stop and reconfigure its neighbors but the rest of the loop is not affected.

I made a proof of concept program with configurable settings of using IPv4, IPv6, TCP/IP and UDP in September/October last year. The main reason for choosing TCP/IP was, when I tried to establish a IPv6 connection, but the gateway was only IPv4, the UDP package get lost. With TCP/IP I get an error when I try to "connect" a IPv6 connection over a IPv4 only gateway. Because I implemented a dual stack (after recompiling the sources with a IPv6 capable C++ compiler) I switch back to IPv4 and establish the connection over IPv4. Furthermore TCP/IP helps to find a broken link. The program which find no server under the given IP address can pop up an error message box. Before, I preferred UDP like you, because the behavior is closer to the original hardware.

With the retry of an established connection I described above it's no problem to stop a device, replace it and start again. The problem is on the HP-IL loop controller side, because the new device has only his default HP-IL address, you have to readdress the loop, on the HP71B with "RESTORE IO".

Hope this make the interface more clear. The programs

are licensed under the GPL, so you may have a look at the sources.

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #27 Posted by **Egan Ford** on 5 July 2011, 5:14 p.m.,*
in response to message #23 by Marcus von Cube, Germany

> Quote:
>
> Since there doesn't seem to exist a device implementation for NP, it might be a good idea to replace the NP protocol by the ILPer one to solve the compatibility issue. Both IP address(es) and ports need to be configurable because the device(s) might reside on different (virtual) machines.

Yes, an RFC for HP-IL over IP is in order. :-)

Nobody is developing nonpareil's HP-IL support. Khanh-Dang halted development nearly two years ago. I thought that I would have had time to contribute to it myself, but I have been swamped with work and other personal projects. It's open source; any can take over.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #28 Posted by **Christoph Giesselink** on 5 July 2011, 2:36 p.m.,*
in response to message #22 by Egan Ford

Many TNX, now I understand the principles of the loop.

Christoph

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #29 Posted by **Mike -Stgt-** on 6 July 2011, 7:00 a.m.,*
in response to message #22 by Egan Ford

Thank you for clarification. But I still have 2 questions:

i) The sequence of TCP ports in your diagram is 1111-1113-1112 but in the conf file they are sorted acending. How do you fix the position of a device within the loop?

ii) the loop is built within Nonpareil's add-on, so the TCP devices get only frames that are addressed to them? Or do they get all

traffic and must filter out what is realy of interest?

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #30 Posted by **Egan Ford** on 6 July 2011, 11:51 a.m.,*
in response to message #29 by Mike -Stgt-

> Quote:
>
> i) The sequence of TCP ports in your diagram is 1111-1113-1112 but in the conf file they are sorted ascending. How do you fix the position of a device within the loop?

The order of the HP-IL devices is based on the order listed in hpil.conf. My diagram didn't match my hpil.conf file. Error on my part.

> Quote:
>
> ii) the loop is built within Nonpareil's add-on, so the TCP devices get only frames that are addressed to them? Or do they get all traffic and must filter out what is realy of interest?

The TCP devices only get what is destined for each of them since they each connect or listen to distinct ports.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #31 Posted by **Mike (Stgt)** on 5 July 2011, 7:11 a.m.,*
in response to message #15 by Egan Ford

> Quote:
>
> EMU41 already emulates HP-IL with devices without a PIL-Box. I guess I may not really understand exactly what you want to accomplish.

Yes, JFG's EMU41 is a gem, and it covers most of the needs. What I'd like to try is programming 'my own' HPIL device and set it into the virtual HP-IL. With Christoph's innovation it is now feasible for me - but I miss badly a virtual HP41 as controller.

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #32 Posted by **Egan Ford** on 5 July 2011, 10:49 a.m.,*
in response to message #31 by Mike (Stgt)

If you want to use Christoph's, then you should be able to hack up the nonpareil patch so that it's tcp support complies with Christoph's interface. This way you get a controller.

BTW, now that EMU41 is open source, it should be possible to port it to win32 or Unix and add IP support. Or keep it DOS and use a packet driver.

Edited: 5 July 2011, 11:13 a.m.

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #33 Posted by **Mike (Stgt)** on 6 July 2011, 7:18 a.m.,*
in response to message #32 by Egan Ford

I may code FORTRAN, REXX, alas still no C yet. :(

Ciao.....Mike

Re: Update of ILPer, the HP-IL peripheral simulator

*Message #34 Posted by **Frido Bohn** on 29 June 2011, 6:21 a.m.,*
in response to message #1 by Christoph Giesselink

Great job Christoph!

Thank you for the update. It works perfect with Windows 7, 64 bit, as stand alone without the .net package (if somebody wants to know ;-)
I like the icon. Although it was already with the prior version I wanted to appreciate your sense for details at least on this occasion.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Obscure 41 Custom Modules: SNEAP

*Message #1 Posted by **Ángel Martin** on 28 June 2011, 5:24 a.m.*

Out of curiosity, anybody has some ideas about the SNEAP activities? These three 8k-modules contain FOCAL programs in French, and appear to be dedicated to science/engineering subjects.

Could it be related to the "SYMPOSIUM OF NORTHEASTERN ACCELERATOR PERSONNEL - S.N.E.A.P."?

Isn't interesting to see the far-reached presence our beloved 41 had in its peak times...

Re: Obscure 41 Custom Modules: SNEAP

*Message #2 Posted by **Philippe Lasnier** on 28 June 2011, 9:07 a.m.,*
in response to message #1 by Ángel Martin

Hi Ángel,

SNEAP would most probably stand for Société Nationale Elf-Aquitaine Production, a major petrol company in France. I thought the name was familiar - that's because I spent a 6 month placement in one of their research centre (the only one? I can't recall) during my engineering degree in the 1980's.

The place was Boussens, in the foothills of the Pyrenées, not far from Toulouse. Lovely.

Anyway, SNEAP as a name doesn't exist anymore, although the research centre may still be there in one form or another (the SNEA of SNEAP is now ELF Aquitaine as part of TotalFinaElf).

I couldn't possibly speculate on what would be inside the 41 module, but the fact that it would be full of engineering (including petroleum) programs sounds exactly right.

All the best,

Philippe

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C Logo - Finally done!

*Message #1 Posted by **Dallas Osborne** on 27 June 2011, 10:46 p.m.*

Yup, after far too many trials and tweaks, these are the best my primitive casting skills can manage. Perfect? No; not to an engineer's perspective, but they are de-ox silver. If they ever get scratched, a coat of black paint followed by a nail buffer yields a fresh new face. PM if you are interested.

Edited: 27 June 2011, 10:46 p.m.

Re: 15C Logo - Finally done!

*Message #2 Posted by **Namir** on 28 June 2011, 3:14 a.m.,*
in response to message #1 by Dallas Osborne

I am interested as I have at least one 15c with no logo. How do we proceed?? What i your asking price? Would like to have a few (say five) logos.

Namir

Edited: 28 June 2011, 3:35 a.m. after one or more responses were posted

Re: 15C Logo - Finally done!

*Message #3 Posted by **Dallas Osborne** on 28 June 2011, 3:31 a.m.,*
in response to message #2 by Namir

Just email me; I have you on the list for the time being.

Re: 15C Logo - Finally done!

*Message #4 Posted by **Namir** on 28 June 2011, 3:48 a.m.,*
in response to message #3 by Dallas Osborne

You got (double) mail!

Re: 15C Logo - Finally done!

*Message #5 Posted by **Greg Dressel** on 28 June 2011, 8:36 p.m.,*
in response to message #1 by Dallas Osborne

Yes, I am interested in purchasing a logo. Will it fit the face of my HP 15 C ? Send info for purchase

---

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C

*Message #1 Posted by **jonny brice** on 27 June 2011, 3:17 p.m.*

I have a pristine boxed HP15 C still in plastic packaging with manual guarantee never opened. amazing!!

Also I have one boxed in its case with guarantee manual pristine

also one loose in plastic case perfect (may have manual for that one somewhere)

These are perfect pristine items .

I've never used them

Edited: 27 June 2011, 5:38 p.m. after one or more responses were posted

Re: HP 15C

*Message #2 Posted by **Namir** on 27 June 2011, 5:30 p.m.,*
in response to message #1 by jonny brice

Please post your offer the Classified Ads section.

Edited: 27 June 2011, 5:31 p.m.

Re: HP 15C

*Message #3 Posted by **jonny brice** on 27 June 2011, 5:35 p.m.,*
in response to message #2 by Namir

Oh ok apologies j

Re: HP 15C

*Message #4 Posted by **db (martinez, ca.)** on 27 June 2011, 8:04 p.m.,*
in response to message #3 by jonny brice

Jonny;
No need to apologize. No harm. No foul. There's a couple of members of this forum that live near you. They may know someone that wants to buy one of you units and youall might save shipping, paypal and customs headaches. So you might try that ad in the classifieds with a title like "New 15Cs near London".

Namir;
A new 30 year old HP is a gift from god. Some guy wants to flog a couple and thinks of us before ebaby; we should give him a medal, not bark at him. You, me & the regulars can follow the rules and cut guests some slack.

Re: HP 15C

*Message #5 Posted by **jonny brice** on 28 June 2011, 6:55 a.m.,*
in response to message #4 by db (martinez, ca.)

Hello db,

Thank you for your advice, I have posted them... any idea how much they are worth? I'm not a math geek I'm the worst mathematician in the world!! I want some one to look after them as they are special I think.

Cheers

J

Re: HP 15C

*Message #6 Posted by **jonny brice** on 28 June 2011, 6:04 p.m.,*
in response to message #4 by db (martinez, ca.)

Hi db,

People are offering me crazy money for these HP's any advice??? What are they really worth? Want to know what I could sell them for before it gets too out there!!!

Jonny

Re: HP 15C

*Message #7 Posted by **db (martinez, ca.)** on 28 June 2011, 11:51 p.m.,*
in response to message #6 by jonny brice

Jonny;

No one really knows for sure. Local and in person means more to the buyer because it is a for sure deal, high price and ease of money transfer are important to you. The saying goes that it's worth what it sells for, and that changes daily. It's too bad you just can't do it openly on this forum with the guy or girl offering the most getting it. All that said: Dave Hicks who runs the Forum has listed three Mint In Box 15C transactions for between $306 and $455. No telling when those sales were and what the inflation vs. economic downturn factor would be. Calculators are going for a bit lower today than they were 3 years ago (fewer/lower bidders) but what do i know.

The 15 is one of the Holy Trinity of HP calculators that working people still really use fairly commonly. The sealed one may get put in a glass case but the last on your list might get used by someone crunching numbers on a daily basis.

You mentioned not being a numbers guy. You might consider keeping one of these or buying a cheaper RPN programmable with your "ill-gotten-gains" anyway. A 15c, 41 or 42 will effectively raise your IQ about 20 points, unless you work in finance. Then of course; there's no hope. The 34s that folks here invented and that you make from 3 different sources is very impressive. They are all dam nice tools.

Thanks for recognizing these jewels and not just throwing them away.

Re: HP 15C

*Message #8 Posted by **Ren** on 28 June 2011, 1:24 p.m.,*
in response to message #2 by Namir

Namir,

Who said he was selling it?

Maybe he's just bragging!

B^)

Ren

dona nobis pacem

Re: HP 15C

*Message #9 Posted by **Namir** on 28 June 2011, 2:58 p.m.,*
in response to message #8 by Ren

See his message posted before yours.

Re: HP 15C

*Message #10 Posted by **db (martinez, ca.)** on 28 June 2011, 11:54 p.m.,*
in response to message #8 by Ren

Ren; That made me laugh. My own 15c looks like it fell out the south end of a north bound cow. I'd brag if i had a pretty one too. -db

---

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Woodstock plastic yellowing

*Message #1 Posted by **db (martinez, ca.)** on 26 June 2011, 1:19 p.m.*

I came across an article on ABS yellowing and remembered that this has been a question here. The solution, using 15% hydrogen peroxide may be worse than the disease though. If this info is already here, let me know and i'll delete this.

http://www.vintagecomputing.com/index.php/archives/189

Re: Woodstock plastic yellowing

*Message #2 Posted by **Ben Moss** on 26 June 2011, 7:31 p.m.,*
in response to message #1 by db (martinez, ca.)

You could try Retr0bright. I've used it before with success. It uses hydrogen peroxide but in lower concentrations.

http://retr0bright.wikispaces.com/

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S - SAM-BA boot gone?

*Message #1 Posted by **Marcus von Cube, Germany** on 26 June 2011, 11:44 a.m.*

A reader of this forum and WP 34S tester (thanks Hubert) was missing the SAM-BA boot function in the latest WP 34S firmware release (only in SVN). He is right, ON+S seems to be gone. Why?

ON+S pressed accidentally by a user without the cable and working SAM-BA software can easily turn his calculator into a battery eating brick without any visible functionality. To make this harder, I decided to hide the ON+S key combo behind another one, ON+D. The latter is primarily used as a debugging aid, disabling all power saving and thus allowing the hardware debugger to work. I just decided to give this mode a double meaning in the sense of allowing some dangerous functions to be selected by the user.

In short: To reflash your calc press ON+D once and then ON+S twice to go into SAM-BA boot mode.

Edited: 26 June 2011, 11:44 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Going to the ASEE conference this week

*Message #1 Posted by **Eric Rechlin** on 26 June 2011, 12:38 a.m.*

Hi all.

I am going to the ASEE (American Society for Engineering Education) conference in Vancouver, BC this week. It's a trade show, mostly attended by engineering professors, and HP has a booth again.

I went last year (in Louisville, KY) and worked HP's booth, talking about calculators, and I will be doing the same thing this year.

Last year I had quite a few attendees come up to me to talk about how much they loved their 15C or 41, and a few raved about their 16C as well. Of course, I had to show off the 50g and 35s. I think I'll sneak a 34S in this time. :)

Not sure if any of you will be there, but if you are, make sure to stop by and say hello. I'll be at ASEE on Monday and Tuesday, and then will have most of Wednesday and Thursday to myself to explore Vancouver on my own, before I head back on Friday.

Eric

Re: Going to the ASEE conference this week

*Message #2 Posted by **Eddie W. Shore** on 26 June 2011, 11:27 a.m.,*
in response to message #1 by Eric Rechlin

Sweet! Have a great time, Eric

Re: Going to the ASEE conference this week

*Message #3 Posted by **John B. Smitherman** on 26 June 2011, 10:02 p.m.,*
in response to message #1 by Eric Rechlin

Eric, be sure to leave your Boston Bruins shirt at home and while in Vancouver avoid talking about hockey with any Canucks fans. ;-)

Regards,

John

Re: Going to the ASEE conference this week

*Message #4 Posted by **Eric Rechlin** on 2 July 2011, 11:06 a.m.,*
in response to message #1 by Eric Rechlin

I'm back from Vancouver. I had several people talk about the 15C, one about the 16C, and one about the 42S. But more importantly, four talked about the 41 series and how they still had one, so I passed on the information about the 41CL to them.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Ode to the calculators I have used...and the 41C

*Message #1 Posted by **Geoff Quickfall** on 25 June 2011, 7:58 p.m.*

Well hello,

I was looking through the two large 4 foot by 2 feet by 1 foot tubs in storage full of calculators (oops, way to many, time to sell them off).

These are the non HP calculators, HP is up to 50 but the book is the reason for them. Once the book is done then a core group, say one of example of each will be saved. But that is for the future.

Looking through the tub brought to mind my HP calculator history. It didn't start with an HP though. Back in 1975 I started community college (sounds like community service) and required a calculator, in sciences so it had to include transcendental functions. New nothing about HP at the time and the office store had the neatest looking calc I had seen. This was no ordinary calc as it had STYLE. So I purchased it; a LLOYDS 333 scientific calculator with exponential display. I could finally retire the Post 1460 Slide rule!

Yep, it looked like something out of 2001, A Space Odyssey.

Well onto University (of British Columbia) for a Science degree. Started learning ALGOL W in computer science along with Fortran on the typewriter and cards. YUCKKKKK. But along with that course was the Statistics 2nd year course and they demanded and HP 25 with statistical registers:

Well not being someone that can throw out a perfectly functional calculator I removed the batteries and retired the 333. Now endless hours of Lunar Lander plus programming and etc.

After leaving university I took the HP 25 into the northern bush of Canada while flying. Weight and balance, log book times and Lunar Lander for fun...

Got back to reality in 1982 and decided to finish my remaining 2 years of a BSc but this time with money in the bank. Off to the university book store and WHOA, wait a minute, ALPHANUMERIC display with all that programming space and continuous memory and ...

The HP 41C! I purchased it second hand (2033Axxx tall keys)

Plus, after awhile I could upgrade it with x-functions, x-memory, quad memory, HPIL, card reader, laser wand, printer, plotter. So I did!. Back to work in the summers up north flying and school in the winter and fall.

Suddenly time for graduation and an offer of a Masters program. Well I jumped at the masters of Science (Climatology/Palynology) and soon realized that a more powerful version of the 41C had come out freeing up ports and it included a clock, so I removed the 41C batteries and stored it, purchased the 41CX in 1984 and wrote programs to back up the info the IBM AT 8086 had on its stacked 5mb hard drives.

In fact my 41CX did all the math and stats for the thesis, couldn't stand the desk top.

Graduate and got hired at the airline the next day. The 41CX stays with me for until 2008. In the meantime I discover the world of HPMUSEUM and start collecting and restoring.

At HCC2009 I was given an HP42S and purchased a manual for it on the drive home from Corvallis. Powells book store in Portland supplied the manual. Wlodek supplied the incentive and soon I had the HP42S with expanded memory in the cockpit:

This replaced the 41CX only because it was thinner, had sufficient stable memory for all my programs, wasn't static sensitive and still printed. It did not have a clock. I don't know why all business machines get a clock but science calcs don't. The 41CX ran multiple timers for lab processing and was fantastic that way.

Along comes 5 HP71Bs in various states of repair, the language is easy and the wow factor in cockpit is high. Of course it runs all the required programs, but size and printer requirement makes it less portable. Still it is a beauty and it has a clock! But no IR printer ;-(

So back to the 42S with the 71B as something to learn and fill in the time at hotel layovers.

Then along comes the MONTE DARYMPLE "41CL". My favorite machine is back, so out come all the HPIL and the calc is loaded with all relevant programs. A new overlay and back to work.

Thanks MONTE!!!!

Actually thanks to EVERYONE who has brought the 41 into the 21st century!!

Names like Diego, Monte, Meindert, Jeff and etc, to you I owe a thanks.

Geoff Quickfall Vancouver, Canada

Edited: 25 June 2011, 8:25 p.m.

Re: Ode to the calculators I have used...and the 41C

*Message #2 Posted by **Xavier A. (Brazil)** on 26 June 2011, 11:15 a.m.,*
in response to message #1 by Geoff Quickfall

Great story for great history. Thank you.

Re: Ode to the calculators I have used...and the 41C

*Message #3 Posted by **Mike Morrow** on 26 June 2011, 6:22 p.m.,*
in response to message #1 by Geoff Quickfall

My personal computing history was:

1969 Dietzgen 1725L Slide Rule ($35, $215 in 2011)
1972 Bomar 901B ($140, $757 in 2011)
1974 SR-50 ($120, $550 in 2011)
1977 HP-67 ($450, $1678 in 2011)

I still own these, and I could probably be tempted to sell any of them (at the inflation-adjusted price, of course). :-)

The only one that I regret buying is the Bomar.

Re: Ode to the calculators I have used...and the 41C

*Message #4 Posted by **Geoff Quickfall** on 26 June 2011, 7:14 p.m.,*
in response to message #3 by Mike Morrow

For sheer coolness in todays LCD backlit society, the HP 67 takes the cake in the cockpit!

I do take mine with me occasionally but the 41CX/CL is the cats ass for speed and functionality!

Geoff

you can just make out the 67 in the lower right corner beneath the hp 01.

Edited: 26 June 2011, 7:18 p.m.

Re: Ode to the calculators I have used...and the 41C

*Message #5 Posted by **Joerg Woerner** on 27 June 2011, 10:19 a.m.,*
in response to message #4 by Geoff Quickfall

Are these noisy EMC sources actually approved for use in the cockpit?

You aren't allowed to use your iPod during takeoff but a HP-71 is sitting on the flight computer???

Cheers, Joerg

Re: Ode to the calculators I have used...and the 41C

*Message #6 Posted by **David Ramsey** on 27 June 2011, 11:24 a.m.,*
in response to message #5 by Joerg Woerner

Nah. The pilots can use whatever they want; the "possible interference with flight systems" was always bullshit.

With most airlines now allowing the use of iPads in place of the old Jeppson flight maps, expect this to become more common.

Re: Ode to the calculators I have used...and the 41C

*Message #7 Posted by **Geoff Quickfall** on 27 June 2011, 12:52 p.m.,*
in response to message #5 by Joerg Woerner

A few points on these.

```
- Shielding is wonderful until you drop your item.
- RF is not a problem unless you are sitting by the antenna.
- Aircraft navigation can be affected depending on the phase of
  flight, stength of electronic, lack of sheilding and position
  relative to the aircraft antenna.
- Some electronic use prohibition was probably revenue generated
  later in time but originally was prohibited for reason.
- Ipad use not approved yet!
```

Point 1

Sheilding on older equipment was lacking or shifted or just plain useless. Note, the FAA and IATA/ICAO are reactionary, they respond to problems, develop strategies and implement them. They are slow to remove archaic rules. Lawyers and liability and laziness and all that. It is easier to ban all electronics during phase of flight then to make a list of approved electronics. The reason are money and time.

Point 2

That LLOYDS 333 will completely jam a SW and AM radio when within 2 feet of a radio antenna. Fortunately for the cockpit, the F/O and Capt radio nav equipment antennas are located over and under the passenger cabin. Also all equipment on the flight deck is sheilded for obvious reasons. Conversely, antennas are not sheilded for obvious reasons!

Point 3

Phase of flight usually depends on radio navigation and hence the antennas. That is why there is a prohibition in the cabin of transmitting devices today during takeoff and landing. High use of VHF and LW radio navigation systems of both ground and aircraft systems are used during takeoff and landing. In cruise GPS is used (different frequencies less liable to interference by RF and different attenna location).

Point 4

When phones were installed at the seats (ten years ago) they generated revenue. So the ban on cell phones for all phases of flight became a revenue thing, in part. They also had a dedicated antenna which was directional, located away from aircraft navigation antennas and again, a different frequency to aircraft navigation and communication systems.

Point 5

The FAA has not approved the battery system on the IPads and as it is new tech they have not yet tested it for use in the cockpit. They are in the process now so technically the IPad is ok but the battery is not (oxymoron?). Of course it can be stated that the public has been testing this battery for years. And guess what! Computers have caught fire in the cabin. Computers placed on pillows on the lap, plugging venting cooling fans and boom! Bad lithium ion battery batch and boom! Some rechargeable lithium based flashlights are banned from the cockpit. Happened to a fight I was on to Beijing from Vancouver. Got to tell you, at 39000 feet over the Pacific 5 hours from anywhere and the smell of smoke in the cockpit! NOT FUN. Think Swissair.

Back to the IPAD, it can be used at your discretion. This implies a liability aspect that has not been investigated by the FAA (USA). Some airlines are using it for manuals such as the Flight Operations manual, Aircraft Operating manuals and etc. The exception are Jeps which are not approved for the IPad at the at the tier one Airline level (Alaska Airlines being one but not for Jeps). They are also only used

for specific phases of flight.

IPads are certainly the future for Jeps, the current problem is the only update available is manually loading the system. The FOM must be updated to include a revision provision for IPads as approved for the airline by the FAA. That has yet to be done. It is co-ordinated between individual airlines creating procedures that insure the Jeps are updated in a timely manner and that the procedure is then examined and approved by the FAA.

Annecdotal (me)

I have seen my radio nav go nuts, autopilot was not on at the time. I was climbing out of LAX to YVR (1992) going through 20,000 feet when the radio nav (VOR) started wildley fluctuating. If the auto pilot had been on the aircraft would have started a series of rapid banking (25'). After running an experiment in business class; asking everyone to turn off their computers and games. I had them turn them on one at a time. We got to a kid who had a portable nintendo hand held. He happened to be sitting right below the physical location of the #1VOR antenna. Everything went wonky (technical term) again. Business class electronic equipment was suspect as the antenna for the #1VOR is located on the ceiling right above the second row of seats.

Conclusion:

Like any rule, law or etc the precept is based on a combination of known evidence, actual affect, probable affect, worst case scenario and etc. The rules usually apply to worst case scenarios; every one switches on the cell phone at the same time...

I still think, electronics near antennas should have a phase of flight restriction. The cost and time required to test ALL electronics on the market today is prohibitive.

As far as electronics go, during takeoff, climb, descent and landing (the so called critical phases of flight) electronics in the cockpit: NO WAY! In the cabin also NO WAY! There are still to many older electronics, older aircraft and still a reliance on radio navigation and therefore antennas.

Of course an argument can be made to retrofit all older aircraft and redesign new aircraft to allow hand held nintendos and etc. But that is a cost OR how about a phase of flight prohibition.

Another anecdote:

My airline allows cell phones on ground and during taxi. They do not in the air, of course, being me, I have tested them in the air. My analog worked perfectly as it did not due to software, limit the transmit to one tower at a time. My blackberry does lock on to one tower at a time. Because of this and at 450 KTS it has about 5 seconds of useful broadcast, just enough to tell you it has disconnected.

We were testing phones as means of communication in the event of a loss of all radios, electrics. Call ATC directly and collect the pax cell phones. Worked in the analog days and early digital (2002) but not any more.

Enough said!

HP 71B sitting on the lap Joerg, not the flight computer! And no where near an antenna. Also the wiring is shielded in the cockpit for radio aids similar to the cable tv cable and all equipment in the cockpit is sheilded. It is the passenger cabin antenna locations that are the problem.

Cheers, Geoff

OR it is all a conspiracy along with chem trails ;-)

Edited: 27 June 2011, 10:09 p.m. after one or more responses were posted

Re: Ode to the calculators I have used...and the 41C

*Message #8 Posted by **Garth Wilson** on 27 June 2011, 2:35 p.m.,*
in response to message #7 by Geoff Quickfall

> Quote:
>
> - RF is not a problem unless you are sitting by the antenna

and even then, since the antenna is *outside* the metal skin of the aircraft, Gameboys and other electronics of the passengers should not be a problem, except that I've seen too many situations where the connectors were not correctly mounted on the ends of the coax cable going to the antenna. If the shield of the cable doesn't make good connection, the cable itself can become an antenna too, and that's *inside* the plane, not outside.

Our equipment mostly goes into bug smashers and not passenger jets, but I've had quite a few times over the years when I'd get a call from an avionics shop telling me of a particular problem, and I could tell they didn't have the antenna cable connectors mounted right. They'd call back later saying they re-mounted the connectors and it took care of the problem.

thread drift! technology, bureaucracy, procedures and lawyers!

*Message #9 Posted by **Geoff Quickfall** on 27 June 2011, 2:52 p.m.,*
in response to message #8 by Garth Wilson

Bingo Garth!

and until maintenance and etc. are perfect, this will be a problem. Until no leakage at antenna or gameboy can be guaranteed we will have restrictions.

This subject can go on forever and has only been breifly touched upon here.

Some of the problems are:

```
- technology takes time to be tested.
- bureaucracy takes time to react.
- procedures take time to be written.
- lawyers are involved in each step.
```

the last point says it all. Just look at the checklists required in the event of an emergency. Talk about gray areas!

Aviation safety is driven by the worst case scenario. Similar to bridge construction. The worst case scenario is rush hour on a bridge with bumper to bumper fully loaded semis. So after you cut the ribbon load it up with nothing but semis. Would it happen in the real world, probably not. Same with aviation, but when it happens the legal ramifications are stupendous let alone writing off a 380 with 6oo pasengers. So write a procedure that seems rediculous as it is the safer (read cheapest safest method) method.

Geoff

Edited: 27 June 2011, 2:56 p.m.

Re: thread drift! technology, bureaucracy, procedures and lawyers!

*Message #10 Posted by **Joerg Woerner** on 27 June 2011, 3:26 p.m.,*
in response to message #9 by Geoff Quickfall

Geoff,

Thanks - that was eye-opening!

Regards, Joerg

Re: thread drift! technology, bureaucracy, procedures and lawyers!

*Message #11 Posted by **Marcus von Cube, Germany** on 27 June 2011, 5:00 p.m.,*
in response to message #9 by Geoff Quickfall

And there are still situations were the best emergency plans and safety measures simply fail. :-(

In most, if not all, cases the situation simply wasn't foreseen by the authors of the procedures.

Re: thread drift! technology, bureaucracy, procedures and lawyers!

*Message #12 Posted by **Geoff Quickfall** on 27 June 2011, 6:42 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus,

very astute, simply put, all air regulations have a basis in an accident or incident;

```
each pilot consumes a different meal originating from a different kitchen,
seafood is not served to pilots
arming disarming doors,
```

the list goes on.

Geoff

Edited: 27 June 2011, 6:45 p.m.

Re: thread drift! technology, bureaucracy, procedures and lawyers!

*Message #13 Posted by **David Hayden** on 28 June 2011, 2:23 p.m.,*
in response to message #9 by Geoff Quickfall

I like to tell people that any fool can build a bridge that will stand up. The trick is building one that won't fall down....

It's true that some problems are unforeseen by the engineers, but I think more often trouble occurs when a combination of problems happen at once. It's really hard to figure out how to deal with those cases. I suspect that the airline industry in particular has reached this point. More airline accidents today are probably the result of multiple simultaneous failures, not a single problem.

Dave

Re: Ode to the calculators I have used...and the 41C

*Message #14 Posted by **Dave Shaffer (Arizona)** on 27 June 2011, 7:08 p.m.,*
in response to message #8 by Garth Wilson

> Quote:
>
> and even then, since the antenna is outside the metal skin of the aircraft

But, the skin is full of holes (windows!), all of which act like slot antennas (just as good as a dipole: a slot in a sheet of metal is the inverse of a dipole in free space and works just as well to re-radiate any electronic racket generated inside the passenger cabin).

If you want good shielding, you can't have any breaks in the surrounding metal (holes less than 1/20 wavelength or so might be ok) - just ask NSA, who shield some of their entire buildings to keep external prying eyes (ears!) from listening to what goes on inside.

While the likelihood of interference is low, I'd rather be on the safe side.

Re: Ode to the calculators I have used...and the 41C

*Message #15 Posted by **Garth Wilson** on 27 June 2011, 7:43 p.m.,*
in response to message #14 by Dave Shaffer (Arizona)

> Quote:
>
> But, the skin is full of holes (windows!), all of which act like slot antennas (just as good as a dipole: a slot in a sheet of metal is the inverse of a dipole in free space and works just as well to re-radiate any electronic racket generated inside the passenger cabin).

Yeah, then you can get into fresnel zones and all that-- but due to the curvature of the fuselage, there's nowhere near a line-of-sight path from the windows to the antenna. When I have the techs in the avionics shops fix the connector terminations, the problems are totally gone-- and this is on small aircraft whose windows are very large proportional to the size of the roof or belly. (For the record, I've worked in VHF & UHF power transistor applications engineering, but not antennas. I have some feel for antennas from being a radio amateur and also high-speed digital design.)

Edited: 27 June 2011, 7:47 p.m.

Re: Ode to the calculators I have used...and the 41C

*Message #16 Posted by **Geoff Quickfall** on 27 June 2011, 7:44 p.m.,*
in response to message #14 by Dave Shaffer (Arizona)

> Quote:
>
> But, the skin is full of holes (windows!), all of which act like slot antennas (just as good as a dipole: a slot in a sheet of metal is the inverse of a dipole in free space and works just as well to re-radiate any electronic racket generated inside the passenger cabin).

and

> Quote:
>
> While the likelihood of interference is low, I'd rather be on the safe side.

Are two extremely salient points to keep in mind

Thanks Dave

Re: Ode to the calculators I have used...and the 41C

*Message #17 Posted by **David Ramsey** on 27 June 2011, 10:03 p.m.,*
in response to message #7 by Geoff Quickfall

> Quote:
>
> IPads and computers have caught fire in the cabin. Computers placed on pillows on the lap, plugging venting cooling fans and boom!

Computers, perhaps; iPads, never.

Re: Ode to the calculators I have used...and the 41C

*Message #18 Posted by **geoff quickfall** on 27 June 2011, 10:08 p.m.,*
in response to message #17 by David Ramsey

Sorry shouldn't have included the Ipad, although one crew dealt with an extremely hot IPad, defective battery. They isolated in the galley until it cooled. It did not work afterwards.

As stated earlier, the FAA is now testing IPad batteries.

statement edited.

Cheers, Geoff

Edited: 27 June 2011, 10:11 p.m.

Re: Ode to the calculators I have used...and the 41C

*Message #19 Posted by **spb** on 28 June 2011, 7:38 p.m.,*
in response to message #1 by Geoff Quickfall

> Quote:
>
> I could finally retire the Post 1460 Slide rule!

The thing that got me to retire my Post 1460 was Teledyne-Post 44CA-600. And I still have one sitting on my desk.

back on thread ;-)

*Message #20 Posted by **geoff quickfall** on 28 June 2011, 11:35 p.m.,*
in response to message #19 by spb

I carry my post 1461 with me as back up and boredom stopper!

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s feature question

*Message #1 Posted by **fhub** on 25 June 2011, 6:06 p.m.*

Hi,

I can remember that the HP-41 had a special flag (22) which was set when the user had just input anything. This was quite useful in programs: entering a number and then pressing one of the upper-row label keys could e.g. just store this value, but pressing such a label without having entered anything before could calculate this value (almost all TVM calculators behave exactly like this for the usual 5 function keys N I PV PMT FV).

Is there something like this in the WP34s? I've read through the manual but couldn't find anything.
This could also be useful when a running program stops/prompts for an user input, so that it could decide after a R/S whether anything had in fact been entered or not.

Franz

Edited: 25 June 2011, 6:09 p.m.

Re: WP34s feature question

*Message #2 Posted by **Paul Dale** on 25 June 2011, 6:58 p.m.,*
in response to message #1 by fhub

Yes there is. Look in the test catalogue for ENTRY?

- Pauli

Re: WP34s feature question

*Message #3 Posted by **fhub** on 26 June 2011, 7:05 a.m.,*
in response to message #2 by Paul Dale

Yep, that's exactly what I meant, many thanks! :-)
There are soooo many functions that you almost overlook everything you're searching for ... ;-)

Maybe it would be nice if this ENTRY? condition could be manually reset via the EXIT key (e.g. if you enter something but then exit this input again), but it's not very important.

[Edit:] Ok, I've just tried it again and EXIT works except directly when entering a number - here you have to press EXIT twice to reset the ENTRY? condition. Not optimal but ok (if you know it). ;-)

Franz

Edited: 26 June 2011, 8:09 a.m.

Re: WP34s feature question

*Message #4 Posted by **Paul Dale** on 27 June 2011, 1:55 a.m.,*
in response to message #3 by fhub

There are plenty of ramifications with the entry flag. For example, what if I'm entering two numbers and exit out of the second?

In fact, I might change it so that EXIT doesn't clear this flag. I'm not sure what is correct or desirable here. This one was added late and hasn't really been thought through completely.

- Pauli

Re: WP34s feature question

*Message #5 Posted by **fhub** on 27 June 2011, 5:29 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> In fact, I might change it so that EXIT doesn't clear this flag.

Well, that would even be worse than it is now! :-(
How could you then reset this ENTRY? condition at all?

I guess it will be better to not report any found problem(s) anymore, if after this report you think about changing it in a way that would even worsen the situation ...

Franz

Edited: 27 June 2011, 5:30 a.m.

Re: WP34s feature question

*Message #6 Posted by **Paul Dale** on 27 June 2011, 5:59 a.m.,*
in response to message #5 by fhub

The entry flag is reset when a program stops running. It is set by numeric or alpha entry. I'm happy with this part of its operation. I'm not sure about how it should behave on EXIT and this hasn't been thought through properly yet.

Please explain how & when you think it should be reset.

You will need to take into account all usage scenarios not just the one you've raised thus far. Things like multiple number entries and cancellations of some and possibly all of those entries. Also consider what happens if I enter a number, press enter to commit it to the stack and then press EXIT. What about entering stuff and performing some arithmetic and functions and then pressing exit and continuing the program. Currently these last two will not register as digit entry although they clearly are. This seems very wrong to me hence my suggestion to change exit to not clear the flag.

Now complicate everything with catalogues and exit.

Finally, we've only a small number of bits of RAM left, so we cannot add lots of state variables.

Anyway, I'm very much looking forward to suggestions here.

- Pauli

Re: WP34s feature question

*Message #7 Posted by **fhub** on 27 June 2011, 6:21 a.m.,*
in response to message #6 by Paul Dale

Well, at the moment I'm not on the computer where WP43s is running, but IIRC from my yesterdays trials this ENTRY? flag is also reset by almost any other operations (e.g. +, -, *, etc....).
And I have no problem with that at all - the only thing I was wondering is that EXIT during a number input did NOT reset this flag and that I had to press EXIT twice!

I'm quite satisfied with this ENTRY? flag behaviour as it is now (except this need for a double press of EXIT when cancelling a number entry), so there's no need to completely change anything.
But I think there MUST be ANY way to reset this flag, and as long as there's no explicit flag number that can be used with CF, pressing EXIT is probably the best method!

Franz

Re: WP34s feature question

*Message #8 Posted by **Paul Dale** on 27 June 2011, 6:28 a.m.,*
in response to message #7 by fhub

> Quote:
>
> Well, at the moment I'm not on the computer where WP43s is running, but IIRC from my yesterdays trials this ENTRY? flag is also reset by almost any other operations (e.g. +, -, *, etc....).

No it isn't. Almost all operations don't touch this flag. So if the program stops and you press + R/S the flag will be clear. If, however, you press 3 + R/S the flag will be set because you entered a digit.

Another way to clear the flag is to press the up arrow then R/S although this is less obvious.

Like I've said a couple of times now this flag hasn't been thought through properly. What we've got is mostly right most of the time.

- Pauli

Re: WP34s feature question

*Message #9 Posted by **fhub** on 27 June 2011, 6:59 a.m.,*
in response to message #8 by Paul Dale

Yes, you're right with +, - and so on, I've tried it again now.

All I've tried yesterday was not with a program which prompted for an input (and was continued with R/S), but just with a program with LBL A, and the program should check if there has been an entry immediately before pressing the A button. It

should then just store this entry and otherwise calculate something.

And as I already said it's quite ok as it is now: I know that I have to press EXIT twice to reset this ENTRY? flag again when I'm cancelling an input to make the program behave correctly, so there's no need to change anything.
I'm just wondering why e.g. after an input has been finished with ENTER a single EXIT is enough to reset this flag, but during the input you need 2 EXITs for that.

Franz

Edited: 27 June 2011, 7:01 a.m.

Re: WP34s feature question

*Message #10 Posted by **Paul Dale** on 27 June 2011, 7:12 a.m.,*
in response to message #9 by fhub

Does anyone else have suggestions as to how the entry flag should behave?

> Quote:
>
> ...but just with a program with LBL A, and the program should check if there has been an entry immediately before pressing the A button. It should then just store this entry and otherwise calculate something.

I don't think it will ever operate like this. When you do something it is impossible to tell that your next operation will be to execute a label. If I could tell this, I'd prefer use such accurate precognition to make a fortune on the stock market or lottery :-) Finish the LBL A subroutine with a R/S instead of a RTN to reset the flag. Pressing A again will have the flag set if the user entered something and cleared if not.

> Quote:
>
> I'm just wondering why e.g. after an input has been finished with ENTER a single EXIT is enough to reset this flag, but during the input you need 2 EXITs for that.

File keys.c lines 2077 - 2086. The first EXIT cancels the command line. The second does a warm start. It is the latter that resets this flag.

This is all documented on page 56 of the manual BTW. The 'does nothing' at the end should be 'does a soft reset'. Most of the time there is no noticeable difference however.

- Pauli

Re: WP34s feature question

*Message #11 Posted by **fhub** on 27 June 2011, 7:38 a.m.,*
in response to message #10 by Paul Dale

> Quote:

> I don't think it will ever operate like this.

Well, but it DOES operate exactly like this on all financial keys (N,I,PV,PMT,FV) of HP calcs! ;-)

Re: WP34s feature question

*Message #12 Posted by **Paul Dale** on 27 June 2011, 8:02 a.m.,*
in response to message #11 by fhub

No calculator financial or otherwise works the way you are suggesting. Case in point, my 12c treats any keystroke except one of the TVM keys as a data entry regardless of what it is. e.g. f PREFIX to look at all the digits of the result followed by one of the TVM keys enters a new value rather than calculating. Likewise, g MEM does the same. Neither of these are data entry operations and neither changes the stack nor any other registers. Also worthy of note is that there is no simple way to clear the data entry setting -- which is something you've been asking quite vocally for.

We could operate exactly this way on the 34s, but I'd need input from other people before committing to such a change. One opinion does not a change make (unless it's mine of course ;-)

Since there seems to be a fixation on financial calculators, I'll reiterate: this isn't a financial calculator and never will be. Leave your 20b/30b alone if you want a financial calculator. Better yet buy a spare and leave that alone so you've got both and HP has two sales :-)

- Pauli

Edited: 27 June 2011, 8:03 a.m.

Re: WP34s feature question

*Message #13 Posted by **fhub** on 27 June 2011, 8:27 a.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> One opinion does not a change make (unless it's mine of course ;-)

Yes, that's something I've already got! ;-)

I doubt you'll get much input because this is a rather special 'feature' almost nobody else would ever need. So I would say leave it as it is - I can clear this flag with a double-EXIT from any pending operation or with a single-EXIT when the calculator is in its 'normal' state and that's ok for me.

Since you say that such a (2nd) EXIT does a 'warm start' (???), I hope this won't do any other 'dangerous' (unexpected) things (like e.g.

clear all my registers or delete my program) ... ;-)

Franz

Edited: 27 June 2011, 8:28 a.m.

Re: WP34s feature question

*Message #14 Posted by **Walter B** on 27 June 2011, 10:32 a.m.,*
in response to message #13 by fhub

Hallo Franz,

> Quote:
>
> Since you say that such a (2nd) EXIT does a 'warm start' (???), I hope this won't do any other 'dangerous' (unexpected) things (like e.g. clear all my registers or delete my program) ... ;-)

As you (should) know, we're in *beta test* phase now. So feel free to check what's going to happen under whatever conditions you can think of - we did only check the conditions we could think of ;-) And we're pretty patient usually ...

Walter

Re: WP34s feature question

*Message #15 Posted by **Marcus von Cube, Germany** on 27 June 2011, 11:03 a.m.,*
in response to message #14 by Walter B

I've an idea how it should work: Any action that potentially changes the contents of X or Alpha sets the flag. EXIT, be it on digit entry (cancel the command line) or on its own while X is shown, resets the flag. So does CLP.

Re: WP34s feature question

*Message #16 Posted by **fhub** on 27 June 2011, 12:29 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> I've an idea how it should work: Any action that potentially changes the contents of X or Alpha sets the flag. EXIT, be it on digit entry (cancel the command line) or on its own while X is shown, resets the flag. So does CLP.

Yes, that's exactly as I would have expected it!
(and of course every STOP or RTN in a program)

Now we have already 2 opinions, so maybe that would make a change now ... ;-)

Edited: 27 June 2011, 12:31 p.m.

Re: WP34s feature question

*Message #17 Posted by **Paul Dale** on 27 June 2011, 5:51 p.m.,*
in response to message #15 by Marcus von Cube, Germany

I thought about this a fair bit last night while not sleeping.

EXIT to clear this flag is just asking for user error and confusion which we're trying to avoid. E.g. I input a number, go to the conversions catalogue, decide I don't need to change it, pressed EXIT and continue. Result is the flag is set. Change the last bit to press EXIT twice by accident and continue and the result is totally different and unexpected. This flies in the face of extra EXITs doing nothing as documented in the manual.

I'm going to change the behaviour to detect any digit entry as per the 41 series (which is what this flag setting is modeled off, not the financial calculators overloading of the TVM keys) and to only clear this flag on program stop. I think this is the only consistent option. This is far gentler than the financial calculators any key press kills the flag and it captures the meaning of the setting: did you the user press a digit key? Yes you did.

We can argue about whether it should be digit entry or any change in X. We can also argue is a clear entry flag command is required but this should be a manual step and never done automatically & this remains available via up-arrow then R/S.

- Pauli

Re: WP34s feature question

*Message #18 Posted by **fhub** on 27 June 2011, 6:08 p.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> I'm going to change the behaviour to detect any digit entry as per the 41 series and to only clear this flag on program stop.

Ok, do whatever you want! :-(

So this is definitely my last report wrt. the WP34s, if mentioning a little problem leads to a 'solution' (?) that

is even worse than it has been before.

Franz

Re: WP34s feature question

*Message #19 Posted by **Paul Dale** on 27 June 2011, 6:33 p.m.,*
in response to message #18 by fhub

As I asked last night and you pretty much completely ignored, make a consistent and intuitive suggestion as to how this should behave and we'll consider it. Make sure you cover at least the use cases I mentioned -- I know there are plenty more I missed in my haste that will become apparent as you do your analysis.

The current behaviour has major potential for confusion, I do not believe this is acceptable as it stands. Your only suggestion so far has been to make things worse from the confusing point of view.

After my recent change it is consistent and not confusing. Any digit entry sets the flag, program stop clears it. No exceptions and no avoiding it. You press a digit, the flag gets set. Using your baseline of financial calculators, we're already a lot softer in raising this than they are. Show me a financial model that lets you reset the "user pressed a key flag"? How about one that lets you unpress a shift key and not impact this flag? My latest suggestion is more in line with this behaviour, you should be overjoyed by it not condemning it.

Now, if somebody sits down and thinks this through and comes up with a better solution, I'm all ears. We've made quite a few changes based on the input here and I'm sure we will make some more in the future.

- Pauli

PS: It is possible to do the TVM functions without an entry flag, there is a 15c program that does just this by defining the hot key labels twice.

Re: WP34s feature question

*Message #20 Posted by **Marcus von Cube, Germany** on 28 June 2011, 2:34 a.m.,*
in response to message #17 by Paul Dale

I vote for a slight modification to your scheme. It

shouldn't be the typing of a digit entry key but the commit of the input line to X that sets the flag. So you have the option to cancel the command line with EXIT or backspace which will return you to the unmodified stack. If this situation would set the entry flag you are asking for confusion.

Re: WP34s feature question

*Message #21 Posted by **Paul Dale** on 28 June 2011, 4:03 a.m.,*
in response to message #20 by Marcus von Cube, Germany

> Quote:
>
> If this situation would set the entry flag you are asking for confusion.

You typed a digit didn't you? No confusion :-)

You suggestion sounds good however. What should happen if the command line processing produces an error -- set the entry flag or do nothing?

Pauli

ENTER vs. DUP - stack lift or not?

*Message #22 Posted by **Marcus von Cube, Germany** on 28 June 2011, 6:27 a.m.,*
in response to message #21 by Paul Dale

The discussion about the command line rises another question that is not only interesting to WP 34S but to all newer RPN calculators that handle an input line.

In the good old days, there was no distinction between the input line and the X register. ENTER is always a DUP which disables stack lift. If you type 1 ENTER 2 + you get 3 because the 2 after ENTER replaces the 1 in X. Typing 1 ENTER + returns 2. We all know this behavior well.

Now to the newer generation. Let's talk about RPL first. There is no concept of disabled stack lift at all. ENTER isn't a DUP anymore, at least not after entry of some data on the input line. It just commits what is there. If it is a number or if it generates one through evaluation, this goes to the stack. ENTER duplicates as DUP if no command line entry is present. This is just a shortcut. Our examples from above now work

slightly differently then before. If you type 1 ENTER 2 + you get 3 because + does an implicit evaluation of the input line before it executes. The result is the same as before. Typing 1 ENTER + returns the sum of 1 and whatever is on the next higher stack level. Here things behave differently.

What about more recent RPN (not RPL) calcs? Some testing revealed that most of them (27bii+, 32S, 33S, 35S, 42S) behave the old way. On the last three you have a visible feedback so the behavior is obvious to the user.

The 20b and 30b change the game. Here 1 INPUT + returns 1 if the stack has been cleared before and not 2 as one could expect from an RPN machine. INPUT just commits the input line to X but leaves stack lift enabled. 1 INPUT 1 + behaves as expected. It occurs to me that there is not concept of a disabled stack lift in these calculators at all. 1 INPUT INPUT 2 INPUT leaves 1 in Y, 1 in Z and 2 in X. This is exactly what RPL would do here.

What is your preferred behavior? I start liking the way the 20b and 30b work.

Re: ENTER vs. DUP - stack lift or not?

*Message #23 Posted by **Walter B** on 28 June 2011, 6:39 a.m.,*
in response to message #22 by Marcus von Cube, Germany

I'm a conservative in this matter: 1 ENTER + equals 2. Period d:-)

Walter

Re: ENTER vs. DUP - stack lift or not?

*Message #24 Posted by **Andrés C. Rodríguez (Argentina)** on 28 June 2011, 8:02 a.m.,*
in response to message #23 by Walter B

FWIW, I agree about keeping it the old way. People who like RPL style have had the choice of buying a 48 / 49 / 50 or so; but people who stood by years in a yet-unanswered prayer for an HP43S

only has the WP34S as choice.

(Please disregard any idiomatic mistake)

Re: ENTER vs. DUP - stack lift or not?

*Message #25 Posted by **Paul Dale** on 28 June 2011, 6:55 a.m.,*
in response to message #22 by Marcus von Cube, Germany

Marcus,

If only life were so simple ...

ENTER isn't the only command that plays games with stack lift. Sigma+ is another e.g.

Also, we've got backwards compatibility issues with existing programs, we've tried pretty hard to be able to run many old solution book programs and user library programs as is.

Anyway, I've not really used the 20b and 30b for computations so I don't really know if it is better or not.

- Pauli

Re: ENTER vs. DUP - stack lift or not?

*Message #26 Posted by **Cristian Arezzini** on 28 June 2011, 9:36 a.m.,*
in response to message #22 by Marcus von Cube, Germany

Marcus, having grown with the 48 and 50 calculators, I would have loved SO MUCH if the 34s worked the way you describe! Of course I didn't dare suggest it. In my opinion, this whole "stack lift disabling" thing is confusing. It took me a long time to get used to it, and I think people are comfortable with that system only because they've used it for so long...! :)

Cristian

Re: WP34s feature question

*Message #27 Posted by **Paul Dale** on 28 June 2011, 4:49 a.m.,*

in response to message #20 by Marcus von Cube, Germany

This has been implemented and will be coming soon the build.

Entering a command line and having it accepted onto the stack sets the entry flag. The flag is only cleared when program execution stops.

The flag is also set if you enter any alpha character even if you backspace over it again or press exit. Can't easily change this one. So I guess we've a small inconsistency :-(

- Pauli

Edited: 28 June 2011, 4:50 a.m.

Pauli... ? Re: WP34s feature question

*Message #28 Posted by **gene wright** on 28 June 2011, 8:54 a.m.,*
in response to message #27 by Paul Dale

Any ability to have an ENTRY? and an ENTRY?C command?

They both test for an entry, but the 2nd test also clears the flag. Similar to the FS? 22 and FS?C 22 flags on the HP 41.

?

Re: Pauli... ? Re: WP34s feature question

*Message #29 Posted by **Marcus von Cube, Germany** on 28 June 2011, 9:27 a.m.,*
in response to message #28 by gene wright

> Quote:
>
> Any ability to have an ENTRY? and an ENTRY?C command?
>
> They both test for an entry, but the 2nd test also clears the flag. Similar to the FS? 22 and FS?C 22 flags on the HP 41.

We could make ?C the default behavior, i. e. clear the flag after it has been tested. If you need the status more than once, use a

user flag: CF 1; ENTRY?; SF 1. This would offer a possibility to clear the flag manually by just executing ENTRY?. ENTRY?C will not happen because we have only six characters for the command name.

Re: Pauli... ? Re: WP34s feature question

*Message #30 Posted by **gene wright** on 28 June 2011, 10:41 a.m.,*
in response to message #29 by Marcus von Cube, Germany

That would probably work, as I believe a majority of times it will be used to detect input and then branch. Once you have branched, input has of course occurred.

I do think the FS?C behavior was the most common type in HP 41 style programs.

Thoughts from anyone else?

Re: Pauli... ? Re: WP34s feature question

*Message #31 Posted by **Paul Dale** on 28 June 2011, 5:48 p.m.,*
in response to message #28 by gene wright

There is no point having ENTRY?C as a command. First up the command name is too long but ignoring that for a moment...

The internal entry flag is cleared when a program stops execution (for whatever reason). The flag is set when a command line is accepted and processed successfully. Typically the user will continue with R/S and the program runs again.

Unless someone can find a use case where a second user entry is made without a program stopping execution a second time, I don't see a need for ENTRY? to clear the internal flag. Two entries at once doesn't count -- the flag doesn't count them only indicates that at least one has been made.

I believe getting a second command line entered is impossible without a program

stopping execution a second time.

Does having ENTRY? clearing the flag hurt any use cases? One that I can think of:

```
ENTRY?
XEQ ..
ENTRY?
GTO ..
```

Could be worked around easily enough of course so this doesn't really count in the grand scheme.

- Pauli

PS: and now I see Marcus said half of what I did already...

Edited: 28 June 2011, 5:50 p.m.

Re: Pauli... ? Re: WP34s feature question

*Message #32 Posted by **gene wright** on 28 June 2011, 5:53 p.m.,*
in response to message #31 by Paul Dale

Ok, I can buy that.

Kindly ignore my previous requests.

Edited: 28 June 2011, 5:55 p.m.

Re: Pauli... ? Re: WP34s feature question

*Message #33 Posted by **Gerry Schultz** on 28 June 2011, 8:25 p.m.,*
in response to message #31 by Paul Dale

Hi Pauli:

I don't completely follow this thread but it appears to me that you're saying ENTRY? sets the internal entry flag when the command line is processed successfully and clears when the program halts. Does that mean if a user writes a program with multiple data input requests (each on a separate line) that each time the program halts for data entry the internal entry flag is reset?

A little confused, Gerry

Re: Pauli... ? Re: WP34s feature question

*Message #34 Posted by **Paul Dale** on 28 June 2011, 10:40 p.m.,*
in response to message #33 by Gerry Schultz

Yes.

- Pauli

Re: Pauli... ? Re: WP34s feature question

*Message #35 Posted by **Marcus von Cube, Germany** on 29 June 2011, 8:55 a.m.,*
in response to message #33 by Gerry Schultz

ENTRY? doesn't set a flag, it just checks for it. The flag is set during number entry, that is while the calculator is not executing a program (which is not totally correct if Pauli didn't build in a check for it. We can safely ignore the case because the next program halt will reset the flag.)

The intended logic is as follows:

Running program comes to a STOP -> flag is reset.
User **does not** enter any numbers or text.
User presses R/S, A~D or XEQ <label>.
ENTRY? will **skip** the next command because the flag is still reset.

Running program comes to a STOP -> flag is reset.
User **does** enter some numbers or text.
User presses R/S, A~D or XEQ <label>.
ENTRY? will **execute** the next command because the flag is set.

The only way to reset the flag is doing a BST and R/S to re-execute the instruction that made the program stop.

In a real world application one might code the following (given the stack is set to 4 levels):

```
LBL A
ENTRY?
GTO 01
```

```
<compute A>
LBL 01
STO A
RTN
```

This will allow the following use cases:

<number> A or <number> STO A ==> Store parameter A
RCL A ==> control or use the value of A
A ==> compute a new value for A

Re: Pauli... ? Re: WP34s feature question

*Message #36 Posted by **Andrés C. Rodríguez (Argentina)** on 29 June 2011, 12:38 p.m.,*
in response to message #35 by Marcus von Cube, Germany

I think it's fine the way it is, but just for the sake of curiosity... (these are cases of little practical value):

a) What happens if a program enters numeric data and then ENTRY? is tested before a R/S resets the flag?

b) It's clear that the "STOP" operation from a running program (or an interrupting R/S by the user) clears the flag, before the user can ever enter data. Is it the same when debugging a program using SST to run it step-by step?

Re: Pauli... ? Re: WP34s feature question

*Message #37 Posted by **Paul Dale** on 29 June 2011, 5:37 p.m.,*
in response to message #36 by Andrés C. Rodríguez (Argentina)

Try them and tell us the outcomes :-)

I'd guess for a, the flag will be set. For b I've no idea.

- Pauli

Re: Pauli... ? Re: WP34s feature question

*Message #38 Posted by **Andrés C. Rodríguez (Argentina)** on 30 June 2011, 11:20 a.m.,*
in response to message #37 by Paul Dale

Possibly in the weekend... I need to get the "last" version before. I'm some hundreds of revisions (10 days) late... As Walter once said, 34S is a moving target indeed! :-)

Re: Pauli... ? Re: WP34s feature question

*Message #39 Posted by **Paul Dale** on 30 June 2011, 5:43 p.m.,*
in response to message #38 by Andrés C. Rodríguez (Argentina)

I'll spill the beans then, both your queries work properly.

i.e. in a the flag is set by numeric entry inside a running program and in b the flag operates properly even though you are single stepping the code.

Anyway, the point of my response was more to highlight that it would be most helpful if folks checked these kind of "what if" or "waht about" questions out themselves rather than asking. While I don't mind checking these, I'd prefer a bug report. Even better I'd get no report when things already worked :-)

- Pauli

Edited: 30 June 2011, 5:50 p.m.

Re: WP34s feature question

*Message #40 Posted by **Walter B** on 28 June 2011, 4:03 a.m.,*
in response to message #17 by Paul Dale

> Quote:
>
> We can argue about whether it should be digit entry or any change in X.

I'd vote for the latter.

Walter

ENTRY?

*Message #41 Posted by **gene wright** on 27 June 2011, 11:03 a.m.,*
in response to message #14 by Walter B

How about a comparison to Flag 22 of the HP 41? The description below comes from A. Thimet's great HP-41CV Quick Reference found here:

HP 41 quick reference

Flag 22 Data Entry Flag. This flag detect keyboard input. The calculator sets flag 22 when numeric data is entered from the keyboard. The flag is cleared each time calculator is turned on.

Flag 22 is not automatically cleared, which is why you see many HP 41 programs that right after a PAUSE have a "FS?C 22" instruction.

The ENTRY? right now is more like a FS? 22 instruction, is that correct?

If so, perhaps an ENTRY?C instruction might be a useful addition?

Thanks...

Re: WP34s feature question

*Message #42 Posted by **fhub** on 27 June 2011, 12:55 p.m.,*
in response to message #14 by Walter B

Hi Walter,

I hope you don't have overlooked my report about the 2 errors in the manual (wrong TVM formula and wrong description of STO- and STO/)?
These are in fact errors (not just a matter of taste ;-)), and should of course be fixed.

Franz

Re: WP34s feature question

*Message #43 Posted by **Walter B** on 27 June 2011, 2:28 p.m.,*
in response to message #42 by fhub

Hallo Franz,

Those are fixed already but the update is not uploaded yet. I ask for your patience since I've to add some more items.

Walter

Re: WP34s feature question

*Message #44 Posted by **fhub** on 27 June 2011, 3:58 p.m.,*
in response to message #43 by Walter B

> Quote:
>
> Those are fixed already but the update is not uploaded yet. I ask for your patience since I've to add some more items.

No problem Walter, take the time you need, I just wanted to be sure that you haven't overlooked it.

And you know: patience is one of the few good features in the elderly ... ;-)

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-67 AC Charger

*Message #1 Posted by **Ángel Martin** on 25 June 2011, 4:31 a.m.*

Recently I got a nice HP-67 but it's missing the AC charger - was wondering whether the same charger used for the 41/Printer/TapeDrive/ would also be suitable? The 67 has three male conectors, whilst the charger in question only has two female connectors - but physically they match two of the 67 prongs. Does anyonw know if they're compatible?

Thanks.

Re: HP-67 AC Charger

*Message #2 Posted by **Marcus von Cube, Germany** on 25 June 2011, 4:38 a.m.,*
in response to message #1 by Ángel Martin

You need one of the classic chargers that work for the 35 or the 45. You will likely ruin the card reader electronics if you don't have a working battery pack in place and connect the charger. Some posts down is a discussion were to find these cheap.

Re: HP-67 AC Charger

*Message #3 Posted by **Hans Brueggemann** on 25 June 2011, 6:45 a.m.,*
in response to message #1 by Ángel Martin

ángel,
these chargers are not cpmpatible with each other.
the 41 charger has (simply spoken) an AC constant voltage output, meaning that the charged device has its own rectifier and battery charging electronics on board.
the 67 charger has a DC constant current output, so, battery charging is completely managed by the electronics inside the charger itself.

best regards,
hans

Re: HP-67 AC Charger

*Message #4 Posted by **Ángel Martin** on 25 June 2011, 11:49 a.m.,*
in response to message #3 by Hans Brueggemann

Danke Marcus & Hans, it's now time for me to star the search for one of those charges so I can enjoy the 67 as it deserves :-)

Anyone has a spare one for sale?

Re: HP-67 AC Charger

*Message #5 Posted by **db (martinez, ca.)** on 25 June 2011, 12:31 p.m.,*

in response to message #4 by Ángel Martin

i have nothing to do with this auction, i'm answering a question.

USB charger

Re: HP-67 AC Charger

*Message #6 Posted by **Etienne Victoria** on 25 June 2011, 5:31 p.m.,*
in response to message #4 by Ángel Martin

I also don't have any relationship with this auction but would like to second Den's suggestion.

I have been using this cable permanently on my desk with my Hp 80 & 65 since one year, both equipped with Ni-Mh batteries --> great functionality and smooth charge.

Etienne

Re: HP-67 AC Charger

*Message #7 Posted by **Trent Moseley** on 25 June 2011, 7:31 p.m.,*
in response to message #1 by Ángel Martin

Angel,

I have an extra one that I will give to you. Email me at trentrwc@pacbell.net with your postal address.

Trent Moseley

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s and USB

*Message #1 Posted by **Marcus von Cube, Germany** on 24 June 2011, 1:18 p.m.*

Here is a short success story. :-)

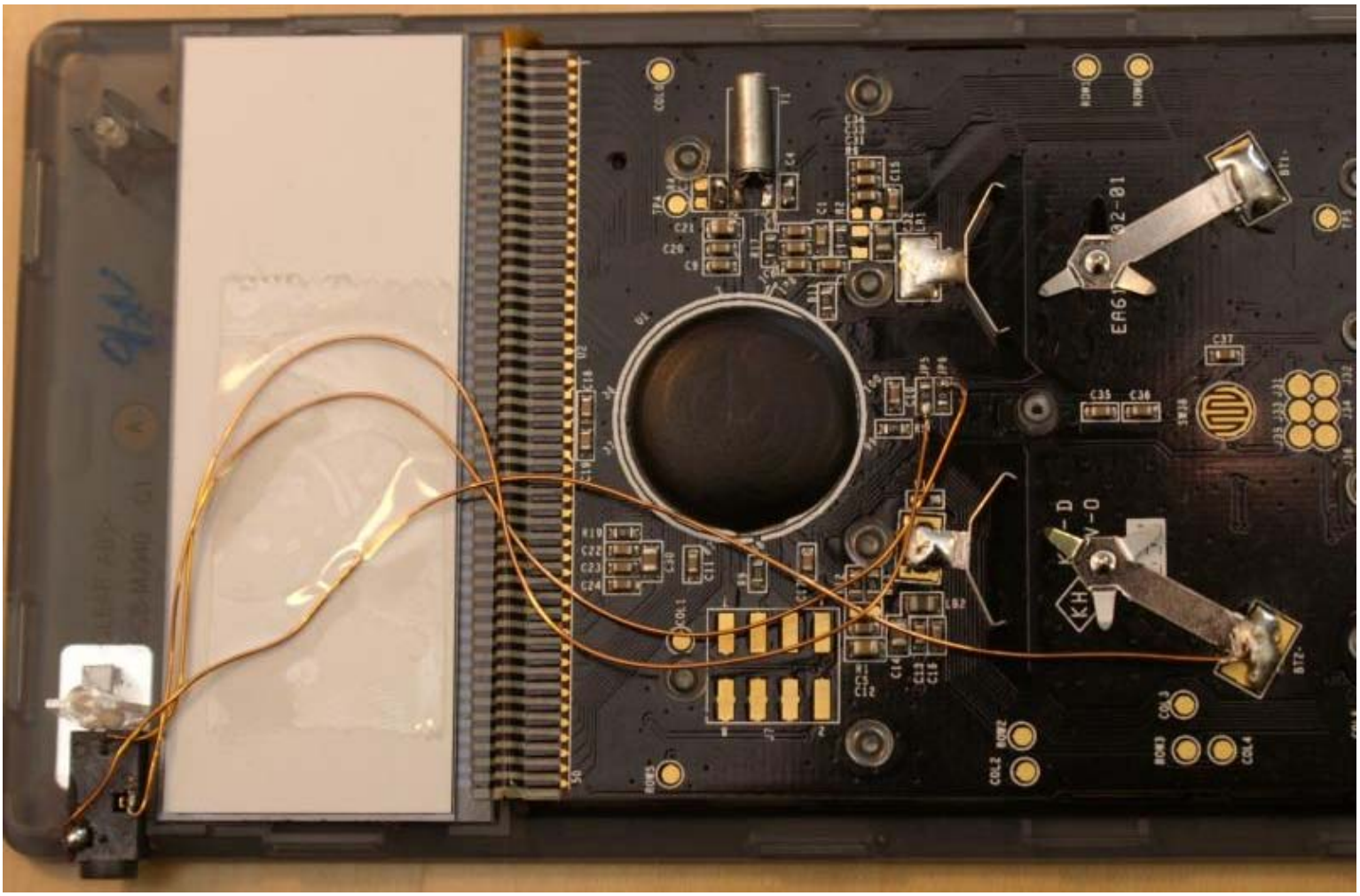
I've bought a cable from FTDI, the FT232R 3.3V version. I cut the plug and soldered a 2.5 mm stereo jack on the cable. It looks a bit ugly because I sacrificed a TI cable for it and soldered the wires together.

Now to the calculator. The serial interface used for programming (and hopefully for program exchange in the near future) has connections on the board which are easy to identify. I did not want to solder directly to the tabs of the programming plug because the plug should work as before after modification. The solder points are on the jumpers J5 and J6 just below the big blob. Ground is on one of the battery terminals.

The plug comes from an old "black" TI serial cable (which only works under Windows with a real serial port. I've enough "silver" cables so this one became a donor.) I found a place for the plug under the HP logo. Gluing did not work but it's mechanically a tight fit so I have hopes that it will not break.

I was able to connect to the modified calculator through the cable with SAM-BA which shows that the cable works.

Some pictures follow:



Edited: 24 June 2011, 1:48 p.m.

Re: WP 34s and USB

*Message #2 Posted by **Paul Dale** on 24 June 2011, 6:46 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Nice work!

- Pauli

Re: WP 34s and USB - more I/O possible?

*Message #3 Posted by **Marcus von Cube, Germany** on 25 June 2011, 4:32 a.m.,*
in response to message #1 by Marcus von Cube, Germany

The connector not only allows the direct connection to a PC via USB (see above) but also the communication between two devices, if they are wired identically. I decided to connect the tip of the plug (calculator side) to RXD and the ring to TXD. If all WP 34S were equipped the same way, a connection cable from Casio will do nicely to make two calculators talk to each other, given I create the software for this. Casio's cable is a cross over connection (tip to ring and vice versa) while the TI cable is wired tip to tip and ring to ring. On the USB jack, the tip is TX and the ring is RX.

With the right software in place, data exchange between the PC and the calculator will be possible with the USB cable. I plan to implement a symmetric protocol that works identically on the PC and on the calculator.

Another thought: HP has wisely decided to bring a bunch of free I/O pins to solder pads on the board. I have the feeling that it wouldn't be too hard to connect an IR transmitter to these pins. This could be used to drive the HP printer. Geoff, we're coming !

Re: WP 34s and USB - more I/O possible?

*Message #4 Posted by **Paul Dale** on 25 June 2011, 4:34 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Any chance of bit bashing an SD card via the I/O solder pads? I think this would be more useful than serial -- programs in SD executing from SD...

Pauli

Re: WP 34s and USB - more I/O possible?

*Message #5 Posted by **Marcus von Cube, Germany** on 25 June 2011, 9:59 a.m.,*
in response to message #4 by Paul Dale

How to squeeze FAT32 at varying sizes into a few KBs of thumb code? You will need a filer then and much more which will easily eat all available space.

Re: WP 34s and USB - more I/O possible?

*Message #6 Posted by **Paul Dale** on 25 June 2011, 6:57 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Conversely, we could move functions on onto the SD :-)

I would be a lot of work, serial shouldn't be.

- Pauli

Re: WP 34s and USB - more I/O possible?

*Message #7 Posted by **Gerry Schultz** on 27 June 2011, 3:31 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Marcus, it's great you were able to identify the proper points in the 30b to connect in a USB port. How did you figure it out? Let's see, USB needs ground, 5VDC, transmit and receive lines. Isn't there a data format for the transfer of valid data using USB? I would think so but I don't know what it is. Did HP included that in their design of the 30b? If so that implies HP has plans to expand their hardware calculator platform. May we all live in interesting times.

Also, I thought USB was designed with a smart computer at one end, as a controller or 'master' and the peripheral or 'slave' that does as it is told. Firewire or IEEE 1394 was designed with smart devices at both ends so they could all work peer-to-peer. Is there enough memory space in a WP-34s to make it smart enough to share data with another 34s?

In my opinion it makes the most sense to have a 34s share info with a PC via USB and use the PC application to move user programs between 34ses. I know it's an extra step to move 'stuff' but it might simplify the initial software implementation.

Just some thoughts, Gerry

Re: WP 34s and USB - more I/O possible? (edited)

*Message #8 Posted by **Marcus von Cube, Germany** on 27 June 2011, 4:55 p.m.,*
in response to message #7 by Gerry Schultz

All the smart things are integrated into the "cable" made by FTDI. This cable is, in effect, a tiny controller chip built into the USB plug. So you need the "proper" cable which will cost you around $20. A standard USB cable will not do!

I just made a 1:1 connection of the 3V serial I/O pins inside the calculator to the stereo jack. No magic involved on my side.

> Quote:
>
> In my opinion it makes the most sense to have a 34s share info with a PC via USB and use the PC application to move user programs between 34ses. I know it's an extra step to move 'stuff' but it might simplify the initial software implementation.

Both will be possible. I plan to just make the protocols totally symmetric so that it doesn't matter if one of the devices is the emulator running on the PC, making use of the USB or HP's cable, or if it is another 34S.

You will be able to connect:

A/ two 34Ses with a cross over cable,
B/ two 34Ses with two HP cables and a null modem,
C/ a 34S to the emulator via the USB cable as outlined above,
D/ a 34S to the emulator via HP's cable.

Option B works because the HP cable draws its power for the level converter from the calculator, not from the PC serial plug. It's a bad idea to leave the cable connected to the 34S or 20b/30b while not in use because it will drain the battery at a rate of 4mA even with the calculator apparently turned off.

Edited: 28 June 2011, 2:51 a.m.

Re: WP 34s and USB - more I/O possible?

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 28 June 2011, 6:45 a.m.,*
in response to message #7 by Gerry Schultz

Hi Gerry,

As far as I can tell, Marcus has "issues" with the mechanical cable connection that HP built into these things. I am pretty sure I have read of his sad, heavy sighs at the nature/position of the pogo connector out the back. :-)

From my quick look at the datasheet, I don't think that the Atmel AT91SAM7L128-EK has a USB port built in. I think Marcus has "just**" connected the existing serial port to a small 3-pin jack out the side of the calculator to make it more convenient. Hence the need for the USB-to-serial cable made by FTDI and the discussion of RXD and TXD in post #3.

BTW, as far as I recall, there actually is a USB-USB specification called On-The-Go (OTG) which will work peer-to-peer. I don't recall much about it but did quickly review the specs a few years ago. I am sure someone here knows a fair bit more about it than I.

Cheers...

** When I say "just" here, I am still somewhat in awe of someone taking their Dremel tool and carving up the case to put this in! :-) Way to go Marcus!!

Re: WP 34s and USB - more I/O possible?

*Message #10 Posted by **Marcus von Cube, Germany** on 28 June 2011, 9:46 a.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

> Quote:
>
> As far as I can tell, Marcus has "issues" with the mechanical cable connection that HP built into these things. I am pretty sure I have read of his sad, heavy sighs at the nature/position of the pogo connector out the back. :-)

Sigh...

> Quote:
>
> I think Marcus has "just**" connected the existing serial port to a small 3-pin jack out the side of the calculator to make it more convenient.

Nothing less and nothing more.

> Quote:
>
> BTW, as far as I recall, there actually is a USB-USB specification called On-The-Go (OTG) which will work peer-to-peer.

The TI graphing calculators make use of this specification. You can tell the difference by closely looking at the mini USB connector. The mini USB to mini USB cross over cable furnished by TI has a slightly different connector on one end.

> Quote:
>
> ** When I say "just" here, I am still somewhat in awe of someone taking their Dremel tool

> > and carving up the case to put this in! :-) Way to go Marcus!!
>
> I vote for HP doing the modification. ;-)
>
> The plug has the added benefit of missing the dangerous Erase and Reset buttons. With WP 34S once installed, Erase is no longer necessary because you can go to SAM-BA boot from within the firmware. Reset is possible with a paper clip.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #1 Posted by **mr-scorpio** on 23 June 2011, 6:01 p.m.*

Being new to HP calculators & now the proud owner of a pristine (2003 HP 48GX), I've been researching what software exists out there, as well as what software will 'enhance' the machine.

Whilst the 48GX has a respectable 128K built in. How much MORE 'beefing up' will it need to be able to cope with: Meta Kernel + Erable + ALG48 ALL installed at the same time.

It seems that a 128K card in slot 1 'still' won't be enough to have installed all three progs? - As as user, you'd also want space left over as well surely for other things?

Therefore, just how much beefing up via cards is it necessary to get all 3 programs installed?

How can one go about getting a 128K card (or larger) without being ripped off?

Alternatively ... I've found some 32k cards for sale at a 'reasonable' price. Could one of these cards be used as the basis for a 128K upgrade, if one were to obtain the correct 128k chip & 'swap' it with some crafty soldering?

Hope you can advice & help Many thanks

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #2 Posted by **Allen** on 23 June 2011, 10:06 p.m.,*
in response to message #1 by mr-scorpio

First, congrats on your HP48GX machine! That's my favorite graphing calculator of all time.

My recommendation: Go buy a HP50g. It has many of the CAS and display features you're souped up HP48GX will aspire to, and will be fully capable at a fraction of the cost compared to upgrading the 48gx.

If you're set on the ol' stalwart 48gx Charlemagne, buy a real MetaKernel Card. That will set you back between $200 and $300.

Sadly MK cards are so rare at any price, it's not entirely realistic. There are alternatives: the HP/TDS 128K ram cards typically sell for around $100- a good deal compared to the much dearer MetaKernel card. You'll need all 128K for the MetaKernel alone, and an empty calculator when you boot-load it. An HP 32K ram card should cost $50 or less, but these are not very useful.

When discussing prices of used equipment in a capitalist market the terms 'ripped off' and 'reasonable' mean little. Don't forget you're competing against a small minority of survey companies who still use HP48GX ram cards to store data and way-points, collectors willing to pay top-dollar and against a world currency that is strong relative to the US dollar. Either you want one worse than the next guy or you don't- there is no 'expensive' or 'cheap'.

IMHO, Don't try the upgrade the 32K ram card unless you just want to waste time and money. The narrow clearances involved with the card case, the delicacy of the operation, along with the difficulty in finding those

SRAM chips make it not worth the trouble. Others may disagree, but I'd rather pay the extra $60 and be done with it.

I've done memory upgrades of the HP48G\GX motherboard using the Hitachi HM628128BLFP-8 SRAM chip it works like a dream, and still arguably not worth the time- if you can even find the chips for sale.

Wish I had better news for you- consider the 50G as an alternative before you spend $200 juicing up your 48G rig.

Edited: 23 June 2011, 10:08 p.m.

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #3 Posted by **Arnaud Amiel** on 24 June 2011, 3:24 a.m.,*
in response to message #1 by mr-scorpio

To install the metakernel (available for free from hpcalc.org), you do need a 128k RAM card in port1. Other programs could be loaded in an other card occupying the 2nd slot.

At the time there was some relatively affordable non hp (cynox, klotz) memory cards (this is what I use). I don't know where to find them now but they should not be that expensive.

Really you can have Meta Kernel + Erable + ALG48 and much more and still most of your 128k memory free.

Arnaud

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #4 Posted by **mr-scorpio** on 24 June 2011, 7:23 a.m.,*
in response to message #3 by Arnaud Amiel

Hi there, Many thanks for your replies so far. I was contemplating the 50g, but ... i dunno.. there's just something about the 48GX - LOVE the keyboard, the whole 'mature' outlook & feel of the machine etc.

One thing I've read about Meta Kernel is how much 'faster' it apparently is compared to the native 'built in' features, like 'Equation Writer' stating in some cases to be 100 times faster!!

Which begs the question, If optimized code could be written to perform like MK does, the potential was there all along. This being the case, why is HP's OWN software 'Equation Writer' for example, so slow, when a 3rd party has proved it could have been done better in the first place? Cheers

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #5 Posted by **Martin Pinckney** on 24 June 2011, 11:30 a.m.,*
in response to message #4 by mr-scorpio

> Quote:
>
> Which begs the question, If optimized code could be written to perform like MK does, the potential was there all along. This being the case, why is HP's OWN software 'Equation Writer' for example, so slow, when a 3rd party has proved it could have been done better in the first place?

This is understandable. It's a piece of hardware. You can't spend too much time writing the code before going to market with it.

But software? If McAfee, Symantec, etc. can hire programmers to defeat viruses, why can't Microsoft? Why is Windows written in a way that allows attacks anyway?

Remember Windows 95? You had to buy a separate 3rd party program just to keep it from fatally crashing and losing your data. Same concept.

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #6 Posted by **Raymond Del Tondo** on 24 June 2011, 11:39 a.m.,*
in response to message #4 by mr-scorpio

Hello,

If you want a really fast user Interface on your HP-48GX, I suggest trying SpeedUI, the real Software Turbo for the HP-48G series.

SpeedUI accelerates every aspect of the user interface, including choose boxes, Input forms, the MatrixWriter, MemoryBrowser, and the stack interface, of course, and adds features not available on an HP-48 before, while being very modular.

And SpeedUI is still supported, and Features are still added, while the old MK beta Software is outdated since at least fifteen years.

The next SpeedUI release, version 11.06 , will be on the 3rd of July, 2011.

HTH

Raymond

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #7 Posted by **mr-scorpio** on 24 June 2011, 7:04 p.m.,*
in response to message #6 by Raymond Del Tondo

Hi Raymond, Many thanks for the SpeedUI suggestion. How does it compare to MK as a UI replacement? Does it speed up everything, including Equation Writing & symbolics?

I've also wondered about the 3d graphing? does either SpeedUI or MK offer realtime rotation?

Cheers Al

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #8 Posted by **Raymond Del Tondo** on 24 June 2011, 7:47 p.m.,*
in response to message #7 by mr-scorpio

Hi Al,

hmmm, somewhat difficult to compare SpeedUI and MK directly.

SpeedUI is targeted to users who simply want to use their calc as before, but with a much more performant user interface.

For a SpeedUI feature overview, please take a look at the SpeedUI walkthrough

and give it a try: SpeedUI 11.05 archive

SpeedUI speeds up everything _except_ the built-in EquationWriter. Actually one of the few things not available as a SpeedUI component so far is the EquationWriter, because there are equation editor replacements on www.hpcalc.org . But maybe later this year, I'll make an EquationWriter version which is more performant than the built-in one.

Displaying the expressions on the stack will be done with SpeedUI .

Neither SpeedUI nor MK offer real-time 3D rotation from stock. However a few years ago, I backported the 49g DRAW3DMATRIX functionality to the HP-48. DRAW3DMATRIX actually is the 3D real-time rotation tool. My backport is available on www.hpcalc.org , too.

Cheers

Ray

Re: 48GX + Meta Kernel + Erable + ALG48 all at once?

*Message #9 Posted by **Gilles Carpentier** on 24 June 2011, 1:53 p.m.,*
in response to message #4 by mr-scorpio

Hi,

>Hi there, Many thanks for your replies so far. I was contemplating the 50g, but ... i dunno.. there's just something about the 48GX - LOVE the keyboard, the whole 'mature' outlook & feel of the machine etc.

Imho i prefer the 50g for the keyboard agencement , and the look and feel of the 50.

>One thing I've read about Meta Kernel is how much 'faster' it apparently is compared to the native 'built in' features, like 'Equation Writer' stating in some cases to be 100 times faster!!

And 200 times faster on the 49G... and perhaps 400 times faster on 50G ;)

>Which begs the question, If optimized code could be written to perform like MK does, the potential was there all along. This being the case, why is HP's OWN software 'Equation Writer' for example, so slow, when a 3rd party has proved it could have been done better in the first place?

Perhaps i'm wrong,but i think that the 49G/49G+ and 50G have all of this integrated. Equation writer, matrix editor (and list editor), CAS, speed, RAM, USB connection, SD card you can use like mass storage, larger screen, better font etc etc.

I think that if you use a 50G few hours, you will never want to downgrade on a 48GX. A point for the 48 could be the small enter key of the 50 (i like this small enter key), and the keyboard feeling wich is good but less than on the 48GX

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP7470A Plotter calibration with an HP-IL interface

*Message #1 Posted by **Richard L. Taylor** on 23 June 2011, 2:58 p.m.*

Hi,

Does any one know how to calibrate the HP7470A plotter that has an HP-IL interface?

Thanks in advance

Rich

Re: HP7470A Plotter calibration with an HP-IL interface

*Message #2 Posted by **Garth Wilson** on 23 June 2011, 4:58 p.m.,*
in response to message #1 by Richard L. Taylor

Are you missing the manual? I have the manual here for the 7475 which is almost the same thing but for bigger paper, with HPIB which should work the same way, and I don't find anything about calibration. If it were an analog machine, there would be trimmers inside for that; but it's not. It's all stepper-motor controlled, with gears and a toothed belt, so it cannot come out of calibration. We used one continuously for months at my last place of work around 1990, and I wondered about the rough wheels that control the paper movement wearing down, but I guess their carbide surface was so hard that it wasn't a problem. Otherwise, I suppose you could plot something, measure it, and crank calibration constants into your software to multiply the X and Y values by.

What we were using it for was plotting PC boards (2x or 4x actual size) on very tough, stable-based material, before the days of being able to just send your files to a board house via the internet, and the boards always came out perfect and screw holes and connectors lined up perfectly with what they were supposed to mate with. There was no discernable error. Ever.

Re: HP7470A Plotter calibration with an HP-IL interface

*Message #3 Posted by **Richard L. Taylor** on 23 June 2011, 9:10 p.m.,*
in response to message #2 by Garth Wilson

Thank you for that info. I had no idea. I did buy a service manual on CD at EBAY for $10.00. One of the strange things on my HP7470a is I wrote a program to draw the Nevada county boundries and part of the joining boundries come out as double lines about 0.4 mm apart when I use pen 1. When I switch to pen 2 and draw the map again, the double lines are not in the same place. What do you think?

Thanks

Rich

Re: HP7470A Plotter calibration with an HP-IL interface

*Message #4 Posted by **Garth Wilson** on 23 June 2011, 10:30 p.m.,*

in response to message #3 by Richard L. Taylor

> Quote:
>
> part of the joining boundries come out as double lines about 0.4 mm apart when I use pen 1. When I switch to pen 2 and draw the map again, the double lines are not in the same place. What do you think?

Is the tip of the pen split?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is there a ref doc/place for 34S how-to?

*Message #1 Posted by **Mark Henderson** on 23 June 2011, 12:36 p.m.*

I have a 30b (and a large collection of HP RPN calcs...) and would like to convert to 34s - I've been reading the forum occsaionally, is there a how-to (re-flashing, overlay etc.) in one place that I can look at?

Thanks

Re: Is there a ref doc/place for 34S how-to?

*Message #2 Posted by **Steve Simpkin** on 23 June 2011, 12:49 p.m.,*
in response to message #1 by Mark Henderson

See message:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=186747#186747

From Gene Wright:

1) Go here:

http://sourceforge.net/projects/wp34s/

Download the wp34s.zip file at the green button location.

2) Cable? You can get one from me but you will have to wait a week. I ask for $5 if overseas and $3 in the USA to cover the padded envelope I buy, postage and my gas to the post office. Email me at my forum email. :-)

3) Overlay? comes from Eric Rechlin.

4) How to do it? Download this PDF.

How to Flash a 20b

Re: Is there a ref doc/place for 34S how-to?

*Message #3 Posted by **Gerson W. Barbosa** on 24 June 2011, 1:51 a.m.,*
in response to message #2 by Steve Simpkin

> Quote:
>
> How to Flash a 20b

I was able to do it only after following the first requirement (Windows XP computer with hardware serial port). I had tried a patched SAMBA v6 both on Vista on Seven but it did not work, probably because of the USB-to-RS232 I used.

Re: Is there a ref doc/place for 34S how-to?

*Message #4 Posted by **Marcus von Cube, Germany** on 24 June 2011, 2:04 a.m.,*
in response to message #3 by Gerson W. Barbosa

Get a cable with FTDI chip!

Re: Is there a ref doc/place for 34S how-to?

*Message #5 Posted by **Mark Henderson** on 25 June 2011, 3:53 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Thanks to all!

Re: Is there a ref doc/place for 34S how-to?

*Message #6 Posted by **Cody** on 5 July 2011, 9:56 p.m.,*
in response to message #3 by Gerson W. Barbosa

Which USB-serial converter did you use that did not work?

Re: Is there a ref doc/place for 34S how-to?

*Message #7 Posted by **Gerson W. Barbosa** on 6 July 2011, 8:58 p.m.,*
in response to message #6 by Cody

Feasso FCA-6, made in China:

http://lojarededesconto.vtn.com.br/product.php/cabo-usbserial-fca6-feasso-p-2347?MFORMULA=jk16nkor9gm0nlijh4obphaqc1

Re: Is there a ref doc/place for 34S how-to?

*Message #8 Posted by **Walter B** on 7 July 2011, 12:28 a.m.,*
in response to message #6 by Cody

FYI, another one *not* working for this purpose is Belkin's converter. Made in China, too, like almost everything else ...

Walter

Re: Is there a ref doc/place for 34S how-to?

*Message #9 Posted by **Marcus von Cube, Germany** on 7 July 2011, 2:31 a.m.,*
in response to message #6 by Cody

The problem is that no manufacturer tells you the chip set on which their products are based. You will want one with an FTDI converter chip.

Re: Is there a ref doc/place for 34S how-to?

*Message #10 Posted by **Bart (UK)** on 7 July 2011, 4:50 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Note that SAM-BA 2.10 (the current version on the Atmel site) only provides support for serial port on Windows XP, on Vista and Seven it only provides USB support (and even though the

USB to serial converter is plugged into a USB port, it still simulates a serial port).

Unfortunately currently there is only a serial cable available - does anyone know of a USB equivalent?

I don't know how well older versions of SAM-BA will work on Vista and Seven, as they will have to run in compatability mode or be modified, which creates its own problems - anyone have success on Vista or Seven with a USB-serial converter that can share their exact setup? Thanks

Re: Is there a ref doc/place for 34S how-to?

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 7 July 2011, 8:36 p.m.,*
in response to message #10 by Bart (UK)

I used a USB to serial converter. It's a small printed circuit board, but is not a commercial product. It uses an FTDI chip.

It worked fine under Windows 7, but with SAM-BA 2.6. The newer SAM-BA 2.10 doesn't work with this configuration.

Re: Is there a ref doc/place for 34S how-to?

*Message #12 Posted by **John Gustaf Stebbins** on 15 July 2011, 3:36 a.m.,*
in response to message #11 by Andrés C. Rodríguez (Argentina)

I have Windows 7 Pro 64-bit, since my old XP box died shortly before I decided to take on the WP 34s project.

Microsoft offers a legacy support if you have Win7 Pro or better in the form of the Windows Virtual PC and Windows XP Mode. I was able to get SAM-BA 2.10 to work with the built in serial port in my machine by installing it in the virtual machine. Took a little tweeking, but it wasn't too hard.

If you have Win7 Home, you would need a copy of XP to install, but it may be possible.

Re: Is there a ref doc/place for 34S how-to?

*Message #13 Posted by **Marcus von Cube, Germany** on 15 July 2011, 12:33 p.m.,*
in response to message #12 by John Gustaf Stebbins

Virtual PC is still free but you need something to install within it. Any XP copy will do.

Re: Is there a ref doc/place for 34S how-to?

*Message #14 Posted by **Gerry Schultz** on 15 July 2011, 1:23 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Hey Marcus:

With Windows Compatibility Mode, a free image of WinXP Pro is included with Win7 Professional, Enterprise and Ultimate; it just needs to be downloaded. That image is run virtualized under Windows Virtual PC. I installed it on my Win7 PC and it works great, though I've never used it. I still have several XP PCs still

in service that run fine.

Gerry

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #15 Posted by **Bart (UK)** on 8 July 2011, 5:26 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi Marcus,

Do you know a brand of USB to RS-232 converter that is known to have the FTDI chip?

Reading the response from Andrés to my other post, I wish to test the setup with my Vista machine, and add it to the "how to" article.

Edit: I see that FTDI (home page) sells modules and cables directly on-line, I'll look into it.

-Bart

Edited: 8 July 2011, 9:47 a.m.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #16 Posted by **Marcus von Cube, Germany** on 8 July 2011, 2:25 p.m.,*
in response to message #15 by Bart (UK)

> Quote:
>
> Edit: I see that FTDI (home page) sells modules and cables directly on-line, I'll look into it.

That would have been my suggestion.

Another way to figure it out: Try to download the appropriate drivers and/or manuals for the device in question before you buy it. You can normally tell from the driver names if it's an FTDI device.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #17 Posted by **Dave** on 8 July 2011, 5:10 p.m.,*
in response to message #15 by Bart (UK)

Win7 and Vista have native drivers for FTDI USB-serial devices. We use the same chip in our custom television remote control programming interfaces, and I've never had to load a driver.

Edited: 8 July 2011, 5:11 p.m.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #18 Posted by **sylvandb** on 10 July 2011, 1:10 a.m.,*
in response to message #15 by Bart (UK)

> Quote:
>
> Do you know a brand of USB to RS-232 converter that is known to have the FTDI chip?

Name brand cables are not trustworthy. Too often they change their oem supplier without public notice and no longer have the expected components.

Simplified Arduino boards often use FTDI chips/cables. I'm not familiar with European suppliers (I've stumbled across many in the past but don't keep the links).

U.S. examples:
3.3v I/O cable
5v I/O cable
3.3v or 5v board
3.3v or 5v breakout board

SparkFun does quote Euro and Pound prices, so I imagine they'll ship. No idea if it is a good deal or not. They are pretty good in the U.S.

sdb

Edited: 10 July 2011, 1:11 a.m.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #19 Posted by **Marcus von Cube, Germany** on 10 July 2011, 2:11 a.m.,*
in response to message #18 by sylvandb

For these cables to work, you need to modify your 20b or 30b.

The first (3.3V) can be directly connected to the serial I/O pins of the calculator if you find the plug. None of the cables can be used with HP's cable. Someone should produce modified cables where the voltage converter is replaced by the 3.3V FTDI cable. For initial programming of an unmodified 20b or 30b you'll need the "Erase" button.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #20 Posted by **Cody** on 11 July 2011, 9:01 p.m.,*
in response to message #15 by Bart (UK)

Try amazon.co.uk

I was able to search amazon.com for "FTDI USB" and came up with several links.

This is the cheapest adapter I found on Amazon that specifically lists the FTDI chipset:

"Mini Adapter has one Status LED and uses FTDI Chip for up to 230K Speed."FTDI adapter

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #21 Posted by **sylvandb** on 11 July 2011, 9:35 p.m.,*
in response to message #20 by Cody

> Quote:
>
> This is the cheapest adapter I found on Amazon that specifically lists the FTDI chipset:
>
> "Mini Adapter has one Status LED and uses FTDI Chip for up to 230K Speed."FTDI adapter

Notice anything different about that compared to the ones I listed?

Unfortunately that one and many others I've seen on Amazon all are specified to do a conversion to RS-232 voltage levels (-5v to -12v and +5v to +12v) which may or may not work and may or may not fry the 3.3v (0v and 3v) signaling used by the calculators. It seems like it would be cheaper to not do the conversion but quantities of scale...

Adding "header" to the search does turn up: USB to 3.3v TTL Header like FTDI TTL-232R-3V3 with a description that claims "Utilizes newest FTDI FT232QR chip"

With that said, sometimes the cheap ones don't actually do a conversion to RS-232 voltages... (Which violates the RS-232 specification, but much RS-232 hardware does work and recognize the signals never the less.) I just cannot recommend anything like that, because you are relying on not only unspecified feature, but a feature contrary to the specification.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #22 Posted by **Walter B** on 12 July 2011, 1:24 a.m.,*
in response to message #21 by sylvandb

We are *guessing* there's a correlation between "FTDI" and "USB 2.0". Holds for a few samples I googled. I leave this to the experts to confirm or deny, however.

Walter

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

*Message #23 Posted by **Marcus von Cube, Germany** on 12 July 2011, 2:49 a.m.,*
in response to message #21 by sylvandb

Sylvandb, you're mixing things up a little.

HP furnishes a cable with the special plug to match the connector of their latest calculators. This cable has a plastic housing with two buttons ("Reset" and "Erase") in the middle and a standard 9 pin header on the computer end. This plugs into a standard RS232 port or a serial/USB converter. Using the latter works only with an

FTDI equipped converter, who knows why.

FTDI makes cables which operate directly on the lower (and inverted) levels available on the calculator socket but you cannot use these with the cable made by HP. You have to make your own connection directly to the board, e. g. with a stereo jack like I did. The 3.3V cable is the one use in this case.

Re: FTDI chip USB-RS232 - Marcus do you know a brand that contains it?

Message #24 Posted by ***Reth*** *on 12 July 2011, 1:40 a.m.,*
in response to message #15 by Bart (UK)

Following Marcus' advise I got this one and I can confirm it works perfectly on all our computers Win XP, Win 7 etc.

Re: Is there a ref doc/place for 34S how-to?

Message #25 Posted by ***Bart (UK)*** *on 7 July 2011, 4:39 a.m.,*
in response to message #1 by Mark Henderson

In the Articles section: Article 1060

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What's the deal with expensive battery packs ?

*Message #1 Posted by **Michael de Estrada** on 23 June 2011, 9:10 a.m.*

Lately I've seen a lot of expensive rebuilt battery packs for HP Classics being sold on TAS. I really don't see the point of this, given that there are much cheaper HP Classic battery packs available, that use the same 1000 mAh capacity AA NiCd cells and work just as well. Sure, the lower priced packs don't look like the originals, but they are hidden under the battery door, so who cares? Anyways, just another issue to ponder.

Re: What's the deal with expensive battery packs ?

*Message #2 Posted by **bill platt** on 23 June 2011, 10:27 a.m.,*
in response to message #1 by Michael de Estrada

How do you define "a lot of"?

Re: What's the deal with expensive battery packs ?

*Message #3 Posted by **Michael de Estrada** on 23 June 2011, 10:58 a.m.,*
in response to message #2 by bill platt

More than 2 listings from different sellers.

Re: What's the deal with expensive battery packs ?

*Message #4 Posted by **Gene wright** on 23 June 2011, 11:29 a.m.,*
in response to message #3 by Michael de Estrada

Which I Personally would not call "a lot"

But that is just me

Re: What's the deal with expensive battery packs ?

*Message #5 Posted by **Michael de Estrada** on 23 June 2011, 12:11 p.m.,*
in response to message #4 by Gene wright

A lot, a few, whatever. The point I was trying to make is that the more expensive battery packs do not make economic sense to me, since it's an expendable item that does not affect the exterior appearance of the calculator.

Re: What's the deal with expensive battery packs ?

*Message #6 Posted by **Namir** on 23 June 2011, 11:55 a.m.,*
in response to message #1 by Michael de Estrada

One of the sellers is Scott R. from the L.A. area. Seems he is including the plastic housing for the batteries that the less expensive sellers do not. This might explain why these sellers are asking for more. Scott is a nice

person and I have invited him to attend HHC2011. He plans to.

Namir

Re: What's the deal with expensive battery packs ?

*Message #7 Posted by **Michael de Estrada** on 23 June 2011, 12:04 p.m.,*
in response to message #6 by Namir

For sure the expensive batteries use the OEM plastic housing, which the less expensive Waterhosko (Mark Hoskins) battery does not. Still, except for cosmetics or some dogged adherance to authenticity, for me it doesn't justify the 3 X cost. The cheap batteries work just as well.

Re: What's the deal with expensive battery packs ?

*Message #8 Posted by **Namir** on 23 June 2011, 12:54 p.m.,*
in response to message #7 by Michael de Estrada

I have the Waterhosko batteries too and they work just fine in my calculators. I have more than enough of these batteries that I don't need to buy any more and don't worry bout their cost.

Re: What's the deal with expensive battery packs ?

*Message #9 Posted by **Tim** on 23 June 2011, 2:53 p.m.,*
in response to message #1 by Michael de Estrada

Does any one know where to find batteries for the HPIL cassette drive or the HPIL printer?

Re: What's the deal with expensive battery packs ?

*Message #10 Posted by **Geoff Quickfall** on 23 June 2011, 3:00 p.m.,*
in response to message #9 by Tim

Local batteries plus store in Canada supplied me with tabbed NiMh C cells which I used to replace the dead ones.

Conversely you could diassemble the packs and have your electronics store build you a new set. I say, disassemle your self to prevent harsh hands working on your pristine battery cases.

The Thinkjet printer HPIL battery pack is held together by clips AND double sided INDUSTRIAL strength tape. I used a hair dryer to heat the top of the case to soften the tape adhesive. Then gently pry appart after releasing the snaps. As DB said, you need the hads of Shiva, or a few fine knife blades and a pry tool. The Cassette pack is easy to fix. The 9114a and B is a sealed lead acid and is also found inside an easy to open plastic case.

Geoff

Re: What's the deal with expensive battery packs ?

*Message #11 Posted by **Richard L. Taylor** on 23 June 2011, 3:05 p.m.,*
in response to message #9 by Tim

There is a place called the Nicad Lady that will rebuild them for $47.00 each. I had four of mine done. They work great. You have to send in your old battery packs.

Rich

Re: What's the deal with expensive battery packs ?

*Message #12 Posted by **Ernst Fueloep** on 24 June 2011, 5:33 a.m.,*
in response to message #9 by Tim

Look at the battery packs from seller waterhosko. The battery pack for a HP 97 should fit perfectly in a HPIL cassette drive or HPIL thermal printer.

Re: What's the deal with expensive battery packs ?

*Message #13 Posted by **Martin Pinckney** on 24 June 2011, 11:08 a.m.,*
in response to message #1 by Michael de Estrada

I looked at the Waterhosko batteries, and the cost certainly is reasonable. But I had two OEM packs that had dead NiCads, so I went to Batteries+ for a quote. It was $14.99, same as Waterhosko, so I said, why not?

Then things started to go wrong. I decided to cut the plastic apart and later glue it back together myself, so I could control the final result. Problem was, apparently in the original packs the plastic parts space the cells, but Batteries+ just re-soldered the tabs with the (insulated) cells touching. So now the cells won't allow the plastic halves to fully close, and the pack won't allow the door to close.

I am sure I will be able to remedy this problem, but I offer this as a word to the wise for any other unsuspecting Classic owners out there.

Re: What's the deal with expensive battery packs ?

*Message #14 Posted by **Michael de Estrada** on 24 June 2011, 11:59 a.m.,*
in response to message #13 by Martin Pinckney

This has always been a problem with rebuilding Classic battery packs, which is why I don't bother and just buy the very affordable Waterhosko ones. It's especially bad in the card reader HP 65/67 models, where even the OEM battery packs are a very tight fit. Years ago I bought a number of rebuilt Classic battery packs on TAS that were all bad fits and had to be discarded. That particular seller has since departed. There's a new seller that I have not tried that sells Classic battery packs for more than Waterhosko, but still about 1/2 the price of the others. Perhaps someone here has bought them and would care to provide feedback.

Re: What's the deal with expensive battery packs ?

*Message #15 Posted by **Gerry Schultz** on 24 June 2011, 1:00 p.m.,*
in response to message #13 by Martin Pinckney

Thanks for the info Martin. I have three or four classic battery packs for the 97 calc, 143A printer, 161A tape drive and the 162A printer that I want to rebuild. I've got the batteries but haven't had the time to replace them yet. I'm thinking of using a dremel tool or a razor blade to split the packs. What did you use?

Thanks, Gerry

Re: What's the deal with expensive battery packs ?

*Message #16 Posted by **Martin Pinckney** on 24 June 2011, 10:41 p.m.,*
in response to message #15 by Gerry Schultz

Hi, Gerry.

At first I thought I would cut them with a razor knife, but the plastic proved to be a little thick to do this easily. So I got out my trusty Dremel. I happen to have an older Dremel saw blade that I use for just such jobs*. It has a very thin kerf, and I use it with one of my Dremels that allow reduced speed for better control. I was able to make a very neat cut this way. My intention, after I rectify the thickness problem, is to glue the halves back together with the epoxy just filling in the cut, so it can be opened up again by cutting out the epoxy.

I'm sure you realize it, but just in case, you cut the sides at the ends of the cells.

*Dremel doesn't make it any more, so I take real good care of it. It is 3/4" in diameter, and has its own arbor. Nowadays they make an expensive saw attachment that takes a 1-1/4" blade, with blade guard, etc. Lawyers. But all is not lost, because they also sell an abrasive-type blade that's made for use on plastics; it goes on the EZ Lock arbor.

Re: What's the deal with expensive battery packs ?

*Message #17 Posted by **Paul Dale** on 24 June 2011, 10:58 p.m.,*
in response to message #16 by Martin Pinckney

Try Widget Supply for these blades. Their prices are very cheap compared to just about everywhere else I've ever seen.

Pick up a key-less chuck where you're there, you won't regret it.

- Pauli

Re: What's the deal with expensive battery packs ?

*Message #18 Posted by **Martin Pinckney** on 24 June 2011, 11:17 p.m.,*
in response to message #17 by Paul Dale

Thanks for the tip. Looks like I can get blades similar to the one I am coddling.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unreleased models

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 23 June 2011, 7:10 a.m.*

Hi
I have just re-read the "Where are they now" article by Dennis York in HPCC Datafile V27N6 to look for information regarding unreleased HP's for my website. The article is very exciting especially the part where Dennis describes (unfortunatly very brief) the unreleased projects "Eagle" and "Eagle Beagle".
Also I remember reading (maybe in Wlodek Mier-Jedrzejowicz's "Guide to HP Handheld Calculators and Computers") about HP-calc family names like "Earthquake" and "Pogo".

Is there anyone here who have any information or pictures about the these prototypes?

Thank you in advance!
Johnny Bjoern Rasmussen
Denmark

Edited: 23 June 2011, 7:12 a.m.

Re: Unreleased models

*Message #2 Posted by **Jake Schwartz** on 23 June 2011, 4:42 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

> Quote:
>
> Is there anyone here who have any information or pictures about the these prototypes?

...and there are others which I have only heard about, such as "Firefly" - the cancelled "HP02" LCD watch; and "Zipper", which I believe was to be a vertical-format machine with some sort of alternate mass storage built in (beyond the 41, if I remember correctly). Eric Vogel once mentioned a cancelled clamshell financial/PIM machine from the timeframe prior to the 18C called "Singha" and Richard Nelson has the top case from a cancelled Classic-series machine whose focus was statistical functions. Also, check out HPCC's Datafile issue Volume 21 Number 2 with a cover drawing (and story inside) of the cancelled HP-12R Pioneer-series real-estate machine.

Jake

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

The Prime Factors Kata

*Message #1 Posted by **Thomas Klemm** on 23 June 2011, 3:52 a.m.*

> Quote:
>
> The model of computation of Java bytecode is that of a stack-oriented programming language.

Let's see how we can use that with the following Java program for the Prime Factors problem:

```
package primeFactors;


import java.util.*;


public class PrimeFactors {
  public static List<Integer> generate(int n) {
    List<Integer> primes = new ArrayList<Integer>();


    for (int candidate = 2; n > 1; candidate++)
      for (; n%candidate == 0; n/=candidate)
        primes.add(candidate);


    return primes;
  }
}
```

I used the Java compiler to create a class file and *javap* to disassemble the code:

```
javac PrimeFactors.java
javap -c PrimeFactors
```

That's the result:

```
Compiled from "PrimeFactors.java"
public class primeFactors.PrimeFactors extends java.lang.Object{
public primeFactors.PrimeFactors();
  Code:
   0:   aload_0
   1:   invokespecial   #1; //Method java/lang/Object."<init>":()V
   4:   return


public static java.util.List generate(int);
  Code:
   0:   new #2; //class java/util/ArrayList
   3:   dup
   4:   invokespecial   #3; //Method java/util/ArrayList."<init>":()V
   7:   astore_1
   8:   iconst_2
   9:   istore_2
   10:  iload_0
   11:  iconst_1
   12:  if_icmple   45
   15:  iload_0
   16:  iload_2
   17:  irem
   18:  ifne    39
   21:  aload_1
```

```
   22:  iload_2
   23:  invokestatic    #4; //Method java/lang/Integer.valueOf:(I)Ljava/lang/Integer;
   26:  invokeinterface #5,  2; //InterfaceMethod java/util/List.add:(Ljava/lang/Object;)Z
   31:  pop
   32:  iload_0
   33:  iload_2
   34:  idiv
   35:  istore_0
   36:  goto    15
   39:  iinc    2, 1
   42:  goto    10
   45:  aload_1
   46:  areturn


}
```

Now it's straightforward to translate that to RPN:

```
STO 00              ; int n
2                   ; 8:   iconst_2
STO 02              ; 9:   istore_2
LBL 10
RCL 00              ; 10:  iload_0
1                   ; 11:  iconst_1
X>=Y?               ; 12:  if_icmple   45
GTO 45
LBL 15
RCL 00              ; 15:  iload_0
RCL 02              ; 16:  iload_2
MOD                 ; 17:  irem
X#0?                ; 18:  ifne    39
GTO 39
VIEW 02             ; 22:  iload_2
RCL 00              ; 32:  iload_0
RCL 02              ; 33:  iload_2
/                   ; 34:  idiv
STO 00              ; 35:  istore_0
GTO 15              ; 36:  goto    15
LBL 39
1
STO+ 02             ; 39:  iinc    2, 1
GTO 10              ; 42:  goto    10
LBL 45
RTN                 ; 46:  areturn
```

We can't return a list and so I decided to just view the factors.

Cheers
Thomas

Re: The Prime Factors Kata

*Message #2 Posted by **Eddie W. Shore** on 26 June 2011, 11:30 a.m.,*
in response to message #1 by Thomas Klemm

Really cool. When I was checking out the link I thought you managed to work a prime factors program in PowerPoint. LOL

Re: The Prime Factors Kata

*Message #3 Posted by **Thomas Klemm** on 27 June 2011, 3:32 p.m.,*
in response to message #2 by Eddie W. Shore

When you run the disassembly through this script a lot of the translation is done:

```
#!/usr/bin/perl -w


while (<>) {
```

```
    printf "%-22s; $_%s",


    /[adfil]?return/        ? 'RTN' :
    /dup/                   ? 'ENTER' :
    /swap/                  ? 'X<>Y' :
    /[dfil]const_(\d)/      ? $1 :
    /iconst_m1/             ? -1 :
    /[dfil]load_(\d)/       ? "RCL 0$1" :
    /[dfil]load\s+(\d+)/    ? sprintf("RCL %02d", $1) :
    /[dfil]store_(\d)/      ? "STO 0$1" :
    /[dfil]store\s+(\d+)/   ? sprintf("STO %02d", $1) :
    /goto\s+(\d+)/          ? sprintf("GTO %02d", $1) :
    /iinc\s+(\d+),\s+(\d+)/ ? ($2, sprintf "STO+ %02d\n", $1) :
    /[dfil]add/             ? '+' :
    /[dfil]sub/             ? '-' :
    /[dfil]mul/             ? '*' :
    /[dfil]div/             ? '/' :
    /[dfil]rem/             ? 'MOD' :
    /ifeq\s+(\d+)/          ? ('X=0?',  sprintf "GTO %02d\n", $1) :
    /ifne\s+(\d+)/          ? ('X#0?',  sprintf "GTO %02d\n", $1) :
    /iflt\s+(\d+)/          ? ('X<0?',  sprintf "GTO %02d\n", $1) :
    /ifge\s+(\d+)/          ? ('X>=0?', sprintf "GTO %02d\n", $1) :
    /ifgt\s+(\d+)/          ? ('X>0?',  sprintf "GTO %02d\n", $1) :
    /ifle\s+(\d+)/          ? ('X<=0?', sprintf "GTO %02d\n", $1) :
    /if_icmpeq\s+(\d+)/     ? ('X=Y?',  sprintf "GTO %02d\n", $1) :
    /if_icmpne\s+(\d+)/     ? ('X#Y?',  sprintf "GTO %02d\n", $1) :
    /if_icmplt\s+(\d+)/     ? ('X>Y?',  sprintf "GTO %02d\n", $1) :
    /if_icmpge\s+(\d+)/     ? ('X<=Y?', sprintf "GTO %02d\n", $1) :
    /if_icmpgt\s+(\d+)/     ? ('X<Y?',  sprintf "GTO %02d\n", $1) :
    /if_icmple\s+(\d+)/     ? ('X>=Y?', sprintf "GTO %02d\n", $1) :
    '', ''


}
```

Labels are missing though. That's the output of the previous example:

```
                        ; Compiled from "PrimeFactors.java"
                        ; public class primeFactors.PrimeFactors extends java.lang.Object{
                        ; public primeFactors.PrimeFactors();
                        ;   Code:
                        ;     0:   aload_0
                        ;     1:   invokespecial   #1; //Method
java/lang/Object."<init>":()V
RTN                     ;     4:   return
                        ;
                        ; public static java.util.List generate(int);
                        ;   Code:
                        ;     0:   new     #2; //class java/util/ArrayList
ENTER                   ;     3:   dup
                        ;     4:   invokespecial   #3; //Method
java/util/ArrayList."<init>":()V
                        ;     7:   astore_1
2                       ;     8:   iconst_2
STO 02                  ;     9:   istore_2
RCL 00                  ;     10:  iload_0
1                       ;     11:  iconst_1
X>=Y?                   ;     12:  if_icmple       45
GTO 45
RCL 00                  ;     15:  iload_0
RCL 02                  ;     16:  iload_2
MOD                     ;     17:  irem
X#0?                    ;     18:  ifne    39
GTO 39
                        ;     21:  aload_1
RCL 02                  ;     22:  iload_2
                        ;     23:  invokestatic    #4; //Method
java/lang/Integer.valueOf:(I)Ljava/lang/Integer;
                        ;     26:  invokeinterface #5,  2; //InterfaceMethod
java/util/List.add:(Ljava/lang/Object;)Z
                        ;     31:  pop
RCL 00                  ;     32:  iload_0
RCL 02                  ;     33:  iload_2
/                       ;     34:  idiv
STO 00                  ;     35:  istore_0
GTO 15                  ;     36:  goto    15
1                       ;     39:  iinc    2, 1
```

```
STO+ 02
GTO 10                  ;    42:  goto    10
                        ;    45:  aload_1
RTN                     ;    46:  areturn
                        ;
                        ; }
                        ;
```

Far from perfect but maybe a good starting point.

Kind regards
Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Shocker! Nice HP-70 sells for only $260

*Message #1 Posted by **Michael de Estrada** on 22 June 2011, 1:43 p.m.*

It's commonplace to see threads on this forum discussing outrageouly high TAS auction sale prices for vintage calcs and accessories, but how about amazingly low sale prices? Something to this effect happened earlier today, as a very nice HP-70 sold for a mere $260. In the past, an HP-70 in good condition would easily fetch over $500, and in one case nearly $1000.

There were several factors that probably affected the final price.

First, it was domestic only with no shipping beyond the USA.

Second, the auction ended at an odd time, middle of the week at a time of the morning when many potential bidders were probably somewhere between home and work.

Third, this auction comes after a period in the last 1 1/2 years in which more than a dozen HP-70s have sold, and perhaps all the high roller buyers have been exhausted, leaving only budget buyers.

Anyways, there is one very lucky collector out there today.

Re: Shocker! Nice HP-70 sells for only $260

*Message #2 Posted by **bill platt** on 22 June 2011, 3:39 p.m.,*
in response to message #1 by Michael de Estrada

The Euro is strong, the Greeks are going bankrupt, Helicopter Ben is printing money, and everyone is out of work.

What's shocking? ;-)

Re: Shocker! Nice HP-70 sells for only $260

*Message #3 Posted by **Joerg Woerner** on 22 June 2011, 4:48 p.m.,*
in response to message #2 by bill platt

Or collectors spent their money on TI calculators?

I saw three SR-60(A)in the past three weeks going for $2,000+, $1,600, and $760. And a TI-59 in Europe for more than EUR 300 (more than USD 450...).

Or was it Casio? That fx-98 recently for $485, you remember.

Or collectors knew already that I listed today a fx-98 Plus a.k.a. Radio Shack EC-4009?

If you do a lot of auctions on eBay as a seller, you'll learn:

It's all about bidding war! I had calculators not selling for my usual $9 minimum, re-listed them in the

same week and selling for $30+. You can't predict the maximum bid, this is why you see more and more "Buy-It-Now OR Make-Offer" auctions.

Or in case of the EC-4009 a very high minimum bid...

Regards, Joerg

Re: Shocker! Nice HP-70 sells for only $260

*Message #4 Posted by **Mike Morrow** on 22 June 2011, 7:05 p.m.,*
in response to message #3 by Joerg Woerner

That EC-4009 is, IMHO, the best credit-card scientific ever made. They were inexpensive...I bought more than five when they were on the US market in 1985 and gave most away as cheap gifts...except for the one I still have.

The HP-70, on the other hand, was never the nicest or the best in any category.

Re: Shocker! Nice HP-70 sells for only $260

*Message #5 Posted by **bill platt** on 22 June 2011, 8:29 p.m.,*
in response to message #3 by Joerg Woerner

I will not bid on any calculator auction with a minimum, or a reserve price. Waste of Time.

Re: Shocker! Nice HP-70 sells for only $260

*Message #6 Posted by **Joerg Woerner** on 22 June 2011, 4:58 p.m.,*
in response to message #1 by Michael de Estrada

Congratulations!

Should make a nice addition to the Omron 12SR ;-))

Cheers, Joerg

Re: Shocker! Nice HP-70 sells for only $260

*Message #7 Posted by **David Ramsey** on 22 June 2011, 6:37 p.m.,*
in response to message #1 by Michael de Estrada

Hm. Guess I shouldn't have contributed my HP 70 as a raffle prize at HHC 2006.

But it was so *ugly*. And I really only am interested in the scientific calks.

Re: Shocker! Nice HP-70 sells for only $260

*Message #8 Posted by **Mark Hardman** on 22 June 2011, 8:44 p.m.,*
in response to message #1 by Michael de Estrada

In January of this year I purchased an HP-70 from a seller in the UK that disclosed that there were a few bad LED segments. I won the auction for what I then thought was an incomprehensibly low $312! There must have just been a little corrosion on the LED's finger connections. Because, when it arrived from the UK, all display segments were working like new.

I guess it’s just a good time to be a buyer on TAS. In the last month, I also picked up an HP Xpander for

$48.77! The seller disclosed that the digitizer was not working. But again, lady luck was with me. The NIB Xpander arrived, I popped in two pre-charged NiMH batteries and the unit booted right up to the digitizer calibration screen and I was able to align the touch screen without problem.

Mark Hardman
Houston, TX

[Return to Index | Top of Index]

Go back to the main exhibit hall

Possible bug in WP34s with big integers

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 22 June 2011, 12:30 p.m.*

I was working at generating toy RSA keys for algorithm exploration and created 2 32-bit primes (P and Q). I decremented each one in 2c64 mode and multiplied them together to get N = (P-1)(Q-1).

However, the number I get is missing the MSbit.

On VERS 1145:

With R77 = 0xF138552D (a prime) and R78 = 0xAAC9B7A5 (a prime)

```
001 LBL A
002 WSIZE 64
003 2COMPL
004 BASE 16
005 RCL 77
006 DEC X
007 RCL 78
008 DEC X
009 [times]
010 RTN
```

The answer WP34s gives is: 0x20ED7AD3E4850430.

In BC:

```
ibase=2^4
obase=2^4
p=F138552D
q=AAC9B7A5
n=(p-1)*(q-1)
n
A0ED7AD3E4850430 (This is correct. The MSbit should be set.)
```

I also repeated this in 1c64 mode with the same result. Any ideas? Have I overflowed something? I think this value should have been within range of [1-2]c64.

Best regards...

Re: Possible bug in WP34s with big integers

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 22 June 2011, 2:26 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Oops! That's obviously phi(n) not n but still likely a bug. :-)

Re: Possible bug in WP34s with big integers

*Message #3 Posted by **Jake Schwartz** on 22 June 2011, 4:08 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

Quote:

> The answer WP34s gives is: 0x20ED7AD3E4850430.

....and leaving the overflow flag set. Since the MSB is the sign, the value would not be able to be represented in only 63 bits and if the MSB was able to be set, the value would erroneously go negative. If you run the program in the 34S and receive 20ED 7AD3 E485 0430 as a result, then get the leading hex digit to become an A by the following: 100000000000 ENTER 10000 * + 100000000000 ENTER 70000 * +, switching to decimal generates -6,850,684,407,670,045,648. Also, doing the problem in unsigned mode results in a decimal value of 11,596,059,666,039,505,968. The log(base 2) of this value is 63.33..., so since more than 63 bits would be needed to represent it, the signed 64-bit modes could not hold it. I think the 34S is okay.

Jake

Jake

Re: Possible bug in WP34s with big integers

*Message #4 Posted by **Neil Hamilton (Ottawa)** on 22 June 2011, 4:28 p.m.,*
in response to message #3 by Jake Schwartz

Argh! You are so right! I had meant to set unsigned mode.

It works now that I have done that.

Thanks a bunch!!

Re: Possible bug in WP34s with big integers

*Message #5 Posted by **Marcus von Cube, Germany** on 22 June 2011, 4:27 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

I just tested it in unsigned mode and the result is as you expected.

Re: Possible bug in WP34s with big integers

*Message #6 Posted by **Paul Dale** on 22 June 2011, 4:46 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

This isn't a bug as folks have already identified: negative * negative gives positive. If the now not so recent change to bring multiplication sign handling into line with the 16c wasn't made, I think the answer would have been what you expected.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Input wanted

*Message #1 Posted by **Paul Dale** on 22 June 2011, 4:17 a.m.*

The 34s is pretty much finalised now. The F distribution still needs some work and no doubt there are other bugs which will eat into the available space. I'd like some serial IO which might or might not be possible even with a hardware modification.

Anyways, if we've some space left after the above, I'd like to ask for suggestions for extra conversions and constants to include. Straight multiplicative conversions (both ways) take 20 bytes and constants take 12 so we can squeeze them in pretty well.

I've added the WGS84 constants recently and the rest are documented in the manual. So any others we should include???

The WGS constants are: a, b, e^2, e'^2, 1/f, gm and omega. The constants b, e^2 and e'^2 are derived from the other four but are more commonly used. If you don't know what I'm talking about then don't worry, if you do I'm sure you'll appreciate having them.

- Pauli

Re: Input wanted

*Message #2 Posted by **Cristian Arezzini** on 22 June 2011, 10:45 a.m.,*
in response to message #1 by Paul Dale

I personally wouldn't mind some astronomical constants... you know, Earth/Sun/Moon mass, peri- and apo-distances (sorry, I don't recall the English name now) of some important orbits - again, Earth, Moon for example... I've often had to do some orbital calculations and these constants would be useful.

Cristian

Re: Input wanted

*Message #3 Posted by **Paul Dale** on 23 June 2011, 7:57 a.m.,*
in response to message #2 by Cristian Arezzini

Apogee and perigee.

Will see what we can do. No promises yet, I've got some more work to do on the statistical functions and the possibility of another page of user programs remains open.

- Pauli

Re: Input wanted

*Message #4 Posted by **Cristian Arezzini** on 23 June 2011, 9:18 a.m.,*
in response to message #3 by Paul Dale

Thanks! :) If apogee and perigee (are they called apohelios and perihelios in case of orbits around the sun? :) can't make it in the library, then Earth/sun/moon masses are more important... in my direct, personal experience of course! :)

Re: Input wanted

*Message #5 Posted by **Ren** on 23 June 2011, 10:49 a.m.,*
in response to message #4 by Cristian Arezzini

apohelion, perihelion (helios) are the terms I recall, apolune and perilune, (lunar) IIRC from Walter Cronkite and CBS's coverage of the Apollo missions. so maybe apogee and perigee only relate to Earth (geo).

So what would they be for Kronos B^)

Ren

dona nobis pacem

Re: Input wanted

*Message #6 Posted by **db (martinez, ca.)** on 23 June 2011, 11:20 a.m.,*
in response to message #5 by Ren

Ren; slightly nearer target and slightly farther target. shields up!

Re: Input wanted

*Message #7 Posted by **fhub** on 23 June 2011, 7:33 a.m.,*
in response to message #1 by Paul Dale

It has certainly been mentioned a few times here that the missing matrix math is probably the biggest disadvantage of this (otherwise outstanding) WP34s calculator.

Now I've read in the manual that this missing matrix math is "due to display restrictions!!?
What's this??? Sorry, but I don't understand this at all, what special display capabilities would be needed for matrix input and output?
Ok, there's of course no way for a 2-dimensional display, but the matrix could still be entered, displayed and edited by single elements (e.g. showing the row and column at the upper dot matrix display).

I could have understood if the reason would have been explained by "not enough memory for coding all those matrix routines", but not those "display" reasons.

So can someone please enlighten me about the 'true' reason for NOT implementing matrix math - or about what I'm mis- or not understanding in this "display restrictions"?

Franz

Edited: 23 June 2011, 7:35 a.m.

Re: Input wanted

*Message #8 Posted by **Paul Dale** on 23 June 2011, 7:46 a.m.,*
in response to message #7 by fhub

Walter wrote the manual so he'll have to explain that phrase (and he's away from the Internet for a while).

The display on the 34s is pretty poor. Not being able to display two numbers properly was part of our reason to support the 32s's complex mode rather than the 42s's. Memory was of course the other major reason. Matrix support was omitted for basically the same two reasons: it is impossible to nicely display a matrix on the display and there isn't memory to do the job properly. I'm also of the opinion that if you want matrix operations, you should be using a real maths package like matlab or equivalent :-) I'd never be able to fit robust and fast routines for many of the desirable operations in -- numeric stability of matrix operations has many very heavy books written about it.

That said, there is easily space for a reasonable selection of user code matrix operations. I've thought about porting JMB's matrix code a couple of times. One or two pages of flash should be sufficient to hold the important routines and the conversion should be fairly straightforward. The biggest change I'd make would be to reformat the the matrix descriptors into something more user friendly e.g. bb.ccrr where bb is the base register, cc is the number of columns and rr the number of rows.

- Pauli

Re: Input wanted

*Message #9 Posted by **fhub** on 23 June 2011, 8:03 a.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> it is impossible to nicely display a matrix on the display and there isn't memory to do the job properly.

Displaying the row and column numbers in the upper line, and scrolling through the single elements with the 4 cursor keys would be a quite comfortable method IMO.
But of course you're right with the limited code space.

> Quote:
>
> I'm also of the opinion that if you want matrix operations, you should be using a real maths package like matlab or equivalent :-)

Well, this would be true for doing ANY kind of maths, so for what should a pocket calculator be needed at all? For portability!

If I'm at home sitting on my computer then I'm of course using one of those powerful math/CAS programs but not any pocket calc ... ;-)

Re: Input wanted

*Message #10 Posted by **Paul Dale** on 23 June 2011, 7:04 p.m.,*
in response to message #9 by fhub

If somebody donates user code for matrix operations, we'd be quite happy to include it as a library. There is no way we're squeezing matrix support into the base firmware so it will have to be keystroke programming that saves the day here. Fortunately, this device is *very* capable on this front.

- Pauli

Re: Input wanted

*Message #11 Posted by **db (martinez, ca.)** on 23 June 2011, 11:21 p.m.,*
in response to message #10 by Paul Dale

Pauli; A question only, not a request. I'm happy with my 34 as is, and it's stability. However; some people might want to do matrices but not need (lets say) hyperbolic trig and constants. Did you guys think of having a couple of packages or the capability of assembling a semi custom 34 from some building blocks? This would of course complicate youall's and Eric's lives something fierce. Maybe we should forget i asked that.

Re: Input wanted

*Message #12 Posted by **Paul Dale** on 24 June 2011, 12:19 a.m.,*
in response to message #11 by db (martinez, ca.)

No way am I going to do several different releases. One is quite enough :-)

If somebody else wants to put the effort into conditionally including some of the features already present and also into implementing other functionality again conditionally included, I'd be happy include that.

We've got conditional inclusion for a few features already (bessel, digamma, subfactorial, double factorial, Jacobi elliptic functions, factorisation and a few others). Adding more is straightforward.

The difficult part will be locating substantial pieces of functionality and cleanly removing them. The constants e.g. are relatively small at 12 bytes each. So removing them won't save much space but it will cause some big internal changes to the keyboard handling, the catalogue display, command display etc.

- Pauli

Re: Input wanted

*Message #13 Posted by **db (martinez, ca.)** on 24 June 2011, 10:09 a.m.,*
in response to message #12 by Paul Dale

RE: "One is quite enough :-)"

One is simply amazing. Who would have thought it possible? You guys are the Gods of the programmable calculator, along with Katie, who is the Goddess because of the HP 94 RPN.

When Gene finishes that matrix program we will have a close approximation of the fabled "hp43", albeit with no more memory.

Re: Input wanted

*Message #14 Posted by **Katie Wasserman** on 24 June 2011, 2:53 p.m.,*
in response to message #13 by db (martinez, ca.)

Thanks for the plug, but the HP94 RPN thing I wrote is just a dumb BASIC program to almost simulate an HP35. It was an attempt to justify having the HP94's in a calculator collection. The real challenge was to figure out how to use the

development tools for the HP94 and rebuild the battery packs.

Re: Input wanted

*Message #15 Posted by **gene wright** on 25 June 2011, 1:51 a.m.,*
in response to message #13 by db (martinez, ca.)

Oh, it really will not take huge programming skills to translate the M1 through M5 and RRM programs for the 34s.

Anyone *could* do it. I may end up being the one who does it only because no one else gets around to it.

I'll be back in the country tomorrow from an international trip and will be able to spend time getting it done.

Re: Input wanted

*Message #16 Posted by **Marcus von Cube, Germany** on 23 June 2011, 8:04 a.m.,*
in response to message #8 by Paul Dale

Add an easy to read row/column display in the matrix display and we have a reasonably capable matrix package as an optional feature.

To load the package I'm still thinking of serial I/O. I've ordered the 3.3V FTDI cable and I plan to mod one of my calculators with an additional connector. I don't like the way HP's cable is connected to the back, there must be smarter ways.

Re: Input wanted

*Message #17 Posted by **Gene wright** on 23 June 2011, 12:53 p.m.,*
in response to message #16 by Marcus von Cube, Germany

I have been doin some early work to convert the ppc rom m1 thru m5 routines to the 34s and then the matrix, determinant and inverse and systems of equations program.

Should work and not take that much room

If someone writes something better ... Good :-)

Re: Input wanted

*Message #18 Posted by **Neil Hamilton (Ottawa)** on 23 June 2011, 1:37 p.m.,*
in response to message #17 by Gene wright

Gene,

You might want to give the WP-34s assembler/disassembler a try for this. There will be a bunch of examples go online tonight in the 'library' directory and I hope to see a manual by the weekend. The mnemonic syntax is the hardest thing but you can generate a reference table by using the following (undocumented) command:

```
$ ./trunk/tools/wp34s_asmp.pl -syntax syntax.lst
$ more syntax.lst
```

You might find the tool useful in 2 ways:

1) If you have already loaded the programs into the calculator, you can download the images from memory (emulator or actual calculator) and convert them to an ASCII source listing (which I am calling *.wp34s) for archive, distribution, or program merging:

```
$ ./trunk/tools/wp34s_asm.pl -dis wp34s-0.dat > myProgs.wp34s
```

These source listings should also be immune to "opcode creep" as I am starting to call it. :-) Once your programs are in this form, if the opcodes evolve, you just reassemble with the current assembler. The assembler will be continually updated as part of the development process to use the latest opcode map by default. The tool can also read in historical opcode maps to convert between opcode revisions by specifying an older map (which you must have on hand -- usually just a SVN effort). Thus you can bring an old flash image "forward" by disassembling it using the old opcode map it was written under (you need the calculator's current 'VERS' number for this) and then reassembling it using the new map.

2) You can also assemble one or more ASCII source files into a single concatenated flash image (subject to the flash 506 word limit, of course) which can then be uploaded to either the emulator or calculator. This will allow you to have a library of programs that you load on a case-by-case basis.

```
$ ./trunk/tools/wp34s_asm.pl myProg1.wp34s [myProg2.wp34s [myProg3.wp34s ...]]
-o wp34s-1.dat
```

If you can't wait for the weekend to try it :-), let me know and I'll give you a boost.

The help screen combined with the stuff that will go up tonight in the 'library' directory should get you a fair distance down the road.

```
$ ./trunk/tools/wp34s_asm.pl -h
```

You do need Perl on your system to run it but that is not such a big stretch. Info will be forthcoming if that presents some problems.

Cheers...

Re: Input wanted

*Message #19 Posted by **gene wright** on 24 June 2011, 12:18 a.m.,*
in response to message #18 by Neil Hamilton (Ottawa)

Oh, I just want to get it working first on the real machine. Haven't been able to devote enough time to it yet.

I believe all the pieces should fit in the 506 steps. Limiting factor here is the 100 registers. That limits the size of the matrix / system you can solve here...but it would STILL be much larger than any I would ever need to solve.

Re: Input wanted

*Message #20 Posted by **Paul Dale** on 24 June 2011, 12:21 a.m.,*
in response to message #19 by gene wright

There is a second set of 112 registers in flash :-) You don't want to write to them often but they are usable and directly addressable via the RCF instructions and R-COPY.

But yes, the 100 registers is a big limit. That leaves a few over for the matrix code to use internally.

- Pauli

Re: Input wanted

*Message #21 Posted by **Paul Dale** on 24 June 2011, 12:23 a.m.,*
in response to message #20 by Paul Dale

You could also go well beyond the 506 steps. There are several flash banks and more than one could be used at a pinch. It would also be possible to fake things and get four extra steps but it probably isn't worth the effort and would make the program not able to be entered via the keyboard.

- Pauli

Re: Input wanted

*Message #22 Posted by **Paul Dale** on 24 June 2011, 9:39 p.m.,*
in response to message #17 by Gene wright

I've been looking at Jean-Marc Baillard's matrix code and the programs looks like they will convert over pretty much as is. This is certainly true for the basic matrix operations. Some of the more advanced routines use the block register operations from the extended functions module & the 34s has a slightly different syntax here.

Of course, this won't produce optimal code for the 34s but it would do as a start.

- Pauli

Re: Input wanted

*Message #23 Posted by **Gerson W. Barbosa** on 24 June 2011, 2:12 a.m.,*
in response to message #1 by Paul Dale

Paul,

I cannot think of any new constant right now, but having just keyed in a 100-step program I realized it doesn't make much sense the soft keys A through D keep assigned to existing user programs when in program mode. 1/x, y^x and SQRT are way more frequent than XEQ B, XEQ C and XED D in programs. Would this be easy to change?

Regards,

Gerson.

Re: Input wanted

*Message #24 Posted by **Marcus von Cube, Germany** on 24 June 2011, 2:18 a.m.,*
in response to message #23 by Gerson W. Barbosa

This would be another "bad patch" in the not very cleanly designed keyboard state machine. I doubt Pauli will be implementing this change.

Re: Input wanted

*Message #25 Posted by **Paul Dale** on 24 June 2011, 2:22 a.m.,*

in response to message #24 by Marcus von Cube, Germany

This one wouldn't be too difficult I think. It would probably simplify this part of the keyboard state machine -- not having the keys change function based on the presence of labels means a tiny bit less code. Those keys would still change their primary meaning in integer mode with bases > 10.

We'd also free up four other keyboard position and make sigma-'s location awful.

So it is a large change from an interface viewpoint even though the underlying code changes wouldn't be too awful.

I'll also agree that the keyboard state engine is big and ugly. Too much organic growth and stuffing additional functionality onto the keyboard.

- Pauli

Edited: 24 June 2011, 2:23 a.m.

Re: Input wanted

*Message #26 Posted by **Marcus von Cube, Germany** on 24 June 2011, 2:26 a.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> This one wouldn't be too difficult I think. It would probably simplify this part of the keyboard state machine -- not having the keys change function based on the presence of labels means a tiny bit less code. Those keys would still change their primary meaning in integer mode with bases > 10.

I think this was only meant in program entry mode, not generally.

For a general change, we need a USER mode then.

Re: Input wanted

*Message #27 Posted by **Paul Dale** on 24 June 2011, 2:36 a.m.,*
in response to message #26 by Marcus von Cube, Germany

> Quote:
>
> For a general change, we need a USER mode then.

Insufficient RAM to keep keyboard definition. At the moment at least.

- Pauli

Re: Input wanted

*Message #28 Posted by **Marcus von Cube, Germany** on 24 June 2011, 3:22 a.m.,*
in response to message #27 by Paul Dale

What about a simple mode setting for those who prefer the simple functions. If the mode is set, you need XEQ A to run program A and get Sigma+ by just hitting A. Without the mode, the behavior is the same as it is now. This would be similar to the USER mode of the 15C.

Re: Input wanted

*Message #29 Posted by **Paul Dale** on 24 June 2011, 3:24 a.m.,*
in response to message #28 by Marcus von Cube, Germany

That would complicate the keyboard engine :-(

I'll leave these questions to Walter....

- Pauli

Re: Input wanted

*Message #30 Posted by **Paul Dale** on 24 June 2011, 2:19 a.m.,*
in response to message #23 by Gerson W. Barbosa

Of course it can be changed but to what? Those functions are elsewhere on the keyboard of course.

Walter is the custodian of the keyboard and he's off the Internet for a while longer.

- Pauli

Re: Input wanted

*Message #31 Posted by **David Hayden** on 24 June 2011, 1:59 p.m.,*
in response to message #1 by Paul Dale

I would leave the space empty for now in case more bugs show up. If/when there is another release, you might add some constants then.

It would really be a shame if bug fixes took up so much space that you had to remove functionality or constants. It's better to leave the extra room for now and add more later.

At least that's my opinion :)

Dave

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is the trick to...

*Message #1 Posted by **Geoff Quickfall** on 22 June 2011, 2:39 a.m.*

opening the thinkjet 225B battery pack?

I get the clips and etc but it still won't open. Not going to force it cause there must be a trick to it!

Cheers, Geoff

asked and answered from this search:

battery opening and rebuild instructions

The pack is opened, easily with heat applied to the top of the case. Knowing it is double sided tape made the opening much easier.

Edited: 22 June 2011, 3:52 a.m.

Re: What is the trick to...

*Message #2 Posted by **db (martinez, ca.)** on 22 June 2011, 10:18 a.m.,*
in response to message #1 by Geoff Quickfall

As i remember; having more hands than Shiva and some thin prying/scraping thingers helped. Just too much double sided tape in there. If i didn't break mine; you'll do fine.

Re: What is the trick to...

*Message #3 Posted by **Geoff Quickfall** on 22 June 2011, 12:18 p.m.,*
in response to message #2 by db (martinez, ca.)

Thanks DB,

Applying heat in the form of a hair dryer really loosened the adhesive on the double sided tape.

I understand the need to secure the batteries but industrial strength adhesive tape? Does overkill come to mind. Granted it did fullfill its purpose.

Cheers, Geoff

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #1 Posted by **Geoff Quickfall** on 21 June 2011, 6:18 p.m.*

More 41CL stuff!

When looking at the physical use of ports on the CL many users have questioned whether installing the time module internally and/or moving the RS232 jack to another location (side) would make more sense.

My short answer would be yes IF the free physical ports are required. Remember, all the existing ROMs are available on the CL board and can be invoked by the CL plug commands. There are a few exceptions such as the timer module and others listed in the manual:

HP 41CL home page

With this in mind do you NEED to internalize the time module or move the rs232 jack?

Again from the manual, the time module is physically installed in any PORT, although PORT two is the most convenient for me. It leaves PORT three for the IR or HPIL modules. Physical PORT four is for the card reader (PORT 4 LOWER must remain free as the card reader functions install in PORT 4 LOWER).

The following is the basic physical configuration:

table 1: Free ports with time module and RS232 jack in place:

```
PORT 1 UPPER  FREE
PORT 1 LOWER  YNFS (CL functions required, see manual)
PORT 2 UPPER  FREE
PORT 3 LOWER  FREE
PORT 4 UPPER  FREE
PORT 4 LOWER  FREE
```

figure 1: Basic configuration.

As you can see from table 1 the RS232 jack and the time module take no PORTs away from ROM image use. PORT 1 LOWER is taken over by the CL board

for functions as does any physical module which takes over specific addresses. This still leaves PORT 1 UPPER free for STAT or any other ROM image occupying less then half a page.

The timer module behaves the same. Although the physical port is taken up, it does not occupy PORT 2 therefore leaving it free for a ROM image such as the full page ADVANTAGE module.

So you are left with two physical ports for physical module use. In figure 2 the IR module has been removed for the HPIL module. If using the HPIL to drive an HPIL printer then the IR module should be removed. If you are using the IR module with the HPIL then the HPIL module should have the printer switch set to disabled. (edited to reflect Montes' reminder that the HPIL module HAS a printer enable, disable switch.)

Note: If a plug-in HP 82143A Printer is connected to the calculator system, the Print Function Switch on the interface module must be set to DISABLE. Otherwise, the operation of the calculator could be disrupted. With this setting, printer operations will be executed by the plug-in printer only. If you want to print using the HP-IL print functions and an HP-IL printer, the Print Function Switch on the interface module must be set to ENABLE and a plug-in HP 82143A Printer must *not* be connected.

Figure 2. IR removed and HPIL installed with Disc drive:

In figure 3 the HP 41CL now has the HPIL and the Card Reader installed and linked to the HPIL cassette:

So now two free physical ports contain the HPIL and the card reader.

The calculator is currently configured with the following physical modules and ROM images:

Table 2: VIRTUAL STATUS (non phyical ROM images):

```
PORT 1 UPPER  STAT
PORT 1 LOWER  YNFS
PORT 2 UPPER  FREE
PORT 2 LOWER  FREE
PORT 3 UPPER  PPC
PORT 3 LOWER  CCD OS\X
PORT 4 UPPER  FREE
PORT 4 LOWER  CARD READER functions
```

Table 3: PHYSICAL STATUS (physically inserted modules)

```
PORT 1  RS232 JACK  technically not a ROM at all as it just
        occupies the space.
PORT 2  TIME MODULE
PORT 3  IR MODULE   swappable with HPIL or others
PORT 4  CARD READER requires PORT 4 LOWER be free of virtual ROM
```

I cannot foresee any need to free up physically the two upper PORTs; 1 and 2. Esthetically I like the RS232 jack in place as it keeps the calculator case free of modification. But that is my opinion.

Of course there may be a reason or use by some one else that requires more then 2 open ports be available. So unless someone comes up with a valid reason to open up the two upper ports I say leave well enough alone ;-)

Just some ramblings (due in part between the CL users to internalize the timer module and move the RS232 Jack).

Cheers, Geoff

long live the CL (boy is it fast in turbo50!!!!)

Figure 4: overlay and modules, early photo, move the IR to PORT 3 in your mind please!

Edited: 22 June 2011, 6:05 p.m. after one or more responses were posted

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #2 Posted by **Gerry Schultz** on 21 June 2011, 9:11 p.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff:

Why are you still using the card reader? The only reason I can think of is the card reader is very portable compared to the 9114B and if your 41C loses it mind via static discharge, you can more easily reload your programs during a flight. Do you bring multiple 41Cs with you when you're in the air? I remember you mentioning that one time you had your 41C with you and it locked up pretty tight during a flight. If your 42 lost it's mind while up there, the only way to recover is a lot of keyboard typing.

I wonder if the 41CL is more or less sensitive to static electricity than a 41C?

Thanks, Gerry

Edited: 21 June 2011, 9:12 p.m.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #3 Posted by **Geoff Quickfall** on 21 June 2011, 9:40 p.m.,*
in response to message #2 by Gerry Schultz

Hi Gerry

The 41C locked up tight when the Clonix module started to melt. The thinking at the time was that the Clonix had suffered a latch out and allowed 6 volts to course through it!

At the moment, I have the 41CL, 42S for backup and the 71B as something to play with all in my bag along with the IR printer and card reader.

The CL has performed admirably (only one flight thus far without static repercussions.) One flight is not statistical enough though ;-)

The card reader is for back up away from home (you were correct, portable) as it fits in the flight bag with the cards. I did use it this flight but that was in London at the hotel as I crashed it with some non creative conflicts while experimenting with the roms. At home the cassette or the disc drive are the

prefered methods of reloading!

The 41's really hate the HPIL and IR modules in ports simutaneously and on the 41CX this creates an alarm sequence that only MEMORY LOST will correct. On the CL it creates a nasty ALPHA display when you try to XEQ an alpha command. The only way out is to reboot.

So yes the card reader is still the best back up. At least until I create a rom image with clonix or the pil box. Both I have to dig out and start playing with. Once my HP is backed up to a ROM image then EVERYTHING I need is in the CL board!

Another reason to use the CL now that it is as fast as the 42S is because during a calculator crash it can be recovered WITHOUT all that typing...

;-)

Just dug up my University cards for the 41. 15 cards with a quite a few dedicated routines for data analysis and collecting. They all work perfectly, even after 26 years!

Edited: 21 June 2011, 9:43 p.m.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #4 Posted by **Paul Dale** on 22 June 2011, 12:03 a.m.,*
in response to message #3 by Geoff Quickfall

What no 34s?????

- Pauli

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #5 Posted by **Geoff Quickfall** on 22 June 2011, 2:34 a.m.,*
in response to message #4 by Paul Dale

Pauli ;-)

just waiting for the overlay from Eric to make it easier. I have a clear cased prototype.

Also working on the chapter about the HP 41C because it has to include a section on the CL now.

Cheers, Geoff

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #6 Posted by **Paul Dale** on 22 June 2011, 2:46 a.m.,*
in response to message #5 by Geoff Quickfall

Hopefully it will make a nice addition. Programs stored in flash are unlikely to get lost or accidentally erased.

- Pauli

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #7 Posted by **Geoff Quickfall** on 22 June 2011, 3:45 a.m.,*
in response to message #6 by Paul Dale

That is great and solves the problem of having to retype. You will notice that the three calcs I carry all print and two have easy backups.

I need the print capability for the cockpit! I need the 34S to have fun with and will program when the Postal service up here resumes work. (currently on strike so no USPS stuff makes it here!).

34s and printing
*Message #8 Posted by **Marcus von Cube, Germany** on 22 June 2011, 4:01 a.m.,*
in response to message #7 by Geoff Quickfall

If we only had some more capable hardware...

What's missing:

Memory for code and data, Better display, Better I/O (e.g. an IR eye and/or USB port).

I still have the feeling that we've done a pretty good job, given what the 20b/30b provide as a hardware basis. But we can't beat the 41CL or 42s in many respects.

Re: 34s and printing
*Message #9 Posted by **Paul Dale** on 22 June 2011, 4:11 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Marcus any thoughts on a serial port for the 34s??? :-)

The one last thing I'd like to add is some serial IO but it will require hardware modifications like the time and date stuff.

- Pauli

Re: 34s and printing

*Message #10 Posted by **Marcus von Cube, Germany** on 22 June 2011, 4:54 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> Marcus any thoughts on a serial port for the 34s??? :-)
>
> The one last thing I'd like to add is some serial IO but it will require hardware modifications like the time and date stuff.

I'm thinking of it. The idea is to add a 2.5 mm jack like the TIs or Casios have. There are USB cables available for Casio calculators which are made of an FTDI chip. The problem: They work on 5 V. A better idea would be to use the 3V variant of the FTDI USB to serial cable and tell people how to add the proper plug to it. Here is the data sheet: DS_TTL-232R_CABLES.pdf.

Are the special plugs used by HP for the programming interface publicly available? I don't like how the plug and cable protrudes from the back of the device so that you cannot put it flat on your desk while connected but this would prevent modifying the case.

Edited: 22 June 2011, 5:21 a.m.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #11 Posted by **Monte Dalrymple** on 22 June 2011, 12:51 a.m.,*
in response to message #3 by Geoff Quickfall

The IR Printer module should only be in the calculator at the same time as the HP-IL module if the HP-IL module Print Function switch is set to Disable. Otherwise both modules will be trying to drive the ISA bus whenever the operating system is trying to find a function. This isn't good for either module. What you are probably seeing is the result of bad levels on the ISA bus during this time. Who knows how the logic in the CPU (either in a 41C or a 41CL) are going to respond to this.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #12 Posted by **Geoff Quickfall** on 22 June 2011, 2:24 a.m.,*
in response to message #11 by Monte Dalrymple

Somewhere in the last 35 years I knew this! After 35 years using this calc and HPIL I still feel like a novice! Of course it would make sense that there is a conflict, they both support printers. How basic is that logic!

So still learning or being reminded! Of course I could have re-read my HPIL module manual and seen this:

Note: If a plug-in HP 82143A Printer is connected to the calculator system, the Print Function Switch on the interface module must be set to DISABLE. Otherwise, the operation of the calculator could be disrupted. With this setting, printer operations will be executed by the plug-in printer only. If you want to print using the HP-IL print functions and an HP-IL printer, the Print Function Switch on the interface module must be set to ENABLE and a plug-in HP 82143A Printer must *not* be connected.

Geoff

top post now edited to reflect Montes' reminder ;-)

Edited: 22 June 2011, 3:41 a.m.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?

*Message #13 Posted by **Gerry Schultz** on 22 June 2011, 1:08 p.m.,*
in response to message #12 by Geoff Quickfall

Geoff, you're right about that. I knew that too and it didn't connect until Monte mentioned what is obvious and logical. It makes me feel old.

I wanted to mention that the link to 41CL manual in your first post doesn't work for me. I'm also starting to put together some questions I have about the 41CL just to understand how it works. For instance, is it possible to place the 41CL into a state whereby to recover, the static RAM would have to be cleared; in essence doing a 'first-birthday' on it? Is it possible to dump the entire contents of a fully configured 41CL to a PC via the serial port or using HP-IL to a tape drive of floppy (like a WALL command), to make recovery easier if the answer to my first question is yes. I am fascinated by the 41CL and how it will fit with my other 41 equipment. Geoff, your postings are very helpful in figuring that out so thank you. I just wish I was out there on the bleeding edge with you. I have a knack for instinctively finding bugs and

'issues' with new gear. Just ask my boss!

Gerry

Edited: 22 June 2011, 1:11 p.m.

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #14 Posted by **Monte Dalrymple** on 22 June 2011, 3:20 p.m.,*
in response to message #13 by Gerry Schultz

There is a typo in the link above. Here is the real one: http://www.systemyde.com/pdf/sy41cl.pdf

The information page is: http://www.systemyde.com/hp41

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #15 Posted by **Jeff Davis** on 22 June 2011, 4:44 p.m.,*
in response to message #14 by Monte Dalrymple

Monte,

Please send me an e-mail, I am interested in getting some information regarding cost for the 41CL.

Thanks, Jeff

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #16 Posted by **Geoff Quickfall** on 22 June 2011, 6:05 p.m.,*
in response to message #15 by Jeff Davis

Link repaired in posting #1

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #17 Posted by **Gerry Schultz** on 22 June 2011, 8:52 p.m.,*
in response to message #16 by Geoff Quickfall

I've been reading the 41CL manual to figure out which of my 41s I can use to upgrade. I have a 41CV with rounded display corners, which makes it a half-nut. It's serial number starts with 2641S which, as I remember, means it was built in 1986 in Singapore. In the 41CL manual, it says:

"If the light part of the display has square corners, like those shown below, the calculator is a candidate for replacing the CPU circuit board".

Also,

"If your 41CV/CX has a serial number starting with “2003” or larger it uses the correct display driver".

So, it appears that this 41CV is NOT a candidate for the 41CL board. Am I correct?

Thanks, Gerry

Re: HP41CL physical ports -or- how many physical ports do you require with the HP41CL?
*Message #18 Posted by **Monte Dalrymple** on 22 June 2011, 11:32 p.m.,*
in response to message #17 by Gerry Schultz

Correct. Half-nuts cannot be upgraded.

Fullnut versus Halfnut
*Message #19 Posted by **Geoff Quickfall** on 23 June 2011, 1:49 a.m.,*
in response to message #17 by Gerry Schultz

Here for those that are interested are shots elaborating the difference between the fullnut (older) and the halfnut versions of the HP 41C, CV, CX

```
-There are fullnut 41C's, 41CV's and 41CX's
-There are halfnut 41CV's and 41CX's (if you have a 41C halfnut
 then you have a fullnut that was repaired under warranty and
 a very rare nut indeed, infact it should be called a rarenut)
```

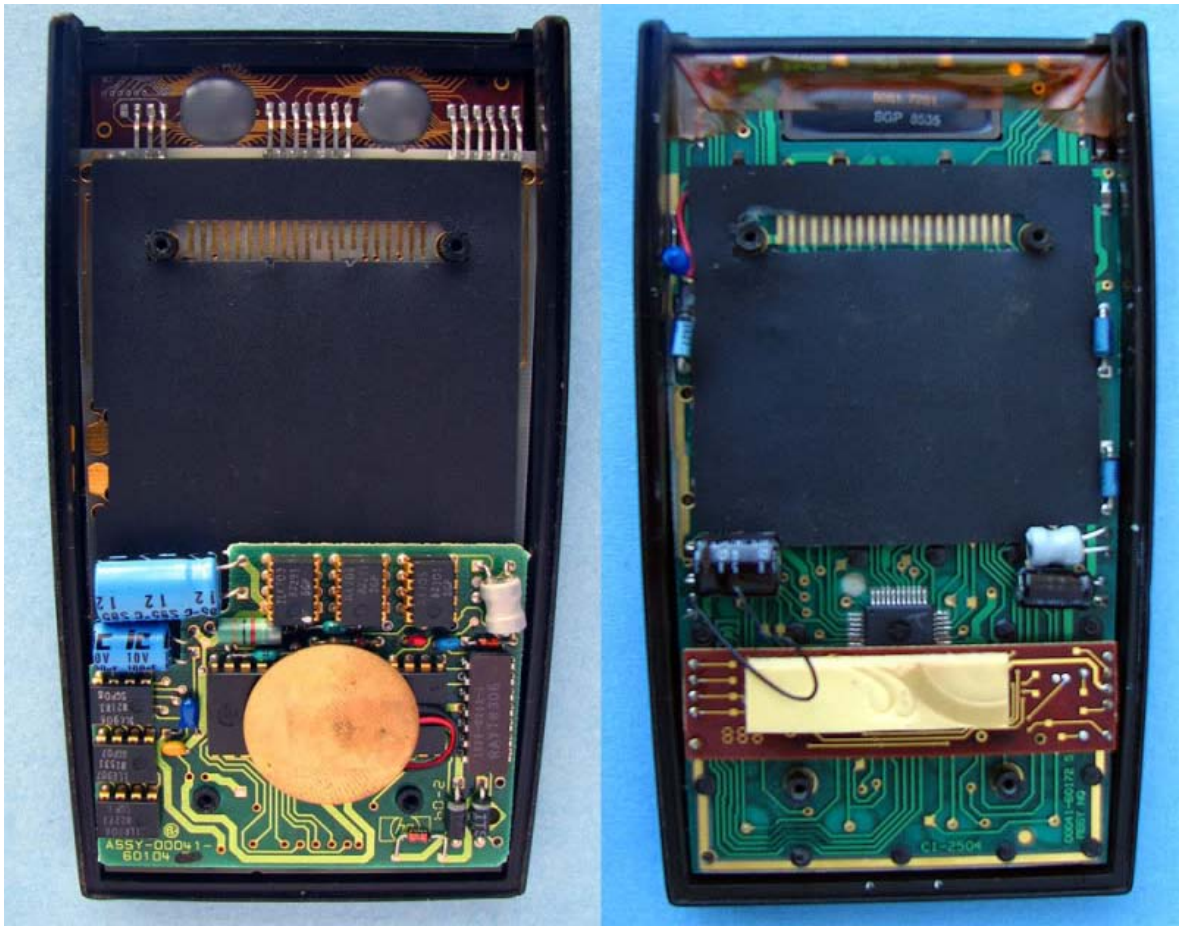
EXTERNAL VIEWS

Fullnut with squared LCD corners:

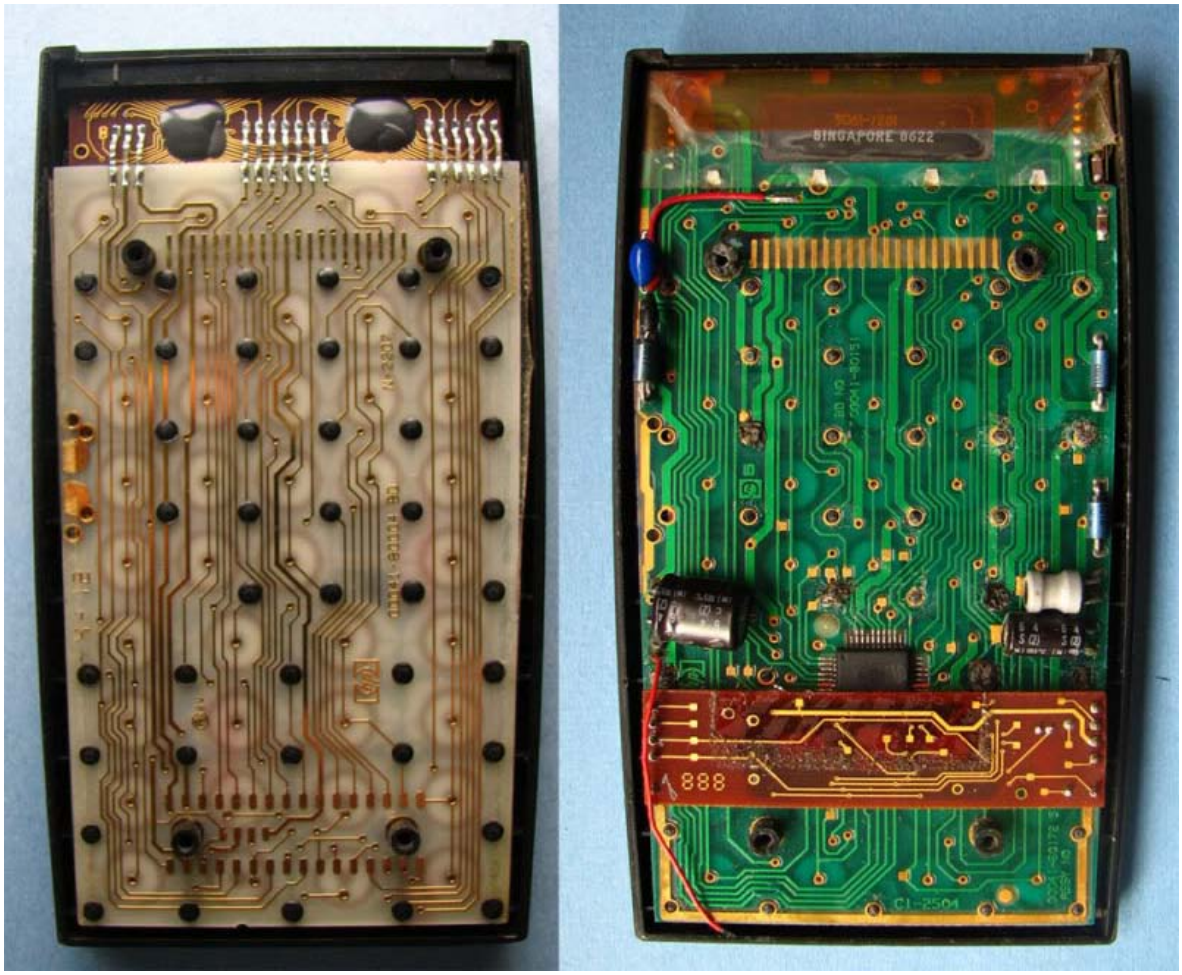
Halfnut with rounded LCD corners:

INTERNAL VIEWS

Open the case and you see on the left a full nut removable board and on the right a half nut soldered board.



As above but with the film removed:



You can see the removable fullnut logic pca on the left and the smaller soldered pca on the right. Of course it cannot be a swap as the physical boards are completely different. Montes' HP41CL will function in place on the left board style only. Also note that the half nut has the IC imbedded on the keyboard pca precluding any swap and has a completely redesigned keyboard and logic pca.

Hope the visual helps

Edited: 23 June 2011, 5:17 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

EMU41

*Message #1 Posted by **Richard L. Taylor** on 21 June 2011, 5:32 p.m.*

Hi

Has any one ever got the HP7470A plotter with the HP-IL interface to work with the EMU41 program, using the PL-Box in the USB port of the MAC G4, running Virtual PC 4.0? I have got to the point where the EMU41 can see all of the 82184 PLOTTER MODULE commands in my program from the plotter.bin file, but they won't execute. All of the other commands in my program will execute, for example: SEEKR, READRX, ... I tried the AUTOIO mode and the MANIO mode and I get the error message "NO PLOTTER" in AUTOIO mode and TRANSMISSION ERROR in MANIO mode. I would like some help please. Thanks in advance.

Re: EMU41

*Message #2 Posted by **Egan Ford** on 21 June 2011, 6:43 p.m.,*
in response to message #1 by Richard L. Taylor

I have, using DOSBox on OS/X, however I cannot test it/doc it since my PIL-Box is dead. I just have not had the time to examine it and get it working again.

The plotter plots much faster with EMU41 running in turbo mode. I also tested EMU41 in DOSEMU on Linux with an ISA HP-IL board.

Re: EMU41

*Message #3 Posted by **Mike (Stgt)** on 22 June 2011, 5:37 a.m.,*
in response to message #1 by Richard L. Taylor

Two questions: your HP7074A (or HP7470A??) worked fine without PIL-Box but a real controller (HP41 or HP71) in the HPIL loop? With EMU41 and PIL-Box, had you been able to address other real HW in the loop?

BTW, the .bin file is for EMU41 what a plug-in module for the real HP41. So with the plotter module plugged in you will have access to the plotter commands even the plotter is not in the HPIL loop.

Ciao.....Mike

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Advantage Pac Curve Fitting

*Message #1 Posted by **mbrethen** on 21 June 2011, 5:28 p.m.*

After the regression coefficients have been calculated, projections may be made based on the curve fit. I'm disappointed that you may only key in an x value to see an estimated y value. How about keying in a known y value? I thought about adding this feature to the CFIT program, similar to the Curve Fitting program originally published in the HP-67 Standard Pac. Are there any issues with running a tweaked program from main memory, with the advantage pac still installed?

Re: Advantage Pac Curve Fitting

*Message #2 Posted by **Namir** on 21 June 2011, 8:06 p.m.,*
in response to message #1 by mbrethen

Projecting Y onto X may seem harmless from a mathematical point of view. However, some statistician may frown upon that, because (the way I understand it) the measurement in variable X have no error in its measurement while those of variable Y has normally distributed errors. For some reason statisticians frown on calculating X^ ... and the really get into a hissy fit (pun intended) if you calculate the confidence interval of X^.

Namir

Edited: 21 June 2011, 8:17 p.m.

Re: Advantage Pac Curve Fitting

*Message #3 Posted by **mbrethen** on 21 June 2011, 10:30 p.m.,*
in response to message #2 by Namir

Well, suppose you measure the gross weight of a UPS truck (y) with various numbers of packages (x) in it, and you get the regression equation ˆy = 2.17x+2463. The slope, 2.17, is the average weight per package, and the y intercept, 2463, is the weight of the empty truck. The value of ˆy when x is 0 isn't always meaningful, but in this case, it has physical meaning!

Edited: 21 June 2011, 10:36 p.m.

Re: Advantage Pac Curve Fitting

*Message #4 Posted by **Marcus von Cube, Germany** on 22 June 2011, 2:10 a.m.,*
in response to message #3 by mbrethen

From what I've read it's not the same if you just invert the resulting regression equation as opposed to swapping x and y in the data set and do a new regression to predict x from y. So in order to do it correctly, you need to accumulate the reverse statistic in parallel for this kind of calculation.

Re: Advantage Pac Curve Fitting

*Message #5 Posted by **Namir** on 22 June 2011, 5:40 a.m.,*
in response to message #3 by mbrethen

You were asking about supplying a value for Y and calculating X. Some statisticians will cry foul because the relation of the regression line is to correlated Y with X and not X with Y.

Re: Advantage Pac Curve Fitting

*Message #6 Posted by **mbrethen** on 22 June 2011, 7:32 a.m.,*
in response to message #5 by Namir

The point I was trying to make is that a least squares fit has applications other than statistics. For instance, I use it to iterate between finite element analyses results, when determining the starting point for the next iteration. The relation between X and Y is not statistical, but is based on geometry and material properties used in the model. If the material(s) have a linear stress-strain relationship, then the straight line fit would represent the combined spring rate (for complex models this would be difficult to calculate directly). And geometry can introduce non-linear behavior (e.g. belleville spring). For such uses, it would be nice to have the option to calculate estimates in either direction, where Y=load and X=deflection.

Edited: 22 June 2011, 8:48 a.m.

Re: Advantage Pac Curve Fitting

*Message #7 Posted by **Eddie W. Shore** on 22 June 2011, 8:53 a.m.,*
in response to message #6 by mbrethen

Makes sense to me.

Re: Advantage Pac Curve Fitting

*Message #8 Posted by **exschr** on 22 June 2011, 10:48 a.m.,*
in response to message #6 by mbrethen

The HP 20s has (IMHO) both!

Just to bad it hasn't RPN.

Re: Advantage Pac Curve Fitting

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 29 June 2011, 9:35 p.m.,*
in response to message #8 by exschr

The HP-33s and HP-35s provide the capability you want and have rpn.

Re: Advantage Pac Curve Fitting

*Message #10 Posted by **mbrethen** on 26 June 2011, 8:06 p.m.,*
in response to message #1 by mbrethen

I modified the CFIT program over the weekend to include Y predictions. One thing I noticed is that if you call the subroutines (e.g. "A~", BFIT, etc.) from the module and get an error, a R/S will continue execution from within the unmodified CFIT program.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Adding a Crystal to a WP34s

*Message #1 Posted by **Gerry Schultz** on 21 June 2011, 12:58 p.m.*

Okay, I've now got a 34s with a new overlay and it works great. As I understand it, to make the time functions accurate, it requires adding a crystal to my 30b. Has anyone compiled a parts list and where to put them in a 30b? Is the same for a 20b? I can get the parts and do the install as I assume it will be all surface mount components.

Thanks for any information you have.

Gerry

Re: Adding a Crystal to a WP34s

*Message #2 Posted by **Marcus von Cube, Germany** on 21 June 2011, 2:21 p.m.,*
in response to message #1 by Gerry Schultz

The 20b and the 30b are identical in this respect. You need some SMD soldering skills as the capacitors look more like grain of sand then like electronic components.

Eric Rechlin has the values on his pages: 20b Hacker's Kit. You won't need the whole kit just the two 18pf 0603 caps and the 32768 kHz crystal. Once installed, the key sequence to activate the oscillator is ON+C (twice in a row). If the answer is OK, you've made it. Otherwise the calculator hangs.

Re: Adding a Crystal to a WP34s - speed

*Message #3 Posted by **Marcus von Cube, Germany** on 23 June 2011, 8:30 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Just an interesting observation: The crystal seems to make the calculator faster, at least my 30b takes advantage of it. I tested it with the simple addition benchmark. The result was around 340.000 without the crystal and around 415.000 with the crystal enabled.

For the records: Both tests were made in decimal mode with the following code:

INC X
BACK 01

The program was started with 0 in the display and ran for about a minute. Integer mode is a bit faster.

Re: Adding a Crystal to a WP34s - speed

*Message #4 Posted by **Paul Dale** on 23 June 2011, 6:51 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Want to try the eight queens benchmark with a crystal to improve the timings a bit :-) Source in the library.

I've added a crystal but no caps to one of my units. The caps I got were a bit too large to solder in place properly. Waiting for new smaller ones.

- Pauli

Re: Adding a Crystal to a WP34s - speed

*Message #5 Posted by **Marcus von Cube, Germany** on 24 June 2011, 3:19 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Want to try the eight queens benchmark with a crystal to improve the timings a bit :-)

Strange, I just get 2.1 and 2.4 seconds. Same result as yours.

Thinking twice it's not so strange any more: If you did use TICKS to time the benchmark, you will have got the same results as the ticker runs slower at the very same rate as the rest of the machine. To do real world timing, you need to run the benchmark 10 times and time it with a stop watch.

CLRREG is a bad command. It spoils automatic timing. I had to modify the benchmark to store TICKS in A just after the CLRREG so that LBL A; XEQ '8QN'; RCL- A; RTN could do the timing.

A command to just clear a range of registers would be useful. If it takes its limits from X it will be hard to make it work in integer mode. You need to introduce some scaling there.

Re: Adding a Crystal to a WP34s - speed

*Message #6 Posted by **Paul Dale** on 24 June 2011, 3:23 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Strange, I just get 2.1 and 2.4 seconds. Same result as yours.

Yes, I used TICKS for the timing. I half suspected it wouldn't alter the perceived timing.

> Quote:
>
> A command to just clear a range of registers would be useful. If it takes its limits from X it will be hard to make it work in integer mode. You need to introduce some scaling there.

I really shouldn't have to say this but, "read the manual" :-) R-CLR does what you want already.

- Pauli

Re: Adding a Crystal to a WP34s - speed

*Message #7 Posted by **Marcus von Cube, Germany** on 24 June 2011, 3:38 a.m.,*
in response to message #6 by Paul Dale

WP 34S is better than I suspected. ;-) We should change the 8QN listing to use this command.

Edited: 24 June 2011, 3:39 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Idea for WP34s emulator

*Message #1 Posted by **fhub** on 21 June 2011, 8:05 a.m.*

Hi,

I've made a very useful KML-script for the HP50g emulator (Emu48), where I can access the shifted-key functions by directly clicking on their labels above the key (so no need to click one of the 'Shift' keys anymore).

Now I'm asking if this could also be done for the WP34s emulator?
I would do (or at least try) it myself, but unfortunately C/C++ is not my programming language (I'm programming in Borland Delphi).

My idea consist of 2 parts:
1) a right-click with the mouse on any emulator button should automatically invoke the h-shifted function (i.e. simulate a press of [h] and then the usual key)
2) besides the already defined rectangle for each key where a mouseclick is possible, there should also be an additional (smaller) rectangle area below the keys (where the f- and g-shifted function labels are positioned), and a mouseclick on THIS area should now call these shifted functions automatically (left-click for [f] and right-click for [g]).

So what's your opinion about these ideas?
Of course the most important opinion is the one of Marcus, because I guess it would be his turn to implement this feature(s) ... ;-)

Franz

Re: Idea for WP34s emulator

*Message #2 Posted by **Marcus von Cube, Germany** on 21 June 2011, 8:57 a.m.,*
in response to message #1 by fhub

Franz, go ahead! ;-)

Just kidding. I'm not a Windows programmer and the structure of the skin files isn't very well suited for hand made editing. I assume that HP has some generator software for this. The corresponding code isn't easy to understand either. It's "densely written" C++.

In short: Good idea but I will not implement it. It's too much tedious work.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"fake" 12C

*Message #1 Posted by **robert rozee** on 20 June 2011, 5:10 a.m.*

for your amusement, spotted this on our local online auction site here in nz :

http://www.trademe.co.nz/Electronics-photography/Other-electronics/Calculators/auction-385788764.htm

shop display versions of th 12C, missing the internals.

Re: "fake" 12C

*Message #2 Posted by **bill platt** on 20 June 2011, 9:09 a.m.,*
in response to message #1 by robert rozee

Why the heck wold anyone pay $25 for a 12c shell?

Re: "fake" 12C

*Message #3 Posted by **Michael de Estrada** on 20 June 2011, 9:43 a.m.,*
in response to message #2 by bill platt

Probably the same reason someone would pay $15.50 for this. And it still needs to be rebuilt, and it's international shipping, which is substantial. At least the 12C housing makes some sense to replace one that is damaged, but I've never heard of a damaged card reader drive wheel.

Re: "fake" 12C

*Message #4 Posted by **bill platt** on 20 June 2011, 9:51 p.m.,*
in response to message #3 by Michael de Estrada

Maybe I should consider selling off my calculator collection.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI Bug with Unit Conversion?

*Message #1 Posted by **Timo** on 20 June 2011, 2:42 a.m.*

Hi all,

I'm not sure if I've come across a bug in SpeedUi which is associated to the unit conversion. Here's what I do:

- Enter a number then R-Shift "Units", then slect a unit submenu, e.g. "LENG".

- Assign a unit to the number, e.g. "m".

- Then convert it into another unit, e.g. "ft", using L-Shift "FT".

- Try to convert it into "yd" using L-Shift "YD" and nothing will happen, only an error beep can be heard.

On the standard HP-48GX, one can switch back and forth bewteen different units using the key combination (L-Shift then Unit), but not so when SpeedUI is installed. With SpeedUI, this conversion sequence only works once. Then I have to exit the unit submenu, then re-enter it again to make it work.

I've observed this behaviour in SpeedUI 11.04 and 11.05 and could also verify it using Emu48.

Raymond, are you familiar with this behaviour?

I'd appreciate any feedback, best regards, Timo

Re: SpeedUI Bug with Unit Conversion?

*Message #2 Posted by **Raymond Del Tondo** on 20 June 2011, 6:13 p.m.,*
in response to message #1 by Timo

Hi Timo,

many thanks for the bug report:-)

The bug has already been fixed, actually it was changing one single opcode.

The new SpeedUI version 11.06 , which will be released in a few days, and which includes some other bug fixes and performance optimisations, will include the fixed LS units menu code, of course.

Best Regards

Raymond

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Evolution of the 30B

*Message #1 Posted by **Keith Midson** on 19 June 2011, 8:34 p.m.*

Hello all, with all this talk of the WP34S, I thought i'd post a pic of the evolution of the 30B, which many use to drive the 34.

http://www.flickr.com/photos/60529780@N02/5850241487/in/photostream
This appears in my prototype and rarities set:
http://www.flickr.com/photos/60529780@N02/sets/72157626354800664/with/5850241487/

and HP collection set:
http://www.flickr.com/photos/60529780@N02/sets/72157626354812528/

I've posted these links before, but there are a few new pics in there now.
Enjoy! Keith

Re: Evolution of the 30B

*Message #2 Posted by **Eric Rechlin** on 19 June 2011, 8:48 p.m.,*
in response to message #1 by Keith Midson

The one labeled as a "later prototype" was actually the initial production version. It was mixed in with the later production version for quite a while, so there's no serial number cutoff for it (I came across quite a few examples of sequential serial numbers where one had the old labels and one had the new labels).

Re: Evolution of the 30B

*Message #3 Posted by **Keith Midson** on 19 June 2011, 9:13 p.m.,*
in response to message #2 by Eric Rechlin

Hi Eric,
The clear case has the following label on the back:
Ver 8 18 2009
The other version has:
Ver 10 13 2009
So i'd say the silver version is slightly newer. This is also what I was told when I received them.
Cheers, Keith

Re: Evolution of the 30B

*Message #4 Posted by **Eric Rechlin** on 19 June 2011, 9:51 p.m.,*
in response to message #3 by Keith Midson

Yes, and that doesn't contradict anything I said. The clear one is a prototype; the other appear to be production models.

Eric

Re: Evolution of the 30B

*Message #5 Posted by **Keith Midson** on 19 June 2011, 11:58 p.m.,*
in response to message #4 by Eric Rechlin

This might clear it up:
http://www.flickr.com/photos/60529780@N02/5851164945/in/photostream
These units were used in the beta testing of the firmware. Cheers, Keith

Edited: 20 June 2011, 12:00 a.m.

Re: Evolution of the 30B

*Message #6 Posted by **Keith Midson** on 20 June 2011, 12:02 a.m.,*
in response to message #4 by Eric Rechlin

Also - the 'PGRM' button differs between the final production version and the middle prototype (PGRM vs Pgrm). It is labelled "keypad" in the clear cased version.

Edited: 20 June 2011, 12:18 a.m.

Re: Evolution of the 30B

*Message #7 Posted by **Eric Rechlin** on 20 June 2011, 12:26 a.m.,*
in response to message #6 by Keith Midson

I think production ones showed both PRGM and Prgm also. I believe it was changed the same time the % Calc, BEG, END, 1/x, xP/YR, nPr, and nCr keys changed. I can't verify because I don't have both in front of me now, but I do know that I have both examples.

Eric

Re: Evolution of the 30B

*Message #8 Posted by **Marcus von Cube, Germany** on 20 June 2011, 2:27 a.m.,*
in response to message #1 by Keith Midson

If you open a 30b (I did it to add the crystal oscillator) you can "clearly" see that the front shell is always made of clear plastic. The silver is just a coating. The window for the LCD is simply an uncoated area of the shell. That's a nice production trick :-).

Re: Evolution of the 30B

*Message #9 Posted by **Keith Midson** on 20 June 2011, 2:59 a.m.,*
in response to message #8 by Marcus von Cube, Germany

I'm not sure how much clearer I can make this - both versions were not production models. These were used in testing of the firmware between August and November 2009 well before they were available to consumers. I don't know how much technical difference there is between the second prototype and the final production version, but the prototype was not a production version that could be purchased anywhere - it was used in the fine tuning of the firmware for the final model.
Maybe I am misunderstanding the comments, but the only production model is the third calculator, which I purchased only a few weeks ago for comparison purposes (to complement the prototypes in the collection).

Re: Evolution of the 30B

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 20 June 2011, 9:35 a.m.,*
in response to message #8 by Marcus von Cube, Germany

That opens another possible way for 34S "keypanel" labeling... At least, it would be protected from scratches, wear, finger oils...

Do you think it's possible to remove the silver coating in a reasonable way? Or to ask HP to sell uncoated topcases as spare parts? I know they won't take small orders, but...

Keys would still be a challenge.

(edited just to remove a couple of typos)

Edited: 20 June 2011, 2:56 p.m. after one or more responses were posted

Re: Evolution of the 30B

*Message #11 Posted by **Tim Wessman** on 20 June 2011, 1:07 p.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

No, the silver coating is sandwiched between plastic. It isn't on the surface.

TW

Re: Evolution of the 30B

*Message #12 Posted by **Marcus von Cube, Germany** on 20 June 2011, 2:45 p.m.,*
in response to message #11 by Tim Wessman

Tim, if I understand you correctly, the silver layer is a thin foil which is put into the mold before the clear plastic is shot in. It should be possible to replace this foil by a different design during the production process without too much effort.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL Calculator Benchmark

*Message #1 Posted by **Juergen Keller** on 19 June 2011, 2:11 p.m.*

I did some benchmarks for the HP-41CL as described in the Calculator Benchmark article. You'll find the results in PDF format here. As expected the MCODE benchmark shows a linear speed-up because there is no display output (the 41CL has to switch back to original speed for some I/O operations). With keystroke programming in TURBO50 mode the 41CL is as fast as a Commodore 64, programmed in BASIC. With MCODE in TURBO50 mode, the 8-Queen problem is solved in 1/4 sec!

Re: HP-41CL Calculator Benchmark

*Message #2 Posted by **Xerxes** on 19 June 2011, 6:15 p.m.,*
in response to message #1 by Juergen Keller

I was curious to see the difference of the speed modes since discovering the 41CL some times ago. Thank you for your effort and the nice contribution.

Re: HP-41CL Calculator Benchmark

*Message #3 Posted by **Juergen Keller** on 20 June 2011, 3:15 a.m.,*
in response to message #2 by Xerxes

I have to thank you for updating the article.

Re: HP-41CL Calculator Benchmark

*Message #4 Posted by **exschr** on 20 June 2011, 3:46 a.m.,*
in response to message #3 by Juergen Keller

Even though "TurboX" means "normal speed", TurboX could be misleading to the unaware!
My propose instead of:
17:58 HP-41CL Keystroke / RPN / TurboX Mode

to change to:
17:58 HP-41CL Keystroke / RPN / Turbo off

Re: HP-41CL Calculator Benchmark

*Message #5 Posted by **Xerxes** on 20 June 2011, 2:07 p.m.,*
in response to message #4 by exschr

I think you are right, but in the list "Turbo" usually stands for speed up by hardware modification, so I changed it to "TurboX Mode x1.0" to make it more clear what TurboX means.

Re: HP-41CL Calculator Benchmark

*Message #6 Posted by **Oliver Unter Ecker** on 21 June 2011, 6:33 a.m.,*
in response to message #2 by Xerxes

Hi Xerxes,

Here's a couple of additions to your nice benchmark doc, in, I hope, ready-to-paste format:

```
 -       4.36      ND1 (v1.4)       RPL (UserRPL from HP-50g)
 -
 -       2.78      ND1 (v1.4)       RPL+
 -
 -       0.00338   ND1 (v1.3.9)     JavaScript
 -
```

```
==========================================================================================
```

```
 RPL+:
-------

<< 8 =r
   0 =:s =:x =y
   [] =a
   DO
      r =a[++x]
      DO
         ++s
         x =y
         WHILE y 1 > REPEAT
            a[x] a[--y] - =:t
            IF 0 == t ABS x y - == OR THEN
              0 =y
              WHILE a[x] -- =:a[x] 0 ==
              REPEAT
                 --x
              END
            END
         END
      UNTIL y 1 == END
   UNTIL x r == END
   s
>>
```

```
==========================================================================================
```

```
 JavaScript:
 [taken almost verbatim from C code]
--------------------------------------

function() { /*as is*/
   var r=8, s=0, x=0, a = [];
     do{
       a[++x]=r;
       do{
         ++s;
         var t, y=x;
         while(y>1)
           if (!(t=a[x]-a[--y]) || x-y==Math.abs(t)){
             y=0;
             while(!--a[x])
               --x;
           }
       } while(y!=1);
     } while(x!=r);
   return s;
}
```

Edited: 21 June 2011, 7:54 a.m.

Re: HP-41CL Calculator Benchmark

*Message #7 Posted by **Xerxes** on 21 June 2011, 5:16 p.m.,*
in response to message #6 by Oliver Unter Ecker

Hi Oliver,

thank you for this interesting comparison, but if I'm right the ND1 is an App and the speed depends on the used device. Please consider that the benchmark is especially for physical calculators and calculator like pocket computers of the past. I think comparing software or emulated calculators needs an own benchmark list with tests on different hardware. Thank you for your understanding.

Re: HP-41CL Calculator Benchmark

*Message #8 Posted by **Oliver Unter Ecker** on 21 June 2011, 5:46 p.m.,*
in response to message #7 by Xerxes

Hi Xerxes,

Yes, ND1 is an app. I understand what you're saying and did notice that almost all results were for HW calcs. I saw a C64 result in there, which encouraged me to suggest this addition anyway.

But that's ok, I understand.

(I'll reapply after I figure out how to get a JavaScript VM running on an HP-30b. Ok, that's a joke. I think.)

Cheers.

Re: HP-41CL Calculator Benchmark

*Message #9 Posted by **Xerxes** on 21 June 2011, 6:50 p.m.,*
in response to message #8 by Oliver Unter Ecker

:)

The C64 stands for the missing Panasonic HHC with the Microsoft Basic ROM, because I suspect an equivalent speed. AFAIK there was also Snap Basic and Snap Forth available for the HHC.

Re: HP-41CL Calculator Benchmark

*Message #10 Posted by **exschr** on 20 June 2011, 3:41 a.m.,*
in response to message #1 by Juergen Keller

very nice contribution, Thank you both!

Re: HP-41CL Calculator Benchmark

*Message #11 Posted by **Paul Dale** on 20 June 2011, 4:24 a.m.,*
in response to message #1 by Juergen Keller

Since we're revisiting this benchmark. The WP 34S runs it in 2.3 seconds in real mode and 2.1 in integer.

The program is the same either way:

```
001: LBL B
```

```
002: CLREG
003: 8
004: STO 11
005: RCL 11
006: x=? 00
007: SKIP 22
008: INC 00
009: STO ->00
010: INC 10
011: RCL 00
012: STO 09
013: DEC 09
014: RCL 09
015: x=0?
016: BACK 11
017: RCL ->00
018: RCL- ->09
019: x=0?
020: SKIP 05
021: ABS
022: RCL 00
023: RCL- 09
024: x<>? Y
025: BACK 12
026: DSZ ->00
027: BACK 17
028: DSZ 00
029: BACK 03
030: RCL 10
031: RTN
```

- Pauli

Re: HP-41CL Calculator Benchmark

*Message #12 Posted by **Xerxes** on 20 June 2011, 2:06 p.m.,*
in response to message #11 by Paul Dale

The fastest keystroke programmable! Thank you for testing.

Re: HP-41CL Calculator Benchmark

*Message #13 Posted by **Oliver Unter Ecker** on 20 June 2011, 3:09 p.m.,*
in response to message #11 by Paul Dale

10x faster than a HP-12C ARM in RPN and 40x (!) faster than a 50G in UserRPL? Wow!

I guess RPL's poor showing comes from this code being more about interpreting control structures, than computing.

Re: HP-41CL Calculator Benchmark

*Message #14 Posted by **Marcus von Cube, Germany** on 20 June 2011, 3:53 p.m.,*
in response to message #13 by Oliver Unter Ecker

> Quote:
>
> 10x faster than a HP-12C ARM in RPN

I was thinking that using SKIP and BACK would be responsible for the speed advantage of WP 34S over other designs but the 12C ARM is using the same hardware and direct addressing, no labels. Pauli must have done something right, I guess.

EDIT: Thinking twice, isn't the 12C ARM based on an emulation layer that mimics the old voyager

processor and runs the original firmware almost untouched? This would explain why it's slower than a native implementation.

Edited: 20 June 2011, 4:07 p.m.

Re: HP-41CL Calculator Benchmark

*Message #15 Posted by **Paul Dale** on 20 June 2011, 5:54 p.m.,*
in response to message #14 by Marcus von Cube, Germany

> Quote:
>
> I was thinking that using SKIP and BACK would be responsible for the speed advantage of WP 34S over other designs but the 12C ARM is using the same hardware and direct addressing, no labels.

I haven't tested but the long backward jumps might be faster using a GTO/LBL pair. I suspect that it is the distance of search that is important since both BACK/SKIP and GTO load every instruction from program memory. The LBL instruction executes very rapidly since it doesn't even call a worker routine.

If I could think of a better way to handle errors we'd get a fairly nice speed up. The current method saves the stack and volatile state before executing every instruction and restores it if an error occurred. This is quite expensive time wise but it allows a complete restoration with a minimum of code. The memory copy routine is optimised for space not speed which will also hurt a bit here.

Likewise, I've got lots of checks for illegal op-codes in the instruction dispatch & execution paths. Take these out and we'd get a small speed up. However, I'm not going to since the chance of an error causing havoc would increase too much.

The 12c is emulating the old (NUT?) processor.

> Quote:
>
> Pauli must have done something right, I guess.

I hope I've done more than one thing right in the firmware :-) Minimising the instruction decode/execute overhead was deemed desirable from the start.

- Pauli

Re: HP-41CL Calculator Benchmark

*Message #16 Posted by **Oliver Unter Ecker** on 21 June 2011, 6:45 a.m.,*
in response to message #13 by Oliver Unter Ecker

I've collected a few benchmarks by now, and compared UserRPL speed to JavaScript. With this benchmark, the speed difference is 800x, when it normally is ~20x.

The ratio from ND1 to 50g is ~20x for UserRPL, and ~30x for RPL+ vs. UserRPL, in line with usual results.

I conclude that this benchmark, so far, is an outlier / worst case for UserRPL.

An internal build runs the RPL+ code in 0.008 seconds (that is, a whopping 300x faster than current ND1, and ~10,000x faster than HP-50g), employing code-morphing to JavaScript. I don't have implemented this yet fully, but this nice result provides some motivation to push ahead with this work.

So, thank you for this worst-case-for-RPL benchmark... ;-)

34s - I am IMPRESSED ... Re: HP-41CL Calculator Benchmark

*Message #17 Posted by **gene wright** on 21 June 2011, 4:31 p.m.,*
in response to message #11 by Paul Dale

I must admit yet again. 2.1 seconds. Wow.

Re: 34s - I am IMPRESSED ... Re: HP-41CL Calculator Benchmark

*Message #18 Posted by **Paul Dale** on 21 June 2011, 5:48 p.m.,*
in response to message #17 by gene wright

It could be faster if we had the code space :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Mismatches in opcode tables from WP34s "calc a a"

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 19 June 2011, 8:51 a.m.*

Hi Paul,

I am getting some mismatches when I re-expand the compressed table (SVN 1133) and compare it to the "calc a a" version. Some of the issues seem to be in the "a a" table and some in the compressed table:

1) There seems to be significant mismatch in 0500-0624 range. Some are just that (I think) the compressed table is missing [cmplx] but "a a" is missing 0501-0503, 0519-051e, 052f-0534, 0537-0576, and 0613-0624.
2) The "a a" table is showing an a100 opcode but there is no corresponding one in the compressed table.
3) I cannot easily retain whitespace so the space in the compressed table at 0x1a20 may be difficult to deal with. (That is likely my problem and I'll think up some solution.)
4) There is new(?) CONJ opcode at 0236 in the compressed table that is missing from the "a a" table.
5) The "arg iC max=30,indirect" should be "arg iC max=0,indirect" since the 30 opcodes are already accounted for in the explicit "cmd iC" versions.
6) There is a second CONJ at 0536 in "a a" but I suspect that it should also be a [cmplx] as per #1.

Cheers...

Re: Mismatches in opcode tables from WP34s "calc a a"

*Message #2 Posted by **Marcus von Cube, Germany** on 19 June 2011, 1:33 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

The discussion has been moved to private mail as I assume it's not of enough public interest here. The result will be a working wp34s assembler. :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happiness - Calculator P0rn

*Message #1 Posted by **Paul Dale** on 18 June 2011, 11:20 p.m.*

Some hot calculator p0rn:

Two 34S, one 41CL and a venerable 34C.

I'm a happy fellow at the moment.

The converted 20b looks nicer than the converted 30b but the keyboard....

- Pauli

Wow, very HOT picture!

*Message #2 Posted by **Juergen Keller** on 19 June 2011, 8:56 a.m.,*
in response to message #1 by Paul Dale

:-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I don't understand why anyone would need this

*Message #1 Posted by **Michael de Estrada** on 18 June 2011, 9:49 a.m.*

There are many spare / repair parts for vintage calculators being sold on TAS, such as battery doors / latches, logic boards, rubber feet, printer idler gears, etc. But I can't understand why anyone would ever need one of these. I've never seen one of these break or be missing from a card reader. Perhaps if the seller had replaced the rubber / plastic it might have some value, but not as it is being sold. Anyways, just an idle observation.

Note: Normally at this time of day on a weekend I'd be out and about instead of posting unimportant items on this forum, however, I had hernia surgery just a week ago, and am condemned to sitting bored at home for weeks while I heal. Thank God for the internet and cable TV.

Re: I don't understand why anyone would need this

*Message #2 Posted by **Michael de Estrada** on 20 June 2011, 7:29 a.m.,*
in response to message #1 by Michael de Estrada

Post script. It sold for $15.50 to a buyer who has also bid on items on the French TAS. Maybe I should sell the spare keyboard buttons for an HP 38E than I broke down for parts.

Re: I don't understand why anyone would need this

*Message #3 Posted by **TIm** on 21 June 2011, 2:07 p.m.,*
in response to message #1 by Michael de Estrada

The wheels usually become gummy and have to be replaced. There are other sites to get them cheaper.

Re: I don't understand why anyone would need this

*Message #4 Posted by **Michael de Estrada** on 21 June 2011, 2:59 p.m.,*
in response to message #3 by TIm

Yes, but you don't have to replace the entire wheel. You can very easily rebuild them with either model airplane fuel line tubing or Viton O-rings. Besides, that wheel in the auction needed to be rebuilt anyway.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34s manual pointer incorrect

*Message #1 Posted by **Jim Yohe** on 18 June 2011, 3:04 a.m.*

When selecting the Help > Manual up pops an error message saying that the path is incorrect to:

...wp34s\emulator\wp34s_Manual.pdf

when it should be pointing to:

...wp34s\doc\Manual_wp_34s_2_0.pdf

Re: WP 34s manual pointer incorrect

*Message #2 Posted by **Marcus von Cube, Germany** on 18 June 2011, 5:39 a.m.,*
in response to message #1 by Jim Yohe

Jim, that's intentional. The help file is always in the directory the emulator is started from and carries the same name independent of version number. That's the reason for the small copy_manual.cmd script in the distribution.

Re: WP 34s manual pointer incorrect

*Message #3 Posted by **Jim Yohe** on 18 June 2011, 1:11 p.m.,*
in response to message #2 by Marcus von Cube, Germany

So, apparently, before Help > Manual works we need to manually run the copy_manual.cmd program so it will copy the Manual_wp_34s_{x}_{y}.pdf file from the doc directory into the emulator directory and name it wp34s_Manual.pdf.

I ran the program just now and it put the "missing" copy of the manual into the emulator director. Works fine now.

If selecting Help > Manual is supposed to first "check" for the existence of wp34s_Manual.pdf in the emulator directory and if not found then runs the copy_manual.cmd program before attempting to open the manual, then perhaps the routine needs adjusting because it wasn't doing this automatically.

Re: WP 34s manual pointer incorrect

*Message #4 Posted by **Marcus von Cube, Germany** on 18 June 2011, 1:15 p.m.,*
in response to message #3 by Jim Yohe

> Quote:
>
> If selecting Help > Manual is supposed to first "check" for the existence of wp34s_Manual.pdf in the emulator directory and if not found then runs the copy_manual.cmd program before attempting to open the manual, then perhaps the routine needs adjusting because it wasn't doing this automatically.

The emulator knows nothing about the directory layout of the distribution zip file which in turn is different from the directory structure of the development environment. It simply assumes everything to be in one directory. I've no plans to change that.

Re: WP 34s manual pointer incorrect

*Message #5 Posted by **Joel Setton (France)** on 19 June 2011, 2:08 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I'm still seeing this problem. The directory from which the emulator is started also contains the file wp34s_Manual.pdf, but when I try to access the manual I get an error pop-up which says Windows can't access the file C:\Program. TIA for any help on this. Apart from this minor inconvenience, WP34s is an amazing calculator!

Joel Setton

Re: WP 34s manual pointer incorrect - fixed an issue with spaces in path name

*Message #6 Posted by **Marcus von Cube, Germany** on 19 June 2011, 3:27 a.m.,*
in response to message #5 by Joel Setton (France)

> Quote:
>
> Windows can't access the file C:\Program

Sigh, Windows...

It's looking somewhere down "C:\Program Files\". I'll check if the help command depends on the fact that there are (no) spaces in the directory path to its location. Otherwise, the behavior will not be touched.

EDIT: The issue with the pathname containing spaces should be fixed now.

Edited: 19 June 2011, 4:26 a.m.

Re: WP 34s manual pointer incorrect - fixed an issue with spaces in path name

*Message #7 Posted by **Joel Setton (France)** on 19 June 2011, 5:09 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Good morning Marcus,

I tried the new version, and it works! This level of responsiveness is really wonderful (we would never expect the same kind of response from HP). Thanks a lot!!!

Joel Setton

Re: WP 34s manual typo

*Message #8 Posted by **fhub** on 24 June 2011, 6:35 p.m.,*
in response to message #1 by Jim Yohe

There's a small typo in the manual for the TVM formula:

PMT - I/k * [.....] = 0

should be

PMT + I/k * [.....] = 0

Edited: 24 June 2011, 6:47 p.m.

Re: WP 34s manual error

*Message #9 Posted by **fhub** on 25 June 2011, 6:30 a.m.,*
in response to message #8 by fhub

Next error in the manual: the description of the stack arithmetic with RCL-nn and RCL/nn is wrong (doesn't matter for RCL+nn or RCL*nn)!

In the given example RCL-12 it subtracts r12 from x (not x from r12!), so the x<>y in the following "corresponding steps" is wrong.

Edited: 25 June 2011, 6:30 a.m.

Re: WP 34s manual error

*Message #10 Posted by **Paul Dale** on 25 June 2011, 6:49 a.m.,*
in response to message #9 by fhub

Just to clarify: this isn't a firmware bug, the manual is wrong.

- Pauli

Re: WP 34s manual error

*Message #11 Posted by **fhub** on 25 June 2011, 6:59 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Just to clarify: this isn't a firmware bug, the manual is wrong.

Yes, and there are still a few other things not clear (or wrong?) in the manual:

I'm just starting to experiment with the WP34s emulator, and if I understand it correctly then the SLV command needs 2 initial guesses (in x and y).
But now in the manual I see a routine to calculate 'PMT' with the TVM and the SLV command, and it says "routine is entered with a first guess in X"!?

So what's now correct? 2 initial guesses (in which case the manual routine would be wrong) or is just 1 enough?

Re: WP 34s manual error

*Message #12 Posted by **Paul Dale** on 25 June 2011, 7:02 a.m.,*
in response to message #11 by fhub

Solve wants two guesses but they can be the same & if so it tries to work out a second itself. It will use whatever is in X and Y as the two guesses.

- Pauli

Re: WP 34s manual error

*Message #13 Posted by **fhub** on 25 June 2011, 7:22 a.m.,*
in response to message #12 by Paul Dale

Ok, then the manual is not very exact about using this 'PMT' routine.

But what's confusing me even more in this routine is the NOP after SLV 01 with the comment "this step must be included since SLV acts as test".
What does this mean? What purpose has this NOP? I also can't find any more detailled description for SLV in the command list.

Re: WP 34s manual error

*Message #14 Posted by **Paul Dale** on 25 June 2011, 7:26 a.m.,*
in response to message #13 by fhub

Solve acts as a conditional test. If it fails to find a root, it skips the next step. This is documented in the 34c and 15c manuals, the latter is pointed to in the description of solve in the command table.

- Pauli

Re: WP 34s manual error

*Message #15 Posted by **fhub** on 25 June 2011, 7:47 a.m.,*
in response to message #14 by Paul Dale

Thanks, now I understand!
But IMO this could have been mentioned in the command list for SLV (and maybe SLV? would have been a better choice then).

And I see now that it would be a good idea to find manuals for the 34c, 15c (and maybe also for 41c, 32s, 16c etc....) and learn so how to use the WP34s. ;-)

BTW, for a calculator which has been a financial calc in its original state, this TVM handling is quite complicated and also very 'primitive'.
You could have implemented 2 additional 'variables' (NP=payments per year and NI=interest(compounds) per year), and so with a few additional program steps to convert the annual effective interest rate I to an internal periodical interest rate (e.g. IC) you could also solve problems where the compounding period (which is usually one year) differs from the payment periods (which are often one month).
This extension of the TVM calculations is exactly what I'm trying at the moment, thus all my remarks about these functions and the unexact manual descriptions ...

Franz

Re: WP 34s manual error

*Message #16 Posted by **Paul Dale** on 25 June 2011, 8:02 a.m.,*

in response to message #15 by fhub

If you want a financial calculator, don't re-flash the 30b. I am never going to do as good a job on the financial functions as HP has done. I don't want to and I've little interest in doing so as a hobby.

The TVM program has been included because Walter thought it would be worthwhile even in this primitive state. I tend to agree and occasionally have to estimate loan repayments and durations. The command as implemented occupies a total of forty bytes of flash. I can live with that much to provide this service. I wouldn't want to dedicate too much more to what is not and never will be a core function for a scientific calculator.

If you're reworking this, then the best solution would be to use the explicit formulas for the unknowns whenever possible and to resort to the solver only when absolutely required. Also there are some numeric stability and accuracy concerns -- there was an article by Willam Kahan discussing the 12C (?) financial functions in some depth. These are difficult to get accurate everywhere.

In case it helps, the xrom code for this one is:

```
81fe: 1054 4d56  LBL'TVM'
8200: 8b50       RCL 80
8201: 8b51       RCL 81
8202: 8c52       RCL+ 82
8203: 0006       1
8204: 8c53       RCL+ 83
8205: 8b54       RCL 84
8206: 0300       y[^x]
8207: b964       DEC X
8208: 0304       /
8209: 8c51       RCL+ 81
820a: 8e53       RCL[times] 83
820b: ce50       FC? 80
820c: b303       SKIP 03
820d: 8b53       RCL 83
820e: ba64       INC X
820f: 0304       /
8210: 0301       +
8211: 013a       RTN
```

Anyway, I doubt we'd include any augmented functions in the flash image, however adding them to the growing software library would be worthwhile.

- Pauli

Re: WP 34s manual error

*Message #17 Posted by **fhub** on 25 June 2011, 8:15 a.m.,*
in response to message #16 by Paul Dale

Yes, I've already extracted this XROM routine for TVM with the wp34s commandline version. :-)

Just one last short question:
Why has y^x those brackets in its token, ie. y[^x]?
And why is the token RCL[times] used instead of just RCL* (as for +,- and /) ?

Re: WP 34s manual error

*Message #18 Posted by **Paul Dale** on 25 June 2011, 8:18 a.m.,*
in response to message #17 by fhub

They are the console version converting internal characters into printable versions. [times] is not '*' they are different characters. Likewise, [^x] is a superscript x not the two characters '^' and 'x'.

The printouts are exactly what is inside the calculator, not the usual short cuts people use.

- Pauli

Re: WP 34s manual error

*Message #19 Posted by **Paul Dale** on 25 June 2011, 8:09 a.m.,*
in response to message #15 by fhub

> Quote:
>
> And I see now that it would be a good idea to find manuals for the 34c, 15c (and maybe also for 41c, 32s, 16c etc....) and learn so how to use the WP34s.

Get the DVD archive of this museum. Worth every cent and it includes all the manuals you'll require.

- Pauli

Re: WP 34s manual error

*Message #20 Posted by **Walter B** on 27 June 2011, 3:27 a.m.,*
in response to message #19 by Paul Dale

> Quote:
>
> Get the DVD archive of this museum. Worth every cent and it includes all the manuals you'll require.

... as recommended in the welcome message of the WP 34S manual for long d8-) Our manual is a supplementary text only as stated there - I don't think it makes much sense to copy and paste what was written by better authors before.

Walter

Edited: 27 June 2011, 3:33 a.m.

Re: WP 34s manual error

*Message #21 Posted by **fhub** on 27 June 2011, 5:41 a.m.,*
in response to message #20 by Walter B

> Quote:
>
> I don't think it makes much sense to copy and paste what was

written by better authors before.

Well, I'm not sure whether I should agree or not.

Think about the following:
HP makes a new calculator and the manual has only 10 pages (describing just the few new features), but they include 5 manuals of 5 older calculators on which the new one is based.
Would you really like this? ;-)

BTW, my main reason were the errors in the manual that I've reported above, not the general quality of the manual.

Franz

Edited: 27 June 2011, 5:59 a.m.

Re: WP 34s manual error

*Message #22 Posted by **Paul Dale** on 27 June 2011, 6:10 a.m.,*
in response to message #21 by fhub

Is this an offer to write the missing material for the project? This would be very welcome and greatly appreciated.

Walter and I are just two people who have been doing this in our *spare time* for a couple of years. Unlike HP and other commercial ventures, neither Walter nor I are planning on making any money from this exercise so we cannot realistically pay for the kind of professional writing you seem to believe is required. Our available time is finite and not great so we have to take short cuts. Referring to old and readily available manuals makes perfect sense to both Walter and myself and it saves a lot of writing and proofreading effort.

So if you or someone else is offering to write the missing manual sections, we'll provide all the assistance we can and be overjoyed someone else cares about the project to a similar level that we do. Otherwise, purchase the MoHPC DVD collection and you'll have the required reference material. As I've said before these DVDs are great value and worthwhile for any HP calculator fan.

- Pauli

Edited: 27 June 2011, 6:18 a.m.

Re: WP 34s manual error

*Message #23 Posted by **gene wright** on 27 June 2011, 11:00 a.m.,*
in response to message #22 by Paul Dale

Jake and I had offered to do just this, only requesting to get a word version of the current full manual.

However, all I was given was the word copy of a much older previous version.

The manual as it is now is a very complex reference document full of references to previous sections of the manual and is not easy to read, even by experienced users.

Well, it is what it is.

However, Jake and I were willing to write chapters in the style of previous manuals making as few assumptions as possible. Chapters on complex numbers, integration with examples, etc.

But, I have not understood the seeming reluctance to help and encourage this effort. Because of this apparent resistance or a NIH reaction, we have done little in this regard.

I think that is a real shame, as a much better manual with very few assumptions would do wonders for the spread of the fantastic 34s.

IMO.

Re: WP 34s manual error

*Message #24 Posted by **Marcus von Cube, Germany** on 27 June 2011, 11:07 a.m.,*
in response to message #23 by gene wright

Gene, I would not mix the reference manual with the user's guide i a single document because there is the danger of diverging versions of the same material. So the "much older version", together with its fonts and other support files, should be fine as a start. Just take the formatting to have a consistent style and start from scratch otherwise.

Re: WP 34s manual error

*Message #25 Posted by **fhub** on 27 June 2011, 1:04 p.m.,*
in response to message #23 by gene wright

> Quote:
>
> The manual as it is now is a very complex reference document full of references to previous sections of the manual and is not easy to read, even by experienced users.

Yes, I agree!
I'm a mathematician, using and programming computers since about 30 years and so I would say I'm quite experienced, but when reading some parts of this manual (e.g. the tables of addressing modes) I have to put myself into a state of 'deep meditation' to understand anything ... ;-)

Edited: 27 June 2011, 1:05 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Eric's overlay - my experience and suggestions

*Message #1 Posted by **Cristian Arezzini** on 18 June 2011, 12:53 a.m.*

I received the WP34s overlays today, and I immediately went to install one. It's a great product and it has improved the looks and usability of my calc a lot. But being a "first run", I suppose constructive criticism is expected, so here are the (tiny) things I'd change. I'll describe them in the order I noticed them.

When I first touched the overlay, I had a feeling of "roughness" of texture. I was expecting something much more "smooth" at the touch, I don't know how to describe it better. I'm not saying I wanted something shiny... matte is ok. But passing a fingernail over the black areas encountered some resistance, as if the surface wasn't perfectly smooth; and it left a visible mark.

Then I proceeded to apply the top small sticker, the one saying "WP-34S RPN scientific". I peeled the sticker from the backing with tweezers, and it is much "softer", more flexible, than I thought. I thought it would be more "plastic-like". Being so flexible is better in a way because you can "stretch" it a little if needed; but on the other side, it could go on a little "deformed" if one is not precise (by the way: tweezers really are a MUST with this product).

Anyway, I went on with the main piece. One thing I already noticed from others' photos, is that I would really like if the corners could be rounded a little, especially the two corners on the bottom. On a 30b, where the contrast with silver is bigger, I think it would look better. Anyway, I followed Eric's suggestion of first sticking the middle part, and then proceeding towards the top and the bottom. It worked great, at the first try, no need to reposition it. All the keys "feel" OK, except the ENTER which seems a little more "murky". There's not much I can do to fix it, I suppose... I might try "filing" with a modeling knife around the key, but I fear it might look bad then. Maybe making the holes just a tad wider (just 1/10th of a millimeter maybe) could help...

Then, to help the adhesive stick better, I put a soft cloth over the calc and passed my fingernail all over the overlay, pushing down a little between the keys. And here is where the worst problem showed up... the whole overlay now shows "blemishes" where my fingernail passed. In those places it is shinier, less matte, than the rest of the black ink. So: don't even *try* passing a hard (or semi-hard) object over the overlay, if you want to keep it pristine. Even if you protect it with a soft cloth.

Then I proceeded with the keys. They went on without problems, I could place them all in their correct position and very neatly - many years of building small airplane models definitely helped here! :) But one thing I noticed is that the cut is deeper than the vinyl; and so sometimes, the tweezers "caught" on a layer of the substrate too, and it was difficult to separate the sticker from the backing. Eric commented that he could make the cut less deep, but that in this case it's better a little too deep than too shallow. Which of course makes sense. If it seems difficult to lift a key from the backing, just try at another side of the key.

I also noticed that the key stickers leave quite a large surface of the key uncovered - which is intentional, because if they were larger, then if a key went on not perfectly centered, a "lip" would remain out of the key, possibly sticking to something and making the whole sticker peel away.

In a couple of places (the ENTER key and the original SHIFT key) a little blue shows below the sticker. Eric says these two keys might be slightly enlarged to fix this.

So, to recap:

1. - The ink's "texture" could be made a little smoother, "slicker" without having to be shiny, I don't know what

exact words to use...
2. - The vinyl is thin but that's just a "psychological" feeling, once it's on it's perfect. It seems really durable and "elastic".
3. - It would be really nice if a way could be found to make the black ink more resistant to scratches/damages by fingernails or other semi-hard objects. I'd like to keep it matte though.
4. - The corners (especially the bottom ones) could be rounded.
5. - The key holes could be a tiny bit larger.

I still don't know about durability of course. I'm wondering if it will catch dirt/finger oil, and in case it does, if it's cleanable without damage.

If you want I can post a picture, which shows the marks left by my fingernail and the small blue parts showing below two keys.

There's something I'm wondering: does anyone have an idea of how many WP34s (I mean real, hardware ones) exist in the world? And how many have an overlay?

Cristian

Re: Eric's overlay - my experience and suggestions

*Message #2 Posted by **Eric Rechlin** on 18 June 2011, 9:58 a.m.,*
in response to message #1 by Cristian Arezzini

It's not the black ink that isn't resistant to pressure smoothing it out making it shiny, it's the vinyl itself. The only solution I can think of is for me to spray the whole overlay with a glossy protective spray before cutting. Of course, it would then all be shiny, which would mean more glare. Not sure what you guys would prefer. I just don't rub my fingernail on my 34s and that way it stays matte.

The overlay is surprisingly safe from cleaning solvents. Water is no problem at all, and I even was able to wipe it with both isopropanol and brake cleaner with no damage, so you can use some fairly strong solvents. The only concern is abrasion, which would cause the ink to flake off, but I see this as being more of a problem on the edges of the labels rather than anywhere else.

I shipped about 60 overlays over a one-week period.

Eric

Re: Eric's overlay - my experience and suggestions

*Message #3 Posted by **Jim Yohe** on 18 June 2011, 1:15 p.m.,*
in response to message #2 by Eric Rechlin

Brake cleaner? There must be an interesting story for the reason you happened to try that out over the overlay. Perhaps there's a high percentage of auto mechanics who'd be using a WP 34s? ;-)

Re: Eric's overlay - my experience and suggestions

*Message #4 Posted by **Eric Rechlin** on 18 June 2011, 1:54 p.m.,*
in response to message #3 by Jim Yohe

I was just trying random chemicals that I had in my closet. :)

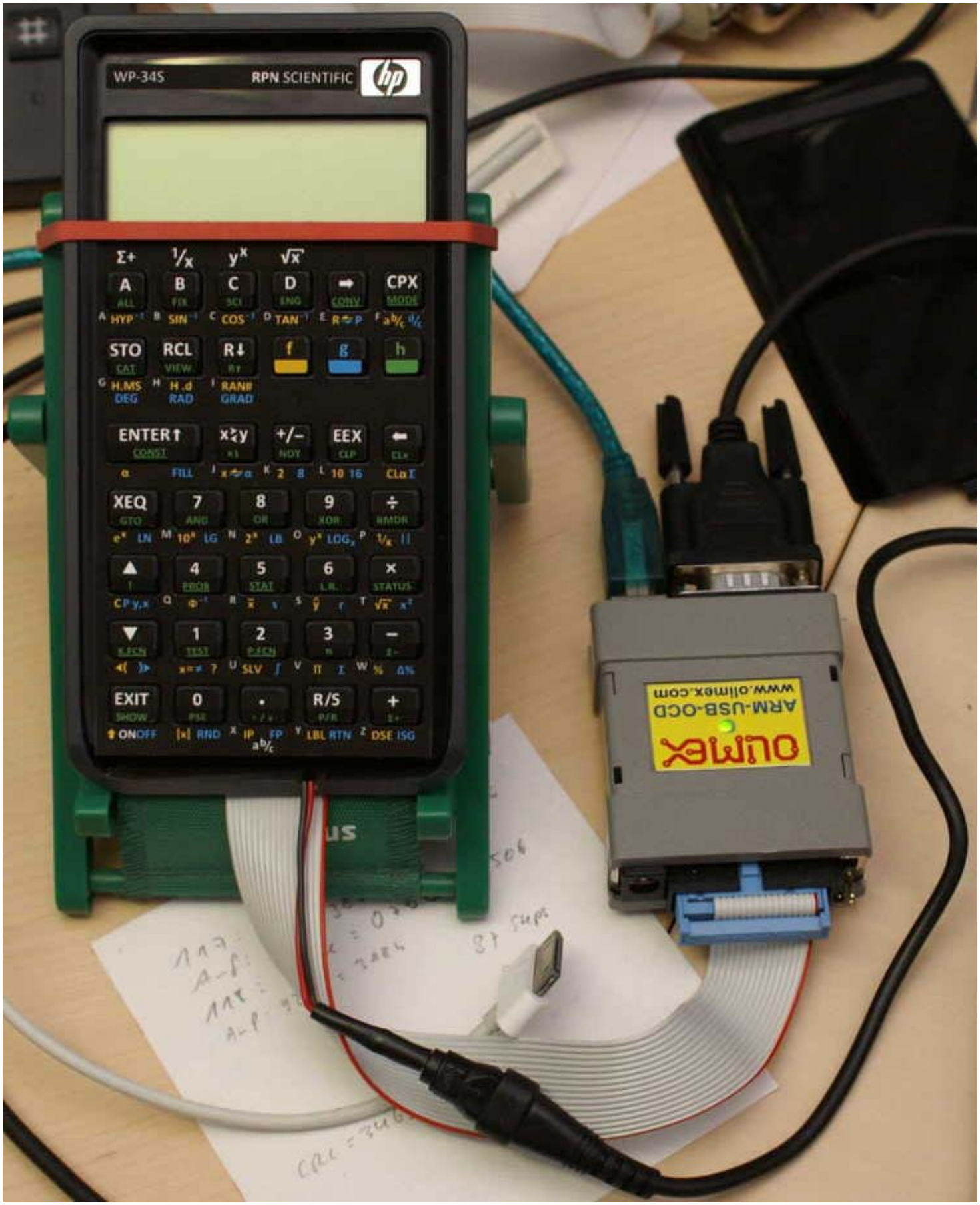
MAF cleaner didn't hurt it either.

Eric

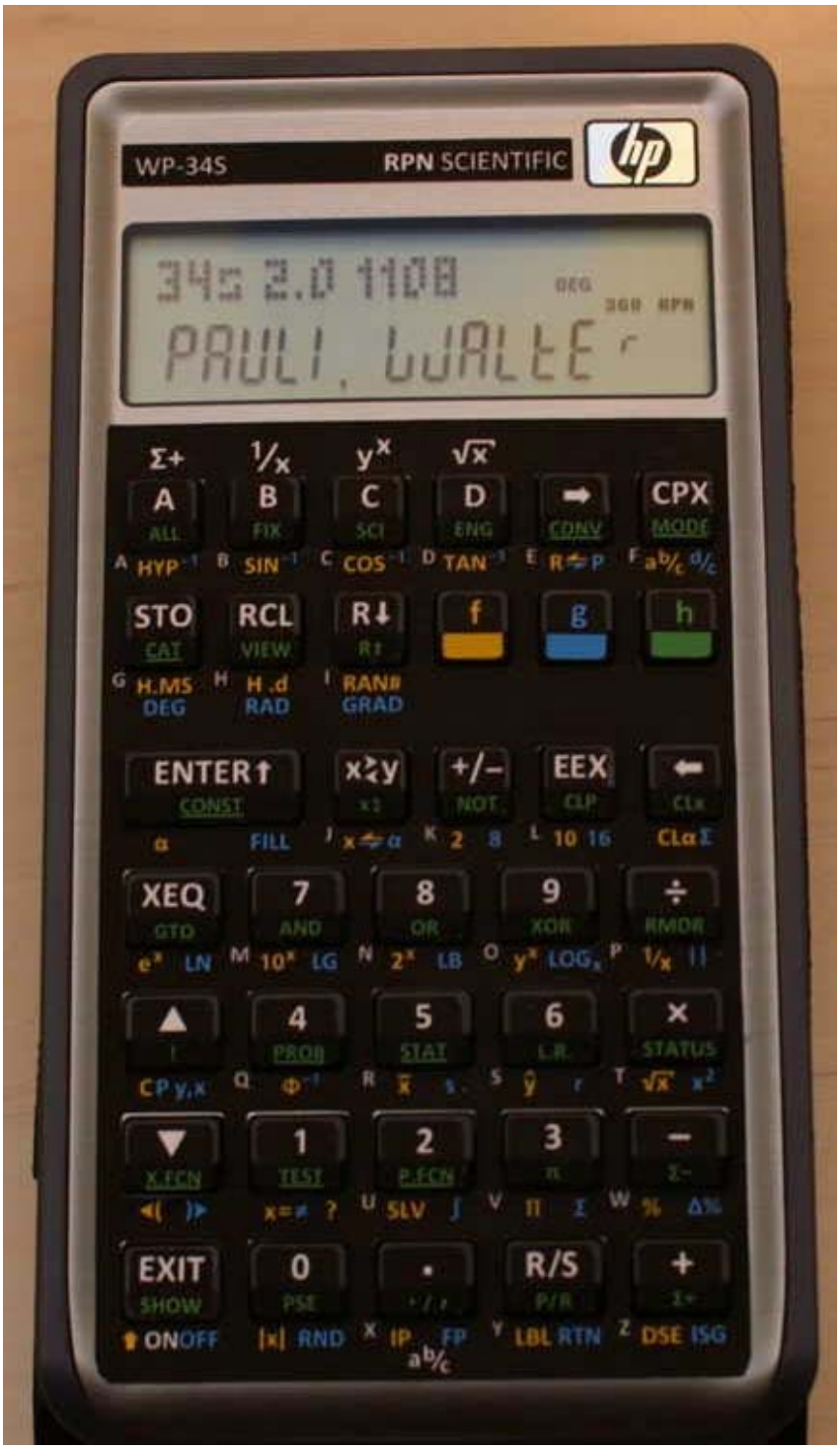
Re: Eric's overlay - my experience and suggestions

*Message #5 Posted by **Marcus von Cube, Germany** on 20 June 2011, 5:18 p.m.,*
in response to message #1 by Cristian Arezzini

Mine have arrived, too. Thanks Eric!



My poor development unit in its new clothes.



This is my carry around 30b.

As you can see, the overlay is pitch black. I had some trouble with the f, g, and h prefix keys on my 30b which had lost the click. I must have glued the overlay too close to the upper edge of the keys. I solved it by introducing a sharp knife (the small blade of my Victor Inox pocket knife) in the gap above the keys. This seems to have widened the gap enough for a good key click. Over the second row from below you can see the bright background shine through. It might be worthwhile to paint around the keys with a permanent marker before applying the overlay.

Now let's see how long it will last.

Re: Eric's overlay - my experience and suggestions

*Message #6 Posted by **Gerry Schultz** on 20 June 2011, 5:37 p.m.,*
in response to message #5 by Marcus von Cube, Germany

I put my overlay on this weekend and it worked out much better than expected. One thing I found is that when I was putting on the key cap covers, if I put them on lightly, there was play in the adhesive and I could do final positioning by pushing and twisting on the cover to get them all aligned in rows and columns.

Overall it came out great and I'm very satisfied. Now I feel like I got a new calculator. That overlay sure make a big difference.

Thanks a million, Eric.

Gerry

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SR-60a manuals available

*Message #1 Posted by **David Ramsey** on 18 June 2011, 12:36 a.m.*

I recently obtained a functional (well, except for the card reader, but I'm working on that) SR-60a calculator. The only English manuals I could find were those held by the Computer History Museum in Mountain View, CA.

No, you can't borrow them to scan, or even bring a battery powered scanner in and do it yourself. You can, however, give them money to do it for you.

So I did. You can download the manuals here.

Re: SR-60a manuals available

*Message #2 Posted by **Katie Wasserman** on 18 June 2011, 2:04 a.m.,*
in response to message #1 by David Ramsey

Contragulations on your find! Thank you for your contribution to get these manuals scanned, I hope to need them them some day. This is the only TI calculator I ever wanted, still looking for one....

Re: SR-60a manuals available

*Message #3 Posted by **Joerg Woerner** on 18 June 2011, 8:24 a.m.,*
in response to message #2 by Katie Wasserman

Katie,

You never asked!

There was one on eBay ending yesterday evening for $760 including the memory expansion 2 (310 register, a few thousand program steps) and I placed a bid on it on behalf of a friend in Norway. Other than that I sold this year my three units off.

One of the units - a non-working one - is on its way as a parts donor to David.

Anything else from TI you are missing?

You can even ask for a TI-88 (but have your credit card loaded with two-and-a-half grands and one cent).

Regards, Joerg

Re: SR-60a manuals available

*Message #4 Posted by **Eric Smith** on 18 June 2011, 4:27 p.m.,*
in response to message #3 by Joerg Woerner

Darn! I've been wanting one of those also, to dump the ROMs and reverse-engineer for simulation.

Re: SR-60a manuals available

*Message #5 Posted by **Katie Wasserman** on 18 June 2011, 11:57 p.m.,*
in response to message #4 by Eric Smith

Now I'll know who I'm bidding against! :)

Re: SR-60a manuals available

*Message #6 Posted by **Eric Smith** on 19 June 2011, 1:47 a.m.,*
in response to message #5 by Katie Wasserman

Not me! I don't have time to follow TAS, nor the money to bid competitively there.

Re: SR-60a manuals available

*Message #7 Posted by **Paul Dale** on 19 June 2011, 1:52 a.m.,*
in response to message #6 by Eric Smith

Somebody load a unit to Eric so we get a nice emulator.....

I've no TI's so I can't.

- Pauli

Re: SR-60a manuals available

*Message #8 Posted by **Eric Smith** on 19 June 2011, 4:01 a.m.,*
in response to message #7 by Paul Dale

I wouldn't want to borrow one right away, as I'm too busy currently. But it would be nice to borrow one eventually.

I've started work on reverse-engineering the TI-58/59, and much of that work will be applicable to the SR-60. (As well as the SR-50, SR-51, SR-52, and SR-56.)

One of the key things that needs to be investigated is how the TMC0501E (used in the TI-58/59 and SR-60) differs from the TMC0501.

Re: SR-60a manuals available

*Message #9 Posted by **David Ramsey** on 19 June 2011, 2:03 p.m.,*
in response to message #7 by Paul Dale

I'll be happy to arrange this with Eric, especially after I receive the nonworking unit for Joerg. I could bring it to the conference...

Re: SR-60a manuals available

*Message #10 Posted by **BobVA** on 18 June 2011, 8:19 a.m.,*
in response to message #1 by David Ramsey

They did a nice job of it. I wasn't familiar with the SR-60a - it was interesting leafing through the manual. Thanks for making that available to the community.

Did you get any of those unusual magnetic cards with your find?

Bob

Re: SR-60a manuals available

*Message #11 Posted by **Joerg Woerner** on 18 June 2011, 8:25 a.m.,*
in response to message #10 by BobVA

David,

Tell him...

Joerg

Re: SR-60a manuals available

*Message #12 Posted by **David Ramsey** on 18 June 2011, 10:05 p.m.,*
in response to message #10 by BobVA

> Quote:
>
> They did a nice job of it. I wasn't familiar with the SR-60a - it was interesting leafing through the manual. Thanks for making that available to the community.
>
> Did you get any of those unusual magnetic cards with your find?
>
> Bob

No, but Joerg's been kind enough to include a few with his donor SR-60. My machine has the same gummy wheel problem we've all experienced with our HP card readers, except that the gummy wheel is about 1" in diameter. The card reader seems to run, but I don't want to try any cards until I do something about the reader's wheel, and I'll probably practice on the donor machine first...

Re: SR-60a manuals available

*Message #13 Posted by **BobVA** on 19 June 2011, 9:21 p.m.,*
in response to message #12 by David Ramsey

> Quote:
>
> No, but Joerg's been kind enough to include a few with his donor SR-60....

That's good news - nice to know there will be more fully functional units in the wild. Good luck with the restoration.

Regards, Bob

Edited: 19 June 2011, 9:21 p.m.

Re: SR-60a manuals available

*Message #14 Posted by **Michael Coyle** on 19 June 2011, 8:01 p.m.,*
in response to message #1 by David Ramsey

Thanks for the manual. It was a blast looking through it. My second programming job involved the SR-60.

Bear with me a few moments here.

For a few months in 1976 I worked for an office equipment dealer here on Long Island. They sold (among other things) TI calculators. I was 18, between high school and college and very naive, meaning that I worked cheap but didn't realize *how* cheap. (I think I was making about $150/week part time.)

I lusted after HP calculators, but I had a brand-new SR-52, still not too shabby. So I had a head start on the SR-60.

I worked on three programs during my time there. Two were payroll programs, one for the small-memory SR-60, one for the large memory version.

The third program waas the most interesting. It was done for a swimming pool store. The idea was that the customer would test his pool, come into the store, and the calculator would tell him what chemicals to use to fix his problems. The program would ask things like: What is the pH of the pool? What is the chlorine reading? Is there algae in the pool? (I suppose the volume of the pool also had to be entered.) The program would then figure out how much of what chemicals were needed. This would be printed out on the little 20-column printer, complete with brand names, so as to leave nothing to doubt. Of course, all of the named chemicals were what the dealer was stocking.

The interesting part of the calculation was that using one chemical might change the amount of the others, so the interactions had to be taken into account. All of the formulas were supplied by the dealer. I wish I had a listing of the program, but unfortunately thermal paper isn't an archival medium :(All my SR-60 printouts faded to nothing in a couple of years.

The one thing I remember about working with the SR-60 was how sensitive to static it was. Just walking across the carpeted room and touching the calculator could generate a spark that could blow out circuitry. In particular, the $700 memory expansion boards were very susceptable to static damage! We soon learned to "de-zap" ourselves by touching the metal desk leg before touching the calculator.

This is a bit long but I hope you enjoyed hearing about using the SR-60.

Re: SR-60a manuals available

*Message #15 Posted by **David Ramsey** on 21 June 2011, 9:23 p.m.,*
in response to message #14 by Michael Coyle

The static sensitivity thing makes me very nervous. Dare I drag this monster to HHC?

Re: SR-60a manuals available

*Message #16 Posted by **Michael Coyle** on 26 June 2011, 10:30 p.m.,*
in response to message #15 by David Ramsey

Well, I'd wrap it in antistatic material (foil or black foam or big pink envelope or whatever, and de-zap yourself before use, just in case.

But it's your call.

BTW, does anyone know what the difference is between the SR-60 and SR-60A? Is it just the memory size or are there other functional differences? Thanks.

Edited: 26 June 2011, 10:30 p.m.

Re: SR-60a manuals available

*Message #17 Posted by **Marcus von Cube, Germany** on 27 June 2011, 2:03 a.m.,*
in response to message #16 by Michael Coyle

From what I've read, a firmware update was necessary to support the larger memory. That's all I know.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A new WP 34s is born

*Message #1 Posted by **Jose Gonzalez Divasson** on 17 June 2011, 7:01 p.m.*

Thanks to the fantastic work of the 3 musketeers, with the help of Eric Rechlin, a new WP34s is born:

New WP 34s

The quality of the overlays is excellent and the application on the HP 30b a pleasure.

Keyboard feel remains excellent

Re: A new WP 34s is born

*Message #2 Posted by **Paul Dale** on 17 June 2011, 7:07 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Congratulations.

Have fun.

- Pauli

Re: A new WP 34s is born

*Message #3 Posted by **Geir Isene** on 17 June 2011, 7:32 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Being late on the wp34s scene and not following the developments, I have the 101 questions; How can I make my 20b into a wp34s - i.e. where do I buy all the needed stuff; cable? overlay? And where do I download and how do I do it?

How to get started with a 34s...

*Message #4 Posted by **gene wright** on 17 June 2011, 8:15 p.m.,*
in response to message #3 by Geir Isene

1) Go here:

http://sourceforge.net/projects/wp34s/

Download the wp34s.zip file at the green button location.

2) Cable? You can get one from me but you will have to wait a week. I ask for $5 if overseas and $3 in the USA to cover the padded envelope I buy, postage and my gas to the post office. Email me at my forum email. :-)

3) Overlay? comes from Eric Rechlin.

4) How to do it? Download this PDF.

How to flash a 20b

Re: How to get started with a 34s...

*Message #5 Posted by **David Ramsey** on 18 June 2011, 12:34 a.m.,*
in response to message #4 by gene wright

I don't wanna be all elitist or anything, but Windows XP? Hardware serial port? In 2011, or even 2009?

And how do we contact Eric Rechlin? His web site's down.

Re: How to get started with a 34s...

*Message #6 Posted by **Cristian Arezzini** on 18 June 2011, 12:59 a.m.,*
in response to message #5 by David Ramsey

> Quote:
>
> I don't wanna be all elitist or anything, but Windows XP? Hardware serial port? In 2011, or even 2009?
>
> And how do we contact Eric Rechlin? His web site's down.

I had no problems at all under Linux, using a (good quality) USB-to-Serial converter. I seem to recall people having success with more recent versions of Windows, too.

If you can't access Eric's site (though it works for me) you can contact him by clicking on his name on one of his posts here.

Re: How to get started with a 34s...

*Message #7 Posted by **Jose Gonzalez Divasson** on 18 June 2011, 5:11 a.m.,*
in response to message #5 by David Ramsey

I have been able to succeed with XP and a USB to serail converter, running SAM-BA version 2.10

For Europe, I can supply "flashed" 20b of 30b calculators.

Re: How to get started with a 34s...

*Message #8 Posted by **Marcus von Cube, Germany** on 18 June 2011, 5:40 a.m.,*
in response to message #7 by Jose Gonzalez Divasson

The trick is NOT to use converters with Prolific chips. FTDI equipped converters are fine.

Re: How to get started, etc

*Message #9 Posted by **db (martinez, ca.)** on 18 June 2011, 11:10 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Thank you Marcus. I'll get one and try again. I thought it was my Ubuntu Linux at fault.

It might be a good thing for you guys to collect this info in one place and put it up as some kind of simple document file on your site. That could save you from answering the same question multiple times.

David; XP was a good choice for them. I think that globally it is still the most common OS. I use Linux now but if XP Pro would work like it did before Vista came out; i would happily use it.

Re: How to get started with a 34s...

*Message #10 Posted by **Eduardo Duenez** on 18 June 2011, 11:46 a.m.,*
in response to message #4 by gene wright

Perhaps Gene will read this...

I have made two separate attempts to reach Gene using the forums "contact..." form, and the messages have been apparently sent, but they either haven't been delivered, or his reply hasn't reached me. I'd like to get a cable to flash my 20b.

I can be reached at eduenezATmathDOTutsaDOTedu. (I teach at the Univ. of Texas at San Antonio, aka UTSA.)

I apologize for posting this request to the forum, but I don't know what I've done wrong before...

ED

Re: How to get started with a 34s...

*Message #11 Posted by **Bart (UK)** on 23 June 2011, 6:52 a.m.,*
in response to message #4 by gene wright

I have put this into an article for easier reference.
See Articles Forum No. 1060
-B

Edited to add link

Edited: 23 June 2011, 2:28 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

JavaScript calculator

*Message #1 Posted by **Lode** on 17 June 2011, 3:38 p.m.*

Hello,

I created a scientific programmable button operated calculator in JavaScript. It's somewhat inspired by HP calculators. What do you guys think of it?

It's got many functions, but one issue to note is that secondary (2nd, inv and hyp) functions aren't labeled on buttons, they're only shown in a mouseover tooltip.

Its programming ability is really easy, e.g. to calculate the integral of x^2 from 0 to 100, in RPN mode (first set the Alg dropdown to RPN), press PRGM, x^2, PRGM, 0, ENTER, 100, ENTER, 100, ENTER, INTEGRATE, and it should show 333333. (the second 100 is the number of steps for precision)

Please provide feedback.

It's here: http://lodev.org/jscalc/jscalc.html

Thanks!

Edited: 17 June 2011, 4:52 p.m. after one or more responses were posted

Re: JavaScript calculator

*Message #2 Posted by **Neil Hamilton (Ottawa)** on 17 June 2011, 4:08 p.m.,*
in response to message #1 by Lode

My first reaction, having missed the note about the "Alg dropdown", was to paraphrase the general populace when confronted with an RPN calculator in saying: "Where's the ENTER key?" :-)

I like the "hover help". If only more "real calculators" had this feature (taking into account the HP-42, etc.).

Nice job!

Re: JavaScript calculator

*Message #3 Posted by **Jim Yohe** on 18 June 2011, 1:35 p.m.,*
in response to message #1 by Lode

It would be useful to open a new tab or window for the manual instead of replacing the calculator with the manual in the same tab/window.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Why I like the blank overlay option for the 41C, CV, CX & CL and my 41CL final configuration

*Message #1 Posted by **Geoff Quickfall** on 17 June 2011, 2:22 p.m.*

With the blank cards and clear adhesive media, any overlay can be created.

If I had (and soon will with the pil box) the 41Z, I can create a template which then requires slicing.

Here is a blank overlay for the cockpit but now incorporating HP 41CL functions as well as extended memory and program routines. This labelling is easy to produce and can be replaced without ruining the overlay. It is reasonably durable, but easily replaced. This project took 30 minutes this morning. Note the synthetic T in the display!

These are the functions and routines currentlly placed at shifted key assingments:

```
WPA     GREAT CIRCLE DISTANCE TRACK BETWEEN LOADED DATA WAYPOINTS
WPC     GREAT CIRCLE DISTANCE TRACK BETWEEN INPUT LAT AND LON
TC      ALTIMETER CORRECTIONS DUE TO LOW TEMPERATURES
WT      WORLD TIME PROGRAM, INPUT AIRPORT, GET TIME\DATE\DAY
BRK     BREAK SCHEDULES FOR 3 AND 4 PILOT CREWS
SAL     SET ALARM ROUTINE
CLRA    CLEAR ALARM FUNCTION
TURBO   HP 41CL FUNCTION "TURBO50" SPEEDS UP CALC
SSW     SET STOPWATCH WITH DEFINED TIME
SW      GO TO STOPWATCH MODE
HMS+
HMS-
ZULU    GMT TIME
DATE    GMT DATE
PON     PRINTER ON
POFF    PRINTER OFF
MC      MASTER CLEAR, CLEARS AND RESETS FLAGS, REGISTERS TO DESIRED STATE
CODE    DOOR CODES FOR AIRPORT ACCESS
IN-MB   INCHES TO MILLIBARS (HECTOPASCALS)
MB-IN   MILLIBARS TO INCHES
SAVE    EXTENDED MEMORY "SAVEP" FUNCTION
PHONE   PHONE NUMBERS, INPUT TITLE GET PHONE NUMBER
FT-MT   FEET TO METERS
MT-FT   METERS TO FEET
GET     EXTENDED MEMORY "GETP" FUNCTION
PLUG    HP 41CL ROUTINE, PROMPTS FOR ROMS AND INPUTS THEM WHERE DESIRED
SG      SPECIFIC GRAVITY 'FUEL IN TANK' PROGRAM
L-K-U   LITRES TO KILOGRAMS TO US GALLONS USING AVERAGE SPECIFIC GRAVITY
PURF    EXTENDED MEMORY "PURFL" PURGE FILE FUNCTION
UPLUG   HP 41CL ROUTINE TO UNPLUG ALL PORTS *EXCEPT* PORT1L
F-C     FARENHEIT TO CELSIUS
C-F     CELSIUS TO FARENHEIT
LO      LOCK OFF, PREVENTS INADVERTANT TURN ON (DRAIN BATTERIES)
```

As well, the following roms are loaded using the 41CL functions:

```
PORT 1 LOWER  YFNS (cl functions in PORT1L)
PORT 1 UPPER  TREK
PORT 2 ADVANTAGE
PORT 3 PPC
PORT 4 UPPER CCD (leaving lower free allows the card reader
                  to swap without conflict).
```

Cheers, Geoff

Edited: 18 June 2011, 2:34 p.m. after one or more responses were posted

Final configuration and the whys, whats and wherefores as explained to me ;-)

*Message #2 Posted by **Geoff Quickfall** on 18 June 2011, 3:18 a.m.,*
in response to message #1 by Geoff Quickfall

Hello Gene and others. I posted this below and it is imbedded well down the postings. I thought it worth posting higher up as it contains explanations about the CL and CLONIX which appeared to function correctly at first. So ...

Okay, there is a rub in all this. The experts, of which I am NOT one are looking or going to look at the addresses CLONIX uses when ROMS are loaded. These are NOT bugs with either the CL or the CLONIX. Both these work perfectly but at the moment there are conflicts on addressing and priortizing the access with CLONIX installed and the CL wins all the time.

My example looked like it worked with a couple of bugs. Probably the way I installed and then loaded created what appeared to be a perfectly function CLONIX CL CLONE ;-)

So here is what I did with a MEMORY LOST condition on the CL board (naturally occuring when you recieve the logic pca and install it.)

```
1 follow Montes' instructions to the letter while installing YFNS
  to PORT 1 Lower.
2 now HPIL is available so cassette deck to calculator to fill
  program memory with a suite of routines.
3 insert card reader to, of course, PORT 4 which is empty.
4 use RFL synthetic program to load DATA files into Extended
  memory with the card reader.
5 use YFNS (CL) functions PLUG to load ROMs into PORTS.
6 LEARN FROM THE EXPERTS!!!
7 see 6
8 Realize through explanation that the card reader when installed
  takes over PORT 4 lower thus disabling any full page ROM residing
  there.
9 Read the manual again and realize that the ADVANTAGE module is
  a full PORT!  I loaded the ROM half page version of routines
  based mistaking it to be the ADVANTAGE rom.


So it is a must to:


1 READ THE MANUAL
2 UNDERSTAND THE ADDRESSING OF THE PHYSICAL MODULES
3 LOAD THE CORRECT ROMS ACCORDINGLY
4 IN THE CASE OF THE CARD READER, YOU CAN LOAD A FULL ROM AND
  UNPLUG IT WHEN THE CARD READER IS INSTALLED or LOAD THE PORT 4
  upper WITH A HALF PAGE ROM.
```

The treat here is you could write a routine called PCR and assign it to a key. Invoke it when you want to use the card reader and when done invoke UPCR.

```
01  LBL PCR (plug in card reader)
02  UPLUG4
03  RTN
04  LBL UPCR?
05  AON
06  "ROM?"
07  PROMPT
08  AOFF
09  PLUG4
END
```

If it is always the same rom then replace lines 5 - 8 with the name of the rom in alpha. For example in PORT4 you want the full page ROM PPC. The program would look like:

```
01  LBL PCR (plug in card reader)
02  UPLUG4
03  RTN
04  LBL UPCR
05  'PPCM'
06  PLUG4
END
```

It looked like the clonix would add two more full page ROMs to the calculator. In fact the reason it worked for me is the portion of the CCD and PPC that were required did not conflict. Cat II on closer inspection reveiled that only a third of CCD in clonix was available and the NAV1B never showed up at all.

In my defence I assumed that if a conflict occured I would see a complete failure of the CLONIX ROMS (not the CLONIX). They worked enough to sucker me in! That combined with the inability to find my CLONIX PIC program files to determine address loading and a lack of understanding of the intracacies of the 41CL/CLONIX addressing fooled me into thinking the combination worked.

So back to the PIC programmer to copy the CLONIX to the computer and determine the page addressing. Diego will also be looking into this along with Monte (emails).

Back to the machine:

I have the short routines loaded so that PORT4 can be swapped between the Card Reader and the CCD. I have PPC in PORT 3 and the full ADVANTAGE in PORT2. PORT1 lower has the CL YFNS functions while PORT1 upper has TREK.

Of course the beauty is that it so easy to swap ROMS in and out with the XEQ PLUG and UPLUG functions.

Well still playing and without ROM manuals that is a treat! The Museum DVD is a must!

Cheers, Geoff

Just so you don't get bored a gratuitous calculator picture

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Trying to understand Spice ROM/RAM Layout

*Message #1 Posted by **Michael de Estrada** on 17 June 2011, 9:55 a.m.*

I have been restoring the HP Spice series calcs for some time now, and have come to the realization that I do not understand how the RAM/ROM is arranged. All Spice series calcs have one large IC chip and 1 or 2 or 3 small ICs. Yesterday, I was working on my HP-34C with non-soldered keyboard and accidentally knocked 2 of the 3 small ICs out of their holder. I took a 50-50 guess as to which one went where. When I reassembled the calc, it seemed to work perfectly in both run and program mode, and passed the self-test, so I assumed that I had guessed correctly. However, when I switched it off and then on, I got a Pr Error and memory had been erased. At first I thought is was a bad connection problem, but when that did not work, I switched the two ICs, and to my amazement the calc worked properly and the Pr Error problem disappeared. In the past when I got the small ICs out of order the calc did not work properly and gave the self-test Error 9, indicating a self-test failure. So, what exacly are the ICs? Is the large IC a ROM and the small IC(s) just RAM? If so, how are the small ICs arranged? I'm sure someone out there knows all this.

TIA - Michael

Re: Trying to understand Spice ROM/RAM Layout

*Message #2 Posted by **Eric Smith** on 17 June 2011, 7:37 p.m.,*
in response to message #1 by Michael de Estrada

In the E series, all three eight-pin DIP locations are interchangeable.

In the C series, the eight-pin DIP location nearest the display is wired for battery backup, so if you get the wrong chip in that location, the calculator won't have continuous memory, and may also have reduced battery life.

Re: Trying to understand Spice ROM/RAM Layout

*Message #3 Posted by **Michael de Estrada** on 17 June 2011, 7:56 p.m.,*
in response to message #2 by Eric Smith

Thanks, Eric. So, if I understand correctly, the small 8-pin DIP ICs are all simply RAM, and in the case of the C suffix models, only the top IC is CMOS. Also, since I've found that the keyboards are interchangeable among the E and C series models, then the wiring of the top 8-pin DIP location only for battery power when the calc is switched off must be a function of the power circuit board, which I know are different between the E and C series. I am still perplexed with an earlier experience with an HP 38E, which did not work when the order of the 3 8-pin DIPs was changed.

Re: Trying to understand Spice ROM/RAM Layout

*Message #4 Posted by **Eric Smith** on 17 June 2011, 7:59 p.m.,*
in response to message #3 by Michael de Estrada

The 8-pin chips contain varying mixes of ROM and RAM. I don't think any of them are RAM-only, but some are ROM-only and some are combined.

I don't have any idea why reordering the chips in a 38E wouuldn't work, unless one was backwards (rotated 180 degrees), which is obviously a no-no. All three 8-bit positions are wired entirely in parallel in the E series.

Edited: 17 June 2011, 8:00 p.m.

Re: Trying to understand Spice ROM/RAM Layout

*Message #5 Posted by **Michael de Estrada** on 17 June 2011, 8:43 p.m.,*
in response to message #4 by Eric Smith

The chips were definitely not rotated, but I cannot replicate the situation since the calc has long since been parted out for use in the repair of other calcs. Anyways, it's just an academic question now, based on your explanation. Thanks, again.

- Michael

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S assembler/disassembler in the wild

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 17 June 2011, 9:09 a.m.*

Thanks to the good graces of the 3 amigos, an assembler/disassembler is now available for alpha testing.

It is written in Perl (5.8+) so that is a minimum requirement, and currently it is only a command line version.

It is available in the ./trunk/tools directory and is called "wp34s_asm.pl". You can get it through the "svn update".

Personally, I envisaged this tool as primarily an archiving and program concatenation tool but you can also write programs on a standard editor using the opcode format described in the output of one one Paul's programs (more on that later when I have had a chance to write documentation.)

It runs in both disassembly and assembly modes. In disassembler mode (triggered by the -dis switch) it writes its output to STDOUT so you will have to redirect the resulting listing to a file if you want to keep it. For example, to see what you had stored in flash-0, use the following:

```
$ ./trunk/tools/wp34s_asm.pl -dis wp34s-0.dat > myProg.wp34s
```

In assembly mode, you need to specify the output file because the output is a binary image (-o switch and *no* -dis switch):

```
$ ./trunk/tools/wp34s_asm.pl myProg.wp34s -o wp34s-0a.dat
```

These complimentary commands "should" result in the recreated flash image (wp34s-0a.dat) being identical to the original (wp34s-0.dat):

```
$ diff wp34s-0a.dat wp34s-0.dat
```

[Note that a few things could go "wrong" resulting in files that don't match but are otherwise functionally identical. More in the TBD documentation.]

I have tested it with the very small suite of WP34S programs I have at my disposal but it could really use some extra eyes and more sophisticated WP34S programs than my simple coding attempts.

There is a reasonable help screen that you can get by using the '-h' switch:

```
$ wp34s_asm.pl -h
```

As I said, it is very early in its development so it will undoubtedly have issues. Hopefully I'll find them before you do. :-) It will not currently eat the output from Paul's disassembler but that should be trivial to include in a day or two.

One really nice feature is that, once you have the programs in source form (what I am calling "*.wp34s"), the assembler can concatenate more than one program into a single flash image -- limited by the 506 word flash size limit. These source files may or may not have line numbers but they are ignored by the assembler in any case. For example:

```
$ wp34s_asm.pl gc.wp34s fp.wp34s moonlander.wp34s -o wp34s-3.dat
```

It was written to be platform independent but I have not been able to test it on an Apple yet.

I hope you find it useful! Let me know what dumb errors I have made (but be gentle!).

Best regards...

Re: WP34S assembler/disassembler in the wild

*Message #2 Posted by **fhub** on 17 June 2011, 11:58 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

> Quote:
>
> It was written to be platform independent but I have not been able to test it on an Apple yet.

Is there no compiler in PERL so that you could make a Win32 executable for us?

Re: WP34S assembler/disassembler in the wild

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 17 June 2011, 12:33 p.m.,*
in response to message #2 by fhub

Perl is an interpreted scripting language and thus has no compiler itself (that I am aware of). Someone else may know more about a Perl compiler than I.

There are many good Perl packages available to choose from. On Windows I tend to use cygwin but the equally free Active State package has very good reviews and is available on most platforms that would matter to this community. Strawberry Perl is another one that is widely used with very good reviews -- and available as a Portable installation (ie: on a USB drive).

While cygwin is very attractive package for Windows people wishing to run Unix-like commands, it can be a challenge to install for novices. Not so with Active State or Strawberry (to the best of my recollection).

I have yet to see a Linux distribution without a Perl package as part of the installation.

I hope that helps.

Re: WP34S assembler/disassembler in the wild

*Message #4 Posted by **Marcus von Cube, Germany** on 17 June 2011, 1:44 p.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

> Quote:
>
> I have yet to see a Linux distribution without a Perl package as part of the installation.

MacOS doesn't seem to be a problem either but I haven't started your software on it yet.

Re: WP34S assembler/disassembler in the wild

*Message #5 Posted by **fhub** on 30 June 2011, 7:44 a.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

> Quote:
>
> There are many good Perl packages available to choose from.

Well, I've had a look at these programs but I really don't want to install a 200MB Perl package just for running one single script.
So I continued my search and in fact found a very small (minimal) Perl system (TinyPerl, only 600kB) here:
http://tinyperl.sourceforge.net/

Unfortunately when I try to run your script with "tinyperl wp34s_asm.pl" I always get the following error message:
"Global symbol "@base_mnemonic" requires explicit package name at (eval 24) line 781."

Any idea what might cause this error and how to solve this problem?
(I have not clue at all about Perl ...)

Franz

Re: WP34S assembler/disassembler in the wild

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 30 June 2011, 9:04 a.m.,*
in response to message #5 by fhub

Hi Franz,

I suspect that it is a "tinyperl" bug and its parser is likely mistakenly interpreting "${base_mnemonic}[->]" as "${base_mnemonic[->]}". The first means "access the scalar value called $base_mnemonic and append the string '[->]'" (the intended action) while the second means "access the '->'-th element of the @base_mnemonic array" (a wee bit of nonsense since '->' does not resolve into anything meaningful in this case). There is no array called @base_mnemonic so their interpreter pukes telling you that the global array doesn't exist.

None the less, I can probably work around their issue with a small patch. Stay tuned!

(I suspect that you are looking at revision 1183 of the wp34s_asm.pl script. In future, can you do an "svn log wp34s_asm.pl" and mention the revision number you are looking at when you report an issue? Thanks...)

BTW: I have tried to find a Perl compiler as per your previous comment. Active Perl has such a compiler but you need a paid-up license to use it (there are many good, free Perl interpreters so I have no intension of paying for it!). I have successfully generated a portable Windows executable using an evaluation license of the Active Perl PDK and it works fine. Unfortunately, the terms of the eval license mean that I am prohibited from uploading the executable and it ceases to function after 21 days. However, I am still (semi-actively) looking for a solution for you.

That being said, with the size of disks these days, 200MB is a "fart in a hurricane". If you are really concerned about space, you might be able to install a much smaller subset of the Perl libraries -- though I have never tried. Someone else might know better than I.

Incidentally, I spent a day testing the script against various downloads of Perl on a "clean" Windows box. Strawberry Perl has a "portable" version that can work directly from a USB stick and it works just fine.

Re: WP34S assembler/disassembler in the wild

*Message #7 Posted by **fhub** on 30 June 2011, 10:56 a.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

Hi Neil,

thanks for your answer and that you'll try to solve this problem! :-)

And yes, it was the latest SVN 1183, I'll report the number whenever I post any issue again.

As for the compiler: well, such a trial-limit won't be a big problem for me, I'm quite experienced in 'prolonging' such restrictions. ;-)
But even this TinyPerl is able to produce an executable from the Perl script (with the option -bin), so maybe I could do it this way when the script works again in TinyPerl.
Unfortunately I've read (and also confirmed already) that these TinyPerl executables can't handle any additional commandline options of the script, because TinyPerl itself uses these options itself. So I guess a batchfile will rather be my solution.

A "fart in a hurricane"? LOL, I've never seen this expression before, but I can imagine what you mean.
Well, since we have no hurricane(s) here, even a "fart" alone isn't really a nice thing, is it? ;-)

Franz

Edited: 30 June 2011, 10:57 a.m.

Re: WP34S assembler/disassembler in the wild

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 30 June 2011, 7:25 p.m.,*
in response to message #7 by fhub

Hi Franz,

I have put in a workaround to get past the faulty parser in tinyperl but you will have to do a few other things as well to get it working with the assembler/disassembler script.

Background: Perl has the ability to have a __DATA__ segment attached (usually?) at the bottom of a script. This can be read just like any normally opened file using the file handle "DATA". This is standard Perl! However, tinyperl does not seem to recognize the __DATA__ segment. Therefore, you are going to have to manually copy from lines 1197 to the end (ie: the compressed opcode table) to a separate file which you can ask my script to read in using a pre-existing facility (the '-op' switch). This pre-existing facility was planned to be used to update or "down-date" :-) to newer or older SVN opcode maps but it can also be used for this workaround as well.

So here is what you need to do in detail:

1) Search for the text "__DATA__" in the wp34s_asm.pl script (currently line 1196) and copy all the lines *below* that to a file we will call "svn_1186.op".

2) To assemble a source file, use the following (I am assuming you are in the library directory for now):

```
$ c:\tinyperl\tinyperl.exe ..\trunk\tools\wp34s_asm.pl -op svn_1186.op
8queens.wp34s -o wp34s-0.dat
```

This will assemble the 8-Queens program into a flash image for slot 0. By using the '-op' switch, the assembler will use the explicitly referenced opcode map (svn_1186.op) instead of the internal one located after __DATA__. After the assembley has completed, make sure that the CRC16 matches the one I have put in the listing (shown below)! [I *really* don't trust tinyperl!!]

```
// CRC16: 520A
// Total words: 32
// Total steps: 31
```

3) To disassemble a flash image, use the following:

```
$ c:\tinyperl\tinyperl.exe ..\trunk\tools\wp34s_asm.pl -op svn_1186.op -dis
wp34s-0.dat > mysrc.wp34s
```

This will disassemble the flash image (wp34s-0.dat) into a source file called "mysrc.wp34s".

I must warn you that, based on what I have seen, I have little faith in this tinyperl interpreter. The above workarounds are solely because tinyperl itself has bugs. I will reiterate that these are *not* faults in the original script! If I were you I would stick with the mainstream Perl bundles like Active State Perl -- which is 85MB not 200! The mainstream downloads work as expected!

Best of luck!

Re: WP34S assembler/disassembler in the wild

*Message #9 Posted by **fhub** on 1 July 2011, 8:49 a.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

Hi Neil!

WOW, that was indeed a more than detailled description, many thanks! :-)
(sorry that you had so much troubles just because of me ...)

But now everything is working fine, I've made 2 batchfiles (asm.bat, conv.bat) for your 2 Perl scripts, so that I don't have to type so much. And besides these problems with your previous script TinyPerl seems to work correctly now.

I don't remember which of the 2 Perl distributions (which you've recommended last time) I have downloaded, but when I wanted to install it I just saw "Disk space used: 200 MB", and so I immediately cancelled the installation.
Even if it's in fact only 85 MB this would definitely be too much for me, because your script is the only Perl program that I have (and probably the only one I'll ever need). Before installing 85 MB for that one single script I would rather write such a (Dis)Assembler myself in any other programming language that I know (probably in Delphi). ;-)
But I think this will not be necessary because now your scripts are working fine with TinyPerl, and I hope this will stay so for future versions, too.

Thanks again for your 'extra' work, :-)
Franz

Edited: 1 July 2011, 8:52 a.m.

Re: WP34S assembler/disassembler in the wild

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 1 July 2011, 9:55 a.m.,*
in response to message #9 by fhub

Hi Franz,

I have just done a little more work with TinyPerl (you can see I am now even capitalizing it correctly!) and I may have been a little harsh on my first impression. Once you work around its eccentricities, it seems to be OK. There have certainly quite a few complimentary statements made online about it (mostly "Perl on a floppy" type thing...). But it could use some work...

I have come up with a workaround for its broken __DATA__ segment -- it is a bit ugly but it is functional. So I have a version that does not require you to extract the compressed opcode table to a separate file.

I have also worked around the compiled version not having access to command line parameters (by injecting the command line via an environment variable).

I am not really keen to let this one loose into the general public because it is a hack to fit a broken tool, but I would be willing to let you have it if you wish. You can compile it down to an executable using the TinyPerl compiler.

Let me know if you want these mods and let me know how I can send them to you.

All I ask is that you try out the tool and report back to the site how you get on. Comments and suggestions are (usually) welcome! :-)

Best regards...

Re: WP34S assembler/disassembler in the wild

*Message #11 Posted by **fhub** on 1 July 2011, 10:41 a.m.,*
in response to message #10 by Neil Hamilton (Ottawa)

> Quote:
>
> I have also worked around the compiled version not having access to command line parameters (by injecting the command line via an environment variable).

Hey, that would even be my main wish - such a single EXE is definitely the most comfortable method!

You can send me your files to my email-address:
fhub@gmx.at

Of course I'll immediately test it and report back if it works! :-)

Franz

Re: WP34S assembler/disassembler in the wild

*Message #12 Posted by **fhub** on 1 July 2011, 2:20 p.m.,*
in response to message #11 by fhub

Ok Neil, I've now received your file and tested it, but my first impression is not very good!

First I found that this compiled EXE still needs the 2 files perl58.dll and lib.zip for running (I thought those would be 'included' in the EXE when compiling the script!), they must be in the current folder and so this is no advantage at all.

And also with this enviroment variable I would have expected an other behaviour: I thought that the EXE would get its commandline parameters _automatically_ via the environment variable (there's a variable CMDLINE in Windows for this purpose), but as you wrote one has to set all wanted parameters _manually_ via "set WP34S_CMD=..." and then run the EXE. Well, I would say that's even more complicated than running the EXE via a batchfile where I can enter all parameters directly.

The only advantage I see so far is that this external opcode-file (and the -op parameter) isn't necessary anymore. But I think this won't justify all those modifications (and extra troubles with future updates), because using my current method with a batchfile (which already includes this "-op opcode.lst") is neither more nor less 'work' than this compiled EXE - it's rather the opposite, because with this batchfile I don't need to set this environment variable separately.

So my conclusion is: let's forget this compiled script. ;-)
Whether you prefer to use your new 'TinyPerl method' for the opcode table or stay with your last method of the official version that's your decision - for me it's absolutely no problem to create a new external opcode file whenever your script changes in the future.
The most important thing for me was that your Perl script is working at all with this TinyPerl, and this has already been achieved with your last changes in todays SVN release.

Thanks again for all your efforts, :-)
Franz

Edited: 1 July 2011, 2:24 p.m.

Re: WP34S assembler/disassembler in the wild

*Message #13 Posted by **Neil Hamilton (Ottawa)** on 1 July 2011, 3:01 p.m.,*
in response to message #12 by fhub

Ok, Franz. Sounds good. You have basically identified the limitations of TinyPerl and my suspicion about the paths that I alluded to in my email.

The environment variable technique was an UGLY workaround at best -- I understand this and I too think it is an awful solution. However, I suspect that if you wanted to, you could construct a batch file that decomposes a Windows 'cmd' command line, sets the the environment variable to the batch command line and launches the EXE from a suitable directory.

Personally, I am still *not* in love with TP and will stick with a pure Perl

script until I find a good compiler solution.

However, I think you'll agree that it was worth the shot to see what would happen. :-)

Best regards...

Re: WP34S assembler/disassembler in the wild

*Message #14 Posted by **fhub** on 1 July 2011, 3:22 p.m.,*
in response to message #13 by Neil Hamilton (Ottawa)

> Quote:
>
> However, I suspect that if you wanted to, you could construct a batch file that decomposes a Windows 'cmd' command line, sets the the environment variable to the batch command line and launches the EXE from a suitable directory.

Well, the Windows batch file 'features' are so limited that I won't know how to do this (i.e. split an enviroment variable into its parts).

> Quote:
>
> Personally, I am still *not* in love with TP and will stick with a pure Perl script until I find a good compiler solution.

Yes, I agree that this will be the best solution - as long as you still keep those changes in the current SVN version, i.e. as long at your script runs at all in TinyPerl! ;-)

BTW, what about this: couldn't you combine your 2 scripts to one, so that your wp34s_conv can be simple be used from your wp34s_asm script e.g. via the option "-conv"? Not important, just an idea ...

Franz

Edited: 1 July 2011, 3:24 p.m.

Re: WP34S assembler/disassembler in the wild

*Message #15 Posted by **Neil Hamilton (Ottawa)** on 1 July 2011, 3:53 p.m.,*
in response to message #14 by fhub

> Quote:
>
> BTW, what about this: couldn't you combine your 2 scripts to one, so that your wp34s_conv can be simple be used from your wp34s_asm script e.g. via the option "-conv"? Not important, just an idea ...

Yes. The convert script was written for the sole reason that I needed "live" test code for the main script. I did not have enough real source of my own to use as test data so I converted the XROM programs. I had not really intended to release that script into the open since it would be so little use for most people. At some point, I do intend to fold its functionality (and more) into the main script but it is not a priority just yet. Since the convert script works just fine as it is at the moment, I am in no great rush. I have a few other things closer to the radar. :-)

BTW: What are you using the convert script for? Are you "harvesting" XROM programs for other uses?

Cheers...

Re: WP34S assembler/disassembler in the wild

*Message #16 Posted by **fhub** on 1 July 2011, 6:05 p.m.,*
in response to message #15 by Neil Hamilton (Ottawa)

> Quote:
>
> BTW: What are you using the convert script for? Are you "harvesting" XROM programs for other uses?

Oh no, I was just curious to see what it is good for. ;-)

So far I've not written any program for the WP34s, because there are so many limitations of this calc (compared to my HP-48GX or TI-92Plus), so that I don't really know WHAT programs I should write ...

Regards, Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

82161A Tape Drive - O-Ring Question

*Message #1 Posted by **Ángel Martin** on 17 June 2011, 8:37 a.m.*

I'm in the process of re-aconditioning a few HI-IL peripherals, prepping them for the "big event" once my CL is up & running...

Unfortunately my tape drive has lost one of the plastic o-rings that hold the spring-loaded spindle in place. Does anybody have any suggestions as for a suitable replacement for it?

Thanks, ÁM

Re: 82161A Tape Drive - O-Ring Question

*Message #2 Posted by **Paul Berger (Canada)** on 17 June 2011, 2:18 p.m.,*
in response to message #1 by Ángel Martin

I just looked at one of my tape drives and there seems to be on the very top a white disk that has a hole slightly smaller that the diameter of the post, this disk is the retainer. Under that there are two grey plastic? washers. I made a substitute retainer from a piece of plastic cut from a plastic blister pack, I think almost any thin but stiff plastic would work, the hole in the retainer I took off is about 1.5mm in diameter so I drill a small hole in a piece of plastic and then cut it down to roughly the size of the original retainer and pushed it on and it seems to work, I hooked the drive up to my 75 and initialized a tape a couple time and it is holding.

Re: 82161A Tape Drive - O-Ring Question

*Message #3 Posted by **Ángel Martin** on 17 June 2011, 3:02 p.m.,*
in response to message #2 by Paul Berger (Canada)

Thanks Paul, that's exactly the part - badly described in my post, you did it much better. I'll do the DIY during the weekend as per your posting.

Thanks again, 'AM

Re: 82161A Tape Drive - O-Ring Question

*Message #4 Posted by **Eric Smith** on 18 June 2011, 4:33 a.m.,*
in response to message #1 by Ángel Martin

I doubt that replacement parts are available, but just FYI:

The retainer washer is HP P/N 3050-1042, made of mylar.

The thrust washers that are paired below the retainer washer are HP P/N 3050-1065, claimed to be made of "nyletron". I suspect that it is actually Nylatron GS, which is nylon filled with molybdenum disulfide (MoS2), typically used for strength, rigidity, wear resistance, and low coefficient of thermal expansion.

Presumably any other plastic washer of approximately the same dimensions should work, though perhaps not

as well or for as long a lifetime. Normal nylon has poor dimensional stability due to water absorption.

Re: 82161A Tape Drive - O-Ring Question

*Message #5 Posted by **Ángel Martin** on 18 June 2011, 8:39 a.m.,*
in response to message #4 by Eric Smith

Thanks Eric, as always you're a wealth of information for this comunity.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"WP 34S", "WP 34s", "WP-34S", or "WP-34s"?

*Message #1 Posted by **Eric Rechlin** on 16 June 2011, 11:27 p.m.*

The subject says it all. What is the official name of this amazing creation? The documentation and web page (and calculator itself) are inconsistent in this, and I want to know what the official name is. Is it "WP 34S", "WP 34s", "WP-34S", or "WP-34s"?

HP has been inconsistent over the years with this, but at least they have always been consistent within the same model (though they did introduce confusion by having the "HP 10BII" and "HP 10bII" being different calculators).

Eric

Re: "WP 34S", "WP 34s", "WP-34S", or "WP-34s"?

*Message #2 Posted by **Paul Dale** on 17 June 2011, 12:27 a.m.,*
in response to message #1 by Eric Rechlin

I don't know :-)

- Pauli

WP 34S for obvious reasons????

*Message #3 Posted by **Geoff Quickfall** on 17 June 2011, 1:22 a.m.,*
in response to message #2 by Paul Dale

Well until the pioneer the HP calcs had a space between the HP and the number. In the pioneers and later the space was removed.

ex. HP 35, HP 55 and later the HP32SII or 17BII+

So I propose the

"WP 34S"

since this is a (or am I mistaken) homage to the HP 34C (the first calculator to incorporate the Solve function).

Cheers, Geoff

just my 34 cents worth!

Edited: 17 June 2011, 1:33 a.m.

Re: WP 34S for obvious reasons!

*Message #4 Posted by **Walter B** on 17 June 2011, 2:22 a.m.,*

in response to message #3 by Geoff Quickfall

This proposal is perfectly consistent with the manual :-)

Walter

Re: WP 34S for obvious reasons!

*Message #5 Posted by **Paul Dale** on 17 June 2011, 3:07 a.m.,*
in response to message #4 by Walter B

And it will be the same in the next firmware build :-)

- Pauli

Re: WP 34S for obvious reasons????

*Message #6 Posted by **Didier Lachieze** on 17 June 2011, 3:09 a.m.,*
in response to message #3 by Geoff Quickfall

If we want to be consistent with HP conventions prior to the pioneer, I vote for WP-34S :-)

It seems that the dash between the HP and the number appeared well before the pioneer, at least it's the case in the Hewlett-Packard Pocket Calculator Buyers Guide - Fall 1975 and in HP-65 Key Note issues starting Summer 1974 as well as in the following HP Key Notes.

Regarding the 34C the dash is also present in the HP manuals and in these sample ads: HP-33C,34C,& 38C with Continuous memory. They're ready when you are and A touch of brilliant simplicity.

Re: WP 34S for obvious reasons????

*Message #7 Posted by **Geoff Quickfall** on 17 June 2011, 10:11 a.m.,*
in response to message #6 by Didier Lachieze

Didier is correct, both with the reference and the book labelling.

All the books and reference materials state HP-34C, HP-35, HP-41C and etc. However the calculators are all branded:

"Hewlett Packard 34C, Hewlett Packard 35, Hewlett Packard 41C and etc." without the hyphen.

I was refering to the calculator not the books ;-)

Cheers, Geoff

Edited: 17 June 2011, 10:14 a.m.

Re: WP 34S for obvious reasons????

*Message #8 Posted by **Oliver Unter Ecker** on 17 June 2011, 5:31 a.m.,*
in response to message #3 by Geoff Quickfall

Just a remark: new HP calcs use small letters vs. capitals in the model name. "WP 34S" looks "old" to me, whereas "WP 34s" looks "new". Is this intended?

Re: "WP 34S", "WP 34s", "WP-34S", or "WP-34s"?

*Message #9 Posted by **Eddie W. Shore** on 17 June 2011, 10:58 a.m.,*
in response to message #1 by Eric Rechlin

The newer calculators use smaller letters - however I think capital letters look better. I vote for WP 34S.

The work on the calculator is nothing short of amazing.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41c Printer 82143A connector details

*Message #1 Posted by **Prabhu Bhooplapur** on 16 June 2011, 9:12 p.m.*

Hi, I am looking for the connector cable details of the HP82143A peripheral printer. Has anyone got the cable details or the circuit diagrams? Thanks for your help. Prabhu

Re: HP41c Printer 82143A connector details

*Message #2 Posted by **Katie Wasserman** on 16 June 2011, 10:00 p.m.,*
in response to message #1 by Prabhu Bhooplapur

Get a copy of Tony Duell's hand drawn schematics for this, it's got what you need. It's available here.

Re: HP41c Printer 82143A connector details

*Message #3 Posted by **Eric Smith** on 16 June 2011, 10:11 p.m.,*
in response to message #1 by Prabhu Bhooplapur

Do you mean the contacts on the module end that plugs into the HP-41? Those are described briefly in the HP-41 service manual, available on the MoHPC DVD set, or on TOS. See also "Inside the HP-41C" by Kelly McClellan, PPC Journal V6 N6 P4, September 1979, and "HP-41C Bus Interfacing" by Jim De Arras, PPC Journal V7 N3 P20, April 1980.

It's a 56-bit serial bus at 6.0-6.5V CMOS levels. Level shifters are needed interface to any normal logic, whether at 3.3V or 5.0V levels.

1. Vbat - battery positive
2. B4 - tied high or left open by port block in calculator, along with B3, to tell module which port it is plugged into, for port addressing
3. Vcc -regulated power (6.0-6.5V)
4. B3
5. GND - ground reference
6. PWO - power on reset
7. DATA - 56-bit serial data word - 14 BCD or hexadecimal digits, little-endian (LSB first, LSD first)
8. FI - flag input, used by peripheral to indicate that service is requested, during one digit time
9. ISA (or IS/IA_ - instruction and address - serial 16-bit address (bit times 14 to 29), 10-bit ROM data (bit times 44 to 53)
10. SYNC - high for bit times 44 to 53 (when instruction should be presented on ISA line), except during second cycle of two-cycle instructions
11. Phi2 - bit clock - active-high - a bit time is generally between the falling edge of Phi2 and the next leading edge of Phi2
12. Phi1 - bit clock - active-high - occurs near end of a bit time for use to strobe inputs (such as DATA, ISA, and SYNC)

If you mean the signals on the captive cable between the module and the printer, that's also a serial bus, but entirely different than the 41C bus. There's a description in the "Peripheral Interface Chip" (NPIC) internal HP

documentation. The signals are:

- GND
- Vcc
- DD0 - bidirectional data
- DD1 - strobe provided by printer
- DD2 - direction select, printer to NPIC when low, NPIC to printer when high
- DD3 - printer power on, from printer to NPIC

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S "PRIME?"

*Message #1 Posted by **Jim Horn** on 16 June 2011, 6:44 p.m.*

With build #1108 I noticed that 9999999967 "PRIME?" returns false. Is there a limit to the values for which PRIME? works correctly?

Many thanks to the team for this *remarkable* calculator - I'm really enjoying it!

Re: WP-34S "PRIME?"

*Message #2 Posted by **Jim Horn** on 16 June 2011, 6:49 p.m.,*
in response to message #1 by Jim Horn

Apparently the maximum value for "PRIME?" is 2^31, i.e. a signed 32 bit integer. Larger primes are evaluated as composite.

Re: WP-34S "PRIME?"

*Message #3 Posted by **Paul Dale** on 16 June 2011, 6:59 p.m.,*
in response to message #2 by Jim Horn

Hmmm, seems like you found a bug....

My goal is for PRIME? to work for all values with a high degree of confidence. I.e. the conjectured accuracy rather than the proven level.

- Pauli

Re: WP-34S "PRIME?"

*Message #4 Posted by **Paul Dale** on 16 June 2011, 6:58 p.m.,*
in response to message #1 by Jim Horn

We honestly don't know for sure what the smallest value the primality test fails for. We believe that no composite number should ever be declared a prime by this function.

The test is Miller-Rabin's using the first fifteen prime numbers as a base. There is a proof that 7 or 8 are sufficient for a fairly large number (who exact value escapes me) which is less than the largest integer we allow (2^64-1 in integer mode, quite a bit less for reals). For more bases like we use, there are conjectures that no composite number will be declared prime for values well in excess of the largest exact integer we can handle.

I didn't think the converse could occur (declaring a prime composite) so I'll have a look & try to see what's going on.

- Pauli

Re: WP-34S "PRIME?"

*Message #5 Posted by **gene wright** on 16 June 2011, 10:17 p.m.,*
in response to message #1 by Jim Horn

Hey Jim.

Still using that 10 digit prime? I bet the 34s will prove it prime a lot faster than the HP 65, HP 25, and HP 67 prime factor programs from the PPC Journal, dont' you think? :-)

Re: WP-34S "PRIME?"

*Message #6 Posted by **Jim Horn** on 16 June 2011, 10:29 p.m.,*
in response to message #5 by gene wright

Hi, Gene,

V4N4? It's been a while(!!). The largest prime the '67 could evaluate was 10^10-33, i.e. 9999999967. The first eight digits are obvious; the last two are strangely easy to remember considering how many hours I spent diving into mine!

I used Wolfram Alpha to try values above and below expected powers of two to find what I reported above. NextPrime[2^31,-1] there evaluates as prime on the '34S; NextPrime[2^31,1] does not.

Of course, the newer algorithms are *so* much more powerful than MOD30 trial division.

Again, my sincere thanks and admiriation to the '34S team!

Re: WP-34S "PRIME?"

*Message #7 Posted by **Paul Dale** on 16 June 2011, 10:43 p.m.,*
in response to message #1 by Jim Horn

And fixed in build 1125.

Integer truncation problem.

- Pauli

Re: WP-34S "PRIME?"

*Message #8 Posted by **Gerson W. Barbosa** on 16 June 2011, 11:10 p.m.,*
in response to message #7 by Paul Dale

Fantastic Bug Fix Department!

Re: WP-34S "PRIME?"

*Message #9 Posted by **Jim Horn** on 16 June 2011, 11:33 p.m.,*
in response to message #7 by Paul Dale

Fantastic indeed! I ran a test of the last 10 primes below 2^31 on the errant version; all showed as "true". The first 10 above it gave three "true" and seven "false" outputs.

All of which is moot. I'll flog it some tomorrow when I get to work (where the programming cable is - thanks Gene!) but my hat is off again to Pauli's incredibly quick and fine corrections.

Meanwhile, thank you for the chance to study your code and learn from it - it's marvelous!

Re: WP-34S "PRIME?"

*Message #10 Posted by **Paul Dale** on 17 June 2011, 3:53 a.m.,*
in response to message #1 by Jim Horn

Seems to be working for number up to 2^63 e.g. the largest prime less than this is 9223372036854775783 which tests as prime. The largest prime less than 2^64 is testing as composite :-(

I'm not sure there is much I can easily do about this since we are likely hitting integer size limits. I'll have a quick look tomorrow if I remember.

This is much larger than the largest integer that can be represented exactly in real mode...

- Pauli

Re: WP-34S "PRIME?"

*Message #11 Posted by **Marcus von Cube, Germany** on 17 June 2011, 4:01 a.m.,*
in response to message #10 by Paul Dale

Pauli, just throw a domain error if the number gets too large. Walter has to document the limits.

Re: WP-34S "PRIME?"

*Message #12 Posted by **Paul Dale** on 17 June 2011, 5:55 a.m.,*
in response to message #11 by Marcus von Cube, Germany

I'd prefer the function to work for the entire numeric range....

Pauli

Re: WP-34S "PRIME?"

*Message #13 Posted by **Paul Dale** on 17 June 2011, 6:06 a.m.,*
in response to message #10 by Paul Dale

2^{63}-1 is the limit here :-(So prime numbers equal to or greater than 9,223,372,036,854,775,837 will not necessarily return true from PRIME? Likewise composite numbers greater than 9,223,372,036,854,775,808 may return false (although this is less likely I suspect). Below these values the results should be accurate.

This limit only applies in integer mode with unsigned 64 bit word size. For all other modes and word sizes, it isn't a limitation.

The code relies on one bit beyond the largest value being available during the calculation and I'm not bothered to work around this (mostly because it will be fairly involved and partly because we're handling pretty large numbers already).

Walter, can you please document this limitation :-)

- Pauli

Edited: 17 June 2011, 6:08 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

black HP17bII

*Message #1 Posted by **Jose Gonzalez Divasson** on 16 June 2011, 5:37 p.m.*

I have finally received the black 17bII that I have been looking for.

HP 17bII black

Does anybody know why HP turned to the admittedly uglier brown scheme?

Also the pouch is black - and seems better quality as well.

Both machines pictired were made in Indonesia.

Re: black HP17bII

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 16 June 2011, 7:14 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

IIRC, I think that in a HP Digest magazine around 1980 it was mentioned that the HP41 was dark brown (and not black) because brown was "warm", avoiding the "coldness" of black. If this approach was still valid many years after is just a possibility...

Re: black HP17bII

*Message #3 Posted by **Nacho** on 17 June 2011, 4:38 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

hello,

first units were brown then arrived the black one.

keyboard is better in the brown unit.

regards

Re: black HP17bII

*Message #4 Posted by **Jose Gonzalez Divasson** on 17 June 2011, 6:20 p.m.,*
in response to message #3 by Nacho

Thanks for the information!

Serial number info is not as clear as with old models.

Regarding keyboard quality, both are equal in my humble opinion. I am not able to wring out any difference!!

Re: black HP17bII

*Message #5 Posted by **Nacho** on 17 June 2011, 6:58 p.m.,*
in response to message #4 by Jose Gonzalez Divasson

dears,

i have some 17bii, the brown ones are singapore units with molded keys and the black units are from indonesia and painted keys.

the lcd is a bit better in the black units.

regards

Re: black HP17bII

*Message #6 Posted by **Don Shepherd** on 17 June 2011, 5:20 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Ugly, like beauty, is in the eye of the beholder.

I think the brown unit is better looking.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emu48+ for HP-39gs/40gs?

*Message #1 Posted by **fhub** on 16 June 2011, 4:25 p.m.*

Hi,

does any Emu48 expert know if it's possible to emulate the HP-39gs/40gs with this emulator?

I've read that Emu48+ supports HP-39G+, and since the 39gs has similar (or even identical) hardware, I guess it should be possible.

Unfortunately I've found no way so far to convert the 39gs/40gs ROM updates (which can be found at hpcalc.org) to the usual Emu48 emulator ROM format - all conversion programs I've tried are failing with this *.bin file (has something like KINPOUPDATE in the file header).

So my 2nd question: does such a conversion program for this 39gs/40gs.bin format exist, which gives a usual ROM file for Emu48?

Franz

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 28S - Better than You Thought

*Message #1 Posted by **Howard Owen** on 16 June 2011, 3:24 p.m.*

"People could cheat on a math test with it and that is what it is known for. "

http://cgi.ebay.com/HP-28s-Calculator-/260801635492#ht_540wt_1141

Re: HP 28S - Better than You Thought

*Message #2 Posted by **Geoff Quickfall** on 16 June 2011, 3:53 p.m.,*
in response to message #1 by Howard Owen

Wasn't the 34C the first with a solver?

As for cheating, any continuous memory calc was good for that as long as you could get it by the TA's guarding the door!

The 41C was great cause you could create a program to display "MEMORY LOST". That usually convinced a no-nothing TA that the calc was clear of programs.

Of course, I really wouldn't know if that worked or not ;-)

Then again, if you could write an RPN program to cover the formulae required for the exam, you usually ended up with them memorized in any case, (now that did happen to me so I really did memory loss the calc at the door, guilt and all that).

Cheers, Geoff

p.s. did I mention that I love my 41CL

Re: HP 28S - Better than You Thought

*Message #3 Posted by **Nicholas Winterer** on 16 June 2011, 6:22 p.m.,*
in response to message #2 by Geoff Quickfall

> Quote:
>
> Wasn't the 34C the first with a solver?
>
> As for cheating, any continuous memory calc was good for that as long as you could get it by the TA's guarding the door!
>
> The 41C was great cause you could create a program to display "MEMORY LOST". That usually convinced a no-nothing TA that the calc was clear of programs.
>
> Of course, I really wouldn't know if that worked or not ;-)

Then again, if you could write an RPN program to cover the formulae required for the exam, you usually ended up with them memorized in any case, (now that did happen to me so I really did memory loss the calc at the door, guilt and all that).

Cheers, Geoff

p.s. did I mention that I love my 41CL

These days, TA's don't look twice at an HP 41. They just can't imagine a non-graphing calculator with that kind of power.

Re: HP 28S - Better than You Thought

*Message #4 Posted by **Geoff Quickfall** on 16 June 2011, 6:37 p.m.,*
in response to message #3 by Nicholas Winterer

Yep, I was talking about ancient history ;-) 1981!

;-)

not the first graphical calc

*Message #5 Posted by **Frank Boehm (Germany)** on 17 June 2011, 8:23 a.m.,*
in response to message #1 by Howard Owen

Well, I replaced my Casio fx-7000G with an HP 28C - that one was the first. Paid 199DM for the Casio and 444DM for the HP. Quite a bunch of money for a 15/17 year old :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just some Classics eye candy

*Message #1 Posted by **Geoff Quickfall** on 16 June 2011, 2:53 p.m.*

Some photo experiments with background and lighting etc. Just HP portraits.

Except for the prototype case all these have been restored using techniques developed at this forum, by others (and myself). Just a few classics (note the HP 70 is missing, donations excepted!).

An HP 35 prototype case, note the red dot hole, clear led lens and colour:

An HP 35, one of many keyboard designs:

An HP 45, this one with the quartz crystal inplant:

An HP 55, note the faded keyboard silkscreening, UV damage combined with a very CAREFUL wash with an artists brush.

An HP 65 fully functional:

The ultimate (IMHO) LED portable programmable:

The HP 80 (where's the 70, donations welcome!)

Cheers, Geoff

Edited: 16 June 2011, 2:55 p.m.

Re: Just some Classics eye candy

*Message #2 Posted by **bill platt** on 16 June 2011, 3:08 p.m.,*
in response to message #1 by Geoff Quickfall

I am pretty sure the 67 is the first HP I saw and marveled at. My father's old friend, and engineer in Connecticut, showed us how to play "moon lander" in the late 70s.

Re: Just some Classics eye candy

*Message #3 Posted by **Mike Morrow** on 16 June 2011, 11:37 p.m.,*
in response to message #2 by bill platt

I was a Junior at Georgia Tech when the HP-35 showed up in 1972. I wasn't able to afford an HP until four years later. That was the beautiful HP-67, my first HP, purchased at the MIT ["Georgia Tech of the North"] Coop. It may be Woodstock inside, but it's the best Classic beauty outside.

That HP-67 with some accessories and application pacs and Massachusetts sales tax cost me eight percent of my before-taxes **annual** salary as a US Navy lieutentant junior grade. My perpetually weak bank account balance was cleaned out and didn't recover for more than a year.

Re: Just some Classics eye candy

*Message #4 Posted by **Geoff Quickfall** on 17 June 2011, 1:31 a.m.,*
in response to message #2 by bill platt

Mine was the 25 purchased in 1976 and sold in 1981 to help support my habit, my HP habit that is! Yep I sold it to purchase a 1981 HP 41C.

The HP 25 took me through 2 years of college, then 4 years flying in the bush. The HP 41C took over that duty accompanying me for two more years of university and flying and into my MSc.

The flying jobs allowed me to save the HP 41C for backup, it now had xfunctions and xmemory added as well as laser wand, 9114B and a plotter in the lab. It was superceded by the HP 41CX which I still have today.

The 41CX, 71B and 42S are swapped in and out of the flight bag with the 67 showing up for showiness. Now the 41CL will be taking over the primary flight bag roll.

I liked the IR of the 41CX along with the dynamic time function. The 71B has the dynamic time but requires HPIL and an HPIL printer making the 41CX more portable but slower. The 42S has the IR and the speed but no clock.

The 41CL has the IR, the clock and the speed in turbo! And it now has the memory capabilities (just have to learn how to use them) along with serial RS 232 ability.

WOW to the 41CL

Re: Just some Classics eye candy

*Message #5 Posted by **Hal Bitton in Boise** on 17 June 2011, 12:46 a.m.,*
in response to message #1 by Geoff Quickfall

I was in college in 1978...the kid who sat 3 chairs behind me in math had an HP 67 (he must have been from a rich family!). If ever there were a "sexy" calculator, the 67 must be it.
Whenever I heard the card reader, the only thing keeping me from being totally lost to envy was the fact that my new 29C had continuous memory... :)
hb

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41Z Overlay For 41CL

*Message #1 Posted by **Mark Hardman** on 16 June 2011, 1:46 p.m.*

Eric, if Ángel provides the artwork--which I know he will as the 41Z is his chef-d'œuvre, then I'm in for two. With that and 41CL, I can do on-the-fly impedance matching on a real machine (as opposed to i41CX+). My heart be still!

I'm would also be interested in several Sandmath overlays.

Mark Hardman
Houston, TX

Edited: 16 June 2011, 1:48 p.m.

Re: 41Z Overlay For 41CL

*Message #2 Posted by **Ben Moss** on 16 June 2011, 2:49 p.m.,*
in response to message #1 by Mark Hardman

I'm also interested in this! I'm willing to help make the SVG file, or otherwise provide manpower if additional effort is necessary.

Re: 41Z Overlay For 41CL

*Message #3 Posted by **Monte Dalrymple** on 16 June 2011, 3:43 p.m.,*
in response to message #1 by Mark Hardman

I know it would be a ton of work, but wouldn't be nice to have
a package of overlays available that covered all of the images
loaded into the 41CL? Something for the user community to think
about.

Edited: 16 June 2011, 3:44 p.m.

Re: 41Z Overlay For 41CL

*Message #4 Posted by **Ben Moss** on 16 June 2011, 4:28 p.m.,*
in response to message #3 by Monte Dalrymple

The idea is certainly worth exploring, Monte!

Your 41CL has over 100 ROMs and I agree that an organized community effort would be necessary to even generate all of the overlay files. We could use spb's fantastic 41C overlay generator (mentioned in this previous discussion from April) to make our lives easier.

Unfortunately, it looks like printing and selling a bundle of 100 overlays would be impractical. Using Eric's $5 WP34s overlay as a price point, that would be around $500 USD... twice the cost of the 41CL (and I suspect Eric has priced his overlay generously low). Maybe 41 overlays can be produced cheaper because they do not need adhesive backing, but we probably need some way for a user to select a subset of the overlays that they would like to purchase.

Eric - if you are reading this, I certainly don't want to imply that you should shoulder this project, but maybe you have input from your experience on the feasibility of doing this?

Re: 41Z Overlay For 41CL

*Message #5 Posted by **Geoff Quickfall** on 16 June 2011, 4:58 p.m.,*
in response to message #4 by Ben Moss

Overlays are great,

how about a set of plastic overlays similar to the original blanks. In plastic or heavy construction. Something that can fit into a paper printer. Mass produced the price would surely come down. Especially if they are blanks.

The other option is blank overlays with clear adhesive media printed on a laser or ink jet. These overlays are a blank original and ink jet media sliced and fitted. Doesn't take long to do.

Edited: 16 June 2011, 4:59 p.m.

Re: 41Z Overlay For 41CL

*Message #6 Posted by **Geoff Quickfall** on 16 June 2011, 6:13 p.m.,*
in response to message #5 by Geoff Quickfall

I guess my point is, how much for 100 blank overlays in similar to original plastic? That way I can pick and choose the ROMS that I will bother with.

I have a CCD as well as the standard overlays, CCD might be rare so providing a hi res tiff, jpg or etc would be easy.

Geoff

Re: 41Z Overlay For 41CL

*Message #7 Posted by **Monte Dalrymple** on 16 June 2011, 6:24 p.m.,*
in response to message #4 by Ben Moss

I think that only about a fourth of them actually use an overlay, and not every person would want every overlay. But it was just an idea.

Re: 41Z Overlay For 41CL

*Message #8 Posted by **Geoff Quickfall** on 16 June 2011, 6:42 p.m.,*
in response to message #7 by Monte Dalrymple

Thats why I think the blanks are perfect. In the old days I overlayed them with rub on lettering. Now I use the ink jet.

With some roms, you only use some programs but with the CL the world has opened up.

I also created other overlays for specific application. I would convert the entire calculator into a Palynology calc, with stat functions, dedicated synthetic memories which contained over 40 tree pollen counts derived from slide data.

they would automatically be converted to % and concentration data for plotting.

Lots of fun in the past, now just mundane systems checks in the cockpit.

So producing blanks would be great. I will see what can be done in Hong Kong or Beijing and the cost. Would people be intereste in a set of 20 blank overlays?

Cheers, Geoff

Re: 41Z Overlay For 41CL

*Message #9 Posted by **Paul Dale** on 16 June 2011, 6:45 p.m.,*
in response to message #8 by Geoff Quickfall

I'd definitely be interested.

Pauli

Re: 41Z Overlay For 41CL

*Message #10 Posted by **Ben Moss** on 16 June 2011, 7:13 p.m.,*
in response to message #8 by Geoff Quickfall

Yeah I'd be interested too.

Re: 41Z Overlay For 41CL

*Message #11 Posted by **exschr** on 17 June 2011, 4:54 a.m.,*
in response to message #8 by Geoff Quickfall

Now that I have this huge set of rom images at hand inside the CL I'd be interested too!
CL = worth a fortune :-)

...and I agree with Geoff: I love my CL!

Re: 41Z Overlay For 41CL

*Message #12 Posted by **Eric Rechlin** on 16 June 2011, 7:12 p.m.,*
in response to message #1 by Mark Hardman

Angel emailed me to let me know he'd be sending me the artwork, so I can take care of it.

I have already made new blank overlays for the 48 and 41. I have also made replacement printed overlays for the 48 (I just made new Survey Pro overlays a couple weeks ago for someone who requested them). The vinyl overlays are actually better looking than the original Mylar ones, but they may not be as durable. Also, due to difficulty in getting the registration right, I could only make them one-sided rather than printing on both sides.

For the printed overlays, they are actually slightly more expensive for materials than the 34s overlays. This is because, after investing several hundred dollars in different materials from all sorts of stores, the best material I have found so far is taking card stock, sticking the adhesive vinyl on it, and printing and cutting that. This only adds about $0.10 to the cost.

However, the difficulty comes in the way my cutter works. To cut these all the way through, I have to use a cutting mat. I have since found I can get away without a cutting mat for the 34s overlays, so this is an added consumable cost. Also, with a cutting mat, after removing the overlay, I have to clean it of all the keys before I can reuse it, and this is time consuming.

Next month when I get back into this, I will see how it goes, but for now the biggest factor is the labor involved in cleaning the keys from the cutting mat.

I'd love to sell blank overlays for cheap, but then I'd be afraid of getting an order for 100 of them and then having to spend hours and hours cleaning cutting mats.

I will have to do some more testing to find a solution to the cutting mat problem. I bet someone has already run into this before and I just haven't found the answer yet.

Also, I would ideally like to use plastic, but there are several problems there. First, I haven't found plastic that I can print on, and second, plastic is too thick for my cutter unless I buy a heavier-duty one.

Eric

Re: 41Z Overlay For 41CL

*Message #13 Posted by **Ben Moss** on 16 June 2011, 7:30 p.m.,*
in response to message #12 by Eric Rechlin

> Quote:
>
> Next month when I get back into this, I will see how it goes, but for now the biggest factor is the labor involved in cleaning the keys from the cutting mat.

Eric, does this video help? This sounds like the problem you are describing.

For a 41 or 48 overlay I imagine you don't care about salvaging the key-shaped bits as you would for a WP-34 overlay, so this may help you.

Re: 41Z Overlay For 41CL

*Message #14 Posted by **Eric Rechlin** on 16 June 2011, 11:19 p.m.,*
in response to message #13 by Ben Moss

> Quote:
>
> Eric, does this video help? This sounds like the problem you are describing.

That's awesome. I bought a little scraper that was designed specifically for this, but it didn't work very well, so I can't wait to try this trick. Also I may consider switching to the Cricut mats if those work better; the mats I have are losing some stickiness after scraping them. They appear to be a little big for my cutter but I can trim them to fit.

Thanks for the tip.

Eric

Re: 41Z Overlay For 41CL

*Message #15 Posted by **Ángel Martin** on 17 June 2011, 2:03 a.m.,*
in response to message #12 by Eric Rechlin

I sent the files to Eric already so he can start "practicing" when he's got time.

The blank overlays is a good plan-B idea and sure Geoff's ones look very good - but some modules are too complex for that workaround (like CCD, 41Z, SandMath...).

The 41Z has just one sticker over the Sigma+ Key, and the SandMath has two, on the Sigma+ key and on the RCL key. That at least should compensate for the extra work compared to the 34S.

Cheers, 'AM.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unabashed HP 41CL promotion (with pictures)!

*Message #1 Posted by **Geoff Quickfall** on 15 June 2011, 6:12 p.m.*

What a facinating project Monte has undertaken. The board is working flawlessly for me.

Currently it is configured with my resident programs for work complete with key assignments.

Also I have physically inserted the following:

```
- port 1 serial connector which leaves port 1
- port 2 Diego Diaz's Clonix
- port 3 time module
- port 4 reserved for IR printer, HPIL, laser wand, card reader.
```

Virtually installed are the following:

```
- port one lower the HP41CL suite of commands including plug and
  uplug, turbo and etc
- port two Clonix with CCD, PPC, NAVB1 (all removable and
  interchangeable with the pic programmer and Diego's instructions.
- port three with MATH and ADVANTAGE roms
- port four with STAT and TREK roms
```

The turbo mode* runs my WPA (way point data) routine in 7 seconds including prompted key inputs giving Great Circle and true track. This is fast as the program relies on a data base of airport codes attached to Lat and Lon co-ordinates. So not only calculating the GC distance and track but scanning the extended memory for the prompted for airport three letter code (Vancouver YVR) and converting lat and lon alpha into numeric.

Contrast with 30 seconds without turbo50 mode!

Well enough said, with the addition of a couple of small programs in memory to assist in plugging and unplugging the roms this is one of the most incredible scientific calculators today.

The calculator I chose is a tall keys (actually steeper front) with an early serial number (yep, Gene, not as early as Richards!) but still. It had a defunct board which I have yet to trouble shoot. The case and keys were perfect. No cracked screw posts or shell. All keys with an incredible HP snap. Crisp clear LCD panel. The presence of power supply contact balls.

So the completed project, with a capacitor modification due to the LCD driver revision.

The pristine OLD NEW **HP 41CL**

HP 41CL
ALPHA
PRGM
ALPHA
ON
USER
LN
LOG
TAN
SST
COS
RCL
SIN
STO
EEX
CHS
XEQ
R↓
Σ+
1/x
√x
x²
yˣ
10ˣ
eˣ
LN
TAN⁻¹
BST
COS⁻¹
GTO
CLX/A
SIN⁻¹
LBL
RTN
FS?
%
ASN
ISG
C/F
R↔P
CLΣ
x≷y
CATALOG
ENTER↑
SF
P→R
ENG
VIEW
SCI
R/S
BEEP
LAST X
FIX
x=y?
x≠y?
x<y?
x>y?
x=0?
π
7
8
9
4
5
6
1
2
3
0
.
−
+
×
÷

The early serial number 1933A...

The port configuration with the serial connector beside clonix:

The external contact balls/springs/clip (see The CL conversion of an early HP 41C)

*There is a note in Monte's manual that the turbo mode does affect power drain and shortens battery life. That is another reason I selected this calculator as it has the power supply ball contacts. With a modified TV cord which I will put together soon I can attach this to an external power supply if required. This is mentioned in the annals of history 'HPNotes'. So having the external power supply ball contacts makes life easier if you are in an office. In fact, wiring the cord to a large lantern alkaline 6 volt battery would suffice.

Also, you will need a time module for the calculator as the 41CL board does not have a quartz crystal. Of course this is required on the C and CV version but also on a converted CX to CL as the CL board contains the timing functions but not the running clock.

Enjoy and if you are an HP 41C, CV, CX you must have one of these CL's. This is now back in the cockpit as it is as fast as the 42S in turbo50 mode!

Geoff

Edited: 15 June 2011, 6:38 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #2 Posted by **Geir Isene** on 16 June 2011, 11:00 a.m.,*
in response to message #1 by Geoff Quickfall

It would be great if some of you could whip up a wiki on wikia.org to capture all this knowledge truly.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #3 Posted by **Bruce Bergman** on 16 June 2011, 11:19 a.m.,*
in response to message #2 by Geir Isene

It would be great if someone would use my wiki (www.wiki4hp.com) to put it there! ;-) The more we can share this kind of information, the better. I totally agree!

Thanks,

Bruce

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #4 Posted by **Geir Isene** on 16 June 2011, 12:11 p.m.,*
in response to message #3 by Bruce Bergman

There you go :)

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #5 Posted by **Geoff Quickfall** on 16 June 2011, 12:46 p.m.,*
in response to message #3 by Bruce Bergman

Hello Bruce,

I will clean up the previous post and add it to this one. Then post at your wiki site.

This is also included in the HP 41C chapter of the book.

Cheers, Geoff

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #6 Posted by **Namir** on 16 June 2011, 11:43 a.m.,*
in response to message #1 by Geoff Quickfall

I think I know what you next vocation will be after you are doing with flying airplanes!

:-)

Namir

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #7 Posted by **Geoff Quickfall** on 16 June 2011, 1:36 p.m.,*
in response to message #6 by Namir

Selling Realestate in Florida at low tide? Something like, "I have 40 acres for you at low tide," ;-)

So much to do and so little time!

Of course the force us to retire at 60 although there are a few human rights complaints on that one. So what to do at 60 (a few years away ;-)

Geoff

Edited: 16 June 2011, 1:47 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #8 Posted by **hpnut** on 16 June 2011, 10:26 p.m.,*
in response to message #1 by Geoff Quickfall

Geoff,

that's one cool calculator!

what's that input jact above the time module?

hpnut in Malaysia

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #9 Posted by **Monte Dalrymple** on 16 June 2011, 10:29 p.m.,*
in response to message #8 by hpnut

RS-232 port

Go here and take a look at the 41CL and its manual

*Message #10 Posted by **gene wright** on 16 June 2011, 10:44 p.m.,*
in response to message #9 by Monte Dalrymple

HP 41CL site

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #11 Posted by **Geoff Quickfall** on 16 June 2011, 11:28 p.m.,*
in response to message #8 by hpnut

HPnut, I didn't know a thing about the 41CL board until HCC2010 and Genes presentation on behalf of Monte.

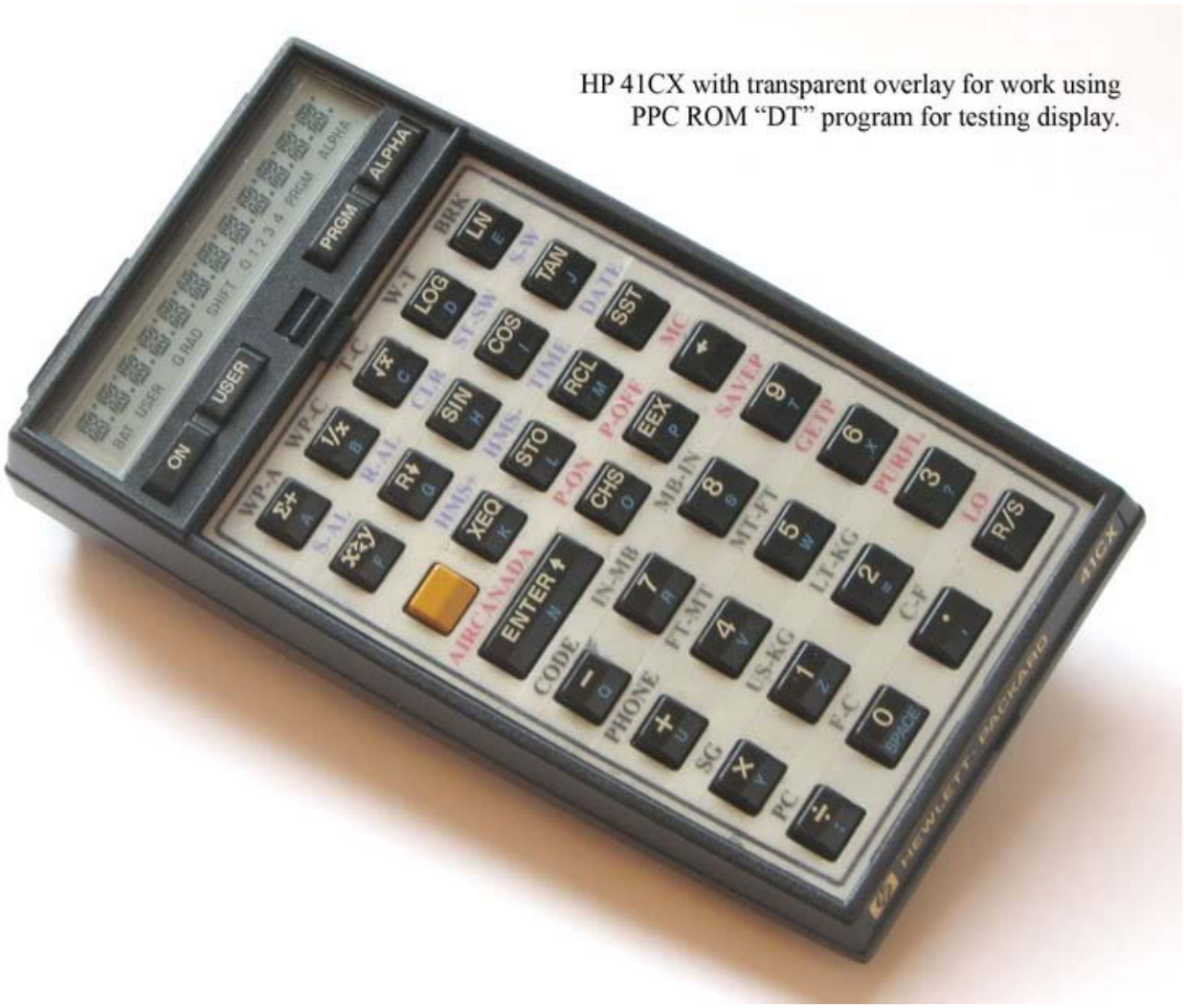
HP 41CL HCC2010 link

This is ALL Monte Dalrymples baby. Go to the site Gene lists and look at the above video. All I did was install it in the shell of a 41C per Montes instructions.

By the way there are now 9 ROM images installed in that puppy. With 450 of the 600 extended memory registers loaded with data and programs while a full list of programs are residing in program memory.

I will be using this overlay on the calculator as it has replaced my 41CX. I needed the realtime function for my program so the time module is required.

I wonder, can the time module be hardwired into an area inside the calc HHHMMMMMM!



Geoff

Edited: 16 June 2011, 11:29 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #12 Posted by **BobVA** on 17 June 2011, 4:20 p.m.,*
in response to message #11 by Geoff Quickfall

> Quote:
>
> I wonder, can the time module be hardwired into an area inside the calc HHHMMMMMM!
>
> Geoff

I'd be looking REAL hard at the port that the RS-232 shell covers. Some thoughts:

- Hardwire the internals of the TM to the port occupied by the RS-232 shell and mount the TM board inside the calculator?

- Move the RS-232 connector to another edge of the calculator, perhaps using a more compact connector (e.g. mini USB, ribbon ZIF, etc)? A stroll through Akihabara next time you're there might be spark some ideas.

- Bluetooth<->serial module mounted internally. (Perhaps Monte might add this to the NEWT board?)

Cheers, Bob

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #13 Posted by **Geoff Quickfall** on 17 June 2011, 6:50 p.m.,*
in response to message #12 by BobVA

Blue tooth

nice touch!!!!

Geoff

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #14 Posted by **Garth Wilson** on 17 June 2011, 7:39 p.m.,*
in response to message #13 by Geoff Quickfall

> Quote:
>
> Blue tooth

The problem with Bluetooth is that it is defifintely not hacker/hobbyist/workbench friendly. I've tried with a couple of companies who offered development kits where everything is supposedly done for you, yet I ended up giving up, telling my employer I wasn't going to try any longer, at the risk of losing my job. (I didn't lose it.) Then I found out that he gave me the job because another engineer had tried and told him the same thing, and he didn't believe him, and didn't want to tell me. The data sheet for the module was a couple hundred pages, and after getting through it, you have more questions than answers, and no idea of how to get to certain requirements. RS-232 is extremely easy by comparison.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #15 Posted by **Monte Dalrymple** on 17 June 2011, 8:51 p.m.,*
in response to message #12 by BobVA

I looked into the Bluetooth option. There should be room inside the calculator body (but not on the 41CL board itself). But after spending a day going through the specs, I realized that it was going to take a LOT more time to write the necessary software than I wanted to invest. Call me a Luddite, but RS-232 works and doesn't take a lot of power. For me personally, I will very rarely actually be uploading or dowloading anything, so RS-232 is sufficient. But other users might be different.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #16 Posted by **BobVA** on 17 June 2011, 11:13 p.m.,*
in response to message #15 by Monte Dalrymple

I was actually thinking of using one of the dedicated RS-232<>Bluetooth modules, vs. a more generic BT chip dev kit and all the associated headaches that come with that. These generally have a dedicated microcontroller (or core) running the BT chip and your application talks to that.

The ones Sparkfun sells accept simple "AT" commands on the serial port to set up the link, etc.

Drawbacks are these modules are pretty spendy (40-60 USD) and are a bit bulky. Upside is they are available with TTL serial interfaces and work from 6v.

Completely agree with the wired approach if that answers the mail for a given application. No extra power required and one less thing to go wrong.

But it's fun to think about!

Bob

Edited: 17 June 2011, 11:15 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #17 Posted by **Gerry Schultz** on 17 June 2011, 4:44 p.m.,*
in response to message #11 by Geoff Quickfall

Hey Geoff:

Dumb question. With all your 41Cs, how do you tell the 41CL from the rest?

I'm looking forward to HHC2011 this year. See you there.

Gerry

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #18 Posted by **Geoff Quickfall** on 17 June 2011, 6:42 p.m.,*
in response to message #17 by Gerry Schultz

Dumb Answer:

click here

or look at this:

but seriously; two 41C's (79 and 80), two CV's and five CX's.

The CL is now the main calc but an identical CX (slower and with only the Diego Clonix) is the backup!

Cheers, Geoff

San Diego should be a GEEK FEST of a meeting, WP-34S, HP 41CL and etc.

See YOU there!

Geoff

Edited: 17 June 2011, 6:49 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #19 Posted by **Jim Horn** on 17 June 2011, 5:10 p.m.,*
in response to message #11 by Geoff Quickfall

Hard-wiring modules wasn't uncommon in the '80s during the '41s heyday. They'd be stripped of their enclosures and contacts then the bare circuit boards mounted vertically between the ports and the side case of the '41 where two per side could be squeezed in. Wire-wrap wire (i.e. 30AWG / 0.25mm) was connected point-to-point between the modules and the keyboard circuit board to make the connections.

This was all written up in the PPC Journal or one of its worthy successors but I don't recall the issue. In my case, I just updated my '41C by replacing the RAM chips with those for the '41CV but that's another story (in this Forum's archives).

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #20 Posted by **Geoff Quickfall** on 17 June 2011, 6:49 p.m.,*
in response to message #19 by Jim Horn

Jims absolutely correct, how many did you do Jim?

I have to clean up my solder skills. Interestingly enough, the time module does NOT take over the ROM assigned PORTS on the CL.

So physically having the timer in port 3 (my configuration) still allows without conflict the MATH and ADV rom to reside there also.

When I cat 2 the calc I get the following:

```
-EXT FCN 2D
-CX EXT FCN
-TIME 2C
-CX TIME
-PRINTER 3B
--
YFNS 1A
-I/O FNS
-ADV FNS
C PPC 1981
SR
-NAV 1B
-MATH 1D
-ADV ELECTR
-ADV STATIC
-ADV COMPUT
--
STAT 1B
-STAR TREK
-4 TREK
-WARP 2
-ULTRA TRK
```

Not bad EH?

Edited: 17 June 2011, 6:53 p.m.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #21 Posted by **Monte Dalrymple** on 17 June 2011, 8:46 p.m.,*
in response to message #20 by Geoff Quickfall

The Time Module can reside in any Port, without conflict. This is because the Time ROM uses Page 5, which isn't physically addressed via a Port. In the CL the Time ROM is internal, in the Flash on the CL board, and the ROM in the physical Time module is never accessed. This is accomplished by preventing any address in Page 5 from appearing on the 41 address bus.

You could put the timer portion of the Time Module inside the calculator body, but what's the point? The Ports are now only really needed for things like the card reader, printer or Wand, so three open Ports should be sufficient.

As far as the Clonix, you still need to be careful to make sure that you don't virtually plug a module into the addresses being used by the Clonix, because a bus conflict will result. Remember that the Clonix uses addresses programmed into the module, (AFAIK) as opposed to physically decoding the Port address where it resides. This is probably why certain configurations weren't working for you, Geoff. You should just as easily be able to virtually load those images into Ports without using the Clonix, unless it is doing some kind of bank switching that I don't know about.

Re: Unabashed HP 41CL promotion (with pictures)!

*Message #22 Posted by **Geoff Quickfall** on 17 June 2011, 10:18 p.m.,*
in response to message #21 by Monte Dalrymple

Hello Monte

Yeh, had to remove clonix as it did conflict. While testing last night and today, I realized only parts of the CCD and PPC were loading. That occured no matter which physical port was used. Also it dropped the third full page rom image completely whenever a port after the physical port it occupied was used for a rom image. And, whenever plug or unplug was used the Clonix was dropped completely and had to be removed and reinstalled.

The convenience if it worked is that it contained three full page rom images in one physical port. Now I understand more of how it maps to the logic pca.

So everything functions as perfect using the cl rom images for CCD and PPC. That leaves 3 other free ports available for one full page rom or 3 half page roms.

Well it is really easy to right a routine which can be dedicated to plugging and unplugging images in the three remaining free ports. Problem is most of my programs use CCD and PPC subroutines so they must stay resident.

As I said above, it is easy to automate the swapping of images with a dedicated key assigned routines.

Thanks again Monte!

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Problem with Interest entry

*Message #1 Posted by **Don Griffith** on 15 June 2011, 11:33 a.m.*

HP-12C Viewing the manual shows the following when entering interest in a financial calculation.

```
Assume the problem has a interest rate of 13%
Enter 13 on the numeric keys.
Enter control key "g"
Press the interest key which enters "13%" divided by 12
   or 1.08333 which is correct as far as it goes.
I have always been taught that 13% is = .13 decimal.
```

Nowhere can I see that the 12C automatically converts the % decimal. Am I missing something? Thanks for your answers

Re: Problem with Interest entry

*Message #2 Posted by **gene wright** on 15 June 2011, 4:46 p.m.,*
in response to message #1 by Don Griffith

Hi. The interest rates on the 12c (and most financial calculators) are expressed as you see in the manual, i.e., 13% is 13; 10% is 10.

When you divide by 12, you will see 10/12 or 0.8333, etc.

The calculator always does the "divide by 100" when it uses the interest rate.

Re: Problem with Interest entry

*Message #3 Posted by **Allen** on 15 June 2011, 7:52 p.m.,*
in response to message #1 by Don Griffith

Gene is right. To put it a different way, the 12C only uses **periodic interest rate** (no assumption is made about how many payments are made per annum)

In contrast, most of the other HP financial calculators accept only an **annual interest rate**, and a separate entry must be made for how many annual payments occur.

Most (like the 10B) will default to 12 P/Y when reset.

Re: Problem with Interest entry

*Message #4 Posted by **gene wright** on 16 June 2011, 8:24 a.m.,*
in response to message #3 by Allen

True, but even those where you specify the interest rate take interest input as 10 and not 0.10.

:-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

To Monte : 41CL next batch

*Message #1 Posted by **Marc Ferrer (France)** on 15 June 2011, 12:44 p.m.*

Hello Monte,

Having read Geoff Quickfall's thoughts about your wonderful 41CL really made me eager to have one ; please can you add me to your wish list ?

Thank you very much !

Regards from France, Marc

Re: To Monte : 41CL next batch

*Message #2 Posted by **Monte Dalrymple** on 15 June 2011, 1:12 p.m.,*
in response to message #1 by Marc Ferrer (France)

If you send me an email directly (monted@systemyde.com) so that I have a way to contact you I'll add you to the list. I have 20 people on the list so far and build in lots of 25. Based on my experience with the first batch about half the people on the list will back out, so it's going to be a while before I can justify another batch.

Monte

You've got mail (NT)

*Message #3 Posted by **Marc Ferrer (France)** on 16 June 2011, 2:39 p.m.,*
in response to message #2 by Monte Dalrymple

.

Re: To Monte : 41CL next batch

*Message #4 Posted by **Gerry Schultz** on 16 June 2011, 6:01 p.m.,*
in response to message #2 by Monte Dalrymple

Hi Monte:

I also sent you an email requesting to be put on the list. Just want to make sure you got it.

Thanks, Gerry

[Return to Index | Top of Index]

Go back to the main exhibit hall

To Monte : 41CL next batch

HP Forum Archive 20

[Return to Index | Top of Index]

Any 15c news?

*Message #1 Posted by **Dave Britten** on 15 June 2011, 8:19 a.m.*

There were quite a few rumors/reports of a June re-release floating around for a while. Well, it's definitely June now. Anything new happening?

Re: Any 15c news?

*Message #2 Posted by **Michael de Estrada** on 15 June 2011, 8:50 a.m.,*
in response to message #1 by Dave Britten

New Rumor = Old Rumor + 1 year

IOW, when hell freezes.

Edited: 15 June 2011, 8:51 a.m.

Re: Any 15c news?

*Message #3 Posted by **Dave Britten** on 15 June 2011, 9:10 a.m.,*
in response to message #2 by Michael de Estrada

So, just as soon as Duke Nukem Forever comes out.

Er, wait, can't use that joke anymore.

Re: Any 15c news?

*Message #4 Posted by **Jim Yohe** on 15 June 2011, 10:01 a.m.,*
in response to message #3 by Dave Britten

So after about 15 years this latest (and probably last) episode has finally been released. That's a game I wouldn't have bet money on coming out.

Edited: 15 June 2011, 11:41 a.m.

Re: Any 15c news?

*Message #5 Posted by **Mike Morrow** on 15 June 2011, 12:15 p.m.,*
in response to message #1 by Dave Britten

The release is scheduled to accompany the Rapture, which was recently authoritatively rescheduled for October 21, 2011.

Re: Any 15c news?

*Message #6 Posted by **Namir** on 15 June 2011, 1:07 p.m.,*
in response to message #1 by Dave Britten

Well ... here is reality biting our dreams. Oh well ... was nice when we all got excited about the new 15c.

Well, back to our old calculators!!!

:-(

Namir

Re: Any 15c news?

*Message #7 Posted by **Eric Rechlin** on 15 June 2011, 1:26 p.m.,*
in response to message #1 by Dave Britten

> Quote:
>
> There were quite a few rumors/reports of a June re-release floating around for a while. Well, it's definitely June now. Anything new happening?

Until there is an official (or semi-official) announcement, anybody who knows can't say, and anybody else doesn't know. Anything here is pure speculation and doesn't necessarily have any grounding in reality.

Eric

Re: Any 15c news?

*Message #8 Posted by **rav walia** on 15 June 2011, 1:53 p.m.,*
in response to message #7 by Eric Rechlin

I believe that the calls for a 15c have been around for a long while.

Has HP ever responded in anyway to the calls? For example, saying why it might not happen, not for the for seeable future, etc, etc?

As lowly user, it just seems that HP is a closed shop and to me there's nothing to ever indicate that there will be another scientific RPN, let alone a 15c reissue.

I've tried to use non rpn calculators and find it tough. So my only option is to hope that my HP32sii doesn't flake out on me and HP comes out with something better than the HP35s.

I applaud the repurposing efforts the community is doing and programs written in the past to add a little scientific functionality to some financial rpn calcs from HP. Is this the new way forward, make financial rpn calcs and leave options for repurposing to the rpn community?

I understand that no company would give there roadmap away, but I'd think you'd at least want to let the market know that you're still actively in the market.

Maybe this is all some great marketing strategy from HP that I just don't understand, but surely some teasers would be required to slowly build up the excitment.

Deep down I don't believe that HP will release anything new in the rpn scientific calculator field, but I want/hope they do.

Re: Any 15c news?

*Message #9 Posted by **Tim Wessman** on 15 June 2011, 4:47 p.m.,*
in response to message #8 by rav walia

HHC is a big part of that outreach and communication. It has been receiving a lot more support from the HP calc group these past few years and managers have seen the value and benefit of hosting such an event.

Just the fact that we can communicate so much information to people there is very, very unusual in the world of large companies. I can say with absolute certainty that we will not be announcing a 15c re-release at the HHC 2011 conference in September.

There will *hopefully* (depending on when planes have to leave) be about 10 people from the HP calc group at the conference this year. They timed the marketing/business summit to coincide so that many people would be able to go and interact with users.

I will say that if you ever have thought about going to a conference - this should be the one. I will be quiet now.

TW

Re: Any 15c news?

*Message #10 Posted by **Martin Pinckney** on 16 June 2011, 12:05 a.m.,*
in response to message #9 by Tim Wessman

Well, guys, there's your tease.

Or two or three.

Re: Any 15c news?

*Message #11 Posted by **Walter B** on 16 June 2011, 1:00 a.m.,*
in response to message #10 by Martin Pinckney

Unfortunately the energy stored in the teasing springs doesn't exceed the mountain of costs (and scheduled work) for Pauli and me yet. But seems Marcus may go, so the wp34s project team will have at least two eyes and ears in that elitist gathering, provided the number of beers will reach a sufficient amount ;-)

Walter

Re: Any 15c news? going OT

*Message #12 Posted by **Ren** on 16 June 2011, 12:54 p.m.,*
in response to message #11 by Walter B

Quote:

> Unfortunately the energy stored in the teasing springs doesn't exceed the mountain of costs (and scheduled work) for Pauli and me yet. But seems Marcus may go, so the wp34s project team will have at least two eyes and ears in that elitist gathering, provided the number of beers will reach a sufficient amount ;-)
>
> Walter

Sufficient amount?

That brings to mind the time a former supervisor hosted a couple of weather scientists visiting from Germany at his home for an evening. Just to help "make them feel at home" he bought a variety of imported beers prior to their visit.

The two visitors drank over $200 worth of beer that evening!

B^)

Ren

dona nobis pacem

Re: Any 15c news? going OT

*Message #13 Posted by **Mike Morrow** on 16 June 2011, 3:53 p.m.,*
in response to message #12 by Ren

> Quote:
>
> That brings to mind the time a former supervisor hosted a couple of weather scientists visiting from Germany at his home for an evening. Just to help "make them feel at home" he bought a variety of imported beers prior to their visit.

That would be like someone in Europe providing Budweiser or Schlitz to a visiting American! I'd rather try the local brew.

Re: Any 15c news? going OT

*Message #14 Posted by **Walter B** on 16 June 2011, 4:47 p.m.,*
in response to message #13 by Mike Morrow

> Quote:
>
> That would be like someone in Europe providing Budweiser or Schlitz to a visiting American! I'd rather try the local brew.

I.e. Coke in the US of A ;-)

BTW, if/when you're visiting Europe, get the real (= Czech) Budweiser and taste the difference - best at the brewery in Ceské Budejovice :-)

Walter

Re: Any 15c news?

*Message #15 Posted by **Namir** on 16 June 2011, 8:42 a.m.,*
in response to message #9 by Tim Wessman

Tim,

The folks that usually attend the HHC conferences, like myself, enjoy the camaraderie first and foremost. My wife calls it geek fest and geek fest paloosa! This year's topics regarding the 41CL and the wp34s alone are worth attending. If HP can show or talk about interesting concepts or projects then we are even happier. It's meeting the people to celebrate their skills (like Geoff Quickfall's uncanny gift to repair vintage calculators) and personalities. I have know many attendees for over 30 years and that is something special!

Namir

Re: Any 15c news?

*Message #16 Posted by **Howard Owen** on 16 June 2011, 3:36 p.m.,*
in response to message #9 by Tim Wessman

> Quote:
>
> I can say with absolute certainty that we will not be announcing a 15c re-release at the HHC 2011 conference in September.
>
> Quote:
>
> They timed the marketing/business summit to coincide so that many people would be able to go and interact with users.

I'm an old hand at rumor mongering, so don't be upset as I twist your words. :)

Tim just implied that a new 15C will be announced at the marketing summit!!!

> Quote:
>
> I will say that if you ever have thought about going to a conference - this should be the one. I will be quiet now.

Ooh, must mean the rerelease of the [...] will be unveiled!!! (Put your favorite calc between the brackets.)

Seriously, color me teased. :)

Re: Any 15c news?

*Message #17 Posted by **Martin Pinckney** on 16 June 2011, 3:54 p.m.,*
in response to message #16 by Howard Owen

I think Tim is implying that 1) In spite of all our griping, HP *has* been listening, 2) The 15c+ is going to be released "soon", just not at HHC, 3) There's going to be something *else* very interesting revealed at HHC, and 4) Don't try to pull any more info out of him before then.

Re: Any 15c news?

*Message #18 Posted by **Tim Wessman** on 16 June 2011, 8:24 p.m.,*
in response to message #17 by Martin Pinckney

Mainly I just enjoy stirring the pot and get people worked up. It is always interesting to see the interesting theories that get created based on something I say. :-)

TW

Re: Any 15c news?

*Message #19 Posted by **gene wright** on 16 June 2011, 10:19 p.m.,*
in response to message #18 by Tim Wessman

Well, Tim...thanks for the HP 65CX with 1GB of program memory you sent last week. However, I do wish you had improved the magnetic card capacity. Writing programs at 100 bytes a card takes a while for a nearly 1GB program.

Re: Any 15c news?

*Message #20 Posted by **Namir** on 16 June 2011, 10:22 p.m.,*
in response to message #19 by gene wright

I see you got the early prototype!! I got the one with the USB cable to read and write programs on the PC. I am going to blow people's socks off at the HHC2011.

:-)

Namir

Edited: 16 June 2011, 10:22 p.m.

Re: Any 15c news?

*Message #21 Posted by **John B. Smitherman** on 16 June 2011, 10:26 p.m.,*
in response to message #20 by Namir

Yes, and I'm looking forward to that new RPN unit with an optional 3 dimensional stack. ;-)

John

Re: Any 15c news?

*Message #22 Posted by **Namir** on 16 June 2011, 10:25 p.m.,*
in response to message #19 by gene wright

Gene,

Did you say the HP-65CX, as in HP being the first 2 letters??? Oooops .. I thought you were talking about the TI-65CX with 1GB .. which I got from Joerg last week ..... Oh well .. it will still be fun to show at HhC2011!!

:-)

Namir

Edited: 16 June 2011, 11:17 p.m.

Re: Any 15c news?

*Message #23 Posted by **Ángel Martin** on 17 June 2011, 2:14 a.m.,*

in response to message #18 by Tim Wessman

Tim, I don't know why but in reading your postings I have this vivid image of the "Chesire's Cat" from Alice in Wonderland... :-)

Cheers, /"AM

Re: Any 15c news?

*Message #24 Posted by **Marcus von Cube, Germany** on 16 June 2011, 4:01 p.m.,*
in response to message #16 by Howard Owen

I think the main achievement of the HP calculator R&D department, namely Cyrille & Tim, lies only a few years back when they chose a platform that is variable enough to

- spit out one new calculator after the other with reasonable effort,
- is documented so that it can be repurposed,
- is fast end versatile enough for serious work.

Thanks HP! If you will not announce what is hoped by the community, we will be able to do the job ourselves. ;-)

Re: Any 15c news?

*Message #25 Posted by **Walter B** on 16 June 2011, 4:52 p.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> Thanks HP!

I concur. Thanks to Cyrille and Tim!

> Quote:
>
> If you will not announce what is hoped by the community, we will be able to do the job ourselves. ;-)

At least we'll try ;-)

Re: Any 15c news?

*Message #26 Posted by **Tim Wessman** on 16 June 2011, 8:22 p.m.,*
in response to message #25 by Walter B

Well, the 20/30b was essentially exclusively Cyrille. The thanks for that go exclusively there (and to Sam Kim for helping push through the cable port).

When someone repurposes the 10bII+, I'll happily take the thanks for that! ;-)

TW

Re: Any 15c news?

*Message #27 Posted by **hpnut** on 16 June 2011, 11:41 p.m.,*

in response to message #26 by Tim Wessman

Hey, can anyone here repurpose the HP 10bII+ to do RPN?

now that's a challenge!

Tim, what say you?

hpnut in Malaysia

Re: Any 15c news?

*Message #28 Posted by **Paul Dale** on 17 June 2011, 12:26 a.m.,*
in response to message #27 by hpnut

I imagine it would be straightforward to repurpose.

The display looks to be very difficult to work with (no/limited alpha) and there is no wide enter key.

- Pauli

Re: Any 15c news?

*Message #29 Posted by **M. Joury** on 16 June 2011, 6:42 p.m.,*
in response to message #16 by Howard Owen

> Quote:
>
> Ooh, must mean the rerelease of the [...] will be unveiled!!! (Put your favorite calc between the brackets.)

Would that be a 42S with I/O :)...

Re: Any 15c news?

*Message #30 Posted by **John B. Smitherman** on 16 June 2011, 2:53 p.m.,*
in response to message #7 by Eric Rechlin

> Quote:
>
> Anything here is pure speculation and doesn't necessarily have any grounding in reality.

Also known as **B**asic **S**peculation.

Regards,

John

Re: Any 15c news?

*Message #31 Posted by **Eddie W. Shore** on 17 June 2011, 11:05 a.m.,*
in response to message #30 by John B. Smitherman

> Quote:

> ... **B**asic **S**peculation

LOL

Well, we can always hope for a HP 15S+ in 2012....

Edited: 17 June 2011, 11:06 a.m.

Re: Any 15c news?

*Message #32 Posted by **Marcus von Cube, Germany** on 17 June 2011, 12:22 p.m.,*
in response to message #31 by Eddie W. Shore

What about a WP 15S ? ;-)

Re: Any 15c news?

*Message #33 Posted by **fhub** on 17 June 2011, 12:30 p.m.,*
in response to message #32 by Marcus von Cube, Germany

> Quote:
>
> What about a WP 15S ? ;-)

Or about a MvC-15 ? ;-)

Re: Any 15c news?

*Message #34 Posted by **Ren** on 17 June 2011, 1:29 p.m.,*
in response to message #33 by fhub

Oh you "Pie in the Sky" guys...

HPC will take a slower, more cautious approach than what you've been speculating...

HP is going to re-release the HP-10C+ first and then the 11C+, then quietly release the ill-fated 13C, which, because of negative publicity, force them to abandon the introduction of the 14C, and further delay (for 2-3 years) the eventual re-release of the HP-1[56]C which will maintain the same form factor as the 12C (which should be in its HP-12C Rhodium +SIII variant by then) but have "electronic paper" key tops which will display each keys function as determined by operating mode selected by the user. Well, "user" will be mostly a redundant term as that calculator will not need human interaction and more likely "use" the person handling it to accomplish its (the calculator's) goals via SkyNet.

Ren

dona nobis pacem

Re: Any 15c news?

*Message #35 Posted by **Marcus von Cube, Germany** on 17 June 2011, 1:48 p.m.,*
in response to message #33 by fhub

I would have to steal other's IP to be able to do this alone. I rely very much on Pauli and Walter for the Math and design stuff. I'm the interrupt guy. So no, definitely not an "MvC something".

Re: Any 15c news?

*Message #36 Posted by **David Hayden** on 17 June 2011, 8:18 p.m.,*
in response to message #1 by Dave Britten

HP is very tight lipped about any future calculators. The only way I know of to find out anything about their future thinking and plans is to attend the HHC conference (in San Diego this year). At the conference you will be required to sign a non-disclosure agreement and in exchange, you *may* learn something about HP's future plans. Both HP and the attendees that the non-disclosure agreement very seriously.

At the very least, you will be treated to one of Tim's thrilling talks about Desiduous trees of North America.

Dave

Re: Any 15c news?

*Message #37 Posted by **Tim Wessman** on 17 June 2011, 10:32 p.m.,*
in response to message #36 by David Hayden

Last year it was "Woodworking 101".

The title for my talk this year is, correctly, identified as "Deciduous Trees of North America".

:-)

TW

Re: Any 15c news?

*Message #38 Posted by **Ren** on 18 June 2011, 12:31 a.m.,*
in response to message #37 by Tim Wessman

> Quote:
>
> Last year it was "Woodworking 101".
>
> The title for my talk this year is, correctly, identified as "Deciduous Trees of North America".
>
> :-)
>
> TW

Darn! And I thought you were going to talk about Decision Trees!

Re: Any 15c news?

*Message #39 Posted by **John B. Smitherman** on 18 June 2011, 9:18 a.m.,*
in response to message #38 by Ren

After solving for the roots generate a stem and leaf plot.

John

Re: Any 15c news?

*Message #40 Posted by **Ángel Martin** on 18 June 2011, 1:46 a.m.,*
in response to message #37 by Tim Wessman

Doing Evergreens soon? :=)

Re: Any 15c news?

*Message #41 Posted by **Mike Morrow** on 18 June 2011, 7:11 a.m.,*
in response to message #40 by Ángel Martin

"...he's a lumberjack, he's OK..." :-)

Re: Any 15c news?

*Message #42 Posted by **Tim Wessman** on 18 June 2011, 12:16 p.m.,*
in response to message #40 by Ángel Martin

Already doing one actually.

TW

Re: Any 15c news?

*Message #43 Posted by **Norman Dziedzic** on 19 June 2011, 3:58 p.m.,*
in response to message #42 by Tim Wessman

Since we're pretty OT already, this might be of interest.. Growing Deer Population Hurts Survival of Forests

Re: Any 15c news?

*Message #44 Posted by **Ángel Martin** on 20 June 2011, 5:54 a.m.,*
in response to message #43 by Norman Dziedzic

Well, I might be over-optimistic but in my mind there's nothing OT in Tim's answer..... !!!

Re: Any 15c news?

*Message #45 Posted by **Glenn Dowdy** on 20 June 2011, 10:26 a.m.,*
in response to message #37 by Tim Wessman

> Quote:
>
> Last year it was "Woodworking 101".
>
> The title for my talk this year is, correctly, identified as "Deciduous Trees of North America".
>
> :-)
>
> TW

Please don't ask me to review your paper prior to HHC.

Re: Any 15c news?

*Message #46 Posted by **Tim Wessman** on 20 June 2011, 10:49 a.m.,*
in response to message #45 by Glenn Dowdy

Are you a tree expert or something? It isn't a contract. . .

Or do you just meant it would be a rather tedious read! :-)

TW

Edited: 20 June 2011, 1:08 p.m.

Re: Any 15c news?

*Message #47 Posted by **sylvandb** on 21 June 2011, 3:29 p.m.,*
in response to message #46 by Tim Wessman

> Quote:
>
> Are you a tree expert or something? It isn't a contract. . .
>
> Or do you just meant it would be a rather tedious read! :-)

Probably concerned about wooden prose.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HHC2011 and wp34s

*Message #1 Posted by **Marcus von Cube, Germany** on 14 June 2011, 4:59 a.m.*

Hello friends and participants of the upcoming HHC 2011 in San Diego!

I'm making up my mind going there and hold a presentation about our project. I will most probably tell you about my part which I know best but in the meantime I know quite a few things about Walter's and Pauli's work over the years.

There is on obstacle: cost. The flight alone will be in the 800 Euro league. I'm certainly able to cover my expenses on my own but I'd appreciate any donations made on the project's SoureForge pages to buy me a beer or one or more nights in the hotel. I plan for at least a week in San Diego. You will not want to see a sleeping developer on the conference suffering from jet lag, don't you?

Edited: 14 June 2011, 5:01 a.m.

Re: HHC2011 and wp34s

*Message #2 Posted by **Jake Schwartz** on 14 June 2011, 4:32 p.m.,*
in response to message #1 by Marcus von Cube, Germany

> Quote:
>
> I'm making up my mind going there and hold a presentation about our project.

This is great news. Hopefully, we can pitch in and at least pick up a portion of your costs. This project is important enough (IMHO) that HP should be able to have an opportunity to speak to (at least) one of the primary developers in person. The wp34s might not mean much in HP's grand scheme of things, but to me, it's a 21st century version of the PPC ROM - where the community gets to extend a machine (in this case the 20b/30b platform) far beyond its originally-planned scope. In my fantasy, they'd take enough notice to think that they should be doing something like this on their own :-)

Thanks, Jake

Re: HHC2011 and wp34s

*Message #3 Posted by **gene wright** on 14 June 2011, 4:35 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I agree with Jake.

I think it will be humorous to me for some HP attendees to perhaps begin to realize that the WP 34s is in many ways a much more capable scientific calculator than the 35s.

In fact, a comparison document between the two would be something good to put together.

Re: HHC2011 and wp34s

*Message #4 Posted by **Namir** on 14 June 2011, 4:55 p.m.,*
in response to message #3 by gene wright

Gene,

Maybe the HHC organizers can ask for some contributions for Marcus' expenses during the registration process. I would be willing to do that.

Can HP also help with some of Marcus' expenses, such as lodging? After all he and his team represent a success story for repurposing the 20b/30b machines, which in turn is a feather in HP's cap (Cyril to be more exact).

Namir

Edited: 14 June 2011, 5:01 p.m.

Re: HHC2011 and wp34s

*Message #5 Posted by **db (martinez, ca.)** on 14 June 2011, 10:35 p.m.,*
in response to message #4 by Namir

".....he and his team represent a success story for repurposing the 20b/30b machines....."

Exactly true Namir. When Sam Kim first showed me the the 20b he said that he hoped others would pick up the platform and use it as the basis for controllers, keypads, data entry devices and faceplates. The 34s may be the first such use and would be a great example to show prospective 3rd parties. HP and Cyril should buy Marcus some very good beer.

Re: HHC2011 and wp34s

*Message #6 Posted by **Namir** on 14 June 2011, 10:39 p.m.,*
in response to message #5 by db (martinez, ca.)

Well put, especially that HP can show the wp34s as an example for other third parties.

Re: HHC2011 and wp34s

*Message #7 Posted by **Marcus von Cube, Germany** on 15 June 2011, 2:30 a.m.,*
in response to message #6 by Namir

I'm looking forward to "some very good beer". :-)

To be honest, I'm less then one third of the team. My main achievement was bringing what had already been done by Pauli, Walter, and to some extend Hugh, in more than two years before I joined them, to a greater audience in form of the emulator (originally furnished by HP in the SDK) and later to the real hardware. I had earned my living with micro controller programming more then 20 years ago which still proved beneficial for my part of the project. I'll tell you about the story in person. :-)

Re: HHC2011 and wp34s

*Message #8 Posted by **Namir** on 15 June 2011, 7:58 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Marcus,

Would some nice alcohol-free beer do the job? I am just kidding!!! I don't drink alcoholic beverages, but I will be happy to buy you "some very good beer" in San Diego.

Namir

Edited: 15 June 2011, 7:59 a.m.

Re: HHC2011 and wp34s

*Message #9 Posted by **Marcus von Cube, Germany** on 15 June 2011, 10:05 a.m.,*
in response to message #8 by Namir

There are really good alcohol free beverages around so if it suits you better, an alcohol free beer will be fine. I'm still checking if my wife can come with me. Be prepared for a second drink for her. ;-)

Re: HHC2011 and wp34s

*Message #10 Posted by **Namir** on 15 June 2011, 1:12 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Okay .. drinks for two German folks coming right up.

As someone who studied chemical engineering, I have to ask what flow rate we are talking about (between 1 and 100)--litters per seconds, gallon per minutes, barrels per day??? Just so I can bring the right credit card ... or my guitar (so I can pay by singing ... I have done well in the past when people paid me to STOP playing and singing ... and was the winner of the TV show "America Totally Lacks Talents").

Namir

Edited: 15 June 2011, 1:18 p.m.

Re: HHC2011 and wp34s

*Message #11 Posted by **Marcus von Cube, Germany** on 15 June 2011, 1:53 p.m.,*
in response to message #10 by Namir

Namir, DON'T bring your guitar or I will be paying my drinks myself. :-O

Re: HHC2011 and wp34s

*Message #12 Posted by **Namir** on 15 June 2011, 2:17 p.m.,*
in response to message #11 by Marcus von Cube, Germany

ok ok ... no guitar!! Just my plastic cards.

BTW, do you happen to live near Darmstadt (spelling?) the university town?

Edited: 15 June 2011, 2:18 p.m.

Re: HHC2011 and wp34s

*Message #13 Posted by **Marcus von Cube, Germany** on 15 June 2011,*

2:28 p.m.,
in response to message #12 by Namir

> Quote:
>
> BTW, do you happen to live near Darmstadt (spelling?) the university town?

About 45 minutes of driving if the Autobahn isn't too full. I live north of it (and north of Frankfurt/Main) in the Taunus mountain range.

Re: HHC2011 and wp34s

*Message #14 Posted by **John B. Smitherman** on 15 June 2011, 5:19 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> I live north of it (and north of Frankfurt/Main) in the Taunus mountain range.

Marcus, it's a small world. Years ago I spent some time with a family in Brombach.

Prost!

John

Re: HHC2011 and wp34s

*Message #15 Posted by **Walter B** on 16 June 2011, 12:48 a.m.,*
in response to message #14 by John B. Smitherman

Hi John,

Assume you lived in Brombach im Taunus, being a part of Schmitten :-) There are three more Brombachs in Germany ;-)

Walter

Re: HHC2011 and wp34s

*Message #16 Posted by **John B. Smitherman** on 16 June 2011, 11:44 p.m.,*
in response to message #15 by Walter B

> Quote:
>
> Assume you lived in Brombach im Taunus, being a part of Schmitten :-)

Genau! In 1979 war Brombach ein kleines Dorf. Es liegt in der Naehe von Schmitten in Taunuskreis.

John

Re: HHC2011 and wp34s

*Message #17 Posted by **Walter B** on 17 June 2011, 2:40 a.m.,*
in response to message #16 by John B. Smitherman

Hi John,

> Quote:
>
> 1979 war Brombach ein kleines Dorf. Es liegt in der Nähe von Schmitten in Taunuskreis.

Donnerwetter! You preserved your language skills extremely well over three decades :-) Due to our "Gemeindereform", lots of such small villages like your Brombach became parts of bigger villages nearby. It was advertised as a measure to improve service for the citizens ... :-/

For sure you use that foreign language on a regular basis. Where?

Walter

Re: HHC2011 and wp34s

*Message #18 Posted by **Geoff Quickfall** on 15 June 2011, 6:25 p.m.,*
in response to message #13 by Marcus von Cube, Germany

I was just in Mainz last week!

How far for you to drive as I only get 24 hours at a time, some of which is at the pub.

Geoff

Re: HHC2011 and wp34s

*Message #19 Posted by **Walter B** on 16 June 2011, 12:09 a.m.,*
in response to message #18 by Geoff Quickfall

Hi Geoff,

Assume you didn't touch down in Mainz ;-) From FRA to my home it's a 20' drive, to Marcus 30', both if the autobahn isn't jammed. So next time drop us a message :-)

Walter

Re: HHC2011 and wp34s

*Message #20 Posted by **Geoff Quickfall** on 16 June 2011, 1:09 a.m.,*
in response to message #19 by Walter B

Will do!!!!

your correct, touch down in FRA. Usually arrive around 10 am so I will definetly contact you!

Cheers, Geoff

Re: HHC2011 and wp34s

*Message #21 Posted by **gene wright** on 15 June 2011, 10:14 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Hoping that you will be able to attend, please plan :-) on making at least one presentation on the 34s with your story of how it came to real hardware.

Amazing that back in what... ? January... ? the 34s only seemed to live in a text-based emulator.

The REAL event seems to have been getting a GUI emulator running followed soon after by REAL hardware. Yay.

Re: HHC2011 and wp34s

*Message #22 Posted by **Marcus von Cube, Germany** on 15 June 2011, 10:20 a.m.,*
in response to message #21 by gene wright

I started early March this year after helping Meindert with his MBED project.

Re: HHC2011 and wp34s

*Message #23 Posted by **Marcus von Cube, Germany** on 16 June 2011, 6:54 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I made up my mind. :-)

I've booked flights for my wife and me to San Diego from Sep 19 to 28. Now I need to find a nice hotel somewhere downtown.

Re: HHC2011 and wp34s

*Message #24 Posted by **Jake Schwartz** on 16 June 2011, 8:57 a.m.,*
in response to message #23 by Marcus von Cube, Germany

> Quote:
>
> I made up my mind. :-)

Excellent. You will be hailed as a "hero" and can return home with kudos for the entire team. Whether you choose to "drink your kudos" in San Diego, or save some for later is entirely your choice :-)

Jake

Re: HHC2011 and wp34s

*Message #25 Posted by **Marcus von Cube, Germany** on 16 June 2011, 9:05 a.m.,*
in response to message #24 by Jake Schwartz

> Quote:
>
> You will be hailed as a "hero" and can return home with kudos for the entire team.

Sound good. :-)

Someone already offered support for the hotel. It looks like this will be taken care of for free (at least from my side.) Thanks again! Since I'm not alone and we will stay for about a week, we decided not to go to the hotel near the conference but downtown. Just a little bit closer to the fun.

[Return to Index | Top of Index]

Go back to the main exhibit hall

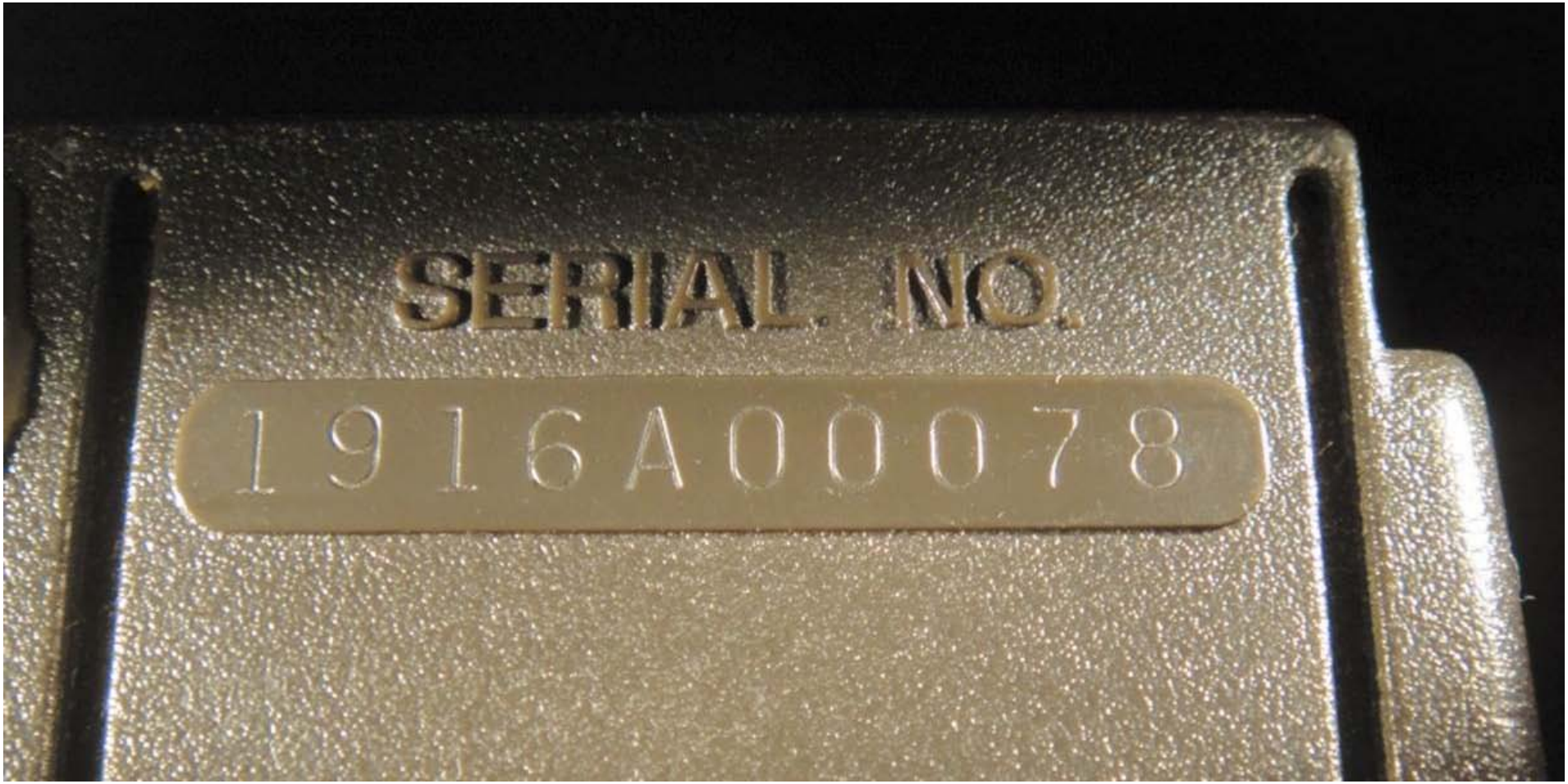
HP Forum Archive 20

[Return to Index | Top of Index]

How's this for an early HP 41c?

*Message #1 Posted by **Gene Wright** on 13 June 2011, 10:38 p.m.*

This is one of Richard Nelson's HP 41c units. I'm wondering if this might have been his beta unit he had long before the HP 41 was announced.



Re: How's this for an early HP 41c?

*Message #2 Posted by **Geoff Quickfall** on 14 June 2011, 12:30 a.m.,*
in response to message #1 by Gene Wright

Now that is old!

Does it still work?

Re: How's this for an early HP 41c?

*Message #3 Posted by **John Robinson** on 14 June 2011, 2:41 a.m.,*
in response to message #1 by Gene Wright

Is that "classic" green plastic ?

Re: How's this for an early HP 41c?

*Message #4 Posted by **gene wright** on 14 June 2011, 7:08 a.m.,*
in response to message #3 by John Robinson

I think it is the normal HP 41 plastic color. Think it works too.

Re: How's this for an early HP 41c?

*Message #5 Posted by **BruceH** on 14 June 2011, 3:17 p.m.,*
in response to message #4 by gene wright

> Quote:
>
> I think it is the normal HP 41 plastic color. Think it works too.

Are we still doing the spoof eBay ads?
:-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-55 odd behavior revisted

*Message #1 Posted by **Martin Pinckney** on 13 June 2011, 10:09 p.m.*

Thanks to everyone who contributed responses to my original post. The consensus seemed to be a bad ROM. Special thanks to Michael de Estrada, who furnished a "donor" HP-55 at modest cost. Swapped out the logic board, now all is well!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S experience (cable, flashing, overlay, etc)

*Message #1 Posted by **JayV** on 13 June 2011, 9:46 p.m.*

http://www.flickr.com/photos/jay_vavra/5830509555/

The photo above is my 30b flashed with the 34S firmware. I purchased the 30b with the intent of making the conversion, so I didn't do much with the calculator prior to flashing. I requested and received the cable very quickly (thanks Gene!). I followed the instructions and the flashing process worked as expected with no surprises.

Immediately after flashing, the the display seemed to be at the highest contrast it was capable of. The first thing I needed to do was adjust the contrast. I searched the 34S Owner's Manual but didn't find anything regarding adjustment of the display. Holding "On" while pressing "+" and "-" made the adjustments, as it does on every other HP calculator I have and it was documented in the Quick Start Guide that come with the 30b. The WP 34S Owner's Manual seems to cover the software extremely well, but the addition of this basic hardware adjustment would be helpful to someone who wasn't familiar with the method from previous experience.

A few days after flashing the calculator (and frustrating myself with my inability to coordinate between the keyboard on screen and the physical calculator) my overlay arrived (thanks Eric!). I had read a few other descriptions and suggestions on this forum for applying the overlay and decided to give it a shot. The overlay proved more durable than it felt as I had to peel back and make a few slight adjustments. Three keys, "h" "<-" and "divide" seem a bit mushy after applying the overlay. After pressing a couple times though they regain their original feel and only feel mushy again after a few hours of no use. I hope they eventually permanently adjust to the normal feel. I believe I had read someone else making the suggestion of slightly larger key openings and I'd second that suggestion, but only slightly larger. The current fit seems almost perfect, but achieving that fit isn't easy and takes a lot of patience. Slightly larger openings would make installation a bit easier. Applying the overlay took a total of about an hour, but I wasn't giving it 100% of my attention at the time. I did use tweezers for holding and aligning the key labels and I'm pretty happy with how they turned out. Aesthetics wise, I think I'd prefer rounded corners on the main overlay to mirror the factory corners on the hp logo, metallic bezel, and lcd opening. So far the material and printing seems pretty durable.

Everything I've attempted regarding the software has worked as expected. I haven't had a chance to really stress it, but I've done a bit and between my previous experience, reading this forum, and reading the Owner's Manual I have been able to figure things out so far. I'll certainly ask questions when they arise.

Finally, congratulations to Paul, Walter, Marcus and everyone involved with the WP 34S. This is an extremely impressive project and the results are tremendous. I look forward to using the calculator, showing it to friends and coworkers, and watching the project continue to improve and gain users and popularity.

Edited: 13 June 2011, 9:52 p.m.

Re: WP 34S experience (cable, flashing, overlay, etc)

*Message #2 Posted by **Walter B** on 14 June 2011, 2:12 a.m.,*
in response to message #1 by JayV

Jay,

Thank you for your kind words. I've included ON + and - in the documentation now. Please see the paragraph "Support Commands" in the most recent Manual_wp_34s_2_0.pdf :-)

Walter

Re: WP 34S experience (cable, flashing, overlay, etc)

*Message #3 Posted by **Marcus von Cube, Germany** on 14 June 2011, 2:44 a.m.,*
in response to message #1 by JayV

You must have downloaded your flash file through the web interface as it does not show the internal revision number but blanks instead. It's better to use either a regular SVN client or wait for another "official" release. The SVN version is always "the leading edge" but at times will be totally broken. Such is progress...

I need to update the zip file soon because we surely do not want people to install and work with a version that is no longer binary compatible with what we have now in the current build.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #1 Posted by **Geoff Quickfall** on 13 June 2011, 8:11 p.m.*

Thoughts:

in one word "incredible".

Pics:

well some more thoughts first. My donor is serial numbered 1933Axxxx (thanks Gene) making it a very early example with the "tall keys" keyboard. I used this donor because the case is pristine as is the battery module block and battery posts. The logic pca is dead, and I still haven't trouble shot it as yet. I also wanted to use the 'oldest version of 41C' that I had, just to contrast with the newest technology supplied by Monte.

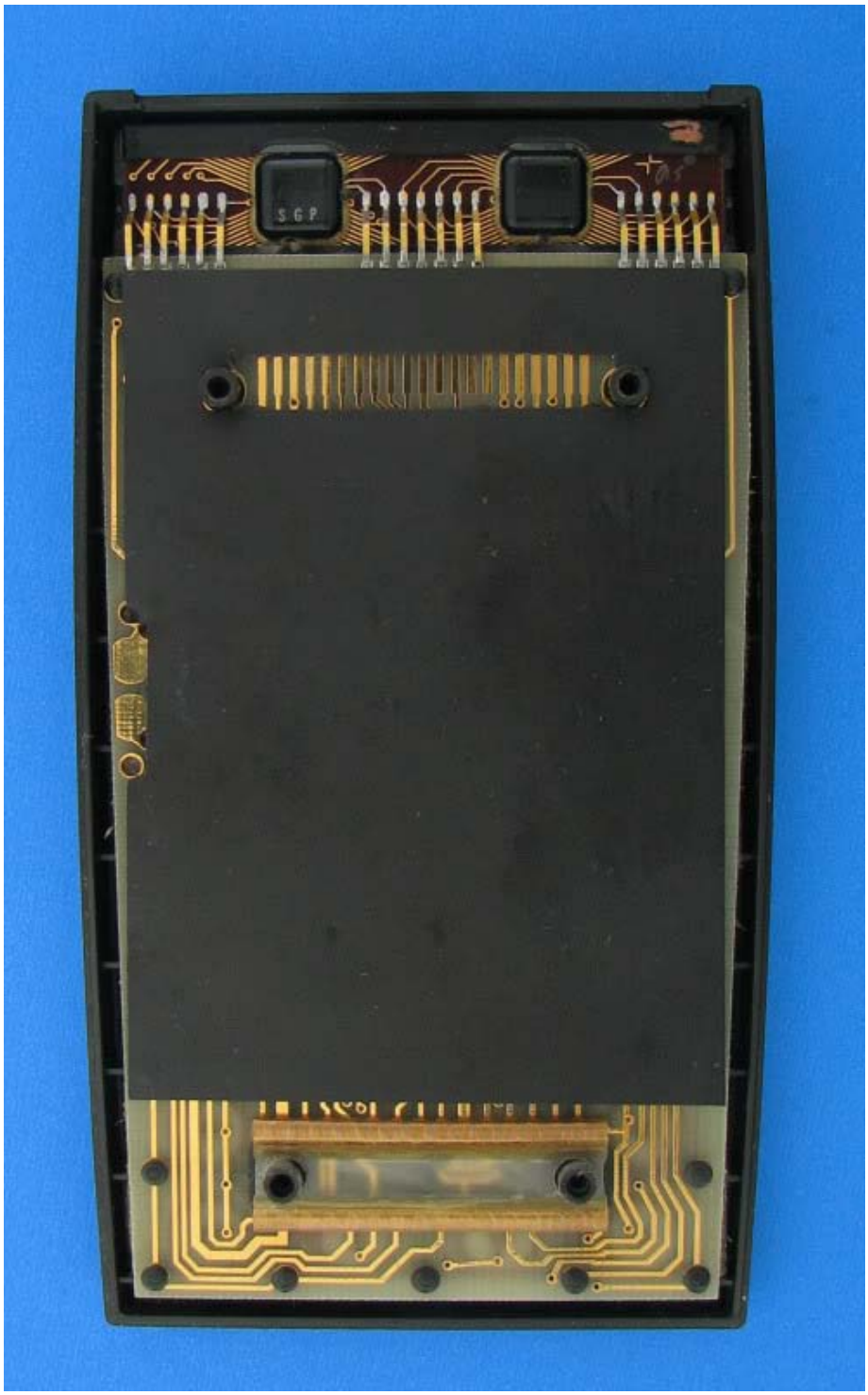
After a thorough cleaning I was preparing to install when I read Monte's warning to READ the installation manual. Usually I don't! This time I did!!

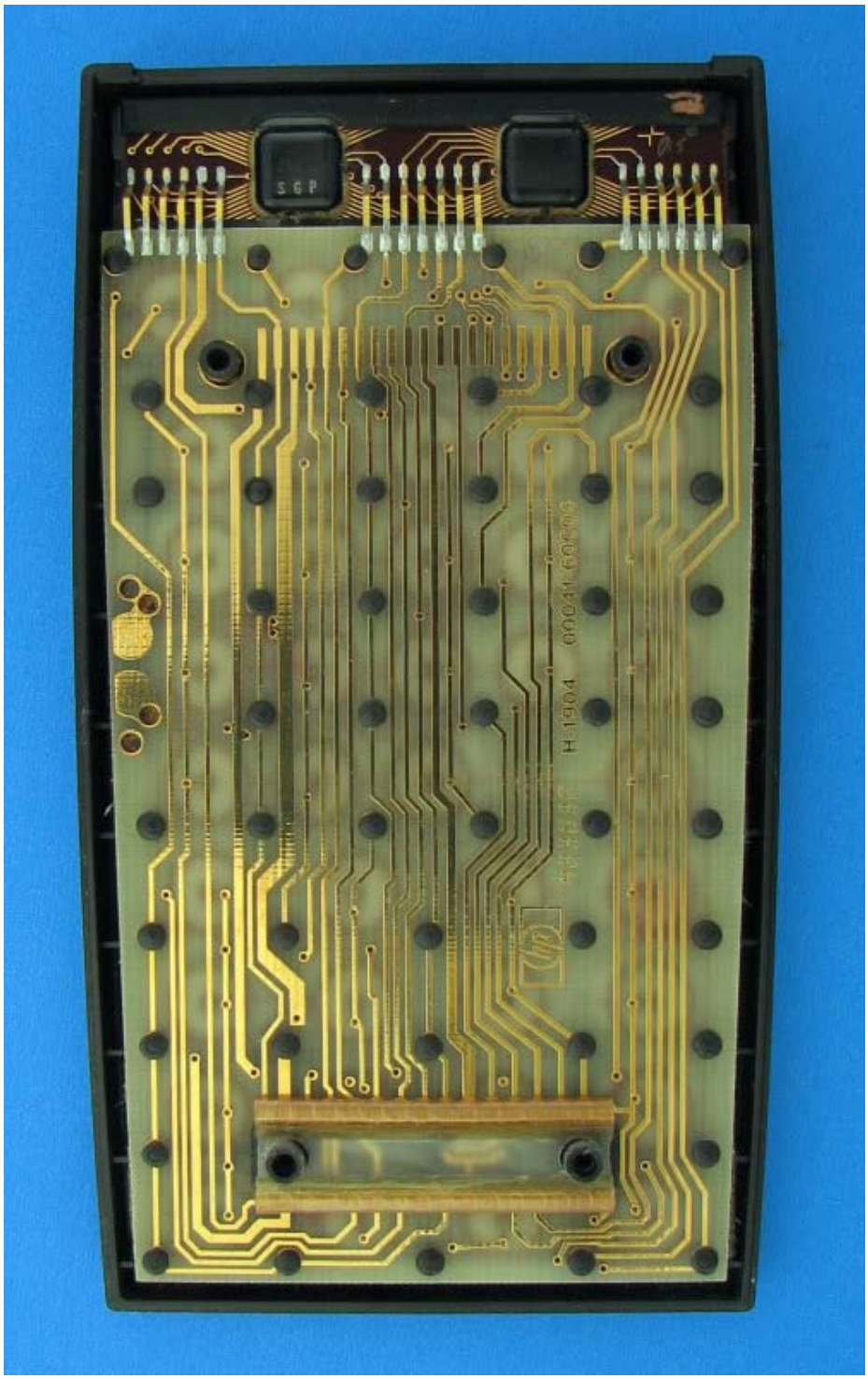
According to Monte's installation instructions there is a warning about differing revisions on the LCD display. Revision F LCD panels need an installation of a .01uF from the OS1 pin out on the keyboard pca pinout. The ground is pin two of the keyboard logic pca. These two pins can be found at the LCD pinouts at the top of the keyboard pca also (see the pinout diagram at bottom of posting). This LCD pinout would be the easiest area to attach the 0.01uF capacitor. I will do that tomorrow.

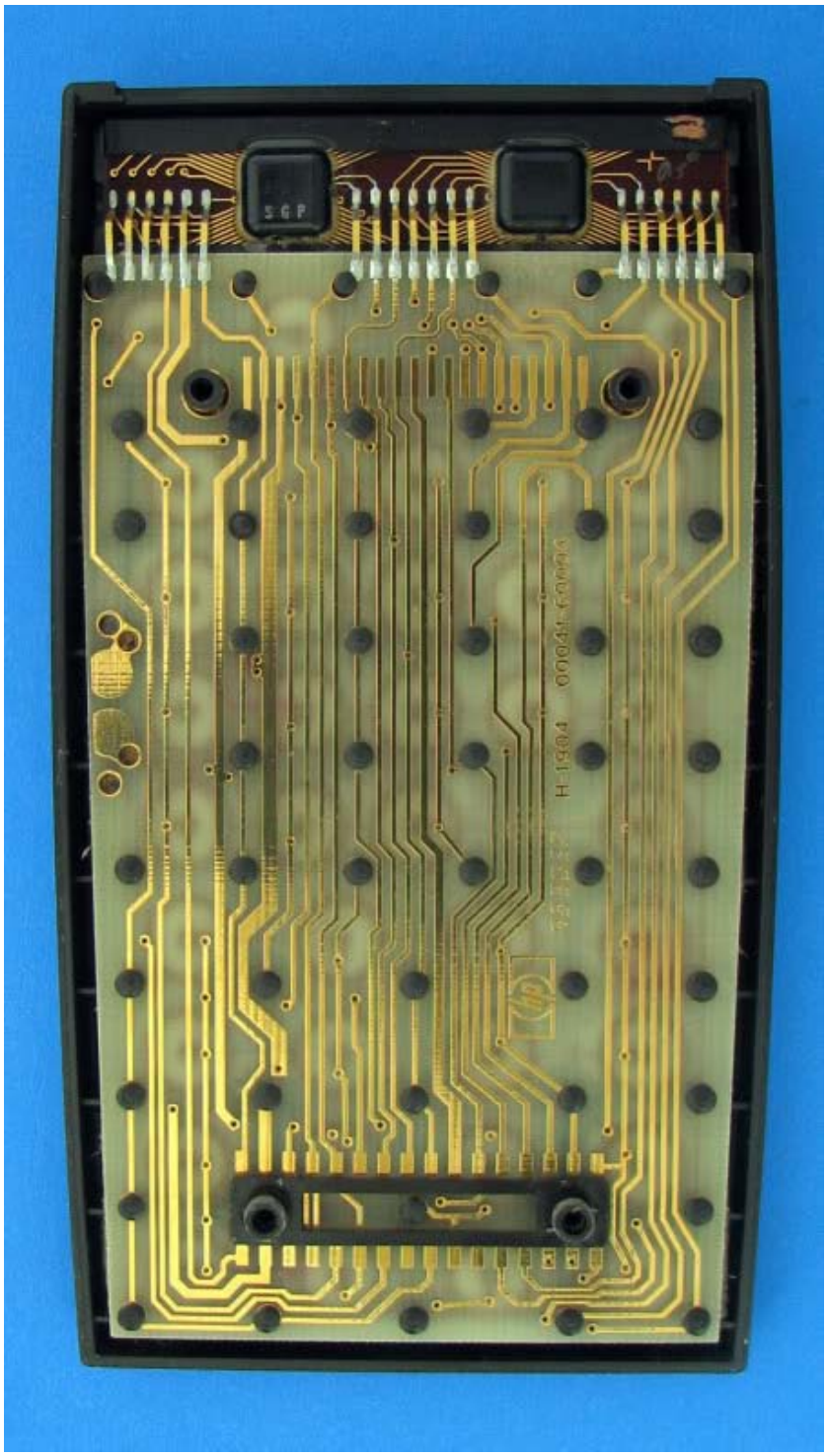
Some shots:

the HP 41C serial numbered 1933A which is below the cutoff of 1954A. This means that I need to add the 0.01uF cap. Note the shinier keyboard bezel. Missing is the textured matte surface of later 41Cs.

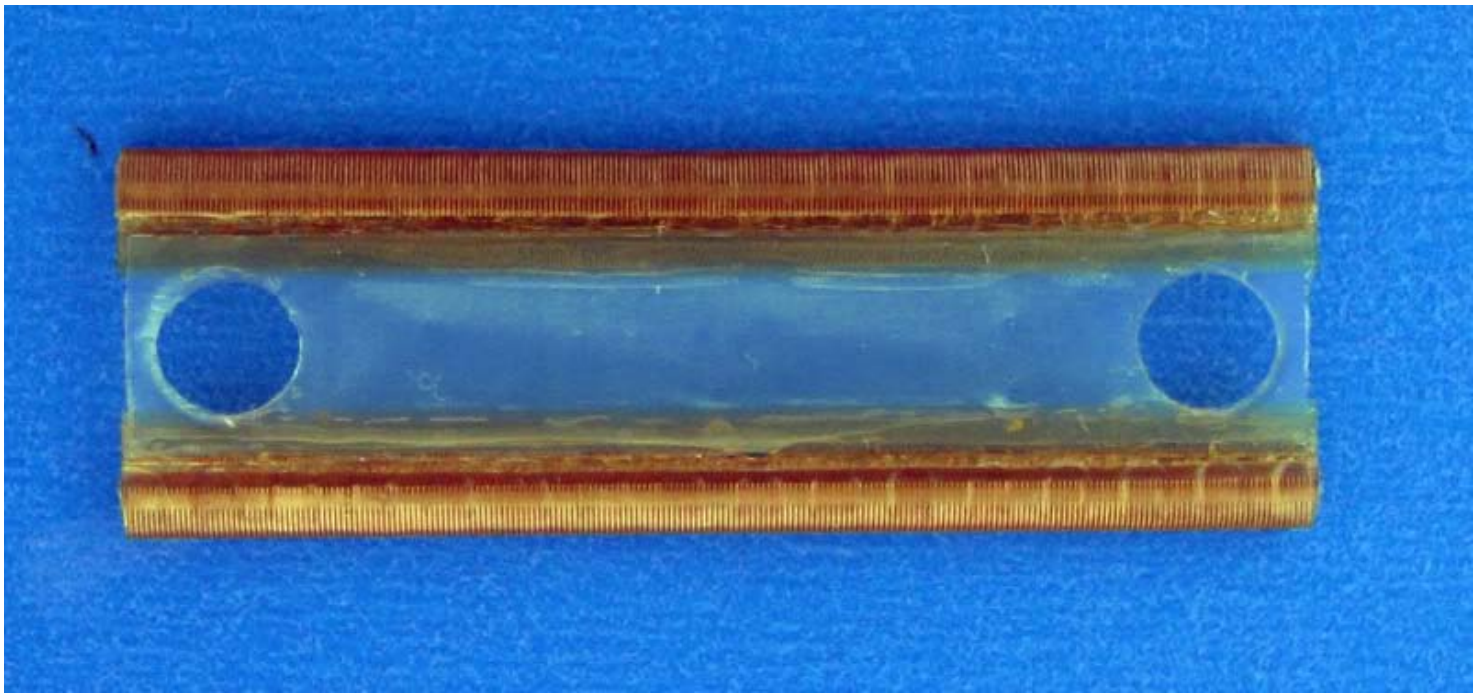
Opening the case and placing the back aside, here are the sequential shots after removing the 41C original logic PCA:



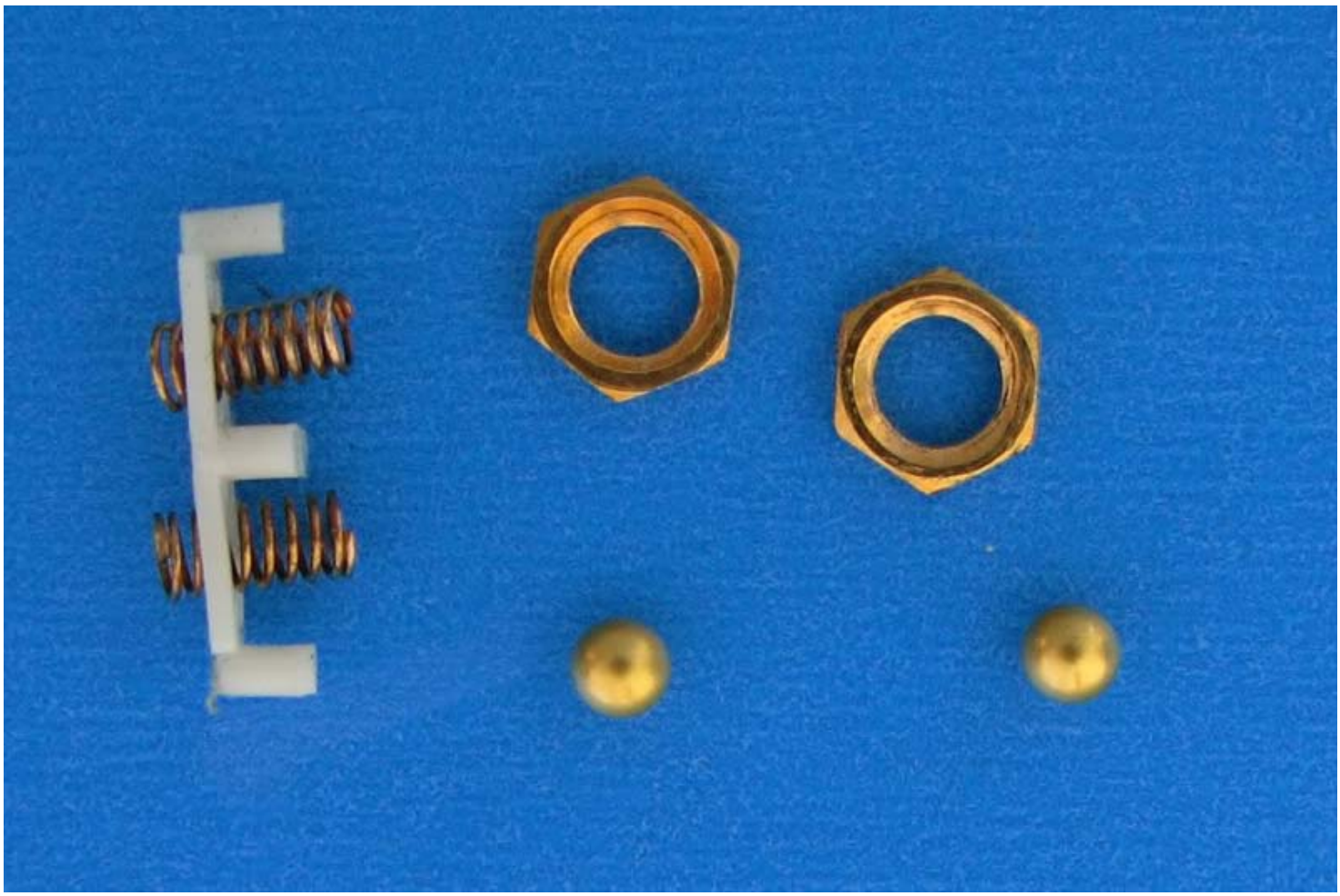

SGP
H 1904



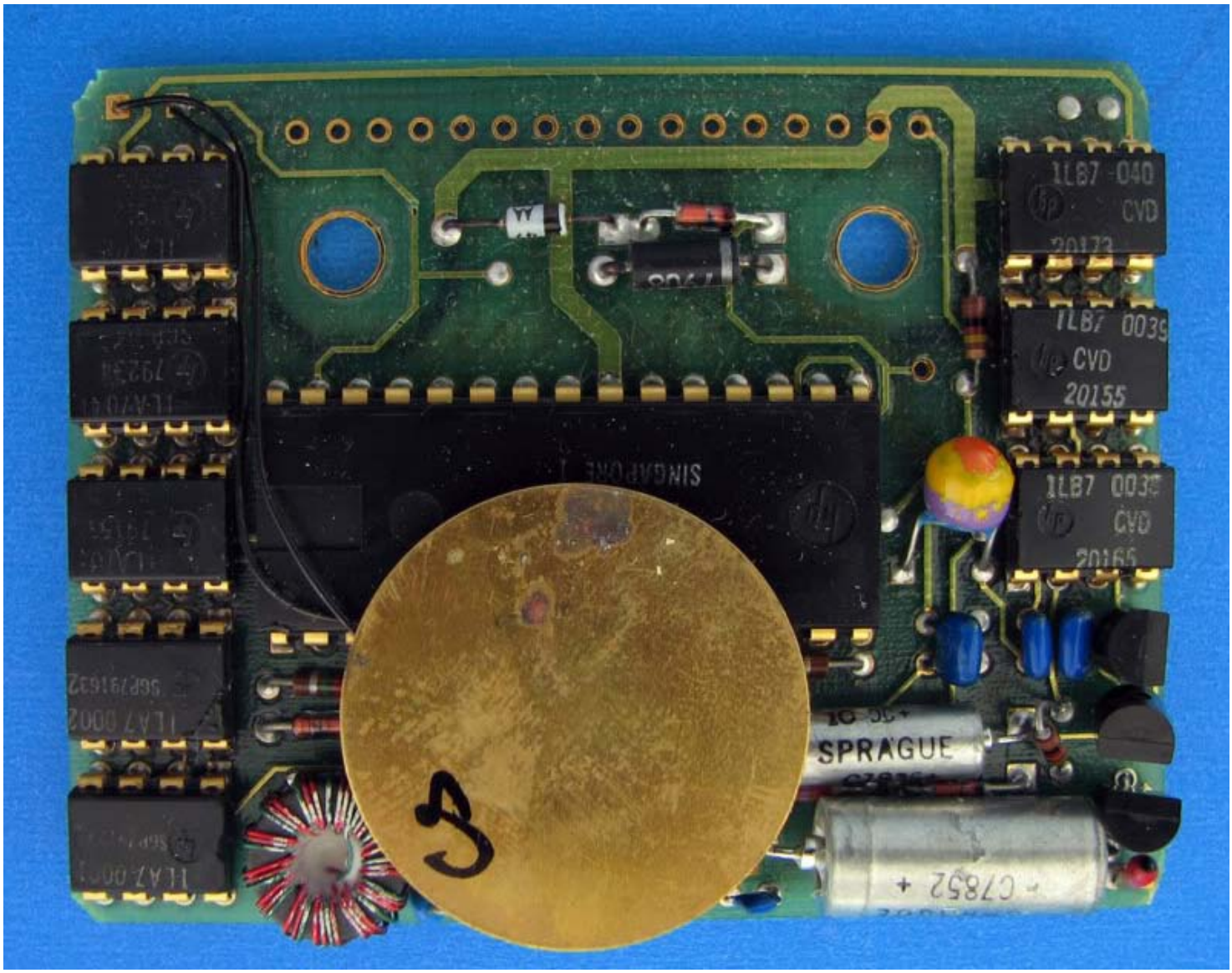
Close up of the wired connector recommended by Monte and others:

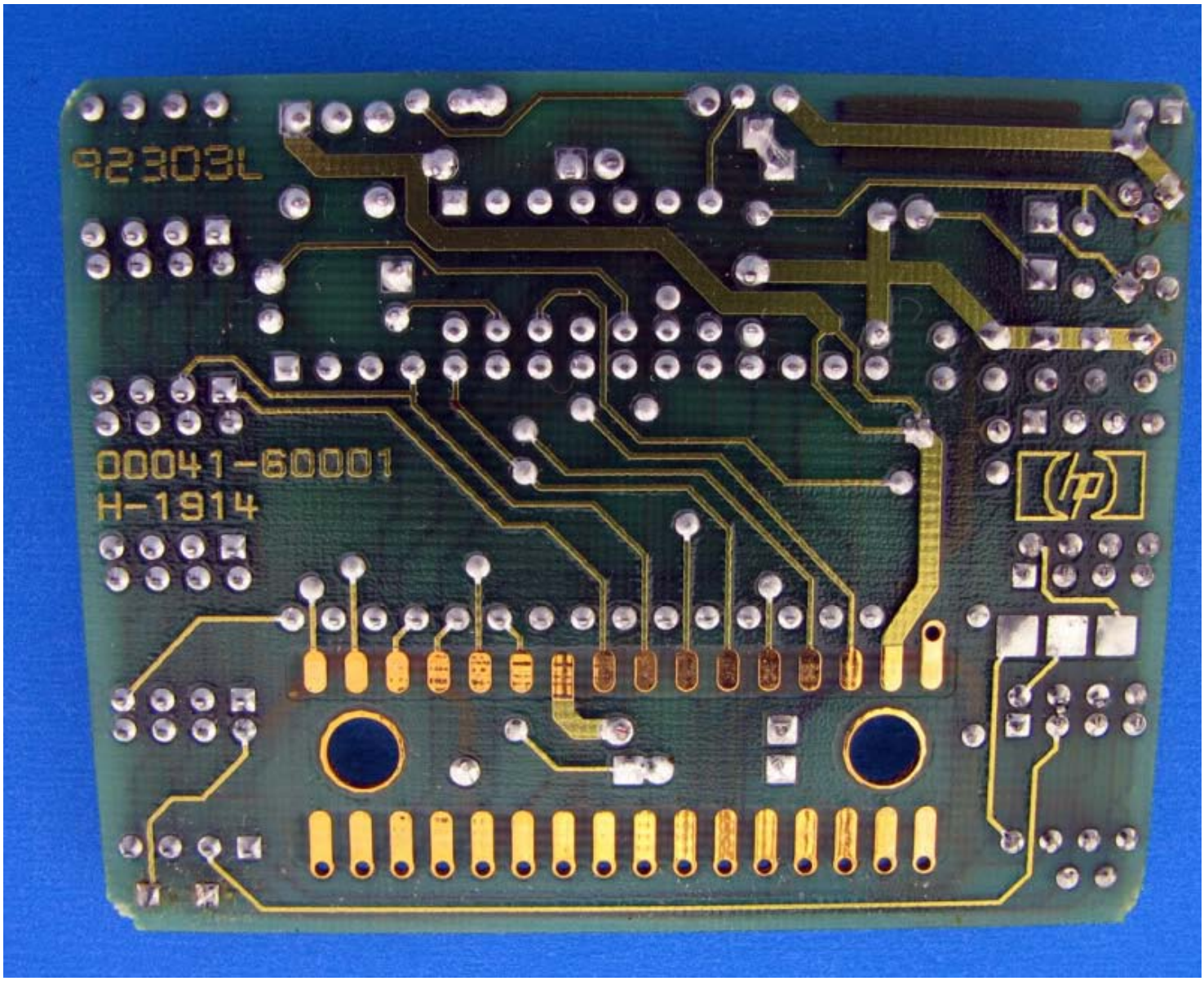


The AC ball and springs connector as well as the original nuts that hold the oldest HP 41C logic pcas:

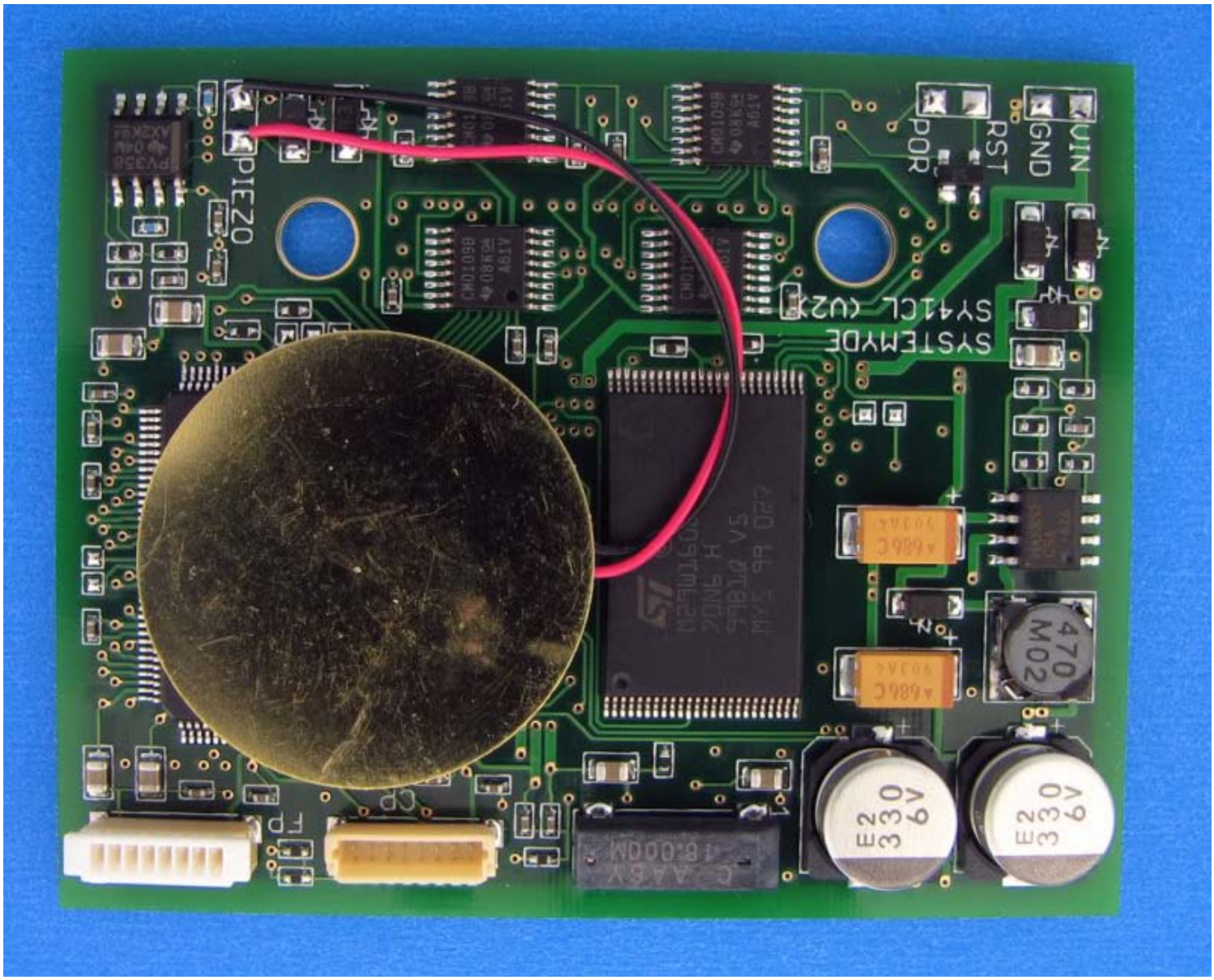


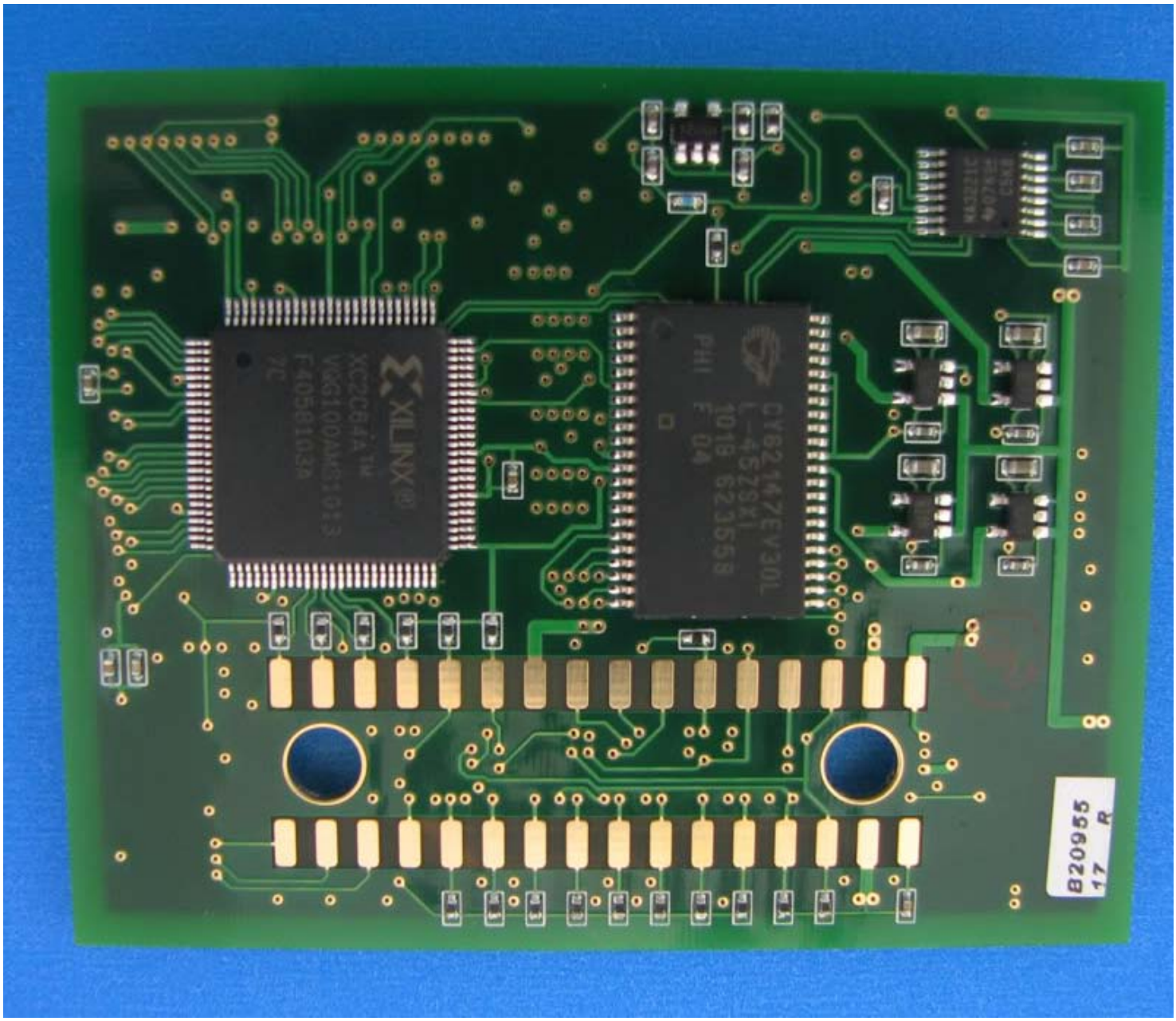
Close up of the original PCA obverse and reverse followed by Montes new 41CL:


1LB7 040
CVD
1LB7 0039
CVD
20155
1LB7 0039
CVD
SINGAPORE
SPRAGUE
C7852 +

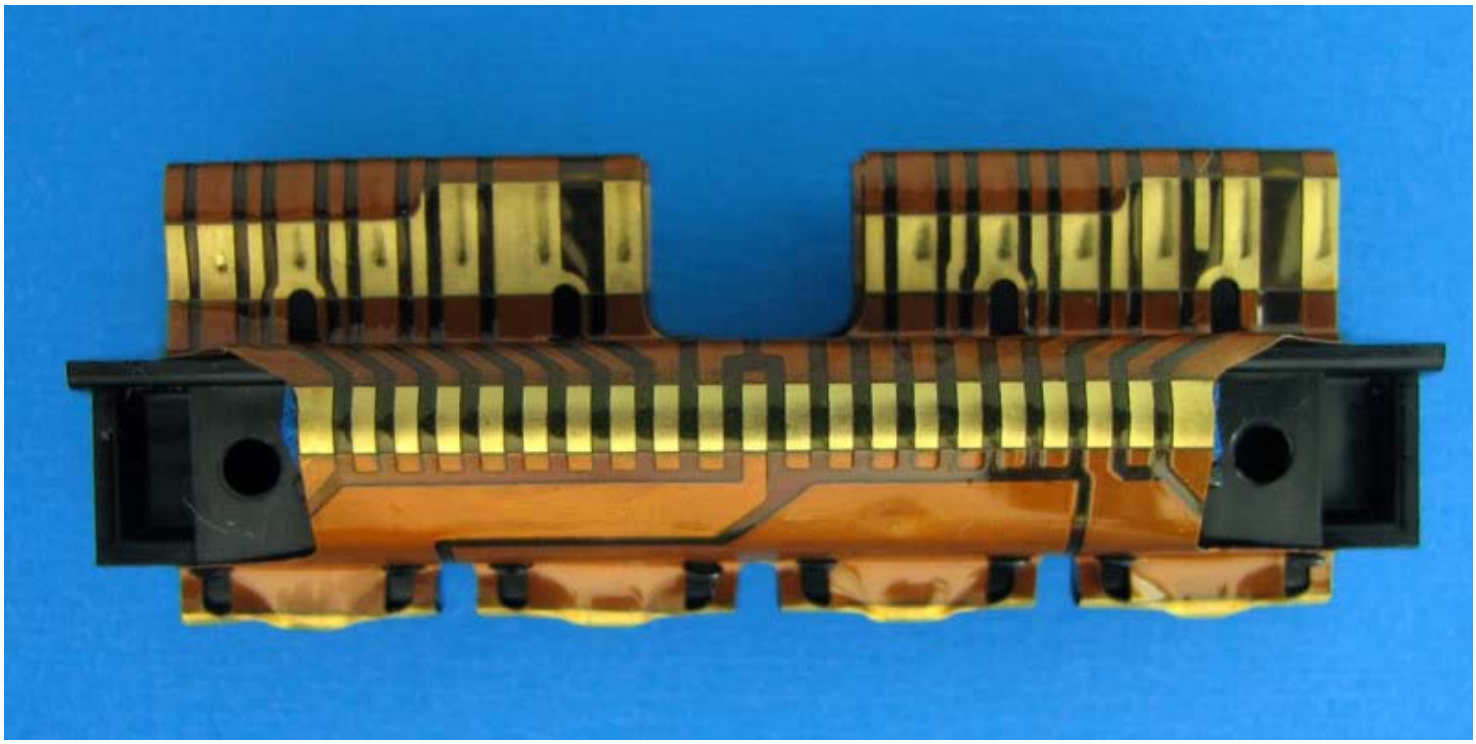


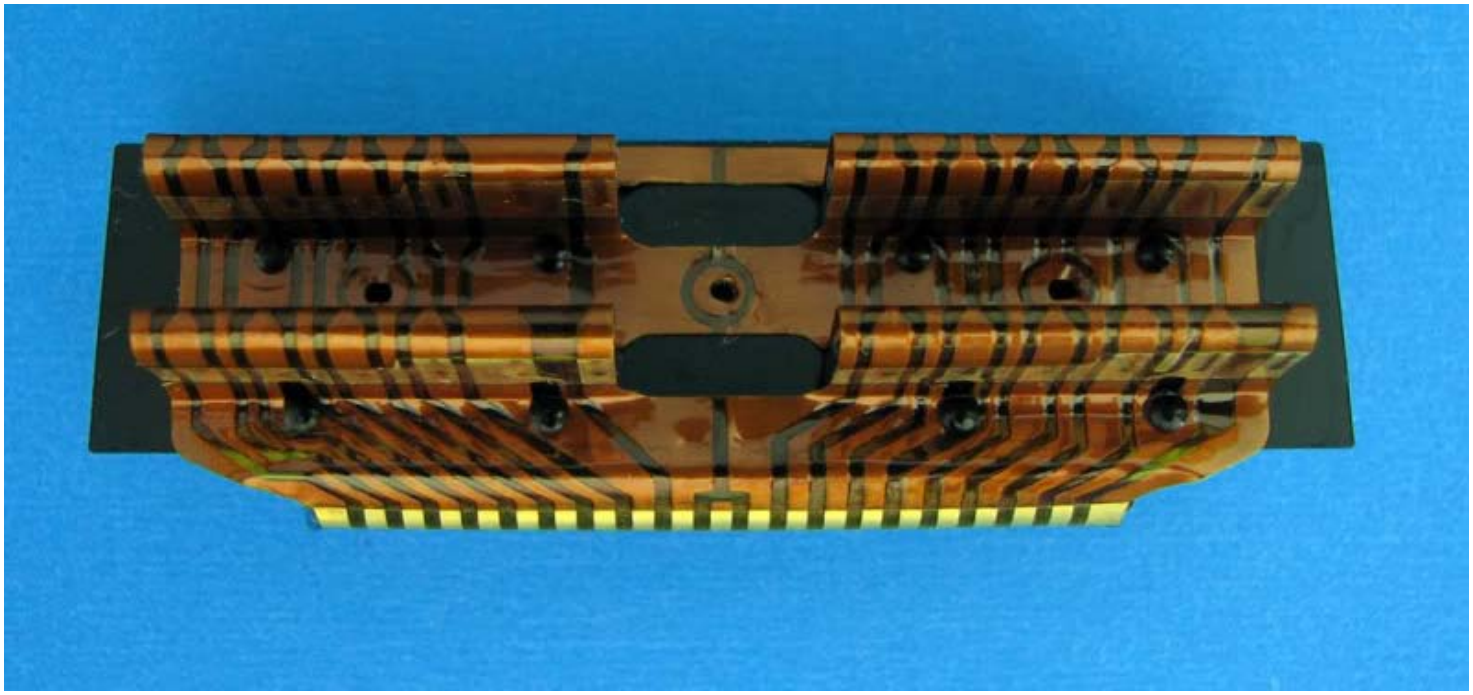
You can see the quality in Montes 41CL, wonderful:

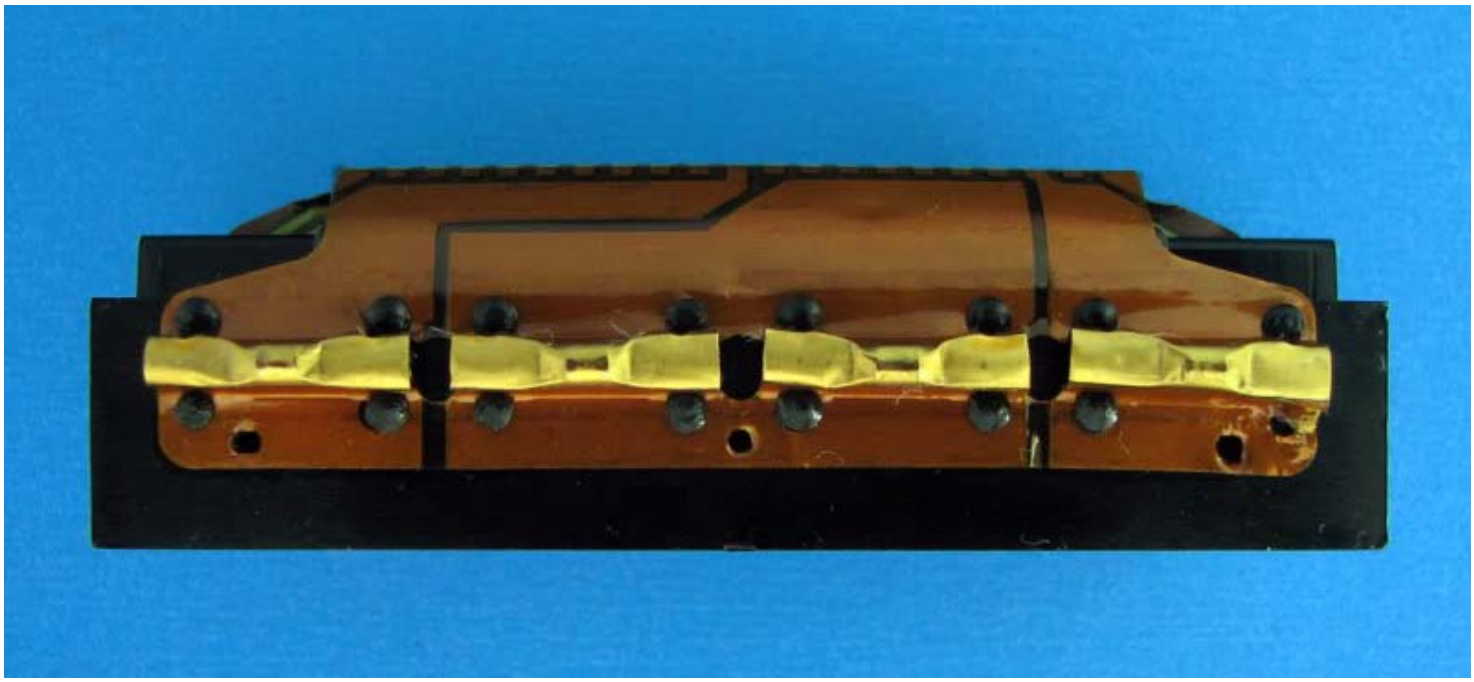

PIEZO
POR
RST
GND
VIN
SYSTEMYDE
SY41CL (U2)
470
M02
E2
330
6V
E2
330
6V



While you are here, clean the wire wrap connector with a soft natural brush stroking it the parallel to the wrapped wire. Also clean the battery-module block on all three sides. Insure continuity and that the pressure foam is still expanded. Clean contact surfaces of the keyboard pca. Dry and blow off dust when reassembling:



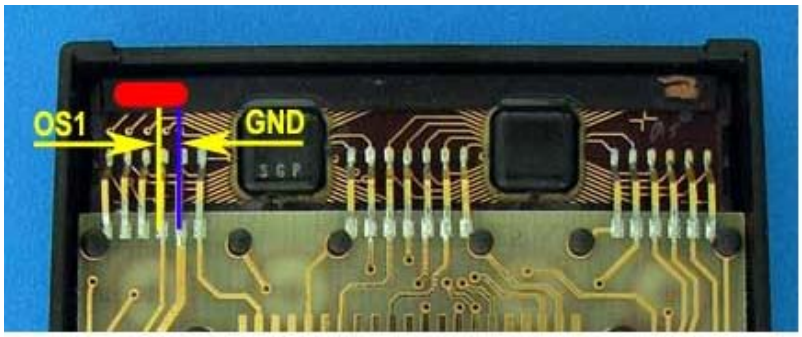




Now adding the serial bus port and double sided tape to hold the wire in place:

And now the CL in position:

Tomorrow, using Monte's emailed instructions and this excerpt from the HP41C manual illustrating the rev 7 LCD drivers attachment point and pinouts for the LCD:



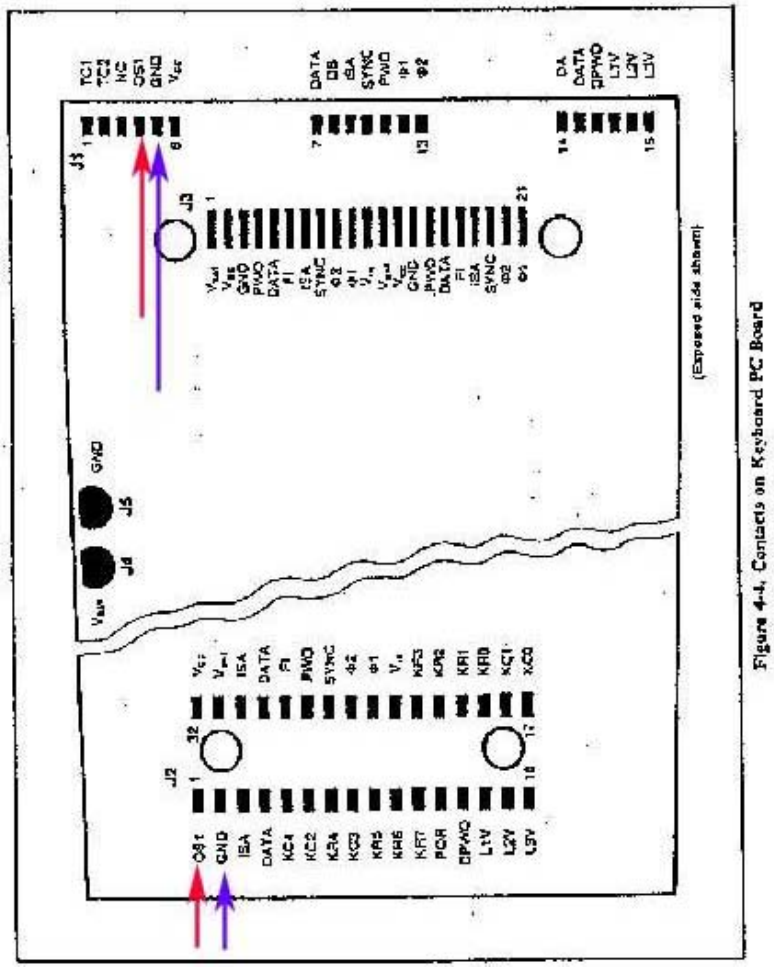
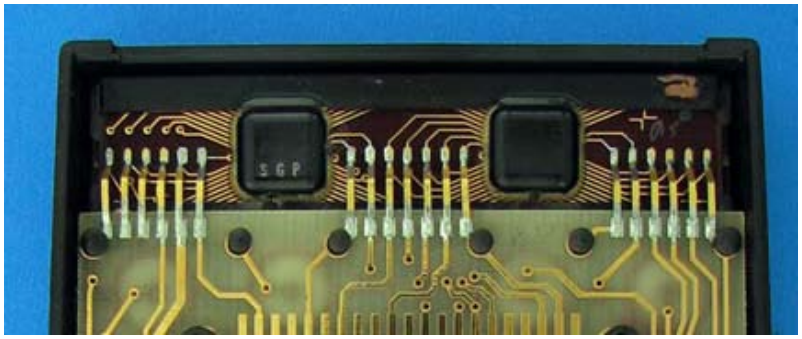


Figure 4-4. Contacts on Keyboard PC Board

Here is a close up on the revision 7 LCD drivers, as evidenced by the plastic caps as opposed to epoxy blobs:



As I said, standby for further!

Geoff

edited as per typo indicated by Gene and other stuff.

Edited: 14 June 2011, 12:33 a.m.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #2 Posted by **Monte Dalrymple** on 14 June 2011, 12:58 p.m.,*
in response to message #1 by Geoff Quickfall

In a 2009 issue of DATAFILE there was a short article entitled "Why the HP-41 can't be upgraded". I hope that this disproves that assertion.

And they said ....

*Message #3 Posted by **Geoff Quickfall** on 14 June 2011, 1:56 p.m.,*
in response to message #2 by Monte Dalrymple

it couldn't be done.

Thanks Monte for the 41CL. It feels the same as when I picked up my first 41C in 1981!

Geoff

stepping out to get the phone to computer cable and the capacitor!

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #4 Posted by **Ángel Martin** on 14 June 2011, 2:55 p.m.,*
in response to message #2 by Monte Dalrymple

How´s that for an exaggeration then, although it´s taken 30 years and a clever design to break that myth.

The only thing that betters a 41 is... a faster 41!

Add to that the mass memory capacity of the 41CL and you´ll have the best there is...

Can´t wait to get mine installed, the anticipation is so good, I agree it´s like when I got my first 41C so many moons ago.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #5 Posted by **Geoff Quickfall** on 14 June 2011, 10:00 p.m.,*
in response to message #4 by Ángel Martin

Oh oH, this is a hoot, so much to discover and automate, truly is the best non graphing calc around. Actually, got to fire up my plotter cus this does graph!

Geoff

starting all over again with the 41!

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #6 Posted by **Tony Duell** on 17 June 2011, 4:10 a.m.,*
in response to message #2 by Monte Dalrymple

Actually, the statement I made in Datafile was that the HP41 could not be upgraded _and maintain compatibility with all HP41 add-ons_.

I don't think the 41CL changes that. From what I understand, it can't run machine code from plug-in modules (only from the built-in flash memory on the 41CL board). I don't think it can access RAM on plug-in modules either. Yes, all the memory is built in to the HP41CL board, so there are very few times when you'd want to do either of these, but I can think of some.

The issue with periperhals is more complex. The 41CL claims to be compatible with all HP41 peripherals. I am quite sure it's compatible with all the standard ones, printer, HPIL, wand, card reader, etc. But the way HP41 peripherals work is to decode machine language instructions from the ROM (or ROM emualtor ;-)) on the ISA line. Unless the 41CL sends all ROM instructions over that line at the normal speed (which IMHO means it's not running any faster than a normal HP41), I claim I can design a peripheral that will work on an unmodifed HP41 but will fail on a 41CL, even if the ROM to control said peripheral is loaded into the 41CL flash memory.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #7 Posted by **Eric Smith** on 17 June 2011, 4:53 a.m.,*
in response to message #6 by Tony Duell

The 41CL will run machine code from plug-in modules just fine, at normal 41 speed. This occurs when the MMU has a page set as "disabled", meaning that it uses external memory (normal 41 bus ROMs and such) rather than the 41CL flash. Your hypothetical peripheral should work just fine as long as its ROM is external.

If for some reason you do want to run your peripheral with its ROM code executing from 41CL flash, if you've followed the 41 bus protocol for peripheral instructions correctly, and not depended on instruction timing of non-I/O instructions, it should still work correctly, because the peripheral instructions always access the 41 bus. I would claim that a good design for a peripheral isn't dependent on the speed at which non-I/O instructions execute. However, it's certainly possible that you could design a peripheral for which that is not the case.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #8 Posted by **Ángel Martin** on 17 June 2011, 9:00 a.m.,*
in response to message #6 by Tony Duell

Considering that there hasn't been any new HP-IL peripheral designed in the last 20+ years (not counting the fantastic PIL-Box of course), it's interesting to see this hypothetical reason - just to prove or disprove the claim that it wouldn't be compatible with the CL. To me it's a moot point: as far as it counts, the CL is perfectly compatible with (what's left, used and known today) of the 41C system.

Speaking of which, the Pil-Box is also queued on the testing bench, will see how things fare..

Edited: 17 June 2011, 9:02 a.m.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #9 Posted by **gene wright** on 17 June 2011, 9:02 a.m.,*
in response to message #8 by Ángel Martin

The basic fact exists that for certainly all practical concerns, the HP 41 HAS been upgraded.

Clonix modules plugged in work fine. Hepax works fine. The Forth ROM works fine. HP IL peripherals work fine. The card reader works. The list so far goes on and on.

Monte's achievement is monumental.

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #10 Posted by **Ángel Martin** on 18 June 2011, 1:47 a.m.,*
in response to message #9 by gene wright

Absolutely agree with that!

Re: HP 41CL, thoughts...pics...part 1 (new pinout cap picture)

*Message #11 Posted by **Geoff Quickfall** on 18 June 2011, 3:03 a.m.,*
in response to message #9 by gene wright

Hello Gene

Okay, there is a rub in all this. The experts, of which I am NOT one are looking or going to look at the addresses CLONIX uses when ROMS are loaded. These are NOT bugs with either the CL or the CLONIX. Both these work perfectly but at the moment there are conflicts on addressing and priortizing the access with CLONIX installed and the CL wins all the time.

My example looked like it worked with a couple of bugs. Probably the way I installed and then loaded created what appeared to be a perfectly function CLONIX CL CLONE ;-)

So here is what I did with a MEMORY LOST condition on the CL board (naturally occuring when you recieve the logic pca and install it.)

```
1 follow Montes' instructions to the letter while installing YFNS
  to PORT 1 Lower.
2 now HPIL is available so cassette deck to calculator to fill
  program memory with a suite of routines.
3 insert card reader to, of course, PORT 4 which is empty.
4 use RFL synthetic program to load DATA files into Extended
  memory with the card reader.
5 use YFNS (CL) functions PLUG to load ROMs into PORTS.
6 LEARN FROM THE EXPERTS!!!
7 see 6
8 Realize through explanation that the card reader when installed
  takes over PORT 4 lower thus disabling any full page ROM residing
  there.
9 Read the manual again and realize that the ADVANTAGE module is
  a full PORT!  I loaded the ROM half page version of routines
  based mistaking it to be the ADVANTAGE rom.


So it is a must to:


1 READ THE MANUAL
2 UNDERSTAND THE ADDRESSING OF THE PHYSICAL MODULES
3 LOAD THE CORRECT ROMS ACCORDINGLY
4 IN THE CASE OF THE CARD READER, YOU CAN LOAD A FULL ROM AND
  UNPLUG IT WHEN THE CARD READER IS INSTALLED or LOAD THE PORT 4
  upper WITH A HALF PAGE ROM.
```

The treat here is you could write a routine called PCR and assign it to a key. Invoke it when you want to use the card reader and when done invoke UPCR.

```
01  LBL PCR (plug in card reader)
02  UPLUG4
03  RTN
04  LBL UPCR?
05  AON
06  "ROM?"
07  PROMPT
08  AOFF
09  PLUG4
END
```

If it is always the same rom then replace lines 5 - 8 with the name of the rom in alpha. For example in PORT4 you want the full page ROM PPC. The program would look like:

```
01  LBL PCR (plug in card reader)
02  UPLUG4
03  RTN
04  LBL UPCR
05  'PPCM'
06  PLUG4
END
```

It looked like the clonix would add two more full page ROMs to the calculator. In fact the reason it worked for me is the portion of the CCD and PPC that were required did not conflict. Cat II on closer inspection reveiled that only a third of CCD in clonix was available and the NAV1B never showed up at all.

In my defence I assumed that if a conflict occured I would see a complete failure of the CLONIX ROMS (not the CLONIX). They worked enough to sucker me in! That combined with the inability to find my CLONIX PIC program files to determine address loading and a lack of understanding of the intracacies of the 41CL/CLONIX addressing fooled me into thinking the combination worked.

So back to the PIC programmer to copy the CLONIX to the computer and determine the page addressing. Diego will also be looking into this along with Monte (emails).

Back to the machine:

I have the short routines loaded so that PORT4 can be swapped between the Card Reader and the CCD. I have PPC in PORT 3 and the full ADVANTAGE in PORT2. PORT1 lower has the CL YFNS functions while PORT1 upper has TREK.

Of course the beauty is that it so easy to swap ROMS in and out with the XEQ PLUG and UPLUG functions.

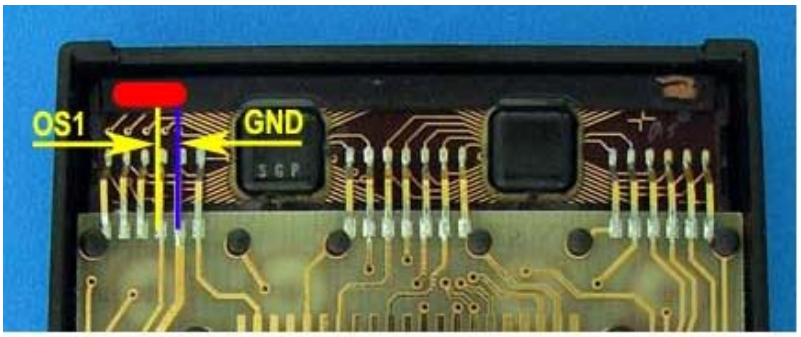
Well still playing and without ROM manuals that is a treat! The Museum DVD is a must!

Cheers, Geoff

Part 2; capacitor soldered in place...

*Message #12 Posted by **Geoff Quickfall** on 14 June 2011, 5:50 p.m.,*
in response to message #1 by Geoff Quickfall

Well it was an easy job to add the capacitor as explained in the following diagram:



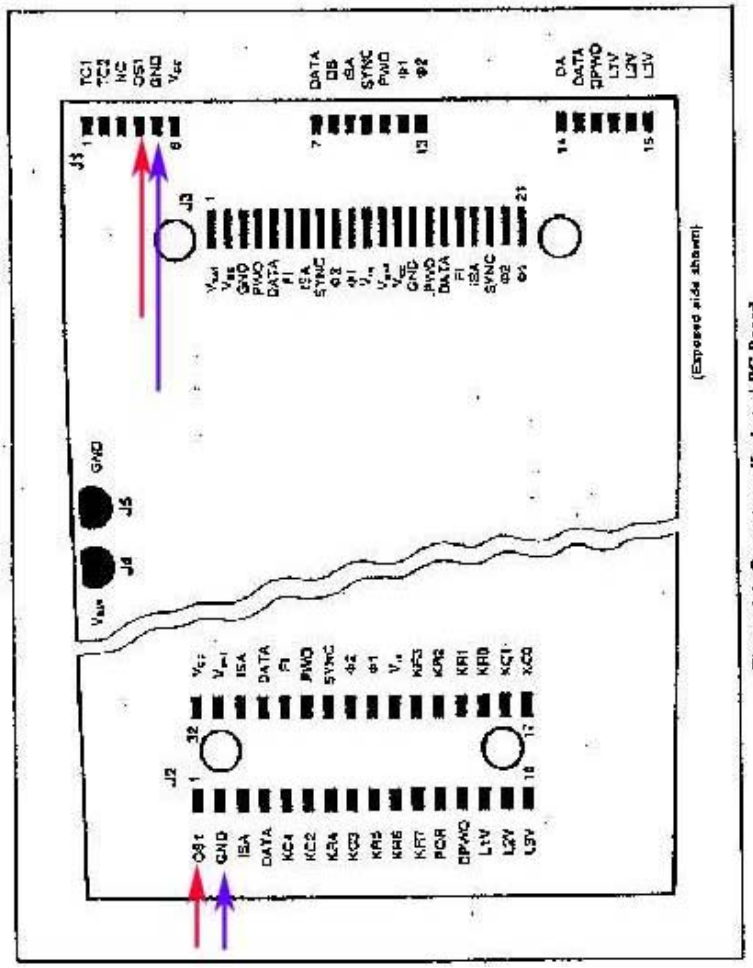
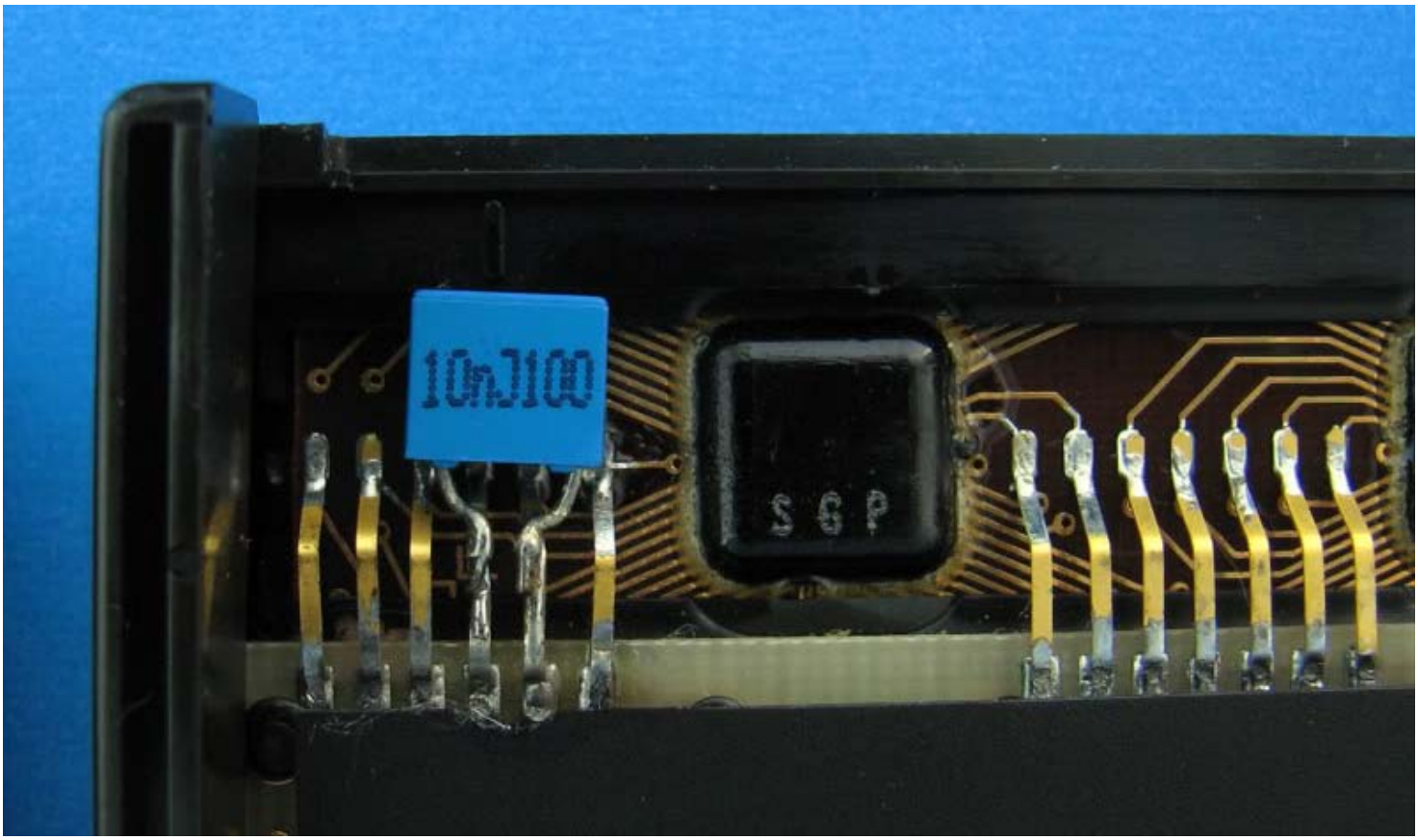
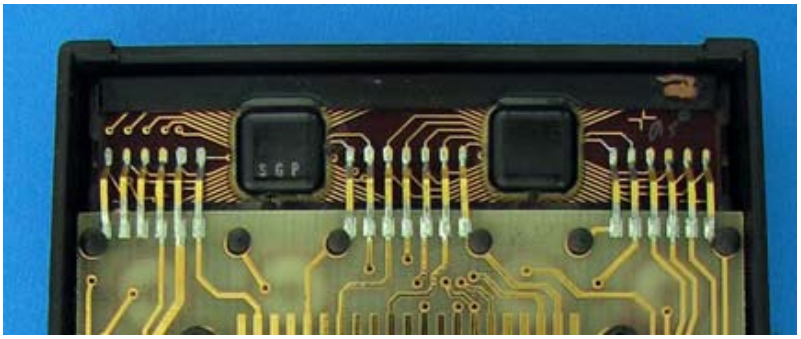


Figure 4-4. Contacts on Keyboard PC Board

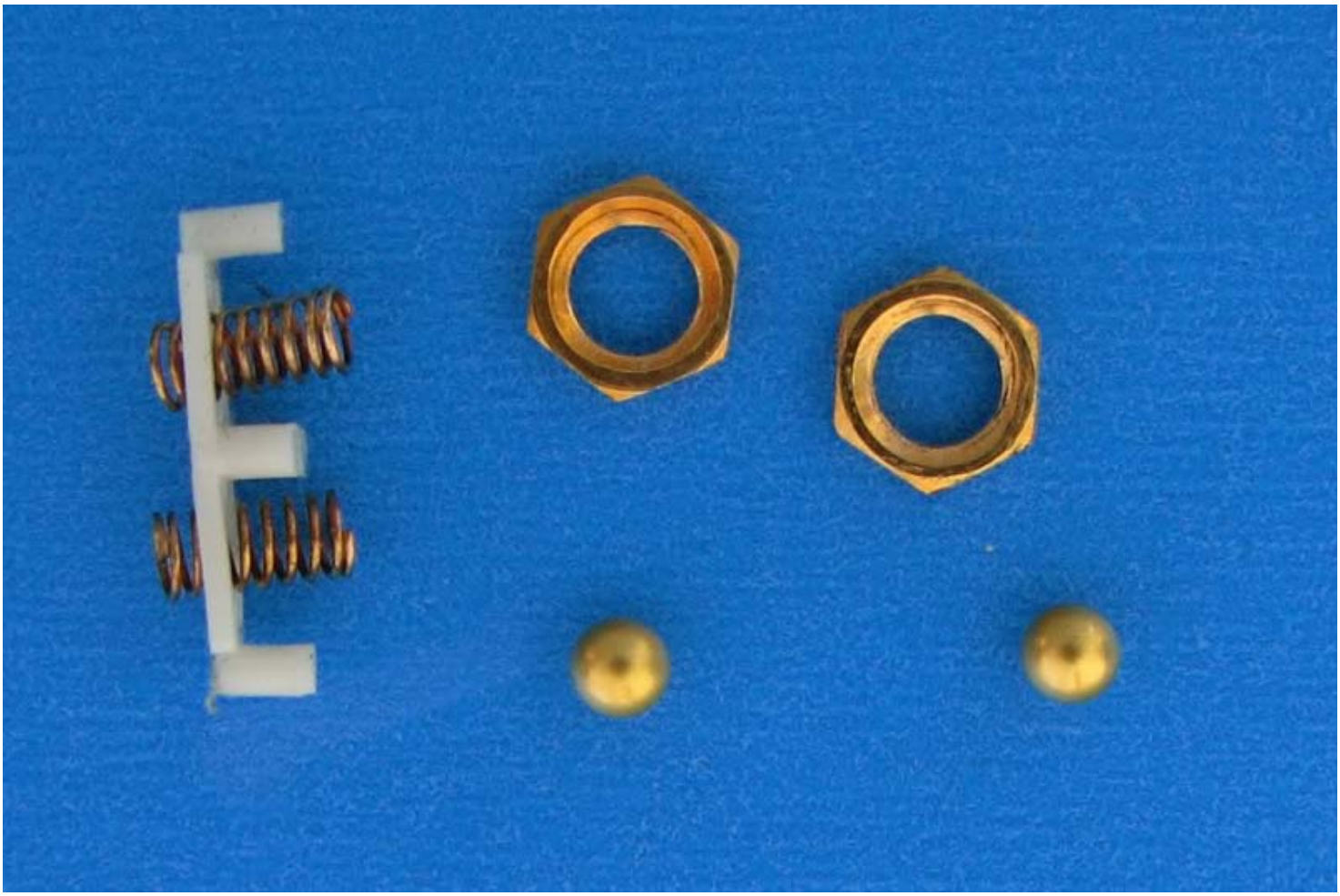
Here is the capacitor in place, excuse my poor solder job:



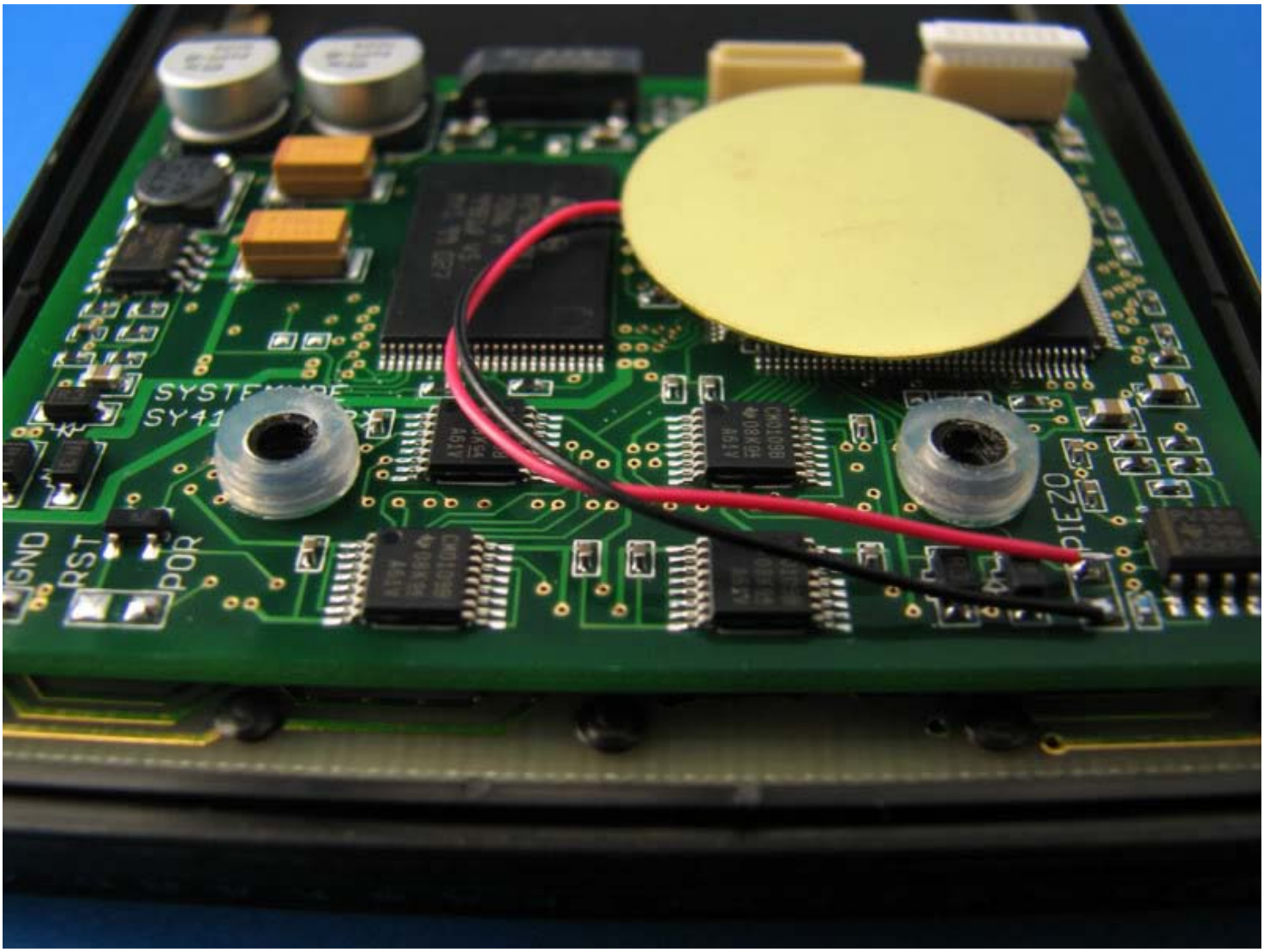
Remember this is for the HP 41C Rev 7 LCD drivers with serial numbers less then 1954Axxxxx. Again these are recognizable by the plastic capped display drivers:



Also the early HP 41C may include the AC connector ball, springs and have the Logic pca attached by nuts:



Be careful removing the nuts as the posts tend to strip preventing the reuse of the nuts. If this happens a smaller diameter nut may be used or the following procedure can be followed. The tubing is the same tubing used on the card readers. It should be cut slightly longer then the screw post. It should sit proud of the top of the post as depicted below. This allows the bottom case via the case screws to push the new HP 41CL logic pca into the wire wrapped connector.



I have a couple of early 41C's modified this way and they work perfectly.

Conclusion:

In order to avoid the 0.01uF (10nF) capacitor installation pick a donor with a serial number greater then 1954Axxxxx. If you do use an early one like I did then you need the cap.

Also, I had to add the 'time' module to take advantage of the timing functions of the CL board. My calc is now configured as follows:

```
PHYSICAL PORTS
1.  serial port communications in port one
2.  time module port two
3.  IR printer module port 3 or HPIL
4.  open for card reader if required and when I get more into
    swapping the virtual ports then the card reader won't be
    needed.


So far the Virtual Ports:


1.  Port 2 CCD module full port
2.  Port 3 PPC module full port
3.  Port 4L (lower) TREK!
```

Thats all I have had time to do since I installed the cap. Well it will give me something to do at work! So I have HPIL from the tape drive my suite of programs, uploaded the data base to the extended memory, tried out turbo50 mode (as fast as the 42S) for some programs. Later, learn how to create my own module and load it into the board memory as a module and recall it via programming when required.

Lets put it this way, there is a LOT to learn AGAIN!!!!

Geoff

Cheers. Geoff

Edited: 16 June 2011, 6:15 p.m. after one or more responses were posted

Re: Part 2; capacitor soldered in place...

*Message #13 Posted by **gene wright** on 14 June 2011, 10:29 p.m.,*
in response to message #12 by Geoff Quickfall

Geoff, you might be able to get along with only the CCD/OSX 4K rom instead of the entire 8K CCD module.

That would give you a 4K spot for some games or one of the game roms.

Re: Part 2; capacitor soldered in place...

*Message #14 Posted by **Geoff Quickfall** on 14 June 2011, 10:50 p.m.,*
in response to message #13 by gene wright

Thanks for the suggestion, I will try it although I realized that I have a clonix with the CCD, PPC and Nav1B modules in it.

Plugged it in and it runs with the CL perfectly. This opened up port 4 and 3.

So now the physical config is:

```
1. serial port connection
2. clonix (CCD, PPC, NAV1B)
3. Time
4. IRprinter, card reader, laser wand, hpil and its accessories
   (swapping physically)
```

A small program is used to plug and unplug other roms in number 4 when the physical connections are removed. Alpha prompt along with the plug and unplug commands makes of the short program. Assigned to a key and the process is quick and easy.

LOVE THIS MACHINE (deja vu all over again)!

Geoff

Edited: 14 June 2011, 10:51 p.m.

Re: Part 2; capacitor soldered in place...

*Message #15 Posted by **Monte Dalrymple** on 14 June 2011, 11:25 p.m.,*
in response to message #14 by Geoff Quickfall

I'm sure that you have realized this, but I'll reiterate that the Port that is used for the serial connector is still open for a module image. The same thing is true for the Port that holds the time module, because the time module code uses page 5 rather than the Port address where it resides.

Re: Part 2; capacitor soldered in place...

*Message #16 Posted by **Geoff Quickfall** on 14 June 2011, 11:37 p.m.,*
in response to message #15 by Monte Dalrymple

Thanks Monte;

Still have a lot of reading to do.

Some where I read that, but it dropped out in my excitement about the project. The serial port makes sense since it attached to the board and just uses the physical port one for wiring convenience. The time chip I did read but forgot.

Still playing with it, I sure hope my wife doesn't mind the key clicking while she is reading tonight.

Cheers, Geoff

Edited: 14 June 2011, 11:39 p.m.

Slightly OOT...

*Message #17 Posted by **Ángel Martin** on 15 June 2011, 1:18 a.m.,*
in response to message #13 by gene wright

If Retro-Gaming is the theme then you may also try the FunStuff module - I particularly enjoy doing a round of Fruit Machine or BattleShip while, say waiting at the doctor´s office, or even some turns of Roulette, Goufers, High Rollers, Pinball Machine, and Gene's own Yathzee's..

But pls. don't do that at the cockpit :-)

Re: Part 2; capacitor soldered in place...

*Message #18 Posted by **Ángel Martin** on 15 June 2011, 1:24 a.m.,*
in response to message #13 by gene wright

Speaking of which (the CCD/OSX that is), a new release is just available - see (buried under dozens of 34S threads):

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=185880#185880

It all comes together now, nice...

Re: Part 2; capacitor soldered in place...

*Message #19 Posted by **Geoff Quickfall** on 15 June 2011, 1:54 a.m.,*
in response to message #18 by Ángel Martin

Answer to both postings:

we have a separate room above the first class galley that contains two bunks and two recliner seats each hooked into the video system. On the way to Sydney Australia from Vancouver with two complete crews (4) each group of 2 gets two breaks of 3 hours each.

That gives me lots of typing time on the book although now it looks like some of that will be exploring Monte's CL board!!!

I use quite alot of the CCD commands, especially the alpha display synthetics in my programs so it is a must. And of course a few PPC routines.

Trek is fun and I will give the others a try also!

Geoff

I may have to push the release date on the book back another year (JUST KIDDING) ;-)

Re: Part 2; capacitor soldered in place...

*Message #20 Posted by **Geoff Quickfall** on 16 June 2011, 6:17 p.m.,*
in response to message #13 by gene wright

Hello Gene,

Haven't forgotten your 41C with bad ram, or the 67.

The short form of the ccd does not contain the synthetic alpha instructions I am calling upon. Not a problem as Deigos Clonic contains three full page roms in one physical port!

Cheers, Geoff

Re: Part 2; capacitor soldered in place...

*Message #21 Posted by **Ángel Martin** on 17 June 2011, 9:09 a.m.,*
in response to message #20 by Geoff Quickfall

> Quote:
>
> The short form of the ccd does not contain the synthetic alpha instructions I am calling upon. Not a problem as Deigos Clonic contains three full page roms in one physical port!

Hi Geoff, this intrigues me:- I thought the only "shortcoming" of the short form of the CCD (a.k.a. the CCD-OS/X) was the lack of displaying the file types during a CAT'4 execution, and this only for the extended ones (Matrix, Keys, Buffers)- it shows a blank for the file type.

Wouldn't it be because your machine has disabled the "synthetic alpha input", perhaps using function TOGLC (toggle Lower Case)?

Cheers, ÁM.

Re: Part 2; capacitor soldered in place...

*Message #22 Posted by **Geoff Quickfall** on 18 June 2011, 1:04 p.m.,*
in response to message #21 by Ángel Martin

Hello Angel,

yes it has something to do with alpha input. I created this program 5 years ago. It does a synthetic trick that used to take about 4 synthetic lines.

An alpha prompt occurs and the display arises in alpha mode. While typing the alpha response the original prompt remains. The CCDX version probably has a different rom number location for the command.

So I will determine the command (no manual) and then load CCDX and retype the command in place. If the command exists then it will have the new rom location attached to it.

In all it is just my ignorance with CCDX and the command I used.

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

N Size Cell Charger

*Message #1 Posted by **Gerry Schultz** on 13 June 2011, 7:27 p.m.*

I got Lenmar's BCUNI3 NiMH charger along with N Size flattop cells today. The BCUNI2/3 specs are:

Power Source: 12VDC, 100-240V AC and DC car cord plus EU & USA plugs included.

Input current: 1000mA

Output charging Current: 1000mA max. (3.6V Li-ion Battery) 1000mA max. (7.2V Li-ion Battery) 1000mA max. (Ni-CD/Ni-MH battery)

USB output: 5v/1000mA max.

Charge Termination: 130mA max. (Li-ion Battery)

Negative Delta V detection (Ni-CD/Ni-MH battery)

Timing protection: Max. 7 hours (Li-ion battery) Max. 6 hours (NiCD/Ni-MH Battery)

The unit comes with the upper battery terminals being adjustable in width and height. The door slides down and is adjustable for battery length. I charged two N Size flattop cells in about 10 minutes (they we probably shipped almost fully charged). The batteries got a little warm but not too hard to handle.

The BCUNI3 also has a USB port for charging external devices and an LCD screen to show battery chemistry, battery voltage (1.2, 2.4, 3.6, 4.8, 6.0 or 7.2V), Fault, Capacity/Charging Status, USB Active and Power. The BCUNI2 doesn't have the USB charger port or LCD display.

I'm presently trying to charge a couple of Panasonic AA Ni-MH batteries rated at 2600mAh and they seem to charge quickly with the batteries getting a little warm. I like the battery charger because it can charge battery packs for Camcorders, Digital cameras and Mobile phones (that's why the upper terminals are adjustable) as well as external devices like iPods and iTouches with USB. One downside is that it will only do two N Size cells at a time. It also says it will charge one battery at a time in the right channel but the 'Charging Status' display just blinks. I'm not sure what to make of that. Note: Later the charger display took some time to update but it will support a single cell battery in the right channel at 1.2V.

Anyway, it does charge N Size cells quickly but I have to see how they'll work in my 41C, especially driving a card reader. I also remember that a 143 printer will power a 41c through its cable if the 41 has no batteries in it. I wonder if how NiMH batteries will affect an attached printer. I'm also wondering how these flattop N Size cells will work in a 41. They are a little shorter than the alkaline primary N Size cells, which I think is good as some of the springs in the 41 battery compartment are pretty stiff.

Stuff to play with. Let me know what you think,

Gerry

Edited: 13 June 2011, 7:35 p.m.

Re: N Size Cell Charger

*Message #2 Posted by **Katie Wasserman** on 13 June 2011, 11:28 p.m.,*
in response to message #1 by Gerry Schultz

Gerry,

Thanks for the nice review!

I may need to get one of these myself. I've got all sorts of ways to charge up batteries with external power supplies but this sounds really easy to use and very versatile. My only concern is that the the nicad/ni-mh charging rates seems excessively high for small capacity cells. But as long as it doens't cook them by seriously overcharging they should be fine.

-Katie

Re: N Size Cell Charger

*Message #3 Posted by **Gerry Schultz** on 14 June 2011, 2:46 p.m.,*
in response to message #2 by Katie Wasserman

Thanks Katie.

I tried the flattop N Size cells in one of my 41Cs last night and they are too short. Crap! Okay, time to modify the cells. I'm going to add beads of solder to each end and see if that works. I will probably go over to Newark and order some button top N Size cells.

In response to your concern about excessive charge current, the specs seem to specify a maximum current of 1A but I don't know if that's used throughout the charge cycle. I assume there is some algorithm in the uProc that tailors the current based upon the cell chemistry. Also, as the cell voltage increases that will reduce the charge current to help control the temperature of the cell. My initial impression so far is that the N Size cells don't get too hot. I believe the "Negative Delta V Detection" for Ni-CD/Ni-MH batteries means that it will stop charging a cell if the battery voltage drops over a period of time as charging current is applied. That's how the charger determines when the cell is fully charged.

Here, at work, we use Anton Bauer rechargeable battery packs (specifically the HyTRON 140 and Dionic 90) for our Panasonic P2 ENG HD field cameras. The associated chargers are amazing in how they can test, diagnose and try to repair problem batteries. The batteries recharge very quickly with the chargers monitoring the internal temperature sensors. There use to be white papers on their website explaining how their patented chargers worked but I didn't see them this morning. If you're curious take a look at http://www.antonbauer.com.

Thanks,

Gerry

Edited: 14 June 2011, 2:55 p.m.

Re: N Size Cell Charger

*Message #4 Posted by **Gerry Schultz** on 17 June 2011, 12:14 p.m.,*
in response to message #3 by Gerry Schultz

I wanted to update anyone interested in Lenmar's BCUNI3 NiMH charger that can be used to charge N Size cells. I received some button style N Size cells from Newark yesterday and ran them through the

chargers last night. These cells must have been sitting for a while as the chargers reported a low initial charge but quickly charged them up. TOO quickly as when they were done, the N Size cells were almost too hot to handle. I one case, a cell making a sizzling noise and leaked a little during charging but none of the other 13 cells did that.

These freshly charged cells worked great in my 41cs and ran my new card reader just fine. I bought the reader from TOS really cheap (from a Canadian, Hey!) thinking I could do a rebuild based upon Geoff Quickfall's HHC presentation from 2 years ago (was it two years ago already?). But the card reader works as well as my original rebuilt card reader. And the new one is a version G so I'm happy.

Anyway, I would think twice about using this charger for N Size NiMH cells. It appears it uses too much charging current causing the cells to get hot. Bummer.

Gerry

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Numeric integration on 34s

*Message #1 Posted by **Gene Wright** on 13 June 2011, 4:49 p.m.*

Ok, so I started trying the examples from the IG routine in the PPC rom manual using the built-in integration function on the 34s.

Less than nice results. :-) Of course, this was expected.

So, I then decided...why not just adapt the PPC ROM IG routine and key it into the 34s.

Everything keyed properly with a couple of exceptions. The HP 41 puts numbers on one program line while the 34s puts each digit on a separate line. Not usually a problem even though not as readable as the HP 41 way.

However, it did cause a problem until I spotted it in the IG listing.

Lines 17 and 18 in IG are E and then 2, which enters a 1 and then a 2 into Y and X, respectively.

My first attempt was to key a 1 then ENTER and a 2 and go back and delete the ENTER. Oops. That made the 1 2 a 12. So, if you have things like 1 and 2 to be entered as two numbers, the ENTER is needed. No hidden "null" like on the HP 41 series.

That said, IG runs like a charm with one change (Ok, some other changes too like RCL L for LastX, but those are not real changes):

IG looked for alpha labels for the function to be integrated. I found that XEQ ind 10 with a 3 letter alpha label inside errored out...so I changed the program to simply XEQ 99 and used label 99 for the function.

It is very fast, but even the 34s is taking its time right now solving the integral from 0 to 1 of x^(-1/2). The "Answer" is 2. So far, after about 4-5 minutes, the 34s has 1.9999678... and it is still going. Of course, I put it in SCI 9, so I am being a real pain to the poor 34s.

The program IG on the 34s takes 93 program steps/lines. If you want to do numerical integration, that is probably worth it.

I plan to show the results from the IG program and the built-in integration command when I can.

Hey 34s team... those "internal" constants in the manual for the 34s integration... do they take up more/less space than a 93 step program? Or is it that the constants are not in a similar memory location than an IG program-like function would be?

Edited: 13 June 2011, 4:52 p.m.

Re: Numeric integration on 34s

*Message #2 Posted by **Paul Dale** on 13 June 2011, 6:06 p.m.,*
in response to message #1 by Gene Wright

Quote:

> IG looked for alpha labels for the function to be integrated. I found that XEQ ind 10 with a 3 letter alpha label inside errored out...so I changed the program to simply XEQ 99 and used label 99 for the function.

We cannot distinguish alpha data from numbers at the moment. There are two commands [alpha]XEQ and XEQ[alpha] that do what you want and more. The internal command has a special call user routine function available that can call alpha or numeric labels.

> Quote:
>
> Hey 34s team... those "internal" constants in the manual for the 34s integration... do they take up more/less space than a 93 step program? Or is it that the constants are not in a similar memory location than an IG program-like function would be?

93 steps is 186 bytes. The constants take eight bytes each so 208 bytes for the magic constants. The integration program isn't small either -- see xrom.c. I doubt 93 steps is enough once you have to start dealing with the user's code returning NaN's and infinite results and such but it wouldn't be a huge amount more.

However, the big limitation is the internal integration command is capped at five persistent registers (i.e. there are only five registers that will survive execution of the user's routine). It don't have any more scratch registers beyond the four level stack but more could be made available at a pinch -- they wouldn't survive the user's code being executed however.

If you code meets the register requirement, please send it to me and I'll replace the internal integration routine. Actually, send it anyway and it can go into the library :-)

- Pauli

Re: Numeric integration on 34s

*Message #3 Posted by **Gene Wright** on 13 June 2011, 6:37 p.m.,*
in response to message #2 by Paul Dale

Hey Pauli.

It is simply the IG routine from the PPC ROM manual. Surely you have that? :-)

Actually, check ur mail since I am sending you the PPC ROM program listing.

And, note that this program as written WILL use user memory registers. Quite a few of them.

So, to have this "in rom" will mean that it will use memory registers.

Edited: 13 June 2011, 6:41 p.m.

Re: Numeric integration on 34s

*Message #4 Posted by **Paul Dale** on 13 June 2011, 8:13 p.m.,*
in response to message #3 by Gene Wright

Thanks, file received. I don't have a PPC manual although I do have a module. I think it is on the DVDs though.

I really don't want internal commands touching user's registers unless there is a specific and well defined purpose that cannot be abused. This isn't the case here unfortunately.

- Pauli

Re: Numeric integration on 34s

*Message #5 Posted by **Marcus von Cube, Germany** on 14 June 2011, 2:56 a.m.,*
in response to message #4 by Paul Dale

How many registers are used? Any of them just constants stored for convenience in registers? Any of them only used internally between executions of user code and can be lost if the user code program contains a STOP (which will kill RAM)?

If it really will not fit nicely within the internal (X)ROM constraints, we can still create a "default library" which gets it. The default library can then be made available with the flash download so that it is automatically included when flashing the calc. It will occupy one of the PSTO slots, of course.

Pauli, Walter, what do you think?

Re: Numeric integration on 34s

*Message #6 Posted by **Paul Dale** on 14 June 2011, 3:12 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Not a chance of it fitting in XROM space. Way too many registers used.

A default library is a decent idea.

- Pauli

Re: Numeric integration on 34s

*Message #7 Posted by **Marcus von Cube, Germany** on 14 June 2011, 3:19 a.m.,*
in response to message #6 by Paul Dale

Pauli,

I've high hopes of your typing skills. If you provide a library file (either salvaged from the calculator via SAM-BA or created on the emulator) I'll take care of its inclusion in the default build. We can put all the stuff in the "library" folder in it.

Anybody else willing to provide useful programs for a default library?

Re: Numeric integration on 34s

*Message #8 Posted by **Paul Dale** on 14 June 2011, 3:21 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Most of the stuff in the library folder shouldn't be included. Much of it is a copy of the xrom code of the same function. I.e. useful for explaining how the internals work and how some of the special commands are used but that is all.

- Pauli

Re: Numeric integration on 34s

*Message #9 Posted by **Marcus von Cube, Germany** on 14 June 2011, 4:43 a.m.,*
in response to message #8 by Paul Dale

I agree, but e.g. the n queens benchmark or the code breaker game are likely candidates as is the improved integrator.

We need some input from the community.

Re: Numeric integration on 34s

*Message #10 Posted by **Jeff O.** on 14 June 2011, 11:18 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Here is a new version of the code breaker game that works with the latest versions of wp34s. Also includes a couple of prompts and/or messages that were not in the earlier version.

Re: Numeric integration on 34s

*Message #11 Posted by **Marcus von Cube, Germany** on 14 June 2011, 11:24 a.m.,*
in response to message #10 by Jeff O.

Thanks Jeff! I leave it to Pauli to integrate it into the package.

Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #12 Posted by **gene wright** on 14 June 2011, 1:59 p.m.,*
in response to message #2 by Paul Dale

Below are the results from comparing the WP 34s built-in integration function vs. the PPC ROM converted IG routine.

PPC ROM IG Routine Example Function	WP 34s Built-in	WP 34s IG Program value
1 0 to 1: 4/(x^2+1)	3.141593	3.141593
2 0 to 1: x^(1/2)	0.666671	0.666667
3 0 to 1: Sin(PI*X)	0.636620	0.636620
4 0 to 1: LN(x)	-0.999147	-1.000000
6 0 to 2: (x(4-x))^(1/2)	3.141620	3.151593
8 0 to 1: COS(LN(x))	0.501097	0.500000
9 0 to 1: x^(-1/2)	1.967500	2.000000
10 0 to 1: (1 - x^2)^(1/2)	0.785405	0.785398
12 -1 to 1: ((1-x^2)(2-x))^(1/2)	2.203398	2.203346

The tests were fairly maddening. The 34s integrator gets its results very quickly, but sometimes is just off enough to irritate you. :-) The IG program takes longer most of the time but gets more "accurate" values.

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #13 Posted by **Marcus von Cube, Germany** on 14 June 2011, 4:29 p.m.,*
in response to message #12 by gene wright

The wp34s integrator uses a fixed number of points and does not iterate. It should be fairly easy to create a subinterval algorithm that divides the integration interval in two halves and integrates each part with the built in command. This can be redone several times until the combined results do not change

any more.

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #14 Posted by **gene wright** on 14 June 2011, 4:32 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Well, the 34s integrator did a good job in many circumstances, but things like the quick result of 0.501097 to the COS(LN(X)) integral were disappointing as was the 1.9675 result to the SQRT(X) integral.

the next task I plan to try is a matrix series modeled after the M1 - M5 routines from the PPC ROM and the RRM application program from the PPC ROM.

Now THAT would make a good standard library program, IMO.

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #15 Posted by **Paul Dale** on 14 June 2011, 5:32 p.m.,*
in response to message #14 by gene wright

I was thinking JMB's matrix library would be well suited for this.

- Pauli

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #16 Posted by **gene wright** on 14 June 2011, 5:39 p.m.,*
in response to message #15 by Paul Dale

Ah, but given my slim programming skills :-) it is much more likely that I can re-write the PPC ROM routines to the 34s. Now if JMB or someone else can rewrite the Matrix library... Ha!

Seriously, matrix functions are "the" missing piece to the 34s, as it is now...as the developers know well. A library that can do systems of equations, determinants (of course to do the systems) and inverses would be a great thing to fill that gap.

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #17 Posted by **Paul Dale** on 14 June 2011, 5:33 p.m.,*
in response to message #12 by gene wright

Any idea what the error estimates returned by the 34s's integrator are?

- Pauli

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #18 Posted by **gene wright** on 14 June 2011, 5:42 p.m.,*
in response to message #17 by Paul Dale

Well, for the COS(LN(X)) integral, the Y stack level contains 0.002169.

Should have written down the others. :-)

Re: Test Results: 34s built-in integration vs. PPC ROM IG routine

*Message #19 Posted by **Paul Dale** on 14 June 2011, 6:21 p.m.,*
in response to message #18 by gene wright

The answer + or - the error estimate brackets the true integral nicely in this case at least.

What's needing is a wrapper that uses the built in integrator and subdivides the interval until the sum of the error estimates is small enough.

- Pauli

Re: Numeric integration on 34s

*Message #20 Posted by **fhub** on 14 June 2011, 6:55 a.m.,*
in response to message #1 by Gene Wright

> Quote:
>
> ...right now solving the integral from 0 to 1 of x^(-1/2). The "Answer" is 2. So far, after about 4-5 minutes, the 34s has 1.9999678...

Hi,

I'm wondering how the WP34S (and also the PPC-ROM) can calculate this numeric integral at all, when the integrand x^(-1/2) is not defined at the left endpoint x=0?

Is there any code in the integration routine which checks for such 'undefined' function values, or is this integration algorithm just using function values at some midpoints of the sub-intervals?
Can these algorithms for numeric integration (used in the WP34S and PPC-ROM) be found anywhere?

Franz

Re: Numeric integration on 34s

*Message #21 Posted by **Paul Dale** on 14 June 2011, 7:03 a.m.,*
in response to message #20 by fhub

The 34s's integration code doesn't evaluate at the end points.

It uses a 10/21 point Gauss-Kronrod quadrature.

The freely available source code (in xrom.c) implements the algorithm.

More information can be found on the Internet by visiting your friendly search engine.

- Pauli

Re: Numeric integration on 34s

*Message #22 Posted by **fhub** on 14 June 2011, 7:18 a.m.,*
in response to message #21 by Paul Dale

> Quote:

> The 34s's integration code doesn't evaluate at the end points.

Well, that's good for such improper integrals! ;-)

Thanks for the info, I know a few integration methods but Gauss-Kronrod was new to me.

Franz

Re: Numeric integration on 34s

*Message #23 Posted by **Paul Dale** on 14 June 2011, 7:31 a.m.,*
in response to message #22 by fhub

Gauss-Kronrod quadratures are pretty much the standard these days. Their main benefit is that the function is evaluated for the Kronrod quadrature and the Gauss points are a subset. Thus you get two different order estimates of the integral which gives you an idea of the error.

Generally they are used with a fairly adaptive wrapper that increases the number of quadrature points -- this can be done while reusing the existing function evaluations if the points are carefully chosen. The 34s isn't this sophicated however.

Quite an interesting lump of theory :-)

- Pauli

Re: Numeric integration on 34s

*Message #24 Posted by **gene wright** on 14 June 2011, 7:11 a.m.,*
in response to message #20 by fhub

Here is the PPC ROM IG routine write-up:

PPC ROM IG Routine

Re: Numeric integration on 34s

*Message #25 Posted by **fhub** on 14 June 2011, 7:24 a.m.,*
in response to message #24 by gene wright

> Quote:
>
> Here is the PPC ROM IG routine write-up:
>
> PPC ROM IG Routine

Thanks, very interesting and detailled article! :-)
Of course Romberg is one of the standard methods, but so far I didn't know that it could also be used for improper integrals.

Franz

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Would you take a chance on this auction?

*Message #1 Posted by **Michael de Estrada** on 13 June 2011, 12:50 p.m.*

Here's another auction for a Woodstock in questionable condition. I wouldn't like to bet that it's in good working condition and hasn't been fried. Would you?

HP-29C auction

Re: Would you take a chance on this auction?

*Message #2 Posted by **Etienne Victoria** on 13 June 2011, 12:55 p.m.,*
in response to message #1 by Michael de Estrada

I don't like the ominous Led glowing on picture 3.

And I don't like the direct connection between the charger and the calc contacts.

Rip, Amen.

Etienne

Edited: 13 June 2011, 12:56 p.m.

Re: Would you take a chance on this auction?

*Message #3 Posted by **Michael de Estrada** on 13 June 2011, 1:17 p.m.,*
in response to message #2 by Etienne Victoria

> Quote:
>
> I don't like the ominous Led glowing on picture 3.

Yes, but notice that it is not connected to the charger, and the batteries are dead, so it may just be a reflection from a camera flash. Still, I wouldn't want to trust that it is working properly. Note that the seller only states that it will "power up." Sounds like another infamous TAS seller we all know.

Re: Would you take a chance on this auction?

*Message #4 Posted by **Juergen Keller** on 13 June 2011, 4:36 p.m.,*
in response to message #3 by Michael de Estrada

I think you are right, it is a reflection from the flash. Aside from the engraving (luckily on the backside) it looks quite nice. Regarding the working condition: ask the seller to clarify this point.

Re: Would you take a chance on this auction?

*Message #5 Posted by **Namir** on 13 June 2011, 1:11 p.m.,*

in response to message #1 by Michael de Estrada

I pass!

Re: Would you take a chance on this auction?

*Message #6 Posted by **bill platt** on 13 June 2011, 1:43 p.m.,*
in response to message #1 by Michael de Estrada

I refuse to buy a calculator off ebay if it has a reserve price. I did it once and I will forever regret it.

The reserve is ridiculous.

Re: Would you take a chance on this auction?

*Message #7 Posted by **Michael de Estrada** on 13 June 2011, 2:32 p.m.,*
in response to message #6 by bill platt

The reserve just adds insult to injury. I don't bid on reserve auctions either, but this one is just plain silly.

Re: Would you take a chance on this auction?

*Message #8 Posted by **Steve Simpkin** on 13 June 2011, 3:25 p.m.,*
in response to message #1 by Michael de Estrada

The statements "This is a working vintage HP 29C calculator." and "The calculator will power up by connecting the leads of the charger to the prongs on the calculator." do not add up. The Woodstock charger puts out 10+ Volts of AC power. The AC voltage is half-wave rectified to convert it to DC, passed through a current limiting resistor and placed across the battery pack which acts as a regulator keeping the voltage below 3 Volts DC. Removing the battery pack and connecting the charger would supply over 10 Volts of AC power to the internal calculator circuity. This would likely damage the calculator circuitry not only by over-voltage stresses but by reverse polarity stresses as well (at minimum to the continuous memory IC). My conclusion is that this seller is lying.

Re: Would you take a chance on this auction?

*Message #9 Posted by **Ren** on 14 June 2011, 12:57 p.m.,*
in response to message #8 by Steve Simpkin

Just playing Devil's advocate...

But the pictures don't show the charger connected WITHOUT the battery pack installed, so maybe it hasn't been fried (like I clumsily did once).

Ren

dona nobis pacem

Re: Would you take a chance on this auction?

*Message #10 Posted by **Michael de Estrada** on 14 June 2011, 1:06 p.m.,*
in response to message #9 by Ren

You can damage the calculator by powering it up with the ac charger, even if there is a battery pack installed. If the battery pack is spent, as the seller readily admits, then its resistance can increase significantly to the point that it effectively acts like an open circuit. This is no different than powering

the calc from the charger with the battery pack removed, which is the condition that results in damage to the calc electronics. Also, corrosion on the contacts can result in high resistance as well.

Edited: 14 June 2011, 1:07 p.m.

Re: Would you take a chance on this auction?

*Message #11 Posted by **Michael de Estrada** on 23 June 2011, 10:23 p.m.,*
in response to message #10 by Michael de Estrada

Well, someone has met the reserve price and bought it. It will be interesting to see what if any feedback is given to the seller.

HP 29C

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI people have more fun

*Message #1 Posted by **Don Shepherd** on 13 June 2011, 11:23 a.m.*

edible calculator

Re: TI people have more fun

*Message #2 Posted by **Walter B** on 13 June 2011, 11:57 a.m.,*
in response to message #1 by Don Shepherd

Great work :-) will feed a team for sure. I just wonder about the graphic application as soon as all people know the sine by hart ;-)

Re: TI people have more fun

*Message #3 Posted by **Gerson W. Barbosa** on 13 June 2011, 12:22 p.m.,*
in response to message #1 by Don Shepherd

better tasting edible calculator

Re: TI people have more fun

*Message #4 Posted by **Angel Martin** on 13 June 2011, 1:07 p.m.,*
in response to message #3 by Gerson W. Barbosa

That's a keeper! :-)

Re: TI people have more fun

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 14 June 2011, 9:41 p.m.,*
in response to message #3 by Gerson W. Barbosa

How do I get hP-35 in the display of my HP-35?

Re: TI people have more fun

*Message #6 Posted by **db (martinez, ca.)** on 14 June 2011, 10:39 p.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

Palmer; strawberry icing. But keep it out of the battery compartment.

Re: TI people have more fun

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 15 June 2011, 11:47 a.m.,*
in response to message #6 by db (martinez, ca.)

> Quote:

> Palmer; strawberry icing. But keep it out of the battery compartment.

What I was really asking: Is there a fractured digits capability on the HP-35 similar to that which was available with the SR-52 and TI-59?

Re: TI people have more fun

*Message #8 Posted by **Gerson W. Barbosa** on 14 June 2011, 10:45 p.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

One possibility is entering 1111111188.-35 and painting over the LED segments that shouldn't be lit with a permanent marker. I haven't tried this on mine, though :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP9815A SOFTWARE

*Message #1 Posted by **Mary Santoro** on 13 June 2011, 10:50 a.m.*

I am looking to buy software for an older model 9815A in a cassette form. The program title is General Utility Routines and the program part number is 09815-10000 Rev E. Thank you. Mary

Re: HP9815A SOFTWARE

*Message #2 Posted by **Joel Setton (France)** on 14 June 2011, 3:21 p.m.,*
in response to message #1 by Mary Santoro

Hi Mary,

Greetings from a 9815 fan!

Unfortunately, this tape is very rare... and although similar requests have been posted on this forum before, I don't remember anyone responding positively.

The good news is that many of the programs from this tape are listed in the General Utility and Test Routines manual which is available on CD/DVD from this Museum. With a little bit of luck, the particular program you need is listed and all it takes is a little typing.

I hope this helps!

Joel Setton

Re: HP9815A SOFTWARE

*Message #3 Posted by **Katie Wasserman** on 14 June 2011, 3:53 p.m.,*
in response to message #2 by Joel Setton (France)

This has come up before.

I have this tape and would love to be able to make a copy for you, but I don't think it's possible.

-Katie

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp 34s awaiting overlay.

*Message #1 Posted by **Etienne Victoria** on 13 June 2011, 10:27 a.m.*

Just for the record,

Prior to Eric producing his overlays, I have tried a couple of tools to produce a Blanknut 30b.

Some findings:

- Avoid aceton (or similar solvent) as it will soften the key plastic and leave an ugly uneven surface.

- Dremel: avoid steel brushes (too harsh) and speeds beyond 6k rpm: this will heat the plastic and you get the above final result.

--> I have used a brass brush at 5k rpm and a LOT of patience.

--> Avoid ugly white decals like the ones I used because I was in a hurry.

As said above, this is just for the record because I expect Eric's overlay to look way better.

Anyway a couple of pics:

and all of them: here.

Best

Etienne

Re: Wp 34s awaiting overlay.

*Message #2 Posted by **Walter B** on 13 June 2011, 10:52 a.m.,*
in response to message #1 by Etienne Victoria

Bonjour Etienne,

très interessante. I expect the overlay staying excellently between the keys. Let's see how good it will perform on them. Maybe we'll return to your (and Pauli's) experience working on the keys directly. Thanks for sharing.

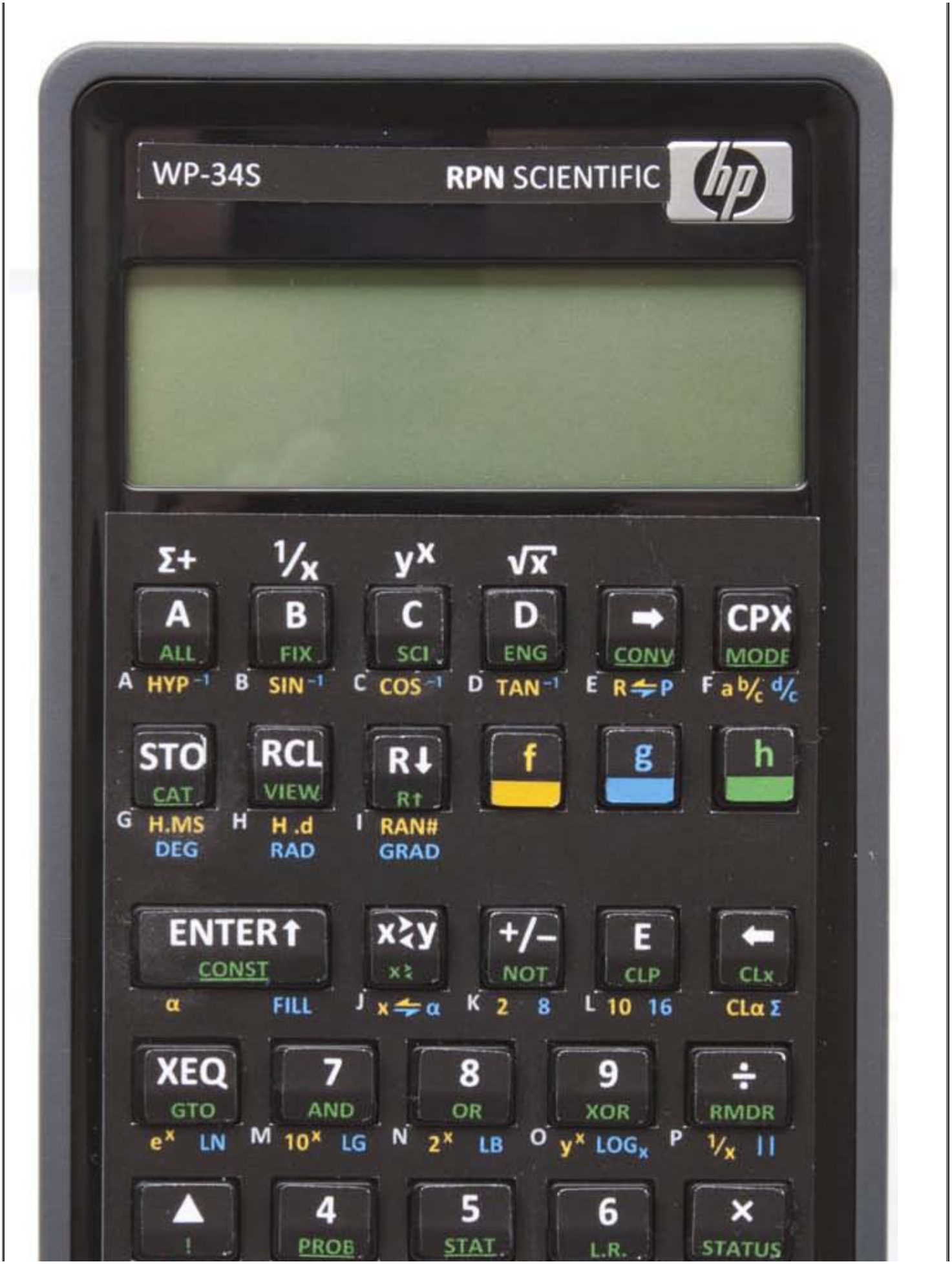
Walter

Re: Wp 34s awaiting overlay.

*Message #3 Posted by **Gene Wright** on 13 June 2011, 11:00 a.m.,*
in response to message #1 by Etienne Victoria

Here's mine. I have since "moved" some of the stickers slightly so it looks even better.

Wp 34s awaiting overlay.



Edited: 13 June 2011, 12:25 p.m. after one or more responses were posted

Re: Wp 34s awaiting overlay.

*Message #4 Posted by **Walter B** on 13 June 2011, 11:53 a.m.,*
in response to message #3 by Gene Wright

Still the wrong division symbol and the Las-Vegas-style prefixes ... :-/ Blue could be a bit lighter, the alpha letters on the keyplate a bit darker, and green contain more yellow. Just check SVN, please. Looking forward to the next lot of overlays :-)

Re: Wp 34s awaiting overlay.

*Message #5 Posted by **Gene Wright** on 13 June 2011, 12:23 p.m.,*
in response to message #4 by Walter B

I believe Eric plans to continue using the division symbol on his overlays with no plans to change to /.

Colors may be adjusted, sure.

Re: Wp 34s awaiting overlay.

*Message #6 Posted by **Eric Rechlin** on 15 June 2011, 12:11 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> Still the wrong division symbol and the Las-Vegas-style prefixes ... :-/ Blue could be a bit lighter, the alpha letters on the keyplate a bit darker, and green contain more yellow. Just check SVN, please. Looking forward to the next lot of overlays :-)

It's the right division symbol in my opinion, so I am keeping it.

It's hard to judge color from a photo. Do realize that it is likely that Gene's photo does not contain

specific colorspace information, his camera probably is not color calibrated, and your monitor may not be color calibrated, and unless all three match it won't do you any good to judge colors. You'll get some sample overlays in the mail soon.

However, I will say that due to limitations of printers, you're not going to get the same colors out of the printer that you see on the screen. In particular, the colors won't be as bright.

Eric

Re: Wp 34s awaiting overlay.

*Message #7 Posted by **db (martinez, ca.)** on 15 June 2011, 3:55 p.m.,*
in response to message #6 by Eric Rechlin

Yes Eric; the current division sign is correct because that's the one that's on my 41.
and
My computer shows each color a bit more pastel, the black less black and the white a bit less white - than the colors on your real overlay.

41CL's awaiting overlay.

*Message #8 Posted by **Mark Hardman** on 15 June 2011, 11:30 p.m.,*
in response to message #6 by Eric Rechlin

Eric,

I don't understand why you continue to tolerate Walter's attitude. If I were you, I'd change projects and try recouping the cost of my die cutter by producing 41CL overlays.

I for one would pay handsomely for, say, a 41Z overlay.

Mark Hardman

Re: 41CL's awaiting overlay.

*Message #9 Posted by **Paul Dale** on 16 June 2011, 12:08 a.m.,*
in response to message #8 by Mark Hardman

Bad attitude or almost maniacal attention to detail? Without the latter the 34s wouldn't have come out half the calculator it has.

Wouldn't it be possible to please everyone by including one extra key sticker with the other division symbol?

Two extra key stickers would include that and a comma for a decimal to really make everyone happy.

- Pauli

Re: 41CL's awaiting overlay.

*Message #10 Posted by **Eric Rechlin** on 16 June 2011, 12:54 a.m.,*
in response to message #8 by Mark Hardman

Quote:

> I for one would pay handsomely for, say, a 41Z overlay.

Both HP 41 and HP 48 overlays are in the works. They will be slightly more expensive than the 20b/30b overlays, though, for various reasons, mainly due to the significantly increased labor cost and slightly increased consumable cost in producing them. Basically what I do is I use the adhesive vinyl of the 20b/30b overlays, but then I stick it on card stock to make it stiff (so it doesn't pop out of the slots), and cut the keys out entirely rather than just going through the top surface

But yes, I can make any overlay you want. Send me a scan/picture/drawing/whatever of the 41Z overlay and I will make you a replica in July. $8 shipped. Is this it? If so, it looks like it just consists of a regular 41 overlay plus a sticker for the Z key.

Eric

41Z Overlay

*Message #11 Posted by **Ángel Martin** on 16 June 2011, 3:21 a.m.,*
in response to message #10 by Eric Rechlin

Hi Eric, I should send you the latest / greatest 41Z overlay BMP, as it has some little changes from the one posted. Pls. send me your email address to nowake92atgmaildotcom and I´ll proceed.

Needless to say I´m also interested in having a couple of those ' and another for the SandMath, BTW.

Cheers, ÁM

Re: 41CL's awaiting overlay.

*Message #12 Posted by **Walter B** on 16 June 2011, 1:11 a.m.,*
in response to message #8 by Mark Hardman

Come on, Mark, the wp34s isn't your baby, is it? And we do - as other parents do - want our baby looking cute. Anyway, an obelus on the division key is a logical inconsistency as explained before.

Walter

Re: Wp 34s awaiting overlay.

*Message #13 Posted by **Paul Dale** on 16 June 2011, 8:01 a.m.,*
in response to message #1 by Etienne Victoria

Overlays arrived.

One applied so far and it is much better than the one I made (which was a right pain to get off & I suspect these will be too). Went on quite easily and looks great.

- Pauli

Re: Wp 34s installing overlay.

*Message #14 Posted by **Gerry Schultz** on 16 June 2011, 12:33 p.m.,*

in response to message #13 by Paul Dale

Hi Eric:

I got my overlays but haven't installed them yet. I've been thinking what's the easiest way to put the overlay on once and not have to reapply it to get it centered on my 30b buttons. I'm thinking of cutting out all the button overlays and remove the bottom row of backing to expose the adhesive and put a slight bow in the overlay. Then, turning the calculator upside down, place the upper half of the overlay on the 30b and center it over the keys. When I'm satisfied, smooth down the bottom of the overlay using a pencil eraser to anchor it to the calculator. Then peel off the rest of the backing and finish sticking it down. The remove the backing on the individual buttons and stick them down separately.

Now that I have the overlays, it will take some time to cut out the button labels. If you think this installation procedure will work, would you consider punching the button overlays through the backing cover for easier removal and putting a seam in the backing so part of it can be removed easily for aligning and setting the overlay? I will try to install mine this weekend to see how it works. I'm glad I bought four of them in case I screw up.

Gerry

Edited: 16 June 2011, 12:35 p.m.

Re: Wp 34s installing overlay.

*Message #15 Posted by **Eric Rechlin** on 16 June 2011, 1:30 p.m.,*
in response to message #14 by Gerry Schultz

No need to punch out the buttons separately. Just peel the main part of the overlay off the backing. It's relatively stiff but still will bow a bit. Let it sag down in the middle and stick that part down first. Slowly lower it onto the area around the 7-8-9 keys or the row above and make sure it's perfectly centered around the keys. Let it fall once it is. Then work your way up and down the rows, pushing the overlay down one row at a time. If it seems a little misaligned, if you are very careful you might be able to pull it up and try again, but instead you could maybe very carefully stretch the overlay (if it's coming short) to better fit around the keys. You have no more than about a half millimeter of clearance, so you have to get it just right.

Once you've done the overlay, the keys will be simple. I used a tweezers so I could better see what I was doing (to make sure they weren't crooked) and so I wouldn't reduce the effectiveness of the adhesive with oil from my fingers, but some have reported success with their fingers as well.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s STAT and PRG doubts

*Message #1 Posted by **Cristian Arezzini** on 13 June 2011, 2:47 a.m.*

Here are two more things that might be bugs or intended behavior... I didn't find informations on the manual telling me either way.

1) I have entered several data points with Sigma+. Then I chose, from the STAT catalog, x^ (the ^ goes above the x of course), and the calc showed a numerical value, and "Linear" on top. If then I press the up/down arrows, on the top line, I see the contents of the program memory, and the numerical value changes according to the step that is displayed above. I know next to nothing about statistics, but this looks like a strange behavior...

2) If I want to write a program that as the first thing, it duplicates what is in x to y (like the DUP command of RPL), I have to put two ENTER steps. I thought just one should do. Why does the first ENTER do nothing?

Thanks, Cristian

Re: Wp34s STAT and PRG doubts

*Message #2 Posted by **Paul Dale** on 13 June 2011, 3:44 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> 1) I have entered several data points with Sigma+. Then I chose, from the STAT catalog, x^ (the ^ goes above the x of course), and the calc showed a numerical value, and "Linear" on top. If then I press the up/down arrows, on the top line, I see the contents of the program memory, and the numerical value changes according to the step that is displayed above.

What did you expect the up and down arrows to do here?

They are in fact single stepping whatever program you have in memory & even if you don't have a program, they'll show step 000. The x^ operation has finished.

> Quote:
>
> 2) If I want to write a program that as the first thing, it duplicates what is in x to y (like the DUP command of RPL), I have to put two ENTER steps. I thought just one should do. Why does the first ENTER do nothing?

You are probably getting caught by ENTER duplicating x into y and disabling stack lift. If you enter a number after ENTER, whatever in x is destroyed. As a fix RCL X should do what you want.

- Pauli

Edited: 13 June 2011, 3:48 a.m.

Re: Wp34s STAT and PRG doubts

*Message #3 Posted by **Cristian Arezzini** on 13 June 2011, 4:54 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> What did you expect the up and down arrows to do here?
>
> They are in fact single stepping whatever program you have in memory & even if you don't have a program, they'll show step 000. The x^ operation has finished.

You're right. I was fooled by the fact that the top row said "linear" - other functions I usually use don't say anything on the top row - so I thought there was some choice to do, or something like that. The fact that I posted that around 5am didn't help! :) Sorry!

> Quote:
>
> You are probably getting caught by ENTER duplicating x into y and disabling stack lift. If you enter a number after ENTER, whatever in x is destroyed. As a fix RCL X should do what you want.

I see. I don't actually enter a number after, but execute RAN# (I want to multiply X by a random number, but keeping a copy on y). I didn't think about the stack lifting being disabled. I tried RCL X and it works. It works exactly like a DUP, right?

Thanks again, Cristian

Re: Wp34s STAT and PRG doubts

*Message #4 Posted by **Paul Dale** on 13 June 2011, 5:19 a.m.,*
in response to message #3 by Cristian Arezzini

> Quote:
>
> I see. I don't actually enter a number after, but execute RAN# (I want to multiply X by a random number, but keeping a copy on y). I didn't think about the stack lifting being disabled. I tried RCL X and it works. It works exactly like a DUP, right?

Yes, RCL X is equivalent to DUP.

RAN# will replace the X register if stack lift is disabled. Plenty of other commands will as well.

Another sequence that should work and which is shorter is:

```
RAN#
RCL* Y
```

- Pauli

Single-stepping through WP34s programs

*Message #5 Posted by **Dieter** on 13 June 2011, 4:09 p.m.,*
in response to message #2 by Paul Dale

While we're on this topic: debugging 34s programs with the single-step key (down-arrow) always felt a bit ...strange for me. Now I think I know why:

While stepping through a program the 34s displays the *previous* step that *has* already been executed. So the numeric display shows the *result after* the step that is displayed in the upper line. In all other HPs I know of the display shows the *next* step that *will be* executed as soon as the SST-key is pressed. Makes more sense to me: on the 34s you never know what comes next. What do you think?

Dieter

Re: Single-stepping through WP34s programs

*Message #6 Posted by **Walter B** on 13 June 2011, 5:02 p.m.,*
in response to message #5 by Dieter

Hallo Dieter, that's Pauli's domain :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A simple wp34s mini-challenge

*Message #1 Posted by **Gerson W. Barbosa** on 12 June 2011, 7:43 p.m.*

Quoting from the Wikipedia article on Ramanujan:

"Imagine that you are on a street with houses marked 1 through n. There is a house in between (x) such that the sum of the house numbers to left of it equals the sum of the house numbers to its right. If n is between 50 and 500, what are n and x?"

Other HP RPN calculators can be used, but only on the wp34s this can be done in 18 steps or less (LBL and RTN included) using the method I have used. It is possible Ramanujan's method based on continued fractions allows for an even smaller program, but I am not aware of it. A solution based on his method is much welcome, no matter the program size, in case anyone knows it.

Re: A simple wp34s mini-challenge

*Message #2 Posted by **Paul Dale** on 12 June 2011, 8:55 p.m.,*
in response to message #1 by Gerson W. Barbosa

Interesting challenge. I've no idea about the continued fraction solution.

I suspect the 16c can do this in 18 steps too although I might be wrong here. Anyway the 34s can do a bit better than that:

```
001: LBL A
002: 5
003: 0
004: 0
005: STO I
006: RCL I
007: x^2
008: RCL+ I
009: SR 01
010: SQRT
011: FC? C
012: RTN
013: DSZ I
014: BACK 08
```

This requires the device to be in integer mode with a sufficient word size (19 or 20 minimum I think -- I used 64) and decimal base. Press A and *x* is returned in the display. *n* is in register I.

If you don't allow an integer mode start, change steps 2, 3 & 4 to:

```
002: 5
003: S.L 02
004: BASE 10
```

Actually, the base doesn't matter here. We just need to be in integer mode. I love the S.L and S.R commands :-)

How did I arrive at this? A little algebra. The sum of the numbers to the left of x is *x (x-1) / 2*. The sum of the numbers to the right is *(n + x + 1) (n - x) / 2*. From this you get that *n (n+1) / 2 = x^2* at the solution both

sides must be integral. The divide by two is safe since *n^2 - n* is always even. So we need to check the square root for being integer. Fortunately integer mode square root sets carry if there is a remainder.

- Pauli

Edit: return *n* in register I instead of *n+1*.

Edited: 12 June 2011, 9:22 p.m.

Re: A simple wp34s mini-challenge

*Message #3 Posted by **Paul Dale** on 12 June 2011, 9:26 p.m.,*
in response to message #2 by Paul Dale

And an improvement. Replace lines 2 through 4 with MASKR 09 giving a 12 step solution:

```
001: LBL A       entry label
002: MASKR 09    511
003: STO I       save in the n register
004: RCL I       beginning of loop: get n
005: x^2         n^2
006: RCL+ I      n^2 + n
007: SR 01       (n^2 + n) / 2 no chance of carry here
008: SQRT
009: FC? C       integer answer for the square root?
010: RTN         yes then we've finished
011: DSZ I       decrement the loop counter
012: BACK 08     back to the top of the loop
```

- Pauli

Re: A simple wp34s mini-challenge

*Message #4 Posted by **Gerson W. Barbosa** on 12 June 2011, 9:41 p.m.,*
in response to message #2 by Paul Dale

Very quick solution! I wonder if Ramanujan was as fast :-)

I have not used a good method, it would have taken too long if done by hand (too many quadratic equations to solve). Anyway, it works:

```
 sum of the house numbers to left: x*(x-1)/2

sum of the house numbers to right: n*(n+1)/2 - x*(x+1)/2

x*(x-1)/2 = n*(n+1)/2 - x*(x+1)/2

x*(x-1)/2 - (n*(n+1)/2 - x*(x+1)/2) = 0

which simplifies to

2*x^2 - n^2 - n = 0

Now, all is left to do is solving the quadratic equations for n = 50 and above and
checking for positive roots.



001 LBL A
002 FILL
003 2
004 ENTER^
```

```
005 0
006 R^
007 x^2
008 RCL+ L
009 +/-
010 SLVQ
011 FP
012 x=0?
013 SKIP 03
014 R^
015 INC X
016 GTO A
017 Rv
018 RTN



50 A   -->   x
x<>y   -->   n
```

Regards,

Gerson.

Re: A simple wp34s mini-challenge

*Message #5 Posted by **Paul Dale** on 12 June 2011, 10:03 p.m.,*
in response to message #4 by Gerson W. Barbosa

If we can input the loop starting value before running the program...

```
001: LBL A
002: STO I
003: RCL I
004: x^2
005: RCL+ I
006: SR 01
007: SQRT
008: FC? C
009: RTN
010: INC I
011: BACK 08
```

50 A to execute. x is in the display. RCL I for n.

- Pauli

Re: A simple wp34s mini-challenge

*Message #6 Posted by **Paul Dale** on 12 June 2011, 10:21 p.m.,*
in response to message #5 by Paul Dale

And a version that doesn't use a register:

```
001: LBL A
002: FILL
003: *
004: +
005: SR 01
006: SQRT
007: FC? C
008: RTN
009: Rv
010: INC X
011: GTO A
```

As above, 50 A to run. x in in the display. X<>Y to get n.

And if we had included the fused multiply add instruction steps 3 and 4 could be merged. Sadly it

isn't in the firmware.

Here is a HP-16c program in 17 steps that works like the above albeit glacially slowly:

```
001-43,22, A  LBL A
002-       36  ENTER
003-       36  ENTER
004-       36  ENTER
005-       20  *
006-       40  +
007-        2  2
008-       10  /
009-  43   25  SQRT
010-43, 6, 4  F? 4
011-   22  1  GTO 1
012-  43   21  RTN
013-43,22, 1  LBL 1
014-       33  Rv
015-        1  1
016-       40  +
017-   22   A  GTO A
```

I thought it could be done.

- Pauli

Re: A simple wp34s mini-challenge

*Message #7 Posted by **Paul Dale** on 12 June 2011, 10:24 p.m.,*
in response to message #6 by Paul Dale

If you are going to try the 16c version, remember to set the word size large enough. And start with a guess for n around 250 or you'll be waiting and waiting and waiting...

- Pauli

Re: A simple wp34s mini-challenge

*Message #8 Posted by **Gerson W. Barbosa** on 12 June 2011, 11:05 p.m.,*
in response to message #7 by Paul Dale

Only 100 seconds to find the answer, starting from 250, WS set to 20. Fast enough! My having resorted to SLVQ looks really silly, that's what happens when we stick to the first idea :-)

Cheers,

Gerson.

Edited: 12 June 2011, 11:06 p.m.

Re: A simple wp34s mini-challenge

*Message #9 Posted by **Paul Dale** on 12 June 2011, 11:12 p.m.,*
in response to message #8 by Gerson W. Barbosa

I thought about using SLVQ too but figured the setup would be too expensive in steps. Then I remembered that integer square root did the FP test for me...

- Pauli

Re: A simple wp34s mini-challenge

*Message #10 Posted by **Gerson W. Barbosa** on 12 June 2011, 11:12 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> If we can input the loop starting value before running the program...

Yes, we CAN! Sorry for not having warned you about that.

Gerson.

Re: A simple wp34s mini-challenge

*Message #11 Posted by **Paul Dale** on 13 June 2011, 1:30 a.m.,*
in response to message #1 by Gerson W. Barbosa

For the continued fraction solution to this problem have a look here.

I'll leave a program to calculate this as an exercise :-)

- Pauli

Re: A simple wp34s mini-challenge

*Message #12 Posted by **Gerson W. Barbosa** on 13 June 2011, 2:37 a.m.,*
in response to message #11 by Paul Dale

For solving, I'll choose Dario Alpern's solver. A program based on continued fractions would be a bit larger but would run significantly faster. The general solution for $2*x^2 - y^2 - y = 0$ is

$$x_{n+1} = 3*x_n + 2*y_n + 1$$
$$y_{n+1} = 4*x_n + 4*y_n + 1$$

Here is a 42S program to display the solutions:

```
00 { 44-Byte Prgm }
01>LBL "R"
02 0
03 STO 00
04 STO 01
05>LBL 00
06 3
07 RCL* 00
08 2
09 RCL* 01
10 +
11 1
12 +
13 4
14 RCL* 00
15 3
16 RCL* 01
17 +
18 1
19 +
20 STO 01
21 X<>Y
22 STO 00
23 STOP
24 GTO 00
25.END.
```

Notice the solutions are successive approximants to sqrt(2), when divided by each other.

They used to solve this kind of problem centuries ago, only it took a little longer :-)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv018.cgi?read=145904

(I knew I'd seen this before...)

Gerson.

Edited: 13 June 2011, 3:14 a.m.

Re: A simple wp34s mini-challenge

*Message #13 Posted by **Gerson W. Barbosa** on 13 June 2011, 5:37 p.m.,*
in response to message #11 by Paul Dale

Thanks for the link!

The trick is to transform the equation we'd already found

$m^2 + m - 2n^2 = 0$

into an easier to solve Pell's equation:

$$m^2 + m = 2n^2$$
$$m^2 + m + 3m^2 + 3m + 1 = 2n^2 + 3m^2 + 3m + 1$$
$$4m^2 + 4m + 1 = 2n^2 + 3(m^2 + m) + 1$$
$$(2m + 1)^2 = 2n^2 + 6n^2 + 1$$
$$(2m + 1)^2 - 8n^2 = 1$$
$$(2m + 1)^2 - 2(2n)^2 = 1$$

Let $m + 1 = x$ and $2n = y$:

$x^2 - 2*y^2 = 1$

Now the problem is ready to be quickly solved by the following HP-42S program:

```
00 { 70-Byte Prgm }             27 1/X
01>LBL "R"                      28 FP
02 2                            29 STO 03
03 SQRT                         30 1/X
04 STO 01                       31 IP
05 IP                           32 STO 04
06 STO 02                       33 RCL 07
07 LAST X                       34 STO 05
08 FP                           35 RCL 02
09 STO 03                       36 X^2
10 1/X                          37 RCL 06
11 IP                           38 X^2
12 STO 04                       39 STO+ X
13 1                            40 -
14 STO 05                       41 1
15 STO 06                       42 X=Y?
16>LBL 00                       43 XEQ 01
17 RCL 02                       44 GTO 00
18 STO 07                       45>LBL 01
19 RCL* 04                      46 RCL 02
20 RCL+ 05                      47 2
21 STO 02                       48 BASE/
22 RCL 01                       49 RCL 06
23 /                            50 2
24 IP                           51 /
25 STO 06                       52 STOP
26 RCL 03                       53.END.
```

```
keystrokes              display

XEQ "R"                 1
                        1

R/S                     8
                        6

R/S                     49
                        35

R/S                     288
                        204

R/S                     1681
                        1189

R/S                     9800
                        6930

R/S                     57121
                        40391
```

This will solve Pell's equation for any positve integer N, such that N is not a perfect square, as long as machine accuracy allows it:

Generic Pell's Equation Solver ($x^2 - N*y^2 = 1$)

```
00 { 63-Byte Prgm }             27 1/X
01>LBL "P"                      28 FP
02>STO 00                       29 STO 03
03 SQRT                         30 1/X
04 STO 01                       31 IP
05 IP                           32 STO 04
06 STO 02                       33 RCL 07
07 LAST X                       34 STO 05
08 FP                           35 RCL 02
09 STO 03                       36 X^2
10 1/X                          37 RCL 06
11 IP                           38 X^2
12 STO 04                       39 RCL* 00
13 1                            40 -
14 STO 05                       41 1
15 STO 06                       42 X=Y?
16>LBL 00                       43 XEQ 01
17 RCL 02                       44 GTO 00
18 STO 07                       45>LBL 01
19 RCL* 04                      46 RCL 02
20 RCL+ 05                      47 RCL 06
21 STO 02                       48 STOP
22 RCL 01                       49 .END.
23 /
24 IP
25 STO 06
26 RCL 03
```

```
keystrokes              display

2 XEQ "P"               3
                        2

R/S                     17
                        12
```

```
R/S                     99
                        70


R/S                     577
                        408


R/S                     3363
                        2378


R/S                     19601
                        13860


R/S                     114243
                        80782
```

I'll leave optimization and porting to wp34s as an exercise :-)

Gerson.

P.S.: Be warned this is my own algorithm for generating the approximants to sqrt(N), which means there is quite room for improvement.

```
TurboBDC code
Program Pell;
var b, c, d, k, n, n0, r, s, t, x: Real;
function Sqrt(x: Real): real;
var s, t: Real;
begin
  if x<>0 then
    begin
      s:=x/2;
      repeat
        t:=s;
        s:=(s+x/s)/2
      until s=t;
      Sqrt:=s
    end
    else
      Sqrt:=0
end;
begin
  ClrScr;
  ReadLn(k);
  ClrScr;
  r:=Sqrt(k);
  n0:=1;
  d:=1;
  n:=Int(r);
  b:=Frac(r);
  c:=Int(1/b);
  repeat
    t:=n;
    n:=c*n+n0;
    d:=Int(n/r+0.5);
    b:=Frac(1/b);
    c:=Int(1/b);
    n0:=t;
    if (n*n-k*d*d)=1
      then
        WriteLn(n:10:0,'  /',d:9:0,'   = ',n/d:19:16);
  until Abs((n/d)-Sqrt(k))<1e-16;
  Writeln;
  Writeln(' ':14,'Sqrt(',k:3:0,' ) = ',r:19:16)
end.
```

Edited: 13 June 2011, 9:31 p.m.

Re: A simple wp34s mini-challenge

*Message #14 Posted by **Günter Schink** on 14 June 2011, 2:26 p.m.,*

in response to message #13 by Gerson W. Barbosa

Hi Gerson,

if you want it really fast, then try this one on your 42S(or on the WS34). This program will stop and show matching "n" and "x" in Stack y and x. Continue with R/S to see the next pair. I've left out the "50" and "500" condition. You'll see why :-)

```
00 { 44-Byte Prgm }
01>LBL "S"
02 0
03 1
04>LBL 00
05 RCL ST Y
06 RCL+ ST Y
07 X<>Y
08 RCL+ ST Z
09 RCL+ ST Z
10 RCL ST Y
11 X^2
12 2
13 ×
14 RCL ST Y
15 X^2
16 X<Y?
17 X<>Y
18 Rv
19 RCL ST Y
20 RCL× ST T
21 STOP
22 Rv
23 Rv
24 GTO 00
25 .END.
```

Re: A simple wp34s mini-challenge

*Message #15 Posted by **Gerson W. Barbosa** on 14 June 2011, 4:03 p.m.,*
in response to message #14 by Günter Schink

Wow! Really fast and optimized!

And you can optimize it even further if you replace lines 12 and 13 with

```
12 STO+ ST X
```

This will save one byte and one step.

Thank you for your valuable contribution!

Gerson.

Re: A simple wp34s mini-challenge

*Message #16 Posted by **gene wright** on 14 June 2011, 4:37 p.m.,*
in response to message #14 by Günter Schink

I believe the 34s will require the first few steps to be 0 ENTER 1. The 34s stores numbers one digit per line and so 0 1 is just 1.

That will be something to watch out for if converting programs from the 42s / 41c to the 34s.

FYI.

Re: A simple wp34s mini-challenge

*Message #17 Posted by **Günter Schink** on 14 June 2011, 5:31 p.m.,*
in response to message #16 by gene wright

Hi Gerson and Gene,

your comments made me delete some lines. But now the values 0 and 1 must be on the stack. I have also added some comments, because I think the code is rather kryptisch :-)

A and B are auxiliarey "vars". Instead of using the complicated continuos fraction algorithm the following rules apply:

A_new = A_old + B_old ; B_new = B_old + 2*A_old

x=A*B n= MIN(2A^2;B^2)

put 0 and 1 on the stack and then XEQ "S"

```
00 { 39-Byte Prgm }
01>LBL "S"
02 RCL ST Y                     #RCL A_old
03 RCL+ ST Y            #add B_old giving A_new
04 X<>Y                         #get B_old in front
05 RCL+ ST Z            #add A_old twice
06 RCL+ ST Z            #giving B_new
07 RCL ST Y                     #get A_new to calculate 2*A_new^2
08 X^2
09 STO+ ST X
10 RCL ST Y                     #get B_new to calculate B_new^2
11 X^2
12 X<Y?                         #we need the smaller one
13 X<>Y                         #put the larger one in front if necessary
14 Rv                           #and drop it, leaving "n" on stack
15 RCL ST Y                     #get B_new
16 RCL× ST T            #multiply with A_new giving "x"
17 STOP                         #show "n" and "x" on stack Y and X
18 Rv                           #do away with "n" and "x"
19 Rv                           #leave A_new and B_new an stack Y and X
20 GTO "S"                      #calculate the next pair, A_new and B_new now
becoming A_old and B_old
21 .END.
```

Re: A simple wp34s mini-challenge

*Message #18 Posted by **Gerson W. Barbosa** on 14 June 2011, 8:07 p.m.,*
in response to message #17 by Günter Schink

Günter,

I'd rather keep the values 0 and 1 inside the program. It is possible to achieve this on the wp34s using two steps. That's a good reason to define 0^0 = 1 :-)

```
001 LBL B
002 CLSTK
003 y^x
004 RCL Y
005 RCL+ Y
006 X<>Y
007 RCL+ Z
008 RCL+ Z
```

```
009 RCL Y
010 X^2
011 STO+ X
012 RCL Y
013 X^2
014 X<? Y
015 X<>Y
016 Rv
017 RCL Y
018 RCL× T
019 STOP
020 Rv
021 Rv
022 BACK 18
```

Regards,

Gerson.

Re: A simple wp34s mini-challenge

*Message #19 Posted by **Paul Dale** on 14 June 2011, 8:12 p.m.,*
in response to message #18 by Gerson W. Barbosa

There is another way, in fact lots of ways.

```
iC 00
iC 01
```

or

```
CLSTK
NOT
```

Might make for an interesting challenge all on its on.

Pity I didn't define complex versions of the internal constants -- then it would be possible in a single step :-)

- Pauli

Re: A simple wp34s mini-challenge

*Message #20 Posted by **Gerson W. Barbosa** on 14 June 2011, 8:29 p.m.,*
in response to message #19 by Paul Dale

Quote:

```
CLSTK
NOT
```

Missed that one. It has the advantage to save yet one more byte in the HP-42S program.

Gerson.

Re: A simple wp34s mini-challenge

*Message #21 Posted by **Günter Schink** on 15 June 2011, 11:25 a.m.,*
in response to message #18 by Gerson W. Barbosa

As I'm aiming more for the 42S and here for the Free42, I'd like to leave the input outside of the program, not only would the inclusion add 2 superficial lines it also required an additional local label.

When playing around to get this piece done I didn't really squeeze the last byte out of it, because my main problem was to recall something I dealt with 25 years ago, when I ran into a similar mini-challenge. "Scrooge" didn't remember how rich he was, but knew he had something between 500.000 and a million Golddollars, and they could be layed down either as a square or a triangle. Like in this mini-challenge there was a lot discussion how to optimize the necessary loops. Then I came with my 1 line BASIC program and the discussion was over.

okay, here is my next optimization, with a slightly different approach, and some lines less :-)

put 0 and 1 on the stack, then XEQ "S"

```
00 { 33-Byte Prgm }
01>LBL "S"
02 RCL+ ST Y
03 STO+ ST Y
04 X<>Y
05 RCL ST Y
06 X^2
07 STO+ ST X
08 RCL ST Y
09 X^2
10 X<Y?
11 X<>Y
12 Rv
13 RCL ST Y
14 RCL× ST T
15 STOP
16 Rv
17 Rv
18 GTO "S"
19 .END.
```

BTW, I'm not at all an expert in math. The solution is based on simply analyzing the figures found with brute force that time 25 years ago. The hint to the continoues fraction approach now sheds some light on my findings.

Günter

Re: A simple wp34s mini-challenge

*Message #22 Posted by **Gerson W. Barbosa** on 15 June 2011, 7:53 p.m.,*
in response to message #21 by Günter Schink

> Quote:
>
> "Scrooge" didn't remember how rich he was, but knew he had something between 500.000 and a million Golddollars, and they could be layed down either as a square or a triangle.

Yes, that's essentially the same problem as it can be described by the same equation, $m^2 + m = 2n^2$. Are you sure the specified range is correct? Here is a brute-force one-liner:

```
1 FOR I%=1 TO 1000: R=SQR(I%*(I%+1)/2): IF (R-INT(R))<>0 THEN NEXT
ELSE PRINT I%*I%: NEXT
run
```

```
 1
 64
 2401
 82944
Ok
```

> Quote:
>
> BTW, I'm not at all an expert in math.

Neither am I.

> Quote:
>
> The solution is based on simply analyzing the figures found with brute force that time 25 years ago.

Very insightful analysis, I would say. Congrats!

Gerson.

Re: A simple wp34s mini-challenge

*Message #23 Posted by **Günter Schink** on 16 June 2011, 1:43 p.m.,*
in response to message #22 by Gerson W. Barbosa

Hi Gerson

> Quote:
>
> 1 FOR I%=1 TO 1000: R=SQR(I%*(I%+1)/2): IF (R-INT(R))<>0 THEN NEXT ELSE PRINT I%*I%: NEXT run
>
> ```
> 1
>  64
>  2401
>  82944
> Ok
> ```

You would need R to be squared. I% is the base of the triangle, thus the results are wrong.

concerning the boundaries, I now believe the upper limit of "Scrooge's" dollars was two millions.

Günter

Re: A simple wp34s mini-challenge

*Message #24 Posted by **Gerson W. Barbosa** on 16 June 2011, 3:25 p.m.,*
in response to message #23 by Günter Schink

Oops! Forgot to check the results. It should have been

```
1 FOR I%=1 TO 1700: R=SQR(I%*(I%+1)/2): IF (R-INT(R))<>0 THEN
NEXT ELSE PRINT R*R: NEXT
```

```
run
 1
 36
 1225
 41616
 1413721
```

Gerson.

Re: A simple wp34s mini-challenge

*Message #25 Posted by **Guenter Schink** on 23 June 2011, 3:50 p.m.,*
in response to message #24 by Gerson W. Barbosa

Hi Gerson

squeezing is fun :-)

so here is the next condensed Free42 approach, that's really short.

clear the stack and then XEQ "T"

R/S will show the next pair of m and n

```
00 { 30-Byte Prgm }
01>LBL "T"
02 RCL ST X
03 RCL+ ST Z
04 STO+ ST X
05 RCL+ ST Z
06 1
07 +
08 RCL ST X
09 RCL+ ST T
10 RCL+ ST Z
11 STOP
12 GTO "T"
13 .END.
```

Günter

Re: A simple wp34s mini-challenge

*Message #26 Posted by **Gerson W. Barbosa** on 26 June 2011, 9:35 a.m.,*
in response to message #25 by Guenter Schink

Really impressive! On the 34s you would need only 11 steps, or 13 if you wanted to press A and R/S for each pair:

```
001 LBL A
002 CLSTK
003 RCL X
004 RCL+ Z
005 STO+ X
006 RCL+ Z
007 INC X
008 RCL X
009 PSE 10
010 RCL+ T
011 RCL+ Z
012 STOP
013 BACK 10
```

Gerson.

Re: A simple wp34s mini-challenge

*Message #27 Posted by **Gerson W. Barbosa** on 27 June 2011, 7:25 p.m.,*
in response to message #26 by Gerson W. Barbosa

```
001 LBL A
002 CLx
003 2
004 SQRT
005 INC X
006 x^2
007 *
008 INC X
009 IP
010 STO
011 BACK 08
```

This will generate the sequence

```
1, 6, 35, 204, 1189, 6930, 40931,...
```

Re: A simple wp34s mini-challenge

*Message #28 Posted by **Paul Dale** on 27 June 2011, 7:31 p.m.,*
in response to message #27 by Gerson W. Barbosa

```
010 STO
```

????

- Pauli

Re: A simple wp34s mini-challenge

*Message #29 Posted by **Gerson W. Barbosa** on 27 June 2011, 8:02 p.m.,*
in response to message #28 by Paul Dale

```
STOP
```

Too cold here right now (6 °C), hence the typo :-)

Gerson.

```
001 LBL A
002 # c2
003 2
004 SQRT
005 INC X
006 x^2
007 *
008 CEIL
009 STOP
010 BACK 07
```

Edited: 27 June 2011, 8:29 p.m.

Re: A simple wp34s mini-challenge

*Message #30 Posted by **Guenter Schink** on 29 June 2011, 6:02 p.m.,*

in response to message #26 by Gerson W. Barbosa

Hi,

as the 42S doesn't have the INC nor the BACK commands, I think there's little room, if at all, to make that code shorter.

I think I leave this how it is now.

Have fun, Günter

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Advanced Matrix Pac Question

*Message #1 Posted by **mbrethen** on 12 June 2011, 4:46 p.m.*

Angel,

Would you please explain how the New Matrix Input mode works?

Also, are the dimensioning, storing and recalling functions on the advantage module compatible with this module?

Re: HP-41 Advanced Matrix Pac Question

*Message #2 Posted by **Ángel Martin** on 13 June 2011, 2:41 a.m.,*
in response to message #1 by mbrethen

The first thing to say is that with just a couple of exceptions, every matix function from the Advantage pac is kept untouched, same functionality, same XROM id#, etc. The "Advanced Matrix Pac" builds upon the Matrix set of the advantage, leaving that one unmodified.

So you'll start by using MATDIM to create your matrix, same as always. Then it comes your choices to enter/input the matrix elements. You can used MEDIT as always, or you can use IMR (Input Matrix by Rows) or IMC (input Matrix by Columns). Either one of these three will prompt sequentially for each element, in the corresponding order until the matrix is completed.

Or you can use PMTM (Prompt Matrix), which will prompt for all row elements together as a single entry. To enter them just press ENTER^ after each element (which will write a blank space to separate the string into different numeric values), and terminate the sequence with R/S. The prompt will then ask for the next row, and so until all rows are completed.

The only input parameter is the matrix name in ALPHA. The advantage of this method is ithat it's much quicker and convenient than asking for each element individually. The limitation is that it doesn't support exponents. i.e. 1,23 E-02 - so you need to use the traditional methods if your matrix includes these.

Example: with "TEST" in ALPHA, type 3,004, MATDIM to create the matrix in X-MEM. Them execute PMTM to see:

"R1: _" -> type: 11 ENTER^ 12 ENTER 13 ENTER^ 14 R/S
"R2: _" -> type: 21 ENTER^ 22 ENTER^ 23 ENTER^ 24 R/S
"R3: _" -> type: 31 ENTER^ 32 ENTER^ 33 ENTER^ 34 R/S

Done. You can review the matrix using OMR or OMC to check.

The keyboard is redefined during data entry to accept only nummeric values plus control characters, so you're writing in Alpha and the display simultaneously even if no ALPHA indicator is on.

As you type in do you'll see the "strings" being filled with your entries, each separated by a blank space when you press ENTER^. You can use the back arrow to cancel wrong digits, and also the CHS key for negative numbers, as well as the radix key for decimal parts of course. The logic won't let you input wrong

combinations of these.

If you input more elements per row than the number of matrix columns, the exceeding ones will just be ignored - so you need to remember your matrix dimension during the process. Also you can't exceed 24 characters in total, or the ALPHA register will overflow. If you do, only the rightmost 24 will be taken of course.

However inputing fewer elements that the number of columns on any of the ROW sequences will simply abort the data entry process after pressing R/S.

That's how it works, hopefully intuitive and sensible enough to be useful and practical - of course it ain't perfect and sure enough you can trick it if you really mean to.

Cheers, "AM

Edited: 13 June 2011, 2:50 a.m.

Re: HP-41 Advanced Matrix Pac Question

*Message #3 Posted by **mbrethen** on 14 June 2011, 5:15 p.m.,*
in response to message #2 by Ángel Martin

The PMTM entry works very well, however the eigenvalue functions (CHRPOL, EIGEN, VP3X3) don't take advantage of this? I did see that flag 06 is used to determine if a matrix exists. Maybe I'm not putting the matrix in the proper registers?

Edited: 14 June 2011, 5:26 p.m.

Re: HP-41 Advanced Matrix Pac Question

*Message #4 Posted by **Ángel Martin** on 15 June 2011, 1:37 a.m.,*
in response to message #3 by mbrethen

The only program using PMTM is "MATP", the driver for the matrix product. Remember that PMTM does not allow number entry in SCI or ENG modes, thus it'll be frustrating if it was the default mode. Therefore I used IMR as default.

Yes flag 6 controls whether the matrix is already entered, so you can skip the data entry process (when F6 is set). Those programs don't use registers, but X-MEM files instead, all you need is to name the matrix (which you can enter using PMTM if you wish) as it's expected by the program, as follows:

for EV3X3: "E3"
for EIGEN: "AA"

This doesn't apply to CHRPOL or JACOBI though, can't skip the data entry for those.

Lastly, CHARPOL will return the coefficients of the characteristic polynomial but to obtain its roots you'll need to plug in the ALGEBRA module, as there's a call to the RTSN program from that ROM.

Re: HP-41 Advanced Matrix Pac Question

*Message #5 Posted by **mbrethen** on 15 June 2011, 10:09 a.m.,*
in response to message #4 by Ángel Martin

Any documention exist for the Algebra ROM?

Edit: Nevermind, I found it in the sandmath documentation.

Edited: 15 June 2011, 7:27 p.m. after one or more responses were posted

Re: HP-41 Advanced Matrix Pac Question

*Message #6 Posted by **Angel Martin** on 15 June 2011, 3:34 p.m.,*
in response to message #5 by mbrethen

yes, the QRG is also available at TOS.

Re: HP-41 Advanced Matrix Pac Question

*Message #7 Posted by **fhub** on 16 June 2011, 4:42 p.m.,*
in response to message #6 by Angel Martin

> Quote:
>
> yes, the QRG is also available at TOS.

Hi Angel,

excuse my silly question (I'm quite new here ;-)), but what or where is this TOS?

Franz

Re: HP-41 Advanced Matrix Pac Question

*Message #8 Posted by **Ángel Martin** on 17 June 2011, 2:24 a.m.,*
in response to message #7 by fhub

TOS = "The Other Site"

euphemisn we need to resort to to avoid using the URL or any descriptive reference to the other dedicated 41 site, as it seems to be some kind of "trapping mechanism" in the museum forum preventing messages with those contents from being posted.

Re: HP-41 Advanced Matrix Pac Question

*Message #9 Posted by **fhub** on 17 June 2011, 5:46 a.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> TOS = "The Other Site"
>
> euphemisn we need to resort to to avoid using the URL or any descriptive reference to the other dedicated 41 site, as it seems to be some kind of "trapping mechanism" in the museum forum preventing messages with those contents from being posted.

Oh my god, I didn't know that such animosities also exist between science/math/calculator sites (I know such nonsense only from computer chess sites and fora ;-)).

So I guess I know what you mean by TOS: a site with a big HP-41CX on the intro

page, and W.F. as author!?
Well, I'm visiting it almost daily, so it seems I've not missed anything ... :-)

Franz

Re: HP-41 Advanced Matrix Pac Question

*Message #10 Posted by **mbrethen** on 16 June 2011, 5:10 p.m.,*
in response to message #6 by Angel Martin

Angel,

I found a user program on TOS forum that uses routines from the MATHSTAT (or MATH I) module. It computes the characteristic equation and eigenvalues of matrices of order 2, 3, 4, and 5. The coefficients of the characteristic polynomial are computed directly, then the roots of the polynomial are solved. MATRIX is run first to enter the matrix elements, then both DET (XROM 01,06) and ROOTS (XROM 01,12) are called.

Any reason why I couldn't do the same with the IMR (or PMTM), MDET and POLYN functions from the Advanced Matrix Pac?

Edited: 16 June 2011, 7:06 p.m.

Re: HP-41 Advanced Matrix Pac Question

*Message #11 Posted by **Ángel Martin** on 17 June 2011, 2:21 a.m.,*
in response to message #10 by mbrethen

You can use any combination / variation to solve the type of problem you describe. I'd certainly not use the MATH Pac anymore, as the CCD Matrix implementation is light-year's ahead.

Just be aware that the register usage is not compatible between programs, so whatever you found at TOS will certainly need some modification if you want to exchange the MathPac programs with the Advanced Matrix functions.

CHRPOL is for me the way to go, even if it "requires" RTSN to obtain the roots.
JACOBI is for symmetrical matrices (calculates the roots BTW), and of course EV3X3 is a particulat case for n=3.

Re: HP-41 Advanced Matrix Pac Question

*Message #12 Posted by **Ángel Martin** on 17 June 2011, 7:11 a.m.,*
in response to message #11 by Ángel Martin

Lest to forget EIGEN, using SOLVE to iteratively obtain ONE eigen-value within a specific interval.

Re: HP-41 Advanced Matrix Pac Question

*Message #13 Posted by **mbrethen** on 17 June 2011, 8:57 a.m.,*
in response to message #11 by Ángel Martin

I'm not familiar with the CCD Module. What is it used for?

Re: HP-41 Advanced Matrix Pac Question

*Message #14 Posted by **Ángel Martin** on 17 June 2011, 3:07 p.m.,*
in response to message #13 by mbrethen

The CCD Array functions are the basis of the Advantage Pac Matrix Functions. Same conceptual design, same approach. Believe it or not, HP bought the rights from W&W (the company that did the CCD).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s conversions

*Message #1 Posted by **gene wright** on 12 June 2011, 2:36 p.m.*

When I started typing this, it was to say that "Looks like the km -> miles conversion is wrong" because I had input 1 and the km->mile conversion was showing 0.9 something, which of course is not right. However, strangely enough, in the time it took me to get ready to type this, I stepped through the entire CONV catalog with a 1 as an input and checked against the values shown in the catalog (or the formulae shown) to see whether it matched. Very odd, because now 1 km->miles shows the 0.62... value it should. Could anything be off in the code of this section that might cause what I observed? I truly :-) don't think it was user error.

However, stepping through the catalog and the manual...

bar->Pa and Pa->bar are not in the manual on the table starting on page 66 but are in the machine.

mbar->Pa and Pa->mbar are in the table but not in the CONV catalog in the machine.

I would suggest checking the table on pages 68ff against the contents of the CONV catalog on the 2.0 machine.

Re: 34s conversions

*Message #2 Posted by **Walter B** on 12 June 2011, 3:32 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> I would suggest checking the table on pages 68ff against the contents of the CONV catalog on the 2.0 machine.

I would suggest checking said table in the current manual against the contents of the CONV catalog on the 2.0 machine ;-) We exchanged two pressure conversions recently (exactly those you found).

When testing, please make sure you start with the wp34s in a defined state. I've experienced strange results on the emulator sometimes, too, but only in the first operation. Especially if starting the emulator after loading a new build a RESET helps.

Hope that explains what you've seen.

Walter

Re: 34s conversions

*Message #3 Posted by **Gene wright** on 12 June 2011, 4:08 p.m.,*
in response to message #2 by Walter B

Ah, but I was looking at the 2.0 documentation and the flash version is the 2.0 one, revision 1085 from yesterday.

Check commands for 2.0: RCFRG and RCFST are present in X.FCN catalog on my flashed physical 34s. That's 2.0 only, isn't it? These commands are present in my machine and my CONV catalog does not have the mbar conversion that the 2.0 documentation suggests is present.

So, the issue existed at least with the 1085 flash version.

Were you checking with an emulator or a physical flashed unit?

Re: 34s conversions

*Message #4 Posted by **Walter B** on 12 June 2011, 6:01 p.m.,*
in response to message #3 by Gene wright

Hmmh, I don't know where you were looking at. Take the manual with #1085 on the title (committed under #1086), and you'll find on page 68 the conversion bar->Pa and on page 70 Pa->bar, perfectly matching the SW. So, what's your issue?

This holds for the flash as well as for the emulator.

Warning (though repeated some times already): The build numbers of SW and manual shall match, though not every build will result in a new manual revision. Moving targets, you know.

Walter

Re: 34s conversions

*Message #5 Posted by **gene wright** on 12 June 2011, 6:24 p.m.,*
in response to message #4 by Walter B

My "issue" as you so helpfully framed the discussion was that the 2.0 manual which has no identifier in it has a table of conversions different from the build from a few days ago. The Emulator presently downloadable does not seem to have a "build" number associated with it, that I can find.

You have now successfully solved my "issue" by pointing out that the 2.0 manual in the emulator does not have a build number associated with it, hence the discrepancy.

Edited: 13 June 2011, 7:46 a.m. after one or more responses were posted

Re: 34s conversions

*Message #6 Posted by **Walter B** on 12 June 2011, 7:06 p.m.,*
in response to message #5 by gene wright

Gene,

Calm down. The only point is you publicly claim a discrepancy which - based on the information you kindly gave us - cannot be reproduced. If stating that is what you call an insult then I'm sorry - I wasn't aware insulting is so easy. But, master - for sure you know already, then I apologize three times in advance, but nevertheless - VERS will tell you the build number. And:

> Quote:
>
> You have now successfully solved my "issue" by pointing out that the 2.0 manual

> in the emulator does not have a build number associated with it, hence the discrepancy.

I wonder where you saw me "pointing out" that? Since it's plain wrong: When you open said "manual in the emulator" you will immediately see the title picture telling you "34s 2.0 1089" right now. The last four digits are the "build number associated with it". So each and every manual we publish for months has an identifier in it. Your luck I'm not as insult-prone ... [;-)

Sorry, if anybody claims our work being faulty, then this person shall prove it. If (s)he can - fine - we've shown many times we listen and improve. If (s)he can't - well - "wer austeilt, muss auch einstecken können" as people say here. FWIW.

Walter

Re: 34s conversions

*Message #7 Posted by **gene wright** on 12 June 2011, 10:24 p.m.,*
in response to message #6 by Walter B

Thank you, Walter. VERS returns no # when executed on this physical machine for reasons of which I am aware.

Perhaps you assume too much from those with whom you communicate. That was my original reason why I suggested creating a much more user-friendly manual and why I had requested the Word version of your manual as a starting point.

I would still like to have a Word version of your document to save me (and others) a great deal of time to create a manual with much less "assumed".

Thanks...

Edited: 13 June 2011, 7:46 a.m. after one or more responses were posted

Re: 34s conversions

*Message #8 Posted by **Walter B** on 13 June 2011, 3:31 a.m.,*
in response to message #7 by gene wright

Thanks, Gene, for the explanations. I googled the phrase that you are "not particularly upset" about - BTW then I don't want to hear you upset [[;-) - and found nothing justifying any upset IMHO. But "issue" turns out having a lot of meanings, so maybe I missed one using English as a foreign language. I used that expression thinking of "Was ist jetzt eigentlich dein Problem?" being a very common phrase in such context here. Since "translates poorly" isn't a real explanation IMHO, I'd appreciate an enlightenment what was wrong with this sentence - just for sake of curiosity and continuous improvement.

OTOH I read texts here claiming plain wrong stuff more than once (well, they look plain wrong to me at least, like e.g. "there's no identification number in the manual"). So I try rectifying this but it seems the author didn't even notice the error :-? Very confusing!

Maybe I got it fundamentally wrong: I thought this being an international forum here. But it seems knowledge of all sorts of slang, local TV shows and movies is required from participants coming from beyond the English speaking world (yes, there is one, and it will survive), while the requirements on the other side are a bit lower ... :-(

(I'll never forget my family and me ROFL reading a "professional" multilingual ad in a San Diego hotel some years ago: it was "translated" into German - well, into what the translator meant (thought??) being German ... And we had good reasons to assume it happened in more languages there.)

So I sign off modestly wishing the educated people of this planet would learn one (!) second language at least, just to get a broader view (and maybe for symmetry reasons as well). But I know Xmas is still some months to come. My apologies for any wrong words, terms, contextual meanings, spellings etc. I may have picked.

Walter

Addendum: Though your sentence sounds different, you got a Word version of our manual many weeks ago already. No - I won't ask "what's your issue" again [[[;-)

Addendum 2: Just read this thread once again from the beginning and found the term "issue" was introduced by *you*. Confusion rising :-?

Edited: 13 June 2011, 4:20 a.m.

Re: 34s conversions

*Message #9 Posted by **Marcus von Cube, Germany** on 13 June 2011, 4:34 a.m.,*
in response to message #8 by Walter B

Walter, why not check in the Word document in SVN where it belongs?

Re: 34s conversions

*Message #10 Posted by **gene wright** on 13 June 2011, 7:47 a.m.,*
in response to message #8 by Walter B

What word version? How did I get it?

Re: 34s conversions

*Message #11 Posted by **Walter B** on 13 June 2011, 9:47 a.m.,*
in response to message #10 by gene wright

It was on the 12th of April. Now, I just did forward the file to you once more at genewright143AThotmailDOTcom. HTH

Re: 34s conversions

*Message #12 Posted by **Marcus von Cube, Germany** on 13 June 2011, 4:31 a.m.,*
in response to message #5 by gene wright

Quote:

You have now successfully solved my "issue" by pointing out that the 2.0 manual in the emulator does not have a build number associated with it, hence the discrepancy.

All versions have a build number embedded in the code that is automatically updated by SVN. The problem you may have encountered is the web download from the subversion tree which returns this field blanked out. A regular SVN client returns the files with the build number

intact.

BTW, I'm not very pleased with the discussion as it surfaces from time to time that deals with style and personal matters. Would you be so kind and move the discussion out of the public forum, please?

Re: 34s conversions

*Message #13 Posted by **Paul Dale** on 12 June 2011, 7:25 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> When I started typing this, it was to say that "Looks like the km -> miles conversion is wrong" because I had input 1 and the km->mile conversion was showing 0.9 something, which of course is not right.

Weird. I've not seen any problems with this catalogue for a while now and it is one I always go through and test. We've had a few hiccups but none recently that I'm aware of. If you do manage to replicate this please let us know.

There was a (recently fixed) bug with stack lift and turning the device off (stack lift got itself disabled always over a power off and on) which was very confusing but is fixed now. Still, I don't see how this would have caused what you saw.

The VERS command in the emulator should include the subversion build number.

- Pauli

Re: 34s conversions - Table Order

*Message #14 Posted by **Norman Dziedzic** on 12 June 2011, 11:52 p.m.,*
in response to message #1 by gene wright

While we are on conversions (hopefully this is not too much of a thread hijack) I have had a thought about how I work with conversions and noticed that I generally need to go back and forth a few times with complimentary conversions. I.e. hp->W and then W->hp.

For me, I would prefer the table of conversions to be organized with complementary conversions right next to each other. I know this would probably kill the ability to search for a conversion alphabetically but with the position within the table saved between uses, it means the complementary conversion is just an arrow away.

Any other thoughts on this?

Re: 34s conversions - Table Order

*Message #15 Posted by **Paul Dale** on 13 June 2011, 12:17 a.m.,*
in response to message #14 by Norman Dziedzic

Sure it would be possible, not even terribly difficult.

However, I'm not keen because, as you point out, it would destroy the type alpha characters to get to the command functionality which is very useful. That code relies on the catalogue being sorted correctly.

As things stand, the catalogues are automatically sorted as part of the build process so we'd have to modify

that as well which would mean going back to manual ordering which was a right pain in the a**.

If there is a conversion you require a lot, write small wrapper programs and use the hotkeys. Not as good as an assignable keyboard but workable nonetheless.

- Pauli

Re: 34s conversions - Table Order

*Message #16 Posted by **Marcus von Cube, Germany** on 13 June 2011, 4:41 a.m.,*
in response to message #15 by Paul Dale

Pauli, we might use a key in the conversion catalogue which just jumps to the reverse operation. It would need some code and rely on the spelling of the conversion commands (slow) instead of a special table (too demanding on flash space) but that seems possible.

Re: 34s conversions - Table Order

*Message #17 Posted by **Walter B** on 13 June 2011, 4:58 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Marcus, good idea. Browsing a catalogue, however, alpha mode is set so finding an unused *and* comprehensive key will be challenging. Right now, f-shifted B is the only one I find.

Walter

Edited: 13 June 2011, 5:07 a.m.

Re: 34s conversions - Table Order

*Message #18 Posted by **Paul Dale** on 13 June 2011, 5:15 a.m.,*
in response to message #16 by Marcus von Cube, Germany

The opcodes are closely related for most of the conversions but there are enough exceptions to be annoying.

Rather than a key to jump to the opposite command, why not a key to do the conversion in reverse & exit the catalogue?

f-shift B -> Backwards perhaps?

- Pauli

Re: 34s conversions - Table Order

*Message #19 Posted by **Paul Dale** on 13 June 2011, 5:52 a.m.,*
in response to message #18 by Paul Dale

Coded, committed and built. The subversion binaries include f-shift B which performs the inverse of the currently displayed conversion. Note it doesn't go to the inverse of the currently display conversion, it does it.

I've also done some work on the hyperbolic functions and inverses to improve numeric stability and performance.

- Pauli

Re: 34s conversions - Table Order

*Message #20 Posted by **Walter B** on 13 June 2011, 6:33 a.m.,*
in response to message #19 by Paul Dale

Thanks. Whether you remember f-shifted B for "backwards" or for "1/x" doesn't really matter. Another issue solved ;-)

Walter

Re: 34s conversions - Table Order

*Message #21 Posted by **Norman Dziedzic** on 13 June 2011, 5:36 p.m.,*
in response to message #19 by Paul Dale

Thank You!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Programming tools for HP49g, HP50g

*Message #1 Posted by **Jose Gonzalez Divasson** on 12 June 2011, 12:49 p.m.*

Hi,

I fell some days ago onto a tool called HPUserEdit. Despite being in Spanish at first install, it can be put in most common languages, and it is a very useful tool for UserRPL programming. It allows even to create libraries, embeds the latest emulator (to which you can send the libraries just written), and is freeware.

I imagine that the lack of comments is due to some other tool being even better. In that case, which one?

Here is the link to the programmer website (you can find it as well on HPcalc.org website - an endorsement in itself

HPUserEdit

Re: Programming tools for HP49g, HP50g

*Message #2 Posted by **Tim Wessman** on 12 June 2011, 5:07 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Debug4x (www.debug4x.com)

Most of that, at least the initial parts, were developed by HP for creating the 49g.

TW

HPUserEdit

*Message #3 Posted by **Gilles Carpentier** on 12 June 2011, 5:41 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I use HPUserEdit v5 very often and I think it's a marvelous tool for User RPL programming. I don't know better tools for User RPL. Note that the programming wizards for CHOOSE / INPUT / INFORM commands are fine.

The french translation is OK even if the help file is not translate

It's a mystery to me why this soft is so unknow (perhaps because it is in spanish for the first install but others languages are available)

I dont have a perfect usage of it perhaps because of the lack of manuel in english or french . For exemple I don't understand why there is two stacks display in the software.

Re: HPUserEdit

*Message #4 Posted by **Namir** on 12 June 2011, 7:02 p.m.,*
in response to message #3 by Gilles Carpentier

Gilles,

You are so right! The utility is a little Gem. I was able to set the IDE language to English. As you commented it is not as popular, probably because it initially installs in Spanish.

Namir

Re: HPUserEdit

*Message #5 Posted by **Stuart Sprott** on 13 June 2011, 6:59 a.m.,*
in response to message #4 by Namir

Just one question, how do you set the language to English?

Re: HPUserEdit

*Message #6 Posted by **Namir** on 13 June 2011, 8:42 a.m.,*
in response to message #5 by Stuart Sprott

1) Select Opdones from the menu bar.

2)Select the Idiomas menu. This menu shows another popup menu.

3) Select English (1) or English (2), or any other language that appears in the popup menu.

Namir

Edited: 13 June 2011, 8:42 a.m.

Re: HPUserEdit

*Message #7 Posted by **Stuart Sprott** on 14 June 2011, 7:02 a.m.,*
in response to message #6 by Namir

Sorry to be a pest, but I cannot find opdones in the menu bar.

My menu bar reads "archivo, edicion, Busequeda, ver, emulador, herranientas, opciones, ayuda". I have tried all of the menu options without any success.

Thanks for your help so far.

Re: HPUserEdit

*Message #8 Posted by **Ronald Williams** on 14 June 2011, 7:23 a.m.,*
in response to message #7 by Stuart Sprott

On the menu bar click the next to last tab on right (Opciones) then click / point mouse on 'Odiomas' then select 'English (1)'. That should do it.

Enjoy!!

Re: HPUserEdit

*Message #9 Posted by **Alex Mark (Greece)** on 13 June 2011, 4:41 a.m.,*
in response to message #3 by Gilles Carpentier

Allow me also to thank the creator of this programme. It has helped me so much for the creation of User RPL programmes for my calcs.

It's a pity that not many people know about its existence.

Alex

Re: HPUserEdit

*Message #10 Posted by **Dave** on 14 June 2011, 10:32 a.m.,*
in response to message #9 by Alex Mark (Greece)

I made English language files for it for several versions. It changed so often I couldn't keep up and eventually quit. I may give it another try. The included English file is usually incomplete. I think the author relies on others for the non-Spanish language files. Great program though.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting European market HP-32E

*Message #1 Posted by **Michael de Estrada** on 12 June 2011, 12:05 p.m.*

I found this interesting German market HP-32E with periods for 1000s delimiters and a comma for the decimal point. The seller is in Belgium and it was manufactured in Singapore. Note that the serial number has an asterisk (*) preceding it. I have seen this previously with a Brazilian made Spice, and a "normal" calc with commas for 1000s separators and a period for the decimal point can be coverted to reverse them by cutting a jumper on the power circuit board inside the calc.

TAS auction for European market HP-32E

Edited: 12 June 2011, 12:09 p.m.

Re: Interesting European market HP-32E

*Message #2 Posted by **Marcus von Cube, Germany** on 12 June 2011, 1:40 p.m.,*
in response to message #1 by Michael de Estrada

If I'm not mistaken, this is a feature depending on a jumper setting on one of the calculator boards.

Re: Interesting European market HP-32E

*Message #3 Posted by **Etienne Victoria** on 12 June 2011, 4:05 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Correct.

Procedure was discussed a couple of years ago on this very forum: here.

And quoting Luiz:

"Jumper closed - dot for radix mark

Jumper opened - comma for radix mark"

Luiz, we miss you.

Etienne

Edited: 12 June 2011, 4:06 p.m.

Re: Interesting European market HP-32E

*Message #4 Posted by **Etienne Victoria** on 12 June 2011, 4:09 p.m.,*
in response to message #2 by Marcus von Cube, Germany

BTW... a procedure can be found documented:here

...and a picture...

On the pic: "Jumper opened - comma for radix mark"

...the way it should always be :-)))

on the 34s and elsewhere...

Cheers to all!

Etienne

Edited: 12 June 2011, 4:11 p.m.

Re: Interesting European market HP-32E

*Message #5 Posted by **Walter B** on 12 June 2011, 6:10 p.m.,*
in response to message #4 by Etienne Victoria

Bonsoir Etienne,

> Quote:
>
> "Jumper opened - comma for radix mark" ...the way it should always be :-))) on the 34s and elsewhere...

Vraimant c|:-) We feature a command called SETEUR (stored in MODE) doing exactly what you have in mind. And if it's only for the radix mark, h-shifted point will do the toggling.

Walter

Re: Interesting European market HP-32E

*Message #6 Posted by **Etienne Victoria** on 13 June 2011, 2:24 a.m.,*
in response to message #5 by Walter B

Bonsoir Walter,

Of course I use SETEUR every time I reflash and erase my 34s.

My statement was just a small joke to remind a couple of us we had this discussion with Luiz a couple of years ago.

Btw, congratulations and a warm thank you for the great work you did with the 34s.

Etienne

Re: Interesting European market HP-32E

*Message #7 Posted by **Walter B** on 13 June 2011, 3:51 a.m.,*
in response to message #6 by Etienne Victoria

Merci bien :-)

Re: Interesting European market HP-32E

*Message #8 Posted by **Massimo Gnerucci (Italy)** on 12 June 2011, 2:44 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> HP-32E with periods for 1000s delimiters and a comma for the decimal point. (...) and a "normal" calc with commas for 1000s separators and a period for the decimal point

I think that calc is perfectly "normal" from my point of view... ;-)

Greetings,
Massimo

P.S. :-)
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.

Re: Interesting European market HP-32E

*Message #9 Posted by **Gerson W. Barbosa** on 12 June 2011, 3:40 p.m.,*
in response to message #8 by Massimo Gnerucci (Italy)

Ciao Marco,

> Quote:
>
> I think that calc is perfectly "normal" from my point of view... ;-)

Ci credo anch'io! (I also think so)

> Quote:
>
> DECIMAL-POINT IS COMMA.

Not my favorite computer language, but my favorite COBOL statement.

Regards,

Gerson.

Re: Interesting European market HP-32E

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 12 June 2011, 4:44 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Ciao Marco

?? Marcus ENTER^ Massimo + -> Marco? :-)

Greetings,
Massimo

Re: Interesting European market HP-32E

*Message #11 Posted by **Marcus von Cube, Germany** on 12 June 2011, 4:46 p.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

Massimo, we need to introduce a new operation, maybe in in 34s. ;-)

Ciao !

Re: Interesting European market HP-32E

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 12 June 2011, 4:53 p.m.,*
in response to message #11 by Marcus von Cube, Germany

No ROM space available, hopefully! :-)

Ciao Gerson, Ciao Marcus!!!

Re: Interesting European market HP-32E

*Message #13 Posted by **Gerson W. Barbosa** on 12 June 2011, 5:23 p.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

Sorry for the mistake, Massimo!

The other possibility, Massimus, would remain unnoticed, I guess :-)

Cheers,

Gerson.

Re: Interesting European market HP-32E

*Message #14 Posted by **Bart (UK)** on 12 June 2011, 3:15 p.m.,*
in response to message #1 by Michael de Estrada

I have one of those, sent to me from Brazil (thanks Wanderley! :-)).

Re: Interesting European market HP-32E

*Message #15 Posted by **Wanderley Navarro** on 12 June 2011, 9:27 p.m.,*
in response to message #14 by Bart (UK)

You are VERY welcome Bart.

Thanks to your kindness I have again my first scientific calculator and the only non HP in the collection - the Panasonic JE-5001U - that was stolen from me at college in 1976.

Cheers, Wanderley

Re: Interesting European market HP-32E

*Message #16 Posted by **Bart (UK)** on 13 June 2011, 3:53 p.m.,*
in response to message #15 by Wanderley Navarro

And thanks to you, I obtained my first LED HP calculator. (I have since obtained a HP-45, these are now the only 2 LED HP's I currently have).

Cheers, Bart

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Newest Wp34s ROM and backwards compatibility

*Message #1 Posted by **Cristian Arezzini** on 12 June 2011, 3:09 a.m.*

I tried a few minutes ago to update my wp34s. I had read that it breaks binary compatibility, but I wasn't sure exactly what that meant so I wrote down my programs, just in case. I flashed the machine the usual way, but it wouldn't work. It would turn on but lock as soon as I tried to press a key (except EXIT or one of the shift keys). After a moment of panic I tried re-flashing it, and this time it worked (this was my first failed flashing ever... weird that it did turn on and drive the display etc - so the flash wasn't totally dead - but it couldn't perform any operations). Anyway, now after the second flashing, it appears to work, but the programs I had entered no longer work. Looking at the listings I see some commands have changed. Is this what "breaks binary compatibility" means? I suppose so, but I thought I'd ask to be sure it wasn't another failed flashing! :) Is there a list of what commands might have changed, and to what?

Cristian

Re: Newest Wp34s ROM and backwards compatibility

*Message #2 Posted by **Walter B** on 12 June 2011, 3:18 a.m.,*
in response to message #1 by Cristian Arezzini

Please look at the release notes on the last page of the manual. The change causing the break was in ALL.

Walter

Re: Newest Wp34s ROM and backwards compatibility

*Message #3 Posted by **Cristian Arezzini** on 12 June 2011, 3:39 a.m.,*
in response to message #2 by Walter B

Walter, I know that the "offending" command was ALL (and I thank you all for changing it, as it behaves now exactly as I wished). My question though, was if anyone could tell me what commands in my old programs would have changed due to this "broken compatibility". I noticed that many commands changed, including RTN, aVIEW, PSE and others. A list of affected commands would have made easier for me to scroll through my installed programs, and change back the wrong steps. And this information isn't in the release notes.

EDIT: @ Pauli: I see you have replied while I was typing the above message... Thank you! :)

Thanks again, Cristian

Edited: 12 June 2011, 3:41 a.m.

Re: Newest Wp34s ROM and backwards compatibility

*Message #4 Posted by **Paul Dale** on 12 June 2011, 3:52 a.m.,*
in response to message #3 by Cristian Arezzini

Not that it will help but 57 commands from ALL and down in the commands with arguments table will have moved. The 92 commands from RTN down in the commands without argument table have changed. Also the last 60 commands in the commands that take one argument table have changed.

Look at the sources (commands.c) to find the full list.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #5 Posted by **Cristian Arezzini** on 12 June 2011, 4:20 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> Not that it will help but [...] Look at the sources (commands.c) to find the full list.
>
> - Pauli

Thanks Pauli, that did actually help! With that information I could build that list myself.

Cristian

Re: Newest Wp34s ROM and backwards compatibility

*Message #6 Posted by **Paul Dale** on 12 June 2011, 4:55 a.m.,*
in response to message #5 by Cristian Arezzini

Great. I could have reduced the number of changed commands, but since some where changing it seemed sensible to rationalise some of the more recent additions.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 12 June 2011, 9:15 a.m.,*
in response to message #5 by Cristian Arezzini

Hi Cristian,

I am looking at building an assembler/disassembler that might help in a situation like yours. I am amazed at how productive Paul, Walter and Marcus are ALL THE TIME (when do they get a chance to do their pay-for-the-bread-on-the-table work??) and I will certainly not be rolling this out in a day or two but I hope it may help.

To answer your specific question about the changes, I discovered today that if I capture the screen output of the console version I can gather the opcode table. I have done this for both SVN 1077 and 1089 (identical to 1095). Indeed, the changes mentioned above show up quite clearly if you diff the outputs.

```
$ wp34s.exe calc xrom > opcode_dump.txt
```

I may have more in the command line than I need (I can find little information on how to work the console version) but at least this barfs out what you are looking for.

(Interesting, I normally use Ubuntu and redirecting the console does not seem to work under wine. I reverted to a Windows box to get the output. I would love to make the console for a native linux shell but I can't seem to figure out how to get stuff working that way.)

I would post the tables here but they are 477K each!

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #8 Posted by **Walter B** on 12 June 2011, 10:39 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

Hi Neil,

> Quote:
>
> I am amazed at how productive Paul, Walter and Marcus are ALL THE TIME (when do they get a chance to do their pay-for-the-bread-on-the-table work??) ...

First of all we benefit from being a intercontinental team. So you ask questions in the morning - we can answer them from Europe. You ask in the evening, we can answer them from Australia. Taking into account we have an opportunity in the morning and in the evening at least, this alone allows a reasonable service level already. Additionally, not everyone in our team has had an 8-to-5 job all the time since December 2008. Things they are a'changing and keep doing so.

Walter

Re: Newest Wp34s ROM and backwards compatibility

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 12 June 2011, 10:51 a.m.,*
in response to message #8 by Walter B

> Quote:
>
> Additionally, not everyone in our team has had an 8-to-5 job all the time since December 2008.

Ouch!! Well, I am all the more impressed. Some company is missing some very talented people!

Best regards...

Re: Newest Wp34s ROM and backwards compatibility

*Message #10 Posted by **Paul Dale** on 13 June 2011, 4:30 a.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

If any jobs are floating around, I'm always interested :-)

Apart from a couple of months, I've had a full time job since we started...

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #11 Posted by **Paul Dale** on 12 June 2011, 7:17 p.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

To answer the responsiveness question first, I feel like I've been working a second full time job these past couple of months :-) It isn't quite that bad but it feels like it. I be needing a break soon.

The console mode has a few special commands buried that were helpful for me to debug with.

calc xrom produces a formatted listing of the XROM contents. This is what provides solve, integrate, sum, product, the two derivatives, TVM, the quadratic solver, etc.

calc a prints out the catalogues and a summary of the defined op-codes. The *a* can be anything except *xrom*. Currently the summary looks like:

```
total number of opcodes 25627
        niladic commands 150
        monadic commands 119 with 178 functions
        dyadic commands 37 with 65 functions
        triadic commands 5 with 5 functions
        argument commands 126
        multiword commands 10
        special commands 43
```

calc a a prints out all the legal opcodes and this is what you discovered. Again the *a*'s can be anything. The only op-codes that aren't listed in full are the multi-character alpha ones (which includes LBL, XEQ, GTO, SOLVE, integrate, ...) They only get a single entry in the big list.

calc wake does a warm start. Not all that useful really.

Since you are running Ubuntu, I'd strongly suggest grabbing the source from subversion and compiling it locally. There isn't anything special required to build the console version (ncurses is the only thing that comes to mind beyond the basic development tools). Ubuntu is one of the platforms I developed this on.

Finally, there is no point reverse engineering this stuff, it is open source. Use the sources to build a disassembler which will be quite straightforward, then do the assembler. xeq.h defines the opcodes, commands.c is the canonical place for the command names. keys.c has a weird character to real character mapping function (but not the reverse). prt.c converts op-codes to printable commands. xeq.c has code to step forward and backward instructions and to grab op-codes from memory (multi character alpha ones being double length but this is all handled automatically). console.c has the main routine and the xrom disassembler in it. Make this task easy for yourself :-)

It would even be possible to build the assembler/disassembler into the console version to keep everything self contained.

- Pauli

PS: I really really don't want to renumber op-codes again.

Edited: 12 June 2011, 8:07 p.m.

Re: Newest Wp34s ROM and backwards compatibility

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 13 June 2011, 6:27 a.m.,*
in response to message #11 by Paul Dale

Thanks, Paul.

I have been using SVN since my second download (not much of stretch from my CVS experience). However, my skills at "making" C programs are not in your league unfortunately. I tried a few attempts at building the console version but gave up. I am afraid that I need a bit more "block A goes into slot B" type instructions. :-) I also have an aversion to modifying the wonderful code base you guys have put together as well. Seems somewhat sacrilegious to me...

However, I have been trolling through the source looking at how you did various things as an instructive process. I must admit that I do get lost a fair bit.

Actually, as you say, disassembling is pretty simple. My Perl script achieved that in short order. I parsed the output table from the console version and it is a fairly simple lookup to exchange the op-code for the mnemonic in the flash images.

The assembler is a bit trickier. It is not too difficult if one uses the mnemonic format listed alongside the opcode in the console-generated table -- but that is a bit of a clumsy format. I had hoped to build an assembler that parsed a few different formats.

That you have 1) whipped off a disassembler in remarkably short order, and 2) are considering extending it to an assembler, pretty much renders my poor script somewhat less than useful. :-) I absolutely agree that building off the existing code base makes more sense. Mine required a big, bulky opcode translation table (477K!) and thus a 2-step process if the opcodes ever changed. Sigh...

PS: Any extended hints for my poor brain on how to compile the console version would be highly appreciated! Otherwise I am stuck reverting to a Windows box to do this step.

Best regards...

Re: Newest Wp34s ROM and backwards compatibility

*Message #13 Posted by **Paul Dale** on 13 June 2011, 6:36 a.m.,*
in response to message #12 by Neil Hamilton (Ottawa)

Building the code should be as simple as:

```
cd trunk
make
```

It is possible that things will be missing, you obviously need make and a tool chain installed as well as ncurses-dev. But that should be about it -- the code is almost completely self contained. I avoided standard library calls in favour of rolling my own (smaller & probably slower) versions. Speed generally isn't an issue for this platform, space is.

The code isn't as well structured as I'd have liked, it started out pretty good but we've been through a few iterations of space saving and feature adding.

I've no firm plans to build an assembler at this stage. Just maintaining the existing

code base and fixing bugs is keeping me more than busy enough.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #14 Posted by **Neil Hamilton (Ottawa)** on 15 June 2011, 7:33 p.m.,*
in response to message #13 by Paul Dale

OK, I was feeling pretty stupid about this. When I ran make on Ubuntu I got an error making keys.c -- it can't find curses.h. (Like the name of the header file, I know how it feels :-)

```
$ make
gcc -c -Wall -Werror -g -fno-common -fno-inline-functions -fno-
defer-pop -fno-exceptions -O0 -DUSECURSES -DDEBUG -o
Linux/obj/keys.o keys.c
In file included from keys.c:20:
lcd.h:58:20: error: curses.h: No such file or directory
make: *** [Linux/obj/keys.o] Error 1
```

A bit of Google searching showed me I had to install the ncurses libraries:

```
sudo apt-get install zlib1g-dev libncurses5-dev
```

Then make would finish and in the ./trunk/Linux/ directory there is now an executable called "calc". So now I finally understand what you meant by "calc xrom" and "calc opcodes" when talking about the console. I hadn't connected the "calc" phrase with the executable because I was expecting the executable to be similar to wp34s.exe. I had thought they were command line parameters to the other console. Ahah! The penny finally drops... :-)

I am on 1115 and now I see a new more attractive format for the opcode table. A big thanks from me!! (You can ignore my post -- probably a bit *below* this one -- about suppressing certain fields.)

I'll give this one a whirl and see what I can come up with.

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #15 Posted by **Paul Dale** on 15 June 2011, 7:51 p.m.,*
in response to message #14 by Neil Hamilton (Ottawa)

> Quote:
>
> A bit of Google searching showed me I had to install the ncurses libraries[/quote[
>
> I mentioned this :-) Although I got the package name a little bit wrong :-(
>
> [quote]I am on 1115 and now I see a new more attractive format for the opcode table. A big thanks from me!!

Hope it is useful. There might be some errors in it still but they'll come out in

due course.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #16 Posted by **Paul Dale** on 12 June 2011, 8:05 p.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

I just added a disassembler to the console version, I knew it would be straightforward :-)

calc ram to disassemble RAM contents.

calc prog0 to disassemble the backup flash program region.

calc prog1 to disassemble the first user flash program region.

calc prog2 to disassemble the second user flash program region.

calc prog3 to disassemble the third user flash program region.

calc xrom to disassemble the internal user code program.

Will be in the next build.

Which just leaves an assembler :-)

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #17 Posted by **Neil Hamilton (Ottawa)** on 13 June 2011, 8:10 p.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> Which just leaves an assembler :-)
>
> Quote:
>
> I've no firm plans to build an assembler at this stage. Just maintaining the existing code base and fixing bugs is keeping me more than busy enough.

I can fully understand your position on the assembler. I think you guys have definitely been burning the midnight oil. Don't think that we all don't appreciate it!

Given that you are not looking to do the assembler any time soon, I think I may just "keep on keeping on" with my Perl project. Last night I flashed 1099 using the slick "ON+STO" trick and, as noted elsewhere, my existing programs don't work anymore (I get a cool "undefined OP-COdE" message when running the program and "???" when I list it via single step in program mode). I fully understand why this happened but my little ditty should help anyone else in this boat. One feature of the tool is that, since it reads and parses the legal opcode table when it does its thing, it will be able to translate between opcode "bumps" via a common mnemonic listing.

As an aside, I much prefer typing out programs using a full editor and keyboard rather than on the calculator keyboard so I have an additional motive for doing this.

I am now on 1104 but when I tried your changes with the disassembler, it didn't seem to matter what I added to the command line, I always got a full dump of the legal opcodes. When I asked the console application for its version, it reported "34s 2.0 621"(!?). In spite of what I try, I can't seem to dump a test disassembly of "calc xrom", "calc ram", "calc prog0", etc. Is it possible I am I just too early on the SVN and you haven't committed it yet? (Maybe I am a bit too keen to use it. :^)

BTW: When I parse the legal opcode table, either from before the great schism (1077), or after (1095), my disassembler reports 2 duplicates: "CLx" at both 0001 and 0140, and "+/-" at 0003 and 0235. I am not sure if this is intentional or not. Just noting it.

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #18 Posted by **Paul Dale** on 13 June 2011, 8:15 p.m.,*
in response to message #17 by Neil Hamilton (Ottawa)

Those duplicates are intentional.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #19 Posted by **Neil Hamilton (Ottawa)** on 14 June 2011, 10:22 p.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> Those duplicates are intentional.

That is fine. I am presuming that the calculator doesn't care which version of the opcode it sees then. Once the binary is converted to a mnemonic form, it loses connection to the original opcode. (Is there a reason you can share/recall as to why just these 2 are repeated?)

I have a first crack of the assembler/disassembler up and running. In disassembler mode it reads the flash image and converts it to a text form very similar to the right hand side of the legal opcode table. There are a very few differences (such as the conversion factors being embedded in the opcode table) that have to be dealt with as exceptions but generally it is pretty faithful.

In assembler mode it is capable of taking in multiple mnemonic sources and seamlessly stitching them together into a single binary image. It recalculates and injects the CRC16 so no MAGIC_MARKER's are required.

I am not exactly sure how to load a single flash (ie: wp34s-0.dat) into the emulator so I did a seocnd little stop-gap script to overlay it on top of the emulator 'wp34s.dat' file which loads automatically. This works for now but I will experiment more with the actual H/W when I have some time. I am sure it is easy to do.

(Most) Everything seems to have worked beautifully except my program for calculating Great Circle routes now converts from nmi->AU instead of nmi->km! My legal opcode table came from 1104 and I am now running on emulator 1109 so I am thinking something may have changed between them -- something to do with stones and kg perhaps? (I haven't rebuilt a table as yet since that means moving back over to Windows -- ugh!).

Currently the script is parsing the legal opcode table to generate that hash table so I either need an external file (ugly solution) or I embed the table in the Perl script (cleaner solution but HUGE). Typically, I have split the difference and have both modes in the script. That has the advantage of allowing older flash images to be translated to the new opcodes by giving it an optional older legal opcode table.

Since there is a lot of repetition in the table (ie: SL 01, SL 02, ... SL 09, etc), I am thinking I can compress it with a bit of cleverness to get the script to a much smaller state.

I have tested it with a few programs I have written and a transcription of a program Jake Schwartz wrote: "wp34S IEEE Floating-Point Conversions". I have concatenated these with the tool in various orders and all seems well (except for astronomical units, of course :-)

I am not sure if anyone would be interested in trying an alpha of this Perl script or not. If so let me know and I will get it to you. There are certainly still things I need to test that will undoubtedly break (I have never done much with the alpha stuff as yet, for example).

Below is a fragment of the Jake's Floating Point program as I transcribed it from his note (mistakes are mine! hard to copy from 3 JPG images). I have added a few comments to help me keep things straight. These are ignored by the assembler. Also, the line numbers are ignored so you can easily concatenate several sources together into a single image (see below).

```
# From Jake Schwartz 7-June-2011 (near:
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?
read=185649#185649)
#
# Hand entered from 3 JPG's(!?) and converted to the opcode style
shown in the legal opcode
# dump from the console app so there may be a mistyping or two.
#
# Keep the leading asterisk in front of the LBL's since that is a
an easy marker to see and
# is easy to "clean up" in the assembler.
#
001 *LBL B
002 BASE 16
003 2COMPL
004 WSIZE 32
005 SL 01
006 ENTER[^]
007 ENTER[^]
008 x=0?
009 GTO 02
010 MASKR 24
011 AND
012 XOR
013 RCL L
014 x[<->]y
015 MASKL 08
016 x=? Y
017 GTO 04
018 R[v]
019 x=0?
```

```
020 GTO 03
```

Here is the above source fragment being assembled and the resulting output image dumped as hex:

```
$ wp34s_asm.pl fp.wp34s -o fp.dat; hexdump fp.dat
0000000 c782 00ab bb65 e410 0154 d520 da01 0000
0000010 0000 0017 be02 e318 0317 0319 8b6c 0107
0000020 e208 aa65 be04 0109 0017 be03 0107 dd18
0000030 bb01 cd66 0003 0107 d608 000e 000c 0302
0000040 cb66 bb02 0158 020f 0303 0002 0006 0005
0000050 0005 ae65 be0b 0107 013a bb0b 0002 000d
0000060 000d 0302 ca65 ca66 013a bb03 dd18 0107
0000070 be01 bb04 0109 0001 ab65 be05 0006 0009
0000080 000a 0000 bb05 0107 cd66 0003 dc01 0107
0000090 ca66 be02 bb64 001a ca01 001a 0003 0154
00000a0 0000 0017 0000 0017 be0d 020e 0008 0007
00000b0 0107 0302 0204 001c be0a 0006 0302 bb0a
00000c0 0000 020f 010a 0107 010a 0303 cf01 0003
00000d0 010a 0003 bb0d d538 e410 cb66 cb65 aa65
00000e0 013a 000e 0012 0301 0107 cb00 001a ca00
00000f0 0205 0107 001a be63 0006 0301 bb06 8463
0000100 0109 d520 000d 0005 0301 e218 0317 ce66
0000110 b863 da01 8b63 0014 0014 af65 be07 0107
0000120 0109 0109 0001 010a 010a ca65 bb07 0109
0000130 0318 cd00 dd08 d709 cb66 013a bb09 0205
0000140 0008 0005 ae65 0107 0109 0005 dde5 0107
0000150 0109 0304 0005 be06 8303 8303 8303 8303
0000160 8303 8303 8303 8303 8303 8303 8303 8303
*
00003f0 8303 8303 8303 8303 0000 0000 0000 0000
0000400
```

To close the loop, a fragment of disassembly of this resultant flash-compatible image:

```
$ wp34s_asm.pl -dis fp.dat | head -20
001 LBL B
002 BASE 16
003 2COMPL
004 WSIZE 32
005 SL 01
006 ENTER[^]
007 ENTER[^]
008 x=0?
009 GTO 02
010 MASKR 24
011 AND
012 XOR
013 RCL L
014 x[<->]y
015 MASKL 08
016 x=? Y
017 GTO 04
018 R[v]
019 x=0?
020 GTO 03
```

To stitch multiple source together is simply a matter of giving it more than one source. I haven't tested the 506 opcode limit yet but it should correctly crap out if this is exceeded.

```
$ wp34s_asm.pl fp.wp34s gc.wp34s -o fp_gc.dat
```

I still have a few things I want to do (detect duplicate labels, maybe allow an alternate [more friendly] mnemonic format, etc.) but I hope someone might find this useful. [Warning until I can compress the opcode table, the script is *BIG* at 465K!]

If people are interested, and I can be coached on how to do it, maybe it can be uploaded to a public site in due course.

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #20 Posted by **Paul Dale** on 14 June 2011, 11:34 p.m.,*
in response to message #19 by Neil Hamilton (Ottawa)

> Quote:
>
> I am presuming that the calculator doesn't care which version of the opcode it sees then.

Actually it does -- they go to different pieces of code.

> Quote:
>
> Is there a reason you can share/recall as to why just these 2 are repeated?

For CLx one code is generated one entering the command line and the other when not. This catches backspace to edit the command line which isn't legal in a program. I forget the difference between the two CHS commands but I think it is something similar.

You are correct the conversions got an entry added early in the table which I'd forgotten about. Most of these will have changed too.

> Quote:
>
> I still have a few things I want to do (detect duplicate labels, ...)

Duplicate numeric labels are legal and useful -- XROM is full of them e.g. Duplicate alpha labels also have a use but it is more esoteric -- again XROM defines [delta]X which is meant to be overridden by a user version on occasion.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #21 Posted by **Marcus von Cube, Germany** on 15 June 2011, 2:59 a.m.,*
in response to message #19 by Neil Hamilton (Ottawa)

Neil, your tool should definitely be part of wp34s. Get in contact with Pauli how this can be achieved. SF is our home and so should be yours. We might even create a step in the build process that ensures a valid command table is present.

The wp34s-n.dat file (n being a number from zero to 3, maybe more later) is automatically read in by the emulator on startup. Just create a program with an alpha label and use CAT to find and execute it. With PRCL n or P<-> n you can load this into RAM where it is modifiable.

How to get this into the real machine is described in the manual and in a small text file "flash.txt" in the doc directory. In short: Use SAM-BA and load the file to a location 0x11EC00 or above.

For ROM images I prefer 0xFFFF as the dummy opcode to fill the image because this reduces the number of bits flipped with flash programming.

Re: Newest Wp34s ROM and backwards compatibility

*Message #22 Posted by **Paul Dale** on 15 June 2011, 6:58 a.m.,*
in response to message #21 by Marcus von Cube, Germany

I'm confident we can modify the build process or add a utility to output the command table in a better format. As mentioned, there is a lot of repeated entries. I might add something to output the base op-codes only with a tag if they take an argument.

Does the assembler deal with multi-character labels properly? Only the first such op-code (& even then only two of the four bytes) is listed in the op-code dump.

One thing I would love to see is automatically converting branches into SKIP & BACK instructions where possible.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #23 Posted by **Paul Dale** on 15 June 2011, 7:41 a.m.,*
in response to message #22 by Paul Dale

Try "calc opcodes" in the latest console build :-)

Fields are tab separated.

The first field is the numeric op-code in hex.

The second field is the type of op-code. *cmd* is a standard command. *mult* is a multi-character alpha command (double length). *arg* is a command that takes an argument.

The third field is the op-code itself.

For argument commands there is a fourth field that can contain up to four pieces of information comma separated:

max=nnn nnn is the maximum value + 1 permitted as an argument. I.e. legal arguments are 0 through nnn-1 inclusive.

indirect is present if the command is permitted an indirect argument. If it is, the argument can of course be any register including the stack (0 - 111 inclusive).

stack is present if a stack register is allowed as an argument.

complex is present if the argument specifies a complex pair of registers. This basically restricts numeric registers to be 0 - 98 instead of 0 - 99 and it restricts lettered registers to be X, Z, A, C, L and J.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #24 Posted by **Neil Hamilton (Ottawa)** on 16 June 2011, 7:51 p.m.,*
in response to message #23 by Paul Dale

This is great! The script has imploded from 477K to ~47k with this simple table change. So far I am having the script expand this new table -- on the fly -- back into something akin to the original format so I don't have to change many other sections of the code.

A couple of observations:

1) Is "stack" actually required? I can see no case where "stack" is indicated that "max=112" is not. Therefore I am presuming that any value of max=112 already includes the stack registers. I may have missed something...

2) Similarly, is "complex" required? In all cases, the prefix "[cmplx]" appears in the mnemonic for these as well.

3) I am not really sure how to deal with the very 1st "arg" line: "0x8200\targ\tiC\tmax=30,indirect". The indirect portion is easy, but how to encode the others (opcodes 8200 -- 821d, inclusive)? Is it your intention that these should be expanded to be "iC 'some-bunch-of-digits'" in a listing, and conversely, that "iC 'some-bunch-of-digits'" in an assembler source file be translated back to 80xx, where 0 <= xx <= 1d? If so, then this new format is missing some information and it will have to be entered through other means. As an alternative, maybe you could split out these 30 'direct' opcodes as "cmd" type and the others as "arg" types something like this:

```
0x8200  cmd  iC 0
0x8201  cmd  iC 1
0x8202  cmd  iC 5.01402
...
0x821d  cmd  iC iC 0.14773910
0x8280  arg  iC  max=0,indirect
```

Note that I have used spaces in the above section where you are using tab delimiters. I can't seem to represent tabs in this editor.

4) I am wondering why there is the inconsistency in the letter-named offsets. For the max=112 set, the letters are XYZTABCDLIJK (indicating opcode offsets of 100-112) and for the max=104 set they are ABDC (indicating opcode offsets of 100-103). Have you considered normalizing these to ABCDXYZTLIJK? Then there is a commonality between the two sets. No biggie but it means fewer exceptions. FAIK it may break

huge swaths of other code in the calculator. If this doesn't make sense, obviously don't worry about it.

I am still coding but these are some of my thoughts thus far.

Best regards...

(BTW: Vancouver lost 4-0! Ouch!!)

Re: Newest Wp34s ROM and backwards compatibility

*Message #25 Posted by **Paul Dale** on 16 June 2011, 8:06 p.m.,*
in response to message #24 by Neil Hamilton (Ottawa)

1. Stack is the internal flag indicating that the stack can be used. I'd honor this rather than relying on 112. E.g. the complex operations that accept a stack argument could have their max reduced to 111 (& probably should do since 112 is completely meaningless for them and would walk memory if it was encountered).

2. Complex likewise, although I don't see a case for this (yet).

3. I can expand these to cmd status easily enough.

4. The funny numbering is the result of changes over time :-(I don't want to "fix" this now.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #26 Posted by **Neil Hamilton (Ottawa)** on 16 June 2011, 10:17 p.m.,*
in response to message #25 by Paul Dale

1. Fine.

2. Likewise.

3. Actually, for consistency, can you make the base hex number for the "arg" component 0x8200 instead of 0x8280 like I originally suggested? This allows the indirect flag bit (0x80) to work transparently with these ones as well. I realize that this will "look funny" since both the first "cmd" element and the "arg" element will have the same hex value but it keeps things the same.

I suppose that, according to (1), the "arg" element should now have ",stack" as well?

(I have hand edited a copy to work on for now -- shown without the ",stack" until I hear back.)

```
0x8200  cmd     iC 0
...
0x821d  cmd     iC 0.14773910
0x8200  arg     iC      max=0,indirect
```

4. Don't blame you one little bit! :-) Just thought I'd ask.

Re: Newest Wp34s ROM and backwards compatibility

*Message #27 Posted by **Neil Hamilton (Ottawa)** on 15 June 2011, 6:26 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> I'm confident we can modify the build process or add a utility to output the command table in a better format. As mentioned, there is a lot of repeated entries. I might add something to output the base op-codes only with a tag if they take an argument.

If you are considering barfing out a table, can you removing (or containing) the extraneous information to the right of some of the mnemonic areas (eg: in the constants such as "# a\s+365.2425" and the conversions such as "kg[->]lb\s+/ 0.4535924")?

If you need to keep this data for some other process, could you put the right hand stuff into some kind of comment field (I'd suggest the C comment marker of "//" for now), then this table would be easier to parse without resorting to exceptions?

Best regards...

Re: Newest Wp34s ROM and backwards compatibility

*Message #28 Posted by **Paul Dale** on 15 June 2011, 7:48 p.m.,*
in response to message #27 by Neil Hamilton (Ottawa)

Check out the new calc opcodes command. I think you'll find the output easy to parse.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #29 Posted by **Neil Hamilton (Ottawa)** on 15 June 2011, 8:09 p.m.,*
in response to message #28 by Paul Dale

Yes indeed!! A few messages *above* you will see that I finally lifted my fog about getting the console built on Ubuntu and that helped understand what you have been saying to me for a fews days just suddenly fell into place. I am remarkably

dense sometimes.

I have started to attack the new format but the Vancouver Canuks are about to take on the Boston Bruins in the 7th game of the Stanley Cup finals for the North American ice hockey trophy. I am afraid that Perl will just have to wait! :-)

Go Canuks Go!!

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #30 Posted by **Neil Hamilton (Ottawa)** on 15 June 2011, 9:05 a.m.,*
in response to message #21 by Marcus von Cube, Germany

> Quote:
>
> Does the assembler deal with multi-character labels properly? Only the first such op-code (& even then only two of the four bytes) is listed in the op-code dump.

Early days yet but I think it handles the 3-character ones (eg: LBL'FTH). The alpha texts are exception-handled to inject a second word with the 2nd and 3rd characters. I haven't tried alpha stuff so that might not work so great as yet. (Not sure I fully understand alpha mode at all :-) -- I am a pretty rank beginner with this level of calculator. I am afraid I am going to need Gene's "WP34S for Dummies" when it comes out!!)

> Quote:
>
> For ROM images I prefer 0xFFFF as the dummy opcode to fill the image because this reduces the number of bits flipped with flash programming.

As you can see from the alpha labels example below, a custom fill is a trivial change. I was just following what I observed in the existing images I have to work with -- which injects "ERR 03". (BTW: What is the purpose of the 4 trailing words of 0 at the end of each image?) A spec for the image would be lovely. :-)

```
$ cat multichar.wp34s
LBL'ABC
INT'12K
RTN


$ wp34s_asm.pl multichar.wp34s -o multichar.dat -f FFFF;
hexdump multichar.dat
0000000 3fde 0006 1041 4342 1931 4b32 013a ffff
0000010 ffff ffff ffff ffff ffff ffff ffff ffff
*
00003f0 ffff ffff ffff ffff 0000 0000 0000 0000
0000400


$ wp34s_asm.pl -dis multichar.dat
001 LBL'ABC
```

```
003 INT'12K
005 RTN
```

> Quote:
>
> One thing I would love to see is automatically converting branches into SKIP & BACK instructions where possible.

This could be possible. Might require a 2-pass assembly where this is currently only a direct translation, single pass version (very dumb coding at the moment, I'm afraid).

Can you explain a bit more about duplicate labels and how the calculator handles these? I can't seem to understand how they can be "local" to a function. Makes my brain hurt.

That the emulator just reads in the wp34s-[0-3].dat file is so cool! That they are available to execute directly from flash via the CAT is brilliant! I never would have expected that. I probably didn't notice this since I tended to use the A-D labels more as opposed to the alpha ones. As was mentioned, the alpha ones in flash programs show up in CAT. (Goodbye my script to temporarily overlay the wps34.dat file!)

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #31 Posted by **Marcus von Cube, Germany** on 15 June 2011, 10:18 a.m.,*
in response to message #30 by Neil Hamilton (Ottawa)

Neil, go to the file data.h where the formats of all data structures in RAM and the flash regions are defined. The maximum number of program steps is 4 less then would fit in one K because we need this space for other purposes in RAM. The flash regions have the same structure as the start of RAM has. Thus, 8 bytes are wasted in each region. It is totally fine to fill this space with 0xff.

Re: Newest Wp34s ROM and backwards compatibility

*Message #32 Posted by **Neil Hamilton (Ottawa)** on 17 June 2011, 8:43 a.m.,*
in response to message #31 by Marcus von Cube, Germany

> Quote:
>
> Thus, 8 bytes are wasted in each region. It is totally fine to fill this space with 0xff.

Would it be possible, when executing the "SAVE" command (or equivalent) that the calculator inject the SVN version number into some of these unused fields? This would certainly help with archiving flash images and could facilitate an automatic assembler

feature to either correctly deal with the revision, or at least issue a warning of some possible impending dome due to opcode revision mismatch.

Cheers...

Re: Newest Wp34s ROM and backwards compatibility

*Message #33 Posted by **Marcus von Cube, Germany** on 17 June 2011, 11:04 a.m.,*
in response to message #32 by Neil Hamilton (Ottawa)

Neil, this is not possible for image 0 because here, the complete RAM image is saved and I cannot modify single fields which have a different meaning on restore (this is the program return stack to be precise).

I don't think it's worth the hassle. Pauli has promised to leave the op-codes untouched.

Re: Newest Wp34s ROM and backwards compatibility

*Message #34 Posted by **Neil Hamilton (Ottawa)** on 17 June 2011, 12:12 p.m.,*
in response to message #33 by Marcus von Cube, Germany

OK. It was just a thought. Would have been a nice archival tool. :-)

It was under the assumption that these last 4 words are actually DONT_CARE in the flash images (they always appear as 0000 0000 0000 0000 in flash images generated by SAVE -- IIRC).

Q: Does my DONT_CARE assumption still hold for 0 through 3 based on what you have said? Or is this DONT_CARE only valid for 1 through 3?

I think Marcus had mentioned that a flash-efficient FFFF was a possibility for these last 4 words, but I don't recall if he mentioned a limitation on which images ([0-3]) would allow this.

I'm always learning... :-)

Best regards...

Re: Newest Wp34s ROM and backwards compatibility

*Message #35 Posted by **Marcus von Cube, Germany** on 17 June 2011, 12:20 p.m.,*

in response to message #34 by Neil Hamilton (Ottawa)

To make a long story short:

If you use PSTO and PRCL the trailing data isn't used at all. So FFFF is totally fine.

If you replace the program part of image 0 (the backup) in the calculator or emulator and restore the backup with LOAD (or ON+RCL on the hardware) you will have some inconsistency in the return stack. This is normally of no importance but may cause some irritation if you execute a RTN statement directly after the restore. I think this can be safely ignored but Pauli may explain it in more detail (the return stack is his.)

Re: Newest Wp34s ROM and backwards compatibility

*Message #36 Posted by **Paul Dale** on 17 June 2011, 6:44 p.m.,*
in response to message #35 by Marcus von Cube, Germany

The bottom two banks (register and PSTO 0) are special. They really contain the 2kb of RAM in the device and there is no free space. The other program banks have a small amount free. Which is the space for the user program return stack in bank 0.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #37 Posted by **Paul Dale** on 15 June 2011, 5:31 p.m.,*
in response to message #30 by Neil Hamilton (Ottawa)

> Quote:
>
> Can you explain a bit more about duplicate labels and how the calculator handles these? I can't seem to understand how they can be "local" to a function. Makes my brain hurt.

Try page 12 of the manual for a description of the label searching.

In a nutshell, numeric labels (and hotkeys) are local to the program region. The search runs from the current location forward until the end of the segment and then from the start of the segment forward until the initial location is reached. For forward jumps it is generally fine to duplicate a labels. For backward jumps it isn't. A lot of HP-41 programs re-use the low numbered labels quite heavily because they are shorter. In the 34s, the XROM code uses this feature quite a bit to save on the number of labels defined.

Alpha labels are searched for in a specific order and only the first match is used. Thus, these can be duplicated but there is no point duplicating them within a program region (RAM or flash bank) as only the first will ever be used. This allows e.g. a user to override a library routine. The example I gave was the deltaX label in XROM which specifies the step size for the numeric differentiation code. The label in XROM returns a 0.1 value. You, as a user, can define a deltaX routine in RAM of one of the flash banks and this will be used in preference.

- Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #38 Posted by **Paul Dale** on 12 June 2011, 3:36 a.m.,*
in response to message #1 by Cristian Arezzini

Yes, some of the commands in your existing program changing their name is an indication of the command restructure.

The new ALL command takes a parameter which meant it went into a different table than the old command. This upset the command numbering so commands after its old location in that table will have moved up one position.

Since existing programs likely wouldn't work I took the opportunity to relocate a couple of other commands that had been put out of place.

I'm going to try very hard not to have to do this again.

Pauli

Re: Newest Wp34s ROM and backwards compatibility

*Message #39 Posted by **Paul Dale** on 12 June 2011, 3:38 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> Is there a list of what commands might have changed, and to what?

No, I've not made such a list :-) Lots of commands will have moved. Most commands that take their arguments from the stack should be unchanged. Many of the rest will have changed.

Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34

*Message #1 Posted by **db (martinez, ca.)** on 12 June 2011, 1:07 a.m.*

i hate to sound dumb, but where are the instructions for flashing the 20b?
BTW: Eric's faceplate overlay is great. Went on clean and straight first try.

Re: 34

*Message #2 Posted by **Walter B** on 12 June 2011, 1:16 a.m.,*
in response to message #1 by db (martinez, ca.)

Please find the link on page 76 of the manual.

Walter

Re: 34

*Message #3 Posted by **gene wright** on 12 June 2011, 7:22 a.m.,*
in response to message #2 by Walter B

Flashing a 20b

Re: 34

*Message #4 Posted by **Paul Dale** on 12 June 2011, 7:29 a.m.,*
in response to message #1 by db (martinez, ca.)

Enjoy using your soon to be 34s :-)

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s STATs Prediction Question

*Message #1 Posted by **Norman Dziedzic** on 11 June 2011, 9:14 p.m.*

I either don't understand how this function works or there is a bug with it...

I enter the following X & y values with Sigma+

```
Y,X
36,6
25,5
81,9
100,10
```

With each entry the wp34s shows the number of entries as expected.

I do a STAT BestF then I key h-6(L.R.) and the top area says Power. X register is -6.09818323034e-14 and y register is 2. So far so good.

Now I key in 4 and press f-6 for a predicted y but instead of 16 I get 8.

Edited: 11 June 2011, 9:15 p.m.

Re: WP34s STATs Prediction Question

*Message #2 Posted by **Paul Dale** on 11 June 2011, 9:33 p.m.,*
in response to message #1 by Norman Dziedzic

Looks like a bug. I know I had this working at one stage :-(Fix will come.

- Pauli

Re: WP34s STATs Prediction Question

*Message #3 Posted by **Norman Dziedzic** on 11 June 2011, 9:49 p.m.,*
in response to message #2 by Paul Dale

I believe it is a general fitting error as Exp mode doesn't work either. It seems the linear model is used no matter what.

Re: WP34s STATs Prediction Question

*Message #4 Posted by **Paul Dale** on 11 June 2011, 10:06 p.m.,*
in response to message #3 by Norman Dziedzic

The parameters were being calculated correctly using the appropriate model but a linear model was used after that. Must have lost the correct code somewhere along the line :-(

Updated version is in subversion now.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CCD OS/X Revisited

*Message #1 Posted by **Ángel Martin** on 11 June 2011, 2:46 p.m.*

I don't know you fellow MCODER's but every time I start thinking that I'm getting the knack of MCODE I turn to the CCD Module to get humbled again - and this time hasn't been the exception either...

Nevertheless I managed to squeeze another twist to the wondrous CCD OS/X module - in case you aren't familiar it's a 4k subset of the CCD-Module containing the OS extensions, put together by Raymond Del Tondo many moons ago. (That was a feat worth admiring, I always wonder: did he have access to the source code from W&W??)

This enhancement consists of adding the "Prompt Lengthener" from the MLROM to the same bag of tricks. It's a very nice addition to the OS/X tool kit - so you can extend the length of the prompting functions to three fields just by pressing the "ON" key while the prompt is up. Further pressing "EEX" adds a one to the left, for the thousand's parameter... way to go!

Obviously there's a price to pay, in this case space:- I removed the function INPT to make for the required room, not a big loss to my standards (I've never used it) but if you need it then stick to the original instead. Trades, choices... such is life.

Available at a TOS near you in a few days.

Cheers, 'AM

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A new 6-problem challenge (free42 or 42s)

*Message #1 Posted by **Allen** on 10 June 2011, 5:18 p.m.*

Thanks to Gerson for introducing the Project Euler a few weeks back on the msg board. There are so many fun programming nuggets in there.

I've been reading through several of the problems, and many are quite conducive to programming on the HP 42S or similar machine. How about a challenge?

```
Guidelines:
1. Goal is to program euler.net problems: 1,2,3,4,5,and 6 using a HP 42s (free42 or similar).
   If you use a 32S(II) that's OK too, but harder.
2. All programs must start with a LBL, but do not have to contain a RTN statement.
   (e.g. byte counts can be done with only one program at a time in memory)
3. Brute force is allowed, but boring.
4. Number entry: Programs may accept no more than 1 integer value from the user. Any further
   data entry must be built in to the program. For example in problem 2 if you are looping to
   4e6, you can enter 4e6 and press R/S, but you can't enter two or three stack values as
inputs.
   e.g. the first three terms of Fibonacci series 1,2,3,...)
5. Initial Scoring is the sum of the byte count for the problems 1-6.
   > 240   : Beginner
   230-220 : Advanced
   220-210 : Very Good!
   210-200 : Black Belt!!
   < 200   : Grand Master
6. Bonus round is problem 28
   subtract 1 byte from the total above for every byte under 25 bytes used for problem 28.
   For example a 23 byte solution to p.28 gets a 2 byte subtraction from the total above)
7. Optimize first for byte size then for lines of code. (if two programs of the same size,
   the one with fewest lines of code is supreme).
8. No googling solutions. I'm sure there are some posted outside the Euler.net portal, but
   copying others' work takes the fun out.
```

Any one interested?

Edited: 10 June 2011, 5:58 p.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #2 Posted by **Jim Horn** on 10 June 2011, 6:53 p.m.,*
in response to message #1 by Allen

The optional problem is easy in closed form - 21 bytes, counting the label. An input of pi gives about 28.294 if that means anything. I'm curious how this approach can be tweaked to be smaller.

Re: A new 6-problem challenge (free42 or 42s)

*Message #3 Posted by **Allen** on 10 June 2011, 8:37 p.m.,*
in response to message #2 by Jim Horn

Jim, Fast work coming up with the closed form! Mine is 20 bytes of the form: (x(x(ax+b)+c)+d)/e (numbers omitted to avoid spoilers), same result as you when PI is entered. I'll bet I'm saving that extra byte by filling up the stack and using a series of a * b + * c + *.. etc. I have a loop version at 21 bytes, 20 bytes closed form but can't get either any smaller.

Tip: If you already have a closed-form equation type it into Wolfram Alpha.. One of the "alternate forms" should be calculator friendly. Example: http://www.wolframalpha.com/input/?i=x^2%2B6*x%2B6

Edited: 10 June 2011, 8:38 p.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #4 Posted by **Gerson W. Barbosa** on 11 June 2011, 1:16 a.m.,*
in response to message #3 by Allen

No spoiler as this will require at least 40 bytes. You're right, Horner should be the next step.

```
n(n+1)+(n-1){2(n-1)[(n-1)/3+1]+(1-n)/2+4/3}-1

-------
```

25 bytes, one-letter label

28.2944435257 when n=pi

Edited: 11 June 2011, 1:31 a.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #5 Posted by **Gerson W. Barbosa** on 11 June 2011, 3:22 a.m.,*
in response to message #4 by Gerson W. Barbosa

Some explanation:

```
43 44 45 46 47 48 49
42 21 22 23 24 25 26
41 20  7  8  9 10 27
40 19  6  1  2 11 28
39 18  5  4  3 12 29
38 17 16 15 14 13 30
37 36 35 34 33 32 31


Pattern of half-diagonals, clock-wise:

3^2, 5^2, 7^2, ...

2^2-1, 4^2-3, 6^2-5, ...

2^2+1, 4^2+1, 6^2+1, ...

3^2-2, 5^2-4, 7^2-6, ...

These add up to

2(2^2 + 3^2 + 4^2 + ... + n^2) - (1 + 2 + 3 + ... + n-1 ) + (n - 1)/2 + 1    or

2(1^2 + 2^2 + 3^2 + 4^2 + ... + n^2) - (1 + 2 + 3 + ... + n-1 ) + (n - 1)/2 - 1

= 2*Sum(n=1,n,n^2) - Sum(n=1,n-1,n) + (n - 1)/2

= 2*Sum(n=1,n,n^2) - T(n-1) + (n -1)/2 where T(n-1) is the n_th number,
```

Since T(n) = n/2*(n+1) then T(n-1) = n*(n-1)/2

Now we need only compute the sum of the squares. Let's do it for n up to 5 first, as an example:

1^2 + 2^2 + 3^2 + 4^2 + 5^2, which we can rewrite as

```
                    1   3   6  10    15
                  ──────────────────┐
              1 + 1 + 1 + 1 + 1 +   │  10
              2 + 2 + 2 + 2 + 1 +   │   6
              3 + 3 + 3 + 2 + 1 +   │   3
              4 + 4 + 3 + 2 + 1 +   │   1
              5 + 4 + 3 + 2 + 1     │
                                    │
```

When summing the elements diagonally, as indicated, we get

1^2 + 2^2 + 3^2 + 4^2 + 5^2 = 15 + 2*(1 + 3 + 6 + 10) = 5, that is T(5) + 2*Sum(n=1,4,T(n))

Generalizing,

Sum(1,n,n^2) = T(n) + 2*Sum(n=1,n-1,T(n))

T(n) = n/2*(n+1), as we know, but an expression for the sum T(n), for n=1 up to n, is still lacking. I won't derive it here (done it once long ago, don't remember the details), but I'll try to find an expression empirically, given that 1/6 is one factor in the expression (all I remember). Let's write a small table to help us:

n	1	2	3	4	5	6	
T(n)	1	3	6	10	15	21	
Sum(T(n))	1	4	10	20	35	56	
6*S(Tn)/T(n)	6	8	10	12	14	16	, that is, 2*n+4

Then we can write

Sum(n=1,n-1,T(n)) = 1/6*(2n + 4)*n/2*(n+1) = 1/6*((n-1)^3 + 3(n-1)^2 + 2(n-1))

Now we the expression we are looking for can be completed:

S = 2*Sum(n=1,n,n^2) - Sum(n=11,n-1,n) + (n - 1)/2 - 1

S = 2*(T(n) + 2*Sum(n=1,n-1,T(n))) - Sum(n=1,n-1,n) + (n - 1)/2 - 1

S = 2*(n/2*(n+1) + 2*1/6*((n-1)^3 + 3(n-1)^2 + 2(n-1))) - n*(n-1)/2 + (n - 1)/2 - 1

A little algebra yields

```
S = n*(n + 1) + (n - 1)*(2*(n - 1)*((n - 1)/3 + 1) + (1 - n)/2 + 4/3) - 1
```

Further optimization is required, like applying a Horner scheme to take advantage of the RPN stack.

Edited: 11 June 2011, 3:25 a.m.

Bonus problem and horner method

*Message #6 Posted by **Allen** on 11 June 2011, 8:43 a.m.,*
in response to message #5 by Gerson W. Barbosa

Gerson, Nice work! A quick check in W|A shows the horner methods match. I like your explanation..

```
http://www.wolframalpha.com/input/?i=n*%28n+%2B+1%29+%2B+%28n+-
+1%29*%282*%28n+-+1%29*%28%28n+-+1%29%2F3+%2B+1%29+%2B+%281+-
+n%29%2F2+%2B+4%2F3%29+-+1
```

While the end is the same I approached the problem more like a cinnamon roll. Unroll each ring individually and you can see the pattern:

```
Ring                                                    Sum
-------------------------------------------------------------------
Core:                      1                             1    = 4(1) -3

                         *-> <-*                <--     5 + 7  = 2(6)
Row 1:             3  4  5  6  7  8  9
                   *-------> <--------*                3 + 5  = 2(6)

                     *-----> <----*                  17 + 21 = 2(19)
Row 2: 13 14 15 16 17 18 19 20 21 22 23 24 25
       *-----------------> <-----------------*       13 + 25 = 2(19)
```

* indicates a corner

So one must sum over a a closed-form formula F(n) for 1,6,19,40... Multiply by 4 and subtract 3 for the core:

```
43 44 45 46 47 48 49
42 21 22 23 24 25 26
41 20  7  8  9 10 27
40 19  6  1  2 11 28
39 18  5  4  3 12 29
38 17 16 15 14 13 30
37 36 35 34 33 32 31
```

Re: Bonus problem and horner method

*Message #7 Posted by **Gerson W. Barbosa** on 11 June 2011, 2:55 p.m.,*
in response to message #6 by Allen

> Quote:
>
> So one must sum over a a closed-form formula F(n) for 1,6,19,40... Multiply by 4 and subtract 3 for the core:

```
43 44 45 46 47 48 49
42 21 22 23 24 25 26
41 20  7  8  9 10 27
40 19  6  1  2 11 28
39 18  5  4  3 12 29
38 17 16 15 14 13 30
37 36 35 34 33 32 31
```

Nice approach! A closed-form formula for F(n) is

```
F(n) = 4*(n\2+1)^2 - 7*(n\2 + 1) + 4    or

F(n) = (2*n^2 - 3*n + 3)/2
```

Regards,

Gerson.

Edited: 11 June 2011, 3:23 p.m.

Re: Bonus problem and horner method

*Message #8 Posted by **Thomas Klemm** on 13 June 2011, 3:18 p.m.,*
in response to message #7 by Gerson W. Barbosa

When in need of a closed-form formula for a polynomial sequence consider the following approach using the difference-operator *D f(n) := f(n+1) - f(n)*:

```
      n:    0    1    2    3    4  ...

   f(n):    1   25  101  261  537  ...
D  f(n):   24   76  160  276  ...
D^2 f(n):  52   84  116  ...
D^3 f(n):  32   32  ...
```

With

$$C(n,k) = \binom{n}{k}$$

you can write down the result immediately:

*f(n) = **1** C(n,0) + **24** C(n,1) + **52** C(n,2) + **32** C(n,3)* or

$$f(n) = 1 + 24n + 52\frac{n(n-1)}{1 \cdot 2} + 32\frac{n(n-1)(n-2)}{1 \cdot 2 \cdot 3}$$

Using the Horner-like schema the expression can be rewritten to:

$$f(n) = ((32\frac{n-2}{3} + 52)\frac{n-1}{2} + 24)n + 1$$

Plug that expression into WolframAlpha to get:

$$\frac{16n^3}{3} + 10n^2 + \frac{26n}{3} + 1$$

This is in accordance with what you find at the on-line encyclopedia of integer sequences.

Cheers
Thomas

Explanation:

$$f(n) = \sum_{k=0}^{m} a_k \cdot C(n,k)$$

D C(n,k) = C(n+1,k) - C(n,k) = C(n,k-1)

D^i C(n,k) = C(n,k-i)

$$D^i f(n) = \sum_{k=0}^{m} a_k \cdot C(n,k-i)$$

C(n,0) = 1 for all n => C(0,0) = 1

C(0,k) = 0 for all k > 0

$$D^i f(n) \mid_{n=0} = a_i$$

Edited: 14 June 2011, 1:20 a.m. after one or more responses were posted

Re: Bonus problem and horner method

*Message #9 Posted by **Allen** on 13 June 2011, 8:46 p.m.,*
in response to message #8 by Thomas Klemm

Thank you! I never thought about using the Difference function to reverse out the polynomial coefficients. Very clever. I agree with you assessments on the byte count above- very impressive.

I did not know what the minimum goal should be as I had only myself finished the rough draft of each code before posting the challenge. I later achieved some economy of 5-10 bytes, but mine would require significant rewrites and change of approach to get below your solution to puzzle 1 and 3. Very well done indeed!

FWIW, I had also considered an 18- byte version of puzzle 18 which pre-loaded 2N into the Stat registers and the summed over N with 4N on the X and Y stack. My adding RCL11 and RCL14 one could get sum(16N^2+4N)+4N+1. At 22+ bytes that's easy, much harder once you get below 18.

Re: Bonus problem and horner method

*Message #10 Posted by **Thomas Klemm** on 14 June 2011, 2:08 a.m.,*
in response to message #9 by Allen

> Quote:
>
> I never thought about using the Difference function to reverse out the polynomial coefficients.

It's similar to the Maclaurin Series replacing $x^k/k!$ by $C(n,k)$.

Once in this form the sequence is also easy to "integrate" (i.e. calculate partial sums) as this is only a shift of index.

Here's the example for n^3:

```
      n:    0    1    2    3    4  ...

   f(n):    0    1    8   27   64  ...
D  f(n):    1    7   19   37  ...
D2 f(n):    6   12   18  ...
D3 f(n):    6    6  ...
```

$f(n) = n^3 = 6\,C(n,3) + 6\,C(n,2) + C(n,1)$

$F(n) = \Sigma n^3 = 6\,C(n,4) + 6\,C(n,3) + C(n,2)$

$F(n) = ((6(n-3)/4 + 6)(n-2)/3 + 1)\,(n-1)n/2$

$F(n) = n^4/4 - n^3/2 + n^2/4$

Question about the matrix mapping

*Message #11 Posted by **Namir** on 11 June 2011, 7:59 p.m.,*
in response to message #5 by Gerson W. Barbosa

The matrices shown in theses threads seem to have two indexing schemes:

1. The sequence index where the index is also equal to the value of the element. The first element in the "spiral" matrix is 1, the second is 2, and so on. 2. the row/column index of the matrix as seen as a more traditional matrix.

My question is this, given a "spiral" matrix with N rows and N columns, when is the relationship between the above two indexing schemes?

So for N rows and N columns, the row/column indices (i,j) correspond to what spiral index/value??

Namir

Re: Question about the matrix mapping

*Message #12 Posted by **Gerson W. Barbosa** on 11 June 2011, 10:28 p.m.,*
in response to message #11 by Namir

Namir,

This has not to do with your question, but I think I should mention a minor omission:

Instead of

"= 2*Sum(n=1,n,n^2) - T(n-1) + (n -1)/2 where T(n-1) is the n_{th} number,"

It should have read

"= 2*Sum(n=1,n,n^2) - T(n-1) + (n -1)/2 where T(n-1) is the n_{th} triangular number,"

I hope this hasn't caused any confusion.

Best regards,

Gerson.

Re: Question about the matrix mapping

*Message #13 Posted by **Namir** on 12 June 2011, 5:42 a.m.,*
in response to message #12 by Gerson W. Barbosa

Gerson,

As I slept last night, my unconscious mind went to work to answer my question. I present pseudo-code for two procedures that map between the serial index of the matrix elements and the row/column indices:

```
Given dimension of matrix BigN and index IdxVal.
Find row and column index of matrix element containing IdxVal


If N is odd then
  M = (BigN+1) / 2
Else
  M = BigN / 2
End If


row = M
col = M
Idx = 1


N=1


do
  # extend the spiral to the next level
  col = col + 1
  Idx = Idx + 1
  LastN = N
  N = N + 2
  if Idx > BigN^2 then exit
  if Idx = IdxVal then return (row,col)


  # move downward
  for i = 1 to LastN
    row = row + 1
    Idx = Idx + 1
    if Idx = IdxVal then return (row,col)
  end


  # move to the left
  for j = 1 to N - 1
    col = col - 1
    Idx = Idx + 1
    if Idx = IdxVal then return (row,col)
  end
```

```
  # move up
  for i = 1 to N - 1
    row = row - 1
    Idx = Idx + 1
    if Idx = IdxVal then return (row,col)
  end


  # move to the right
  for j = 1 to N - 1
    col = col + 1
    Idx = Idx + 1
    if Idx = IdxVal then return (row,col)
  end


loop


end procedure


Given dimension of matrix BigN and row,col) indices.
Find index IdVal of matrix element at (rowVal,colVal)


If N is odd then
  M = (BigN+1) / 2
Else
  M = BigN / 2
End If


row = M
col = M
Idx = 1


N=1


do
  # extend the spiral to the next level
  col = col + 1
  Idx = Idx + 1
  LastN = N
  N = N + 2
  if Idx > BigN^2 then exit
  if row = rowVal And col = colVal then return Idx


  # move downward
  for i = 1 to LastN
    row = row + 1
    Idx = Idx + 1
    if row = rowVal And col = colVal then return Idx
  end


  # move to the left
  for j = 1 to N - 1
    col = col - 1
    Idx = Idx + 1
    if row = rowVal And col = colVal then return Idx
  end


  # move up
  for i = 1 to N - 1
    row = row - 1
    Idx = Idx + 1
    if row = rowVal And col = colVal then return Idx
  end


  # move to the right
  for j = 1 to N - 1
    col = col + 1
    Idx = Idx + 1
```

```
    if row = rowVal And col = colVal then return Idx
  end

loop

end procedure
```

The two pseudo-code procedures basically perform a brute-force sequential search starting with the first element of the sequence (located in the center of the matrix) and then searching clockwise in a spiral manner.

If the matrix elements increment by values greater than one, then you need to track the index and the search value separately. The code would require some minor modification.

Edited: 12 June 2011, 9:07 a.m.

Re: Question about the matrix mapping

*Message #14 Posted by **Allen** on 13 June 2011, 8:57 p.m.,*
in response to message #13 by Namir

Namir, If you are interested in "navigating" Ulam's spiral, I strongly suggest this posting from Feb 2011 I spent dozens of hours finding a closed-form solution (and a 32-byte 42S program) to do exactly that.

Re: A new 6-problem challenge (free42 or 42s)

*Message #15 Posted by **Gerson W. Barbosa** on 11 June 2011, 2:37 p.m.,*
in response to message #3 by Allen

Allen,

If the labels A through J are allowed and the stack is filled with n then a 19-byte solution is possible. This first execution could be a bit cumbersome. For instance, for n=5 and n=, assuming LBL A has been used:

```
5 ENTER ENTER ENTER XEQ ENTER SIGMA+ SIGMA+ ENTER     -->   101

7 ENTER ENTER ENTER R/S                               -->   261
```

If the stack should not be previously filled and the label A is used, then the program size is 22 bytes and it is 16-step long, final END included. *

Regards,

Gerson.

---

* Never mind. Found the answer in you PDF file (I should have used a numeric label). BTW, there's a line numbering mistake in your third solution to #28.

Edited: 13 June 2011, 12:10 a.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #16 Posted by **Allen** on 10 June 2011, 11:22 p.m.,*
in response to message #1 by Allen

I don't know how good this metric is:

```
> 240   : Beginner
230-220 : Advanced
220-210 : Very Good!
210-200 : Black Belt!!
< 200   : Grand Master
```

I have reason to believe a Grand Master could get below 190 based on the grading and bonus above.

Edited: 10 June 2011, 11:22 p.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #17 Posted by **Kiyoshi Akima** on 11 June 2011, 1:04 p.m.,*
in response to message #16 by Allen

> Quote:
>
> I don't know how good this metric is:

I quite agree. I used an HP 35S, but got the total step count down well below 65.

Re: A new 6-problem challenge (free42 or 42s)

*Message #18 Posted by **Thomas Klemm** on 11 June 2011, 7:52 p.m.,*
in response to message #1 by Allen

Problem 1

```
00 { 45-Byte PRGM }
00 { 39-Byte PRGM }
00 { 39-Byte PRGM }
01 LBL "E1.0"
01 LBL "E1.3"
01 LBL "E1.6"
02 1
02 STO OO
02 CLRG
03 -
03 CLS
03 GTO 01
04 STO 00
04 GTO 14
04 LBL 00
05 3
05 LBL 00
05 RCL ST X
06 XEQ 00
06 RCL 00
06 15
07 5
07 15
07 MOD
08 XEQ 00
08 MOD
08 X<>Y
09 +
09 SF 25
09 STO+ IND ST Y
10 15
10 X#0?
10 LBL 01
```

```
00 { 39-Byte PRGM }
00 { 39-Byte PRGM }
01 LBL "E1.1"
01 LBL "E1.4"
02 STO OO
02 STO OO
03 CLS
03 CLS
04 GTO 02
04 GTO 06
05 LBL 00
05 LBL 10
06 RCL 00
06 RCL 00
07 3
07 15
08 MOD
08 MOD
09 X=0?
09 LASTX
10 GTO 01
10 2
```

```
00 { 34-Byte PRGM }
00 { 37-Byte PRGM }
01 LBL "E1.2"
01 LBL "E1.5"
02 STO OO
02 STO OO
03 CLST
03 CLS
04 DSE 00
04 GTO 01
05 LBL 00
05 LBL 00
06 RCL 00
06 27030
07 3
07 RCL 00
08 MOD
08 15
09 RCL 00
09 MOD
10 5
10 BIT?
```

```
11 XEQ 00                    11 RCL 00                    11 MOD
11 GTO IND ST X              11 /                         11 GTO 01
11 DSE ST X
12 -                         12 5                         12 *
12 RCL 00                    12 -                         12 RCL 00
12 GTO 00
13 RTN                       13 MOD                       13 X#0?
13 S+                        13 SF 25                     13 S+
13 RCL 00
14 LBL 00                    14 X=0?                      14 SIGN
14 LBL 01                    14 GTO IND ST X              14 LBL 01
14 RCL 03
15 RCL 00                    15 GTO 01                    15 1
15 LBL 02                    15 RCL 00                    15 DSE 00
15 +
16 RCL/ ST Y                 16 GTO 02                    16 -
16 LBL 04                    16 S+                        16 GTO 00
16 RCL 05
17 IP                        17 LBL 01                    17 RCL 00
17 LBL 07                    17 LBL 00                    17 SUM
17 +
18 1                         18 RCL 00                    18 *
18 LBL 08                    18 LBL 03                    18 END
18 RCL 06
19 +                         19 S+                        19 -
19 LBL 11                    19 LBL 05
19 +
20 2                         20 LBL 02                    20 DSE 00
20 LBL 13                    20 LBL 06
20 RCL 09
21 COMB                      21 DSE 00                    21 GTO 00
21 LBL 14                    21 DSE 00
21 +
22 *                         22 GTO 00                    22 END
22 DSE 00                    22 GTO 10
22 RCL 10
23 END                       23 SUM
23 GTO 00                    23 SUM
23 +
                             24 END
24 SUM                       24 END
24 RCL 12

25 END
25 +

26 END
```

- E1.0: uses *COMB* to calculate sum of natural numbers
- E1.1: uses brute force
- E1.2: no jumps involved
- E1.3: switch on *i MOD 15* using error flag 25
- E1.4: same as E1.3 but uses symmetry
- E1.5: $27030_{10} = 110100110010110_2$
- E1.6: add *i* to register *i MOD 15* and select partial sum at end of loop

Solution: 233,168
Shortest: 27 Bytes

Problem 2

```
00 { 55-Byte PRGM }          00 { 34-Byte PRGM }
01 LBL "E2.0"                01 LBL "E2.1"
02 5                         02 1
03 SQRT                      03 X<>Y
04 *                         04 0
05 LASTX                     05 ENTER
06 1                         06 RDN
07 +                         07 LBL 00
08 2                         08 X>Y?
09 /                         09 GTO 01
10 3                         10 STO+ ST T
```

```
11 Y^X                          11 RCL+ ST Z
12 STO 00                       12 STO+ ST Z
13 LN                           13 X<> ST Z
14 X<>Y                         14 STO+ ST Z
15 LN                           15 GTO 00
16 X<>Y                         16 LBL 01
17 /                            17 R^
18 1.5                          18 END
19 +
20 IP
21 RCL 00
22 X<>Y
23 Y^X
24 1
25 -
26 RCL 00
27 1
28 -
29 /
30 5
31 SQRT
32 /
33 0.5
34 +
35 IP
36 END
```

- E2.0: uses formula; not correct for small values
- E2.1: uses 3 iterations in one step: y = 3y + 2x; x = 2y + x

Solution: 4,613,732
Shortest: 27 Bytes

Problem 3

```
00 { 33-Byte PRGM }
01 LBL "E3"
02 STO 00
03 2
04 LBL 00
05 X^2
06 RCL 00
07 X<Y?
08 GTO 02
09 LASTX
10 MOD
11 X=0?
12 GTO 01
13 LASTX
14 1
15 +
16 GTO 00
17 LBL 01
18 LASTX
19 STO/ 00
20 GTO 00
21 LBL 02
22 END
```

- uses brute force

Solution: 6,857
Shortest: 28 Bytes

Problem 4

```
00 { 75-Byte PRGM }             00 { 61-Byte PRGM }
01 LBL "E4.0"                   01 LBL "E4.1"
02 CLRG                         02 CLRG
03 999.1                        03 999
```

```
04 STO 00
05 LBL 00
06 RCL 00
07 IP
08 0.999
09 +
10 STO 01
11 LBL 01
12 RCL 00
13 IP
14 RCL 01
15 IP
16 *
17 STO 02
18 100001
19 MOD
20 10010
21 MOD
22 1100
23 MOD
24 X#0?
25 GTO 02
26 RCL 02
27 RCL 03
28 X<Y?
29 X<>Y
30 STO 03
31 VIEW ST X
32 LBL 02
33 ISG 01
34 GTO 01
35 DSE 00
36 GTO 00
37 RCL 03
38 END
```

```
04 STO 00
05 LBL 00
06 RCL 00
07 STO 01
08 LBL 01
09 RCL 00
10 RCL 01
11 *
12 STO 02
13 100001
14 MOD
15 10010
16 MOD
17 1100
18 MOD
19 X#0?
20 GTO 02
21 RCL 02
22 RCL 03
23 X<Y?
24 X<>Y
25 STO 03
26 LBL 02
27 DSE 01
28 GTO 01
29 DSE 00
30 GTO 00
31 RCL 03
32 END
```

- E4.0: displays correct result fast
- E4.1: is very slow

Solution: 906,609
Shortest: 54 Bytes

Problem 5

```
00 { 31-Byte PRGM }
01 LBL "E5"
02 STO 00
03 GTO 02
04 LBL 00
05 RCL 00
06 ENTER
07 X<> ST Z
08 STO* ST Z
09 LBL 01
10 X<>Y
11 RCL ST Y
12 MOD
13 X#0?
14 GTO 01
15 RDN
16 /
17 LBL 02
18 DSE 00
19 GTO 00
20 END
```

- calculates *lcm(1, 2, ..., 20)*

Solution: 232,792,560
Shortest: 26 Bytes

Problem 6

```
00 { 27-Byte PRGM }
01 LBL "E6.0"
02 ENTER
03 ENTER
04 X^2
05 1
06 -
07 *
08 X<>Y
09 3
10 *
11 2
12 +
13 *
14 12
15 /
16 END
```

```
00 { 24-Byte PRGM }
01 LBL "E6.1"
02 STO 00
03 CLST
04 LBL 00
05 RCL 00
06 STO + ST Z
07 X^2
08 +
09 DSE 00
10 GTO 00
11 X<>Y
12 X^2
13 X<>Y
14 -
15 END
```

- E6.0: uses formula: *(n-1)n(n+1)(3n+2)/12*
- E6.1: uses brute force

Solution: 25,164,150
Shortest: 17 Bytes

Problem 28

```
00 { 27-Byte PRGM }
01 LBL "E28"
02 ENTER
03 ENTER
04 ENTER
05 4
06 *
07 3
08 +
09 *
10 8
11 +
12 *
13 9
14 -
15 6
16 /
17 END
```

- uses formula: $(4n^3 + 3n^2 + 8n - 9)/6$

Solution: 669,171,001
Shortest: 21 Bytes

Summary

Problem	Bytes
1	27
2	27
3	28
4	54
5	26
6	17
28	-4
Total	175

Thanks for the interesting challenge. My favorite was problem 1. It was fun trying to find yet another solution.

Now I'm going to have a look at the other contributions.

Kind regards
Thomas

Re: A new 6-problem challenge (free42 or 42s)

*Message #19 Posted by **Gerson W. Barbosa** on 11 June 2011, 10:00 p.m.,*
in response to message #18 by Thomas Klemm

Excellent work as always, Thomas!

Please allow me a small suggestion to save one step in your "E28":

Replace

```
04 ENTER
05 4
06 *
```

with

```
04 STO+ ST X
05 STO+ ST X
```

Best regards,

Gerson.

Re: A new 6-problem challenge (free42 or 42s)

*Message #20 Posted by **Thomas Klemm** on 12 June 2011, 12:29 a.m.,*
in response to message #19 by Gerson W. Barbosa

Thank you, for pointing that out. I forgot about rule 7.

Thomas

Re: A new 6-problem challenge (free42 or 42s)

*Message #21 Posted by **Gerson W. Barbosa** on 12 June 2011, 3:29 p.m.,*
in response to message #20 by Thomas Klemm

Well, that's not exactly a rule that had to be followed. As I did only #28, I tried at least to make it as short as possible. How does your 21-byte version look like? 22 bytes was my best, by using LBL A in the first line. (*)

Here is an interesting fact about this problem: when n is 1, 3, 11, 35 and 147 the sums are perfect squares. I would bet there are no others, but I may be wrong.

Best regards,

Gerson.

```
00 { 52-Byte Prgm }
01>LBL "PS"
02 1.99902
03 STO 00
04>LBL 00
05 RCL 00
```

```
06 IP
07 XEQ A
08 SQRT
09 FP
10 X=0?
11 PSE
12 ISG 00
13 GTO 00
14 RTN
15 LBL A
16 ENTER
17 ENTER
18 STO+ ST X
19 STO+ ST X
20 3
21 +
22 *
23 8
24 +
25 *
26 9
27 -
28 6
29 /
30.END.
```

(*) Never mind. Found the answer in Allen's PDF file.

Edited: 13 June 2011, 12:14 a.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #22 Posted by **Allen** on 12 June 2011, 1:27 a.m.,*
in response to message #18 by Thomas Klemm

Thomas, very nice! I'm still studying some of your solutions!

I'll post my own solutions later today .... Here's a quick table:

```
               42S results
Prob.   Bytes    Steps     O(?)          Desc
============================================================
 1       39       22       1            sum 3,5 multiples
 2       27       19      ~LN(N)        sum even F(n) nums
 3       34       23       ?            factor odd 12-digit
 4       60       35       N^2          abccba palindrome
 5       24       18      ~N LOG(N)     LCM (1..20)
 6       14       12       N            sum sq. - sq. sum


28       19       14       N            sum ulam corners
Bonus   -25        0       n/a          n/a
============================================================
         192      129 (143 w/ bonus)
Note:All my byte/step counts assume 1 byte local label at the beginning.


We have basically the same size/solution/algorithm for Problem 2
Your method is MUCH smaller (>5 bytes difference) for 1,3,4 and
mine is SLIGHTLY smaller (<5 bytes difference) for 5 and 6, 28. Fantastic work!!


My looping solution for BONUS problem:


Input: 500 R/S
00 { 19-Byte Prgm }
01>LBL 01
02 STO 01           leave counter on stack and initialize 01 for DSE
03>LBL 02
04 RCL 01
05 ENTER            Save a copy for step 08
```

```
06 STO+ ST X        double it
07 X^2              = 4N^2
08 +                = 4N^2+N
09 +                accumulate prev. sums together in X register
10 DSE 01           Main loop back for counter
11 GTO 02
12 4
13 ×                X: 4 (sum(4N^2+N)+N)
14 ISG ST X         X: 4 (sum(4N^2+N)+N)+1
15 .END.
```

Uses the same eq as the horner solution, but rewritten to save space:

$$4\left[\sum_{n=0}^{\frac{s-1}{2}}\left((2n)^2+n\right)+\frac{s-1}{2}\right]+1$$

Edited: 12 June 2011, 1:54 a.m.

Re: A new 6-problem challenge (free42 or 42s)

*Message #23 Posted by **Allen** on 12 June 2011, 5:56 p.m.,*
in response to message #18 by Thomas Klemm

Note: available with RAW files for free42 in PDF File download.

```
Problem 1
================================================
00 { 39-Byte Prgm }
01>LBL 00
02 3
03 XEQ 01
04 5
05 XEQ 01
06 +
07 15
08 XEQ 01
09 -
10 2
11 ÷
12 RTN
13>LBL 01
14 999
15 RCL ST Y
16 BASE÷
17 ENTER
18 ISG ST X
19 ×
20 ×
21 ×
22 RTN
23 .END.



Problem 2
================================================
00 { 27-Byte Prgm }
01>LBL 00
02 STO 01
03 SIGN                Places 1 on stack
04 ENTER
05 STO+ ST X           2 on stack
06 STO 02              initializes sum with 2
07>LBL 01              Main loop
08 STO+ ST Y           \
09 RCL+ ST Y            | Fibonacci sequence for even values
10 STO+ ST Y            |(every third term)
11 X<>Y                /
12 RCL 01
13 X<Y?               if input value exceeded, skip to end
14 GTO 02
15 Rv                 otherwise remove input value and
```

```
16 STO+ 02            accumulate next even
17 GTO 01             Return to main loop
18>LBL 02             <- End of looping program
19 RCL 02             Recall
20 .END.



Problem 3
=========================================================
Note: Uses Fermat's method and can be pretty fast or slow dep. on input.


00 { 34-Byte Prgm }
01>LBL 00
02 STO 06
03 STO 01
04 SQRT
05 IP           Should be Ceil(sqrt(n)) but step 08 adds 1
06 ENTER        for ROLLDN in step 7 to cleanup test in st.16
07>LBL 01       <-- Main Loop
08 Rv
09 ISG ST X     add 1 to X register
10 ENTER        NOP
11 ENTER        duplicate X for next loop
12 X^2
13 RCL- 01
14 SQRT
15 FP
16 X!=0?        Check N-a^2 to see if it's of form b^2
17 GTO 01       If not, loop and add one to stack
18 RCL ST L
19 RCL+ ST Z    convert to a+b
20 STOP
21 RCL÷ 06
22 1/X
23 XEQ 00
24 .END.



Problem 4
=============================================
Note: Fairly slow since it tests the whole space. Leverages ATOX-ATOX PALINDROME code
snippet from Hpmuseum.


00 { 60-Byte Prgm }
01>LBL 01
02 999                  Initial counter at 999
03 STO 00
04 STO 01
05>LBL 02       Loop 1: decrementing by 11 from 990
06 990          (faster but more expensive: use 990.11011 for STO 02
07 STO 02
08>LBL 03       Loop 2: Calculating a new product
09 RCL 02       recall the Loop 1 counter and
10 RCL× 01      A*B (where B is a multiple of 11)
11 CLA           Clear alpha reg
12 AIP           Load X into Alpha REG and use to check ends
13>LBL 04       Loop 3: Checking Alpha Reg for Palindromes
14 ALENG        If null alpha reg,
15 X=0?         The product must be a palindrome
167 GTO 05      Go to test function for Max(Palindrome)
17 -1
18 AROT         Destructively compares first and last character
19 ATOX         in alpha reg
20 ATOX
21 X=Y?         If outer set matches
22 GTO 04       Checks next set in
23 DSE 02       With branching function for Loop 2
24 GTO 03       "10 STO– 02" here to hasten search only by 11's
25 DSE 01       Decrement counter--add
26 GTO 02       Return to loop 1
27>LBL 05       Max(Palindrome) Subroutine
28 RCL 00       Pull Last Palindrome (999 on first loop)
29 RCL 02
30 RCL× 01
31 X>Y?          Compare product with old value
32 STO 00       keep if greater
```

```
33 DSE 01
34 GTO 02       Return to Loop 1 until 999 is depleted (saves space)
35 RCL 00       Recall max(Palindrome)
36 .END.
```

```
Problem 5
================================================
Note:Very compact version of euclid's recurrence and LCM formula. ( See PDF for more
info)
```

```
00 { 24-byte Prgm }
01>LBL 00
02 STO 00       <- Cumulative LCM (starts with input value)
03 STO 01       <- Decrement Counter
04>LBL 01       Counter loop
05 RCL 01
06 STO× 00      Store first part of LCM=abs(a*b)
07>LBL 02       Begin Euclid Recurrence to find GCD(A,B)
08 X<>Y         (largest number on bottom)
09 RCL ST Y     OVER command in RPL. AB Stack is now A B A
10 MOD
11 X>0?
12 GTO 02       take largest and div. again if greater than 0
13 X<Y?
14 X<>Y         MAX(0,R) R is the LCM of STEP 05 and STEP 06
15 STO÷ 00      second part of LCM formula = product\ GCD(A,B)
16 RCL 00       Recall Cumulative LCM register- COMPLETE!
17 DSE 01       check Register 01 and
18 GTO 01       Return to Counter loop if not finished
19 .END.
```

```
Problem 6
=====================================================
Note: Leverages Summation registers 11 SUM(X) and 12 SUM(X^2)
```

```
00 { 14-Byte Prgm }
01>LBL 01
02 STO 01       <- decrement counter for initial value
03 CL\Sigma     clear stat regs
04>LBL 02       <- Main loop
05 RCL 01       recall the counter
06 \Sigma+      adds 1 to count, MEM11+=N and MEM12+=N^2
07 DSE 01       check counter
08 GTO 02       and loop
09 RCL 11       otherwise recall SUM(N)
10 X^2          SUM(N)^2
11 RCL- 12
12 -            SUM(N)^2 – SUM(N^2)
13 .END.
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s beta 2: possible serious bug in integer mode

*Message #1 Posted by **Cristian Arezzini** on 10 June 2011, 2:16 p.m.*

I just noticed this now because I usually enter values in hex and not in binary, but this seems serious. I have the calc set to 16 bit unsigned. If I try to enter a 16 digits long binary integer, only the first 12 digits are "understood", and become the lowest bits of the number. The rest of the bits (the most significant ones) are filled with zeroes.

Example: if I try to enter 1234h in binary, which should be 0001 0010 0011 0100, on the display I see 0001 0010 0011b. If I switch one page to the left, I see 0000b. I should have seen 0010 0011 0100b, and 0001 on the left page.

Same thing on the emulator, updated to latest version.

Bug or mess-up on my part? :)

Cristian

Re: Wp34s beta 2: possible serious bug in integer mode

*Message #2 Posted by **Cristian Arezzini** on 10 June 2011, 2:27 p.m.,*
in response to message #1 by Cristian Arezzini

Just to add to my previous post, this happens also in other bases and in other word sizes - all the bases and word sizes that produce a number with more than 12 digits. Only 12 digits are entered, the others are ignored.

Other modes as 1c, 2c don't fix the issue; and even turning off leading zeros doesn't fix it.

Re: Wp34s beta 2: possible serious bug in integer mode

*Message #3 Posted by **Walter B** on 10 June 2011, 3:47 p.m.,*
in response to message #2 by Cristian Arezzini

Ciao Cristian,

That's no bug - it's a feature. You can't enter more than 12 digits in any base. No blind typing ;-) But you may of course enter 76543 octal and change the base to binary thereafter.

Walter

Re: Wp34s beta 2: possible serious bug in integer mode

*Message #4 Posted by **Cristian Arezzini** on 10 June 2011, 6:01 p.m.,*
in response to message #3 by Walter B

Ah... Ok. I thought the intended behaviour could have been, for example, a scrolling screen - i.e. when entering "extra" digits, the whole display scrolls to the left and the leftmost digit disappears, going to the other page - exactly as it happens on the 16c. It's lucky then that I don't enter binary numbers directly very often! :)

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Suggestions for WP-34s overlay installation

*Message #1 Posted by **BobVA** on 9 June 2011, 10:25 p.m.*

Just got my "beta" WP-34s overlay from Eric. A couple of observations if you haven't installed yours:

Keys: Use tweezers, or the tip of an X-acto knife, to install the key stickers. Holding the sticker by the bottom right corner worked best for me. It was easier to align and place the top part, then smooth down the bottom/face section.

Overlay: What worked for me was flipping the calculator so the LCD was at the bottom, then applying the label "bottom-to-top" (i.e. starting at the top key row and working towards the bottom). Carefully monitor the space between the overlay and the top of the keys - test each row of keys as stick down the label above the row (i.e. before you completely surround the key). If any don't "click" reset the overlay until it does.

I did the key stickers first, but it might have been better to do the overlay. I flexed the overlay a lot picking off the key labels, so perhaps peeling that off would save a little wear on it, and a make the key labels easier to pick up. Downside may be accidentally picking up some of the key stickers, though. Please post if you try this and it works better.

The overlay is a HUGE improvement - thank you Eric. Looks and works great. (And I'm no longer hitting the wrong arrow key when going through the function catalog!)

Bob

Edited: 10 June 2011, 5:38 a.m. after one or more responses were posted

Re: Suggestions for WP-34s overlay installation

*Message #2 Posted by **Paul Dale** on 9 June 2011, 11:16 p.m.,*
in response to message #1 by BobVA

> Quote:
>
> The overlay is a HUGE improvement - thank you Eric. Looks and works great. (And I'm no longer hitting the wrong arrow key when going through the function catalog!)

:-) An overlay really does make a huge difference and it puts to rest the calls to move the arrows up one position to match.

Have fun.

- Pauli

Re: Suggestions for WP-34s overlay installation

*Message #3 Posted by **Walter B** on 10 June 2011, 2:36 a.m.,*
in response to message #2 by Paul Dale

Quote:

An overlay really does make a huge difference

It helps a lot if you see what you do. Trivial but true.

Walter

Re: Suggestions for WP-34s overlay installation

*Message #4 Posted by **Marcus von Cube, Germany** on 10 June 2011, 2:36 a.m.,*
in response to message #1 by BobVA

Bob, can you post photos?

Re: Suggestions for WP-34s overlay installation

*Message #5 Posted by **BobVA** on 10 June 2011, 5:41 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Quote:

Bob, can you post photos?

Yes - I'll try to get that done this evening.

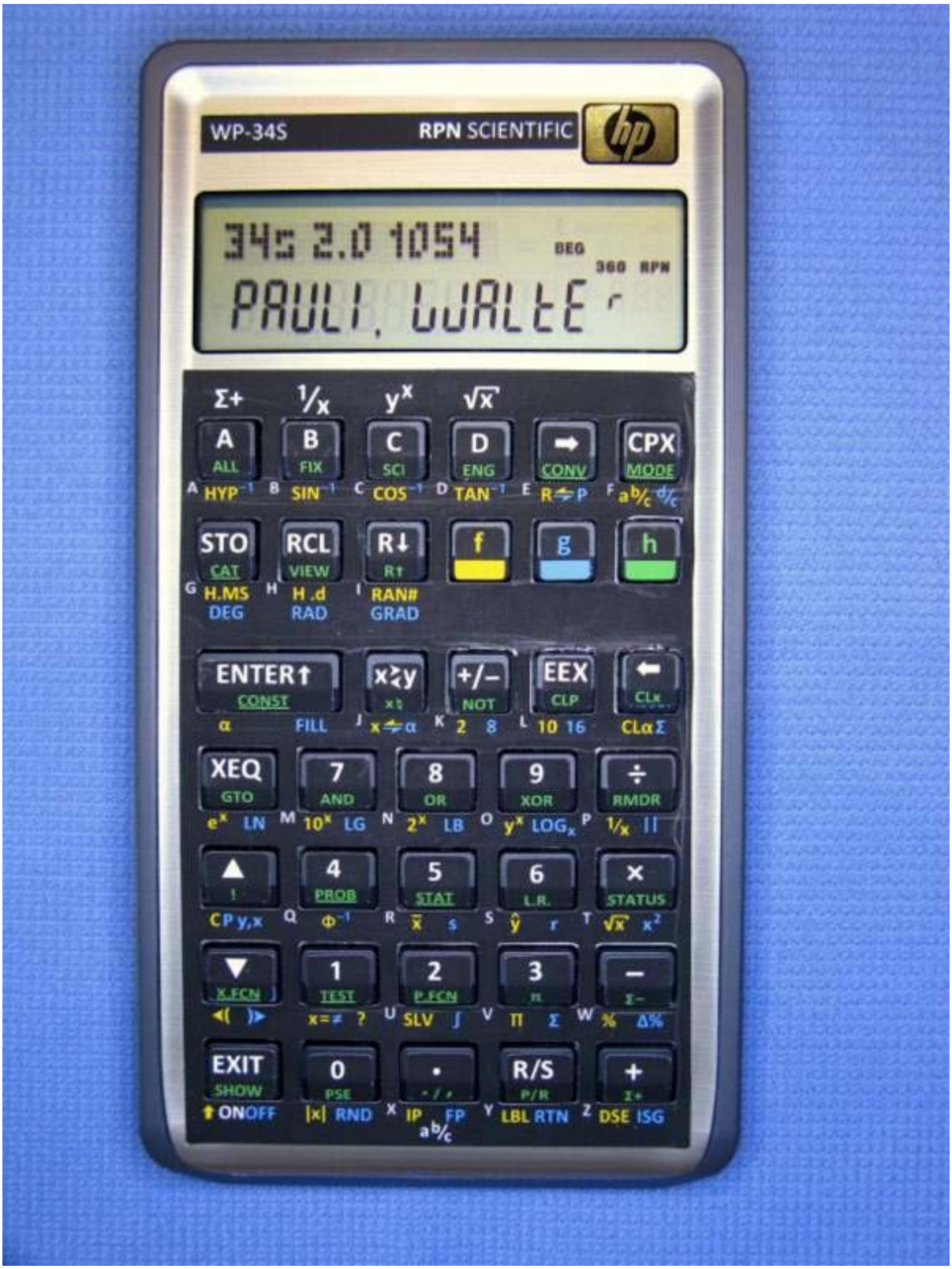
Regards, Bob

Re: Suggestions for WP-34s overlay installation

*Message #6 Posted by **BobVA** on 10 June 2011, 5:45 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Here's how mine came out. Note that I removed and re-applied the overlay a couple of times until I was happy with the key action, so it got a little wear on it.

The photo shows a lot of scuffing I don't see in "real life" The color is a very deep black in person.



Edited: 10 June 2011, 11:09 p.m.

Re: Suggestions for WP-34s overlay installation

*Message #7 Posted by **Walter B** on 11 June 2011, 3:40 a.m.,*
in response to message #6 by BobVA

Hey Bob,

that's the very first photographically documented sighting of a wp34s 2.0, isn't it? Congratulations! Now we're waiting for pictures showing it in it's natural habitat :-)

Walter

Re: Suggestions for WP-34s overlay installation

*Message #8 Posted by **Eric Rechlin** on 10 June 2011, 10:45 a.m.,*
in response to message #1 by BobVA

Definitely use a tweezers for the key stickers.

When I mount the overlay (I have done this a bunch of times already) I always put on the overlay first, before the keys. It peels right up without removing the keys, so you won't have the problem with worrying about damaging the overlay when pulling up the keys. Also, it makes it so that if you don't align it right you don't damage the key labels with the adhesive from the overlay.

You can easily remove the key stickers from the backing by bending the overlay sheet, which makes them start to peel up on their own, giving you something to grip with the tweezers.

Also, I start applying it in the middle and gradually work my way to the top and bottom. I sometimes stretch it a bit when installing it to make sure it aligns with the keys properly, because if you don't do it just right (which is very hard to do) some of the keys will bind as Bob noted.

I will probably make the holes for the keys slightly larger, at Bob's suggestion.

Right now, other than fitment, my biggest unknown is durability. I've been keeping my 34s loose in my backpack, and I've been playing with it every day, in order to see how durable the overlay is. I have had zero problems with the key labels coming off (at least not with the stronger adhesive I have been using in my latest test prints), but I do worry about the ink wearing off the vinyl. If that is a problem I can spray a clearcoat over it, but that makes it shinier (I prefer the dull appearance of it without the clearcoat) and it is not yet known how much that will help durability.

Thanks to all those who are the first to test this.

Eric

Re: Suggestions for WP-34s overlay installation

*Message #9 Posted by **Cristian Arezzini** on 10 June 2011, 11:08 a.m.,*
in response to message #1 by BobVA

Bob, could you tell me if the overlay is "re-positionable"? I mean, if I start placing it and it goes on not perfectly straight - can I "peel it off" without damaging it and try again? Or will it "rip" like a paper sticker?

Thanks, Cristian

Re: Suggestions for WP-34s overlay installation

*Message #10 Posted by **Eric Rechlin** on 10 June 2011, 2:44 p.m.,*
in response to message #9 by Cristian Arezzini

If it's only partially adhered you can remove it if you pull very very very slowly, but unless you are careful it will rip. Also, once it's been on there a few days it's pretty much impossible to remove without destroying it.

Eric

Re: Suggestions for WP-34s overlay installation

*Message #11 Posted by **BobVA** on 10 June 2011, 5:32 p.m.,*
in response to message #9 by Cristian Arezzini

I re-did mine three times because I wasn't happy with the key action until I hit on applying it with the calculator upside down so I could stretch/fit it as I installed it. But I hadn't really pressed it down hard, and it did this immediately.

As Eric noted you have to be careful (and if you look at the photo above you can see it got a little scuffed up), but it came off in one piece. It's pretty durable considering how little actual material there is in the lower keyboard section.

Bob

Edited: 10 June 2011, 5:53 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 19C horror show!

*Message #1 Posted by **Geoff Quickfall** on 9 June 2011, 7:49 p.m.*

Hello all

I knew I was getting an defunct HP 19C but one can only hope. This is a resale of a resale but I needed an example, working or not for the book, so out went the expense and in came the 19C.

Filthy dirty filthy mess! Keys soiled, case soiled and some one attacked the battery compartment with a cattle branding iron instead of a soldering iron!

Melted grooves and plastic in the battery compartment with spare melted solder globs imbedded in the plastic. Both battery contacts loaded with excess solder to a quarter inch in thickness. So much so that I had to remove the excess before extracting the pca from the calculator.

Of course, it took a good hour to get into the calculator due to a rounded philips head screw. Ended up drilling the head off without damaging the screw post or case.

Corrosion was minor, however the print head was imbedded in the smooth platten as it had melted in place!!!

So I disassembled the calculator, cleaned up the pca's. Removed the corrosion (all traces were intact and tested so). All contacts cleaned and SOOT removed from some of the components. Maybe the paper caught fire ;-)

Well as I said, it was for photodocumenting the dissection. Did I mention that two large headed brass screws were missing leaving only one holding the printer in place. Also as tiny screw jack was floating in the wreakage.

Well, desoldering, removing the corrosion and cleaning contacts and etc. have resulted in random LEDS lighting up depending on the off/on cycling of the calculator. It would seem that an attempt was made to repair it by that guy with all thumbs. Probably attached the charger to it with no batteries in it also. The motor works and moves the print to and fro as tested from a 1.5 volt battery attached to the motor leads. Well there are some good parts and the keyboard side looks good so it will display well, or until a working one can be secured.

Does this calc suffer the same demise as the 29C and other woodstocks vis-a-vis, chargers and bad/missing batteries? The new symptoms (at least it lights up ;-) would attest that it does.

some shots of the dismantelling:

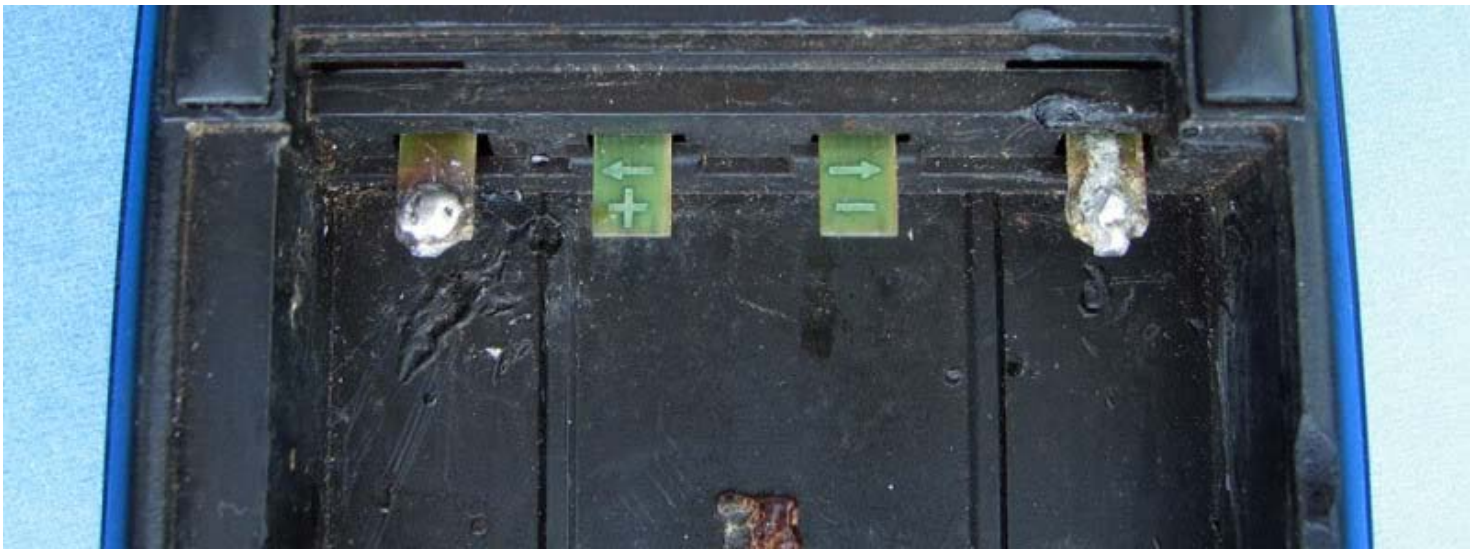
(Mike Morrow; this is not yours!!!!!! It is safe and sound and with what I gleam from this will help with yours, hopefully!)

As it arrived, not bad looking:

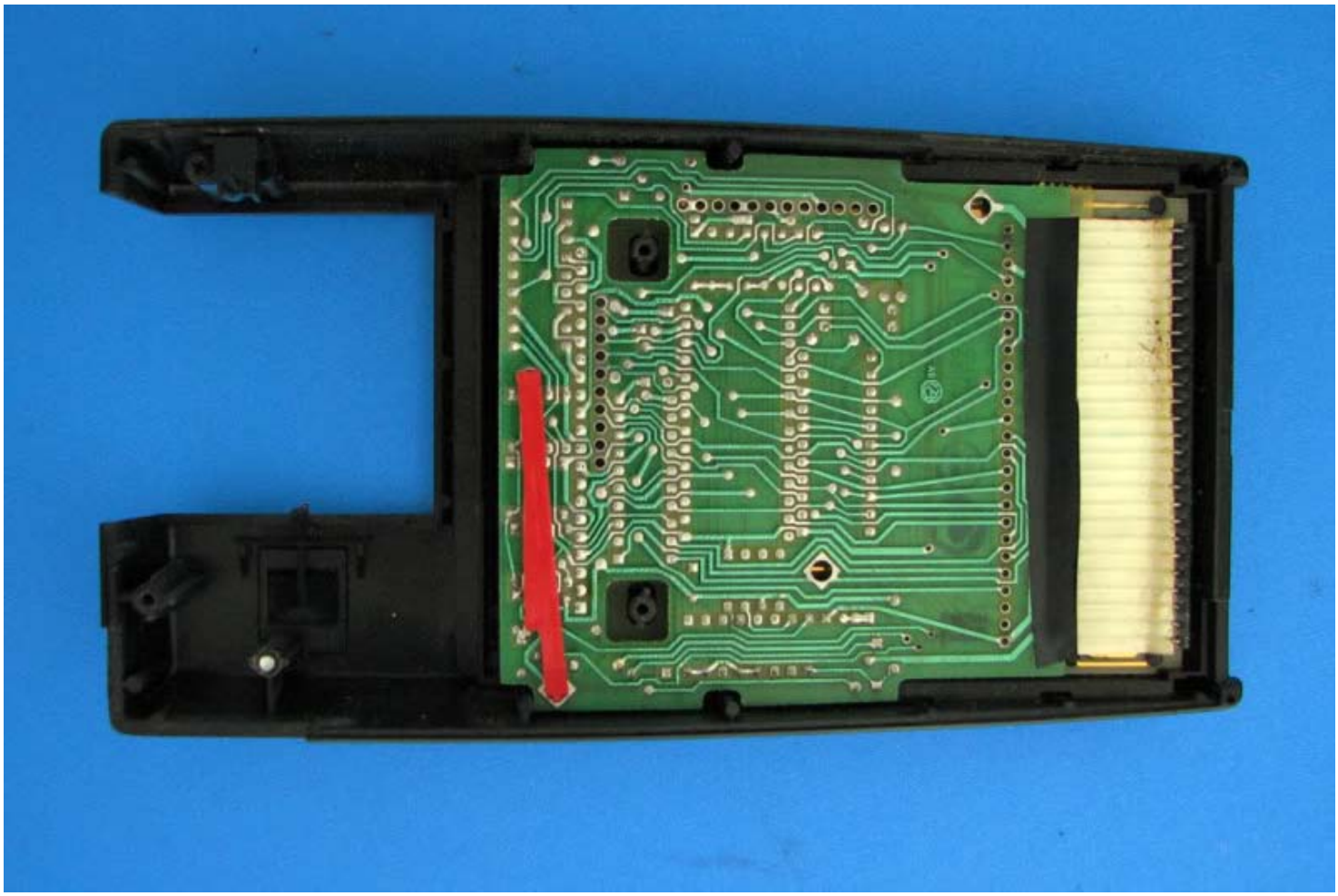
Back cover a little chewed up with pry marks, not a good sign:

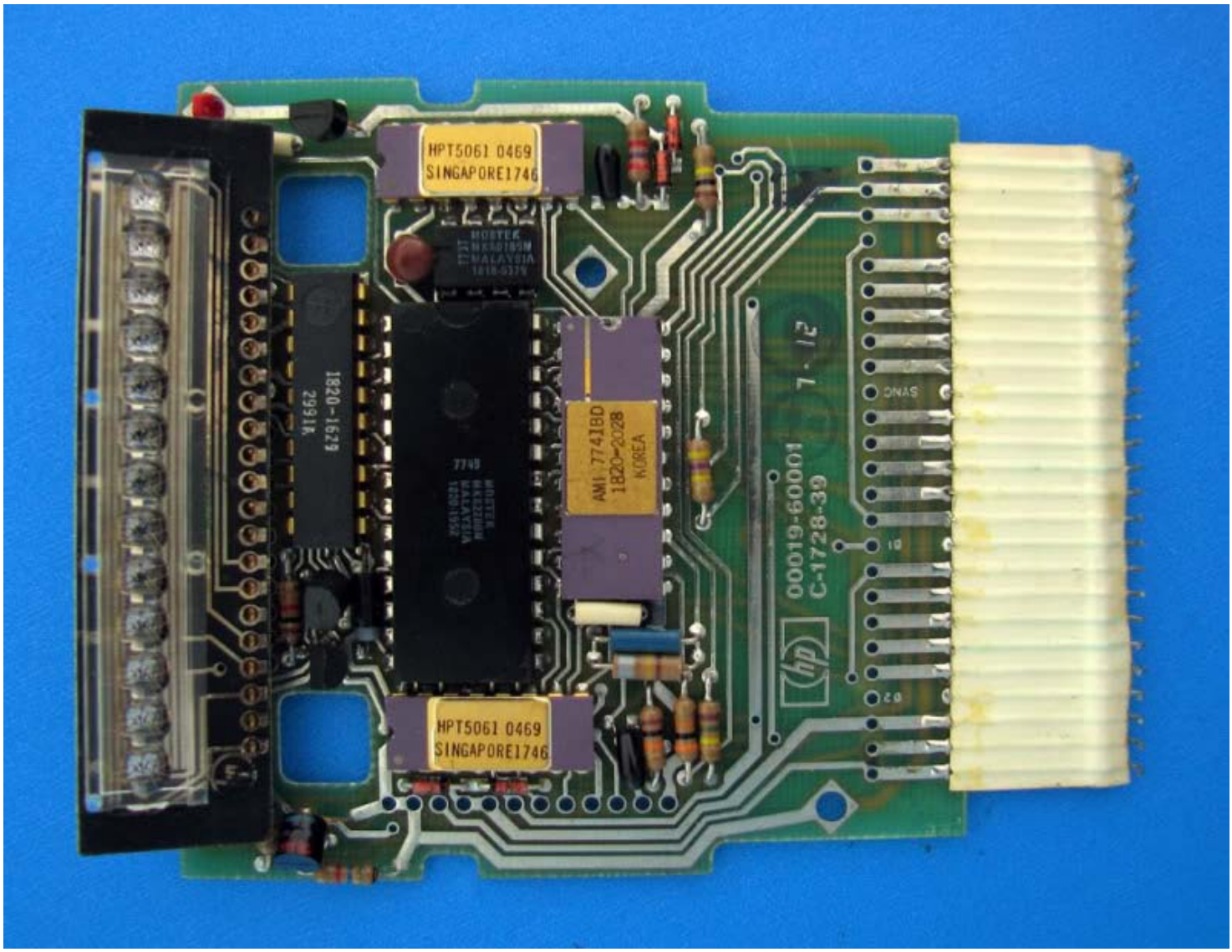
Evidence of a branding iron and bucket of solder:

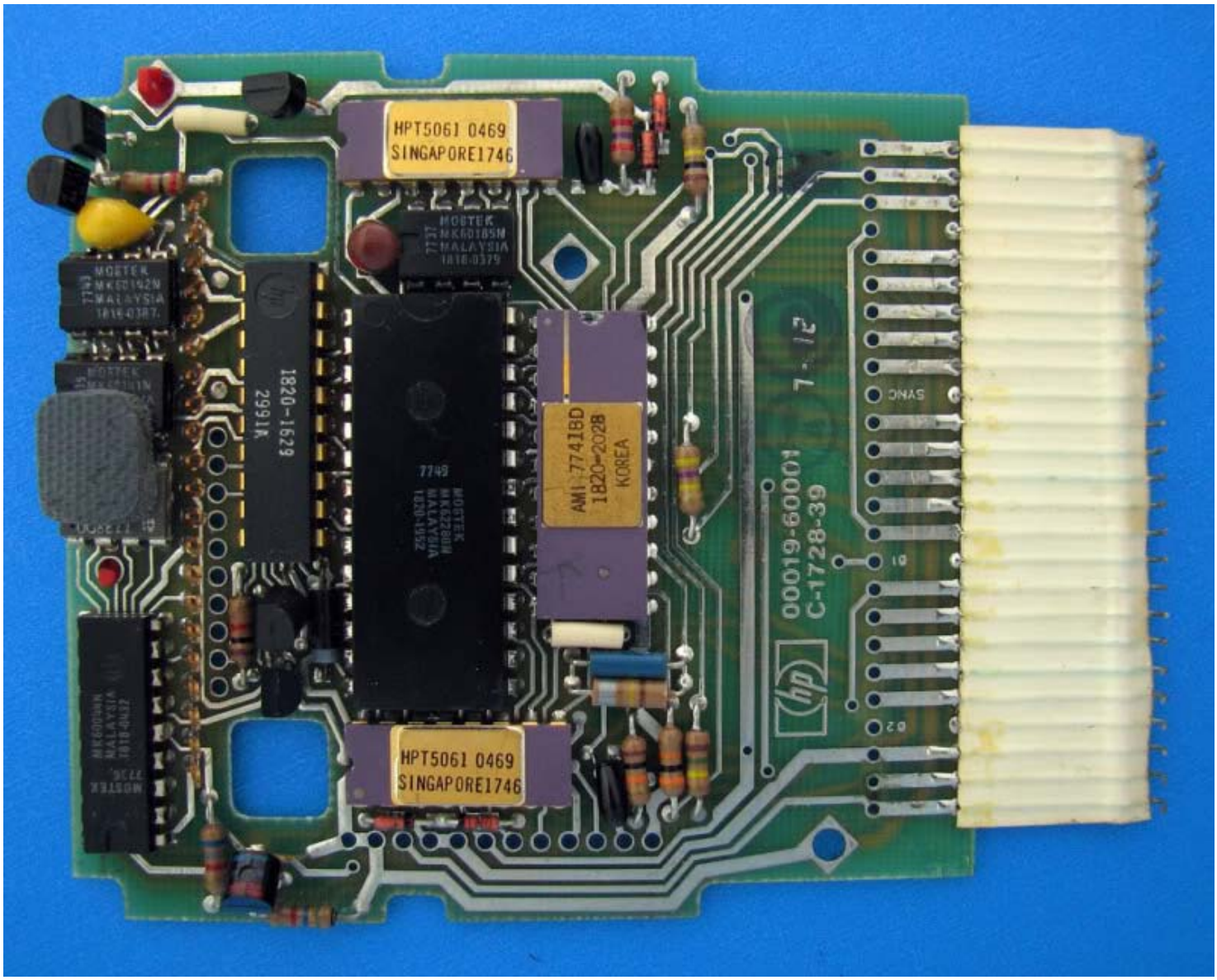
The contacts, had to desolder prior to removal to get to exit the back of the case:



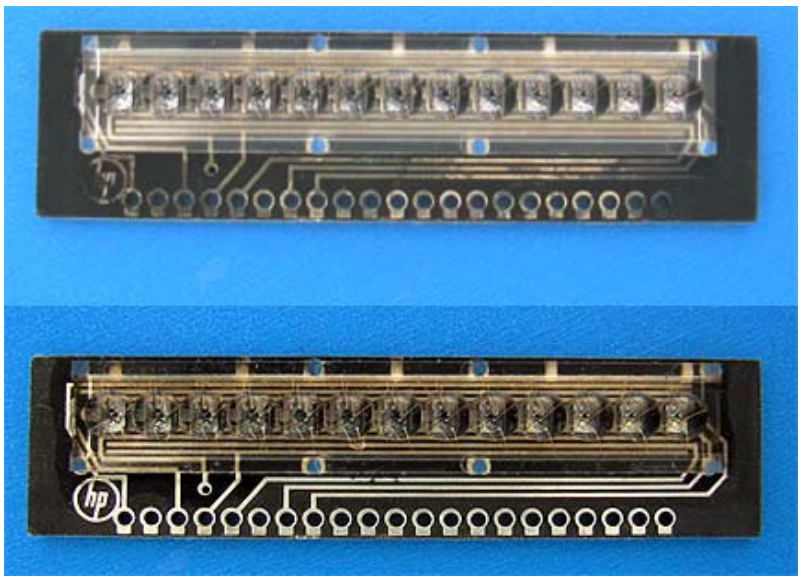
Keyboard PCA:

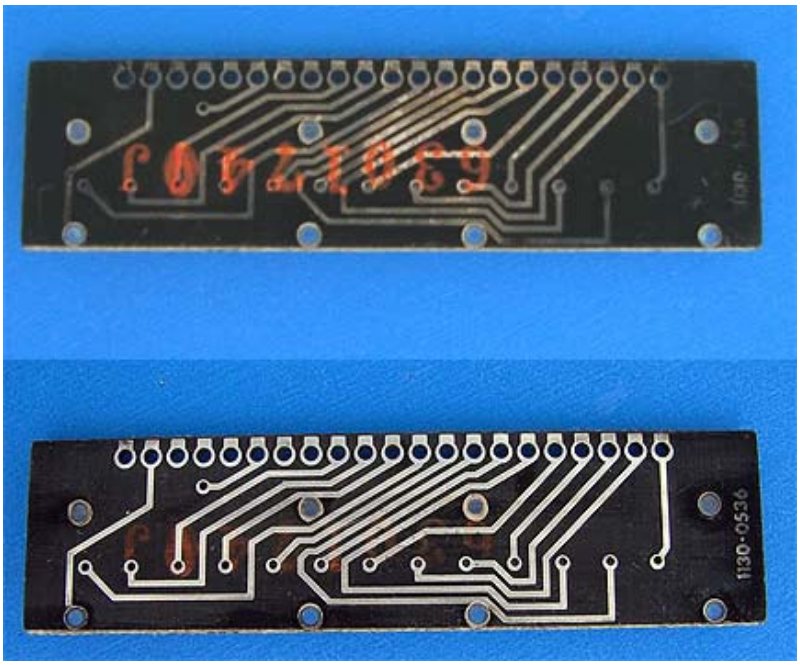



HPT5061 0469
SINGAPORE1746
1820-1629
2931A
AMI 7741BD
1820-2028
KOREA
HPT5061 0469
SINGAPORE1746
00019-60001
C-1728-39

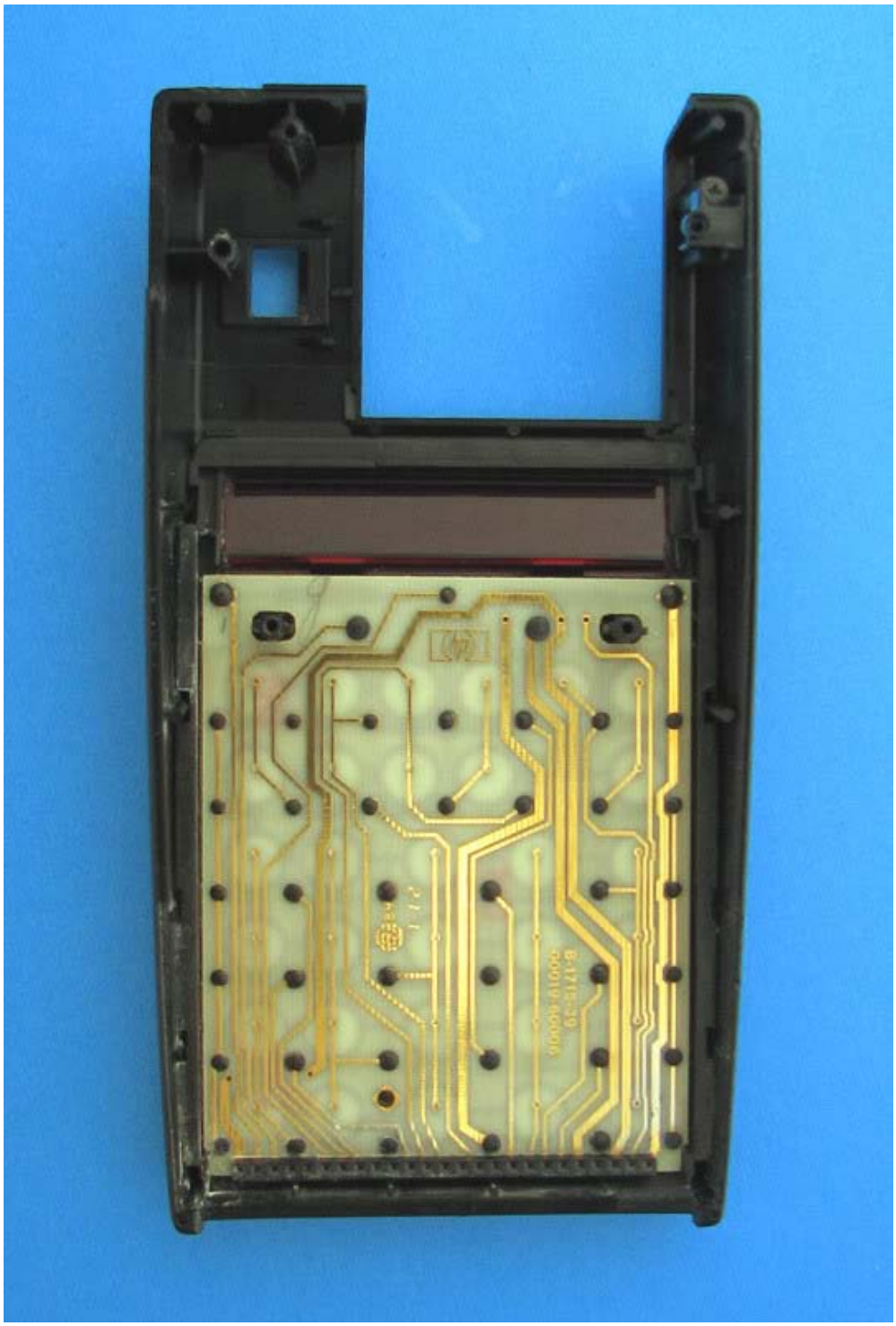


LED before and after cleaning soot:

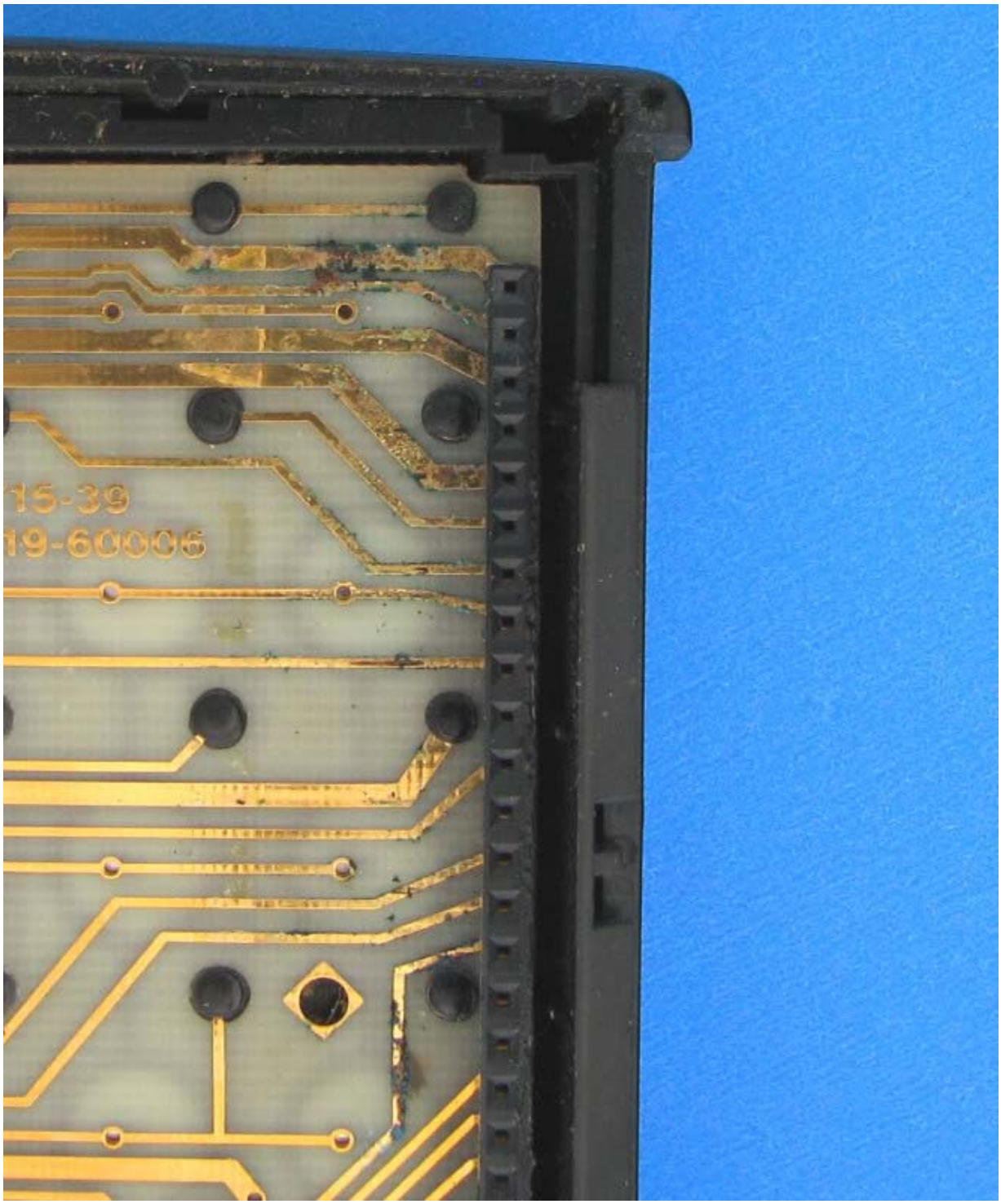




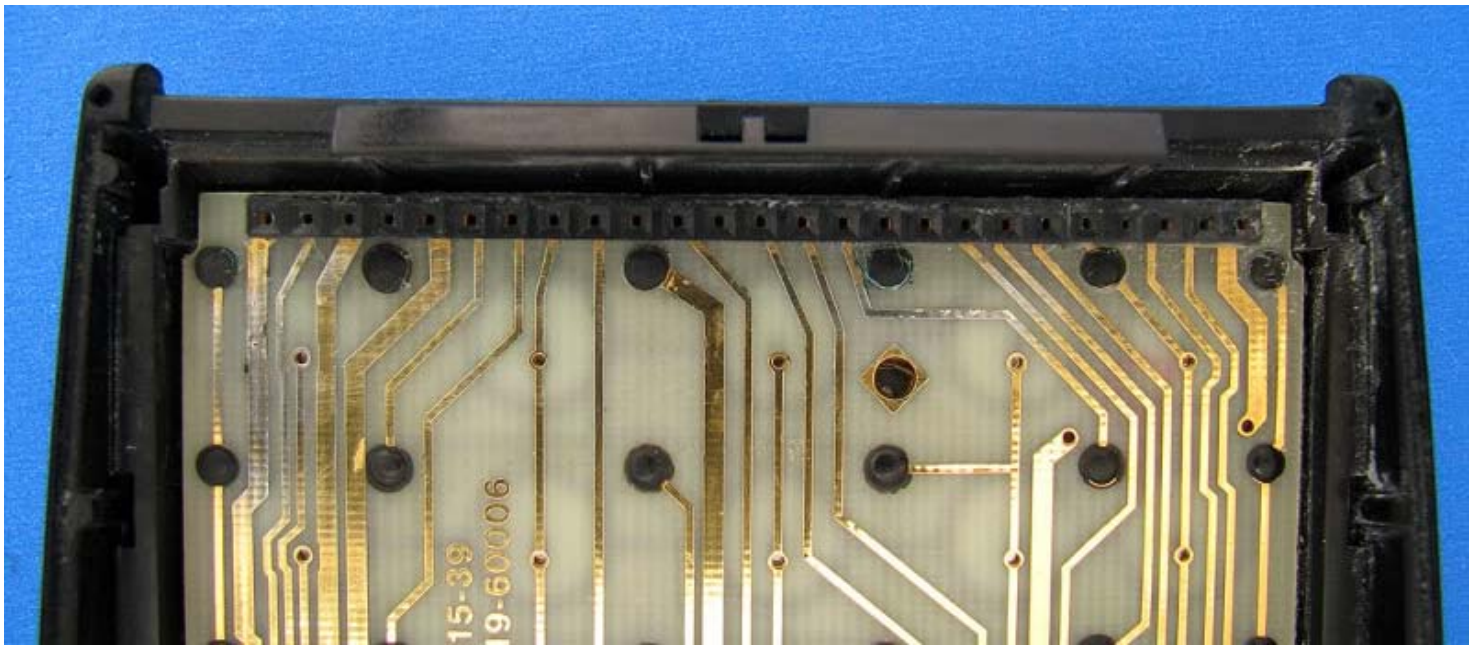
Keyboard trace:



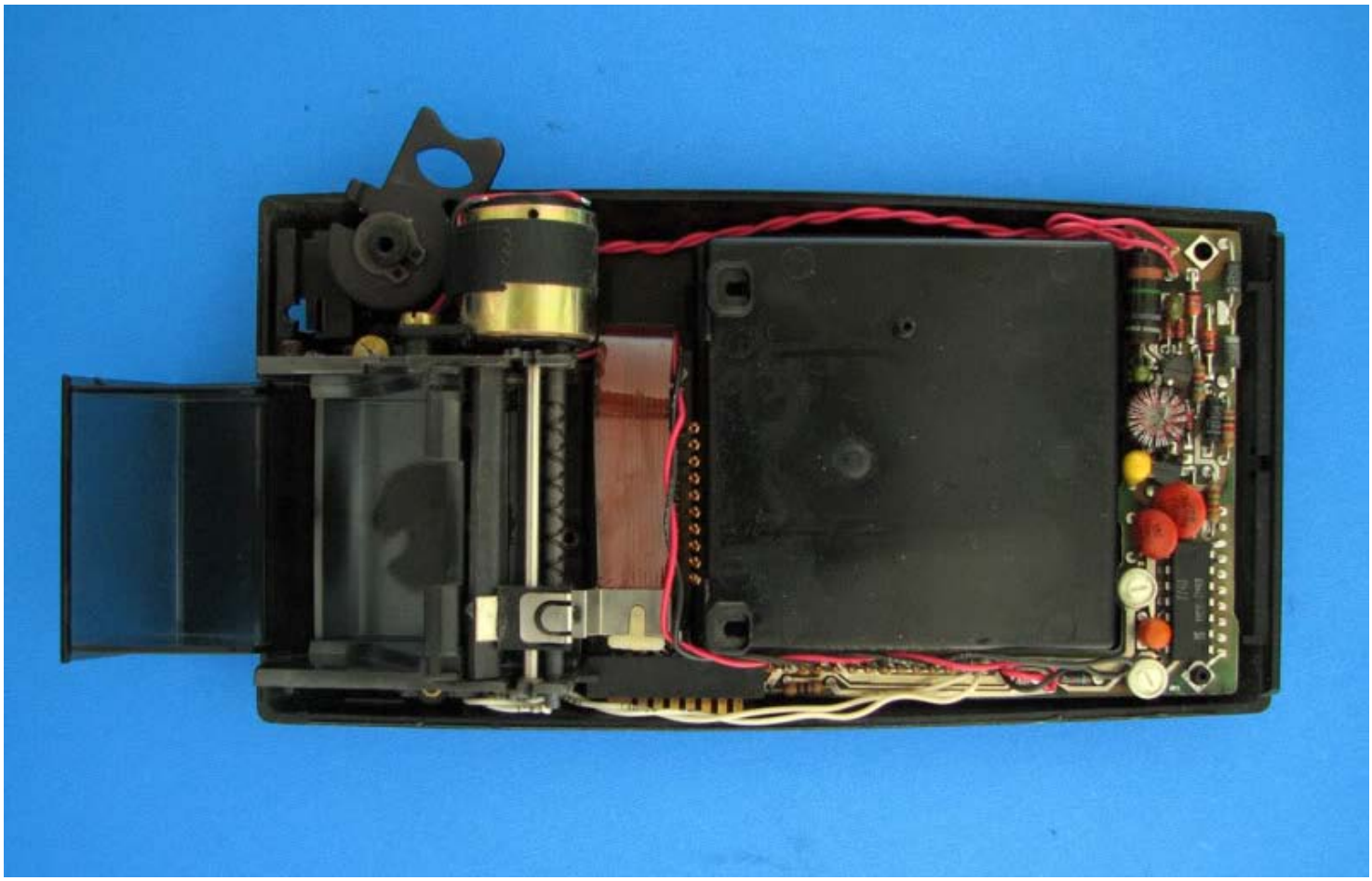
Trace corrosion at base of calculator keyboard pca:



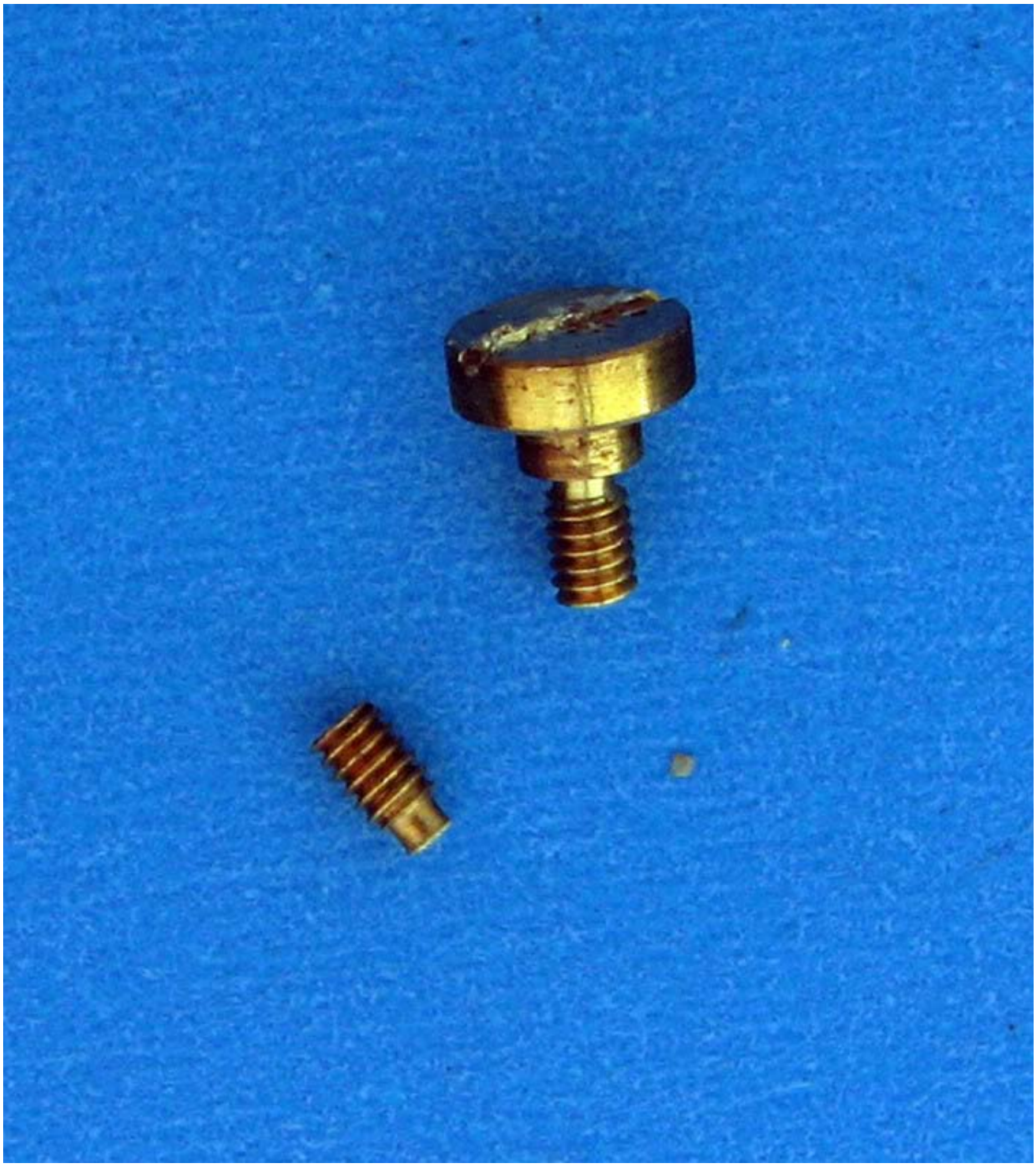
And again after corrosion removed and continuity checked:



And now the printer assembly:

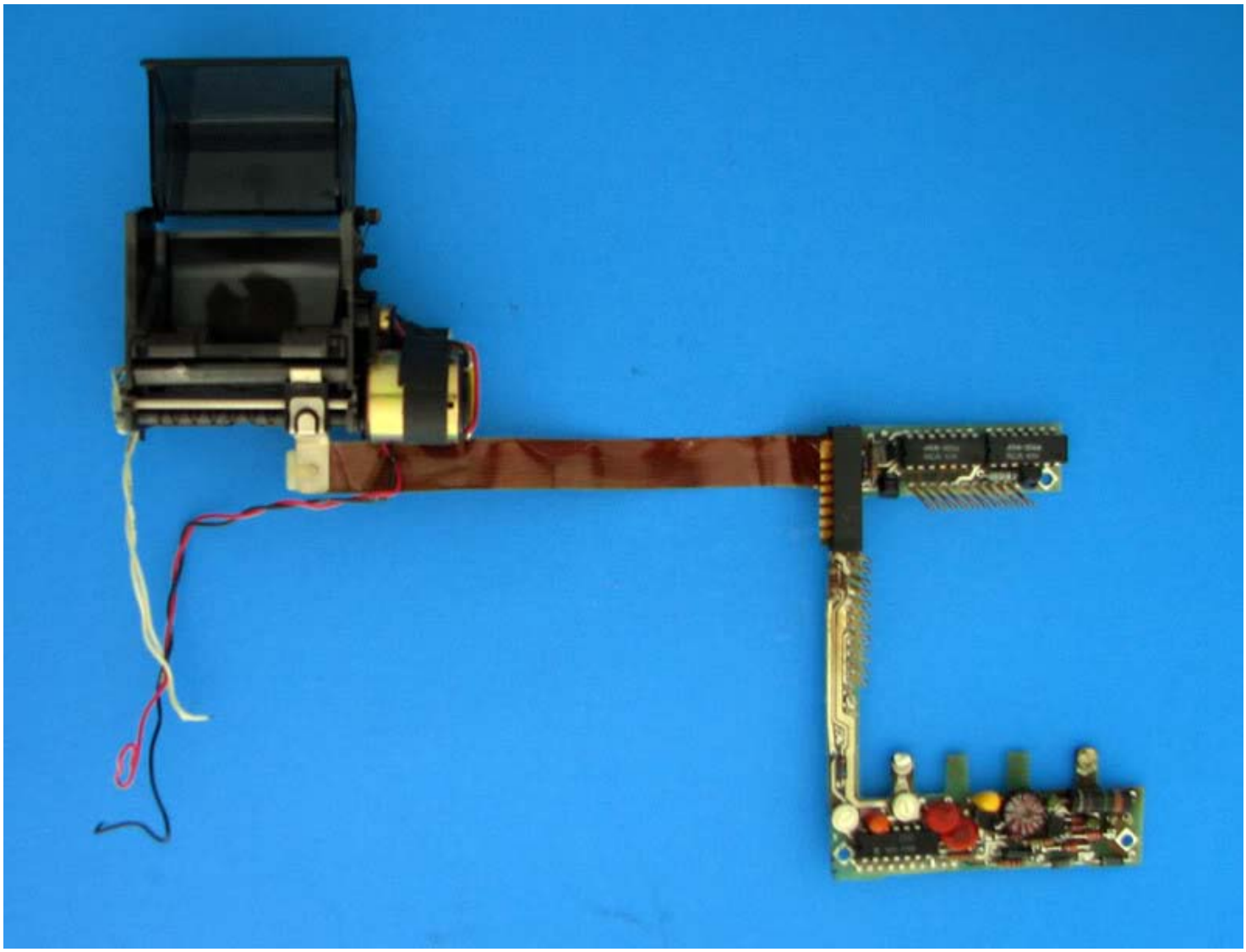


One of three large screws for securing printer assembly to case (the other two are missing). Also a small slotted threaded screw found floating inside, any suggestions?

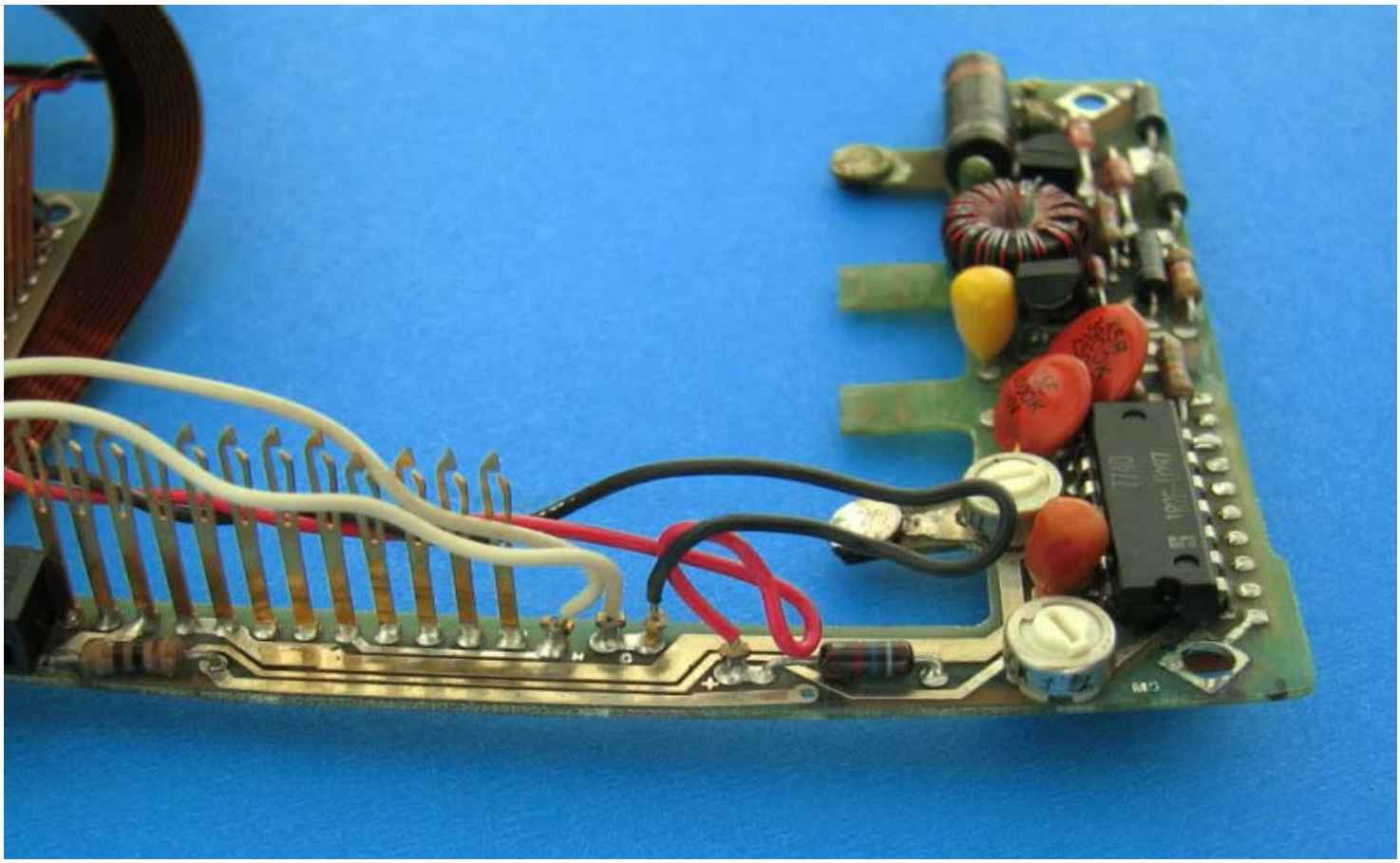


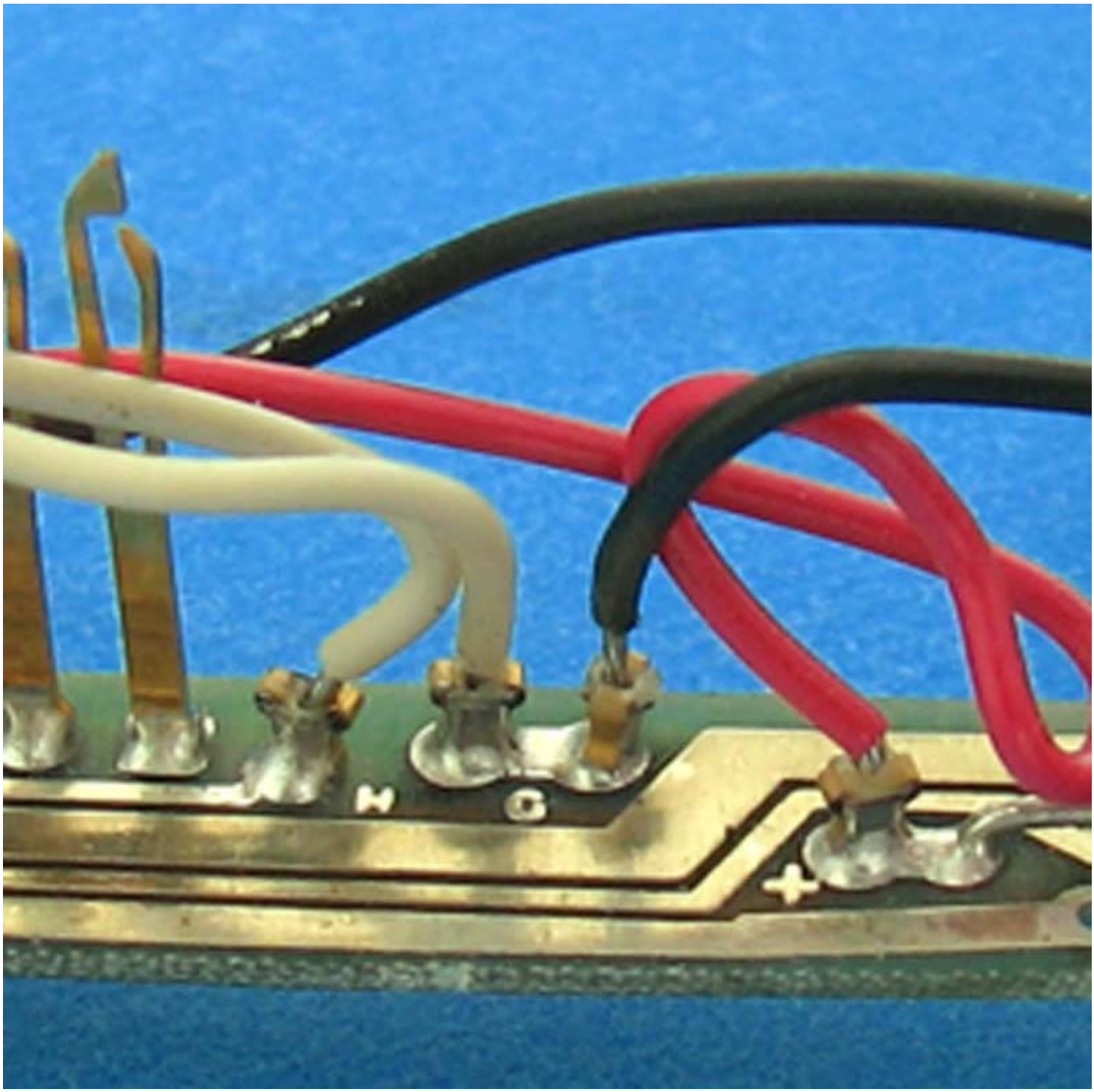
Melted platten:

Printer PCA, printer and ribbon:

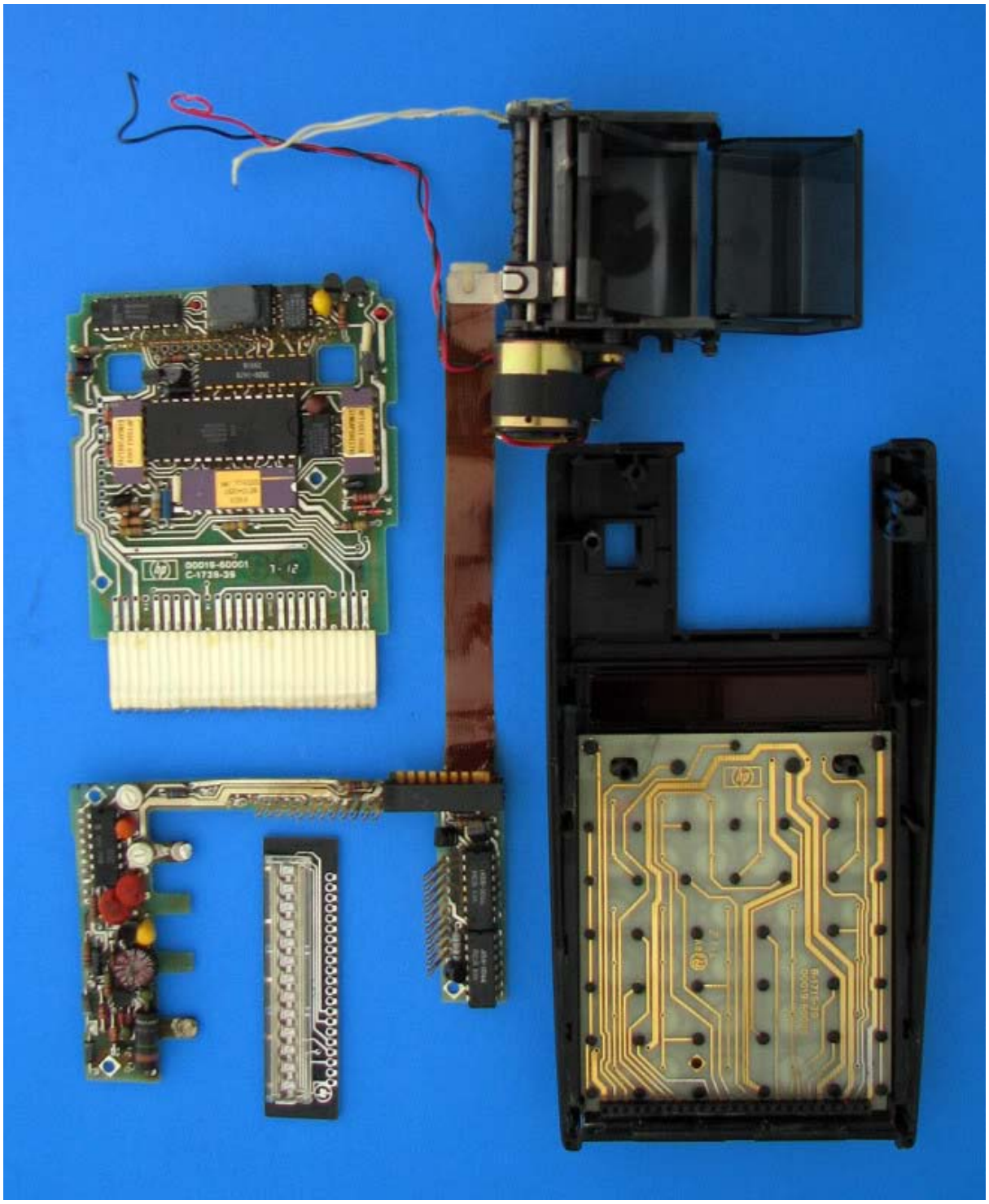


Printer motor and printer power connections:





An overview of the pca's:



Now to clean up the photos, label them and insert them in the text. Still to do with this is a diassembly of the printer system with photos and explanation.

Just one more chapter to photograph then onto the text for three chapters, some appendices and then proofing. Still hoping for a release in San Diego.

Enjoy the photos.

Geoff

Edited: 9 June 2011, 8:39 p.m.

Re: HP 19C horror show!

*Message #2 Posted by **exschr** on 10 June 2011, 4:05 a.m.,*
in response to message #1 by Geoff Quickfall

Great perseverance in a crestfallen venture!

Very nice job done, I enjoy the pictures!

Re: HP 19C horror show!

*Message #3 Posted by **Walter B** on 10 June 2011, 4:16 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,

Great pictures. I do look forward to your book (maybe I've said that earlier already? ;-)

Walter

Re: HP 19C horror show!

*Message #4 Posted by **BobVA** on 10 June 2011, 5:44 a.m.,*
in response to message #1 by Geoff Quickfall

Interesting - my HP-19C doesn't have that little swing-out gizmo the right side for a security cable.

Regards, Bob

Re: HP 19C horror show!

*Message #5 Posted by **Eric Smith** on 10 June 2011, 7:14 p.m.,*
in response to message #4 by BobVA

They changed that during the production run. I'm not sure whether they added it, or removed it.

Re: HP 19C horror show!

*Message #6 Posted by **Walter B** on 11 June 2011, 3:14 a.m.,*
in response to message #5 by Eric Smith

Following the logic of the market IMHO they must have removed it. Calculators lost preciousness every year then.

Re: HP 19C horror show!

*Message #7 Posted by **Ignazio Cara (Italy)** on 10 June 2011, 6:00 a.m.,*
in response to message #1 by Geoff Quickfall

Hello Geoff,

About your question:

> Quote:
>
> One of three large screws for securing printer assembly to case (the other two are missing). Also a small slotted threaded screw found floating inside, any suggestions?

this's a part of a broken screw (one of the two missed screws).

Regards,

Ignazio

Re: HP 19C horror show!

*Message #8 Posted by **Mike Morrow** on 10 June 2011, 9:11 a.m.,*
in response to message #1 by Geoff Quickfall

I don't know, Geoff. Maybe it came from HP that way after a bad day in the quality assurance department! :-)

Re: HP 19C horror show!

*Message #9 Posted by **Walter B** on 10 June 2011, 9:20 a.m.,*
in response to message #8 by Mike Morrow

Mike, quality has to be built by production, it can't be "tested in" by QA! :-)

Re: HP 19C horror show!

*Message #10 Posted by **Rainer Wiedemann (Germany)** on 10 June 2011, 5:45 p.m.,*
in response to message #9 by Walter B

Perhaps Geoff got the rare HP-19C "Carly F." signature model :-)

Re: HP 19C horror show!

*Message #11 Posted by **Walter B** on 11 June 2011, 3:09 a.m.,*
in response to message #10 by Rainer Wiedemann (Germany)

:-) Nice idea but too early for Carly ... although, hmmmh, you're right: it's her fault in any case ;-)

Re: HP 19C horror show!

*Message #12 Posted by **Hal Bitton in Boise** on 10 June 2011, 10:10 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff,
My 19C doesn't have the security cable tab either.
It's serial no. is 1803S11159, (supposedly built in the 3rd week of 1978).

When was your unit built?
Best regards, Hal

Ta da! sort of.....

*Message #13 Posted by **Geoff Quickfall** on 10 June 2011, 2:42 p.m.,*
in response to message #1 by Geoff Quickfall

Hello responders and others:

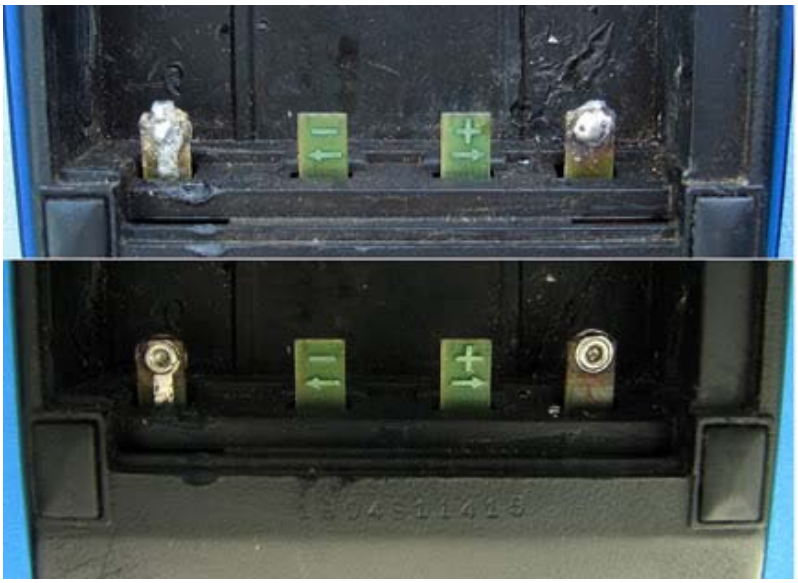
Exschr: thanks for the lament and the kudos!

Walter B: you have!!! and soon (San Deigo).

BobVA and Hal: serial number 1804sxxxxx with the security cradle option.

Ignazio: spot on and thanks, didn't really look at it, but, yes a sheared threaded section of the original brass screw.

And now a before and after on the contacts:



The desoldering and cleaning combined with the work on the keyboard and logic pcas resulted in the following:

Interestingly the display is random and dependent on the cycling of the off/on switch. Also the display of the lit LED's cycles itself, as though the timing logic is still there. This is unlike my HP 21 with the power and logic destroyed by the

application of the charger without batteries (a no no). In the 21 the display is locked on one LED and static, does not vary.

Now for the spoof:

E**Y sale:

HP 19C, powers up and displays. Calculator clean with no corrosion evident. Includes rare security cable attachment. Will not perform calculations but probably just needs new batteries. No charger so no way to test it further. Instruction manual not included but is readilly available on the web. Should be an easy fix. Any gullible buyers, contact me at.....

Just to be accurate, it is not forsale, that is a joke, but haven't we seen it before with respect to Woodstocks and others.

Cheers, Geoff

it will make for a nice display when I am done.

Edited: 10 June 2011, 2:43 p.m.

Re: Ta da! sort of.....

*Message #14 Posted by **Joel Setton (France)** on 10 June 2011, 2:58 p.m.,*
in response to message #13 by Geoff Quickfall

Geoff, if the display "wants" to cycle, this may be a sign of a defective clock oscillator. Look for broken traces or faulty components on the LC1 and LC2 pins of the ACT. Just my $2E-2's worth... Joel

Re: Ta da! sort of.....

*Message #15 Posted by **Geoff Quickfall** on 10 June 2011, 3:00 p.m.,*
in response to message #14 by Joel Setton (France)

Joel,

I was thinking along the same lines, but not as technical. I will certainly check as I have not given up yet!

Thanks again!

Re: Ta da! sort of.....

*Message #16 Posted by **Eric Smith** on 10 June 2011, 7:16 p.m.,*
in response to message #14 by Joel Setton (France)

If the oscillator isn't running, you shouldn't have more than one digit illuminated in the display at a time, unless cathode lines are shorted together, the cathode driver chip is bad, or possibly if the cathode driver chip isn't getting a reset signal. (I'm not sure of how the internal logic of the cathode driver works; if it is a shift register, then without a reset more than one output can be driven.)

Re: Ta da! sort of.....

*Message #17 Posted by **Randy** on 11 June 2011, 10:47 a.m.,*
in response to message #16 by Eric Smith

Yes, the 19C is just as fragile as all woodstocks to over-voltage damage.

If the clock is not running:

1) LC components bad, traces to same open (rare). 2) Bad VSS/VGG (rare) 3) Bad ACT. (most common failure)

The other common over-voltage damage in addition to the ACT is the combo RAM/ROM (1818-0379).

Re: Ta da! sort of.....

*Message #18 Posted by **Ernst Fueloep** on 14 June 2011, 3:59 p.m.,*
in response to message #13 by Geoff Quickfall

Geoff,

How have you cleaned the contacts? And removed the solder?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s 2.0 Beta Release

*Message #1 Posted by **Marcus von Cube, Germany** on 9 June 2011, 4:32 a.m.*

We've finally released what we believe is very close to the final wp34s firmware. Go to SourceForge.net and get the file wp34s.zip!

We do not plan to add any more features as we only have a few hundred bytes of flash space left. Feel free to provide useful user programs for the system that can be neatly packed in the available user flash pages if you want more functions. It's a programmable machine in the end, isn't it?

We expect that the community will still find some bugs and inaccuracies and kindly ask you to play around with either the emulator or a reflashed HP calculator and report back your findings.

Looking forward to your comments.

Marcus, Pauli & Walter

P.S.: I've had trouble uploading the file. If you've downloaded a corrupted archive, just try again.

Edited: 9 June 2011, 6:20 a.m. after one or more responses were posted

Re: wp34s 2.0 Beta Release

*Message #2 Posted by **Cristian Arezzini** on 9 June 2011, 6:15 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Hmmm... The file there appears to be broken? I downloaded it (it's 1931337 bytes), but when I try to extract the zip, I get an error. I tried to download it twice, with the same results.

A question: if I just update with svn, do I get the same version?

Cristian

Re: wp34s 2.0 Beta Release

*Message #3 Posted by **Marcus von Cube, Germany** on 9 June 2011, 6:22 a.m.,*
in response to message #2 by Cristian Arezzini

I've just fixed the file. SF is giving some grief from time to time. SVN should generally be the same or a newer version. It's just not so neatly packaged.

Edited: 9 June 2011, 6:22 a.m.

Re: wp34s 2.0 1037 Alpha H mia

*Message #4 Posted by **Norman Dziedzic** on 9 June 2011, 6:57 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Not sure if this is the official 2.0 but from the SVN I have 2.0 1037 and I cannot get the character h in the alpha register. This occurs both in and out of programming mode

This also plagues the emulator as well.

Edited: 9 June 2011, 7:03 a.m.

Re: wp34s 2.0 1037 Alpha H mia

*Message #5 Posted by **Paul Dale** on 9 June 2011, 7:21 a.m.,*
in response to message #4 by Norman Dziedzic

Beta bug #2 :-(

A fix is committed but not built yet.

- Pauli

Re: wp34s 2.0 1037 Alpha H mia

*Message #6 Posted by **Marcus von Cube, Germany** on 9 June 2011, 7:45 a.m.,*
in response to message #5 by Paul Dale

I've rebuild, committed and released the correction.

Re: wp34s 2.0 1037 Alpha H mia

*Message #7 Posted by **fhub** on 9 June 2011, 11:14 a.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> I've rebuild, committed and released the correction.

Could you please also rebuild wp32s.exe in the SVN? I really like this GUI-less version ... ;-)

Thanks, Franz

Re: wp34s 2.0 1037 Alpha H mia

*Message #8 Posted by **Marcus von Cube, Germany** on 9 June 2011, 1:08 p.m.,*
in response to message #7 by fhub

Franz, no problem. You like this version more than I do. ;-).

With the installation of MS Visual C++ Express which is free from Microsoft you can do the compile yourself.

Re: wp34s 2.0 1037 Alpha H mia

*Message #9 Posted by **fhub** on 9 June 2011, 1:38 p.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:

> Franz, no problem. You like this version more than I do. ;-).

Thanks Marcus, I got it.
And yes, as a 50+ oldie I really like everything that reminds me on DOS! ;-)
And BTW, this console version also accepts Shift-7 and Shift-+ for / and *, which the GUI version still doesn't.

> Quote:
>
> With the installation of MS Visual C++ Express which is free from Microsoft
> you can do the compile yourself.

Well if you would know my slow internet connection, you won't have made this suggestion.

Franz

Re: wp34s 2.0 1037 Alpha H mia

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 10 June 2011, 6:34 a.m.,*
in response to message #8 by Marcus von Cube, Germany

For those that do use the console version and want to run under Wine, I discovered that you need to use "wineconsole wp34s.exe" to run this rather than "wine wp34s.exe".

Since I am most definitely not a Wine expert, I can't tell you why or what the difference is.

Enjoy...

Re: wp34s 2.0 1037 Alpha H mia

*Message #11 Posted by **Paul Dale** on 10 June 2011, 6:39 a.m.,*
in response to message #10 by Neil Hamilton (Ottawa)

> Quote:
>
> For those that do use the console version and want to run under Wine

Why???? The native console version builds easily for Mac and Linux.

I am actually a bit surprised by the interest in the console version. I thought I was the only person doing anything with it (and that is for ease of debugging).

Pauli

Re: wp34s 2.0 1037 Alpha H mia

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 10 June 2011, 8:39 a.m.,*
in response to message #11 by Paul Dale

Actually, I was looking back for anything about an assembler and you made a point on 12 May about "Build the console version and run 'calc xrom'". I thought I would see if I could get something out of that but could not really figure out what "run calc xrom" meant in that context.

Before I saw anything of this I was thinking of trying to cobble together an assembler/disassembler in Perl (my poison of choice) to work with the wp34s.dat file. I have since trolled through some of the C and found mnemonic-type listings (ie: xrom.c) that obviously correspond to what you were talking about. I would love to be able to work with something like this to write and edit programs -- presumably loaded/unloaded through the wp34s.dat facility.

I spent a few hours seeing if I could figure out the format of the dat file but got a bit swamped in all the details.

Anyway, that is the only reason I mentioned it. I had to figure out how to get the executable going in my environment (Ubuntu 10.04) before I decided I didn't really want to work with it if I had a choice. I had no real wish to build it from scratch when you had already done all the work to get it to an exe for me!! FWIW I *MUCH* prefer to use the emulator -- but no real surprise there I am sure. :-)

Cheers...

Re: wp34s 2.0 1037 Alpha H mia

*Message #13 Posted by **Marcus von Cube, Germany** on 10 June 2011, 9:24 a.m.,*
in response to message #12 by Neil Hamilton (Ottawa)

Neil, the flash files are much easier to understand. They start with a CRC followed by the number of program steps + 1 (two shorts). The rest is program steps. The CRC can be replaced by the wildcard value A53C which is considered valid in any circumstance. All values are little endian.

Re: wp34s 2.0 1037 Alpha H mia

*Message #14 Posted by **Cristian Arezzini** on 10 June 2011, 11:10 a.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> The CRC can be replaced by the wildcard value A53C which is considered valid in any circumstance.

Now forgive me but I have to ask... when I see apparently random numbers being chosen as "special", I get curious... How did you choose just that value as a wildcard? Why not a "less random" number like 0000 or FFFF? :P

Re: wp34s 2.0 1037 Alpha H mia

*Message #15 Posted by **Marcus von Cube, Germany** on 10 June 2011, 1:35 p.m.,*
in response to message #14 by Cristian Arezzini

> Quote:
>
> How did you choose just that value as a wildcard? Why not a "less random" number like 0000 or FFFF? :P

I wanted to make sure that the magic number has some magic in it. So the

two bytes should not be identical nor should one byte be the complement of the other. Since FFFF is the default contents of free flash memory and 0000 is the default value for blanked out RAM, neither value is a good candidate for a magic number. I chose a funny bit pattern as "my" value: 1010.0101.0011.1100.

Re: wp34s 2.0 1037 Alpha H mia

*Message #16 Posted by **Cristian Arezzini** on 10 June 2011, 2:08 p.m.,*
in response to message #15 by Marcus von Cube, Germany

> Quote:
>
> I chose a funny bit pattern as "my" value: 1010.0101.0011.1100.

Ah, OK... It looks much less random when seen in binary. I should have noticed! Thank you for the explanation! :)

Cristian

Re: wp34s 2.0 Beta Release

*Message #17 Posted by **Cristian Arezzini** on 9 June 2011, 11:36 a.m.,*
in response to message #1 by Marcus von Cube, Germany

I just noticed a difference in aVIEW. Now when I show the Alpha register, the numeric display shows "---", while before, the normal X register was shown. I see it's not a bug because it's documented in the manual, but I was just wondering why it was changed. In case I needed the old behavior, should I just put VWa+?

Re: wp34s 2.0 Beta Release

*Message #18 Posted by **Marcus von Cube, Germany** on 9 June 2011, 1:10 p.m.,*
in response to message #17 by Cristian Arezzini

Yes, VWa+ X does it. The added benefit is that you can view any register together with Alpha.

Re: wp34s 2.0 Beta Release

*Message #19 Posted by **Paul Dale** on 9 June 2011, 5:25 p.m.,*
in response to message #17 by Cristian Arezzini

It was changed after a fairly lengthy and lively discussion about what we wanted to achieve with the view commands.

The initial problem being that you couldn't both view alpha (alphaVIEW) and a register (VIEW) at the same time as the second command canceled the first. VWalpha+ was introduced to achieve this.

Once the new command was present, there really wasn't any need for alphaVIEW to display the X register as well as alpha (that being available with VMalpha+ X) so the bottom line was effectively erased. Thus providing an alpha prompt without a numeric value which is something I've missed while programming e.g. the 35s.

Also, even though these are in the catalogues, there is a short cut: h-shift VIEW ENTER always gives alphaVIEW.

- Pauli

Re: wp34s 2.0 Beta Release

*Message #20 Posted by **Eric Rechlin** on 9 June 2011, 11:54 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Looks great. I'll load it onto my calculator tonight.

I'm glad to see that nothing of consequence in the layout has changed (though the layout in the manual doesn't agree with the emulator, with alpha and FILL swapped), so the overlays everyone should be receiving will still be accurate. Speaking of which, I have mailed 30 of the overlays so far, and I have 15 more that are printed and ready to mail, but I ran out of stamps so I'll mail those tomorrow after I stop by the post office. The remainder I will mail on Saturday or Monday.

Eric

Re: wp34s 2.0 Beta Release

*Message #21 Posted by **Walter B** on 9 June 2011, 6:38 p.m.,*
in response to message #20 by Eric Rechlin

Ooops, my fault :-(Corrected and committed in SVN doc.

Thanks for watching

Walter

Re: wp34s 2.0 Beta Release

*Message #22 Posted by **Paul Dale** on 9 June 2011, 6:52 p.m.,*
in response to message #20 by Eric Rechlin

> Quote:
>
> I'm glad to see that nothing of consequence in the layout has changed.

Intentionally :-) Not that much in the way of changes were actually proposed.

- Pauli

Re: wp34s 2.0 Beta Release

*Message #23 Posted by **Cristian Arezzini** on 10 June 2011, 2:37 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> Intentionally :-) Not that much in the way of changes were actually proposed.
>
> - Pauli

Pauli, just as an idea for an eventual future "adjusting" of the layout... I remember my very first

frustration, when trying out the emulator, was finding out how to switch back from integer to floating point. Now I know I have to push H.d, but I remember scanning the keyboard without finding anything that sounded useful. After all, how to switch to integer is rather obvious - just push 2,8,10 or 16 - so wouldn't it be nice if the reverse was as obvious?

I guess relabeling that key to make it a little more evident (i.e. "float" or "decimal") is out of the question?

Cristian

Re: wp34s 2.0 Beta Release

*Message #24 Posted by **Walter B** on 10 June 2011, 4:15 p.m.,*
in response to message #23 by Cristian Arezzini

Cristian,

Many months ago, we featured two labels: one named ".d" for decimal mode (the opposite of integer) and one named "HR" or "H" for decimal hours (the opposite of H.MS). It took some time until I realized these two are actually doing the same: converting something to decimal. So they were merged into one label "H .d" for that reason. This way we gained one more label :-)

Walter

Re: wp34s 2.0 Beta Release

*Message #25 Posted by **Cristian Arezzini** on 9 June 2011, 2:53 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Another small issue I noticed (this is really minor and doesn't involve any new feature or anything! :) If you press On+C, to use a hardware crystal, the message displayed is: "Crystal? Installed" This might be misleading in that it could be read as a confirmation that the crystal is indeed installed. As I see that some alphabetical characters can be generated even in the 7-segment display, could it be possible to move the question mark to the lower line, so that the message reads "Crystal installed?" or even "Is crystal installed" if the 7-segment question mark looks too ugly?

What do you think?

Cristian

Re: wp34s 2.0 Beta Release

*Message #26 Posted by **Marcus von Cube, Germany** on 9 June 2011, 3:35 p.m.,*
in response to message #25 by Cristian Arezzini

I don't think its worth the effort. Once activated, you'll never see the message again.

Re: wp34s 2.0 Beta Release

*Message #27 Posted by **Tim** on 10 June 2011, 10:15 a.m.,*
in response to message #26 by Marcus von Cube, Germany

I downloaded the latest version but I can't make it change the skin type or size on my PC? Is that normal with this release?

Re: wp34s 2.0 Beta Release

*Message #28 Posted by **Walter B** on 10 June 2011, 4:18 p.m.,*
in response to message #27 by Tim

Tim,

Skin changing works fine here (build 1066, Win7).

HTH

Walter

Re: wp34s 2.0 Beta Release

*Message #29 Posted by **tim** on 12 June 2011, 2:50 p.m.,*
in response to message #28 by Walter B

Thanks I got it to work now.

Re: wp34s 2.0 Beta Release

*Message #30 Posted by **Dieter** on 10 June 2011, 10:24 a.m.,*
in response to message #1 by Marcus von Cube, Germany

The first thing I noticed was a permanent decimal point/comma even for integers in ALL and FIX 0. This always annoyed me on other calculators. On the 41-series this can be solved by clearing Flag 29 (thousands separator off), while on the 34s even after E3OFF the decimal marker remains visible.

While we are on this topic: some time ago we had a discussion concerning an improved standard display format that switches to scientific notation only if the value is below 0,01 or 0,001. If memory serves well, this was generally considered a good idea. So, how about that?

I also wonder if there is a way that makes SHOW display all 16 digits. Yes, I know the display only has 12 digits. I also would prefer the classic MANT/SHOW style that also displays trailing zeroes. But the 16-digit issue is something I really would appreciate.

The second thing I tried was - once again ;-) - the precision of the statistical distributions and their inverses. The Chi-square quantile still returns values that are completely off. Try 10 d.o.f. and p = 1E-9 and you will get something like 2,01256 (which also looks like it required substantial execution time on a physical 20s/30s), while the correct result is 0,083152. In the meantime I have found a method that gives a nice initial estimate for the Chi-square quantile, which is within -10...+6% of the true value (or even +/-3% after some tweaks). In most cases a 16-digit result is obtained after 4 - 6 iterations. Also, an estimate for the F-quantile should be no big problem. Let me know if there's sufficient space left and the better estimate can be implemented.

Dieter

Re: wp34s 2.0 Beta Release

*Message #31 Posted by **Marcus von Cube, Germany** on 10 June 2011, 1:30 p.m.,*
in response to message #30 by Dieter

We can always reclaim another K from the user library area in flash. I was hoping these issues were long sorted out. You should send your findings to Pauli via the forum mail system.

A remark on the decimal marker at the end of a number. That was my request to Pauli. I'm used to this

since the early beginnings of calculator use (an SR-51A at the time). I was missing it and Pauli did me the favor.

We have some additions to scientific and engineering notation, related to what happens when a number over or underflows. I'm not deep enough into this matter but the manual should tell you.

AFAIK, the 0.001 to sci transition is not implemented. It might be worthwhile to do so but we need enough space for it.

Showing more than 12 digits would involve scrolling or repeated key presses. Suggest an implementation!

Re: wp34s 2.0 Beta Release

*Message #32 Posted by **Dieter** on 10 June 2011, 4:27 p.m.,*
in response to message #31 by Marcus von Cube, Germany

Among the statistical distributions the Normal and Student case have been discussed here earlier, and in both cases good and (I hope) sufficiently fast solutions are implemented now. I still wait for a 20s/30s user with 34s firmware to report actual execution times for the Normal and student quantile.

For some other distributions there are exact direct solutions that do not require an iterative approach, but there were and are still two cases left that require some improvements in the quantile algorithm: these are the Chi-square and F-distribution.

I think I found a fine solution for the Chi-square case, and I just tried it on the new 34s emulator v2. The estimate is fine, but using the solver, the quantile sometimes does not converge well. On the other hand a simple Newton approach usually finds a 16-digit solution with just a few iterations. Which sounds like it may be better not to use the solver here, just as in the Normal case which returns fast and accurate results now with a dedicated algorithm.

Anyway, I will post my results as soon as the final formula for the estimate is fixed. Most of the work has been done 80 resp. 35 years ago now. ;-)

Dieter

Re: wp34s 2.0 Beta Release

*Message #33 Posted by **Paul Dale** on 10 June 2011, 7:39 p.m.,*
in response to message #32 by Dieter

> Quote:
>
> For some other distributions there are exact direct solutions that do not require an iterative approach, but there were and are still two cases left that require some improvements in the quantile algorithm: these are the Chi-square and F-distribution.

I did some work on Chi-square but not on F. Clearly neither is good enough yet.

There are two others left. Both Poisson and Binomial are also suspect.

- Pauli

Re: wp34s 2.0 Beta Release

*Message #34 Posted by **Walter B** on 10 June 2011, 4:22 p.m.,*

in response to message #30 by Dieter

Hallo Dieter,

> Quote:
>
> We have some additions to scientific and engineering notation ...

Please look at ENGOVR and SCIOVR.

> Quote:
>
> on the 34s even after E3OFF the decimal marker remains visible.

E3ON and E3OFF deal with the thousands separator. The decimal marker is another animal.

Walter

Edited: 10 June 2011, 4:29 p.m.

Re: wp34s 2.0 Beta Release

*Message #35 Posted by **Dieter** on 10 June 2011, 5:01 p.m.,*
in response to message #34 by Walter B

ENGOVR now does what in the heydays of the '41 a synthetic command already could do: use FIX/ENG instead of FIX/SCI. ;-) However, it does not affect the ALL format in the proposed way. Some time ago, many users found it useful if the 34s would not display 1/30 as 3,33333333333 E-2 but simply 0,03333333333 - even if this means that one less digit is visible. It's simply more ..."natural". I still think this is a good idea.

The (IMHO annoying) decimal point/comma even for integer values actually could be controlled on the 41 by the setting of the thousands separator. If the separator was on, 1234 was displayed as "1.234," resp. "1,234.". With the separator off it was simply "1234" - no trailing point or comma. So the user could have it the way he wanted.

I think the combination of thousands separator and trailing decimal marker (as on the 41) is a quite clever idea. This way there will be no display like "1.300" or "1,300" that might be mistaken for 13/10 while it actually is "one thousand three hundred". The 41 would display either the larger value as "1300" or "1.300," resp. "1,300.", and the smaller value as "1,300" resp. "1.300".

Dieter

Re: wp34s 2.0 Beta Release

*Message #36 Posted by **Walter B** on 11 June 2011, 3:29 a.m.,*
in response to message #35 by Dieter

> Quote:
>
> ENGOVR ... does not affect the ALL format in the proposed way. Some time ago, many users [2] found it useful if the 34s would not display 1/30 as 3,33333333333 E-2 but simply 0,03333333333 - even if this means that one less digit is visible [1]. It's simply more ..."natural".

[1] Two digits - after all, counting is the basis of mathemetics ;-)

[2] Two, three, four, many? I learned "many" has often a very archaic meaning in this forum when counting people :-)

BTW, I think this is a pretty academic request. IMHO everybody capable to use a scientific calc knows what 3,3E-2 or even 33E-3 means.

Walter

Re: wp34s 2.0 Beta Release

*Message #37 Posted by **Cristian Arezzini** on 11 June 2011, 7:28 a.m.,*
in response to message #35 by Dieter

Personally, I'm one of those who would prefer the 0,03333333333 display (for numbers smaller than 0.01 I'd want E notation of course). I don't know how many are we! :) To see the full precision number, one could use the SHOW command...

Cristian

Re: wp34s 2.0 Beta Release

*Message #38 Posted by **Marcus von Cube, Germany** on 11 June 2011, 9:54 a.m.,*
in response to message #37 by Cristian Arezzini

Something is in the works, Cristian & Dieter.

Re: wp34s 2.0 Beta Release

*Message #39 Posted by **Paul Dale** on 11 June 2011, 9:15 p.m.,*
in response to message #37 by Cristian Arezzini

The next firmware release will have an ALL command which takes an argument. The argument specifies the number of zeros to the right of the decimal when which ALL mode changes to scientific notation even if this causes loss of digits or rounding at the extreme right.

ALL 00 is the same as the ALL command we used to have. ALL 02 matches Dieter's and Cristian's desires. ALL 11 is supported but a bit silly :-)

The biggest downside here is that binary compatibility with existing save files isn't maintained. You'll have to at least manually check all programs loaded from these.

- Pauli

Re: wp34s 2.0 Beta Release

*Message #40 Posted by **Paul Dale** on 10 June 2011, 10:53 p.m.,*
in response to message #30 by Dieter

Quote:

Let me know if there's sufficient space left and the better estimate can be implemented.

I'll find the space....

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Disassembly of HP41C ROMs

*Message #1 Posted by **Prabhu Bhooplapur** on 8 June 2011, 11:22 p.m.*

Hi, I am looking for information on how to disassemble the plug in ROM modules of HP41C. Thanks, Prabhu

Re: Disassembly of HP41C ROMs

*Message #2 Posted by **Eric Smith** on 9 June 2011, 1:14 a.m.,*
in response to message #1 by Prabhu Bhooplapur

If you mean physically opening them, you'll generally need to use a sharp knife to cut them open, as they are ultrasonically welded. They are not intended to be opened. As they say, "no user serviceable parts inside." Of course, some of us aren't normal users.

Re: Disassembly of HP41C ROMs

*Message #3 Posted by **exschr** on 9 June 2011, 2:52 a.m.,*
in response to message #1 by Prabhu Bhooplapur

There is some information about opening the module in PPC Journal V6N7 (October 1979)

I will email you a picture of the extract.

Good luck Roger

Re: Disassembly of HP41C ROMs

*Message #4 Posted by **Prabhu Bhooplapur** on 9 June 2011, 3:23 a.m.,*
in response to message #3 by exschr

Thanks Roger and Eric.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 31E buttons not responding

*Message #1 Posted by **Adam Vaughn** on 8 June 2011, 5:43 p.m.*

Hello everyone. I recently picked up a HP 31E calculator. At first, everything seemed fine. However, it seems to have developed an issue with the 8, 5, and 2 keys. They seem to have become highly intermittent, taking many button presses to work. When they do work, there seems to be a far higher amount of 'key bounce' than with any of the other keys, causing lots of repeating. At first, I thought the keys might just be in need of cleaning, but the fact that they're in the same vertical row makes me wonder (though the decimal key seems unaffected). Any ideas on how I might be able to solve this issue? Thanks in advance!

Re: HP 31E buttons not responding

*Message #2 Posted by **Michael de Estrada** on 8 June 2011, 6:02 p.m.,*
in response to message #1 by Adam Vaughn

Unfortunately, the circuit trace may be cracked on that keyboard button set, and is not repairable. If it were a normal pcb, you could repair the circuit with solder, but the Spice board will be ruined if you do this. I had several go bad on me and had to use donor boards from other Spices. The good thing is that the circuit board is interchangeable among all the Spice models.

Re: HP 31E buttons not responding

*Message #3 Posted by **Eric Smith** on 8 June 2011, 6:29 p.m.,*
in response to message #2 by Michael de Estrada

You could try a silver conductive ink pen, such as a Circuitworks CW2200MTP. There are also nickel conductive ink pens, which are less expensive, but I think the silver ones would be more likely to provide a satisfactory repair.

I've also used conductive silver-filled epoxy for some repair jobs. It's more expensive yet, and less well-suited for PCB repair.

Re: HP 31E buttons not responding

*Message #4 Posted by **Michael de Estrada** on 8 June 2011, 7:27 p.m.,*
in response to message #3 by Eric Smith

Have you repaired Spice keyboards this way. The problem sometimes is on the snap dome side, and unless the ink pen material is very flexible, the repair is not likely to last.

Re: HP 31E buttons not responding

*Message #5 Posted by **Adam Vaughn** on 11 June 2011, 2:47 a.m.,*
in response to message #4 by Michael de Estrada

What would I be looking for with regards to breaks? I'm hoping to not have this lovely calculator rendered as a fancy-looking paperweight...

Re: HP 31E buttons not responding

*Message #6 Posted by **Michael de Estrada** on 12 June 2011, 10:58 a.m.,*
in response to message #5 by Adam Vaughn

It's very hard to see. You need to simply check for continuity with an ohmmeter. Sometimes the film with the snap domes separates from the circuit board where it is connected, losing continuity at that point. Perhaps it could be riveted together to fix it. I tried solder, which just ruined it. You could ask a pro like fixthatcalc if it can be repaired.

Edited: 12 June 2011, 10:58 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S Spelling Out Function Names?

*Message #1 Posted by **Jake Schwartz** on 8 June 2011, 10:59 a.m.*

Hi Guys,

Frequently when I'm accessing a wp34S function, I can't remember whether it is in the "X.FCN" or "P.FCN" catalogs and have to exit the current catalog and enter the correct one. Was any consideration ever given to additionally allowing the user to spell out the function name, similar to the HP41? Pressing [XEQ] [ENTER] (for ALPHA) and spelling out the name currently searches for labels in program memory, but couldn't it search through the built-in function names first?

Thanks, Jake

Re: wp34S Spelling Out Function Names?

*Message #2 Posted by **fhub** on 8 June 2011, 11:18 a.m.,*
in response to message #1 by Jake Schwartz

> Quote:
>
> Pressing [XEQ] [ENTER] (for ALPHA) and spelling out the name currently searches for labels in program memory, but couldn't it search through the built-in function names first?

I agree Jake,

an excellent idea - or should I better say eXEQellent idea. ;-)

Maybe this should work for ALL implemented functions, even for those already on the keyboard like SIN, ACOS, ATANH, etc. ...

Re: wp34S Spelling Out Function Names?

*Message #3 Posted by **Walter B** on 8 June 2011, 11:30 a.m.,*
in response to message #2 by fhub

Oh yeah. As Pauli wrote: Everything is public. Feel free to design, code, test, and implement it. Enjoy!

Walter

Re: wp34S Spelling Out Function Names?

*Message #4 Posted by **fhub** on 8 June 2011, 12:02 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> Oh yeah. As Pauli wrote: Everything is public. Feel free to design, code, test, and

implement it. Enjoy!

Walter

Well, I didn't mean that you should completely reorganize your program structure or your list(s) of functions - it should only be possible to execute any implemented function by directly entering the name instead of navigating through the menus.

But I finally get it: any improvement suggestions are not welcome here, and the usual answer to such feature requests is something like your sentence above.

So this is my last posting here, I wish you much success in improving your WP34S project.

Cheers, Franz

Re: wp34S Spelling Out Function Names?

*Message #5 Posted by **Walter B** on 8 June 2011, 2:27 p.m.,*
in response to message #4 by fhub

Hallo Franz,

> Quote:
>
> ... any improvement suggestions are not welcome here ...

There are many participants who can tell you that the opposite is true. It's more a matter of timing - you joined pretty late and fired a lot of ideas which would have been appreciated much much more if they would have been sent significantly earlier.

Right now we're happy we made it so far. After all it was not only fun, but also a lot of labor. After some rest, we will be more open for new suggestions for sure - but remember it's easier making suggestions than bringing the whole thing up and running.

I'd wish you'll continue enjoying this forum.

Walter

Re: wp34S Spelling Out Function Names?

*Message #6 Posted by **Eric Rechlin** on 8 June 2011, 3:22 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> I'd wish you'll continue enjoying this forum.

If he's the type of person who is so fragile that he would leave the forum just because of one post, maybe it's for the best...

Eric

Re: wp34S Spelling Out Function Names?

*Message #7 Posted by **Marcus von Cube, Germany** on 8 June 2011, 4:10 p.m.,*
in response to message #4 by fhub

> Quote:
>
> But I finally get it: any improvement suggestions are not welcome here, and the usual answer to such feature requests is something like your sentence above.
>
> So this is my last posting here, I wish you much success in improving your WP34S project.

I hope you're kidding. Read my answer explaining the reasons why this function simply will not fit in the current software. We've done a lot to add features requested in this forum and we're still adding more. Your proposal is especially useful and I had already discussed it with my fellow developers some time ago. The conclusion was that it does not fit easily due to flash space constraints.

Re: wp34S Spelling Out Function Names?

*Message #8 Posted by **Paul Dale** on 8 June 2011, 5:36 p.m.,*
in response to message #4 by fhub

I think you've misunderstood. We have a limited amount of time to devote to the project & believe me we've devoted a *lot* already. We're very willing to listen to suggestions and in many cases in the past we have implemented them. We can't do this for everything, there are way too many changes people want.

There are some good reasons why implementing commands via their alpha labels isn't going to be a quick and easy task (I can go into this in more detail if people want to be bored by it all). So rather than spend my time implementing a feature which strictly isn't necessary (since every function -- except one -- is already available from the keyboard), I'd prefer to spend my time doing other things like fixing bugs and getting the beta release out.

So where does this leave you as the person making the suggestion? Well, if you think the feature is sufficiently important go ahead and code it. We will definitely consider its inclusion and in this case I'm almost certain we would include it if the space requirements weren't large. That is, I don't for a minute think it isn't a useful addition. I do, however, feel that it isn't a useful enough addition to spend the effort to implement especially this late in the process.

Talk is cheap. Actions aren't.

Pauli

Re: wp34S Spelling Out Function Names?

*Message #9 Posted by **gene wright** on 8 June 2011, 7:01 p.m.,*
in response to message #8 by Paul Dale

Pauli, as usual, your remarks are proper and sensitive. If all replies about the 34s were as helpful and thoughtful of the feelings of others as yours, no one would ever complain.

As you said, talk is cheap, and unthoughtful replies are often free.

Re: wp34S Spelling Out Function Names?

*Message #10 Posted by **Paul Dale** on 8 June 2011, 7:10 p.m.,*
in response to message #9 by gene wright

They'd still complain :-)

Thanks for the kind voice of support.

- Pauli

WP-34s 2.0 Manual correction?

*Message #11 Posted by **gene wright** on 8 June 2011, 7:24 p.m.,*
in response to message #10 by Paul Dale

Page 58 of 81: In the h CAT catalog description, it specifies 0 - 2 as the flash segments. Isn't this 0-3 now?

At least, 0-2 on page 58 seems inconsistent with the description on page 12 of 81. I'm thinking I'm either confused (possibly) or that page 58 should say 0-3.

:-)

Also on page 12 of 81, it references segments 2, 1 and 0 in that order. Should that be 3, 2, 1, and 0? Paragraph on page 12 is below.

"Else, i.e. if xy is an alpha label of up to three characters of arbitrary case, searching will start at program step 000 and cover the entire memory in the sequence RAM, flash segment 2, flash 1, flash 0, and XROM, independent of the position of the program pointer."

And, again, for the record, I consider the flash "pages" 1, 2, and 3 and their ability to be called as subroutines or executed in place as perhaps one of the most substantial features of the entire WP 34s!

Edited: 8 June 2011, 10:24 p.m.

Re: WP-34s 2.0 Manual correction?

*Message #12 Posted by **Walter B** on 9 June 2011, 12:40 a.m.,*
in response to message #11 by gene wright

Gene,

Thanks for your observations and for sharing them :-) No, you are not confused :-) the project was just moving a bit faster than the author.

Most important: It's corrected and committed now d:-)

Walter

Re: WP-34s 2.0 Manual correction?

*Message #13 Posted by **Paul Dale** on 9 June 2011, 12:43 a.m.,*

in response to message #11 by gene wright

> Quote:
>
> And, again, for the record, I consider the flash "pages" 1, 2, and 3 and their ability to be called as subroutines or executed in place as perhaps one of the most substantial features of the entire WP 34s!

Very interesting. I consider them a bit of extra program memory (okay a pile) that's fractionally safer than normal program memory.

- Pauli

Re: WP-34s 2.0 Manual correction #1 (picky)

*Message #14 Posted by **gene wright** on 9 June 2011, 3:59 p.m.,*
in response to message #11 by gene wright

Page 17: Probabilities is misspelled as "PROBALITIES"

Re: WP-34s 2.0 Manual correction #1 (picky)

*Message #15 Posted by **Walter B** on 9 June 2011, 6:46 p.m.,*
in response to message #14 by gene wright

Thanks. Corrected and committed.

Walter

Re: wp34S Spelling Out Function Names?

*Message #16 Posted by **Marcus von Cube, Germany** on 8 June 2011, 4:05 p.m.,*
in response to message #3 by Walter B

It's not as easy as it sounds. In order to make the search possible we have to sort the commands by name and create a catalogue from them. This is done by an external program during the compile process and included as a table in the resulting object. In theory that is no problem, but in fact it is... We're just running out of possible code space. We would need about 2 KB for the catalogue table alone. Gone are the library regions...

Re: wp34S Spelling Out Function Names?

*Message #17 Posted by **Walter B** on 8 June 2011, 11:27 a.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

Probably you've expected the following: yes, also our catalogs have a long history. Especially it took many (!) months until the alpha search function was tackled and implemented for more than one character. Until then scrolling was the dominant browsing method, and we split the ever growing set of extra functions into several separate catalogs for easier practical handling. With a convenient search method as we feature it now, we won't have to do it again to this extent, but now we've done it.

But life is quite easy: Commands containing a '?' are in TEST, all mode setting is in MODE, distributions are in PROB, statistics beyond distributions is in STAT. And CONV as well as CONST are self-explanatory. The

separation of P.FCN and X.FCN is not as evident and contains some arbitrary decisions for sure - we may merge at least those two and regain one label, but that won't be a big gain and we are a bit tired/lazy now after all.

Within X.FCN in particular, you may benefit from fast typing on an alphabetic keyboard (3 s timeout, good luck!). So this comes pretty near to what you want, AFAIK.

Walter

Re: wp34S Spelling Out Function Names?

*Message #18 Posted by **Jake Schwartz** on 8 June 2011, 12:01 p.m.,*
in response to message #17 by Walter B

> Quote:
>
> But life is quite easy: Commands containing....

Another situation I find myself facing is when I am entering program steps and go to a catalog, searching for an integer-mode function, but the appropriate catalog does not currently show that function because the machine is currently in DECM mode. As a result, I must exit the catalog, exit program mode, enter integer mode, re-enter program mode and then re-enter the catalog in order to be able to enter the function as a program step. Being able to spell the function under these circumstances would be another big time-saving benefit, for what it is worth.

Jake

Re: wp34S Spelling Out Function Names?

*Message #19 Posted by **Walter B** on 8 June 2011, 2:34 p.m.,*
in response to message #18 by Jake Schwartz

One solution for this problem is merging the different flavors of X.FCN and adding P.FCN, so you'll get one big catalog for the "standard stuff". It's contents would be independent of the mode (integer, DECM, PRG) you are in. Sounds like this is what you want, don't you?

This looks like a "minor change" besides the label P.FCN becoming obsolete.

Walter

Re: wp34S Spelling Out Function Names?

*Message #20 Posted by **Marcus von Cube, Germany** on 8 June 2011, 4:20 p.m.,*
in response to message #19 by Walter B

Jake, you're facing some of the problems I've struggled with when I joined the project. The problem is that we still have the flash space problem which prevents us from adding lengthy catalogues. Before we can add these features, be assured we want to do this, we need to squeeze out the software to a much higher extent than we've already done. It's hard work, no more low hanging fruit, I'm afraid.

Re: wp34S Spelling Out Function Names?

*Message #21 Posted by **Paul Dale** on 8 June 2011, 5:40 p.m.,*
in response to message #19 by Walter B

This would be a simple enough change. It would also save some flash space (a very small amount but still some).

I've hit the integer mode functions problem a couple of times & it is annoying. Still, programs that change between real and integer mode aren't all that common -- you got lucky with the IEEE floating point conversion ones :-)

- Pauli

Re: wp34S Spelling Out Function Names?

*Message #22 Posted by **Cristian Arezzini** on 9 June 2011, 6:00 a.m.,*
in response to message #19 by Walter B

> Quote:
>
> One solution for this problem is merging the different flavors of X.FCN and adding P.FCN, so you'll get one big catalog for the "standard stuff". It's contents would be independent of the mode (integer, DECM, PRG) you are in. [...]
>
> This looks like a "minor change" besides the label P.FCN becoming obsolete.

Walter, I myself have encountered this problem in the past, and the merging of the two catalogs would be really welcome to me, especially if it would be independent on the mode. I don't know if you're being ironic when you say that it's a "minor change", but I wanted to tell you that if you should ever implement this change (in the near or distant future) I'd be happy indeed! :)

Cristian

Re: wp34S Spelling Out Function Names?

*Message #23 Posted by **Paul Dale** on 9 June 2011, 6:36 a.m.,*
in response to message #22 by Cristian Arezzini

We didn't implement a full merge.

We have provided a new X.FCN catalogue in program mode that includes all the commands from the other three X.FCN catalogues.

We also merged the two MODE catalogues together again.

So mixed mode integer/real programming will be less painful.

P.FCN is unchanged.

- Pauli

Re: wp34S Spelling Out Function Names?

*Message #24 Posted by **Jake Schwartz** on 9 June 2011, 9:47 a.m.,*
in response to message #23 by Paul Dale

> Quote:

> So mixed mode integer/real programming will be less painful.

This is appreciated.

Thanks

[Return to Index | Top of Index]

Go back to the main exhibit hall

wp34S IEEE Floating-Point Conversions

*Message #1 Posted by **Jake Schwartz** on 7 June 2011, 9:49 p.m.*

Hi,

I am happy to report that with wp34s version 1019, I was able to successfully work through the HP16C manual without finding any more anomalies. After that, it seemed logical to attempt to translate the IEEE floating-point-format conversion routines in Appendix D to programs for the wp34s. Here is my first crack at those programs:

```
001 *LBL B
002 BASE16
003 2COMPL
004 WSIZE 32
005 SL 01
006 ENTER↑
007 ENTER↑
008 X=0?
009 GTO 02
010 MASKR 24
011 AND
012 XOR
013 RCL L
014 X<>Y
015 MASKL 08
016 X=Y?
017 GTO 04
018 R↓
019 X=0?
020 GTO 03
021 X<>Y
022 SB 24
073 *LBL A
074 X<0?
075 SF 01
076 X<0?
077 +/-
078 2COMPL
079 ENTER↑
080 X=0?
081 ENTER↑
082 X=0?
083 GTO 13
084 LOG2
085 3
086 2
087 X<>Y
088 -
089 IP
090 X>0?
091 GTO 10
092 1
093 -
094 *LBL 10
145 CLx
146 R↑
147 R↑
148 SF B
149 *LBL 07
150 R↓
151 OR
152 FS? 00
153 SB 08
154 RR 09
155 CF C
156 RTN
157 *LBL 09
158 ABS
159 3
160 0
161 X<=Y?
162 X<>Y
163 R↓
164 0
165 SB→Y
166 X<>Y
```

```
023 *LBL 01
024 FS? C
025 +/-
026 X<>Y
027 RL 08
028 9
029 7
030 -
031 CF C
032 *LBL 02
033 DECM
034 2^x
035 *
036 EEX
037 1
038 0
039 0
040 X<=Y?
041 GTO 11
042 X<>Y
043 RTN
044 *LBL 11
045 EEX
046 8
047 8
048 -
049 SF B
050 SF C
051 RTN
052 *LBL 03
053 SB 24
095 ENTER↑
096 2^x
097 R↑
098 X<>Y
099 R↑
100 *
101 FS?C 01
102 +/-
103 R↑
104 +/-
105 *LBL 13
106 WSIZE 56
107 BASE 16
108 CF C
109 CF B
110 X=Y?
111 RTN
112 9
113 D
114 +
115 X<>Y
116 CF 00
117 X<0?
118 SF 00
119 ABS
120 X<>Y
121 X<0?
122 GTO 09
123 1
124 +
125 *LBL 06
167 R↓
168 /
169 0
170 GTO 06
```

Note: running [h] [SHOW} yields checksum 9C1E with nothing else in program memory

```
054 X<>Y                126 STO 99
055 GTO 01              127 R↓
056 *LBL 04             128 WSIZE 32
057 R↓                  129 8
058 CLx                 130 0
059 X≠Y?                131 +
```

```
060 GTO 05                132 MASKL 24
061 1                     133 AND
062 4                     134 FC? C
063 5                     135 ISZ 99
064 ENTER↑                136 SL 01
065 *LBL 05               137 RCL 99
066 X<>Y                  138 F
067 FS? C                 139 F
068 +/-                   140 X>Y?
069 ASR 01                141 GTO 07
070 X<>Y                  142 X<>Y
071 SF C                  143 R↓
072 GTO 02                144 R↓
```

Entering a floating-point number and pressing `XEQ A` will create the IEEE HEX equivalent. In 2's compliment, 32-bit word size and HEX, entering a hexadecimal value and pressing `XEQ B` will convert to the floating-point value. The range of values is roughly between positive or negative 3*10^-38 and 3*10^+38 (or2^-128 to 2^+128). Within this range, one should be able to convert back and forth with little or no change to the original value. An example would be in "DECM" mode, entering 3.5 E -25 and pressing XEQ A to yield HEX 16D8A367. Then, pressing XEQ B returns 3.50000006840 E-25.These conversions on the 16C require around 5 seconds in each direction, where on the 34S they run in an instant.

Some notes: Note usage of flags B and C for overflow and carry, respectively. Register R99 was arbitrarily used in place of the HP16C index register (I) and no other storage registers were used. Flags 00 and 01 are also used. When the hexadecimal value7F800000, representing "infinity", is converted to floating point, the program returns "9.999... E99" as the 16C does, in order to maintain consistency. The most "interesting" part of the conversion from the 16C versions was emulating [f] [FLOAT] [.] (converting from integer to float mode) and [HEX] (converting back from floating point to integer mode), whereby the integer value is represented in the lowest two stack levels as (y * 2^x) while attempting to maintain the highest possible accuracy. See pages 56 and 59 in the HP16C manual for the pertinent passages.

Thanks,

Jake

Re: wp34S IEEE Floating-Point Conversions

*Message #2 Posted by **gene wright** on 7 June 2011, 10:41 p.m.,*
in response to message #1 by Jake Schwartz

Excellent! Great work Jake!

Re: wp34S IEEE Floating-Point Conversions

*Message #3 Posted by **Walter B** on 7 June 2011, 11:28 p.m.,*
in response to message #1 by Jake Schwartz

... and thanks a lot for checking all the integer operations!

Walter

Re: wp34S IEEE Floating-Point Conversions

*Message #4 Posted by **Paul Dale** on 8 June 2011, 1:48 a.m.,*
in response to message #1 by Jake Schwartz

Jake,

Very nice effort and thanks for the large amount of testing you've undertaken.

Leaving out the somwhat weird mode change behaviour of the 16c doesn't seem to have hurt which is good :-) It saved us a deal of code space.

Was the conversion otherwise straightforward? The extra capability of our integer operations might have made porting 16c code more difficult -- at least there aren't many 16c programs in the wild so we were willing to live with this.

A few quick things I noticed:

- We have a register I if you are not using complex operations so you didn't need to grab register 99 instead.
- The 1 + and 1 - sequences are INC X and DEC X.
- R^ R^ is of course [CPX] R^ (or CPX Rv or CPX x<>y with a four level stack).

- Pauli

Re: wp34S Complex operations

*Message #5 Posted by **fhub** on 8 June 2011, 7:48 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> R^ R^ is of course [CPX] R^ (or CPX Rv or CPX x<>y with a four level stack).

Talking about complex operations, I'm really wondering why you have implemented it the way you did?

Usually when I do complex operations I don't need only 1 or 2 but even a bunch of them. As it is now I have to precede EVERY function or operation with this [CPX] key.

In my opinion it would be more convenient (and logical) to make this 'complex' a separate mode (as for the integer mode), which can be switched on/off in the modes menu (real, complex, integer, ...).
So you won't have to use this CPX prefix anymore for every calculation, and furthermore this would make the CPX key free for any other useful purpose.

Franz

Re: wp34S Complex operations

*Message #6 Posted by **Paul Dale** on 8 June 2011, 8:00 a.m.,*
in response to message #5 by fhub

We followed the implementation path of the 32sii for complex numbers. We knew we weren't going to be able to do what the 42s does due to memory and display constraints. I guess we could have gone the path of the 15c but that decision is long past and the move to an eight value stack was late in the piece.

Of course, the complete source code is freely available so you are welcome to add a complex mode and submit a patch :-)

- Pauli

Re: wp34S Complex operations

*Message #7 Posted by **fhub** on 8 June 2011, 8:18 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> Of course, the complete source code is freely available so you are welcome to add a complex mode and submit a patch :-)

Well, I see you completely misunderstood me. :-(
I didn't suggest to change anything in entering/displaying or the internal representation of complex numbers (although it could be made much better, but because of the limitations of this small calc certainly not possible).

All I would like to be different for complex operations is, that pressing this [CPX] key (or better changing to a 'complex mode' in the settings menu) should set the calculator into a complex mode, where every new function or operation is done as if you had pressed again this [CPX] key, i.e. for every operation (for which it makes sense) there should be used the 'complex' counterpart - until you switch this complex mode off again.

This would definitely NOT require any BIG changes in the WP34S program structure.

Franz

Re: wp34S Complex operations

*Message #8 Posted by **Paul Dale** on 8 June 2011, 8:29 a.m.,*
in response to message #7 by fhub

I understood, I just was clear enough in my response. It is getting late here and I'm getting tired and we've been very busy trying to get final bits and pieces sorted out for the beta.

You asked why we went the way we did and I answered that. This might have been a poor decision in hindsight but at the time it was probably the correct one.

Then I suggested you could add the complex mode and submit a patch. I had assumed but didn't make explicit that this was a not pressing the prefix lots of times :-) I suspect it isn't completely straightforward but I agree it won't require major deep surgery into the code base.

- Pauli

Re: wp34S Complex operations

*Message #9 Posted by **Marcus von Cube, Germany** on 8 June 2011, 9:40 a.m.,*
in response to message #8 by Paul Dale

We might add a user settable mode which makes the CPX prefix sticky. Press it once to turn it on and once to turn it off. The user decides what he wants by setting the stickiness mode in his preferences.

Re: wp34S Complex operations

*Message #10 Posted by **Paul Dale** on 8 June 2011, 5:48 p.m.,*
in response to message #9 by Marcus von Cube, Germany

This path is fraught with problems. That's why I didn't think it was just a "set a bit and all will be happy" patch.

The keyboard state machine separates real and complex early on and most keys will cease functioning with the complex bit set (digits e.g.). Okay fix this but don't use any more flash space doing so.

Now, what about operations that don't take a complex prefix? What to do here? Exit complex mode? Ignore the command? Do the command anyway? Raise an error? It will change depending on the function naturally.

Entering new numbers and looking at the complex portion of numbers on the stack is also problematic now, x<>y and ENTER take a complex prefix so they won't do what you want all the time.

So all in all, it cannot be a set a bit and life will be happy task. It will require significant effort defining how operations work in the two modes and then making lots of small changes to bring everything into line.

And then a lot of code shrinking due to the bloat just introduced.

- Pauli

Re: wp34S Complex operations

*Message #11 Posted by **gene wright** on 8 June 2011, 7:03 p.m.,*
in response to message #10 by Paul Dale

Personally, my 2 cents would be to stay with the CPX prefix being required. I have done a good bit of complex number math with the 34s so far and it isn't *that* cumbersome. Sure, a sticky mode would be nice, but I would be afraid that a) things might break if it were changed :-) and b) the code squeezing required might also break something.

Re: wp34S Complex operations

*Message #12 Posted by **Walter B** on 9 June 2011, 12:46 a.m.,*
in response to message #11 by gene wright

For the record: I concur d:-)

Re: wp34S IEEE Floating-Point Conversions

*Message #13 Posted by **Jake Schwartz** on 8 June 2011, 10:46 a.m.,*
in response to message #4 by Paul Dale

Hi Pauli,

> Quote:
>
> We have a register I if you are not using complex operations so you didn't need to grab register 99 instead.

I totally forgot about register I (109) ...that would have been much better. As you can see, I'm still learning :-) And using INC X and DEC X would be better as well.

The conversion was otherwise straightforward, and the merging of keystrokes in the 34S for functions which required the x-register value as their argument in the 16C (like SB, RL, MASKR, etc) was a step saver. I had to remember though, that in these cases, the 34S argument was always in decimal (such as MASKL 24) versus in the 16C, when the argument was loaded into X in the current base as program steps, so in the 16C assuming HEX, the steps were "1" and "8". Otherwise, it was not too bad at all. Having virtually all the 16C functionality available is a really great thing.

Jake

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #1 Posted by **gene wright** on 7 June 2011, 8:50 p.m.*

Found a nice source for Nimh batteries in the US, but now need to either find some AA to N cell adapters or a dedicated N-cell recharger.

Hoping someone has some links. :-)

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #2 Posted by **aj04062** on 7 June 2011, 9:28 p.m.,*
in response to message #1 by gene wright

I've been looking too. Couldn't find a thing. Charged some old nicad N's with an AA charger with a bolt as a spacer.

I was thinking of making a nice set, but figured there HAS to be some out there somewhere.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #3 Posted by **M. Joury** on 7 June 2011, 10:23 p.m.,*
in response to message #2 by aj04062

This unit come with an adapter for N cell batteries: Mimio

However, it only comes with ONE adapter for 2 N cell batteries. At least that is how mine came.

Cheers.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #4 Posted by **Dieter** on 8 June 2011, 3:19 p.m.,*
in response to message #1 by gene wright

I must say, I prefer the AA-N-adapter idea. Here is a picture of a homebrew adapter, made of a piece of aluminium tube:

Please note: the shown (disposable) Duracell batteries are *not* rechargeable and are only there to demonstrate the different sizes. ;-)

However, if N-batteries are charged in AA-chargers, there are a few precautions that have to be considered:

- The key issue is the so called relative charging current. In numbers, that's simply the actual charging current divided by the battery's capacity. For instance, 100 mA for a 500 mAh N-size battery are 0,2 C. Regular NiMH batteries usually are charged with rates between 0,1 and 0,5 C. For a 500-mAh-battery this translates to a charging current of 50...250 mA.
- The charging time is roughly 1.2 divided by the relative charging current. For instance, 100 mA and a 500 mAh battery give 0,2 C, so the charging time for a completely empty battery is about 1,2 / 0,2 = six hours.
- Faster charging means more stress for the NiMH-battery, unless it is not specifically built for it, and definitely requires some kind of charge control. In other words: a special charger that is able to detect when the battery has been completely charged and then turns the charger off.
- The essential point here is the much, much higher capacity of AA-sized batteries compared to the N-versions we use here. Their capacity is roughly five times as high as in the N case, which means that the relative charging current is five times as high as well. In other words: if an AA-N-adapter is used to charge an N-battery in an AA-charger with, say, 700 mA current, this would mean a rate of 1,4 C or less than 1 hour. Which is more than a battery like the GP50NH will take without the risk of damage.
- So, the solution is simple: yes, use an AA-N-adapter to charge our N-batteries in a regular AA-charger, but be sure to use one with sufficiently low charging current. One may think of a good old simple-charger from the Eighties when regular NiCd AA-cells had the same capacity as N-NiMH-cells today. For instance, I got this old Panasonic charger for 4x AA with 50 mA charging current, which is perfectly fine for this case, giving a relaxed charging time of 12 hours. Some of today's higher end chargers may be set to currents as low as 100..200 mA while providing exact charge control (current, voltage, temperature, battery-full-detection). This would be perfect.

Dieter

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #5 Posted by **Katie Wasserman** on 8 June 2011, 9:19 p.m.,*
in response to message #1 by gene wright

I don't have one of these. However it claims to be adjustable so that it can accommodate just about any size battery, including N.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #6 Posted by **M. Joury** on 9 June 2011, 1:09 a.m.,*
in response to message #5 by Katie Wasserman

Looks like a nice solution. Only wish it could handle 4 batteries at a time.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #7 Posted by **exschr** on 9 June 2011, 3:06 a.m.,*
in response to message #5 by Katie Wasserman

I could not find a spec about charging current. I like to charge the N-cell with the specs Dieter mentioned here and here as beeing safe.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #8 Posted by **Katie Wasserman** on 9 June 2011, 3:42 a.m.,*
in response to message #7 by exschr

If you buy this charger, measure the current and figure out the charging time yourself. However, this charger seems to be smart enough to deal with lithium cells so it might "know" when to turn off charging for ni-cads as well and you won't have to worry about it. Modern nicads can be charged at much fast rates than older ones without damage.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #9 Posted by **exschr** on 9 June 2011, 10:24 a.m.,*
in response to message #8 by Katie Wasserman

Yes, but over here in Europe we don't get NiCd anymore. I bought 8 NiMh and what I understood they should be charged with lower current. Anyway, I will have it sorted out before the CL board arrives (Yuppie :-)

A nice N-charger (well, at least for European users)

*Message #10 Posted by **Dieter** on 9 June 2011, 4:38 p.m.,*
in response to message #9 by exschr

> Quote:
>
> Yes, but over here in Europe we don't get NiCd anymore. I bought 8 NiMh and what I understood they should be charged with lower current.

Actually you can often charge NiMH with even higher (absolute) currents than NiCds. The point here is that NiMH N-cells (500 mAh) have 2 - 3 times the capacity of the latest NiCds (200 mAh). Now, if your charger provides 200 mA charging current, that's a whopping 1 C for the NiCd, but only moderate 0.4 C for the NiMH version. Which is very nicely balanced between speed (3 hours) and safety.

So, 150 or 200 mA seems to be just right for current N-size 500 mAh NiMHs. But where is a decent, sufficiently sophisticated charger that can handle low charging currents for N cells as well as higher currents for more common AA and AAA sizes? Here's a suggestion:

At least in Germany the Conrad IPC-series chargers have quite a good reputation. There are various models, even sold under various brand names. For our purposes the IPC-1L is just fine. It is a full-featured AA/AAA charger that can be set to different charging currents. It offers four independently controlled battery slots with four displays to inform about voltage, charging current, charged capacity, elapsed time, discharge current and much more. Of course the whole charging process is monitored and processor-controlled. Yes, it can even make a geek happy. ;-) So, first it is a really fine charger for regular AA and AAA cells.

The IPC-1L now can be set to three different charging currents: 200, 500 and 700 mA. The lowest is the default setting - perfect for our N-cells, charging an empty cell within 3 hours. Get a set of four AA-N-adapters, and you're done.

I assume similar other chargers are available in other countries around the world. The key combination is a decent processor controlled charger that can be set to a low charging current.

Dieter

Re: A nice N-charger (well, at least for European users)

*Message #11 Posted by **Didier Lachieze** on 10 June 2011, 3:20 a.m.,*
in response to message #10 by Dieter

> Quote:
>
> Get a set of four AA-N-adapters, and you're done.

For example : N, LR1 to AA adapter.

Re: A nice N-charger (well, at least for European users)

*Message #12 Posted by **M. Joury** on 10 June 2011, 2:49 p.m.,*
in response to message #11 by Didier Lachieze

Now if only we could find those in the US! I have spent hours searching the web for a US source for a N-Cell adapter with absolutely no luck.

Re: A nice N-charger (well, at least for European users)

*Message #13 Posted by **Katie Wasserman** on 10 June 2011, 3:35 p.m.,*
in response to message #12 by M. Joury

You can use these from DX. N and AAA cells are the about the same diameter so all you need is a small compression spring to take up the extra space. Any hardware store will have a selection of them.

Although I haven't tried these adpaters I have tried these adapters and the N cells fit perfectly. N cells measure about 1mm greater in diameter then AAA cells.

(BTW, I highly recommend the Next Generation RF remote control system. It's not only nifty in the way they replace a cell with combination cell/RF transmitter, but it works extremely well.)

-Katie

Edited: 10 June 2011, 3:40 p.m.

Re: A nice N-charger (well, at least for European users)

*Message #14 Posted by **M. Joury** on 10 June 2011, 5:13 p.m.,*
in response to message #13 by Katie Wasserman

Thanks Katie. I am going to give those a try.

Re: A nice N-charger (well, at least for European users)

*Message #15 Posted by **Dieter** on 10 June 2011, 4:07 p.m.,*
in response to message #12 by M. Joury

If AA-N-adapters are really absolutely unobtainable, there are several solutions:

In the early Eighties a German supplier offered a set with N-batteries and a dedicated charger for the HP-41. The device essentially looked like a modified AA- or AAA-charger. As far as I can remember, the gap between charger contacts and battery was filled by something like a spring-loaded metal strip.

Generally, one can think of all possible kinds of spacers. A friend of mine simply used four screws in his charger. This kind of solution also has another advantage: the charger's contacts for AAA-cells may be used, which means that many, if not most chargers can be used because charging currents like 150 or 200 mA are quite common for AAA batteries.

And finally: make your own adapter - it's not rocket science. Get some aluminium tube with 12 mm inner diameter, maybe 1/2" (GP states 11,65 mm for their GP50NH) and press in another short (solid) piece with 12 mm outer diameter. Maybe you want to add a small spring (usually not required).

And finally, if everything else fails - maybe you have a friend or relative in good old Europe. 8-)

Or try a different approach: get a simple battery holder for four N-cells and connect it to a simple constant current charger. If you don't have one, make your own.

Dieter

Re: A nice N-charger (well, at least for European users)

*Message #16 Posted by **M. Joury** on 10 June 2011, 5:12 p.m.,*
in response to message #15 by Dieter

All good suggestions and all suggestions that I have considered. I was going to go with the cylinder in a cylinder approach since my search for a commercial product was not leading to much success but I think I am going to try Katie's suggestion first.

Cheers.

Re: A nice N-charger (well, at least for European users)

*Message #17 Posted by **exschr** on 10 June 2011, 4:11 a.m.,*
in response to message #10 by Dieter

Dieter, thank you for the clarification on this and for proposing a product.
I appreciate this very much.

Roger (not a geek on charging :-)

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #18 Posted by **M. Joury** on 9 June 2011, 11:19 a.m.,*
in response to message #8 by Katie Wasserman

I was able to find some specs on the Lenmar site and they claim automatic charge termination. There are actually 2 versions of this charger, the more expensive one having an LCD display for monitoring charge. I am considering giving this unit a try.

Cheers.

Edited: 9 June 2011, 12:58 p.m. after one or more responses were posted

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #19 Posted by **Gerry Schultz** on 9 June 2011, 12:25 p.m.,*
in response to message #18 by M. Joury

I ordered two of the BCUNI3 with the LCD Display along with some NiMH N Size cells. I'll let you know how it works.

Gerry

What link, Gerry?

*Message #20 Posted by **gene wright** on 9 June 2011, 1:06 p.m.,*
in response to message #19 by Gerry Schultz

Thx

Re: What link, Gerry?

*Message #21 Posted by **Gerry Schultz** on 9 June 2011, 2:30 p.m.,*
in response to message #20 by gene wright

Hey, Gene.

I found that Amazon sells the BCUNI3 and I ordered the NiMH N Size cells from Batteries in a Flash.
http://www.batteriesinaflash.com/assembly-cells/nimh/n-series/n-size-rechargeable-battery-400mah-nimh-1-2v-flat-top-cell

I've been wanting to do this for a while but I couldn't find an charger that would support N cells. Now I'll see how this works.

Gerry

Re: What link, Gerry?

*Message #22 Posted by **Dieter** on 9 June 2011, 4:57 p.m.,*
in response to message #21 by Gerry Schultz

Sounds like you ordered flat top cells. The site Katie mentioned says: "Note: Charger will not work with Flat Top style batteries, only Button Top style batteries."

Dieter

Re: What link, Gerry?

*Message #23 Posted by **M. Joury** on 9 June 2011, 5:15 p.m.,*
in response to message #22 by Dieter

Here is a link I posted in another thread for button top cells: GP50NH

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #24 Posted by **Dieter** on 9 June 2011, 5:30 p.m.,*
in response to message #8 by Katie Wasserman

The BCUNI3 data sheet states a current of 1000 mA and mentions no lower currents. Don't you think this is quite a bit ..."too much" for a tiny 500 mA N-cell? Let alone a 200 mA NiCd - in that case the battery is toasted with no less than 5 C.

The data sheet also says that -dU detection is used here. Well, at least 5C will give a significant voltage drop that should be easy to detect. #-)

Dieter

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #25 Posted by **M. Joury** on 9 June 2011, 6:26 p.m.,*
in response to message #24 by Dieter

More like 2C on a 500mAH NiMh cell. Still high but maybe tolerable with newer cells. After all there are a number of manufacturers that are putting out cells designed to be charged at 4C (Admittedly larger capacity to begin with).

I have a very nice Maha AA/AAA charger that is completely configurable as to charge rate. I think that the best solution for me, when I find the time, may be to assemble some kind of adapter.

Cheers

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #26 Posted by **Dieter** on 10 June 2011, 8:59 a.m.,*
in response to message #25 by M. Joury

M. Joury wrote:

> Quote:
>
> More like 2C on a 500mAH NiMh cell. Still high but maybe tolerable with newer cells.

A look at the data sheet gives the relevant facts: GP batteries allow fast charge rates of 0,5 to 1 C (or 250 to 500 mA) if the charging process is controlled and terminated as the voltage has dropped by at most 5 mV.

> Quote:
>
> After all there are a number of manufacturers that are putting out cells designed to be charged at 4C (Admittedly larger capacity to begin with).

Yes, especially Sub-C or similar sizes for high-drain applications like RC models or power tools. That's a completely different story. I don't think you run your model railway on 25000 Volts just because British Rail does so. ;-)

> Quote:
>
> I have a very nice Maha AA/AAA charger that is completely configurable as to charge rate.

Sounds quite similar to the proposed IPC-1L / BC700 charger. I see the charging current can also be set to 200 mA, which in my humble opinion is just right for the tiny 500 mAh N-cells we use.

Dieter

Edited: 10 June 2011, 9:15 a.m.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #27 Posted by **M. Joury** on 10 June 2011, 2:58 p.m.,*
in response to message #26 by Dieter

> Quote:
>
> Yes, especially Sub-C or similar sizes for high-drain applications like RC models or power tools. That's a completely different story. I don't think you run your model railway on 25000 Volts just because British Rail does so. ;-)

Actually I was referring to AA batteries for general use. Rayovac had a 2000mAH version that would rapid charge in 15 minutes and I believe that Energizer has something equivalent.

The Rayovac cells are some of the best I have ever used and are very interesting in that they have internal circuitry to cut off the charge. They are designed to be used in a special Rayovac charger but can be charged by regular AA chargers as well. When charged with regular chargers you will often get an error at the end of the charge when the charger reports an open circuit because the cell itself has opened the circuit internally to stop charging.

All we need is the same sort of capability in an N-Cell...

Cheers.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #28 Posted by **Dieter** on 10 June 2011, 3:29 p.m.,*
in response to message #27 by M. Joury

These special "15-minutes-batteries" have been available for a few years now, over here a similar solution was offered by Varta. The point is that this 4C charge required a special combination of charger and batteries, that - as you mentioned - were equipped with some kind of internal electronics that prevents possible damage. In the meantime they offer a special new charger which is claimed to charge regular (!) NiMH AA-cells in 15-20 minutes - with 7500 mA.

There is something these 15-minute-batteries and special rapid-charge batteries have in common: apart from their different chemistry it's their sheer size resp. volume, or the ratio surface : volume. In a tiny N-cell there simply is no room for electronics (unless you do want to significantly cut down the useable capacity), and high charge rates will heat up the cell much more than a bigger AA or Sub-C size battery. That's why we probably will never see rapid-charge N-cells. And, honestly, who would buy them except nerds like us ?-)

Dieter

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #29 Posted by **M. Joury** on 10 June 2011, 5:22 p.m.,*
in response to message #28 by Dieter

Yes. You are correct on all counts. I did note in my original post that the 4C cells are of a larger size and capacity than the N cells that we are discussing but as chemistries get better so do charge rates. We are seeing this across the board with different technologies. For example (and much more recently than the

4C AA's I was referring to) LiPo batteries are now being produced that can accept a 5C charge rate, an accomplishment unheard of just 2 years ago. This is purely a chemistry change as the same chargers are being utilized to charge these newer packs.

And yes, the 4C AA technology has been around for quite some time. I have been using those Rayovac cells for 10 years and am very disappointed that they were recently taken off the market (at least by Rayovac).

The charger that you mention that uses a charge current of 7.5A is interesting. It would seem to me that the batteries would heat up very quickly and without internal protection might be at risk of damage. After all those Rayovac's were EXTREMELY hot when they came off the charger after a 15 minute charge cycle.

Cheers.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #30 Posted by **Ren** on 9 June 2011, 1:11 p.m.,*
in response to message #5 by Katie Wasserman

I have an old Buddy-L Supercharger (circa 1993). The Salvation Army store sold it to me for $0.25 USD about 11 years ago. It recharges disposable alkaline cells as well as NiCd's and adjusts to various lengths.

It fell out of the market because it would stop before complete recharging, so users need to run a cell through several cycles.

(I just wish it also recharged 9 volt batteries)

Ren

dona nobis pacem

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #31 Posted by **Bill (Smithville, NJ)** on 9 June 2011, 2:02 p.m.,*
in response to message #30 by Ren

Hi Ren,

> Quote:
>
> (I just wish it also recharged 9 volt batteries)

In the mid-60's, my transistor radio would eat 9v batteries very quick. So I came up with a very quick charger - remember these were standard carbon based 9v batteries. I took a transformer out of an old TV, used a rectifier tube, and had a very high voltage (unknown amperage) charger. I found that about 9 seconds would shove enough power into the battery to run the radio for a few more hours. The battery would be too hot to touch after charging.

Once I miss-timed it and the heat caused the metal covering on the battery to shoot off the end and it ended up embedded in the wall of my room. Thank goodness my parents never figured out what I was doing with all that 'old' electrical junk I had. Forturnately, I only receive a few shocks with my expermenting and survived the experiences. Great fun at the time.

Bill

Edited: 9 June 2011, 2:03 p.m.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #32 Posted by **Gerry Schultz** on 9 June 2011, 2:46 p.m.,*
in response to message #31 by Bill (Smithville, NJ)

Hey Bill,

You reminded me of when I was a kid and at Christmas time my Dad would hang the lights around the house. He would cut off the male and female plugs and hardwire all the strands together so there were a lot of AC plug pigtails floating around the garage. I got curious about what would happen if I stripped the wires of a male plug, twisted them together and plugged it in.

Well, in my room there was a big flash of light, then it was dark and my father was cussing up a storm somewhere outside. I pulled what was left of the plug out of the socket (it felt really cool in the dark), wiped all the soot off of the wall and hid the evidence. He never knew about that one.

Or I could tell you about the time I was up early in the morning, bored, so I took the bulb out of a lamp and turned it off and on an bunch of times (rotary switch) and didn't know if the lamp was on or off. So I stuck my finger in the socket to find out. Oh man did that hurt. It was fun though in a brain-damaged sort of way.

Gerry

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #33 Posted by **Dave Shaffer (Arizona)** on 9 June 2011, 10:32 p.m.,*
in response to message #32 by Gerry Schultz

It's a wonder we all survived our youth! I suspect nearly all of us here did something like Bill or Gerry did, at some point in the formative stages of our lives.

I remember me and my chemistry being banned to the basement after a couple of odiferous Sunday morning "experiments." And, the cherry red glow of the rectifier tube in my first 300 V DC power supply (the filter capacitor got hooked up in reverse polarity - my Dad actually gets credit for that one!). Also, try loading your squirt gun with salt water and squirting the wall sockets to see what happens!

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #34 Posted by **Katie Wasserman** on 10 June 2011, 12:26 a.m.,*
in response to message #33 by Dave Shaffer (Arizona)

I remember sticking a bobbie pin in an AC socket and being pinned in the corner of the room watching a shower of sparks pass in front of me. I suppose that's why people kid-proof the electrical outlets these days. It's no fun being a kid any more.

Re: Ok, the hunt is on... Nimh charger solution for N-cell batteries in the USA

*Message #35 Posted by **Bill (Smithville, NJ)** on 10 June 2011, 7:23 a.m.,*
in response to message #34 by Katie Wasserman

Yep, we did survive. I'd forgotten about the Chemistry Sets we all had - most likely made by Gilbert. Do they still make Chemstry sets for children?

Gilbert had a lot of what would seem very questionable sets for kids:

```
Metal Casting Set
The Glass Blowing Set
The Machine Gun


And my favorite:
Gilbert U-238 Atomic Energy Lab


which came with three radiation sources and
the very educational comic book
“Learn How Dagwood Split the Atom” .
```

Following is link to great site of all the Gilbert sets:

My Life with Gilbert Science Sets

Bill

Edited: 10 June 2011, 7:26 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

having fun with the HP-17b

*Message #1 Posted by **Don Shepherd** on 7 June 2011, 4:25 p.m.*

How about a "guess the number 0-99" program for the 17b (and 17bii) solver.

At first glance, you would think it might not be possible due to: lack of a random number function, lack of alpha messages to tell you if you are too high or too low, and lack of a "beep" instruction when you correctly guess the number. Plus, the 17b is not programmable, right?

Lack of random number function is overcome by using current time (minutes, seconds) and the MOD function. Lack of alpha capability is overcome by returning -1 if your guess is too low and 1 if it is too high (yes, it's not ideal, but it works). A "beep" is generated by doing a Log(0) which generates an error message and halts evalution of the equation (AFTER saving the number of guesses in variable GUESS so it can be recalled).

The equation works on the 17b and 17bii. It mostly works on the 17bii+ except the number of guesses is wrong due to the way the solver in the 17bii+ works (or doesn't work, actually).

```
IF(S(INIT):
            L(G:0)X
            L(N:MOD(10000XFP(CTIME)X111:100))
            -INIT
           :
            0XL(G:G(G)+1)+
            IF(GUESS=G(N):
                          L(GUESS:G(G))+
                          LOG(0)
                         :
                          IF(GUESS>G(N):1:-1)
              )
               -EVAL
  )
```

Press INIT a couple of times (not sure why that is necessary) then enter your guess and press GUESS. Then press EVAL to evaluate your guess: -1 means you are too low, 1 means you are too high, and a beep means you guessed the number so do a RCL GUESS to see the number of guesses it took.

What is the maximum number of guesses it should take to identify the number from 0 to 99?

Edited: 7 June 2011, 8:31 p.m. after one or more responses were posted

Re: having fun with the HP-17b

*Message #2 Posted by **Gerson W. Barbosa** on 7 June 2011, 4:32 p.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> What is the maximum number of guesses it should take to identify the number from 0 to 99?

7? (100 LN 2 LN /)

Re: having fun with the HP-17b

*Message #3 Posted by **Don Shepherd** on 7 June 2011, 5:02 p.m.,*
in response to message #2 by Gerson W. Barbosa

yup!

Re: having fun with the HP-17b

*Message #4 Posted by **Gerson W. Barbosa** on 7 June 2011, 6:02 p.m.,*
in response to message #1 by Don Shepherd

Implementing the TI 58/59 game described below on an RPN HP calculator is trivial. Now doing it on the HP-17B is not. Congratulations!

From the TI Programmable 58/59 Master Library Manual, page 77:

```
HI-LO GAME
ML-21


In addition to recreational diversion, this program serves as a nontechnical demonstration
of the library
module. The game is easy to play, permitting almost immediate hands-on experience for any
user.


The object of the game is to guess a secret number (whole numbers only) from 1 to 1023
that has been
generated in the calculator. The calculator responds with a "too high," "too low," or
"correct" indica-
tion to each of your guesses. Your score (number of guesses) is tallied by the calculator.


Also, you may select a number in the range 1 to 1023 and the calculator will attempt to
guess this
number as you supply proper responses to each of its guesses. When the calculator has
found the num-
ber you selected, its score will be displayed.


An exercise which often cast doubt on the "man over machine" axiom is to have the
calculator guess
the same number that it generated for you to guess. Now, follow the User Instructions and
seed if you
can uphold the superiority of man.



USER INSTRUCTIONS


STEP            PROCEDURE                                          ENTER            PRESS
DISPLAY

  1       Select program                                                          2nd Pgm 21

          You Guess

  2       Key in number (0 to 199017)*                             Number         A
Number

  3       Generate secret number                                                  B
0.

  4       Enter your guess (1 to 1023)                              Guess          C
Clue
                Clue:  -1. if guess was low
```

```
                      1. if gues was high
                    flashing 0. if your guess was correct

  5       Repeat Step 4 as required

  6       Display score                                                    D
Score

  7       For a new number, go to Step 3


          Calculator Guesses

  8       Select a number (1 to 1023)

  9       Display calculator's first guess                               2nd A'
Calc. guess

 10       If calculator's guess is
                Low                                                      2nd B'
Calc. guess
                High                                                     2nd C'
Calc. guess
                Correct                                                  2nd D'
Calc. guess

 11       Repeat Step 10 as required

 12       For a new game, go to Setp 8


*Each number you select will produce a different game.
```

Hi-Lo Game with an interesting twist

*Message #5 Posted by **Namir** on 7 June 2011, 7:46 p.m.,*
in response to message #4 by Gerson W. Barbosa

I have used the hi-low guessing games in many programmings books that I wrote way back. I would present various versions, each a bit more sophisticated than the previous one.

One interesting (and cunning) variation of the hi-low game is the percent of reliability for the feedback. Normally, the program would reliably tell you if your guess is higher or lower than the secret number. This special variant would introduce a level of doubt (say 10%) in that kind of answer, making thinks a bit more interesting.

Namir

Edited: 7 June 2011, 7:49 p.m.

Re: Hi-Lo Game with an interesting twist

*Message #6 Posted by **gene wright** on 7 June 2011, 8:38 p.m.,*
in response to message #5 by Namir

I think "Jive Turkey" was the name the TI user group put on that variety of Hi-Lo game.

Re: Hi-Lo Game with an interesting twist

*Message #7 Posted by **Gerson W. Barbosa** on 7 June 2011, 9:27 p.m.,*
in response to message #5 by Namir

> Quote:
>
> I would present various versions, each a bit more sophisticated than the previous one.

Namir,

Would you mind posting a couple of listings here? Thanks!

Gerson.

Re: Hi-Lo Game with an interesting twist

*Message #8 Posted by **Namir** on 7 June 2011, 10:59 p.m.,*
in response to message #7 by Gerson W. Barbosa

Here is a QBasic listing (also runs on 64-bit QB64):

```
REM Hi-LO GUESSING GAME
DIM Num AS INTEGER, Guess AS INTEGER
DIM Iter AS INTEGER, MaxIter AS INTEGER
DIM Trust AS DOUBLE


RANDOMIZE TIMER
MaxIter = 10
Num = INT(1000 * RND(1) + 1)
Iter = 0
INPUT "Enter feedback trust (%) "; Trust
Trust = Trust / 100.0
DO
    INPUT "Enter Guess"; Guess
    Iter = Iter + 1
    IF Trust > RND(1) THEN
        REM TRUE FEEDBACK
        IF Guess > Num THEN
            PRINT "Your guess is high"
        ELSEIF Guess < Num THEN
            PRINT "Your guess is low"
        ELSE
            PRINT "You guess it!"
        END IF
    ELSE
        REM MISLEADING FEEDBACK!!
        REM (unless you guess the secret number)
        IF Guess < Num THEN
            PRINT "Your guess is high"
        ELSEIF Guess > Num THEN
            PRINT "Your guess is low"
        ELSE
            PRINT "You guess it!"
        END IF
    END IF
LOOP UNTIL Num = Guess OR Iter > MaxIter


IF Iter <= MaxIter THEN
    PRINT "Solved it in "; Iter; " guesses"
ELSE
    PRINT "Time out! Secret number is "; Num
END IF
```

Edited: 8 June 2011, 12:22 a.m. after one or more responses were posted

Re: Hi-Lo Game with an interesting twist

*Message #9 Posted by **Gerson W. Barbosa** on 7 June 2011, 11:22 p.m.,*
in response to message #8 by Namir

Runs nicely! Thank you!

Re: having fun with the HP-17b

*Message #10 Posted by **Don Shepherd** on 7 June 2011, 7:46 p.m.,*
in response to message #4 by Gerson W. Barbosa

The 17b solver is not the best platform for this particular game, I just wanted to see if it could be done in a way that wasn't too horrible. It is more intuitive on a regular RPN calculator; for example, you enter your guess and press R/S and it immediately tells you "too high" or "too low" (on models like the 30b that have alpha messages). The 17b requires another keypress to get that feedback.

I like to discuss this problem with my students. They are always kind of amazed that a maximum of only 7 guesses can identify a selected number from 0 to 99 when I show them the advantages of splitting the groups in half each time, thus narrowing down the potential set of numbers. It kind of makes math interesting, if only for a moment!

Re: having fun with the HP-17b

*Message #11 Posted by **Gerson W. Barbosa** on 7 June 2011, 9:22 p.m.,*
in response to message #10 by Don Shepherd

> Quote:
>
> They are always kind of amazed that a maximum of only 7 guesses can identify a selected number from 0 to 99 when I show them the advantages of splitting the groups in half each time, thus narrowing down the potential set of numbers.

In the example at the next page in the TI manual the program is asked to find a secret number, 848. The program's guesses, following the user's correct clues, are 512, 768, 896, 832, 864 and 848, that is, 512, 512+256, 512+256+128, 512+256+128-64, 512+256+128-64+32 and 512+256+128-64-16. That's the principle behind the binary search algorithm. Once I used this technique to find a fault in an 800-meter long circuit in four or five steps. The idea occurred to me from having played this little game. Thanks for bringing it back :-)

Re: having fun with the HP-17b

*Message #12 Posted by **Marcus von Cube, Germany** on 10 June 2011, 9:59 a.m.,*
in response to message #10 by Don Shepherd

The 20b SDK by Cyrille and Tim is designed just around this game. :-)

Re: having fun with the HP-17b

*Message #13 Posted by **Don Shepherd** on 8 June 2011, 10:08 p.m.,*
in response to message #1 by Don Shepherd

Well, a little testing with VBScript has determined that the method I used to generate a random number between 0 and 99 is totally unacceptable. Whole series of numbers, such as 1-4, 12-15, 23-26, etc., are never generated by that method. So I came up with a new method using the first 2 digits of the fractional part of the

square root of mmss returned by the CTIME function, and that method does generate every number from 0 to 99 in a more or less random method, good enough for an entertainment program.

This is the new program:

```
IF(S(INIT):
           L(G:0)X
           L(N:IP(100XFP(SQRT(10000XFP(CTIME)))))
           -INIT
          :
           0XL(G:G(G)+1)+
           IF(GUESS=G(N):
                         L(GUESS:G(G))+
                         LOG(0)
                        :
                         IF(GUESS>G(N):1:-1)
             )
              -EVAL
  )
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #1 Posted by **exschr** on 7 June 2011, 11:48 a.m.*

I don't use the known name for this voyager, because everything in this forum will be found in cleartext on TSS !

I was just poking around to find a source to buy the above mentioned HP-calc that should be out in mid of june. Interestingly, someone from the same company that the first rumor originated (BC) responded to me with this:

> Quote:
>
> The **-15* will be released in early 2012. Drop me another email in December of this year so that I can update you with more information.
> ...

If this is true, I can relax again and do other things in the meantime!

Are there other sources (confidential/informal/official) that point into the same timeslot?

Thanks Roger

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #2 Posted by **Martin Pinckney** on 7 June 2011, 12:09 p.m.,*
in response to message #1 by exschr

> Quote:
>
> Are there other sources (confidential/informal/official) that point into the same timeslot?

30th anniversary of introduction of original.

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #3 Posted by **M. Joury** on 7 June 2011, 1:02 p.m.,*
in response to message #1 by exschr

Well, since the 15 (if real) won't be around until next year (we can continue to hope that it eventually materializes), what is the story on the rumors about a special edition 12? I know, not quite as interesting, but at least a new HP RPN calc to play with. What would be really nice is a 12 with a little more programming capability--just delete/insert would be a great addition. I do realize that even if the rumors of a special edition 12 are true the likelihood is that it will be exactly the same calc with a "special" edition case.

Cheers

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #4 Posted by **Martin Pinckney** on 7 June 2011, 1:27 p.m.,*
in response to message #3 by M. Joury

Special edition 12c? We already have the Platinum, Platinum 25th Anniversary, 12c+. What else?

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #5 Posted by **Bart (UK)** on 7 June 2011, 2:07 p.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> Special edition 12c? We already have the Platinum, Platinum 25th Anniversary, 12c+. What else?

Diamond 30th Anniversary?

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #6 Posted by **Martin Pinckney** on 7 June 2011, 2:38 p.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Diamond 30th Anniversary?

This puzzled me, because I always thought Diamond was 75th. I thought, maybe diamond is traditionally 30th in UK. But no, (30th is pearl in both US and UK), I find that "traditional" isn't good enough any more (surprise, surprise). Now there's "modern" US, where indeed 30th is diamond. Bah!

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #7 Posted by **Walter B** on 7 June 2011, 3:09 p.m.,*
in response to message #6 by Martin Pinckney

The amount of divorces rises even in God's own country, so diamonds have to come down ;-)

(BTW, we have passed our 31st recently :-)

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #8 Posted by **Martin Pinckney** on 7 June 2011, 3:42 p.m.,*
in response to message #7 by Walter B

> Quote:
>
> The amount of divorces rises even in God's own country, so diamonds have to come down ;-)

I see your point! The modern way: don't try to improve the results, just dumb down the standard.

> Quote:
>
> (BTW, we have passed our 31st recently :-)

Congrats. We celebrate 34th tonight!

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #9 Posted by **M. Joury** on 7 June 2011, 3:51 p.m.,*
in response to message #5 by Bart (UK)

Some rumor came out at the same time as the 15C rumor. That is what I was basing my question on.

The same rumor also mentioned a 50 replacement.

Edited: 7 June 2011, 3:52 p.m.

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #10 Posted by **Cristian Arezzini** on 7 June 2011, 4:26 p.m.,*
in response to message #9 by M. Joury

> Quote:
>
> The same rumor also mentioned a 50 replacement.

Me wantsss!!! :D As much as I love the 34s (and the 35s and other scientifics) I really, really love the graphic RPL calcs... Color screen and native OS (not emulated Saturn code) please? :)

Cristian

Re: HP50g replacement...

*Message #11 Posted by **M. Joury** on 7 June 2011, 4:42 p.m.,*
in response to message #10 by Cristian Arezzini

<Grin> Don't get too excited. I am just repeating a (relatively weak IMHO) rumor. Does that make it a rumor of a rumor?

The only thing that makes me think that this might actually happen is that the 50 is relatively old and several companies (two?) have delivered color screen calcs recently. Maybe HP will try to catch up.

Also there was that thread a while back where Tim Wessman was asking for info on current draw for the competitions' color screen units. Does this presage something new on the horizon? Maybe this is just wishful thinking on my part but one can always hope!

In addition to the features you mention give me a full width ENTER^ key where it is

supposed to be!

Cheers.

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #12 Posted by **Gilles Carpentier** on 7 June 2011, 5:37 p.m.,*
in response to message #10 by Cristian Arezzini

I'm also Hp50 addict ;)

Color screen and native OS would be marvelous. I no longer need the CAS which I think would be the most difficult to implement.

Even with no color, just a better display resolution would be fine

It would be marvelous but i'm not very optimistic about a HP51G or a new RPL calculator

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #13 Posted by **Ren** on 7 June 2011, 4:05 p.m.,*
in response to message #5 by Bart (UK)

> Quote:
>
> Diamond 30th Anniversary?

According to this...

http://en.wikipedia.org/wiki/Wedding_anniversary

at least in the U.S.

Ren

dona nobis pacem

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #14 Posted by **John B. Smitherman** on 7 June 2011, 4:22 p.m.,*
in response to message #13 by Ren

We will have our 30th in January 2012. I look forward to buying my wife a 30th Anniversary 15c as a gift. ;-)

Regards,

John

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #15 Posted by **hpnut** on 7 June 2011, 5:52 p.m.,*
in response to message #14 by John B. Smitherman

John,

are you buying the calculator for your wife or for your self ;-)

cheers,

hpnut in Malaysia

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #16 Posted by **Walter B** on 7 June 2011, 6:27 p.m.,*
in response to message #13 by Ren

<g> Please see above.

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #17 Posted by **John B. Smitherman** on 7 June 2011, 9:29 p.m.,*
in response to message #16 by Walter B

Yes. Beware of the dog house link

Regards,

John

Re: re-release of the voyager with matrix, solve, integrate & complex numbers

*Message #18 Posted by **Dave Shaffer (Arizona)** on 8 June 2011, 2:00 p.m.,*
in response to message #17 by John B. Smitherman

You just need the right wife: mine is off analyzing her space telescope data, with her 32S.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Please help! HP-55 odd behavior

*Message #1 Posted by **Martin Pinckney** on 6 June 2011, 8:48 p.m.*

Thanks to Eric for responding, but I need more input from the Classics experts in the group.

Testing a newly-acquired HP-55. Timer mode seems to work fine. In program mode, I can enter keystrokes fine. But in run mode, no numeric input registers, and trying to run a simple program results in a flashing display.

Other keyboard functions (at least what I can try) seem to work. For example, although I cannot enter any numbers (the number keys just don't register on the display), I can, for instance press Sigma+ a few times, which leaves an integer in the display, then act on that integer. Correct results.

Any ideas?

Edited: 7 June 2011, 1:30 p.m. after one or more responses were posted

Re: HP-55 odd behavior

*Message #2 Posted by **Eric Smith** on 6 June 2011, 9:20 p.m.,*
in response to message #1 by Martin Pinckney

Sounds to me like one of the ROMs has gone bad, though there are probably other possible causes.

Re: HP-55 odd behavior

*Message #3 Posted by **Martin Pinckney** on 8 June 2011, 9:25 a.m.,*
in response to message #2 by Eric Smith

Eric,

Is the calculator architecture such that different ROMs control registering numeric input and functions assigned to the same keys? And if one ROM were bad, everything else would work fine? Thanks.

Re: HP-55 odd behavior

*Message #4 Posted by **Eric Smith** on 9 June 2011, 1:15 a.m.,*
in response to message #3 by Martin Pinckney

The stuff is distributed somewhat haphazardly between the two ROM chips. However, usually when a ROM fails, it isn't the whole ROM that fails, just some locations.

Re: HP-55 odd behavior

*Message #5 Posted by **Martin Pinckney** on 6 June 2011, 11:08 p.m.,*
in response to message #1 by Martin Pinckney

More observations:

1. Start in run mode. Press either STO or RCL X (where X is an integer 0-9), get 1X.000000 in display. Press CLX, get all zeros flashing.

2. In spite of the above, in timer mode the lap times are faithfully recorded in registers 0-9, and can be recalled without error.

Re: HP-55 odd behavior

*Message #6 Posted by **BobVA** on 7 June 2011, 5:43 p.m.,*
in response to message #5 by Martin Pinckney

It couldn't hurt to check the mode switch - make sure that the "RUN" position is actually doing what it's supposed to (i.e. that the proper connections are being made in this position).

Re: HP-55 odd behavior

*Message #7 Posted by **Martin Pinckney** on 8 June 2011, 8:57 a.m.,*
in response to message #6 by BobVA

Bob, it does do keyboard functions correctly if I can get a number in the X-register, by a slight of hand, such as using Sigma+ as described above, or by letting the timer run, then switching to run mode, which puts the timer result in the X-register.

For example, the trig functions and unit conversions return correct results after the trick above. So my question to you is, could these things happen if the mode switch wasn't working correctly? I don't want to open the calc unless I have to.

Thanks.

Re: HP-55 odd behavior

*Message #8 Posted by **Jeff O.** on 8 June 2011, 2:56 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> I don't want to open the calc unless I have to.

Martin,
May I ask why you hesitate to open it? Unless you are worried about the decision to try to remove and re-apply the back label vs. poking holes in it to get at the screws, opening and working on any classic is very easy. Enables a thorough cleaning of keys, keyboard, key contacts, and switch contacts.

Sorry if you are well aware of the above, just wondering.

Jeff

Re: HP-55 odd behavior

*Message #9 Posted by **Martin Pinckney** on 8 June 2011, 5:12 p.m.,*
in response to message #8 by Jeff O.

Thanks, Jeff.

I am reluctant because I may not then be able to return it to the seller if it is non-functional.

Anyway, the calculator is immaculate on the outside; seems it should not need any cleaning on the inside!

Edited: 8 June 2011, 5:15 p.m.

Re: HP-55 odd behavior

*Message #10 Posted by **BobVA** on 8 June 2011, 6:35 p.m.,*
in response to message #9 by Martin Pinckney

Hi Martin:

Unless someone has seen exactly the problem you've got (ideally a couple of times) it's going to be pretty hard for you to place a bet on whether it's going to be fixable.

If you got it for a good price, it's probably worth keeping for parts. If you paid a lot, that may be another matter.

Hopefully somebody will chip in with "oh yeah, seen that" and help you sort this out.

Regards, Bob

Re: HP-55 odd behavior

*Message #11 Posted by **Michael de Estrada** on 8 June 2011, 7:37 p.m.,*
in response to message #10 by BobVA

There are only three possibilities that occur to me:

1) A rom such as the keyboard controller is bad on the logic board

2) A connection between the logic board and keyboard is bad

3) A circuit trace on the keyboard is broken (open circuit)

If the calc has never been opened and there is no evidence of corrosion, then I'm inclined to believe case 1 is most likely.

I agree that if the purchase price was high and the seller advertised it as fully functional, then I'd return it.

Edited: 8 June 2011, 7:38 p.m.

Re: HP-55 odd behavior

*Message #12 Posted by **Jeff O.** on 9 June 2011, 7:38 a.m.,*
in response to message #9 by Martin Pinckney

Sorry, I did not realize or recall the situation that you just purchased and may return it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 9127A with 85/87

*Message #1 Posted by **David Ramsey** on 6 June 2011, 4:04 p.m.*

Can the HP 9127A HP-IB 5.25" floppy drive be used with the HP-85/87 computers? Empirical evidence would suggest not...perhaps it uses a different command set. But if anyone knows for sure...

Re: HP 9127A with 85/87

*Message #2 Posted by **Juergen Keller** on 6 June 2011, 5:11 p.m.,*
in response to message #1 by David Ramsey

You can find the manual here. I quickly browsed through it but I didn't found a reference to Series 80 computers. The 9127A uses the SS/80 protocol so my guess is that it might work. However, I would recommend a 3.5" floppy drive, they are much more convenient.

Re: HP 9127A with 85/87

*Message #3 Posted by **David Ramsey** on 6 June 2011, 8:21 p.m.,*
in response to message #2 by Juergen Keller

I have a 9121 3.5" diskette drive, this one was just for...I dunno...completeness. Can't seem to get the 85/87 to "see" it, though. I have the manual for the drive and will check some more. With the drive address set to "4" and the computers at "7", I thought:

MASS STORAGE IS ":D704"

would let me use it. Nope...

Re: HP 9127A with 85/87

*Message #4 Posted by **Juergen Keller** on 7 June 2011, 2:44 a.m.,*
in response to message #3 by David Ramsey

According to Series 80 Tips, drives using the Amigo protocol (like the 9121) should work with an HP-85. If you have an HP-85A you need the Mass Storage and I/O ROM. For drives using the SS/80 protocol (like the 9127A) you need the EMS ROM.

The device address 704 seems to be correct. Do you know if the drive and the HP-IB interface are working (i.e., did you use them successfully with other devices and other computers, respectively)?

Re: HP 9127A with 85/87

*Message #5 Posted by **David Ramsey** on 7 June 2011, 11:37 a.m.,*
in response to message #4 by Juergen Keller

The 9121 works perfectly with both computers. In fact they can both be connected at the same time since the 87's "controller" switch is turned off.

I don't have the Extended Mass Storage ROM for the 87, though. (And there's no way to get the drive to work with an 85A, dang.)

If anyone out there has an EMS ROM for the 87, I have numerous other 87 ROMs, ROM drawers, BCD and serial interfaces, etc. that I'd be happy to trade.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S: Power consumption

*Message #1 Posted by **exschr** on 6 June 2011, 2:59 a.m.*

Reading about this great repurposing project makes me eager
to go buy a 30B and explore a world of nicely put together
alltime-best-of functionality in ONE calc!
great job done!
But I wonder if the 20B/30B hardware is as hard on batteries
as is the new HP35S?

I'm getting sick of replacing again and again a set of batteries
in the HP-35S!
This is just not user-friendly! (HP, do you read me?!)
I rather have a bigger case with space for fat batteries that
last at least two years than having a flat thin calc that eats
through three sets of batteries per year
I feel like selling this hungry HP-35S-monster and stick
to the 15C/16C/41C and enjoy (battery-)life with them.

What are your experiences? How long last a set of batteries in
the new 20B/30B?

Thanks for input,
Roger

Re: WP34S: Power consumption

*Message #2 Posted by **Paul Dale** on 6 June 2011, 4:56 a.m.,*
in response to message #1 by exschr

I'm still on my first set of batteries in the prototypical 34s test unit (okay, Marcus probably has this but mine will be second in line I suspect). I've done lots of coding and testing and it is still fine.

Will the batteries last as long as a voyager? No chance -- my 15c is on its second set now. Will they last longer than any LED calculator -- by a huge margin.

So, go out and buy a dozen 30b's and repurpose them immediately. The only way HP will take up own design is if people buy lots and lots and lots and lots and even they they won't :-(

- Pauli

Re: WP34S: Power consumption

*Message #3 Posted by **Marcus von Cube, Germany** on 6 June 2011, 7:17 a.m.,*
in response to message #2 by Paul Dale

Pauli, what does BATT tell you on your device?

One of my reflashing attempts of my 30b wasn't too smart on my side. I let it sit in SAM-BA mode for an hour or so. When I came back, the batteries were down to 2.7V :-(. Power saving is essential on this type of machine. What I've learned: Two batteries should last much longer than an hour while the machine is busy (or idling in SAM-BA mode with the cable connected.) The cable itself is powered by the calculator, so don't leave it plugged in when it is not in use!

There are essentially four modes of operation in the firmware:

1) Full power, while a function is executing or a program is running.
2) Active idle, e. g. during a programmed pause or for about half a second after a key stroke. Interrupts are running in this mode for house keeping tasks.
3) Deep sleep with display on and keyboard active.
4) Off with continuous memory.

A fifth mode is possible: Make a backup with ON+STO and then pull the batteries.

Approximate power draw from the top of my head:

1) 30 mA (10 mA if battery power is low and speed reduced)
2) 0.4 mA
3) 0.15 mA
4) ? (I couldn't measure it with my equipment)
5) 0 :-)

I'd be glad to see measurements by other people more knowledgeable than me.

Re: WP34S: Power consumption

*Message #4 Posted by **Paul Dale** on 6 June 2011, 9:10 p.m.,*
in response to message #3 by Marcus von Cube, Germany

BATT says 2.9 currently.

I don't leave the device plugged into the cable for any length of time.

Pauli

Re: WP34S: Power consumption

*Message #5 Posted by **Dieter** on 6 June 2011, 3:59 p.m.,*
in response to message #1 by exschr

> Quote:
>
> But I wonder if the 20B/30B hardware is as hard on batteries as is the new HP35S?
> I'm getting sick of replacing again and again a set of batteries in the HP-35S!
> ...
> ...a flat thin calc that eats through three sets of batteries per year

What? The 35s is hard on batteries? You have to replace them over and over, even three times per year?!?
You must be using a different calculator!

I got my 35s in August 2007, just as it was available in Europe. The first set of batteries that came with the calculator had to take heavy testing and playing around with the new toy. It lasted for about a year. Both the second and the third battery set powered the 35s for almost one and a half year each (!) while the calculator was still used every day. All in all it was three years and ten months on 3 battery sets, or on average 1 1/4 year per set. I am using regular quality batteries from electronics and photo stores and cannot see that the 35s should be a battery-eating monster.

Dieter

Re: WP34S: Power consumption

*Message #6 Posted by **Raymond Del Tondo** on 6 June 2011, 7:34 p.m.,*
in response to message #5 by Dieter

There was a related thread a while ago.
The 35s seems to drain more energy when the unit is off.
Also happened with my 35s, whose batts were empty after a year of non-usage.

Interesting thing is that the batts of my 17bII+ silver edition are still intact after months of non-usage, so the hardware or software of that model seems to be somewhat more efficient than that of the 35s.

Ray

Re: WP34S: Power consumption

*Message #7 Posted by **exschr** on 7 June 2011, 4:22 a.m.,*
in response to message #6 by Raymond Del Tondo

> Quote:
> ...
> The 35s seems to drain more energy when the unit is off.
> ...

Sounds irrational but confirms my expirience.

Anyway, my 35s seems to drain a lot!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s Flash backup/restore

*Message #1 Posted by **Cristian Arezzini** on 6 June 2011, 1:34 a.m.*

Hello, I'm trying to understand how to backup/restore program data so that I don't loose my programs when I upgrade the firmware. Here's what I'm doing:

1. On+B+B to backup to Flash;
2. On+S+S to enter Samba;
3. In Samba, save from 0x11F800, 0x800 bytes, to a file on the PC;
4. Update the firmware as usual;
5. send the saved backup file to the calc, from address 0x11F800.

This worked partially, in that I had two programs on my calculator, and now I only have one. Could it be because in memory, the program labeled "A" came after the program labeled "B"? Or did I do something wrong?

Also, I have a suggestion... When you press On+S, it writes "SAM-BA? Boot" on the display, showing what you're going to do if you press S again. This is great. Instead, when you press On+B to backup (or On+R to restore), you get no message at all; the only message you get is "Cancelled" if you don't press B (or R) again. It would be really nice if it could show, after the first press, i.e. "Backup?" or "Restore?" and then, if the operation is carried on, "Backup OK" or "Restore OK", or "Cancelled" otherwise. Does this make sense? :)

Cristian

Re: Wp34s Flash backup/restore

*Message #2 Posted by **Marcus von Cube, Germany** on 6 June 2011, 2:52 a.m.,*
in response to message #1 by Cristian Arezzini

Cristian, the docs aren't up to date. Go to the FLASH.TXT file for the correct commands. Here is the contents again:

```
Commands to handle the flash memory on the real calculator
==========================================================


Hold down ON (EXIT) and press one of the following keys:


STO - Backup:  This creates a copy of the RAM in flash memory.


RCL - Restore: This restores a previously created backup.


S - SAM-BA:    Clears the GPNVM1 bit and turns the calculator off.
               S is on the '6' key.
               ATTENTION: You can now only boot into SAM-BA mode!
               Without the SAM-BA software and the cable, you're lost!


These ON key combinations have to be pressed twice in a row without
releasing the ON key to be executed.
```

Do an ON+STO before you want to flash a new release! After flashing, your backup should still be in place if you didn't accidentally press the ERASE button on the cable but used ON+S instead to get into SAM-BA boot mode.

There are additional commands in the I/O catalogue (f+STO):

PSTO n Store program in region n. n is 0 to 3. A region is a block of flash memory that can hold a copy of the user program area. Alphanumeric labels in flash can be called with XEQ. This allows creation of libraries. Use the new label browser (f+RCL) to see the labels. Region 0 is the same region that is stored with the backup.

PRCL n Restore region n to the program area where data can be edited.

P<> n Swap the current program with the contents of region n.

LOAD Executes ON+RCL. This is available on the emulator, too.

SAVE Executes ON+STO. See above.

RRCL Recall the register data only from a previously created backup.

SRCL Recall the setup data only from a previously created backup.

You can recall a group of registers from the backup with the command R-COPY from the program catalogue. Just give it a negative value in X and the source block will be fetched from flash instead of RAM.

Single registers in flash can be read with RCF and its arithmetic variants (RCF+, etc.)

Mapping from memory regions to emulator state files

Region	Flash address	state file	Remark
unnamed	0x11fc00	wp34s-R.dat	Registers and state of the backup
0	0x11f800	wp34s-0.dat	User program of the backup
1	0x11f400	wp34s-1.dat	Generic user Program region
2	0x11f000	wp34s-2.dat	ditto
3	0x11ec00	wp34s-3.dat	ditto
RAM		wp34s.dat	Emulator image of the RAM area

wp34s.dat is only written on exit of the emulator software.
wp34s-?.dat is written each time a flash command is executed.
All files are only read into memory on emulator startup.
If we find enough free space in flash we may increase the number of regions.

How to transfer data between the calculator and your PC

The whole RAM is saved to address 0x11f800 (relative address 0x1f800) with ON+STO. This can be copied to your PC or loaded from it.

1. From calculator to PC

   a) Do an ON+STO, then ON+S, then RESET with the cable connected.
   b) Press ON once and start SAM-BA on the PC. It should connect.
   c) Set the start address to 0x11F800 and the size to 0x800

```
   d) Enter a file name in the receive field.
   e) You can now receive the file with SAM-BA.
   f) Move it under the name wp34s.dat into your emulator directory.
   g) The emulator should accept the file. Your registers and programs
      will than be in place.
   h) To get your calculator back in business, start the "Boot from flash"
      script in SAM-BA, the same procedure you should know from flashing
      the firmware.
   i) Reset and power the calculator up and perform a restore with ON+RCL.
      The latest version does the restore automatically when RAM is lost.


2. From PC to calculator


   a) Perform steps (a) to (c) from above. No need to set the size.
   b) Point SAM-BA to your wp34s.dat file from the emulator.
   c) You can now send the short file with SAM-BA.
   d) Perform steps (h) and (i) from above.


The program regions accessible with the commands PSTO, PRCL and P<> are
stored at addresses 0x11f000 and above (see table above) and have a length
of 0x400 (1 KB) each. The emulator creates files 'wp32s-?.dat', '?' being
the region number. You can handle these files the same way as the complete
state file from the emulator. The regions have identical formatting and
can be swapped by copying their data to the "wrong" place. The register
and state portion of the backup area at 0x11fc00 is formatted differently.


If you want to get your emulator data into the calculator in one go,
do the following in Windows:


copy /b calc.bin+wp34s-2.dat+wp34s-1.dat+wp34s.dat calc-full.bin


As an alternative the following will copy the backup data instead of the
RAM state file:


copy /b calc.bin+wp34s-2.dat+wp34s-1.dat+wp34s-0.dat+wp34s-R.dat calc-full.bin


The resulting file can be programmed into flash and all data is readily
available.
```

Edited to reflect latest updates.

Edited: 6 June 2011, 6:55 a.m. after one or more responses were posted

Re: Wp34s Flash backup/restore

*Message #3 Posted by **Walter B** on 6 June 2011, 3:44 a.m.,*
in response to message #2 by Marcus von Cube, Germany

A revised version of this text will be in the next manual :-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S - 16C Compatibility #7 - MASKL, MASKR

*Message #1 Posted by **Jake Schwartz** on 5 June 2011, 11:34 p.m.*

Hi,

I am getting to the end of trying everything from the 16C manual and found that in the 34S, the MASKL and MASKR functions clear the carry flag, when in the 16C these do not affect the carry or out-of-range flags at all (as explained in the table on the manual's page 98 in Appendix A). Any chance of making these leave the carry flag alone? (I am using version 1008.)

Thanks, Jake

Re: wp34S - 16C Compatibility #7 - MASKL, MASKR

*Message #2 Posted by **Paul Dale** on 6 June 2011, 4:40 a.m.,*
in response to message #1 by Jake Schwartz

Jake,

Done. The is a result of the mask commands using the shift commands to save space.

Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34S

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 5 June 2011, 8:58 p.m.*

Hardly a "new topic" these days, but a nice topic for experimenting and posting on a Sunday afternoon.

I just downloaded 1.18, flashed my 30B with SAM-BA 2.6 (USB, Win7), and printed the so-far latest keyboard layout. Then I covered it with a transparent self-adhesive film and...

WOW!! While previous versions were nice to try, the current one *AND* the workable layout created a more full experience, including my first, very simple, WP-34S programs; just trying to get familiar with it.

A couple of suggestions and ballots for the last polls, FWIW:

+/- preferred against CHS; but CHS acceptable after all

EEX preferred against E; but E acceptable after all

The "usual division sign" preferred against slash

All prefix keys together against edge-based "h"

OFF in green (h-prefixed) against blue (g-prefixed)

Sorry for these late replies, I used my iPod to read the MoHPC Forum for the last days and it's difficult to post replies from it (possible cookie issue).

Before my recurring admiration and congratulations for the design and implementation team, just a mention of a possible bug (I don't remember this one mentioned before, excuse me if it's old news, or if it is just "the intended behavior").

Press CLX, EEX, CHS, ENTER. Answer is "Domain Error".

And... I'm no expert about SVN, etc.; and just read that a 2.0 full release is coming, so this may not be important at all; but a short document about how to find the latest version and the latest layout may help us to avoid losing some time navigating the last versions committed, looking for the last layout and the last calc.bin (they are not necessarily together).

Now, again, CONGRATULATIONS!!!!

Re: WP-34S

*Message #2 Posted by **Paul Dale** on 5 June 2011, 9:33 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Press CLX, EEX, CHS, ENTER. Answer is "Domain Error".

And fixed.

Pauli

Re: WP-34S

*Message #3 Posted by **Walter B** on 6 June 2011, 2:39 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Buenas dias y muchas grazias, Andrés!

With respect to your "suggestions and ballots", please find 60% of them implemented in the current version already 8-)

About h-shifted OFF, please read my response in another thread.

Well, and the "usual division signs" vary a bit on this planet. Personally, I think the "colon bar" being graphically suboptimal since it looks similar to +. I know lots of people taught using a plain colon for division which is very well established for many decades, but presumably wasn't invented on the right side of the Atlantic :-? And the slash may be an alternative. Both : and / differentiate very well from the other symbols.

Walter

Re: WP-34S

*Message #4 Posted by **fhub** on 6 June 2011, 4:44 a.m.,*
in response to message #3 by Walter B

> Quote:
>
> I think the "colon bar" being graphically suboptimal since it looks similar to +.

But it's in fact used in probably 95% (if not more) of all calculators!

And if making this "colon bar" to a more computer-like "/", then I wonder why not do the same with the multiplication, i.e. making "x" to a "*" ('since it looks similar to the letter x')

Franz

Re: WP-34S

*Message #5 Posted by **Paul Dale** on 6 June 2011, 4:52 a.m.,*
in response to message #3 by Walter B

> Quote:
>
> I know lots of people taught using a plain colon for division which is very well established for many decades, but presumably wasn't invented on the right side of the Atlantic :-?

In the glorious land of OZ, which is really the only place that matters in the universe -- the yellow brick road and all -- betting odds are represented using a colon and division using an obelus.

So, we should represent division using an obelus with huge dots and a thin line. Making no-one happy but that's beside the point of compromise.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S 2.0 is going to come

*Message #1 Posted by **Walter B** on 5 June 2011, 12:49 p.m.*

Hi all,

Unless something very bad will happen, we will be making a feature and layout freeze shortly based on what's in now. This means we think what's documented works (and vice versa). We are content with what our baby does now, will build a zipped package again including the manual and an overlay file, and release it for beta testing. Then we'll lay back d;-) and switch to maintaining the functionality, if any bugs shall be found by you (for sure there will :-/).

For sake of clarity: The new package is not built yet. It will be soon.

Walter

Re: WP 34S 2.0 is going to come

*Message #2 Posted by **Cristian Arezzini** on 5 June 2011, 11:45 p.m.,*
in response to message #1 by Walter B

Hi Walter, While I'm happy to see the stable package taking a leap, this news has put me in a state of "panic", as there is a "deadline" now to ask for new features! :) Speaking of which... The key "MEM" on the HP35s opens a nice "Memory catalog" where it shows how many free bytes you have for programs, and it also shows a catalog of all the installed programs and their lengths. And it shows the defined variables, too. I think it's very useful, and used it all the time. I couldn't find anything like that in the 34s - I searched through the manual and couldn't find anything (which doesn't mean it isn't there, just that I didn't find it...) So, is such a functionality present on the 34s? If not, could it be added? :)

Cristian

Re: WP 34S 2.0 is going to come

*Message #3 Posted by **Walter B** on 6 June 2011, 2:17 a.m.,*
in response to message #2 by Cristian Arezzini

Ciao Cristian,

Don't panic :-) The number of free program steps is displayed in programming mode all the time. We don't feature variables, only registers - they may be checked individually using VIEW. A list of all the programs in memory is the only information missing :-/ We'll think about it.

Walter

Re: WP 34S 2.0 is going to come

*Message #4 Posted by **Marcus von Cube, Germany** on 6 June 2011, 2:36 a.m.,*
in response to message #3 by Walter B

If you label your programs 'correctly' with an alpha label, the label browser will do nicely four you. Here is a small guideline how a program could be designed:

```
LBL 'WOW'
alpha 'WOW prog'
alphaVIEW
LBL 00
RTN
LBL A
<hotkey A function goes here>
GTO 00
LBL B
...
GTO 00
```

This can be put into flash or user memory and run via the CAT function. The program stops after a short message. The PC is pointing before the hotkey labels. Pressing such a key will find its next occurrence in the current program space, making sure that the function matching the selected program is executed. The GTO 00 ensures that this is true for the next keypress after the piece of code has executed. Keep the local labels (00 to 99) apart between programs or use BACK and SKIP instead to make sure all GTO or XEQ commands find their target and you can put several programs with complete hotkey support in a flash bank or user memory.

Re: WP 34S 2.0 is going to come

*Message #5 Posted by **Cristian Arezzini** on 6 June 2011, 9:03 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Marcus, thank you for your reply, but I can't really follow it. Maybe I should study the manual more, but I really can't understand your example. Is it supposed to be a way to organize programs? So that A, B and so on are my programs, and WOW is a sort of "container" for them all?

Cristian

Re: WP 34S 2.0 is going to come

*Message #6 Posted by **Marcus von Cube, Germany** on 6 June 2011, 10:53 a.m.,*
in response to message #5 by Cristian Arezzini

My outline describes a somewhat evolved application which makes use of the hot keys for various sub functions. If you have more of these in RAM or flash, you need to make sure that hitting one of the A to D keys executes the subroutine in the correct application.

Re: WP 34S 2.0 is going to come

*Message #7 Posted by **Paul Dale** on 6 June 2011, 4:44 a.m.,*
in response to message #2 by Cristian Arezzini

As Walter said, registers are fixed -- no variables. Free program steps are show in program mode always -- everything that doesn't reference an alpha label takes one step with no exceptions. Alpha labels take two. Much better than bytes free :-)

Marcus wants a register (& flash backup browser) which *might* get added and might be left as a user program. We're undecided at this point.

Alpha labels have their own browser. So you can see defined "programs" but not their lengths.

Oh and, new features delay/prevent a solid release.

There will almost certainly be a 34s successor -- 34sx, 43s, ???.

Pauli

Re: WP 34S 2.0 is going to come

*Message #8 Posted by **Cristian Arezzini** on 6 June 2011, 9:06 a.m.,*
in response to message #7 by Paul Dale

> Quote:
>
> Oh and, new features delay/prevent a solid release.

I gladly accept a delay (I always update with svn anyway) if that means extra capability! :) But I understand that you want to "slow down" a little after all this frantic coding!

> Quote:
>
> There will almost certainly be a 34s successor -- 34sx, 43s, ???.

Hear, hear - should I buy some more HP30b's while they last? :) And what about the possibility of repurposing other atmel machines (i.e. the newest 12c)? :)

Cristian

Re: WP 34S 2.0 is going to come

*Message #9 Posted by **Walter B** on 6 June 2011, 9:20 a.m.,*
in response to message #8 by Cristian Arezzini

Ancora una volta: Unless something very bad will happen (like somebody appearing with a groundbreaking idea changing life, the universe, and everything) we will release 2.0 very soon. With a probability of 99.73% it will not feature a MEM command for the reasons mentioned above already.

Ooh, and any 34s successors are "ungelegte Hühnereier" so far, which translates to "vaporware" pretty well IMHO.

Walter

Edited: 6 June 2011, 9:24 a.m.

Re: WP 34S 2.0 is going to come

*Message #10 Posted by **Paul Dale** on 7 June 2011, 2:48 a.m.,*
in response to message #8 by Cristian Arezzini

> Quote:
>
> And what about the possibility of repurposing other atmel machines (i.e. the newest 12c)? :)

We're not going to work on a 12c based device. The display of the 30b is a hurdle in more than a few respects and the 12c's is much much worse.

- Pauli

Re: WP 34S 2.0 is going to come

*Message #11 Posted by **fhub** on 7 June 2011, 4:55 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> We're not going to work on a 12c based device. The display of the 30b is a hurdle in more than a few respects and the 12c's is much much worse.

Well, look at those 32c and 33cs machines at this site: ;-)
http://www.vcalc.net/hp.htm
(on the right column a few pages down)

Wouldn't these be worth working on it? :-)))

Franz

Edited: 7 June 2011, 4:56 a.m.

Re: WP 34S 2.0 is going to come

*Message #12 Posted by **Paul Dale** on 7 June 2011, 4:59 a.m.,*
in response to message #11 by fhub

They both require reworked displays and thus quantities in the tens of thousands. No thanks.

I suspect the 34s has more capabilities already :-) Actually, I'm pretty sure of it.

- Pauli

Edited: 7 June 2011, 5:00 a.m.

Re: WP 34S 2.0 is going to come

*Message #13 Posted by **Walter B** on 7 June 2011, 7:52 a.m.,*
in response to message #11 by fhub

Hallo Franz,

The site you linked to didn't change in the last 4 - 5 years. The models presented there are from a time when wishing was meant to help, but a bit "parareal" :-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP 34S 2.0 is going to come

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CL & Battery

*Message #1 Posted by **Geir Isene** on 5 June 2011, 10:40 a.m.*

Given that the battery drain from the new 41CL by Monty is some ten times greater than a normal 41 while OFF, I am looking for a better battery solution than the normal N size batteries (or the even less capacity rechargeable counterparts).

How about building a new battery pack using cell phone batteries, like stacking two of these or some such. Any suggestion for a rechargeable replacement for the new line of 41s?

Re: HP-41CL & Battery

*Message #2 Posted by **exschr** on 5 June 2011, 2:04 p.m.,*
in response to message #1 by Geir Isene

I might plug in the modified module with a USB connector to sustain power to the 41CL while at my desk. But that's no solution for beeing "on the road" with the 41CL. The stacking of cell phone batteries sound like a good idea!

The hint with the USB in a modified module came from Diego Diaz, see this thread!

Re: HP-41CL & Battery

*Message #3 Posted by **Dieter** on 5 June 2011, 2:11 p.m.,*
in response to message #1 by Geir Isene

We had a discussion on HP-41 battery options just a few weeks ago (cf this thread). While current LiIon and LiPo batteries for cell phones are not an option due to their voltage (3,6 V is too low and 7,2 V too high), the solution you suggest is a NiMH battery with 6 V nominal voltage, i.e. it probably is made of five cells instead of four in the original HP NiCd battery pack. Since freshly charged NiCd and NiMH cells may have voltages like 1,4 V and higher, the 5-cell pack may provide 7 Volts and more. That's why I would prefer a solution with the usual four cells.

Anyway, the essential point here is the higher power consumption of the 41CL. Let's take a look at what we can expect from different power sources:

- 70 - 80 mAh: former 1/2-N-size NiCd cells in 82120A battery pack
- 140 - 170 mAh: current 1/3-AAA-size NiMH cells for refurbished battery packs
- 500 mAh: current N-size NiMH cells
- 700 - 800 mAh: single-use N-size Alkaline cells
- 2000 - 3000 mAh: current AA-size Alkaline cells (external battery packs)
- 2000 - 3000 mAh: current AA-size NiMH cells (external battery packs)

So, what do we need for the 41CL? Without the card reader or wand, single-use N-Alkalines were a good option for the 41-series. In case of rechargeable batteries, even the original 82120A pack with less than 100 mAh capacity was fine. If you look at the figures again, there is an elegant solution with more than sufficient capacity: use simple rechargeable N-cells in the regular battery holder and charge them externally. Some more

thoughts and ideas can be found in the thread I mentioned, including an external battery pack with four AA batteries (NiMH or alkaline).

Dieter

Re: HP-41CL & Battery

*Message #4 Posted by **Geir Isene** on 6 June 2011, 4:54 a.m.,*
in response to message #3 by Dieter

Any easy way to ensure that the voltage doesn't exceed 6V?

Re: HP-41CL & Battery

*Message #5 Posted by **designnut** on 6 June 2011, 10:29 a.m.,*
in response to message #4 by Geir Isene

Lithium cells have a higher voltage inherently, so 2 Li cells might suffice. I know they are available in AA size. Caution against overcharge, they may explode. Some are equipped with vharge limiters. Sam

Re: HP-41CL & Battery

*Message #6 Posted by **Dieter** on 6 June 2011, 3:23 p.m.,*
in response to message #5 by designnut

Before we talk about "lithium batteries" we should define what this term refers to: Take a look at wikipedia to get an overview over the variety of various lithium-based battery designs.

In our case there are three major relevant groups:

- Single-use Li-Mn batteries. Their cell voltage is 3 V or slightly higher. One of these may replace two regular 1.5 V alkaline batteries. There are 6-V-Versions like the 2CR5 used in many conventional photo cameras. As far as I know this technique is not used for standard-size AA or AAA batteries, simply because twice the voltage in the same package is not a good idea for usual consumer devices. ;-)
- Single-use Li-FeS2 batteries with voltages roughly comparable to those of regular alkaline batteries (1,5 up to 1,8 V). In many cases these batteries can replace standard alkaline batteries while offering a significantly higger capacity.
- Rechargeable Li-Ion or Li-Po batteries like they are used in most cell phones and digital cameras. Their nominal cell voltage is 3,6 or 3,7 V and can exceed 4 V when fully charged. Since the only options here are 3,6 or 7,2 V they are not particulary useful for applications that require 5 or 6 V nominal voltage.

Dieter

Re: HP-41CL & Battery

*Message #7 Posted by **Garth Wilson** on 6 June 2011, 3:18 p.m.,*
in response to message #4 by Geir Isene

> Quote:
>
> Any easy way to ensure that the voltage doesn't exceed 6V?

It should be ok to exceed it a little. A brand-new alkaline is really more like 1.6V per cell, meaning

6.4V for four.

Re: HP-41CL & Battery

*Message #8 Posted by **Geir Isene** on 6 June 2011, 1:40 p.m.,*
in response to message #3 by Dieter

How about using two 4LR44 (6V) in parallel?

Re: HP-41CL & Battery

*Message #9 Posted by **Dieter** on 6 June 2011, 3:05 p.m.,*
in response to message #8 by Geir Isene

Using regular batteries in parallel without additional electronics generally is not a good idea. The 4LR44 in particular does not fit our needs very well either. As the name suggests, this battery is made of four LR44 button cells, the usual capacity is something like 100 mAh. There are more powerful versions like the 4SR44 (silver oxide) and 2CR1/3N (lithium), well known as power sources for photo cameras of the Seventies and Eighties, which can provide 150...200 mAh, but that's still rather low compared to other solutions (OK, twice that with two batteries in parallel, if you really want to do that) and last, not least: they are quite expensive.

Dieter

Re: HP-41CL & Battery

*Message #10 Posted by **gene wright** on 6 June 2011, 3:43 p.m.,*
in response to message #9 by Dieter

Button-top Nicad N cells can be found for less than $3 each in 200 mah capacity. A set of 8 of these (to have one recharged set always ready) doesn't seem too expensive.

Flat top Nimh N cells with 40 mah are about $4-5 each, but then you have to deal with the flat top issue.

I will probably just use nicads...unless an easier, higher capacity solution can be found.

Re: HP-41CL & Battery

*Message #11 Posted by **Dieter** on 6 June 2011, 4:24 p.m.,*
in response to message #10 by gene wright

Well, NiCd batteries have been banned in many countries of the western world, so they are hard to get and most major manufacturers simply do not make them any longer. Over here in Europe, regular button-top N-size NiMH cells by GP (type GP50NH) are readily available for 3,49 Euros each from a source that is not exactly know for its lowest prices. Or for just 1,85 Euros from a well-reputed source on the internet, including VAT and other possible taxes. ;-) Their capacity is 500 mAh, more than twice that of the good old NiCd versions.

I always thought that "pay less, get more" is quite a good idea. ;-)

Dieter

Re: HP-41CL & Battery

*Message #12 Posted by **gene wright** on 6 June 2011, 4:28 p.m.,*
in response to message #11 by Dieter

Links? No fair if no links! :-)

Re: HP-41CL & Battery

*Message #13 Posted by **Dieter** on 6 June 2011, 4:55 p.m.,*
in response to message #12 by gene wright

Here in Germany the two usual sources for electronic parts (and toys ;-)) are Conrad and Reichelt.

At Reichelt, the GP50NH can be found here.

The same battery (and a cheaper flat-top alternative at Conrad is listed here. There are additional discounts if you need more than one.

Yes, both webpages only speak German and I do not think that either of them will ship to the US, but I am sure you will find similar offers in your area as well.

Dieter

Re: HP-41CL & Battery

*Message #14 Posted by **M. Joury** on 6 June 2011, 5:15 p.m.,*
in response to message #12 by gene wright

For those in the US, I got 2 sets from here: GP50NH. price of the batteries is not bad just watch out for shipping options.

Re: HP-41CL & Battery

*Message #15 Posted by **Geir Isene** on 7 June 2011, 8:25 a.m.,*
in response to message #3 by Dieter

So, if I went ahead and made a new battery pack by stacking two of those I linked to - what *could* happen if they were freshly recharged and gave 7V output.

It would be interesting to order a couple, recharge them fully and see the output. If it is in the area of 5.5 - 6.5, it would be fine, right?

And then I would have my high capacity battery pack for the CL...

Re: HP-41CL & Battery

*Message #16 Posted by **Monte Dalrymple** on 10 June 2011, 12:34 p.m.,*
in response to message #15 by Geir Isene

The board is designed to accept 6V. Applying a higher voltage will reduce the lifetime.

Re: HP-41CL & Battery

*Message #17 Posted by **robert rozee** on 10 June 2011, 11:40 a.m.,*
in response to message #1 by Geir Isene

perhaps a silly question... why not have the final design of the 41CL board run off 2.4 volts derived from 2x AA cells, fitted horizontally in the existing 41 battery compartment? it would likely be easy enough to add the necessary step-up converter to the board design.

Re: HP-41CL & Battery

*Message #18 Posted by **Monte Dalrymple** on 10 June 2011, 12:32 p.m.,*
in response to message #17 by robert rozee

Compatibility. The 6V is on the Port connector for external peripherals to use. This would mean keeping a step-up converter running all of the time, meaning higher off-state current drain.

I believe that the board will run reliably at slightly less than 4V, although the battery warn annunciator will always be on in this case, which kind of defeats its purpose.

Monte

Re: HP-41CL & Battery

*Message #19 Posted by **robert rozee** on 10 June 2011, 1:26 p.m.,*
in response to message #18 by Monte Dalrymple

> Quote:
>
> ... would mean keeping a step-up converter running all of the time, meaning higher off-state current drain...

i'm not a 41 expert (never owned or even used one much really), but what is the point of powering external peripherals when the calculator is turned off?! any such peripheral, if it drew more than negligible power, would flatten the N-cell batteries quite rapidly anyway, denying itself ongoing power in short order.

and if this was an issue for a few odd devices under exceptional usage conditions, it would be easy enough to bring out the 6v feed line to a 2-pin header somewhere on the board that was accessible (such as in a spare corner of the battery compartment).

Edited: 10 June 2011, 1:27 p.m.

Re: HP-41CL & Battery

*Message #20 Posted by **Marcus von Cube, Germany** on 10 June 2011, 1:40 p.m.,*
in response to message #19 by robert rozee

Robert, think of memory peripherals which rely on the 6V to buffer their contents or devices which may wake up the calculator.

Re: HP-41CL & Battery

*Message #21 Posted by **Monte Dalrymple** on 10 June 2011, 2:20 p.m.,*
in response to message #19 by robert rozee

Pressing the button on the Wand wakes up the calculator. I think that the printer can wake up the calculator that way also.

Re: HP-41CL & Battery

*Message #22 Posted by **Garth Wilson** on 10 June 2011, 2:23 p.m.,*
in response to message #18 by Monte Dalrymple

Would the non-stepped-up voltage be enough to preserve the memory and keep the clock going (these typically go on a lot less than normal operating voltage), and would a step-up converter come up fast enough for when an alarm or other stimulus tries to turn the 41 on? If so, you might still be able to go that route, use the step-up converter, and shut it down when the calc is asleep. I've designed step-up converters into products many times, but I don't know what the requirements for the 41 might be to retain memory and keep the clock going, and turn-on time.

Re: HP-41CL & Battery

*Message #23 Posted by **robert rozee** on 11 June 2011, 3:16 a.m.,*
in response to message #22 by Garth Wilson

there's a number of neat tricks that could be done - most obvious, have a capacitor that holds up the 6v rail when required and briefly start the converter every 10 seconds or so (when the calculator is off) to keep it topped up.

my reasoning is simply that it would be 'nicer' if the calculator could be run on more standard and obtainable AA batteries rather than N cells, while still fitting everything inside the existing body of the calculator (as opposed to people having to look at attaching an extended battery pack on the back).

and to answer the obvious question, Li-Ion cells with a service life of only a couple or three years aren't really a good match for a calculator who's lifespan thus far has been a quarter of a century :-)

Re: HP-41CL & Battery

*Message #24 Posted by **Geir Isene** on 12 June 2011, 2:59 p.m.,*
in response to message #23 by robert rozee

Excellent points. So with the CL shipping, it should be a mini-market for replacement battery packs for someone with the skills to make this happen. I would be a buyer...

[Return to Index | Top of Index]

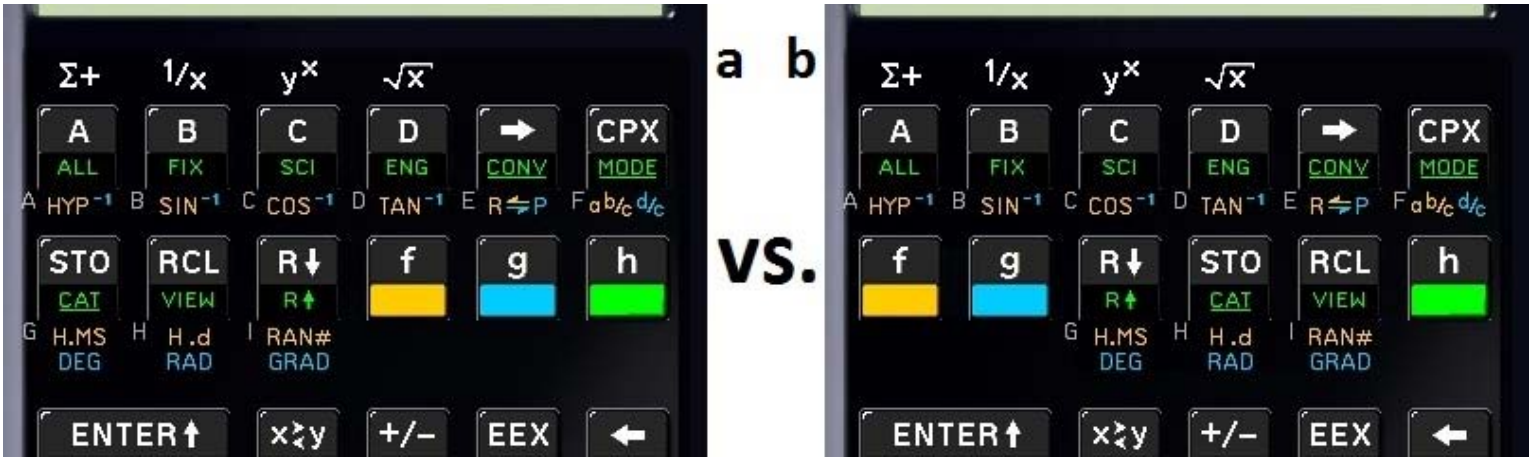
Go back to the main exhibit hall

Another poll

*Message #1 Posted by **Walter B** on 5 June 2011, 6:37 a.m.*

Hi all,

As there are more ways to skin a cat, what do you think about the following alternatives?



Your votes, please :-)

Walter

Re: Another poll

*Message #2 Posted by **Paul Dale** on 5 June 2011, 6:49 a.m.,*
in response to message #1 by Walter B

Walter knows my vote: a :-)

- Pauli

Re: Another poll

*Message #3 Posted by **fhub** on 5 June 2011, 7:01 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Walter knows my vote: a :-)
>
> - Pauli

I agree, stay with the current one (a) ...

Re: Another poll

*Message #4 Posted by **Ángel Martin** on 5 June 2011, 7:42 a.m.,*
in response to message #2 by Paul Dale

Everything I´ve learned about UI design and the so-called "human factors" call for "a" !

BTW there's no reason whu the f/g/h shift keyd do NOT have functional role for the *other* (i.e. not self) prefixes, I wonder if you've considered that - which may become very handy if real state is at a premium.

Edited: 5 June 2011, 7:43 a.m.

Re: Another poll

*Message #5 Posted by **Paul Dale** on 5 June 2011, 8:21 a.m.,*
in response to message #4 by Ángel Martin

> Quote:
>
> BTW there's no reason whu the f/g/h shift keyd do NOT have functional role for the *other* (i.e. not self) prefixes, I wonder if you've considered that - which may become very handy if real state is at a premium.

I don't remember if we ever seriously entertained this notion or not. Things are more than cluttered enough already I suspect. We didn't delve far into the press and hold a shift key while pressing another key like the 30b -- we'd need new colours and more space on the overlay for this to be workable.

The clutter level is already very high -- every key has four functions and some go well beyond this: STO e.g. has seven (STO, f H.MS, g DEG, h CAT, CPX STO, -> f H.MS, -> g DEG) and that isn't counting the six arithmetic suffixes available (+, -, *, /, MIN and MAX) for STO itself. Roll down and RCL also have seven. EEX and +/- have six.

I think the worst offenders are C and D, which have nine separate functions if you consider their undefined default action a separate use (XEQ C, y^x, CPX y^x, COS, ACOS, CPX COS, CPX ACOS, SCI & SCIOVR). Phew!

Needless to say, the keyboard state engine is a rather large portion of the whole firmware :-)

- Pauli

Re: Another poll

*Message #6 Posted by **Walter B** on 5 June 2011, 8:35 a.m.,*
in response to message #4 by Ángel Martin

Buenas dias Ángel,

I concur with Pauli in leaving f/g/h without further functionality. After all, they are self-inverting (e.g. f f = NOP) and overwrite each other (e.g. f g = g), that's sufficient IMHO. The keyboard is full enough.

Walter

Re: Another poll

*Message #7 Posted by **Ángel Martin** on 5 June 2011, 8:51 a.m.,*
in response to message #6 by Walter B

It´s fine, you guys are in charge :-)

Still, what's so difficult about pressing "f", then "g" for a "yellow" function under "g"?

Or "g", then "f" for a blue function under "f"?

Und so weiter...

food (or just fodder?) for thought

Cheers, 'AM

Edited: 5 June 2011, 8:53 a.m.

b

*Message #8 Posted by **Maximilian Hohmann** on 5 June 2011, 6:51 a.m.,*
in response to message #1 by Walter B

Hello!

But my vote dosen't count as I am not really interested in devices with LC displays. However, b is more classic-hp-like and that't all I care for.

Regrads, max

Re: b

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 8:09 a.m.,*
in response to message #8 by Maximilian Hohmann

I never really understood why HP split them up on the 65 and 67.

My vote is to retain the "a".

Re: b

*Message #10 Posted by **Paul Dale** on 5 June 2011, 8:24 a.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

The only reason I can think of is that it is might be a little easier to press a key on the edge of the keyboard than one in the middle.

The 34C used the top corner well for the shift keys and for a very long time the 34s did exactly this but it made integer mode entry irksome having E and F on the second row. I think putting them on the top row was a positive step.

- Pauli

Re: b

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 9:10 a.m.,*
in response to message #10 by Paul Dale

Oops! I missed that the 34C did this as well. I guess I should have looked at the WP34S' namesake.

Personally, I will use hex mode a great deal with this calculator and having A-F all on the top row is a great boon for this mode of operation. I find the necessity to enter an extra menu to get at the A-F on the 42S rather clumsy. I really like the way this one allows unshifted access to them.

I thankfully agree with your decision to not split the shift keys onto different rows or put (any of) them on the top row. The assignable label keys should occupy that space (as they do). On my 11C, I often put a strip of Scotch tape between the display and the keyboard and pencil in what programs I have attached to

these labels (a la the cards of the 65/67 and TI-59). So I would morn the movement of the A-D keys as well (not that it is being discussed -- just a pre-emptive plea to not change that area).

WRT to the prefix keys having secondary roles, my experience is that HP calculators have canceled the previous prefix in favour of the latest prefix. This is shown very nicely in bullet 3 on page 21 of the WP34S manual. This cancellation behaviour has frequently saved my bacon -- having more thumbs (or toes) than fingers!

Re: Another poll

*Message #12 Posted by **Cristian Arezzini** on 5 June 2011, 9:01 a.m.,*
in response to message #1 by Walter B

For me either one is OK, but, as we're talking about layout... I would like it better if 'OFF' was a 'h-shifted' function... I am used to turning calcs on/off as needed, so quite often... and 'g' being in the middle of the keyboard is a little inconvenient to me. For me the 35s/48/50g way is best (shift right above "on" + "on") but I know it's impossible here, so 'h-shifting' it would be next best.

Cristian

Re: Another poll

*Message #13 Posted by **Walter B** on 5 June 2011, 1:09 p.m.,*
in response to message #12 by Cristian Arezzini

Ciao Cristian,

> Quote:
>
> I would like it better if 'OFF' was a 'h-shifted' function... I am used to turning calcs on/off as needed, so quite often... and 'g' being in the middle of the keyboard is a little inconvenient to me.

Some answers:

1. Battery life is determined mainly by the time the wp 34s runs at full speed. The time sitting on your desk snoozing and waiting for you keying in the next challenge doesn't really matter. And there's still an auto-turn-off after some minutes. So there's no need hitting OFF every minute - we don't have LEDs built in ;-)
2. SHOW is a pretty long command name, fitting nicely on the h-shifted position. Swapping this with g-shifted OFF will make a second row necessary for the f- and g-shifted functions plus ON. Nothing dramatic, just not good looking :-(
3. And - hmmmh - the middle of the keyboard's still 1.5 keys away, isn't it? ;-)

So I'd like to stay with g-shifted OFF.

Walter

Re: Another poll

*Message #14 Posted by **Cristian Arezzini** on 6 June 2011, 12:04 a.m.,*
in response to message #13 by Walter B

Hi Walter,

> Quote:
>
> Battery life is determined mainly by the time the wp 34s runs at full speed. The time sitting on your desk snoozing and waiting for you keying in the next challenge doesn't really matter. And there's still an auto-turn-off after some minutes. So there's no need hitting OFF every minute - we

> don't have LEDs built in ;-)

OK, I get it... it's just that I've always been uset to turning things off, and seeing a calc sitting there displaying something but doing nothing is sort of against my nature! :)

> Quote:
>
> SHOW is a pretty long command name, fitting nicely on the h-shifted position. Swapping this with g-shifted OFF will make a second row necessary for the f- and g-shifted functions plus ON. Nothing dramatic, just not good looking :-(

I see your point. And I see that just "swapping the colors" on the keyboard would be even worse. :) But then... I haven't really understood what SHOW does outside of program mode; when I press it in normal decimal mode, nothing obvious happens. So, would it be possible that - leaving g-OFF untouched - when SHOW does nothing obvious, then it turns off the calculator? Kind of like "EXIT" which has different functions depending on the calculator state?

> Quote:
>
> And - hmmmh - the middle of the keyboard's still 1.5 keys away, isn't it? ;-)

Well... I'd say that the "center" of the keyboard is 1.5 keys away... I tend to consider "middle" anything that's not on the edge! :) But then, English is not my language... :P

Anyway, this was just a minor thing... I see your points, and the layout is perfectly usable as it is, and surely much better than any other calc I have!

Cristian

Re: Another poll

*Message #15 Posted by **Walter B** on 6 June 2011, 1:48 a.m.,*
in response to message #14 by Cristian Arezzini

> Quote:
>
> But then... I haven't really understood what SHOW does outside of program mode; when I press it in normal decimal mode, nothing obvious happens.

Depends on your "normal mode" ;-) I bet you're using ALL. Try e.g. FIX 2 and use SHOW again.

Background: many users (me too) don't need 10 decimals all the time. The most significant ones are sufficient in many problems in science and engineering (that's why slide rules were useful instruments for long). So I may set e.g. SCI 3. But sometimes I want to see all the digits - then SHOW shows them d8-)

Walter

Re: Another poll

*Message #16 Posted by **Cristian Arezzini** on 6 June 2011, 2:47 a.m.,*
in response to message #15 by Walter B

> Quote:
>
> Depends on your "normal mode" ;-) I bet you're using ALL. Try e.g. FIX 2 and use SHOW again.

> Background: many users (me too) don't need 10 decimals all the time. The most significant ones are sufficient in many problems in science and engineering (that's why slide rules were useful instruments for long). So I may set e.g. SCI 3. But sometimes I want to see all the digits - then SHOW shows them d8-)
>
> Walter

You're right, I use ALL. Not because I need 10 decimals, it's just what I'm used to. And now I see why SHOW is needed, and why my suggestion makes little sense. Unless you want to implement it for when ALL is being used! :)

Cristian

Re: Another poll

*Message #17 Posted by **Namir** on 5 June 2011, 9:46 a.m.,*
in response to message #1 by Walter B

My vote is for "a".

:-)

Namir

a

*Message #18 Posted by **Geir Isene** on 5 June 2011, 10:42 a.m.,*
in response to message #1 by Walter B

:)

Edited: 5 June 2011, 10:43 a.m.

Re: Another poll

*Message #19 Posted by **sjthomas** on 5 June 2011, 1:03 p.m.,*
in response to message #1 by Walter B

A

Re: Another poll

*Message #20 Posted by **Walter B** on 5 June 2011, 1:19 p.m.,*
in response to message #19 by sjthomas

Thanks for voting! Looks like a pretty unambiguous result. Honestly, I didn't expect it in this extent, since the better accessibility of a second prefix may carry some practical benefits, and the three HPs using three prefixes (65, 67, 34C) did place them one key away from the edge maximum. Anyway, we make the wp 34s with the people for the people, so we'll leave the prefixes in row adjacent to each other.

Walter

Re: Another poll

*Message #21 Posted by **Marcus von Cube, Germany** on 5 June 2011, 3:06 p.m.,*
in response to message #20 by Walter B

Thanks for this! :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 4 June 2011, 8:32 p.m.*

I haven't done an exhaustive search as yet but I can't seem to locate a bunch of the HP-16C-like functions such as rotate (RL, RLC, RR, RRC), shift (ASR), the DBL's, [RL] Justify, etc. in the X.FCN menu (emulator commit 993, calc.bin commit 994, and "ENTER_20b_1_18.pdf" commit 983 -- all from 999).

Are they yet to go in or have they been removed (sacrificed to the flash-size limitation gods)?

My apologies if this has been asked before but why are there 2 PDF manuals in the SVN tree ("ENTER_20b_1_18.pdf" -- strange name!, and "wp34s_Manual.pdf")? The former seems to be the more up-to-date, showing more details of the stack mechanics, for example, and showing a rev number of 1.18 vs. 1.17. Should one be removed from the repository to avoid confusion?

Thanks...

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #2 Posted by **Paul Dale** on 4 June 2011, 8:37 p.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

These functions are in the X.FCN catalogue when you are in integer mode only. I.e. this catalogue is context sensitive. Don't worry, they are all there and implemented and won't be removed. A lot of the real functions disappear when in integer mode and there is yet another version of the catalogue for when you are in alpha mode.

The ENTER_20b_1_18.pdf is the more recent documentation somewhat matching the subversion build. It won't necessarily match the release build however wp34s_Manual.pdf will.

So get the release, and the correct manual is included.

If you're going directly to subversion get the ENTER... version. If you are going to subversion, you are living on the leading edge and can cope with some degree of confusion :-)

Pauli

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 8:35 a.m.,*
in response to message #2 by Paul Dale

Ah! You are so right! I guess I have to pay more attention to the "in modes" column. My mistake.

I thought we all liked living on the (b)leading edge and that is why we so much like this project! Thanks for the explanation on the 2 documents. I fully understand. I also understand that the doc, by its very nature, will usually be a step or two behind the wavefront.

I have to say that I am still amazed by how much you guys have packed into this little beast.

BTW: RCF is still showing "xxx" in commit 1004. Reminds me of my days working with BSD! I am wondering what this X-rate function is all about.

Best regards...

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #4 Posted by **Paul Dale** on 5 June 2011, 8:49 a.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

> Quote:
>
> BTW: RCF is still showing "xxx" in commit 1004. Reminds me of my days working with BSD! I am wondering what this X-rate function is all about.

It shouldn't be. The file name got changed to *Manual_wp_34s_2_0.pdf* for the soon to be released beta firmware. Subversion should have deleted the older manual file when you updated.

To answer your question, RCF is just like RCL except that it uses the backup flash register region as the register source. Thus, effectively doubling the number of registers available although half are basically read only.

It accepts a complex prefix and all the arithmetic suffixes of course. Indirection is supported as well and it gets the flash register number from a normal register which seems like the more useful option.

- Pauli

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #5 Posted by **Paul Dale** on 5 June 2011, 8:50 a.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

> Quote:
>
> I fully understand. I also understand that the doc, by its very nature, will usually be a step or two behind the wavefront.

And vice-versa on occasions too.

Then are the times when the two are just plain different.

- Pauli

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #6 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 9:28 a.m.,*
in response to message #5 by Paul Dale

Yes, SVN did delete the ENTER... and add Manual...

```
D    doc/ENTER_20b_1_18.pdf
A    doc/Manual_wp_34s_2_0.pdf
...
Updated to revision 1004.
```

Another question about the bit manipulation functions. My reading of the manual and the operation of the 34S is that these functions (eg: BC?, CB, etc.) operate on a *fixed* bit (ie: BC? 14) in the X register. It does not look like you can have the bit in question be a variable.

My reading of the HP16C manual shows that the 16C version of these operations has the bit to be operated upon as a variable (defined in X) with the value to be tested and/or modified being in Y.

Page 50 of the HP16C manual:

```
• The word containing the specific bit must be in the Y-register.
• The magnitude of the number in the X-register specifies the
  number of the bit to be set, cleared, or tested.
```

The 11C allows the operation to be used more effectively in a program where you want to scan through a word.

Is there a way to tell the op-code to use the 16C-like mode rather than a fixed bit position? Maybe something like the "x =" function requiring you to switch to alpha mode to enter "x=y"?

Thanks...

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #7 Posted by **Walter B** on 5 June 2011, 10:09 a.m.,*
in response to message #6 by Neil Hamilton (Ottawa)

That's a special topic. We had repeated discussions about parameter transfer to integer functions in the course of this project. In this very case, I advocated the 16C-way, while Pauli preferred the way it's implemented now with indirection and all bells and whistles. After all, he uses such operations more than I do, so I gave in to the expert :-)

Walter

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #8 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 10:55 a.m.,*
in response to message #7 by Walter B

Indirection you say?? Is there a thread you can point me to that would explain how that is done? That would be very useful.

Is there something in the manual that I missed? If not, perhaps a paragraph or two might help since this differs from the baseline 16C behaviour. :-)

BTW: The several of the blue underlined links in the manual are not working. Specific examples from the manual (most from the function description table): "above" in c..., "above" in BASE, "catalog of conversion table" in D->R, "below" in ERR, "above" in H.MS, "indicators" in RCLM, "catalog of conversion table" in R->D, "indicators" in STOM, first "addressing table above" in x < ...?, "tables" in 0...9, "addressing tables" in A...Z, "above" in h STATUS, "above" in XEQ, "tables" and "indicators" in the paragraphs immediately above the the function description table.

I am making heavy use of this table while learning the beast and like the hot-link capability (when it works :-).

It might be overkill but in the "Catalog contents in detail" tables, it would be really useful if this was hot linked to the more descriptive table entires (though I can fully understand if you don't want to do this!!!).

Thanks...

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #9 Posted by **Walter B** on 5 June 2011, 12:27 p.m.,*
in response to message #8 by Neil Hamilton (Ottawa)

> Quote:
>
> Indirection you say?? Is there a thread you can point me to that would explain how that is done? That would be very useful.

I'd recommend page 14 :-) Page 26 explains how you recognice a command allowing indirect addressing. And then the index entry for the command(s) you are interested in ...

Thanks for checking the hyperlinks. I moved some chapters a few weeks ago and may have broken more than I thought.

> Quote:
>
> It might be overkill but in the "Catalog contents in detail" tables, it would be really useful if this was hot linked to the more descriptive table entires (though I can fully understand if you don't want to do this!!!).

That would mean defining a text mark for each and every cataloged command and establishing links to them. I count on your understanding ;-)

Walter

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 2:06 p.m.,*
in response to message #9 by Walter B

Hi Walter

Thanks for the patience and heads-up.

> Quote:
>
> I'd recommend page 14 :-) Page 26 explains how you recognice a command allowing indirect addressing. And then the index entry for the command(s) you are interested in ...

Page 16 turns out to be the critical table (go figure: "Addressing Labels" -- just like the broken link in the function table was trying to tell me!). The crucial piece of information I had missed was the "->" key being used for indirection.

Now I have to explore how it works.

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #11 Posted by **Paul Dale** on 5 June 2011, 5:29 p.m.,*
in response to message #7 by Walter B

As Walter mentioned we discussed this long and hard. We started off having the bit commands operating as the 16c (BS, BC, ...). For a while these got extended like the flag commands were but that got lost later for reasons I don't remember. Then we added the current versions which are actually more flexible and more compact versions with arguments (BS#, BC#, ...). I've a suspicion that there was a third complete suite as well but I'm probably misremembering. Anyway, the result was a big mess of bit operations mostly alike.

After much back and forth, the decision was finally made to lose direct 16c compatibility here (helped along by the almost complete lack of published 16c programs) and stick with the single set that provided the more complete & useful range of functionality. I.e. the BS#, BC#, ... new commands.

The bottom line is that the current bit commands are considerably more flexible than the 16c's. The 16c's bit operations are available by swapping x and y before the operation and going indirect on y for the bit number. So were very nearly compatible and more flexible.

For similar reasons the shifts and rotates got count arguments. In this case we definitely had three flavours: SR, SRn, SRB. The first two being the 16c commands and the last being a byte shift as per the RPL machines. Giving the command an argument completely replaced all three (times five for the five shifts and rotates) with a single more powerful command with the proviso that direct 16c compatibility was lost for the SRn command. I think this loss of direct compatibility is worth the gain in usefulness.

If you really want the direct 16c commands, define them using alpha labels and XEQ them from a flash program region. We've got enough capability to exactly emulate the 16c here. From memory this is the kind of framework you'll require:

```
LBL'BS'
x<>y
BS->Y
x<>y
STO L
DROP
RTN
```

Have fun with the indirection. Almost every command that takes an argument can take an indirect argument as well. Also, remember that all registers including the stack can be used for the indirect register.

- Pauli

Edited: 5 June 2011, 5:44 p.m.

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #12 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 6:43 p.m.,*

in response to message #11 by Paul Dale

Hi Paul,

After I got the hang of it (ie: once I had figured out the required swap-aroo -- no geographical pun intended!), I realized that this was indeed a more flexible option than the 16C version. I have never used a 16C myself and thus feel no great allegiance an exact replica of its functions. As I mentioned, it was my oversight of the "->" giving you indirect address mode.

I still suspect that a (short) paragraph (or two) in the document might help grease the wheel to usage of these beauties! I agree that most of the information is buried in there but the information density is quite high in places. :-)

BTW: I have noticed in the latest calc.bin binaries that the flashed calculators are showing "34s 2.0 ?100" rather than the "34s 2.0 ?1001" that shows up in the emulator. Does the emulator have an extra character in the dot matrix line or is something else happening?

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #13 Posted by **Walter B** on 5 June 2011, 7:08 p.m.,*
in response to message #12 by Neil Hamilton (Ottawa)

Neil,

Since you keep asking for some more paragraphs: Looking at the examples given on pp. 14-16, what do you want added or explained in more depth? As I don't know what you don't know, some idea(s) will be helpful to meet your needs. TIA

Walter

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #14 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 7:33 p.m.,*
in response to message #13 by Walter B

Hi Walter,

Honestly, I am not trying to be a pest.

Some of the content Paul put in his post might find its way into the manual. I did figure most of it out myself through a bit of trial and error (mostly error!) but without some seeding from you two, I doubt I would have gotten there.

I will see if I can boil down the information into a very few sentences and post it back to you. Would that be OK?

Cheers...

Re: WP34S functions missing in action? (LJ, RJ, RL, RLC, RR, RRC, etc.)

*Message #15 Posted by **Walter B** on 6 June 2011, 1:50 a.m.,*
in response to message #14 by Neil Hamilton (Ottawa)

I'd appreciate that of course :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Version 1.18

*Message #1 Posted by **Gerry Schultz** on 4 June 2011, 4:48 p.m.*

Hey guys:

A little clarification please. In Eric's posting below about ordering overlays (which I did too) he mentions updating the overlay to the 1.18 layout. I downloaded the latest version from sourceforge.net/projects/wp34s/files/ but it shows the zip file to be dated 2011-05-11. When I flash my 30b with last night's download and check the version, it says I have 1.17 874. It has said that for the last 3 downloads which I do weekly on Friday night.

So, has 1.18 been out or is it in some pre-alpha evaluation and not released to SourceForge yet?

Thanks, Gerry

Re: WP 34S Version 1.18

*Message #2 Posted by **fhub** on 4 June 2011, 5:27 p.m.,*
in response to message #1 by Gerry Schultz

> Quote:
>
> So, has 1.18 been out or is it in some pre-alpha evaluation and not released to SourceForge yet?

If you always want the latest version you have to look at the develop site:
http://sourceforge.net/projects/wp34s/develop

There you can click on the link 'SVN browse code' to get any up-to-date file you want, the files for flashing your real calc are in the subfolder 'trunc/realbuild'.

Edited: 4 June 2011, 5:28 p.m.

Re: WP 34S Version 1.18

*Message #3 Posted by **Marcus von Cube, Germany** on 4 June 2011, 6:46 p.m.,*
in response to message #2 by fhub

I'm out of the house in the moment. We're planing some "final" release in due course.

Re: WP 34S Version 1.18

*Message #4 Posted by **Walter B** on 4 June 2011, 7:02 p.m.,*
in response to message #3 by Marcus von Cube, Germany

... and, watch out, the layout will change.

BTW, the zipped package is updated seldom. As Franz wrote, please look to other branches of the project tree. Then you'll be closer to the edge of development - with all advantages and disadvantages

...

Walter

Re: WP 34S Version 1.18

*Message #5 Posted by **Paul Dale** on 4 June 2011, 7:41 p.m.,*
in response to message #1 by Gerry Schultz

And it looks like there might be a couple of minor revisions to the keyboard layout coming up. This is spurred on in part by Eric doing a full overlay allowing more space for labels....

- Pauli

Re: WP 34S Version 1.18

*Message #6 Posted by **Eric Rechlin** on 4 June 2011, 10:14 p.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> And it looks like there might be a couple of minor revisions to the keyboard layout coming up. This is spurred on in part by Eric doing a full overlay allowing more space for labels....

In a week I am going out of town for a month, and right now I have 47 overlays that have been ordered that I need to ship out before I leave. I would ideally start making them on Monday to give myself enough time to get them done, and I certainly can't wait past Wednesday. What do you think is the timeline for the revisions? Or should I not even bother to get those in place for this production run?

I suppose I could take my equipment with me on my trip but I would really rather not do that.

Eric

Re: WP 34S Version 1.18

*Message #7 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 9:39 a.m.,*
in response to message #6 by Eric Rechlin

I, for one, could certainly wait another month to allow the dust to settle. I am in no panic to get a hold of the overlays.

I ordered a couple right away because you mentioned you were going to "accept a small number of orders" and didn't want to get caught out on the wrong side of the "small number".

I suspect if you delayed doing your print run until you are back it would not hurt anyone unduly.

Re: WP 34S Version 1.18

*Message #8 Posted by **Cristian Arezzini** on 5 June 2011, 11:02 a.m.,*
in response to message #7 by Neil Hamilton (Ottawa)

Neil, I think he *wants* to ship some now, to be used as a test and to get user feedback. I think he was just asking if there is going to be a layout update very soon, so that even the "beta test" overlays could include it, so that they would be already actual, without being obsoleted after a few days. Either way, I'll be glad to test it when it arrives, if feedback might be important; even if this

means having to buy another set when the layout is finalized.

Cristian

Re: WP 34S Version 1.18

*Message #9 Posted by **Eric Rechlin** on 5 June 2011, 3:28 p.m.,*
in response to message #8 by Cristian Arezzini

> Quote:
>
> Neil, I think he *wants* to ship some now, to be used as a test and to get user feedback.

That's exactly it, and exactly why I only am offering it for a short while. I don't want to have too many of them out there until the kinks are worked out.

Eric

Re: WP 34S Version 1.18

*Message #10 Posted by **Neil Hamilton (Ottawa)** on 5 June 2011, 4:34 p.m.,*
in response to message #9 by Eric Rechlin

OK, I understand. I am still in for the 2 I ordered.

Cheers...

Re: WP 34S Version 1.18

*Message #11 Posted by **BobVA** on 5 June 2011, 4:25 p.m.,*
in response to message #6 by Eric Rechlin

Eric:

I understood this to be a run of "beta test" labels, so I'm happy to take the current layout, as-is, for testing.

Regards, Bob

Re: WP 34S Version 1.18

*Message #12 Posted by **Marcus von Cube, Germany** on 6 June 2011, 2:19 a.m.,*
in response to message #11 by BobVA

Eric, ship 'em! :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is the celestial cycle for Red Dots on TAS?

*Message #1 Posted by **Michael de Estrada** on 4 June 2011, 2:06 p.m.*

The HP-35 Red Dot is clearly one of the rarest and most coveted calculator collectables, and only very infrequently does an authentic one appear on TAS. Even rarer is one that is totally original, in good working order and complete with all its original accessories. I'm the fortunate owner of one of these complete sets, which is the only one I've noticed, since I started monitoring TAS about 6 years ago. There was a fake one about a year ago, and another that may have sold privately, but that's all I've seen. It seems like there are very few in existence anymore, and most of those are the hands of collectors like myself who have no interest in selling them. Anyways, I'm just wondering if anyone has any ideas or would want to speculate as to if and when another one might appear for auction. Right now TAS browsing is pretty boring as there are few if any interesting and rare items being listed.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #2 Posted by **DavidShenk** on 4 June 2011, 3:12 p.m.,*
in response to message #1 by Michael de Estrada

It's very irritating that TAS does not have a way to research things like this that sell much more infrequently.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #3 Posted by **aj04062** on 4 June 2011, 7:41 p.m.,*
in response to message #2 by DavidShenk

I think you can research, but have to PAY for the data. BAH!

Re: What is the celestial cycle for Red Dots on TAS?

*Message #4 Posted by **Keith Midson** on 5 June 2011, 2:26 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> Right now TAS browsing is pretty boring as there are few if any interesting and rare items being listed

Oh how can this be said when I have 2 timeless 90's HP's listed right now, a 48G and a 10B (please no one take this seriously!!).

Edited: 5 June 2011, 2:27 a.m.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #5 Posted by **aj04062** on 5 June 2011, 10:05 a.m.,*
in response to message #1 by Michael de Estrada

Would a 9810A be interesting and unique? I was thinking of putting one I just got up on TAS.

However, I can't help tinker with it before I would consider doing it.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #6 Posted by **Michael de Estrada** on 5 June 2011, 4:46 p.m.,*
in response to message #5 by aj04062

I'd say that the HP 9810A is interesting, however, it is not nearly as rare as an HP 35 Red Dot. I'd put it in the same class as an HP 92 or HP 81, which show up infrequently and command a high price, but are certainly attainable and are not milestone machines. If you had an HP 9800A, I'd be more impressed. If you had an HP 95C, then I'd prostrate myself at your feet.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #7 Posted by **aj04062** on 5 June 2011, 8:19 p.m.,*
in response to message #6 by Michael de Estrada

Please Michael, I wish you no harm!

Re: What is the celestial cycle for Red Dots on TAS?

*Message #8 Posted by **David Ramsey** on 5 June 2011, 8:20 p.m.,*
in response to message #5 by aj04062

Hm. I have a Red Dot, but I don't have a 9810A. You should definitely sell it to me, knowing it will go to a loving home. I finally found an SR-60 recently and am feeling peckish, especially since the only English manuals that exist for this machine are those at the Computer History Museum, and I'm having to pay them to scan 'em for me.

Do you have manuals or anything other than just the calculator?

Re: What is the celestial cycle for Red Dots on TAS?

*Message #9 Posted by **aj04062** on 5 June 2011, 8:35 p.m.,*
in response to message #8 by David Ramsey

It seems like a "loaded version".

Has the following options: Standard 51 Total Storage Registers 003 2036 total program steps 004 Printer

Has Statistics (with overlay & QRG), Peripheral Control and Mathamatics Module

I need to debug a keyboard issue. Tony Duell is helping me debug. The printer and card reader need to be rebuilt/repaired.

Supposedly it came from the cardiology dept at a Philadelphia hospital.

Re: What is the celestial cycle for Red Dots on TAS?

*Message #10 Posted by **David Ramsey** on 5 June 2011, 9:02 p.m.,*
in response to message #9 by aj04062

I've rebuilt a lot of the small HP card readers. Next I get to practice on the SR-60, but it looks as if

its giant card reader will be pretty simple comparatively. No tiny nylon balls! Hopefully the 9810 card reader's large size will make it easy to deal with.

Let me know if you decide you want to part with it!

Re: What is the celestial cycle for Red Dots on TAS?

*Message #11 Posted by **aj04062** on 5 June 2011, 9:15 p.m.,*
in response to message #10 by David Ramsey

will do Dave.

I'll send you some pictures (not that I have decided yet) for you to look at.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Speaking of CAS: CAS48 or Erable?

*Message #1 Posted by **mr-scorpio** on 4 June 2011, 10:32 a.m.*

Hi, Firstly apologies, I'm new to HP calcs on the whole. So a bit of a 'noob' (Hate that term).

However it seems for the 48GX it IS possible to install a comprehensive Computer Algebra System (CAS) on it.

So far i have discovered Erable & CAS48

Is there a direct comparison table that compares the features of these two applications? Which is the best & most complete? Which is the most stable? Which is the fastest?

Are these the only two CAS systems available for the 48GX? - Are there others?

I would have asked this on the hpcalc.org website, but unless someone can point it out, it doesn't seem to have a Forum?

Many thanks for your wisdom! Al

Re: Speaking of CAS: CAS48 or Erable?

*Message #2 Posted by **Marcus von Cube, Germany** on 6 June 2011, 7:23 a.m.,*
in response to message #1 by mr-scorpio

I don't know CAS48 and have only marginally played around with Erable on my 48G but the latter must be good enough for having been adopted by HP for their CAS machines, most notably the 49G and 50G series. The function set you find in these calcs is provided in large parts by Erable if I remember correctly.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP 28S - Partial CAS?

*Message #1 Posted by **mr-scorpio** on 4 June 2011, 9:23 a.m.*

I've recently become the proud owner of a mint HP 48GX (Black Screen, 2003 build)

However this has gotten me into researching other HP calcs etc. One thing that has struck me is that whilst the 48GX can be 'expanded' by loading a CAS app like Erable onto it (& eating up 80% of its storage), the 28S seems to have had some sort of simpler 'CAS' built into it already? - Meaning that is could symbolically Simplify and Expand epressions for example. In fact the user manual has a whole section on 'Simplification'.

My question is, the 48 series came out shortly after the 28S & dominated the 90's, but WHY did HP 'Drop' the seemingly Useful 'CAS' features that the older/simpler 28S had? - With HP calcs not getting CAS again until the more current models. Seems like a backward step by HP? OR 'CAN' the 48GX for example expand & simplify Algebraic equations (WITHOUT installing a prog), but calls it something else? Look forward to your insights.

Al

Re: HP 28S - Partial CAS?

*Message #2 Posted by **fhub** on 4 June 2011, 9:51 a.m.,*
in response to message #1 by mr-scorpio

> Quote:
>
> OR 'CAN' the 48GX for example expand & simplify Algebraic equations (WITHOUT installing a prog), but calls it something else?

Yes, the HP-48 can do such things! :-)

Just look at 'SYMBOLIC' (with <- and -> on the key 9) ...

Franz

Re: HP 28S - Partial CAS?

*Message #3 Posted by **mr-scorpio** on 4 June 2011, 10:24 a.m.,*
in response to message #2 by fhub

So to clarify: The 48GX can 'Simplify'?

Re: HP 28S - Partial CAS?

*Message #4 Posted by **fhub** on 4 June 2011, 11:07 a.m.,*
in response to message #3 by mr-scorpio

> Quote:

> So to clarify: The 48GX can 'Simplify'?

Don't ask me about any details, because I've not used it since many years.
IMHO any 'CAS' on HP-calculators is not a CAS bust just a nightmare.
If you want to use a serious CAS on a handheld then there's only one choice: TI-92Plus or TI-Voyage200 (although I prefer the 92 because of its much better keyboard).

Re: HP 28S - Partial CAS?

*Message #5 Posted by **Gilles Carpentier** on 4 June 2011, 4:59 p.m.,*
in response to message #4 by fhub

"IMHO any 'CAS' on HP-calculators is not a CAS bust just a nightmare."

I desagree. The 49 & 50G CAS is OK.

Re: HP 28S - Partial CAS?

*Message #6 Posted by **Jeroen Van Nieuwenhove** on 4 June 2011, 5:21 p.m.,*
in response to message #3 by mr-scorpio

The HP 48G series have the same ISOL, EXPAN and COLCT commands as the HP 28 series. At the time of the introduction of the HP 28, that was quite a feat, but it is of course nothing compared to the possibilities offered by Erable and ALG48 (or any modern CAS).

Edited: 4 June 2011, 5:26 p.m.

Re: HP 28S - Partial CAS?

*Message #7 Posted by **mr-scorpio** on 5 June 2011, 4:58 a.m.,*
in response to message #6 by Jeroen Van Nieuwenhove

Interesting that you mention that. I have another post requesting whether a comparison exists between Erable & CAS48 - might you know how they compare?

Would it be fair to say then that even though the 48G series 'isn't' touted as having CAS, it 'does' have numerous 'CAS-like' capabilities? Cheers

Edited: 5 June 2011, 5:06 a.m.

Re: HP 28S - Partial CAS?

*Message #8 Posted by **Jeroen Van Nieuwenhove** on 5 June 2011, 4:06 p.m.,*
in response to message #7 by mr-scorpio

ALG48 and Erable share a lot of functionality; in fact Erable is in part derived from ALG48. Head over to hpcalc.org and read the Erable and ALG48 documentation to find out more about the differences (specifically section 3.3 of the Erable documentation). Main point is: if you can have the two of them on your HP 48, do not hesitate.

Re: HP 28S - Partial CAS?

*Message #9 Posted by **mr-scorpio** on 5 June 2011, 5:11 a.m.,*
in response to message #6 by Jeroen Van Nieuwenhove

I've yet to get a serial cable for my 48GX, but when i do....

It is possible to get both Erable AND ALG48 on the 48GX at the SAME time? - How much free memory is left when one or both are installed? Cheers

Re: HP 28S - Partial CAS?

*Message #10 Posted by **Jeroen Van Nieuwenhove** on 5 June 2011, 4:13 p.m.,*
in response to message #9 by mr-scorpio

Well, I only own a physical HP 48G, so I do not have any experience. I stuffed Metakernel, ALG48 and Erable into my Emu48 emulation, but I do not know which memory card you need to accomodate ALG48 and Erable on your HP 48GX. Erable needs 120K and ALG48 4.2 requires 50K, so you obviously need a memory expansion to accomodate both of them.

Re: HP 28S - Partial CAS?

*Message #11 Posted by **mr-scorpio** on 5 June 2011, 5:38 p.m.,*
in response to message #10 by Jeroen Van Nieuwenhove

Many thanks for the responses. What about 'CAS48', have you heard about this CAS system as well? Any idea how it compares to Erable / ALG48? Cheers

Re: HP 28S - Partial CAS?

*Message #12 Posted by **Jeroen Van Nieuwenhove** on 5 June 2011, 5:54 p.m.,*
in response to message #11 by mr-scorpio

I guess the reason why ALG48 and Erable are mentioned together so often is because these two applications were integrated in the later HP 49 and 50 series.

CAS48 and its manual can be found under the link I posted earlier. I have no experience with this application, but the documentation contains a list of its CAS functionality. You also might want to post your questions on comp.sys.hp48, which is a more specialized forum for this.

Cheers, Jeroen

Edited: 5 June 2011, 5:59 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

question about calculator auctions

*Message #1 Posted by **Gonzalo Fernandez** on 3 June 2011, 6:42 p.m.*

Why same seller having 10 calculators new for sale at $220 people buy it for $504?

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=230622550020

versus

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=230628177892

must be with the added rarity of having many bidders?

Re: question about calculator auctions

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 3 June 2011, 7:08 p.m.,*
in response to message #1 by Gonzalo Fernandez

Maybe Program link, BASIC, Prolog and memory cartridges add some value to the bundle... ;)

Greetings,
Massimo

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Envisioning how I might use my HP 41CL

*Message #1 Posted by **gene wright** on 3 June 2011, 3:04 p.m.*

Since we early adopters are very close to finally being able to play with the HP 41CL (Thanks Monte!), I have gone through the rom listings and created a few potential "loads" - arrangements of roms - that I think I'll end up trying.

I **think** it will be possible to write small HP 41 programs that will switch back and forth between these loads. The program would handle all the MMU off/on, the PLUG commands, etc.

The first two "loads" are the "fun" loads:

Load 1: This has the CCD OSX to make using the HP 41 easier and games.

```
Port 1: CCD - OSX - 4K, ROM 5 and Trek ROM - 4K, ROM 11
Port 2: Sandbox - 8K, ROM 8, 13
Ports 3 and 4: Funstuff - 16K, ROM 10
```

Load 2: This is the adventure game load.

```
Ports 1 and 2: Adventure ROM 1 - 16K, ROM 12
Ports 3 and 4: Adventure ROM 2 - 16K, ROM 13
```

Work Load 1: This is somewhat a "work" load with some fun in there.

```
Port 1: CCD - OSX - 4K, ROM 5 and Alpha ROM - 4K, ROM 6
Port 2: Finance ROM - 4K, ROM 4 and Games ROM - 4K, ROM 10
Port 3: Sandbox - 8K, ROM 8, 13
Port 4: Trekkies ROM, 4K, Rom 11 and RAM - 4K
```

Work Load 2: This is an example of a work load. Not for me, but an example.

```
Port 1: Math Rom - 4K - ROM 1 and Stat Rom - 4K - ROM 2
Port 2: Finance Decisions Rom - 4K, ROM 4 and Circuit Analysis Rom - 4K, Rom 6
Port 3: Advantage Rom - 12K, Rom 22,24
Port 4: Survey Rom - 4K, Rom 3 and Standard Rom - 4K, Rom 5
```

I think this is going to be really fun.

Re: Envisioning how I might use my HP 41CL

*Message #2 Posted by **Ángel Martin** on 3 June 2011, 4:04 p.m.,*
in response to message #1 by gene wright

Nice to see this much gray matter put in place in anticipation of the big event :-)

One comment I'd make related to the SandBox.:= As seminal it was to get my feet wet on MCODE I should say it's been replaced by other modules since:

- use the the TOOLBox-II for utilities
- use the Sandmtah for ... er math stuff
- use the Alpha ROM for Alpha powerhouse
- and last but not least the Bufferland and Rampage modules for deep & wide buffer and RAM management

I know, too much stuff but hey, this is a live system after all these years :-)

Best, 'AM

Re: Envisioning how I might use my HP 41CL

*Message #3 Posted by **Geoff Quickfall** on 3 June 2011, 4:17 p.m.,*
in response to message #2 by Ángel Martin

Its like the first day you purchased the 41C!!!!!!!!

Have to find a cave and play for hours!!!

Hunt the wumpus, wasn't that a game?????

Geoff

And, hunt the wumpus is in the ADV1/ADV2 rom file in the 41CL

*Message #4 Posted by **gene wright** on 3 June 2011, 4:25 p.m.,*
in response to message #3 by Geoff Quickfall

As well as "The Caves" and more.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=169266

Re: Envisioning how I might use my HP 41CL

*Message #5 Posted by **Monte Dalrymple** on 3 June 2011, 4:57 p.m.,*
in response to message #1 by gene wright

Gene,

I should point out that all of these presuppose that you have the 41CL Extra Functions in Page 6 or Page 7. Otherwise there's no way to change the configuration.

Monte

Re: Envisioning how I might use my HP 41CL

*Message #6 Posted by **gene wright** on 3 June 2011, 5:22 p.m.,*
in response to message #5 by Monte Dalrymple

Oops. Yes.

But I am assuming that you could have a program in regular ram memory that could enable the MMU and load up the ports, right?

It would need to...

```
LBL SETUP
MMUCLR
804070-8007 in alpha and YPOKE (for me since I want YFNZ at page 7)
MMUEN
RTN

LBL FUNLOAD
```

```
UPLUG1
UPLUG2
UPLUG3
UPLUG4
CCDX in alpha
PLUG1L
TREK in alpha
PLUG1U
SBOX in alpha
PLUG2
FUNS in alpha
PLUG3
RTN
```

or such. That way, you can have multiple programs in main memory to change the roms loaded between "sets."

Will the entire thing work like that or do the MMU functions need to be separate?

Re: Envisioning how I might use my HP 41CL

*Message #7 Posted by **Monte Dalrymple** on 3 June 2011, 5:41 p.m.,*
in response to message #6 by gene wright

This should work. Note that you don't really need to UNPLUG the current modules from the Ports. The PLUG functions will just overwrite the current MMU programming, effectively replacing what's currently in the Port. The UNPLUG commands are mostly there for when you want to plug a physical module into a Port.

Monte

VERY COOL...

*Message #8 Posted by **Gene wright** on 3 June 2011, 5:47 p.m.,*
in response to message #7 by Monte Dalrymple

That's what I was hoping. I can imagine a set of 4 or 5 such "load roms into ports" programs if that works.

Woohoo!

Re: Envisioning: plugging modules

*Message #9 Posted by **exschr** on 7 June 2011, 7:52 a.m.,*
in response to message #6 by gene wright

> Quote:
>
> ...
>
> ```
> LBL FUNLOAD
> UPLUG1
> UPLUG2
> UPLUG3
> UPLUG4
> CCDX in alpha
> PLUG1L
> TREK in alpha
> PLUG1U
> SBOX in alpha
> PLUG2
> FUNS in alpha
> PLUG3
> ```

```
     RTN

     ...
```

Couldn't that be executed like this:

```
LBL FUNLOAD
CX in alpha
PLUG1L
TK in alpha
PLUG1U
SX in alpha
PLUG2
FS in alpha
PLUG3
RTN
```

because only the first and the last char are parsed?!
Or do you check that the module identifier has four chars?
then this:

```
LBL FUNLOAD
CAAX in alpha
PLUG1L
TAAK in alpha
PLUG1U
SAAX in alpha
PLUG2
FAAS in alpha
PLUG3
RTN
```

would do it because the two middle chars will not matter, right?

Edited: 7 June 2011, 8:29 a.m.

Re: Envisioning: plugging modules

*Message #10 Posted by **gene wright** on 7 June 2011, 9:31 a.m.,*
in response to message #9 by exschr

I believe 4 character labels are required, so yes, your second approach would work.

Re: Envisioning: plugging modules

*Message #11 Posted by **Monte Dalrymple** on 7 June 2011, 10:45 a.m.,*
in response to message #10 by gene wright

Yes, four-character labels are required, although only the first and last characters are parsed. I went with four in an attempt to make the labels more user-friendly. When I started writing the parse routine I realized that it was going to take too much code to check all four characters. Hence the first-and-last check. I suppose that I should have just reduced it to two at that point, but I felt that a two-character code might appear too "techie" to the casual user. One of my primary goals was to make this machine accessible to users like myself.

Monte

Edited: 7 June 2011, 10:46 a.m.

Re: Envisioning: plugging modules

*Message #12 Posted by **exschr** on 7 June 2011, 11:22 a.m.,*
in response to message #11 by Monte Dalrymple

Contrary to what my message above might imply, I agree with that.
I was just "exploiting the mechnisms behind it" to better understand.

Four letters are the better "mnemonic"!
Just two letters would be to short for beeing an aid to remember.
(even though the other guys in this forum are "hardcore"-experts enough to now most of the module names anyway by heart, not like me :-)

Re: Envisioning how I might use my HP 41CL

*Message #13 Posted by **Paul Dale** on 3 June 2011, 10:07 p.m.,*
in response to message #1 by gene wright

I've contemplated the same thing :-)

Hadn't decided what load outs I wanted.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: looking for Dave Shaffer (AZ)

*Message #1 Posted by **Meindert Kuipers** on 3 June 2011, 2:51 p.m.*

Sorry for being OT. Looking to contact Dave Shaffer (AZ) for tips and advice on visiting the meteor crater this summer.

Meindert

Re: OT: looking for Dave Shaffer (AZ)

*Message #2 Posted by **Geoff Quickfall** on 3 June 2011, 5:16 p.m.,*
in response to message #1 by Meindert Kuipers

i think this may be his webpage. I know he is interested in astronomy and how many Dave Shaffers in Flagstaff are there?

Anyway, doesn't hurt to try! Half way down is his email address.

Geoff

Re: OT: looking for Dave Shaffer (AZ)

*Message #3 Posted by **Dave Shaffer (Arizona)** on 3 June 2011, 10:33 p.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert,

I'm here.

You can send me emails via the forum address, or just send to shaffer at alumni.caltech.edu

I live about 40 miles down the road from the crater. (and the owner is my neighbor and a friend!!)

Dave

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another approach - shucking the clamshell, further. Book?

*Message #1 Posted by **Wanderley Navarro** on 3 June 2011, 2:13 p.m.*

After swapping several good HP-18C bodies with good HP-19BII & HP-28S CPUs I find now that dealing with the Clamshells is not too dificult. Not true for patience however...

For part of this demonstration was used the body of an 19BII without the CPU that was previously removed prying the upper part of the front since both front and back was already broken. This is why you see that the keyboard stakes are intact. The labels are from the 18C body donor.

Warm up well before attempting to remove the labels.

Initiate the removal lifting one corner with the help of a sharp blade and keep blowing hot hair.

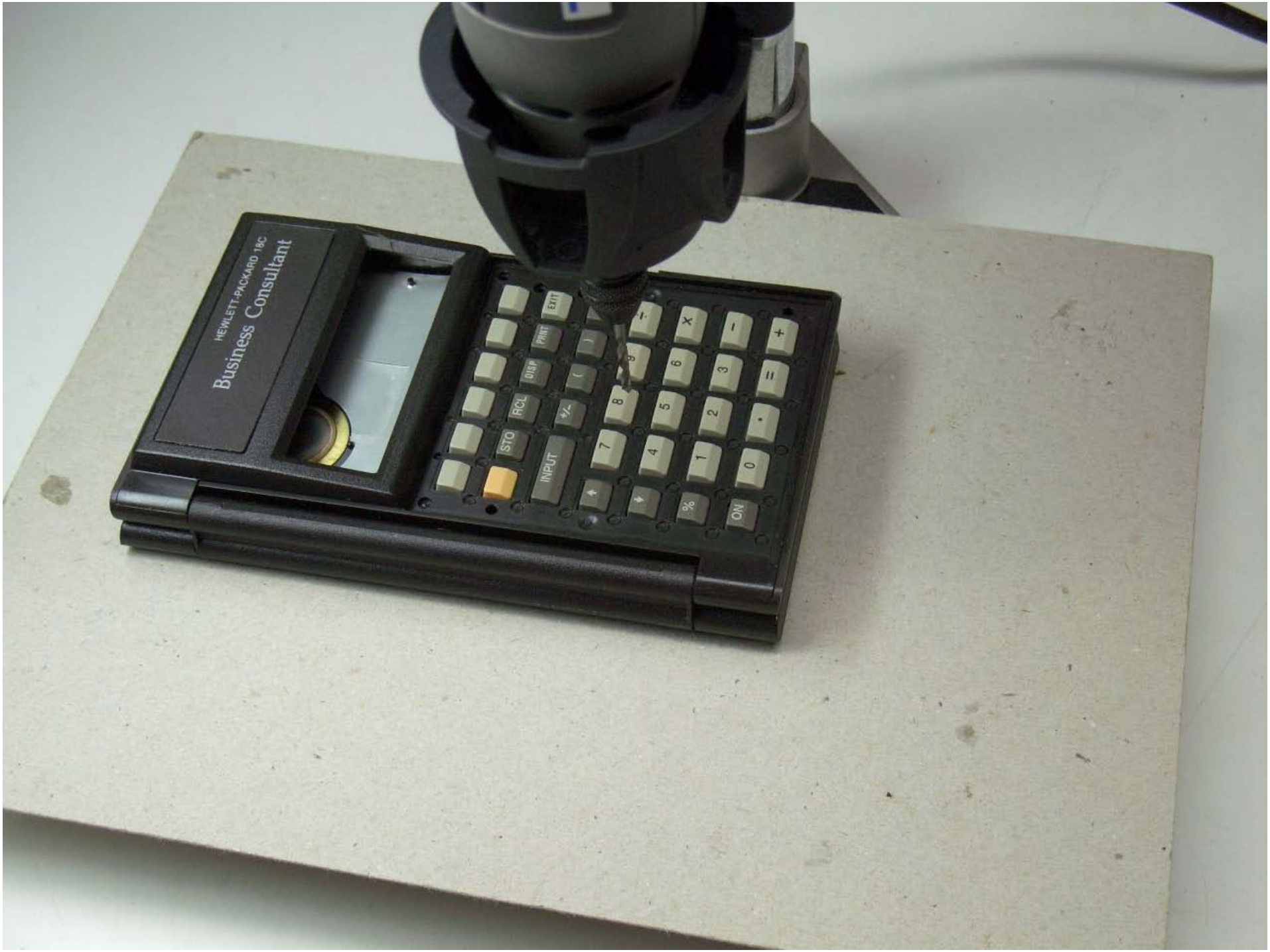
This is what you will find. Notice that the stakes near the latch area was already broken at its base and came off entirely along with the label (as pointed out by Randy on the previous thread).

I use a Dremel with vertical suport and a drill bit of 3/32" to remove the mushroomed heads of the stakes. Remember that there are stakes under the label located above the display too.

To set up the maximum down movement of the drill: First - lower the drill just enough to touch the stake head with the drill bit.

Second - with the drill bit touching the stake head adjust the lever on the suport to have the vertical movement stoped at this point.

Third - release the drill to its upper position and insert a sheet (+/- 1 mm) of cardboard below the calculator that will be lifted a bit. This way the cardboard thickness will define the deep of the drill.



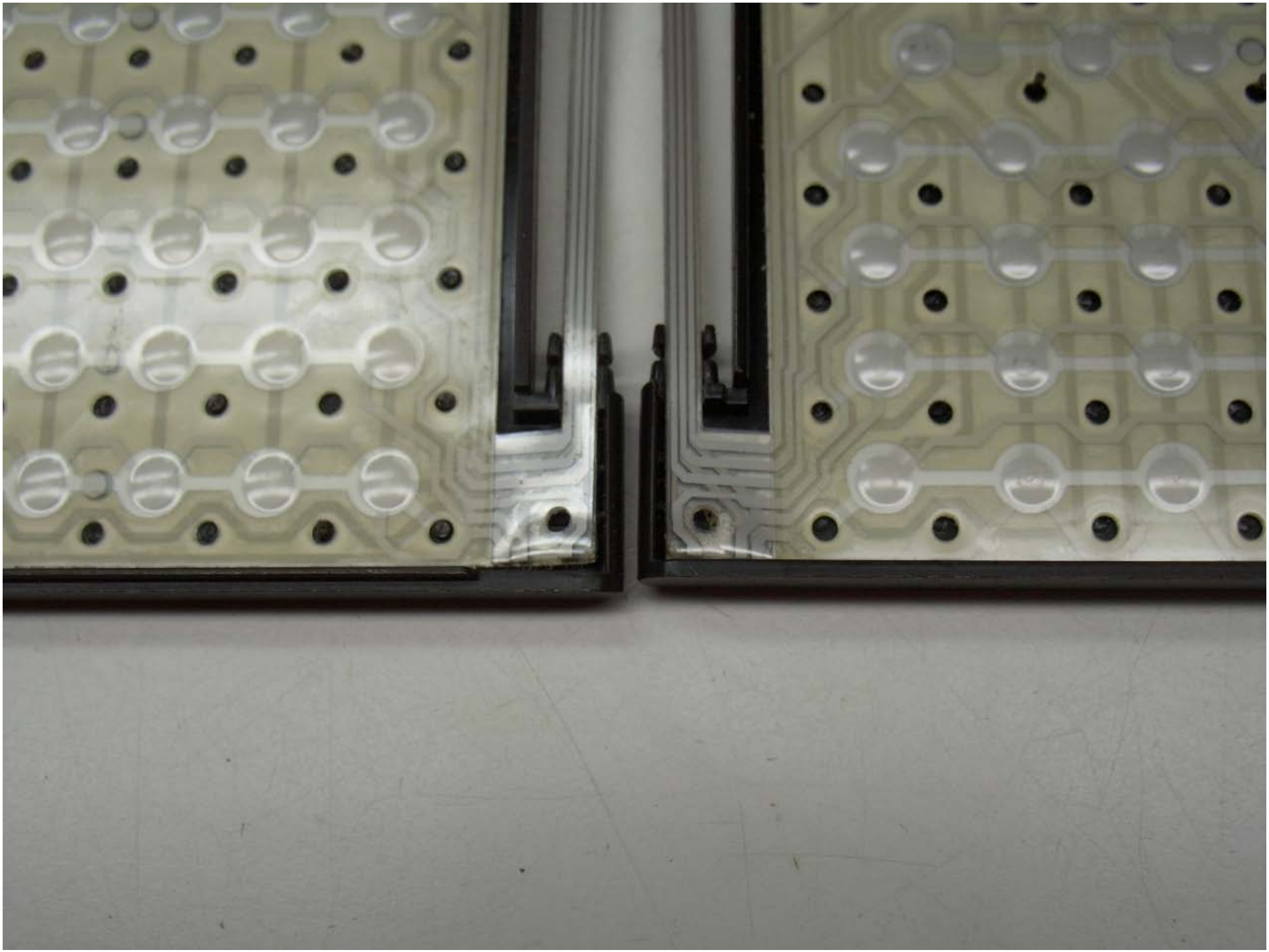
Notice (between the keys 5-6-8-9) that after drilling the head a small portion of the stake must remain available to be mushroomed in the reassembling process.

The stake's head that was removed.

So, let's take a look at the most common key issues that affect the models of this series:

1 - Broken threads on the keyboard flex PCB;

The most common area to search for broken threads are located on the lower center corners where the flex PCB folds. Look at the other areas where the PCB folds also.



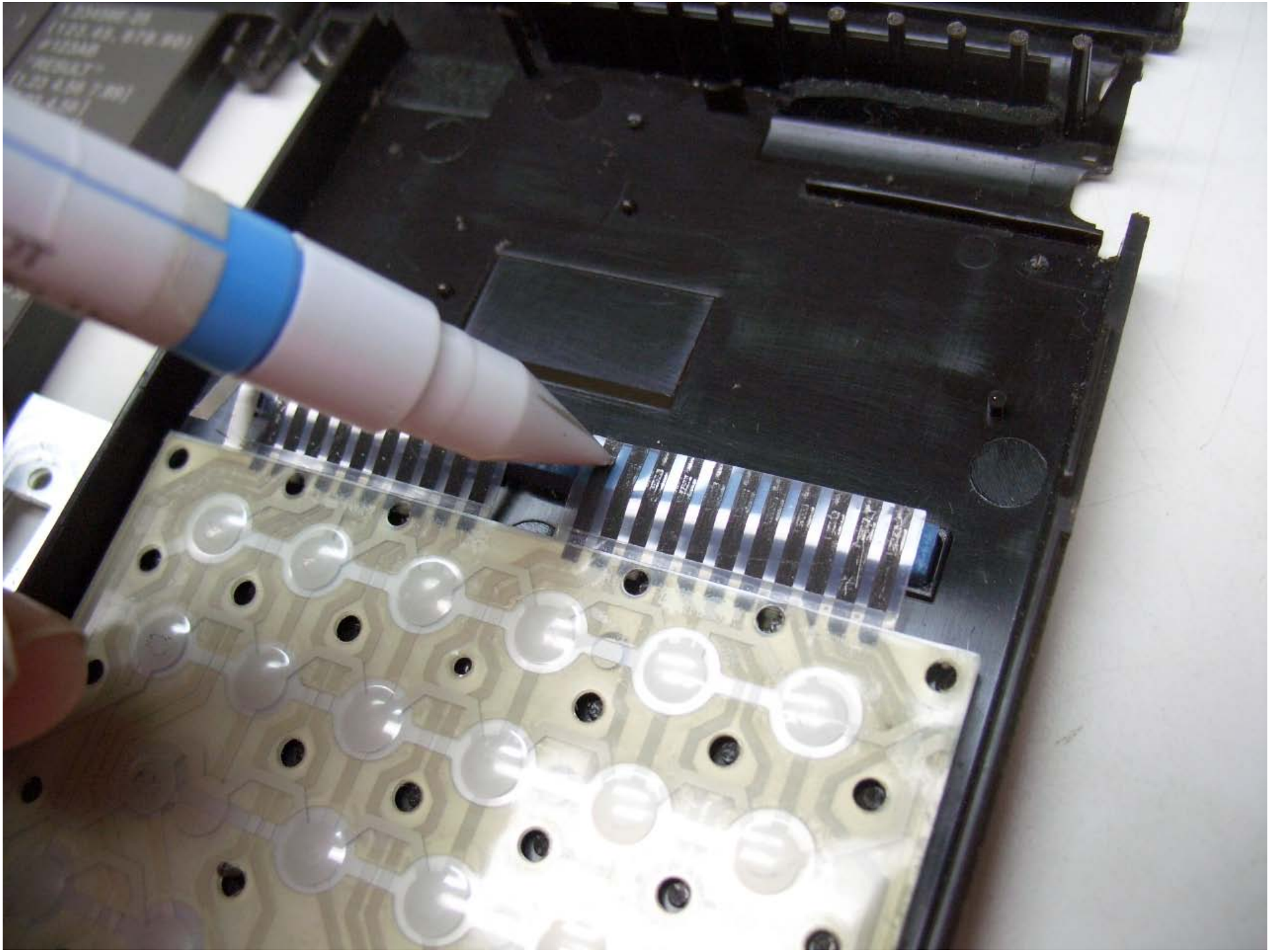
Use the keyboard schematic (provided below at the end) to find the faulty thread and fix it using something like a conductive silver mix for heat sensitive surfaces.

2 - Bad connection between the keyboard flex PCB and the main PCB that can be due to:

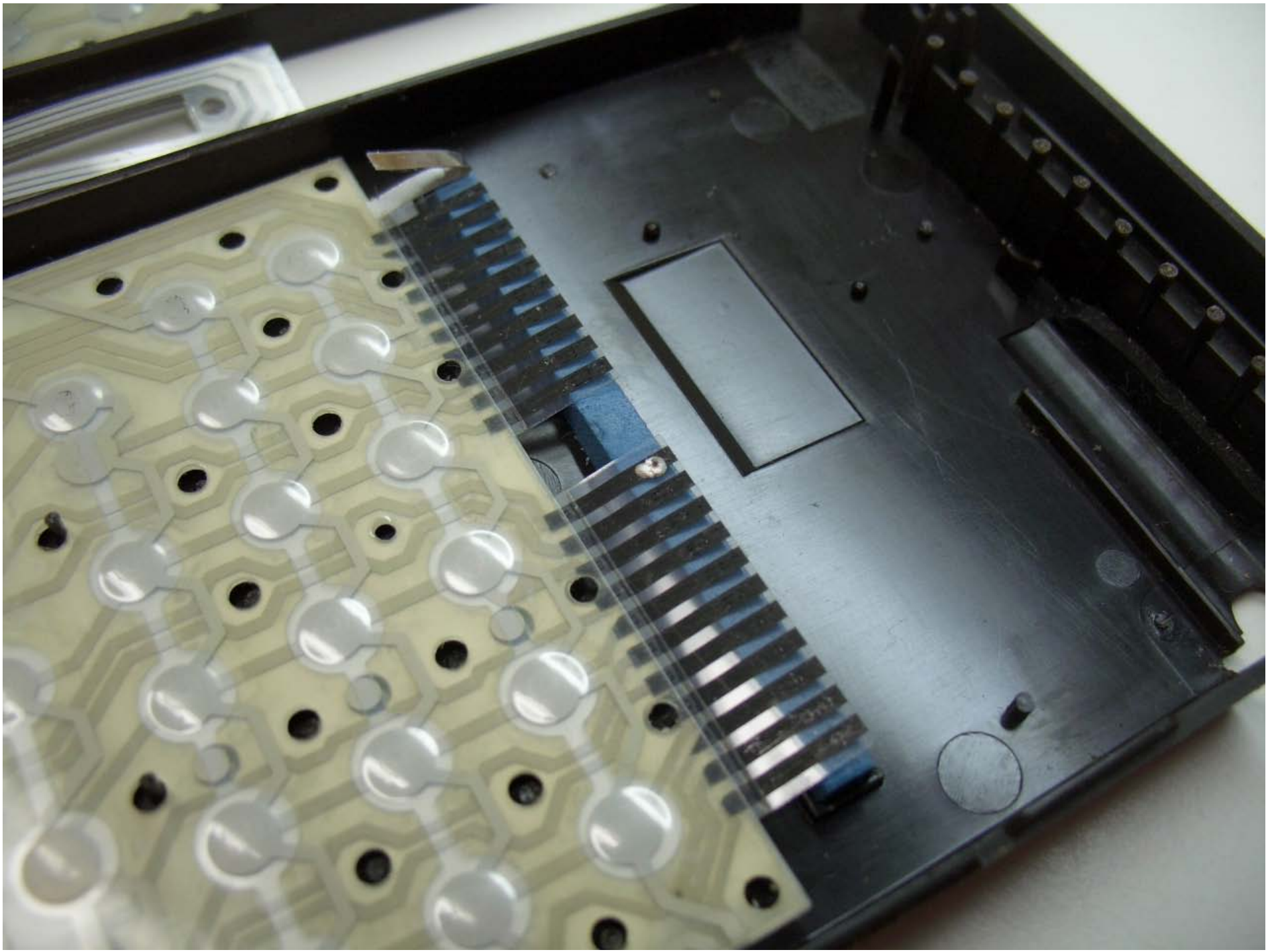
2.1 - Decomposing compression foam;

To solve this problem I go in another direction instead of replacing the foam, with the use of the silver mix on the contact points of the two PCBs. Depositing a good amount to form a small mound will fill the gap of contact between the two PCBs.

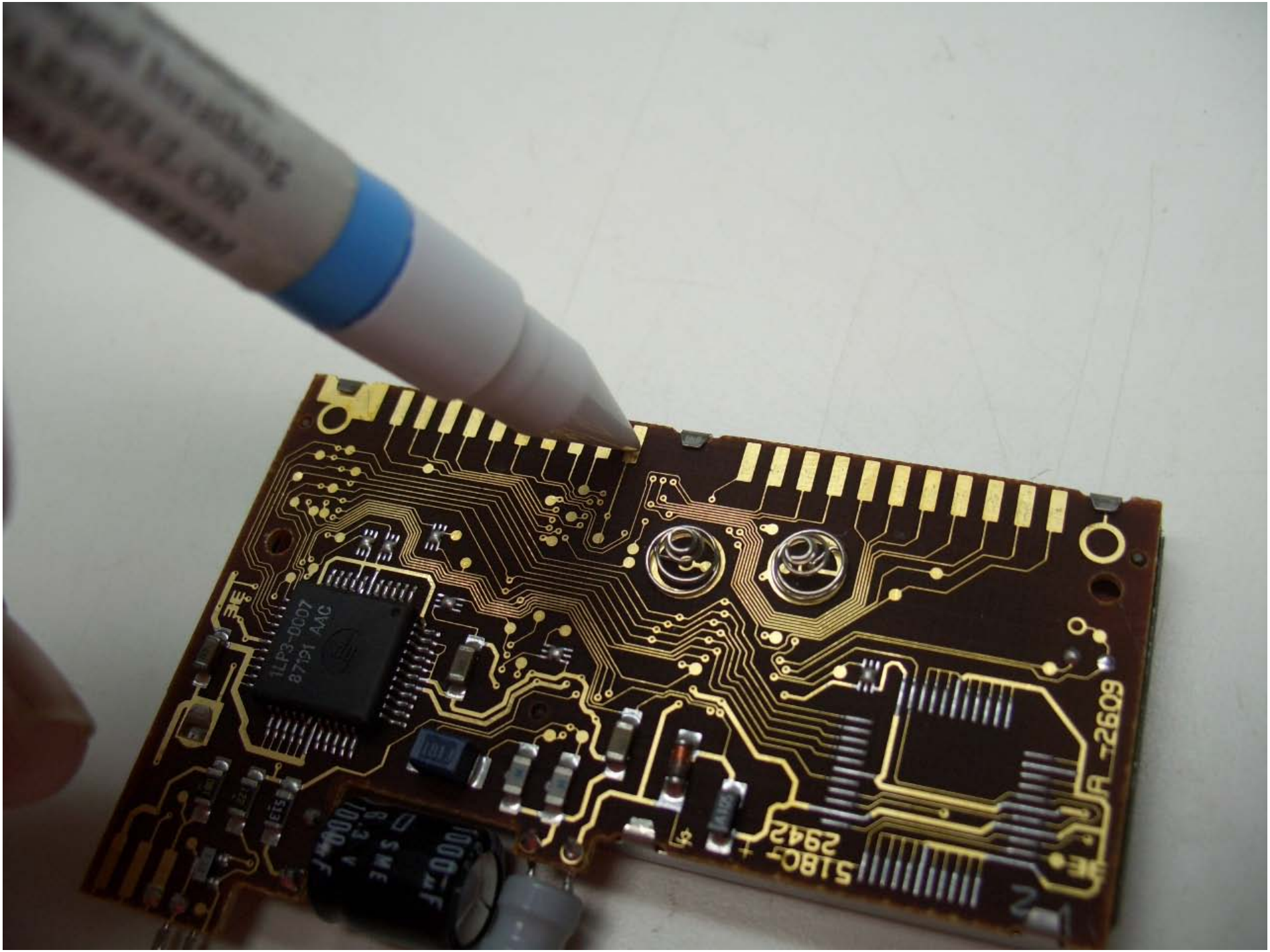
On the flex PCB points of contact...



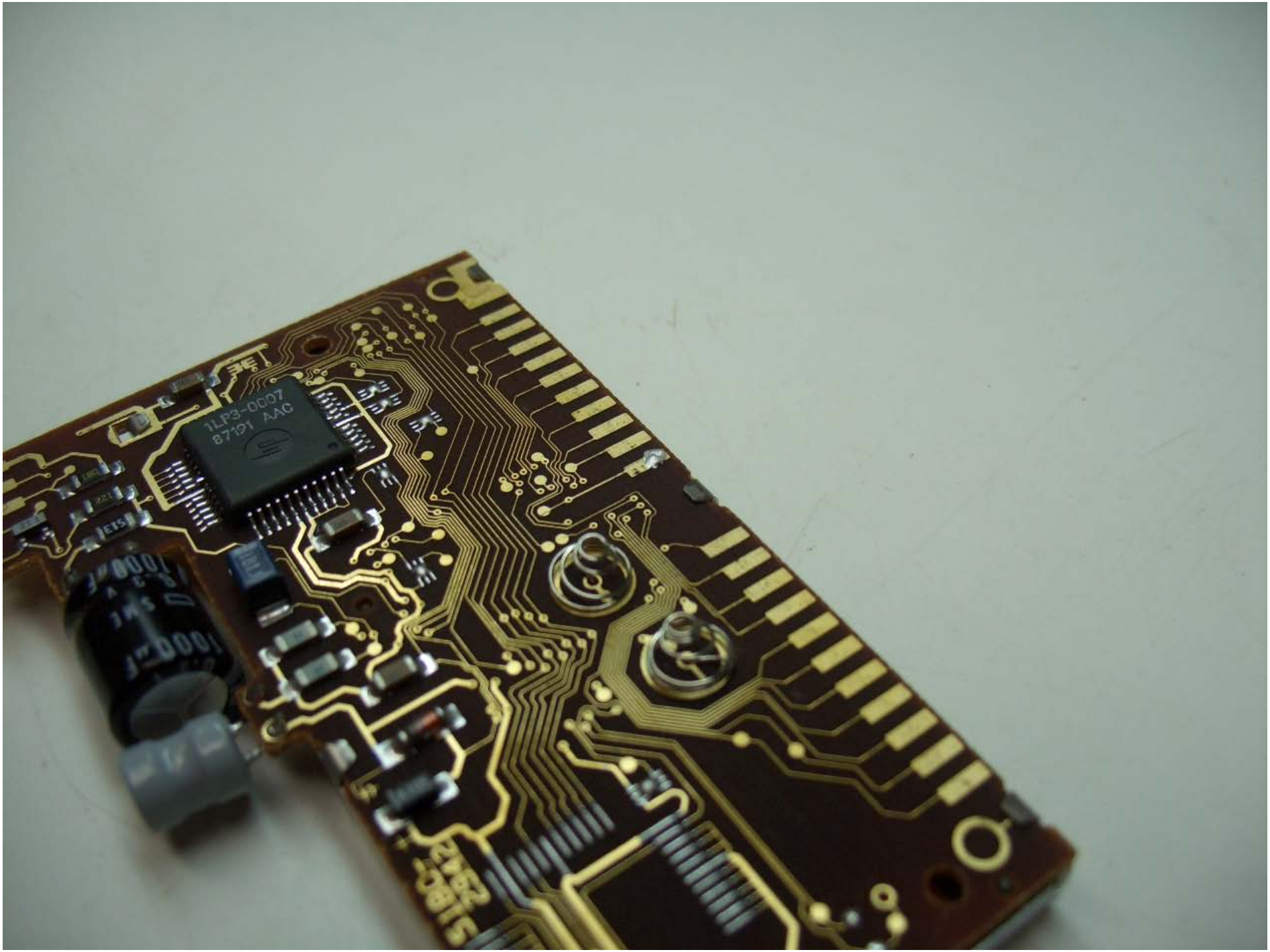
Notice the small mound...



On the main PCB contacts...



Small mounds also...



2.2 - Broken stakes near the display area;

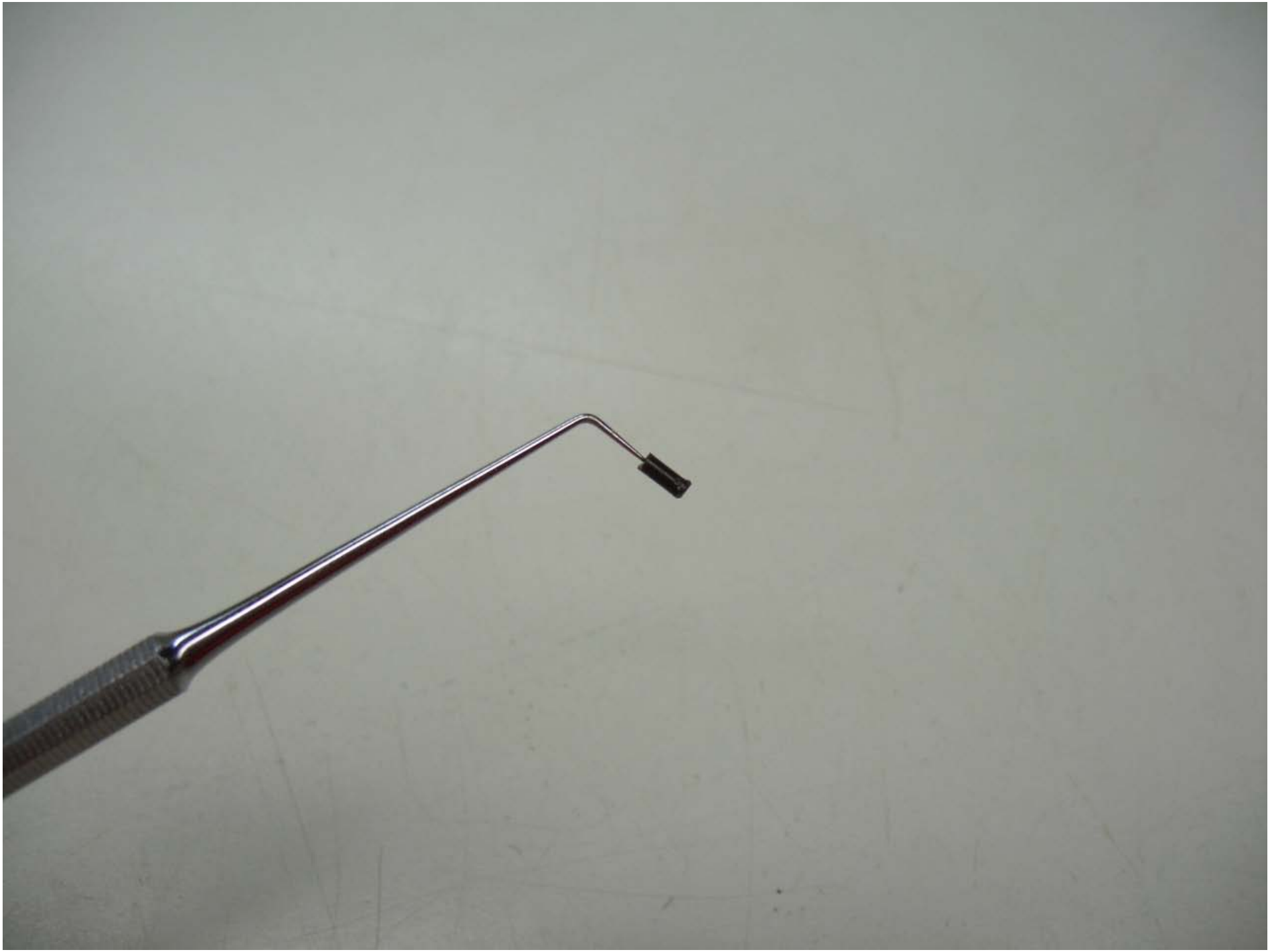
2.2.1 - You saved the original stakes. Better if they are still glued on the keyboard overlay in its original position. This is relevant since the stakes broke at variable angles and lenghts.

2.2.2 - The original stakes are missing. So a request from a donor is needed.

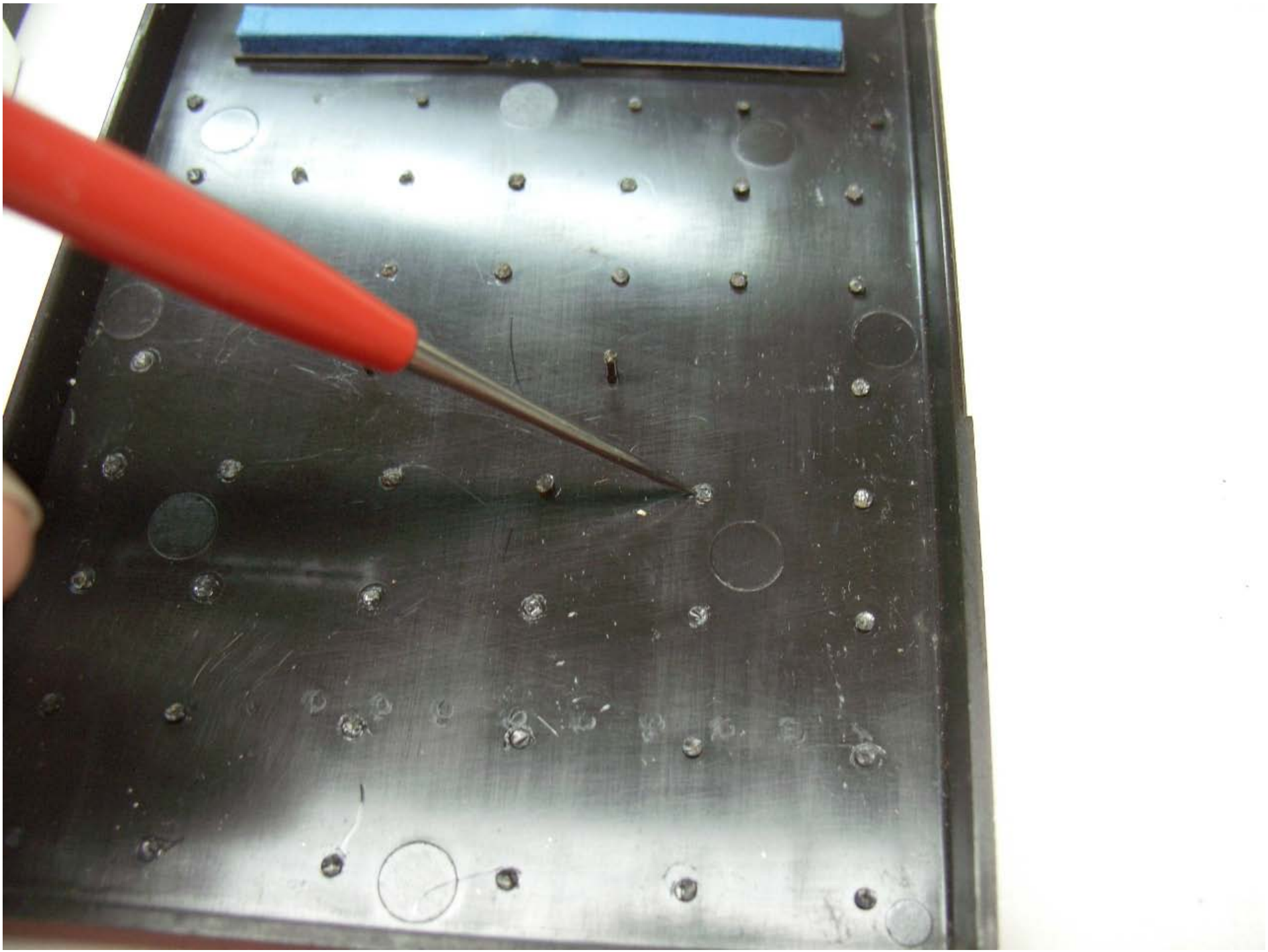
Cut flush to the back of the donor and sand any eventual remaining piece of stake on the receiver. See that the model on the picture below has already donated almost all its stakes.

With the stakes at hand some tools will be needed to accomplish the task of reinsert them. Super glue, a sharp pointing tool, a needle alike tool and a small piece of plastic to serve as the glue base.

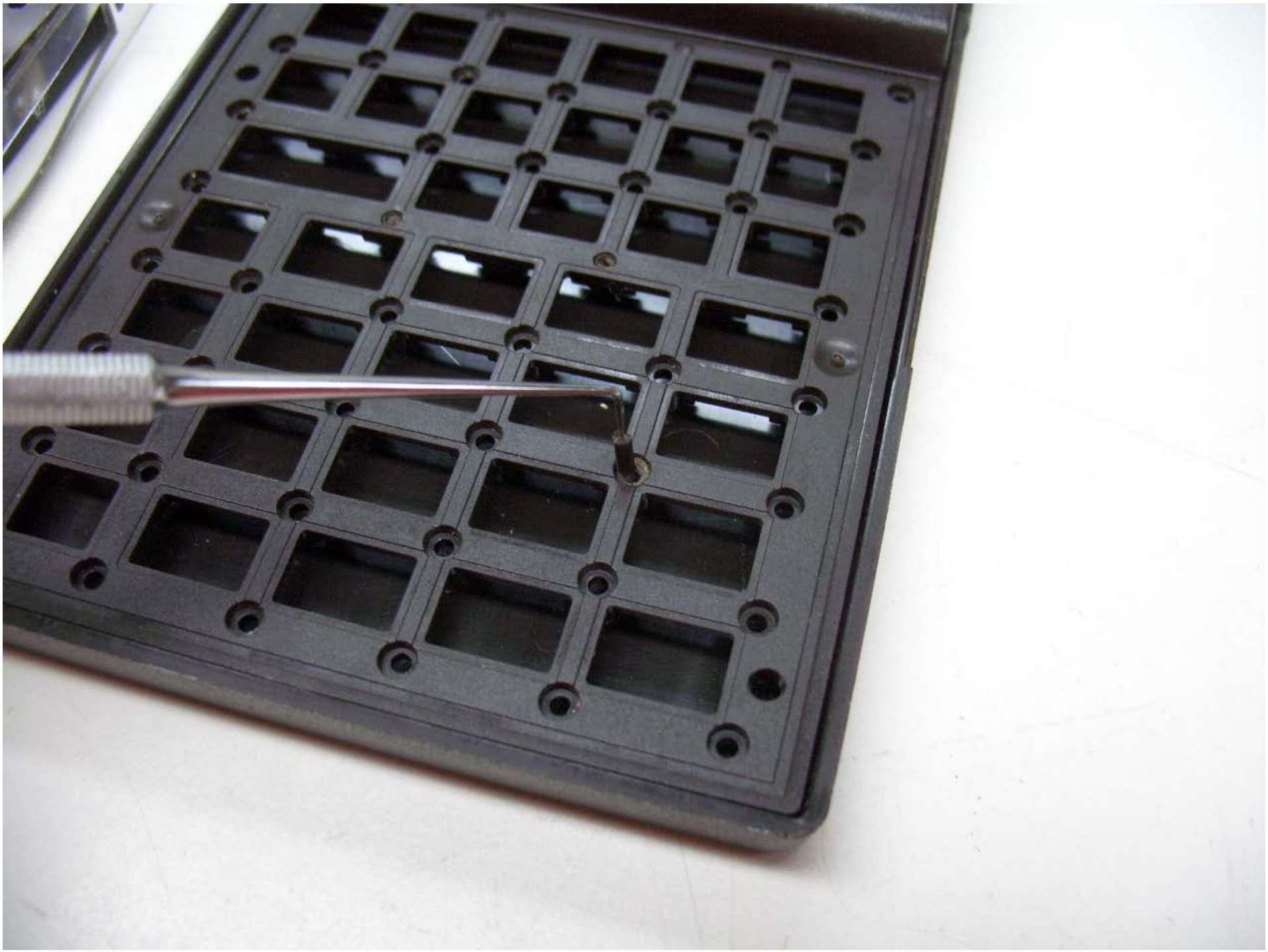
Press the needle at the top of the stake and you will have a good way to work with it.



Drop a small amount of glue on the plastic base and use the pointing tool to put only the amount needed on the place where the stake will be glued.



Reposition the empty keyboard structure back in place and insert the stake on its hole. Allow a bit for the glue to dry. Remove the keyboard structure and repeat for the next stake. After all the glued stakes in place allow some time (I use a day) to work on the next step.



Now in the process of reassembling you will mushroom the stakes to form a head. Use a not too hard tool to apply pressure near the stake that will be mushroomed.

The pressure must be applied and maintained while the stake is mushroomed. This is maybe the most important moment since pressure between the halves is a key factor. So avoiding any damage apply how much you can. Wait the tool a second in place for the plastic cool down.

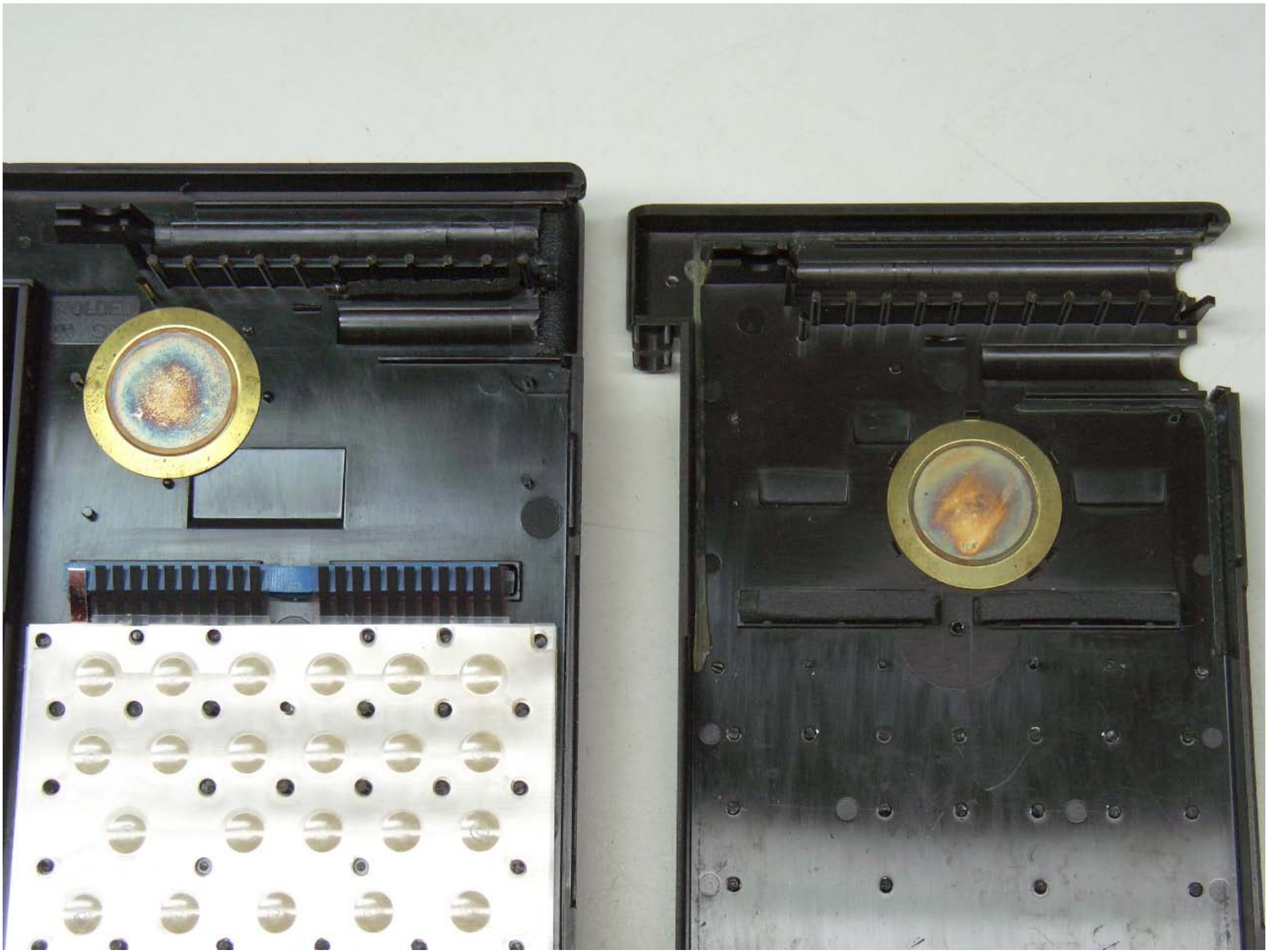
This is how it will look after the melting process. The new head must be entirely inside the hole. With the above mentioned pressure the result is a calculator as sturdy as the original.

For good mushroomed heads try to use a not too sharp iron tip.

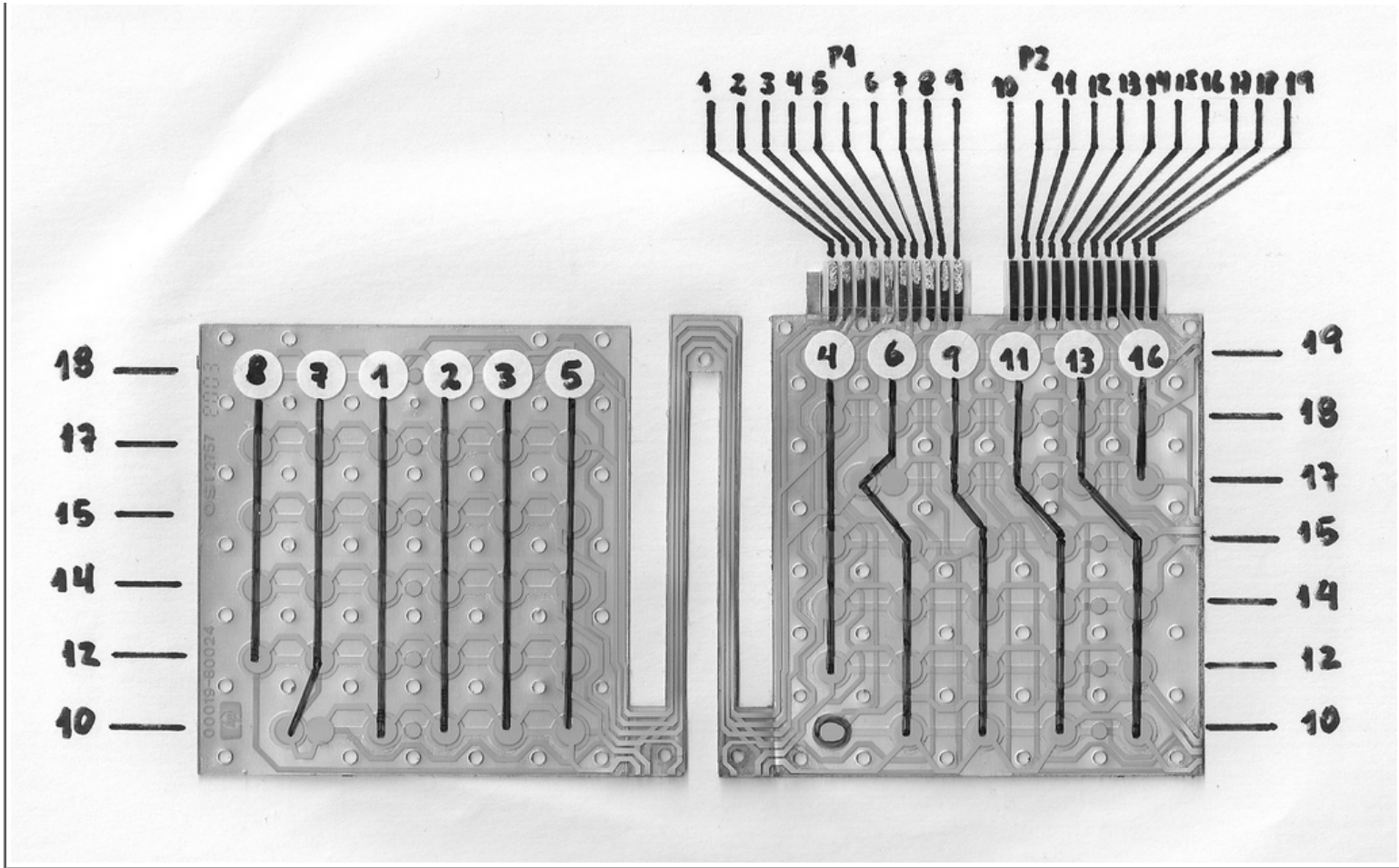
Color of body, labels, keys and CPUs aside the five models of the series are all the same. But one thing to do when swapping is to reposition the beeper since the 18C have it on the middle and the others on the upper left. The front HP logo can be swapped too. Just heat it a bit and remove with the aid of

a sharp blade. Another diference between the 18C and the others is the lenght of the springs inside batteries's chamber. On the 18C they are a bit short and that is the reason you do not see too much 18Cs with broken batteries door area. It seems that at some point HP changed the project using longer

springs that resulted in more pressure on the door. So, this is why changing batteries on a 18C is a much more easier task than on the others. Not sure now but I think the 28C has the short springs too.



I was able to map the keyboard schematic as follows. In the absence of a more appropriate design tool the good old manual method was used. I'm sure several of you will be able to do a better job translating it with a proper sofware.



Re: Another approach - shucking the clamshell, further. Book?

*Message #2 Posted by **Geoff Quickfall** on 3 June 2011, 3:52 p.m.,*
in response to message #1 by Wanderley Navarro

Lots of useful information here, great job. The restaking looks fantastic and allows for an unblemished outer case. Your dremel looks to be alot cleaner then mine ;-). I like the dremel as it allows a quick drill job with perfect depth control.

some questions;

```
1.  How is the long term survival of the posts once glued?  I ask
 as the glue option does not seem as strong as the original one
 piece design.  This is not a critism at all, as your repair is
 extremely elegant.  I ask as this is an option I now have to
 include in the text of the book, (with your permission).
 I elected to continue throught the back with new stakes as the
 glue weld option has a larger surface area to work with for
 strength.


2.  I see the strip contacts on the ribbon were reinforced with
 the silver conducter paint.  They appear to be worn or scratched
 probably due to the housing flexing as the stakes broke.  How did
 you address a compressed foam, or did you replace it along with
 addressing the worn stips on the ribbon.
```

Thanks for the posting also!

Cheers, Geoff

Edited: 3 June 2011, 3:53 p.m.

Re: Another approach - shucking the clamshell, further. Book?

*Message #3 Posted by **Wanderley Navarro** on 3 June 2011, 5:08 p.m.,*
in response to message #2 by Geoff Quickfall

Hello Geoff,

First, I want to thank you for all your repair tips. Has been invaluable to me. Second, congrats for the book initiative... and put my name on the list.

> Quote:
>
> 1. How is the long term survival of the posts once glued?

Dificult to determine or even know since after reassembled the calc may still work well after the fail of some glued stakes due to the use of the silver conductive mix to "enlarge" the thickness of the contacts.

> Quote:
>
> I see the strip contacts on the ribbon were reinforced with...

Two diferent keyboard PCBs was used in the demonstration.

On the picture where the conductive silver pen is pointing: the worn on the ribbon contacts are due I used this keyboard PCB to map the schematic. So during this work the multmeter leads scratched the contacts.

On the picture where the keyboard schematic is presented: there are some contact points that received the silver mix that I used to test the conductivity of the product when I bought it.

> Quote:
>
> How did you address a compressed foam, or did you replace it...

As I mentioned on the post I do not replace the foam but I use an amount of the silver mix to form a small mound to compensate the lack of pressure the foam should make.

Cheers. Wanderley

Re: Another approach - shucking the clamshell, further. Book?

*Message #4 Posted by **Dave Shaffer (Arizona)** on 3 June 2011, 10:30 p.m.,*
in response to message #3 by Wanderley Navarro

I have not worked on any of these calculators, but a question about your drills:

I assume you want as much of the original heat stake to remain as possible. So, instead of using standard drills (which leave a v-shaped depresion at the top of the heat stake), how about removing the tip of the drill (with a grinder?) so that the tip of the drill is flat (looking more like a router bit), which would leave a flat top on the "drilled" out heat stake? i.e. More like it was milled away.

Re: Another approach - shucking the clamshell, further. Book?

*Message #5 Posted by **Wanderley Navarro** on 3 June 2011, 11:45 p.m.,*
in response to message #4 by Dave Shaffer (Arizona)

I think it's a good idea. Just not sure how better is to work with since the tip helps to determine and keep the drill centered.

Re: Another approach - shucking the clamshell, further. Book?

*Message #6 Posted by **Dave Shaffer (Arizona)** on 4 June 2011, 12:25 a.m.,*
in response to message #5 by Wanderley Navarro

If you can make the end really flat, then how well you center the Dremel bit will determine where you take off the plastic (and, I think, the faster you spin your Dremel, the better). I have a battery-powered, hand-held Dremel tool, and I find the faster I spin it, the better, for almost everything I (try to) do with it.

Re: Another approach - shucking the clamshell, further. Book?

*Message #7 Posted by **Mike Morrow** on 4 June 2011, 1:01 a.m.,*
in response to message #1 by Wanderley Navarro

Absolutely stunning and beautiful work!

Absolutely insane HP design, an example of HP's disposable calculator ethos that began with the clamshells and pioneers.

Re: Another approach - shucking the clamshell, further. Book?

*Message #8 Posted by **Victor Bilandzic** on 6 June 2011, 5:04 p.m.,*
in response to message #7 by Mike Morrow

Fascinating work and fix!

Probably one of the earliest applications of flex circuits around...

- Vic
San Francisco Circuits

Re: Another approach - shucking the clamshell, further. Book?

*Message #9 Posted by **Randy** on 7 June 2011, 7:23 a.m.,*
in response to message #8 by Victor Bilandzic

> Quote:
>
> Probably one of the earliest applications of flex circuits around...

Not even close as the clamshell appeared in 1986.

Print heads in the 67/97/19C (1976) where possibly first followed by the HP41C Battery & I/O block (1979). These were followed by the original Voyager design flex circuit (1981).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41-MCODE: Updated AECROM w/ 13-digit Math

*Message #1 Posted by **Ángel Martin** on 3 June 2011, 11:17 a.m.*

Greetings fellow 41-comrades,

No doubt you all know about the AECROM, the module published by Wilson Holes from "RedShift SW", and programmed by Nelson F. Crowle and others. If you do, you'll be aware of its very original approach and ground-breaking contents, but if it passed unperceived to you (perhaps due to the late release date, or due to the US-centric unit convertion features) it'll probably feel like a mystery to you.

Fact is the AECROM is full of tricks and treats for the MCODE programmer. It's surely hard to follow the intricate code, but also surprisingly innovative and very rewarding once you get your bearings and get the hang of it.

I can't say that I completely understand the full extent of sophisticated techniques that went into putting it together, but I've managed to "upgrade" it by using 13-digit math routines - replacing the standard 10-digit it originally came with. Not sure if the programmers didn't know about them, or they chose not to use them - after all the subjects of the programs are not accuracy-critical: curve fitting for instance - but the fact is that they were not used at all.

So the updated ROM image now uses the 13-digit OS calls in the Hyperbolics, Curve Fitting and the Triangle, Circle, and SARR solvers as well. Lots of careful editing was required - this module is tricky, and there are multitude of calls from either page using unusual methods, so it's almost impossible to MOVE things around and one has to play within the current boundaries of the routines.

Here's some examples:
- extensive usage of GOTO ADR between pages
- jumps from the ROM-ID section of the lower page to the upper one
- tables, tables, and then more tables to hold lots of data
- pseudo FOCAL programs using just ONE menu function that does multiple things depending on HOW it's accessed!
- and a lot more... have you used the PROG function?? An amazing feat that pushes the limits of the 41 MCODE, really a hard nut to crack.

The new MOD image Will be posted at TOS in a couple of days. If you're interested I can send you the "blueprints" - result of the reverse-engineering effort so far (still going on BTW).

Best, ÁM

Re: 41-MCODE: Updated AECROM w/ 13-digit Math

*Message #2 Posted by **Geir Isene** on 3 June 2011, 11:30 a.m.,*
in response to message #1 by Ángel Martin

Please send me the blueprints.

It would be cool to make it less US-centric, though.

Re: 41-MCODE: Updated AECROM w/ 13-digit Math

*Message #3 Posted by **gene wright** on 3 June 2011, 11:40 a.m.,*
in response to message #2 by Geir Isene

Great! This will be a perfect example for the community to lay out the BEST way to get this new rom image loaded into the soon to be shipped 41CL.

I'm not sure most of us will want to try transferring / copying a rom image into flash on the 41CL, but the 41CL does include 50+ 4K ram pages that are much easier to load rom images into.

What we need is a good, step-by-step set of instructions for how to go from a .rom file on the PC to having it in a ram page in the 41CL.

I'm hopeful that the first adopters will be seeing their 41CL boards within a week!

Yay!

Re: 41-MCODE: Updated AECROM w/ 13-digit Math

*Message #4 Posted by **Monte Dalrymple** on 3 June 2011, 2:49 p.m.,*
in response to message #3 by gene wright

Since both pages in the .MOD file have the same name, translating the image to a .ROM format (which is the first step in getting it into the 41CL) doesn't work very well. The second page overwrites the first...

Monte

Re: 41-MCODE: Updated AECROM w/ 13-digit Math

*Message #5 Posted by **Ángel Martin** on 3 June 2011, 3:11 p.m.,*
in response to message #2 by Geir Isene

you´ve got mail...

BTW the foot-meter-etc. stuff is also a beauty to behold in action. I t uses the I/O interrupt of the module to display the values in the "selected" unit, seemingly transparent to the user and creating the impression it is the machine's native "language" for the corresponding mode.

It's good if you need to work in "imperial" units of length, those invented by the British and later on dropped in favor (or favour rather) of the metric system (well, not quite of course... but that's another story). At any rate, it's an MCODE tour-de-force worth watching :-)

Unfortunately it conflicts with the CCD usage of the same interrupt, so you have to choose. Oh well, life isn't perfect!

Hey Angel...how about changing the 2nd MOD page's name?

*Message #6 Posted by **gene wright** on 3 June 2011, 3:20 p.m.,*
in response to message #5 by Ángel Martin

As Monte points out, that will allow it to be moved to the 41CL... ?

Re: Hey Angel...how about changing the 2nd MOD page's name?

*Message #7 Posted by **Ángel Martin** on 3 June 2011, 4:08 p.m.,*
in response to message #6 by gene wright

> Quote:
>
> how about changing the 2nd MOD page's name?

Well, I´m not sure this is anything related to the module itself (read: the MOD file) but to the way it ´s named as a ROM file, or two of them to be precise. My guess is you can use the MOD2ROM utility posted at TOS and label it as you want, thus overcoming the issue.

Best, \'AM

Re: Hey Angel...how about changing the 2nd MOD page's name?

*Message #8 Posted by **Monte Dalrymple** on 3 June 2011, 4:52 p.m.,*
in response to message #7 by Ángel Martin

I use ModFile or ModFileWin from TOS. Neither allow you to name the .ROM pages, but take them from the .MOD file itself.

Monte

Re: Hey Angel...how about changing the 2nd MOD page's name?

*Message #9 Posted by **Ángel Martin** on 4 June 2011, 2:55 a.m.,*
in response to message #8 by Monte Dalrymple

I see... but you can certainly use M2kManager (which does not require the MLDL to be present) to edit the ROM files of a MOD image ' including giving it another ¨name¨.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Somewhat OT: WOIM

*Message #1 Posted by **Geir Isene** on 3 June 2011, 10:56 a.m.*

After having worked a few years on a comprehensive description system, WOIM has now reached a mature and stable level.

It's an Outliner, a TODO-list solution, a project management tool, a Business Process Management aid, a data modeler, a Use Case facilitator, a way to describe the human DNA or the history of the universe ;)

It is the notation I use for sketching new ideas, when outlining new FOCAL or MCODE programs or when structuring a technical architecture. I use it for meeting minutes, for Use Cases, for logical breakdowns of ideas, for Business Process implementations and for so much more.

And there is a software solution that tags along with it; A WOIM plugin for the best text editor in the world (VIM :) With this plugin you can handle WOIM lists in many sophisticated ways, all neatly syntax highlighted of course.

Just wanted to let you know. More at my blog.

Dang

*Message #2 Posted by **Frank Boehm (Germany)** on 6 June 2011, 11:58 a.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> best text editor in the world (VIM :)

Dang, time to upgrade from vi :)

Re: Dang

*Message #3 Posted by **Geir Isene** on 12 June 2011, 3:51 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Indeed :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S key 'SHOW' ?

*Message #1 Posted by **fhub** on 3 June 2011, 10:37 a.m.*

What's the use of this function 'SHOW' (h EXIT) ?
It seems to work only in program mode (where it displays any hex-numbers), but I couldn't find any description in the manual.

Re: WP34S key 'SHOW' ?

*Message #2 Posted by **Walter B** on 3 June 2011, 10:55 a.m.,*
in response to message #1 by fhub

Please look on page 57 of v1.18.

Walter

Re: WP34S key 'SHOW' ?

*Message #3 Posted by **fhub** on 3 June 2011, 11:02 a.m.,*
in response to message #2 by Walter B

Thanks Walter, now I see it!
The search function of my Adobe reader didn't find this ...

Re: WP34S key 'SHOW' ?

*Message #4 Posted by **Walter B** on 3 June 2011, 11:07 a.m.,*
in response to message #3 by fhub

Luiz' font seems to be not searchable/findable for standard search functions - it doesn't work in MS Word either :-)

Re: WP34S key 'SHOW' ?

*Message #5 Posted by **fhub** on 3 June 2011, 12:00 p.m.,*
in response to message #4 by Walter B

Ok, there are a few other questions of mine: ;-)

1) are there any plans to make a list (catalog) of ALL WP34" functions/commands?
(I remember having read something like this some time ago)
For this the above mentioned SHOW key would be a choice ...

2) IIRC I've read that the cursor-up/down keys are repeatable!?
Has this still not been implemented, or does it only work on the real calculator? (at least is doesn't work on the emulator, but would of course be comfortable for scrolling through catalog lists)

Franz

Edited: 3 June 2011, 12:01 p.m.

Re: WP34S key 'SHOW' ?

*Message #6 Posted by **Walter B** on 3 June 2011, 2:28 p.m.,*
in response to message #5 by fhub

AFAIK, all functions are listed in the index. We use different catalogs for some structuring - and we didn't have such convenient search tools when we started.

Repeating the arrow keys is HW-driven, so it won't work with the emulator.

Walter

Re: WP34S key 'SHOW' ?

*Message #7 Posted by **Paul Dale** on 3 June 2011, 10:04 p.m.,*
in response to message #5 by fhub

> Quote:
>
> 1) are there any plans to make a list (catalog) of ALL WP34" functions/commands?

Unlikely. The full catalogue will run us out of flash -- about 950 distinct commands in the command set at two bytes each. I can think of a better use for this much flash e.g. another user code page or two e.g.

> Quote:
>
> IIRC I've read that the cursor-up/down keys are repeatable!?

On the real device yes. Although I don't use this feature much given the alpha navigation in the catalogues.

- Pauli

Edited: 3 June 2011, 10:10 p.m.

Re: WP34S key 'SHOW' ?

*Message #8 Posted by **fhub** on 4 June 2011, 7:36 a.m.,*
in response to message #7 by Paul Dale

Now that I'm becoming more familar with the some 'special' keystrokes, I wonder why you haven't use a bit modified assignment of the alpha characters to the calculator keys!?

As it is now you have to press an additional ENTER for some functions when addressing the registers Z and T (e.g. STO Z or RCL T), because these T and Z are on the * and + keys.

Why didn't you use the following layout for the letters M to Z:
M N O P Q on XEQ 7 8 9 /
R S T on 4 5 6
U V W on 1 2 3

X Y Z on 0 . R/S

With this shifting left one column of R..Z this additional ENTER for addressing Z and T registers could have been avoided.
I know it's now a bit (too?) late for any changes, but maybe it's worth thinking about it.

Franz

Edited: 4 June 2011, 7:38 a.m.

Re: WP34S key 'SHOW' ?

*Message #9 Posted by **fhub** on 4 June 2011, 9:46 a.m.,*
in response to message #8 by fhub

Ok, forget it, in my idea above now T would be in conflict with 6 and X with 0, and that's in fact the same problem, too!

There are just not enough keys for so many functions ... ;-)

Re: WP34S key 'SHOW' ?

*Message #10 Posted by **Paul Dale** on 4 June 2011, 7:39 p.m.,*
in response to message #9 by fhub

There is also the extra constraint that 0 and 1 had to be left (mostly) alpha-free for use with conditional tests. Believe me a **lot** of thought has gone into the layout and interface.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Need Info on HP-82905B Printer

*Message #1 Posted by **Ángel Martin** on 3 June 2011, 1:50 a.m.*

Recently I unearthed a couple of items from the storage room where I had them for a few years, one being the 82905B printer (HP-IL option).

The unit is in excelent condition but unfortunately the paraffin capacitor on the power supply board (where the power-on switch is placed) died with a nasty "pop". Not a major issue, it didn't cause more harm but I need to find a suitable replacement and have no reference. Anybody has access to the schematics or a replacement board?

Being a clone of the Epson MX-80 should help, that was a popular model back then. It also needs a new ribbon cartridge of course, not surprising after its extended "sleep".

Appreciate any information you can send. Cheers, 'AM

Edited: 3 June 2011, 4:32 a.m.

Re: Need Info on HP-82905B Printer

*Message #2 Posted by **Tony Duell** on 3 June 2011, 4:34 a.m.,*
in response to message #1 by Ángel Martin

You can get some information on this printer, including my schematic, from the Australian museum site.

There appear to be 3 capacitors on the power switch PCB (MFIL II PCB). C1, the large 1, is 100nF. C2 and C3 are 4.7nF each. I assume that C1 is class X (rated to stand mains) and C2,C3 are Class Y2 (rated to stand mains and cannot fail short-circuit).

The printer will run (at least for testing) with any/all of these capacitors removed.

Re: Need Info on HP-82905B Printer

*Message #3 Posted by **Ángel Martin** on 3 June 2011, 7:39 a.m.,*
in response to message #2 by Tony Duell

Many thanks Tony, got the info from the museum site as per your suggestion.

I've located a Panasonic ECQU2A104ML that I believe will be a suitable replacement - now it's hunting time...

Cheers, ÁM

Edited: 3 June 2011, 10:51 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Accepting some orders for WP 34s overlays

*Message #1 Posted by **Eric Rechlin** on 3 June 2011, 1:36 a.m.*

I am going to accept a small number of orders for the self-adhesive vinyl overlays for the WP 34s keyboard layout. I'll probably close this off after a week to limit the number that are out there and to get feedback.

I have updated the overlay for the latest 1.18 layout and have incorporated many of the suggestions seen here.

For the time being the overlay is $6 for one or $5 each for multiple, including shipping anywhere in the world. I may have to adjust this later depending on what consumables end up costing me, but I think this is a reasonable price for now.

You can order them from a special page on my commerce site.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #2 Posted by **Paul Dale** on 3 June 2011, 1:51 a.m.,*
in response to message #1 by Eric Rechlin

Mine are ordered.

This probably means the layout is final :-)

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #3 Posted by **Cristian Arezzini** on 3 June 2011, 4:52 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Mine are ordered.
>
> This probably means the layout is final :-)
>
> - Pauli

I just ordered two... But in case you find a reason to change the layout again for whatever reason, I'd be more than pleased to buy a new set. I have a question: will this overlay be removable? I mean, if I try to peel it off, will it leave the calc clean and ready for another one, or will it leave "a mess"?

Cristian

Re: Accepting some orders for WP 34s overlays

*Message #4 Posted by **Geoff Quickfall** on 3 June 2011, 1:53 a.m.,*
in response to message #1 by Eric Rechlin

Also ordered!

Geoff

great job!!!

Re: Accepting some orders for WP 34s overlays

*Message #5 Posted by **Etienne Victoria** on 3 June 2011, 2:30 a.m.,*
in response to message #1 by Eric Rechlin

Very nice work Eric !

Ordered two for my Hp-30B.

In a near future, would you consider selling a complete "Hp-30B" overhaul kit including a gray/transparent overlay and a crystal ?

Best

Etienne

Re: Accepting some orders for WP 34s overlays

*Message #6 Posted by **Walter B** on 3 June 2011, 2:33 a.m.,*
in response to message #1 by Eric Rechlin

The product isn't out yet, and our US American friends are already going to make money with it ... :-?

As you may see on the photograph, some label positions are pretty tight and some are a bit asymmetric. I'm working on it as mentioned earlier. This work would be easier if you'd tell me the key positions assumed in your graphic, please.

Walter

Re: Accepting some orders for WP 34s overlays

*Message #7 Posted by **Paul Dale** on 3 June 2011, 3:56 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> The product isn't out yet, and our US American friends are already going to make money with it ... :-?

I doubt there is much profit making going on here. A little maybe but a service is being offered. Getting die cut overlays isn't easy. Cutting by hand takes time and some equipment to do properly and neatly. I value my free time at a lot more than $6 or even $12 an hour.

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #8 Posted by **reth** on 3 June 2011, 5:03 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> The product isn't out yet

Which one? Eric's is.

Re: Accepting some orders for WP 34s overlays

*Message #9 Posted by **Walter B** on 3 June 2011, 5:46 a.m.,*
in response to message #8 by reth

> Quote:
>
> > Quote:
> >
> > The product isn't out yet
>
> Which one? Eric's is.

You do know the difference between a product and an accessory for a product, don't you? What will you do with an overlay without a flashed 20b or 30b? Beside sticking it onto your desk? ;-)

Walter

Re: Accepting some orders for WP 34s overlays

*Message #10 Posted by **Norman Dziedzic** on 3 June 2011, 10:02 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> ...Beside sticking it onto your desk? ;-)

I bet it would look good stuck to the leather(ish) case for my 50g or perhaps on the back of my iPhone (might have to shrink it a little for that).

That reminds me, when are you going to port this to iOS? (just kidding really. I have several iOS calculators that all pale in comparison to pushing real keys for me.) %^}

Re: Accepting some orders for WP 34s overlays

*Message #11 Posted by **gene wright** on 3 June 2011, 11:42 a.m.,*
in response to message #9 by Walter B

By the same token, the product is the 20b / 30b unit.

Aren't you guys just making an accessory for the product, i.e., a new rom image?

:-)

Seems that is just as much an "accessory" as an overlay.

Re: Accepting some orders for WP 34s overlays

*Message #12 Posted by **Walter B** on 3 June 2011, 1:39 p.m.,*
in response to message #11 by gene wright

> Quote:
>
> By the same token, the product is the 20b / 30b unit.

May be. But we aren't selling it.

> Quote:
>
> Aren't you guys just making an accessory for the product, i.e., a new rom image? :-) Seems that is just as much an "accessory" as an overlay.

Well, the wp 34s will work without the overlay, but the overlay will not work without the wp 34s. Different layers.Seems an almost neglectable difference though. But anyway, you *are* the masters of marketing, and further posts will continue revealing this.

FWIW

Walter

Re: Accepting some orders for WP 34s overlays

*Message #13 Posted by **Eric Rechlin** on 3 June 2011, 9:33 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> As you may see on the photograph, some label positions are pretty tight and some are a bit asymmetric.

If you are referring to the buttons themselves, that is because I applied the stickers at 1:00am and was too tired to do them accurately. Whether they are crooked is entirely up to the person doing the work. :)

> Quote:
>
> I'm working on it as mentioned earlier. This work would be easier if you'd tell me the key positions assumed in your graphic, please.

That won't do me any good, since you are making changes to the exported PNG rather than the original SVG. Any changes you have made, I have to redo myself from scratch to my original. I have offered the SVG but you seemed to have no interest.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #14 Posted by **Walter B** on 3 June 2011, 10:59 a.m.,*
in response to message #13 by Eric Rechlin

How do you edit SVGs?

Re: Accepting some orders for WP 34s overlays

*Message #15 Posted by **Eric Rechlin** on 3 June 2011, 11:02 a.m.,*
in response to message #14 by Walter B

> Quote:
>
> How do you edit SVGs?

Most people use Illustrator. I am too cheap to buy that so I use Inkscape.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #16 Posted by **Walter B** on 3 June 2011, 11:04 a.m.,*
in response to message #15 by Eric Rechlin

Then please send me your SVG file and I'll see what I can do :-/

Re: Accepting some orders for WP 34s overlays

*Message #17 Posted by **Eric Rechlin** on 3 June 2011, 12:04 p.m.,*
in response to message #16 by Walter B

> Quote:
>
> Then please send me your SVG file and I'll see what I can do :-/

Here it is.

Re: Accepting some orders for WP 34s overlays

*Message #18 Posted by **Walter B** on 3 June 2011, 1:49 p.m.,*
in response to message #17 by Eric Rechlin

Oooh rats! Royal British thumbs!!

And somebody's talking about Sihouette Studio, while there were Illustrator and Inkscape mentioned before. I don't know, but sometimes I think people tend breaking flies on wheels in this matter - if I make the graphics with tool xyz and copy the picture into MS Word, scale it down to the right size (looks like 67.6 to 67.8, so 67.7 mm) and print it using a quality printer then I'd think I'm done. Maybe too simple ...? d:-?

Walter

Edited: 3 June 2011, 2:09 p.m.

Re: Accepting some orders for WP 34s overlays

*Message #19 Posted by **Eric Rechlin** on 3 June 2011, 2:22 p.m.,*
in response to message #18 by Walter B

Silhouette Studio is the software that controls the paper cutter.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #20 Posted by **Walter B** on 3 June 2011, 11:03 a.m.,*
in response to message #13 by Eric Rechlin

> Quote:
>
> > Quote:
> >
> > As you may see on the photograph, some label positions are pretty tight and some are a bit asymmetric.
>
> If you are referring to the buttons themselves, ...

Sorry, this condition is not true ;-)

Walter

Re: Accepting some orders for WP 34s overlays

*Message #21 Posted by **Eric Rechlin** on 3 June 2011, 11:18 a.m.,*
in response to message #6 by Walter B

> Quote:
>
> The product isn't out yet, and our US American friends are already going to make money with it ... :-?

I think everyone is making money off it except us. Let me break it down.

Let's assume that you buy an overlay from me. You send me $6. PayPal takes 53 cents of that, bringing me down to $5.47 received. To mail it to you, I need an envelope (10 cents) and a stamp (98 cents). We are now down to $4.39 for the overlay.

Next we have the cost of the vinyl. I am not very efficient in my use of vinyl right now, but I hope to eventually get the cost down to the 25-50 cent range per overlay. Then there is ink, for which I don't yet know the cost. The overlay itself has near 100% coverage of ink, though, so that is quite a lot of ink.

Then there are the consumables related to cutting -- the blade and the cutting mat. Again, I don't yet know what these will cost me.

Next would be the amortization of costs incurred to get me to this point. I bought the cutter and the printer specifically for this, so those both need to be amortized out. Additionally, there are the R&D costs (for example, I spent over $100 on various media for printing to find the best materials for overlays).

At this point it is entirely possible I am losing money on each one of these, though I honestly don't know yet. And this, of course, assumes that my labor is free, which is normally not valid, but since you and Pauli are assuming free labor as well it's only fair for me to do the same.

So I guess if by "US American friends" you mean our friends at companies like Hewlett Packard, PayPal, and the US Postal Service, then yes, they are making money with it. But at the same time one could argue that the battery manufacturers are making money as a direct results of your work, because you need batteries to power your 20b or 30b, so this is getting kind of ridiculous.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #22 Posted by **Marcus von Cube, Germany** on 4 June 2011, 6:35 p.m.,*
in response to message #21 by Eric Rechlin

Eric

I'm *not* arguing about your expenses. The only problem at the moment is that we might still change some key positions. :-(

Whenever your overlay will be finalized, please send me at least two of them, whatever the cost will be.

BTW, I've invested more than a few bucks in equipment to do the development you have seen in the last few months. I did that for my and your fun. So be it for all people involved in the project, agreed?

Matters may change when a big company starts showing commercial interest in our work but that seems to be quite remote...

Re: Accepting some orders for WP 34s overlays

*Message #23 Posted by **Paul Dale** on 4 June 2011, 7:46 p.m.,*
in response to message #22 by Marcus von Cube, Germany

> Quote:
>
> BTW, I've invested more than a few bucks in equipment to do the development you have seen in the last few months. I did that for my and your fun.

I too invested more than I'd care to think over the past 2-3 years. Mostly building a basic library of numerical mathematics text books -- good bedtime reading.

And it has been a lot of fun.

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #24 Posted by **Eric Rechlin** on 4 June 2011, 10:06 p.m.,*
in response to message #22 by Marcus von Cube, Germany

> Quote:
>
> Whenever your overlay will be finalized, please send me at least two of them, whatever the cost will be.

They will never be finalized.

At first I was waiting for the layout to be final before I started selling overlays. But then after asking when it would be finalized, Walter said it was a moving target, so I assume that means that it will constantly change. This meant that I don't feel bad about selling them now, because no matter how long I wait they will eventually be obsolete.

Plus, as Jake pointed out, he spent something like 4 hours cutting out and applying stickers to his calculator, and I think almost anybody would rather pay $6 to get something precut to avoid the vast majority of that work, even if they pay $6 again later to get an updated layout.

The whole reason why I am only temporarily accepting orders is because I treat these initial customers as beta testers. I will make additional tweaks to my overlay based on their feedback, so I don't want to sell too many of them right now. After I close down the orders in a few days, I probably won't accept any more orders for a month or more, to give people time to try them out and give suggestions.

Eric

Re: Accepting some orders for WP 34s overlays

*Message #25 Posted by **Jake Schwartz** on 5 June 2011, 4:22 p.m.,*
in response to message #24 by Eric Rechlin

> Quote:
>
> Plus, as Jake pointed out, he spent something like 4 hours cutting out and applying stickers to his calculator,

...and needless to say how much trouble it has been to remove it in order to replace it with a newer one.... After scraping whatever comes off by hand, then I use rubbing alcohol to get the sticky "gum" off, and finally use an Exacto knife to lift and remove the key labels, and finally another application of alcohol to clean the keys. It has been quite an adventure :-)

Re: Accepting some orders for WP 34s overlays

*Message #26 Posted by **Walter B** on 5 June 2011, 1:21 a.m.,*
in response to message #22 by Marcus von Cube, Germany

> Quote:
>
> BTW, I've invested more than a few bucks in equipment to do the development you have seen in the last few months. I did that for my and your fun.

Since 12/2008, I've invested my fair share in that project as well. Looking at it, the real bucks are neglectable compared to the time on my side. Zen or the art of layouting ... :-) Never made it without the fun.

Walter

Re: Accepting some orders for WP 34s overlays

*Message #27 Posted by **Paul Dale** on 5 June 2011, 1:28 a.m.,*

in response to message #26 by Walter B

I started before then. It took me a while to realise I'm not very good at coming up with consistent layouts :-(

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #28 Posted by **Walter B** on 5 June 2011, 2:50 a.m.,*
in response to message #27 by Paul Dale

You're better in SW by far :-) Forgot mentioning we have a common design history since OpenRPN.

Walter

Re: Accepting some orders for WP 34s overlays

*Message #29 Posted by **JayV** on 3 June 2011, 9:18 a.m.,*
in response to message #1 by Eric Rechlin

Thanks Eric. I've ordered one and look forward to receiving it.

Re: Accepting some orders for WP 34s overlays

*Message #30 Posted by **Neil Hamilton (Ottawa)** on 3 June 2011, 6:56 p.m.,*
in response to message #29 by JayV

I too have ordered a couple though I will be surprised to see them any time soon since our "beloved" (and largely irrelevant) Canada Post seems to be going on strike ... again. Sigh!

I am very prepared to be pleasantly surprised, though.

Thanks for doing all this work guys!!

Re: Accepting some orders for WP 34s overlays

*Message #31 Posted by **Katie Wasserman** on 6 June 2011, 12:33 a.m.,*
in response to message #30 by Neil Hamilton (Ottawa)

I've halfheartedly been following all the activity on this project. I think it's wonderful that it's progressed as far as it has and that it's an amazing piece of work. But the critical factor in any custom calculator is the keyboard, we've all said so many, many times before on the forum.

Stick-on key labels that require a great effort to apply and will almost certainly not last all that long are not the way to go no matter how good they look. The only answer are custom keys and a matching faceplate as HP can offer.

A month ago Pauli wrote, quoting Cyrille:

> Quote:
>
> I was told at least 1,000 would be the minimum for custom printed keys (but not faceplate) and didn't pursue things any further.

IMHO, this should be persued even if the number turned out to be several thousand. I think that there would easily be a big enough following to sell these at $50+ creating a nice profit for the seller (perhaps Eric) and the authors.

Frankly I'm not interested in stickers for the keys and faceplate, but I'd definitely buy a customized calculator and I'd pay in advance of the order so that the seller would have minimal out of pocket risk. Would 2000 people (or however many it would take be reach the break even point) be willing to do that same? I'll bet so.

Why not investigate the true minimum quantity from HP and set up a survey to see what can be optimistically expected in the way of numbers of orders. If the results look good set up a Paypal account to take pre-orders -- and if need be allow cancellation of pre-orders. Never having done this before, I'm guessing that the financial risk would only be the Paypal fees.

-Katie

Re: Accepting some orders for WP 34s overlays

*Message #32 Posted by **Walter B** on 6 June 2011, 2:08 a.m.,*
in response to message #31 by Katie Wasserman

Katie,

According to what Tim wrote to Pauli, a custom faceplate for the 30b is out of reach. The reason - as far as I understood - is Black S :-(is written in a special way in the plastic material and this process can't be changed easily. So we'll need an overlay anyway.

For the individual keys, I agree with you on individual labels being - politely - suboptimal. Many weeks ago, I suggested an overlay in one single piece with flaps for the keys. I applied a paper prototype on my 20b and it works fine. Maybe this is a feasible solution before going in the custom key business - which would be nowaday's optimum of course.

Walter

Edited: 6 June 2011, 2:09 a.m.

Re: Accepting some orders for WP 34s overlays

*Message #33 Posted by **Paul Dale** on 6 June 2011, 5:01 a.m.,*
in response to message #32 by Walter B

The silver face plate is pretty much verboten.

The keys and their labels are possible given a large enough quantity which I'm not willing to commit to privately and I doubt anyone else is.

So, buy a 30b or five (& I know you've got several already :) and reflash them. get an overlay and use that.

My fairly rough overlay is standing up surprisingly well after much use. I did run it through my xyron before applying but still it is very good and the visible wear isn't on the key tops, rather on the overlay. I'll add that I probably have the most used 34s on the planet.

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #34 Posted by **Walter B** on 6 June 2011, 9:10 a.m.,*
in response to message #33 by Paul Dale

A picture may be helpful :-)

Re: Accepting some orders for WP 34s overlays

*Message #35 Posted by **Katie Wasserman** on 6 June 2011, 2:04 p.m.,*
in response to message #33 by Paul Dale

I didn't realize that the faceplate was so impossible to change, that's too bad. So given the need for a faceplate overlay one might as well have key "overlays" as well.

Re: Accepting some orders for WP 34s overlays

*Message #36 Posted by **Paul Dale** on 7 June 2011, 2:52 a.m.,*
in response to message #35 by Katie Wasserman

It isn't impossible, it will just require impractical quantities. This is very much a niche product for a select small few.

I very much doubt we'd sell 1,000 WP34s which would be the kind of minimum for just the reprinted keys. 10,000 is more realistic for a reworked faceplate or an alternative LCD display both of which would be very useful -- just having proper scientific annunicators would be a boon.

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #37 Posted by **Marcus von Cube, Germany** on 7 June 2011, 4:41 a.m.,*
in response to message #36 by Paul Dale

We need to draw HP on our side s they produce the hardware and take the risks while the community provides the software. There needs to be some kind of profit sharing if it will ever pay off.

Re: Accepting some orders for WP 34s overlays

*Message #38 Posted by **Paul Dale** on 7 June 2011, 4:44 a.m.,*
in response to message #37 by Marcus von Cube, Germany

I don't care much about profit here, I just want a calculator I want to use....

- Pauli

Re: Accepting some orders for WP 34s overlays

*Message #39 Posted by **Jake Schwartz** on 7 June 2011, 4:25 p.m.,*
in response to message #38 by Paul Dale

> Quote:
>
> I don't care much about profit here, I just want a calculator I

want to use....

And indeed, the 34s has essentially been the only calc I've used in the past two months or so. I only wish a machine with the equivalent of the 17BII+/42S dot-matrix 2-line LCD had been available to be repurposed. I miss those top-row soft keys....

Jake

Repurposing...

*Message #40 Posted by **Marcus von Cube, Germany** on 7 June 2011, 4:37 p.m.,*
in response to message #39 by Jake Schwartz

What do we need (or better: dream of)?

- More flash and RAM and more battery power. The processor isn't bad for a calculator but for a programmable device, the limitations are obvious.

- A better display for menus and longer alpha messages.

- One additional row of keys.

- Provisions for easier key labeling.

Re: Repurposing...

*Message #41 Posted by **Paul Dale** on 8 June 2011, 4:59 a.m.,*
in response to message #40 by Marcus von Cube, Germany

I'm a bit different here. While I'd like more flash and RAM, a better display and more keys, the platform is really very capable as it stands.

The single biggest omission I see, which hasn't been mentioned here, is I/O. We're thinking about this for the successor device but nothing firm yet. Ideally, a small SD card or the like but more realistically a serial port.

Flash is very tight now but how many more functions do we need? I'd say none. There are always possibilities to add a few more and if we had some more flash clear I'd probably put a few in however we've got everything we need and a bit more already. We've a few more ideas to reduce the flash footprint for next time around which might allow us to pad the device a bit more or free up extra code/data flash segments. I see the latter as more useful than another bunch of esoteric functions.

RAM is also very tight, increasing it would correspond to an immediate increase in the number of registers and program steps, although there are limits to the increases for both. We'd also be able to have types associated with values so that alpha manipulations and complex support were made easier.

> The display has been a major limiting factor, the dot matrix portion isn't very wide and we've struggled to fit things into it. Hence the dual fonts. Scrolling was HP's solution, I hate scrolling displays so we took another route. More or even different annunicators would also be a boon.
>
> - Pauli

Re: Accepting some orders for WP 34s overlays

*Message #42 Posted by **Walter B** on 7 June 2011, 6:32 p.m.,*
in response to message #39 by Jake Schwartz

Jake,

> Quote:
>
> > I only wish a machine with the equivalent of the 17BII+/42S dot-matrix 2-line LCD had been available to be repurposed. I miss those top-row soft keys....
>
> I fullheartedly concur. But we've discussed the role of a state-of-the-art display here ad nauseam years ago already, and you know as well as me what did come out :-/
>
> Walter

Re: Accepting some orders for WP 34s overlays

*Message #43 Posted by **Paul Dale** on 8 June 2011, 4:44 a.m.,*
in response to message #39 by Jake Schwartz

> Quote:
>
> > the 34s has essentially been the only calc I've used in the past two months or so.
>
> That's about as high a praise as we could wish for.
>
> - Pauli

Re: Accepting some orders for WP 34s overlays

*Message #44 Posted by **Walter B** on 7 June 2011, 7:58 a.m.,*
in response to message #37 by Marcus von Cube, Germany

"Optimism is just lack of experience." (unknown origin)

Re: Accepting some orders for WP 34s overlays

*Message #45 Posted by **exschr** on 7 June 2011, 5:09 p.m.,*
in response to message #37 by Marcus von Cube, Germany

> Quote:

> We need to draw HP on our side s they produce the hardware and take the risks while the community provides the software. There needs to be some kind of profit sharing if it will ever pay off.

IMHO this will not likely happen, because money is made with software (alone or the combination of software and hardware together).

Re: Accepting some orders for WP 34s overlays

*Message #46 Posted by **Andrés C. Rodríguez (Argentina)** on 6 June 2011, 3:43 p.m.,*
in response to message #32 by Walter B

I think that the "Black S" legend in the faceplate could be maintained, assigned to a "Black Sciences" menu and/or application that undoubtedly deserves its place in any scientific calculator worth its salt. Magic numbers, "Finagle's" constant, "adjustment" factors (many), quotes of important laws (from Murphy to Moore), and similar gems will find their place here, after those many years of unanswered prayers.

Practicing engineers will surely agree.

:-)

Re: Accepting some orders for WP 34s overlays

*Message #47 Posted by **Marcus von Cube, Germany** on 6 June 2011, 3:56 p.m.,*
in response to message #46 by Andrés C. Rodríguez (Argentina)

It might be possible to print directly on the faceplate early in the production process.

Re: Accepting some orders for WP 34s overlays

*Message #48 Posted by **Andrés C. Rodríguez (Argentina)** on 6 June 2011, 4:21 p.m.,*
in response to message #47 by Marcus von Cube, Germany

Laser?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 35 charger/case questions

*Message #1 Posted by **Adam Vaughn** on 2 June 2011, 11:15 p.m.*

Hello, everyone! I recently became the proud owner of a Hewlett Packard 35 calculator (version 3). It came with several original accessories, including the hard plastic case, the leather soft case, a restuffed 82001A battery pack, and the manual. However, the power supply included with it was decidedly non-original: basically a 9V 200mA DC wall-wart connected to the charging pins of the original connector! For the hell of it, I measured the voltage at these pins without a load (I didn't try connecting the adapter to the calculator), and the meter immediately went to around the 20V mark! Even so, this worked to some degree, since the battery pack had a charge in it when I got it; of course, the battery understandably got hot during charging, according to the previous owner, so he didn't charge it often.

Just recently, I bought a genuine HP 82002A charger on CraigsList. When I got it, I decided to test the voltages from it, unloaded, using a Triplett 310 VOM. The side which powers the calculator during charging measures out to what seems like a proper 4.5V or so. The set of pins which charge the battery (marked with a '+'), however, seems to output closer to 16V! Is this normal for this portion of the charger while unloaded, or has something gone wrong inside the unit?

As an aside, how are the accessories supposed to be arranged within the hard case? I see a portion which is presumably meant for the power supply, but the 82002A I have doesn't have the same shape (nor does any other original supply I've seen pictures of). Is the leather soft case supposed to go in there as well, and if so, where? Anyway, thanks in advance! -Adam

Re: HP 35 charger/case questions

*Message #2 Posted by **Michael de Estrada** on 3 June 2011, 12:09 a.m.,*
in response to message #1 by Adam Vaughn

The no load output from a typical 82002A adapter / charger is about 5 vdc on the adapter side and 16-17 vdc on the charger side, so your unit seems normal. Some older units output about 4 vdc on both sides, so charging took much longer.

The leather soft case must be tightly wrapped and placed inside a plastic ring to fit inside the case just behind the charger.

Re: HP 35 charger/case questions

*Message #3 Posted by **Adam Vaughn** on 3 June 2011, 2:52 a.m.,*
in response to message #2 by Michael de Estrada

Thanks for the reply! Due to this apparently being a newer charger, should I charge the pack for less than the 14 hours recommended in the manual?

Also, could the apparent overcharging I mentioned earlier (due to the improper wall wart) have hurt the battery capacity? Both the battery pack and the transformer were apparently derived from a cordless phone of some sort.

Finally, what do you mean by 'behind the charger'? As it stands now, I have the charger near the front of the accessory compartment (sitting in the 'well' area), the charger cable in the middle (in front of the prongs), and the leather case rolled tightly against the back of the compartment. Doesn't quite close, but considering the lack of a plastic latch, I think it's doing fairly well. Anyway, once again, thanks in advance! -Adam

Re: HP 35 charger/case questions

*Message #4 Posted by **Michael de Estrada** on 3 June 2011, 7:45 a.m.,*
in response to message #3 by Adam Vaughn

I don't think you can overcharge the battery. I would check it's voltage at its terminals, and if it's over 4vdc, then I'd stop further charging. As far as it's life being degraded due to the use of the wrong charger, I tend to think not. More important with NiCd batteries is the number charging cycles and it's better to go through a complete discharge / recharge cycle.

Yes, I meant that the soft leather case sits at the back of the hard case on the right side where the charger sits. Those latches are often broken off and missing, which is why cases with good latches command a premium.

Re: HP 35 charger/case questions

*Message #5 Posted by **Adam Vaughn** on 3 June 2011, 1:19 p.m.,*

in response to message #4 by Michael de Estrada

Yet again, thanks! Is there a way to monitor the voltages from the adapter while connected to the calculator without crudely wrapping wires around the pins themselves? There are small holes behind each pin of the charger's connector, but I'd rather not stick my multimeter's leads in there if there's a chance it could cause a connection to break internally.

Glad to hear that the NiCads are somewhat forgiving of this sort of torture. I was worried when I discovered that 3.6V of NiCads had been charged with 9V (or more!) for some period of time, but since they're still holding a charge, the damage couldn't have been too bad. I am indeed waiting for the battery pack to discharge enough before I try charging it with the adapter.

Thanks for confirming the layout. Having everything together makes for a really neat package. I figured that latch would've been a weak point; this case looks like it was held shut using masking tape for some time, due to the amount of residue near the front of the case. While this looks rather crude, to me, it just makes the unit look well-used and well-loved, likely for a very long time after the unit was originally purchased. I may look for a new case someday, but it's not a huge priority. -Adam

Re: HP 35 charger/case questions

*Message #6 Posted by **Michael de Estrada** on 3 June 2011, 2:43 p.m.,*
in response to message #5 by Adam Vaughn

I wouldn't recommend trying to insert probes in the back holes of the charger plug to monitor battery charging. While on the charger you will see a much higher voltage anyway, and have to unplug the charger for a minute to let the battery float to its no load voltage. I just leave mine on the charger for about 4-6 hours and then remove the battery to check its charge. It very rarely needs any additional charging.

As to the plastic latches, I open mine only enough to clear the case to minimize the fatigue on the hinge. Of course, this advice is a bit late in your case. I used to have a plastic case with a broken latch for an HP 45, which is similar in design to the HP-35 case. I just used a large and long rubber band to keep it closed.

Re: HP 35 charger/case questions

*Message #7 Posted by **Adam Vaughn** on 6 June 2011, 12:54 p.m.,*
in response to message #6 by Michael de Estrada

I'm more interested in seeing whether or not the voltage from the charging section drops to something more acceptable than 16V when the charger is connected to the calculator. Since this battery pack has been overvoltaged at least once, I want to make sure that it being put on charge doesn't cause it to get heated up again.

I'll probably use a rubber band or two to keep the case closed in the long run. It's a shame that the latch turned out to be a weak link in an otherwise excellent design. Of course, the case does a pretty good job staying closed on it's own, and it likely isn't gonna be doing much traveling around these days.

Anyway, for your viewing pleasure, here's a photo of my HP 35, with the case and accessories:

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Original Box Pictures

*Message #1 Posted by **aj04062** on 2 June 2011, 8:00 p.m.*

Has anyone seen pictures of how the original Classics (55, 65) were packed with all their OEM items in the cardboard boxes? I searched last night and struck out.

Re: Original Box Pictures

*Message #2 Posted by **Michael de Estrada** on 2 June 2011, 8:12 p.m.,*
in response to message #1 by aj04062

It depends. Some came with plastic hard cases (35,45,65) or metal hard case (80), and the cardboard boxes were only used for shipping. The 55 and 67 had a 2-part box with an insert, similar to Woodstocks and Spices, and the 70 had a hard shipping box with an insert.

Re: Original Box Pictures

*Message #3 Posted by **aj04062** on 2 June 2011, 8:14 p.m.,*
in response to message #2 by Michael de Estrada

I have a 55 with the box & inserts.

Have both manuals, property labels, charger and pad. What I can't quite figure out is how it was packed in there. Seems like everything will flop all around too easy for shipping.

Re: Original Box Pictures

*Message #4 Posted by **Michael de Estrada** on 2 June 2011, 8:17 p.m.,*
in response to message #3 by aj04062

Do you also have the soft vinyl zipper case?

Re: Original Box Pictures

*Message #5 Posted by **aj04062** on 2 June 2011, 8:18 p.m.,*
in response to message #4 by Michael de Estrada

yes and service card

Edited: 2 June 2011, 8:19 p.m.

Re: Original Box Pictures

*Message #6 Posted by **Michael de Estrada** on 2 June 2011, 8:26 p.m.,*
in response to message #5 by aj04062

It's possible that the HP-55 was also supplied with the same plastic hard case used for the HP-

45 and HP-65. I just checked the museum listing for the HP-55, and it shows one with accessories in a plastic hard case.

Also, I checked the HP-55 manuals and the Owner's handbook in Appendix A, page 85, states that the standard accessories include a "Travel Safety Case." However, the addenda for the manual printed February 1975 says to "delete the reference to the travel safety case." So, either the case was initally supplied and then later deleted to reduce cost, or it was never supplied in the first place. I also have an Owner's Handbook, dated December 1974, and the previous owner has lined out the travel safety case.

Edited: 2 June 2011, 8:45 p.m.

Re: Original Box Pictures

*Message #7 Posted by **aj04062** on 2 June 2011, 8:46 p.m.,*
in response to message #6 by Michael de Estrada

right,

so does this arrangement look right with Pad on top?

Still note, there is 1/2" or more above the pad. Was there another piece of cardboard filler?

Edited: 2 June 2011, 8:47 p.m.

Re: Original Box Pictures

*Message #8 Posted by **Michael de Estrada** on 2 June 2011, 10:45 p.m.,*
in response to message #7 by aj04062

It's possible that you are missing a bottom filler piece that fits between the bottom of the box and the cutout filler piece. Some boxes such as the one for my HP-25C are made that way.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Updated list of ROM images in the 41CL - help needed with links to quick reference guides for any!

*Message #1 Posted by **Gene Wright** on 2 June 2011, 5:39 p.m.*

The link below is to a spreadsheet containing ROM images in the soon to be released 41CL (as well as lots of other roms).

If you have any knowledge of quick reference guides on the web for any of these roms, please feel free to update the document and send to me (or just send me the links).

If you are the author of a ROM here, please consider creating a quick reference guide to help others.

41CL ROM list

Re: Updated list of ROM images in the 41CL - help needed with links to quick reference guides for any!

*Message #2 Posted by **Geir Isene** on 2 June 2011, 7:20 p.m.,*
in response to message #1 by Gene Wright

The correct link to the NOV CHAP documentation:

http://www.isene.com/files/NOVCHAP.PDF

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator Buyer's Guide

*Message #1 Posted by **Joerg Woerner** on 2 June 2011, 2:22 p.m.*

I just received the Calculator Buyer's Guide 1978 - 1979, puplished by Application Calculators Incorporated in 1978.

It covers not only the HP and TI products but includes Casio and Sharp and features such iconic calculators like the Casio fx-8000 and Sharp CT-500/CT-600, EL-5804/5806/5808.

Pretty intereting to see a HP-10 compared to a TI-5025 or a TI Datachron next to the Casio AQ-1000. Overall, with technical data and a pricelist, an incredible resource for us calculator collectors.

Short question: Are there Buyer's Guides from Application Calculators Incorporated out covering earlier or later years? What happened to the company? Not a lot on the web - just a nice patent application for a calculator display stand ;-))

Thanks and Regards,

Joerg

Re: Calculator Buyer's Guide

*Message #2 Posted by **Katie Wasserman** on 2 June 2011, 5:37 p.m.,*
in response to message #1 by Joerg Woerner

I quick search to find that they were around in 1975 at least. The copyright notice shows Application Calculators Incorporated.

HP-25

HP-21

Re: Calculator Buyer's Guide

*Message #3 Posted by **Bob Patton** on 2 June 2011, 8:43 p.m.,*
in response to message #1 by Joerg Woerner

Hi Joerg,

I have paper copies of such guides from Machine Design, November 14,1974 and Popular Science, February 1975. I will see what I can do about getting them scanned and posted and probably added to my 1970s calc ads notebook and disk. The 1975 list is a somewhat poor photocopy given by a friend, but the table is readable.

Regards

Re: Calculator Buyer's Guide

*Message #4 Posted by **Joerg Woerner** on 3 June 2011, 8:39 a.m.,*
in response to message #3 by Bob Patton

Bob,

Sounds great! You could mail me the Guides and I take care about scanning if you prefer.

Have a great weekend.

Best Regards,

Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C stuck in USER mode

*Message #1 Posted by **Tom Ligon** on 2 June 2011, 12:14 p.m.*

Back in the archives there is another post on this same problem. My venerable -15C did the exact same thing this past week after I replaced its very dead batteries. No amount of button-pushing tricks would clear it. The USER flag remained on even when f USER was pressed and the top row function keys were operating in the inverted condition, per the USER function. Even ON y^x had no effect.

Removing the batteries initially did not work, and I noticed the memory stayed up even with the batteries out ten minutes or so. This little CMOS wonder is amazingly robust with no power. However, removing the batteries overnight did clear the fault.

I could not work up the courage to try the paper-clip shorting of the batteries suggested in the Users Manual.

I'm glad to have my personal copy of the finest pocket calulator ever built back in perfect operating condition.

Re: HP-15C stuck in USER mode

*Message #2 Posted by **Mike Morrow** on 2 June 2011, 2:54 p.m.,*
in response to message #1 by Tom Ligon

> Quote:
>
> I'm glad to have my personal copy of the finest pocket calulator ever built back in perfect operating condition.

You are now obviously talking about the HP 42S. :-)

Re: HP-15C stuck in USER mode

*Message #3 Posted by **Tom Ligon** on 2 June 2011, 3:50 p.m.,*
in response to message #2 by Mike Morrow

My basis for comparison is Brand X (no RPN), my HP-35, my HP-67, and my HP-48GX. I still have the first two, but rarely dig them out as their batteries are history. I gave the -48GX away (I bought it when I thought I'd lost the -15C, and by the time I got it I used a computer for the fancy stuff).

The 15C, OTOH, runs for years on three button cells, programs like my -67, and always makes me smile.

I never had a -42S, but I can understand why you would like it ... many similar charms.

Re: HP-15C stuck in USER mode

*Message #4 Posted by **Etienne Victoria** on 2 June 2011, 4:45 p.m.,*
in response to message #2 by Mike Morrow

Funny, the Hp-80 has now such "USER" mode :-))

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C, 12C Platinum & 15C iOS App

*Message #1 Posted by **Walter Lam** on 2 June 2011, 11:58 a.m.*

Just wondering whether people at HPMuseum.org forum bought the official iOS app of Hewlett Packard 12C, 12C Platinum or 15C calculator with their Apple iOS device (iPhone/iPod/iPad)?

Re: HP 12C, 12C Platinum & 15C iOS App

*Message #2 Posted by **Norman Dziedzic** on 2 June 2011, 1:23 p.m.,*
in response to message #1 by Walter Lam

I have the hp 15C ap on an iPhone 3GS. I never had the real 15c so I can't compare that way. That is actually why I bought it. It was cheaper than getting a real 15C from TAS and I was hopin to see what all the hype is about.

I don't use it as my 1st choice because I like the free42 and i41CX+ calculators tha I have better.

One major annoyance on the 15C for iOS is that the keyboard click volume is not adjustable. The clicking of the keys seems obnoxiously loud to me. Also, there is a manual included but it is not the complete version. Only the first part is included which leaves out programming and perhaps some other stuff.

I'm not sure I have ever seen an update on the ap so I'm assuming hp is leaving it as it is and not doing any improvements / changes to the ap.

It is kinda cool from a nostalgia standpoint but there are much better RPN implementations for iOS if you are looking for a GoTo ap. (my opinion only, YMMV)

Re: HP 12C, 12C Platinum & 15C iOS App

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 2 June 2011, 1:25 p.m.,*
in response to message #1 by Walter Lam

I downloaded and use Free42 and 42S (both!). I paid for them, am very satisfied, and use them very frequently.

Not for serious usage, I downloaded RPN-21, Calc12C+, i48 and m48.

There is also a HP-35 simulator, but it is not a downloadable program; you just access a web page with the simulator and use it online.

HP15C app is interesting but expensive in my opinion; it seems there are better options (cost/benefit-wise) in the App Store (i.e.: other 15C emulators).

Just my AR$ 1e-1

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 16C - loose keys

*Message #1 Posted by **Antonio Petri (UK)** on 2 June 2011, 4:58 a.m.*

Hello, I have bought on TAS a 16C in very good conditions, it works perfectly and it looks almost new. However, some keys are a bit wobbling, the feel of pressing them seems ok though. The most affected keys are the ENTER key and the keys around it, whilst the wobbling gradually disappears towards the right and left sides of the calculator. Does anybody know what could be the cause of this and whether it can be fixed? Thank you Cheers Antonio

Re: HP 16C - loose keys

*Message #2 Posted by **exschr** on 2 June 2011, 1:27 p.m.,*
in response to message #1 by Antonio Petri (UK)

If you look at the case from a low angle you will notice that towards the ends (left and right in your description) where the screws are squeezing the case together the gap between the two halfes is significant smaller than in the middle. That's the reason why the keys in the middle of almost all the voyagers keyboard have more "freedom of movement" (aka wobbling) and lesser towards the sides.

I don't know what could be done about this except loosening the screws a little bit to relax the pressure on the case (which makes it bend), maybee someone else has a better "cheat" to this?!

Re: HP 16C - loose keys

*Message #3 Posted by **Antonio Petri (UK)** on 3 June 2011, 10:11 a.m.,*
in response to message #2 by exschr

Thank you for the hint. I can see a very mild curvature of the bottom half of the calculator and the keys that rock side to side most are the ENTER one and the other two in the same column. I cannot see the same curvature on my other three Voyager models whose keys are all firm.

Cheers Antonio

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 28S: shucking the clamshell, further. Book?
*Message #1 Posted by **Geoff Quickfall** on 1 June 2011, 5:11 p.m.*

Hello all!

I should wait for the relevant chapter of the book to be finished but I had to share the preliminaries of the Clamshell section and the book.

The book

Firstly, the book! Just a quick note, every calculator family up to the stretch pioneers has been disassembled, repaired and restored. Mostly based on my collection, but with some help from two loaners, the 10C and the 19C printing calculators.

Most of the chapters are complete, but I did not realize how big an undertaking this was at first. Especially considering the ease of repair the early calculators are versus the later calculators. Also the HP 41C up to the 41CL now, almost deserves a book on its own!

Today and the 28s

Case in point, I have a 28S that has a bad connection between the keyboard and the PCA. I assumed this was due to a decomposing compression foam connection between the keyboard and the PCA. After looking up info and emailing I decided to remove the keypad overlay and enter the calculator via the heat stakes in the front. This will entail shaving a minor amount off the top of the heat stakes so that reassembly will be facilitated. Enough info on the pry method leaving the keypad overlay in place indicated to much damage can occur to the plethora of heat stakes present.

Well, I did not apply heat to the top label as I tried to remove it from the calc. This resulted in half the label remaining on the calc and half staying with the clear plastic overlay. By heating the remaining half of the overlay the label came off cleanly. I can make up a reasonable facsimile with the printer reusing the clear plastic of the overlay.

Using this knowledge, I heated the lower overlay and gently removed it in perfect condition. Much easier then the overlay removal of the pioneers. The overlay is composed of three parts:

```
1.  clear plastic cover
2.  reverse applied label
3.  glue layer.
```

If the label is not heated gently, then the glue and label separate from the clear plastic cover and is not salvageable at that point. Not a problem on the top, but a big problem on the lower keyboard overlay.

Back to the calculator, WHICH, I thought I would disassemble to the nth degree for documentation. This was due to the ASS-U-MED need to get to the deteriorated foam. In my defence the problem with the calculator keypad; non functional ENTER, 7,4, 1 keys manifested itself exactly like a Pioneer/Stretch Pioneer with a deteriorated compression foam.

From the pictures below you can see the actual problem with the keyboard PCA connection and the importance of heat stakes. Due to a manufacture flaw OR severe flexing of the calculator, some of the heat stakes separated from their bases.

In retrospect, I did notice that the side with the weak heat stakes was sitting prouder to the back shell then the rest of the keypad. Also that pressing gently on that corner facilitated a functioning calculator!

Okay, now to edit in light of a careful examination and help from Randy (the stuff in italics is wrong). I thought I would leave the wrong stuff in but italicize it to show how, without manuals or fore knowledge, as system can be mis-interprete; at least by me

;-0

I thought the loose parts were replaceable. In fact they are broken stakes. I will try Randys suggestion of using a styrene post affixed from the back, and protruding through the now vacant hole in the keyboard side. I will have to drill a hole through the back to facilitate this. Once the base is securely glued in place I will melt the top into position. I guess one could also sew with wire throught the holes and back down the side with the broken stakes. Not pretty though as the wire would be visible from the back.

Now the dilemma, I have a very easy repair that does not require further disassembly of the good heat stakes. Simply a glue fix with clamps overnight and then reapplication of the keyboard bezel.

Fortunately for me and the book, I have a second functional 28S with a dropped LCD column in the display. Something I could live with but don't have to now. I also have a, according to the seller a completely defunct 19B Business Consultant II on its way which is a candidate for complete disassembly.

So I thought I would have all the documentation done today for the Clamshells but it has now been delayed for the arrival of styrene rods.

In any case I thought you would appreciated some preliminary photos of the 28S disassembly, to the point where the fault was found.

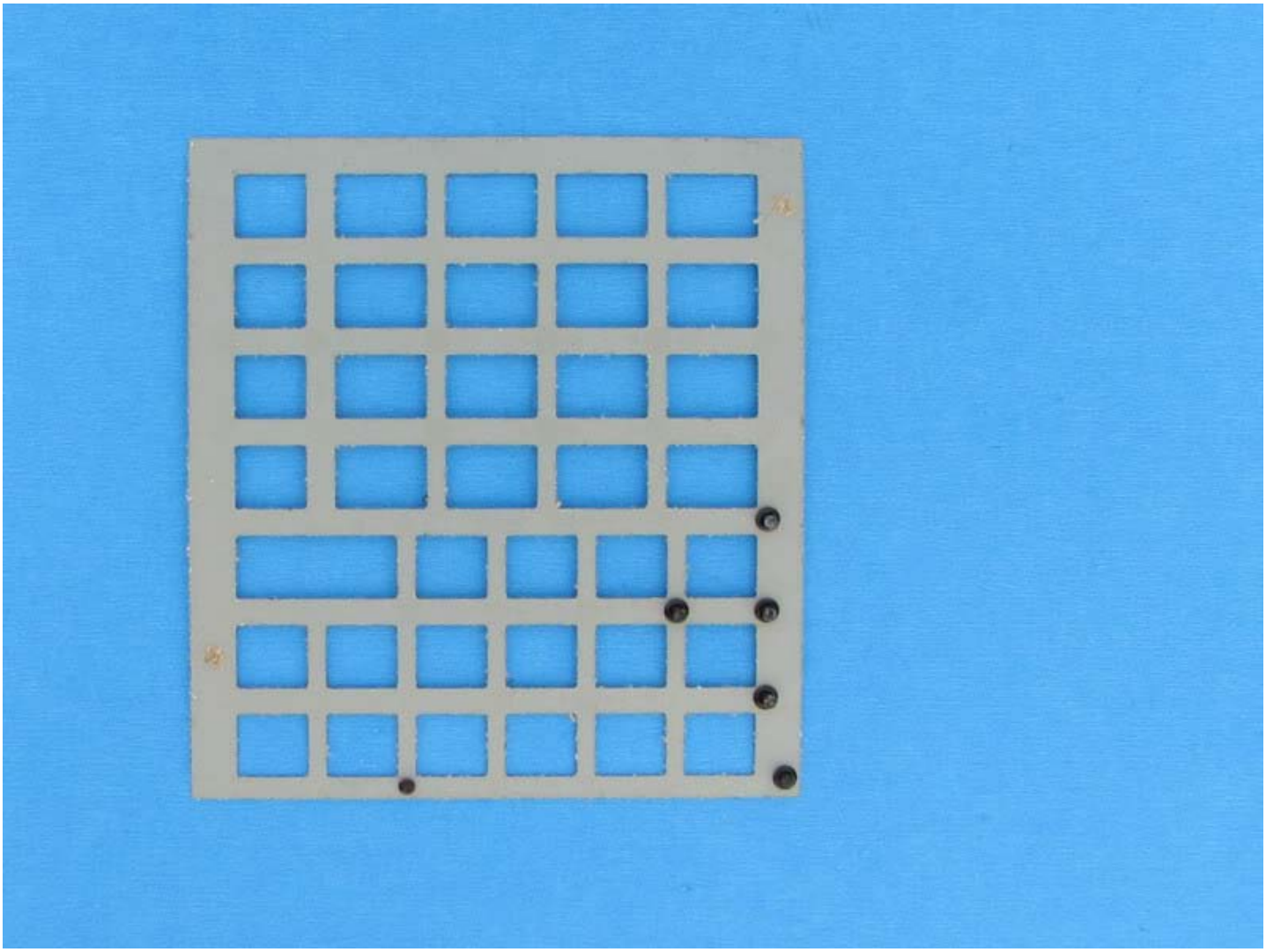
Cheers, Geoff

The calculator as it arrived:

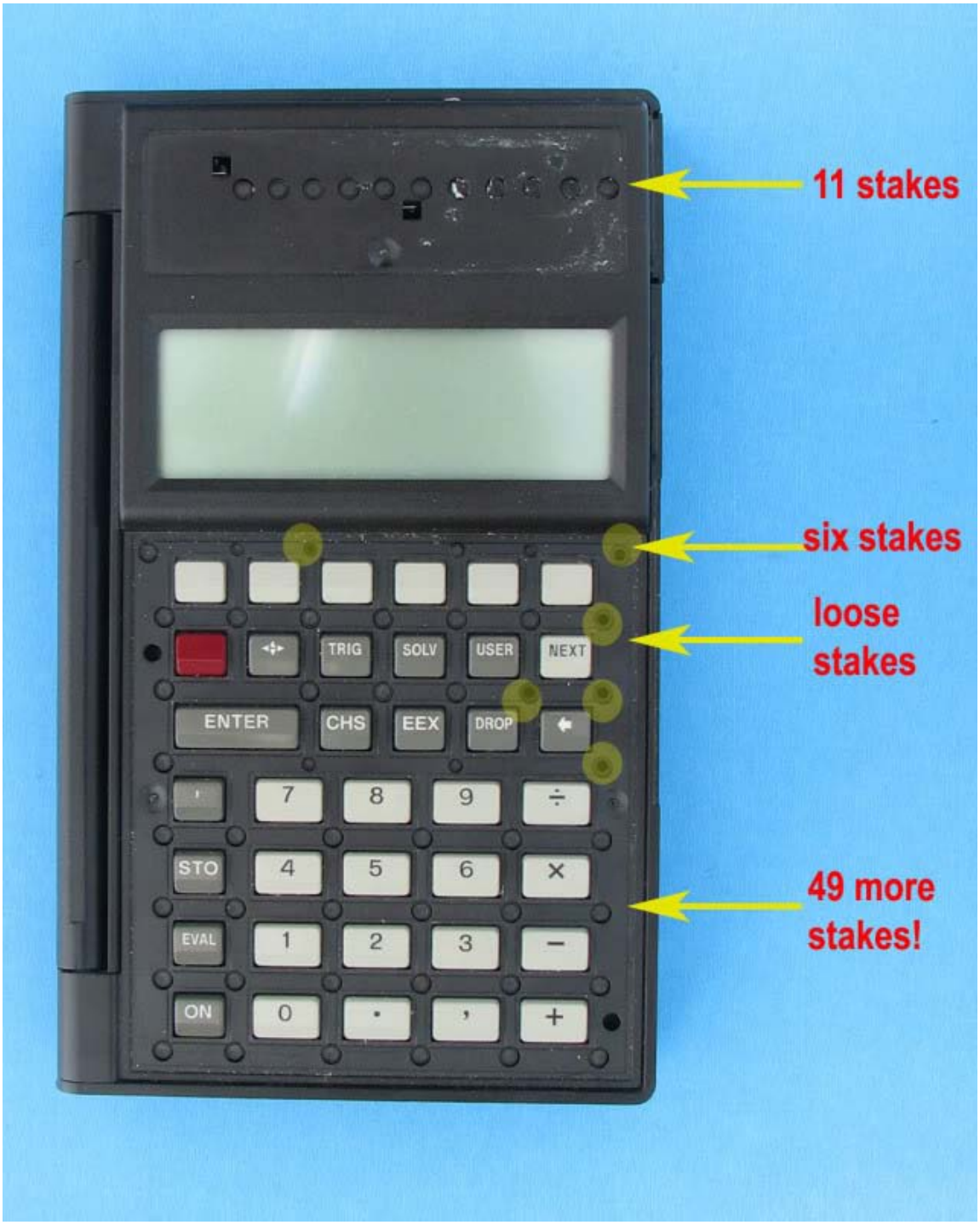
The fault label that succinctly describes the problems:

How not to remove the label as explained in the text! The fix will be to photoshop a new label and use the original plastic overlay to protect it. If done correctly it should almost be identical.

The keyboard label removed intact, with the loose heat stake caps. These mushroom caps ends of the stakes are heated to form a single piece rivet. The flaw in the flex of the keyboard and the fact that this is where the latch is located indicate a flaw in the design. Randys posting also reinforces the idea that this is due to a bad flex in the design. They are actually stuck to the adhesive back of the keyboard label:



The location of all the heat stake tops including the broken ones highlighted with translucent yellow circles.



Functional calculator as evidenced by the display when gently pressing down where the broken heatstakes are missing:

ADDENDUM:

on closer inspection, these are broken posts, as Randy discusses. So opening the calculator up will now go ahead as it is not a case of simply gluing these into position

Edited: 1 June 2011, 7:20 p.m. after one or more responses were posted

Re: HP 28S: shucking the clamshell, further. Book?

*Message #2 Posted by **Randy** on 1 June 2011, 6:17 p.m.,*
in response to message #1 by Geoff Quickfall

Quote:

Due to a manufacture flaw OR severe flexing of the calculator, some of the heat stakes separated from their

tubes.

I had about 50 dead 19Bii's from a purchase many years ago. I sorted out the units that did not turn on and proceeded to trouble-shoot about 20 units. It became very quickly evident that the sole problem was exactly what you found, heat stakes that had sheared off, primarily from the case back, not the mushroomed heads. I suspect it is the physical force from opening the case that stresses the heat stakes in the latch area that causes them to fail. Once that happens, there is a zipper effect to the left that eventually leads to failure of the smaller diameter stakes under the display that causes the classic loss of keyboard to logic board contact. Same symptom but a different cause.

The only idea I had for repair was to drill holes through the back of the case and solvent weld new posts in. The only issue was that I could only find white styrene rod stock so it would not be a "pretty" repair but it would certainly work.

IMO, if you add up the time required, the horrible battery door design and the lack of supply for replacement doors, I decided it was wasn't worth the effort to undertake commercially.

Re: HP 28S: shucking the clamshell, further. Book?

*Message #3 Posted by **Geoff Quickfall** on 1 June 2011, 6:27 p.m.,*
in response to message #2 by Randy

Randy,

You are absolutely correct, the time involved versus the outcome does leave alot to be desired.

For the hobbiest though, with free time, a little guide to get in and get out might be helpful.

To bad the casio, sharp and other cheapies from the early era and many screws wasn't the case here.

In any case, these have to be the most tedious to repair as you forced to deal with so many heat stakes and the styrene post repair. I guess your styrene post could be sanded and the back of the calc painted a close match, but again, just how much work for the outcome. I will try your suggestion though after I open it up.

Cheers, Geoff

Edited: 1 June 2011, 7:22 p.m.

I think I'll stick to the repair of LED models only

*Message #4 Posted by **Michael de Estrada** on 1 June 2011, 7:25 p.m.,*
in response to message #3 by Geoff Quickfall

It seems to me like repair of most of the LCD models is terribly involved and time consuming with a high likelihood of disappointment and frustration. Fortunately, all of my LCD models, even my HP-28S, are still in good working order. I've had great success repairing Classics, Woodstocks and Spices due mainly to their ease of entry and soldered connections (Spice first versions excepted), but think I wouldn't have the patience or skill to attack one of the newer LCD models. Some day no doubt my HP-28S will no longer fire up, at which time I will simply remove the batteries and bid it adieu.

Re: I think I'll stick to the repair of LED models only

*Message #5 Posted by **Geoff Quickfall** on 1 June 2011, 8:17 p.m.,*
in response to message #4 by Michael de Estrada

I would have to agree with you Michael!

But I have to do this for the book. I shure wouldn't take these on for repair!

In any case, they may become rare enough one day that someone will want to fix them!

I have a 19C comming my way (29C cousin) and even if I can't get it working (it isn't) it is still fun to work on!

Geoff

Quick update on the 28S and thanks Randy!

*Message #6 Posted by **Geoff Quickfall** on 2 June 2011, 8:09 p.m.,*
in response to message #1 by Geoff Quickfall

IT WORKS,

Well I drilled out the offending broken stakes, I thought. I did this without opening the calculator. Selected the correct sized bit and drilled straight through the body of the calculator starting at the keyboard side.

Purchased some styrene piping from a hobby store of the correct diameter. The holes were slightly smaller then the styrene creating a very tight fit which did not need glue.

When I cut these down and glued the backs of the piping as it protruded from the back of the calculator. Let them dry and then shaved them flush.

This corrected the faulty 7,8,9, key response but left the x,+, -, / keys unresponsive. Pressing firmly under the lower edge of the display reactivated the keys so now its time for major surgery.

I drilled out the top of ALL the stakes leaving my new ones in place. Pried open the calculator and found that 15 more of the stakes in the numeric part of the keyboard were also defunct!

Well, the culprit for unresponsive keys, the PCA to keyboard foam compression. I cut two new ones, (over sized) and fitted them in place. Dry assembled the calculator and IT WORKS.

All the remaining heat stakes have more then enough left to melt them into position plus a drop of styrene glue solvent. That combined with my stake fix (idea suggested by "RANDY") and the calculator will have a 100% recovery after surgery.

Some shots (for more detailed explanation with labeled pictures you will have to get the book ;-)

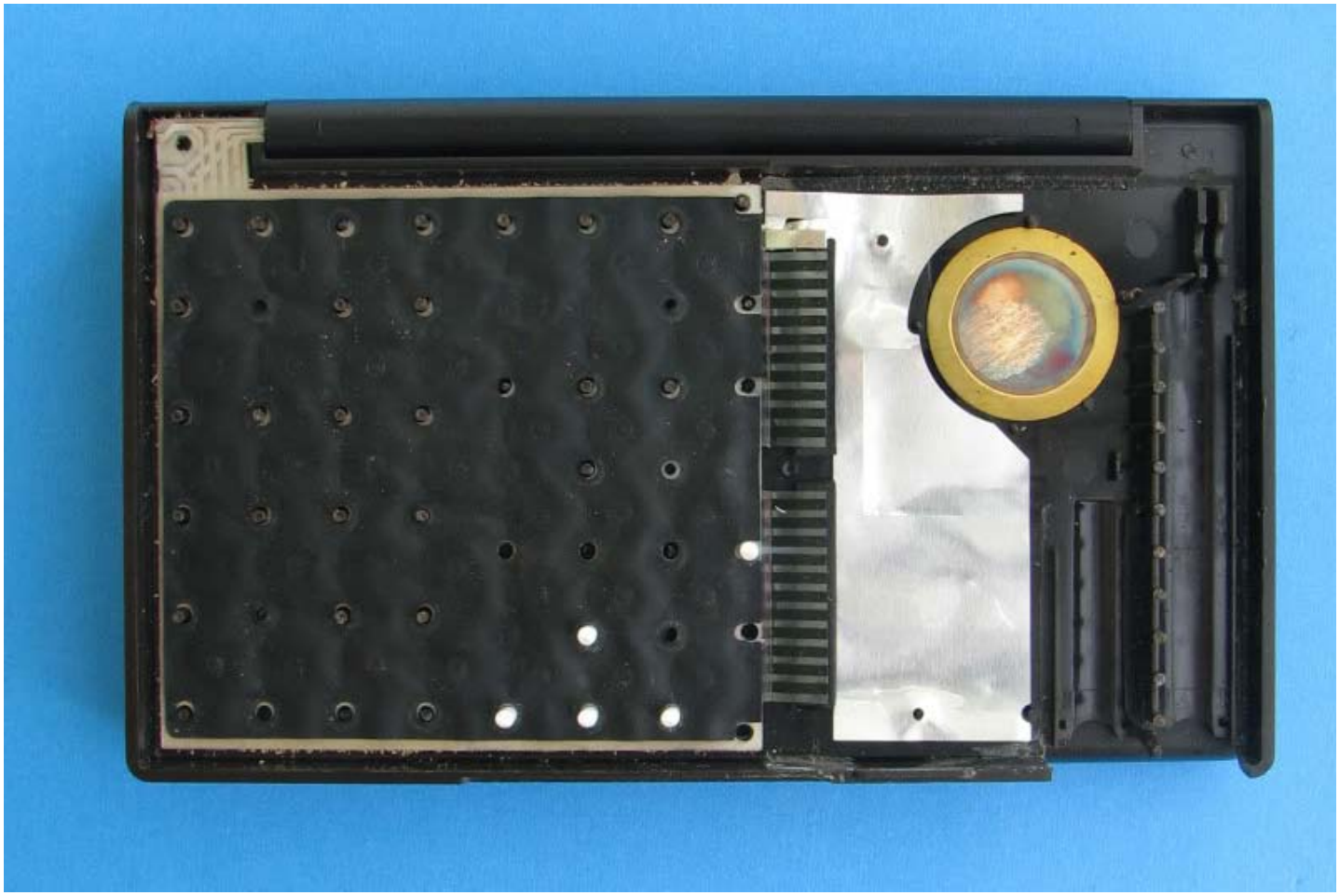
The drill press set so the depth is controlled by the drill press lever. This allows for just the right amount of stake shaving in a controlled motion and consistent manor:

The drill press was used to bore through the broken stakes and to shave the good stakes:

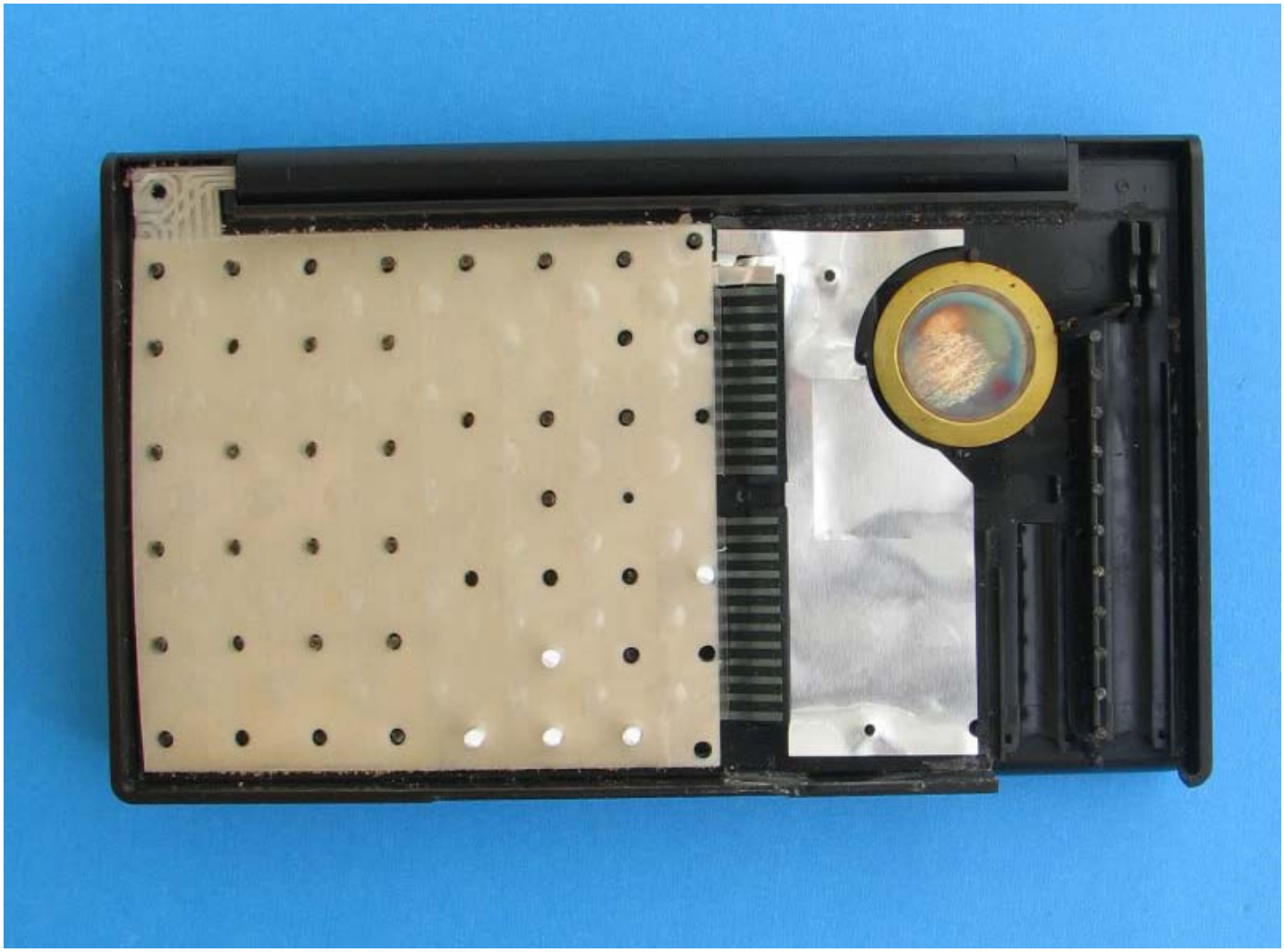
You can see the new stakes are in place in the above photos and here is a slant view:

All the heat stake tops are shaved in this view and the calculator is ready to be gently pried apart.

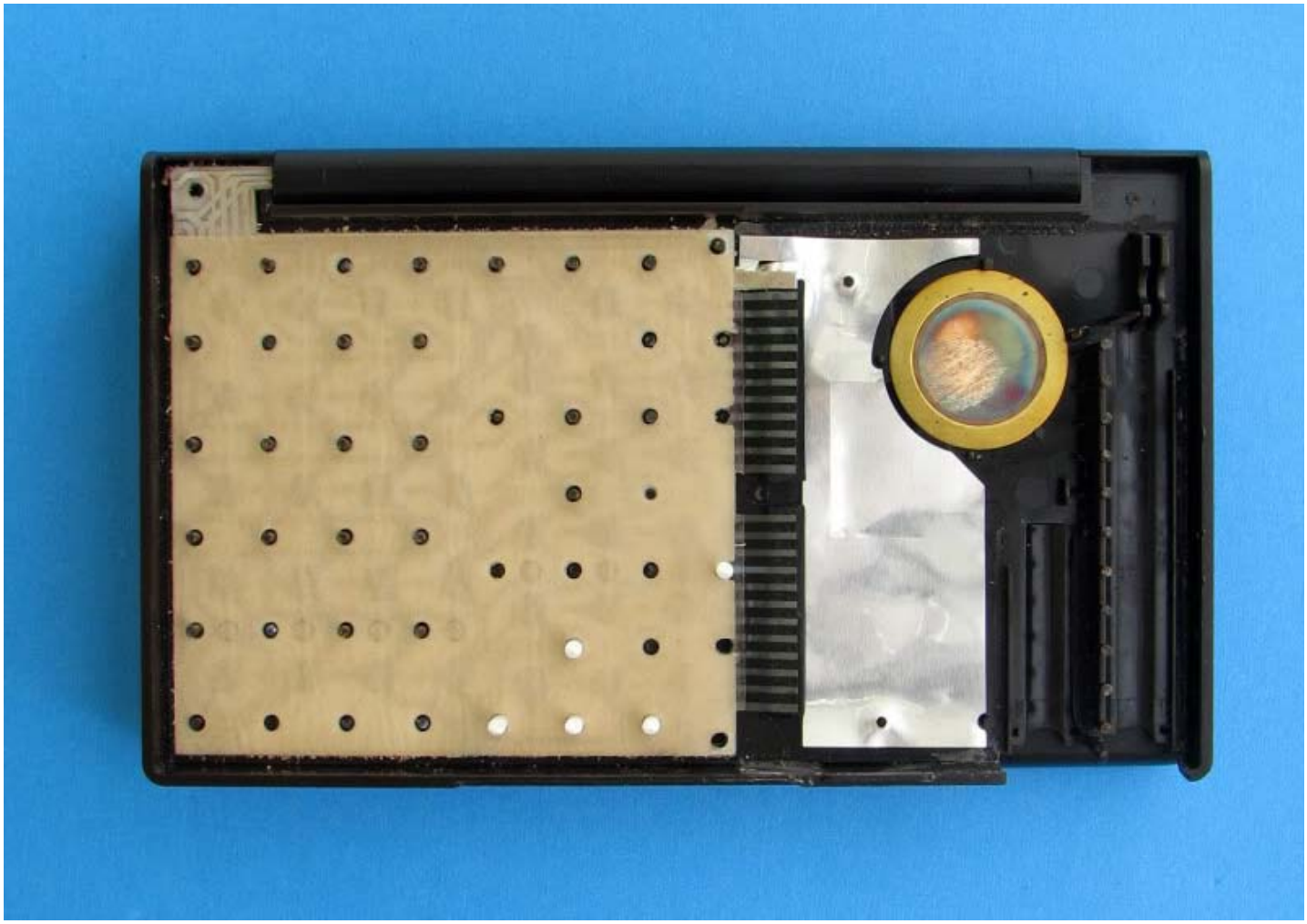
Under the keys once the top is removed with the keys (they fall out so be ready to catch them!) are four layers sandwiched above the keyboard circuitry. Here they are starting at the top rubber layer:



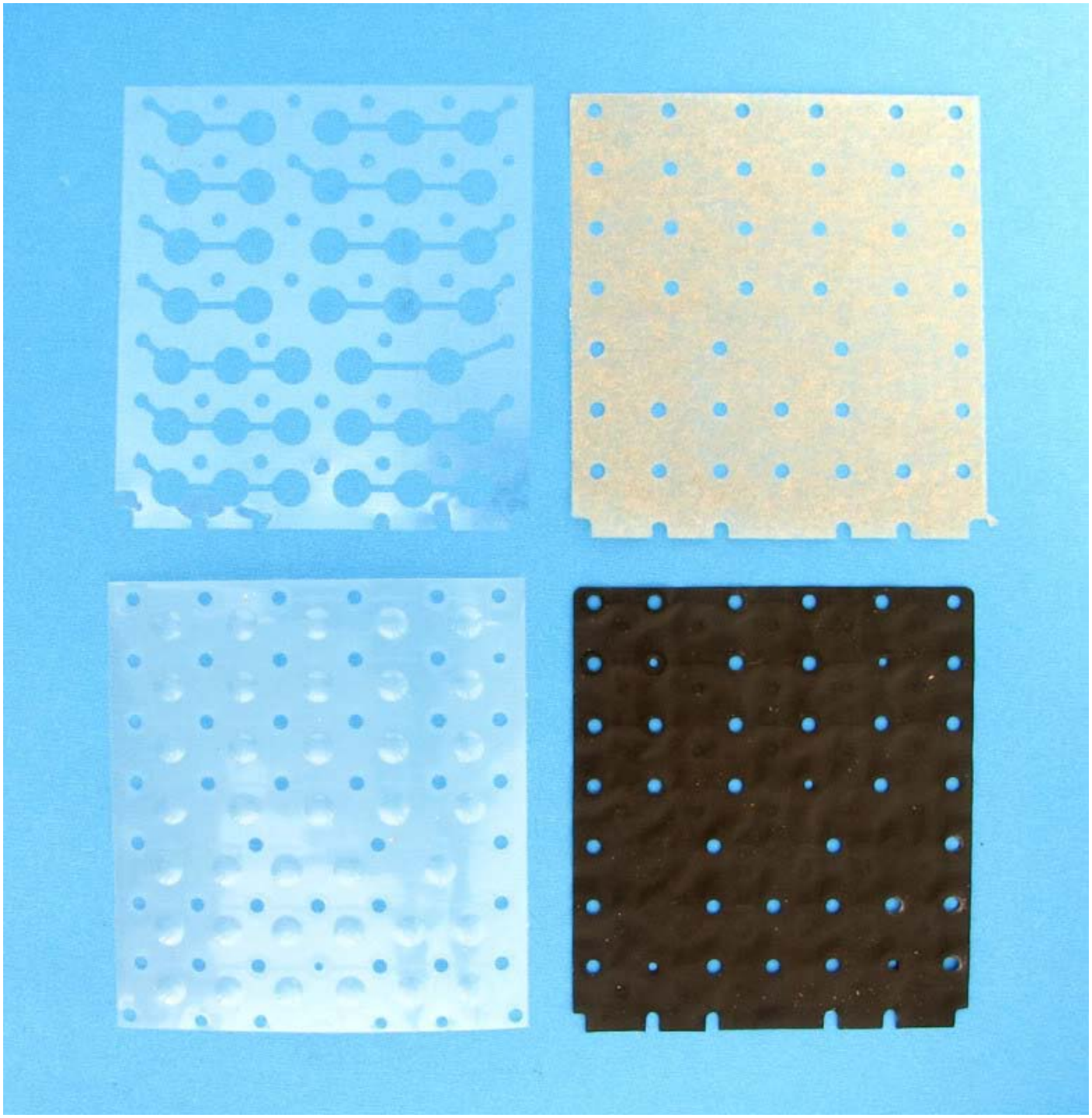
Next the snap layer that gives the keys their feel:



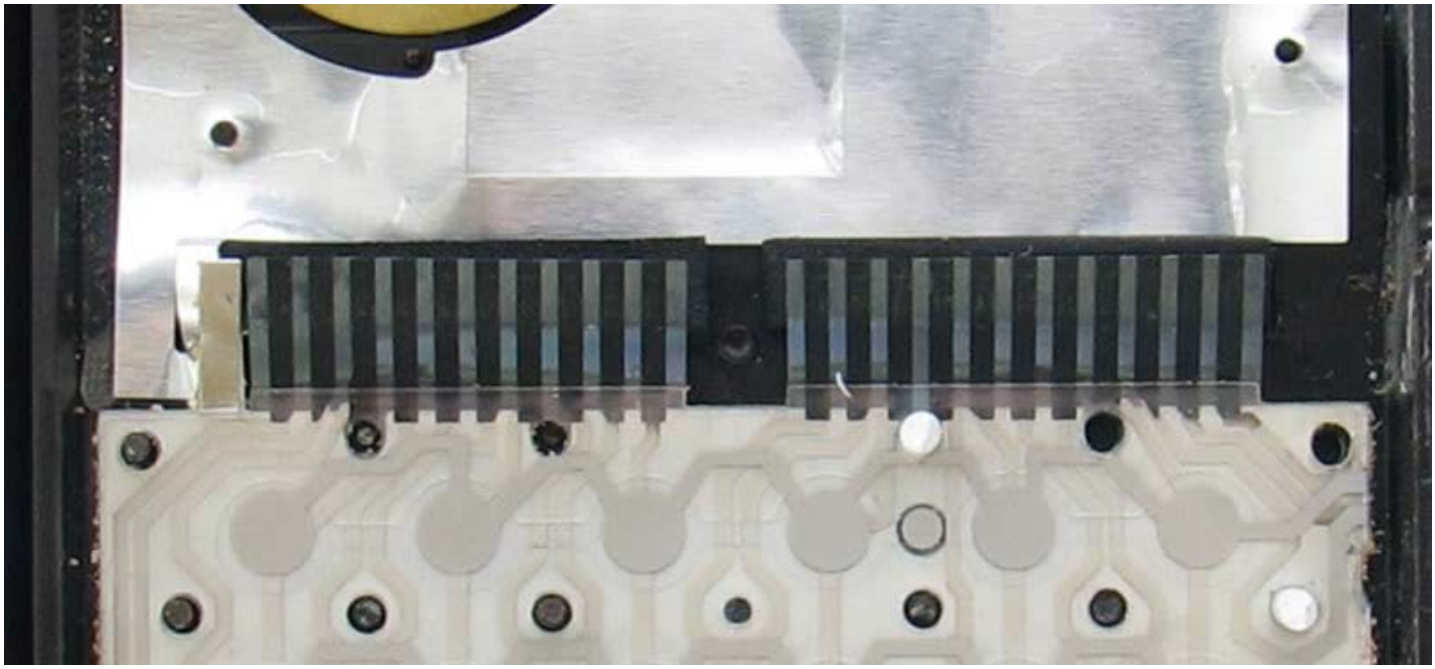
Next a thin paper layer:



Under the paper and covering the keyboard circuitry is a clear film, not visible unless removed so once again here are all four layers:



Of course all this was to get to the compressed foam which I have replaced with new foam cut to a thicker dimension. The foam lies underneath the vertical striped ribbon:



Here is a shot of the back of the calculator before the stakes are shaved flush. Next step will be a permanent reassembly with the rear case cleaned up and the stakes painted to match. When done the fix should be almost invisible from behind and seamless from the keyboard side.

That is for tomorrow when the glue has set and the paint has dried.

Stay tuned:

Geoff

p.s. thanks Randy for suggesting the styrene piping.

Edited: 3 June 2011, 12:29 a.m.

Completed HP28S pictures!

*Message #7 Posted by **Geoff Quickfall** on 3 June 2011, 1:55 p.m.,*
in response to message #6 by Geoff Quickfall

Well, what started as a restaking of the 28S without taking it apart ended up being a complete dissection of the right hand side to the PCA.

This was due to two problems, misinterpreted as one problem, a faulty keyboard PCA connection due to broken stakes at the hatch lock side of the numeric keyboard.

In fact, after replacing the stakes, described above, most of the play observed before restaking was removed and a lot of the faulty keys were rectified. However this left the = - X / key still unservicable.

So diving in the culprit was found to be the foam that is used to press the keyboard ribbon into the contacts of the PCA. After replacing the foam and a dry assembly the calculator performed flawlessly.

Here it is assembled with a keyboard test done.

New stakes cut flush and sanded flush. I might touch them up or paint the back completely in the appropriate colour. New rubber pads and it is done:

Looking at the keyboard side, the stakes are flush, and all the remaining original stakes have been remelted with a soldering iron. I also placed a tiny drop of styrene glue on each remaining rivet:

The keyboard test started (you can see the tops of the new stakes):

The keyboard test finished:

The finished product, I am still working on the top label since I destroyed the original. Just printed one off to cover the rivets:

I will compile the photos for the article section, but there will be much more detail including the left hand side and hinge for the book.

Cheers, Geoff

Re: Completed HP28S pictures!

*Message #8 Posted by **Gerson W. Barbosa** on 3 June 2011, 3:09 p.m.,*
in response to message #7 by Geoff Quickfall

> Quote:
>
> The finished product, I am still working on the top label since I destroyed the original.

I might send you one if you tell me how to remove it safely (from a dismantled non-working 28S).

Regards,

Gerson.

Re: Completed HP28S pictures!

*Message #9 Posted by **Geoff Quickfall** on 3 June 2011, 3:42 p.m.,*
in response to message #8 by Gerson W. Barbosa

Hello Gerson,

With a dissembled calc the removal should be very easy. Heat it up a hair dryer, and since you are not concerned with overheating the internals, heat it up enough to be very warm (not hot) to the touch.

Slip a sharp blade underneath on corner and lift, apply heat when it feels like it is adhering to much. You don't want to crease as you lift it.

And thanks for the offer, I would greatly appreciate the label.

I will pm you with an address.

Thanks and cheers, Geoff

main problem with my removal of the top label is that I did not apply ANY heat, just peeled it off cold. Don't know what I was thinking ;-(

Edited: 3 June 2011, 4:02 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HPGCC Documentation

*Message #1 Posted by **Clint Weathers** on 1 June 2011, 4:48 p.m.*

Hi,

It seems that all of the core HPGCC documentation (save for Egan Ford's) has died from link rot.

Can someone point me towards the documentation that used to be on the now-defunct hpgcc.org?

Thanks,

Clint

Re: HPGCC Documentation

*Message #2 Posted by **Bart (UK)** on 2 June 2011, 7:28 a.m.,*
in response to message #1 by Clint Weathers

HPGCC3 is released:

http://www.hpgcc3.org/

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My HP 12C+ impression

*Message #1 Posted by **Walter Lam** on 1 June 2011, 1:09 p.m.*

I bought a golden HP 12C+ (uses 2 CR2032 Coin Cell) today (Serial no. 4CY01300046 Can anyone decode this?) to replace my old broken down 12C (can't power on) and 12c platinum 25th Anniversary Version (Body's loosing after I dropped it on the floor during exams). I still have one healthy 12C which is made in 1984.

I chose 12c rather than 12cp because I prefer 12c's larger and bolder digit and annunciator. But I missed 12cp's 400 program steps (In practice, I didn't use all 400 steps and I found that it's quite trouble to locate the 2nd program to run in 12cp). I don't use ALG and I don't like to press Shift key to do backspacing or Undo an operation.

The keyboard of this new 12C+ keyboard is good. It responds quickly and not mushy.

For calculation, it's really faster than my old 12c, especially computing IRR. I love it.

However, I found that this 12C+'s self test does not show "-8,8,8,8,8,8,8,8" like what the user guide describes. At first, I thought the first 12C+ that I got is a faulty machine. Then, I asked for a change. When I get the second 12C+ (i.e. the current one on my hand), it also cannot show "-8,8,8,8,8,8,8,8" as well. But when I enter some figures to try out NPV, IRR and Bond Calculation, this 12C+ gives correct answer. It's strange. As it gives correct answer, I think my 12C+ works properly and didn't ask for a change again. Can any user enlighten me on this matter?

Re: My HP 12C+ impression

*Message #2 Posted by **Tim Wessman** on 1 June 2011, 1:51 p.m.,*
in response to message #1 by Walter Lam

Does the manual you received talk about a self test mode? Is there a paper in there that has an addendum?

The old "self tests" may not even be there any more. We were definitely talking about completely removing it at some point. I am 100% certain that both the original unit and your replacement were working fine though.

The new self test menu can be reached by turning the unit off, then press and hold both G and ENTER. When you power on, release the G and ENTER and you will be in the new test system.

TW

Edited: 1 June 2011, 6:58 p.m.

Re: My HP 12C+ impression

*Message #3 Posted by **Walter Lam** on 2 June 2011, 11:38 a.m.,*
in response to message #2 by Tim Wessman

TIm:

Thanks for reply me.

My current 12C+ on my hand is the second one after I requested the vendor to changed another 12C+ with new more environmental friendly paper package. It does have a Quick User Guide and a CD with full User's Guide. It no longer provides printed full User's Gude. I didn't find any paper addendum.

Then, I found Katie's posts about the change of self-test of 12C+. I could perform new self test. My 12C+ is running a 2008-06-28 firmware.

I put in Tony Hutchins' Black-Scholes Program to 12C+ (included in 12C user's guide). It gives answer terribly faster than old 12C.

Walter

Re: My HP 12C+ impression

*Message #4 Posted by **Jeff O.** on 1 June 2011, 3:10 p.m.,*
in response to message #1 by Walter Lam

Walter,
Pending your response to Tim's questions, it sounds to me like your 12C+ has an older version of the firmware. If I recall correctly, the "original" 12C self-tests did not work quite right in the first 12C+ units. See the following threads for information on the various versions and how to tell which one you have:

Katie Wasserman's original review

12C+ thread

another 12C+ thread

yet another 12C+ thread

Also found this one. Did it take you nearly 2 years to get your calculator?

I think your serial number decodes as follows:

```
4CY - made in Chinese factory coded 4CY
0 - year 2010
13 - week 13
00046 - individual unit no.
```

Edited: 1 June 2011, 3:11 p.m.

Re: My HP 12C+ impression

*Message #5 Posted by **Walter Lam** on 2 June 2011, 11:50 a.m.,*
in response to message #4 by Jeff O.

Jeff O.:

Yes, it takes almost 2 years to get this 12C+. In Hong Kong, most people who needs a financial calculator are usually buy either a TI BAII Plus or Casio. In HK, the price of 12C is almost a double of TI and Casio. At the store that I bought my 12C+, a 12C+ is selling at HK$650 (around US$83.55). A 12C Platinum sells at HK$750 (around US$96.40). A TI BAII Plus costs HK$320 (US$41.30). That's why HP calculators are rare in HK as it costs more.

Thanks for decoding the serial no. Also, thanks for the help to posting Katie's posts about 12C+.

Regards,

Walter

Re: My HP 12C+ impression

*Message #6 Posted by **Eddie W. Shore** on 1 June 2011, 9:05 p.m.,*
in response to message #1 by Walter Lam

I myself find that I use the 12c+ more than the Platinum. I ended up giving the Platinum to my dad.

Re: My HP 12C+ impression

*Message #7 Posted by **Walter Lam** on 2 June 2011, 11:52 a.m.,*
in response to message #6 by Eddie W. Shore

> Quote:
>
> I myself find that I use the 12c+ more than the Platinum. I ended up giving the Platinum to my dad.

Same as you. Seems that 12c+ is the fastest in 12C/12CP family. With RPN, you will addicted to 12c+.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Repair Parts

*Message #1 Posted by **aj04062** on 1 June 2011, 12:20 p.m.*

Been thinking about commissioning a couple of parts.

1. New flex circuit to replace corroded battery terminals. 2. Stamped plates to reinforce broken holes on calculator backs

I'd appreciate some honest feedback on what "the market might bear" on these two items.

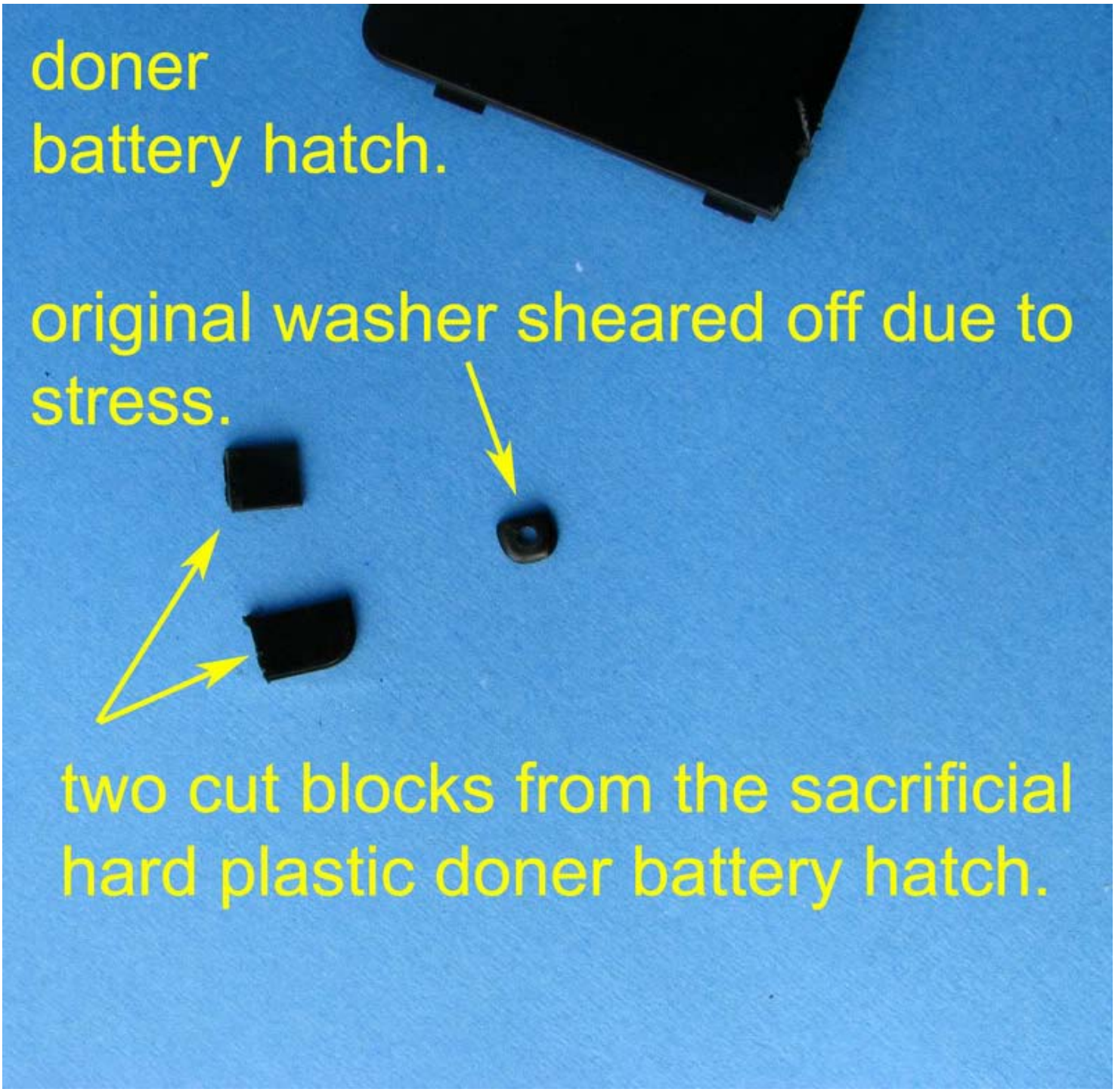
Please reply to my email if you care to vote.

Re: HP-41 Repair Parts

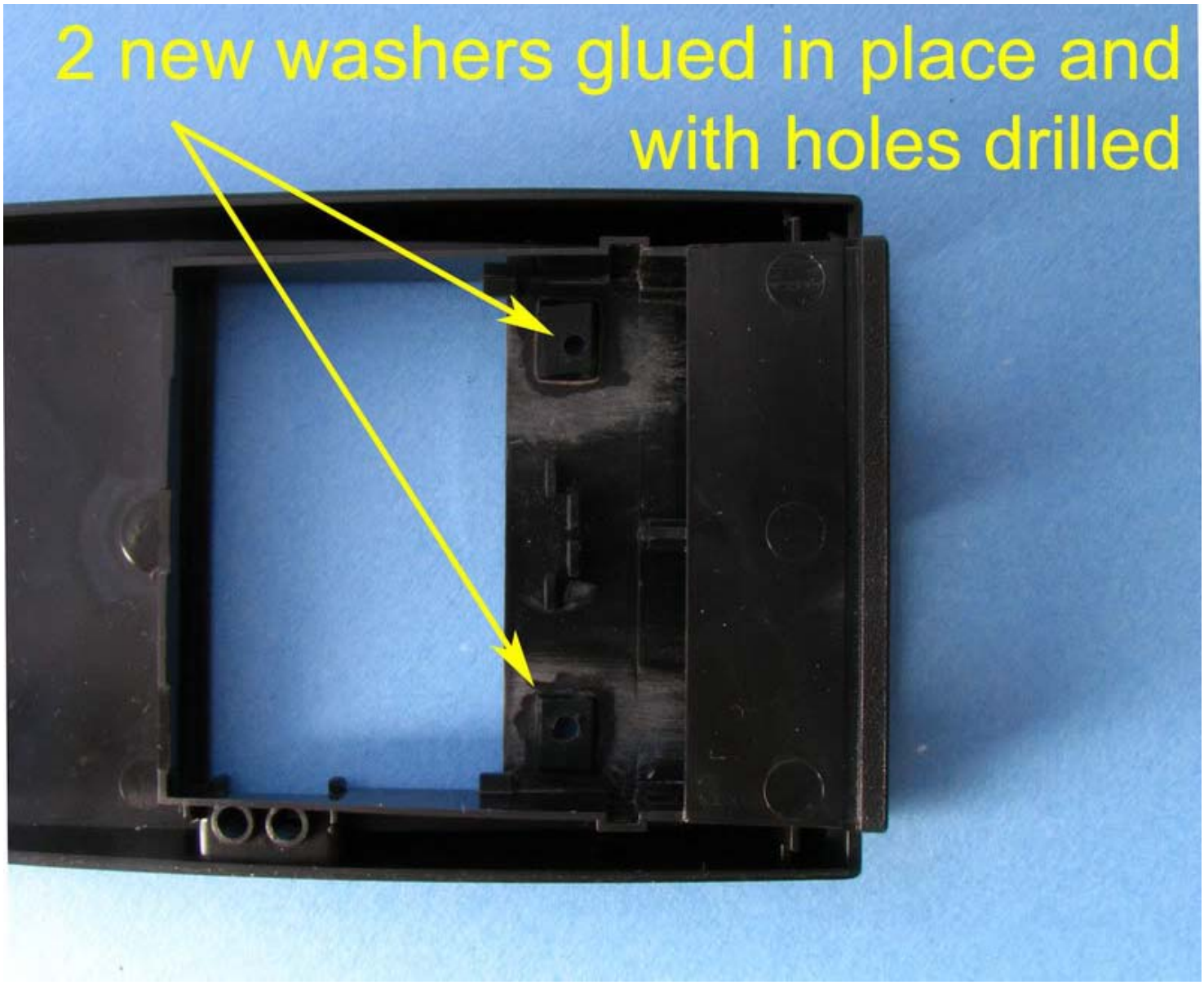
*Message #2 Posted by **Geoff Quickfall** on 1 June 2011, 1:46 p.m.,*
in response to message #1 by aj04062

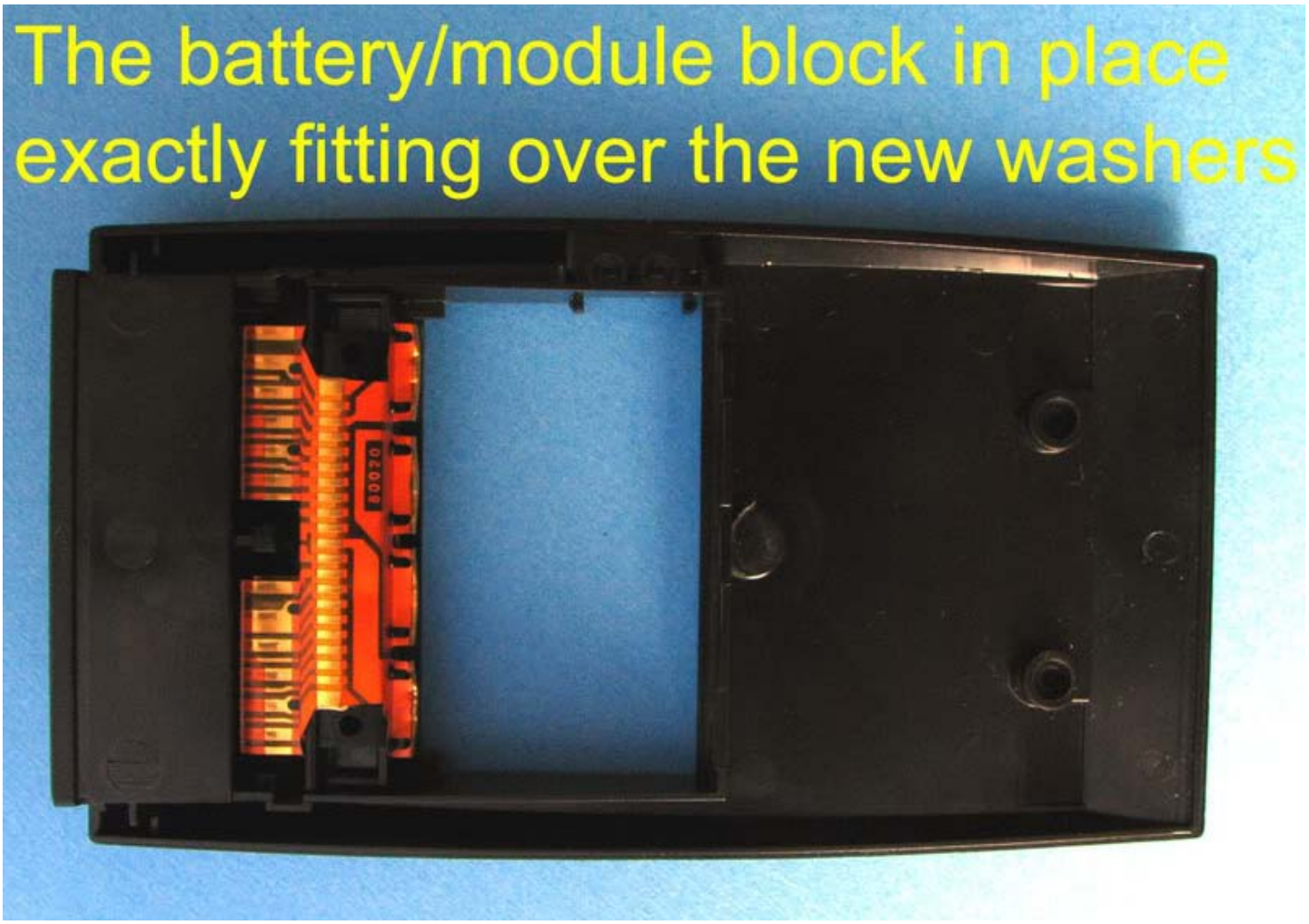
Both projects are worthy but lets see if they have been done before as your expense may not outway the benefits from and easy repair:

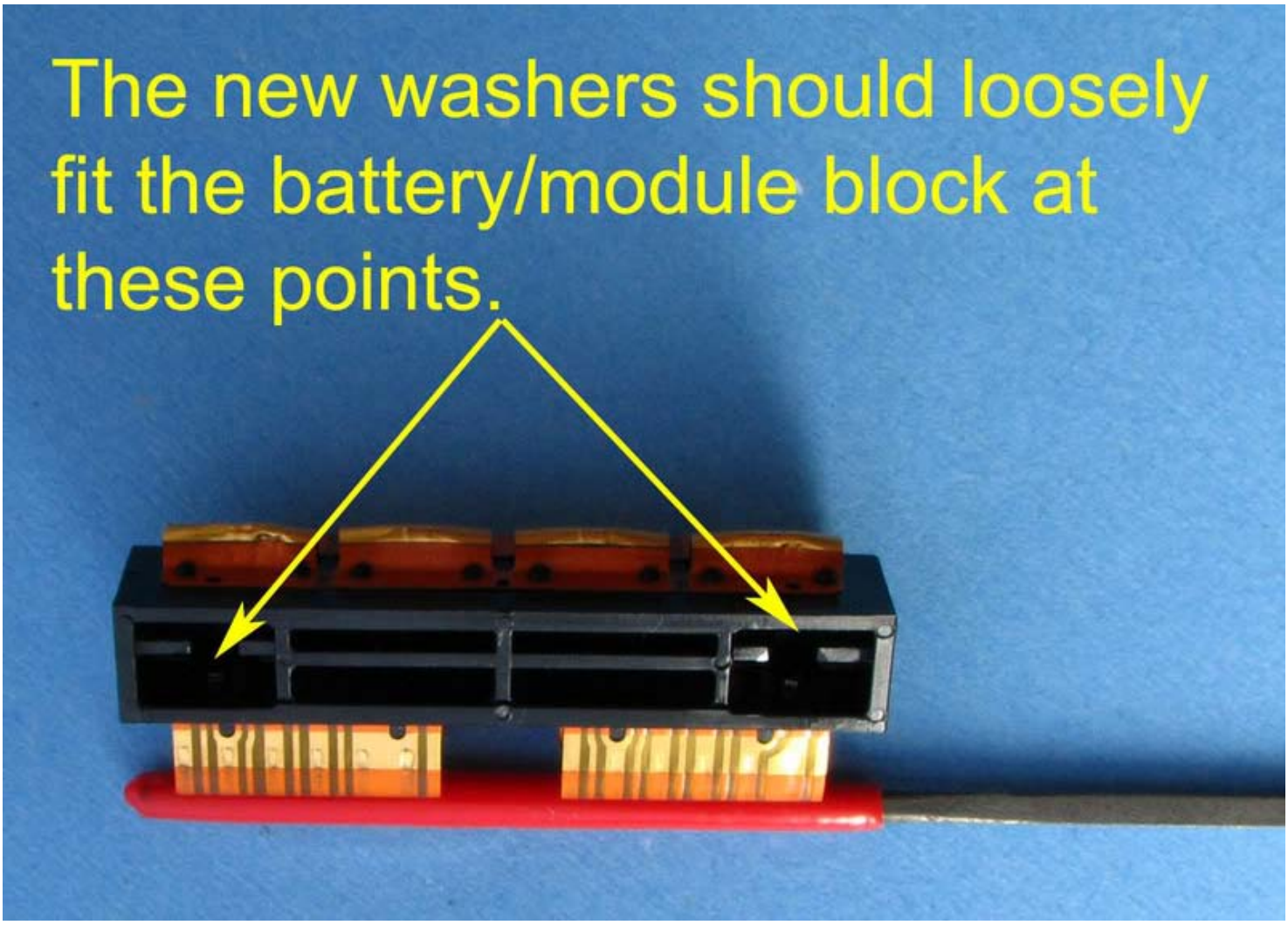
Reinforcing the rear shell screw holes can be accomplished easily with spare plastic pieces:


doner
battery hatch.
original washer sheared off due to stress.
two cut blocks from the sacrificial hard plastic doner battery hatch.

The two washers in place
waiting to be drilled.


2 new washers glued in place and
with holes drilled


The battery/module block in place
exactly fitting over the new washers



I can't find the original article I posted but the above photos show the main points. I am only posting this as this is an extremely easy fix and cheap versus a prefab piece and associated costs. Of course, I may have misinterpreted your intent. If so, sorry.

As far as the ribbon battery contact idea, have you seen:

Deigo Diaz site

Is this the ribbon contact you are refering to. I have used three of these and they are fantastic!

Hope this helps and again if I misinterpreted your intent I apologize ahead of time.

Cheers, Geoff

Edited: 1 June 2011, 1:50 p.m.

Re: HP-41 Repair Parts

*Message #3 Posted by **aj04062** on 1 June 2011, 5:00 p.m.,*
in response to message #2 by Geoff Quickfall

The Flex PCB works for me. That is very similar to what I was thinking, but have an open conversation with a protyping shop I work with discussing how to make new ones in small batches. I don't think they can make for the price we're willing to pay, so Diego's approach may win the day.

On the plastic idea, I'll sketch something and post it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Idea for the WP34S PC-emulator

*Message #1 Posted by **fhub** on 1 June 2011, 8:50 a.m.*

Hi,

now that my first idea (EEX instead of E) has been well received, I dare to present one of my other ideas for the WP34S emulator. ;-)

First of all many thanks to the developers of this fantastic project, which I've discovered only a few weeks ago. I've been a fan of all kinds of calculators (and especially of their PC-emulators) since almost 30 years, and this WP34S project is indeed the most interesting one.

I don't know who of the developers (Walter/Paul/Marcus?) is responsible for the PC-emulation, but at least here's my idea:

What I always found very annoying with these calculator emulations is the complicated way to access the calculator keys (or functions) via the PC-keyboard: either you have to make many mouseclicks or you have to remember lots of keyboard-shortcuts for the calculator keys (mostly not mapped very well).

Some time ago I found a TI-58/59C emulator on this website: http://83.156.189.247/ti58c/index.php?langue=EN And this emulator uses a (IMHO) very comfortable way to access the calculator keys and functions, which I've never seen before in any other emulator program: You can simply enter the keys/functions on the PC-keyboard by their names! :-)

Now my question to the author of the WP34S PC-emulation: would it be possible to implement such a feature, i.e. being able to use any of the WP34S functions by just entering the name on the keyboard?

My idea would be like this: maybe the easiest way (requiring minmal code in the emulation program itself) would be an external key-file *.key (like the *.skin files), which contains the names (abbreviations) and the required calculator keystrokes (as key-codes) to execute this function. Such an external file would also have the advantage that the user can modify and extend the names of the functions himself.

Let me give you a few examples how this key-file could look like:

SIN 24 12

SINH 24 11 12

ASINH 25 11 12

LN 25 41

MOD 26 45 (for RMDR)

...

For the numbers I just used a kind of key-code (row/column of the calculator key), but this could of course be

coded in a different way.

If parsing these names (SIN, SINH, ASINH, ...) during the normal usage of the calculator keys (e.g. while entering a number) would be too complicated to implement, then using this special keyboard-mode might also be switched on and off by a special key, e.g. <Space>. With this I mean that after having entered a number I press the <Space>-key, then enter my name (SIN, ASIN, ...) and finally end my name with <Space> again, and then the emulator executes the keystrokes for this name. (Of course it would be nice if the entered name would appear somewhere, e.g. in an extra window or better on the calculator display).

So what do you think about this idea? For me it's definitely more comfortable (and also much faster) to directly enter the name of a function than clicking on several keys with the mouse to finally get the desired function.

Regards, Franz

Edited: 1 June 2011, 9:00 a.m.

Re: Idea for the WP34S PC-emulator

*Message #2 Posted by **Marcus von Cube, Germany** on 1 June 2011, 9:24 a.m.,*
in response to message #1 by fhub

Franz, its me.

To be honest, it used to be Cyrille de Brebisson. The emulator kernel is a Windows MFC program originally furnished by HP as part of the development kit for the 20b platform. I changed the linkage to the rest of the project to be a DLL so that the rest can be compiled with the free version of Visual Studio. To change the inner workings of the GUI, you will need a full blown Visual Studio installation to compile the DLL itself. The sources are included in the SVN repository so feel free to adapt them to your needs. ;-)

Now back to your idea: On a TI-59 there are no hidden functions except for some OP nn and PGM nn combinations. In principle, all is on the keyboard. So mapping SIN to the key labeled SIN is relatively straight forward. This is not the case with wp34s. It has hundreds of functions in its catalogues. If you want to address all of these by name, the mapping file will become very convoluted. And how do you enter a greek alpha or gamma as part of the function name?

The easier way would be to just address the visible keyboard labels. None of the typeable names may then start with f, g, or h because otherwise you can not reach the prefix keys. I fear none of the above will be done by me in the foreseeable future.

You can change the mapping of keyboard keys to calculator keys yourself, its all in the skin files.

Marcus

Re: Idea for the WP34S PC-emulator

*Message #3 Posted by **Gerson W. Barbosa** on 1 June 2011, 9:44 a.m.,*

in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> None of the typeable names may then start with f, g, or h because otherwise you can not reach the prefix keys.

These are assigned to F10, F11 and F12 already.

Re: Idea for the WP34S PC-emulator

*Message #4 Posted by **Marcus von Cube, Germany** on 1 June 2011, 9:50 a.m.,*
in response to message #3 by Gerson W. Barbosa

On my Mac I had to sacrifice F11 and F12 in Windows for INS and DEL. We can of course map the keys anywhere we want. As stated before, just modify the skin files to your liking!

Re: Idea for the WP34S PC-emulator

*Message #5 Posted by **fhub** on 1 June 2011, 10:02 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Ok Marcus, I see that my idea doesn't seem to attract much interest. ;-)

> Quote:
>
> You can change the mapping of keyboard keys to calculator keys yourself, its all in the skin files.

Of course I've done this already (this QWERTY layout is in fact terrible!), but unfortunately I've found some limitations for these keyboard mappings:

I don't know which codes you've used in those *.skin files (some are ASCII, but others are absolutely unknown for me, don't even look like the usual keyboard scan codes). And one big problem is that I can't access shifted keys, at least it seems so. :-(

If I don't want to use the * and / on the numeric keypad (not every notebook keyboard has a separated numeric block), then I would have to use these / and * on the usual keyboard, and on the German keyboards these are the shifted keys of 7 and +.

Now I've not found a way to access these shifted keys with any code in the *.skin file, even if I press Shift-7 the normal 7 is entered in the emulator (and the same is true for Shift-+, which executes + instead of *).

Is there any method to assign such shifted keys in the *.skin file?

Edited: 1 June 2011, 10:03 a.m.

Re: Idea for the WP34S PC-emulator

*Message #6 Posted by **Marcus von Cube, Germany** on 1 June 2011, 10:45 a.m.,*
in response to message #5 by fhub

> Quote:

> Now I've not found a way to access these shifted keys with any code in the *.skin file, even if I press Shift-7 the normal 7 is entered in the emulator (and the same is true for Shift-+, which executes + instead of *).

In theory, adding 1000 to the code should do the trick but I seem to have problems with this. You will have to wait until next week before I can debug the situation. As you probably know I do have a German keyboard myself.

Re: Idea for the WP34S PC-emulator

*Message #7 Posted by **Tim Wessman** on 1 June 2011, 10:59 a.m.,*
in response to message #6 by Marcus von Cube, Germany

We have that problem as well. The way we currently do the keys doesn't really handle different keyboard layouts at all. . . :-(

Haven't really come up with a good way to do it yet.

TW

Re: Idea for the WP34S PC-emulator

*Message #8 Posted by **fhub** on 1 June 2011, 3:14 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> In theory, adding 1000 to the code should do the trick but I seem to have problems with this. You will have to wait until next week before I can debug the situation. As you probably know I do have a German keyboard myself.

In your todays build I saw a non-GUI version (wp34s.exe) for the first time, and testing this version I found that here the situation is just the opposite: the shifted PC-keys are working (e.g. Shift-7 gives / and Shift-+ gives *), but the same keys on the numeric block don't work.

So the problem with the non-working shifted PC-keys must be somewhere in the GUI version, maybe this will help you in finding the location of this bug ...

Re: Idea for the WP34S PC-emulator

*Message #9 Posted by **Paul Dale** on 1 June 2011, 5:38 p.m.,*
in response to message #1 by fhub

I find the keyboard to emulator mapping quite natural and easy to use.

The mapping is based on the top three rows of keys mapping to the top leftside three rows of the keyboard (US/UK/AUS layout though). This puts f, g & h in their correct positions BTW. Digits are digits, the arithmetic symbols are unchanged, the column down the left is UJM & space. Leaving two keys unaccounted for . and , being . and R/S respectively.

- Pauli

Re: Idea for the WP34S PC-emulator

*Message #10 Posted by **fhub** on 1 June 2011, 6:01 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> I find the keyboard to emulator mapping quite natural and easy to use.

Well, that's of course all a matter of taste. ;-)

I like my own mapping much more - e.g. S for STO, R for RCL, X for XEQ, E for EEX etc. is much easier to remember. I also have mapped the 4 cursor keys (left/right/up/down) to exactly the same keys on the calculator. And for the (only) few keys for which there's no direct PC-key I could in fact find a very good representation which is easy to remember (e.g. Y for x<>y, Z for RDN, # for +/-, etc.)

But as I said: everybody as he likes it ...

Re: Idea for the WP34S PC-emulator

*Message #11 Posted by **Paul Dale** on 1 June 2011, 6:32 p.m.,*
in response to message #10 by fhub

> Quote:
>
> Well, that's of course all a matter of taste. ;-)

It is of course and it is also basically irrelevant to the goals of the project -- we're making a calculator not an emulator :-) The emulator is a step on that path just like the console version was (and still is).

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s EXIT key during number entry

*Message #1 Posted by **Cristian Arezzini** on 1 June 2011, 12:42 a.m.*

I noticed that during number entry, pressing (even repeatedly) the EXIT key does nothing. I don't know if that's the intended behavior for some reason, but wouldn't it be nice if pressing EXIT during number entry just canceled that entry, without modifying the stack at all? While using my 34s, a couple of times I started entering a number, then realized I didn't have to, so I had to clear x and roll down the stack, and I lost the top level of the stack...

Cristian

Re: wp34s EXIT key during number entry

*Message #2 Posted by **Walter B** on 1 June 2011, 1:20 a.m.,*
in response to message #1 by Cristian Arezzini

Ciao Christian,

Thanks for your observation. Following page 55 of the recent manual, this behaviour is a bug since numeric entry is a pending operation :-/ We'll look into it.

Grazie,

Walter

Re: wp34s EXIT key during number entry

*Message #3 Posted by **Paul Dale** on 1 June 2011, 2:19 a.m.,*
in response to message #2 by Walter B

Fixed I hope :-)

Well, fix in the next build.

- Pauli

Re: wp34s EXIT key during number entry

*Message #4 Posted by **Cristian Arezzini** on 1 June 2011, 3:05 a.m.,*
in response to message #3 by Paul Dale

Thank you! :) It's hard for me to keep track of exactly what changes... I couldn't find a changelog in my svn folder, and I can't re-read the whole manual at every update! :) Is there a "diff" changelog for the documentation?

Cristian

Re: wp34s EXIT key during number entry

*Message #5 Posted by **Walter B** on 1 June 2011, 3:27 a.m.,*
in response to message #4 by Cristian Arezzini

Take a look at the very last page of the manual. It doesn't list each and every little change I made, but what I consider "major stuff". I hope it helps a bit nevertheless.

Walter

Addendum: For the current release, these notes may change with every new file uploaded. Release notes of previous versions are frozen.

Edited: 1 June 2011, 3:30 a.m.

Re: wp34s EXIT key during number entry

*Message #6 Posted by **Marcus von Cube, Germany** on 1 June 2011, 7:12 a.m.,*
in response to message #3 by Paul Dale

I've committed a new build.

Re: wp34s EXIT key during number entry

*Message #7 Posted by **Cristian Arezzini** on 2 June 2011, 7:03 a.m.,*
in response to message #6 by Marcus von Cube, Germany

OK, I've tried the emulator and it works! Thank you! :) Now on to reflashing the real calc!

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s: Version 979 Crashed 20b and 30b

*Message #1 Posted by **Jake Schwartz** on 31 May 2011, 6:24 p.m.*

Hi,

I just loaded version 979 onto my 20b and 30b and after just a few keystrokes, either machine locks up, requiring pulling the batteries. I just did 2 ENTER 5 * and by the time * was pressed, it was unresponsive. I reflashed one of my two machines a second time, but there was no change.

Thanks,

Jake

Re: wp34s: Version 979 Crashed 20b and 30b

*Message #2 Posted by **Paul Dale** on 31 May 2011, 6:41 p.m.,*
in response to message #1 by Jake Schwartz

Try 975 for the moment. 979 has a space optimisation included that isn't finished yet.

- Pauli

Re: wp34s: Version 979 Crashed 20b and 30b

*Message #3 Posted by **Marcus von Cube, Germany** on 1 June 2011, 7:10 a.m.,*
in response to message #2 by Paul Dale

The most recent update should have fixed the issue. I was saving some space in flash by replacing 4 byte wide function pointers by 2 byte short integers. I learned something about the ARM processor on the way. ;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10B continuous memory

*Message #1 Posted by **hpnut** on 31 May 2011, 10:54 a.m.*

Hi all,

I just acquired an HP 10B, serial no. 3246S05152 made in Singapore. This is the original model algebraic financial calculator.

It passed the keyboard and display self tests as described here
http://www.keesvandersanden.nl/calculators/selftest_pioneer.php

I found that every time I switch off the unit, it will display a "0" i.e. it does not have continuous memory. Can anyone please confirm this model has no continuous memory?

I thought that all HP models after the HP 25C featured continuous memory.

hpnut in Malaysia

Edited: 31 May 2011, 10:54 a.m.

Re: HP 10B continuous memory

*Message #2 Posted by **Michael de Estrada** on 31 May 2011, 11:52 a.m.,*
in response to message #1 by hpnut

Yes, the HP-10B definitely has CMOS (continuous) memory. If the contents of memory are not being retained when the calculator is switched off, then probably power is not reaching memory. This can be due to component failure or a bad circuit connection.

Edited: 31 May 2011, 11:55 a.m.

Re: HP 10B continuous memory

*Message #3 Posted by **Bart (UK)** on 31 May 2011, 12:13 p.m.,*
in response to message #1 by hpnut

I believe it's correct that it does not remember the last displayed number. However, it does keep all the memory registers and financial registers. IIRC the 20S is the same. I do not have them with me, but will check when I get home tonight.

Bart

Re: HP 10B continuous memory

*Message #4 Posted by **Mike Morrow** on 31 May 2011, 1:25 p.m.,*
in response to message #1 by hpnut

What you see is normal. Stack (or rather, Display) contents are not preserved on the 10B and 20S, as Bart states. Registers and program memory (on the 20S) are preserved. (I just turned on my 10B and 20S for the first time in several years, they still have what I left in them from that time.)

Store something in Register 3, turn the 10B OFF, then back ON. If Register 3 still has what you stored, its CM is working.

FWIW, I think the HP-41C and the Voyagers were the first HPs to preserve everything including the stack. I don't recall that *any* LED HP calculators with CM preserved the stack. I know that the HP-19C, -29C, and -34C don't, so I suspect the 25C that you cited doesn't either (but I don't own one to test). Perhaps the LCD 10B and 20S Pioneers don't preserve the display (and internal stack) the way RPN Pioneers preserve their stack is due to them being non-RPN algebraic models. The HP 10bii doesn't preserve the display either. What about the new HP 10bii+? The HP 30b in algebraic mode *does* preserve the display.

Certainly some other HP calcs contemporary to the 25C do not have any CM. Stuff like the HP-67, -97, etc.

Edited: 31 May 2011, 1:46 p.m. after one or more responses were posted

Re: HP 10B continuous memory

*Message #5 Posted by **Michael de Estrada** on 31 May 2011, 1:37 p.m.,*
in response to message #4 by Mike Morrow

The HP-19c and HP-29c do preserved the display (x stack register), however, they do no preserve the raised stack (y,z,t). The HP-25c and HP-34c don't not preserve the display.

Re: HP 10B continuous memory

*Message #6 Posted by **Jim Yohe** on 31 May 2011, 3:11 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> What about the new HP 10bii+?

All's preserved in the 10bii+ from what I can tell in my use of it.

Regarding the 20s, that explains why I lose display data. Glad that was brought up.

Re: HP 10B continuous memory

*Message #7 Posted by **Tim Wessman** on 31 May 2011, 4:26 p.m.,*
in response to message #6 by Jim Yohe

That is correct.

Basically, on the 10bII+ and 20/30b the calculator shuts itself off immediately after executing your keystroke. The display is left on, but everything else is shut down if possible. Essentially, unless it is saved in the "snapshot" of the system, it is lost immediately.

TW

Edited: 31 May 2011, 4:27 p.m.

Re: HP 10B continuous memory

*Message #8 Posted by **Kiyoshi Akima** on 31 May 2011, 5:01 p.m.,*
in response to message #7 by Tim Wessman

I've got a 20B that periodically loses all memory. Not just the display, but everything: data, modes, etc. Sometimes it'll happen after just a day of sitting on the shelf, sometimes it'll keep for a week or so. The 30B sitting next to it hasn't had the problem. Any ideas?

The 20B was one of the handouts at HHC 2010, if that means anything.

Re: HP 10B continuous memory

*Message #9 Posted by **Tim Wessman** on 31 May 2011, 5:12 p.m.,*
in response to message #8 by Kiyoshi Akima

Your 20b has a super old firmware that was on the first batch of units ever built. That bug was fixed in the next back that was shipped less than a month later. If you have a cable, you can flash with the latest and you'll never see it again. Gene Wright can send either cable/firmare to you if needed.

TW

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Card reader gear lubrication - do or don't ?

*Message #1 Posted by **John Robinson** on 31 May 2011, 8:28 a.m.*

and if "do", then with what ? I was thinking the thinnest smear of moly grease - any thoughts/comments/experience ??

Thanks John

Re: Card reader gear lubrication - do or don't ?

*Message #2 Posted by **Ignazio Cara (Italy)** on 31 May 2011, 8:33 a.m.,*
in response to message #1 by John Robinson

IMHO, the moly bisulphite is ok.

Ignazio

Re: Card reader gear lubrication - do or don't ?

*Message #3 Posted by **Randy** on 31 May 2011, 9:43 a.m.,*
in response to message #1 by John Robinson

FWIW, production units from about 1984 on had no lubrication. Personally, I clean them and leave them that way.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is going on?

*Message #1 Posted by **Keith Midson** on 31 May 2011, 6:24 a.m.*

I won a VER$ 0AAAA 71B prototype complete with box, manuals and card reader on TAS for only $405!!! Not long ago, that would have been the asking price for a 'regular' production version complete boxed 71B.
There seems to be a few other rare listings on TAS at the moment (like an Xpander) for 'low' prices and not selling.
Has the world's economy died, or is there no longer any interest in HP rare stuff and prototypes?
Don't get me wrong, i'm VERY happy, but my maximum bid was MUCH higher than $405 ready for the last 10 seconds of bidding frenzy ... I'm just really surprised that there wasn't more interest. Cheers, Keith

Edited: 31 May 2011, 6:42 a.m.

Re: What is going on?

*Message #2 Posted by **Keith Midson** on 31 May 2011, 6:44 a.m.,*
in response to message #1 by Keith Midson

Just to highlight this, I found this old link to 'regular' 71B selling prices: Link to old thread
Cheers, Keith

Edited: 31 May 2011, 6:46 a.m.

Re: What is going on?

*Message #3 Posted by **Bart (UK)** on 31 May 2011, 7:20 a.m.,*
in response to message #2 by Keith Midson

There seems to be a downturn. I recently got a 1BBBB in good shape with HPIL for £37. Even though it's not boxed, this would easily go for over £100 in the past.

Re: What is going on?

*Message #4 Posted by **John Robinson** on 31 May 2011, 8:26 a.m.,*
in response to message #2 by Keith Midson

It's all in your mind Keith, just the high $AU playing havoc with your brain :-)

Cheers, John

Re: What is going on?

*Message #5 Posted by **Keith Midson** on 31 May 2011, 8:59 a.m.,*
in response to message #4 by John Robinson

Haha yes it's hard to get used to!

Re: What is going on?

*Message #6 Posted by **Allen** on 31 May 2011, 8:43 p.m.,*
in response to message #1 by Keith Midson

Keith.. congrats on the win.. I, too was watching that.

FYI, My data suggests October and May are among the two slowest buying/sales month on ebay. I think because of the holidays and vacations. Perhaps the decreased competition makes it easier to win rare listings??

Re: What is going on?

*Message #7 Posted by **Keith Midson** on 31 May 2011, 11:24 p.m.,*
in response to message #6 by Allen

Thanks Allen. Interesting - good to know that someone is keeping records. There must also be a corresponding drop in the number of items listed at those times for the same reasons.
I guess there also aren't too many people collecting the protos - i'm not even really sure why I do! So if a few aren't actively monitoring, then there will be less bids. Cheers, Keith

---

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Clamshell, shucking the clamshell, any thoughts!

*Message #1 Posted by **Geoff Quickfall** on 30 May 2011, 8:29 p.m.*

Starting the clam shell with a non-functional 18C and a partially functional 28S

I am thinking it is the foam compression strip for the connectors on both, but, this means an operation.

I have searched the web and the only thing I see is a discourse with Tony Duell and others about heat stakes. Tony mentions that the heat stakes in this case are required to hold the upper and lower halfs together and there fore just breaking into it as some do with the pioneers is a no-no.

He recomends that the keyboard overlay be removed and the heat stakes drilled out in a careful manner, leaving enough for a good snap back into position.

My question:

Anyone out there done this or tried SUCCESSFULLY any other method?

Geoff

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #2 Posted by **db (martinez, ca.)** on 30 May 2011, 11:41 p.m.,*
in response to message #1 by Geoff Quickfall

Someone here once posted that he cut the cap portion off of the stakes while leaving as much of the projection of the stem as he could. Then he slid the pcb off/up. He mentioned that this took a lot of time and care, but it left just barely enough stem to melt back down over the pcb one time. I never tried this. Never had the patience.

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #3 Posted by **Geoff Quickfall** on 31 May 2011, 12:26 a.m.,*
in response to message #2 by db (martinez, ca.)

Think you nailed it,

patience!!!! Well, I will lift the keyboard bezel off to expose the stakes and take it from there. Maybe I will end up with a fixed calculator or a spare battery hatch at worst.

Cheers, Geoff

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #4 Posted by **db (martinez, ca.)** on 31 May 2011, 2:24 a.m.,*
in response to message #3 by Geoff Quickfall

I think that the highest use an algebraic 18c can be put to is to be the battery door donor for an RPN 28 C or S that needs one.

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #5 Posted by **Mike Morrow** on 31 May 2011, 2:08 p.m.,*
in response to message #4 by db (martinez, ca.)

Unfortunately, about the only reason a 28C or 28S will have lost its battery door is because the plastic of the calculator *around* the battery opening has cracked or broken away. AFAIK, nothing can repair the real problem that would be worth the effort. Replace the missing door, and you're left with a permanently disfigured calculator that is very likely to

lose its new door sometime in the future for the same reason the first door was lost.

A really nasty mechanical/industrial design, those clamshells!

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #6 Posted by **Paul Berger (Canada)** on 31 May 2011, 9:20 a.m.,*
in response to message #3 by Geoff Quickfall

You also need to lift the label above the display there is 10 heat stakes across the middle of the battery compartment. If you like I can send you pictures of a 28S I have open, and you can see what you are up against. I pried it apart without doing any damage to the case or the electronics inside. It still works but I have not put it back together as I need the hinge piece and I have not been looking too hard for a donor as I have another 28S in good condition.

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #7 Posted by **Geoff Quickfall** on 31 May 2011, 1:02 p.m.,*
in response to message #6 by Paul Berger (Canada)

Hello Paul,

Some pics would be highly appreciated. I have three non functioning to partially functioning clamshells aquired for the clamshell chapter in the book.

So by hook or by crook I will be operating on them. Of course any info in advance would be extremely appreciated. Pictures; YES!

Cheers, Geoff

Paul, you have email

*Message #8 Posted by **Geoff Quickfall** on 31 May 2011, 3:51 p.m.,*
in response to message #6 by Paul Berger (Canada)

nt

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #9 Posted by **Keith Midson** on 31 May 2011, 6:17 a.m.,*
in response to message #1 by Geoff Quickfall

Hi Geoff, I tried to transplant working 28S guts into the shell of another 28S (a case where a 'mint' 28S didn't work and its beaten up cousin worked fine but wasn't nice to look at). It is a very fiddly job - the clamshells were not designed to be taken apart *ever*. In my case, I did manage to do the transplant, but it is hard to get the stakes to reattach to the new donor because you lose some of their length when you drill them out. You need to use a soldering iron on low strength to reattach them. I do know someone who does have the patients and is very good at it though. I can ask if he is willing to help. Cheers, Keith

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #10 Posted by **Geoff Quickfall** on 31 May 2011, 1:04 p.m.,*
in response to message #9 by Keith Midson

Thanks for the info and the offer Keith.

Must do the operating for the book and document each step so I will be doing the procedure here.

Cheers, Geoff

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #11 Posted by **BobVA** on 31 May 2011, 5:59 p.m.,*
in response to message #10 by Geoff Quickfall

A blast from the past on HP-28 disassembly can be found here, courtesy of comp.sys.handhelds and Google Groups, in case it's of any use.

Regards, Bob

Edited: 31 May 2011, 6:01 p.m.

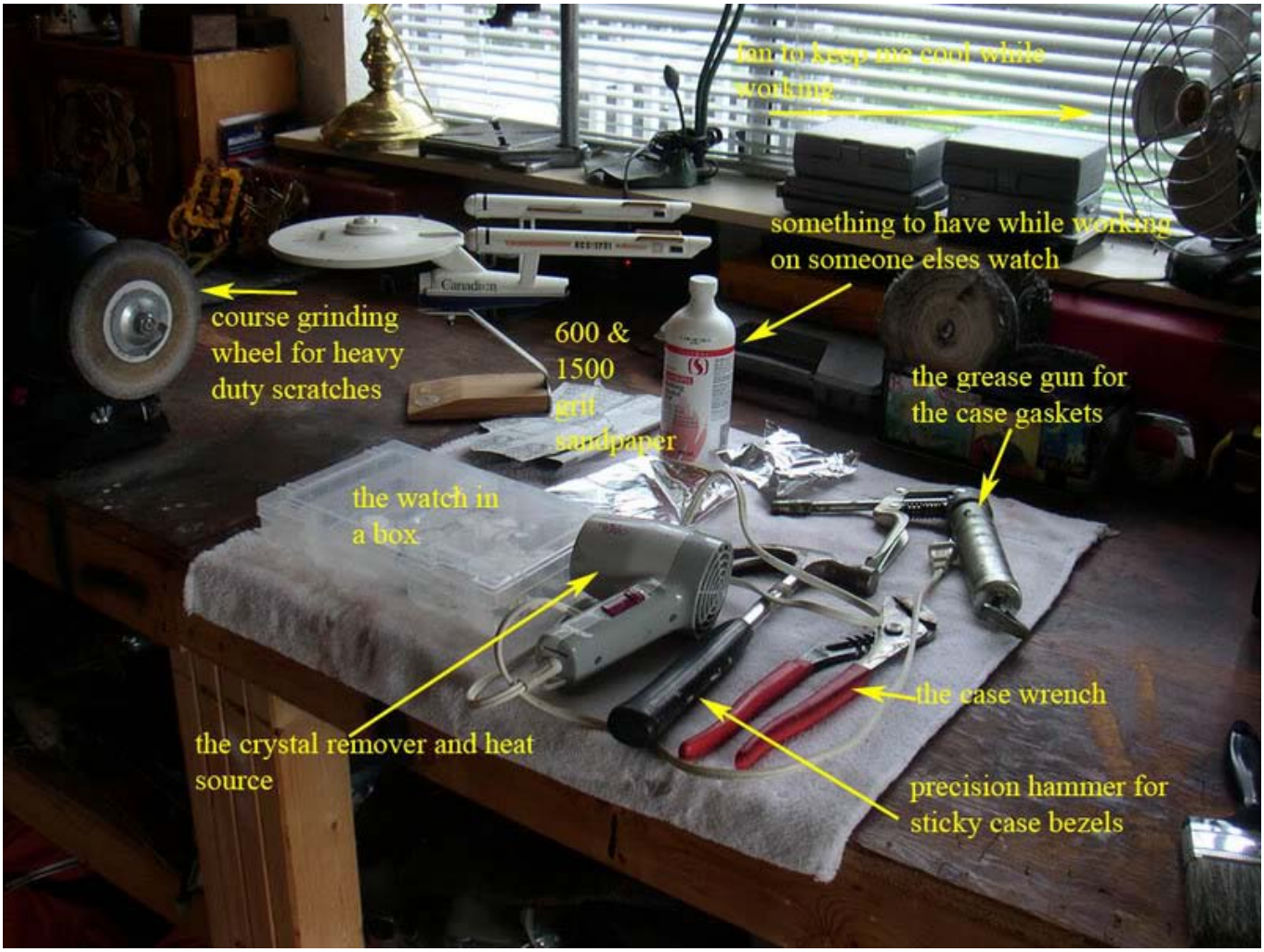
Re: Clamshell, shucking the clamshell, any thoughts!

*Message #12 Posted by **Geoff Quickfall** on 31 May 2011, 7:38 p.m.,*
in response to message #11 by BobVA

Thanks Bob!

These look like the worst of the entire HP family to get into, considering the relavent postings.

Now were talking about saws and the like. It is almost as hard as the HP01:



d;-)

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #13 Posted by **BobVA** on 31 May 2011, 9:13 p.m.,*
in response to message #12 by Geoff Quickfall

I wouldn't take that old USENET post as appropriate for our age. Plasma cutters have gotten a lot more affordable in the ensuing 20 years :-)

Edited: 31 May 2011, 9:14 p.m.

Re: Clamshell, shucking the clamshell, any thoughts!

*Message #14 Posted by **Keith Midson** on 31 May 2011, 11:01 p.m.,*
in response to message #12 by Geoff Quickfall

I guess you can also use the mini tractor beam from the Starship Enterprise to hold it still too! ;)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Emu41

*Message #1 Posted by **Richard L. Taylor** on 30 May 2011, 5:40 p.m.*

Hi, I am having trouble using the Emu41 calculator emulator for the PC.

I am running the Emu41 on my Mac G4 using Virtual PC 4.0 In a Dos window. I am also running the ILPer HP-il file transfer program, using the PIL-Box hardware setup on the same Mac G4 - Virtual PC 4.0 configuration.

The PIL-Box works great. I am transfering programs and data between my Mac G4 and my HP41cx under the windows98 OS.

What I am trying to do is to create an ASCII data file called Emu41in.dat that contains one column of numbers that is stored in the Emu41 folder.

Then, have this short program in the Emu41 read the numbers into the Emu41's registers.

Ê01*LBL "IMPORT" Ê02 AUTOIO Ê03 "DOSLINK" Ê04 FINDID Ê05 SELECT Ê06 CLRDEV Ê07 0 Ê08*LBL 01 Ê09 INA Ê10 ALENG Ê11 X=0? Ê12 GTO 02 Ê13 AVIEW Ê14 RDN Ê15 ANUM Ê16 STO IND Y Ê17 RDN Ê18 1 Ê19 + Ê20 GTO 01 Ê21*LBL 02 Ê22 END

Then, have the Emu41 save the registers to an Lif format file in the Emu41 folder.

Then, read the Lif file with my HP41cx using the PIL-Box.

The trouble I am having is that I can't make the Emu41 turn the left hand display on to see the numbers in the X,Y,Z,T registers and the CAT the program listings.

One more thing is that in Virtual PC, the F1 TO F15 function keys don't work right in the Emu41 program. I am still having trouble typing the Emu41 commands right from the CMD line prompt. The manual is not helpful enough.

Is there any one who is working with this Emu41 program that would be able to give me some help. Thanks in advance.

Rich T

Re: Emu41

*Message #2 Posted by **Thomas Klemm** on 30 May 2011, 6:03 p.m.,*
in response to message #1 by Richard L. Taylor

Hint: Use pre-tags for code.

```
[pre]
01*LBL "IMPORT"
02 AUTOIO
03 "DOSLINK"
04 FINDID
05 SELECT
```

```
06 CLRDEV
07 0
08*LBL 01
09 INA
10 ALENG
11 X=0?
12 GTO 02
13 AVIEW
14 RDN
15 ANUM
16 STO IND Y
17 RDN
18 1
19 +
20 GTO 01
21*LBL 02
22 END
[/pre]
```

Kind regards
Thomas

Re: Emu41

*Message #3 Posted by **Richard L. Taylor** on 30 May 2011, 8:27 p.m.,*
in response to message #2 by Thomas Klemm

What are pre-tags? RT

Re: Emu41

*Message #4 Posted by **Howard Owen** on 31 May 2011, 2:22 a.m.,*
in response to message #3 by Richard L. Taylor

The [pre] and [/pre] tags he uses as shown.

Details: http://www.hpmuseum.org/artfmt.htm

Re: Emu41

*Message #5 Posted by **J-F Garnier** on 31 May 2011, 1:12 p.m.,*
in response to message #1 by Richard L. Taylor

>> The trouble I am having is that I can't make the Emu41 turn the left hand display on to see the numbers in the X,Y,Z,T registers and the CAT the program listings.

With the default Emu41.ini configuration that uses HP82143 printer emulation, the normal way is to use the F9 key to switch through the OFF-MANUAL-NORMAL-TRACE printer modes.

If you can't access the F9 key, a workaround is to use the HP-IL printer emulation. To do so, just change this line in Emu41.ini:

```
6  4 prter1e.bin
to
6  4 prter2e.bin
```

Now, you can control the printer modes with the flags 15 and 16.

Maybe Mac users can help regarding how to access the function keys?

J-F

Re: Emu41

*Message #6 Posted by **Richard L. Taylor** on 31 May 2011, 6:42 p.m.,*
in response to message #5 by J-F Garnier

J-F, I did what you said to change the 6 4 prter1e.bin to 6 4 prter2e.bin. then I SF 15 and did a CAT 0 and a CAT 2 The SF and CAT worked from the CMD line, but i didn't see anything come up on the screen that was not there before the commands were sent. It is sure strange that the PIL-Box works great but not the Emu41. I guess I should give up on trying to run your EMU41 on my Virtual PC.

RT

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Classic keyboard re-lacquer ?

*Message #1 Posted by **John Robinson** on 29 May 2011, 10:05 p.m.*

Hi,

Has anyone tried to re-lacquer a classic keyboard ?, not the keys, the whole surround over the lettering etc. I presume a matt finish is required.

Any advice / comments ??

Thanks John

Re: Classic keyboard re-lacquer ?

*Message #2 Posted by **geoff quickfall** on 30 May 2011, 1:24 a.m.,*
in response to message #1 by John Robinson

Yes, this 45 was laquered:

45 restoration

as well as a few of these.

Matte spray from a model makers shop, on the label marked 'safe for plastics and decals'. See the HP 55 and 35 for spray laqueur results in the following link:

collection

Cheers, Geoff

Edited: 30 May 2011, 1:27 a.m.

Re: Classic keyboard re-lacquer ?

*Message #3 Posted by **John Robinson** on 30 May 2011, 2:00 a.m.,*
in response to message #2 by geoff quickfall

Ahhh, thanks Geoff - good point. I take it from your comment that automotive type lacquer is not recommended - it will end in tears ?

Cheers, John

Re: Classic keyboard re-lacquer ?

*Message #4 Posted by **Alberto Fenini** on 30 May 2011, 3:46 a.m.,*
in response to message #2 by geoff quickfall

ciao Geoff,

always exciting to read your articles,
can you give us any hint on the brand of the matte you are using ?
I'd like to finish mines as well, but I'm too afraid to ruin them,
it would be nice to know what you are using, may be it can be purchased on the internet.

Thanks again, take care Alberto

Re: Classic keyboard re-lacquer ?

*Message #5 Posted by **John Robinson** on 30 May 2011, 7:37 a.m.,*
in response to message #4 by Alberto Fenini

I was about to ask the same question Alberto, I noticed in Tamiya's website they have several ranges of spray paints, for instance the "TS" range has TS-13 "Clear", TS-79 "Semi Gloss" and TS-80 "Flat Clear". Presumably Flat Clear would be best ??

Thanks John

Re: Classic keyboard re-lacquer ?

*Message #6 Posted by **Geoff Quickfall** on 30 May 2011, 12:31 p.m.,*
in response to message #5 by John Robinson

TS-80 "Flat Clear". These are used on plastic models and due not melt the decals. As such they are safe on the labels.

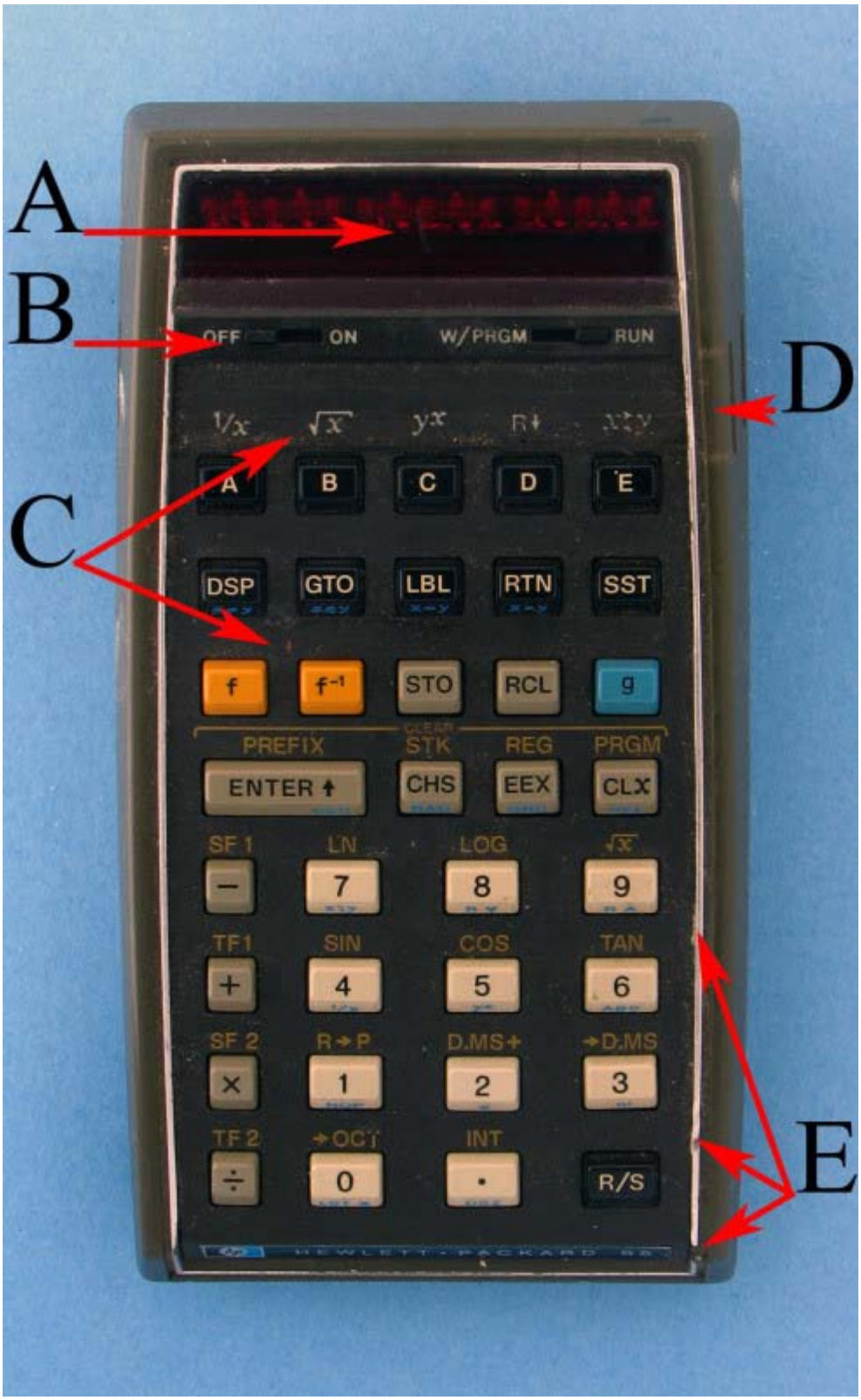
After cleaning some of my keyboard bezels with decomposed laqueur due to UV damage and age, I was left with a white bloom after allowing the bezel to dry.

The laqueur caused that to vanish. Also, when washing the keyboard be very gently. Use a soft paint brush with natural bristles and when drying, pat dry, do not rub or scrub as the silk screening, especially on the woodstocks as the silk screening may also dissappear.

I also masked the chrome outwards:

1/x
√x
yx
R↓
x⇄y
PREFIX
CLEAR STK
REG
PRGM
SF 1
LN
LOG
√x
TF1
SIN
COS
TAN
SF 2
R→P
D.MS+
→D.MS
TF 2
→OCT
INT
HEWLETT-PACKARD 65

Before 65:


A
B
C
D
E
OFF
ON
W/PRGM
RUN
A
B
C
D
E
DSP
GTO
LBL
RTN
SST
f
STO
RCL
g
PREFIX
CLEAR STK
REG
PRGM
ENTER
CHS
EEX
CLX
SF 1
LN
LOG
7
8
9
TF1
SIN
COS
TAN
4
5
6
SF 2
R→P
D.MS+
→D.MS
1
2
3
TF 2
→OCT
INT
0
R/S

After 65:

p.s. I used a shaving brush (badger) with plain mild ivory soap bar which I frothed into a lather. This was used for cleaning the bezel. As I said, be careful and DO NOT USE A NAIL BRUSH. I used a stiffer natural bristle brush to clean out the corners and grooves.

Edited: 30 May 2011, 5:22 p.m. after one or more responses were posted

Re: Classic keyboard re-lacquer ?

*Message #7 Posted by **Alberto Fenini** on 30 May 2011, 4:21 p.m.,*

in response to message #6 by Geoff Quickfall

Thank you very much Geoff,

Re: Classic keyboard re-lacquer ?

*Message #8 Posted by **Alberto Fenini** on 30 May 2011, 4:26 p.m.,*
in response to message #6 by Geoff Quickfall

Thank you very much Geoff !!
I had tried with several products, and the best results (however far from yours),
were obtained with a Saratoga cream or a cream for wood ("Pronto")from Johnson Wax,
both have some "carnauba" ingredient which works quite well.
I have just inquired the local resellers from Tamiya and I'll keep you posted on the results.
Take care and thank you very much ! Alberto

O.T. : I have seen a couple of your posts on the DWF forum, and I have a couple of questions about restoring LCD/LED watches,
can I pm you on this ??

Re: Classic keyboard re-lacquer ?

*Message #9 Posted by **Alberto Fenini** on 30 May 2011, 4:29 p.m.,*
in response to message #8 by Alberto Fenini

One more thing ...
On the classic, spice and other series I can understand that keys have to be removed,
but when it comes to the Woodstock, the Voyager and the 7X family (71/75) is it really necessary to remove the keys ?
Thanks again, alberto

Re: Classic keyboard re-lacquer ?

*Message #10 Posted by **Geoff Quickfall** on 30 May 2011, 5:09 p.m.,*
in response to message #9 by Alberto Fenini

For an even non messy application one should remove the keys. Of course, woodstocks et. al. are problematical.

I personally would live with a bad keyboard as opposed to dissecting any of the riveted keyboards for the sake of appearance only.

Wait till a dead woodstock with good keyboard comes up and swap the PCA.

Otherwise you would have to mask each key and prevent the laqueur from leaking to the keyboard membrane and etc.

Must say, never attempted that! Only dealt with keyboards that come apart easily.

If you used a wax on some of the bezels you will have to remove it before laqueuring. And without scrubbing. Luke warm water with a mild soap solution. Also, some waxes come with volatiles such as toluene. These can lift the silk screening and melt the surface so be careful with wax. Also, do not wax the LED red plastic. Wax contracts when drying and can craze the surface of the plastic. Learnt this in the aviation world, I have seen wat waxed plexiglass windshield looks like. Took ours of polishing with

cerium oxide to remove the crazing.

Cheers, Geoff

Re: Classic keyboard re-lacquer ?

*Message #11 Posted by **Geoff Quickfall** on 30 May 2011, 5:24 p.m.,*
in response to message #8 by Alberto Fenini

Either email me from HPmuseum or the DWF.

Cheers, Geoff

Re: Classic keyboard re-lacquer ?

*Message #12 Posted by **John Robinson** on 30 May 2011, 7:44 p.m.,*
in response to message #6 by Geoff Quickfall

Hi Geoff,

Thanks for the confirmation re TS-80. I have been using a soft bristle tooth brush - my wife's (only joking !!) to clean up the keyboard, it's probably a little harsher than the shaving brush, but so far no problem.

Also, thanks for the pic showing how you mask it for spraying, I had imagined something like that, but I wasn't sure about the section which holds the magcard, i.e. whether to spray it or leave it alone.

Cheers, John

Re: Classic keyboard re-lacquer ?

*Message #13 Posted by **bill platt** on 30 May 2011, 8:14 p.m.,*
in response to message #6 by Geoff Quickfall

Holy smokes, you are good. Very inspiring!

Re: Classic keyboard re-lacquer ?

*Message #14 Posted by **geoff quickfall** on 30 May 2011, 8:24 p.m.,*
in response to message #13 by bill platt

d;-)

This is what the book is about!

Thanks!

Edited: 30 May 2011, 8:25 p.m.

Re: Classic keyboard re-lacquer ?

*Message #15 Posted by **John Robinson** on 30 May 2011, 8:31 p.m.,*
in response to message #14 by geoff quickfall

ok Geoff, I have ordered some Tamiya flat clear spray paint. I guess the follow up question is : what do recommend for the silver trim ? Some kind of "chrome" paint ? and is auto paint a possibility here since there are no decals ?? I can't see a chrome paint in the Tamiya range.

Thanks John

Re: Classic keyboard re-lacquer ?

*Message #16 Posted by **Geoff Quickfall** on 30 May 2011, 9:29 p.m.,*
in response to message #15 by John Robinson

That is the proverbial question John!

The original is a vacuum chrome plate and we can't do that here.

I use testors or tamiya silver/chrome paint. It comes in a bottle, or as a marker in some stores. I hand paint although you could mask again (time consuming and same result as hand paint if you are careful). It doesn't give the chrome shine.

Some people have proposed silver guilt using a sizing compound.

Painting is the easiest, although if you use the calc daily it will need a repeat. Just got an airbrush but haven't set it up yet. Don't know it it would be shinier then the paint technique.

Cheers, Geoff

Re: Classic keyboard re-lacquer ?

*Message #17 Posted by **Alberto Fenini** on 31 May 2011, 5:44 a.m.,*
in response to message #16 by Geoff Quickfall

Personally, I have tried at least five different types of pens, none is shining as the original, but some are quite close.
I have been told that this is because the chrome component is toxic and therefore not included any more in the pens.
I'm thinking about thin self adhesive plastic which is available in a flavour of colors, including shining chrome.
If cutted in thin stripes it should be not too difficult to put it on the top trim, like that on the HP35.
Retouching the rounded corners is another story, and for that I'm happy with the pens.
I'll post a picture later tonight with all the kind I have tried.
take care Alberto

Re: Classic keyboard re-lacquer ?

*Message #18 Posted by **Alberto Fenini** on 2 June 2011, 6:31 a.m.,*
in response to message #17 by Alberto Fenini

Dear All,
these are all the types of pens I have tried.

Some have rounded head, some have squared head.

All of them looks shine, but when applied the results may be very different.
I have obtained the best results with the Nettuno.
The only problem I have had, is that since I used a Saratoga cream to get a good aspect of the keyboard, this (and other creams) will dilute the silver painting.
Today is bank holiday in Italy, so no luck to get the Tamiya spray ....

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15c as a financial tool - ended!

*Message #1 Posted by **Jose Gonzalez Divasson** on 29 May 2011, 3:58 p.m.*

With the last blog (number IV) we end the series try to get the most important financial tools that were missing in the plain HP15c, while leaving 16 free registers for a 4x4 matrix inversion, or solving two 3-equation systems using the same set of coefficients (9+3+3)

Re: HP15c as a financial tool - ended!

*Message #2 Posted by **Jose Gonzalez Divasson** on 29 May 2011, 4:00 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

I meant "we end the series TO try to get the most..."

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

NutStudio tools goes RPN (HP-41)

*Message #1 Posted by **Håkan Thörngren** on 29 May 2011, 3:24 p.m.*

I made new major release of NutStudio tools for the HP-41 back in January, but did not announce it. Anyway, here it is.

NutStudio tools allows you to make module images for the HP-41.

New major features in release 2.1.1 are:

1. An RPN compiler (rpncomp) that will turn your RPN programs, text source or raw files into relocatable object files. Such object files can be linked with others to create your own RPN (or mixed RPN and MCODE) modules.
    - Branch size are selected for reachability and are properly compiled.
    - Automatic extraction of global lables for the FAT (exceptions can be specified on the command line).
    - Copy header words are also properly generated.
2. A barcode generator that accepts RPN programs in the same format as rpncomp that generates Postscript output that can be read by the 82153A Wand.
3. Simple import mechanism for using functions from (other) modules in RPN programs.
4. Example projects, Hello World and a mixed RPN/MCODE games module.
5. Better support for more precise section placement in the linker. Any old linker rules files from version 1 need to be updated due to this.
6. Full support for UTF-8 encoded unicode source files. The assembler and compiler expects UTF-8 input and will handle unicode properly all the way to the output files. (ASCII being a subset of UTF-8 works equally well).
7. Better handling of HP-41 special characters and conversions to ASCII or LCD characters depending on context. Make use of Halfnut characters in your MCODE instruction names if you dare!
8. Arbitrary characters allowed in assembler labels by using backquote syntax.
9. Proper treatment of quoted characters as in the C language, in character and string literals, as well as backquoted labels.
10. Updated manual.

Pre-built download images are available from http://code.google.com/p/nutstudio/downloads/list You will find documentation, installers for Mac OS X (both PowerPC and Intel x86), Linux Debian/Unbuntu as well as release zip for Windows and a generic Linux release.

Re: NutStudio tools goes RPN (HP-41)

*Message #2 Posted by **John Robinson** on 29 May 2011, 7:13 p.m.,*
in response to message #1 by Håkan Thörngren

Thanks Hakan, great work !!

Cheers, John

Re: NutStudio tools goes RPN (HP-41)

*Message #3 Posted by **Geir Isene** on 30 May 2011, 3:20 p.m.,*
in response to message #1 by Håkan Thörngren

Holy shit!

Would you be able to supply an amd64 deb package?

Re: NutStudio tools goes RPN (HP-41)

*Message #4 Posted by **Håkan Thörngren** on 31 May 2011, 7:22 a.m.,*
in response to message #3 by Geir Isene

> Quote:
>
> Holy shit!
>
> Would you be able to supply an amd64 deb package?

Yes, I have now uploaded amd64 debian (and generic tbz) packages.

Re: NutStudio tools goes RPN (HP-41)

*Message #5 Posted by **Thomas Klemm** on 30 May 2011, 5:54 p.m.,*
in response to message #1 by Håkan Thörngren

Thanks a lot; this is very useful. Of course I just had to create a bar code but I got strange compiler errors. It turned out it was a file created by *HP41UC.EXE* thus the lines ended with *\r \n* instead of *\n*. Once *dos2unix* was applied everything was fine. But it took me some time to figure it out.

Cheers and keep the good work going
Thomas

Re: NutStudio tools goes RPN (HP-41)

*Message #6 Posted by **Håkan Thörngren** on 31 May 2011, 7:45 a.m.,*
in response to message #5 by Thomas Klemm

> Quote:
>
> Thanks a lot; this is very useful. Of course I just had to create a bar code but I got strange compiler errors. It turned out it was a file created by *HP41UC.EXE* thus the lines ended with *\r \n* instead of *\n*. Once *dos2unix* was applied everything was fine. But it took me some time to figure it out.
>
> Cheers and keep the good work going
> Thomas

Thanks for pointing this out. It should of course support native host line ends. I will need to look into this.

A quick look reveal that I get source out with LF line ends, Emacs adapts to it and makes it look fine, and all tools are also happy, so I never noticed it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

a cute little challenge

*Message #1 Posted by **Don Shepherd** on 28 May 2011, 9:30 p.m.*

OK, this is similar to a challenge I offered in January, but it's a bit different.

Write a program on whatever HP calculator you want to answer this question: is there a 4-digit number abcd such that $a^a+b^b+c^c+d^d$ = abcd?

Brute force is easy. How about a non-brute force?

Don

Re: a cute little challenge

*Message #2 Posted by **Thomas Klemm** on 28 May 2011, 11:14 p.m.,*
in response to message #1 by Don Shepherd

An (easy) solution for the HP-48:

```
\<<
    {1 4 27 256 3125} \-> P
    \<<
        { }
        1 5 FOR a
        1 5 FOR b
        1 5 FOR c
        1 5 FOR d


          a 10 *
        b + 10 *
        c + 10 *
        d +


        P a GET
        P b GET +
        P c GET +
        P d GET +
        OVER
        IF == THEN + ELSE DROP END


        NEXT
        NEXT
        NEXT
        NEXT
    \>>
\>>
```

Gives the solution: { 3435 }
With 625 trials probably still using too much force.
At least a little better than testing 10,000.

Thanks for the challenge
Thomas

Re: a cute little challenge

*Message #3 Posted by **Thomas Okken** on 29 May 2011, 3:07 a.m.,*
in response to message #1 by Don Shepherd

Nice puzzle! Let's see...

None of the digits can be larger than 5, because 6^6=46656, which is not a 4-digit number.
The digits can't all be 5, because 4*5^5 is too large. There also can't be 3 fives, because then the sum would be >= 9375, and there can be no digits larger than 5 in the right-hand side. There also can't be 2 fives, because then the sum would be >= 6250.
There can't be no fives, because four fours would give a sum of 1024, which is not a solution, and anything with no fives and less than four fours gives a sum of less than 1000, which is not a four-digit number. Ergo, there must be exactly one five.
The remaining three digits must all be less than five, so the sum of the powers can be no more than 5^5+3*4^4=3893. One five and three fours isn't a solution. One five and two fours gives a sum of >= 3637, which fails because the second digit of the sum is always too large. So there can be at most one four in the solution.
Given that there must be exactly one five and no more than one four, the sum of the powers can be no more than 5^5+4^4+2*3^3=3435, which happens to be a solution. The lower bound on the sum of the powers is 5^5=3125, so the first digit of the solution must be 3.
Given that the solution must have one five, at least one three, and at most one four, there are two groups of potential solutions: five, three, and two digits <= 3, and five, four, three, and one digit <= 3.
In the first group, with a five, at least one three, and no fours, the sum of the powers is between 3152 and 3206, so the second digit can't be a 3, so there are at most two threes, which lowers the upper bound of the sum to 3183, which means there must be at least one one, which lowers the upper bound of the sum to 3180.
So, the solution must have 5, 4, 3, and one digit between 0 and 3, or it must have 5, 3, 1, and one digit between 0 and 3. Out of those 8 potential solutions, only 5, 4, 3, 3 works. That's technically still a brute-force answer, but brute-forcing among 8 solutions is better than doing it among 9000, I guess. :-)

Edited: 29 May 2011, 3:30 a.m.

Re: a cute little challenge

*Message #4 Posted by **Thomas Klemm** on 29 May 2011, 5:51 a.m.,*
in response to message #3 by Thomas Okken

What a profound analysis! Great work!
But we'd still have to check (at most) 4! = 24 permutations for each of these 8 possible solutions. Instead we can calculate MOD 9 on the sum.

We start with a table:

```
n       :     0     1     2     3     4     5
n^n     :     0     1     4    27   256  3125
n^n % 9 :     0     1     4     0     4     2
```

First we check: 5, 3, 1, 0..3:

```
    5 + 3 + 1 = 0      2 + 0 + 1 = 3


0   0 + 0 = 0            3 + 0 = 3
1   0 + 1 = 1            3 + 1 = 4
2   0 + 2 = 2            3 + 4 = 7
3   0 + 3 = 3            3 + 0 = 3
```

But 5,3,1,3 yields 3125+27+1+27=3,180.

No solution so far. Let's try: 5, 4, 3, 0..3:

```
    5 + 4 + 3 = 3      2 + 4 + 0 = 6


0   3 + 0 = 3            6 + 0 = 6
1   3 + 1 = 4            6 + 1 = 7
2   3 + 2 = 5            6 + 4 = 1
3   3 + 3 = 6            6 + 0 = 6
```

This leaves the only solution: 5, 4, 3, 3
But we still don't know the correct order. So here's the program for the HP-42S:

```
LBL "CUTE"
5
ENTER
y^x
4
ENTER
y^x
+
3
ENTER
y^x
+
LASTx
+
END
```

This gives the correct answer: 3,435

Cheers
Thomas

Edited: 29 May 2011, 6:34 a.m.

Re: a cute little challenge

*Message #5 Posted by **Thomas Okken** on 29 May 2011, 3:02 p.m.,*
in response to message #4 by Thomas Klemm

There's no need to check permutations; you just brute-force check the 8 possible digit combinations (5310 5311 5312 5313 5430 5431 5432 5433), by calculating the sum of powers for each, and check if the result contains the same digits as the digit combination. 5433 yields the sum of powers 3435, which has the same digits as 5433, so 3435 is your answer.

Edited: 29 May 2011, 3:08 p.m.

Re: a cute little challenge

*Message #6 Posted by **Thomas Klemm** on 29 May 2011, 10:20 p.m.,*
in response to message #5 by Thomas Okken

My assumption was that we have the four digits a, b, c, d and the sum $s = a^a+b^b+c^c+d^d$.

We could calculate 10(10(10x+y)+z)+t for each permutation of a, b, c, d and compare that to s.

Or we could split s into four digits A, B, C, D and check that each is contained in the set {a, b, c, d} as you suggested. For this we could use flags with the HP-42s or POS with the HP-48.

My suggestion was to compare (a+b+c+d) % 9 with (A+B+C+D) % 9 = s % 9 as we wouldn't have to split s into four digits.

Unfortunately we'd still have a false positive with 5 3 1 3; we could leave its falsification as an exercise to the user.

Best regards
Thomas

Edited: 29 May 2011, 10:34 p.m.

Re: a cute little challenge

*Message #7 Posted by **Thomas Okken** on 29 May 2011, 11:13 p.m.,*
in response to message #6 by Thomas Klemm

That's a lot less efficient than doing it the other way around, though: if you enumerate all combinations of 4 digits, you have only 715 combinations to check, and if you restrict it to the digits 0...5, there are only 126. The logic for the efficient brute-force approach would be like this:

```
for (a = 0; a <= 9; a++) {
    for (b = a; b <= 9; b++) {
        for (c = b; c <= 9; c++) {
            for (d = c; d <= 9; d++) {
                s = a^a + b^b + c^c + d^d;
                t = sort_digits_ascending(s);
                if (abcd == t) print("Solution found: " + s);
            }
        }
    }
}
```

Re: a cute little challenge

*Message #8 Posted by **Thomas Klemm** on 30 May 2011, 3:56 p.m.,*
in response to message #7 by Thomas Okken

My first attempt was the following python script:

```
N = range(5+1)


for a in N:
    for b in N:
        for c in N:
            for d in N:
                if ((10*a + b)*10 + c)*10 + d == a**a + b**b + c**c + d**d:
                    print a, b, c, d
```

It took me a few minutes to type that and I got the result in 0m0.018s.
IMHO there's no reason to optimize that.

It took me probably an hour or so to translate that to the RPL program I already posted.
That's because I'm not too familiar with it and furthermore I fumbled a while until I succeeded
to transfer the program to the calculator using kermit.

Nothing to be proud of. Maybe a little improved since the powers are cached.
But I'm not even sure since accessing an element of a list seems to be quite slow.
It takes about 36s to complete.

Here's my last attempt for the HP-41:

```
 01 LBL "CUTE"      18 RCL 11           35 RCL 15           52 RCL 14
```

```
02 1              19 RCL 00          36 STO 13          53 +
03 STO 01         20 *               37 LBL 13          54 VIEW X
04 4              21 STO 06          38 RCL 07          55 RCL 10
05 STO 02         22 RCL 15          39 RCL 13          56 RCL IND 14
06 27             23 STO 12          40 +               57 +
07 STO 03         24 LBL 12          41 RCL 00          58 X=Y?
08 256            25 RCL 06          42 *               59 STOP
09 STO 04         26 RCL 12          43 STO 09          60 DSE 14
10 3125           27 +               44 RCL 08          61 GTO 14
11 STO 05         28 RCL 00          45 RCL IND 13      62 DSE 13
12 10             29 *               46 +               63 GTO 13
13 STO 00         30 STO 07          47 STO 10          64 DSE 12
14 5              31 RCL IND 11      48 RCL 15          65 GTO 12
15 STO 15         32 RCL IND 12      49 STO 14          66 DSE 11
16 STO 11         33 +               50 LBL 14          67 GTO 11
17 LBL 11         34 STO 08          51 RCL 09          68 END
```

Now also intermediate results are cached in registers 06-10 which makes the innermost loop shorter.

You're using a magic function "sort_digits_ascending(s)" which I couldn't find neither within the HP-48 nor the HP-41. Both calculators lack a split-function. The HP-41 doesn't have a built-in sort-function. So you'd have to implement that which might be a little more than just two additions and a comparison.

While you're correct that 126 is smaller than 625 the elapsed time depends also on what you're
doing within the innermost loop. So my solution for the HP-41 could still be faster.

And then it might also take a little more to implement your solution than my rather dumb straightforward programs.

Kind regards
Thomas

PS: Just adapted the program above for the HP-42S using RCL-arithmetic, removing line 54

and using VIEW ST X instead of line 59. I got the result within 0.06s in Free42 on my iPhone.
That's fast enough for me. Thanks a lot for making that possible.

Edited: 30 May 2011, 4:44 p.m.

Re: a cute little challenge

*Message #9 Posted by **Gerson W. Barbosa** on 30 May 2011, 6:59 p.m.,*
in response to message #8 by Thomas Klemm

It's a bit late, but I've decided to implement my idea as of yesterday night, when Thomas & Thomas came and solved the challenge nicely. (I'd gone as far as seeing there was no digit greater than five and there was only one five, and I was also thinking of sorting the digits - that's all I'll be using).

The "cuteness" of Don's problem resides in the fact that it can be solved without brute force (or at least with moderate force as in the program below) unlike, I think, "finding a 4-digit number abcd such as a^b+c^d = abcd".

```
%%HP: T(3)A(D)F(,);
DIR
  CLC
  \<< 1, 4,
    FOR a 1, 4,
```

```
      FOR b 1, 4,
        FOR c { a b c } DUP DUP ^ \GSLIST 3125, + N2L SORT SWAP 1, * {
5, } + SORT DUP2 == { ^ \GSLIST KILL } { DROP2 } IFTE
        NEXT
      NEXT
    NEXT
  \>>
  N2L
  \<< \->STR DUP HEAD SWAP 1, 3,
    START TAIL HEAD LASTARG
    NEXT DROP 4, \->LIST STR\->
  \>>
END
```

The solution is found in 17 seconds on the hp-50g, which is too much time when compared to the 36 seconds you have obtained on your HP-41 program.

Best regards,

Gerson.

Edited: 30 May 2011, 7:02 p.m.

Re: a cute little challenge

*Message #10 Posted by **Gerson W. Barbosa** on 31 May 2011, 7:23 p.m.,*
in response to message #9 by Gerson W. Barbosa

Seven seconds on the hp50g and there's still a lot of room for improvement as the inner loop is not so efficient as is could be. I have disregarded digits 0 because 0^0 is defined as 1 on the hp50g. BTW, it is defined differently in these two related OEIS sequences.

```
%%HP: T(3)A(D)F(,);
DIR
  CLC
  \<< 1, 4,
    FOR a a 4,
      FOR b b 4,
        FOR c { a b c } DUPDUP ^ \GSLIST 3125, + N2L SORT SWAP 1, * {
5, } + SORT DUP2 == { ^ \GSLIST KILL } { DROP2 } IFTE
        NEXT
      NEXT
    NEXT
  \>>
  N2L
  \<< \->STR 1, 4,
    FOR i DUP i i SUB SWAP
    NEXT DROP 4, \->LIST STR\->
  \>>
END
```

Re: a cute little challenge

*Message #11 Posted by **Thomas Klemm** on 2 June 2011, 6:18 a.m.,*
in response to message #10 by Gerson W. Barbosa

> Quote:
>
> ```
> { a b c } DUPDUP ^ \GSLIST
> ```

Very nice! That's one of the reasons I like RPL.

> Quote:

there's still a lot of room for improvement as the inner loop is not so efficient as it could be

---

Using the '9 MOD' trick the expensive check is avoided in most of the cases:

```
\<< { } 1 4
  FOR a a 4
    FOR b b 4
      FOR c { 5 } a + b + c +
        DUP DUP ^
        \GSLIST OVER
        \GSLIST OVER
        - 9 MOD
        IF 0 ==
        THEN N2L
          SORT SWAP SORT
          IF DUP2 ==
          THEN ^ \GSLIST +
          ELSE DROP2
          END
        ELSE DROP2
        END
      NEXT
    NEXT
  NEXT
\>>
```

I had problems using { a b c } with the HP-48. The local variables are not evaluated resulting in an algebraic expression. However adding them to the list is fine. Maybe using \->LIST is faster. Other suggestions?

The execution time dropped from about 1.5s to 0.6s using m48 on the iPhone.

Cheers
Thomas Klemm

Edited: 2 June 2011, 6:34 a.m.

Re: a cute little challenge

*Message #12 Posted by **Gerson W. Barbosa** on 2 June 2011, 8:35 a.m.,*
in response to message #11 by Thomas Klemm

Great improvement! 2.67 seconds on the hp50g.

You're right, \->LIST is faster, 2.46 seconds:

```
%%HP: T(3)A(D)F(,);
DIR
  CLC
  \<< { } 1, 4,
    FOR a a 4,
      FOR b b 4,
        FOR c a b c 3, \->LIST 5, + DUP DUP ^ \GSLIST OVER
\GSLIST OVER - 9, MOD
          IF NOT
          THEN N2L SORT SWAP SORT
            IF DUP2 ==
            THEN ^ \GSLIST +
            ELSE DROP2
            END
          ELSE DROP2
          END
        NEXT
      NEXT
    NEXT
  \>>
  N2L
  \<< \->STR 1, 4,
```

```
    FOR i DUP i DUP SUB SWAP
    NEXT DROP 4, \->LIST STR\->
  \>>
END
```

Regards,

Gerson.

Re: a cute little challenge

*Message #13 Posted by **Thomas Klemm** on 2 June 2011, 9:22 a.m.,*
in response to message #12 by Gerson W. Barbosa

> Quote:
>
> ```
> a b c 3, \->LIST 5, +
> ```

Or rather?

```
a b c 5, 4, \->LIST
```

Re: a cute little challenge

*Message #14 Posted by **Gerson W. Barbosa** on 2 June 2011, 10:28 a.m.,*
in response to message #13 by Thomas Klemm

Oops! :-)

2.37 seconds without the unnecessesary + in the innermost loop.

Re: a cute little challenge

*Message #15 Posted by **Paul Dale** on 2 June 2011, 8:58 a.m.,*
in response to message #8 by Thomas Klemm

A naive translation to the 34s of this hp-41 program takes about 0.4 seconds to find the solution in real mode and 0.3 seconds in integer mode.

- Pauli

```
001  LBL A
002  TICKS
003  STO I
004  1
005  STO 01
006  4
007  STO 02
008  2
009  7
010  STO 03
011  2
012  5
013  6
014  STO 04
015  3
016  1
017  2
018  5
019  STO 05
020  1
021  0
```

```
022  STO 00
023  5
024  STO 15
025  STO 11
026  LBL 11
027  RCL 11
028  RCL* 00
029  STO 06
030  RCL 15
031  STO 12
032  LBL 12
033  RCL 06
034  RCL+ 12
035  RCL* 00
036  STO 07
037  RCL->11
038  RCL+->12
039  STO 08
040  RCL 15
041  STO 13
042  LBL 13
043  RCL 07
044  RCL+ 13
045  RCL* 00
046  STO 09
047  RCL 08
048  RCL+->13
049  STO 10
050  RCL 15
051  STO 14
052  LBL 14
053  RCL 09
054  RCL+ 14
055  RCL 10
056  RCL+->14
057  x=? Y
058  GTO 99
059  DSZ 14
060  GTO 14
061  DSZ 13
062  GTO 13
063  DSZ 12
064  GTO 12
065  DSZ 11
066  GTO 11
067  RTN
068  LBL 99
069  TICKS
070  RCL- I
071  RTN


Checksum 4FEd
```

Re: a cute little challenge

*Message #16 Posted by **Thomas Klemm** on 2 June 2011, 9:44 a.m.,*
in response to message #15 by Paul Dale

Wow, that's fast. Thanks for taking the time to measure it. Just keep in mind that here we count down from 5555 to 3435. Thus bailing out at the first occurence of a solution might not be fair. Or just be careful when comparing the figures.

Kind regards
Thomas

Re: a cute little challenge

*Message #17 Posted by **Paul Dale** on 2 June 2011, 6:18 p.m.,*
in response to message #16 by Thomas Klemm

Without the short cut finish it takes 0.8 seconds in real mode and 0.7 in integer

mode.

- Pauli

```
001  LBL A
002  TICKS
003  STO I
004  1
005  STO 01
006  4
007  STO 02
008  2
009  7
010  STO 03
011  2
012  5
013  6
014  STO 04
015  3
016  1
017  2
018  5
019  STO 05
020  1
021  0
022  STO 00
023  5
024  STO 15
025  STO 11
026  LBL 11
027  RCL 11
028  RCL* 00
029  STO 06
030  RCL 15
031  STO 12
032  LBL 12
033  RCL 06
034  RCL+ 12
035  RCL* 00
036  STO 07
037  RCL->11
038  RCL+->12
039  STO 08
040  RCL 15
041  STO 13
042  LBL 13
043  RCL 07
044  RCL+ 13
045  RCL* 00
046  STO 09
047  RCL 08
048  RCL+->13
049  STO 10
050  RCL 15
051  STO 14
052  LBL 14
053  RCL 09
054  RCL+ 14
055  RCL 10
056  RCL+->14
057  x=? Y
058  VIEW X
059  DSZ 14
060  GTO 14
061  DSZ 13
062  GTO 13
063  DSZ 12
064  GTO 12
065  DSZ 11
066  GTO 11
067  TICKS
068  RCL- I
069  RTN


Checksum F3d3
```

Re: a cute little challenge

*Message #18 Posted by **C.Ret** on 31 May 2011, 4:39 a.m.,*
in response to message #4 by Thomas Klemm

> Quote:
>
> [...] We start with a table:
>
> ```
> n       :     0     1     2     3     4     5
> n^n     :     0     1     4    27   256  3125
> n^n % 9 :     0     1     4     0     4     2
> ```

Dear Tomas,

In your table we read that $n^n=0$ when $n = 0$. This is an interesting assumption. We generaly assume that 0^0 is either *1* or *undefined*.

I am always surprise how a so little detail can reveal so great philosophical aspect of day to day and primary mathematic !

These thinkings lead me to ask one stupid question.

Is twelve (when written as *0012*) a four digits number ?

If the answer to this question is true, then when have to consider that 30 and 31 are also solutions of the general formulea $a^a+b^b+c^c+d^d$ when considering 0^0 to be equal to *1*.

Re: a cute little challenge

*Message #19 Posted by **Thomas Klemm** on 31 May 2011, 8:01 a.m.,*
in response to message #18 by C.Ret

> Quote:
>
> This is an interesting assumption. We generaly assume that 0^0 is either *1* or *undefined*.

There are several ways to define 0^0 as a limit:

- $\lim_{x \to 0} x^x = 1$
- $\lim_{x \to 0} x^0 = 1$
- $\lim_{x \to 0^+} 0^x = 0$

Given that we look at numbers of the form n^n you may consider *0* a poor choice.

Some may have noted that I cheated a little in my programs since I omitted *0*. The main reason was not gain in speed
but that lists in the HP-48 start with index *1*. And then again *DSE* skips *0*.

I wouldn't consider twelve a four digits number. Otherwise what's gained with this expression compared to "smaller than 10^4"?

Thomas

Re: a cute little challenge

*Message #20 Posted by **Andrés C. Rodríguez (Argentina)** on 2 June 2011, 12:52 p.m.,*
in response to message #18 by C.Ret

About 0031... how could it be a solution?

Edited: 2 June 2011, 12:53 p.m.

Re: a cute little challenge

*Message #21 Posted by **C.Ret** on 3 June 2011, 8:55 a.m.,*
in response to message #20 by Andrés C. Rodríguez (Argentina)

Yes, you are right, sorry for that. 31 have to be consider as a 5 digits number :

[pre] $00031 = 0^0 + 0^0+0^0+3^3+1^1 = 1+1+1+27+1 = 31$

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41E question

*Message #1 Posted by **Dwight Sturrock** on 28 May 2011, 8:26 p.m.*

Based on Egan Ford's article on this site on "HP41C to HP50G Migration", I started to enter a program using the 50G keyboard. Everything went fine until I tried to insert something from the catalog into the program. ANY key I press enters that key's function instead of what I have selected in the catalog.

[while in program mode] CAT 3 (I scroll down until I find the selection I want, for example,) X#0 ENTER

Instead of giving me the "X#0" I get the ENTER key placed in the program.

Any ideas anyone?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: New Hand-Written Math Solver

*Message #1 Posted by **Steve S** on 27 May 2011, 7:43 p.m.*

Although we all lover our HP calculators, there are some things to be said for other math solving approaches.

For those who have tablet PCs, a new math solver, apparently intended for classroom use, has just surfaced: FluidMath. See:

www.fluiditysoftware.com

A 10-day trial version is available after you register at the website. FluidMath is clearly a work in progress (it only does arithmatic, roots, logs, trig and sums) but the developers are clearly intending to expand FM's capabilities.

Unfortunately, the intended price (and terms)make it clear that this is a product mostly intended for institutions. MathJournal by xThink has a much wider scope of application and is less than half the price (but it's also now 5 years old).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 module: NOV CHAP update

*Message #1 Posted by **Geir Isene** on 27 May 2011, 6:14 p.m.*

The NOV CHAP module (the software extension for the Clonix/NoV-modules... and then some) has been updated.

The XROM number has been moved from 16 to 31 and there is a new generically usable function, and the manual has been updated and improved. Go search for that new function :)

Here is the link to the NOV CHAP homepage.

Re: HP-16C programm for MCODE jumpdistance

*Message #2 Posted by **exschr** on 28 May 2011, 5:41 a.m.,*
in response to message #1 by Geir Isene

The link on your Website to the HP-16C Programm IS BROKEN!

> Quote:
>
> http://www.isene.com/isene.cgi?mjump:
> You find the MJUMP program listing for the HP-16C here

Thanks for sharing it :-)

Re: HP-16C programm for MCODE jumpdistance

*Message #3 Posted by **Geir Isene** on 28 May 2011, 5:54 a.m.,*
in response to message #2 by exschr

Fixed. Thanks :)

Re: HP-16C programm for MCODE jumpdistance

*Message #4 Posted by **exschr** on 28 May 2011, 7:33 a.m.,*
in response to message #3 by Geir Isene

Thanks, perfect, nice!
:-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

ATTENTION 41CL Early Adopters

*Message #1 Posted by **Monte Dalrymple** on 27 May 2011, 2:41 p.m.*

If you were on the list for one of the first batch of 41CL circuit boards you should have received an email with a link to the order form last week. To date I have only received replies from eleven out of twenty people. I should be ready to start shipping next week, so if you want to maintain your place on the list please email me to that effect. If you know that you want to pass on the offer I would appreciate an email to that effect too. I'll send a confirmation email to those of you who have replied so you know that I have your information.

Thanks, Monte

Re: ATTENTION 41CL Early Adopters

*Message #2 Posted by **Matthias Wehrli** on 27 May 2011, 4:53 p.m.,*
in response to message #1 by Monte Dalrymple

If someone does not want his board, I will take it... ;) Please let me know

Re: ATTENTION 41CL Early Adopters

*Message #3 Posted by **spb** on 27 May 2011, 5:03 p.m.,*
in response to message #1 by Monte Dalrymple

If you have trouble moving all of those unclaimed units I'd be happy to help out with one.

Re: ATTENTION 41CL Early Adopters

*Message #4 Posted by **Monte Dalrymple** on 29 May 2011, 6:39 p.m.,*
in response to message #3 by spb

If you send me an email directly so that I have a way to contact you I'll put your name on the list.

Re: ATTENTION 41CL Early Adopters

*Message #5 Posted by **Geir Isene** on 27 May 2011, 5:31 p.m.,*
in response to message #1 by Monte Dalrymple

I didn't get an e-mail...

Re: ATTENTION 41CL Early Adopters

*Message #6 Posted by **Geoff Quickfall** on 27 May 2011, 9:41 p.m.,*
in response to message #1 by Monte Dalrymple

Monte

You have email, hopefully the first one went through but another sent today!

Port cover to follow by snail mail!

Geoff

Re: ATTENTION 41CL Early Adopters

*Message #7 Posted by **Hans Brueggemann** on 28 May 2011, 3:59 a.m.,*
in response to message #1 by Monte Dalrymple

monte, i am in for one, or (better) two.
best regards,
hans

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CV & CX Halfnuts?

*Message #1 Posted by **aj04062** on 27 May 2011, 12:53 p.m.*

Are both models available in Half-nut versions or is it just the CX?

Re: HP-41CV & CX Halfnuts?

*Message #2 Posted by **Eric Smith** on 27 May 2011, 1:20 p.m.,*
in response to message #1 by aj04062

The HP-41CV and HP-41CX were both sold as halfnut versions. The HP-41C was also manufactured as a halfnut version, but not sold that way; it was only provided as a service replacement.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 + card reader = "Malfunction" ?

*Message #1 Posted by **BobVA** on 27 May 2011, 6:37 a.m.*

Hi:

I've got a pre-overhauled HP-41 card reader from eBay that works fine with one Fullnut HP-41C and not with another. I suspect it's a problem with that calculator, but can't figure out what it is. Here's what I've found/done:

- Inserting a card in the reader immediately results in a display of "Malfunction" followed by "Card". I don't hear the motor start at all.

- If the calculator is off, inserting a card can cause the motor to start and turn very slowly.

- A module or printer plugged into to the same physical port the reader uses works fine.

- No other modules installed.

- No other problems noted with the calculator.

- Catalog correctly shows the card reader functions.

History: I had some intermittent turn-on problems with this calculator, which I first tried to resolve by cleaning the zebra connector and all board connectors. Seemed to work for a while but eventually the problem returned. Second try was to re-solder all the display board wires which appeared to permanently resolve the problem.

I re-cleaned the board / module connection again but didn't notice any improvement in the card reader problem.

Any speculations whether this is a calculator problem or reader problem? Any suggestions for troubleshooting?

Thanks!

Bob

Re: HP-41 + card reader = "Malfunction" ?

*Message #2 Posted by **Michael de Estrada** on 27 May 2011, 7:52 a.m.,*
in response to message #1 by BobVA

Have you tried changing out the batteries? The card reader motor pulls more current than other periferals and might not function properly if the batteries are low.

Re: HP-41 + card reader = "Malfunction" ?

*Message #3 Posted by **BobVA** on 28 May 2011, 9:46 a.m.,*
in response to message #2 by Michael de Estrada

Thanks! I did swap the battery packs. No luck.

Re: HP-41 + card reader = "Malfunction" ?

*Message #4 Posted by **Randy** on 27 May 2011, 8:35 a.m.,*
in response to message #1 by BobVA

If the zebras are the pink elastomer version, that's the problem.

Re: HP-41 + card reader = "Malfunction" ?

*Message #5 Posted by **geoff quickfall** on 27 May 2011, 2:33 p.m.,*
in response to message #4 by Randy

Hello Randy,

Is it a cleaning that is required or a new elastomer strip? If a new strip, any sources other then another calc? Also any sources for the wire wrap connectors?

That is, has the carbon in the elastomer lost its (due to cracks or aging) conductivity?

Thanks, Geoff

Edited: 27 May 2011, 2:36 p.m.

Re: HP-41 + card reader = "Malfunction" ?

*Message #6 Posted by **Randy** on 27 May 2011, 6:28 p.m.,*
in response to message #5 by geoff quickfall

Cleaning almost always makes the condition worse. They need to be replaced with either gold version from another unit. The pinkies have relatively high resistance, usually above 50 ohms when good. They reach 1000 ohms and higher which is okay for most signals but doesn't play well suppling power to Clonix, card readers and other high draw items.

The other cause can be corrosion or other sources of poor connectivity on the battery i/o block to keyboard connection.

Re: HP-41 + card reader = "Malfunction" ?

*Message #7 Posted by **Geoff Quickfall** on 27 May 2011, 9:42 p.m.,*
in response to message #6 by Randy

Thanks Randy.

Re: HP-41 + card reader = "Malfunction" ?

*Message #8 Posted by **BobVA** on 27 May 2011, 10:51 p.m.,*
in response to message #4 by Randy

This is the first one I've seen, but it looks white to me. After I read the responses I took a look at the schematic and saw that the power for the card reader motor runs through that zebra connector. Ugh.

I guess the next step would be to replace that connector with wires?

Thanks for all the responses!

Bob

Re: HP-41 + card reader = "Malfunction" ?

*Message #9 Posted by **Randy** on 28 May 2011, 8:08 a.m.,*
in response to message #8 by BobVA

You could ohm out the circuit before doing something drastic like soldering wires to things...

Re: HP-41 + card reader = "Malfunction" ?

*Message #10 Posted by **BobVA** on 28 May 2011, 9:55 a.m.,*
in response to message #9 by Randy

I'll check the zebra strip and see what I find. But if I do find a bad spot, is there anything I can do about it?

Or is the idea if I don't find anything amiss then the problem is elsewhere?

If the strip is bad has anyone identified a compatible replacement?

Thanks for the help!

Bob

Re: HP-41 + card reader = "Malfunction" ?

*Message #11 Posted by **geoff quickfall** on 29 May 2011, 1:56 p.m.,*
in response to message #10 by BobVA

thats the problem Bob!

the only solution is to find a defunct 41 (non repairable) and harvest the elastomer or wire wrapped (peferable) connector.

i have tried to find replacements but have been relegated to the harvesting.

no spares I am afraid.

Geoff

Re: HP-41 + card reader = "Malfunction" ?

*Message #12 Posted by **BobVA** on 30 May 2011, 8:22 a.m.,*
in response to message #11 by geoff quickfall

I disassembled the 41 and, contrary to my memory, the elastomer contact strip is of the pink species. A quick check with a VOM showed several spots with high (>1k ohm) resistance.

I saw a replacement flex wire connector on TAS (just the flex part, not the plastic frame), I'm not sure if the plastic frame used for the elastomer strips can be used/adapted for that style of interconnect. I'll probably give that a shot before doing the zillion wire solder job, though.

I'll post if I have any good results.

Thanks Geoff and Randy.

Edited: 30 May 2011, 8:22 a.m.

Re: HP-41 + card reader = "Malfunction" ?

*Message #13 Posted by **BobVA** on 5 June 2011, 4:35 p.m.,*
in response to message #12 by BobVA

Just to close the loop on this - I replaced the elastomer strips with a new old stock flex wire strip and that fixed the card reader problem.

Thanks again for the help, everyone.

Regards, Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Documentation for ROMs in the 41CL ... link included...help needed

*Message #1 Posted by **gene wright** on 26 May 2011, 4:19 p.m.*

So, what documentation (apart from finding the Grapevine book for the Advantage rom) exists for the Advantage applications rom?

What documentation exists for a lot of these? :-)

This will be a work in process. Link below will be to the current version of this document, which I will attempt to update.

FEEL FREE to download the document and add information. :-)

I hope you can see what I'm trying to do with this...

The column that is VERY important is the link to documentation online somewhere for the roms. This file is a work in process and I will update the file linked to as needed.

Help?

Excel version of HP 41 module list with 41CL notes and documentation links

Re: Documentation for ROMs in the 41CL ... link included...help needed

*Message #2 Posted by **gene wright** on 27 May 2011, 1:03 p.m.,*
in response to message #1 by gene wright

Thanks to Angel Martin for providing a file with lots of information in it. Here's an example of the function level detail I think we should try to make available for the HP 41 roms. Suggestions on the best place to host this file going forward? TOS?

http://dl.dropbox.com/u/10022608/Alpha%20ROM%20Functions.pdf

Here is Angel's list of all (mostly) rom functions:

http://dl.dropbox.com/u/10022608/Most%20ROM%20Functions.pdf

Link is provided as I can't get the hotlink to work on this for some reason.

Edited: 27 May 2011, 1:33 p.m.

Re: Documentation for ROMs in the 41CL ... link included...help needed

*Message #3 Posted by **Geir Isene** on 27 May 2011, 6:22 p.m.,*
in response to message #1 by gene wright

You may want to update the links for my three modules (The Icebox, the NOV CHAP and the ASTRO UI) to:

http://www.isene.com/isene.cgi?hp-41

Re: Documentation for ROMs in the 41CL ... link included...help needed

*Message #4 Posted by **gene wright** on 27 May 2011, 6:42 p.m.,*
in response to message #3 by Geir Isene

Will do, but ICEBOX is not in the 41CL...

Re: Documentation for ROMs in the 41CL ... link included...help needed

*Message #5 Posted by **Geir Isene** on 28 May 2011, 9:08 a.m.,*
in response to message #4 by gene wright

Right - and that's good as the NOV CHAP supersedes it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 MLDL2000 add-on wins Distinctive Excellence award

*Message #1 Posted by **Meindert Kuipers** on 26 May 2011, 3:38 p.m.*

With some pride I am happy to announce that my ARM-based expansion for the MLDL2000 V2 has won a Distinctive Excellence award in the Circuit Cellar NXP mbed Design Challenge. The list of DE awards and winners can be found here.

For those interesting in a demo, please have a look at youtube here.

Next step is to make this into something real, as this currently exists only on a breadboard on my desk ...

Meindert

Re: HP41 MLDL2000 add-on wins Distinctive Excellence award

*Message #2 Posted by **PeterP** on 26 May 2011, 5:57 p.m.,*
in response to message #1 by Meindert Kuipers

that is awesome Meindert, Congratulations!!!

Sorry that I fell of the earth a bit for the last few month, new job, moving, and some other non-friendly stressors have moved my HP-41 all but out of reach. I have not written a line of code or read an article or done any such thing for months....

Heartfelt congrats to you though, this is phenominal!!!

Cheers

Peter

Re: HP41 MLDL2000 add-on wins Distinctive Excellence award

*Message #3 Posted by **Marcus von Cube, Germany** on 27 May 2011, 3:32 a.m.,*
in response to message #1 by Meindert Kuipers

Meindert, congrats!

It was fun to help you with your project. :-)

Re: HP41 MLDL2000 add-on wins Distinctive Excellence award

*Message #4 Posted by **Håkan Thörngren** on 28 May 2011, 6:53 a.m.,*
in response to message #1 by Meindert Kuipers

Congratulations!!

I am eagerly awaiting the MLDL2000 V2!

Re: HP41 MLDL2000 add-on wins Distinctive Excellence award

*Message #5 Posted by **exschr** on 28 May 2011, 7:56 a.m.,*
in response to message #1 by Meindert Kuipers

Congrats!
I like how you extend the 41 with ethernet a lot!

That opens up a whole new world of possibilities :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S Keyboard help

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 25 May 2011, 7:31 p.m.*

Some time ago, and responding to a query for new functionality, I mentioned the keyboard behavior of the HP41C and HP42S. On these calculators (and emulators like v41 and Free42), when a key is pressed and held down, the name of the function is displayed and, if the key is kept down for a couple of seconds, the display reverts to NULL, and no operation is carried out at key release. It's very useful in the HP41 due to the USER redefinable keyboard (by means of the ASSIGN function); and perhaps not as important in the HP42S, but helpful anyway.

I learned from the responses that such behavior may be difficult to implement on the 34S, and I understand (and respect) the reasons and decisions of the design team. However, playing for the first time with my own 34S, I noticed that, in program mode, the alpha display shows the function name for each step. So, when you press a key in program mode, the display shows the function name... only that it is also recorded as a program step. In the meantime until I make or get a reasonable overlay, this helps to "map" functions to key locations.

Would it be possible to reuse some of the program-mode function-name-display-at-keypress code to offer some of the suggested functionality (perhaps without NULL)? In such a mode (a flag may activate/deactivate it), the alpha display will show the last function name for a second or two, before reverting to its "normal" usage.

Just my (additional) AR$ 0.12

Re: 34S Keyboard help

*Message #2 Posted by **Walter B** on 26 May 2011, 1:35 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Buenas tardes, Andrés,

One difference of the 34S to the 41C is we don't have assignable keys except the now four hotkeys. So a more or less permanent overlay will help a lot - I do it with a sheet of paper so far. Else I'd be lost - only Pauli knows by heart where all the labels are located so he can operate the calc without an overlay ;-)

The difference to the 42S is we can't have a complete separation of indicators and alphanumeric display in the 34S due to hardware restrictions. The LCD features only a very limited number of fixed annunciators (and we abuse some of them already). So we have to put some indicators in the dot matrix where they should stay constant as long as applicable. With displaying the function called for a short time, we'd return to the flicker of the 41C.

Nevertheless, I see the benefits of your suggestion. Pauli will tell if it's something which can be done within the code space limits set.

Walter

Edited: 26 May 2011, 1:36 a.m.

Re: 34S Keyboard help

*Message #3 Posted by **Paul Dale** on 26 May 2011, 2:44 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Else I'd be lost - only Pauli knows by heart where all the labels are located so he can operate the calc without an overlay ;-)

Sadly this is true, apart from some of the alpha keys. I also know the keyboard to function mapping in console emulator.

> Quote:
>
> Nevertheless, I see the benefits of your suggestion. Pauli will tell if it's something which can be done within the code space limits set.

Marcus would be better at deciding this one.

The space to actually take an internal op-code returned from the keyboard handler and generate a string from it isn't going to be large. The code to display this and null it after a time period will be more complex I suspect. You'll get the command printed after every completion of a command (unlike the 41 which doesn't do this for commands that take arguments) unless extra effort/code is added.

That said, I don't really see the necessity of this once you've got an overlay.

- Pauli

Re: 34S Keyboard help

*Message #4 Posted by **Marcus von Cube, Germany** on 26 May 2011, 2:48 a.m.,*
in response to message #2 by Walter B

The question is what to do with long running functions (they display "wait..." at the moment) and if the code will fit in the roughly 1000 bytes of flash space left.

Walter has mentioned the annunciator problem. We might go the route of displaying the function name while the function is executing but with a minimum time to make it noticeable. We already have part of the infrastructure in place. Just look at the RPN indicator which flashes when a key is pressed.

Re: 34S Keyboard help

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 26 May 2011, 8:25 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Thank you Walter, Paul and Marcus, for taking this into consideration. I cannot evaluate by myself the convenience for the majority of users, nor the "cost" of firmware space, development time, and risks of damaging other features; so I'm more than glad that you take a look at this idea.

Best regards,

Re: 34S Keyboard help

*Message #6 Posted by **Paul Dale** on 26 May 2011, 5:22 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

The firmware space cost is an interesting one.

* 1000 bytes is another user code page.

* It is also space for fixing functional bugs.

* It could also be space for adding features (as this is).

Basically, the 128kb of flash is full. There are things that can be done to reclaim small amounts but I'm not aware of any low hanging fruit here anymore -- we've collected these already. I.e. nothing "big" & "relatively easy" remains to my knowledge.

Thus, it comes down to is displaying the command name more important that another page of user code? Is it more important that leaving a bit extra for bug fixing? And are future bug fixes more important that that elusive page of programs?

I'd suggest the answers to these are: don't know, probably not and definitely respectively. Still, we won't know for sure how much space it takes until it is implemented.

BTW: We've got Hugh's number factorisation in the code but disabled. Who'd be interested in this instead of the above? The reason it isn't in yet is that is isn't tiny :-) The function takes the number in X (integer or real of course) and returns the smallest prime factor.

- Pauli

Re: 34S Keyboard help

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 26 May 2011, 7:49 p.m.,*
in response to message #6 by Paul Dale

It seems that the cost in flash space is too high to afford, so let's put our hopes in the development of good overlays. Certainly other functions, improvements and revisions deserve priority for a such scarce resource. I feel that keyboard help may have been a "nice to have" item, but hardly critical or essential at all.

Thank you again for looking at my suggestion.

Best regards.

Re: 34S Keyboard help

*Message #8 Posted by **Marcus von Cube, Germany** on 27 May 2011, 3:30 a.m.,*
in response to message #6 by Paul Dale

As the "maintainer of flash space" I have my own ideas:

A program region is always 1KB in size, a total of 4 flash pages. What we have now is a few bytes too short.

We always need some headroom for bug fixing. What would you say if we offered another page for code which you are happily using and then we find out we have to reclaim the space again for other purposes on the next minor release?

Saving space without losing any functionality mainly means a redesign of the numerical algorithms. For now, most of them are coded in C. We will eventually define our own compact interpreted language for these so that adding more brain doesn't take too much code space. An

intermediate step might be to relocate some of the commands to user code, sacrificing some speed and accuracy but gaining space. We already have some functions implemented this way.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34S keyboard layout

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 25 May 2011, 7:06 p.m.*

I know the issue is complex, and the designers had indeed put much attention trying to harmonize many criteria, including color assignments, proximity of related functions, frequency of use, menu access, and many other aspects. However, as happy and grateful as I am with the 34S, I would like to mention that the up and down arrows on the 34S are just one position off from the original 30B layout.

If the blue shift key in the original 30B were to be assigned to XEQ, the arrows may be kept in their original place, easing the current labeling issues. In fact, I think that the arrow keys, numeric entry keys and basic math symbols could be kept, perhaps with just new front-side stickers. As finger-induced wearing may affect the top-surface labels, I feel that an attempt to keep original printing where possible may be considered.

Just my AR$ 0.12

Re: 34S keyboard layout

*Message #2 Posted by **Gerson W. Barbosa** on 25 May 2011, 7:35 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Andrés,

This has been discussed here:

http://webcache.googleusercontent.com/search?q=cache:dcLfMbJCCVsJ:www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi%3Fread%3D183270+site:www.hpmuseum.org+%22keyboard+arrangement%22&cd=1&hl=en&ct=clnk&source=www.google.com

My AR$ 0.08 (I ask for less :-)

Re: 34S keyboard layout

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 25 May 2011, 7:54 p.m.,*
in response to message #2 by Gerson W. Barbosa

Gerson, thank you for pointing it out. Perhaps I briefly read it at the time, but now it's different with a "real" 34S here...

Let's see how good those vinyl stickers can be... or we may ask (again) to HP, not for a 43S but just for a "blacknut" 30B...

Re: 34S keyboard layout

*Message #4 Posted by **Walter B** on 26 May 2011, 1:45 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Andrés,

> Quote:
>
> I would like to mention that the up and down arrows on the 34S are just one position off from the original 30B layout.

Please note this problem is a transient one only. Who - outside of the financial world - will care about the layout of the 30B when the 34S is stable? d;-)

Just my 20m€ (knowing it's slightly less than the amount you mentioned ;-)

Walter

Re: 34S keyboard layout

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 26 May 2011, 8:18 a.m.,*
in response to message #4 by Walter B

Walter, thank you for your answer and for your friendly references to our local details, I really appreciate them.

Granted; if the vinyl overlays work as expected, or if HP (or someone else) offers a "blacknut" 3Xx (legendless and flashable) calculator, most keyboard issues will become moot. I agree. At least for me, I will not miss 30B functionality at all!

Best regards,

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Some minimal information about roms in the upcoming 41CL library...

*Message #1 Posted by **gene wright** on 25 May 2011, 3:31 p.m.*

41CL Manual

The HP 41CL is nearing completion! Yay! On pages 18-21 of the 41CL manual, linked to above, are the ROMs that Monte has included on the 41CL flash, which again is another YAY.

However, even I have some questions on some of these ROMs as to what they even are, much less what functions are on them or even how large they are. I mean, what is the Advantage Applications rom and how would I find out? :-)

So... I'm hoping that collectively we can help put together some sort of minimal documentation on as many of these roms as we can.

Perhaps, something like this:

ROM: TREK SIZE: 4K Link to list of functions/programs: Http://.... (and yes, I know some of those links will be to TOS).

I will be glad to coordinate information if sent to me. I plan to make a presentation on using the 41CL at HHC 2011 and this would help people see this as more user friendly.

Helpers?

Re: Some minimal information about roms in the upcoming 41CL library...

*Message #2 Posted by **Juergen Keller** on 25 May 2011, 4:20 p.m.,*
in response to message #1 by gene wright

Perhaps the HP-41 Module Database might be a place to host this information. I put together this page with the help of Matthias' module list.

Some time ago I started to collect information about HP-41 modules but didn't progress due to many other projects. However, search for the 'CCD A' module and click on the name, then you see how it may look like.

Re: Some minimal information about roms in the upcoming 41CL library...

*Message #3 Posted by **gene wright** on 25 May 2011, 4:47 p.m.,*
in response to message #2 by Juergen Keller

Great. Can I get that table in a .csv (or excel) format?

But it shows part of the problem. One of the first modules listed is the advantage applications rom. What is that? :-)

If I can get the table referenced into Excel, I can add a column for links to documentation (if any).

Re: Some minimal information about roms in the upcoming 41CL library...

*Message #4 Posted by **Juergen Keller** on 25 May 2011, 5:06 p.m.,*
in response to message #3 by gene wright

The module list is available on TOS as PDF document. It needs some cut&paste operations to get it into Excel. Well, it might be quite difficult to get information about not-so-common (or in eBay slang: EXTREMLY RARE) modules.

Re: Some minimal information about roms in the upcoming 41CL library...

*Message #5 Posted by **Ángel Martin** on 26 May 2011, 8:03 a.m.,*
in response to message #3 by gene wright

> Quote:
>
> the advantage applications rom. What is that? :-)

JF-Garnier put that one thogether. It's a ROM version of the Advantage applications published on the Grapevine booklets, a nice job indeed. It has the three sections you'd expect: EE, Binary, Statics.

WRT the ROM inventory, I kept an Excel sheet for a while including many of the modules. I stopped updating it a long time ago, I think I sent it to Jürgen too. It goes to the function level, so you have a list of functions per module, per XROM, per type, etc... Will send it to you tomight.

Cheers, ÁM

I now have the excel sheet and would like contributions...

*Message #6 Posted by **gene wright** on 26 May 2011, 3:01 p.m.,*
in response to message #5 by Ángel Martin

So, what documentation (apart from finding the Grapevine book for the Advantage rom) exists for the Advantage applications rom?

What documentation exists for a lot of these? :-)

This will be a work in process. Link below will be to the current version of this document, which I will attempt to update.

FEEL FREE to download the document and add information. :-)

I hope you can see what I'm trying to do with this...

Excel version of HP 41 module list with 41CL notes and documentation links

Re: Some minimal information about roms in the upcoming 41CL library...

*Message #7 Posted by **Monte Dalrymple** on 25 May 2011, 6:13 p.m.,*
in response to message #1 by gene wright

Some of the images aren't even documented on TOS...

Some minimal information about roms in the upcoming 41CL library...

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CV Fullnut shows "Memory Lost" consantly

*Message #1 Posted by **John Robinson** on 25 May 2011, 8:28 a.m.*

I have tried all the reset techniques, and have even swapped out the CPU board. The calc works fine with other boards. The "memory lost" board looks to be the same as the first "C/CV common board" on Diego's CPU board page : http://www.clonix41.org/Maintenance/hp-41_PCBs.htm i.e. the one with blue electro capacitors.

Can anyone help please ?

Thanks John

Edited: 25 May 2011, 8:30 a.m.

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #2 Posted by **Marcus von Cube, Germany** on 25 May 2011, 8:43 a.m.,*
in response to message #1 by John Robinson

If it can't be repaired, the machine is a perfect home for Monte's new CPU. :-)

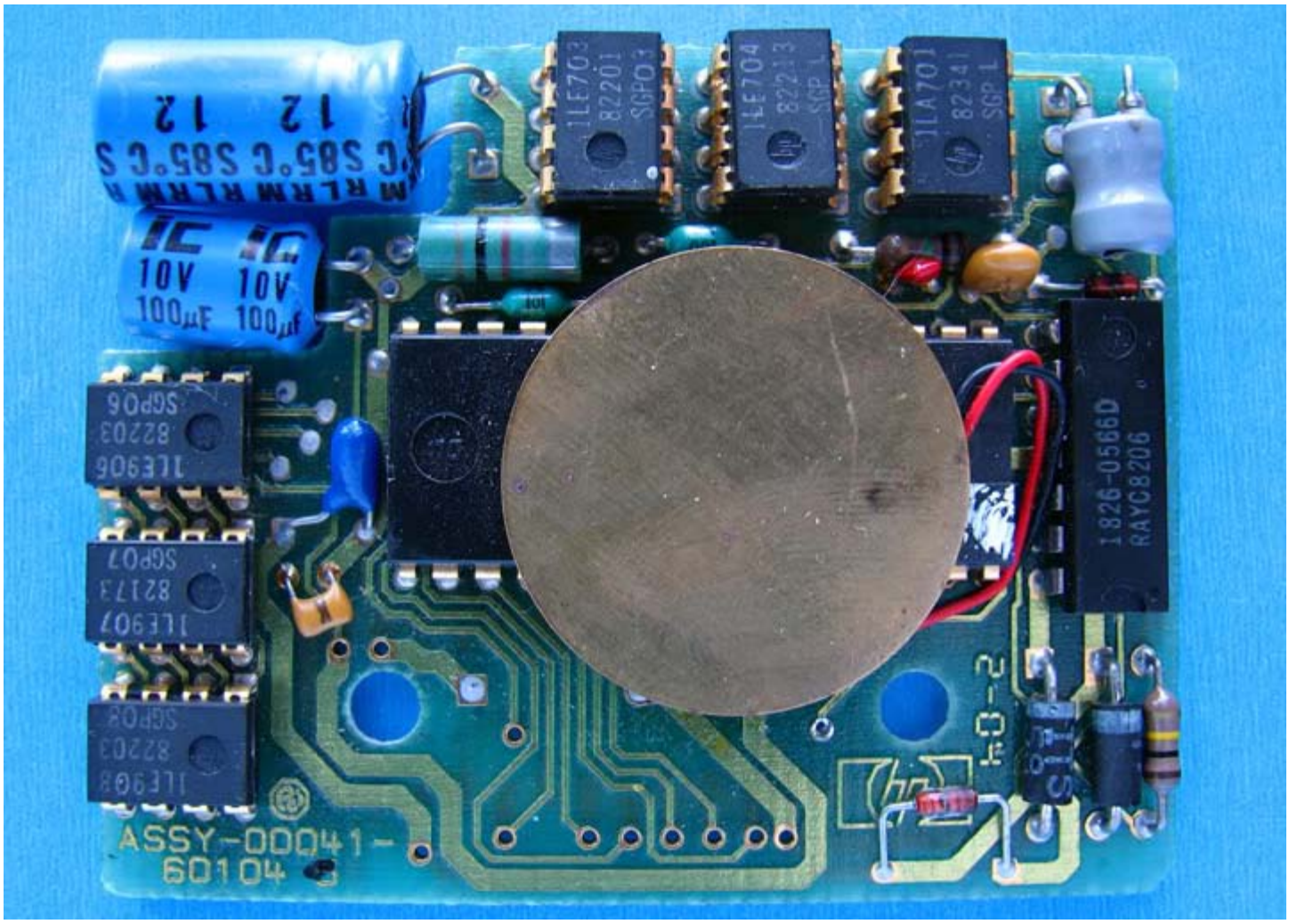
Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #3 Posted by **Geoff Quickfall** on 25 May 2011, 1:31 p.m.,*
in response to message #1 by John Robinson

Questions:

It looks to be this one if I have the correct reference selected:

hp41CV/c common board, CV version:



Questions:

```
1..does the Memory Lost occur when you turn it on?
2..once on does the Memory Lost remain displayed blocking
   all key inputs?
3..once on can you then use the calculator correctly?
4..once on does the Memory Lost display intermittantly
   interupting the correct use of the calculator?
```

Hazarding a guess, if 1 and 3 then the continuous memory appears to be at fault. If 1 and 2, a faulty pca. If 4 a faulty continuous memory and connection to the pca.

If 1 and 3 then the blue electrolytic capacitors should be replaced. Someone correct me as I am away from home and my reference material. The larger capacitor is responsible for the continuous memory. As both are the same age I would recap both.

here is an excerpt from the HP 41C repair guide (this is from a 41C repair guide however the C1 capacitor still powers the calc in the off state):

2-32. Power Supply

2-33. Four replaceable 1.5V, size N batteries connected in series are the standard source of power for the HP-41C. Three diodes (CR1, CR5, and CR6, figure 4-7) protect against reverse polarity and provide isolation for the batteries and other power sources (such as in a plug-in accessory). A storage capacitor (C1) temporarily supplies power to maintain the system memory while the calculator is off and the batteries are being changed.

If 1 and 2 the power control of the cpu may be at fault although maybe the capacitor again is at fault.

Cheers, Geoff

Edited: 25 May 2011, 6:41 p.m.

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #4 Posted by **John Robinson** on 26 May 2011, 6:05 a.m.,*
in response to message #3 by Geoff Quickfall

Yes Geoff, correct CPU board. I'm afraid it's a case of 1 and 2. and in fact even the on/off switch fails to turn the calc off. So I guess that means faulty PCA, which brings me to my next question, what's a PCA ? :-)

I guess C1 is the big one ?

Thanks John

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #5 Posted by **Geoff Quickfall** on 26 May 2011, 12:32 p.m.,*
in response to message #4 by John Robinson

Yes, the big one!

Printed Circuit Assembly, PCA, aka PCB. PCA is the term HP uses for the big board.

Now, if it is the board and the C1 capacitor doesn't fix it (they cost about 10 cents) then hold on to the calc. Marcus is correct, this is a perfect candidate for Monte 41CL board.

Cheers, Geoff

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #6 Posted by **John Robinson** on 26 May 2011, 11:31 p.m.,*
in response to message #5 by Geoff Quickfall

Thanks Geoff, I'll replace C1 and report back :-)

Cheers, John

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #7 Posted by **Randy** on 27 May 2011, 8:34 a.m.,*
in response to message #6 by John Robinson

If you have case 2 after it is on, it is not a capacitor problem, its most likely a bad rom.

IMO, a bad cap is... unlikely.

Re: 41CV Fullnut shows "Memory Lost" consantly

*Message #8 Posted by **John Robinson** on 27 May 2011, 5:51 p.m.,*
in response to message #7 by Randy

Thanks Randy, you could well be right. I replaced the cap C1, and no difference in the behaviour - oh well.

Thanks for all the inup guys.

Cheers, John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s: word size lost?

*Message #1 Posted by **Cristian Arezzini** on 25 May 2011, 7:19 a.m.*

With version 946 (svn updated a few minutes ago to 955, and I flashed the newly-updated calc.bin, but on the real calc it shows 946... Is that because only the emulator was updated with the latest builds?) Anyway: if I go to integer mode, Hex, and set word size to 16 ("un 16" displayed); then I go back to decimal mode with H.d; then go back to integer Hex mode; the word size is reset to 64 bit ("un 64"). Is this a regression or has it always been like this? I can't remember now...

Cristian

Re: Wp34s: word size lost?

*Message #2 Posted by **Marcus von Cube, Germany** on 25 May 2011, 8:28 a.m.,*
in response to message #1 by Cristian Arezzini

The revision number is strange. The most recent build should now be at 956.

I can't help with the word size question. We have to wait for Pauli or Walter on this one. I assume that the word size is reset when switching back to floating point. IIRC Pauli has simplified the switch between integer and floating point by just rounding the stack values instead of mimicking the 16C behavior (which I still don't understand).

Re: Wp34s: word size lost?

*Message #3 Posted by **Cristian Arezzini** on 25 May 2011, 8:35 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hm... I myself don't care how the stack is modified when switching back and forth (for me integer and floating are totally separate sessions), as long as it remembers my settings... I use the integer mode almost exclusively in 16 bit unsigned mode, so I'd like to avoid having to re-set it everytime I need integer! :)

Cristian

Re: Wp34s: word size lost? - More changes

*Message #4 Posted by **Marcus von Cube, Germany** on 25 May 2011, 9:24 a.m.,*
in response to message #3 by Cristian Arezzini

I've modified Pauli's mode switching code so as not to reset the word size. I hope this did not break anything in floating point mode. I doubt it because it had always been possible to switch the word size when not in integer mode.

The MODE catalogue is now context sensitive, just like X.FCN is. :-)

Edited: 25 May 2011, 10:55 a.m.

Re: Wp34s: word size lost?

*Message #5 Posted by **Marcus von Cube, Germany** on 25 May 2011, 11:14 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> Is this a regression or has it always been like this? I can't remember now...

I checked it with my 16C. It does the same and I know why. :-)

In integer mode, the 16C reallocates the registers depending on the word size. When switching back to floating point, the size must be adjusted to at least the width of a floating point number.

Re: Wp34s: word size lost?

*Message #6 Posted by **Cristian Arezzini** on 26 May 2011, 12:29 a.m.,*
in response to message #5 by Marcus von Cube, Germany

I just checked 960, and it seems to do what I wanted! Thanks! :)

> Quote:
>
> I checked it with my 16C. It does the same and I know why. :-)
>
> In integer mode, the 16C reallocates the registers depending on the word size. When switching back to floating point, the size must be adjusted to at least the width of a floating point number.

Well... I didn't remember that because I only exclusively use the 16c in integer mode... But, then this is an occasion where "total 16C compatibility" isn't the best choice, in my opinion! :) Anyway, thanks for implementing this feature, and I hope it didn't break anything anywhere else!

Cristian

[Return to Index | Top of Index]

Go back to the main exhibit hall

WP34S 956 crashing in wine

*Message #1 Posted by **Neil Hamilton (Ottawa)** on 25 May 2011, 6:15 a.m.*

I updated to 956 this AM and tried to run it up under wine (wine-1.2.2 on ubuntu 10.04) with the following crash. Does anyone know what is going wrong? This has been working beautifully under wine thus far.

(I have removed some of the svn update output and most of the debugger dump for clarity.)

Thanks...

```
nhamilton@hp-ubuntu:~/Downloads/wp34s$ svn up https://wp34s.svn.sourceforge.net/svnroot/wp34s
wp34s_svn
Skipped 'https://wp34s.svn.sourceforge.net/svnroot/wp34s'
...
U    wp34s_svn/trunk/windows/wp34sgui/wp34sgui.vcxproj
U    wp34s_svn/trunk/windows/wp34sgui/builddate.h
U    wp34s_svn/trunk/windows/wp34sgui/wp34sgui.c
U    wp34s_svn/trunk/windows/bin/emulator_d.pdb
U    wp34s_svn/trunk/windows/bin/emulator_d.lib
U    wp34s_svn/trunk/windows/bin/wp34s_compact.bmp
U    wp34s_svn/trunk/windows/bin/emulator_d.dll
U    wp34s_svn/trunk/windows/bin/wp34sgui.exe
U    wp34s_svn/trunk/windows/bin/emulator_d.exp
U    wp34s_svn/trunk/windows/bin/wp34s_medium.bmp
...
Updated to revision 956.
Summary of conflicts:
  Skipped paths: 1
nhamilton@hp-ubuntu:~/Downloads/wp34s$ wine ./wp34s_svn/trunk/windows/bin/wp34sgui.exe &
[1] 1623
nhamilton@hp-ubuntu:~/Downloads/wp34s$ fixme:heap:HeapSetInformation (nil) 1 (nil) 0
wine: Unhandled page fault on read access to 0x0044c000 at address 0x414540 (thread 0009),
starting debugger...
Unhandled exception: page fault on read access to 0x0044c000 in 32-bit code (0x00414540).
...
```

Re: WP34S 956 crashing in wine - fixed! (?)

*Message #2 Posted by **Marcus von Cube, Germany** on 25 May 2011, 6:30 a.m.,*
in response to message #1 by Neil Hamilton (Ottawa)

What happens if you delete your old state file wp34s.dat?

P.S.: Your SVN command is way to complicated. Just go to the top level directory of the project (wp34s_svn in your case) and type "svn update". SVN knows from the hidden .svn directory what to do.

Edit: I think I know what happened: Your state file was too old and some garbage was interpreted as a length field. I've added a sanity check there but deleting the file will certainly help. It's invalid anyway. If you have a program in your file which you want to save, just forward it to me. I can extract the code for you.

Edited: 25 May 2011, 7:04 a.m. after one or more responses were posted

Re: WP34S 956 crashing in wine

*Message #3 Posted by **Neil Hamilton (Ottawa)** on 25 May 2011, 7:00 a.m.,*

in response to message #2 by Marcus von Cube, Germany

As suggested, I deleted all the copies of wp34s.dat in the tree (there were several so I suspect that it saves this file out to whatever directory I launched from). Still no luck.

I poked around a few other revision to see what would happen. If I wind back to 954 (svn up -r 954), everything works fine. However, 955 crashes in the same manner as 956.

Thanks for the svn wisdom. I'll admit that I am much more familiar with cvs than svn. Your suggestion is certainly much shorter. I was just using what was documented on the sourceforge website (your know: if it ain't broke, ... you're not trying hard enough :-)).

Thanks...

Re: WP34S 956 crashing in wine

*Message #4 Posted by **Marcus von Cube, Germany** on 25 May 2011, 7:05 a.m.,*
in response to message #3 by Neil Hamilton (Ottawa)

Try 957 and report back.

Re: WP34S 956 crashing in wine

*Message #5 Posted by **Neil Hamilton (Ottawa)** on 25 May 2011, 7:21 a.m.,*
in response to message #4 by Marcus von Cube, Germany

957 works like a charm!

Thanks!!!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Engineering done right: Gene Kranz

*Message #1 Posted by **Don Shepherd** on 25 May 2011, 3:55 a.m.*

This article speaks for itself.

SOT, but strong Leadership too: check this out!

*Message #2 Posted by **exschr** on 25 May 2011, 8:01 a.m.,*
in response to message #1 by Don Shepherd

There's another exciting story about leadership in difficult times:
Endurance and Sir Ernest Shackleton

there is a great book from Lansing Alfred about the whole story, if you are looking for a book to bring with you for the next holidays, check this out :-)

Re: SOT, but strong Leadership too: check this out!

*Message #3 Posted by **David Hayden** on 25 May 2011, 8:09 a.m.,*
in response to message #2 by exschr

I'll second that recommendation. It would also make a wonderful gift to any your person who likes superheros and stuff like that. Here's a story that's just as good, and it's TRUE.

Also, check out the expedition photos by Frank Hurley. They are truly incredible and the fact that Hurley was able to keep so many of them is a miracle in itself.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Polynomial Derivative and Integral for the HP 35S

*Message #1 Posted by **Eddie W. Shore** on 24 May 2011, 10:29 p.m.*

http://edspi31415.blogspot.com/2011/05/polynomial-derivative-and-integral-for.html

```
With this program one can calculate the derivative and integral of a polynomial (up to the
seventh order).


Hx^7 + Gx^6 + Fx^5 + Ex^4 + Dx^3 + Cx^2 + Bx + A
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S running here at 34S

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 8:44 a.m.*

(The latitude of Buenos Aires city is 34S...)

I flashed my 30B with the special cable, an USB to serial converter (FTDI chip), SAM-BA 2.6 (patched) and my Windows 7 32- bit notebook.

It took a bit of trial and error, and some helpful emails (thank you, Katie and Gene!).

The actual download time was about 3 minutes; reasonable for a 126 KBy file at 9600 bps with some protocol overhead. My USB to serial converter has activity LEDs which flashed all the time during the download. A timeout message appeared on the screen, but was duly ignored. Also, at some point, SAM-BA (or its daughter screens) appeared as "not responding", but that was to be ignored too. It's kind of a "patience and faith" test. :-)

When using SAM-BA 2.6, it is obviously important to aim the download to "Flash". The tabs labeled as "SRAM" and "SRAM2" should not be active.

Now I need to improve my understanding of the SVN repository and such, to download the very last ROM image. And I need to print an overlay right now!!

Re: WP34S running here at 34S

*Message #2 Posted by **Marcus von Cube, Germany** on 24 May 2011, 8:55 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Have you set-up the board correctly? I don't have an SRAM2 tab, at least not on my SAM-BA 2.10 screen. My board setting is at91sam7l128-ek.

Re: WP34S running here at 34S

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 9:17 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Yes, there were no problems with the board. Due to SAM-BA 2.10 not working with Windows 7 and USB converters (mine was just one more confirmation of such incompatibility), I tried with SAM-BA 2.6. This is the one where the SRAM/SRAM2/Flash tabs appeared.

Please update!

*Message #4 Posted by **Marcus von Cube, Germany** on 24 May 2011, 12:17 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

The latest version seems to work while the earlier versions from the last few days are buggy. The writing to flash was badly broken.

About newest 34S version to download

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 2:50 p.m.,*
in response to message #4 by Marcus von Cube, Germany

From the project site I got a zip file with the calc.bin firmware image that I used last night. It is dated May 11... is there a new version available? How is the SVN system to be used to download the succesive releases?

Excuse me if I'm not asking the right question, perhaps I'm missing something important which was previously discussed.

Re: About newest 34S version to download

*Message #6 Posted by **Walter B** on 24 May 2011, 3:03 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Buenas tardes, Andrés,

Just go here: http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/ and download the file calc.bin - that's all.

Walter

Re: About newest 34S version to download

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 3:08 p.m.,*
in response to message #6 by Walter B

Thank you, I will try it later...

Re: Please update!

*Message #8 Posted by **Jeff O.** on 24 May 2011, 4:08 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Thanks for the warning, I was just about to ask if flash writing was broken.

I was also going to ask if something happened to BACK and SKIP, so I will go ahead and do so. Did something happen to BACK and SKIP? They are no longer in the "secret" CPX-h-CPX menu. I thought perhaps iC (increment counter?) replaced them, but get odd looking results when I try it.

I did look around sourceforge for documentation/explanation of the above, but did not find any. My apologies if such data is sitting in plain sight.

Re: Please update!

*Message #9 Posted by **Marcus von Cube, Germany** on 24 May 2011, 4:35 p.m.,*
in response to message #8 by Jeff O.

BACK & SKIP have been promoted to the program functions catalogue. iC is "internal constant". A List of these can be found in the manual.

The flash commands are on h+STO. PSTO, PRCL and P[<->] have a parameter ranging from 0 to 2. It addresses one of 3 separate regions in flash where a copy of the program area can reside. Backup and restore use region 0 implicitly plus a special region for the data and status.

Start your program with an alpha label before you copy it to flash. This way, it can be directly called from the new label browser found on h+RCL.

A good start may be:

```
LBL 'CB'
CL[alpha]
[alpha] CodeBreaker
[alpha]VIEW
STOP
LBL C
...
```

Once selected from the browser, the program can be easily started with the hot key C.

Re: Please update!

*Message #10 Posted by **Jeff O.** on 25 May 2011, 9:13 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> BACK & SKIP have been promoted to the program functions catalogu

As I suspected, hiding in plain sight. Well deserved promotions!

Re: Please update!

*Message #11 Posted by **Walter B** on 25 May 2011, 9:25 a.m.,*
in response to message #10 by Jeff O.

> Quote:
>
> Well deserved promotions!

Take care! These are the first two commands where user errors will probably happen frequently since you have to take care of the jump width yourself. Maybe we shall print a WARNING in the manual?

Good luck ;-)

Walter

Re: Please update!

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 5:45 p.m.,*
in response to message #4 by Marcus von Cube, Germany

SAM-BA 2.10 doesn't work in my environment (Win7, USB). SAM-BA 2.6 do work. Is there a risk to the calculator, or else? I would like to understand why flash writing is "broken"...

Thank you in advance, best regards.

Re: Please update!

*Message #13 Posted by **Marcus von Cube, Germany** on 25 May 2011, 2:24 a.m.,*
in response to message #12 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> SAM-BA 2.10 doesn't work in my environment (Win7, USB). SAM-BA 2.6 do work. Is there a risk to the calculator, or else? I would like to understand why flash writing is "broken"...

I'm not talking about flashing the image into the calculator but the operations from the I/O menu when it is running (PSTO, SAVE, ...)

Re: Please update!

*Message #14 Posted by **Cristian Arezzini** on 25 May 2011, 1:03 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Marcus, I just updated to 950... I haven't flashed the real calc yet, but the emulator has a problem: it doesn't save the state. Everytime I run it, it displays "Erased". It didn't happen with previous versions. I also tried deleting the file wp34s.dat, and it gets recreated at next run, but it still shows "Erased" everytime.

Re: Please update!

*Message #15 Posted by **Walter B** on 25 May 2011, 1:25 a.m.,*
in response to message #14 by Cristian Arezzini

Ciao Christian,

Thanks for your observation. This is a bug definitively :-/

wp34s.dat will be created the first time time you start the emulator and should be updated every time you resume it.

We'll get that repaired.

Walter

Re: Please update!

*Message #16 Posted by **Marcus von Cube, Germany** on 25 May 2011, 4:19 a.m.,*
in response to message #14 by Cristian Arezzini

> Quote:
>
> Marcus, I just updated to 950... I haven't flashed the real calc yet, but the emulator has a problem: it doesn't save the state. Everytime I run it, it displays "Erased". It didn't happen with previous versions. I also tried deleting the file wp34s.dat, and it gets recreated at next run, but it still shows "Erased" everytime.

Can you try again with 955, please?

Re: Please update!

*Message #17 Posted by **Cristian Arezzini** on 25 May 2011, 4:28 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Fixed with 955... Thanks! :) :)

Re: WP34S running here at 34S

*Message #18 Posted by **Gerson W. Barbosa** on 24 May 2011, 1:32 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

¡Felicitaciones por conseguirlo!

> Quote:
>
> (The latitude of Buenos Aires city is 34S...)

34° 35' 15" S, according to one reference. Quite a remarkable coincidence!

BTW, according to Google Earth I live exactly 25 meters southwards from 25° 25' 25.00" S. Time to get myself a 25C ? :-)

Re: WP34S running here at 34S

*Message #19 Posted by **John B. Smitherman** on 24 May 2011, 1:50 p.m.,*
in response to message #18 by Gerson W. Barbosa

> Quote:
>
> Time to get myself a 25C ? :-)

Maybe Paul, Walter and Marcus will produce a 25s next. ;-)

Regards,

John

Re: WP34S running here at 34S

*Message #20 Posted by **Paul Dale** on 25 May 2011, 2:20 a.m.,*
in response to message #19 by John B. Smitherman

> Quote:
>
> Maybe Paul, Walter and Marcus will produce a 25s next. ;-)

I've mentioned a 43s. No 25s yet.

A 25s isn't on the radar at the moment. It would be straightforward to emulate or replicate the 25c on the 20b/30b hardware.

- Pauli

Re: WP34S running here at 34S

*Message #21 Posted by **Andrés C. Rodríguez (Argentina)** on 24 May 2011, 2:45 p.m.,*
in response to message #18 by Gerson W. Barbosa

Obrigado / Gracias / Thank you

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s - my flashing experience

*Message #1 Posted by **Cristian Arezzini** on 24 May 2011, 6:53 a.m.*

I just received my flashing cable today (thanks again Gene!) and of course I couldn't wait to flash my 30b. Now, I had an old laptop lying around, and I thought it had WinXP installed - so I went to boot it, and was deeply disappointed to find out it had Win98 instead. So I can't use that. On my "modern" computers, I don't even have Windows at all - only Linux, in all of them. So this is what I've got: a modern computer with a recent Linux install, with no Windows and NO hardware serial port. So, it looks like this is the worst possible combination... But in Linux, I have Virtualbox installed, and a virtual WinXP running under it. And I have a USB-to-serial converter. So I thought, what the heck, I will try anyway. I installed Sam-ba v2.10, I plugged the USB-to-Serial converter, set the correct board type and COM2 as the port... and it worked on first try!! I'm so happy! :) It looks like the setup is less critical than expected... at least with my combination of components.

I have one question though... I followed the instructions on the file "Flashing a 20b calculator.pdf", and they worked; but at last, it says to enter the test screen to check the checksum, by using the On+PMT combination. If I press On+PMT on the new wp34s, it says "Debug ON" but then I can't find the checksum, nor I know how to turn debug off... I searched on the 34s manual but couldn't find anything regarding checksums or debug modes... So: has the key combination changed? How do I enter test screen now?

Thanks, Cristian

Re: Wp34s - my flashing experience

*Message #2 Posted by **Marcus von Cube, Germany** on 24 May 2011, 7:05 a.m.,*
in response to message #1 by Cristian Arezzini

Debug mode just disables all power saving, allowing hardware debugging on the device. The firmware info you're after is in the X.FCN catalogue under the VERS command.

Turning Debug mode off is as easy as turning it on. :-)

Re: Wp34s - my flashing experience

*Message #3 Posted by **Cristian Arezzini** on 24 May 2011, 7:14 a.m.,*
in response to message #2 by Marcus von Cube, Germany

D'oh... I really don't know how I missed how to turn debug mode off! I suppose I was too excited to think rationally! :)

But concerning the VERS command: I know about that, but - unless I'm missing something obvious again - it only shows the firmware revision, not the checksum... The checksum is supposed to have an integer and a decimal part, and if they match you know the firmware was flashed correctly...

Cristian

Re: Wp34s - my flashing experience

*Message #4 Posted by **Marcus von Cube, Germany** on 24 May 2011, 7:20 a.m.,*
in response to message #3 by Cristian Arezzini

We do not support a flash checksum. If the program runs, you can assume the process was successful.

Re: Wp34s - my flashing experience

*Message #5 Posted by **Cristian Arezzini** on 24 May 2011, 7:47 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I had followed the document linked in the wp34 manual, thinking it had been written *for* the wp34, but only now I realized it was written for who wants to upgrade the 20b with a newer firmware, but still keeping it a 20b! :) Of course the flashing procedure is the same, but that's why I expected a test screen while there is none. Sorry for talking nonsense! :)

Cristian

Re: Wp34s - my flashing experience

*Message #6 Posted by **Tim Wessman** on 24 May 2011, 1:18 p.m.,*
in response to message #2 by Marcus von Cube, Germany

If anyone is interested in getting the source for the MySamba program, send me an email. It is written in Delphi, but could save you some time in needing to monitor the Atmel Samba program if you want to make your own (or a Delphi wizard may just take it and run with it).

If there is interest, I will work on making sure there is no issue with releasing it and get it to you if possible.

TW

Edited: 24 May 2011, 1:19 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 20B Now Accepted By GARP For FRM Exam

*Message #1 Posted by **bink** on 24 May 2011, 4:45 a.m.*

Hi,

It appears that the HP 20B is now accepted for the FRM exam, along with the HP 12C (including variants), and HP 10B II.

http://www.garp.org/frm/overview/policies/calculator.aspx

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #2 Posted by **Katie Wasserman** on 24 May 2011, 10:29 a.m.,*
in response to message #1 by bink

This brings up an interesting point. Now that all these accepted calculators (the 12C, 20b and 10bii+) can be repurposed, what's the point of certification? They can be programmed to be memory limited cheat sheets. Are the exam proctors supposed to run a set of diagnostics on each calculator brought to the test?

While HP has given out a limited number of programming cables I'm sure it won't be long before someone (one of us most likely) shows the world how to create your own cable.

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #3 Posted by **Gene wright** on 24 May 2011, 11:27 a.m.,*
in response to message #2 by Katie Wasserman

Shhhhh!

Katie! Quiet!

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #4 Posted by **Joerg Woerner** on 24 May 2011, 5:02 p.m.,*
in response to message #3 by Gene wright

Gene,

Too late! I've heard it ;-))

Cheers, Joerg

I wonder...

*Message #5 Posted by **BruceH** on 24 May 2011, 5:26 p.m.,*
in response to message #3 by Gene wright

I wonder how long before some exam failure claims that Chinese agents/his room mate who hates him/his ex-girlfriend/aliens replaced his calc with one that has been reflashed to give slightly wrong answers?

Re: I wonder...

*Message #6 Posted by **Tim Wessman** on 24 May 2011, 5:51 p.m.,*
in response to message #5 by BruceH

Surprising. I thought most members of this forum were of the opinion that everything built by the current regime doesn't need any help to generate wrong answers.

<Click Here>

:-)

TW

Edited: 24 May 2011, 5:51 p.m.

Re: I wonder...

*Message #7 Posted by **Eric Smith** on 24 May 2011, 9:35 p.m.,*
in response to message #6 by Tim Wessman

There were bugs causing wrong answers even in the calculators developed by the original "regime". It's actually fairly amazing what great work you guys are doing now with as little resources as you have, compared to what the old regime had.

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #8 Posted by **Geoff Quickfall** on 24 May 2011, 5:12 p.m.,*
in response to message #2 by Katie Wasserman

> Quote:
>
> Are the exam proctors supposed to run a set of diagnostics on each calculator brought to the test?

I remember taking my 41CX into an arial cartography exam. I had thirty five different programs loaded, some in reference to the formulas used on the exam. I removed the pertinent programs but not having the card reader or any other saving device I did not want to lose all the other programs also. Two of them were over 400 lines each, and a whole bunch of synthetics that I DID not want to have to reload with the byte jumper.

The proctors knew nothing about the 41C series other then to ask you to show them the alpa display, "MEMORY LOST". Of course it was an easy deal to write a short program attached to the SF 11 "on and run flag" routine. So when I turned the calculator on; "MEMORY LOST" was displayed. That was enough to satisfy them!

d;-)

Edited: 24 May 2011, 5:13 p.m.

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #9 Posted by **designnut** on 24 May 2011, 10:05 p.m.,*
in response to message #8 by Geoff Quickfall

Geoff. I admire your cleverness. Sam

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #10 Posted by **Geoff Quickfall** on 24 May 2011, 11:23 p.m.,*
in response to message #9 by designnut

Wink, Wink

;-)

of course, by the time you have written a program replete with "alpha prompts" and labels, there is no need to cheat. After all, dissecting the formula into RPN ingrained the formulae in my head.

It still hurts!

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #11 Posted by **Tim Wessman** on 24 May 2011, 5:47 p.m.,*
in response to message #2 by Katie Wasserman

Well, if it happens then I am sure you (forum in general) will never get another user flashable calc from HP. . . :-(

TW

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #12 Posted by **Katie Wasserman** on 24 May 2011, 9:58 p.m.,*
in response to message #11 by Tim Wessman

These days, it wouldn't be hard to hack any calculator to put in your own "stuff". Stuff might very well mean replacing the one potted chip that drives the calculator and just using the LCD and keyboard. I did this with an old, dead HP-25 by gutting it and adding a single SX-28 processor. It was pretty easy.

I think that if exams insist on you having an approved calculator that they should let you borrow one of theirs for the test. It's really the only way to eliminate calculator cheating.

Edited: 24 May 2011, 11:16 p.m. after one or more responses were posted

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #13 Posted by **Eddie W. Shore** on 24 May 2011, 10:31 p.m.,*
in response to message #12 by Katie Wasserman

Furthermore, all the test takers should have the same model so no one person has better capabilities over another.

Re: HP 20B Now Accepted By GARP For FRM Exam

*Message #14 Posted by **Jeff O.** on 25 May 2011, 8:09 a.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> These days, it wouldn't be hard to hack any calculator to put in your own "stuff".
>
> That's the problem with these types of rules. They punish the innocent by depriving them of the use of the calculator of their choice, while a determined cheater will find a way to cheat.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s Vinyl Overlay Second Attempt

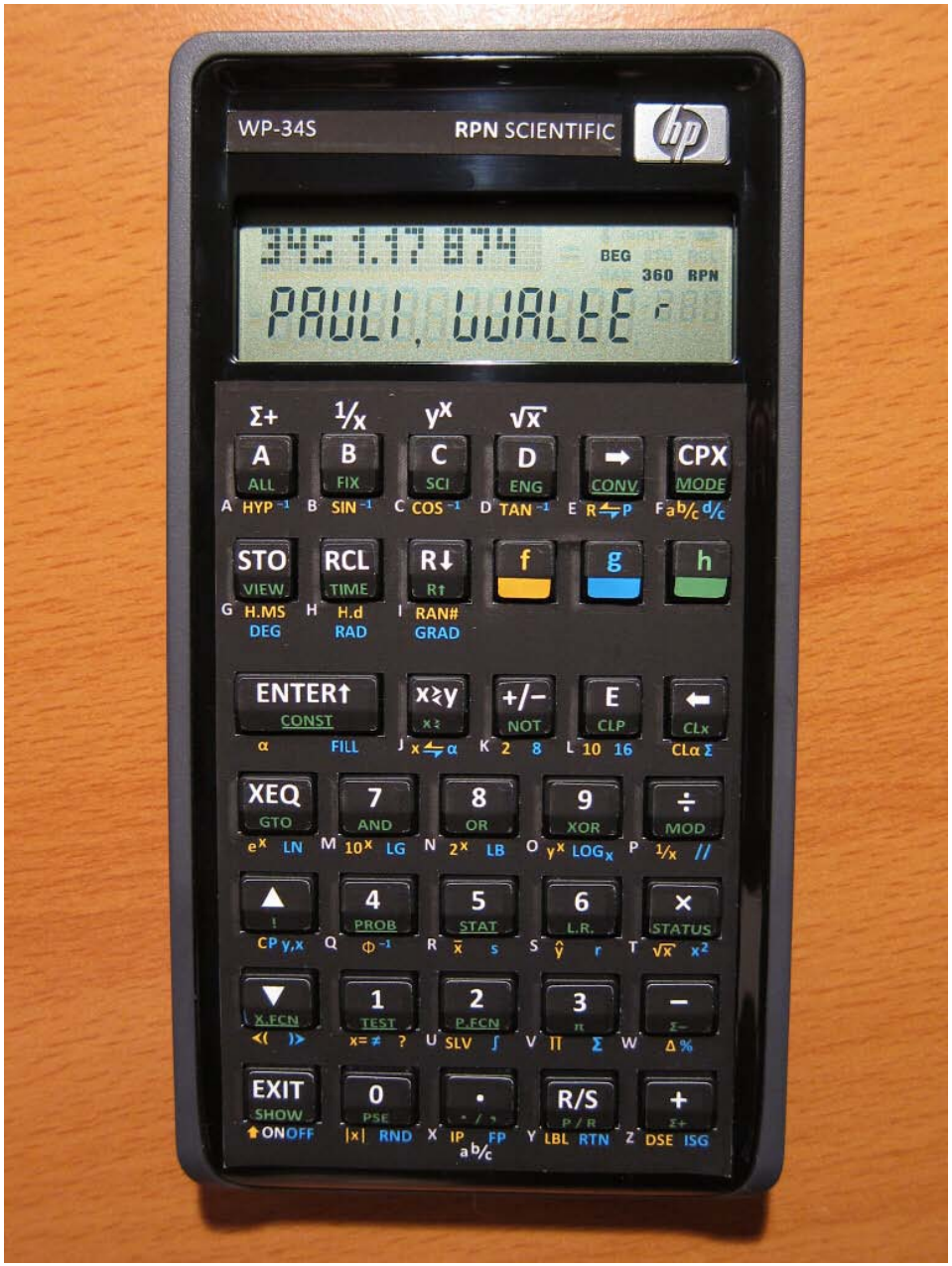
*Message #1 Posted by **Eric Rechlin** on 24 May 2011, 2:50 a.m.*

Hi everyone,

I have now made a second attempt with the vinyl overlay for the 34s. I've incorporated a lot of the feedback and made a bunch of changes. I'm still learning and will make some more minor changes still, but I think it's getting very close.

This time I made the button labels a single sticker rather than two, and I am going to see how durable it is. I have also updated the artwork to use the latest labels.

Here is what it looks like:



Here is a closeup of the keys:

And you can download the latest artwork here.

Eric

Re: 34s Vinyl Overlay Second Attempt
*Message #2 Posted by **Paul Dale** on 24 May 2011, 4:39 a.m.,*
in response to message #1 by Eric Rechlin

Very nice. Do you take orders? :-)

- Pauli

Re: 34s Vinyl Overlay Second Attempt
*Message #3 Posted by **Eric Rechlin** on 24 May 2011, 9:21 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> Very nice. Do you take orders? :-)
>
> - Pauli

Not until you guys finalize the keyboard layout. :)

Eric

Re: 34s Vinyl Overlay Second Attempt

*Message #4 Posted by **Marcus von Cube, Germany** on 24 May 2011, 6:45 a.m.,*
in response to message #1 by Eric Rechlin

We've just changed the layout again...

h+STO is now I/O. h+RCL is now a label browser. Pauli, Walter how will it be named?

Eric, do you take orders? ;-)

Re: 34s Vinyl Overlay Second Attempt

*Message #5 Posted by **Paul Dale** on 24 May 2011, 6:53 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Those new key labels are just proposed at the moment. They quite possibly will relocate and/or rename.

And before everyone gets really excited, I/O doesn't do off device input/output and possibly never will. It is used to read/write to user flash segments. Currently, a second set of read only registers and three more program spaces (again mostly read only). The registers and one of the program spaces are used for backups.

- Pauli

Re: 34s Vinyl Overlay Second Attempt

*Message #6 Posted by **Marcus von Cube, Germany** on 24 May 2011, 7:02 a.m.,*
in response to message #5 by Paul Dale

To be more precise, we're using 4 KB or flash for backup and program storage at the moment. 2 KB serve as backup but the program area of the backup can be used like the other program areas for libraries.

More than 2000 steps if you use it all and don't use backup as a copy of RAM. 1500+ of these steps are in flash. And it's all executable.

Re: 34s Vinyl Overlay Second Attempt

*Message #7 Posted by **JayV** on 24 May 2011, 9:09 a.m.,*
in response to message #1 by Eric Rechlin

Very nice. If the time comes where these are for sale, I'd be interested as well.

Re: 34s Vinyl Overlay Second Attempt

*Message #8 Posted by **Walter B** on 24 May 2011, 1:18 p.m.,*
in response to message #1 by Eric Rechlin

Looks very nice again. Bright and clear letter set. However, since you know me, you know you won't go without some personal remarks (in random order):

1. In your artwork, some marks for cutting the keys would be helpful.
2. The super- and subscripts should have a smaller letter size than the letters on the base.
3. f- and g-shifted labels of key 3 are bigger than their siblings.
4. Default primary function of the division key got a wrong symbol.
5. g-shifted // is too big in comparison.
6. In the font you chose (which one?), lower case y is quite close to v. IMO an y standing more apart will be better.
7. The comma in h-shifted decimal mark is hardly differentiable due to its hook being too faint (as before). This may be appropriate if you want to disguise the difference (e.g. for the default primary function of that key, which may be read as a point or a comma depending on the reader). But in the h-shifted label you should point out the difference instead. The comma in g-shifted ^ looks significantly clearer.
8. I don't like the bottom bar of the digit 1 - it doesn't really match the very decent style of the other digits and letters IMHO.
9. While you seem to have taken most of your symbols from one single font, some fall out obviously (or the designer didn't take care of coherence): Phi, g, <, >, <>, and <->. A coherent set will make an even better impression.

As always - just my personal 20m€ :-)

Walter

Edited: 24 May 2011, 2:26 p.m.

Re: 34s Vinyl Overlay Second Attempt

*Message #9 Posted by **Eric Rechlin** on 25 May 2011, 12:05 p.m.,*
in response to message #8 by Walter B

Quote:

> In your artwork, some marks for cutting the keys would be helpful.

I will be shipping them pre-cut so this is irrelevant. I pity anyone who would actually want to cut these by hand.

> Quote:
>
> The super- and subscripts should have a smaller letter size than the letters on the base.

I debated that. Using bigger superscripts and subscripts makes them more legible. I might shrink them slightly, though.

> Quote:
>
> f- and g-shifted labels of key 3 are bigger than their siblings.

That's because you (or someone?) complained about their relative sizes last time. I will see what I can do.

> Quote:
>
> Default primary function of the division key got a wrong symbol.

Not wrong, just different. I'm keeping it because I prefer HP's traditional symbol.

> Quote:
>
> g-shifted // is too big in comparison.

It's the same size as everything else, but I suppose I could shrink it.

> Quote:
>
> In the font you chose (which one?), lower case y is quite close to v. IMO an y standing more apart will be better.

I am using Calibri as the font. I will see what I can do about altering the 'y' in that font.

> Quote:
>
> The comma in h-shifted decimal mark is hardly differentiable due to its hook being too faint (as before).

That is the one place where I used a font other than Calibri, in hopes of avoiding complaints about the character shape, but I see that plan backfired. I will switch that to Calibri for consistency.

> Quote:
>
> I don't like the bottom bar of the digit 1 - it doesn't really match the very decent style of the other digits and letters IMHO.

I like it as it is, but I can look into altering the character in the font.

> Quote:
>
> While you seem to have taken most of your symbols from one single font, some fall out obviously (or the designer didn't take care of coherence): Phi, g, <, >, <>, and <->. A coherent set will make an even better impression.

How should they look to be coherent? Please draw me an example of how you want it to look to be coherent and I will attempt to adopt your suggestion. Everything is from the font Calibri, although I had to manually alter some characters to get them to look right (for example, I made the arrows in x<->a and R<->P by taking the regular arrow from the font and splitting it in two). Also, the square root character was hand drawn by me.

Eric

Re: 34s Vinyl Overlay Second Attempt

*Message #10 Posted by **Walter B** on 25 May 2011, 1:11 p.m.,*
in response to message #9 by Eric Rechlin

> Quote:
>
> > Quote:

> > f- and g-shifted labels of key 3 are bigger than their siblings.
>
> That's because you (or someone?) complained about their relative sizes last time.

I admit I was the one - but now you made the then smaller bigger instead of making the bigger smaller. Well, the odds were 50/50 ...

> Quote:
>
> > Quote:
> >
> > Default primary function of the division key got a wrong symbol.
>
> Not wrong, just different. I'm keeping it because I prefer HP's traditional symbol.

Sorry, it is wrong - in alpha mode, this key will enter a slash, not a colon plus a horizontal bar.

> Quote:
>
> > Quote:
> >
> > g-shifted // is too big in comparison.
>
> It's the same size as everything else, but I suppose I could shrink it.

It's significantly higher than the golden slash next to it below the same key.

> Quote:
>
> > Quote:
> >
> > While you seem to have taken most of your symbols from one single font, some fall out obviously (or the designer didn't take care of coherence): Phi, g, <, >, <>, and <->. A coherent set will make an even better impression.
>
> How should they look to be coherent? Please draw me an example of how you want it to look to be coherent and I will attempt to adopt your suggestion. Everything is from the font Calibri, although I had to manually alter some characters to get them to look right (for example, I made the arrows in x<->a and R<->P by taking the regular arrow from the font and splitting it in two). Also, the square root character was hand drawn by me.

While the regular characters have rounded corners, the arrows are very pointy. The lines of Phi are too narrow/slim compared with the other letters. And for g look at Arial, for example. I will try to draw some sample bitmaps for you.

Anyway, thanks for listening.

Walter

Re: 34s Vinyl Overlay Second Attempt

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 25 May 2011, 2:10 p.m.,*
in response to message #10 by Walter B

For what it is worth, when I first saw the keyboard of the WP34S, I too thought the slash instead of the traditional division symbol looked out of place. My vote would be for the division symbol on the keyboard as opposed to the slash (I am not concerned with what is written in a program step).

For that matter, I am still trying to figure out what "//" means. I presume that it is in either the HP34C or HP42S manual but I have not come across it yet.

On a slightly different topic: I saw a reference to the MOD operation a while back (and cannot find it anymore) where someone expressed surprise that something like "-14 mod 5" would yield -4. If I repeat this on the HP42S (well actually free42, to be honest) I get the expected value of 1, not -4. My current profession has me heavily involved with public key cryptography, which is rife with modular arithmetic (often called "clock arithmetic"). Traditionally, the modular set is composed of (0 <= x < modulus). Negative numbers are always rationalized back into the modular set (ie: positive). If I look at what the function was called on the HP16C, it was "RMD" (for remainder?). Similarly (from memory), on the HP15C it was called RMDR. I think this is how HP managed to "get away with it" since RMDR is not, strictly speaking, a MOD operation.

The benchmark for this site seems to be Wolfram so the following link states this as well: http://mathworld.wolfram.com/ModularArithmetic.html. See 4th paragraph.

Perhaps a flag could be added for MOD to alternate between true modular mode (0 <= x < modulus) and remainder mode (0 <= |x| < modulus). The only difference is that after the division reduction is complete, if the number is negative, you add in the modulus to bring in to the modular set (the rationalization step).

Note that you will see negative numbers in modular settings (eg: see the FIPS-186 elliptical curves "A" parameter of -3) but this representation is fairly uncommon in the modular world.

Re: 34s Vinyl Overlay Second Attempt

*Message #12 Posted by **Paul Dale** on 25 May 2011, 5:44 p.m.,*
in response to message #11 by Neil Hamilton (Ottawa)

> Quote:
>
> For what it is worth, when I first saw the keyboard of the WP34S, I too thought the slash instead of the traditional division symbol looked out of place. My vote would be for the division symbol on the keyboard as opposed to the slash (I am not concerned with what is written in a program step).

My vote was for a proper division sign too from memory. I don't mind much either way though.

> Quote:
>
> For that matter, I am still trying to figure out what "//" means. I presume that it is in either the HP34C or HP42S manual but I have not come across it yet.

You could try the 34s manual for this one :-) Actually, that should be the first point of reference for everything about this device. Many of the operations are not done exactly the same as previous devices.

> Quote:
>
> On a slightly different topic: I saw a reference to the MOD operation a while back (and cannot find it anymore) where someone expressed surprise that something like "-14 mod 5" would yield -4.

Our mod operator is the IEEE remainder operator. So in this case, Wolfram doesn't apply. We claim support for IEEE 854 numbers after all. The integer mode double precision remainder operator does something different with the sign but that is to stay compatible with the 16c.

Now, if there is sufficient demand, it would be possible to add a second operator that does what is asked for here.

For cryptographic operations, I'd suggest sticking to integer mode if not unsigned integer mode. Our integers can represent larger integers exactly, cryptography doesn't usually use floats and it often requires the kind of operations we support for integers (okay, not for public key stuff that I remember).

- Pauli

Re: 34s Vinyl Overlay Second Attempt

*Message #13 Posted by **Gerson W. Barbosa** on 25 May 2011, 6:51 p.m.,*
in response to message #12 by Paul Dale

> Quote:
>
> > Quote:
> >
> > For that matter, I am still trying to figure out what "//" means. I presume that it is in either the HP34C or HP42S manual but I have not come across it yet.
>
> You could try the 34s manual for this one :-)

I didn't need the manual to figure out what "//" meant because in circuit analysis I used this symbol for "in parallel", as in $R_1 // R_2 = (R_1*R_2)/(R_1+R_2)$. I'm glad it means the same on wp34s and it is available right from the keyboard. Walter's idea, I presume.

```
Examples:

1) What is the equivalent resistance of two resistors in parallel, R1 = 56 ohms and R2 = 39 ohms?

   56 ENTER 39 g //        -->   22.9894736842

2) What resistor should be connected in parallel to a 91-ohm resistor so that the equivalent resistance is 31 ohms?

   91 +/- ENTER 31 g //    -->   47.0166666667
```

Let's not be confused: the two **parallel** slashes operator can be also used to compute the equivalent capacitance of two capacitors connected in **series**.

Gerson.

Edited: 25 May 2011, 6:57 p.m.

Re: 34s Vinyl Overlay Second Attempt

*Message #14 Posted by **Paul Dale** on 25 May 2011, 7:14 p.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> Walter's idea, I presume.

I doubt either of us remember :-)

The desire for the operation came from these forums (Dave Jones rings a bell but I'm probably wrong). It has been on the keyboard forever. It also works in the complex domain :-)

- Pauli

Re: 34s Vinyl Overlay Second Attempt

*Message #15 Posted by **Katie Wasserman** on 26 May 2011, 12:37 a.m.,*
in response to message #14 by Paul Dale

I've seen the symbol || used for resistors in parallel. This might look better on the keyboard than // and I think is a standard in some sense.

For reference, the || symbol is used in Wikipedia and more importantly it's used in the Handbook of Electronics Calculations. This books defines || to mean "in parallel with".

-Katie

Edited: 26 May 2011, 12:38 a.m.

Solution: // means "parallel" (surprise ;)

*Message #16 Posted by **Walter B** on 26 May 2011, 2:17 a.m.,*
in response to message #15 by Katie Wasserman

Aha, that may be the reason why Eric printed the // so big. Thanks, Katie. The label may be changed easily. Shall I start another poll?

Walter

Edited adding the emoticon - you never know ;)

Edited: 26 May 2011, 2:18 a.m.

Re: 34s Vinyl Overlay Second Attempt

*Message #17 Posted by **Gerson W. Barbosa** on 26 May 2011, 2:14 p.m.,*
in response to message #15 by Katie Wasserman

Indeed the symbol || is shown when in program mode. // is a notation I had created for my own use, so it was a surprise when I first saw it below the / key and meaning what I imagined it might mean :-) Anyway, given your reference and in order to match the symbol in program mode perhaps it should be changed to ||.

Gerson.

P.S.: Thanks to the wp34s team I won't need this anymore :-)

```
001- f LBL A
002-   ENTER
003-   Rv
004-   x<>y
005-   *
006-   LSTx
007- g R^
008-   +
009-   /
010- g RTN
```

Re: 34s Vinyl Overlay Second Attempt

*Message #18 Posted by **Thomas Klemm** on 26 May 2011, 3:09 p.m.,*
in response to message #17 by Gerson W. Barbosa

You could use the following program as suggested by Sam in his article : EE calculations, some not obvious

> Quote:
>
> when calculating from known resistors, enter the lower resistor repeatedly. Key in the top resistor, and (...)

```
001- f LBL A
```

```
002-   +
003-   /
004-   *
005-   -
006- g RTN
```

I guess I like this solution best because all the elementary arithmetic operations are used exactly once.

Kind regards
Thomas

Re: 34s Vinyl Overlay Second Attempt

*Message #19 Posted by **Gerson W. Barbosa** on 26 May 2011, 3:35 p.m.,*
in response to message #18 by Thomas Klemm

Very nice! Sam's article appears to be a treasure trove of interesting information, it's a pity the text is difficult to read. Thanks for digging this out!

Gerson.

Re: 34s Vinyl Overlay Second Attempt

*Message #20 Posted by **Thomas Klemm** on 26 May 2011, 5:26 p.m.,*
in response to message #19 by Gerson W. Barbosa

> Quote:
>
> it's a pity the text is difficult to read

FTFY: EE calculations, some not obvious (reformatted)

Thomas

Note for Sam:
If you like the new formatting you can click the [Edit Message] button at the bottom of the page and copy the whole text.
Now do the same on your original page and paste the new version. I assume you must login as Sam Levy and not designnut though.

Re: 34s Vinyl Overlay Second Attempt

*Message #21 Posted by **Neil Hamilton (Ottawa)** on 26 May 2011, 7:10 a.m.,*
in response to message #12 by Paul Dale

Hmmm, "IEEE remainder operator". That sounds a lot like REMAINDER to me and not MOD. :-)

I believe my argument is still correct; you have remainder encoded and not a MOD operation. Hence HP's use of the RMDR and RMD on their calculators -- though, interestingly, my 35S actually calculates a MOD even though its mnemonic is "Rmdr" (HP35S: -14 Rmdr 5 => 1).

I guess my quibble is with the name on the key. Personally, I would prefer the "real" MOD operation for the MOD mnemonic but YMMV.

Sorry, I missed the "//" in the WP34S manual. However, I would not have suspected that it meant parallel. As stated by others, the double pipe would have been a more conventional symbol -- but that symbol would itself likely be confused with a some variant of OR (logical or bitwise). It just goes to show that you can't win when trying to condense information into a very few short symbols on a keyboard! Best of luck satisfying everyone! :-)

Great project!!!!

Re: 34s Vinyl Overlay Second Attempt

*Message #22 Posted by **Eric Rechlin** on 25 May 2011, 2:35 p.m.,*
in response to message #10 by Walter B

> Quote:
>
> Sorry, it is wrong - in alpha mode, this key will enter a slash, not a colon plus a horizontal bar.

I thought it did "P" in alpha mode?

> Quote:
>
> While the regular characters have rounded corners, the arrows are very pointy. The lines of Phi are too narrow/slim compared with the other letters. And for g look at Arial, for example. I will try to draw some sample bitmaps for you.

I'm looking forward to seeing those -- I'd be happy to change the arrows if they still can look good. I agree that Phi doesn't look right. I manually tried to improve it already, but you're right, I should make it thicker.

For the letter 'g', you'll have to take that up with Lucas de Groot, as he clearly intended it to look that way. You might recognize his typographical design from Der Spiegel.

> Quote:
>
> [The // is] significantly higher than the golden slash next to it below the same key.

Virtually all of the shifted labels are the same 8-point Calibri (except the Sigma which I increased to 10.5 points and the ones I custom-made). The golden slash is part of the 1/x fraction and is a totally separate character -- notice it's not even angled the same. If you prefer I could change the double slashes to use that fractional slash rather than the forward slash character, and then it would match.

Eric

Re: 34s Vinyl Overlay Second Attempt
*Message #23 Posted by **Walter B** on 25 May 2011, 5:46 p.m.,*
in response to message #22 by Eric Rechlin

Ok, here are some exemplary changes, wherever you see a faint red line:

It's far from perfection, but you may see the differences. Please apologize the size of this image, I took you file as it was.

Walter

Re: 34s Vinyl Overlay Second Attempt

*Message #24 Posted by **Eric Rechlin** on 26 May 2011, 12:57 a.m.,*
in response to message #23 by Walter B

Thanks so much. No need to apologize; 83 KB isn't big!

I have now uploaded some new artwork for you to see. I think I got most of the changes you suggested.

Eric

Edited: 26 May 2011, 1:07 a.m.

Re: 34s Vinyl Overlay Second Attempt

*Message #25 Posted by **Walter B** on 26 May 2011, 2:05 a.m.,*
in response to message #24 by Eric Rechlin

Eric,

This looks significantly better now. I wonder, however, what's so difficult in making all the golden, blue and green Greek letters the same size, matching the size of the Latin letters? Perhaps that's the reason for your saying "sounds all Greek to me" ? ;-)

Besides that, there's some symmetry balancing work to be done only IMHO.

Walter

Re: 34s Vinyl Overlay Second Attempt

*Message #26 Posted by **Eric Rechlin** on 26 May 2011, 8:59 a.m.,*
in response to message #25 by Walter B

> Quote:
>
> I wonder, however, what's so difficult in making all the golden, blue and green Greek letters the same size, matching the size of the Latin letters?

I already told you. I made them all the same size, 8 points. If there are differences in heights, it's because the font designer designed the font that way. You'd have to take it up with him.

Also, I too am in favor of changing the parallel symbol to || instead of //, since it was always taught to me as || in my EE curriculum. And no, I didn't intentionally make it bigger.

Eric

Re: 34s Vinyl Overlay Second Attempt

*Message #27 Posted by **Walter B** on 26 May 2011, 10:32 a.m.,*
in response to message #26 by Eric Rechlin

> Quote:
>
> I made them all the same size, 8 points. If there are differences in heights, it's because the font designer designed the font that way. You'd have to take it up with him.

I didn't know point sizes being color-dependent. I learn something new here every day ;-)

Walter

Disclaimer for our readers in the US of A: No offense intended. Please check the four colored Sigmas on the layout - you'll get a virtual cookie if you find the difference :-) Help: there's a Delta located next to one of them looking significantly smaller. And don't blame the font designer, adjust the font size instead where necessary. You'll get another three such cookies after finishing this task successfully. Oh yes, I begin to understand why a particular German word migrated into American English :-/

Re: 34s Vinyl Overlay Second Attempt

*Message #28 Posted by **Eric Rechlin** on 26 May 2011, 10:42 a.m.,*
in response to message #27 by Walter B

> Quote:
>
> Please check the four colored Sigmas on the layout - you'll get a virtual cookie if you find the difference :-)

Those are not all Sigmas. Some are Sigmas and some are N-Ary Summation symbols. They are not the same height within the same font. Don't ask me why; that's just how the font was designed.

- Sigma is Unicode character U+03A3.
- N-Ary Summation is Unicode character U+2211.

Please don't be snarky when you have imperfect information.

Perhaps I should have used the N-Ary Summation character everywhere, but I wasn't sure when you meant Sigma and when you meant N-Ary Summation.

Eric

Re: 34s Vinyl Overlay Second Attempt

*Message #29 Posted by **Walter B** on 26 May 2011, 11:08 a.m.,*
in response to message #28 by Eric Rechlin

> Quote:
>
> Please don't be snarky when you have imperfect information.

Please don't make life more complicated than it is already. So (FYI if still necessary) what you call "N-Ary Summation" is far better represented by a capital Greek Sigma than by anything else, e.g. the E seen in this forum every once and a while. In fact, it is a Sigma taken over by the mathematicians. Same story with "N-Ary Product" (? just guessing the term in a foreign language) and capital Pi.

HTH

Walter

Re: 34s Vinyl Overlay Second Attempt

*Message #30 Posted by **BobVA** on 24 May 2011, 5:39 p.m.,*
in response to message #1 by Eric Rechlin

Looks fantastic! I'm in for a couple when you've finalized them.

How long did it take to apply this set?

Regards, Bob

Re: 34s Vinyl Overlay Second Attempt

*Message #31 Posted by **Eric Rechlin** on 25 May 2011, 12:10 p.m.,*
in response to message #30 by BobVA

> Quote:
>
> How long did it take to apply this set?

Maybe 15 minutes? I'm not sure.

Re: 34s Vinyl Overlay Second Attempt

*Message #32 Posted by **Dave Shaffer (Arizona)** on 24 May 2011, 6:18 p.m.,*
in response to message #1 by Eric Rechlin

about the durability of the button stick-ons:

Are you using vinyl sheeting with adhesive backing? Is it transparent? If so, is it possible to print on the sticky side (in reverse, probably), so that the lettering is under the vinyl when the labels are applied. Then, touching the buttons would not tend to erode the printing.

Re: 34s Vinyl Overlay Second Attempt

*Message #33 Posted by **Eric Rechlin** on 25 May 2011, 12:12 p.m.,*
in response to message #32 by Dave Shaffer (Arizona)

> Quote:
>
> Are you using vinyl sheeting with adhesive backing? Is it transparent? If so, is it possible to print on the sticky side (in reverse, probably), so that the lettering is under the vinyl when the labels are applied. Then, touching the buttons would not tend to erode the printing.

I am using white vinyl sheeting with adhesive backing. Even if I bought transparent vinyl I wouldn't be able to print on the sticky side, because then it would just stick itself to the rollers in the printers when it feeds it through!

Eric

Re: 34s Vinyl Overlay Second Attempt
*Message #34 Posted by **Pal G.** on 26 May 2011, 10:47 a.m.,*
in response to message #33 by Eric Rechlin

Eric, nice overlay!

Have you thought about printing an inverse overlay? What I mean is white or light color background instead of black, with symbols painted in the appropriate colors. I'm wondering if over time the black ink on the vinyl, as well as the symbols, will erode as Dave suggests.

And perhaps an inverse color scheme, like the current 48gii, would look good on the 30b as its faceplate is chrome (or simulated?).

Wouldn't it also save ink?

Just some thoughts..

Re: 34s Vinyl Overlay Second Attempt
*Message #35 Posted by **Eric Rechlin** on 26 May 2011, 11:30 a.m.,*
in response to message #34 by Pal G.

> Quote:
>
> Have you thought about printing an inverse overlay?

No, I hadn't, and that's a good idea. We could keep the blue and green colors, but what color should we use instead of gold? The background could indeed be white or light gray, and that would definitely save ink. The vinyl costs a lot more than the ink, though, so the cost savings wouldn't be very noticeable.

Another possibility is to keep the keys black so the stickers wouldn't be so obvious, but that partially defeats the intent of reducing the visibility of wear.

I do have some spray protectant that is supposed to add more physical protection to the ink, but I haven't tried it yet.

Eric

Re: 34s Vinyl Overlay Second Attempt - (ideas for a gray background)
*Message #36 Posted by **Andrés C. Rodríguez (Argentina)** on 26 May 2011, 1:14 p.m.,*
in response to message #35 by Eric Rechlin

Some shade of orange (tending a little to the dark side) may do, and the background (light gray or silver) should be similar to the 30B faceplate. Perhaps Tim can comment about the background color specification (color-space coordinates).

Would you experiment with a "complete" overlay with a large window for the display?

Best regards.

Re: 34s Vinyl Overlay Second Attempt
*Message #37 Posted by **Marcus von Cube, Germany** on 27 May 2011, 2:54 a.m.,*
in response to message #35 by Eric Rechlin

> Quote:
>
> I do have some spray protectant that is supposed to add more physical protection to the ink, but I haven't tried it yet.

Why not add a matte transparent layer of vinyl before cutting? This should be totally wear resistant. Pauli's 50% lamination technique goes that route.

Re: 34s Vinyl Overlay Second Attempt
*Message #38 Posted by **Paul Dale** on 27 May 2011, 5:52 a.m.,*
in response to message #37 by Marcus von Cube, Germany

I can definitely confirm that the laminate covered keycaps on my 34s aren't showing any signs of wear. Not that all of course but still, they've seen a bit of use.

- Pauli

Re: 34s Vinyl Overlay Second Attempt
*Message #39 Posted by **Cristian Arezzini** on 25 May 2011, 12:28 a.m.,*
in response to message #1 by Eric Rechlin

Hm... I have a question... I've only seen pictures of overlays applied to 20b's. I have a 30b, and while the layout is the same, I can't be sure that the dimensions are exactly the same. For example, just by looking at it, it seems that the 30b's gap between lines is a little shorter. Can anyone confirm if this is the case? If it is, is a 30b overlay file available somewhere?

Cristian

Re: 34s Vinyl Overlay Second Attempt

*Message #40 Posted by **Tim Wessman** on 25 May 2011, 1:03 a.m.,*
in response to message #39 by Cristian Arezzini

The upper surface is effectively identical. I wondered about it too, but it is just a visual thing (my guess is the printed surface pattern).

TW

Re: 34s Vinyl Overlay Second Attempt

*Message #41 Posted by **Marcus von Cube, Germany** on 25 May 2011, 2:01 a.m.,*
in response to message #1 by Eric Rechlin

I would leave some of the keys alone: The digits, decimal marker, back arrow and arithmetic keys should only get new front labels.

I don't like the "brownish" finish of the background or is this a problem of the photo?

Printing the labels on the backside of a transparent sheet would require a multi layer construction to hide the markings on the keys and the gray background of the 30b.

Re: 34s Vinyl Overlay Second Attempt

*Message #42 Posted by **robert rozee** on 25 May 2011, 2:32 a.m.,*
in response to message #41 by Marcus von Cube, Germany

an interesting experiment would be to print onto the vinyl, then apply a thin laminate before cutting out.

the laminating process tends to add a 'depth' to the colours, especially making black appear much darker.

Re: 34s Vinyl Overlay Second Attempt

*Message #43 Posted by **Eric Rechlin** on 25 May 2011, 12:15 p.m.,*
in response to message #41 by Marcus von Cube, Germany

> Quote:
>
> I would leave some of the keys alone: The digits, decimal marker, back arrow and arithmetic keys should only get new front labels.

That's what I did the first time, but I think I like this better. Now everything looks consistent in terms of the font used. If you don't like it you can always cut the key labels in half and only apply the bottom half.

> Quote:
>
> I don't like the "brownish" finish of the background or is this a problem of the photo?

It's a deep black in real life. No brown at all.

Eric

Re: 34s Vinyl Overlay Second Attempt

*Message #44 Posted by **M. Joury** on 25 May 2011, 2:19 p.m.,*
in response to message #1 by Eric Rechlin

Just a thought...

Do you remember the protective touchpad available for the HP41? How about something like that? Could even move it between machines. The only trick would be how to fit it somewhat securely.

Re: 34s Vinyl Overlay Second Attempt

*Message #45 Posted by **Walter B** on 26 May 2011, 4:59 p.m.,*
in response to message #44 by M. Joury

> Quote:
>
> The only trick would be how to fit it somewhat securely.

That exactly is the crucial point :-/

Re: 34s Vinyl Overlay Second Attempt

*Message #46 Posted by **Andrés C. Rodríguez (Argentina)** on 26 May 2011, 8:24 p.m.,*
in response to message #45 by Walter B

A large version with a window for the display may be held at the top and bottom edges of the calculator... even at the sides. Kind of a wrapper... perhaps not a very serious possibility, but...

Re: 34s Vinyl Overlay Second Attempt - Some updates

*Message #47 Posted by **Marcus von Cube, Germany** on 30 May 2011, 6:21 a.m.,*
in response to message #1 by Eric Rechlin

Hi Eric,

I'm still longing for your work to become available. But before you proceed, you need to adapt your overlay again.

VIEW has moved from STO to the RCL key where it makes more sense. TIME is now in a catalogue.

h shifted STO has become CAT and should be underlined as it is a browsable list.

MOD has become RMDR which better reflects the implemented behavior.

Edit: RMDR function

Edited: 30 May 2011, 6:29 a.m.

Re: 34s Vinyl Overlay Second Attempt - Some updates

*Message #48 Posted by **Walter B** on 30 May 2011, 6:39 a.m.,*
in response to message #47 by Marcus von Cube, Germany

Well, and after fighting it out with Lucas de Groot, the new official overlay is found here: direct link

Enjoy!

Walter

Edited: 30 May 2011, 6:44 a.m.

Re: 34s Vinyl Overlay Second Attempt - Some updates

*Message #49 Posted by **Marcus von Cube, Germany** on 30 May 2011, 9:17 a.m.,*
in response to message #48 by Walter B

Now I want one. :-)

Re: 34s Vinyl Overlay Second Attempt - Some updates

*Message #50 Posted by **Jake Schwartz** on 30 May 2011, 4:43 p.m.,*
in response to message #48 by Walter B

Hi Guys,

Has the new "CAT" button been documented yet?

Thanks, Jake

Re: 34s Vinyl Overlay Second Attempt - Some updates

*Message #51 Posted by **Walter B** on 30 May 2011, 4:58 p.m.,*
in response to message #50 by Jake Schwartz

Hi Jake,

Not yet. But right now, CAT calls a list of all the predefined alpha labels. Browse this list as usual. XEQ any item will call the respective routine. More will be found in v1.18 soon.

Walter

Re: 34s Vinyl Overlay Second Attempt - Some updates
*Message #52 Posted by **Eric Rechlin** on 30 May 2011, 6:39 p.m.,*
in response to message #48 by Walter B

How final is this? I don't want to be sending these out if it's going to change again soon.

It's interesting you made a variation of my PNG export the "official" overlay. If you'd wanted the original SVG you could have just asked. :)

Eric

Re: 34s Vinyl Overlay Second Attempt - Some updates
*Message #53 Posted by **Walter B** on 31 May 2011, 5:47 p.m.,*
in response to message #52 by Eric Rechlin

> Quote:
>
> How final is this?

Not at all - I'm changing it again. As stated here many times, the WP 34S is a fast moving target ;-)

All I'm interested in are the sizes and positions of the stamps (their outlines would be even better) in this graphic file as I mentioned in an earlier post already. Taking an arbitrary font and typing on black background is no witchwork - more experienced sorcerers are needed for manual character improvements and adjustments, which are quite a lot here.

Walter

Re: 34s Vinyl Overlay Second Attempt - Some updates
*Message #54 Posted by **fhub** on 1 June 2011, 6:18 a.m.,*
in response to message #53 by Walter B

> Quote:
>
> Not at all - I'm changing it again.

Hi,

what would you think about renaming the "E" key to "EE" (or "EEX")? Almost every HP-calculator uses EE or EEX, and this single E could easily be confused with a letter E (or even a label E).

Franz

Re: 34s Vinyl Overlay Second Attempt - Some updates
*Message #55 Posted by **Dieter** on 1 June 2011, 7:14 a.m.,*
in response to message #54 by fhub

Although I do not think someone will confuse the E-key with something else, I absolutely agree with the idea of labelling it the classic way: EEX. I would also appreciate the classic CHS instead of that modern-style +/- (as on any ordinary other calculator). For me these two keys (and the big ENTER, with the up-arrow of course) make the look of a "true" HP calculator.

Okay, this is not an HP, but a WP. 8-)

Dieter

E vs. EE vs. EEX
*Message #56 Posted by **Walter B** on 1 June 2011, 7:23 a.m.,*
in response to message #54 by fhub

Hallo Franz,

As a matter of fact I copied that label from the HP-42S and its siblings ;-) And we used it for some more functions in the early stage of the 34S, but that lost necessity recently. So, yes, we may think of relabeling that key. EE has no tradition as a HP-key, so I'd reduce the poll to E vs. EEX.

Your votes, please :-)

Walter

Re: E vs. EE vs. EEX
*Message #57 Posted by **Paul Dale** on 1 June 2011, 7:25 a.m.,*

in response to message #56 by Walter B

EEX and CHS for me :-)

- Pauli

Re: E vs. EE vs. EEX
*Message #58 Posted by **Jeff O.** on 1 June 2011, 7:41 a.m.,*
in response to message #57 by Paul Dale

I second the motion.

Re: E vs. EE vs. EEX
*Message #59 Posted by **Neil Hamilton (Ottawa)** on 1 June 2011, 7:56 a.m.,*
in response to message #58 by Jeff O.

I third(?) the motion: EEX and CHS.

Any more thoughts on a slash vs. a proper division symbol?

Re: E vs. EE vs. EEX
*Message #60 Posted by **Walter B** on 1 June 2011, 8:36 a.m.,*
in response to message #59 by Neil Hamilton (Ottawa)

As the custodian of the layout (according to Pauli ;-) I must tell you you will not get CHS instead of +/- nor colon plus bar instead of a proper slash. For the latter, I'm willing to discuss a colon alone, being the proper division symbol on this side of the pond. AFAIK the slash is a symbol employed for division on both sides of the Atlantic, and makes sense in texts as well. - CHS is nice for people thinking English, but +/- or Â± is the more international symbol. Sorry folks [;-)

OTOH, we don't know a better alternative for E or EEX, thus I started this poll strictly for this key only.

Walter

Re: E vs. EE vs. EEX
*Message #61 Posted by **Neil Hamilton (Ottawa)** on 1 June 2011, 9:32 a.m.,*
in response to message #60 by Walter B

Sorry, I had thought that the obelus (colon with a superimposed minus sign) was universal. It has been used on all HP calculators that I can recall. I have never heard of a single colon being used as division (only as a ratio indicator). Just goes to show you how provincial I am!

I am also fine with +/- as this is intuitively obvious as well.

It is the EEX that I was really voting for.

Best regards...

Re: E vs. EE vs. EEX
*Message #62 Posted by **Marcus von Cube, Germany** on 1 June 2011, 9:41 a.m.,*
in response to message #61 by Neil Hamilton (Ottawa)

The single colon would serve as a separator between hours, minutes and seconds, so this will not be the best choice for the division symbol.

If you look at the BASIC calculators of the eighties you'll notice that some have the obelus (new word for me) on the key but enter a slash in BASIC mode. I can live with either version.

EEX (Enter EXponent) makes most sense to English speaking people while a single E as an abbreviation for Exponent is universal. The same is true for CHS (CHange Sign) versus +/-. I prefer the latter.

Re: E vs. EE vs. EEX
*Message #63 Posted by **Gerson W. Barbosa** on 1 June 2011, 9:34 a.m.,*
in response to message #60 by Walter B

> Quote:
>
> CHS is nice for people thinking English, but +/- or ± is the more international symbol.

So are EEX (Enter EXponent) and XEQ (ex-e-cute), but no problem about them. I do agree +/- is better.

Gerson.

Re: E vs. EE vs. EEX
*Message #64 Posted by **Dieter** on 1 June 2011, 9:39 a.m.,*
in response to message #60 by Walter B

Hallo, Walter -

> Quote:
>
> CHS is nice for people thinking English, but +/- or Â± is the more international symbol. Sorry folks [;-)

I assume this means we will also get rid of the "English-only" XEQ and the EXIT key in favor of more international symbols ?-) And now let's think about STO, RCL, VIEW, SHOW, TIME, MODE, PROB, CONST, CLP, RAN#, GTO, AND, NOT, OR, PSE, ALL, FIX, SCI, ENG, DEG, X.FCN, P.FCN. etc. etc. etc.

C'mon, Walter - all these keys, including ENTER, are English. I cannot see the point of one more key showing a "more international symbol". Otherwise the EXIT-key should be labelled with the usual icon of an open door. ;-)

Let us have the classic CHS label - the community seems to like it. I am sure you can have your own version with a +/- symbol. ;-)

Regarding the division symbol, I am completely with you. I never understood the usage of this strange "colon and bar" symbol, and on the 35s display (during programming) I often confuse it with the plus sign. So, for me the slash is fine, both in the display and as a key label.

Dieter

Re: E vs. EE vs. EEX
*Message #65 Posted by **Marcus von Cube, Germany** on 1 June 2011, 9:48 a.m.,*
in response to message #64 by Dieter

Dieter, you are right with the list of "Englishish" abbreviations, but these are very common, at least to programmers. Personally I dislike EEX and CHS, notably the latter. These are symbols, not commands. Casio has invented a special character for the exponent, looking like **lE** (E with a bar to the left of it) to emphasize the special meaning.

Overlays and HHC 2011 presentations...
*Message #66 Posted by **gene wright** on 1 June 2011, 11:03 a.m.,*
in response to message #64 by Dieter

Of course, the only place these symbol choices really matter is the emulator.

The overlays can and probably will be printed with the symbols the user community wants.

Perhaps I can encourage Eric Rechlin to use CHS and the proper divide symbol?

I'm fairly certain members of the user group will have all sorts of presentations about the 34s at HHC 2011. Jake is working on one and so am I.

In addition, I plan to make a 41CL presentation, since I hope to have a working board in a week or two. Woohoo!

Re: Overlays and HHC 2011 presentations...
*Message #67 Posted by **Eric Rechlin** on 1 June 2011, 12:05 p.m.,*
in response to message #66 by gene wright

My personal preference is the obelus for the division symbol (instead of the slash), because that is what has been used on virtually all calculators HP made (the only exception I can think of is the largely-forgotten 38G), as well as the vast majority of calculators made by other manufacturers.

I also personally prefer +/- over CHS because that is universal on calculators, including nearly all HP calculators sold in the last couple decades, with the 12C being the only exception. Anybody can look at +/- and know exactly what it does. The same cannot be said for CHS, even among English speakers. The only reason for CHS is for nostalgia to the HP calculators that came out 25-40 years ago.

I have no preference on E vs EEX. It's currently E, and I wouldn't change it without a good reason, because E seems to work well.

I've updated my artwork for 1.18 and applied it to my calculator last night and will make another post about it within the next day or so.

Eric

Re: Overlays and HHC 2011 presentations...
*Message #68 Posted by **Dave Shaffer (Arizona)** on 1 June 2011, 1:52 p.m.,*

in response to message #67 by Eric Rechlin

I don't know how much work it is (will be!) for Eric to make various overlays, but, as alluded to by Walter, seems to me that anybody can have whatever customized overlay they want. It's just a graphic file.

If there is enough market, whoever ultimately makes and sells overlays can offer various versions: an "English" version (CHS, EEX) and an "International" version (+/-, something else for EEX), with the user's choice of the division symbol.

Re: Overlays and HHC 2011 presentations...
*Message #69 Posted by **Walter B** on 1 June 2011, 3:14 p.m.,*
in response to message #68 by Dave Shaffer (Arizona)

Dave,

Correct, it's just a graphic file. And the overlay sheet has its cuts always at the same positions. And, sorry, the functions are the same. Beyond that, you're free to print Gothic or Burmese or Egyptian on that sheet, on pink or mint background, and have the unique opportunity to experience the whole history of graphic design once again repeated especially for you ;-) Everyone can do it. Great learning adventure ...

IMHO, the work will be at the designers - the cutting machine doesn't care for colors or fonts, it cuts. Precisely, I assume.

Enjoy!

Walter

Re: Overlays and HHC 2011 presentations...
*Message #70 Posted by **Walter B** on 1 June 2011, 12:18 p.m.,*
in response to message #66 by gene wright

> Quote:
>
> Perhaps I can encourage Eric Rechlin to use CHS and the proper divide symbol?

Which "proper divide symbol"? ;-) Of course everyone is free to draw his/her own overlay to his/her best ability. Please note in alpha mode, however, a slash will be called via the division key and a ± via the +/- key. If you want to simplify life, I recommend you take this into account.

Nice to hear of presentations prepared by "members of the user group". Feel free to send them readily in advance for crosschecking by members of the wp 34s project team - so far neither Pauli nor Marcus nor me can justify traveling half around the world for this two day San Diego meeting. No matter how interesting this will be (for sure it will), how many potential customers may be there (for sure there will be a significant two-digit-number), and how tempting the door prizes are, the return on investment in this journey looks terrificly poor still. That's plain economy :-/

Walter

Re: Overlays and HHC 2011 presentations...
*Message #71 Posted by **gene wright** on 1 June 2011, 1:12 p.m.,*
in response to message #70 by Walter B

No problem. There will be about 10 people at HHC 2001 from Europe - England, Germany, Spain, France, and more.

Re: Overlays and HHC 2011 presentations...
*Message #72 Posted by **Paul Dale** on 1 June 2011, 5:32 p.m.,*
in response to message #66 by gene wright

> Quote:
>
> Of course, the only place these symbol choices really matter is the emulator.

Not completely. In program mode the displays are:

```
EEX
+/-
/
```

Currently the keyboard has E for the first which isn't completely consistent.

- Pauli

Re: Overlays and HHC 2011 presentations...
*Message #73 Posted by **Walter B** on 1 June 2011, 5:57 p.m.,*
in response to message #72 by Paul Dale

There are minor differences in handling numeric data in programming mode:

Where the Pioneers take one single step for an entire number (sign, mantissa, sign plus exponent), the wp 34s falls back to HP's very first programming paradigma with every single digit taking one program step. Press 'E' on a 32S or 42S and you'll get '1E' waiting for the exponent to complete the number. On the wp 34s, you can see the progress of two decades ;-)

Walter

Re: Overlays and HHC 2011 presentations...
*Message #74 Posted by **Paul Dale** on 1 June 2011, 6:29 p.m.,*
in response to message #73 by Walter B

Come on the 12c uses this tried and true method.

One of HP's latest, the 30b, also does.

- Pauli

Re: Overlays and HHC 2011 presentations...
*Message #75 Posted by **Walter B** on 2 June 2011, 1:33 a.m.,*
in response to message #74 by Paul Dale

Oh yeah, cutting trees using flintstone axes is a "tried and true method", isn't it? ;-)

Walter

Re: Overlays and HHC 2011 presentations...
*Message #76 Posted by **Paul Dale** on 2 June 2011, 3:00 a.m.,*
in response to message #75 by Walter B

So is RPN :)

- Pauli

Re: Overlays and HHC 2011 presentations...
*Message #77 Posted by **exschr** on 2 June 2011, 1:36 p.m.,*
in response to message #76 by Paul Dale

cutting trees at least wasn't eliminating mankind by natural selection where RPN-users seem to go the road towards extinctioned species?!

(just joking, have fun with your RPN calcs as I do, I hort them to be able to play some more years with them)

Re: E vs. EE vs. EEX
*Message #78 Posted by **Bart (UK)** on 1 June 2011, 9:49 a.m.,*
in response to message #60 by Walter B

Hi

> Quote:
>
> CHS is nice for people thinking English

Walter, I think this is a moot point as there are many other English words and abbreviations on the keyboard ;-)

Anyway, I have no preference for the +/- or CHS and neither for E, EE or EEX. I do however feel quite strongly about the division symbol. I do not know of many physical calculators that have the "/" for a division symbol (I'm excluding the so-called "pocket computer" devices).

However, to answer your poll, I have a slight preference for EEX. (probably because of my first HP - the 28C)

Bart

Re: E vs. EE vs. EEX

*Message #79 Posted by **htom trites jr** on 1 June 2011, 9:06 p.m.,*
in response to message #56 by Walter B

Preferences:
EEX enter exponent
+|- change sign
|| absolute value
obelus for real and rational division, with large open dots, not like a colon overstruck with a minus or endash
/ solidus (slash) for integer division
\ back slash for modulus
\\ double backslash for remainder

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Multiple Period Percentage Change Program for the 30b

*Message #1 Posted by **Mark Harman** on 24 May 2011, 1:46 a.m.*

Hello everyone,

Previously, I posted a program that add a top-level shifted percentage change function to the 30b while using the RPN stack.

I decided that this was not enough. If amounts change over multiple periods, discounting or compounding take place. The best way to solve this dilemma is to incorporate this into a brand new program.

Here it goes:

SH% (put this on line zero to assign the program to this key combination)
STO 1
Roll down
swap
/
RCL 1
1/x
y^X
1
-
100
*
(you can add a message like delta (the symbol) % or Pct chng here if you want)

The way this program works is such:

Say you had $50 two years ago and you have $90 today. You want to know what the percentage increase is over these two years:

50 input 90 input 2 SH% (SH is shift hold)

You should get an answer of 34.16

Now say you have the opposite situation and want to know the percentage decrease.

90 input 50 input 2 SH%

You should get an answer of -25.46440

Keep in mind that if you have only one period, you MUST enter a 1 for the third argument - otherwise you will get an error. This program requires three arguments to work.

(Now, if your logic works such that you prefer to have the new amount first, then get rid of the swap command and

then enter the new first, old second, and # periods third.)

Hope this helps anyone who doesn't like going through the %Calc menu to get to this function.

If any of you have questions regarding this program, please feel free to ask.

Regards,

Mark

Edited: 24 May 2011, 1:56 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bii+ Sighting

*Message #1 Posted by **Eddie W. Shore** on 23 May 2011, 10:33 p.m.*

Office Depot - $39.99

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 9114 disk drive battery charging

*Message #1 Posted by **David Ramsey** on 23 May 2011, 6:56 p.m.*

Oddly enough, the 6V lead-acid batteries these things use are still widely available.

The charger, now...

I got this at least a decade ago and while I'm pretty sure I had a charger at one point, I don't seem to now. I say "Don't seem to" because although the charger receptacle on the battery box takes the same plug as do the desktop and handheld computer HPs (such as the HP-97), I kinda doubt that charger would work well. For one thing, the battery box notes:

"20V / 500MA MAX INPUT"

20V to charge a 6V battery seems high to me, but in any case it's way more than any of the chargers I have put out. Perhaps it's because the charger would be expected to run the disk drive (old-style Sony 3.5" drive and a large controller board) while the battery is charging.

I guess I could simply put the battery on a car battery charger set to 6V. That should work.

Re: HP 9114 disk drive battery charging

*Message #2 Posted by **M. Joury** on 23 May 2011, 11:22 p.m.,*
in response to message #1 by David Ramsey

Hi David,

The 9114 uses the same charger as the HP41, the HP41 printer, the 41 IL printer, the 71/75, etc. Specifically the 82059 (US) charger with an output of 8VAC and 3VA. The charger will NOT run the unit with a dead battery. The battery needs to be able to maintain a charge for the disk drive to operate.

Hope this helps.

Re: HP 9114 disk drive battery charging

*Message #3 Posted by **David Ramsey** on 24 May 2011, 1:48 a.m.,*
in response to message #2 by M. Joury

That does help, thanks. I have several of those chargers.

Re: HP 9114 disk drive battery charging

*Message #4 Posted by **David Ramsey** on 24 May 2011, 12:13 p.m.,*
in response to message #2 by M. Joury

I charged the battery all night, and while I can read just over 6 volts off the battery terminals, there's 0 volts at the plug that connects to its mate inside the drive's battery bay.

There's a small circuit board in the battery box containing a 4-pin device that I assume is some sort of rectifier, a single transistor, and three discrete components (a resistor and probably some diodes.)

A three-pin and a two-pin cable plug into a 5-pin connector on the board. You can plug them in in either of two arrangements (2 pin first or 3 pin first), but neither produces any voltage at the output plug.

I assume there's a problem on the little circuit board. Is this worth trying to fix (and if so, any suggestions other than replacing every component)? It seems many of these old drives just wire the battery in directly to the drive and charge the battery externally.

Re: HP 9114 disk drive battery charging

*Message #5 Posted by **M. Joury** on 24 May 2011, 2:48 p.m.,*
in response to message #4 by David Ramsey

Hi David,

Ok, lets see what I can make of this. First off let me tell you that I am a programmer NOT an electronics person so there are much more qualified people on this site. But here we go...

1. I am looking at the battery carrier for a 9114A My B units are packed at the moment. 2. That 5 pin connector that you refer to. On my unit there is a 3 pin orange plug that connects to the side farther from the connector that mates inside the bay and a white 2 pin plug that plugs in closer to the bay connector. The white plug has 2 grey wires running to the charger socket while the orange connector has red black and white wires running to the battery and the internal (bay) connector. 3. I guess if I were to tackle it I would try to see how far I could trace the power (at the moment my voltmeter is also packed). And see if you can identify what component is failing.

Sorry, I realize that this is not much help other than telling you which plugs go into which part of the socket on the board assuming that yours is the same (my board is labeled Rev A). Hopefully one of those electronic types will chime in with more info.

Good luck.

Re: HP 9114 disk drive battery charging

*Message #6 Posted by **David Ramsey** on 24 May 2011, 4:04 p.m.,*
in response to message #5 by M. Joury

Yeah, I'm a programmer, too. I can solder but that's about it. I think I remember the resistor color code.

I see 6V from the battery up to the rightmost pin on the transistor. On the other two contacts the reading is 0.03V, so the power isn't making it through that component.

Re: HP 9114 disk drive battery charging

*Message #7 Posted by **David Ramsey** on 24 May 2011, 5:45 p.m.,*
in response to message #6 by David Ramsey

I think I see the problem: the lowest component on the PCB, right under the resistor, is a green resistor-sized object labeled "3A". It's obviously been replaced at some point judging by the solder marks. The 6V goes through this component to the output, and none of this is making it through.

I suspect this is a blown 3A fuse. I also suspect it's too small: 6V@3A is only 18 watts, and I think the 9114 probably requires more than that.

The transistor and rectifier are only used for charging, as far as I can tell. Mind you, I don't know much about electronic hardware.

So I plan to replace this fuse with a 5A fuse in the next day or so unless someone thinks it would be a really bad idea.

Re: HP 9114 disk drive battery charging

*Message #8 Posted by **Paul Berger (Canada)** on 24 May 2011, 5:54 p.m.,*
in response to message #6 by David Ramsey

One of those things that looks like a resistor is probably a micro-fuse, your description of the electronics in the battery pack would seem to match the 88014A battery pack and according to Mr. Duell's schematic the fuse is in between the + side of the battery and the W/R (white/red?) wire that goes to the connector between the battery pack and the 9114. The schematic can be found at http://www.hpmuseum.net/document.php?hwfile=2718

Edited: 24 May 2011, 5:55 p.m.

Re: HP 9114 disk drive battery charging

*Message #9 Posted by **David Ramsey** on 25 May 2011, 12:15 a.m.,*
in response to message #8 by Paul Berger (Canada)

Yep, that was it. The micro fuse was blown and fortunately replacing it was within my limited soldering skills. Everything works great now!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Numerical Integration: HP, TI, etc.

*Message #1 Posted by **Chuck** on 23 May 2011, 3:09 p.m.*

I feel like this has been discussed before, but I can't find any info.

It's generally claimed that many, if not most, calculators that have numerical integration capabilities usually use an Adaptive Gauss-Kronrod Quadrature method.

Today in my Calc II class I introduced the students to this numerical method by first integrating Cos[1/(8-x)] from 0 to b, changing b from 5 to 6, 7, and 8 to show them the computing time increases substantially. From there we looked at a little G-K theory.

We discovered the TI calculators will eventually compute a result for b=8, but takes several minutes due to the improper upper limit. The value it gives is 6.491864009, while Mathematica gives 6.4916765549 (claiming to use Guass-Kronrod). So, the TI was accurate to 3 decimal places using an undetermined number of nodes.

However, testing with Mathematica, a Gauss-Kronrod 63 point quadrature only gives, 6.42284; way off. Even a 1000+ point quadrature doesn't give the same accuracy as the TI. And I know the TI isn't doing a 2000 point quadrature. So, what other strategies are being used?

Also, back to HP. My HP-42S, when setting the accuracy to 0.001, I get 6.4811 (almost within 0.01 not 0.001) after several minutes. So, what method is the 42S using?

I wish I took more numerical analysis 30 years ago.

Thanks, CHUCK

Re: Numerical Integration: HP, TI, etc.

*Message #2 Posted by **Gerson W. Barbosa** on 23 May 2011, 3:38 p.m.,*
in response to message #1 by Chuck

I hope these and (the still working) links therein may help:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=94446

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=95394

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=104550

Re: Numerical Integration: HP, TI, etc.

*Message #3 Posted by **Dieter** on 23 May 2011, 5:16 p.m.,*
in response to message #1 by Chuck

The classic implementation of the Integrate function (HP-34C, 15C and others) uses a kind of adaptive Romberg method. With every iteration more and more (clevery placed) nodes are used. The integration limits are not evaluated so that a result can be determined even if the function is not defined there.

Please take a look at this page in the articles section. There you will also find a reference to a detailled discussion of the Integrate function and its properties on the 34C, written by W.H. Kahan in HP magazine issues more than thirty years ago.

FWIW: the 35s, set to FIX 3, returns 6,491 for the mentioned integral.

Dieter

Re: Numerical Integration: HP, TI, etc.

*Message #4 Posted by **Chuck** on 23 May 2011, 8:21 p.m.,*
in response to message #3 by Dieter

Much thanks Gerson and Dieter. I now have some good reading to do. And a lot of experimenting. Other good integrals to test are the Fresnel functions. I've found a few calculators have trouble with these as well.

CHUCK

Re: Numerical Integration: HP, TI, etc.

*Message #5 Posted by **Kiyoshi Akima** on 24 May 2011, 1:09 p.m.,*
in response to message #4 by Chuck

While you're at it, try integrating FRAC(x) (the fractional portion of x, sometimes called FRAC, sometimes called FP, depending on the calculator) from 0.0 to 6.4 . All HP calculators fail spectacularly on this simple function, but at least they do it quickly :-(

Re: Numerical Integration: HP, TI, etc.

*Message #6 Posted by **Thomas Okken** on 24 May 2011, 10:13 p.m.,*
in response to message #5 by Kiyoshi Akima

FP is a spectacularly non-analytical function... All the clever quadrature algorithms assume that the function to be integrated is well-behaved. Functions that go wild like cos(1/x) around x=0, or FP which is discontinuous at all integers, are always going to be a problem. This is why numerical integrators on calculators will never be a complete substitute for actual mathematical insight.

Re: Numerical Integration: HP, TI, etc.

*Message #7 Posted by **Gerson W. Barbosa** on 24 May 2011, 10:55 p.m.,*
in response to message #6 by Thomas Okken

WolframAlpha gets it right:

http://www.wolframalpha.com/input/?i=integrate+%5Bx+-+Floor%28x%29%5D+from+0+to+6.4

Re: Numerical Integration: HP, TI, etc.

*Message #8 Posted by **Thomas Klemm** on 26 May 2011, 7:59 p.m.,*
in response to message #6 by Thomas Okken

> Quote:
>
> All the clever quadrature algorithms assume that the function to be integrated is well-behaved.

Now consider the following polynomial of 6th degree:

```
f(x) = 44 (x-1) (5 x-27) (5 x-16) (8 x-49) (8 x-35) (40 x-81)/4671275427
     + 4 (x-1) (5 x-27) (5 x-16) (8 x-49) (8 x-35) (40 x-11)/701819181
     + 25 (49-8 x) (x-1) (5 x-27) (8 x-35) (40 x-81) (40 x-11)/3658919121
     + 4 (x-1) (5 x-27) (5 x-16) (8 x-49) (40 x-81) (40 x-11)/233939727
     + (49-8 x) (x-1) (5 x-16) (8 x-35) (40 x-81) (40 x-11)/159262983
     + 4 (x-1) (5 x-27) (5 x-16) (8 x-35) (40 x-81) (40 x-11)/4671275427
```

It was chosen to match exactly the FRAC function at the points mentioned by Kiyoshi Akima: {0.275, 1, 2.025, 3.2, 4.375, 5.4, 6.125}.

This polynomial is well behaved but still the programs that fail with FRAC will also fail with this function.

Cheers
Thomas

Here's a C++ program for those who'd like to verify:

```
#include <stdio.h>
#include <math.h>


double f(double x) {
    return
        44*(x-1)*(5*x-27)*(5*x-16)*(8*x-49)*(8*x-35)*(40*x-81)/4671275427LL
        +4*(x-1)*(5*x-27)*(5*x-16)*(8*x-49)*(8*x-35)*(40*x-11)/701819181LL
        +25*(49-8*x)*(x-1)*(5*x-27)*(8*x-35)*(40*x-81)*(40*x-11)/3658919121LL
        +4*(x-1)*(5*x-27)*(5*x-16)*(8*x-49)*(40*x-81)*(40*x-11)/233939727LL
        +(49-8*x)*(x-1)*(5*x-16)*(8*x-35)*(40*x-81)*(40*x-11)/159262983LL
        +4*(x-1)*(5*x-27)*(5*x-16)*(8*x-35)*(40*x-81)*(40*x-11)/4671275427LL
    ;
}


double x[] = {
    0.275, 1.0, 2.025, 3.2, 4.375, 5.4, 6.125
};


int main() {
    for (int i = 0; i < 7; i++) {
        printf("%d: x = %5.3f    frac(x) = %8.6f   f(x) = %8.6f\n", i, x[i], x[i] -
floor(x[i]), f(x[i]));
    }
}
```

It creates the following output:

```
0: x = 0.275    frac(x) = 0.275000   f(x) = 0.275000
1: x = 1.000    frac(x) = 0.000000   f(x) = 0.000000
2: x = 2.025    frac(x) = 0.025000   f(x) = 0.025000
3: x = 3.200    frac(x) = 0.200000   f(x) = 0.200000
4: x = 4.375    frac(x) = 0.375000   f(x) = 0.375000
5: x = 5.400    frac(x) = 0.400000   f(x) = 0.400000
6: x = 6.125    frac(x) = 0.125000   f(x) = 0.125000
```

Re: Numerical Integration: HP, TI, etc.

*Message #9 Posted by **Paul Dale** on 26 May 2011, 9:45 p.m.,*
in response to message #8 by Thomas Klemm

Why would all estimations fail on this polynomial?

Gauss/Kronrod quadratures provide some guarantees about correctness when integrating polynomials. I believe Gaussian quadratures of order n are exact for polynomials of degree 2n-1 or less (I might be out by +/- 1 on the degree, it has been a while). Kronrod quadratures extend the Gauss quadrature by using the Gauss points and additional points that provide two estimates of the integral, They do, however, lose something on the degree of polynomial they handle exactly when compared to a Gaussian quadrature with the same number of points (the degree change here has slipped my mind for the moment).

- Pauli

Re: Numerical Integration: HP, TI, etc.

*Message #10 Posted by **Thomas Klemm** on 27 May 2011, 4:00 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> Why would all estimations fail on this polynomial?

I wrote: "programs that fail with FRAC will also fail with this function."

My assumption was that they fail with FRAC for the same reason as explained in Message #22.

It's obvious that numeric integration algorithms may have problems with "functions that go wild" but this is not obvious in the case of the FRAC function.
You can always construct a polynomial for which a specific integration algorithm fails. What surprised me was that the algorithm used in HP calculators fails for such a simple function as FRAC.

Those who think the polynomial given above is too complicated may try to integrate x^2(x^2-47^2)(x^2-88^2)(x^2-117^2) from -128 to 128.

My HP48 gives 0 as a result whereas WolframAlpha returns 2.72663×10^{16}.

Cheers
Thomas

Edited: 27 May 2011, 4:19 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #11 Posted by **Paul Dale** on 27 May 2011, 4:20 a.m.,*
in response to message #10 by Thomas Klemm

The 34s gets $2.72663118082 \times 10^{16}$.

This isn't surprising given that the algorithm used should be exact for this polynomial. However, it fails badly for FRAC.

Pauli

Edited: 27 May 2011, 4:21 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #12 Posted by **Kiyoshi Akima** on 27 May 2011, 12:45 p.m.,*
in response to message #10 by Thomas Klemm

> Quote:
>
> What surprised me was that the algorithm used in HP calculators fails for such a simple function as FRAC.

It's also a matter of the limits. The built-in integrator works perfectly well integrating FRAC from 0 to 1, for example. Or from 0 to 3. It has a little more difficulty with integrating from 0 to 2. Also note that it does come up with a more-or-less correct answer if the upper limit is changed from 6.4 to 5.4 .

Re: Numerical Integration: HP, TI, etc.

*Message #13 Posted by **Chuck** on 25 May 2011, 12:24 a.m.,*
in response to message #5 by Kiyoshi Akima

Cool. They also fail spectacularly slowly. I played around with the limits a bit. Lower=0 and upper=2 on the HP42 was integrating for about an hour (forgot it was on and let it sit unattended). I ended up hitting EXIT so as to not run out of batteries. (accuracy was set at 0.00001)

Re: Numerical Integration: HP, TI, etc.

*Message #14 Posted by **Valentin Albillo** on 25 May 2011, 7:06 a.m.,*
in response to message #5 by Kiyoshi Akima

> Quote:
>
> While you're at it, try integrating FRAC(x) (the fractional portion of x, sometimes called FRAC,

sometimes called FP, depending on the calculator) from 0.0 to 6.4 . All HP calculators fail spectacularly on this simple function, but at least they do it quickly :-(

The HP71 does indeed fail (and quickly at that):

```
>INTEGRAL(0,6.4,0,FP(IVAR))

   1.28
```

but just halving the interval gives a decently correct result:

```
>INTEGRAL(0,3.2,0,FP(IVAR))+INTEGRAL(3.2,6.4,0,FP(IVAR))

   3.08006142853
```

My own experimental integration program succeeds as well at minimum settings:

```
>200 DEF FNF(X)=FP(X)
>RUN
   X1,X2,Err,# Points: 0,6.4,1E-10,2

       32  3.08  .16
```

which is the exact result, not a 5-digit approximation like the one obtained with the halving trick above.

Best regards from V.

Re: Numerical Integration: HP, TI, etc.

*Message #15 Posted by **Crawl** on 26 May 2011, 1:30 p.m.,*
in response to message #14 by Valentin Albillo

Boy, even that halving trick doesn't work for the HP50g. Maybe it *eventually* gives the right answer, but after it ran for several minutes I just aborted the evaluation.

The TI89 still gives exact answers for the halved intervals, and fairly quickly.

Re: Numerical Integration: HP, TI, etc.

*Message #16 Posted by **Tim Wessman** on 25 May 2011, 2:24 p.m.,*
in response to message #5 by Kiyoshi Akima

>All HP calculators fail spectacularly

Hmm, the one I am using doesn't. Returns 3.08 as expected. . . ;-)

TW

Re: Numerical Integration: HP, TI, etc.

*Message #17 Posted by **Thomas Klemm** on 26 May 2011, 3:45 p.m.,*
in response to message #16 by Tim Wessman

Now I'm curious. Which calculator are you using?

Cheers
Thomas

Re: Numerical Integration: HP, TI, etc.

*Message #18 Posted by **Pal G.** on 26 May 2011, 4:20 p.m.,*
in response to message #17 by Thomas Klemm

I was hoping Tim was using an HP 15c+, but the "nonpareil-15c" app, on OSX, result is 1.2800.

Re: Numerical Integration: HP, TI, etc.

*Message #19 Posted by **Tim Wessman** on 26 May 2011, 5:15 p.m.,*
in response to message #17 by Thomas Klemm

'Tis a secret. :-)

TW

Re: Numerical Integration: HP, TI, etc.

*Message #20 Posted by **gene wright** on 26 May 2011, 5:40 p.m.,*
in response to message #19 by Tim Wessman

He's using the 30b with a 64 point Gaussian Quad program.

Re: Numerical Integration: HP, TI, etc.

*Message #21 Posted by **Pal G.** on 26 May 2011, 7:36 p.m.,*
in response to message #20 by gene wright

In the spirit of this thread, I hope Tim is bragging about an HP scientific that accurately integrates Kiyoshi Akima's challenge out of the box. That is, using HP Integrate; no programming required.

Otherwise he could be using a WP34s!

Re: Numerical Integration: HP, TI, etc.

*Message #22 Posted by **Paul Dale** on 26 May 2011, 9:06 p.m.,*
in response to message #21 by Pal G.

> Quote:
>
> Otherwise he could be using a WP34s!

The 34s isn't that accurate. It is using an 10/21 point Gauss Kronrod method with no adaptive component.

If someone wants to write a better integration routine, we'd be very interested.

- Pauli

Re: Numerical Integration: HP, TI, etc.

*Message #23 Posted by **Crawl** on 26 May 2011, 10:51 a.m.,*
in response to message #5 by Kiyoshi Akima

Yeah, the HP50g gives 1.28 in much less than a second.

The TI89 gives the correct answer of 3.08, taking about 15 seconds.

It looks like what's happening with the HPs is that it first does a midpoint rectangle rule (FP(6.4/2) = FP(3.2) = 0.2. Then 0.2*6.4 = 1.28).

I'm not sure why it terminates there, though.

I'd guess if it wanted to add more points, it would go to three point normal Gaussian integration (so it could reuse the middle point). But if you do that, you get 3.057777777..., not the same answer, and in fact one that is much closer to the correct answer.

Re: Numerical Integration: HP, TI, etc.

*Message #24 Posted by **Kiyoshi Akima** on 26 May 2011, 2:33 p.m.,*
in response to message #23 by Crawl

The scheme used, as far as I can tell on every HP calculator that has a built-in integrator, is a modified Romberg with argument scaling designed to reduce problems with periodic functions. The Romberg terminates when three passes evaluate to the same value under the current display setting.

The first pass is a one-point midpoint rule, evaluated at 3.2, giving 1.28.

The second pass adds evaluations at 1.0 and 5.4, which also gives 1.28.

The third pass adds evaluations at 2.025, 4.375, .275, and 6.125, which also happens to come out as 1.28. Since these three results agree regardless of the display setting, the routine decides it must be correct and terminates.

I stumbled across this particular example quite by accident. But when the result came out this bad, I had to investigate.

Re: Numerical Integration: HP, TI, etc.

*Message #25 Posted by **Eddie W. Shore** on 26 May 2011, 9:37 p.m.,*
in response to message #23 by Crawl

```
I get
1.28 on the HP 50g almost instantly[br]
3.08 on the Casio Prizm fx-CG 10 almost instantly[br]
3.08 on the TI 84+ after a half of second
1.28 on the HP 35S almost instantly
3.08 on the nSpire CX almost instantly
And 3.1121563505 on SpaceTime iPod/iPad app
```

Edited: 26 May 2011, 9:46 p.m.

Re: Numerical Integration: HP, TI, etc.

*Message #26 Posted by **Oliver Unter Ecker** on 27 May 2011, 6:41 p.m.,*
in response to message #25 by Eddie W. Shore

ND1 (iPhone):

FP(x): **3.08** IERR: 1e-2 (compute time: 3.5s)

cos(1/(8-x)): **6.4916** IERR: 3e-4 (compute time: 3.7s)

That's ND1 v1.3.9 (the next update).

Does anyone have a pointer to a good test suite of functions for quality-testing numerical integration? (Or a set, willing to share?)

EDIT: Reflected change in software to only returning digits believed to be accurate.

Edited: 28 May 2011, 5:56 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #27 Posted by **Ángel Martin** on 25 May 2011, 9:47 a.m.,*
in response to message #1 by Chuck

I thought about giving a positive example where INTEG (nested with SOLVE, no less) *works* as advertized - albeit painfully slowly, that's for sure.

Here's a program to calculate the zeroes of the Bessel functions of integer order, J(n,x). Just input the order and wait for the calculated values to appear. Hitting R/S again will continue the search in ascending order.

Using V41 in TURBO mode is highly recommended :-)

Cheers, ÁM.

```
1       LBL "ZJYX"
2       RAD
3       N=?
4       PROMPT
5       STO 00
6       1
7       LBL 00
8       3
9       +
10      "JYX"
11      SOLVE
12      STOP
13      GTO 00
14      RTN
15      LBL "JYX"
16      RAD
17      STO 01
18      "*JN"
19      0
20      PI
21      INTEG
22      PI
23       /
24      RTN
25      LBL "*JN"
26      RCL 00
27      *
28      X<>y
29      SIN
30      RCL 01
31      *
32      -
33      COS
34      END
```

PS. use this link to check the results:

http://mathworld.wolfram.com/BesselFunctionZeros.html

Edited: 25 May 2011, 10:19 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #28 Posted by **Oliver Unter Ecker** on 28 May 2011, 5:47 a.m.,*
in response to message #1 by Chuck

Re your original question about the TI and Mathematica results for cos(1/(8-x)).

You're saying "while Mathematica gives 6.4916765549 (claiming to use Guass-Kronrod)".

Can you tell us exactly how you tested? Are you sure about it using Gauss-Kronrod?

I spent some time in keisan which permits playing with a number of integration schemes, incl. Gauss-Kronrod. keisan num integration

I can confirm that Gauss-Kronrod (for n=15, 41, 71), does *not* return good results, just as you found in Mathematica. (Using some *other* kind of testing, I assume.)

Interestingly, the result for n=63 does not match the one you got in Mathematica. At 6.46.. it's a little better.

```
n=15
Gauss-Legendre  7       6.876098950292528094576
Gauss-Kronrod   15      6.574616683680514255335
accuracy        -       7


n=41
Gauss-Legendre  20      6.57836956143155286915
Gauss-Kronrod   41      6.566852251450387088799
accuracy        -       6.6
```

```
n=63 (slow)
Gauss-Legendre  31      6.46414119548917882461
Gauss-Kronrod   63      6.46066504369567408219 7
accuracy        -       6.46


n=71 (slow)
Gauss-Legendre  35      6.392977564788352852733
Gauss-Kronrod   71      6.479392744161763499238
accuracy        -       6.5
```

I'm unable to obtain a result good for two decimal places using *any* of the integration methods and ranges for n supported by keisan, even when the server is busy for 15s or so!

Instead, I'm getting frequent input errors with some methods (=function not accepted) and compute errors for "high" values of n.

Using a different implementation, I know that a 2K Gauss-Legendre integration returns 6.4902... which is still worse than your TI result.

WolframAlpha returns a result good to 5 decimal places. Assuming the keisan results are correct, and Gauss-Kronrod does not return a good result for this function using "typical" values of n, I suppose it either
- uses much higher values for n
- or, uses a different integration scheme for this function
- or, quite simply (for Mathematica), integrates symbolically and evaluates!

(ND1's result, which is accurate to 4 decimal places, is obtained via double exponential integration with a computational expense roughly equivalent to a 512-point Gauss integration.)

Edited: 28 May 2011, 6:01 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #29 Posted by **Gerson W. Barbosa** on 28 May 2011, 11:07 a.m.,*
in response to message #28 by Oliver Unter Ecker

> Quote:
>
> WolframAlpha returns a result good to 5 decimal places...
>
> ... I suppose it either
>
> - uses much higher values for n
>
> - or, uses a different integration scheme for this function
>
> - or, quite simply (for Mathematica), integrates symbolically and evaluates!

Most likely the latter, as we can verify by submitting "Integrate Cos[1/(8-x)]dx, from 0 to 8" to WolframAlpha:

http://www.wolframalpha.com/input/?i=Integrate++Cos%5B1%2F%288-x%29%5Ddx%2C+from+0+to+8

The closed form solution is:

```
8*cos(1/8) - pi/2 + Si(1/8)
```

Of course Si(1/8) requires a numerical method, but Si(x) is a well-behaved function. By using this result, we can get nine correct digits on the HP-15C:

```
01- f LBL A
02-   SIN
03-   x<>y
04-   /
05- g RTN
```

That's the program used to integrate Si(x) or sin(x)/x in the HP-15C manual.

```
keystrokes              display


f FIX 9 g RAD 0         0
ENTER 8 1/x             0.125000000
Integrate A             0.124891544         (after 57 seconds)
8 1/x COS 8 * +         8.062472882
pi 2 / -                6.491676555
```

The WolframAlpha result, when asking once for "More digits" is:

```
6.491676554944408058430579466432314289173766677622807687289708221434167607237729760058869965621893294
```

Now, changing the upper limit a bit and multiplying the integral by 100 for a weird result :-)

```
Integrate  100 Cos[1/(8-x)]dx, from 0 to 100*(1/3+Exp[-pi])^2/W[100*(1/3+Exp[-pi])^2]
```

Edited: 28 May 2011, 11:17 a.m.

Re: Numerical Integration: HP, TI, etc.

*Message #30 Posted by **Valentin Albillo** on 28 May 2011, 10:23 p.m.,*
in response to message #29 by Gerson W. Barbosa

> Quote:
>
> Now, changing the upper limit a bit and multiplying the integral by 100 for a weird result :-)
>
> ```
> Integrate  100 Cos[1/(8-x)]dx, from 0 to 100*(1/3+Exp[-pi])^2/W[100*(1/3+Exp[-pi])^2]
> ```

Let's see ...

```
1   DEF FNW(X)=FNROOT(0,10,FVAR*EXP(FVAR)-X)
2   N=100*(1/3+EXP(-PI))^2 @ DISP INTEGRAL(0,N/FNW(N),0,100*COS(1/(8-IVAR)))


>RUN
     665.999991757
```

... so I guess your *"weird result"* was intended to be **666**.

As for the original troublesome integral, this keyboard statement ...

```
INTEGRAL(0,7.99,0,COS(1/(8-IVAR)))+INTEGRAL(7.99,8,0,COS(1/(8-IVAR)))


   6.4916773758
```

... gives the result correct to **7** digits.

Best regards from V.

Edited: 28 May 2011, 10:36 p.m.

Re: Numerical Integration: HP, TI, etc.

*Message #31 Posted by **Gerson W. Barbosa** on 28 May 2011, 10:51 p.m.,*
in response to message #30 by Valentin Albillo

> Quote:
>
> ```
> >RUN
>      665.999991757
> ```

Emu71 does it instantly. I had to try it on the real thing: only 35 seconds! The HP-71B with the MATH ROM never stops amazing me!

Best regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Unidynamics

*Message #1 Posted by **Howard Owen** on 23 May 2011, 3:05 p.m.*

I was searching for calculator resources just now and came across The HP Memory Project. I'm certain that site must be familiar to many of you, but it was new to me. I noticed that they have "new" sections devoted to desktop and pocket calculators. I've only read the beginning section on the HP 35, but the pocket calculator page promises to be a detailed and interesting walk through the history of HP's pocket calculators from the HP-35 to the HP-41C.

Something that really caught my eye is an excerpt from INSIDE HP: A narrative history of Hewlett-Packard from 1939-1990 (PDF link) written by John Minck. Mr Minck was a technical marketing exec at the HPA division. He describes the calculator project that an HP customer called Unidynamics had underway, but then abandoned. Mr Minck is the guy that subsequently passed the information on to HP labs. This then led HP labs to create a design using HP ICs that became the HP-35.

Apologies if this is already known to most of you. It might be worth a re-read, even so. :)

Regards,
Howard

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CAB 41

*Message #1 Posted by **J . Bauscher** on 23 May 2011, 5:18 a.m.*

Who is selling a Schenck CAB 41 module for use for HP 41 CV to me??

Re: CAB 41

*Message #2 Posted by **J . Bauscher** on 23 May 2011, 5:37 a.m.,*
in response to message #1 by J . Bauscher

> Quote:
>
> Who is selling a Schenck CAB 41 module for use for HP 41 CV to me??

Explanation: the program stops and is showing "ALPHA DATA" after entering the 0 or 1 (Balancing weight remainig "YES" or "NO").

Regards

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp 34s: DSE vs. DSZ (poll)

*Message #1 Posted by **Walter B** on 23 May 2011, 12:58 a.m.*

Hi all,

Your opinion is requested once more:
Bottom right on the wp 34s, on the '+' key, we've got DSE as f-shifted function (the traditional Decrement and Skip if Equal). Shall this be replaced by DSZ (Decrement and Skip if Zero as on the 16c)? ISG will stay there g-shifted anyway.

Your votes, please :-)

Walter

Re: wp 34s: DSE vs. DSZ (poll)

*Message #2 Posted by **Paul Dale** on 23 May 2011, 1:02 a.m.,*
in response to message #1 by Walter B

My vote is for DSZ. I use this a lot more than I use DSE.

On the other hand, I use ISG more than ISZ. Weird huh?

- Pauli

Re: wp 34s: DSE vs. DSZ (poll)

*Message #3 Posted by **Walter B** on 23 May 2011, 1:19 a.m.,*
in response to message #1 by Walter B

For symmetry reasons, I'd like DSE staying there. OTOH I acknowledge DSZ is easier to use due to its predefined decrement and final. Nevertheless, DSE is my (slight) favourite.

Walter

Re: wp 34s: DSE vs. DSZ (poll)

*Message #4 Posted by **Angel Martin** on 23 May 2011, 1:50 a.m.,*
in response to message #3 by Walter B

Considering that DSZ was on the 67 and DSE made its way on the 41, I'd say DSE added flexibility to the mix - despite the slight inconvenience of having to define the lower limit.

I don't suppose you can have both? If I had to chose, I'd go for DSE.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #5 Posted by **Paul Dale** on 23 May 2011, 2:09 a.m.,*
in response to message #4 by Angel Martin

We have both commands and that isn't going to change.

What we're trying to decide is which should be on the keyboard and readily accessible and which goes into the program catalogue and be slightly less accessible.

- Pauli

Re: wp 34s: DSE vs. DSZ (poll)

*Message #6 Posted by **Marcus von Cube, Germany** on 23 May 2011, 2:09 a.m.,*
in response to message #4 by Angel Martin

They're both available, one on the keyboard, the other in a catalogue. The question is which one to put where for convenience. Not a big deal, really.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 23 May 2011, 9:28 a.m.,*
in response to message #4 by Angel Martin

As far as I recall, if you use an integer no larger than 99999 as the starting value, DSE and DSZ will behave exactly the same. The final value would be 0, and the step, by default is 1 (or -1 in this case). So no special initialization will be needed for DSE in most cases.

I would consider a change for ISG, since the initial value can have up to 5 digits and the final value may only have 3; which is not very convenient for an incrementing operation. But backwards compatibility and symmetry with DSE make it better to keep it the way it has been for the last 30 years.

So my preference is to keep ISG and DSE in the traditional way. For the keyboard, my priority is ISG, then DSE and, last, DSZ.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #8 Posted by **M. Joury** on 23 May 2011, 12:51 p.m.,*
in response to message #7 by Andrés C. Rodríguez (Argentina)

I was going to say: Given that DSE with no parameters is (from the programmers point of view and as noted earlier) the same as DSZ so my choice would be to go with DSE on the keyboard.

However, on second thought, I suspect that internally DSZ is more efficient (?) and 9/10 time (maybe 99/100) when I use DSE I default it to the DSZ equivalent. I can always go looking for DSE when I really need it but as a keyboard default (and only if DSZ is more efficient) I would go with DSZ.

BTW, I am going to assume that there is an ISZ function to match DSZ? I guess I could go look couldn't I but I don't currently have the emulator or manual handy.

Cheers

Re: wp 34s: DSE vs. DSZ (poll)

*Message #9 Posted by **Gerson W. Barbosa** on 23 May 2011, 3:16 p.m.,*
in response to message #8 by M. Joury

> Quote:
>
> BTW, I am going to assume that there is an ISZ function to match DSZ? I guess I could go look couldn't I but I don't currently have the emulator or manual handy.

From the manual:

"ISZ ... Increments ***r*** by one, skipping next program line if then |*r*| <1."

Re: wp 34s: DSE vs. DSZ (poll)

*Message #10 Posted by **Walter B** on 23 May 2011, 4:07 p.m.,*
in response to message #9 by Gerson W. Barbosa

Muito obrigado, Gerson :-)

Re: wp 34s: DSE vs. DSZ (poll)

*Message #11 Posted by **Gerson W. Barbosa** on 23 May 2011, 4:47 p.m.,*
in response to message #10 by Walter B

Gern geschehen! :-)

Re: wp 34s: DSE vs. DSZ (poll)

*Message #12 Posted by **Paul Dale** on 23 May 2011, 5:49 p.m.,*
in response to message #8 by M. Joury

> Quote:
>
> However, on second thought, I suspect that internally DSZ is more efficient (?) and 9/10 time (maybe 99/100) when I use DSE I default it to the DSZ equivalent.

Correct, DSZ is more efficient than DSE. Several multiplies, integer and fractional parts more efficient since the finishing value and increment don't need to be extract every time.

DSZ also behaves differently when the value has a fractional component which can sometime be useful. Likewise, when the number is negative (which can be useful in integer mode).

- Pauli

Edited: 23 May 2011, 5:49 p.m.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #13 Posted by **Eddie W. Shore** on 23 May 2011, 10:36 p.m.,*
in response to message #1 by Walter B

DSE. I like the flexibility of having an ending term.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #14 Posted by **M. Joury** on 23 May 2011, 11:31 p.m.,*
in response to message #13 by Eddie W. Shore

Just making sure that we are not speaking apples and oranges. The choice is not between the functionality of DSZ vs. DSE (as noted elsewhere in this thread both are available as are ISZ and ISG -- thanks Gerson!). The question is which should appear on the keyboard. So, just to confirm, are you saying that you want DSE on the keyboard due to the availability of an ending term?

Cheers

MJ

Re: wp 34s: DSE vs. DSZ (poll)

*Message #15 Posted by **Eddie W. Shore** on 24 May 2011, 12:23 a.m.,*
in response to message #14 by M. Joury

Yes. I'll confirm my choice.

Re: wp 34s: DSE vs. DSZ (poll)

*Message #16 Posted by **Walter B** on 24 May 2011, 12:26 p.m.,*
in response to message #15 by Eddie W. Shore

So we have 4 votes for DSE and 2 for DSZ on the keyboard. As mentioned, DSE, DSZ, ISG, and ISZ are all featured in any case, two in P.FCN and two on the keyboard for direct access.

Any more votes? I'll close the polling station 24h after this post or the last vote, whatever comes last :-)

Walter

Re: wp 34s: DSE vs. DSZ (poll)

*Message #17 Posted by **Dieter** on 24 May 2011, 3:51 p.m.,*
in response to message #16 by Walter B

I would like to add a slightly different thought.

In my humble opinion the whole keyboard layout should ensure fast and straightforward operation in most situations the user typically faces in his daily use. A programmable calculator that is first of all a calculator, and then a programmable device, should emphasize fast and easy manual calculations. Functions that are mostly used in programs, such as DSE, ISG, DSZ, ISZ are not required to be found on keys - for me it's perfectly fine if they are somewhere in a menu. I think their keyboard space can be used more efficiently for other everyday-functions that now are buried in the menues. For instance cube or cuberoot, or even better an x-th root function (does the 34s have one at all?).

The only exceptions - programing functions that should be directly accessible from the keyboard - are some basic functions for short everyday programs. I would say this applies to LBL, RTN, GTO, XEQ and a few others.

In other words: I would use the keyboard space used for DSE and ISG, as well as the two tests X=? and X<>? (which are the only ones that are not in the TEST menu) for something more useful, i.e. especially commonly used mathematical functions. Even a "Parts"-menu (like on other HP-calculators) for IP, FP, Trunc, Floor, Ceil etc., and maybe also RND and ABS might be fine if it makes room for other useful functions.

How about that ?-)

Dieter

Functions for PRG mode on the keyboard

*Message #18 Posted by **Walter B** on 24 May 2011, 5:50 p.m.,*
in response to message #17 by Dieter

Dieter,

> Quote:
>
> In my humble opinion the whole keyboard layout should ensure fast and straightforward operation in most situations the user typically faces in his daily use. A programmable calculator that is first of all a calculator, and then a programmable device, should emphasize fast and easy manual calculations. Functions that are mostly used in programs, such as DSE, ISG, DSZ, ISZ are not required to be found on keys - for me it's perfectly fine if they are somewhere in a menu. I think their keyboard space can be used more efficiently for other everyday-functions that now are buried in the menues. For instance cube or cuberoot, or even better an x-th root function (does the 34s have one at all?).

Personally, I didn't use a cuberoot for years. And for the 17th root of x, I'm able to press 17 1/x y^x, so why waste one label for the x-th root of y? You see, mileages may vary.

> Quote:
>
> The only exceptions - programing functions that should be directly accessible from the keyboard - are some basic functions for short everyday programs. I would say this applies to LBL, RTN, GTO, XEQ and a few others.

Agree on the first four, but which are the "few others"? After all, we don't have many of them on the keyboard ... 8-)

> Quote:
>
> I would use the keyboard space used for DSE and ISG, as well as the two tests X=? and X<>? (which are the only ones that are not in the TEST menu) ...

since they are the only ones working with real numbers as well as with complex

> Quote:
>
> ... for something more useful, i.e. especially commonly used mathematical functions. Even a "Parts"-menu (like on other HP-calculators) for IP, FP, Trunc, Floor, Ceil etc., and maybe also RND and ABS might be fine if it makes room for other useful functions.

Come on, which "everyday-functions" are you thinking of which aren't on the keyboard yet?

Walter

Re: Functions for PRG mode on the keyboard

*Message #19 Posted by **Dieter** on 25 May 2011, 5:28 p.m.,*
in response to message #18 by Walter B

Hallo, Walter -

> Quote:
>
> Personally, I didn't use a cuberoot for years. And for the 17th root of x, I'm able to press 17 1/x y^x, so why waste one label for the x-th root of y? You see, mileages may vary.

You bet they do. Personally, I haven't used complex numbers *at all*. And P<>R is essentially used here for nothing but the fast evaluation of sqrt(x^2 + y^2). ;-)

I think the XROOT function, which is available on most "serious" HP calucators, is a useful addition. Typing x ENTER 17 1/x y^x does not compute the 17th root of x, it exaluates x^0,0588235294118. I like functions that provide a result as precise as possible, and XROOT is one of them, ensuring the result is exact to all 16 digits within 0,5 ULP. It also saves two keys since virtually all mathematical functions are shifted on the 34s (not your fault - the 34s has only seven rows of keys instead of the usual eight).

The same goes for ln1+x and e^x-1. I often use these functions and I really miss them on the 35s. So I'm glad they are back on the 34s - deep down in a menu. By the way these are two candidates that can take the keyboard space of other functions that are mainly used in program mode.

> Quote:
>
> Come on, which "everyday-functions" are you thinking of which aren't on the keyboard yet?

I already mentioned ln1+x and e^x-1. I also miss H.MS+ for standard calculations with angles and time. Another example is the VIEW function, I heard its position on the keyboard (h STO) is now replaced by something else. Also the date functions (dDAYS and DATE+) are handy for everyday use.

For basic programming I like to have at least an input/output function like PROMPT or AVIEW. Personally, I also like the direct use of flags to set a mode or configuration for a program: for instance set a flag or clear it to tell the calculator you want fast results with mid-precision or you'll accept longer execution times for full precision results. That's why I like SF and CF on the keyboard (and flag announciators in the display).

Dieter

Re: Functions for PRG mode on the keyboard

*Message #20 Posted by **Ángel Martin** on 26 May 2011, 8:07 a.m.,*
in response to message #19 by Dieter

Reading your post I can't help but think about the 41 keyboard design - which offers much of what you mention. I think it deserved much more praise than was given, an

impeccable solution to balance the open-ended character of the system with the simplicity and elegance of a superb key layout - not intimidating at all, yet flexible and well thought-out...

Oh well, such was life back then.

Re: Functions for PRG mode on the keyboard

*Message #21 Posted by **Walter B** on 26 May 2011, 10:15 a.m.,*
in response to message #20 by Ángel Martin

Ángel & Dieter,

The HP41C got 39 keys, the WP34S 37. Besides the trivial equalities, where are the differences?

The 41C features five keys without a shifted operation: ON, USER, PRGM, ALPHA, and the golden prefix. The 34S sports only three, i.e. f, g, and h.

The 41C in ground state has Sigma+, 1/x, SQRT, SIN, COS, TAN, LN, LOG, and SST unshifted. For the 34S in ground state, Sigma+, 1/x, SQRT, y^x, SST, BST, and EXIT are primary. So the difference is SIN, COS, TAN, LN, LOG versus y^x, BST, and EXIT - 5 vs. 3 matching the different amount of keys. BST and EXIT are set for the 34S, y^x may be stored for later discussion.

Of the shifted operations on the 41C, what does the 34S not show on its surface? Most prominent, the 41C features ASN and only one CATALOG. It shows five tests on its keyboard including FS?, and two more flag commands, and BEEP. That's it. OTOH, the 34S gives you keyboard access to hyperbolics, fraction modes, integer modes and operations, statistics, etc. plus a structured system of catalogs. We do not feature anything like ASN beyond the four hotkeys so far, however, and it's improbable we will ever do in this project.

VIEW is not decided yet - it may well stay on the keyboard of the 34S.

Yes, we don't show SF, CF, FS? - just tell me three adjacent places on the 34S where to put them and what to kick out there and we'll check. And yes, we didn't put the other functions on the surface Dieter mentioned. Again, feel free to suggest where you want them and what shall be dropped instead. But we are in a project stage now where I can hardly accept such plain wishes like "put this or that on the keyboard" - you have to tell me what you want off in exchange.

XROOT is a function we may consider taking in X.FCN - if my fellow projecteers agree on it d:-)

Walter

Edited: 26 May 2011, 10:16 a.m.

Re: Functions for PRG mode on the keyboard

*Message #22 Posted by **Angel Martin** on 26 May 2011, 2:14 p.m.,*
in response to message #21 by Walter B

Hi Walter (Hallo Walter?), don't get me wrong I wasn't critizicing the WP34S

keyboard layout at all - just offered some comments on the 41 design, that's all.

For the record, what you guys are doing (have done) is nothing less than remarkable and wondrous - blowing new life on the otherwise lame (sorry, I'm biased) financial calculator and taking it where HP doesn't care/want/know how to go.

Kudos to that.

Tschuess, 'AM.

Re: Functions for PRG mode on the keyboard

*Message #23 Posted by **Walter B** on 26 May 2011, 4:36 p.m.,*
in response to message #22 by Angel Martin

Buenas tardes, Ángel,

muchas grazias per sua eulogia :-)

There's no need for apologies, I've just written a combined response to previous postings. BTW, I bow to many vintage calculators - some were revolutionary at their time, and I was lucky being of right age then to experience those years. Anyway, all this had been written many times already and is found in the archives. And you may have noticed I share your bias ;-)

Walter

Re: Functions for PRG mode on the keyboard

*Message #24 Posted by **M. Joury** on 26 May 2011, 2:41 p.m.,*
in response to message #21 by Walter B

Hi Walter,

I have been wondering about ASN. After all a lot of us have different requirements for our machines and the wonderful thing about the 41 was how easy it was to configure the keyboard layout to the users' requirements. So, is ASN terribly difficult to implement or is it an issue of available ROM space, or...?

Has there been a discussion of this previously? If so sorry for the repetition.

Cheers,

MJ

ASN

*Message #25 Posted by **Walter B** on 26 May 2011, 4:52 p.m.,*
in response to message #24 by M. Joury

IIRC, Pauli and me had an internal discussion about key assigning quite early in this project but I don't find any reference right now. I guess we

agreed on ASN being too difficult or complicated for our hobbyist's project. BTW, up to 2009 I used to place an ASSIGN or ASN in my (vapourware) layouts based on different calcs though not on the 20B.

Walter

Re: ASN

*Message #26 Posted by **Marcus von Cube, Germany** on 27 May 2011, 3:11 a.m.,*
in response to message #25 by Walter B

For the time being, we have some constraints:

Flash is running out, we need to improve on code size before we will add new functionality.

Battery backed RAM is limited to 2KB and is full now. We plan to relocate the user program space almost completely to flash in a future version so we gain SRAM for other purposes such as more (type tagged) registers and/or key assignments.

The present infrastructure on the device and the emulator do not provide the mechanics of detecting key down / key up. This is essential for the "NULL" operation of the 41C which makes perfect sense if you have an assignable keyboard.

Re: ASN

*Message #27 Posted by **Tim Wessman** on 27 May 2011, 10:16 a.m.,*
in response to message #26 by Marcus von Cube, Germany

There is a rather simple solution to this that I used in the 10bII+ for keys needing to be held down.

Put a short timer on your key that waits a short time, and then checks if it is still down. If so, it will loop again for up to 2 seconds or whatever your threshold is (slowing down in the loop to save batts). Check inside your longer loop every 150 ms or something to see if still down.

With proper tuning, it works great.

TW

Edited: 27 May 2011, 10:19 a.m.

Re: ASN

*Message #28 Posted by **Marcus von Cube, Germany** on 27 May 2011, 10:41 a.m.,*
in response to message #27 by Tim Wessman

Tim, I've put the keyboard scan into a timer interrupt,

generated by the LCD controller(*). Checking if a key goes down or up is just a matter of some additional binary logic in this routine. I don't allow deep sleep while a key is down, so 'up' can be reliably detected. The only problem is that I haven't implemented the 'up' logic yet. If I add it, 'key up' will simply change the sign of the queued character. IIRC, the emulator kernel has provisions for this, too, which just need to be activated.

(*) Why the LCD controller and not one of the timers? The former runs at the same speed always, while the latter depend on the current clock setting. I had a hard time implementing a reliable time base while switching CPU speed back and forth to conserve power. I was glad to find out that the LCD controller can do this for me much easier. The frequency is 51 Hz which can be tricked into a 100ms heart beat by some smart counting.

Re: Functions for PRG mode on the keyboard

*Message #29 Posted by **Paul Dale** on 26 May 2011, 5:32 p.m.,*
in response to message #24 by M. Joury

Yes, lots of discussion. Several discussions.

The final decider was space. RAM is very limited (2kb in total, or so we thought at the time, Marcus found us a very small amount more).

Keyboard assignments will require two bytes minimum per assignment. 37 keys with four shift planes is 296 bytes and this number is a minimum, there would be additional overheads as well. That isn't bothering to distinguish alpha mode, integer mode, complex as a prefix, -> as a prefix (all of we we do do).

Being able to define keys on a non-expandable calculator with a relatively easy to navigate catalogue system simply wasn't worth the space.

Bear the above in light of the "no dynamic memory allocation" rule I'd set myself early on. Then also consider the non-expandable nature unlike the 41c -- the function set is completely determined.

I'm sure some people think that losing a minimum of 15% of available RAM for an assignable keyboard is worthwhile. We didn't.

- Pauli

Re: Functions for PRG mode on the keyboard

*Message #30 Posted by **M. Joury** on 26 May 2011, 10:32 p.m.,*
in response to message #29 by Paul Dale

Fair enough. Sounds like it was carefully considered.

I do have one question though: Why did you impose a "no dynamic

memory allocation" rule on yourself? Allowing dynamic allocation would allow keyboard assignment ala the 41 where memory usage would not be fixed and could be determined by the needs of the user. Of course dynamic memory allocation does risk introducing bugs (is reliability the primary concern here) or is it something in the hardware, or something else entirely?

Cheers,

MJ

Re: Functions for PRG mode on the keyboard

*Message #31 Posted by **Paul Dale** on 26 May 2011, 11:52 p.m.,*
in response to message #30 by M. Joury

Reliability was my main concern. All other things were secondary at least in this project.

A calculator has to just work always. You also need to be able to implicitly trust the results.

- Pauli

Re: Functions for PRG mode on the keyboard

*Message #32 Posted by **gene wright** on 27 May 2011, 12:05 a.m.,*
in response to message #31 by Paul Dale

The ability to have programs in flash and to call them as subroutines as well as simply RUN them, greatly diminished my desire for dynamic memory allocation.

Good job, guys.

Why we don't take every suggestion (sorry ;-)

*Message #33 Posted by **Walter B** on 27 May 2011, 12:03 a.m.,*
in response to message #30 by M. Joury

AFAIK, it's simply a matter of complexity. Most people are happy with a mid-range scientific which works (almost so far, we're working on it) while only very few would appreciate a high end study failing to become a product. Remember it's a hobbyist's project and we started from scratch in 2008.

Personally, I didn't expect the size of the function set we've got now (the last manual of 2008 had 16 pages) - and during the last months, my main concern is the WP 34S may die in increasing complexity eventually. IMHO, OpenRPN (hi, old guys :-) died by that combined with the lack of project management. Pauli and me were contributing to OpenRPN, and we don't want to see the same result again. Hope that explains us being a bit reluctant sometimes ... :-/

Nevertheless, thanks for each and every suggestion :-)

Walter

Re: Why we don't take every suggestion (sorry ;-)

*Message #34 Posted by **Paul Dale** on 27 May 2011, 12:37 a.m.,*
in response to message #33 by Walter B

> Quote:
>
> Personally, I didn't expect the size of the function set we've got now.

And Walter prevented me from adding a myriad more most of very limited use functions :-)

- Pauli

Re: Why we don't take every suggestion (sorry ;-)

*Message #35 Posted by **Paul Dale** on 27 May 2011, 6:27 a.m.,*
in response to message #33 by Walter B

> Quote:
>
> and during the last months, my main concern is the WP 34S may die in increasing complexity eventually.

Which is partly the reason we've agreed to a feature freeze once the currently flash segment stuff is ironed out. The other reason is we're out of flash :-)

If anyone here wants to rework the integer routines in ARM assembly, there is some decent savings to be had. Checking for carry and overflow is tedious and large using straight C but relatively easy in assembler.

- Pauli

Re: Why we don't take every suggestion (sorry ;-)

*Message #36 Posted by **Paul Dale** on 27 May 2011, 8:07 a.m.,*
in response to message #33 by Walter B

To give people an idea of the amount of functionality we've squeezed in, there are:

```
        niladic commands 151   commands not taking
an argument (ALL/Rv)
        monadic commands 116   commands that take
one argument and return one result
        dyadic commands 37     commands taking two
arguments and returning one result
        triadic commands 5     commands taking
three arguments and returning a single result
        argument commands 110  commands that take
an immediate argument (STO/RCL)
        multiword commands 10  commands that handle
alpha labels
        special commands 43    others that didn't
fit nicely
```

That is a total of 472 distinct commands (plus a few extras mentioned below). Monadic and dyadic functions can often take complex and integer arguments -- these aren't counted separately here.

In all there are 22164 op-codes (only counting one for the commands that address multiple character alpha labels so in reality there are many many many more 167 million or so). Complex argument commands are counted separately to real argument commands here. However, integer commands that can also take real arguments are not.

This also doesn't include the ON + key combinations and some of the immediate action keys (SST, BST, EXIT and a few others).

- Pauli

Re: Functions for PRG mode on the keyboard

*Message #37 Posted by **Paul Dale** on 27 May 2011, 2:31 a.m.,*
in response to message #30 by M. Joury

Dynamic key assignments will definitely take up more memory per key -- you've got to store the key (6 bits), the shift plane (3 - 5 bites) as well as the function code (16 bits, although this can likely be reduced a little bit with a fair amount of effort).

- Pauli

Re: Functions for PRG mode on the keyboard

*Message #38 Posted by **Tim Wessman** on 27 May 2011, 10:17 a.m.,*
in response to message #29 by Paul Dale

Very small amount more (RAM)???

Interested to know about that.

TW

Re: Functions for PRG mode on the keyboard

*Message #39 Posted by **Marcus von Cube, Germany** on 27 May 2011, 10:43 a.m.,*

in response to message #38 by Tim Wessman

Tim, it's just 50 bytes in a well known area of the controller.

A hint: We don't need a blinking cursor. ;-)

Re: Functions for PRG mode on the keyboard

*Message #40 Posted by **Paul Dale** on 27 May 2011, 5:53 p.m.,*
in response to message #39 by Marcus von Cube, Germany

Come clean, the sources are available for Tim to inspect if he really wants. It is the LCD memory.

It stays active while the screen is showing so things which need to be kept between keystrokes but not over power cycles can be cached there and main RAM turned off. A very nice find which netted us a extra program steps. Also a bit fiddle to use without destroying the display integrity.

- Pauli

Edited: 27 May 2011, 5:54 p.m.

Re: Functions for PRG mode on the keyboard

*Message #41 Posted by **Paul Dale** on 27 May 2011, 6:02 a.m.,*
in response to message #21 by Walter B

> Quote:
>
> Yes, we don't show SF, CF, FS? - just tell me three adjacent places on the 34S where to put them and what to kick out there and we'll check.

We have far less need of these three on the keyboard than other devices. Our flags are for programming only. All mode changes in the device are done via dedicated commands. Again this was a design decision early on. The result is the user doesn't need to remember any magic numbers to set the device up.

Much as I like the 41 and 48 series calculators, their use of magically numbered flags for mode settings irks me -- more so for the 48 series that should have been able to use text (with later models providing a browser that did just this).

Then when I'm writing and keying in programs for the 41, I find I don't use these three all that often -- FS?C and FC? seem to pop up a lot. The 34s extends the available flag operations considerably BTW.

Anyway, I'll finish with a flag heavy program from the small 34s library. The sieve of Eratosthenes done without touching a single non-stack register -- everything is stored in the flags.

```
001: LBL B
002: 9
003: 9
```

```
004: SF->X
005: DSE X
006: BACK 02
007: CF 00
008: CF 01
009: 2
010: .
011: 0
012: 1
013: LBL 00
014: FC?->X
015: GTO 01
016: ENTER
017: IP
018: ENTER
019: STO+ Y
020: EEX
021: 5
022: /
023: +
024: .
025: 0
026: 9
027: 9
028: +
029: CF->X
030: ISG X
031: BACK 02
032: Rv
033: LBL 01
034: ISG X
035: GTO 00
036: RTN
```

Use the STATUS key to view the results. I've also not tried to shrink this one so I'm sure the code can be improved.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP9800e emulator

*Message #1 Posted by **Tim** on 22 May 2011, 8:43 p.m.*

Does anyone know how to run the HP9800e on source forge? I downloaded the file. It is written in java. How do you run the software?

Re: HP9800e emulator

*Message #2 Posted by **Eric Smith** on 22 May 2011, 9:19 p.m.,*
in response to message #1 by Tim

I'm using Linux, but I think this same process would work under Windows:

1. Make sure you have the Java Runtime Environment (JRE) or Java Development Kit (JDK) installed. If you don't already have one of these, get them here.
2. Open a terminal (commmand-line) window.
3. Make a directory for the emulator (e.g., using the "mkdir" command).
4. cd into the directory
5. unzip the binary distribution of the emulator
6. launch using the command "java -jar HP9800E.jar HP9830A" (or replace the HP9830A with the base name of any of the .cfg files, such as HP9810A, HP9820A, or HP9821A)

Re: HP9800e emulator

*Message #3 Posted by **Tim** on 22 May 2011, 11:52 p.m.,*
in response to message #2 by Eric Smith

Where can I find t he .jar file? I can only find the files written in java. They are the source files.

Re: HP9800e emulator

*Message #4 Posted by **Eric Smith** on 23 May 2011, 4:52 p.m.,*
in response to message #3 by Tim

Then you downloaded the source ZIP file instead of the binary ZIP file.

Re: HP9800e emulator

*Message #5 Posted by **Tim** on 23 May 2011, 5:51 p.m.,*
in response to message #4 by Eric Smith

I did that. How do I convert them to a jar file or do I have to. What is the next step?

Re: HP9800e emulator

*Message #6 Posted by **Eric Smith** on 24 May 2011, 1:12 a.m.,*

in response to message #5 by Tim

Well, if you had download the binary ZIP file rather than the source ZIP file, you wouldn't have to do anything.

If you really want to tough it out with the source ZIP file, you need to compile everything. It's not entirely obvious what the procedure is, so if I wanted to do it, I'd look at the jar file in the binary ZIP file to see how it is organized, compile the source files, and package them into a jar similar to the one in the source ZIP file. This seems tedious and error-prone, so I'm not going to try to do it myself unless I decide that I want to modify the source code.

Edited: 24 May 2011, 1:14 a.m.

Re: HP9800e emulator

*Message #7 Posted by **Achim (Germany)** on 31 May 2011, 4:30 p.m.,*
in response to message #5 by Tim

Tim,

if you download the binary zip you find a user manual inside which explains the usage of the emulator. Nevertheless the emulator can be quite easily compiled from the sources using eclipse.

BTW there is a new version 1.50 in preparation which will be released soon. One mayor feature is a hardcopy of printer and plotter output.

Achim

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Nspire CX available?

*Message #1 Posted by **David Ramsey** on 22 May 2011, 11:07 a.m.*

Well, not according to TI's web site, but Office Depot swears they're in stock and will have one on my doorstep by the 25th. We'll see, I suppose.

Re: Nspire CX available?

*Message #2 Posted by **Eddie W. Shore** on 22 May 2011, 12:17 p.m.,*
in response to message #1 by David Ramsey

I have not seen one in any stores near me. If I get one, I will only get the CAS version.

Re: Nspire CX available?

*Message #3 Posted by **Joerg Woerner** on 22 May 2011, 3:35 p.m.,*
in response to message #1 by David Ramsey

You'll find it probably on time on your doorstep.

TI released at least the new OS 3.0 just a few hours ago ;-))

Regards, Joerg

Re: Nspire CX available?

*Message #4 Posted by **Jesse Dodd** on 22 May 2011, 7:25 p.m.,*
in response to message #1 by David Ramsey

I just purchased one at the local Office Depot. If they have them in Grand Junction, CO. I imagine that they will have them anywhere.

Re: Nspire CX available?

*Message #5 Posted by **Eddie W. Shore** on 23 May 2011, 10:38 p.m.,*
in response to message #4 by Jesse Dodd

I saw it at the West Covina, CA store too (along with the 10bii+ :)) - just the numeric version. No sight of the CAS version.

Re: Nspire CX available?

*Message #6 Posted by **Eric Smith** on 24 May 2011, 1:21 a.m.,*
in response to message #1 by David Ramsey

Just got one from a local Office Depot today. The display is quite good. The most intriguing thing to me is how the cursor thing acts both as a directional pad with click buttons, and as a touch pad. I've only had a few

minutes to play with it. It seems that to use the touch pad you have to keep your finger on it until the cursor appears.

The first thing I did was select calculator mode and compute e to the i pi, which gave -1 as expected.

I liked that it defaulted to radians rather than degrees. I suppose some people will hate that, but at least it is trivial to change.

Apparently the Nspire OS 3.x has an undocumented Lua interpreter, which is more powerful than the crippled "BASIC" of the NSpire. Unfortunately it appears that there is no way to get powerful programming that actually integrates with the calculator features like you can with the HP 28/48/49/50.

Re: Nspire CX available?

*Message #7 Posted by **Eddie W. Shore** on 24 May 2011, 1:33 a.m.,*
in response to message #6 by Eric Smith

Thanks for the comments Eric. One Question: How is the alphabetic keyboard? My experience with the Touchpad was that the keys on the alphabetic keyboard was small and hard to press. For me, it got uncomfortable after typing notes for five minutes on the B&W Touchpad.

Edited: 24 May 2011, 1:35 a.m.

Re: Nspire CX available?

*Message #8 Posted by **Eric Smith** on 24 May 2011, 1:53 a.m.,*
in response to message #7 by Eddie W. Shore

I haven't used the non-CX Nspire with either the original clickpad (with the tiny alpha keys between the "normal" keys) or the touchpad (with the alpha keys grouped at the bottom). I imagine that the CX alpha keys at the bottom are probably pretty similar to the touchpad. Thus far I've only used them for entering the occasional variable name, and they are fine for that, but I definitely wouldn't want to write a novel with it.

Re: Nspire CX available?

*Message #9 Posted by **Eddie W. Shore** on 26 May 2011, 9:19 p.m.,*
in response to message #8 by Eric Smith

Compared to the B&W Touchpad, the keys on the CX are better to the touch. It does not hurt to type notes on it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Testing functionality of older HP calculators

*Message #1 Posted by **Pat Slattery** on 21 May 2011, 1:38 p.m.*

Hi everyone, I've got a few older HPs listed on ebay (a couple 45's, a 46, a 32s, and a 12c, username slattery52), and I'd like to be one hundred percent sure they're in full working order before they sell. If all the basic arithmetic functions work, can it be reasonably assumed that all the more advanced functions will work as well? Alternately, is there a list of tests for more advanced RPN functions somewhere?

Re: Testing functionality of older HP calculators

*Message #2 Posted by **Michael de Estrada** on 21 May 2011, 9:02 p.m.,*
in response to message #1 by Pat Slattery

The 12c and 32s have self tests. The 45, 46 are basically ok if all keys respond properly, e.g. 4 key displays 4, 1 shift e^x displays 10, etc. Enter all 8's to verify all LED segments and chs for mantissa and exponent. Also you can test the storage registers 1 thru 9 by storing and recalling a number.

Edited: 21 May 2011, 9:22 p.m.

Re: Testing functionality of older HP calculators

*Message #3 Posted by **Pat Slattery** on 25 May 2011, 9:18 p.m.,*
in response to message #2 by Michael de Estrada

Thanks for your help.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

matrix element operation

*Message #1 Posted by **Sok-khieng Chum Hun** on 21 May 2011, 11:58 a.m.*

Hi, is it possible to do matrix element operation on the hp48 or hp50g?

In exemple, in matlab, if A = [1 2 3] and B = [2 3 4]

A.*B gives [1*2 2*3 3*4] -> [2 6 12]

Or A./B gives [1/2 2/2 3/4] -> [.5 1 .75]

Or A.^B gives [1^1 2^3 3^4] -> [1 8 81]

Thank you :)

Re: matrix element operation

*Message #2 Posted by **Jose Gonzalez Divasson** on 21 May 2011, 2:32 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

In HP50g at least it exists the function HADAMARD, that multiplies 2 matrices term by term. Very useful for business purposes, but not for physics or mathematics.

I don't know how to divide, because 1/[matrix] is a defined operation - and different.

Re: matrix element operation

*Message #3 Posted by **Thomas Klemm** on 21 May 2011, 3:25 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

You could use lists instead of vectors:

```
1st example: A * B


4:  {1 2 3}
3:  {2 3 4}
2:  2
1:  \<< * \>>
DOLIST
```

(PRG -> LIST -> PROC -> DOLIS)

Cheers
Thomas

PS: I guess the next question will be, how to turn a vector into a list:

```
\<<
  OBJ\->
  OBJ\->
```

```
  DROP
  \->LIST
\>>
```

Re: matrix element operation

*Message #4 Posted by **Donald Ingram** on 21 May 2011, 3:33 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Enter the values as lists using { } or 1 2 3 3 ->LIST and you get the results you desire.

Re: matrix element operation

*Message #5 Posted by **Gilles Carpentier** on 21 May 2011, 5:36 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Hi,

On the 50G you can use the HADAMARD command for this type of matrices multiplication :

[1 2 3] [2 3 4] HADAMARD

-> [2 6 12]

To transform LIST <-> MATRICE, uses AXL

[1 2 3] AXL -> { 1 2 3 }

{ 1 2 3 } AXL -> [1 2 3]

[1 2 3] 'a' STO [2 3 4] 'b' STO

« a b HADAMARD

a AXL b AXL / AXL

a AXL b AXL ^ AXL

»

You can create news commands

« AXL SWAP AXL SWAP / AXL » 'MDiv' STO

« AXL SWAP AXL SWAP ^ AXL » 'MPuis' STO

There is no need of DOLIST in this case. If you use lists instead of matrices * / and ^ does the job

{ 1 2 3 } { 2 3 4 } * -> { 2 6 12 }

{ 1 2 3 } { 2 3 4 } / -> { 1/2 2/3 3/4 }

{ 1 2 3 } { 2 3 4 } ^ -> { 1 8 81 }

Symbolic are allowed

{ 1 2 3 } { 'A' 'B' 'C' } ^ -> { 1^A 2^B 3^C }

Edited: 21 May 2011, 5:59 p.m.

Re: matrix element operation

*Message #6 Posted by **Thomas Klemm** on 21 May 2011, 6:32 p.m.,*
in response to message #5 by Gilles Carpentier

> Quote:
>
> There is no need of DOLIST in this case.

Thanks for the hint. This works also with the 48G.

> Quote:
>
> Symbolic are allowed
>
> { 1 2 3 } { 'A' 'B' 'C' } ^ -> { 1^A 2^B 3^C }

I get the following with the 48G:

```
{ 1 2 3 } { 'A' 'B' 'C' } ^ -> { 1 '2^B' '3^C' }
```

Cheers
Thomas

Re: matrix element operation

*Message #7 Posted by **Gilles Carpentier** on 21 May 2011, 6:54 p.m.,*
in response to message #6 by Thomas Klemm

>I get the following with the 48G:

>{ 1 2 3 } { 'A' 'B' 'C' } ^ -> { 1 '2^B' '3^C' }

>Cheers >Thomas

Seems different on the 50

1 'A' ^ -> 1^A

EVAL -> 1

(I suppose that 'A' don't exists)

Re: matrix element operation

*Message #8 Posted by **Oliver Unter Ecker** on 22 May 2011, 6:00 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

Not regarding the devices you ask, but probably still helpful:

On ND1, an iOS app with a feature set that closely resembles a 50g without CAS but with other additions (incl. programmability in RPL+ and JavaScript), "lists" and "vectors" are unified, and [1 2 3] [2 3 4] * will return [2 6 12].

"+", "-", "1/x" and all single-valued operators and functions (such as "sin", "!", "loggamma", ...(a list of >100)) work on both real and symbolic vectors.

This also works with large vectors (of, say, 10^5 elements).

The DOLIST and DOSUBS techniques mentioned also work, and, as on the 48 and 50g, can be used on more than two vectors at once.

48, 50g, ND1 have other vector-processing type functionality, btw, sometimes hiding under unusual names. The common "fold" operation is known as STREAM, for example.

Re: matrix element operation

*Message #9 Posted by **C.Ret** on 22 May 2011, 4:25 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Hi,

I also use MatLab, but I own only an HP-28S. That why to get .* .+ ./ or any vectorialized operation on matrix or line/column vector on my HP28, I have to use a dedicated program:

Considering two matrix/vectors A and B of the same shape :

```
A B « * » EXE2 returns matrix/vector ‘A.*B’
A B « / » EXE2 returns matrix/vector ‘A./B’
A B « ^ » EXE2 returns matrix/vector ‘A.^B’
etc


where EXE2 is :
«  -> B prg
   «
     1                        @@  initialize i at first position
     DO
        DUP2 GET              @@  A i GET
        OVER B SWAP GET       @@  B i GET
        prg EVAL              @@  execute 'prg' for each i-element
        PUTI                  @@  store result
     UNTIL DUP 1 == END       @@  loop for each i-element
     DROP
    »
»
'EXE2' STO
```

This way also si possible on HP48/49/50 and you don’t have to worry about objet type list or array ! The only restriction is that the function « … » pick exactly two arguments in the stack and returns only one (exactly as * / ^ + - etc.) and a lot of dyadic functions or programs.

```
[ 1 2 3 ]   [ 10 20 30 ] « * »  EXE2 is  [10 40 90]


[ 1 2 3 ]   { 10 20 30 } « * »  EXE2 is  [10 40 90]


{ 1 2 3 }   { 10 20 30 } « * »  EXE2 is  {10 40 90}


[[ 1 2 3 ]] { 10 20 30 } « * »  EXE2 is  [[10 40 90]]


[[ 1 ]                                    [[ 10 ]
 [ 2 ]                                     [ 40 ]
 [ 3 ]]     [ 10 20 30 ] « * »  EXE2 is    [ 90 ]]



[ 1 2 3 ]   [[ 10 ]
```

```
             [ 20 ]
             [ 30 ]]     « * »  EXE2 is  [10 40 90]

      'A'   { 10 20 30 } « * »  EXE2 is  'A' but comptutation have change contents of
register 'A'
```

Edited: 22 May 2011, 4:48 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP15c for financial duties - I and II

*Message #1 Posted by **Jose Gonzalez Divasson** on 20 May 2011, 1:18 p.m.*

While a significant part of us are engineers, some (like me) have to make their living in other duties - in my case, financial manager in an industrial company.

As I flat-out refuse to "wear" a financial calculator, I equipped both my 42s and 15c with financial formulae - at least the ones I use more. It is not only about the software, but how you use it - and it may be different in your case (For example, in my multinational no IRR calculations beyond 10 years - this limits the number of registers to be used and shortens significatively the program shown in the Advanced Functions Handbook - allowing for more programs or free registers. It is also about grouping new programs with related keyboard functions)

Here are "instalments" I and II:

How I have configured my HP 15c for financial duties (I)

...same, same but (II)

The rest will come as I type them in EXCEL with the nice Luiz HP fonts.

(By the way - am I the only one "betraying" our engineering roots?)

Re: HP15c for financial duties - I and II

*Message #2 Posted by **Kiyoshi Akima** on 20 May 2011, 5:45 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

> Quote:
>
> (By the way - am I the only one "betraying" our engineering roots?)

I've been going the other way recently. With a math/engineering background, I've been using scientific calculators since acquiring my first HP-25 back in the seventies. Now that I've finally bought my first financial calculator, I've been programming the 30b to do things like Bessel functions and elliptic integrals (and the Towers of Hanoi).

Re: HP15c for financial duties - I and II

*Message #3 Posted by **Cristian Arezzini** on 20 May 2011, 6:22 p.m.,*
in response to message #2 by Kiyoshi Akima

Kiyoshi, I too have always had/used scientific, and now I'm playing with the 30b which I rather like... and I like Hanoi too! Could you share the Hanoi program you're using? I'm curious to see how you did it! :)

Cristian

Re: HP15c for financial duties - I and II

*Message #4 Posted by **Kiyoshi Akima** on 20 May 2011, 7:43 p.m.,*
in response to message #3 by Cristian Arezzini

I've got the Towers of Hanoi for a bunch of different HP handhelds here.

Re: HP15c for financial duties - I and II

*Message #5 Posted by **Cristian Arezzini** on 21 May 2011, 12:06 p.m.,*
in response to message #4 by Kiyoshi Akima

Thank you! :)

Re: HP15c for financial duties - I and II

*Message #6 Posted by **exschr** on 20 May 2011, 6:50 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Thanks for sharing this, I like especially to equipp my 15C and I love the GSB 7 with the %T, very neat!

Thanks
Roger

Re: HP15c for financial duties - I and II

*Message #7 Posted by **Jose Gonzalez Divasson** on 20 May 2011, 7:04 p.m.,*
in response to message #6 by exschr

If the IRR looks too slow, just wait a little while...pun intended.

Re: HP15c for financial duties - I and II

*Message #8 Posted by **Eddie W. Shore** on 22 May 2011, 10:04 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Clever placement of the %T function, Jose.

Re: HP15c for financial duties - I and II

*Message #9 Posted by **bill platt** on 22 May 2011, 12:43 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

As a hobby and for personal curiosity and programming enjoyment, it can be fun to do this sort of thing. But for me, for real-world problems, I don't bother. I just take a machine that does what I need. If I am carrying a laptop anyway, that solves it. Otherwise the 27s does everything. So does the 408/49/50 series. If I am at home, I grab the machine that suits the situation best.

Re: HP15c for financial duties - I and II

*Message #10 Posted by **Jose Gonzalez Divasson** on 22 May 2011, 2:19 p.m.,*
in response to message #9 by bill platt

Bill,

I have all of them -and a laptop, of course.

The laptop involves switching it on, open Excel or Mathematica, and find your way. You need a table and both hands. Say 1 min for setting it up - best case (My company does not allow Mac!)

The 48/50 family is excellent, but too big to carry them around. I take it for trips to play with it at the hotel. No way you can memorise the whole list of functions and menus.

The only real alternative for a calculator you can carry everywhere (in my case in the right pocket of my jacket) is the 42s - and that is a little too big). There is some stiff competition there - and even myself have not made up my mind 100%. You change the easy access to fucntions in the 15c for a much more powerful set of functions, and two lines. I take the 42s with me on 25% of the trips I make, but there will be no replacement for it - I cannot afford to harm it.

Even the 17bII+ come with a case that is a little too think to be carried in that pocket (the original one could)

Of all these, the 15c is the one that occupies less real estate - important in an European economy flight.

Re: HP15c for financial duties - I and II

*Message #11 Posted by **exschr** on 22 May 2011, 3:13 p.m.,*
in response to message #10 by Jose Gonzalez Divasson

> Quote:
>
> The laptop involves switching it on, open Excel or Mathematica, and find your way. You need a table and both hands. Say 1 min for setting it up ...
> ...
> I take the 42s with me on 25% of the trips I make, but there will be no replacement for it - I cannot afford to harm it. ...

I feel the same, it's just too much hassle to start a laptop.
And the 15c is just such a nice toy (I mean tool) to play with that it feels always right to have it with me.
But that's personal preference and "your mileage may vary"
Roger

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Before you ask - new feature in wp34s

*Message #1 Posted by **Marcus von Cube, Germany** on 20 May 2011, 10:39 a.m.*

Jeff has noticed that the flash file for the most recent release of wp34s is shorter than before.

Before you ask more questions, here is the file doc/flash.txt which explains it.

```
Commands to handle the flash memory on the real calculator
==========================================================


Hold down ON (EXIT) and press one of the following keys:


STO - Backup:  This creates a copy of the RAM in flash memory.


RCL - Restore: This restores a previously created backup.


S - SAM-BA:    Clears the GPNVM1 bit and turns the calculator off.
               S is on the '6' key.
               ATTENTION: You can now only boot into SAM-BA mode!
               Without the SAM-BA software and the cable, you're lost!


These ON key combinations have to be pressed twice in a row without
releasing the ON key to be executed.


Do an ON+STO before you want to flash a new release! After flashing,
your backup should still be in place if you didn't press the ERASE
button on the cable but used ON+S instead to get into SAM-BA boot mode.


There are additional commands in the program functions catalogue:


PSTO n   Store program in region n. n is 0 or 1. A region is a
         block of flash memory that can hold a copy of the
         user program area. In a later version, alphanumeric
         labels in flash can be called with XEQ. This allows
         creation of libraries.


PRCL n   Restore region n to the program area where data can be edited.


P<> n    Swap the current program with the contents of region n.


How to transfer data between the calculator and your PC
=======================================================


The whole RAM is saved to address 0x11F800 (relative address 0x1F800)
with ON+STO. This can be copied to your PC or loaded from it.


1. From calculator to PC


   a) Do an ON+STO, then ON+S, then RESET with the cable connected.
   b) Press ON once and start SAM-BA on the PC. It should connect.
```

```
   c) Set the start address to 0x11F800 and the size to 0x800
   d) Enter a file name in the receive field.
   e) You can now receive the file with SAM-BA.
   f) Move it under the name wp34s.dat into your emulator directory.
   g) The emulator should accept the file. Your registers and programs
      will than be in place.
   h) To get your calculator back in business, start the "Boot from flash"
      script in SAM-BA, the same procedure you should know from flashing
      the firmware.
   i) Power the calculator up and perform a restore with ON+RCL. The
      latest version does the restore automatically when RAM is not
      valid.


2. From PC to calculator


   a) Perform steps (a) to (c) from above. No need to set the size.
   b) Point SAM-BA to your wp34s.dat file from the emulator.
   c) You can now send the short file with SAM-BA.
   d) Perform steps (h) and (i) from above.


The program regions accessible with the commands PSTO, PRCL and P<> are
stored at addresses 0x11F000 and 0x11F400 respectively and have a length
of 0x400 (1 KB) each. The emulator creates files wp32s-#.dat, # being the
region number. You can handle these files the same way as the complete
state file from the emulator. The regions have identical formatting and
can be swapped by copying their data to the "wrong" place. The backup
area is formatted differently.


If you want to get your emulator data into the calculator in one go,
do the following in Windows:


C:\wp34s>copy /b calc.bin+wp34s-0.dat+wp34s-1.dat+wp34s.dat calc-full.bin


The resulting file can be programmed into flash and all data is readily
available.
```

Re: Before you ask - new feature in wp34s

*Message #2 Posted by **Eric Rechlin** on 20 May 2011, 11:13 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Quote:

```
S - SAM-BA:    Clears the GPNVM1 bit and turns the calculator off.
               S is on the '6' key.
               ATTENTION: You can now only boot into SAM-BA mode!
               Without the SAM-BA software and the cable, you're lost!


These ON key combinations have to be pressed twice in a row without
releasing the ON key to be executed.
```

A set of keystrokes that renders a calculator in a state that requires SAM-BA and a cable to repair does not seem like a good idea to me. Is it really that important, when you can do the same thing with the cable?

Edited: 20 May 2011, 11:14 a.m.

Re: Before you ask - new feature in wp34s

*Message #3 Posted by **Marcus von Cube, Germany** on 20 May 2011, 11:21 a.m.,*
in response to message #2 by Eric Rechlin

It's not the same thing. On the cable you can press ERASE which will flatten you flash contents. ON+S will preserve the flash data and just reset the boot bit.

Re: Before you ask - new feature in wp34s

*Message #4 Posted by **gene wright** on 20 May 2011, 11:55 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Then how about a key sequence that will put the boot bit back?

Otherwise, as Eric says, wouldn't the calculator still be unusable if you did not have a cable?

Re: Before you ask - new feature in wp34s

*Message #5 Posted by **Eric Rechlin** on 20 May 2011, 11:55 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> It's not the same thing. On the cable you can press ERASE which will flatten you flash contents. ON+S will preserve the flash data and just reset the boot bit.

I think I understand now, but it still seems very dangerous. Is there no way to get this feature without this side effect? I can see this being a support nightmare for people who had the calculator programmed by somebody else (that is, they don't have a cable and someone else did the 34S conversion). Remember, if something can go wrong, it will go wrong.

If I were you I would require a special bit sequence to be sent over the serial cable before it resets the boot bit. If you remember the HP 49G mechanism for flashing, it took this same approach -- it wouldn't let you into the menu for wiping flash banks until it received the right series of bits over the serial cable.

Eric

Re: Before you ask - new feature in wp34s

*Message #6 Posted by **Marcus von Cube, Germany** on 20 May 2011, 12:24 p.m.,*
in response to message #5 by Eric Rechlin

> Quote:
>
> If I were you I would require a special bit sequence to be sent over the serial cable before it resets the boot bit. If you remember the HP 49G mechanism for flashing, it took this same approach -- it wouldn't let you into the menu for wiping flash banks until it received the right series of bits over the serial cable.

At the moment, I don't use any custom software for flashing so I can't control what goes over the interface. The idea isn't bad. To make things less dangerous, all destructive key combinations have to be pressed twice in a row. As soon as you release the ON key, the whole sequence is canceled. It might be possible to detect the presence of the cable (it should tie the input pins to a different level than without it). I have to test this.

We might introduce a system protection bit which needs to be set with a command or other key combination before this command and some other possibly dangerous functions become available.

This is not a problem in the present stage of development. We are not targeting the average user with wp34s.

Re: Before you ask - new feature in wp34s

*Message #7 Posted by **BobVA** on 20 May 2011, 4:21 p.m.,*
in response to message #5 by Eric Rechlin

For the "production" code would it be possible to either:

- Require typing in a password as confirmation? For example pressing ON-S gives the "password?" prompt in the alpha area. Then you have to know it (e.g "marcus").

- Making the boot bit enable an unlisted/undocumented XFCN? Something like "SAMBAX"?

- Have a flash byte that has to have a particular value before ON-S will work (i.e. the boot bit code checks it before executing)? Then if you want to lock out the boot-bit capability you just need to alter that byte with a hex editor (or custom utility) before flashing it into the calc?

Bob

Re: Before you ask - new feature in wp34s

*Message #8 Posted by **gene wright** on 20 May 2011, 11:18 a.m.,*
in response to message #1 by Marcus von Cube, Germany

"In a later version, alphanumeric labels in flash can be called with XEQ. This allows creation of libraries."

Gene: This is fabulous. It really expands the usefulness of the calculator tremendously. Great work.

Re: Before you ask - new feature in wp34s

*Message #9 Posted by **Marcus von Cube, Germany** on 20 May 2011, 11:22 a.m.,*
in response to message #8 by gene wright

Pauli will have to some work on this part. I've put the code in place, he will be responsible for making it callable.

Re: Before you ask - new feature in wp34s

*Message #10 Posted by **Jake Schwartz** on 20 May 2011, 2:18 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Potentially doubling the program lines to slightly over 1000 would be simply astounding.

Jake

Re: Before you ask - new feature in wp34s

*Message #11 Posted by **Marcus von Cube, Germany** on 20 May 2011, 2:27 p.m.,*
in response to message #10 by Jake Schwartz

Jake, we are at 1500. :-)

Re: Before you ask - new feature in wp34s

*Message #12 Posted by **gene wright** on 20 May 2011, 3:54 p.m.,*
in response to message #11 by Marcus von Cube, Germany

I see visions of a program file full of short routines aka PPC ROM type things. BM, BE, and lots more come to mind.

Re: Before you ask - new feature in wp34s

*Message #13 Posted by **Jake Schwartz** on 20 May 2011, 4:12 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> I see visions of a program file full of short routines aka PPC ROM type things. BM, BE, and lots more come to mind.

Yes, with two flash banks, 1500+ steps makes sense. Now, it approaches an HP41 with quad memory. One might then want a way to step through those program labels like the HP41 CAT 1 function did.

Jake

Re: Before you ask - new feature in wp34s

*Message #14 Posted by **Paul Dale** on 20 May 2011, 9:27 p.m.,*
in response to message #13 by Jake Schwartz

> Quote:
>
> Yes, with two flash banks, 1500+ steps makes sense. Now, it approaches an HP41 with quad memory.

I think we'll effectively be well past this point. Even though a quad memory HP41 can have 2233 steps of program, that means no registers and every step has to be a single byte instruction. The 34s's steps are merged, the 100+ registers are always available and the function set is richer in many ways.

Before anyone mentions them, numbers and alpha on the 34s take less steps/bytes than their equivalents on the 41 even though they don't display as nicely.

> Quote:
>
> One might then want a way to step through those program labels like the HP41 CAT 1 function did.

I'd like to do something like this :-)

- Pauli

Re: Before you ask - new feature in wp34s

*Message #15 Posted by **Jeff O.** on 20 May 2011, 4:26 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Quote:

Before you ask more questions...

Probably not possible to stop me asking more questions :-)

Here we go: When I used the emulator to create the wp34s-0.dat and wp34s-1.dat files for the purpose of creating a full 128 kB bin file, the wp34s-1.dat is 2 kB, the first 1kb of which is all zeros. I compensated by using the wp34s-0.dat file twice, i.e.

copy /b calc.bin+wp34s-0.dat+wp34s-**0**.dat+wp34s.dat calc-full.bin

The above worked fine, but I presume I made yet another error somewhere to necessitate the workaround.

Re: Before you ask - new feature in wp34s

*Message #16 Posted by **Marcus von Cube, Germany** on 21 May 2011, 1:29 a.m.,*
in response to message #15 by Jeff O.

This seems to be a bug. I'll check it later.

Re: Before you ask - new feature in wp34s

*Message #17 Posted by **Paul Dale** on 21 May 2011, 1:37 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I fixed this already :-)

- Pauli

Re: Before you ask - new feature in wp34s

*Message #18 Posted by **Paul Dale** on 20 May 2011, 9:17 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Quote:

```
There are additional commands in the program functions catalogue:


PSTO n   Store program in region n. n is 0 or 1. A region is a
         block of flash memory that can hold a copy of the
         user program area. In a later version, alphanumeric
         labels in flash can be called with XEQ. This allows
         creation of libraries.


PRCL n   Restore region n to the program area where data can be edited.


P<> n    Swap the current program with the contents of region n.
```

Just in case it isn't clear from the later postings, these three commands are there but the code thus saved cannot be accessed yet.

- Pauli

Re: Before you ask - new feature in wp34s

*Message #19 Posted by **Paul Dale** on 21 May 2011, 1:44 a.m.,*
in response to message #18 by Paul Dale

But they will be working very very soon. Expect some teething issues.

Alpha labels in any of the four sections will be globally reachable. The search order is RAM, first flash segment, second flash segment and finally internal XROM code space, only the first instance of a name will be found. All other labels (numeric & hot key) are local to the section in which they are defined. GTO.nnn works within the current section. GTO.. brings you to step 000 of RAM.

- Pauli

Re: Before you ask - new feature in wp34s

*Message #20 Posted by **Walter B** on 21 May 2011, 4:07 a.m.,*
in response to message #19 by Paul Dale

... and you'll find all this documented in the next edition of v1.18, but presumably not this weekend.

Walter

Edited: 21 May 2011, 4:08 a.m.

Re: Before you ask - new feature in wp34s - Attention!

*Message #21 Posted by **Marcus von Cube, Germany** on 21 May 2011, 9:16 p.m.,*
in response to message #1 by Marcus von Cube, Germany

We are in the course of updating the state file and internal backup format again. This will render existing data unreadable. But there is a way out, at least for programs:

Get the current release 928 from SVN and use the command PSTO to create a copy of your program area in flash or an emulator file (see first post). This file will work in later versions and can be restored or burned into flash on the real hardware!

Sorry for any inconvenience. wp34s is a fast moving target. ;-)

EDIT: Revision 936 is still compatible. Later versions will not!

Edited: 23 May 2011, 3:04 a.m.

Re: Before you ask - new feature in wp34s - Attention!

*Message #22 Posted by **Marcus von Cube, Germany** on 23 May 2011, 12:26 p.m.,*
in response to message #21 by Marcus von Cube, Germany

I just discovered an error with the checksum calculation in the areas saved with PSTO. So I cannot guarantee, they will be intact with the next release. The saved regions are most probably broken anyway. :-(

Sorry for any inconvenience. Be prepared to type your programs in again.

Edit: I'm working on a solution, at least in the emulator. You need to copy the flash pages on your device to the PC where they can be converted.

Edited: 23 May 2011, 3:51 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #1 Posted by **M. Joury** on 19 May 2011, 11:46 p.m.*

Let me start by saying that I know the solvers of these various machines have been discussed before but searches on HP17bii and CTIME did not come up with anything. I apologize if this is a repeat of something that has gone before.

I was trying to time a summation within the solver to see if it could be done. I ended up with the following formula:

A=L(ST:HRS(CTIME))*0+SIGMA(I:1:1000:1:0)+HMS(HRS(CTIME)-G(ST))

I was experimenting with different operations in the last position of the summation clause '0' vs '1' vs ... The solution result should have been the total run time in H.MS notation.

At any rate this 'code' worked for my HP17bii, my HP19bii, and my HP27S (I still need to try it on my HP95LX). It did not work on the HP17bii+. Trying to narrow down the problem I tried the following two formulas:

1. A=L(ST:CTIME)*0+SIGMA(I:1:1000:1:0)+G(ST) -> Expected result should be the start time in H.MS

and

2. A=SIGMA(I:1:1000:1:0)+CTIME) -> Expected result should be the end time in H.MS

The first was expected to report the start time of the run while the second should have reported the end time. On the 17bii+ formula 1 worked as expected reporting the start time of the run but formula 2 reported a time midway through the run. I realize that in the above formula there is no order implied as to how the calc should solve the problem except that I might expect it to work from left to right and I certainly would not expect it to pull a time from midway through the run. It is almost as if the problem were being executed on a multithreading system and the code had dispatched the two halves of the problem on two separate threads. Now I know that our little toys are powerful but I somehow doubt that this is what is going on :-).

Any ideas as to what is happening here? Am I missing something obvious? Or is the 17bii+ solver implementation doing something weird?

Marwan

Re: HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #2 Posted by **Don Shepherd** on 20 May 2011, 12:25 a.m.,*
in response to message #1 by M. Joury

> Quote:
>
> is the 17bii+ solver implementation doing something weird?

The 17bii+ solver behaves differently than the 17b solver and the 17bii solver. The 17bii+ solver actually

evaluates your equation twice. The first pass is supposedly for the purpose of pre-calculating values that can be pre-calculated, and the second pass is the real run. This causes problems when you update a menu variable within your equation because it updates the variable during the first pass and then again during the second pass, and sometimes you do not get the result you would expect. This behavior has been discussed many times in this forum, and the general consensus is that if you really want a good solver that behaves as you would expect, use the 17b or 17bii. I concur.

I tried your formula 2 and I do get the ending time of the run, but the time required to loop from 1 to 1000 is not that great (less than a minute). Also, CTIME does not always report the correct time. For instance, in a solver equation it reports the time as 12.30 and if you immediately look at the time on the calculator (after solving the equation) it might be 12.29 and 50 seconds.

Hope this helps.

Edited: 20 May 2011, 12:33 a.m.

Re: HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #3 Posted by **M. Joury** on 20 May 2011, 1:35 a.m.,*
in response to message #2 by Don Shepherd

Hi Don,

That explains what I am seeing. To test this I synchronized the 17bii+ clock with another clock and then ran the second equation. I am seeing results well within the middle of the timespan and not near either the beginning or end. It is interesting that you do see the correct ending time on your unit (I assume that when you say you tried this you meant that you tried it on a 17bii+). Of course the explanation for what I am seeing is the two pass nature of the algorithm used on the 17bii+. I will need to perform a more general search to find the earlier discussions of this subject as I have to wonder what the supposed benefits (if any) are to doing it the 17bii+ way. Perhaps, as your comment on 'good' solvers might suggest, there is NO benefit.

On the issue of accuracy of CTIME: With the display set to FIX 4 the HP17bii reports a completion time within a second of the synchronized clock so I am not seeing the disparity in times that you mention. I do recognize that CTIME is only accurate to a second so if I were doing real timings I would probably make the summation loop much longer (10000?) and divide the resulting time interval by 10 to get the timespan for 1000 iterations (or if I was patient enough I could do 100000 and divide by 100). Furthermore, using the original timing equation on a 17bii I see total times for the run within a second of those obtained by using a handheld stopwatch so, again, I am not seeing the inaccuracies that you mention.

Cheers,

Marwan

Re: HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #4 Posted by **Don Shepherd** on 20 May 2011, 5:26 a.m.,*
in response to message #3 by M. Joury

> Quote:
>
> I assume that when you say you tried this you meant that you tried it on a 17bii+

Yes, the 17bii+.

> Quote:
>
> I will need to perform a more general search to find the earlier discussions of this subject

Searching the archives has always been tricky. Here is a post I made back in 2007 regarding the fact that the prime factors algorithm contained in the Technical Applications Manual for the 27S and 19B did not work on the 17bii+, and it contains a workaround I came up with to get it to work.

> Quote:
>
> there is NO benefit

I wouldn't say that. Most users will never run into this particular solver problem, and the 17bii+ will work fine for them. But everyone should be aware of this potential problem.

> Quote:
>
> I am not seeing the inaccuracies that you mention

I think there may have been some changes to the 17bii+ over the years, and this may explain that. I know that some users reported benchmark times on their 17bii+ that were significantly different than the times I obtained.

Don

Re: HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #5 Posted by **M. Joury** on 20 May 2011, 10:35 a.m.,*
in response to message #4 by Don Shepherd

Hi Don,

Thanks for the reference to your earlier posting.

Cheers,

Marwan

Re: HP17bii+ solver vs. HP17bii/HP19bii/HP27S

*Message #6 Posted by **Don Shepherd** on 20 May 2011, 5:50 a.m.,*
in response to message #3 by M. Joury

Oh, yeah, CTIME does report the correct time, I was wrong. I was set to FIX 2 so it was rounding the minutes.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

i41CX Reduce

*Message #1 Posted by **Jack Nolan** on 19 May 2011, 5:21 p.m.*

I'm using i41CX for the iPad which is a great piece of software. In addition to the HP41 emulator, it contains a computer algebra solver called REDUCE. There is a version of REDUCE at Source Forge that supposedly runs on a macbook. I would like to write and debug REDUCE programs on my macbook before moving them to the iPad i41CX app. However, when I download, unzip and run the REDUCE application on the macbook, nothing happens. I've looked for specific installation instructions for the macbook but can't find them anywhere. I just purchased the macbook and I'm brand new to apple so I'm sure that's the problem. :)

Anyone using REDUCE on i41CX that would know how to install and run the OSX version of REDUCE software on a macbook? Thank you in advance for the help

Re: i41CX Reduce

*Message #2 Posted by **Egan Ford** on 20 May 2011, 9:03 a.m.,*
in response to message #1 by Jack Nolan

Can you provide a URL?

I was only able to find this version on sf.net: http://sourceforge.net/projects/reduce-algebra/files/reduce-x86_64-mac_10.6_snowleopard-darwin10.7.0-20110414.tar.bz2/download

That version is not a native Mac Cocoa app. And I do not know if there is a native Mac Cocoa app available. Cocoa is Mac's GUI interface/API.

To run that version you'll have to install X11. X11 may or may not be installed on your Mac. If not, you can get the install package from your OS/X installation media.

X11 is cross-platform client-server windowing technology. Thankfully it's included and supported by Apple. I use X11 everyday.

If that is the correct download URL, then launch X11 (Command-Space, then type X11 in spotlight and the X11 app should be a the top of the list if installed). When you launch X11 you'll be greeted with an xterm terminal window. From that window type:

```
cd ~/Downloads #or /Application if you dragged to Applications
tar jxvf reduce-x86_64-mac_10.6_snowleopard-darwin10.7.0-20110414.tar.bz2
#you may not need to execute "tar" if Safari automatically extracted for you.
#BTW you should turn off that "feature" of Safari for security reasons.
cd reduce-x86_64-mac_10.6_snowleopard-darwin10.7.0-20110414
./reduce
```

To make repeated invocations easier, then right click (or 2 finger tap) the X11 icon in the dock and select Options/Keep In Dock and then right click again and select Applications/Customize and add the above commands separated by semi-colons (e.g. cd ~/Downloads/reduce-x86_64-mac_10.6_snowleopard-darwin10.7.0-20110414; ./reduce). In the future you will just need to right-click on X11, then select Applications/Reduce.

I've never used this version of Reduce. I built my own from the source and run it from the CLI (xterm in my case).

Good luck.

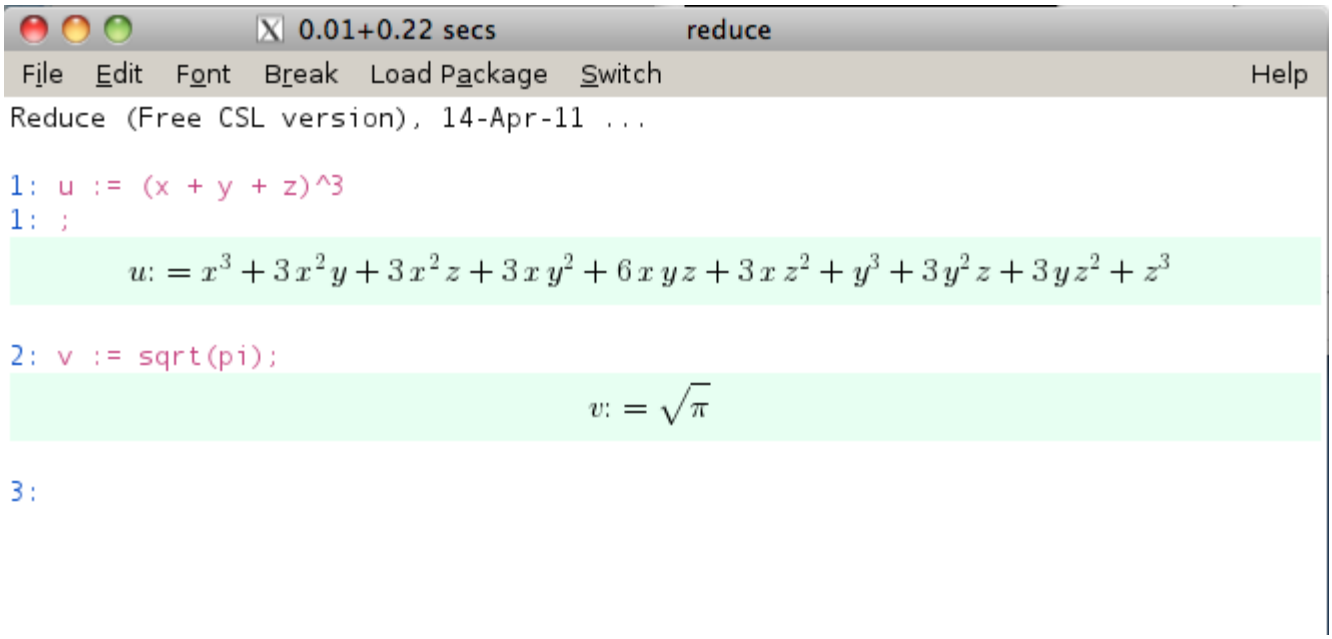
Update, I forgot to add that you'll want to add the math fonts to your font path:

```
xset +fp $PWD/reduce.fonts/
```

This will make your X11 command line look like this assuming you extracted or moved the app to /Applications:

cd /Applications/reduce-x86_64-mac_10.6_snowleopard-darwin10.7.0-20110414; xset +fp $PWD/reduce.fonts/; ./reduce

Screen shot from my testing:



Edited: 20 May 2011, 9:20 a.m.

Re: i41CX Reduce

*Message #3 Posted by **Jack Nolan** on 20 May 2011, 10:50 a.m.,*
in response to message #2 by Egan Ford

Egan thanks so much for the help, but now I'm really confused.

I have a macbook Air - the latest version running Snow Leopard. I downloaded the version of REDUCE that you referenced. I assumed, since the file name contains snow leopard in it, that it was compatible. I unzipped it and moved it into the application direction like any other normal mac applications, click on the application icon, it appears to run (I see it in the dock for a second or two) and then shut down with no error messages.

I assumed that since the file name had "snow leopard" in it it would run like any other application. Are you saying the version I downloaded is NOT compatible with Snow Leopard or do I have to do something other than install it like you would normally install a standard program on an Apple with Snow Leopard?

To help you understand my background, I'm a chief consulting engineer for a large corporation and I'm

spending a lot of time reviewing the work of less experienced engineers designing power generation components. As such, having an HP calculator on an iPad handy gives me a way of quickly reviewing their work with simple calculations. With the addition of REDUCE, it's much more powerful. But I'm afraid that, other than HP calculators and systems like Mathematica and ANSYS, ProEngineer, etc. , my programming days ended during the last century with FORTRAN, BASIC, Turbo Pascal, TRS80's, and VAX 11/780s. It's been a very long time!

Thanks for the help, but I may be too far gone for this! lol

Jack

Re: i41CX Reduce

*Message #4 Posted by **Marcus von Cube, Germany** on 20 May 2011, 10:56 a.m.,*
in response to message #3 by Jack Nolan

Jack, did you check if X11 is available on you Mac? It comes with the MacOS install disk under additional features.

Re: i41CX Reduce

*Message #5 Posted by **Jack Nolan** on 20 May 2011, 11:14 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I do have X11 on my macbook air. I can run it from utilities. I can't yet figure out how to run reduce from X11.

I'm ancient, and not familiar with the Mac system but it looks a lot like my DOS days. lol So please forgive me if I'm using incorrect terminology here.

I am assuming I have to install reduce and all it's supporting files (including the fonts Egan referenced) in a particular DIRECTORY. Then I need to ensure that X11 knows the correct PATH to all of these files. Then I assume I run REDUCE by just typing REDUCE at the X11 command prompt?

Since I don't know anything about how to set paths or the X11 command syntax it should be interesting.

Jack

Re: i41CX Reduce

*Message #6 Posted by **Marcus von Cube, Germany** on 20 May 2011, 11:19 a.m.,*
in response to message #5 by Jack Nolan

Where have you installed the reduce package? Tell us the directory. If it is in applications, the base path is something like ~/Applications/reduce-<something>

The ~ is an abbreviation for your home directory. Omit it if you have installed the file in the global Application directory.

In the shell, you can type part of a directory or file name and then hit the tab key for a completion.

Re: i41CX Reduce

*Message #7 Posted by **Jack Nolan** on 20 May 2011, 2:56 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Got it working! Here is what I did:

1) downloaded the Snow Leopard version of REDUCE from SourceForge, 2) unzipped the files into the /Application/ folder (the zip file includes fonts),, 3) went to /Applications/Utilities/ and ran X11 4) typed in /Applications/reduce at the prompt.

Thank you so much Markus and Egan!

Jack

Re: i41CX Reduce 2

*Message #8 Posted by **Pascal B.** on 22 May 2011, 9:26 a.m.,*
in response to message #2 by Egan Ford

Hi Egan,

I installed REDUCE on Mac os x according to your instructions. It works well. However, gnuplot package does not work. I also installed gnuplot. It works alone, but it still does not work into REDUCE. May be gnuplot must be installed in a specific path or something like that, but I don't know this path. So, do you have an idea to install REDUCE including gnuplot package?

Thank you Pascal

Re: i41CX Reduce 2

*Message #9 Posted by **Egan Ford** on 23 May 2011, 10:21 a.m.,*
in response to message #8 by Pascal B.

Sorry I do not. I rarely use Reduce. Sage (sagemath.org) is much more complete and well integrated, so I tend to use that.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sparcom SPICE48 card for HP 48G

*Message #1 Posted by **skip cons** on 19 May 2011, 3:05 p.m.*

I own a Sparcom SPICE48 card for my HP 48G, however I lost the manua;/ If someone out there has one and can email me a copy, I will pay him / her for a copy. Skip Cons 21201 Palomino cove Lago vista Texas 78645 skip.cons@earthlink.net

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s/16C Compat. #6

*Message #1 Posted by **Jake Schwartz** on 19 May 2011, 2:17 p.m.*

Hi,

I was playing with some programs in the 16C manual and ran into something on the 34s which I thought should be shared. In unsigned, 64-bit mode with base HEX, if I press 0 ENTER 1 - it correctly yields "FFFF FFFF FFFF FFFF", and changing over to decimal base correctly shows 18,446,744,073,709,551,615. This value is greater than 1.8 * 10^19. Now I am aware that on the 34s, one cannot enter numeric values with more than 12 digits. I wanted to enter the decimal number 1*10^19, so in decimal base I pressed 1000000 ENTER * which correctly yielded 1,000,000,000,000 or 10^12. Doing another 1000000 * produced 1,000,000,000,000,000,000 (or 10^18) and converting to HEX correctly showed DE0 B6B3 A764 0000. Now, if I multiply by ten again by 10 * in base decimal, it suddenly shows 776,627,963,145,224,192 instead of the expected 10,000,000,000,000,000,000. Switching over to HEX at this point reveals AC7 2304 89E8 0000. For some reason, the machine will not allow values as large as 10^19 to be generated, despite the fact that a 64-bit word should be able to hold numbers above 1.8 * 10^19. Paul, any ideas?

Thanks, Jake

Re: 34s/16C Compat. #6

*Message #2 Posted by **Paul Dale** on 19 May 2011, 6:10 p.m.,*
in response to message #1 by Jake Schwartz

Jake,

Another bug introduced by the multiply sign fix done recently I'm afraid :-(This is only a problem in unsigned mode.

A fix will be forthcoming.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Artist of HP Manuals

*Message #1 Posted by **Csaba Tizedes (Hungary)** on 19 May 2011, 4:55 a.m.*

Can anybody tell me any information about the graphic artist of earlier HP Manuals? Who is this person, where can I see more works from he/she, actually he/she active as artist, or something similar...

Thanks for any info!

Re: Artist of HP Manuals

*Message #2 Posted by **Glenn Shields** on 28 May 2011, 3:19 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

These are great images, and although I haven't saved any of my old manuals (or calculators) one must ask, is there no one with such a manual who can just look through it and see if the artist is listed? Not to sound impertinent, but isn't that the main purpose of this forum, rather than so much "repurposing" and whatnot? Thanks so much in advance.

Re: Artist of HP Manuals

*Message #3 Posted by **Jim Yohe** on 28 May 2011, 3:49 p.m.,*
in response to message #2 by Glenn Shields

:-bd

Re: Artist of HP Manuals

*Message #4 Posted by **Garth Wilson** on 28 May 2011, 4:28 p.m.,*
in response to message #2 by Glenn Shields

> Quote:
>
> These are great images, and although I haven't saved any of my old manuals (or calculators) one must ask, is there no one with such a manual who can just look through it and see if the artist is listed? Not to sound impertinent, but isn't that the main purpose of this forum, rather

> than so much "repurposing" and whatnot? Thanks so much in advance.

I have the HP-85 Owner's Manual and Programming Guide, (c)1979, p/n 00085-90002 Rev. D 1/81, and the HP-85 I/O Programming Guide, (c)1980, p/n 00085-90142 Rev. C 2/81, both with that kind of pictures, but I don't see credits in either one.

These manuals BTW appear to be completely unused except that they've been in and out of 3-ring binders and bookshelves, and I don't have an HP-85 and probably never will; so I guess I should eBay them unless someone offers a reasonable price before I get that far. They're 8.5x11", and the pair of them adds up to an inch and a half thick.

Re: Artist of HP Manuals

*Message #5 Posted by **David Ramsey** on 28 May 2011, 8:30 p.m.,*
in response to message #4 by Garth Wilson

I have an 85 and would pay you handsomely for the manuals.

Re: Artist of HP Manuals

*Message #6 Posted by **Garth Wilson** on 28 May 2011, 9:55 p.m.,*
in response to message #5 by David Ramsey

My email address is wilsonmineszdslextremezcom (replace the z's with @ and .) I should have put it in my post above.

Nostalgia

*Message #7 Posted by **Marcus von Cube, Germany** on 28 May 2011, 4:34 p.m.,*
in response to message #2 by Glenn Shields

> Quote:
>
> Not to sound impertinent, but isn't that the main purpose of this forum, rather than so much "repurposing" and whatnot?

I think I know what you mean. ;-)

For me, the repurposing project I'm involved in has more nostalgia in it than some of the other ongoing discussions here. Let me explain.

My professional career started in the early eighties as a programmer of machines with very limited resources, micro controller based machine controls. We were facing very similar problems I'm dealing with in my current project here. The saying "every little bit counts" had to be taken literally then as it is now. Todays programming paradigms deal with dynamic memory in the gigabyte range and processor power measured in gigaflops. Nothing of this is true for the machine I'm dealing with at the moment. For me, it's a time machine, taking me back some thirty years of my life.

Edited: 28 May 2011, 4:35 p.m.

Re: Nostalgia

*Message #8 Posted by **Glenn Shields** on 28 May 2011, 5:13 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Wow, thanks to all for the quick response, and nostalgia is the word I was looking for. Didn't mean to "dis" anyone's current work, I just didn't want this post to fall into the archives before getting a response, but maybe now we can wait for someone intimately connected with HP (if such a person is still around) knows about the artist, but in the meantime thanks for sharing insight into what is going on now. cheers, Glenn

Re: Nostalgia

*Message #9 Posted by **Katie Wasserman** on 28 May 2011, 7:13 p.m.,*
in response to message #8 by Glenn Shields

The Spice series (31e,32e,33e/c,34c,37e and 38e/c) manuals all have several of these little sketches. I too can't find any reference to the artist, but then again I don't recall ever seeing an individual credited with anything in an HP calculator manual.

Re: Nostalgia

*Message #10 Posted by **hpnut** on 28 May 2011, 9:07 p.m.,*
in response to message #9 by Katie Wasserman

> Quote:
>
> The Spice series (31e,32e,33e/c,34c,37e and 38e/c) manuals all have several of these little sketches. I too can't find any reference to the artist, but then again I don't recall ever seeing an individual credited with anything in an HP calculator manual.

Katie,

that's not correct, strictly speaking.

I have an HP 38G User's Guide that acknowledges "members of the Education Advisory Committee (list of names follows) for their assistance in the development of this product."

I also recall seeing credits for someone who pioneered the applications in the Advanced Pac for the HP 41 module (something to do with the top row interface). let me check if I have the Advanced Pac manual.

sad but true, I have not seen any credits for the artist(s?), perhaps he/she was/were outsourced.

hpnut in Malaysia

Edited: 28 May 2011, 10:04 p.m.

Re: Nostalgia

*Message #11 Posted by **Walter B** on 29 May 2011, 2:07 a.m.,*
in response to message #10 by hpnut

IIRC, rules for naming artists (incl. photographers) in the last century weren't as they are today. Today you find the picture sources in almost every printed matter, then there were a lot of anonymous contributors.

Walter

Re: Nostalgia

*Message #12 Posted by **exschr** on 29 May 2011, 7:50 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> Todays programming paradigms deal with dynamic memory in the gigabyte range and processor power measured in gigaflops. Nothing of this is true for the machine I'm dealing with at the moment. For me, it's a time machine, taking me back some thirty years of my life.

That's just so true, I long for the 8- and 16-bit processors of that time. PIC-Programming with the smaller PIC's (not the DSP-ones) gives me the same kind of feeling about it, it's just pure fun without this gigantic overhead of todays SW-development techniques (not to mention OOP!)
Not to be misunderstood, this new approach has it's advantages too, but sometimes I can't resist the feeling that "too much is just too much"

Excuse me the rephrasing of your words like this: "It gives me another thirty years of my life (almost :-)"

Cheers
Roger

Re: Artist of HP Manuals

*Message #13 Posted by **Ronald Williams** on 29 May 2011, 10:13 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

FYI - I checked my old hp documentation and here is what I discovered.

There was no graphic art in the HP-35 manual.

On the cover of the HP-67 / HP-97 User's Library Solutions the artist signed his work as Ron Henry. Other renderings in the User Manual, Standard Pac and Civil Engineering Pac 1 are anonymous but share a similar Ron Henry style.

HP gave credit to NASA, AMES Research Center for the Lunar Module photo on page 122 of the User Manual.

Hope you find that useful.

Re: Artist of HP Manuals

*Message #14 Posted by **hpnut** on 30 May 2011, 3:12 a.m.,*
in response to message #13 by Ronald Williams

Thanks for the info, Ronald.

I am not sure if this is the same Ron Henry of HP manual,

http://offthewallgj.com/Off_The_Wall/Ron_Henry.html

I have written an email to seek confirmation.

Re: Artist of HP Manuals

*Message #15 Posted by **Ronald Williams** on 30 May 2011, 9:51 a.m.,*
in response to message #14 by hpnut

I also found that link but did not think it was the same artist because the styles are so different. Good luck.

Re: Artist of HP Manuals

*Message #16 Posted by **Ren** on 31 May 2011, 12:57 p.m.,*
in response to message #15 by Ronald Williams

> Quote:
>
> I also found that link but did not think it was the same artist because the styles are so different. Good luck.

But if you look closely at one of the paintings, I'll bet that bulge in the cowboy's shirt pocket is an HP-35 B^)

Seriously, it _could_ be the same artist, the style of art on the old manuals would not feed an artist today, but Western Art is popular.

Ren

dona nobis pacem

Re: Artist of HP Manuals

*Message #17 Posted by **Csaba Tizedes (Hungary)** on 2 June 2011, 4:45 a.m.,*
in response to message #14 by hpnut

Err..., I think the drawing style is not quite similar to the illustrations in the HP manuals, but maybe it was changed by time...

Re: Artist of HP Manuals

*Message #18 Posted by **Csaba Tizedes (Hungary)** on 2 June 2011, 4:41 a.m.,*
in response to message #13 by Ronald Williams

Thank you! I will check my HP docs too, I hope I'll find some similar signings.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

EMU 48 for Linux

*Message #1 Posted by **J Grim** on 18 May 2011, 11:49 p.m.*

Greetings everyone. Do any of you know if there is a Linux native version of EMU 48? I checked Christoph's site, but it appears to be Windows specific. I have tried other emulators, but I prefer EMU 48. Currently, I run it via the WINE application with a KML script for the 50g. Thanks.

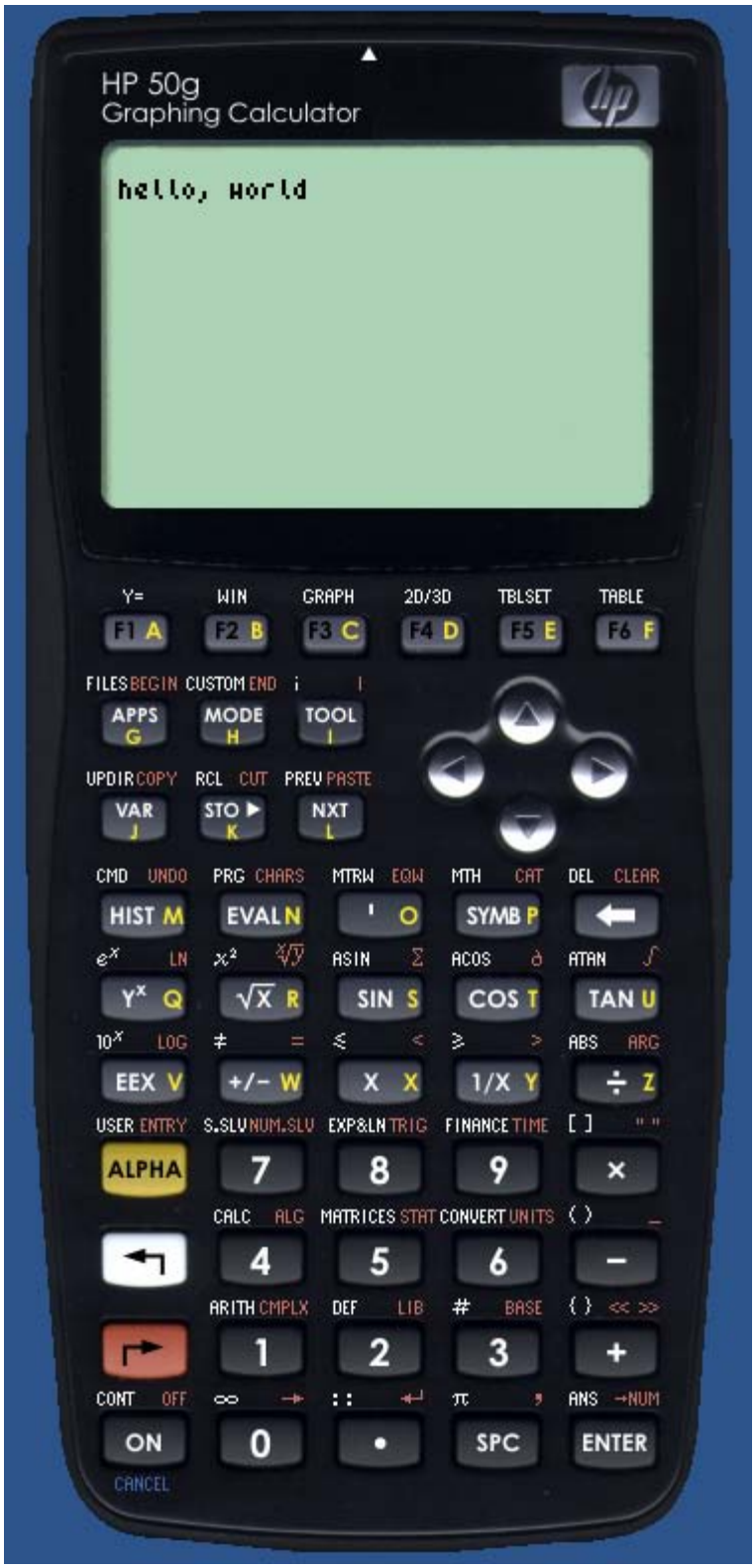
Re: EMU 48 for Linux

*Message #2 Posted by **Egan Ford** on 19 May 2011, 1:39 a.m.,*
in response to message #1 by J Grim

Your options are:

1. EMU48+Wine
2. x48 (SX/GX only)
3. x49gp (50g emulation: http://x49gp.svn.sourceforge.net/viewvc/x49gp/README.QUICKSTART). x49gp is the only 50g/ARM emulator publicly available. This means you can run just about any 50g programing including ARM C and ASM.

   Screen shot:



Re: EMU 48 for Linux

*Message #3 Posted by **jgrim** on 19 May 2011, 8:07 a.m.,*
in response to message #2 by Egan Ford

Thank you, Egan. x48 and x49gp are emulators I have not tried yet. I will check them out.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

EXIT in wp34s

*Message #1 Posted by **Jeff O.** on 18 May 2011, 3:53 p.m.*

I seem to recall some discussion of the EXIT command, possibly with regard to exiting menus and such. If the following discussion is repetitious or the answers can be found in the manual, please accept my apologies. I looked (possibly too briefly) through the manual and found the following information regarding the EXIT function:

Mode	Remarks
Catalog Open	Leaves the catalog without executing anything.
Input Pending	Cancels the execution of pending operations, returning to the calculator status as it was before.
\PRG & program running	Stops the running program like R/S below.
PRG	Leaves programming mode like h-P/R below.
Else	Does nothing

In several cases it seems that EXIT returns the program pointer to step 000.

Based on my usage, I observe the following behavior:

Mode	Remarks
Catalog Open	Leaves the catalog without executing anything.
Input Pending	Cancels the execution of pending operations, returning to the calculator status as it was before except returns program pointer to step 000.
\PRG & program running	Stops the running program like R/S below.
PRG	Leaves programming mode like h-P/R below except returns program pointer to step 000.
Else	Returns program pointer to step 000.

Also when used as the ON key (i.e., pressing EXIT when the calculator is off) it turns the calculator on and returns the program pointer to step 000.

If the above is correct, I would like to propose that EXIT only return the program pointer to step 000 in the "Else" case above, i.e.:

Mode	Remarks
Catalog Open	Leaves the catalog without executing anything.
Input Pending	Cancels the execution of pending operations, returning to the calculator status as it was before.
\PRG & program running	Stops the running program like R/S below.
PRG	Leaves programming mode like h-P/R below.
Else	Returns program pointer to step 000.

Included in the above request is that when turning the calculator on, it comes on with the program pointer where it was when it was turned off, although it is OK with me to leave programming mode if the calculator was turned off in programming mode.

Re: EXIT in wp34s

*Message #2 Posted by **Marcus von Cube, Germany** on 18 May 2011, 4:15 p.m.,*
in response to message #1 by Jeff O.

The program counter is stored in non volatile memory so your wish to leave it untouched on power off should be achievable. You probably just hit an unwanted behavior. We've to check that.

Re: EXIT in wp34s

*Message #3 Posted by **Walter B** on 18 May 2011, 4:37 p.m.,*
in response to message #1 by Jeff O.

Jeff, the observed (re)setting of the program pointer to 000 is definitively not intended. Some reasons you mentioned already. So - congratulations! - you found another bug :-?

Walter

Re: EXIT in wp34s

*Message #4 Posted by **Jeff O.** on 18 May 2011, 9:51 p.m.,*
in response to message #3 by Walter B

> Quote:
>
> So - congratulations! - you found another bug :-?

Yay! (Glad to not be asking for something special just for me for once.)

Re: EXIT in wp34s

*Message #5 Posted by **Paul Dale** on 18 May 2011, 6:00 p.m.,*
in response to message #1 by Jeff O.

Yep, the PC is being reset. Easy to fix.

What about the subroutine return stack? Should that be preserved over EXIT to exit program mode?

- Pauli

Re: EXIT in wp34s

*Message #6 Posted by **Jeff O.** on 18 May 2011, 10:02 p.m.,*
in response to message #5 by Paul Dale

I may misunderstand, but if you are in program(ming?) mode, is the subroutine return stack even active? If you use EXIT to stop a running program, I would say the subroutine return stack should be preserved, assuming this happens if you stop with R/S. Pressing EXIT again would reset the program counter and clear the subroutine return stack. Maybe.

Re: EXIT in wp34s

*Message #7 Posted by **Paul Dale** on 18 May 2011, 11:27 p.m.,*
in response to message #6 by Jeff O.

Nothing stops you press R/S to stop execution, entering program mode, exiting program mode and pressing R/S to continue.

At least currently.

- Pauli

Re: EXIT in wp34s

*Message #8 Posted by **Walter B** on 19 May 2011, 1:52 a.m.,*
in response to message #6 by Jeff O.

Please note that R/S is the normal key to stop execution of a running program as it has been since the HP-65. The key EXIT is just another channel to reach the same, introduced because of the fact 1/3 of our team wanted it and 2/3 didn't care ;-)

Walter

Re: EXIT in wp34s

*Message #9 Posted by **Marcus von Cube, Germany** on 19 May 2011, 2:18 a.m.,*
in response to message #8 by Walter B

:-)

I agree with Jeff that EXIT shouldn't do any harm to the return stack or the program counter if used to stop a program. We have CLP to do the latter, do we want EXIT to do the same? It may be of some value or not.

I normally use RTN to end a program: LBL A; do somthing; RTN. If I start this from the keyboard, I assume that the return brings me back to keyboard entry mode. If I had stopped a running program before with the return stack active, what will happen if I press A? Maybe XEQ or its implicit variant if entered from the keyboard shall clear the return stack and EXIT leave it as is?

Re: EXIT in wp34s

*Message #10 Posted by **Walter B** on 19 May 2011, 6:44 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> EXIT shouldn't do any harm to the return stack or the program counter if used to stop a program. We have CLP to do the latter,

?! Gosh, hopefully not :-?

> Quote:
>
> do we want EXIT to do the same?

Depends ...

> Quote:
>
> It may be of some value or not.

For sure! ;-)

> Quote:

> I normally use RTN to end a program: LBL A; do somthing; RTN. If I start this from the keyboard, I assume that the return brings me back to keyboard entry mode. If I had stopped a running program before with the return stack active, what will happen if I press A? Maybe XEQ or its implicit variant if entered from the keyboard shall clear the return stack and EXIT leave it as is?

I'd expect pressing 'A' or XEQ A will call this routine, starting at its very beginning, regardless of the return stack status before. KISS. YMMV

Walter

Re: EXIT in wp34s

*Message #11 Posted by **Jeff O.** on 19 May 2011, 10:16 a.m.,*
in response to message #10 by Walter B

I see that EXIT behavior has been changed in revision 905. Thanks! Two minor issues:

1. It seems that now EXIT does nothing regarding the program counter, ever. Would it be possible (and/or desirable, opinions welcome) to have it return the program counter to step 000 only when in calculation mode (i.e., not in programming mode or while a program is running). I see that GTO .. returns the PC to 000, but that takes four keystrokes vs. one if using EXIT in this particular case would do it, might be a nice shortcut.
2. In programming mode, would it be possible (and/or desirable, opinions welcome) to have EXIT cancel pending input and remain in programming mode after pressing commands such as STO, RCL, XEQ, GTO and especially whilst in alpha entry mode? In other words, the same behavior as if you want to get out of a menu while in programming mode. I realize that the back-arrow will do what I want for STO, RCL, XEQ, GTO, but the only way out of alpha mode while remaining in programming mode is f-alpha.* (Two keystrokes vs. one if EXIT could stay in programming mode, yes I guess I am lazy.)

* edit - I was incorrect here. Alpha mode can be exited by simply pressing ENTER.

Edited: 19 May 2011, 12:26 p.m. after one or more responses were posted

Re: EXIT in wp34s

*Message #12 Posted by **Walter B** on 19 May 2011, 10:45 a.m.,*
in response to message #11 by Jeff O.

Two humble answers:

1. As mentioned, EXIT is often just an additional channel to access some traditional functions. Then it does what the original function does. I'll check for a lazybone's way to reset the program pointer - I think there was one at least.
2. That's the curse of context sensitive multiple functionality :-(Looking to the description of EXIT in the manual, it should do what you want provided we swap the sequence/priorities of R/S and ENTER there. Correct?

Walter

Edited: 19 May 2011, 10:48 a.m.

Re: EXIT in wp34s

*Message #13 Posted by **Jeff O.** on 19 May 2011, 12:22 p.m.,*
in response to message #12 by Walter B

Sorry, I missed that ENTER takes you out of alpha mode, so that is an easy single keystroke solution. Not quite sure what you mean by "swap the sequence/priorities of R/S and ENTER."

Re: EXIT in wp34s

*Message #14 Posted by **Walter B** on 19 May 2011, 2:45 p.m.,*
in response to message #13 by Jeff O.

> Quote:
>
> Not quite sure what you mean by "swap the sequence/priorities of R/S and ENTER."

You may have noted the arrow right of [EXIT] on page 53 in columnn 1 of the table. This means the conditions in column 2 will be tested top down for this key. In pseudo code:

```
if (EXIT is pressed)
  then begin
  if (a catalog is open)
    then (leave it without executing anything)
    else if (there's any input pending)
      then (cancel the execution of the respective operation ...)
      else if (...)
        then (...)
        else if (...)
          then (...)
          else if (...)
            then (...)
            else (do nothing)
  end {of EXIT conditions checking}
```

So the sequence of conditions listed is important.

Walter

Re: EXIT in wp34s

*Message #15 Posted by **Jeff O.** on 19 May 2011, 8:47 p.m.,*
in response to message #14 by Walter B

Yes I saw the arrow, I though it just meant that the command applied in several modes of operation or conditions. I see what you are saying now. Based on subsequent posts, no need to do anything else.

Edited: 19 May 2011, 8:50 p.m.

Re: EXIT in wp34s

*Message #16 Posted by **Paul Dale** on 19 May 2011, 6:04 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> As mentioned, EXIT is often just an additional channel to access some

> traditional functions. Then it does what the original function does. I'll check for a lazybone's way to reset the program pointer - I think there was one at least.

In any mode: GTO . . resets the program counter to 0. Since that is too many keystrokes for the lazy we have another shortcut in run mode: CLP. Just like many HP machines.

- Pauli

Re: EXIT in wp34s

*Message #17 Posted by **Paul Dale** on 19 May 2011, 6:04 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> That's the curse of context sensitive multiple functionality :-(Looking to the description of EXIT in the manual, it should do what you want provided we swap the sequence/priorities of R/S and ENTER there. Correct?

I wouldn't bother mucking with this.

Use the back space key to clear partial entries and you'll be happy.

Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp19c value?

*Message #1 Posted by **ais** on 18 May 2011, 1:16 p.m.*

Hi

I have been holding onto my HP19C for many a year. It is complete with original box, manuals and leather case. Last used about 20 years ago and been "stored" ever since. I would guess the batteries must be dead by now. Just wondering if anyone can give me an idea of value. Thanks in advance for any input.

Re: hp19c value?

*Message #2 Posted by **DavidShenk** on 18 May 2011, 1:34 p.m.,*
in response to message #1 by ais

Hi, If you rebuilt the original battery pack and could confirm that it was working, with original box, manuals, etc. I would say you could get $300 or so. Less if it is sold "as is" Much depends on the condition of the calculator and if it is printing properly. If it was in mint condition without any wear, I would think it could go for $400+. Dave

Re: hp19c value?

*Message #3 Posted by **ais** on 19 May 2011, 2:50 a.m.,*
in response to message #2 by DavidShenk

How would one go about rebuilding the original battery pack?

Re: hp19c value?

*Message #4 Posted by **DavidShenk** on 19 May 2011, 3:55 p.m.,*
in response to message #3 by ais

The pack contains 4 AA size NiCd batteries. You can open it carefully with a razor blade and a little careful prying at the seam between the two halves. I bought tabbed replacement cells and soldered them together. Regular rechargeables with the "bump" on the positive side may not fit. Pay careful attention to polarity. When done, I just used a little tape along the seam to close it up.

There is also a spring or springs inside the pack on one side that you'll want to put back. They are important to how the pack fits into the calculator.

Dave

Re: hp19c value?

*Message #5 Posted by **Michael de Estrada** on 18 May 2011, 1:42 p.m.,*
in response to message #1 by ais

The batteries will be dead for sure, and you should *not* attempt to operate it with the AC adapter either with

a dead battery pack or with the battery pack removed. More than likely the batteries will have leaked and outgassed during the time it was stored, which can cause serious damage to the calculator internals if the battery pack was not removed during storage.

Edited: 18 May 2011, 1:44 p.m.

Re: hp19c value?

*Message #6 Posted by **ais** on 18 May 2011, 2:12 p.m.,*
in response to message #5 by Michael de Estrada

Thanks for the input so far. I had the foresight to remove the batteries before storing it. It was working perfectly up to the time I stopped using it.

Re: hp19c value?

*Message #7 Posted by **Michael de Estrada** on 18 May 2011, 3:12 p.m.,*
in response to message #6 by ais

The fact that it was working fine at the time of storage does not necessarily equate to it working properly now, 20 years later. There are parts in the printer such as paper advance rollers that can deteriorate over time and there may be electronic components such as electrolytic capacitors that go bad with age, although I don't know if this particular model has any. The only way you will know for sure is to either rebuild the battery pack or connect the calc battery terminals to a regulated DC power supply providing approximately 5 vdc and test it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP RPN stack permutations graph

*Message #1 Posted by **Xavier A. (Brazil)** on 18 May 2011, 9:47 a.m.*

Hello happy few,

After reading – very lately, I confess - the excellent French book « Programmer HP-41 » published in the 80's, I decided to redraw the « Logigraphe » of page 41, very confused to everyone, even to French people (yes, it's possible).

The « Logigraphe » is the graph of all permutations available in the RPN (4 elements) stack, a very useful tool to anyone who wants to program a calc from HP-65 to 16c model. You can view and read the original document here:

Link to Programmer HP-41's PDF version

Using this strange map is simple : focus on the beginning of the graph, search for the aimed combination, and find the shortest path using Rd, x<->y, etc.

Nevertheless in these ancient times without OpenOffice, drawing a good graph was not easy, and this document appears 30 years later a bit old-fashioned. By thanking the two writers P. Descamps & J.-J. Dhénin for this wonderful book and their precious work, I chose to publish this new graph (a flattened truncated octahedron) which will be perhaps useful to some people, at least in this museum.

Here it is :

HP RPN stack permutations graph PDF version

For any OpenOffice version, please mail me.

Many thanks to Luiz C. Vieira for his HP fonts.

Xavier

Post Scriptum : I didn't read every documentation about it (!), and perhaps this graph is a very old idea published already in some country… In this case, I do apologize for this wasted time of reading. If not, maybe that a further step in this direction (in my humble opinion) would be an HP-41 program to inform the shortest path for any permutation combining the 4-elements stack plus the L register : the 120 permutations are by far too many for a simple 2D-graph.

Re: HP RPN stack permutations graph

*Message #2 Posted by **x34** on 18 May 2011, 4:06 p.m.,*
in response to message #1 by Xavier A. (Brazil)

Excellent idea, I'll try to do 35s version adding Lastx and xyzt stack commands.

Re: HP RPN stack permutations graph

*Message #3 Posted by **Paul Dale** on 18 May 2011, 5:53 p.m.,*
in response to message #1 by Xavier A. (Brazil)

This reminds me of a command I had in the WP-34s for a while.

```
SHFL abcde
```

Where a, b, c, d & e are all from the set { X, Y, Z, T, L } allowing duplication.

This command shuffled the stack and LastX register in any permutation. For example:

- *SHFL YXZTL* was X<>Y
- *SHFL YZTXL* was Rv
- *SHFL TXYZL* was R^
- *SHFL LXYZL* was LastX
- *SHFL XXXXL* was FILL

Anyway, these examples ought to give an idea of the kinds of things that were possible.

- Pauli

Re: HP RPN stack permutations graph

*Message #4 Posted by **Walter B** on 19 May 2011, 1:55 a.m.,*
in response to message #3 by Paul Dale

Now imagine that for an 8-level stack [:-)

Re: HP RPN stack permutations graph

*Message #5 Posted by **Paul Dale** on 19 May 2011, 2:34 a.m.,*
in response to message #4 by Walter B

We didn't have an eight level stack nor plans for one then :-)

- Pauli

Re: HP RPN stack permutations graph

*Message #6 Posted by **exschr** on 19 May 2011, 4:27 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> Now imagine that for an 8-level stack [:-)

Poor fellow that gets the assignement to draw that graph!
;^)

Re: HP RPN stack permutations graph

*Message #7 Posted by **Paul Dale** on 19 May 2011, 5:30 a.m.,*
in response to message #6 by exschr

The nice bit about the stack shuffle is that the graph becomes very simple. Everything is one step away from the initial stack state.

- Pauli

Re: HP RPN stack permutations graph

*Message #8 Posted by **Marcus von Cube, Germany** on 19 May 2011, 5:47 a.m.,*
in response to message #7 by Paul Dale

But will such a command fit our op code scheme? I doubt it. And what do you do if the stack depth is set to 4 and you encounter a command that treats all 8 or 9 registers? What about complex mode?

If we could ignore LastX and allow shuffling of ABCD in any mode, things become easier. Then we only need an abbreviated notation so that only registers which are to be affected are named such as SHFL ZXY. This would leave T, A, B, C and D alone. We would still need 3 bits per register in eight positions, totaling 24 bits for every possible combination.

Edited: 19 May 2011, 5:47 a.m.

Re: HP RPN stack permutations graph

*Message #9 Posted by **Paul Dale** on 19 May 2011, 6:00 a.m.,*
in response to message #8 by Marcus von Cube, Germany

There were only four stack levels plus last x when I implemented this and 5^5 fitted easily. I even contemplated allowing 0 as well :-)

- Pauli

Re: HP RPN stack permutations graph

*Message #10 Posted by **Frido Bohn** on 19 May 2011, 7:38 a.m.,*
in response to message #1 by Xavier A. (Brazil)

Interestingly, already in the "HP-45 Applications Book" a Section "Stack Register Operations" describes how to manipulate the stack.
It has not the nice graphical representation but shows the keystrokes to be applied, and also interestingly, what HP considered to be noteworthy:

- Clear stack
- Delete x
- Delete y
- Reverse the stack
- Fetch t or roll up
- Fetch t to Y
- Fetch z
- Copy x into Z and T
- Copy y into Z
- Copy y into Z and T
- Copy y and x into Z and T respectively
- Copy y and x into T and Z respectively
- Swap x and rk [k: number of storage register]
- Swap y and z

- Swap z and t
- Swap x and t
- Swap x and z
- Swap y and t

Re: HP RPN stack permutations graph

*Message #11 Posted by **Jake Schwartz** on 19 May 2011, 1:08 p.m.,*
in response to message #10 by Frido Bohn

Hi,

Has anybody seen John Ball's book, "Algorithms for RPN Calculators"? It has a stack-permutations chart in there that is at least 30 pages long for RPN permutations related to machines from the "Classic Series" era.

Jake

Re: HP RPN stack permutations graph

*Message #12 Posted by **Thomas Chrapkiewicz** on 19 May 2011, 6:54 p.m.,*
in response to message #11 by Jake Schwartz

I believe I have a copy.

Re: HP RPN stack permutations graph

*Message #13 Posted by **Allen** on 19 May 2011, 9:55 p.m.,*
in response to message #11 by Jake Schwartz

Agree with Jake. Ball was the "Donald Knuth" of HP stack permutations.

Re: HP RPN stack permutations graph

*Message #14 Posted by **Xavier A. (Brazil)** on 20 May 2011, 12:46 p.m.,*
in response to message #13 by Allen

Thank you for all your comments. I shall have a look at those books.

Edited: 20 May 2011, 5:38 p.m.

Re: HP RPN stack permutations graph

*Message #15 Posted by **exschr** on 20 May 2011, 6:54 p.m.,*
in response to message #11 by Jake Schwartz

> Quote:
>
> Has anybody seen John Ball's book, "Algorithms for RPN Calculators"?

check this out: TAS offer

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Wp34s base mode question

*Message #1 Posted by **Cristian Arezzini** on 18 May 2011, 7:09 a.m.*

I'm still "playing" with the emulator, waiting for the cable to arrive so that I can reprogram my 30b (by the way, I'm sort of liking the 30b even before reprogramming! Is there a place to download the original 30b firmware, so I can flash it back should I want to?) I'm mostly interested in the "integer base" mode, as I still do some programming in old 8 bit computers - and I used the 16c until now.

On the 16c, if for example you set 2's complement, and 8 bits word, then the numeric entry is interpreted "on the fly": i.e. if I am in base 10 and try to enter 254, this is what happens: I press 2 and the display shows "2"; I press 5 and the display shows "25"; I press 4 and the display shows "-2" because 254 doesn't exist in 8-bit 2's complement, but its bit pattern represents a decimal "-2". The same happens if I try to enter a number too big, i.e. 400: I press 4,0 and the display shows "40", then further digits are completely ignored (because no number starting with "40" and with 3 or more digits has a meaning in 8 bit words). I liked being able to see what was "going on" before actually entering the number on the stack. Is this a behavior that will eventually be implemented, or will it stay as it is?

Second question: I noticed that the current version of the emulator (1.17 build 874) still has the hexadecimal "E" bug - i.e. if you enter E by itself (or as a last digit), it is ignored and a 0 is entered instead. What's the status of that bug? Will it be fixed in a new emulator? Or, is there a way to tell the emulator to use the latest firmware?

Third, unrelated question: Does anyone know if there is a way to have the 16c integer base capabilities (especially with respect to settable word size, and carry/overflow bits management) with the 50G? Either natively or with some additional software?

Thank you, Cristian

Re: Wp34s base mode question

*Message #2 Posted by **Marcus von Cube, Germany** on 18 May 2011, 7:20 a.m.,*
in response to message #1 by Cristian Arezzini

Cristian, V1.17 is frozen with all its bugs. You can get 1.18 from the SVN repository. The emulator is in the trunk/windows/bin subdirectory. This is "software in motion" and may be broken at any time. If that's the case, SVN allows to retrieve older versions.

The emulator does not use the actual flash file as it does not try to emulate the hardware. It uses the same software base (written in C) but is compiled with an MS compiler to produce a Windows executable.

Re: Wp34s base mode question

*Message #3 Posted by **Cristian Arezzini** on 18 May 2011, 8:08 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi Marcus, Thank you for your reply. I just installed the most recent version. The "E" digit bug is indeed gone, but my other questions still stand. I noticed that when you enter a number larger than the word size, it is entered "modulo" the word size... What happens, do you just drop the extra most-significant bits when Enter is pressed? Do you have any plans to implement the 16c behavior (the live interpreting of the

entries)?

Thanks again, Cristian

Re: Wp34s base mode question

*Message #4 Posted by **Marcus von Cube, Germany** on 18 May 2011, 8:45 a.m.,*
in response to message #3 by Cristian Arezzini

The question has to go to Pauli who wrote that stuff. I don't believe that he will implement the life interpretation because wp34s has an internal command line which gets interpreted only when some function is performed. So the interpretation needs to be implemented directly in the input editor.

Your assumption about the modulo interpretation makes sense to me.

Re: Wp34s base mode question

*Message #5 Posted by **Paul Dale** on 18 May 2011, 5:46 p.m.,*
in response to message #1 by Cristian Arezzini

Yes, we do the input modulo the word size.

No, I'm not planning on changing the way numbers are input. The sources are freely available, so feel free to send us a patch :-)

Marcus is correct about the input going into a command line buffer. It should be possible to process the command line on keyboard entry and do what the 16c does.

You'll have to write the bit manipulation code for the 50g if you want carry and overflow. The ancient *fix project includes a pile of RPL code I wrote that does this. I don't remember where to find the repository nor how easy it would be to move to the 50g.

- Pauli

Re: Wp34s base mode question

*Message #6 Posted by **Cristian Arezzini** on 18 May 2011, 11:25 p.m.,*
in response to message #5 by Paul Dale

Thank you both for your replies! :) I don't know C well enough to understand (let alone patch) a project like this, so I think I'll be content with the wp34s as it is - after all, once you know how it works and what to expect from the machine, then it's not that different. But I'm a little better at RPL than at C, so I may try implementing something on the 50g when I have the time... might be fun! :)

Cristian

Re: Wp34s base mode question

*Message #7 Posted by **Neil Hamilton Ottawa** on 19 May 2011, 6:19 a.m.,*
in response to message #1 by Cristian Arezzini

I too am waiting for both my cable and my new HP30b to arrive. I am very willing to sacrifice my current HP20b -- especially since there seems to be a replacement F/W image in the HP SDK -- but I might like to revert the (yet to arrive) 30b back to its native state.

Does anyone know the answer to Cristian's question about restoring the original HP30b F/W? Is it available

from HP by special request or can it be downloaded from the calculator?

BTW: My 20b F/W has a checksum of 130 (copyright 8 01 2008) whereas all the examples I have seen online have different checksums. Does anyone know what F/W versions are out there? What version is in the SDK?

Cheers...

Re: Wp34s base mode question

*Message #8 Posted by **Marcus von Cube, Germany** on 19 May 2011, 6:46 a.m.,*
in response to message #7 by Neil Hamilton Ottawa

HP 30b firmware is available from Tim Wessman on request. I can't give any information about existing versions.

There is no way to read out the flash through the serial connector. In order to get into SAM-BA mode, you'll need to erase the flash first. After this, the original firmware is gone. In wp34s, I've added a command to just clear the boot bit and boot into SAM-BA. This preserves the flash contents. To my knowledge no such feature exists in the original firmware.

[Return to Index | Top of Index]

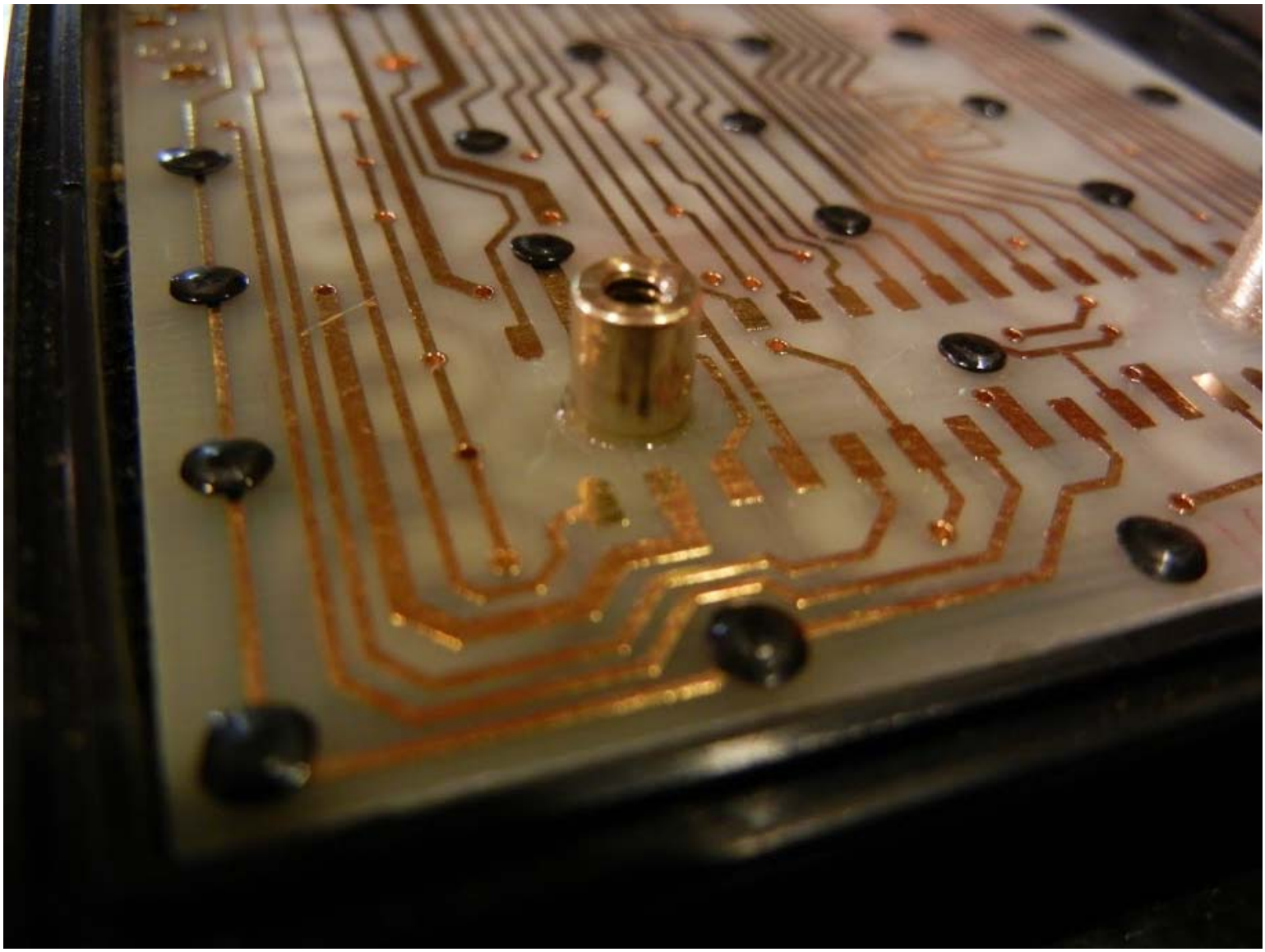
Go back to the main exhibit hall

HP-41 Permanent broken Post Fix

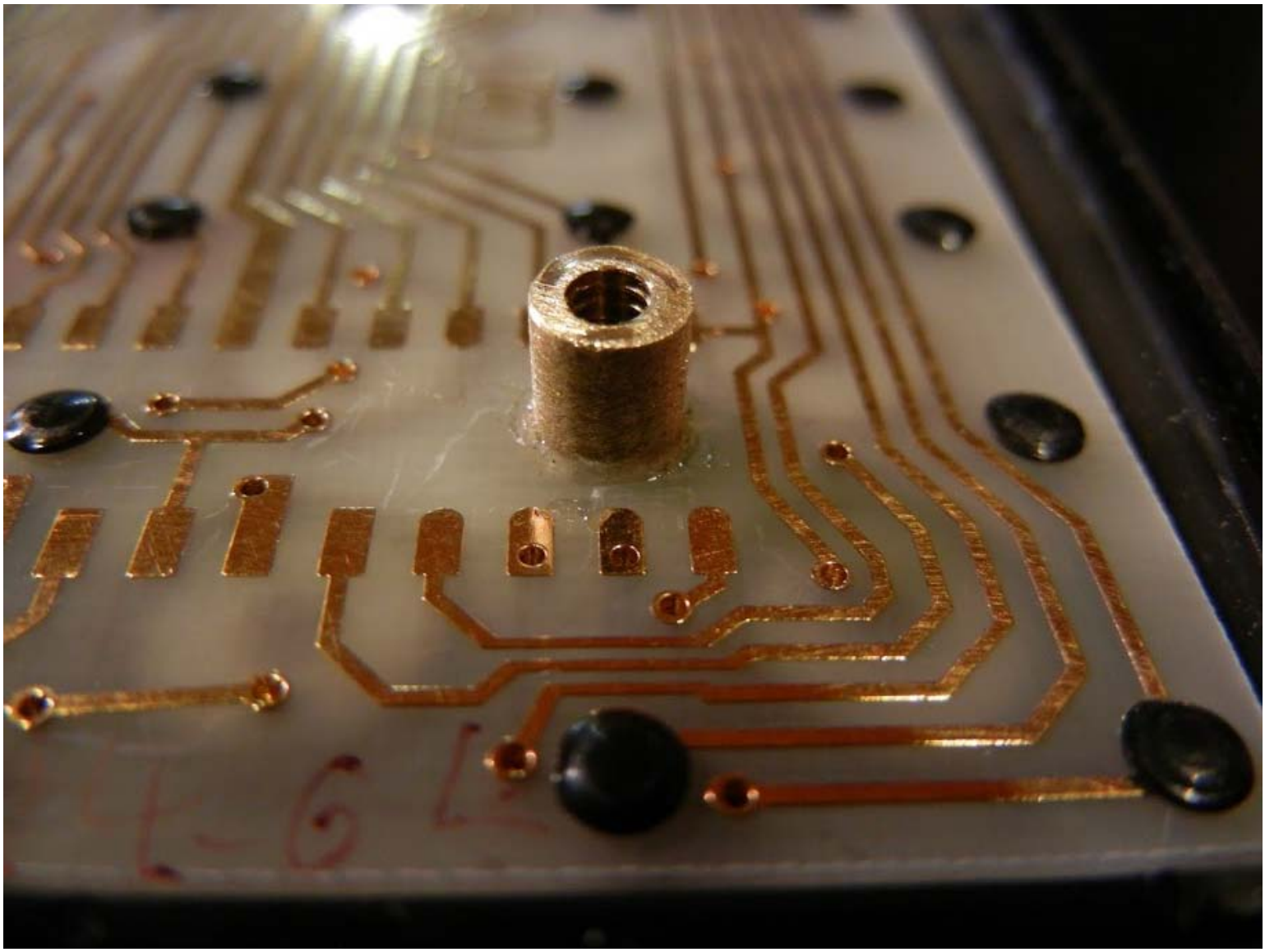
*Message #1 Posted by **aj04062** on 17 May 2011, 10:35 p.m.*

Up for review is my permanent repair to fix your ailing 41.

As some in the forum know, I had posted the question why my two 41CVs were acting strangely. POSTS. Nothing more, nothing less. Well the following is my permanent cure for one. It's posts where helplessly cracked beyond repair. What I resorted to were two 4-40 brass standoffs about .25-.27 inches long x .1875 OD.

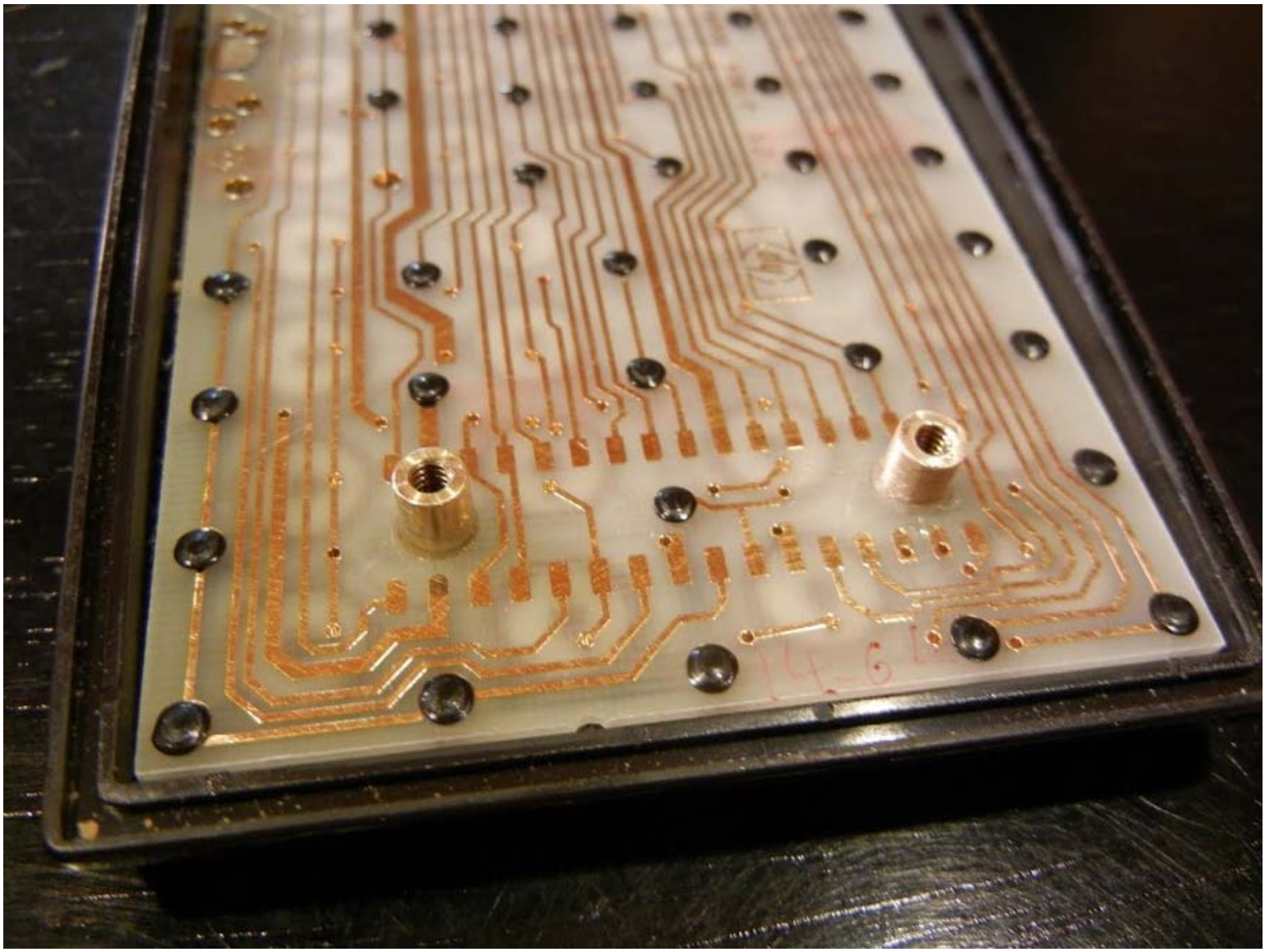


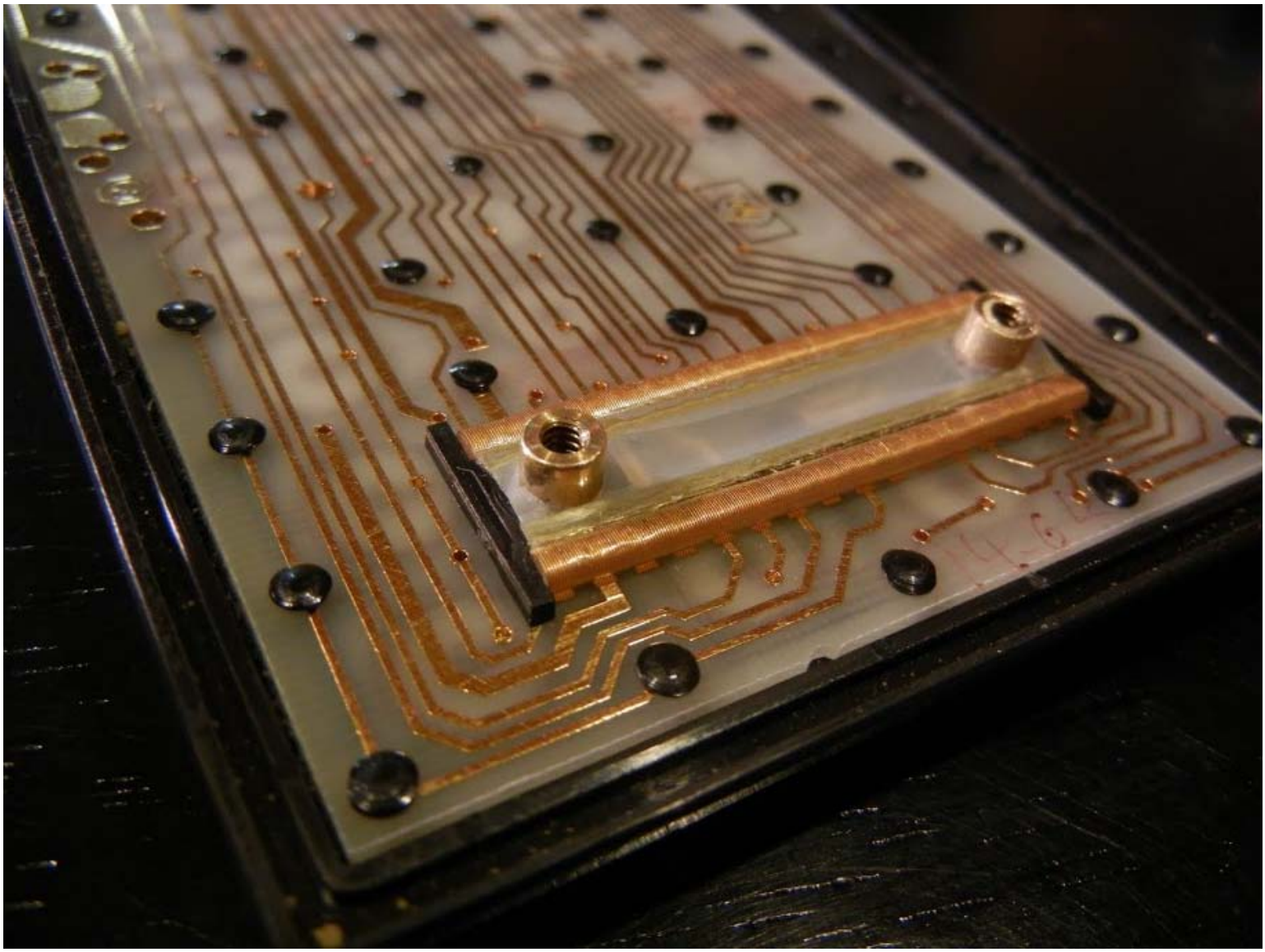
Finished height above board = .200

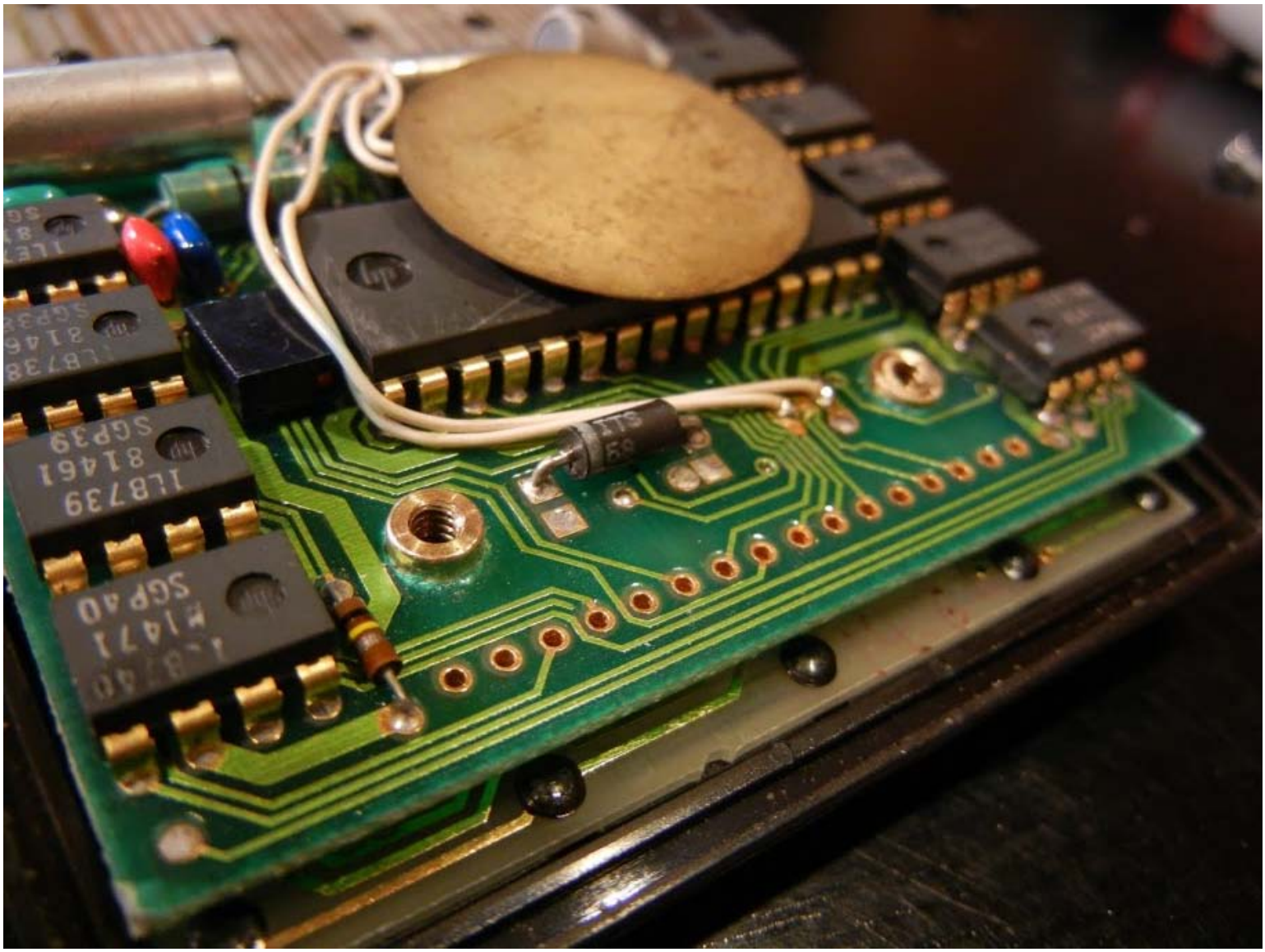


The old post was milled off with a .1875 end mill and bored down about the thickness of the board (.070)

They were then epoxied into place.







Now proper torque can be applied to the 4-40 screws and the unit behaves as it should. Hopefully it will last another 29 years!

Edited: 17 May 2011, 10:49 p.m.

Re: HP-41 Permanent broken Post Fix

*Message #2 Posted by **db (martinez, ca.)** on 17 May 2011, 11:54 p.m.,*
in response to message #1 by aj04062

That's a very elegant solution. I just lazy out and slip slightly too-tight springs over the split plastic. It works but not as prettily as your brass fittings.

Re: HP-41 Permanent broken Post Fix

*Message #3 Posted by **aj04062** on 18 May 2011, 6:04 a.m.,*
in response to message #2 by db (martinez, ca.)

These ones were shattered and sheared off at the board. No spring would have helped them!

Re: HP-41 Permanent broken Post Fix

*Message #4 Posted by **Angel Martin** on 18 May 2011, 1:46 a.m.,*
in response to message #1 by aj04062

Brilliant solution, and great pics!

Re: HP-41 Permanent broken Post Fix

*Message #5 Posted by **Didier Lachieze** on 18 May 2011, 2:11 a.m.,*
in response to message #1 by aj04062

Great solution! Would you have some spare standoffs as I just have one 41C with the exact same problem?

Re: HP-41 Permanent broken Post Fix

*Message #6 Posted by **aj04062** on 18 May 2011, 6:03 a.m.,*
in response to message #5 by Didier Lachieze

I should have a few next week. I requested a sample lot from Keystone Electronics. They will need to be faced back from their .375 length to .25-.27. Drop me an email off-line for info.

Re: HP-41 Permanent broken Post Fix

*Message #7 Posted by **Monte Dalrymple** on 18 May 2011, 9:53 a.m.,*
in response to message #6 by aj04062

Excellent solution. I've got a couple of machines that can use this fix. But isn't the .1875 OD a little too big for the holes in the processor board? I thought that the posts were 4.3mm (0.169) and the holes in the processor boards were 4.5mm (0.177). Did you have to slightly enlarge the holes in the processor board?

Monte

Re: HP-41 Permanent broken Post Fix

*Message #8 Posted by **PeterP** on 18 May 2011, 10:22 a.m.,*
in response to message #6 by aj04062

aj, can you post a link with what exactly you ordered, I think there might be a few people (including myself) that want to try your truly elegant and well working solution.

Thanks!

Peter

Re: HP-41 Permanent broken Post Fix

*Message #9 Posted by **Raymond Del Tondo** on 18 May 2011, 12:04 p.m.,*
in response to message #8 by PeterP

I'm interested in a couple of these brass cylinders, too.

Are these available in the suitable legth for the upper posts, too?

Is the screw thread already there?

Thanks

Ray

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

WP34s 1.17 Build 874 possible SETTIM bug?

*Message #1 Posted by **BobVA** on 17 May 2011, 10:29 p.m.*

Hi: I noticed when using SETTIM that the input argument's seconds value seems to be ignored and replaced with some value between 10 and 14.

For example if I have 22.0400 on the stack, execute SETTIM then immediately press hTIME I get a value back of 22.0412 instead of an expected 22.0402 or something close to that.

Regards, Bob

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #2 Posted by **Tim Wessman** on 17 May 2011, 10:36 p.m.,*
in response to message #1 by BobVA

Wow! A command all for me. :-)

Tim W

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #3 Posted by **BobVA** on 17 May 2011, 10:42 p.m.,*
in response to message #2 by Tim Wessman

Oh man, I hope that's not changing your TV channels or something :-)

Re: WP34s 1.17 Build 874 possible SETTIM bug? - Fixed!

*Message #4 Posted by **Marcus von Cube, Germany** on 18 May 2011, 2:02 a.m.,*
in response to message #3 by BobVA

I will check it. What happens, if you set the clock to something like 1.2345 ?

Edit: The seconds written to the RTC were definitely bogus. I fixed it in SVN for V.1.8. V1.17 will not be fixed.

Edited: 18 May 2011, 3:37 a.m.

Re: WP34s 1.17 Build 874 possible SETTIM bug? - Fixed!

*Message #5 Posted by **BobVA** on 18 May 2011, 10:01 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Just installed 1.18 - problem solved.

Thank you!

Bob

Edited: 18 May 2011, 10:04 p.m.

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #6 Posted by **John B. Smitherman** on 18 May 2011, 11:58 p.m.,*
in response to message #2 by Tim Wessman

Aren't you glad there's no KILLTIM command? ;-)

Regards,

John

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #7 Posted by **Paul Dale** on 19 May 2011, 12:02 a.m.,*
in response to message #6 by John B. Smitherman

I can always add one :-)

- Pauli

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #8 Posted by **Walter B** on 19 May 2011, 1:58 a.m.,*
in response to message #7 by Paul Dale

Come on, that was a peaceful project so far :-)

Walter

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #9 Posted by **Tim Wessman** on 19 May 2011, 10:26 a.m.,*
in response to message #7 by Paul Dale

:-(

Re: WP34s 1.17 Build 874 possible SETTIM bug?

*Message #10 Posted by **John B. Smitherman** on 19 May 2011, 11:03 a.m.,*
in response to message #9 by Tim Wessman

Other possibilities: PEEKTIM, POKETIM, PUTTIM, POPTIM, PUSHTIM, DIVIDETIM, ROTATETIM, FLOATTIM, MASKTIM, ABORTTIM...

Let's hope your wife doesn't execute REMOVETIM, SWAPTIM or REPLACETIM.

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Questions about "flashing" a 30B

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 17 May 2011, 8:47 a.m.*

I would like to receive comments about the following questions:

a) Comments about incompatibility of SAM-BA and Windows 7 appeared elsewhere, suggesting to only use it on Win XP and machines with a physical serial port. While I still have accesss to one of these, I also read (Atmel web site) that SAM-BA is compatible with Windows 7 and with USB serial ports that support CDC (Communication Device Class). Would this work? BTW, I just received the special serial cable.

b) Which is the device type in the HP 30B (SAMxxyy)?

c) What are the steps to replace original firmware with a new image?

d) How critical is to use an external power supply during the "flash" operation?

I know most of this information has been already discussed and posted over the last months. It may be good if some of the experts uploads an article to the Articles Forum on the MoHPC, so information is easier to locate (compared with volatile forum threads).

Thanks in advance,

Andres.

Re: Questions about "flashing" a 30B

*Message #2 Posted by **gene wright** on 17 May 2011, 9:47 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Here's the link to the file in my Dropbox:

Flashing a 20b PDF

If that does not work, email me and I will send the PDF.

Edited: 17 May 2011, 9:47 a.m.

Re: Questions about "flashing" a 30B

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 17 May 2011, 4:04 p.m.,*
in response to message #2 by gene wright

It worked fine, thank you!!

Re: Questions about "flashing" a 30B

*Message #4 Posted by **cyrille de brebisson** on 17 May 2011, 1:35 p.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Hello,

a) SAM-BA, serial port and windows7 - I don't know about win7, but Sam-Ba does not work well with USB serial coms... seomthing having to do with the fact that USB is packet based and serial byte based, creates timing issues with most serial designed communication protocols. I developped an alternative to SAM-BA, which work better, but I was told that it was not detecting serial ports under win7. bottom line, XP and physical com port is best...

b) Which is the device type in the HP 30B (SAMxxyy)? - AT91SAM7L128

c) What are the steps to replace original firmware with a new image? - connect all, press on reset on cable, press and hold erase on cable, turn calc on, relase erase, press reset on cable, turn calc on (it will not show anything), start SAM-BA program, at end of download, press reset again on cable.

d) How critical is to use an external power supply during the "flash" operation? - not at all. if you run out of power, repeat as above with new batteries.

cyrille

Re: Questions about "flashing" a 30B

*Message #5 Posted by **Katie Wasserman** on 17 May 2011, 2:19 p.m.,*
in response to message #4 by cyrille de brebisson

I've had no problem using SAM-BA V2.6 (you need a patch that includes the AT91SAM7L128) under WinXP and Win7-32bit with USB-to-serial port adapters (I've used 2 different ones). It also works fine on both op-sys with a real serial port, naturally.

That said, I did have some trouble with a later version of SAM-BA with USB-to-serial adapters that I tried.

-Katie

Re: Questions about "flashing" a 30B

*Message #6 Posted by **Marcus von Cube, Germany** on 17 May 2011, 2:29 p.m.,*
in response to message #5 by Katie Wasserman

For me SAM-BA.EXE V2.10 works fine under WinXP in a virtual machine on my Mac. In very rare occasions the transmission hangs and I have to repeat the process: Stop SAM-BA, reset and turn on the calculator (no need to erase again), restart SAM-BA and repeat the download.

In any case, don't forget to set the "Boot from flash" bit before you stop the GUI!

Cyrille, I've heard that MySamba has a problem flashing the recent wp34s images which are shorter than 128KB. I leave some space free for data at the end of the flash memory. Does this cause trouble?

Re: Questions about "flashing" a 30B

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 17 May 2011, 4:14 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Thank you all, Gene, Katie, Cyrille, Marcus, for your comments! Best regards.

Re: Questions about "flashing" a 30B

*Message #8 Posted by **Mark Harman** on 18 May 2011, 12:43 p.m.,*
in response to message #5 by Katie Wasserman

Katie,

Would it be possible to email me a copy of SAM-BA v2.6 with the patch? I have v2.10 and it won't work for me on my Win7 virtualization with USB->Serial Adapter. I can't locate a download for 2.6 anywhere online (perhaps I am not looking in the right places). I would really appreciate this.

Thanks so much,

Mark

Re: Questions about "flashing" a 30B

*Message #9 Posted by **Katie Wasserman** on 18 May 2011, 1:17 p.m.,*
in response to message #8 by Mark Harman

You've got PM

Re: Questions about "flashing" a 30B

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 18 May 2011, 8:58 p.m.,*
in response to message #8 by Mark Harman

Hi Katie,

If possible, I would like to ask you for the same files. My address is a . rodriguez at ieee . org (of course, spaces around the dots are to be removed).

Thank you in advance, best regards.

Re: Questions about "flashing" a 30B

*Message #11 Posted by **Katie Wasserman** on 18 May 2011, 10:43 p.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

They're on the way....

Re: Questions about "flashing" a 30B - cheap units on eBay

*Message #12 Posted by **Marcus von Cube, Germany** on 18 May 2011, 7:14 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

My spare 30b has just arrived - dirt cheap! Here is the eBay BIN auction. This was even a good deal despite the $21 postage to Germany. They have still some units available.

My eBay ID: mvcube

This is the unit which will be permanently converted to wp34s.

Re: Questions about "flashing" a 30B - cheap units on eBay

*Message #13 Posted by **Katie Wasserman** on 18 May 2011, 1:13 p.m.,*
in response to message #12 by Marcus von Cube, Germany

They are quite cheap and the seller seems to have a good supply. These seem to be store returns (as I read it) as they are not in the original packaging and might have some scratches. I'm curious if all the keys work nicely, etc..

Re: Questions about "flashing" a 30B - cheap units on eBay

*Message #14 Posted by **Marcus von Cube, Germany** on 18 May 2011, 4:08 p.m.,*
in response to message #13 by Katie Wasserman

Mine seems to be fine so far.

Re: Questions about "flashing" a 30B - cheap units on eBay

*Message #15 Posted by **Cristian Arezzini** on 24 May 2011, 8:40 a.m.,*
in response to message #13 by Katie Wasserman

Katie, I know it's an old thread, but I have two 30bs I bought from that seller; both came without the box, but in totally flawless conditions. Everything is perfect on both, including the keys.

Cristian

Re: Questions about "flashing" a 30B - cheap units on eBay

*Message #16 Posted by **Katie Wasserman** on 24 May 2011, 10:33 a.m.,*
in response to message #15 by Cristian Arezzini

Thanks for the feedback!!!

-Katie

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Rebuilding a HP41 battery pack

*Message #1 Posted by **M. Joury** on 16 May 2011, 5:15 p.m.*

I have several old HP41 battery packs that require rebuilding so I have been perusing some old articles on the topic. Unfortunately I have never figured out how to search this forum efficiently and am quite sure that I have missed relevant data. At any rate, since I absolutely hate soldering anything I decided today to take a trip down to the local Batteries Plus and see what they had available. The only thing they had was a 50MAh NiCd cell that specifies a charge rate of 5ma for 14-16 hours. Since these are the cells that were already in the pack (from a trip to B+ some 15 years ago) I went ahead and had them rebuild 2 packs for me.

On returning home I got online and found a NiMh 1/3 AAA that is rated at 170 MAh and that got me thinking...

Looking at the 82059D charger sitting in front of me I see that it has an output of 8VAC with a maximum power output of 3VA. If I remember my high school and college physics that translates into a max current of 375MA. So, given that the output is AC and that 375MA would absolutely toast a 1/3 AAA cell rated at 50MAh (that would be a whopping 7.5C rate for a very small cell) I am assuming that there is some circuitry that regulates the charging current. If this is so, and if the charge rate is limited to 5MA or thereabouts, it would seem to me that replacing a 50MAh cell with a 170MAh cell would push the charge time to upwards of 34 hours. So my question is: Has anyone tried a higher capacity cell in a 41 pack and what sort of capacity, charge times, and run times are you seeing?

Cheers,

Marwan

Edited: 16 May 2011, 5:15 p.m.

Re: Rebuilding a HP41 battery pack

*Message #2 Posted by **John Robinson** on 16 May 2011, 9:40 p.m.,*
in response to message #1 by M. Joury

Hi Marwan,

I use GP cell GP17AAAH1A1H cells for my rebuilds, and change nothing else. I charge overnight, so 12 hours (ish), but I couldn't tell you how long that charge lasts. But, you could change R1 (see http://www.keesvandersanden.nl/calculators/hp82120A.php) in the battery pack circuit to increase the charge rate.

Cheers, John

Re: Rebuilding a HP41 battery pack

*Message #3 Posted by **M. Joury** on 16 May 2011, 10:35 p.m.,*
in response to message #2 by John Robinson

Hi John,

Thanks for the info. This is the cell I located online: [link: http://www.interstatebatteries.com/cs_eStore/Products/RT/PID-ASC0994(Other+Products).aspx?dsNavigation=Ns~product+Type|101|1|%2cN~2147384805-4294765403-4290305461&Title=1.2V+170MAH+NIMH+1%2f3+AAA]NiMh Cell[/link]

Sorry, I can't seem to get the darn link to display correctly.

It appears very similar to the cell you are using. According to the specs for your battery they recommend 16 hours at 17 MA. My guess is that you are not getting a full charge. However, I have to wonder, if the charge rate of the unmodified pack is right around 5MA, whether you could keep the pack plugged in indefinitely without fear of overcharging and only unplug it when away from your desk. I mention this possibility because a C/34 rate is extremely low and would generally be considered a safe trickle charge rate (at least for a NiCd and I do realize that we are talking NiMh here).

I think that I will grab 4 of these and get out the old soldering iron and give it a try. Admittedly, as stated in my initial posting, I am terrible with a soldering iron but I can always hijack the services of a friend.

Cheers,

Marwan

Edited: 16 May 2011, 10:45 p.m.

Re: Rebuilding a HP41 battery pack

*Message #4 Posted by **John Robinson** on 16 May 2011, 11:26 p.m.,*
in response to message #3 by M. Joury

Hi Marwan,

Yes I am probably undercharging the GP cells, I may change the value of R1 so I see ~17mA going into the cells, and that should suffice.

Before you buy the cells, just make sure they have solder tabs. I clicked through that link, and I couldn't really tell from the pic on that page. The GP17AAAH1A1H definitely do have solder tabs.

If you need help sourcing suitable cells let me know, I don't think I have any spares, but I can possibly get some for you, or help you to find a supplier in the US which would make more sense as I'm in Australia.

Also, I have a documented procedure for doing the cell replacement, so I can mail that to you if you like.

Cheers, John

Re: Rebuilding a HP41 battery pack

*Message #5 Posted by **M. Joury** on 17 May 2011, 12:33 a.m.,*
in response to message #4 by John Robinson

Hi John,

I would love to get hold of that procedure. I'll contact you offline and send you my email. I think that I found a US source for the cells you are using but I'll have to take another look in the morning.

Thanks for your help!

Marwan

Re: Rebuilding a HP41 battery pack

*Message #6 Posted by **Dieter** on 17 May 2011, 2:35 p.m.,*
in response to message #1 by M. Joury

Here is some information you might find useful:

- The 82059 (or 82066) charger is rated at 8 V AC (!) and 3 VA, but this is not relevant at all here. The AC-adapter does not push current into the batteries, it's the charging circuit that sets the charging current. The PCB inside the 82120A battery pack sets this current to something like 15 mA (DC of course). This means, that a completely empty (BAT announciator on) common 150 or 170 mAh 1/3-AAA-size NiMH-battery will be charged within 12-14 hours.

- 1/3 AAA is the right size here, and the net knows various instructions on how to refurbish an old 82120A-pack with current NiMH batteries.

- Soldering tabs are nice, but there is a better solution. For instance, my local battery distributor does not only stock this type of "industrial use" batteries, they also offer custom-built packs with nicely welded (!) tabs, even shrink-wrapped, if you wish. Maybe you will find a similar service in your area, or at least on the net.

- There is another option: Use N-size NiMH cells. Their capacity is 500 mA, i.e. three times the 1/3 AAA type. Use these cells in the regular 41-series battery holder and charge them externally. You can even use an old AA-charger rated at 45-60 or 100...120 mA, since back in the Eighties 500 mA was the usual capacity for AA-size NiCds. Charging time = 1,2 * capacity / current. There are mechanical adapters to fit N-batteries in AA-chargers. But beware - do not use chargers with higher currents.

Dieter

Re: Rebuilding a HP41 battery pack

*Message #7 Posted by **M. Joury** on 17 May 2011, 5:06 p.m.,*
in response to message #6 by Dieter

Hi Dieter,

You confirmed some of the information that I suspected. What I was not aware of was the 15MA charge rate. This seems somewhat high for a 1/3 AAA cell of that period (early to mid 80's) but I will accept this info as fact. If so, obviously replacing with a higher capacity NiMh cell without any changes to the internal circuitry becomes trivial. It would also seem that charge times for an original capacity NiCd rated at 50MAh should be kept around 4 hours.

At one point I tried the rechargeable 'N' cell approach. For various reasons (primarily the quality of the cells available at the time) this did not work very well for me. I am going to look into this again as it would be a great option.

Now for a completely different approach... I fly electric powered radio control aircraft and there are a plethora of packs available for these planes. I have sitting in front of me a 3.7V (single cell) 400mAh LiPo pack that is about 30mm*25mm*8mm in size. This pack would easily fit in the space available in a 41 battery pack. A singe cell LiPo pack has a nominal voltage of 3.7 V and a full charge voltage of 4.2 V. Will a 41 run off this voltage and if not would the next size up (7.4/8.4) destroy it? Of course this approach would require a very specialized charger (which I have) and probably require that it be charged outside of

the calculator.

Thanks again for the information that you provided. Any thoughts on the above idea would be appreciated.

Marwan

Re: Rebuilding a HP41 battery pack

*Message #8 Posted by **Dieter** on 18 May 2011, 3:00 p.m.,*
in response to message #7 by M. Joury

This topic - rebuilding a 82120A pack and related questions - has been discussed here not too long ago. You will find further information there.

The 82120A battery pack did not use 1/3 AAA size cells, but 1/2 N size batteries. This size is no longer available, but 1/3 AAA is a nice (slightly smaller) replacement. The original batteries had a capacity of about 70-80 mAh, so an empty pack was fully charged after 7 hours. Now think of thousands and millions of users who left their pack charging for 10 or 12 hours, or even longer...

The charging current indeed is about 15 mA. A friend of mine measured 15,6 mA in his pack, and this is confirmed by a quick look at the schematics. Please take a look at this site. The AC-adapter 82066 (European version) provides the usual nominal 8 V AC, but since there is virtually no load the effective voltage is more like 11 V AC. Behind the rectifier and the smoothing capacitor the voltage should be something like 15 V DC, just right for the following 12 V DC-regulator. The charging circuit finally is essentially a 365 Ohm resistor across which the voltage is 12 V minus the 6,2 V Zener diode minus roughly 0,6 V drop caused by D6. Thus the nominal charging current is (12 - 6,2 - 0,6) V / 365 Ohm = 14 mA. Voila.

There are slight differences between earlier and later 82120A packs, there were even packs with three pins. However, I assume the basic schematics are similar.

Using Li-Ion or Li-Po batteries is an option that comes to mind soon once you think about alternative solutions. But the voltage will be a problem. The BAT announciator comes on at 4 Volts, and two cells (around 8 Volts) are too much in my humble opinion.

Dieter

Re: Rebuilding a HP41 battery pack

*Message #9 Posted by **M. Joury** on 18 May 2011, 5:47 p.m.,*
in response to message #8 by Dieter

Hi Dieter,

Since I had some difficulty searching the forum for this topic the information you provided is useful and appreciated. Your opinion that 7.4 - 8.4 volts is too high for the 41 will keep me from trying the 2 cell LiPo option at this time. The information on the battery annunciator voltage is also useful. The LiPo cell I was considering is designed for extremely high discharge rates (this particular cell is rated at 20C) so it might be that a single cell solution would actually work since the extremely low current requirement imposed by the 41 would cause little or no voltage depression for a large part of the cells life. When I have some time I might try to test this theory and see if a single cell LiPo works.

I have also done an online search for rechargeable NiMh N cells and find that they are actually quite easy to locate. The problem is that I can't find adapters to charge them in a standard AA/AAA

charger. I am still looking into this as it appears to be an attractive option.

Thanks again for all your help!

Marwan

Re: Rebuilding a HP41 battery pack

*Message #10 Posted by **Dieter** on 19 May 2011, 1:41 p.m.,*
in response to message #9 by M. Joury

The mentioned AA-adapter is readily available in many stores that sell electronic components. I do not know where you live, but here's an example from a major German supplier (Conrad Electronics). There even is a PDF data sheet. As you can see the adapter is made of aluminium. Real cowboys of course will make their own adapters. ;-) I have a set of four, handmade by a friend with far better skills in this area than mine.

Charging N-cells can be done in many ways. A long time ago I built a simple constant-current charger that can be set to 75 and 150 mA (basically the same design as the one used in the 82120A pack). Simply put four N-cells in a usual battery holder (like this one) and connect the charger of your choice.

Dieter

Re: Rebuilding a HP41 battery pack

*Message #11 Posted by **M. Joury** on 19 May 2011, 5:28 p.m.,*
in response to message #10 by Dieter

Hi Dieter,

I thought about charging serially but if at all possible I would prefer to charge cells individually. I will continue to search for a commercial solution and if I can't find one I'll try the build-my-own approach or go for charging them in series.

When I get the time I am going to try a single cell LiPo battery and I'll post my findings.

Again, thank you for all the information you have provided.

Marwan

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12C

*Message #1 Posted by **Diehl-Peshkur** on 16 May 2011, 11:48 a.m.*

Another question for the collective wisdom: Did ALL early 12C models have the gold bezel? Or were there exceptions? Thanks! Theo

Re: 12C

*Message #2 Posted by **Geoff Quickfall** on 16 May 2011, 1:36 p.m.,*
in response to message #1 by Diehl-Peshkur

By all early models, the three cell (357, 1.5v) versions were all gold.

I think the only non gold is the platinum version.

Others will correct me I am sure!!!!

Geoff

P.S. I see from an earlier post that you may be thinking of swapping the bezel. Just a caveat. The bezel may or may not be easy to remove due to the amount of glue used to hold it down. My 10c was so damaged that I did not care about removing it without destroying it. The donor calc was so corroded (the batteries were fused together by rust) that I was able to sacrifice the interior for the bezel. That is, I was not afraid to heat the bezel to a high temperature that might ruin the LCD panel or internals.

I also think, that a silver bezel with the 12C badge would be a novelty. But that would be a personal choice. If you refinish the bezel while still on the calculator (part of the post you were directed to), then you would remove the gold finish. Spray paint would not be an option. The aluminum would be attractive however.

Edited: 16 May 2011, 1:42 p.m.

Re: 12C

*Message #3 Posted by **Diehl-Peshkur** on 16 May 2011, 4:38 p.m.,*
in response to message #2 by Geoff Quickfall

Thanks for the response Geoff. Indeed, it is one of the very earliest 12C's, and the gold bezel is badly scratched. Seems a pity to pull it apart just to keep the gold color. In fact, I actually have never liked the gold finished 12C's. So I will probably try your 'in place' refinishing ;-) ! Regards, Theo

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Geoff Quickfall

*Message #1 Posted by **Diehl-Peshkur** on 16 May 2011, 11:36 a.m.*

Hello, Does anyone know if Geoff's book on HP Voyager restorations is still available? His email is not public. Any advice appreciated.Cheers, Theo

Re: Geoff Quickfall

*Message #2 Posted by **exschr** on 16 May 2011, 11:55 a.m.,*
in response to message #1 by Diehl-Peshkur

As far as I read here, it's still not yet finished. Everyone is waiting for it and is bugging Geoff to keep on finalizing it.

Re: Geoff Quickfall

*Message #3 Posted by **Geoff Quickfall** on 16 May 2011, 1:31 p.m.,*
in response to message #1 by Diehl-Peshkur

I talked to Geoff personally, he is targeting San Diego, barring the job, house, car and life ;-)

Cheers,

;-)

Re: Geoff Quickfall

*Message #4 Posted by **Jake Schwartz** on 16 May 2011, 2:03 p.m.,*
in response to message #3 by Geoff Quickfall

> Quote:
>
> ... he is targeting San Diego....

And for the uninitiated, by this he means he is targeting the timeframe of the HHC2011 HP Calculator Conference in San Diego, to be held in September. For additional information, please check http://hhuc.us/2011/ .

Thanks, Jake

Re: Geoff Quickfall

*Message #5 Posted by **gene wright** on 16 May 2011, 2:21 p.m.,*
in response to message #3 by Geoff Quickfall

And, he's also targeting reuniting some of his friends with some of their calculating friends who were in the large pile Geoff graciously agreed to repair?

:-)

Re: Geoff Quickfall

*Message #6 Posted by **geoff quickfall** on 16 May 2011, 2:49 p.m.,*
in response to message #5 by gene wright

YES!

;-)

maybe sooner!

Re: Geoff Quickfall

*Message #7 Posted by **gene wright** on 16 May 2011, 3:11 p.m.,*
in response to message #6 by geoff quickfall

Tease!

lol

Hey, I know lots of us are looking forward to your book. It will be a great addition to the knowledgebase.

Thanks in advance.

Re: Geoff Quickfall

*Message #8 Posted by **Egan Ford** on 16 May 2011, 6:31 p.m.,*
in response to message #1 by Diehl-Peshkur

A not-to-infrequent occurrence in retro-based forums and newsgroups is a subject containing just a name with the message body the start of an obituary.

Glad to know you're still around Geoff.

Re: Geoff Quickfall

*Message #9 Posted by **Paul Dale** on 16 May 2011, 6:49 p.m.,*
in response to message #8 by Egan Ford

This was might first thought too :-(Thankfully, it hasn't happened.

- Pauli

still here ;-)

*Message #10 Posted by **geoff quickfall** on 16 May 2011, 7:08 p.m.,*
in response to message #9 by Paul Dale

I am working on my Obituary, but I am hoping it doesn't get published for at least another 40 years!!!!

Geoff

Re: still here ;-)

*Message #11 Posted by **Walter B** on 17 May 2011, 4:03 a.m.,*
in response to message #10 by geoff quickfall

Come on, Geoff, we don't want to find your book to be completed in 40 years still ;-)

BTW, my first thoughts were like Pauli's ...

Many happy landings! :-)

Re: still here ;-)

*Message #12 Posted by **Marc Ferrer (France)** on 18 May 2011, 1:36 p.m.,*
in response to message #10 by geoff quickfall

Hello Geoff,

40 years... this is the very least I wish you :-)

I don't show up very often on this forum (so much to learn from you all...). So I grab the opportunity to tell you that I'm very interested in your book.

The excerpts I've already seen clearly show that this is an outstanding work. Congratulations ! Please, would you add me on your list ? Thank you very much.

Regards from France, Marc

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Has anyone seen the 10bii+ in the office stores yet?

*Message #1 Posted by **Eddie W. Shore** on 16 May 2011, 9:51 a.m.*

Even though I have one, I have not seen this calculator in office stores. I live in the San Gabriel Valley (east of Los Angeles).

Re: Has anyone seen the 10bii+ in the office stores yet? Availability outside U.S.?

*Message #2 Posted by **Marcus von Cube, Germany** on 16 May 2011, 11:16 a.m.,*
in response to message #1 by Eddie W. Shore

I'd like to ask a similar question. Is there a chance to get the 10bii+ outside the U.S.? The HP online store does not ship to foreign countries and the German store does not list it. I could neither find it in any other online store. :-(

Re: Has anyone seen the 10bii+ in the office stores yet? Availability outside U.S.?

*Message #3 Posted by **Katie Wasserman** on 16 May 2011, 11:57 a.m.,*
in response to message #2 by Marcus von Cube, Germany

It seems to be available in France. Don't they ship to Germany?

Edited: 16 May 2011, 11:58 a.m.

Re: Has anyone seen the 10bii+ in the office stores yet? Availability outside U.S.?

*Message #4 Posted by **Marcus von Cube, Germany** on 16 May 2011, 12:11 p.m.,*
in response to message #3 by Katie Wasserman

Thanks Katie! Here is the German site: http://www.officeb2b.de/DETAILS-HP-Finanzrechner-HP-10bII%2B%2C-Batteriebetrieb-Z1399443.html

Re: Has anyone seen the 10bii+ in the office stores yet?

*Message #5 Posted by **Geoff Quickfall** on 16 May 2011, 1:43 p.m.,*
in response to message #1 by Eddie W. Shore

Staples in Vancouver carry it.

Marcus, do you need one, email me.

Geoff

Re: Has anyone seen the 10bii+ in the office stores yet?

*Message #6 Posted by **Marcus von Cube, Germany** on 16 May 2011, 1:47 p.m.,*
in response to message #5 by Geoff Quickfall

Thank's Geoff. I just ordered one from a German retailer.

Re: Has anyone seen the 10bii+ in the office stores yet?

*Message #7 Posted by **geoff quickfall** on 16 May 2011, 3:00 p.m.,*
in response to message #6 by Marcus von Cube, Germany

;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP67 for the Android

*Message #1 Posted by **MikeO** on 16 May 2011, 2:48 a.m.*

I've just about completed a version of my HP-67 simulator for the Android operating system. Just need to complete packaging it for the Android app marketplace.

Since I have an HTC EVO device, that happens to be the one I tested. So, right now, the compatible Android phones would have these specifications:
1. 480*800 display
2. Touch screen

You can go to here to find devices with the above specs.

Just wondering how many of you out there would be interested in this.
Also, if you happen to have Android-based phones, what models do you have?

I plan to expand the screen size support to include other models, but want to get an idea of what everyone's using at the moment.

Thanks, Mike
www.limpidfox.com

Re: HP67 for the Android

*Message #2 Posted by **Howard Owen** on 16 May 2011, 2:58 a.m.,*
in response to message #1 by MikeO

I'm very interested in calculator programs for my Evo. I consider it a huge stroke of luck you are developing on the phone I own. :)

Re: HP67 for the Android

*Message #3 Posted by **Steve Simpkin** on 16 May 2011, 3:24 a.m.,*
in response to message #1 by MikeO

I would be very interested in an Android simulator for this model in particular. I have a Motorola Droid (original model) with a screen resolution of 480 x 854.

Re: HP67 for the Android

*Message #4 Posted by **Namir** on 16 May 2011, 5:09 a.m.,*
in response to message #1 by MikeO

Any chance for you porting the HP-67/97 emulators to the iPad/iPod?

Namir

Re: HP67 for the Android

*Message #5 Posted by **MikeO** on 16 May 2011, 4:45 p.m.,*
in response to message #4 by Namir

Definitely a chance. However, I don't much care for Apple's development agreement.

Re: HP67 for the Android

*Message #6 Posted by **exschr** on 16 May 2011, 6:28 a.m.,*
in response to message #1 by MikeO

Samsung Galaxy S 480x800

Thanks, I'm interested in using the Simulator too.

Re: HP67 for the Android

*Message #7 Posted by **Marcus von Cube, Germany** on 16 May 2011, 7:55 a.m.,*
in response to message #1 by MikeO

Hi Mike,

> Quote:
>
> 1. 480*800 display
> 2. Touch screen

My Archos 70 should then qualify, too. Not a phone but an Internet device, running Andiroid 2.2 (if I'm not mistaken).

Re: HP67 for the Android

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 16 May 2011, 7:57 a.m.,*
in response to message #1 by MikeO

I have a Motorola MB502, a.k.a. "Charm", with Android 2.2 (?) and a 320 x 240 touch screen. I run Free42 on it, although the screen looks not even near to the iPod Touch 4 (960 x 480), where I also run Free42 and/or 42S. I would ask for a low-res skin for phones like mine. I read that the MB502 is exclusively sold in the USA by T.Mobile.

Re: HP67 for the Android

*Message #9 Posted by **MikeO** on 16 May 2011, 5:25 p.m.,*
in response to message #8 by Andrés C. Rodríguez (Argentina)

That screen size would be a challenge more from a readability/usability standpoint. I'm game though ;)

Re: HP67 for the Android

*Message #10 Posted by **Pal G.** on 16 May 2011, 11:26 a.m.,*
in response to message #1 by MikeO

I am definitely interested.

Motorola Droid (1) 854x480 version 2.2.2 (FRG83G)

Thanks.

Re: HP67 for the Android

*Message #11 Posted by **Vincent Weber** on 16 May 2011, 11:51 a.m.,*
in response to message #10 by Pal G.

I'm definitely interested. I have an Archos 43 (odd but large 854*480 resolution, hope it won't be a problem).

When is the release coming ? anyway to betatest it ? :)

I would also be very interested in an Iphone version.

Is your simulator complete ? Any known problems / differences with the original ? does it do import/export through a virtual card reader ? Many thanks, best regards,

Vincent

Re: HP67 for the Android

*Message #12 Posted by **MikeO** on 16 May 2011, 5:35 p.m.,*
in response to message #11 by Vincent Weber

The simulators are pretty complete. You can check out the desktop version at my website (see website link in original post). If you haven't already played with those, you can get a pretty good idea of the fidelity.

The mobile version is a java port of my desktop versions for Android. I added some extra features in the desktop version - such as auto loading data and program cards - which I haven't yet ported in the mobile version.

Programs written in the desktop versions and mobile versions are interchangable between any version. Drop files on the phone connected in USB disk drive mode and from phone to computer to share.

Also, obvious things like program listings, internals trace windows, available on the desktop versions are not practical in the mobile version.

I'm planning on having it out there in the next couple days.

Edited: 16 May 2011, 5:38 p.m.

Re: HP67 for the Android

*Message #13 Posted by **Dimitri** on 17 May 2011, 3:52 a.m.,*
in response to message #12 by MikeO

HTC Desire Z 480x800.

I'm interested because I have a real HP67.

Thanks.

Re: HP67 for the Android

*Message #14 Posted by **MikeO** on 19 May 2011, 11:26 a.m.,*
in response to message #1 by MikeO

Wow, got some good ideas on the Android models that are out there.

I'll fold this into the mobile version as quickly as I can. Shooting for this weekend to work on getting a release out to the android Market.

-Mike

Re: HP67 for the Android

*Message #15 Posted by **Vincent Weber** on 19 May 2011, 11:40 a.m.,*
in response to message #14 by MikeO

Thanks Mike ! Can you tell us which resolution(s) will be supported ? Cheers, Vincent

Re: HP67 for the Android

*Message #16 Posted by **MikeO** on 20 May 2011, 10:24 a.m.,*
in response to message #15 by Vincent Weber

Vincent, I think I can add 480*835 support fairly easily.

(in addition to the 480*800 size).

Re: HP67 for the Android

*Message #17 Posted by **Vincent Weber** on 20 May 2011, 12:21 p.m.,*
in response to message #16 by MikeO

What about 854*480 ?

Re: HP67 for the Android

*Message #18 Posted by **Vincent Weber** on 24 May 2011, 10:05 a.m.,*
in response to message #17 by Vincent Weber

Hi Mike,

Can you give us the status of the emulator ? will it be released any time soon ? can't wait ! :)

Thanks and cheers,

Vincent

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bII+ self test

*Message #1 Posted by **hpnut** on 15 May 2011, 6:36 a.m.*

Hi all,

I found this self test for the old HP 10bII.

http://www.educalc.net/1776086.page

it does not appear to work for the new HP 10bII+ - all i get is a "620_ " display.

Re: HP 10bII+ self test

*Message #2 Posted by **Tim Wessman** on 15 May 2011, 10:40 a.m.,*
in response to message #1 by hpnut

That factory test is no longer there. It is more a factory test like the 20/30b. You get a menu which you can select different types of tests/information using + or - to move up or down, and then INPUT enters the test.

Also, we no longer publish the factory test information in the manuals. There have been problems in the past of users doing things incorrectly in there and deciding the calculator is "broken" when in fact it is just fine. Thus the decision was made to not publish the information.

I guess the idea is that "if it isn't in the manual, nobody will know about it. . ." ;-)

TW

Edited: 15 May 2011, 9:00 p.m. after one or more responses were posted

Re: HP 10bII+ self test

*Message #3 Posted by **Katie Wasserman** on 15 May 2011, 12:26 p.m.,*
in response to message #2 by Tim Wessman

Indeed, your comment will achieve exactly the opposite effect!

Outside of those who already know how to do this from "inside information", who's going to be the first one here to figure it out?

-Katie

Re: HP 10bII+ self test

*Message #4 Posted by **Jim Yohe** on 15 May 2011, 6:33 p.m.,*
in response to message #3 by Katie Wasserman

It would save us time if one of you would just tell us but ... I guess it wouldn't be a challenge then. :-)

Re: HP 10bII+ self test

*Message #5 Posted by **Tim Wessman** on 15 May 2011, 9:00 p.m.,*
in response to message #4 by Jim Yohe

It isn't a secret or anything. Just press ON-PMT (from memory - might be remembering wrong) and then you are in a menu. From there, it is pretty easy to figure out - especially if you've seen the 20/30b menu before.

There is one easter egg in the calculator, and it is in the test system menu. :-)

TW

Edited: 15 May 2011, 9:02 p.m.

Re: HP 10bII+ self test

*Message #6 Posted by **hpnut** on 15 May 2011, 10:42 p.m.,*
in response to message #5 by Tim Wessman

LOL! this is going to be fun, i guess it won't be very long before someone in this forum going to prise the easter egg and the self-test sequence.

now, pressing ON PMT together yields " 1 5crEEn "

hmmm.... let's see...

Re: HP 10bII+ self test

*Message #7 Posted by **Tim Wessman** on 15 May 2011, 10:48 p.m.,*
in response to message #6 by hpnut

That is "1 Screen" within 7 segment limitations. Press + and - to move up and down the menu. INPUT activates the test/setting.

TW

Edited: 15 May 2011, 10:48 p.m.

Re: HP 10bII+ self test

*Message #8 Posted by **Katie Wasserman** on 16 May 2011, 12:15 a.m.,*
in response to message #7 by Tim Wessman

An Easter Egg? I had no idea, sounds like fun!

When viewing the "6 Copyright" message, what's the significance of 1752 that displays after the "Copr HP 2010"? I know it's the year Ben Franklin did his famous kite experiment. Does this mean that the 10bii+ is useful as a lightning rod too? :)

Edited: 16 May 2011, 12:15 a.m.

Re: HP 10bII+ self test

*Message #9 Posted by **Tim Wessman** on 16 May 2011, 12:46 a.m.,*
in response to message #8 by Katie Wasserman

Size in bytes of the internal calc structure.

TW

Re: HP 10bII+ self test

*Message #10 Posted by **Jim Yohe** on 16 May 2011, 12:16 a.m.,*
in response to message #7 by Tim Wessman

Actually pressing the "=" key does it not the "Input" key from what I'm seeing on mine.

Re: HP 10bII+ self test

*Message #11 Posted by **Tim Wessman** on 16 May 2011, 12:18 a.m.,*
in response to message #10 by Jim Yohe

Ah, well that is correct then. I made that about a year ago so its been a while. :-)

TW

Re: HP 10bII+ self test

*Message #12 Posted by **Mark Storkamp** on 16 May 2011, 9:28 a.m.,*
in response to message #5 by Tim Wessman

On my 20b the battery test gives a 2.7. Is that good or bad? I've never had a low battery warning, but most times when I turn the calculator on it's completely reset.

Re: HP 10bII+ self test

*Message #13 Posted by **Jim Yohe** on 16 May 2011, 11:31 a.m.,*
in response to message #12 by Mark Storkamp

I'd say try to notice when the low battery warning comes on then check what the voltage says at that time so you'll know where HP set the lower threshold.

Re: HP 10bII+ self test

*Message #14 Posted by **Marcus von Cube, Germany** on 16 May 2011, 11:43 a.m.,*
in response to message #13 by Jim Yohe

FWIW, in wp23s I've set the threshold to 2.4V. If I understand the HP 20b SDK sources correctly, HP sets the low battery annunciator below 2.4V and shuts down the calculator below 2.1V.

Re: HP 10bII+ self test

*Message #15 Posted by **Katie Wasserman** on 16 May 2011, 12:34 p.m.,*
in response to message #14 by Marcus von Cube, Germany

I'd set the low voltage threshold somewhat higher then 2.4 volts to give the user more warning time, especially if the firmware doesn't check the shutdown voltage pretty much constantly.

The 20b/30 draws a lot of current when running a program (assuming a reasonable

clock speed) and becasue of this the internal resistance on the CR2032 cells gets up to a very high value near their end of life. When this happens the voltage drops precipitously when running a program. A measured 2.4 volts when idle might be well under 2.0 volts as soon as a program starts

IMHO, two CR2032 cells in parallel is an extremely poor choice for a power source on a programmable calculator that runs at high speed. While the 10bii+ and 20b were never intended to be programmable the 12C+ (certainly) and 30b (probably, Cyrille has pointed out here that it was supposed to just have keystroke macros) were.

Re: HP 10bII+ self test

*Message #16 Posted by **Mark Storkamp** on 16 May 2011, 12:55 p.m.,*
in response to message #15 by Katie Wasserman

Thanks for the responses. Between the constant resets and the keyboard problems I think it's time to use it for target practice. Maybe I'll put up a YouTube video of the results.

Re: HP 10bII+ self test

*Message #17 Posted by **hpnut** on 17 May 2011, 3:45 a.m.,*
in response to message #16 by Mark Storkamp

Here's my HP 10bII+ (serial no. CNA 04201622) self test results:

1 Screen -lights up all segments, icons, display

2 Keyboard - at the end of the test, yields "Good"

3 Checksum - yields 244.244 (anyone got a different value?)

4 battery - 3.500

5 version - 7-13-2010 (any different version?)

6 copyright - HP 2010 then 1,752

7 test sys - pressing = turns test sys off ?

8 Slow clk (clock?) SC -28,500.00 - what does this mean?

where's and what's the Easter Egg then, huh? :-)

actually, I am beginning to fall in love with this little algebraic HP ;-)

Re: HP 10bII+ self test

*Message #18 Posted by **Marcus von Cube, Germany** on 17 May 2011, 4:06 a.m.,*
in response to message #17 by hpnut

> Quote:
>
> 8 Slow clk (clock?) SC -28,500.00 - what does this mean?

I have an idea. The chip is equipped with two independent oscillators with frequencies of 32.768 KHz and 2 MHz respectively. Since none of them is quartz controlled the precision of the oscillators is questionable at best. In the 20b/30b a quartz can be added to the 32KHz oscillator but in the 10bii+ there are no pads on the board.

The "slow clock" is the 32KHz oscillator, driving the RTC, the LCD, the watchdog timer, and the PLL for the higher operating speeds (up to around 40 MHz). The 2MHz oscillator is an alternate clock source for the CPU. Since the two are independent, they can be compared. There is a special register in the chip counting the clock pulses of the 2MHz oscillator with respect to 16 pulses of the slow clock. The interpretation of this value depends very much on the confidence in the precision of the two oscillators. I assume that HP believes the 2MHz clock to be more precise than the slow clock and tries to guess the actual slow clock speed from there.

Re: HP 10bII+ self test

*Message #19 Posted by **Tim Wessman** on 17 May 2011, 10:57 a.m.,*
in response to message #18 by Marcus von Cube, Germany

I believe this has been talked about before when looking at the 20/30b menu.

Basically, it allows some adjustment of the clock speed if the serial communications are behaving unreliably. This was needed on a few early models that has some issues and needed some "fine tuning" to get talking properly.

I don't think it has been needed/used in quite a while.

You can give it a new value by giving it a number and pressing INPUT (I think you must load the value into the INPUT register before going into the menu unless I am remembering incorrectly).

TW

Re: HP 10bII+ self test

*Message #20 Posted by **Marcus von Cube, Germany** on 17 May 2011, 11:04 a.m.,*
in response to message #19 by Tim Wessman

So the value seen here is not a measured but a "believed to be correct" value settable by a user. Are you using the DBGU pins in production machines?

Re: HP 10bII+ self test

*Message #21 Posted by **Tim Wessman** on 17 May 2011, 11:01 a.m.,*
in response to message #17 by hpnut

3 - No other checksum. Basically the numbers before and after should

match (on is the calculated number, the other is the number put in the flash to compare against). We've never seen a non-match. . .

5 - Only version. Hopefully forever since that means there have not been any bugs reported! :-)

I am pretty sure I mentioned it at HHC last year, but maybe not. If nobody gets it by then I will consider mentioning it again. ;-)

Glad to hear you like it! I think its a fine unit, but of course I am biased. I did essentially the whole thing (taking 20/30b code as a base), so this qualifies as my first calc.

TW

Re: HP 10bII+ self test

*Message #22 Posted by **Katie Wasserman** on 17 May 2011, 12:14 p.m.,*
in response to message #21 by Tim Wessman

While I'm sure that this is not the easter egg....

When starting the LCD test, if the first key you press is [=] then when the test ends it will keep looping by itself after the 11th key-press. If the first key you press is not [=] the test will terminate. Also, there appears to be a tiny bug in this test... if you end the auto-loop (by pressing any key) when the up and down shift arrows are displayed they will remain on the screen when the test ends.

I'm wondering if this behavior is indicative that the easter egg is in the LCD test routine since the code is clearly paying attention to what keys are pressed and when.

Re: HP 10bII+ self test

*Message #23 Posted by **Tim Wessman** on 17 May 2011, 12:51 p.m.,*
in response to message #22 by Katie Wasserman

Nah, not a bug (re:indicators). Just a "I didn't bother to fix it when I found it" as it doesn't really cause any problems and isn't meant to be used outside the factory.

TW

Re: HP 10bII+ self test

*Message #24 Posted by **Katie Wasserman** on 17 May 2011, 1:49 p.m.,*
in response to message #23 by Tim Wessman

> Quote:
>
> Not a bug

because you didn't bother to fix it as it wasn't going to get stepped on by regular users.

This can be a useful definition when testifying before congress, but I don't think it's going to work with the crowd reading this forum. :)

-Katie

Re: HP 10bII+ self test

*Message #25 Posted by **Tim Wessman** on 17 May 2011, 3:21 p.m.,*
in response to message #24 by Katie Wasserman

A minor display issue on something that isn't used (officially) by anyone except the factory, corrects itself next time you do anything, and doesn't cause any sort of issue with calculations? Sounds like not a bug to me. . .

TW

Re: HP 10bII+ self test

*Message #26 Posted by **Katie Wasserman** on 17 May 2011, 9:45 p.m.,*
in response to message #25 by Tim Wessman

TW,

I was just kidding, you did a great job on the 10bii+. I'm surprised how much I like the 10bii+, I never thought I'd like any calculator that wasn't RPN nor programmable.

It's hard to imagine any calculator with this many functions being totally bug free, but I've tried really hard and haven't found any.

-Katie

Re: HP 10bII+ self test

*Message #27 Posted by **Tim Wessman** on 17 May 2011, 10:38 p.m.,*
in response to message #26 by Katie Wasserman

Yeah, I knew it was friendly ribbing. :-)

Thanks for the kind words. If Cyrille hadn't done a great job on the 20/30b and the underlying math library though, I'm sure it would have been a disaster.

TW

Re: HP 10bII+ self test

*Message #28 Posted by **M. Joury** on 17 May 2011, 11:39 p.m.,*
in response to message #27 by Tim Wessman

I have to agree with Katie. I am surprised at how much I like this calc. Of course if you were to give us RPN, a wide enter key, and programability in the same basic form factor I would be in heaven. Here's hoping for a 10bIII or a 10bII++ in the not too distant future :-).

Re: HP 10bII+ self test

*Message #29 Posted by **John B. Smitherman** on 18 May 2011, 12:50 a.m.,*
in response to message #17 by hpnut

> Quote:
>
> I am beginning to fall in love with this little algebraic HP ;-)

Hi hpnut. How do you like the keyboard? Can you descibe it?

Thanks,

John

Re: HP 10bII+ self test

*Message #30 Posted by **hpnut** on 18 May 2011, 8:20 a.m.,*
in response to message #29 by John B. Smitherman

I am OK with the keyboard. It does not have the mushy feeling of the HP 20b. It does not feel like the HP 12C keyboard which IMHO is better.

i have many HP models in my collection and most of them feel quite different to press.

Re: HP 10bII+ self test

*Message #31 Posted by **Tim Wessman** on 18 May 2011, 9:33 a.m.,*
in response to message #29 by John B. Smitherman

The keyboard has two mylar sheets on top of the circuit board. Each sheet has its own dome. When you press the key, it does not have to 'bridge' a connection on the circuit board or anything like that to make an electrical connection, but just make a single point of connection between the two sides. This is mechanically more resistant to small alignment issues and the like.

While it does have more moving parts, it seems to be more resistant to missed key presses and things. The 10bII was produced by two different sources the past few years, and this design proved to be very reliable.

The 12c, 35s, 17bII+, 30b, and graphing calcs all use a metal dome underneath the keys. The feel on them will be more crisp then the mylar as the metal has more snap to it, but the keyboard on the 10bII+ is definitely not bad in any sense of the word.

TW

Re: HP 10bII+ self test

*Message #32 Posted by **hpnut** on 31 May 2011, 2:31 p.m.,*
in response to message #31 by Tim Wessman

Tim,

yesterday, I just got the original HP 10B (made in Singapore, circa 1992 from the serial number).

the keypad is excellent, I would rate it even better than the new HP 10bII+.

I guess HP should "reverse engineer" and look back at the old production materials and methods :-)

cheers,

hpnut in Malaysia

(HP calculator user since acquiring HP 10C in 1980 in the United Kingdom as a student)

Re: Coin Cells and Battery draw

*Message #33 Posted by **Marcus von Cube, Germany** on 16 May 2011, 1:41 p.m.,*
in response to message #15 by Katie Wasserman

Katie, that's a lot of insight. In wp34s, I reduce the maximum speed to 10 MHz when the voltage drops to 2.4V. I hope that helps. Power measurement is continuous while the system is doing work. I hope that helps, too. I tried to write the flash at 2.4V which worked but the power source was a lab supply. I don't know what happens when aging batteries are used instead.

Edited: 16 May 2011, 1:42 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Advanced Matrix Pac

*Message #1 Posted by **Ángel Martin** on 15 May 2011, 2:33 a.m.*

Greetings from the archaelogy SW dept.- This time the focus goes to a tweaked HP-41 Advantage Pac, surely one of the better modules produced - yet if you're like me I'm sure you'd like to customize it a bit or two... Read on if you're interested.

No doubt being bank-switched gives this module a great, er.. advantage. If you haven't thought about this before, it's because of the very long code required to implement SOLVE and INTEG that the bank-switching was probably used: both functions together use almost 3k of the upper page (bank_1), whilst only thre/four FAT entries are required.

The second bank contains the code for matrix functions, and some for the Binary conversions as well. The matrix set is an extension of the CCD's "Array Fns" group - a marvel on itself that got enhanced by HP, topping it up with major matrix operations (Inverse, Determinant,Simultaneous Equations, etc. - as well as some FOCAL programs for easy usage of the main subjects.

If the CCD set the basis for a Matrix-capable Coconut OS-extension, certainly HP rounded it off very nicely. Matrix programs changed from being a convoluted maze or data registers utilization to just a discerning usage of the Alpha register as data entry, relying on XMEM files for the data storage. Simply a brilliant design and a superb execution.

BTW I always wondered about that particular deal: the CCD code is copied almost entirely bit-by-bit, save the bank-switching tricks of course. That speaks tons about the quality of the CCD implementation!

So what about the rest of the Pac? Well, certainly great but a few things could be improved. For starters, the Complex program is a nice beginners pac, nowadays dwarfed by the 41Z. The other FOCAL programs are beautiful, and the menu-driven style is convenient and elegant to say the least. A wide-ranging scope that provided a complete set of frequent topics, all in an 8k-footprint module.

Move on to the present, with emulators, Clonix, and MLDL. Rom images abound and are not an issue as long as they're self-contained and don't have dependencies on other modules. So what about extending the Matrix capabilities of the Advantange Pac, replacing the non-Matrix content with additional Matrix programs? Welcome to the "Advanced Matrix Pac", featuring:

- All the -ADV MATRX functions from the advantage Pac
- All the Matrix Functions & Programs from the ALGEBRA module
- A New Matrix Input mode, for fast data entry using Alpha.
- All Binary Conversion Functions, and last but not least...
- Also keeping SOLVE & INTEG, a monumental tour-de-force in Buffer manipulation and MCODE feats by itself.

This is a lengthy post so we'd better stop here. More details will follow, and for those interested in taking it for a spin, the image will be posted at TOS shortly.

Cheers, 'AM

Edited: 15 May 2011, 2:36 a.m.

Re: HP-41 Advanced Matrix Pac

*Message #2 Posted by **Antonio Petri (UK)** on 15 May 2011, 6:36 a.m.,*
in response to message #1 by Ángel Martin

Which is the best way to use those ROM images in a actual 41? It looks like Clonix is a solution, but I didn't understand how to get one. Is this still available for purchase? I am trying to catch up with the world of HP calculators after I "left" it long time ago. Thank you Antonio

Re: HP-41 Advanced Matrix Pac

*Message #3 Posted by **Marcus von Cube, Germany** on 15 May 2011, 8:35 a.m.,*
in response to message #2 by Antonio Petri (UK)

Antonio, contact Diego Diaz! Clonix is only one of his offers, the NovRAM line of modules being the successors.

Re: HP-41 Advanced Matrix Pac

*Message #4 Posted by **Antonio Petri (UK)** on 16 May 2011, 5:00 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Thank you Marcus, and thank you to all of you who keep alive these amazing little machines!

Re: HP-41 Advanced Matrix Pac

*Message #5 Posted by **Frido Bohn** on 15 May 2011, 7:56 a.m.,*
in response to message #1 by Ángel Martin

Ángel, it is a great idea to strip off the best of the ADV pack to get a versatile ROM.
However, I imagine that the restructured code will fit into one bank.
In the last time, Diego Diaz provided an update of his burning program to overcome the afflictions due to the bank switching stuff.
Although Diego's solution led to the use of the ADV pack some of the flexibility on his modules was lost.

Re: HP-41 Advanced Matrix Pac

*Message #6 Posted by **Ángel Martin** on 15 May 2011, 8:42 a.m.,*
in response to message #5 by Frido Bohn

Hi Frido,

> Quote:
>
> I imagine that the restructured code will fit into one bank.

Actually not. First off, only SOLVE and INTEG occupy 3/4ths. of a 4k-page. Secondly, the matrix functions are a very large and comprehensive set, all written in MCODE - which despite its better perfromance and speed advantage takes up more room than FOCAL for sure. Third, the idea is not to shrink it to the minimum expression possible but to leverage on the bank-switched approach. Nothing can beat that, and I'm pretty sure there are work-arounds for Clonix/NoVoRAM's. I'm certain of it.

Cheers, 'AM

Re: HP-41 Advanced Matrix Pac

*Message #7 Posted by **Angel Martin** on 17 May 2011, 2:33 a.m.,*
in response to message #5 by Frido Bohn

Two updates:

1. Module image posted at TOS
2. Successful burning to Clonix. Simply rename the ROM files with the Advantage ROM names (make a backup copy first) and use the standard version of ClonixConfig.exe with the "Advantage" option enabled.

Cheers, 'AM

Re: HP-41 Advanced Matrix Pac

*Message #8 Posted by **Monte Dalrymple** on 17 May 2011, 12:19 p.m.,*
in response to message #7 by Angel Martin

The .MOD file on TOS does not include a name for the third page.
This doesn't matter if you're loading the .MOD file directly
but it makes it difficult to translate to a different format.

Monte

Re: HP-41 Advanced Matrix Pac

*Message #9 Posted by **Ángel Martin** on 17 May 2011, 12:42 p.m.,*
in response to message #8 by Monte Dalrymple

You'll have the 3 ROM image files by tonight.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CVs will not turn on

*Message #1 Posted by **aj04062** on 14 May 2011, 10:42 p.m.*

So I have rebuilt and cleaned two Fullnut CVs in recent days.

Both are exhibiting behavior that is documented on the Museum, but I thought I'd ask again as I cannot seem to find the solution in the posts.

Steve's Post

One calc behaves as such:

Once on, will turn off normally with on button. No matter how many times I press on by itself, the display will not come on. However, if after turning off, I press on ONCE and then press BACKSPACE, ENTER, ON the calculator will ALWAYS come on. If I try that sequence after turning off, it will not turn on. If I do that sequence twice, it will turn on.

I cannot get the calculator to reset via BACKSPACE, ON

Once the calculator is on, it seems to work fine.

HELP!?

Re: HP-41CVs will not turn on

*Message #2 Posted by **Frido Bohn** on 15 May 2011, 7:42 a.m.,*
in response to message #1 by aj04062

Lastly, I had similar problems with a halfnut HP41CX.
Eventually, all problems were resolved with a reset. A simple achievement of MEMORY LOST in the display did not help. Try this link.

Re: HP-41CVs will not turn on

*Message #3 Posted by **Randy** on 15 May 2011, 1:30 p.m.,*
in response to message #1 by aj04062

Short the 470 uf cap on the processor to reset the unit to all defaults. If the problem persists, my guess would be a bad rom or D/S IC. Swap processor board to verify. If it is a bad board, it would be almost impossible to troubleshoot without a service rom.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

ebay 380123273833 wtf ?

*Message #1 Posted by **John Robinson** on 14 May 2011, 8:55 p.m.*

Cheers, JOhn

Re: ebay 380123273833 wtf ?

*Message #2 Posted by **Don Shepherd** on 14 May 2011, 9:01 p.m.,*
in response to message #1 by John Robinson

Far out! I've got one of those I'd give to somebody who wants it.

Re: ebay 380123273833 wtf ?

*Message #3 Posted by **Michael de Estrada** on 14 May 2011, 10:22 p.m.,*
in response to message #1 by John Robinson

"Out of stock temporarily---please check back soon...thank you"

Dang!

Re: ebay 380123273833 wtf ?

*Message #4 Posted by **Michael Meyer** on 14 May 2011, 10:40 p.m.,*
in response to message #3 by Michael de Estrada

$5 for shipping? That's outrageous!

Re: ebay 380123273833 wtf ?

*Message #5 Posted by **Keith Midson** on 15 May 2011, 5:12 a.m.,*
in response to message #1 by John Robinson

Wow! I'd say it's a case of "now that I have your attention, i'll have more coming soon" ... perhaps the high price is to stop people from buying something that's out of stock. Or maybe it's *nearly* as good as the $7,000 HP35 that was listed a few months back. Cheers, Keith

Re: ebay 380123273833 wtf ?

*Message #6 Posted by **Frido Bohn** on 15 May 2011, 8:38 a.m.,*
in response to message #1 by John Robinson

The vendor states this:

> Quote:
>
> This HP Leather Pouch comes with the magnetic Flap to keep it shut.

How sensitive would a HP12C be to magnetic fields?
Any experiences with this?
However, for only 999 bucks its a real bargain, isn't it?
Let's await further devaluation of the currency and in about 5 years its nothing. :-))

Re: ebay 380123273833 wtf ?

*Message #7 Posted by **Don Shepherd** on 15 May 2011, 9:53 a.m.,*
in response to message #6 by Frido Bohn

> Quote:
>
> How sensitive would a HP12C be to magnetic fields?

The case is fine for the 12c, it doesn't affect program memory. It DOES affect HP-65 magnetic program cards however, if they get too close.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-67 Error message

*Message #1 Posted by **aj04062** on 14 May 2011, 2:27 p.m.*

Hi ya all,

Seeing there is some activity regarding 67's, who can tell me what is ailing this unit? Is the processor fried? I picked this up from Goverment Auction (los alomos lab source)

Note: I have the back off and am pressing down to make contact. It is behaving the same way before I took it apart.

Please see the video below.

Video

Pressing keys will halt the cylcling. It will everntually stop and seems to repeat the same code.

Re: HP-67 Error message

*Message #2 Posted by **BobVA** on 15 May 2011, 8:51 a.m.,*
in response to message #1 by aj04062

"Could be a lot of things..." How's that for helpful? :-)

First, don't try reading any more cards until you take a look at the friction roller for the reader - it's probably turned to goo unless somebody has replaced it. (Although I'm somewhat surprised it actually pulled the card through on yours...)

The problem could be as simple as a bad battery - have you checked the voltage? Tried running it from a bench supply?

The next lucky break would be a bad/dirty connection between one of the three internal boards, a dirty power or run switch, etc. That will require disassembly. If you want to try that, check out the guides here. Disassembly requires some experience working on electronics and small mechanical gizmos. The guides provide enough information/photos to let you decide if you're comfortable with trying it.

If you don't want to try a repair, I'm sure you can sell it easily here or on the 'bay as a parts unit.

Regards, Bob

Edited: 15 May 2011, 8:57 a.m.

Re: HP-67 Error message HP-65 common parts?

*Message #3 Posted by **aj04062** on 15 May 2011, 9:25 a.m.,*
in response to message #2 by BobVA

This wheel actually looks very good. I am amazed.

I've tried a new battery (worked on other 67 I have). I don't have a bench supply so that experiment is out. I will check voltage and make sure it is fully charged.

I'll try some deoxit on the contacts. I cleaned the switches with iso-alch already.

does anyone know what boards are interchangeable between the 67 & 65? I have a 65 with a card reader board that has been ravaged by a leaky battery. Can these be swapped?

Re: HP-67 Error message HP-65 common parts?

*Message #4 Posted by **Randy** on 15 May 2011, 1:32 p.m.,*
in response to message #3 by aj04062

HP-65 Internals

HP67 Internals

The only thing the two boards have in common is the same 28 pin connection area :-(

Hard to tell what is wrong but based on the most common 67/97 failures, I'd suspect a faulty rom.

Edited: 15 May 2011, 1:34 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cell leakage in my 48S

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 14 May 2011, 11:41 a.m.*

I left the cells in my 48S longer than I should have. One of the cells leaked. The leakage got into the foam that provides the spring for the cell contacts. The leakage dissolved (if that is the correct word) the adhesive that attached the cell contacts to the foam. I have cleaned the compartment and have demonstrated that the calculator still works by simply holding the contact against the foam while inserting the cells.

I think that some of the leakage is still in the foam. How can I remove the leakage safely? What adhesive should I use to attach the contact to the foam? If I replace the foam where do I find foam that does not deteriorate in a few years?

Separate subject: If you wonder why H-P doesn't always implement your latest good idea I suggest that you read the article "Creation Myth" in the May 16 issue of *The New Yorker*.

Re: Cell leakage in my 48S

*Message #2 Posted by **geoff quickfall** on 14 May 2011, 3:23 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I find the old thick mouse pads have the correct width. So:

```
1  remove the old foam and glue.
2  Slice out a new chunk of foam using the original as a template.
3  attach foam to metal tab to foam with double sided tape
4  attach foam to calc with same.
```

Cheers, Geoff

p.s. replace batteries every 5 years ;-) (just kidding)

Edited: 14 May 2011, 3:23 p.m.

Re: Cell leakage in my 48S

*Message #3 Posted by **Katie Wasserman** on 14 May 2011, 4:11 p.m.,*
in response to message #2 by geoff quickfall

Almost any high-density foam work in this calculator and likely last many years. I've had some small peices of Dow Ethafoam that have lasted for 40+ years with no obvious breakdown. It's not hard to find, but is relatively expensive. Here's some.

To avoid the battery leaking issue, I would suggest using Energizer lithium cells. I've never seen one leak and I've had hundreds of them in my calculators (and just about everything else the needs AA or AAA cells) for many years.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-67 - polarity of wires to keyboard/display board?

*Message #1 Posted by **BobVA** on 13 May 2011, 8:25 p.m.*

Hi: I was disassembling an HP-67 and the two power wires that go to the keyboard/display board popped out of their sockets before I had noted which goes where. Based on how the wires are arranged it looks like the black wire goes to the upper connector (board oriented with the display at the top) and the red goes to the one below it?

I couldn't find a photo that was clear enough to be sure, so if anyone knows or can point me to a reference, I'd be grateful.

Thanks! Bob

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #2 Posted by **geoff quickfall** on 13 May 2011, 9:39 p.m.,*
in response to message #1 by BobVA

HALT!!!

Here is a quote from Steve Loboyko's excellent post:

67 posting

> Quote:
>
> Remove the very thick keyboard pad from the middle plastic of the sandwitch. There are two Augat sockets that connect two wires to this board. They are NOT soldered. NOTE THE COLORS OF THESE WIRES AND WHERE THEY WENT BEFORE REMOVING. A MISTAKE HERE COULD BE ABSOLUTELY FATAL TO THE CALCULATOR WHEN REASSEMBLED AND POWERED. I would rather not give you the colors or positions here because this could vary during the production run, but on my 3 67's, the black striped wire was at the top, and the red striped wire was beneath.

I personally have had all wiring described as above, but substitute striped for solid colours.

Maybe Randy can be more specific on this however Steve is correct. There are many differing production runs and production sites.

Cheers, Geoff.

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #3 Posted by **BobVA** on 13 May 2011, 9:42 p.m.,*
in response to message #2 by geoff quickfall

Thanks Geoff! I'll see if I can confirm that arrangement by doing a little circuit tracing to a known Vcc or

ground somewhere.

Regards, Bob

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #4 Posted by **Michael de Estrada** on 13 May 2011, 10:36 p.m.,*
in response to message #1 by BobVA

Hi Bob,

I have a schematic that I prepared when I worked on the card reader in my HP-67, and it shows a black negative wire connected to the top right side of the main keyboard pcb and a red positive wire connected directly beneath it. These wires go to the center negative pin on the ac adapter receptacle and the 5vdc positive pin respectively.

Michael

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #5 Posted by **BobVA** on 13 May 2011, 11:22 p.m.,*
in response to message #4 by Michael de Estrada

Mine turned out to be the same arrangement. Thanks very much Geoff & Michael.

And I got the card reader to work again! Guess I'll be building a battery pack tomorrow.

Regards, Bob

Edited: 14 May 2011, 1:37 a.m.

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #6 Posted by **Geoff Quickfall** on 14 May 2011, 12:55 a.m.,*
in response to message #4 by Michael de Estrada

Production runs change. The caution is 'what applies to one calc may not apply to another.'

Anecdotalely, but with no direct evidence, I have been informed that the wire positions have been moved during differing production runs.

I have three different coloured wires for power supply in my 65's and 67's from vertical striped to solid. I have yet to see changes in the positioning but have seen that in other boards from other calcs that have undergone revision during production.

That is why I say, don't assume they are all identical.

Cheers, Geoff

Re: HP-67 - polarity of wires to keyboard/display board?

*Message #7 Posted by **Randy** on 14 May 2011, 8:45 a.m.,*
in response to message #6 by Geoff Quickfall

It's simple to determine polarity on any classic, any version. The positive terminal always terminates on the left side pad of the power switch.

Also, you can sanity check yourself using Tony Duell's excellent crib sheets on all the classics in the archives. HP-67 Internals

Edited: 14 May 2011, 8:46 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp 41 synthetic programming

*Message #1 Posted by **Sok-khieng Chum Hun** on 13 May 2011, 6:33 p.m.*

Hi,

I tried to figure out how to do this instruction : STO IND O but I did not find how :(

(it is the instruction 28 from the main program from this --> http://www.hpmuseum.org/software/41/41crmat.htm)

Someone can help me out?

Thank you :)

Re: hp 41 synthetic programming

*Message #2 Posted by **Geoff Quickfall** on 13 May 2011, 7:15 p.m.,*
in response to message #1 by Sok-khieng Chum Hun

Have you created the program Load Bytes, or the byte jump key assignment?

All synthetic lines must be created manually by manipulating memory through tricks or automated programs such as LB (loadbytes).

I just state the above and ask if you have a knowledge base for sythetic programming?

Otherwise, it would be a long and drawn out process if LB or any other form of sythetic byte production is not immediately available.

Cheers, Geoff

Re: hp 41 synthetic programming

*Message #3 Posted by **Thomas Klemm** on 14 May 2011, 7:14 a.m.,*
in response to message #1 by Sok-khieng Chum Hun

cf. HP-41C Synthetic Programming

As stated in the description of the program you can avoid synthetic programming:

> Quote:
>
> **N.B:** Synthetic registers M N O can be replaced by R01 R02 R03 but, in this case, delete line 31, replace line 02 with 0 STO 01 RDN in the following listing and choose bb > 03.

I recommend to give it a try, though.

> Quote:

> how to do this instruction : STO IND O

Only now I've realized that you might already have succeeded to enter STO O and you just have a problem with this specific command. Enter the following program and execute GTO . . (PACKING):

```
ENTER
STO IND 17
"1234567"
```

Now you go to the ENTER line and execute the byte-grabber, which will leave the sequence:

```
91: STO
F7: IND O
31: STO 01
32: STO 02
33: STO 03
34: STO 04
35: STO 05
36: STO 06
37: STO 07
```

HTH
Thomas

Edited: 14 May 2011, 7:51 a.m.

Re: hp 41 synthetic programming

*Message #4 Posted by **Garth Wilson** on 14 May 2011, 4:10 p.m.,*
in response to message #3 by Thomas Klemm

> Quote:
>
> cf. HP-41C Synthetic Programming

The byte code table linked there at http://www.hpmuseum.org/prog/synth.gif appears to be the one Synthetix put out in 1982 as a quick-reference card (same fonts, arrangement of what's in each little box, etc.), except that Synthetix' had color coding of boxes for instruction length, and the structure of multi-byte instructions on the right. I wonder if that's posted somewhere. I got my start in synthetic programming in the book "Extend your HP-41" using the byte grabber, but later got the ZENROM which lets you key the synthetic instructions directly in, so for example to get STO IND O you just press STO <shift> . O

Re: hp 41 synthetic programming

*Message #5 Posted by **geoff quickfall** on 14 May 2011, 5:17 p.m.,*
in response to message #4 by Garth Wilson

Same book, green cover. Read it back to front and again and again.

Created the byte jumper and then Load Bytes and then carded the LB. Never looked back. All my HP41CX programs contain sythetics.

Cheers, Geoff

sure got used to seeing "MEMORY LOST" !!!!!!

Re: hp 41 synthetic programming

*Message #6 Posted by **M. Joury** on 16 May 2011, 12:45 p.m.,*
in response to message #5 by geoff quickfall

Or get hold of a Zenrom or one of the other ROMS that support synthetics... I believe that the PPC ROM has some support? I have to say that I love my Zenrom, makes things just a whole lot easier.

Re: hp 41 synthetic programming

*Message #7 Posted by **geoff quickfall** on 16 May 2011, 2:50 p.m.,*
in response to message #6 by M. Joury

PPC rom has the load bytes as well as a few other synthetic programs.

Geoff

Re: hp 41 synthetic programming

*Message #8 Posted by **Sok-khieng Chum Hun** on 15 May 2011, 1:09 a.m.,*
in response to message #3 by Thomas Klemm

Cool,

I would never have found this.

Thank you :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

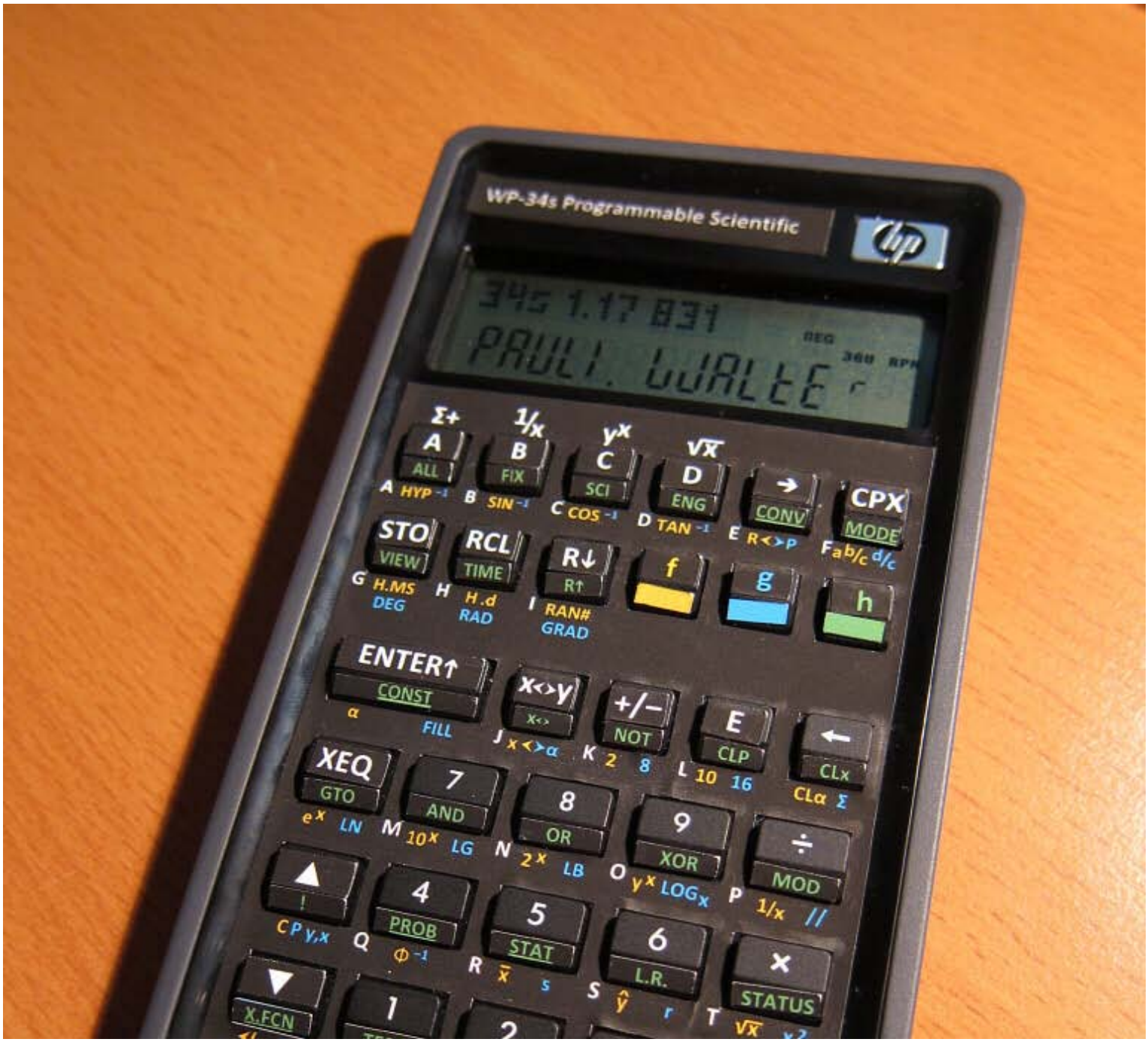
[Return to Index | Top of Index]

34s Vinyl Overlay First Attempt

*Message #1 Posted by **Eric Rechlin** on 13 May 2011, 2:53 a.m.*

Hi everyone,

I just made my very first overlay on vinyl. I still have a few things I need to tweak, but considering I'd never done anything like this before, I'm surprised at how well it turned out:



The image I drew to make the overlay can be downloaded from here.

Maybe next week I'll have something even better.

Eric

Re: 34s Vinyl Overlay First Attempt (edited)

*Message #2 Posted by **Marcus von Cube, Germany** on 13 May 2011, 3:07 a.m.,*
in response to message #1 by Eric Rechlin

I want one!

Walter has redesigned some of the key legends. Refer to the latest emulator build (medium skin) for details.

For a 30b, a full size overlay with cutout for the display would make sense.

BTW, I disagree a little with Walter about the importance of the alpha labels. Many of them are used in addressing which justifies a somewhat brighter color than he suggests.

Edited: 13 May 2011, 3:12 a.m.

Re: 34s Vinyl Overlay First Attempt (alternative)

*Message #3 Posted by **Walter B** on 13 May 2011, 12:35 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Just for clarification: I don't vote for unconditionally keeping the dark red I proposed for the skins, but you may suggest another color you find appropriate. White, however, if used with the same font as gold and blue is far too light IMHO for such a "backstage" functionality. A light grey may be an alternative on such a black background if you don't want to introduce another color.

Walter

Re: 34s Vinyl Overlay First Attempt (edited)

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 14 May 2011, 9:55 a.m.,*
in response to message #2 by Marcus von Cube, Germany

I would favor the full-size overlay with display cutting and avoiding the wordy "Scientific Calculator" legend. I wonder why, in the last years, HP included such large and self-evident legends as "Scientific Calculator", "Financial Calculator", "Business Professional" or similar ones.

Re: 34s Vinyl Overlay First Attempt

*Message #5 Posted by **Walter B** on 13 May 2011, 3:07 a.m.,*
in response to message #1 by Eric Rechlin

Eric,

Impressive! What printer did you use?

Some small remarks:

- Capital Pi is bigger than capital Sigmas are.
- Green comma is too faint IMHO.
- I'd appreciate a better font for the blue 'g' on the prefix key.
- Alpha characters are far less important than the mathematical functions. So their color shall reflect this IMHO.

Did you test it with the key labels uncut before - i.e. with flaps? Would be interesting ...

Walter

Re: 34s Vinyl Overlay First Attempt

*Message #6 Posted by **Geir Isene** on 13 May 2011, 8:04 a.m.,*
in response to message #5 by Walter B

Anybody thinking about selling the final product - with ready ROM, keyboard overlay and all?

Because some of us may be squeezed on time and still want this calc asap.

Re: 34s Vinyl Overlay First Attempt

*Message #7 Posted by **Eric Rechlin** on 13 May 2011, 10:47 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> Impressive! What printer did you use?

HP OfficeJet 8000. It's a surprisingly good printer.

> Quote:
>
> Capital Pi is bigger than capital Sigmas are.

Fixed, thanks. I already had made the Sigma a bigger font size, but it wasn't enough, so I made it even bigger now.

> Quote:
>
> Green comma is too faint IMHO.

Fixed.

> Quote:
>
> I'd appreciate a better font for the blue 'g' on the prefix key.

I'll think about this. I actually like the font that it is now, and it's consistent with the font on the rest of the keys. However, I will do some font tweaking so I may end up changing it after all.

> Quote:
>
> Alpha characters are far less important than the mathematical functions. So their color shall reflect this IMHO.

I think I will keep them white, but maybe I will make them a little smaller. With them red, it turns the calculator into too much of a rainbow, with too many colors, and the red is harder to see, too. But I might do one test with red to see how it looks. I'd be interested in hearing others' thoughts on this.

> Quote:
>
> Did you test it with the key labels uncut before - i.e. with flaps? Would be interesting ...

No, but I will next test it with the key labels as a single piece instead of two, and we'll see how that works first.

Thanks for your input.

Eric

Re: 34s Vinyl Overlay First Attempt

*Message #8 Posted by **db (martinez, ca.)** on 13 May 2011, 11:35 a.m.,*
in response to message #7 by Eric Rechlin

Re: flaps. While making the keyboard face harder to clean, this would give one less place for dust to enter the keys. A good trade-off if it works.

Re: 34s Vinyl Overlay First Attempt

*Message #9 Posted by **BobVA** on 13 May 2011, 10:01 a.m.,*
in response to message #1 by Eric Rechlin

Nice! I'm certainly interested in a couple if you decide to sell them.

I agree with Marcus's idea about a full-panel version for the 30b.

For keys that have both a top and face label, would it practical to do that as a single piece? Or does the bend cause some complications?

Regards,

Bob

Edited: 13 May 2011, 10:05 a.m.

Re: 34s Vinyl Overlay First Attempt

*Message #10 Posted by **Eric Rechlin** on 13 May 2011, 10:40 a.m.,*
in response to message #9 by BobVA

> Quote:
>
> For keys that have both a top and face label, would it practical to do that as a single piece? Or does the bend cause some complications?

I have already decided to do that for my second revision. The vinyl bends fairly easily, and I think it would look a lot cleaner. Plus, I think it would be easier to install (it took me closer to half an hour to get this one done).

Eric

OT: hpcalc

*Message #11 Posted by **x34** on 14 May 2011, 5:20 a.m.,*
in response to message #10 by Eric Rechlin

Eric, what has happened to your HPCalc.org site? Why no updates for half a year?

Re: OT: hpcalc

*Message #12 Posted by **Eric Rechlin** on 14 May 2011, 9:43 p.m.,*
in response to message #11 by x34

> Quote:
>
> Eric, what has happened to your HPCalc.org site? Why no updates for half a year?

I'll update it before too long. Definitely in the next month or two.

There haven't been all that many things submitted to it in the last 6 months, so you aren't missing much, and more importantly, the vast majority of submissions do not follow my very simple directions on the submission page. That frustrates me, because it means a lot more work for me, and it shows that the submitters don't even care to follow directions.

Eric

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bii+ "soft" reset

*Message #1 Posted by **Jim Yohe** on 13 May 2011, 1:34 a.m.*

When I try to do a full clear memory and reset of calculator modes using the steps outlined on page 38 of the User Guide (*hold down* **ON** *and press both* **N** *and* **PV** *buttons, then release*) it doesn't come back with the **All Clear** message. What might I be missing or is this a bug?

Re: HP 10bii+ "soft" reset

*Message #2 Posted by **Marcus von Cube, Germany** on 13 May 2011, 2:10 a.m.,*
in response to message #1 by Jim Yohe

Have you tried turning the calc off, pressing and holding N+PV and then turning it on with the ON key? Maybe the sequence is only checked at power on.

Re: HP 10bii+ "soft" reset

*Message #3 Posted by **Jim Yohe** on 13 May 2011, 2:12 a.m.,*
in response to message #2 by Marcus von Cube, Germany

No but I just discovered that page 38 should have referenced the **FV** key and not the **PV** key. It's properly listed on page 164 under "Erasing the calculator's memory".

Re: HP 10bii+ "soft" reset

*Message #4 Posted by **Tim Wessman** on 13 May 2011, 2:32 a.m.,*
in response to message #3 by Jim Yohe

Oops. :-(

Internally though, just doing the C ALL does the same thing.

TW

Edited: 13 May 2011, 2:33 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP9810A

*Message #1 Posted by **aj04062** on 12 May 2011, 8:14 p.m.*

I think I'm getting carried away with this collecting stuff.

Had a friend of mine just pick up a 9810A. Hopefully it will arrive safely via UPS next week. Owner claimed one of the fuses is blown.

Hopefully that's it and can get placed into service again. I wonder what the folks in the office will think if this lands on my desk? They already think the 97 has neon tubes for a display.

Re: HP9810A

*Message #2 Posted by **Tony Duell** on 13 May 2011, 4:49 a.m.,*
in response to message #1 by aj04062

Unfortunately fuses don't blow for no good reason...

There are 2 fuses on the back of the 9810. One is 6A, and is in series with the mains input to everything, including the mains output sockets. The other is 1A (220/240V mains) or 2A (100/120V mains) and is in series with the feed to the mains transformer/fan only.

I hope you get the old fuse, you can tell a bit by examining it. If it's blown softly, then just replace it and try again. If it's shattered or blackened, you have more serious fault.

If the 6A fuse is blown, it's probable that either some device plugged into the output socket was resposible, or there's a fault in the mains input/switch circuitry. If the other fuse has blown, the fault could be in the power supply section of the machine or the mains transformer.

What I would do is remove the top cover, the keyboard, all the logic PCBs (you're working on the PSU, you don't want to damage anything if you make a mistake), the memory box, the printer, the PSU cover and the 3 boards under it. All that should remain in the machine is the rear panel (mains circuitry), the backplane, and the card reader mechanism (but this is not connected to anything now). Replace the fuse. Reconnect the keyboard mains switch cable (5 pin in-line connector), and turn on the switch. Do an insulation test between the mains live/neutral pins (strapped together) and the case. If that's the problem, check the mains filter, transformer, etc.

Now apply mains, preferably with a (filament) light bulb in series. A 100W bulb should be fine. The bulb should be dark (there's no load on the transformer after all). Teh fan should be running. Check the trasnformer secondary voltages at the PSU board edge connectors. Unplug the mains.

Check the rectifier diodes, smoothing capacitors, power transistors, etc on the PSU boards. Fit the PSU boards and plug the machine in, again with a light bulb in series if you can. Again the bulb should be dark (or at least very dim). If it's bright, you have a PSU problem. If the bulb is dark, check the PSU output voltages, there are testpoints for all of them apart from +5V on the PSU boards, check +5V on the backplane connector of one of the boards. When they're all OK, unplug the mains, reassemble the logic boards, and power up (with no light bulb this time). Hopefully the machine will then work, if not, you'll have a logic fault to trace.

You can download the HP service manual (mostly a boardswapper guide, but with PSU schematics) and full schematics for the machine from the Australian museum site. There should be an article on repairing this PSU in Datafile (HPCC journal) sometime, but I think you'll have to wait over a year for that.

Feel free to contact me about this fine machine

Re: HP9810A

*Message #3 Posted by **aj04062** on 13 May 2011, 7:01 a.m.,*
in response to message #2 by Tony Duell

Thanks Tony,

I know, I know. Fuses are there for a reason.

I will follow your process and report on what I find.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Bezel exchange hp 12C

*Message #1 Posted by **Diehl-Peshkur** on 12 May 2011, 12:38 p.m.*

Hello all, I have a very early USA version 12c with a damaged bezel. Can anyone here direct me to the right HP archive article here that would assist me in taking this apart and getting a new one in place? Thanks in advance, Theo

Re: Bezel exchange hp 12C

*Message #2 Posted by **BobVA** on 12 May 2011, 6:49 p.m.,*
in response to message #1 by Diehl-Peshkur

Have a look at this post by Geoff Quickfall

Regards, Bob

Re: Bezel exchange hp 12C

*Message #3 Posted by **Diehl-Peshkur** on 16 May 2011, 11:37 a.m.,*
in response to message #2 by BobVA

Thank you very much Bob!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

m48 for iPhone is brilliant

*Message #1 Posted by **Dave** on 12 May 2011, 11:57 a.m.*

This is probably old news to most. But since I just got my first iPhone, I just wanted to make people aware that thanks to the latest "Don't Panic" skin, m48 is vastly more usable and the best 48 emulator I've seen on the iPhone. It looks absolutely stunning on the iPhone 4. The keyboard changes when shift and alpha keys are pressed, and you can use swipes on the LCD instead of the cursor keys. Very nicely done. Before "Don't Panic" there were a lot of skins, but many were hard to use/read. So if you haven't tried m48 lately, give it another shot. You'll be pleasantly surprised.

When I got my iPhone, I tried all the free HP emulators, and this one is by far the nicest. (I use m48 which is the free version. m48+ is the fully featured version).

Kudos to Marcus and ultimately Christoph and Sebastian who made this 48 emulator possible.

Edited: 12 May 2011, 11:58 a.m.

Re: m48 for iPhone is brilliant

*Message #2 Posted by **Raymond Del Tondo** on 12 May 2011, 12:14 p.m.,*
in response to message #1 by Dave

I strongly recommend the full version (m48+) since you can load SpeedUI into the emulator:-)

Re: m48 for iPhone is brilliant

*Message #3 Posted by **Marcus von Cube, Germany** on 12 May 2011, 12:40 p.m.,*
in response to message #1 by Dave

> Quote:
>
> Kudos to Marcus ...

Just to make sure this is **not me**.

Re: m48 for iPhone is brilliant

*Message #4 Posted by **Dave** on 12 May 2011, 2:10 p.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Just to make sure this is **not me**.

Kudos to you too, but especially to the author, Markus Gonser ;-) (misspelled it in my first post, so

apologies to both of you).

Edited: 12 May 2011, 2:16 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Collecting

*Message #1 Posted by **Egan Ford** on 12 May 2011, 8:57 a.m.*

http://gizmodo.com/5801180/please-someone-send-help-to-the-wife-of-the-man-who-owns-over-1000-instant-cameras

Only 1042? Surely someone here has more calculators.

Re: OT: Collecting

*Message #2 Posted by **Joerg Woerner** on 12 May 2011, 9:31 a.m.,*
in response to message #1 by Egan Ford

2,750 calculators on my end but quite some spares.

Not yet there for the Guiness Book of World Records.

Cheers,

Joerg

Re: OT: Collecting

*Message #3 Posted by **Glenn Dowdy** on 12 May 2011, 12:04 p.m.,*
in response to message #2 by Joerg Woerner

If I get to count the ones in the supply chain, then I'm well over five figures.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

BASIC BEEP

*Message #1 Posted by **Howard Owen** on 12 May 2011, 2:59 a.m.*

The beeper on the HP-71B is pretty cool. You can do lots of fun 1980s retro sounds with it. I had some fun with that in my dice games for the 71B. I even had a "raspberry" sound for when you zeroed out yatz. :)

When I got back into RMB, I wasn't expecting to find anything as capable on my 9816. I vaguely remembered that the beeper on that machine is severely limited. Indeed, I find that RMB 2.0 running on a 9816 is limited to some oddly spaced frequencies. These appear on page 27 of the BASIC Language Reference. They are mostly useless for music, and limited for audible prompts. A lot of them are too high to listen to comfortably. But I found a use for the first three frequencies greater than zero on the list.

BASIC Beep

Re: BASIC BEEP

*Message #2 Posted by **Raymond Del Tondo** on 12 May 2011, 7:26 a.m.,*
in response to message #1 by Howard Owen

Nothing to hear when played using MPC-HC , but I assume it should sound like the HP-41 BEEP ;-)

Re: BASIC BEEP

*Message #3 Posted by **Marcus von Cube, Germany** on 12 May 2011, 7:37 a.m.,*
in response to message #2 by Raymond Del Tondo

It's recorded at a very low volume. I had to increase the volume to maximum and put the ears near the speakers.

Re: BASIC BEEP

*Message #4 Posted by **Walter B** on 12 May 2011, 7:38 a.m.,*
in response to message #1 by Howard Owen

Quite a faint beep even with the amplifier turned to full volume ... hardly sufficient for a prompt IMHO.

Re: BASIC BEEP

*Message #5 Posted by **Howard Owen** on 12 May 2011, 11:40 a.m.,*
in response to message #1 by Howard Owen

Sorry guys. I forgot to turn on normalization when I rendered it to MP3. I had headphones on, so I didn't notice it was so quiet. It's fixed now.

Walter, it sounds OK when you sit in front of the machine. :)

Re: BASIC BEEP

*Message #6 Posted by **Garth Wilson** on 12 May 2011, 5:03 p.m.,*
in response to message #1 by Howard Owen

The HP-71 NOISE LEX file statement was neat too. It seemed that with enough patience, you could make it talk (although I never tried).

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

34s / 16C Compat. #5 - DBL/

*Message #1 Posted by **Jake Schwartz** on 11 May 2011, 10:13 p.m.*

Hi,

Using 34S build 874, I was attempting the double-word divide example in the 16C manual on page 54. With 2's compliment mode and a word size of 5, an attempt was made to divide the double word representation of -88 decimal in Y and Z by the single-word 11 decimal in X to get the single-word result in X of -8 decimal. All values were entered in binary, so the sequence is: 1000 ENTER 11101 ENTER 1011 DBL/ and the expected result is 11000 binary. Only, on the 34S I get zero as a result with the carry flag set. It does work on my 16C. The followup example in the manual on pages 54-55 does work, however, using unsigned mode and 64-bit word size. Any ideas?

Thanks, Jake

Re: 34s / 16C Compat. #5 - DBL/

*Message #2 Posted by **Paul Dale** on 11 May 2011, 11:01 p.m.,*
in response to message #1 by Jake Schwartz

Another integer bug :-(

This one is broken. There is a problem joining the two halves of the number together when the word size is not 64. DBLMOD is broken too.

DBL* will likely have problems with negatives as well :-(

- Pauli

Re: 34s / 16C Compat. #5 - DBL/

*Message #3 Posted by **Paul Dale** on 11 May 2011, 11:19 p.m.,*
in response to message #1 by Jake Schwartz

And hopefully fixed in the next build :-)

- Pauli

Re: 34s / 16C Compat. #5 - DBL/

*Message #4 Posted by **Angel Martin** on 12 May 2011, 1:56 a.m.,*
in response to message #1 by Jake Schwartz

That's really thorough beta testing - many SW development firms would pay big bucks for this... well, assuming they're after a real quality product instead of larger profits of course.

Cheers, 'AM.

Re: 34s / 16C Compat. #5 - DBL/

*Message #5 Posted by **Paul Dale** on 12 May 2011, 2:29 a.m.,*
in response to message #4 by Angel Martin

I'm glad someone is going through the integer mode in depth. Various people found quite a few bugs in the real mode fairly quickly and integer mode really needs similar attention.

I tried to test when I coded everything but there was so much to implement and so many special cases. And things have changed quite a bit over time resulting in bit rot in the code.

Still, I think we're getting close to a decent calculator.

I've actually started using mine for real calculations at work :-)

- Pauli

Re: 34s / 16C Compat. #5 - DBL/

*Message #6 Posted by **Marcus von Cube, Germany** on 12 May 2011, 2:48 a.m.,*
in response to message #5 by Paul Dale

Pauli,

how is your one looking? What type of overlay are you using?

Re: 34s / 16C Compat. #5 - DBL/

*Message #7 Posted by **Paul Dale** on 12 May 2011, 3:29 a.m.,*
in response to message #6 by Marcus von Cube, Germany

My overlay hasn't changed from the picture posted here.

Sadly, I don't need an overlay, I know what all the keys do :-)

- Pauli

Integer Mode

*Message #8 Posted by **Jake Schwartz** on 12 May 2011, 11:22 a.m.,*
in response to message #5 by Paul Dale

> Quote:
>
> I'm glad someone is going through the integer mode in depth.

Hi,

It is my intention to work through the entire 16C manual and report any anomalies....as long as I'm not considered a pain, I'll keep doing it.

Thanks for everyones' diligent work, Jake

Re: Integer Mode

*Message #9 Posted by **Walter B** on 12 May 2011, 11:36 a.m.,*

in response to message #8 by Jake Schwartz

Hi Jake, all,

as mentioned we appreciate all testing very much - it's quite obvious we can't do it alone nor will we be so successful as any thorough (wo)man not being part of the development team. So thanks for the checks you've done already - and in advance for those to come :-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP45 Battery Pack Disassembly

*Message #1 Posted by **Eric_G** on 11 May 2011, 9:10 p.m.*

I found my dad's old HP45 calculator, it works on AC power but of course the battery pack is long dead. I modified it to use a cordless phone NiCd pack, however I am unhappy with this, as the pack fits quite tightly and puts some pressure on the battery cover.

I want to take apart the original battery pack and replace the cells in it (with NiCds), I am however having a hard time cracking the original pack open. Does anyone have any experience with the disassembly of the original HP battery pack?

Thanks.

Re: HP45 Battery Pack Disassembly

*Message #2 Posted by **aj04062** on 11 May 2011, 9:15 p.m.,*
in response to message #1 by Eric_G

You just need to work at the seem. Use the widest, thinnest blade you have. It is fused together, but will usually pop apart. Alternatively you may need to cut through where the fused tabs are.

Re: HP45 Battery Pack Disassembly

*Message #3 Posted by **Eric_G** on 11 May 2011, 10:46 p.m.,*
in response to message #2 by aj04062

Working along the longer sides I was easily able to pop the seams, however it still didn't come apart. Is it also fused along the shorter sides? I have worked at these with a blade, no luck. I am considering just cutting the thing. I never expected this to be so challenging!

Re: HP45 Battery Pack Disassembly

*Message #4 Posted by **Katie Wasserman** on 11 May 2011, 10:50 p.m.,*
in response to message #3 by Eric_G

It's not connected along the longer sides, just the ends. Packs differ greatly in how difficult they are to take apart. In the worst case you need to cut almost all the way through.

Re: HP45 Battery Pack Disassembly

*Message #5 Posted by **Eric_G** on 11 May 2011, 11:42 p.m.,*
in response to message #4 by Katie Wasserman

"Packs differ greatly in how difficult they are to take apart."

I had to cut it, after inspecting it opened up, there was no other way, each side had 3 little tabs that were glued/fused to the other half. I soldered in 3 AA NiCds and closed everything up. Works

nicely and fits well.

Now I will be the envy of my lab :).

Thanks Katie and Aj for the info.

Edited: 11 May 2011, 11:46 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S Build 874 Possible HEX entry bug?

*Message #1 Posted by **M. Joury** on 11 May 2011, 6:48 p.m.*

I may have found a problem with entering numbers in hex mode. I can't seem to enter a value of 'E' as the only (or the last--least significant) digit. I have tried in Unsigned, 1's Complement and 2's Complement. I can enter all other values but 'E' returns a 0 as the only digit and is eliminated as the last digit.

I am currently working with the emulator and not the real hardware.

Cheers,

Marwan

Re: WP34S Build 874 Possible HEX entry bug?

*Message #2 Posted by **Paul Dale** on 11 May 2011, 8:09 p.m.,*
in response to message #1 by M. Joury

Nice catch. Yes this is a bug.

- Pauli

Re: WP34S Build 874 Possible HEX entry bug?

*Message #3 Posted by **Paul Dale** on 11 May 2011, 8:11 p.m.,*
in response to message #1 by M. Joury

And fixed :-)

Well when the next build happens.

- Pauli

Re: WP34S Build 874 Possible HEX entry bug?

*Message #4 Posted by **M. Joury** on 11 May 2011, 8:17 p.m.,*
in response to message #3 by Paul Dale

Wow! That is what one calls response time! :-). Thanks!

Re: WP34S Build 874 Possible HEX entry bug?

*Message #5 Posted by **Marcus von Cube, Germany** on 12 May 2011, 2:07 a.m.,*
in response to message #4 by M. Joury

It's in but untested by me.

Re: WP34S Build 874 Possible HEX entry bug?

*Message #6 Posted by **M. Joury** on 12 May 2011, 12:09 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Thanks. I'll take a look when a new build becomes available. The one I just downloaded is still showing Build 874.

Re: WP34S Build 874 Possible HEX entry bug?

*Message #7 Posted by **Marcus von Cube, Germany** on 12 May 2011, 12:32 p.m.,*
in response to message #6 by M. Joury

Where did you get your build from? We're currently not updating the release package as we have just switched the internal version number from 1.17 to 1.18. If you want to play around with the newest version, you need to resort to an SVN client.

Re: WP34S Build 874 Possible HEX entry bug?

*Message #8 Posted by **M. Joury** on 12 May 2011, 1:17 p.m.,*
in response to message #7 by Marcus von Cube, Germany

Thanks Marcus. I have a client already installed for other development so I will try to get the latest version that way. Anything in particular I need to know?

Edited: 12 May 2011, 1:19 p.m.

Re: WP34S Build 874 Possible HEX entry bug?

*Message #9 Posted by **Marcus von Cube, Germany** on 12 May 2011, 1:41 p.m.,*
in response to message #8 by M. Joury

No, just follow the instructions on our SF page under the Code tab. The flash file is under trunk/realbuild, the emulator under trunk/windows/bin.

You can likewise browse the repository on the web and download single files. The downside of this approach is that the revision number is blanked out. This must be a SVN peculiarity.

Re: WP34S Build 874 Possible HEX entry bug?

*Message #10 Posted by **M. Joury** on 12 May 2011, 3:04 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Thanks Marcus.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9825A use 9121 disk drive?

*Message #1 Posted by **David Ramsey** on 11 May 2011, 4:03 p.m.*

Can a 9825A calculator use a 9121D disk drive connected via HP1B? I know that separate special ROMS are required for it to control some of the old 8" and 5.25" drives, but I haven't seen anything on the newer 3.5" drives...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Simulation vs Emulation

*Message #1 Posted by **Carl Utter** on 11 May 2011, 1:04 p.m.*

I found this forum on accident and read an archived thread with the same title as this one. There was no consensus overall in the thread and many good points were made in the argument. It was interesting. My contribution (though late) would be to say:

Despite the medium through which results are delivered (physics, hardware, software, etc…) a simulator produces the exact same expected results and an emulator is differentiated by also producing the exact same unexpected results. *Oh to Error!*

Re: Simulation vs Emulation

*Message #2 Posted by **Namir** on 11 May 2011, 2:34 p.m.,*
in response to message #1 by Carl Utter

The difference between simulation and emulation reminds me of the difference between Dementia and Alzheimer's disease.

I like writing calculator emulators because they give me more freedom on how to mimic commands.

Namir

Re: Simulation vs Emulation

*Message #3 Posted by **Marcus von Cube, Germany** on 11 May 2011, 4:08 p.m.,*
in response to message #2 by Namir

Carl, I like your statement. :-)

In a simulation, you can easily extend the bounds of the original system, be it speed, memory or function set. See Free42 for a good example. But it's a lot of work to implement the original functionality so that the emulator behaves as a superset of the original system and not as a subset with extensions.

In an emulation, you have other problems: You cannot easily extend the bounds of the original hardware like speed or memory because the original firmware needs to be patched to recognize the new possibilities. Keyboard scan or display are examples where an unmodified firmware needs a relatively exact emulation of the original hardware to work reliably. You cannot easily add a dot matrix display to a 15C without severe changes to the old system.

Re: Simulation vs Emulation

*Message #4 Posted by **Didier Lachieze** on 11 May 2011, 5:51 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Well, for the HP-15C emulation I think you should be able to add an alphanumeric display and use it to show in program mode the instruction name instead of the keycode, without patching the original

firmware.

[Edited to replace simulation by emulation]

Edited: 12 May 2011, 2:48 a.m. after one or more responses were posted

Re: Simulation vs Emulation

*Message #5 Posted by **robert rozee** on 11 May 2011, 10:59 p.m.,*
in response to message #4 by Didier Lachieze

interesting you say that, as i've thought over the same thing - a 15c with a dot-matrix display ability PURELY for showing the instruction mnemonics). if the code that displays that data on screen was well compartmentized in the original code, a simulator could substitute it's own alpha-driving routine when it was jumped to.

has anyone sat down and tried to disassemble (at least partially) the original 15c roms back into the original assembly code?

Re: Simulation vs Emulation

*Message #6 Posted by **Didier Lachieze** on 12 May 2011, 2:46 a.m.,*
in response to message #5 by robert rozee

I don't think you need to look at the original code, an emulator should already have a routine to drive the physical display, so it "knows" the state of the display. When the PRGM indicator is on it can interpret the keycodes and replace them by the mnemonics.

Re: Simulation vs Emulation

*Message #7 Posted by **robert rozee** on 12 May 2011, 5:54 a.m.,*
in response to message #6 by Didier Lachieze

good point - that would (as far as i can see) work, and add a great deal to the 'user experience' of the calculator with very little programming effort beyond writing the initial 10-series simulator.

Re: Simulation vs Emulation

*Message #8 Posted by **HrastProgrammer** on 13 May 2011, 5:38 a.m.,*
in response to message #5 by robert rozee

> Quote:
>
> has anyone sat down and tried to disassemble (at least partially) the original 15c roms back into the original assembly code?

Yes.

Re: Simulation vs Emulation

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 13 May 2011, 3:09 p.m.,*
in response to message #8 by HrastProgrammer

> Quote:

> Yes.

:-)

Re: Simulation vs Emulation

*Message #10 Posted by **Thomas Radtke** on 12 May 2011, 6:37 a.m.,*
in response to message #4 by Didier Lachieze

> Quote:
>
> Well, for the HP-15C emulation I think you should be able to add an alphanumeric display and use it to show in program mode the instruction name instead of the keycode, without patching the original firmware.

By evaluating the display driver and subsequent transformations? Interesting.

Re: Simulation vs Emulation

*Message #11 Posted by **Walter B** on 12 May 2011, 7:04 a.m.,*
in response to message #10 by Thomas Radtke

Carl,

> Quote:
>
> > Quote:
> >
> > Well, for the HP-15C emulation I think you should be able to add an alphanumeric display and use it to show in program mode the instruction name instead of the keycode, without patching the original firmware.
>
> By evaluating the display driver and subsequent transformations? Interesting.

It's quite obvious some of us have difficulties with these terms as well ;-) Help: The "WP 34S Emulator" is exactly this :-)

Walter

Re: Simulation vs Emulation

*Message #12 Posted by **Thomas Radtke** on 12 May 2011, 9:44 a.m.,*
in response to message #11 by Walter B

> Quote:
>
> It's quite obvious some of us have difficulties with these terms as well ;-) Help: The "WP 34S Emulator" is exactly this :-)

What was the reason to quote me on this?

Re: Simulation vs Emulation

*Message #13 Posted by **Dave Britten** on 12 May 2011, 12:02 a.m.,*
in response to message #1 by Carl Utter

From what I understand, the traditional definition is/was thus:

Simulation - software-based facsimile
Emulation - hardware-based facsimile

But in the past 15 or so years, it seems to have shifted somewhat:

Simulation - A reimplementation designed for some subset of compatibility with the original, usually at a somewhat high or superficial level
Emulation - A software implementation of the lowest-level details of something, allowing comatibility to kind of fall into place on top of that fundamental layer of functionality

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[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: New Commodore PC coming out

*Message #1 Posted by **Namir** on 11 May 2011, 12:43 p.m.*

Commodore USA is launching several old models with new OS (Linus) and good hardware specs (typical 4 GB RAM and 500GB to 1TB hard drive) at the end of the month. Looks like HP-15C is not the only vintage machine that has a nostalgia club!!

You can click here to visit the Commodore USA web site and look at the different models, configurations, and prices.

Namir

Edited: 11 May 2011, 12:44 p.m.

Re: OT: New Commodore PC coming out

*Message #2 Posted by **Ren** on 11 May 2011, 1:04 p.m.,*
in response to message #1 by Namir

Even though the website says the new C-64 runs the old games/software, I didn't see the slot for the cartridges...

Ren

dona nobis pacem

Re: OT: New Commodore PC coming out

*Message #3 Posted by **exschr** on 11 May 2011, 2:39 p.m.,*
in response to message #1 by Namir

There are some sweet memories coming up ....:-)
It's not cheap for a toy, but I like the OS running the HW underneath the Emulation (Linux)
Thanks for sharing this.
Roger

Re: OT: New Commodore PC coming out

*Message #4 Posted by **Howard Owen** on 11 May 2011, 2:45 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Commodore USA's goal is to provide modern Personal Computer hardware, unencumbered by the legacy constraints of classic hardware and software.

Cool. Another commodity PC in a funny looking box.

Re: OT: New Commodore PC coming out

*Message #5 Posted by **Joerg Woerner** on 11 May 2011, 3:43 p.m.,*
in response to message #1 by Namir

This is not "your" Commodore anymore:

Commodore USA, LLC, recently secured licensing rights to both the Commodore and AMIGA brands

Regards, Joerg

Old news

*Message #6 Posted by **Frank Boehm (Germany)** on 12 May 2011, 4:29 a.m.,*
in response to message #1 by Namir

Heise (in german)

Spiegel (w/ pictures of proto, in german)

Certainly expensive and not in production yet.

Re: OT: New Commodore PC coming out

*Message #7 Posted by **db (martinez, ca.)** on 12 May 2011, 7:40 p.m.,*
in response to message #1 by Namir

commodore cartoon

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

15C re-release questions.

*Message #1 Posted by **Pal G.** on 11 May 2011, 11:55 a.m.*

One month 'till June - why not more rumors regarding the potential 15c re-release? Wouldn't more rumor milling assist Sales?

Second, why would HP re-release the 15c the same year as the 30th anniversary of the 12c (1981-2011), and not the 30th anniversary of the 15c (1982-2012)? The timing is odd to me. Will the 15c somehow ride the 12c's anniversary's coattails?

Third, I am hoping against, and wondering why HP would only manufacture 10,000 initial units. I haven't seen hp15c.org mentioned here yet. That petition claims 14,347 people, in 174 countries, would buy 82,021 15c calculators. Is the 12% a reasonable economic decision? Was the petition even considered?

Finally, how are those 10,000 units going to be sold? According to Wikipedia, Staples has over 2,000 stores and Office Max has over 1,000 stores. That's about 3 units per store. What about Amazon, Walmart, Target?

Re: 15C re-release questions.

*Message #2 Posted by **rav walia** on 11 May 2011, 12:40 p.m.,*
in response to message #1 by Pal G.

I don't know any rumours apart from what I've seen on the board, but a number of the guys that I work with, seem to have picked up on it too.

I want this release to happen, will it, I don't know. If it does, at least it gives me hope that HP is still thinking about the scientific calculator crowd.

Re: 15C re-release questions.

*Message #3 Posted by **Namir** on 11 May 2011, 12:52 p.m.,*
in response to message #1 by Pal G.

Pal,

Maybe we can redo the math, because 10,000 seems to me to be a small number.

```
Staples           2000 * 5 units/store =  10,000
Office Max        1000 * 5 unit/store =    5,000
Amazon                                    15,000
Walmart           10000 * 5 units/store = 50,000
Target            7000 * 3 units/store  = 21,000


Total                                    101,000
```

So a run of 100,000 units seems more likely than a piddle of 10,000. IF HP ever really does this then my guess is that there will be plenty of units to go around. No need for hoarding.

Of course many people on TAS will go out and buy these units from the retailers and selling them in auctions.

Namir

Edited: 11 May 2011, 12:55 p.m.

Re: 15C re-release questions.

*Message #4 Posted by **exschr** on 11 May 2011, 2:33 p.m.,*
in response to message #3 by Namir

What about Europe? Will we have to order from the States or will there be some units shipped over to us too?
10'000 units would make it very hard to find one here.
Roger

Re: 15C re-release questions.

*Message #5 Posted by **Bart (UK)** on 12 May 2011, 6:09 a.m.,*
in response to message #4 by exschr

That is my concern too. If only 10 000 are produced we may not see any beyond the shores of the USA.

Re: 15C re-release questions.

*Message #6 Posted by **Marcus von Cube, Germany** on 11 May 2011, 3:52 p.m.,*
in response to message #3 by Namir

I assume this will be a mail order only offer, available in the HP online shop.

Re: 15C re-release questions.

*Message #7 Posted by **David Hayden** on 12 May 2011, 6:48 a.m.,*
in response to message #3 by Namir

Staples only carries 3 calculators in the *current* line - none of them scientific. I think you can assume that they won't carry a 15C

Dave

Re: 15C re-release questions.

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 12 May 2011, 12:03 p.m.,*
in response to message #3 by Namir

> Quote:
>
> Walmart 10000 * 5 units/store = 50,000

Does anyone really think that Wal-mart is going to do that?

Re: 15C re-release questions.

*Message #9 Posted by **Martin Pinckney** on 11 May 2011, 3:24 p.m.,*
in response to message #1 by Pal G.

> Quote:
>
> ... I am hoping against, and wondering why HP would only manufacture 10,000 initial units.

This number is fictitious. The original article that started this rumor did not say a number, only "limited run."

> Quote:
>
> Finally, how are those 10,000 units going to be sold?

Most will be sold direct from HP's website. Most of the brick and mortar stores will not even be interested in stocking them.

Re: 15C re-release questions.

*Message #10 Posted by **gene wright** on 11 May 2011, 3:38 p.m.,*
in response to message #9 by Martin Pinckney

It is very difficult to get products into brick and mortar stores. Often, to get something into a store it must replace an item making less gross profit dollars than the new addition. This can be very difficult to demonstrate to store corporate management.

After all, we all love HP calculators but how many brick and mortar stores carry HPs at all? How many that DO carry HPs carry more than one or two?

Re: 15C re-release questions.

*Message #11 Posted by **Bart (UK)** on 12 May 2011, 6:25 a.m.,*
in response to message #10 by gene wright

My recent calculators have indeed been purchased through online stores, as the calculators I am interested in have generally not been available in brick and mortar stores. They are generally cheaper online anyway. (Amazing though how new items are always more expensive on eBay).

However, I am also concerned then if the 15C will only be available on the HP online store, if it is only going to be the US store then we in the UK can't purchase because as of yet we cannot purchase there from outside the US. It also seems that the UK HP online store does not sell calculators online.

So please HP, make enough and make them available through the normal channels (online calculator stores etc.)

Re: 15C re-release questions.

*Message #12 Posted by **M. Joury** on 12 May 2011, 12:06 p.m.,*
in response to message #11 by Bart (UK)

If one is truly desperate (and this might be such a case) there are ways around HP not shipping to Europe. I have a family member overseas and he uses a service in the US that acts as a forwarding agent. So a shipment will go out to the local (US) address and automatically get forwarded to the individual overseas. I have no idea how much this service costs but for certain items there is simply no other way to get them.

Re: 15C re-release questions.

*Message #13 Posted by **Marcus von Cube, Germany** on 12 May 2011, 12:37 p.m.,*
in response to message #12 by M. Joury

Some forum members might be helpful, too. :-)

Re: 15C re-release questions.

*Message #14 Posted by **M. Joury** on 12 May 2011, 1:21 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Yup. Actually I would be happy to oblige but it looks like I am going to be right in the middle of a move if the "reported" dates turn out to be valid. If later than I will be happy to help out if I can.

Re: 15C re-release questions.

*Message #15 Posted by **Jose Gonzalez Divasson** on 12 May 2011, 4:44 p.m.,*
in response to message #14 by M. Joury

Whatever is issued, it WILL be available in Europe. For sure.

Re: 15C re-release questions.

*Message #16 Posted by **Bart (UK)** on 14 May 2011, 4:08 a.m.,*
in response to message #15 by Jose Gonzalez Divasson

Thank you Jose for your re-assurance and other forum members for offers of help. There is hope after all :)

Re: 15C re-release questions.

*Message #17 Posted by **David Ramsey** on 12 May 2011, 5:46 p.m.,*
in response to message #10 by gene wright

Remember at the 2006 conference where HP handed out free HP-12C Anniversary Editions to all attendees? Maybe we'll get 15Cs this year!

Yes, I can hope.

Re: 15C re-release questions.

*Message #18 Posted by **Pal G.** on 12 May 2011, 7:11 p.m.,*
in response to message #17 by David Ramsey

Well, in my first post in this thread I mentioned I was puzzled why HP would re-release the 15c the same year as the 12c's anniversary? Wouldn't a 12c+ be a more appropriate giveaway for this years HHC? If the 15c is released this June, it might overshadow the 12c anniversary.

Edited: 13 May 2011, 4:38 p.m.

Re: 15C re-release questions.

*Message #19 Posted by **Eric Smith** on 15 May 2011, 4:05 p.m.,*
in response to message #18 by Pal G.

Aside from occasionally selling a variant of an existing model with an anniversary logo, I really

don't think HP does very much planning of new model introductions based on anniversaries. The 35s is the only one I can think of, and I suspect that the choice of the 35s model number was done more as a matter of recognizing the coincidence that they had a new scientific model to be introduced at approximately the anniversary of the 35, rather than based on any long-term planning for that anniversary. Of course, I wasn't involved, so I could be mistaken. Generally new products are designed and introduced as soon as they possibly can be, since the objective is to make as much revenue as possible.

Conference giveaways have generally been of new models, not old models that happen to be having an anniversary.

I really don't think that HP giving out something (or nothing) at a conference is going to overshadow the anniversary of anything.

Edited: 15 May 2011, 4:05 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s Version 1.18 Rev 875 Backup and Restore

*Message #1 Posted by **Jeff O.** on 11 May 2011, 9:38 a.m.*

Marcus,
I see that you have added confirmation to the ON+ key commands. That's a good thing, as I worried that at some point I would hit ON+S instead of ON+R as they are right next to each other. Not a disaster, but would require firing up SAM-BA to get things running again. In any case, I assume that the confirmation is to press the key again while holding ON down, i.e. Restore would be ON+5, hold ON, release 5, keep holding ON, press 5, correct? If so, then there may be a problem as I now get "Invalid" when I attempt to restore from a state file that worked with previous versions.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #2 Posted by **Marcus von Cube, Germany** on 11 May 2011, 3:30 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> If so, then there may be a problem as I now get "Invalid" when I attempt to restore from a state file that worked with previous versions.

1.17 is not compatible with 1.18. We changed the number of program steps and therefore the checksum is no longer valid. The keyboard sequence is exactly as you describe.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #3 Posted by **Jeff O.** on 11 May 2011, 4:01 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Any way to get around this? When you provided back-up and restore capability, I finally decided to try entering a longer program since I would not lose it with the next revision. Not a big deal if not, I'll just re-enter it.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #4 Posted by **Marcus von Cube, Germany** on 11 May 2011, 4:10 p.m.,*
in response to message #3 by Jeff O.

Send me your state file, I may create an upgrade path. You find me under marcus at mvcsys dot de.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #5 Posted by **Jeff O.** on 11 May 2011, 10:14 p.m.,*
in response to message #4 by Marcus von Cube, Germany

State file sent, fixed, and returned. Thanks Marcus!

Edited: 13 May 2011, 12:17 p.m.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #6 Posted by **Paul Dale** on 11 May 2011, 9:42 p.m.,*
in response to message #3 by Jeff O.

Out of interest, what program?

- Pauli

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #7 Posted by **Jeff O.** on 11 May 2011, 10:13 p.m.,*
in response to message #6 by Paul Dale

Nothing special, just my old four-digit number guessing game that I have ported to various machines over the years.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #8 Posted by **Jeff O.** on 13 May 2011, 12:47 p.m.,*
in response to message #7 by Jeff O.

Here is the wp34s state file with the program in case anyone is interested:

wp34s state file with number guessing game

Once you get the state file into your calculator and restore it to main memory, game play is as follows:

To play: Press C to execute program label C. The calculator will generate a random four digit number with no repeated digits, zero not allowed, then stop and display 0.0. Key in a four digit guess, (e.g. 1234, 9753, etc.) and press R/S. The calculator will compare your guess to the secret number it generated and return a score in the following format:

x.y

where x is the number of digits in your guess that are both in the secret number and in the correct position, and y is the number of digits which are in the secret number but not in the correct position. So, for example, if the secret number is 3214 and you guess 1234, the score will be 2.2, as the 2 and 4 are in the correct positions and the 1 and 3 are in the number but in the incorrect position in your guess. After each guess, pressing x<>y will show the number of guesses so far. Keep entering guesses until 4.0 is displayed, indicating you have solved the puzzle.

```
Wp34s program listing:
Step # Command         Comment
001     LBL C     Label C for "Code Breaker"
002     Cl x      clear x to get zero to store in 1 - 5, 10
003     STO 01
004     STO 02
005     STO 03
006     STO 04
007     STO 05
008     STO 10
009     FIX 01    set display mode Fix 1 so scores are presented as x.x
010     1         enter 1 for first digit of 10
011     0         enter 0 for second digit of 10
012     STO 06    Store constant 10 in register 6
```

```
013     4         enter 4
014     STO I     Store 4 in I for loop index and indirect storage.
015     LBL 02    Label 2
016     RAN#      generate random number
017     RCL x 06  Multiply times 10 to get a digit left of decimal point
018     INT       drop fractional portion
019     RCL 01    Recall register 1
020     XEQ 10    execute subroutine that checks against random number
021     RCL 02    Recall register 2
022     XEQ 10    execute subroutine that checks against random number
023     RCL 03    Recall register 3
024     XEQ 10    execute subroutine that checks against random number
025     RCL 04    Recall register 4
026     XEQ 10    execute subroutine that checks against random number
027     STO->I    If random number is not equal to any existing digit,
                  store in register pointed to by I
028     DSE I     Decrement index
029     GTO 02    Go back to random number generator to store next digit
030     LBL 03    Label 3
031     RCL 10    Recall 10, count of guesses for guessing portion
032     RCL 05    Recall 5, score of guess for guessing portion
033     STOP      Stop
034     STO 09    Store 4 digit guess in register 9
035     CL x      Clear x for 0 in x
036     STO 05    Store in register 5, which will hold score for the current
guess
037     4         Enter 4
038     STO I     Store 4 in I for loop index and indirect recalling.
039     LBL 08    Label 8
040     RCL 09    Recall guess
041     RCL / 06  Divide guess by 10
042     STO 09    Store back in register 9
043     FRAC      Take fractional part
044     RCL x 06  Multiply times 10 to get a digit left of decimal point
045     INT       drop fractional portion
046     RCL->I    Recall register pointed to by I
047     x=y?      Compare to digit extracted from guess for the I position
048     GTO 04    If equal, go to scoring for correct digit in correct location
049     Rv        Roll down to get extracted digit back
050     RCL 04    Recall digit 4
051     x=y?      Compare to extracted digit from guess
052     GTO 05    if equal, go to scoring for correct digit in incorrect
location
053     Rv        Roll down to get extracted digit back
054     RCL 03    Recall digit 3
055     x=y?      Compare to extracted digit from guess
056     GTO 05    if equal, go to scoring for correct digit in incorrect
location
057     Rv        Roll down to get extracted digit back
058     RCL 02    Recall digit 2
059     x=y?      Compare to extracted digit from guess
060     GTO 05    if equal, go to scoring for correct digit in incorrect
location
061     Rv        Roll down to get extracted digit back
062     RCL 01    Recall digit 1
063     x=y?      Compare to extracted digit from guess
064     GTO 05    if equal, go to scoring for correct digit in incorrect
location
065     0         enter 0 to indicate digit not in number
066     GTO 06    Go to scoring
067     LBL 04    Label 4
068     1         Enter 1 for correct digit in correct location
069     GTO 06    Go to scoring
070     LBL 05    Label 5
071     .         enter decimal point
072     1         enter 1 (for .1) for guess digit in number in incorrect
location
073     LBL 06    Label 6
074     STO + 05  Add 1, .1 or 0 to score
075     DSE I     Decrement index
076     GTO 08    Go to Label 8 to extract next guess digit
077     1         Enter 1
078     STO + 10  Add to register .0, count of guesses
079     EEX       Enter power of 10 exponent
080     4         Enter 4 for 1E4
081     RCL x 09  Multiply register 9 by 10,000 to get guess back
082     GTO 03    Go to 3
083     LBL 10    Label 3, test routine to generate non-repeating, non-zero
                  digits in secret number
084     x=y?      compare randomly generated digit to existing secret
                  number digit
```

```
085     GTO 02   go to random number generator if random number is equal to
                 any existing digit of secret number
086     x<>y     swap if not equal to get randomly generated digit back for
                 next test
087     RTN      subroutine return

...
```

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #9 Posted by **Gerson W. Barbosa** on 15 May 2011, 8:25 p.m.,*
in response to message #8 by Jeff O.

Thanks for posting it!

I liked to play this game on my TI-59, in '82 (there was a listing in the manual). Unfortunately it was stolen two months after I had purchased it. The first thing I did when I replaced it with an HP-15C was writing an RPN version, or to what I thought an RPN version was:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=68346

As I was not acquainted to the HP-15C, it was a slow and long program but it ran fast on the HP-32SII. Even faster on the PC :-)

```
-----------------------------------------------


Program Guessing_Game;
var c,e,i,j,nt,tmp: byte;
             ad,adv: integer;
                 op: char;
                a,n: array [1..4] of byte;
begin
  repeat
    nt:=0;
    ClrScr;
    Write(' ':9,'G U E S S I N G  G A M E');
    GoToXY(14,5); Write('Guess   C  I');
    repeat
      for i:=1 to 4 do
        n[i]:=Random(9)+1
    until (n[1]<>n[2]) and (n[1]<>n[3]) and (n[1]<>n[4]) and
          (n[2]<>n[3]) and (n[2]<>n[4]) and (n[3]<>n[4]);
    repeat
      c:=0; e:=0; nt:=nt+1;
      GoToXY(10,3); Write('Enter your guess: ');
      repeat
        repeat
          GoToXY(30,3); Read (adv);
          GoToXY(30,3); ClrEol
        until (adv>1233) and (adv<9877) and (IOresult=0);
        ad:=adv;
        for i:=4 downto 1 do begin
          a[i]:=adv mod 10;
          adv:=adv div 10
        end
      until (a[1]<>a[2]) and (a[1]<>a[3]) and (a[1]<>a[4]) and (a[2]<>a[3]) and
            (a[2]<>a[4]) and (a[3]<>a[4]) and (a[1]*a[2]*a[3]*a[4]<>0);
      for i:=1 to 4 do
        if a[i]=n[i] then c:=c+1;
      for i:=1 to 3 do begin
        tmp:=a[1];
        for j:=1 to 3 do
          a[j]:=a[j+1];
        a[4]:=tmp;
        for j:=1 to 4 do
          if a[j]=n[j] then e:=e+1
      end;
      GoToXY(10,nt+6); WriteLn(nt:2,':  ',ad:4,'   ',c:1,'  ',e:1)
    until (c=4) or (nt=10);
    GoToXY(15,20);
    if c=4 then
        case nt of
                      1: Write('That',#39,'s witchcraft!');
                    2,3: Write('Excellent!');
                      4: Write('Good!');
                    5,6: Write('Fair.');
                    7,8: Write('Poor.');
                      9: Write('Bad.');
                     10: Write('Better luck next time!')
```

```
        end
      else
        Write('Secret number: ',n[1]:1,n[2]:1,n[3]:1,n[4]:1);
    GoToXY(10,3); ClrEol;
    GoToXY(15,22); Write('New game?  <Y,N> ');
    repeat
      Read(kbd,op); op:=UpCase(op)
    until (op='Y') or (op='N')
  until op='N'
end.


------------------------------------------------


         G U E S S I N G  G A M E



             Guess    C  I


          1:  1234    1  0
          2:  5678    0  2
          3:  9287    0  3
          4:  2986    0  2
          5:  7893    3  0
          6:  7894    4  0







              Fair.

              New game?  <Y,N>



------------------------------------------------
```

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #10 Posted by **Jeff O.** on 16 May 2011, 7:49 a.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Thanks for posting it!

You are welcome!

> Quote:
>
> I liked to play this game on my TI-59, in '82 (there was a listing in the manual).

I also first encountered TI-59 version of the program. I had a 29C at the time and was able to create playable version for it.

> Quote:
>
> The first thing I did when I replaced it with an HP-15C was writing an RPN version, or to what I thought an RPN version...As I was not acquainted to the HP-15C, it was a slow and long program but it ran fast on the HP-32SII.

I can't believe I missed your post from 2005. My 15C version is also very slow. The wp34s version is lightning fast.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #11 Posted by **Paul Dale** on 15 May 2011, 8:46 p.m.,*
in response to message #8 by Jeff O.

Nice program. If you're agreeable, I'll add it to the library of programs.

A couple of minor comments (well more taking advantage of features of the 34s).

Lines 77/78 can be replaced by "INC 10".

The checking for duplicate digits code can be simplified. Lines 19-26 can be changed to

```
019: x=? 01
020: GTO 02
021: x=? 02
022: GTO 02
023: x=? 03
024: GTO 02
025: x=? 04
026: GTO 02
```

and lines 83 - 87 removed. This will be shorter, faster and not abuse the return stack so badly :-)

This section of code can be streamlined further by making it a loop:

```
015: 4
016: RAN#
017: RCL* 06
018: INT
019: LBL 99
020: x=?->Y
021: GTO 02
022: DSZ Y
023: GTO 99
```

and an extra step saved by deleting the label and using BACK instead.

The 34s really is a programmers' machine :-)

- Pauli

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #12 Posted by **Jeff O.** on 16 May 2011, 8:04 a.m.,*
in response to message #11 by Paul Dale

Thanks Pauli. You may certainly add it (or preferably an improved version) to the library of programs.

I am not surprised that it can be improved, thanks for your suggestions, I'll check them out. I'd also like to take advantage of the alpha capabilities of wp34s by adding some prompts or messages.

...

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #13 Posted by **Jeff O.** on 16 May 2011, 1:13 p.m.,*
in response to message #11 by Paul Dale

> Quote:
>
> A couple of minor comments (well more taking advantage of features of the 34s).
>
> Lines 77/78 can be replaced by "INC 10".
>
> The checking for duplicate digits code can be simplified...This section of code can be streamlined further by making it a loop...and an extra step saved by deleting the label and using BACK instead.

Which would look like this, I presume:

```
015: 4
016: RAN#
017: RCL* 06
018: INT
019: x=?->Y
020: GTO 02
021: DSZ Y
023: BACK 03
```

A similar improvement can be made to the digit checking routine, replacing steps 46 to 64 of the original program with:

```
x=?->I
GTO 04
4
x<>y
x=?->Y
GTO 05
DSZ Y
BACK 03
```

I'm sure there are other improvements that could be made, but the above changes plus a couple of skips get the program down to 64 steps, listed below. Oh yes, I forgot to say that after each guess is scored, the guess will be in register Z in case you forget what you just guessed.

> Quote:
>
> The 34s really is a programmers' machine :-)

Yes, it certainly is!

Improved wp34s version

State file

```
Program Listing
Step #  Command  Comment
001     LBL C    Label C for "Code Breaker"
002     CLx      clear x to get zero to store in 1 - 5, 10
003     STO 01
004     STO 02
005     STO 03
006     STO 04
```

```
007     STO 05
008     STO 10
009     FIX 01   set display mode Fix 1 so scores are presented as x.x
010     1        enter 1 for first digit of 10
011     0        enter 0 for second digit of 10
012     STO 06   Store constant 10 in register 6
013     4        enter 4
014     STO I    Store 4 in I for loop index and indirect storage.
015     LBL 02   Label 02
016     4        enter 4
017     RAN#     generate random number, 4 pushed to Y
018     RCLx 06  Multiply times 10 to get a digit left of decimal point
019     IP       drop fractional portion
020     x=?->Y   check random number against register pointed to ny Y
021     GTO 02   if equal, go back and generate new number
022     DSZ Y    decrement Y register, skip when zero
023     BACK 03  jump back three steps to compare digit to next register
pointed to by Y
024     STO->I   If random number is not equal to any existing digit,
store in register pointed to by I
025     DSE I    Decrement index
026     GTO 02   Go back to random number generator to store next digit
027     LBL 03   Label 03
028     RCL 10   Recall 10, count of guesses for guessing portion
029     RCL 05   Recall 5, score of guess for guessing portion
030     STOP     Stop, display 0.0 after start or score after guess
031     STO 09   Store 4 digit guess in register 9
032     STO 08   Store second copy of guess
033     CLx      Clear x for 0 in x
034     STO 05   Store in register 5, which will hold score for the
current guess
035     4        Enter 4
036     STO I    Store 4 in I for loop index and indirect recalling
037     LBL 08   Label 08
038     RCL 09   Recall guess
039     RCL/ 06  Divide guess by 10
040     STO 09   Store back in register 9
041     FP       Take fractional part
042     RCLx 06  Multiply times 10 to get a digit left of decimal point
043     IP       drop fractional portion
044     x=?->I   Compare to digit pointed to by I
045     GTO 04   If equal, go to scoring for correct digit in correct
location
046     4        enter 4
047     x<>y
048     x=?->Y   Compare to digit pointed to by Y
049     GTO 05   if equal, go to scoring for correct digit in incorrect
location
050     DSZ Y    decrement Y register, skip when zero
051     BACK 03  jump back three steps to compare digit to next register
pointed to by Y
052     0        enter 0 to indicate digit not in number
053     SKIP 05  Go to scoring
054     LBL 04   Label 04
055     SKIP 02  skip two steps to enter 1 for correct digit in correct
location
056     LBL 05   Label 05
057     .        enter decimal point
058     1        enter 1 (for .1 for guess digit in number in incorrect
                 location, 1 for correct digit in correct location.)
059     STO+ 05 Add 1, .1 or 0 to score
060     DSE I   Decrement index
061     GTO 08  Go to Label 08 to extract next guess digit
062     INC 10  Increment register 10, count of guesses
063     RCL 08  Recall original guess
064     GTO 03  Go to label 03 to display score and count of guesses
```

edited to add state file and listing of further improved version of program

Edited: 16 May 2011, 8:50 p.m.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #14 Posted by **Paul Dale** on 11 May 2011, 5:33 p.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> That's a good thing, as I worried that at some point I would hit ON+S instead of ON+R as they are right next to each other.

I've done exactly this :-(Caused a little confusion.

- Pauli

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #15 Posted by **Paul Dale** on 11 May 2011, 5:41 p.m.,*
in response to message #1 by Jeff O.

Please bear in mind that the internal op-codes for commands are not yet set in stone. Of course, we're not going to make changes for the sake of it and we'll try to stay backwards compatible but there is no absolute guarantee of this.

One future we're discussing is user program libraries in flash. Before this can be done we must fix the existing op-codes. Retyping the limited RAM program memory is painful and a bit annoying but not really that much of chore. Retyping multiple kb's of libraries would be.

- Pauli

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #16 Posted by **Marcus von Cube, Germany** on 12 May 2011, 1:55 a.m.,*
in response to message #15 by Paul Dale

We should add a disassembler and an assembler to the emulator. This would make programming much easier. The state file or its program part can then be easily transfered to the real machine.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #17 Posted by **Paul Dale** on 12 May 2011, 2:30 a.m.,*
in response to message #16 by Marcus von Cube, Germany

This would be great. I'd use an assembler to compile the internal key stroke programs e.g. :-)

There is a kind of disassembler for the internals. Build the console version and run "calc xrom"

- Pauli

Edited: 12 May 2011, 2:31 a.m.

Re: wp34s Version 1.18 Rev 875 Backup and Restore

*Message #18 Posted by **Walter B** on 12 May 2011, 5:39 a.m.,*
in response to message #17 by Paul Dale

Our baby's going to get wings :-) IMHO, however, it should learn walking and safely riding a bike first ;-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Adding a crystal to a 20b or 30b

*Message #1 Posted by **Marcus von Cube, Germany** on 11 May 2011, 4:24 a.m.*

I'm not a hardware guy so I need advice here.

I want to add a 32768 Hz crystal to my 20b and my 30b. HP's schematics show a value of 15 nF for the capacitors while Atmel says something in the 10 pF range. Who is correct on the matter?

Edited: 11 May 2011, 4:24 a.m.

Re: Adding a crystal to a 20b or 30b

*Message #2 Posted by **Eric Smith** on 11 May 2011, 6:21 a.m.,*
in response to message #1 by Marcus von Cube, Germany

10 pF is in the right ballpark. 15 nF is three orders of magnitude too much! I guess since they're not actually using it in the calculator they didn't double-check that they specified the right value on the schematic.

It is somewhat tricky to determine the optimal value to use because it depends on the capacitance characteristics of the chip, the crystal, and the PCB layout. 32kHz crystal oscillators can be particularly finicky compared to more traditional crystal oscillators (e.g., 4-20 MHz).

Edited: 11 May 2011, 6:29 a.m.

Re: Adding a crystal to a 20b or 30b

*Message #3 Posted by **sylvandb** on 11 May 2011, 2:21 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> 10 pF is in the right ballpark. 15 nF is three orders of magnitude too much! I guess since they're not actually using it in the calculator they didn't double-check that they specified the right value on the schematic.

LOL

Or perhaps "crystal isn't working, we don't need it so leave it off the build and also leave off its capacitor."

Re: Adding a crystal to a 20b or 30b

*Message #4 Posted by **Eric Rechlin** on 11 May 2011, 12:25 p.m.,*
in response to message #1 by Marcus von Cube, Germany

HP's schematics are wrong.

In my personally-untested "20b hacker's kit" I include 18 pF capacitors, which are probably close enough, but

nobody has reported success or failure with them.

Re: Adding a crystal to a 20b or 30b - success!

*Message #5 Posted by **Marcus von Cube, Germany** on 11 May 2011, 3:25 p.m.,*
in response to message #4 by Eric Rechlin

Eric, so it was your page that led me to the right physical dimensions 0603. :-) Thanks for the info!

I bought 15pF capacitors. They are so tiny that I call them "Fliegenschiss". Soldering required a tiny 12V soldering "iron" (more of a needle), a magnifying glass (originally bought for my aging mother as a reading aid) and two attempts. If you solder the crystal, be careful not to place it outside the marked area. Mine came off when I reassembled the case. The second attempt was successful.

With the most recent wp34s build you can press ON+X (twice) to activate the crystal. If you do it without the mod, your calc needs a reset.

Re: Adding a crystal to a 20b or 30b - success!

*Message #6 Posted by **Eric Rechlin** on 12 May 2011, 12:30 a.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Eric, so it was your page that led me to the right physical dimensions 0603. :-) Thanks for the info!

Glad to hear the information was useful!

> Quote:
>
> They are so tiny that I call them "Fliegenschiss".

Oh, I like soldering 0603 capacitors a lot more than 0402 capacitors. My first revision of the 50g serial cable used 0402s, and that was a real pain to solder without a stereoscope.

> Quote:
>
> With the most recent wp34s build you can press ON+X (twice) to activate the crystal. If you do it without the mod, your calc needs a reset.

Excellent! Looking forward to that.

Eric

Re: Adding a crystal to a 20b or 30b

*Message #7 Posted by **BobVA** on 17 May 2011, 9:56 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Eric: I used your kit (with the 18 pF caps) and it seems to work fine on my 30b. I found the little strip of Kapton tape from the crystal package useful for sticking the crystal to the board before soldering it in. Thanks for making the kit available!

Marcus: Only ein Flieger. :-) Is the ON-X-X a one-way setting (i.e. not a toggle)? That is, once it's selected the calculator uses the external oscillator unless it's reset? Thanks for including that function!

Regards, Bob

Edited: 17 May 2011, 10:00 p.m.

Re: Adding a crystal to a 20b or 30b

*Message #8 Posted by **Marcus von Cube, Germany** on 18 May 2011, 1:51 a.m.,*
in response to message #7 by BobVA

> Quote:
>
> Is the ON-X-X a one-way setting (i.e. not a toggle)?

Yes! The reason is easy: The chip allows to switch the oscillator exactly once after a reset. No way (and no reason) to go back. Likewise there is no way to check the presence of the crystal. If you select the function without a working oscillator, the device hangs. Even the LCD stops working as it's driven by the same oscillator. There is neither hope that the watchdog may kick in: It uses the same clock source.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

16C Compat. #4 - LASTx

*Message #1 Posted by **Jake Schwartz** on 10 May 2011, 8:26 p.m.*

Hi,

While continuing to work through the 16C manual with the 34s, I found that a bunch of bit functions did not set LAST X as the 16C does: LJ, ASR, RL, RR, RLC, RRC, SL, SR, RLC, RRC, MASKL, MASKR, SB and CB. Perhaps these really should set LAST X.

Thanks, Jake

Re: 16C Compat. #4 - LASTx

*Message #2 Posted by **Paul Dale** on 10 May 2011, 8:53 p.m.,*
in response to message #1 by Jake Schwartz

RLC and RRC are in the list twice :-) But the shifts and rotates didn't set lastX properly :-(

MASKL and MASKR don't modify the X register so they don't need to save lastX. They do push stack. Unlike the 16c we take the number of bits to mask as an argument to the command not from the stack. Our integer mode isn't identical to the 16c in this respect for quite a few commands.

LJ was just plain broken :-(

All the rest will be fixed with the next build.

- Pauli

Re: 16C Compat. #4 - LASTx

*Message #3 Posted by **Marcus von Cube, Germany** on 11 May 2011, 3:07 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> All the rest will be fixed with the next build.

I've updated SVN with Pauli's changes.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

hp48gx pc cable

*Message #1 Posted by **tim peterson** on 10 May 2011, 6:52 p.m.*

I have an HP48gx with an HP standard PC cable. However my computer does not have this particular version of serial connection. Is there any relatively simple way to come up with an adapter setup? I have the 48 and the cable for something like 15 years, haven't used them for at least 8 years, and need help. Thanks in advance.

Re: hp48gx pc cable

*Message #2 Posted by **Marcus von Cube, Germany** on 10 May 2011, 7:06 p.m.,*
in response to message #1 by tim peterson

Any USB to serial converter should do nicely. The ones made by FTDI or containing their chips are renowned. I have no problems with my setup where Windows resides in a virtual machine on my Mac but controls the FTDI adapters.

Re: hp48gx pc cable

*Message #3 Posted by **tim peterson** on 11 May 2011, 7:06 p.m.,*
in response to message #2 by Marcus von Cube, Germany

OK, thanks for the quick response. I'll give that a shot.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 32S style ridgid case

*Message #1 Posted by **Anoop Sahal** on 10 May 2011, 4:08 p.m.*

Thank you for reading my posting.

I wonder if anyone can inform me of a source for a rigid case for the HP 32S style of calculator.

Years ago I bought a rigid case for one of my 10 series calculators. It was like a data cassette case with one end flipping open , like a cigarette box lid. It fitted the calculator perfectly. However, at £5 plus shipping each I only bought one instead of the six I should have bought.

Thanks again

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Too Long With No New Calculators!

*Message #1 Posted by **Jeff** on 10 May 2011, 12:13 p.m.*

Casio, HP, Sharp, TI, etc. Same old stuff month after month. Or has it been years? I wonder if anything new is on the horizon.

Re: Too Long With No New Calculators!

*Message #2 Posted by **Don Shepherd** on 10 May 2011, 12:27 p.m.,*
in response to message #1 by Jeff

Both Casio and TI have (relatively) new color graphing calculators with screens that are second to none.

Re: Too Long With No New Calculators!

*Message #3 Posted by **Marcus von Cube, Germany** on 10 May 2011, 12:27 p.m.,*
in response to message #1 by Jeff

Ask Jörg Wörner for TI's offerings. I think there has been some progress on that front. Only to mention the color Nspire.

I can't speak for Sharp, but Casio has recently introduced the Prizm color graphic calculator.

HP? Think of the HP 20b/30b and the recently updated 12C. This is a basis for many new devices, our wp34s repurposing project being just one possible outcome, a new 15C another.

Re: Too Long With No New Calculators!

*Message #4 Posted by **Joerg Woerner** on 10 May 2011, 3:50 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Just for Texas Instruments:

Worldwide: TI-Nspire CX, TI-Nspire CX CAS, TI-36X Pro (in some countries TI-30X Pro)

France: TI-84 Pocket.fr, TI College Plus, TI-106 (old calc in new colors)

Regards, Joerg

Re: Too Long With No New Calculators!

*Message #5 Posted by **Chuck** on 10 May 2011, 11:49 p.m.,*
in response to message #4 by Joerg Woerner

Was at a conference and played with the new TI-Nspire. Although I am mildly impressed with the advances in technology, there is no way I want a student of mine to have one of those things (talk about impeding progress). I think they cause a person to lose sight of real education due to the eye-

candy bling factor. I see them more of a novelty and curiosity and being carnival barked by pseudo-educatiors as an educational necessity. Meh.

Re: Too Long With No New Calculators!

*Message #6 Posted by **Eric Smith** on 11 May 2011, 12:42 a.m.,*
in response to message #5 by Chuck

Would you want your students to have an HP 50g?

Re: Too Long With No New Calculators!

*Message #7 Posted by **Chuck** on 11 May 2011, 1:22 a.m.,*
in response to message #6 by Eric Smith

Very rarely. The right tool at the right time. Students often can't tell when technology should be used and when it shouldn't. Too many aren't developing necessary cognitive skills because of the easy and accepted use of the almighty calculator. I'm still old school: $10 scientific calc on in class exams; graphing calc and/or mathematica on take home assignments. I have a few colleagues that think any calculator at anytime to solve any problem is appropriate in today's world. I just can't go that far yet.

Re: Too Long With No New Calculators!

*Message #8 Posted by **Eddie W. Shore** on 12 May 2011, 11:08 p.m.,*
in response to message #7 by Chuck

```
I think calculators should used by students as such:


Pre-Alegbra:  a simple four-function calculator, if at all


Algebra (I and II), Geometry, Trigonometry: a basic scientific calculator
will be (more than) sufficient (TI-30, Casio fx260, any of the Cannon
models) - I would not allow graphing calculators on tests


Pre-Calculus: more advanced scientific calculator (Casio fx-115ES, TI-36X
Pro, HP 35S); graphing calculator optional (but encouraged)


Calculus and Undergraduate Level Math:  graphing calculator


Graduate and PhD. Level: graphing calculator with CAS abilities
```

Re: Too Long With No New Calculators!

*Message #9 Posted by **Tim Wessman** on 10 May 2011, 5:44 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Also the 10bII+. That is brand new. Other then the name and look, it shares nothing from the old one.

TW

Re: Too Long With No New Calculators!

*Message #10 Posted by **Jim Yohe** on 13 May 2011, 1:45 a.m.,*

in response to message #9 by Tim Wessman

All of the same primary and secondary key and faceplate nomenclature appears to be in the same places and as Gene says in his Solve (#23) review article the 10bii+ operates the same as the 10bii with the same keystroke sequences. Do you mean there are no internal hardware and display similarities?

Re: Too Long With No New Calculators!

*Message #11 Posted by **Marcus von Cube, Germany** on 13 May 2011, 2:04 a.m.,*
in response to message #10 by Jim Yohe

> Quote:
>
> Do you mean there are no internal hardware and display similarities?

Similarities - yes, pieces of old code or hardware - no. The new 10bii+ is based on the same architecture as the 20b/30b or the recent 12C: An Atmel AT91SAM7L128 low power ARM core processor with integrated 128KB flash rom, 2 KB battery backed RAM, 4 KB working memory, LCD controller and enough I/O pins to drive a keyboard. In other words: It's just one chip, yet a general purpose one, and a bare LCD without any further integrated circuits.

The software, the visible display layout, and the keys are designed in a way that makes the new device behave in a compatible way to the old one. That's it! In other words: It's a simulator.

The new 12C uses the old firmware in a completely new hardware. HP has implemented an emulation layer that makes it possible to reuse old proven code in a current setup. You can expect the very same results as the original 12C in every respect except execution speed.

Re: Too Long With No New Calculators!

*Message #12 Posted by **Tim Wessman** on 13 May 2011, 9:41 a.m.,*
in response to message #10 by Jim Yohe

The display is the same type of display, but a completely new display (since there are significant indicator changes).

The chip running the code is the Atmel as Marcus said. This required a complete re-write from the ground up because:

1. Not enough space on the old one for new features.
2. Difficult to work on the old codebase (assembly vs C).
3. Doing so allowed reuse of the same math library that has now been used on the 20/30b, 10bII+, 12cp iphone versions, and the calc pad PC software.
4. Didn't have enough speed to do things like inverse T with any hope of enough speed.
5. The 20/30b codebase could be used as a nice starting point.

So basically like you said, the keys that were there didn't change (except very minor ones like changing C SIGMA to C STAT as it was clearer - the position didn't change), and the look/body didn't change. The hope is that the vast majority of 10bII users wouldn't notice a difference other then the calculations now go faster and there are a *few* more features. :-)

However, in actuality had a lobotomy to put in a new brain and guts. It's a zombie calc! :-)

TW

Edited: 13 May 2011, 9:44 a.m.

Re: Too Long With No New Calculators!

*Message #13 Posted by **Marcus von Cube, Germany** on 13 May 2011, 10:28 a.m.,*
in response to message #12 by Tim Wessman

Tim, it would be nice to have display and keyboard schematics for all the new calcs so that the devices are open for independent developers. Even without a JTAG connector it should be possible to do useful things.

If you had skins for them which match the windows emulation used for the 20b/30b SDK it would be even more practical to develop software for them.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #1 Posted by **Jake Schwartz** on 10 May 2011, 8:29 a.m.*

Hi,

I loaded version 865 this morning and found a bunch of issues repaired, for which I am grateful. However, now in either 1's or 2's compliment mode, I cannot enter a value which occupies all the bits in the word. For example, in either 1's or 2's compliment mode and with a 16-bit word, if I attempt to enter FFFF in hex, I get 7FFF instead. This seems to be the case in any base, and it was not like this before.

Thanks

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #2 Posted by **Walter B** on 10 May 2011, 9:05 a.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

Thanks for the compl**i**ments. Assume you are talking about compl**e**ments, however ;-> Anyway, you found another difference to 16C, where you can enter FFFF (h) and also 65535 (d) - the latter will be displayed as -1 (d) immediately if entered in 2's complement mode.

Walter

P.S.: On the WP 34S, press 1 [+/-] ENTER and you get FFFF (h). Yes, I know, it's just a workaround ...

Edited: 10 May 2011, 9:12 a.m.

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #3 Posted by **Jake Schwartz** on 10 May 2011, 10:47 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Anyway, you found another difference to 16C...

But, it didn't work this way just two days ago. So this change was recently inserted intentionally? I have a 20b with a new ROM image flashed 3 hours ago which exhibits this behavior, and my 30b, which was flashed two days ago works like the 16C.

Jake

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #4 Posted by **Walter B** on 10 May 2011, 11:12 a.m.,*

in response to message #3 by Jake Schwartz

Jake, I guess that's due to the other discrepancy you discovered earlier. Remember it was concerning complements as well. So it looks like in mending this the new bug was introduced. Such is life - progress is a snail - or sometimes an elephant in a china shop ;-)

Walter

Edited: 10 May 2011, 11:16 a.m.

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #5 Posted by **Paul Dale** on 10 May 2011, 5:30 p.m.,*
in response to message #1 by Jake Schwartz

This is a result of the preserve the sign in a multiply fix :-(

- Pauli

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #6 Posted by **Paul Dale** on 10 May 2011, 6:26 p.m.,*
in response to message #5 by Paul Dale

Believed to be fixed now. Hopefully without any other regressions.

- Pauli

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #7 Posted by **Marcus von Cube, Germany** on 10 May 2011, 6:29 p.m.,*
in response to message #6 by Paul Dale

The most recent build is in SVN.

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #8 Posted by **Jake Schwartz** on 10 May 2011, 7:15 p.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> The most recent build is in SVN.

Thanks, guys! The turnaround has been amazing.

Jake

Re: wp34S V.865 - Can't Fill up Full Word in Comp Modes

*Message #9 Posted by **Paul Dale** on 10 May 2011, 7:17 p.m.,*
in response to message #8 by Jake Schwartz

It would have been faster if I wasn't asleep :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S "last catalog" function

*Message #1 Posted by **Jake Schwartz** on 9 May 2011, 9:19 p.m.*

Hi,

(I hope I'm not getting into too much hot water for asking too many questions....)

On page 56 of the wp34s manual for version 832, it says that "Reopening the very last catalog called, the last command selected therein is displayed for repetitive use." This turns out to be an extremely useful feature. However, it seems to only work if the catalog command last accessed is one which does not require an input parameter, such as WSIZE _ _ or alphaSTO _ _. In these cases, reentering the catalog takes the user back to the first item. Would there be, by any chance, a way to make these functions requiring arguments to also be directly accessible via CATALOG?

Thanks, Jake

Re: wp34S "last catalog" function

*Message #2 Posted by **Paul Dale** on 9 May 2011, 9:42 p.m.,*
in response to message #1 by Jake Schwartz

Fixed in the next build :-)

- Pauli

Re: wp34S "last catalog" function - fixes are released to SF

*Message #3 Posted by **Marcus von Cube, Germany** on 10 May 2011, 3:28 a.m.,*
in response to message #2 by Paul Dale

I've updated the release package with the latest fixes. Enjoy!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New 15C - Greed and Hoarding

*Message #1 Posted by **John Stark** on 9 May 2011, 7:39 p.m.*

To all:

It is increasingly obvious that HP is getting ready to release some interesting new apparatus, specifically a 10.000 unit limited "anniversary" reissue of the HP.15C scientific and some revision of the 49/50 series (pray for big ENTER key and tapered/sweeping cross-section "Classic" case design).

Please let me know your opinion on the possible issue of some collectors "hoarding" the 15.C reissue (and its effects on the E**y auction scene).

As for me, I love the "Classic" series and keep a whole stable of them running with many parts donors. 12.C comes into play when financial questions arise not congruent with HP.80.

Just some food for thought: I believe this group has too much "class" to hoard, but let me know what you think of the (semi)-outside world's reaction to HP's newest crop.

Best regards.

John Stark

Re: New 15C - Greed and Hoarding

*Message #2 Posted by **Namir** on 9 May 2011, 7:54 p.m.,*
in response to message #1 by John Stark

John,

How is it increasingly obvious that HP is getting ready to relaunch a revived HP-15C? And how is it obvious that they will make 10,000 units and not some other number???

I am all ears!

:-)

Namir

Re: New 15C - Greed and Hoarding

*Message #3 Posted by **John Stark** on 9 May 2011, 8:14 p.m.,*
in response to message #2 by Namir

Namir:

Here is one site discussing this development:

http://www.techpoweredmath.com/hp-12c-special-edition-hp-15c-re-release/

HTH - Even I am excited about the re release of a machine I used many years ago.

Best Regards,

John Stark

Re: New 15C - Greed and Hoarding

*Message #4 Posted by **Namir** on 9 May 2011, 10:00 p.m.,*
in response to message #3 by John Stark

I think it's time to ask Donald Trump to check out the roomers about the HP-15C .... after all he has a team of crack investigators.

Let me see ... where did I write Trump's number .....

:-)

Namir

Re: New 15C - Greed and Hoarding

*Message #5 Posted by **M. Joury** on 9 May 2011, 8:22 p.m.,*
in response to message #1 by John Stark

I appreciate your contention that this group has class... However, if this machine comes to pass, what would you consider "hoarding". Does the purchase of 2-3 units qualify <g>?

Re: New 15C - Greed and Hoarding

*Message #6 Posted by **Dave Britten** on 9 May 2011, 9:08 p.m.,*
in response to message #5 by M. Joury

Nah. One for the office, one for at home, and one for the briefcase, or just as a spare. I don't think you're in hoarding territory until five and up.

And I'll certainly be in for one - possibly two - if this all comes to fruition. I love the 48SX on my desk, but the viewing angle and contrast are a little harsh, and input isn't as speedy with all the fancy RPL stuff. Wouldn't mind getting a 15C for basic work and saving the 48 for the heavier stuff.

Re: New 15C - Greed and Hoarding

*Message #7 Posted by **Katie Wasserman** on 9 May 2011, 11:22 p.m.,*
in response to message #5 by M. Joury

IIRC, there was some hording by this group on the 42S. Someone here found out and reported that HP still had these in inventory as "replacement" machines long after they had been discontinued. Those of us who didn't act fast didn't get in on this find as not everyone limited themselves to 1 or 2.

-Katie

Edited: 9 May 2011, 11:25 p.m.

Re: New 15C - Greed and Hoarding

*Message #8 Posted by **Howard Owen** on 10 May 2011, 2:36 a.m.,*
in response to message #1 by John Stark

Supposing that rumor turns out to be true, and further supposing that certain "greedy hoarders" snap up the limited run of 10,000, so the rest of us poor enthusiasts can't get one, then wouldn't that tend to encourage HP to make more 15Cs?

I personally hope both things happen, and that I also get my place at the first trough, but I'm not holding my breath for either eventuality.:)

Regards,
Howard

Re: New 15C - Greed and Hoarding

*Message #9 Posted by **Namir** on 10 May 2011, 9:41 a.m.,*
in response to message #8 by Howard Owen

Howard,

If one (or even a few) person snatches 10,000 units, then HP would be clever to make more runs. Storing many units (in the thousands) is not easy and is a big gamble. I think buying 2 or 3 units will be, by collectors' standards, "reasonable" (sounds ironic coming from someone who has six vintage HP-15C ... and always uses an HP-15C emulator).

Namir

Edited: 10 May 2011, 9:42 a.m.

Hoarding?

*Message #10 Posted by **Frank Boehm (Germany)** on 10 May 2011, 6:46 a.m.,*
in response to message #1 by John Stark

I assume the limited production run has one good reason: there is only a (very) limited market, most buyers can be found in this forum :)
Hoarding might happen, but probably won't mean a profit, the limited buyer group will grab 1-3 calculators early, which will be enough for at least a dozen years. To push prices up early, one would need to purchase all available calculators - 10000 times 100USD is certainly a freak investment and not going to happen.

Re: Hoarding?

*Message #11 Posted by **Dave Britten** on 10 May 2011, 8:18 a.m.,*
in response to message #10 by Frank Boehm (Germany)

But really, who hasn't dropped a million bucks on a niche calculator model for speculative purposes? Haven't we all?

Re: Hoarding?

*Message #12 Posted by **Katie Wasserman** on 10 May 2011, 10:33 a.m.,*
in response to message #11 by Dave Britten

Just a million? Well, I guess that we're still in a recession of sorts.

Re: Hoarding?

*Message #13 Posted by **Antonio Petri (UK)** on 10 May 2011, 8:20 a.m.,*
in response to message #10 by Frank Boehm (Germany)

I agree that there would be a only limited market for a re-introduction of the 15C. Most of us who praise it are those who had it at that time and experienced its real value compared to the other calculators, but I wouldn't be surprised that the youngest generations were not interested in it at all. However, in my opinion there is still something in terms of absolute value in the 15C and 10 series in general: it is the form factor, the compact shape, the nice look, its unsurpassed keyboard and its overall impression of a good quality build. These are things that still matter, maybe not too much to a student, but definitely to a professional. With the present technology it could be provided with a lot more functionality and made a lot faster than the original model. Matching the features and speed of the current scientific calculators, the qualities mentioned above would be the differentiating factor and what could make everybody, not just the nostalgic bunch, buy it.

Re: Hoarding?

*Message #14 Posted by **Eddie W. Shore** on 10 May 2011, 10:00 a.m.,*
in response to message #13 by Antonio Petri (UK)

I just hope that there is one for me when it is released. :)

Re: Hoarding?

*Message #15 Posted by **Walter B** on 10 May 2011, 11:15 a.m.,*
in response to message #14 by Eddie W. Shore

Seems like HP should run an auction ... pssst, don't tell them! d;-)

Re: Hoarding?

*Message #16 Posted by **M. Joury** on 10 May 2011, 12:00 p.m.,*
in response to message #10 by Frank Boehm (Germany)

After I posted yesterday I got to thinking about this question some more. I was wondering how many people were on this forum. Surely not more than 1000? Lets say that 80% of forum members would like 1 or more units (2-3 seems to be a common theme in various posts past and present). So lets use 3 as a figure. Say 2400 units between 800 forum members (I didn't need an HP15C for that particular calculation). Should be more than enough for all of us. UNLESS some distributor grabs a whole bunch as some have suggested might happen. Sounds like that would be prohibitively expensive and somewhat risky. If that person or entity purchased say all 10,000 units (or even if they were all bought up by 5 entities) to push up the price, what then? Sitting on those units for any length of time becomes a liability. They would have to sell them to recoup their investment. And that would mean that it would be very difficult to hoard at the level required to make the calcs either unavailable to those that want them or to push up the prices.

Just my 2 cents worth.

And, of course, it would be nice if the limited number became general availability. It seems to me that the risk to HP would be minimal since the machine is based on the same architecture, case, etc. as the 12C. There are only two differences as far as I can tell. The keyboard and the firmware. Worst case one could take the firmware and apply it to the 12C and figure out how to create a keyboard template. Certainly not as nice as having a "real" 15C but effectively the same capabilities.

Cheers,

Marwan

Re: Hoarding?

*Message #17 Posted by **Ren** on 10 May 2011, 12:46 p.m.,*
in response to message #16 by M. Joury

I'm just guessing it will be a reprogrammed "modern" 12C.

Do the modern 12C's have the reliability or battery life of the originals? I guess not.

While I would like to own a newer one, I'm not going to even consider buying one at "speculative" prices on TAS. The original I bought for $15 will be good enough, and considering "modern" electronics don't have the reliability/long life of similar products built 20 years ago. Televisions for instance, "stocking up" for future need could be foolish (leaky capacitors and such).

Ren

dona nobis pacem

Re: Hoarding?

*Message #18 Posted by **Marcus von Cube, Germany** on 10 May 2011, 12:58 p.m.,*
in response to message #17 by Ren

I've an original 15C which I only use very occasionally because it's so incredibly slow. Decent speed makes a huge difference.

As the programmer of the "hardware part" of wp34s, essentially the same hardware as the new 12C and the (hopefully) upcoming 15C, I can assure you that performance and economy on batteries can go hand in hand. Of course not if you are running a tight loop which will rapidly eat your coin cells. But with normal use, you can expect a battery life measured in years, not months or weeks.

Re: Hoarding?

*Message #19 Posted by **exschr** on 10 May 2011, 4:25 p.m.,*
in response to message #18 by Marcus von Cube, Germany

slow: yes
but it is small and simple to operate! That's why it's one of my favorites for the simple stuff and it's quite powerful to fit into the pocket:
- complex numbers
- matrix operations
- easy RPN programming and even recall arithmetic

I will for sure check it out if there is a new 15c edition.
Roger

Re: Hoarding?

*Message #20 Posted by **Michael de Estrada** on 10 May 2011, 4:33 p.m.,*
in response to message #19 by exschr

Personally, the HP-15c is one of my favorites for all the reasons you list and more. The real disgrace is that nearly 30 years later we have the HP-35s that can't even do matrix math and has an inferior keyboard and display.

Re: Hoarding?

*Message #21 Posted by **exschr** on 10 May 2011, 4:54 p.m.,*
in response to message #20 by Michael de Estrada

What I hate most of the 35S is, that you can label program just with one letter. This really yields all that nice memory to be a silly joke.

The 35S looked at least again like a real calculator and not like a spaceship :-)

but I leave the 35s all the time in the drawer and rather pick up the 15c or a 41c to have with me.
Roger

Re: Hoarding?

*Message #22 Posted by **Eddie W. Shore** on 12 May 2011, 11:11 p.m.,*
in response to message #21 by exschr

We're restricted to numeric labels and five designated letters on the 15C.

Re: Hoarding?

*Message #23 Posted by **exschr** on 13 May 2011, 2:08 a.m.,*
in response to message #22 by Eddie W. Shore

> Quote:
>
> We're restricted to numeric labels and five designated letters on the 15C.

...so there must be clearly another reason why I rather pick up the 15C!
:-)
(it's not just about rational arguments)

Re: Hoarding?

*Message #24 Posted by **Antonio Petri (UK)** on 10 May 2011, 1:02 p.m.,*
in response to message #17 by Ren

Sorry for the stupid question: what is TAS? I have just registered to this forum...

Re: Hoarding?

*Message #25 Posted by **M. Joury** on 10 May 2011, 1:07 p.m.,*
in response to message #24 by Antonio Petri (UK)

I think it stands for "That Auction Site"... At any rate it refers to eBay.

Re: Hoarding?

*Message #26 Posted by **bill platt** on 10 May 2011, 2:36 p.m.,*
in response to message #24 by Antonio Petri (UK)

Some people find the word, "ebay" so distasteful that they find other ways of expressing themselves. But it is also similar to TOS which has much more significance here.

Re: Hoarding?

*Message #27 Posted by **M. Joury** on 10 May 2011, 1:24 p.m.,*
in response to message #17 by Ren

I own both old and new 12C's as well as the newer 12C Platinum (2 x CR2032 cells). I can't speak to reliability as I have not had the new ones long enough and I don't use them enough anyway but I can tell you that they are FAST. I can also say that I have had no problems with the keyboards on either the 12C+ or the Plat and that I do like the keyboard feel.

Re: Hoarding?

*Message #28 Posted by **gene wright** on 10 May 2011, 1:35 p.m.,*
in response to message #27 by M. Joury

Note that the new 12c's are fast, but the 12c platinum's are not.

Re: Hoarding?

*Message #29 Posted by **M. Joury** on 10 May 2011, 3:24 p.m.,*
in response to message #28 by gene wright

Agreed. My wording could easily have been taken the wrong way. I realized that when I posted and just got lazy. <g>

Edited: 10 May 2011, 3:27 p.m.

Re: Hoarding?

*Message #30 Posted by **Ren** on 11 May 2011, 1:18 p.m.,*
in response to message #17 by Ren

Gee...

I was hoping by "trash talking" the new 15C (if it is real and not imaginary[pun]), I'd discourage enough folks from buying so I'd have at least a 0.0073 percent chance of buying one for myself!

I guess you didn't fall for it...

B^)

Ren

dona nobis pacem

Re: Hoarding?

*Message #31 Posted by **rav walia** on 10 May 2011, 1:10 p.m.,*
in response to message #16 by M. Joury

I don't think that I would be hoarding, but I would definitely be buying three. One for the office, one for home and a spare.

My hope would be that these would be released as some limited edition and then HP would release a 15C general edition.

Will this happen who knows, we've been waiting so long it seems that I don't want to tempt fate.

Re: Hoarding?

*Message #32 Posted by **geoff quickfall** on 10 May 2011, 3:08 p.m.,*
in response to message #31 by rav walia

Sitting in the cockpit last week on the way to Tokyo when the guy beside me pulled out a beat up 15C. Of course, I had to talk to him about it and pulled out my 71B, 42S and 15C.

Now I have to explain why I have 3 HP's in the flight bag:

```
1.  71B is a new toy that was just reconditioned and I was
    converting all 42S RPN programs into basic.
2.  42S was a replacement for the 41CX, my favourite, because it
    was not as buggy as the 41CX in the static environment of the
    cockpit.
3.  15C because it fits in the pocket and is just fun to play with!
```

So, after examining his, I noticed his program memory was empty. I went ahead and a programmed it with 15 routines applicable to our specific job. Gave him my overlay card and program outline notes. He played with it for the next few hours and on the way home. He bought it new in the eighties and uses for simple stuff, and now the complicated stuff.

He asked me if there was a replacement and I mentioned the used market and the value for a good example. He was stunned. I asked him if he would by a new replacement if one was available. His answer was YES, probably 2.

So, there is a market, even for non collectors and HP museum attendees.

Myself, at least 2, backup and spare just because of the projected speed of the machine. Currently a Great Circle, and Intermediate latitude programs take 30 seconds of "Running" prior to display! The 42S takes about 2 seconds, and doing the comparison of the standard:

```
LBL A
+
GOT A
```

With 1's loaded in the stack on the newest 12C I would suggest the answers will be instantaneous if they do reissue the calculator based on the newest 12C platform.

Does that make me a horder? No.

Cheers, Geoff

Re: Hoarding?

*Message #33 Posted by **Maximilian Hohmann** on 10 May 2011, 3:42 p.m.,*
in response to message #32 by geoff quickfall

Hi Geoff!

> Quote:

> Sitting in the cockpit last week on the way to Tokyo when the guy beside me pulled out a beat up 15C ... He bought it new in the eighties ...

This must be long-haul flying then :-) Enough time to "pull out" things to play with and colleagues who were already born in the eighties. In my sector (comparatively short range business aviation), the guys next to me are all born in the nineties and if they find space somewhere in the cockpit for their bag, they pull out iPhones or iPads with very smart real-time GPS based aviation apps running on them. When my HP-15 sees those, it blushes with embarrassment and creeps back into it's pouch. No, there's definitely no market here for old or new 15Cs.

Personally, I'm not interested in a new 15C either. I have an original one that I don't like enough for actually using it (I always found grey LC displays awful and it dosen't have a proper CLx key either) and that I only keep for collecting purposes. And I can't imagine that the new 15 will become a collectible for a long time, even if only a limited number is made: There are simply not enough collectors!

Regards, Max

NB: I owe you an answer to a very old mail regarding a CompuCorp calculator. I made a mess of my emails then when trying to synchronise my two Macintosh notebooks and have only recently recovered a bunch of lost messages! Will be in the next few days!

Edited: 10 May 2011, 3:45 p.m.

Re: Hoarding?

*Message #34 Posted by **Jeff Kearns** on 10 May 2011, 6:35 p.m.,*
in response to message #33 by Maximilian Hohmann

> Quote:
>
> ...and it dosen't have a proper CLx key either...

To each his/her own. The design of the keyboard - even though the CLx key is shifted - is a model of efficiency and practicality. There is an excellent article worth reading (if you haven't done so already) by Valentin Albillo that elaborates on this called "Long Live the HP-15C". I cannot link to the original as there seems to be a problem with his website and the locked .pdf I have will not allow copy/paste. That article, along with his others, is a collectible too!

I for one, regard this calculator as one of the very best ever designed, notwithstanding its slow processor. A faster, à la 12C+, version would be of interest to me. Let's hope there will be some available to those of us who want one.

Jeff Kearns

Edited: 10 May 2011, 6:37 p.m.

Hi Max

*Message #35 Posted by **Geoff Quickfall** on 10 May 2011, 11:05 p.m.,*
in response to message #33 by Maximilian Hohmann

Heh heh (laughing)..

Long haul indeed, just finished a YVR - SYD turn with a layover in Sydney Australia (24 hours) ant then back to Vancouver.

```
YVR - SYD  15:38 in the air and 17 hour duty
SYD - YVR  14:24 in the air.
```

More then enough time to pull out the toys. Must say though, that with an augmented crew those legs included two; three hour rest periods in a nice bunk above business class. In fact, I get most of the book typing done in the bunk area during my 'rest' period.

As to the age of my fellow workers, the guys and gals on the B777 at Air Canada are all plus 50 (including me). The relief pilots are usually junior checking in at 40.

Yeah there are faster calcs with more power, but for my ops, a few subroutines without the need of alpha and the 15 performs. I bring the HP 71B and 42S because of the printer wow factor and alpha display and output formatting. In fact the 15C does quite well on it's own.

It would be nice to see a 15C with more memory, back light, alpha and timing clock abilities. Just a thought TIM!!!

Cheers, Geoff

Re: Hi Max

*Message #36 Posted by **Ren** on 11 May 2011, 1:25 p.m.,*
in response to message #35 by Geoff Quickfall

> Quote:
>
> Heh heh (laughing)..
>
> As to the age of my fellow workers, the guys and gals on the B777 at Air Canada are all plus 50 (including me). The relief pilots are usually junior checking in at 40.
>
> Cheers, Geoff

A 747 pilot told a cow-orker of mine years ago something to the effect that...

By the time a pilot has the seniority to join a 747 crew, and that a 747 is so much easier to fly, a pilot is at the age where their flying skills will rapidly decrease if not frequently used, and the 747 doesn't provide them with that opportunity!

Catch-22

Re: Hi Max

*Message #37 Posted by **geoff quickfall** on 11 May 2011, 5:03 p.m.,*
in response to message #36 by Ren

More of a problem of being to old to switch technology then skill level.

DC-8 to DC-10; 707-747. introduced master control panels and complex flight

directors along with simple programming of on board computers. As a result many good pilots with high standards could not transition to the different flight paradigms.

747 300 to 747 400's as with DC-10 to MD-11 removed flight engineers and simplified the cockpit for two man crews versus three man crews. This meant the computer took over the engineers seat. But this has added to the knowledge requirement and trouble shooting abilities of the crew.

So it is not a factor of ability to fly, but ability to transfer to new pardigms and technology. Many pilots retired by remaining on the older technology aircraft that they were familiar with.

Like anything, hang around and do not exercise the brain and it will deteriorate.

I don't find the 777 any easier to fly, yes more automation, but my training and ability is there for when the automation fails or is degraded. Six month exams (simulator), line checks, six month medicals are designed to catch and remove problems in ability be it physical or mental. Even a regular flight is considered a flight exam as anyone on the flight deck may note mistakes and must discuss and report depending on the severity of the error. We even have a check list with memory items that are designed to catch a degraded mental process in the air.

I look at the aircraft I have flown from ca. 1938 Beech 18's on floats to brand new 777's and see different skill sets for all of them.

You are correct that a long haul pilot may do three take off and landings a month whereas the 737 three take off and landings a day for 20 days. But that skill level was transfered to the 777 and is demonstrated continually.

> Quote:
>
> a pilot is at the age where their flying skills will rapidly decrease if not frequently used

So although at face value the above quote may have merit, in reallity it doesn't; for those that continually surpass all tests thrown at them be it a formal simulator, line check, medical or regular line flight.

Cheers, Geoff

Re: Hoarding?

*Message #38 Posted by **Dave Britten** on 10 May 2011, 4:53 p.m.,*
in response to message #32 by geoff quickfall

Sounds like HP would do quite well to run a few half-page advertisements in various trade and hobbyist publications, then, such as those for pilots, mechanical/industrial engineers, etc. Just include a nice large, clear photo of a 15C, and anybody reading that's fond of that model will be quickly drawn to it, and read the details of how to get a brand new faster one.

Re: Hoarding?

*Message #39 Posted by **Allen** on 10 May 2011, 8:59 p.m.,*
in response to message #38 by Dave Britten

I think HP also runs the risk of stumbling into an uncanny valley for calculators if the alleged 15C's are close in function but lack the quality of the namesake.

Re: New 15C - Greed and Hoarding

*Message #40 Posted by **Etienne Victoria** on 11 May 2011, 2:54 p.m.,*
in response to message #1 by John Stark

As soon as the new 15C is released I do hope a talented team will issue a high quality firmware to repurpose the calculator into a full fledged Hp-80 (my favorite).

Now THAT would be THE hack of the century :-)

Kudos and congratulations to the WP34 team for the great job.

A Hp-80 firmware for the new 15C should be a piece of cake in comparison.

Best

Etienne

Re: New 15C - Greed and Hoarding

*Message #41 Posted by **Marcus von Cube, Germany** on 11 May 2011, 3:41 p.m.,*
in response to message #40 by Etienne Victoria

Probably the existing new 12C is a better (cheaper) target for a repurposing project, be a new HP-80 or whatever. We need to find out some basics about the display and keyboard before we can start.

Re: New 15C - Greed and Hoarding

*Message #42 Posted by **Katie Wasserman** on 11 May 2011, 10:38 p.m.,*
in response to message #41 by Marcus von Cube, Germany

> Quote:
>
> We need to find out some basics about the display and keyboard before we can start

We have all that for the 12C+. If you contact Cyrille or Tim I'm sure that they'll send you the minimal SDK for it which contains all the keyboard and display mapping. I've already done some playing around with re-purposing the 12C+.

My problem with all these re-purposing projects is the keyboard labeling. Having the correct easy to read and impossible to rub off labels is critical for user-friendly calculator usage.

-Katie

Re: New 15C - Greed and Hoarding

*Message #43 Posted by **Palmer O. Hanson, Jr.** on 11 May 2011, 9:57 p.m.,*
in response to message #1 by John Stark

A new application of conspiracy theory?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP20b inert - how to get it working again?

*Message #1 Posted by **Jim Horn** on 9 May 2011, 5:58 p.m.*

Hello, all - I received the cable from Gene (thanks!) and, prior to trying the '34 code, decided to back up the flash to my PC. It connected fine but only read a file of all 1s. Oh well.

Meanwhile, now my 20b doesn't do anything. Fresh batteries still leave a blank display. Hooking up the cable isn't sufficient - running SAM-BA v2.10 refuses to connect with it.

So time to dig into piles of documentation. Meanwhile, any suggestions on (1) how to talk to it again and (2) how to get it running?

Many thanks to all!

Jim Horn, Cell 1-707-327-6253

Re: HP20b inert - how to get it working again?

*Message #2 Posted by **Jeff O.** on 9 May 2011, 9:48 p.m.,*
in response to message #1 by Jim Horn

Jim,
Did you try just pretending it is working and connect the cable, follow the normal button pushing sequence, start the software, etc.? I got my 20b into a blank, non-responsive state at one point and was able to revive it thusly.

Re: HP20b inert - how to get it working again?

*Message #3 Posted by **BobVA** on 9 May 2011, 11:41 p.m.,*
in response to message #1 by Jim Horn

Just in case you don't have the flashing documentation, Tim's step-by-step is linked in this thread.

I think Jeff's idea is excellent: just pretend it's working and follow those steps.

Good luck!

Bob

Edited: 9 May 2011, 11:42 p.m.

Re: HP20b inert - how to get it working again?

*Message #4 Posted by **Marcus von Cube, Germany** on 10 May 2011, 2:11 a.m.,*
in response to message #3 by BobVA

The ERASE button on the cable does what it says: It erases the flash. This clears the bit controlling

whether the built-in SAM-BA boot loader is started, a prerequisite for reflashing the device. With only the boot loader active, you can only use the flashing software to resurrect the calculator.

There is no way of extracting the original firmware because the only means of getting into SAM-BA mode is clearing the flash. You can get the original firmware from Tim.

Re: HP20b inert - how to get it working again?

*Message #5 Posted by **Thomas Radtke** on 10 May 2011, 7:11 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> You can get the original firmware from Tim.

It's here. At least, I found a working 2009 image there. Don't know if that's the current version.

Re: HP20b inert - how to get it working again?

*Message #6 Posted by **Marcus von Cube, Germany** on 10 May 2011, 8:31 a.m.,*
in response to message #5 by Thomas Radtke

A 20b image comes with the SDK. 30b images exclusively from Tim or Cyrille.

Re: HP20b inert - how to get it working again?

*Message #7 Posted by **Jim Horn** on 10 May 2011, 6:17 p.m.,*
in response to message #1 by Jim Horn

Thank you, all! I followed the original instructions using the flash image in the 20b Development Kit and have my calculator working again with Version 14.014. Now that I know I can get it back as a '20b again, I'll dive into the wp34s - can't wait!

Re: HP20b inert - how to get it working again?

*Message #8 Posted by **Marcus von Cube, Germany** on 10 May 2011, 6:23 p.m.,*
in response to message #7 by Jim Horn

Once you've repainted the keys, you'll need another 20b. ;-)

For serious use, the 30b is recommended. My development system is a butchered 20b but I've just ordered another 30b for a permanent brain transplant and some plastic surgery.

I'm thinking of "Letraset" transferable letters for the white key legends. Will that work?

Re: HP20b inert - how to get it working again?

*Message #9 Posted by **Neil Hamilton (Ottawa)** on 16 May 2011, 3:28 p.m.,*
in response to message #1 by Jim Horn

I am new to the forum and have looked to see how I might acquire a serial cable to program my 20B. I keep seeing "Thanks Gene!" but not much else to point me the way. Can anyone give me a direction or help me with a link that might land me one of these coveted items?

Best regards...

Re: HP20b inert - how to get it working again?

*Message #10 Posted by **Marcus von Cube, Germany** on 16 May 2011, 3:46 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

Use the mail system of this forum to ask Tim Wessman. He is sending the cables to people seeking to ruin their precious HP gear. ;-)

Re: HP20b inert - how to get it working again?

*Message #11 Posted by **Neil Hamilton (Ottawa)** on 16 May 2011, 4:08 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Thanks for the quick response. Maybe I am loosing it but I can't seem to find any mail system attached to the forum. Can you give a broad hint where to look? (Sorry for the stupid question!!)

Re: HP20b inert - how to get it working again?

*Message #12 Posted by **Walter B** on 16 May 2011, 4:10 p.m.,*
in response to message #11 by Neil Hamilton (Ottawa)

Neil,

Just click on the name of the addressee (printed blue on my screen) - i.e. Tim's name in an arbitrary posting of him.

Walter

Re: HP20b inert - how to get it working again?

*Message #13 Posted by **Gerson W. Barbosa** on 16 May 2011, 6:03 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> He is sending the cables to people seeking to ruin their precious HP gear. ;-)

Right now I am stuck with an inert 20b myself... I've tried three computers so far, two OS's (Vista and Seven), SAMBA v2.9 and v.10 but it won't connect. Ok, the manual says "Serial port must not be USB-serial converter." but one of the computers does have a real RS-232 port. The CR-2032 batteries have been replaced with fresh ones (but their voltages have now dropped from 3.15V down to 2.8V). Any idea? Thanks!

P.S.: I don't care about restoring the original firmware.

Re: HP20b inert - how to get it working again?

*Message #14 Posted by **Marcus von Cube, Germany** on 17 May 2011, 3:49 a.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> Right now I am stuck with an inert 20b myself...
> ...

> The CR-2032 batteries have been replaced with fresh ones (but their voltages have now dropped from 3.15V down to 2.8V). Any idea? Thanks!

Gerson, that's bad news. :-(The current draw of SAM-BA is considerable as it does not make any power saving attempts. As soon as you turn on your calculator, it starts eating batteries. Remove them if you do not get the firmware loaded successfully.

I normally do the following: I start SAM-BA on the PC (using an FTDI equipped serial cable, in fact it's my Olimex JTAG adapter right now, but not its JTAG connector but its serial port). Wait until the connect prompt appears. You need to select the correct board type (at91sam7l128-ek) and the correct serial port.

Before I press Enter, I push the reset button on the cable, release it, and hold down ON for half a second or so. I then press enter on the PC to connect.

You can see some diagnostic output from SAM-BA if you start it from a Windows command prompt and redirect the output to a file. I'm using sam-ba.exe V 2.10. The command line is

```
sam-ba.exe >log.txt
```

Re: HP20b inert - how to get it working again?

*Message #15 Posted by **BobVA** on 17 May 2011, 5:52 p.m.,*
in response to message #13 by Gerson W. Barbosa

Hi Gerson:

Unfortunately Vista & Win7 are a no-go with SAM-BA 2.10 and the serial connection on the HP 20/30. You'll need to find a machine with XP to reflash the calculator.

In this thread Katie reported success with Sam-BA 2.6 + a patch under Win 7, so if you can't use XP, you might try that.

I've not had any problems using a USB-serial cable, your mileage will vary depending on the chip set. If you can start with a hardware RS-232 port that may eliminate one variable if you need to troubleshoot

Good luck!

Bob

Edited: 17 May 2011, 6:01 p.m.

Re: HP20b inert - how to get it working again?

*Message #16 Posted by **Gerson W. Barbosa** on 18 May 2011, 7:32 a.m.,*
in response to message #15 by BobVA

Bob and Marcus,

Thanks for your responses. I tried MySamba on Windows 7 (compatibility mode set to WinXP) and real RS-232 port, but it was unable to connect. Perhaps because the batteries are low (2.75 V). I'll try again later with fresh batteries.

Gerson.

Re: HP20b inert - how to get it working again?

*Message #17 Posted by **Marcus von Cube, Germany** on 18 May 2011, 8:50 a.m.,*
in response to message #16 by Gerson W. Barbosa

I don't think the batteries are the problem even if the cable itself draws some power, so its best to leave it disconnected when not in used.

Two points:

1/ Use the SAM-BA.EXE executable, not the alternate version!

2/ Redirect its output to a file and post the results here. You need to go to the command line to do this.

Re: HP20b inert - how to get it working again?

*Message #18 Posted by **BobVA** on 18 May 2011, 7:58 p.m.,*
in response to message #16 by Gerson W. Barbosa

Compatibility mode won't do it, I'm afraid. V2.10 really, really wants XP to operate.

If you have Win7 Pro or Ultimate you can try the XP virtual machine. I've had that sort out driver issues, but don't have it any more so I can't try it with SAM-BA.

Regards, Bob

Re: HP20b inert - how to get it working again?

*Message #19 Posted by **Walter B** on 16 May 2011, 4:07 p.m.,*
in response to message #9 by Neil Hamilton (Ottawa)

Hi Neil,

Since you're new here, please note Tim is of HP :-) if you didn't find out yet.

Walter

Re: HP20b inert - how to get it working again?

*Message #20 Posted by **gene wright** on 16 May 2011, 8:48 p.m.,*
in response to message #19 by Walter B

And, actually, Tim has outsourced the mailing of cables to me so he can concentrate on bringing out the HP 29CX.

Re: HP20b inert - how to get it working again?

*Message #21 Posted by **Paul Dale** on 16 May 2011, 8:57 p.m.,*
in response to message #20 by gene wright

> Quote:
>
> HP 29CX.

Why did the *do nothing programmable expandable calculator* spring to mind here???

- Pauli

Re: HP20b inert - how to get it working again?

*Message #22 Posted by **Jake Schwartz** on 17 May 2011, 12:44 p.m.,*
in response to message #21 by Paul Dale

/humor on

Actually, the handheld 29CX has not only the printer of the 19C, but also the card reader of the 67 ;-)

/humor off

Jake

Re: HP20b inert - how to get it working again?

*Message #23 Posted by **Walter B** on 17 May 2011, 1:31 p.m.,*
in response to message #22 by Jake Schwartz

Hey Jake, you are actually talking about SD cards, aren't you? ;-)

Re: HP20b inert - how to get it working again?

*Message #24 Posted by **gene wright** on 18 May 2011, 7:32 a.m.,*
in response to message #23 by Walter B

No, wifi to the "cloud"

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s / 16C Compatibility Items #2 and #3

*Message #1 Posted by **Jake Schwartz** on 9 May 2011, 1:12 p.m.*

Hi,

As I have been continuing through the HP16C manual, exercising the examples with the wp34s (currently with version 843), two additional items were encountered:

1. Pages 40-41 discuss the Out-of-Range flag with respect to the arithmetic operations, and it mentions that "when a result is out-of-range, the lower bits ...of the full answer will be returned. If the operations was multiply or divide in 1's or 2's Compliment mode, the most significant bit (sign bit) returned will match the sign bit of the full answer." At the top of page 41 is an example where with 2's compliment mode and word size 16, the decimal number 32767 is entered, followed by [2] [multiply] and the result on the 16C is decimal 32766 with the out-of-range flag set. On the wp34s, the result displayed is "-2" decimal. This would represent the entire lower 16 bits of the result (65534), had the word size been large enough to hold the entire result. It would seem important to me to preserve the sign of the result, like in the 16C.

2. In this same section, there is discussion of the absolute value function (ABS). It appears, however, that ABS does not apply to integers in the 34s, both from trying it out and from reading the manual's Index of Operations. Would it be possible to extend ABS to be relevant to integers as well?

Thanks,

Jake

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #2 Posted by **Walter B** on 9 May 2011, 2:38 p.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

Thanks for testing. Again, both calculators obviously do not match. I agree on ABS should work for integers, too, unless in UNSIGN. Our software maintenance division is asleep now, however, so I ask for your patience.

Walter

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #3 Posted by **Kiyoshi Akima** on 9 May 2011, 2:58 p.m.,*
in response to message #2 by Walter B

Is there any reason the absolute value shouldn't work in unsigned mode as well? I should think the implementation would be quite simple.

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #4 Posted by **Walter B** on 9 May 2011, 3:47 p.m.,*
in response to message #3 by Kiyoshi Akima

By definition, the unsigned mode uses all bits for the mantissa and *none* for the sign. So there can't be negative numbers ...

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #5 Posted by **Kiyoshi Akima** on 9 May 2011, 4:40 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> By definition, the unsigned mode uses all bits for the mantissa and *none* for the sign. So there can't be negative numbers ...

Exactly. The absolute value should leave the number unchanged. It should not give an error, or the number of steps needed by Ulam's conjecture to reach one, or any other number.

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #6 Posted by **Jake Schwartz** on 9 May 2011, 3:58 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> Our software maintenance division is asleep now, however, so I ask for your patience.

Not a problem at all. I thought I'd simply mention the findings as they are found.

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #7 Posted by **Marcus von Cube, Germany** on 9 May 2011, 4:13 p.m.,*
in response to message #6 by Jake Schwartz

As you've probably already seen: If you are using the hardware port, please update. I had to fix some nasty bugs in the last few days.

As for ABS in integer unsigned mode: If it doesn't through an error, everything is fine as ABS is a NOP here. I agree that in the signed modes, ABS should be implemented.

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #8 Posted by **Kiyoshi Akima** on 10 May 2011, 2:48 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Should ABS be a NOP? Shouldn't it set LASTx?

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #9 Posted by **Paul Dale** on 10 May 2011, 2:53 a.m.,*
in response to message #8 by Kiyoshi Akima

It sets last x.

It also terminates digit entry and sets stack lift.

i.e. all the usual things you'd expect of a single value single answer function.

- Pauli

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #10 Posted by **Marcus von Cube, Germany** on 10 May 2011, 6:05 a.m.,*
in response to message #9 by Paul Dale

I still have to learn a lot about RPN. ;-)

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #11 Posted by **Paul Dale** on 9 May 2011, 5:50 p.m.,*
in response to message #1 by Jake Schwartz

I'm confused. ABS is implemented for integers and I just checked it on my 30b and it appears to work fine.

The minus sign is shown way off to the left in base ten only. The base ten only part is correct, the sign placement is silly & I'll see about a fix.

Fixing the sign problem will be more involved. The basic arithmetic operations work a bit differently to most others in the way they handle the numbers -- needed for overflow and carry computation without resorting to assembly.

- Pauli

Re: wp34s ABS with Integers

*Message #12 Posted by **Jake Schwartz** on 9 May 2011, 9:06 p.m.,*
in response to message #11 by Paul Dale

Hi Pauli,

> Quote:
>
> I'm confused. ABS is implemented for integers and I just checked it on my 30b and it appears to work fine.

I was working with the reflashed 30b at my work before and I am now trying it on my reflashed 20b at home. It appears to work with 1's compliment mode, but not 2's compliment mode. For instance, in 1's compliment mode with WSIZE at 16 bits and base decimal, if you enter 252 +/- ENTER, then |x| changes the sign from negative to positive. Now change it to 2's compliment mode and re-enter 252 +/- and press |x| and the sign does not change to positive.

Thanks, Jake

Re: wp34s ABS with Integers

*Message #13 Posted by **Paul Dale** on 9 May 2011, 9:25 p.m.,*
in response to message #12 by Jake Schwartz

Found the problem. It worked for some values but not most.

Fixed in next build.

- Pauli

Re: wp34s / 16C Compatibility Items #2 and #3

*Message #14 Posted by **Paul Dale** on 9 May 2011, 6:54 p.m.,*
in response to message #1 by Jake Schwartz

These should be fixed in the next build. I've probably broken other things in the process :-(

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - Vintage Computer Festival East

*Message #1 Posted by **David Hayden** on 8 May 2011, 12:52 p.m.*

The Vintage Computer Festival will be held next weekend in Wall NJ at the site of the Marconi radio receiving station. I went a couple of years ago and it was really fun. They have a computer mueseum, a radio museum and all sorts of vintage stuff.

See link here.

Unfortunately I can't go myself this year due to preparations for a wedding at our house the following weekend.

Dave

Re: OT - Vintage Computer Festival East

*Message #2 Posted by **Bill (Smithville, NJ)** on 8 May 2011, 2:19 p.m.,*
in response to message #1 by David Hayden

Dave,

I've been a couple of times - always great fun. I'm planning attending this year also - not sure if it'll be Sat or Sun.

Anyone else here planing on going? If so, we could meet up and talk a little HP on the side.

Bill

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

OT ->Tim Wessman: TI-Nspire current draw

*Message #1 Posted by **Joerg Woerner** on 8 May 2011, 12:07 p.m.*

Hi Tim,

It is already a week since I promised you to measure the current of the TI-Nspire. With my mother in Germany, my wife in North Carolina and me in Up-state New York it was a nice Sunday morning to solder a current probe ;-))

Please remember that the Nspire uses 4 1.5V batteries:

Calculator off: 0.4 mA

Booting: 30...35 mA

"Idle" 7...10 mA

"Redrawing" 15...25 mA

"Heavy typing" 15...30 mA

"Typical use" 10...20 mA

Hope this helps.

Have a great Sunday and treat your wife accordingly!

Regards, Joerg

Re: OT ->Tim Wessman: TI-Nspire current draw

*Message #2 Posted by **Tim Wessman** on 8 May 2011, 12:11 p.m.,*
in response to message #1 by Joerg Woerner

Thank you for taking the time to do this.

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-9114A Drive

*Message #1 Posted by **aj04062** on 7 May 2011, 11:24 p.m.*

Can anyone tell me if 4 D Cell batteries provide enough power to test the function on one of these?

I know the lead acid battery is toast so I hooked up 4 D's to it in a tray. It is a bit livelier than before, but the power light always blinks and the fault light stays on.

Power does sag below 6V (about 5.3V) when the test runs. Is that too low?

The case is open and I notice the drive does not spin. If the head is moved off home, it does return, but that's it.

Re: HP-9114A Drive

*Message #2 Posted by **Gerson W. Barbosa** on 8 May 2011, 12:31 a.m.,*
in response to message #1 by aj04062

I tried both a 6V-1A and a switched 6V-2.8A power source but I haven't succeeded. I haven't noticed any voltage sag in the latter, but I was told the voltage has to be greater than 6.0V.

Edited: 8 May 2011, 12:31 a.m.

Re: HP-9114A Drive

*Message #3 Posted by **Paul Berger (Canada)** on 8 May 2011, 11:50 a.m.,*
in response to message #1 by aj04062

Looking at the schematic created by Tony Duell I would suspect that if it sags down to 5.3V that the -PWR OK signal would go inactive this would likely inhibit much if the operation of the drive. I do not have a 9114A but on the 9114B the state of this signal is checked before most operations involving the diskette drive, I would not expect the 9114A to be a lot different. The schematic can be found at http://www.hpmuseum.net/document.php?hwfile=2718. As you may know the B model has 3 LEDs on the front that indicate the battery state, when connected to 6V only two of the 3 come on however when connected to 7.5V all 3 come on. The 6V supply I used is rated for 1.8A and would operate the the dive without issue however I did notice that when the motor started the voltage would sag a bit and one more light would go out. The 7.5V supply is rated for 2.5A and I do not notice any significant voltage sag with it. It seems the general consensuses is that a supply rated for at least 2A is required for operation without a battery pack.

Re: HP-9114A Drive

*Message #4 Posted by **dinamarco** on 8 May 2011, 4:47 p.m.,*
in response to message #1 by aj04062

I'll check it.. But I think there are 04 batteries (4 x 1,2 V = 4,8V). Be carefull with excess of charge...

Re: HP-9114A Drive

*Message #5 Posted by **Paul Berger (Canada)** on 8 May 2011, 6:21 p.m.,*
in response to message #4 by dinamarco

The 9114s use a pack with 3 lead-acid gel-cells which have a nominal voltage of 2V per cell however when fully charged they go a little beyond that, which is likely why on a B you do not get full battery indication at 6V. Looking at the schematic for the B the full light would come on when battery is at about 6.3V. If the batteries that where used where alkaline batteries with a nominal cell voltage of 1.5V then 4 would equal 6V however alkaline batteries can only provide around one 1A of current which is likely why the voltage sagged so much. Five NiMH or NiCd cells would work better with a nominal cell voltage of 1.2V each and capable of a lot more current output that alkaline batteries.

Re: HP-9114A Drive

*Message #6 Posted by **aj04062** on 8 May 2011, 9:33 p.m.,*
in response to message #5 by Paul Berger (Canada)

Thanks guys for leading me straight. I look all over to find a charger that would provide this power. I finally found one from my old Panasonic camcorder. Haven't used it in years. Now it's good for something.

It works and passes self test now. Now, I'm trying to format a disk. I activated the external drive (the 9114A) on the HP 110 laptop and everything seems to work as expected except it will not format a disk. I found 2 old Standard Density disks. I know I read that HD will not work.

Can anyone tell me what the right disk is? 720 KB Single Density?

Edited: 8 May 2011, 9:38 p.m.

Re: HP-9114A Drive

*Message #7 Posted by **Paul Berger (Canada)** on 8 May 2011, 10:33 p.m.,*
in response to message #6 by aj04062

720K diskettes are the right ones. That is the formatted capacity, several of the diskettes I have are marked 1MB Double sided on the shutter. The 720K diskette is not single density, it is a double sided double density format the 1.44MB diskettes that came along later are usually refer to as high density diskettes, and I have heard of them being successfully in 9114 drives, however the composition of the oxide coating on the diskette is different so results may vary and it may take a couple tries to get them to format clean, but I have not tried it as I still have a large quantity of 720K diskettes. What happens when you try to initialize a diskette? Is there an error message?

Re: HP-9114A Drive

*Message #8 Posted by **aj04062** on 9 May 2011, 12:22 p.m.,*
in response to message #7 by Paul Berger (Canada)

I am not at the computer right now, so I am going by memory from last night.

The disk intitializes and the head travels back and forth (I know this as the cover was off) several times.

I tried several times. I thought it could have been from the read/write slider being in the wrong position, but I don't think that is the case.

One or two times it seemed to step slowly across the disk.

In either case, I believe it ended with a message such as "bad media" or "unable to format, Abort, Retry or Ignore?"

I tried formatting @ 720k on an old laptop I had and that didn't work, the drive didn't recognize the disk. I am going to clean the head tonight. I do have an old floppy disk cleaning kit.

Re: HP-9114A Drive

*Message #9 Posted by **M. Joury** on 9 May 2011, 2:46 p.m.,*
in response to message #8 by aj04062

Hi,

I am using 1.44 MB (2.0 unformatted) disks on both my 'A' and 'B' models. The trick is to format them on a computer first. Unfortunately I can't remember the exact options but it is something like: format A: /F:720. Now the bad news... I think that you have to have a Windows 2000 or earlier OS to accomplish this. Per MS Windows XP (and I would assume the same is true for Vista / 7) will not accept the /F:720 switch. See MS Support

A little bit of hunting came up with this:

How to format 720 KB diskette on WIndows XP.

See if this works for you. I would try it myself but my diskette drive is turned off in the BIOS and I can't reboot at the moment.

And finally, here is a source for the rechargeable battery if you need it. I replaced all 3 of mine recently and they appear to work fine. Usual disclaimers apply:

9114 replacement battery

Edited: 9 May 2011, 3:18 p.m.

Re: HP-9114A Drive

*Message #10 Posted by **Eric Smith** on 9 May 2011, 3:30 p.m.,*
in response to message #7 by Paul Berger (Canada)

For 3.5" disks, the difference in coercivity of the medium is relatively small, 600 vs. 750 Oe for standard vs. high density. Formatting them for the "wrong" density will generally work, though I wouldn't do it myself except in an emergency. The coercivity of extended density 3.5" disks (2.88MB format) is 900 Oe, but they are extremely rare (at least in the US).

For 5.25" disks, the difference is 300 Oe vs. 600 Oe, and formatting them at the wrong density (in either direction) is extremely unreliable. Note that the so-called "quad density" is actually double-density with higher track pitch, so you need standard density media for that, not high-density.

[Return to Index | Top of Index]

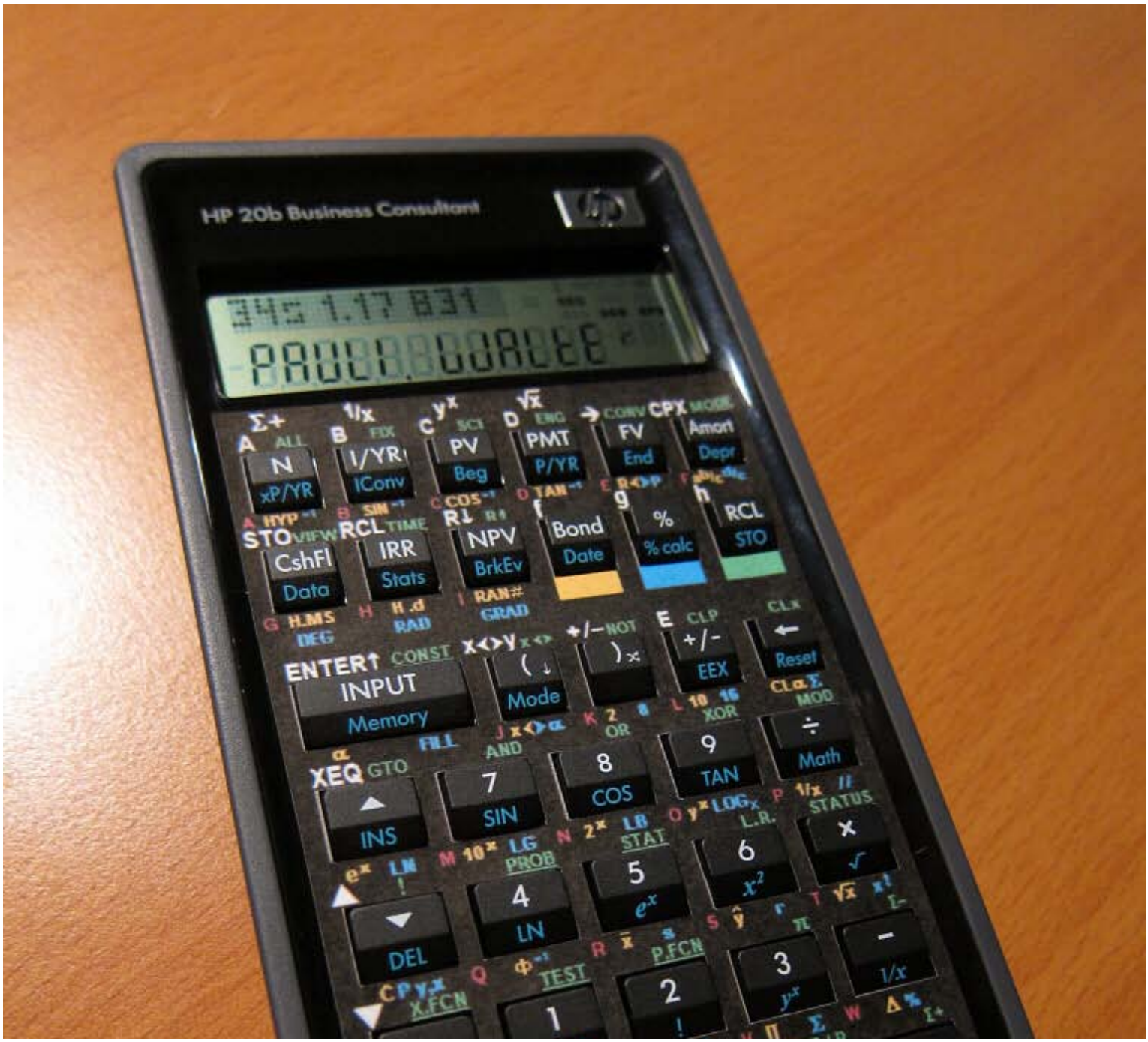
GTO Go back to the main exhibit hall

34s Keyboard Overlays

*Message #1 Posted by **Eric Rechlin** on 7 May 2011, 8:04 p.m.*

I just bought an electronic die cutter so I can cut professional quality overlays for calculators.

As my first test of it, I printed the 34s overlay on plain copier paper, ran it through the cutter to cut out the keys, and set it on the calculator:



My next step is to experiment with different materials, and also with sticking new legends directly on the keys. Maybe some of you might be interested in having an overlay made for your calculator? I hope to have something more interesting to demonstrate within a week or two.

Eric

Re: 34s Keyboard Overlays

*Message #2 Posted by **svisvanatha** on 7 May 2011, 8:07 p.m.,*
in response to message #1 by Eric Rechlin

Excellent! I was looking at getting a Cricut machine for this purpose, but work got very busy for me recently.

An adhesive vinyl may work well. Also, key labels may need to be smaller to avoid peeling...another thing to tinker with.

Re: 34s Keyboard Overlays

*Message #3 Posted by **Eric Rechlin** on 8 May 2011, 3:39 p.m.,*
in response to message #2 by svisvanatha

> Quote:
>
> I was looking at getting a Cricut machine for this purpose, but work got very busy for me recently.

I considered Cricut, but for various reasons I decided it wouldn't be a good fit for me so I bought a competitor's product.

Eric

Re: 34s Keyboard Overlays

*Message #4 Posted by **exschr** on 8 May 2011, 4:32 p.m.,*
in response to message #3 by Eric Rechlin

Quote:

I considered Cricut, but for various reasons I decided it wouldn't be a good fit for me so I bought a competitor's product.

What alternative competitors are there to choose from?
Thanks Roger

Re: 34s Keyboard Overlays

*Message #5 Posted by **Eric Rechlin** on 8 May 2011, 5:43 p.m.,*
in response to message #4 by exschr

There's the Craftwell eCraft, the USCutter MH, the Black Cat cutters, the BossKut Gazelle, and the Silhouette SD, all of which are well under $1000.

It's this last one, the Silhouette, that I bought. It's actually one of the cheapest, but it got good reviews and seems to work pretty well. It won't cut thick stock, like cardboard, but ones that will do that cost more like $700.

Re: 34s Keyboard Overlays

*Message #6 Posted by **Jeff O.** on 7 May 2011, 8:45 p.m.,*
in response to message #1 by Eric Rechlin

Eric,
Your paper one looks great, so I can't wait to see what you come up with in a couple of weeks.
Jeff

Re: 34s Keyboard Overlays

*Message #7 Posted by **Paul Dale** on 7 May 2011, 9:03 p.m.,*
in response to message #1 by Eric Rechlin

Very nice. I want a couple :-)

- Pauli

Re: 34s Keyboard Overlays

*Message #8 Posted by **Raymond Del Tondo** on 7 May 2011, 9:34 p.m.,*
in response to message #1 by Eric Rechlin

Nice thing, this cutter:-)

Apart from that, the overlay is way too full for my taste. Letters everywhere, in five different colors. Heavily cluttered keyboard layouts like these were the reason for HP to look for a different way of user interface.

One can hardly see the most important numeric and arithmetic keys.

Another thing: To turn the unit off, one has to press the blue key _near_ (but not next to) the top right corner, and then the ON key on the bottom left corner. Is there any other HP calc where the key combination for turning off the unit is that crazy? If it were the green key (at the right edge) it would at least ease turn-off: Right

edge - left edge.

I think it would be better if the shift key for turning off the unit would be next to the ON key, like on the unmodified 20b/30b, and all Pioneer series calcs.

Even better would be an unshifted ON/OFF key. The Clear Entry (CE) key is very similar to the CLx key, or a longhold backspace key . The code behind the key would have to check whether data entry was active, and act accordingly.

I'd prefer a less cluttered keyboard layout with fewer key legends.

IMHO The original 30b looks much better with the reduced original keyboard overlay.

Don't get me wrong: You did a great job to create the wp34s.

But the overloaded keyboard overlay reminds me of the early Casios and Sharps of the Eighties...

Re: 34s Keyboard Overlays

*Message #9 Posted by **Eric Rechlin** on 7 May 2011, 10:30 p.m.,*
in response to message #8 by Raymond Del Tondo

It looks a lot better and less cluttered when you move the labels onto the keys, as the emulator uses, and that's how my overlays will work, assuming I can get the durability issue resolved:

For my overlays, I am considering moving the Sigma+, 1/x, y^x, and SQRT key labels to be directly on the keys rather than above, since there's no need to have a duplication of the letters. Or is there a good reason to show A, B, C, and D directly on the face of the keys?

(I haven't played around enough with the 34s to know for sure.)

The only annoyance is this overlay won't look as good on the 30b as it does on the 20b, because of the metalized plastic of the calculator, which is unfortunate since the 30b's keyboard is so much better than the 20b's keyboard.

Re: 34s Keyboard Overlays

*Message #10 Posted by **Gerson W. Barbosa** on 7 May 2011, 11:18 p.m.,*
in response to message #9 by Eric Rechlin

From Cyrille, in the HP-20b Development Kit Readme file:

"If you represent a company that has a need for large volumes, please contact cyrille@hp.com as HP might be able (depending on the cases) to make a special manufacturing run with your program pre-loaded and/or modification to the calculator color and artwork."

I wonder what a large volume might be. 200? 500? 1000? In the olden days HP would sell blank key calculators and overlays and burn eprom memory modules, the PPC ROM being an example. How many of them were produced?

Re: 34s Keyboard Overlays

*Message #11 Posted by **Paul Dale** on 8 May 2011, 12:19 a.m.,*
in response to message #10 by Gerson W. Barbosa

I was told at least 1,000 would be the minimum for custom printed keys (but not faceplate) and didn't pursue things any further.

- Pauli

Re: 34s Keyboard Overlays

*Message #12 Posted by **Richard J. Nelson** on 8 May 2011, 4:28 p.m.,*
in response to message #10 by Gerson W. Barbosa

Hello,

I ordered 5,000 pieces initially and either 200 or 300 were ordered with a "final" order. The PPC ROM order was HP's largest. I heard that the USPS ordered a ROM that was near 5,000 pieces, but I haven't had any confirmation so the PPC ROM was #1 or a very close #2.

X < > Y,

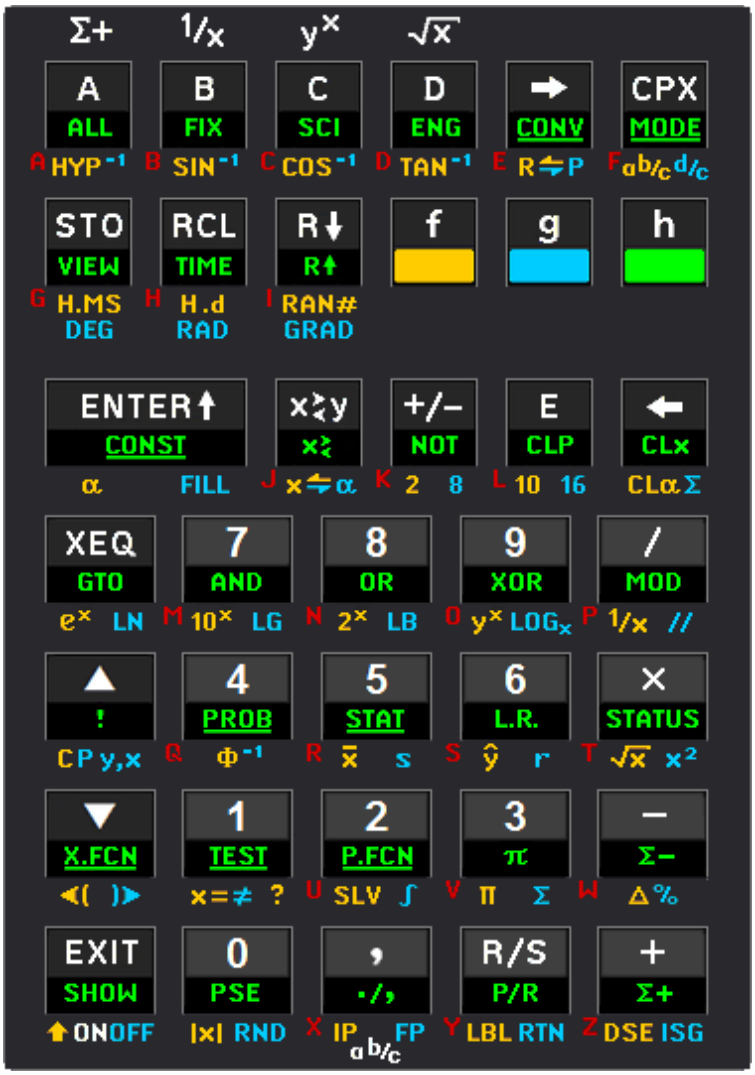
Richard

Re: 34s Keyboard Overlays

*Message #13 Posted by **Walter B** on 8 May 2011, 2:37 a.m.,*
in response to message #9 by Eric Rechlin

Eric, all,

Testing it on different printers, I found an alternative may result in better prints (on paper at least):



I mentioned this earlier already, but it may have slipped your attention.

With respect to the keys A ... D, Eric, you're right from a logical point of view. The primary purpose of these keys, however, is serving as hotkeys for whatever functions or programs you want to bring up to the surface. Please note Sigma+, 1/x, y^x, and SQRT are all accessible as shifted functions as well on the bottom half of the layout - so there will be no loss of accessability if you redefine some of the hotkeys. Compare the HP-65 or 67.

> Quote:
>
> The only annoyance is this overlay won't look as good on the 30b as it does on the 20b, because of the metalized plastic of the calculator, which is unfortunate since the 30b's keyboard is so much better than the 20b's keyboard.

I'd suggest you cover the display window (for obvious reasons) and the key area (for safety, don't want to have paint on the electronic parts) with some tape and "paint it black" (it = parts of the metallized surface still accessible).

Walter

Edited: 8 May 2011, 2:49 a.m.

Re: 34s Keyboard Overlays

*Message #14 Posted by **Eric Rechlin** on 8 May 2011, 8:43 a.m.,*
in response to message #13 by Walter B

> Quote:
>
> Testing it on different printers, I found an alternative may result in better prints (on paper at least):

I was just giving an example.

I actually won't use any of the designs that have already been shown here. While they look good on screen, none look good when printed, in part because the resolution is too low. I will be drawing my own design.

Eric

Re: 34s Keyboard Overlays

*Message #15 Posted by **Walter B** on 8 May 2011, 9:53 a.m.,*
in response to message #14 by Eric Rechlin

> Quote:
>
> I will be drawing my own design.

Looking forward to seeing it

Walter

Re: 34s Keyboard Overlays

*Message #16 Posted by **Walter B** on 8 May 2011, 3:06 a.m.,*
in response to message #8 by Raymond Del Tondo

Raymond,

Some additions to what Eric told you:

Given a platform with a reasonable dot matrix display (like the new 17bii+ or better) the layout would be completely different. But we don't have that.

> Quote:
>
> Another thing: To turn the unit off, one has to press the blue key _near_ (but not next to) the top right corner, and then the ON key on the bottom left corner. Is there any other HP calc where the key combination for turning off the unit is that crazy? If it were the green key (at the right edge) it would at least ease turn-off: Right edge - left edge.
>
> I think it would be better if the shift key for turning off the unit would be next to the ON key, like on the unmodified 20b/30b, and all Pioneer series calcs.
>
> Even better would be an unshifted ON/OFF key.

The latter would cost one complete primary function, a waste of keyboard space IMHO :(With an LCD calculator, there's little need for manually turning it off at all - just wait for auto-shut-down :)

> Quote:
>
> The Clear Entry (CE) key is very similar to the CLx key, or a longhold backspace key . The code behind the key would have to check whether data entry was active, and act accordingly.

In already for long. If you don't mind, please check the manual.

> Quote:
>
> I'd prefer a less cluttered keyboard layout with fewer key legends.

Come on, create one! But remember you get the credit for a complete layout only :) Looking forward to your upcoming results,

Walter

Re: 34s Keyboard Overlays

*Message #17 Posted by **BobVA** on 7 May 2011, 11:21 p.m.,*
in response to message #1 by Eric Rechlin

I printed an overlay on a small inexpensive dye sublimation photo printer (i.e. the type for 4x6 inch prints). Since it's a photo printer the result looks very nice, and the paper is relatively durable. This particular model puts a final transparent coat over the print for UV stability, which I think also provides some wear protection.

So, long way of saying you might give photo paper a try. (I'm guessing dye sub will be more durable than ink jet, but not sure.)

Your die cut results look really, really nice (particularly compared to my work with a hobby knife!)

Regards, Bob

Re: 34s Keyboard Overlays

*Message #18 Posted by **Eric Rechlin** on 8 May 2011, 12:49 a.m.,*
in response to message #17 by BobVA

Yes, those do do a nice job.

I am using an inkjet printer that uses pigment-based ink, rather than the more typical dye-based, which makes it water resistant even on plain paper.

I ordered a couple different kinds of inkjet-safe adhesive vinyl, and I also bought a special spray that is supposed to make it more durable, so when those arrive (possibly as early as Tuesday) I will be able to experiment to see how well it all works. I am also concerned with oil resistance (from fingers) and physical wear.

The ink from this printer is surprisingly durable even on plain copier paper. I have tried to damage it with water, isopropanol, and even brake cleaner, and nothing so much as even smears it.

Re: 34s Keyboard Overlays

*Message #19 Posted by **Paul Dale** on 8 May 2011, 2:03 a.m.,*
in response to message #18 by Eric Rechlin

I laminated the overlay I did (half laminate, half adhesive). This seems to be very durable even on the key tops.

- Pauli

Re: 34s Keyboard Overlays

*Message #20 Posted by **Marcus von Cube, Germany** on 8 May 2011, 3:36 a.m.,*
in response to message #19 by Paul Dale

If you are using the overlay only solution of mine, the one presented here in the opening post, it looks much better if you get rid of the original key markings. An Edding pen isn't very wear resistant though, grinding may be much better.

Re: 34s Keyboard Overlays

*Message #21 Posted by **Walter B** on 8 May 2011, 3:50 a.m.,*
in response to message #20 by Marcus von Cube, Germany

Heh, heh, here Pauli's Dremel comes into play again :) We had this topic some weeks ago already ...

Re: 34s Keyboard Overlays

*Message #22 Posted by **Paul Dale** on 8 May 2011, 4:02 a.m.,*
in response to message #21 by Walter B

:-)

It ought to be possible to remove the labels chemically using a cotton bud and some kind of solvent or paint stripper. This would give a nicer finish I think.

I'll try this route when I convert my other 30b.

The 20b converts much better with a rotary tool, the keys can be individually removed from the case with ease.

- Pauli

Re: 34s Keyboard Overlays

*Message #23 Posted by **Marcus von Cube, Germany** on 19 May 2011, 6:55 a.m.,*
in response to message #22 by Paul Dale

Don't use paint remover on the keys! I tried it on one key only to notice that the paint is much more resistant to the solvent than the plastic used for the keys. :-(

I've resorted to black enamel paint for the job on my newly acquired 30b. Due to my experiments with paint remover, the top left key looks a bit battered now.

Re: 34s Keyboard Overlays

*Message #24 Posted by **Paul Dale** on 19 May 2011, 7:15 a.m.,*
in response to message #23 by Marcus von Cube, Germany

A commercial paint stripper or neat caustic soda?

The latter doesn't usually damage plastics and it takes paint off really well.

- Pauli

Re: 34s Keyboard Overlays

*Message #25 Posted by **Marcus von Cube, Germany** on 19 May 2011, 7:36 a.m.,*
in response to message #24 by Paul Dale

It's a commercial paint stripper. Not recommended. I didn't try any other substances.

Re: 34s Keyboard Overlays

*Message #26 Posted by **David Hayden** on 8 May 2011, 3:33 p.m.,*
in response to message #1 by Eric Rechlin

> Quote:
>
> Maybe some of you might be interested in having an overlay made for your calculator?

I would be very interested in an overlay for the 50g that is similar in function to the ones for the 41 series. More specifically, I'm thinking of something that has the existing key functions printed on it, but also comes with small stick-on labels that you can write on. I'd use this with user-assignable keys to create custom keyboard layouts for different functions (one for programming, one for statistics work, one for calculus, etc.). The stick-on labels let you play around with different layouts. Once you have something that you really like, maybe you'd buy a few custom printed ones from Eric.

Dave

Re: 34s Keyboard Overlays

*Message #27 Posted by **Ren** on 9 May 2011, 1:37 p.m.,*
in response to message #1 by Eric Rechlin

Yummm!

I wonder if your cutter could do a nice burl walnut veneer...

(No, I wouldn't be interested in buying one but think it would look classy!)

Ren

dona nobis pacem

Re: 34s Keyboard Overlays

*Message #28 Posted by **Marcus von Cube, Germany** on 19 May 2011, 6:58 a.m.,*
in response to message #1 by Eric Rechlin

Eric, if you have a permanent solution, please put me on the list of takers. Probably one or more of the key

legends may change in a later revision. That's the problem with software still under development.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C mini-challenge (Project Euler - problem #1)

*Message #1 Posted by **Gerson W. Barbosa** on 7 May 2011, 8:00 p.m.*

The first Project Euler problem is

If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Find the sum of all the multiples of 3 or 5 below 1000.

The challenge is to solve this one on the HP-15C (or HP-11C) in 30 seconds or less. Have fun!

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #2 Posted by **Gerson W. Barbosa** on 7 May 2011, 11:00 p.m.,*
in response to message #1 by Gerson W. Barbosa

Forget about it! My solution uses essentially the same formula in the reference article and is not as fast as it could be. Other interesting problems in the list, but I fear the HP-15C is not a good tool here (at least the ordinary 15C...)

http://projecteuler.net/index.php?section=problems

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #3 Posted by **Namir** on 7 May 2011, 11:54 p.m.,*
in response to message #2 by Gerson W. Barbosa

Bummer! I was working on a solution that does NOT uses loops. The sum we seek is:

sum = sum of 3 and multiples in range 3 to 999 + sum of 5 and multiples in range 5 to 999 - sum of 15 and multiples in range 15 to 999

I calculate each sum using the same basic approach Gauss used to calculate the sum of integer sequences--no loops needed.

Namir

Edited: 8 May 2011, 12:02 a.m.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #4 Posted by **Gerson W. Barbosa** on 8 May 2011, 12:14 a.m.,*
in response to message #3 by Namir

> Quote:
>
> I calculate each sum using the same basic approach Gauss used to calculate the sum of integer sequences.

Yes, I remembered Gauss's approach too but was not clever enough to find a formula in terms of n only (and not to notice the one in my own reference was better :-)

```
S =  n1*(n1 + 3)/6 + n2*(n2 + 5)/10 - n3(n3 + 15)/30


where
n1 = greatest divisor of 3 <=  n;
n2 = greatest divisor of 5 <= n;
n3 = greatest divisor of 15 <= n


if n = 999, then n1 = 999, n2 = 995 and n3 = 990
```

Regards,

Gerson.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #5 Posted by **Katie Wasserman** on 8 May 2011, 9:23 a.m.,*
in response to message #4 by Gerson W. Barbosa

The 12C+ makes this easy. The "brute force" method comes up with the answer in under 7 seconds.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #6 Posted by **C.Ret** on 8 May 2011, 4:13 p.m.,*
in response to message #4 by Gerson W. Barbosa

Thank you for the formulae.

At first glance, I was surprise by the divisor (6, 10 and 30), since using my own production I use the multiplier 3x, 5x and -15x, not the divisor, until I realise that what you use k and n the opposite way I used !

I also have trouble with the limit, here 1000. Due to the example give for natural integers below 10, we have to understand that we have to consider only integer strictly below 1000. This makes a difference, since 1000 is a multiple of 5.

999/3 is 333, we have 333 multiples of 3 from in the set (from 0 to 1000 exclude). The sum of all these multiple of 3 is SUM_3 = 3x(333.(333+1))/2

999/5 is 199.8, we have 199 multiples of 5 in the set. The sum of all these multiple is SUM_5 = 5x(199.200)/2

999/15 is 66.6, we have 66 multiples of 15 in the set. The sum of all these multiple of both 3 and 5 have to be substrated from the total, to avoid twiced counts. That why I put a minus sign in from of it : SUM_-15 = -15x(66.(66+1))/2 = -33165

Here is the time to generalize the method:

Since I have no HP15C at hand, here is a cool code for HP41C, reader of this forum main easely convert it or adpted it for an HP15C.

```
01 * LBL "EULER
02   "UPPER LIM
03   PROMPT            @ User enter upper limit (ie 999)
04   1
05   -                 @ may have a DSE X spare a prgm step here ?
```

```
06   STO 00
07   0                  @ init Total SUM
08   LBL 01             @ HP display current sum of multiple
09   STOP               @ User enter next multiple to add (+k)
                           Or to substract (-k)
10   RCL 00
11   RCL Y
12   ABS                @ throw sign away !
13   /
14   INT                @ for positive numbers, IP or INT is FLOOR (not CEIL)
15   *
16   LastX
17   1
18   +
19   *
20   2
21   /                  @ compute SUM_k
22   +                  @ add or substratc it to Total
23   GTO 01
```

Usage: EXQ “EULER
Enter upper limit : 1000 and press [R/S]
Enter first multiple to add in sum : +3 and press [R/S]
The calculator display intermediate summation: 166833
Enter second multiple to add in sum : +5 and press [R/S]
The calculator display intermediate summation: 266333.
Enter co-multiple to subtract from sum : 15 [CHS] and press [R/S]
The calculator display expected result: 233168.

Note that it is so easy to get the sum from the 10000 first integers or 500000 as well sum of other multiple.
For example: To find the sum of all the multiples of 3, 5 or 7 below 10000.

EXQ “EULER
ENTER: 1 [EEX] 4 press [R/S]
Calculator display 0.0000
ENTER: 3 press [R/S], the calculator display intermediate summation: 16668333.
ENTER: 5 press [R/S], intermediate sum: 26663333.
ENTER: 7 press [R/S], intermediate display : 33805475.
ENTER: 15 [CHS] [R/S], intermediate corrected sum: 30473810.
ENTER: 21 [CHS] [R/S], intermediate corrected sum: 28089764.
ENTER: 35 [CHS] [R/S], intermediate corrected sum: 26663339.
ENTER: 105 [CHS][CHS] [R/S], note that this last (double)-multiple have to be add, not substract from the current sum.
The calculator display expected sum of all the multiples of 3, 5 or 7 below 1000 : 27142139.

P.S.: An alternative version for HP41, using stack manipulation and no register:

```
01 LBL 'EULER        @ user enter upper limit (ie 1000) in x:
02 DSE X
03 0
04 LBL 01            @ upper lim in y: and current sum in x:
05 STOP
06 RCL Z
07 X<->Y
08 ST/ Y
09 x<->y
10 ABS
11 INT
12 *
13 LASTX
14 ISG X
15 SF 00              @ any operation there, always skipped
16 *
17 2
```

```
18 /
19 +
20 GTO 01
```

Edited: 8 May 2011, 4:56 p.m.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #7 Posted by **Gerson W. Barbosa** on 8 May 2011, 8:36 p.m.,*
in response to message #6 by C.Ret

Here is an HP-15C version of your short and versatile program:

```
001- f LBL B
002- STO 0
003- 0
004- f LBL 6
005- R/S
006- RCL 0
007- x<>y
008- /
009- g LSTx
010- x<>y
011- g ABS
012- g INT
013- *
014- g LSTx
015- 1
016- +
017- *
018- 2
019- /
020- +
021- GTO 6
```

Usage is the same, except that it now sums up to n, not to n-1.

Example: Find the sum of all the multiples of 3 and 5 up to 180,000.

```
 keystrokes               display


180000 GSB B               0.000000000
3 R/S                  5,400,090,000.
5 R/S                  8,640,180,000.
15 CHS R/S             7,560,090,000.
```

I'd written a generalized program myself (n>14), only to discover the formula at wikipedia would allow for a faster and shorter program. Anyway, here it is:

```
001- f LBL A            019- g x=0              037- +                  055- +
073- f LBL 2
002- STO 0              020- g GSB 2            038- g LSTx             056- g
LSTx             074- g F?2
003- 0                  021- RCL 0              039- *                  057- *
075- g RTN
004- STO 4              022- 1                  040- 6                  058- 3
076- RCL 0
005- g CF 1             023- 5                  041- /                  059- 0
077- STO 2
006- g CF 2             024- /                  042- STO 5              060- /
078- 1
007- g CF 3             025- f FRAC             043- 5                  061-
STO+ 5             079- STO+ 4
008- f LBL 0            026- g x=0              044- RCL 2              062-
RCL 5              080- g SF 2
009- RCL 0              027- g GSB 3            045- +                  063- g
RTN              081- g RTN
010- 3                  028- 3                  046- g LSTx             064- f
LBL 1            082- f LBL 3
011- /                  029- RCL 4              047- *                  065- g
F?1              083- g F?3
012- f FRAC             030- g TEST 5  @ (x=y)  048- 1                  066- g
```

```
RTN               084- g RTN
013- g x=0              031- GTO 4              049- 0                  067-
RCL 0               085- RCL 0
014- GSB 1              032- f DSE 0            050- /                  068-
STO 1               086- STO 3
015- RCL 0              033- GTO 0              051- STO+ 5             069- 1
087- 1
016- 5                  034- f LBL 4            052- 1                  070-
STO+ 4              088- STO+ 4
017- /                  035- 3                  053- 5                  071- g
SF 1              089- g SF 3
018- f FRAC             036- RCL 1              054- RCL 3              072- g
RTN               090- g RTN
```

Example:

```
180,000 GSB A    ->    7,560,090,000.    ( ~ 8 seconds)

    999 GSB A    ->    233,168.0000      ( ~ 29 seconds)
```

Perhaps someone would be willing to use the formula in the wikipedia article. It might well fit in the HP-25C or HP-33C/E :-)

Regards,

Gerson.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #8 Posted by **Namir** on 9 May 2011, 12:06 p.m.,*
in response to message #7 by Gerson W. Barbosa

If we "upgrade" the problem to say **calculate the sum of all numbers up to 1000 that are multiples of 3, 5, AND 7**, does it complicate matters greatly or can we use the Wikipedia functions as follows:

```
Sum = sum_3(1000) + sum_5(1000) + sum_7(1000) -
      { sum_15(1000) + sum_21(1000) + sum_35(1000) + sum_105(1000) }
```

In calculating sum_105(1000) will there be duplicates with sum_15(1000), sum_21(1000), and sum_35(1000)?

If we expand the set of numbers further to be multiples of 3, 5, 7, and 11, things get more complicated, making a solution that uses a loop easier to implement albeit at the cost of additional CPU time.

Namir

Edited: 9 May 2011, 12:09 p.m.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #9 Posted by **Gerson W. Barbosa** on 9 May 2011, 2:18 p.m.,*
in response to message #8 by Namir

> Quote:
>
> If we "upgrade" the problem to say **calculate the sum of all numbers up to 1000 that are multiples of 3, 5, AND 7**, does it complicate matters greatly or can we use the Wikipedia functions as follows:

```
Sum = sum_3(1000) + sum_5(1000) + sum_7(1000) -
      { sum_15(1000) + sum_21(1000) + sum_35(1000) +
sum_105(1000) }
```

Namir,

That's what I would have done myself too. It appears, however, the correct formula is

```
Sum = sum_3(1000) + sum_5(1000) + sum_7(1000) + sum_105(1000) -
      { sum_15(1000) + sum_21(1000) + sum_35(1000)  }
```

Using C.Ret's program, which uses the Wikipedia formula, I get

```
1000 GSB B              0.000000000
3 R/S                   166,833.0000.
5 R/S                   267,333.0000.
7 R/S                   338,404.0000.
15 CHS R/S              305,239.0000.
21 CHS R/S              281,551.0000.
35 CHR R/S              267,341.0000.
105 R/S                 272,066.0000.
```

That's what I get on the HP-71B, using the brute force program:

```
10 DESTROY ALL
20 T=0
30 FOR N=1 TO 1000
40 IF MOD(N,3)=0 OR MOD(N,5)=0 OR MOD(N,7)=0 THEN T=T+N
50 NEXT N
60 DISP T
>run
 272066
```

Any explanation?

Regards,

Gerson.

Edited: 9 May 2011, 2:25 p.m.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #10 Posted by **C.Ret** on 9 May 2011, 3:51 p.m.,*
in response to message #9 by Gerson W. Barbosa

> Quote:
>
> Any explanation?

Yes, of course. The explanation is really simple.

In the case with only two multiples *a* and *b*, the 'Wikipedia Formulae' allow to compute the sum of all multiple bellow *m*:

a [R/S] add the sum of multiples of *a* below *m*, included also the multiples of *a.b* (simultaneous multiples of *a* and *b*) which are a part of the multiples of *a*.

b [R/S] add the sum of multiples of *b* below *m*, included also multiples of *a.b* (simultaneous multiples of *a* and *b*) which are a part of the multiples of *b*.

As **Marcus von Cube** explain it, this make the multiples of *a* and *b* to be count twice and the resulting sum over-estimate the correct sum. That why we have to correct it by subtracting one time the sum of multiples of *a.b* by entering a.b [CHS] [R/S] in the summation process.

When considering three multiples, the same phenomena occur again. But this time, we have to considerer more interactions by correcting the twiced counts of binomial *a.b*, *a.c* and *b.c* multiples as well as full *a.b.c* multiples.

To resume and making things simplest, let me start from scracht the summation sequence:

a [R/S] add sum of all multiples of *a*, included binomial *a.b* and *a.c* and full *a.b.c* multiples.

b [R/S] add sum of all multiples of *b*, included binomial *a.b* and *b.c* and full *a.b.c* multiples. At this point, we already count *a.b* and *a.b.c* twice.

c [R/S] add sum of all multiples of *c*, included binomial *a.c* and *b.c* multiple and trinomial *a.b.c* multiples. At this last step, the sum over estimate the correct sum by mistakenly incorporating two times the *a.b*, *a.c* and *b.c* multiples and three times the *a.b.c*. To correct this, the next steps are to substrate the binomial multiples :

a.b [CHS] [R/S] which remove one time the twiced counted *a.b* multiples. But, this also remove the sum of the *a.b.c* multiples since they are part of the *a.b* multiples. At this point, the total overestimate the correct sum by only twiced counting of *a.c*, *b.c* and *a.b.c* multiples.

a.c [CHS] [R/S] which remove one time the twiced counted *a.c* multiples. But, this also remove again the sum of the *a.b.c* multiples since they are part of the *a.c* multiples. At this point, the total sum overestimate the correct sum by only twiced counting of *b.c*. So the next step would have been the last one, but it is not the case !

b.c [CHS] [R/S] remove one time the twiced counted *b.c* multiples. But, this also remove one more time the sum of the *a.b.c* multiples since they are part of the *b.c* multiples. At this point, the current sum is wrong by under-estimate the correct answer, because the sum of *a.b.c* have been remove one time more than needed.

That why we have to ADD the last full multiple counts to the summation, by endind whith:

a.b.c [R/S] which add one time the missing sum of all *a.b.c* multiples.

At this end point, the resulting sum is the correct sum of all multiples of *a* , *b* and *c* below *m*.

The same reassignment can be used to compute the sum of a set of four multiples: +a, +b, +c, +d, -ab, -ac, -ad, -bc, -bd, -cd, +abc, +abd, +acd, +bcd, -abcd

Edited: 9 May 2011, 4:35 p.m. after one or more responses were posted

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #11 Posted by **Namir** on 9 May 2011, 4:05 p.m.,*
in response to message #10 by C.Ret

I will not be surprised if one of the famous French mathematicians in the 18th or 19th century (like Fourier, Hermite, Lagrange, or Laguerre) was your great great great grandfather!!!

Very good explanation!!!

:-)

Namir

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #12 Posted by **Gerson W. Barbosa** on 9 May 2011, 6:30 p.m.,*
in response to message #11 by Namir

> Quote:
>
> Very good explanation!!!

Agreed!

> Quote:
>
> ...famous French mathematicians in the 18th or 19th century (like Fourier, Hermite, Lagrange, or Laguerre)

By the way I've always wondered why some countries have been home to a large number of great mathematicians and some have not. Bad weather conditions? (Too cold to play outside, better staying at home and studying :-). I may be wrong, but in the maps below the densities get lower as climates get warmer:

http://www-groups.dcs.st-andrews.ac.uk/~history/BirthplaceMaps/France.html

http://www-groups.dcs.st-andrews.ac.uk/~history/BirthplaceMaps/Germany.html

http://www-groups.dcs.st-andrews.ac.uk/~history/BirthplaceMaps/UK.html

http://www-groups.dcs.st-andrews.ac.uk/~history/BirthplaceMaps/Italy.html

http://www-groups.dcs.st-andrews.ac.uk/~history/BirthplaceMaps/Spain.html

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #13 Posted by **Paul Guertin** on 9 May 2011, 8:32 p.m.,*
in response to message #10 by C.Ret

Also look up "Principle of Inclusion-Exclusion" (often abbreviated PIE). See for instance this page on the Art of Problem Solving wiki. This is a standard tool in combinatorics.

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #14 Posted by **gene wright** on 8 May 2011, 8:58 a.m.,*
in response to message #3 by Namir

Why are multiples of 15 included?

They are already totaled by the sum of 3's and the sum of 5's as well.

?

Re: HP-15C mini-challenge (Project Euler - problem #1)

*Message #15 Posted by **Marcus von Cube, Germany** on 8 May 2011, 11:08 a.m.,*
in response to message #14 by gene wright

You do not want them to be counted twice.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp15c (limited edition) june? and a new product?

*Message #1 Posted by **miguel saiz** on 7 May 2011, 7:20 p.m.*

I had read that there are in the HP pipeline an HP 15c (limited edition) and Hp12c 30th anniversary and one additional product (maybe an HP50G color?). Anyone knows about this?

source: http://www.thecalculatorstore.com/epages/eb9376.sf/en_GB/?ObjectPath=/Shops/eb9376/Categories/Calculator_blog

New products coming Our contacts in HP have informed us about several new products in the pipeline. There are ultra-new things and some less new (to say the least) in the works. Estimated time of arrival on European shelves is July - maybe announcement will come sooner.

One of the calculator projects will likely sell in the millions (not hundreds of thousands - millions!) but the other will be a limited run of 10000 units - and that's all.

New HP50g vs Classic 15c Classic HP15c vs new HP50g

I see the old HP15c derided by current users by comparing it with HP 50g. They laugh at the specs, the screen size, the programming model, etc. They wonder how mint units can get over 300 € on ebay and other sites.

I have both. In my common work, I use the HP 50g. I can see everything that I have done - sometimes I need to clear to unclutter the stack. However, it is clear to me that it is not a calculator for all purposes: I cannot take it to meetings, or when discussing with a colleague some alternatives, etc. For that, I have in my jacket the HP15c. (For that matter, I could use the HP42s instead - however, it takes longer to navigate the menus and do what you

Re: Hp15c (limited edition) june? and a new product?

*Message #2 Posted by **miguel saiz** on 7 May 2011, 7:31 p.m.,*
in response to message #1 by miguel saiz

another source: http://www.techpoweredmath.com/hp-12c-special-edition-hp-15c-re-release/

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S 838 x=0? or x=1? Locks Up in Run Mode

*Message #1 Posted by **Jake Schwartz** on 7 May 2011, 5:29 p.m.*

Hi,

I was playing with x= and x<> in program and run modes and had no problem entering tests in program mode, comparing to two-digit register numbers or to the values zero or one. However in run mode, while tests against registers returns the expected "true" or "false", the same tests against zero or one locks the machine up hard, requiring the batteries to be pulled. I am running version 838 and tested it on both the 20b and 30b.

Jake

Re: wp34S 838 x=0? or x=1? Locks Up in Run Mode

*Message #2 Posted by **Marcus von Cube, Germany** on 8 May 2011, 3:18 a.m.,*
in response to message #1 by Jake Schwartz

That must be the bug I'm hunting. The solver locks up in the same way. Thanks for the tests! I won't have the time to work on the problem today. Maybe later tonight.

Re: wp34S 838 x=0? or x=1? Locks Up in Run Mode

*Message #3 Posted by **Jake Schwartz** on 8 May 2011, 1:39 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi,

With the newer version 843, the problems went away and neither of my units lock up any more.

Thanks, Jake

Re: wp34S 838 x=0? or x=1? Locks Up in Run Mode

*Message #4 Posted by **Marcus von Cube, Germany** on 8 May 2011, 4:24 p.m.,*
in response to message #3 by Jake Schwartz

Seems to be a compiler fault. I switched back from CodeSourcery to Yagarto and it worked. I would still like to use CodeSourcery's better optimization but not for the sake of stability.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s 1.17 Build 838 SLV

*Message #1 Posted by **Norman Dziedzic** on 7 May 2011, 8:50 a.m.*

I tried to solve my inefficient, quadratic program from a while ago and when I do it seems the solver hangs. Works in the emulator but not on 30b hardware.

I put a PSE in the program and I only see one update and then the screen goes blank. Without the PSE the screen shows "Running Program" with the DEG, 360 and = annunciators on steady.

Re: wp34s 1.17 Build 838 SLV

*Message #2 Posted by **Thomas Radtke** on 7 May 2011, 10:13 a.m.,*
in response to message #1 by Norman Dziedzic

In some years, this will be the museum of WP calculators ;-).

I like this project very much, but traffic would justify setting up a newsgroup or mailing list, leaving this space for on-topic discussions.

Re: wp34s 1.17 Build 838 SLV

*Message #3 Posted by **Marcus von Cube, Germany** on 7 May 2011, 10:53 a.m.,*
in response to message #2 by Thomas Radtke

A separate forum will part us with the expertise of the members of this community which is badly needed for serious progress. Think of wp34s and the corresponding math discussions as an extension to HP's current calculator portfolio. We're still talking typical HP calculator topics, like RPN, the solver, keystroke programming, and the like.

Get your own HP 30b, flash it, and enjoy the progress! :-)

Re: wp34s 1.17 Build 838 SLV

*Message #4 Posted by **Thomas Radtke** on 7 May 2011, 11:37 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Get your own HP 30b, flash it, and enjoy the progress! :-)

Did so with my 20b.

I remember a time when discussions about new HPs (with original firmware) were considered off topic. I don't mind, but we're now at a point that this forum ist abused for support *at a regular basis*.

Fun in the beginning, highly boring at present. And there's no end in sight.

Don't get me wrong: Great project, but still OT *here* (this is a museums forum).

Re: wp34s 1.17 Build 838 SLV

*Message #5 Posted by **Don Shepherd** on 7 May 2011, 11:57 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Marcus, I certainly agree that 100% of the people you want input from are members of this forum. And while hpmuseum is technically, of course, a "museum", discussions of current (not to mention future) HP calculators are enjoyed by all.

While I'm not particularly interested in this development effort, I know that many are. Katie has suggested some type of "sub-forum" and that would be a good idea. As developers, I would think your team would want a dedicated forum for reporting and tracking bugs, documenting each release, and suggesting enhancements, and it seems to me that this forum is not the ideal venue for that, just from a logistical point-of-view.

You guys have done some very good work, and it is relevant to this community (forum), but I would think a dedicated forum would be more beneficial.

Re: wp34s 1.17 Build 838 SLV

*Message #6 Posted by **Gerson W. Barbosa** on 7 May 2011, 10:55 a.m.,*
in response to message #2 by Thomas Radtke

I plead to disagree. WP 34s is an **hp-20b/30b** repurposing project, therefore not off-topic here.

Re: wp34s 1.17 Build 838 SLV

*Message #7 Posted by **Katie Wasserman** on 7 May 2011, 11:07 a.m.,*
in response to message #6 by Gerson W. Barbosa

While I agree that the wp34s is on topic I also agree with Thomas that bug/feature discussions make it difficult to see other topics because of the way threads must be viewed.

Is there some way that the wp34s threads can be encapsulated so as to not be so overwhelming? If Dave Hicks is still "out there" I wonder if he can think of a way to split off a sub-forum on this (and maybe other future topics as well).

-Katie

Edited: 7 May 2011, 11:19 a.m.

Re: wp34s 1.17 Build 838 SLV

*Message #8 Posted by **Juergen Keller** on 7 May 2011, 1:43 p.m.,*
in response to message #7 by Katie Wasserman

> Quote:
>
> If Dave Hicks is still "out there" I wonder if he can think of a way to split off a sub-forum on this (and maybe other future topics as well).

I second your proposal, that would be a good solution, and is quite common in other forums. But I guess it needs some (substantial?) work on Dave's side.

Re: wp34s 1.17 Build 838 SLV (should be known as: subdividing the forum)

*Message #9 Posted by **Walter B** on 7 May 2011, 3:46 p.m.,*
in response to message #8 by Juergen Keller

> Quote:
>
> If Dave Hicks is still "out there" I wonder if he can think of a way to split off a sub-forum on this (and maybe other future topics as well).

I concur as well. One sub-forum for repurposing, one for TAS-related stuff, one for garage sale and thrift store discussions, one for RPL, one for educational topics, one for the 12C, the 71B, the 41Cx, etc. ;-)

IMHO it's a problem of the way threads are organized (here at least) - they tend to branch and twig, change topics (most times without changing the subject), and there are no tools to bring all these together again. So people lose track after a while and start a new topic ... I don't know if it's really beneficial - we once started one thread about the bugs found and we could have kept that all the way with some intermediate statements - new release, all known bugs killed - up to now.

OTOH, we wouldn't face this problem now if HP had kindly followed our repeated plea for a 43S. Ceterum censeo: you know ;-)

Walter

Edited: 7 May 2011, 4:36 p.m.

Re: wp34s 1.17 Build 838 SLV (should be known as: subdividing the forum)

*Message #10 Posted by **Norman Dziedzic** on 8 May 2011, 11:07 a.m.,*
in response to message #9 by Walter B

Most other forums that I frequent use pbpBB as their software. http://www.phpbb.com/

I have no idea what it takes to implement that vs. the current board but I think it would be beneficial to segregate topics a little.

Re: wp34s 1.17 Build 838 SLV

*Message #11 Posted by **Eddie W. Shore** on 8 May 2011, 6:27 p.m.,*
in response to message #6 by Gerson W. Barbosa

I agree, the wp34s is further continuation of how to modify an HP calculator and has generated a lot of interest. IMO, it belongs in the main forum.

Re: wp34s 1.17 Build 838 SLV

*Message #12 Posted by **Marcus von Cube, Germany** on 7 May 2011, 10:58 a.m.,*
in response to message #1 by Norman Dziedzic

A blank screen is certainly a bug. How do you get the calculator back to life? Do you see the "bye..." message?

Reasons for this behavior may be stack overflow, another memory corruption bug or what ever. Hopefully, Pauli will get back online soon and can join the discussion. His Internet connection is flacky at best.

Re: wp34s 1.17 Build 838 SLV

*Message #13 Posted by **Norman Dziedzic** on 7 May 2011, 11:04 a.m.,*
in response to message #12 by Marcus von Cube, Germany

I can being it back with any of the following: - batery pull - reset button with paper clip - reset button on the programming cable.

Re: wp34s 1.17 Build 838 SLV

*Message #14 Posted by **Marcus von Cube, Germany** on 7 May 2011, 1:49 p.m.,*
in response to message #13 by Norman Dziedzic

2 points here:

1/ If Dave can support us with a special forum, I will happily go there for any wp34s stuff. If not, ?

2/ Norm, you must have hit a very nasty bug. I'm trying to find it at the moment but it's very hard work. :-(I report back when I'm done.

Re: wp34s 1.17 Build 838 SLV

*Message #15 Posted by **Norman Dziedzic** on 7 May 2011, 2:21 p.m.,*
in response to message #14 by Marcus von Cube, Germany

I guess someone else should verify that they can duplicate this.

Is anyone else observing problems with this?

And, yes, a forum with subjects would be nice. Of course, much easier for us to say than it is to implement.

Re: wp34s 1.17 Build 838 SLV

*Message #16 Posted by **Marcus von Cube, Germany** on 7 May 2011, 3:54 p.m.,*
in response to message #15 by Norman Dziedzic

I see the bug on my system and I have identified the area where the crash occurs, but I'm still fighting. (In fact not at the very moment, I needed a break. ;-))

Re: wp34s 1.17 Build 838 SLV - Hopefully fixed!

*Message #17 Posted by **Marcus von Cube, Germany** on 8 May 2011, 4:53 a.m.,*
in response to message #1 by Norman Dziedzic

I've reverted to the Yagarto compiler and the bug seems to be gone. Please test!

Re: wp34s 1.17 - Another nasty bug fixed

*Message #18 Posted by **Marcus von Cube, Germany** on 9 May 2011, 1:06 p.m.,*
in response to message #17 by Marcus von Cube, Germany

Please download and install the latest version from SF:

http://sourceforge.net/projects/wp34s/files/

I fixed a serious crash in the CONV catalogue.

Re: wp34s 1.18 v875 SLV

*Message #19 Posted by **Norman Dziedzic** on 12 May 2011, 1:34 a.m.,*
in response to message #18 by Marcus von Cube, Germany

There is an intermittent issue with the solver in 1.18 v875 (30b hardware) where the "Program Running" message is not displayed when the solver is active. The top line just displays SLV _ _. The solver still functions and returns an answer.

I haven't found a firm reproducible sequence that does or doesn't show the program running message. However, more often than not, I will not get the "Program Running" message. It seems that if I re-run the solver with identical guesses I will then see the "Program Running" more often but it is not 100%.

Re: wp34s 1.18 v875 SLV - fixed!

*Message #20 Posted by **Marcus von Cube, Germany** on 12 May 2011, 1:57 a.m.,*
in response to message #19 by Norman Dziedzic

Thanks for the hint. We need to look into it. I guess it's a minor issue but it may hide a more serious bug.

Edit: It seemed to be a minor glitch related to power saving. The most recent build contains a fix for this.

Edited: 12 May 2011, 6:19 a.m.

Re: wp34s 1.18 now on revision 884

*Message #21 Posted by **Marcus von Cube, Germany** on 12 May 2011, 10:18 a.m.,*
in response to message #20 by Marcus von Cube, Germany

I've addressed a few more bugs and rough edges. Get the latest image from SVN.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Woz at HP

*Message #1 Posted by **ClausB** on 6 May 2011, 8:47 p.m.*

I saw Steve Wozniak at Michigan State University this afternoon. In a Q&A session I asked which HP calculators he worked on before starting Apple. He answered so quickly (and I was a bit nervous in the presence of one of my heros) that all I caught of his product list were the first and last: 45 and 67. He said he did chip design and layout and did not write firmware but he studied it. Then he mentioned CORDIC and talked about how they did everything with integer math internally. That inspired his Apple Integer BASIC, he said.

Later I asked him whether he still had the "Cream Soda" computer (his scratch-built CPU, pre-Apple). He said he might still have the board but he smoked it long ago when he stepped on a wire and shorted 35V to the chips! He also said the Apple II is the design he's most proud of, and the Disk II was one of the most challenging. Fascinating talk!

He signed my Apple II Reference Manual (Red Book) but my pen let us down. It reads "Noz".

Edited: 6 May 2011, 9:21 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Raspberry Pi

*Message #1 Posted by **MikeT.** on 6 May 2011, 5:18 p.m.*

Expect that most readers on the forum have already spotted this link. I've already decided I want one - just need to figure out how to get it!

Mike T.

Re: [OT] Raspberry Pi

*Message #2 Posted by **exschr** on 7 May 2011, 2:48 p.m.,*
in response to message #1 by MikeT.

That is amazing tiny!
I would like to get one too. It looks like they have a prototype but not yet the massproduction ramped up, that's probably why they only have a very lean webpage with not more than the adverticement on it.

Thanks for sharing the information here (it is OT, but I don't mind it at all :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Flashing WP-34S Image to an HP-30b

*Message #1 Posted by **Gerry Schultz** on 6 May 2011, 3:59 p.m.*

I have been following the continuing discussions of the ever improving WP-34s image and have downloaded the latest zip file from SourceForge.net. I have two HP-30bs and I would like to re-flash one of them with the 34s image (and yes, I have the special HP serial cable and I recently rebuilt an old desktop PC with serial ports to triple-boot Win98, WinMe and WinXP. I know, I know, why? The MB also supports 5 1/4" floppies but I got carried away, plus it was fun.). I don't know if any hardware modifications need to be done to the 30b but I don't think so.

I checked the 34s documentation but I saw no mention of how to flash the 20b/30b. I've also searched the HP Museum website using Google but any reference to past posts on this topic that show up in the search (using site:hpmuseum.org in the search), the HP museum website says it doesn't exist. I also searched the WP-34s section on SourceForge.net without success.

Now, I'm sure if I spend enough time and energy, I will eventually find this procedure but I suggest that it should be somewhere on the SourceForge website and here on the HP museum website so when someone is ready to look at and play with and then use this new calculator image, it can be easily found.

Finally, knowing me, I'm probably using the wrong search string. I've tried several but here's what I started with: "flashing WP 34s HP 30b site:hpmuseum.org".

Your responses are appreciated.

Thanks, Gerry

Edited: 6 May 2011, 4:06 p.m.

Re: Flashing WP-34S Image to an HP-30b

*Message #2 Posted by **Marcus von Cube, Germany** on 6 May 2011, 4:36 p.m.,*
in response to message #1 by Gerry Schultz

The procedure is described in Tim's document:
http://dl.dropbox.com/u/10022608/Flashing%20a%2020b%20Calculator.pdf.

Hold ERASE and press ON. The calculator should seem dead now. Press RESET and ON. Now start SAM-BA and let it connect. Select the "board" at91sam7l128-ek and your com port.

Load your file and send it to the calculator (three minutes). Execute the "Boot from flash" script from within SAM-BA.

RESET and ON.

Enjoy! :-)

Re: Flashing WP-34S Image to an HP-30b

*Message #3 Posted by **Gerry Schultz** on 7 May 2011, 6:15 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hey, I just tried to reflash a 30b and it worked perfectly on the first try! WooHoo!! Now for the fun stuff!

Edited: 9 May 2011, 1:47 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Better Late Than Never--VAL() in HP-71B BASIC

*Message #1 Posted by **Namir** on 6 May 2011, 11:15 a.m.*

I was looking at the HP-71B Math Solutions book. I discovered, to my surprise and delight, that the HP-71B function VAL goes way beyond the typical VAL implementations found in other BASIC interpreters. The HP-71B runs the argument of VAL through the BASIC interpreter engine allow you to evaluate strings as functions. For example, if I have already assigned the value of 1 to variable X, then VAL("X^2-3*x+6") yields 4!! Using this feature you can define the function:

DEF FNX(E$,X) = VAL(E$)

To evaluate functions dynamically as long as the expression in parameter E$ is a string that represents a valid expression of X. Of course the arguments for parameter X in FNX() can be any variable or expression, since VAL(E$) evaluates E$ using the argument for parameter X (and not a variable named X defined in the program).

I was delighted to discover this feature of VAL() .... Oh well .... better late than never!!

Namir

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #2 Posted by **Marcus von Cube, Germany** on 6 May 2011, 11:56 a.m.,*
in response to message #1 by Namir

For those who want more info about the different BASIC variants: I've prepared a spreadsheet which compares many BASIC dialects. The VAL() functionality Namir has found should be in the sheet as the 71B is one of the systems discussed.

Here you are: http://www.mvcsys.de/doc/basic_compare.html.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #3 Posted by **Namir** on 6 May 2011, 12:13 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Impressive comparison table!!!

As I suspected, the HP-71B and HP-75 implement the VAL() function that goes beyond simply converting a string image of a number into a number.

Using a function like VAL() (and EVAULATE() in Excel VBA) allows you to write programs that handle functions dynamically. Of course, the price to pay for this flexibility is speed.

Namir

Edited: 6 May 2011, 12:20 p.m.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #4 Posted by **Bill Wiese** on 6 May 2011, 2:20 p.m.,*
in response to message #3 by Namir

This was always an irritant to me in other BASICs of the era - most if not all of those MS BASICs (Commodore, Apple, etc.) just implemented an "atof()" function.

I recall I was able to take C64 BASIC's "USR(x)" function and hotwire it to pull a string instead of numeric argument - and then call the FRMEVL routine at $AD9E to do 'formula evaluation'. I think I had to also tokenize the string before calling FRMEVL.

Bill Wiese
San Jose CA

Edited: 6 May 2011, 2:20 p.m.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #5 Posted by **Mark Storkamp** on 6 May 2011, 2:30 p.m.,*
in response to message #4 by Bill Wiese

You could do something similar as well on the Apple][. Another form of synthetic programming. Your program always started at the same location in memory, so if you made your first line:

10 :::::::::::::::::::::::::::::::: RETURN

Then you could use POKE to enter your tokenized string in place of the :

CALL 10

would execute your line. And the manuals in those days were so thorough that they gave you all of the addresses and token values needed to pull off things like that.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #6 Posted by **Namir** on 6 May 2011, 2:52 p.m.,*
in response to message #4 by Bill Wiese

While GW-BASIC implemented a simple VAL() function, I resorted to another trick to support dynamic functions at run time. I used this kind of trick in regression programs that allowed the user to enter transformations for data at run time. My program would convert the user's input into a short/small line-numbered BASIC program that's written out to disk and then use the CHAIN MERGE command to chain/merge the current program with that small programs. This approach turned the dynamic functions and expressions into BASIC statements that are then handled by the interpreter.

When I moved from GW-BASIC to Turbo-Pascal (a compiler) I sure missed that trick!

Namir

Edited: 6 May 2011, 2:53 p.m.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #7 Posted by **Eric Smith** on 6 May 2011, 4:05 p.m.,*
in response to message #6 by Namir

Nowdays in C++, one can use LLVM to generate object code on the fly. It doesn't parse expressions from a human-readable string representation, though.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #8 Posted by **Oliver Unter Ecker** on 6 May 2011, 4:32 p.m.,*
in response to message #6 by Namir

How does Val() deal with "2^8" (two power eight), or "5!" (five factorial)? ;-)

As other dynamic languages these days, JavaScript has an eval() function that allows you not only to evaluate constant expressions, but any JavaScript code. Also, functions are data and can be constructed on-the-fly.

If you want to write a calculator, though, you still need an expression parser to deal with cases like above (and types other than Reals).

One of the reasons why MorphEngine is called MorphEngine, is because it takes expressions and "morphs" them into dynamically-created functions (written via a LALR parser, fed by a BNR grammar).

I understand, (RPL) HPs have a compiler/decompiler to accomplish making expressions executable, and vice versa.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #9 Posted by **Marcus von Cube, Germany** on 6 May 2011, 4:39 p.m.,*
in response to message #8 by Oliver Unter Ecker

As implemented on the 71b, VAL() parses the string as BASIC text, so any functions known to the interpreter can be used. The string must represent a valid expression as defined for the language.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #10 Posted by **Paul Guertin** on 7 May 2011, 1:01 a.m.,*
in response to message #9 by Marcus von Cube, Germany

> Quote:
>
> As implemented on the 71b, VAL() parses the string as BASIC text, so any functions known to the interpreter can be used. The string must represent a valid expression as defined for the language.

What happens when you call VAL(E$) and E$ contains the string "VAL(E$)"?

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #11 Posted by **Namir** on 7 May 2011, 3:24 a.m.,*
in response to message #10 by Paul Guertin

You get an "Invalid Arg" error.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #12 Posted by **J-F Garnier** on 7 May 2011, 4:01 a.m.,*
in response to message #11 by Namir

No, the HP71B goes into infinite recursive calls!!

```
>endall
>destroyall
>mem
 9135
>e$="val(e$)"
>val(e$)
ERR:Insufficient Memory
>mem
 2810
>endall
>mem
 9128
```

(tested on Emu71. On a real HP-71B, you may have to break the long recursion time with INIT 1]

J-F

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #13 Posted by **Namir** on 7 May 2011, 6:48 a.m.,*
in response to message #12 by J-F Garnier

Interesting! The first time I tried:

```
E$="VAL(E$)"
VAL(E$)
```

I got the invalid arg error using the EMU71. When I do:

```
ENDALL
DESTROY ALL
E$="VAL(E$)"
VAL(E$)
```

I get "insufficient memory" with the EMU71.

Namir

Edited: 7 May 2011, 6:49 a.m.

EMU71 for 64 Bit Windows?

*Message #14 Posted by **Namir** on 7 May 2011, 6:53 a.m.,*
in response to message #12 by J-F Garnier

Do you have any plans to re-implement the EMU71 so that it can run under Windows 7 64 Bit? To run the EMU71 I have to run "VMLite XP Mode" which runs as 32 Bit OS.

Namir

Edited: 7 May 2011, 6:53 a.m.

Re: EMU71 for 64 Bit Windows?

*Message #15 Posted by **Marcus von Cube, Germany** on 7 May 2011, 7:07 a.m.,*
in response to message #14 by Namir

As far as I understand, EMU71 is written in x86 16 Bit assembly. Porting will be a huge task!

Have you tried DOSBOX or, as an alternative, plain DOS in any virtual machine like Virtual PC?

Edited: 7 May 2011, 7:08 a.m.

Re: EMU71 for 64 Bit Windows?

*Message #16 Posted by **Namir** on 7 May 2011, 1:18 p.m.,*
in response to message #15 by Marcus von Cube, Germany

I am using the regular DOS box in VMlite Windows XP.

I will try to locate DOSBOX. Thanks for the tip.

Re: EMU71 for 64 Bit Windows?

*Message #17 Posted by **Namir** on 7 May 2011, 1:42 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Marcus,

I found DOSBOX and it works fine with EMU71. The only feature not supported from the plain DOS box is the ability to pasted source code into the emulator (J-F Garnier had suggested this tip on the site a few months ago). Garnier's tip works when I use the DOS box under VMlite Windows XP.

Namir

Edited: 7 May 2011, 2:02 p.m.

OT: Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #18 Posted by **Katie Wasserman** on 6 May 2011, 6:35 p.m.,*
in response to message #6 by Namir

On my Commodore PET (8K original one) I used to do something similar. You could print an expression (or statement) on the screen followed by a RUN or GOTO command; then stuff the keystroke buffer with cursor moments and RETURN characters and end the program. The keystroke buffer would be read out by the "operating system" and execute your commands then start up the program again.

It, made for great self modifying code not just dynamic expression evaluation.

-Katie

Re: OT: Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #19 Posted by **Namir** on 6 May 2011, 6:46 p.m.,*

in response to message #18 by Katie Wasserman

That cool ... sounds similar to using CHAIN MERGE in GW-BASIC.

I doubled checked the HP-85 owner's manual to see how the VAL() function works. I was hoping that it matched the VAL() function in the HP-71B. My hopes were dashed :-(

Namir

Edited: 6 May 2011, 6:47 p.m.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #20 Posted by **Thomas Radtke** on 7 May 2011, 3:34 a.m.,*
in response to message #1 by Namir

> Quote:
>
> I discovered, to my surprise and delight, that the HP-71B function VAL goes way beyond the typical VAL implementations found in other BASIC interpreters. The HP-71B runs the argument of VAL through the BASIC interpreter engine allow you to evaluate strings as functions. For example, if I have already assigned the value of 1 to variable X, then VAL("X^2-3*x+6") yields 4!!

The Sinclair ZX Spectrum had this feature, too.

BTW, I'm using a similar function in php to have the user define some conditions inside a semiautomatic risk analysis software. Very useful.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #21 Posted by **Howard Owen** on 7 May 2011, 2:26 p.m.,*
in response to message #20 by Thomas Radtke

I have been playing with Rocky Mountain BASIC again the last couple of days. At least in version 2.1, there's no string evaluation routine. At least I can't find it in the reference manual. It seems like the people in Fort Collins could have taken a hint from the guys in Corvallis in this regard.

You can do recursion in RMB though.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #22 Posted by **Garth Wilson** on 7 May 2011, 8:51 p.m.,*
in response to message #21 by Howard Owen

You can say *that* again! After having been quite familiar with my 71's BASIC (along with a lot of extensions from the user groups), I started working with HP Rocky Mountain BASIC 5.1 and was extremely disappointed. The HP-71 was far better.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #23 Posted by **Katie Wasserman** on 7 May 2011, 9:38 p.m.,*
in response to message #22 by Garth Wilson

I think that the finest version of Basic that HP ever created was Business BASIC for the HP 3000

series computers. The statement called COMMAND could dynamically execute almost any command in Basic, not just evaluate an expression. It was also pretty fast because it had a compiler in addition to the interpreter. I wrote a ton of code in this language including a complete email system (before the internet was common place). One of my favorite languages, ever.

The original 3000 series was equally awesome with it's stack-based architecture and (sort of) high-level systems programming language instead of assembly. The good old days.....

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #24 Posted by **Howard Owen** on 8 May 2011, 1:21 a.m.,*
in response to message #22 by Garth Wilson

There are things in RMB that the 71B lacks, however. Long variable names, COM blocks (ala FORTRAN) , REPEAT/UNTIL, WHILE, SELECT/CASE are all nice. The integrated code editor/execution environment was my first introduction to such things. It topped my list for productivity until I figured out how to use EMACS with gcc/gdb a couple of years later.

I used the 9816 professionally, and it was a capable little beast for the era. It had an 8Mhz MC68000, which was fast enough to do a whole lot of simultaneous I/O. That CPU had 16MB of addressable memory. I believe the 9816 could only use half that for user memory, but it was still huge by contemporary standards. It was actually practical to have 1MB loaded into the 9816, plus an RS232 card, which together with HPIB made for an extremely capable and portable little computing package. I used these in offshore environments in the mid-1980s.

Nonetheless, I'm very fond of my 71B. The BASIC on that machine has a lot of very nice features. The LEX file concept is very cool, allowing a user to extend the BASIC, but RMB had a similar mechanism.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #25 Posted by **Garth Wilson** on 8 May 2011, 3:45 a.m.,*
in response to message #24 by Howard Owen

One of the 71 modules available had the program structures like CASE and so on, but I never got that one. For longer variable names and vertical alignment and white space for readability and so on, what I did sometimes was write the program in text with my full-featured text editor (waaaaay better than what came in the Forth module for example) and then use another program to take out the blank lines and formatting lines, combine things that had to be on the same line which I had separated for readability, give it line numbers, replace the variable names with HP71-legal ones, remove comments, and TRANSFORM it to BASIC (while keeping a copy of the original file).

One thing I remember from RMB 5.1 running on the HP9000-series 68000 computer was that I couldn't just take lines I had already written and copy them somewhere else outside the structure or subprogram or something like that to reduce the amount of typing where I wanted a near-duplicate somewhere else. It would say that wasn't allowed. One program could not also refer to another program or subprogram in another file like the 71 can. It all had to be written into the same one. My memory of it is pretty foggy now, but I do remember that I kept running up against walls.

Edited: 8 May 2011, 3:47 a.m.

Re: Better Late Than Never--VAL() in HP-71B BASIC

*Message #26 Posted by **Howard Owen** on 8 May 2011, 11:50 a.m.,*
in response to message #25 by Garth Wilson

> Quote:
>
> One of the 71 modules available had the program structures like CASE and so on ..

The JPCROM has that and more. I have that in EEPROM on m 71, and I love it.

I've set myself up to do editing of 71B programs on my Mac (in Aquamacs. Some habits die hard.) using the PIL-Box to transfer the programs back and forth as text. That's fine as far as it goes, but it doesn't get me an editing/execution environment like RMB's EDIT mode. The 71B itself provides a pretty nifty editor, but it's limited by the one line display.

> Quote:
>
> One thing I remember from RMB 5.1 running on the HP9000-series 68000 computer was that I couldn't just take lines I had already written and copy them somewhere else outside the structure or subprogram or something like that to reduce the amount of typing where I wanted a near-duplicate somewhere else.

You can do that with individual lines, by manually editing the line number, for example. But you can't delete or modify the FN or SUB definition or end markers once you've entered them. You have to delete the "entire context" meaning the whole sub or function. Also, you can't use REN to move lines relative to other lines. So if your renumber would cause the new lines to overlap other lines, or to move after or before preexisting lines, the renumber will fail.

That's annoying, but I have to say, quirks like that are one of the reasons I feel good about getting anything done on any of these old machines. :)

Regards,
Howard

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

NaN issue in Hercules

*Message #1 Posted by **Mike (Stgt)** on 6 May 2011, 6:55 a.m.*

Sooo many calculator enthousiasts but where are the IEEE gurus who want to go down in history? This append I found on the hercules-390 Discussion group. It reminds me somewhat the Free42 vs Free42BCD. Does that help in this case or is the implementation of IEEE an new issue on a different CPU? (The mentioned ieee.c you find in the source tarball on this site.)

Ciao.....Mike

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

cheap power for the HP41C (while at desk with cardreader)

*Message #1 Posted by **exschr** on 6 May 2011, 5:37 a.m.*

Hi there

I want to attach external power to my 41c because I'm using the cardreader mainly at my desk. (I'm looking for options like wallplug_adaptor or clip with D-cells or the like...)

I read in PPC V7N3 (page 23) about attaching an external battery to not go through to many sets of N-cells because of the hungry CR-motor. But I'm missing some details there.
(R.W.Edelen used a modified TV cheater cable for this)

My Question:
Where can I find circuit schematic with the details I need to know to run the calc off external power while at the desk (aim: N-cell saving while running cardreader at desk)
I know that I could bidding on TAS for a recharger and an akku-pack, but I believe there are cheaper ways of using external power!

Up to now I was using the cardreader with a separate batteryclip with fresh N-cells in it. After using the Cardreader I put in the clip with the N-cells that were not anymore powerful enough to drive the CR motor but let me run the calc still some time without the Bat indicator coming on.

Thanks for hints or pointers
Roger

Re: cheap power for the HP41C (while at desk with cardreader)

*Message #2 Posted by **Diego Diaz** on 6 May 2011, 9:34 a.m.,*
in response to message #1 by exschr

Hi,

As long as you have a USB port handy (or any other stable power source for that matter), there's no need to be messing around with external D-cells, adaptors or anything else.

In fact you don't even need the 41's N-cell battery pack in most cases, (see note on Halfnuts)

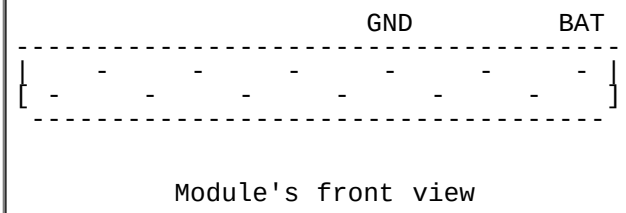
Just a standard USB cable (preferable not too long), and an empty ROM module with a good connector.

- Cut the cable to an appropriate length.

- Identify the +ve and -ve wires.

- Solder the Positive wire to the module's BAT (upper right connector pin, front view -see below-)

- Solder the Negative wire to the module's GND (the upper third one, right to letf -see below-)



Module's front view

Hope this helps.

Diego.

NOTE on Halfnuts: Due to its internal circuit design, Halfnut may show the BAT annunciator permanently ON, with the power arrangement described above, if no battery pack is present; and will more likely fail to operate the Card Rader showing the "LOW BAT" message on the display. Normal operation will perform as expected though (even if no battery pack is present)

Re: cheap power for the HP41C (while at desk with cardreader)

*Message #3 Posted by **exschr** on 6 May 2011, 1:05 p.m.,*
in response to message #2 by Diego Diaz

Thank you very much!

Re: cheap power for the HP41C (while at desk with cardreader)

*Message #4 Posted by **Dieter** on 6 May 2011, 2:29 p.m.,*
in response to message #1 by exschr

> Quote:
>
> I want to attach external power to my 41c because I'm using the cardreader mainly at my desk.
> (I'm looking for options like wallplug_adaptor or clip with D-cells or the like...)

That's no problem as long as you have the rechargeable batterypack and its AC-adapter. ;-) However, exactly for the purpose you mentioned I use a small connector made by a friend (with much better mechanical skills than mine). It's essentially based on the back of an obsolete battery pack, but it could also be done (even easier) with a standard battery holder. Two wires are soldered to two handmade contacts (that's why the battery holder is much easier to work with), and the cable ends in a usual button-connector the way it is used on 9V-batteries. Now all what's needed is a usual battery holder for 4x AA - or maybe 4x C or D, if you like.

But that size batteries are not needed here: The original batteries in the 82120A pack had 70...80 mAh, so with current AA-size NiMH batteries you get about 30x (yes, thirty times) the capacity of the original pack. I think Sanyo Eneloop NiMH cells are perfect for this application.

> Quote:
>
> Where can I find circuit schematic with the details I need to know to run the calc off external power while at the desk

What schematics? All you need to know is the position of plus and minus, and the right voltage of course. The BAT announciator comes on as soon as the voltage has dropped to 4 V, and four fresh alkaline batteries will

output something like 6...6,5 Volts. That's your range. So 5 V are fine, e.g. from four Eneloops.

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s Release 1.17 is now online

*Message #1 Posted by **Marcus von Cube, Germany** on 6 May 2011, 3:57 a.m.*

We believe that our latest release of the wp34s calculator firmware and emulator is good enough for a wider public. So we put it up to SourceForge on the main download page: https://sourceforge.net/projects/wp34s/.

Have fun and report back any findings! We know there are still some issues to be fixed...

Don't forget to try out ON+'B' and ON+'R'!

Marcus

P.S.: Donations on SF are open. Just in case... ;-)

Don't forget to try out ON+'B' and ON+'R'

*Message #2 Posted by **Jeff O.** on 6 May 2011, 8:32 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Aside from my hope that ON+'B' and ON+'R' can ultimately be used to download programs to the calculator...

Edit - within minutes Marcus provided upload and download capability. Awesome!

Edited: 9 May 2011, 7:50 a.m. after one or more responses were posted

Re: Don't forget to try out ON+'B' and ON+'R'

*Message #3 Posted by **Marcus von Cube, Germany** on 6 May 2011, 8:55 a.m.,*
in response to message #2 by Jeff O.

We will be presenting a more evolved scheme on the matter with an upcoming release.

BTW, I've just fixed another bug. The release file will get updated soon.

Edit: DONE - Please read the new document flash.txt!

Edited: 6 May 2011, 9:32 a.m.

Some updates to 1.17 online.

*Message #4 Posted by **Marcus von Cube, Germany** on 7 May 2011, 4:55 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Walter has added flashing info to the manual. It's in the updated release file. We've fixed some minor issues, so get the latest!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Vintage Computer Festival East 7.0, May 14-15

*Message #1 Posted by **Evan Koblentz** on 6 May 2011, 3:02 a.m.*

Hi fellow HP Calculator fans -- just wanted to alert you all to the upcoming Vintage Computer Festival East 7.0, May 14-15, at the InfoAge Science Center in Wall, New Jersey. VCF is a celebration of computer history, and that certainly includes HP! In fact, waaaay back in 1941, Bill Hewlett himself worked with the now-defunct U.S. Army Evans Signal Laboratory -- the campus of which is today our science center. Full details of the VCF East are at http://www.vintage.org/2011/east and there's a Facebook page at http://www.facebook.com/vcfeast7 -- kids get in free.http://www.vintage.org/2011/east

Re: Vintage Computer Festival East 7.0, May 14-15

*Message #2 Posted by **johnny bjoern rasmussen** on 6 May 2011, 5:32 a.m.,*
in response to message #1 by Evan Koblentz

Have a nice festival. I can't participate. Hope to see some photos later.
Best regards from Johnny

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Default switch settings for HP-87 HP-1B

*Message #1 Posted by **David Ramsey** on 5 May 2011, 11:32 p.m.*

Does anyone here have the default switch settings for the HP-1B interface on the back on an HP-87? I have the manual from the HP Computer Museum, but the scan doesn't show the switches clearly. Setting the address is easy enough, but I don't know the default settings for the rest of the switches.

Re: Default switch settings for HP-87 HP-1B

*Message #2 Posted by **Juergen Keller** on 6 May 2011, 3:55 p.m.,*
in response to message #1 by David Ramsey

The manual 'Introduction to the HP-87', available, e.g., on hpmuseum.net (an amazing source for HP computer enthusiasts!) describes the settings and presets in detail, refer to page 46 et seq.

Hope it helps, Juergen

Re: Default switch settings for HP-87 HP-1B

*Message #3 Posted by **David Ramsey** on 6 May 2011, 8:51 p.m.,*
in response to message #2 by Juergen Keller

I have the manual-- the section you refer to is on page 20. Unfortunately the image of the switches isn't clear enough to discern their settings, and the text doesn't go into enough details.

Re: Default switch settings for HP-87 HP-1B

*Message #4 Posted by **David Ramsey** on 6 May 2011, 8:52 p.m.,*
in response to message #3 by David Ramsey

Oh, page 46! Yeah, that's what I need. Thanks!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s Integer Word Size versus 16C

*Message #1 Posted by **Jake Schwartz** on 5 May 2011, 3:29 p.m.*

Hi,

Since in the wp34S manual (and I'm looking at the version whose page-1 display indicates version 793), it says on page two: "...completely incorporating the functionality of the famous progrmmer's calculator HP16C...", I thought I'd run the machine through its paces with the examples from the 16C manual. On page 32 of the 16C manual is a "word size" example, where when starting with a 16-bit word size in 2's-compliment mode and decimal base, the number 32767 is entered. After changing the word size to 8, the number is displayed as "-1" and then after reverting the word size back to 16, the number is shown as "255 d", since the upper half of the original 16 bits was truncated (as mentioned in the note at the bottom of the page) when the word size was halved.

So on the wp34s, I set word size to 16, 2's compliment mode and BASE10 and entered 32767 and saw "32767 d" as expected; then changed the word size to 8 and saw "-1 d" as expected. However, after changing the word size back to 16, the number reverted back to "32767 d", implying that the value in the x register had not been truncated when the word size had been halved. Since 16C compatability is expressed in the manual, shouldn't the truncation be taking place?

Thanks, Jake

Re: wp34s Integer Word Size versus 16C

*Message #2 Posted by **Walter B** on 5 May 2011, 4:36 p.m.,*
in response to message #1 by Jake Schwartz

Hi Jake,

Thanks for your finding. Looks like you caught me in one of the rare moments when I tried to do some simple advertising ;-) The sentence you quoted of page 2 is a very old one, set up at the time when we defined the scope of the wp34s. What functions did we want to include? Of course, the function set of the 42S was on top of our list - or you may see it as the base of the wp34s. The 16C's bit manipulation functions were something to be added. Cdfs on a non-RPL HP were only available on the 21S at that time, so I put in this model, too. And fractions came with the 32SII - so now we have the four models mentioned on page 2. And then the usual rules of organic growth took over ... and eventually you have the wp34s as it is now. Just for explanation ...

So, what to do? Obviously the 16C works as described and the wp34s deviates from this at least at the point you found. Personally, I can live with either way, I just have to know. (And it's not described yet in the manual - allowing me an escape here ;-) but anyway it's my fault.) IMHO the decisive point, however, is: Do *you want* the wp34s to handle such word size changes exactly the way the 16C does? And why? (Ok, tradition is an argument, but are there better ones?) We have the power to do it either way ...

Walter

Re: wp34s Integer Word Size versus 16C

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 6 May 2011, 6:47 a.m.,*

in response to message #2 by Walter B

Perhaps it deviates from the venerable 16C, but I feel "sign extension" is the right thing to do. At least there may be a flag controlling this choice.

Best regards, and please disregard any mistake.

Re: wp34s Integer Word Size versus 16C

*Message #4 Posted by **Paul Dale** on 5 May 2011, 5:48 p.m.,*
in response to message #1 by Jake Schwartz

Bummer missed this feature of the 16C :-(

What do we want to occur here?

- The 16c changes the entire stack on a word size change.
- The 34s does nothing to the stack but does display and operate correctly at the new size.

- The 16c leaves registers alone but redefines their boundaries.
- The 34s leaves registers alone and leaves their boundaries unchanged.

The latter choice isn't changing. The question is what should we do on word size change with respects to the stack.

- Pauli

Re: wp34s Integer Word Size versus 16C

*Message #5 Posted by **Jake Schwartz** on 5 May 2011, 10:06 p.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> The question is what should we do on word size change with respects to the stack.

My vote would be to truncate the stack values when the word size is reduced....if it is relatively easy to do. Just for consistency with the 16.

Thanks, Jake

Re: wp34s Integer Word Size versus 16C

*Message #6 Posted by **htom trites jr** on 5 May 2011, 10:59 p.m.,*
in response to message #5 by Jake Schwartz

Truncate the stack, if it's reasonably possible. (This emulates moving a data item to a smaller register, and then to a larger one.)

Re: wp34s Integer Word Size versus 16C

*Message #7 Posted by **Paul Dale** on 5 May 2011, 11:31 p.m.,*
in response to message #5 by Jake Schwartz

Done. Will be in the next build.

There is an extra alternative I missed: truncating the value but preserving sign.

I've just done a plain truncation of the stack and last x register (but not the I register since complex operations aren't permitted in integer mode).

- Pauli

Re: wp34s Integer Word Size versus 16C

*Message #8 Posted by **Walter B** on 6 May 2011, 2:19 a.m.,*
in response to message #7 by Paul Dale

Will get an extra sentence in next documentation, too.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Custom HP 45

*Message #1 Posted by **Jim Gossett** on 5 May 2011, 3:12 p.m.*

I have a HP 45, soft case, battery charger, power cable (and bad battery module). I believe it is unique in that the person I bought it from in the 70's toured the HP plant and complained that the +, -, *, and / keys were all gray.

They took it from him and installed a blue "-" and an orange "+" key.

Does this make it singularly unique and of any extra value?

Overall the condition is well- used but not broken anywhere, working, and all the keys and instructions on back are very legible.

Thanks,

Re: Custom HP 45

*Message #2 Posted by **Marcus von Cube, Germany** on 5 May 2011, 3:52 p.m.,*
in response to message #1 by Jim Gossett

Jim, a photo would be interesting for all.

Re: Custom HP 45

*Message #3 Posted by **Katie Wasserman** on 5 May 2011, 10:37 p.m.,*
in response to message #1 by Jim Gossett

The orange key must have been taken from an HP-70 and the blue one from an HP-35. I suppose that many of use who collect the classics to do this too pretty easily, especially if you have some "parts machines" hanging around. But it would look pretty silly.

Re: Custom HP 45

*Message #4 Posted by **Michael de Estrada** on 6 May 2011, 9:35 a.m.,*
in response to message #3 by Katie Wasserman

I have a very unusual HP 45 with a Red Dot and was wondering what it might be worth.

Re: Custom HP 45

*Message #5 Posted by **Mike Morrow** on 6 May 2011, 8:16 a.m.,*
in response to message #1 by Jim Gossett

It's hard to imagine the basis for the original owner's complaint about the gray keys. Certainly what he finally got was no improvement...whatever it was that was imagined to need improving!

I'm not really a collector, but the HP-45 is on my list of all-time favorite HPs. When it came out, during my

junior year at Georgia Tech, one could buy a good used car for what it cost.

I'd be put off by an example that was bizarrely configured to no good purpose.

Edited: 6 May 2011, 8:18 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s - New features in the SVN repository - now released!

*Message #1 Posted by **Marcus von Cube, Germany** on 5 May 2011, 9:18 a.m.*

I've added a new feature to wp34s: Flash backup of user data. This is still preliminary, more a proof of concept that I can handle flash programming within the firmware but it's useful:

ON + 'B' creates a backup of the 2 KB static RAM in flash where it survives a complete power loss, reset or other trouble.

ON + 'R' restores the backup. Only data with a valid checksum is copied.

You'll find the most recent build in SVN on SourceForge only.

Edit: The package is now released in SF.

Edited: 6 May 2011, 3:50 a.m. after one or more responses were posted

Re: wp34s - New features in the SVN repository

*Message #2 Posted by **Jeff O.** on 5 May 2011, 1:55 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Probably my fault, but version 820 does not work on my 20b. After the download to the calculator is complete, the display stays blank and does not respond to keystrokes.

Assuming the above is just a minor glitch, could this new feature somehow be used to get programs from the outside world, say developed on the emulator, into the calculator? In other words, could a bin file be created with valid data in the flash ram back-up area and then downloaded into the calculator?

Re: wp34s - New features in the SVN repository

*Message #3 Posted by **Marcus von Cube, Germany** on 5 May 2011, 2:01 p.m.,*
in response to message #2 by Jeff O.

I have to check what's possible. It's not clear if the emulator produces exactly the same structure as the real hardware.

I'll check why 820 doesn't respond. Can you retry the download? Have you set the "boot from flash" bit in SAM-BA?

Re: wp34s - New features in the SVN repository

*Message #4 Posted by **Jeff O.** on 5 May 2011, 2:16 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I am using MySamba, not SAM-BA. I tried it using SAM-BA and got it to download successfully. MySamba is a lot easier to use than SAM-BA, so if you could figure out a way to make it work with

MySamba, that would be great :-)

Do any of our tools allow the bin file to be extracted from the calculator? That would allow programs to be developed, uploaded to PC, stored, shared, re-downloaded, etc.

Re: wp34s - New features in the SVN repository

*Message #5 Posted by **Marcus von Cube, Germany** on 5 May 2011, 2:20 p.m.,*
in response to message #4 by Jeff O.

I could add a hidden feature to activate the SAM-BA boot loader on the next reset **without** clearing the flash. That would allow external access to the flash contents. A way to up/download via the cable would be the deluxe variant.

Re: wp34s - New features in the SVN repository

*Message #6 Posted by **Jeff O.** on 5 May 2011, 2:43 p.m.,*
in response to message #5 by Marcus von Cube, Germany

I am not quite sure what you mean by your response, but, I'll assume it would be good. My naive assumption (or hope) about how it should or could work is as follows:

```
Step  Action
  1   wp34s user creates a nifty program on a 20b or 30b running wp34s
  2   wp34s user backs up ram to flash memory
  3   wp34s user extracts current rom from calculator
  4   wp34s user sends rom to another wp34s user
  5   2nd wp34s user downloads rom to his/her 20b/30b
  6   2nd wp34s user executes restore command to move program from
      flash into ram
  7   2nd wp34s user begins using 1st wp34s user's nifty program
```

I tested the back-up and restore commands, they work as advertised. Cool!

...

Re: wp34s - New features in the SVN repository

*Message #7 Posted by **Marcus von Cube, Germany** on 5 May 2011, 3:49 p.m.,*
in response to message #6 by Jeff O.

I was thinking of simply concatenating the wp34s.dat file of the emulator with the flash image and restoring this. This may work or may not, depending on some details which I don't know yet.

The problem with getting the current flash contents out of a real wp34s is that you cannot get into SAM-BA mode without erasing the complete flash contents. :-(I need to add a command to enable SAM-BA without erase or even better to send the flash or user RAM through the serial port from the application.

Re: wp34s - New features in the SVN repository

*Message #8 Posted by **Jeff O.** on 6 May 2011, 8:16 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> I was thinking of simply concatenating the wp34s.dat file of the emulator

with the flash image and restoring this. This may work or may not, depending on some details which I don't know yet.

Program development on the emulator would be a great alternative, as long as there is **some** way to get programs onto the calculator from the outside world. My operating paradigm might now look like this:

```
Step  Action
  1   wp34s user creates a nifty program on the wp34s emulator
  2   wp34s user backs up ram to "virtual" flash memory on the emulator
  3   wp34s user extracts wp34s.dat file of the emulator and
      concatenates with calculator bin file
  4   wp34s user downloads rom to his/her 20b/30b
  5   wp34s user executes restore command to move program from
      flash into ram
  6   wp34s user begins using nifty program on the real hardware
```

Of course programs could be shared among users this way also.

Speaking of concatenating to the flash image file, if you recall I mentioned that the new version would not download correctly for me using MySamba. I assumed this had something to do with the new version being only 126k instead of 128k. I tried padding the file out to 128k, but could not get it to work. Do you have any idea why MySamba does not like the shorter file or versions padded out to 128k? Is there some secret character that must come at the end?

Re: wp34s - New features in the SVN repository

*Message #9 Posted by **Marcus von Cube, Germany** on 6 May 2011, 9:49 a.m.,*
in response to message #8 by Jeff O.

See the new file flash.txt in the current release for what is possible now. :-)

Re: wp34s - New features in the SVN repository

*Message #10 Posted by **Jeff O.** on 6 May 2011, 1:24 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi Marcus,
Thanks for your continued work on this.

I read the flash.txt file and attempted to follow the instructions, but the uploaded dat file was 4k file. I did not figure I could tack a 4k file on to a 126k file to get a 128k file to download back into my other calculator, so I must be doing something wrong. I was able to get my calculator back in business, so no damage done.

edit - On my second try I was able to upload the state file from my 20b, concatenate to the v831 bin file, load that file onto my 30b, and restore the state file on the 30b. Not sure if I remember exactly how I did it though.

Edited: 6 May 2011, 2:56 p.m.

Re: wp34s - New features in the SVN repository

*Message #11 Posted by **Marcus von Cube, Germany** on 6 May 2011, 4:09 p.m.,*
in response to message #10 by Jeff O.

A state file is always a bit short of 2K. The 4K file must have been something different.

The command is:

copy /b calc.bin+wp34s.dat calc-2.dat

You then send calc-2.dat to your calculator.

Edited: 6 May 2011, 4:10 p.m.

Re: wp34s - New features in the SVN repository

*Message #12 Posted by **Jeff O.** on 6 May 2011, 8:38 p.m.,*
in response to message #11 by Marcus von Cube, Germany

The 4k file was a definite error on my part.

> Quote:
>
> The command is:
>
> copy /b calc.bin+wp34s.dat calc-2.dat

That sounds like some sort of linux mumbo jumbo with which I am totally unfamiliar :-)
I used a much more cumbersome process using a hex editor.

Re: wp34s - New features in the SVN repository

*Message #13 Posted by **Marcus von Cube, Germany** on 7 May 2011, 4:17 a.m.,*
in response to message #12 by Jeff O.

It's plain old DOS respectively Windows command prompt.

Re: wp34s - New features in the SVN repository

*Message #14 Posted by **Jeff O.** on 7 May 2011, 12:13 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Thanks, shows what I know (very little, obviously.)
Turns out I do remember basic DOS commands, the suggested procedure worked great. Thanks Marcus.

Edited: 9 May 2011, 7:46 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Apple advertises HP12C emulator on iPod

*Message #1 Posted by **Mike (Stgt)** on 5 May 2011, 8:05 a.m.*

On a site about 'Learning with iPod Touch and iPhone' they advertise the HP-12C as apps. On the detailed page about it all customer reviews warn that it crashes after a month or so. What is behind it? Is it the apps or the OS?

Ciao.....Mike

Re: Apple advertises HP12C emulator on iPod

*Message #2 Posted by **Keith Midson** on 5 May 2011, 4:54 p.m.,*
in response to message #1 by Mike (Stgt)

It's actually HP advertising on Apple. They developed the App. I've got it and it's never crashed. The 'crash' comments were a while ago - suspect that whatever problem was happening is now fixed. Cheers, Keith

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42 Android Tablet

*Message #1 Posted by **Bill (Smithville, NJ)** on 5 May 2011, 8:02 a.m.*

I just picked up the Acer A500 Android tablet. I've installed the Free42 on it and it works fine, but am having trouble getting the right skin setup.

I mostly use the tablet in a landscape mode and only occansionaly go to portrait mode. I would like for Free 42 to be in standard portrait mode (just like the real 42s). Is there a way to lock free 42 into the same portrait skin whether the tablet is in portrait or landscape mode.

Thanks,

Bill

Re: Free42 Android Tablet

*Message #2 Posted by **Thomas Okken** on 5 May 2011, 6:10 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Bill, you can lock the orientation if you have the latest version (1.4.69); there is an auto/portrait/landscape orientation selector in the Preferences screen.

- Thomas

Re: Free42 Android Tablet

*Message #3 Posted by **Thomas Okken** on 5 May 2011, 6:28 p.m.,*
in response to message #2 by Thomas Okken

N.B. In case I misunderstood your question, and you don't want to lock Free42 into portrait mode, but just want it to use the same skin in both portrait and landscape modes:
Free42 maintains separate skin selections for portrait and landscape modes. If you want to change both, go to portrait mode, use Menu -> More -> Skin: Other and select the skin you want, then go to landscape mode, and repeat the procedure.

- Thomas

Re: Free42 Android Tablet

*Message #4 Posted by **Bill (Smithville, NJ)** on 6 May 2011, 10:11 a.m.,*
in response to message #3 by Thomas Okken

Thomas,

Thanks for help. What I'm seeing is a squished layout when the tablet is in the landscape position. Please send me an email & I'll send you a couple of photos.

I'm thinking that the tablet is squishing/stretching the image when it roates from portrait to landscape. The width of the image in tablet portrait exactly equals the height of the image in landscape mode. It's like it rotates the image and then stretches/shrinks the image to fit te rotated photo frame.

Not sure if there's anyway to really fix this, since it mahe be a factor of my tablet.

Bill

Re: Free42 Android Tablet

*Message #5 Posted by **Thomas Okken** on 6 May 2011, 2:37 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

Free42 has only one built-in skin at the moment, a portrait skin designed for 320x480 screens. The skin is stretched to fill the available screen space exactly. This works out fine on most screens in portrait mode, as long as they have an aspect ratio that's reasonably close to 2:3, but when you switch to landscape mode, the skin will look awfully squashed, as you've noticed.

If you want to use Free42 in landscape mode, the best thing to do it to load one of the landscape skins from the Free42Skins.zip package. I like 42ct myself, but HP42CY and Voyager42 are also worth a look.

I think I'll add 42ct into the apk in the next release, or maybe something else in case a generous user donates a skin designed specifically for 480x320 screens.

- Thomas

Re: Free42 Android Tablet

*Message #6 Posted by **Bill (Smithville, NJ)** on 6 May 2011, 5:48 p.m.,*
in response to message #5 by Thomas Okken

I've tried all the skins in the skin package and agree that the landscape skins look great. But....

What I'm trying to achieve is a vertical HP-42s when the tablet in is in the landscape mode. I guess I would need a special "landscape" skin that looks like a vertical skin. I don't think one exists.

Thanks for your help.

Bill

Re: Free42 Android Tablet

*Message #7 Posted by **Marcus von Cube, Germany** on 6 May 2011, 5:56 p.m.,*
in response to message #6 by Bill (Smithville, NJ)

Wait for Thomas to implement an option not to stretch the bitmap. I've already asked for it.

Re: Free42 Android Tablet

*Message #8 Posted by **Thomas Okken** on 6 May 2011, 6:29 p.m.,*
in response to message #7 by Marcus von Cube, Germany

To support using portrait skins in landscape mode properly, there'd have to be additional options to specify how to place the skin on the screen (left-aligned? centered?) and how

to stretch it (don't stretch, maximize while maintaining aspect ratio, or stretch to fill?). Don't hold your breath for that just yet!

Meanwhile, modifying a portrait skin for use in landscape mode isn't particularly difficult. Open the bitmap in Paint, make it wider without stretching its contents, paint the added space black. Modify the layout file to reflect the larger size, and if you moved the position of the skin within the bitmap, modify the coordinates in the layout accordingly. A bit of a chore, but not difficult.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-67 battery question

*Message #1 Posted by **Csaba Tizedes (Hungary)** on 5 May 2011, 5:22 a.m.*

I have a "new" HP-67 without charger and dead battery pack. It is possible to insert new AA batteries to testing unit or this will be cause irreversible malfunction?

Re: HP-67 battery question

*Message #2 Posted by **John Robinson** on 5 May 2011, 6:56 a.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

I've certainly used 3 x alkaline AA batteries to power a 65 with no problem, so I am pretty certain the 67 will be fine too. The DC-DC converter inside the calculator should regulate the voltage(s) to the required level(s) anyway.

Cheers, John

Re: HP-67 battery question

*Message #3 Posted by **Csaba Tizedes (Hungary)** on 5 May 2011, 8:57 a.m.,*
in response to message #2 by John Robinson

Thank you! I'll try to something similar, I think! Maybe you're know the answer to my second problem: It is possible to use higher capacity accumulators than originally installed by HP with factory charger? What will cause when I'll use it?

Re: HP-67 battery question

*Message #4 Posted by **sylvandb** on 5 May 2011, 6:33 p.m.,*
in response to message #3 by Csaba Tizedes (Hungary)

> Quote:
>
> Maybe you're know the answer to my second problem: It is possible to use higher capacity accumulators than originally installed by HP with factory charger? What will cause when I'll use it?

I have 1100mAh NiMH cells in my 67. They charge just fine with the factory charger. Takes a long time tho.

I would not use alkaline. I would use NiCd or NiMH cells charged in an external charger before I used alkaline.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The Bug
*Message #1 Posted by **Michael de Estrada** on 4 May 2011, 10:02 p.m.*

The Bug

Re: The Bug
*Message #2 Posted by **Csaba Tizedes (Hungary)** on 5 May 2011, 5:13 a.m.,*
in response to message #1 by Michael de Estrada

Just guessing: are you kidding, and this is only FIX 0 mode? ;)

Re: The Bug
*Message #3 Posted by **Csaba Tizedes (Hungary)** on 5 May 2011, 5:25 a.m.,*
in response to message #2 by Csaba Tizedes (Hungary)

OMG I just see the result was appear after LN(), sorry! This was my fault! :(((

Re: The Bug
*Message #4 Posted by **Katie Wasserman** on 5 May 2011, 9:24 a.m.,*
in response to message #1 by Michael de Estrada

Riveting entertainment!

Re: The Bug
*Message #5 Posted by **Michael Meyer** on 5 May 2011, 1:45 p.m.,*
in response to message #4 by Katie Wasserman

Oh, great. Now that the "bug" has gone "viral", we've all been exposed.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Voyager Series

*Message #1 Posted by **aj04062** on 4 May 2011, 9:59 p.m.*

Can anyone tell me what year the changeover started to happen in the internal designs (1-2 pc boards)

Re: Voyager Series

*Message #2 Posted by **exschr** on 5 May 2011, 11:20 a.m.,*
in response to message #1 by aj04062

I can only say for sure that it changed between 2337A and 2419A!
But I can not narrow it further down.

My investigations so far are like this:

LCDType	Bat.contact	PCB	confirmed Ser-Nr
LCDsepBoard	tin/silver	two separate	2326A,2337A
LCDfullMuPx	spring/gold	onePCB	2419A,2438A,2439A,2509A,2521A,2538A,2623B,2626A
LCDhalfMuPx	spring/gold	onePCB	3437S,3521S

The LCD changed to half as much Multiplex (MuPx) connections somewhere after 2626A and before 3437S.

These numbers are from my samples (which I can verify).
Most probably it depends on the manufacturing location and isn't consistent for different locations.
Hope that this fragment adds to the truth out there ;-)

Re: Voyager Series

*Message #3 Posted by **aj04062** on 5 May 2011, 12:45 p.m.,*
in response to message #2 by exschr

Thank You!

Well the HP-10C that I just bought is 2305A, so my guess is it is 2 pc (have not received yet). That's good as it has a dent in the bezel. Hopefully I can straighten out easier than the 2 pc design.

Edited: 5 May 2011, 10:18 p.m.

Re: Voyager Series

*Message #4 Posted by **Randy** on 5 May 2011, 9:46 p.m.,*
in response to message #1 by aj04062

I doubt you can narrow it any further as it varies among the the different models. The overall range for the

family is somewhere between 3rd Q 83 to 2nd Q 84 which is reflected in exschr's data.

FWIW, I have never seen a one board 10C and I do not believe they where ever built. Supporting this theory is the museum listed Introduction-Discontinuation of 1982-1984. So, it would stand to reason it was discontinued during the design change-over to the single board.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41CX - Strange turning-on behaviour

*Message #1 Posted by **Frido Bohn** on 4 May 2011, 3:45 a.m.*

Since a few days I have experienced a strange behaviour of my HP41CX (halfnut version with rounded display corners):
When it is turned off, it can be turned on by pressing any key. The ON key works accuratelly. But it happened that the calculator was turned on while in my bag and the alkalines have drained. Supposedly, because some key has been pressed by random movement as the HP41 was in its softcase.
The reset mechanism does not work, as pressing CLX and ON simultaneously turns the calculator on but does not lead to a MEMORY LOST.
Has anyone an explanation for this phenomenon?

Any hint is greatly appreciated.
Thanks

Re: HP41CX - Strange turning-on behaviour

*Message #2 Posted by **dinamarco** on 4 May 2011, 7:49 a.m.,*
in response to message #1 by Frido Bohn

These happened with a few month ago. I just changed the batteries and no matter... Never more... I can only think, in my case, it was the batteries. Regards...

Re: HP41CX - Strange turning-on behaviour

*Message #3 Posted by **Norman Dziedzic** on 4 May 2011, 9:21 a.m.,*
in response to message #1 by Frido Bohn

I seem to recall there is a way to make a program run as soon as the calculator turns on. I believe we used this feature to terrorize each other In college to show an erroneous Memory Lost message on each others calculators.

Is it possible that there is something running that starts at power up or that mimics power off with a blank screen? If the calculator is not really off, that could explain the battery drain.

Edited: 4 May 2011, 9:22 a.m.

Re: HP41CX - Strange turning-on behaviour

*Message #4 Posted by **Geoff Quickfall** on 4 May 2011, 2:20 p.m.,*
in response to message #3 by Norman Dziedzic

Hello;

Procedure ONE

```
1.  ensure the calculator is off
2.  hold the CLX key first, then press the ON key while holding
    the CLX key.
3.  release keys.
4.  should have MEMORY LOST displayed.
```

unsuccesful?

Procedure TWO

```
1.  remove batteries
2.  hold the CLX key first, then press the ON key.
3.  install batteries and repeat procedure ONE.
```

Unsuccesful?

Procedure THREE

```
1.  remove batteries and short the far left to the far right
    battery terminals.
2.  install batteries and repeat procedure ONE.
```

Unsuccesful?

Procedure FOUR

```
1.  remove batteries and leave alone for 24 to 48 hours or longer!
```

The problem is, the status of the calculator became corrupted and since "ON" is an assignable function, all the keys may have been assigned the "ON" function. Purely speculation! In any event the processes above are meant to initiate a 'clean state' HP 41CX. The continued buggy state arises when the continous memory function (capacitor) causes the calc to retain the corrupted state.

Once you have finished I recomend and use a "LO" program assigned to the shifted R/S (VIEW) key. The code is as follows:

```
LBL 'LO'
SF 11
PSE
OFF
XEQ 'LO'
```

When you are finished with the calc turn it off with the LO function assigned to the shifted R/S (VIEW) key. This has the affect that when the ON key is accidentally pressed while residing in your bag, the calc turns on and executes (SF 11) the program residing in the active memory (LO); which simply commands the calc to immediately turn off.

Of course the next step is to terminate the LO program to gain access to the calc. This is done by turning on the calc and immediately press the R/S key. This haults the LO program midstream and allows you to manually exit the program and run whatever you want.

Cheers, Geoff

There is one more reset method but use with your own discretion. It has worked for me but as a last resort on an unusable machine that refused to reset using the above procedures.

```
1.  remove batteries and install them in reverse polarity.
2.  press and hold the ON key for a few seconds.
3.  release and remove the batteries and install correctly.
4.  repeat procedure ONE.
```

Edited: 4 May 2011, 2:25 p.m.

Re: HP41CX - Strange turning-on behaviour

*Message #5 Posted by **Frido Bohn** on 4 May 2011, 3:15 p.m.,*
in response to message #4 by Geoff Quickfall

Hi Geoff,

> Quote:
>
> There is one more reset method but use with your own discretion. It has worked for me but as a last resort on an unusable machine that refused to reset using the above procedures.
>
> ```
> 1.  remove batteries and install them in reverse polarity.
> 2.  press and hold the ON key for a few seconds.
> 3.  release and remove the batteries and install correctly.
> 4.  repeat procedure ONE.
> ```

this very last method worked for me excellently. I did not have the patience to wait for 48 hours to possibly experience that nothing had become better thereafter.

The calculator offered some more very weird behaviour, as for example

```
- the clock only worked for one second and then freezed.
- the reset condition MEMORY LOST could only be obtained by pressing ENTER and CLX
together while the calc was off.
- although I managed to get a MEMORY LOST the ill state persisted.
```

Thank you for the remedy!
And thank you all for your prompt replies.

Frido

Re: HP41CX - Strange turning-on behaviour

*Message #6 Posted by **Thomas Okken** on 4 May 2011, 3:40 p.m.,*
in response to message #4 by Geoff Quickfall

> Quote:
>
> The problem is, the status of the calculator became corrupted and since "ON" is an assignable function, all the keys may have been assigned the "ON" function. Purely speculation!

That wouldn't work. The ON function doesn't turn the calculator on, it just disables automatic power-off. Also, when the calculator is off, it doesn't scan the keyboard, it only responds to the ON key.

Thomas is correct: Re: HP41CX - Strange turning-on behaviour

*Message #7 Posted by **Geoff Quickfall** on 4 May 2011, 4:15 p.m.,*
in response to message #6 by Thomas Okken

, it has been awhile since I have played with the 41. The ON function cannot turn the calc on when assigned.

Thanks Thomas!

Geoff

Again speculating, could it be that the calc was not turning off? In any case, try the above mentioned resets and let us know what happens.

I remember being tricked by a fellow student that accessed my calc and using alpha, the sf 11 trick and a short program, had the calc never appear to turn on.

Edited: 4 May 2011, 4:19 p.m.

Re: Thomas is correct: Re: HP41CX - Strange turning-on behaviour

*Message #8 Posted by **Thomas Okken** on 4 May 2011, 4:34 p.m.,*
in response to message #7 by Geoff Quickfall

Since Frido was saying that pressing any key appeared to turn the calculator on, that makes me think that the calculator was never actually turned off. I don't think a malicious program can do that, though -- IIRC, it is not possible to override the behavior of the ON key. So, either his calculator is in a bad state, which should go away after a hard reset, or there is a hardware problem.

Regarding malicious use of flag 11 (i.e. the old LBL 00 SF 11 OFF GTO 00 joke): you can override flag eleven by holding down R/S while turning the calculator on. Assuming it was really off, that is. :-)

- Thomas

Re: Thomas is correct: Re: HP41CX - Strange turning-on behaviour

*Message #9 Posted by **geoff quickfall** on 4 May 2011, 6:05 p.m.,*
in response to message #8 by Thomas Okken

Yes, I agree, a bad state. Was the calc actually off or is it always on and awakened by a key press.

"holding down R/S while turning the calculator on"

Thats the procedure used to stop the LO program from running.

It is the "OFF" function that is key assignable, not the "ON" function. And to confuse things, assigning OFF to R/S key, then running the LO program and trying to interrupt it with the R/S key causes the calc to turn off.

Yes, deviousness from fellow students, especially to the novice!

;-)

Didn't synthetics allow the on key to be assignable or maybe that was a PPC ROM or CCD ROM function?

Edited: 4 May 2011, 6:07 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12C mention in WSJ

*Message #1 Posted by **Scott Newell** on 3 May 2011, 7:33 p.m.*

Wall Street's Cult Calculator Turns 30

Re: 12C mention in WSJ

*Message #2 Posted by **gene wright** on 3 May 2011, 7:48 p.m.,*
in response to message #1 by Scott Newell

Yep, Richard Nelson gets quoted, but I don't? :-) Ha!

Whats a 12C and just WHO IS Gene Wright????

*Message #3 Posted by **Geoff Quickfall** on 3 May 2011, 8:41 p.m.,*
in response to message #2 by gene wright

;-)

Re: Whats a 12C and just WHO IS Gene Wright????

*Message #4 Posted by **gene wright** on 3 May 2011, 10:37 p.m.,*
in response to message #3 by Geoff Quickfall

No one will ever know now! lol :-)

Re: Whats a 12C and just WHO IS Gene Wright????

*Message #5 Posted by **db (martinez, ca.)** on 4 May 2011, 2:11 a.m.,*
in response to message #4 by gene wright

Gene; Maybe they'll mention you for the 10B's 30th anniversary article, or the 35s. Hang in there. We're all pulling for you.

With HP12C I associate Tony Hutchins...

*Message #6 Posted by **Mike (Stgt)** on 4 May 2011, 10:33 a.m.,*
in response to message #3 by Geoff Quickfall

but Gene Wright - ?? - or Richard Nelson - no idea, sorry. ;-)

Ciao.....Mike

Re: With HP12C I associate Tony Hutchins...

*Message #7 Posted by **gene wright** on 4 May 2011, 10:57 a.m.,*
in response to message #6 by Mike (Stgt)

Oh, I associate Tony and Katie, for sure. :-)

Re: With HP12C I associate Tony Hutchins...

*Message #8 Posted by **Katie Wasserman** on 4 May 2011, 11:54 a.m.,*
in response to message #7 by gene wright

Tony's the real 12C guru, I'm just a want-to-be.

Re: With HP12C I associate Tony Hutchins...

*Message #9 Posted by **Mike (Stgt)** on 4 May 2011, 12:20 p.m.,*
in response to message #7 by gene wright

Please, I want everybody to know, that my intention was _only_ to mention Tony, without any ranking. And the rest (Who is Gene? Richard??) was only a joke.

Ciao.....Mike

Re: 12C mention in WSJ

*Message #10 Posted by **Pal G.** on 4 May 2011, 9:20 p.m.,*
in response to message #1 by Scott Newell

There is a 12C, 30yr Anniv. video at the WSJ as well:

digits-wall-street-beloved-thirty-year-old-toy

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Original UK Purchase Price

*Message #1 Posted by **SteveH** on 3 May 2011, 2:59 p.m.*

I'm just wondering what the original price of an HP-15C purchased in the UK in 1983 might have been.

I suspect it was a major investment (my father made in me) at the time and curious how it translates to 2011 prices.

Re: HP-15C Original UK Purchase Price

*Message #2 Posted by **hugh steers** on 3 May 2011, 3:43 p.m.,*
in response to message #1 by SteveH

from a communication on the same topic:

```
here are the 1 February 1983 UK recommended retail prices (including 15% VAT):


HP32E £58.18
HP10C £62.65
HP11C £80.56
HP15C £107.41
HP16C £107.41
HP33C £98.45
HP34C £134.26
HP12C £107.41
HP37E £80.56
HP38C £134.26
HP97A £633.77
HP41C £164.78
HP41CV £232.38
41 memory module £22.20
41 quad module/ time module/ extended functions module £66.60
41 card reader £164.78
HP7470A plotter (HPIL) £1316.75
```

Re: HP-15C Original UK Purchase Price

*Message #3 Posted by **SteveH** on 3 May 2011, 4:08 p.m.,*
in response to message #2 by hugh steers

Many thanks.

Steve

Re: HP-15C Original UK Purchase Price

*Message #4 Posted by **Gerson W. Barbosa** on 3 May 2011, 6:50 p.m.,*
in response to message #2 by hugh steers

> Quote:
>
> ```
> HP15C £107.41
> ```

which today is equivalent to at least £266.00, according to MeasuringWorth.com.

Re: HP-15C Original UK Purchase Price

*Message #5 Posted by **exschr** on 3 May 2011, 4:58 p.m.,*
in response to message #1 by SteveH

> Quote:
>
> I suspect it was a major investment (my father made in me) at the time and curious how it translates to 2011 prices.

IMHO, the investment was rather formativ than material. The early exposition to RPN shaped my expectation of how well designed engineering work should feel like in the hands of the user/consumer.

That's the "real value" of this investment.

Re: HP-15C Original UK Purchase Price

*Message #6 Posted by **Walter B** on 4 May 2011, 1:57 a.m.,*
in response to message #5 by exschr

I fullheartedly concur d:-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Did anyone here buy this? Seems a bit high.

*Message #1 Posted by **Michael de Estrada** on 3 May 2011, 1:08 p.m.*

A recent TAS auction for an HP-92 sold for $1345. Although this vintage calc is somewhat rare, it still seems high to me, especially considering that it lacked the box. I have a complete set and paid less than 1/4 that much for it. It's interesting how much variation there is in prices paid for certain models at different times.

Edited: 3 May 2011, 6:56 p.m. after one or more responses were posted

Re: Did anyone here buy this? Seems a bit high.

*Message #2 Posted by **Juergen Keller** on 3 May 2011, 1:55 p.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> It's interesting how much variation there is in prices paid for certain models at different times.

When you look into the bid history you see a typical situation: a bid war between two bidders. If you have enough money that's no problem; otherwise it's better to bid in the last seconds and enter your maximum bid once to avoid any expensive temptation ...

Re: Did anyone here buy this? Seems a bit high.

*Message #3 Posted by **Keith Midson** on 4 May 2011, 3:01 a.m.,*
in response to message #2 by Juergen Keller

I was actually going to have a bid on this until I saw the prices go silly. The 92 is on my wish list. Even for a bidding war this was high. Cheers, Keith

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Collection Data

*Message #1 Posted by **SteveH** on 3 May 2011, 6:19 a.m.*

I was thinking of throwing together a database to document my little collection of calculators. I've come up with a list of attributes I think are worth recording:

- Model or Part no.
- Serial number
- Date of manufacture (from serial no.)
- Place of manufacture (from serial no.)
- Thumbnail photo
- Purchase price
- Purchase date
- Condition
- Notes

Anything else worth including?

Re: Collection Data

*Message #2 Posted by **Katie Wasserman** on 3 May 2011, 9:46 a.m.,*
in response to message #1 by SteveH

I've found that recording information about their power source(s) is useful too -- the number and type of batteries and maybe information on their external AC adapter as well. This is particularly useful for rechargeable calculators because it's often difficult to tell what was originally inside the machine if the battery pack has been removed for avoid leaking issues.

-Katie

Re: Collection Data

*Message #3 Posted by **Bob Patton** on 3 May 2011, 9:52 a.m.,*
in response to message #1 by SteveH

You might consider source. I use New:, Gift:, Flea marker:, Junk store:, ..., etc. where specific information can follow the colon if desired.

Re: Collection Data

*Message #4 Posted by **Didier Lachieze** on 3 May 2011, 10:52 a.m.,*
in response to message #1 by SteveH

I would also add the serie (Pioneer, Voyager ...)

Re: Collection Data

*Message #5 Posted by **SteveH** on 3 May 2011, 4:09 p.m.,*
in response to message #4 by Didier Lachieze

These are all very good points. Thanks.

Re: Collection Data

*Message #6 Posted by **Allen** on 3 May 2011, 7:28 p.m.,*
in response to message #1 by SteveH

I'd include in a list of accessories included and a few pictures of each. Front, back, etc... something more than a thumbnail. This could double for insurance purposes.

One useful thing I've found (related to insurance and appraisals) is a list of "comprable sales" for replacement value. I have ebay listings printed out for several years showing "replacement value" on many mundane and rare calculators. This can be a challenge due to accessories and condition, but it's worth the work.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Atherton HP-85

*Message #1 Posted by **David Ramsey** on 3 May 2011, 12:23 a.m.*

I recently purchased a refurbished HP-85 from Larry Atherton. Here's what it looks like:

To say it's "spotless" is an understatement. Larry refinishes the case with epoxy paint, replaces the CRT, cleans the interior, and upgrades the cassette drive.

Even the bottom looks perfect. The rubber feet might not be precisely the right size, but they're brand new.

Included with the computer were 4 DC100 tapes: two with the HP Standard Pac and Math Pac, and two blanks.

The interior of the computer looks brand new. There is no dirt or dust anywhere. It even *smells* new.

Even the circuit boards appear to have been washed.

The printer belts are replaced, and the tape drive rebuilt as shown here:

The screen is razor sharp, especially considering it's a CRT and we're all used to flat panels now:

Graphics look nice, too, within the limited resolution available:

And the printer is fast, silent, and otherwise perfect:

Performance-wise: well, let's just say we've come a long way. Here's a simple BASIC program to find all the 3-digit numbers equal to the sum of the cubes of their digits:

```
10 OPTION BASE 0 @ DIM A(10)
20 FOR X = 0 TO 9 @ A(X) = X*X*X @ NEXT X
```

```
30 X = 100
40 FOR H = 1 TO 9 @ FOR T = 0 TO 9 @ FOR 0 = 0 TO 9
50 IF X = A(H) + A(T) + A(O) THEN DISP X
60 NEXT X
70 END
```

Bracketing this code with TIME statements reveals that it takes the 85 11.757 seconds to check the numbers 100 to 999. A similar algorithm in C executes in less than a millisecond on my desktop system.

Those sine curves in the graphics images? Just drawing a straight line on the screen from one corner to the other takes almost a second.

Still, there's something nostalgic and attractive about this computer. I love it.

Re: Atherton HP-85

*Message #2 Posted by **Marcus von Cube, Germany** on 3 May 2011, 2:31 a.m.,*
in response to message #1 by David Ramsey

Nice pics!

The code looks strange. The NEXT X in line 60 doesn't match any FOR statement and the three FOR statements in line 40 lack a matching NEXT.

How does DIM work in line 10? M$ BASIC would create 11 elements ranging from 0 to 10. BASIC is not C with respect to arrays.

Re: Atherton HP-85

*Message #3 Posted by **David Ramsey** on 3 May 2011, 7:57 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Nice pics!
>
> The code looks strange. The NEXT X in line 60 doesn't match any FOR statement and the three FOR statements in line 40 lack a matching NEXT.
>
> How does DIM work in line 10? M$ BASIC would create 11 elements ranging from 0 to 10. BASIC is not C with respect to arrays.

Serves me right trying to type the code from memory. Here's the actual listing:

```
10 CLEAR
20 LET S=TIME
30 DISP "This is the Threez program"
40 DIM T1(10)
50 FOR X=0 TO 9 @ T1(X) = X*X*X @ NEXT X
60 C=100
70 FOR H=1 TO 9 @ FOR T=0 TO 9 @ FOR O=0 TO 9
80 IF T1(H) + T1(T) + T1(O) = C THEN DISP C
90 C=C+1
100 NEXT O @ NEXT T @ NEXT H
```

110 DISP "Program completed in ";TIME-S;" seconds."
120 END

You're right, the DIM does allocate 11 elements, but the extra element at the end isn't used and doesn't affect the program. Hey, it's been over 20 years since I've done any BASIC!

Re: Atherton HP-85

*Message #4 Posted by **Marcus von Cube, Germany** on 4 May 2011, 1:58 a.m.,*
in response to message #3 by David Ramsey

> Quote:
>
> Hey, it's been over 20 years since I've done any BASIC!

BASIC was my first programming language, even before I encountered programmable calculators. I started at the age of 16 (now some 35 years ago) on a Wang, located in a friend's school. It was a half hour ride to get there. :-)

I could never afford any HP equipment until recently. Funnily, my first encounter with a scientific calculator was an HP 35 which the very same friend lent me for a day. This triggers fond memories.

Re: Atherton HP-85

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 3 May 2011, 3:50 a.m.,*
in response to message #1 by David Ramsey

Hi David
Congratulations! It is absolutly perfect looking and working. I also have a HP-85 working but not at all in the same condition as yours. But you're right: It's a wonderfull machine.
Cheers!

Johnny

Re: Atherton HP-85

*Message #6 Posted by **Geoff Quickfall** on 3 May 2011, 11:37 a.m.,*
in response to message #1 by David Ramsey

Absolutely BEAUTIFUL!

Reminds me that I have to get my 9825A tape drive running!

Cheers and congrats, Geoff

Re: Atherton HP-85

*Message #7 Posted by **BobVA** on 3 May 2011, 7:18 p.m.,*
in response to message #1 by David Ramsey

Fantastic! Thanks very much for posting the photos.

(Let's see. If I stopped using the stove in my apartment I could probably put one there....)

Re: Atherton HP-85

*Message #8 Posted by **John Robinson** on 4 May 2011, 2:28 a.m.,*
in response to message #1 by David Ramsey

Now that is a restoration !!! very impressive. I wonder where he sources new CRTs from ???

Cheers, John

Re: Atherton HP-85

*Message #9 Posted by **Philippe Lasnier** on 4 May 2011, 8:30 a.m.,*
in response to message #1 by David Ramsey

Ah, so it was you, David, who bought it ;-)

It had been on my watch list for about a month or so and I had been dithering about whether to buy it or not (Larry has just listed another one for sale, so the dithering continues).

I've got two HP-85, one working, one with self-test error, both in need of new printer belts and tape drive overhaul, but I'd really want to have a brand "new" one.

Larry's ones look fantastic (just like the rest of the stuff he refurbishes does), but in my case, being in the UK, the transport cost is large, and the custom charges are horrendous! This makes it quite a decision to take.

Oh well <sigh>, maybe later.

Re: Atherton HP-85

*Message #10 Posted by **Jose Gonzalez Divasson** on 3 May 2011, 5:15 p.m.,*
in response to message #1 by David Ramsey

Atherton provided me with the QIC tape and replacement parts for the printer. Excellent service!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Instructions from HP for disassembling calculators

*Message #1 Posted by **Eric Smith** on 2 May 2011, 10:25 p.m.*

I was searching for something else entirely, and happened across this:
http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/disassemblycalculator.html

Re: Instructions from HP for disassembling calculators

*Message #2 Posted by **Katie Wasserman** on 3 May 2011, 1:07 a.m.,*
in response to message #1 by Eric Smith

Pretty complicated just for the purpose of recycling.

Re: Instructions from HP for disassembling calculators

*Message #3 Posted by **hpnut** on 3 May 2011, 1:31 a.m.,*
in response to message #1 by Eric Smith

looks like they are limited circulation, they have "HP Restricted" at the bottom page.

Re: Instructions from HP for disassembling calculators

*Message #4 Posted by **Eric Smith** on 3 May 2011, 1:43 a.m.,*
in response to message #3 by hpnut

They can't really be "limited circulation" if they're posted on HP's web site.

Re: Instructions from HP for disassembling calculators

*Message #5 Posted by **Glenn Dowdy** on 3 May 2011, 4:26 p.m.,*
in response to message #4 by Eric Smith

Thanks for the heads-up. The content is in fact not HP-Restricted, and we'll be amending the documents to reflect that.

Re: Instructions from HP for disassembling calculators

*Message #6 Posted by **Geoff Quickfall** on 3 May 2011, 2:10 a.m.,*
in response to message #1 by Eric Smith

I guess, for the book, I should include in the 'tools appendix': a hammer and pliers! Or just get permission to include these instructions!

;-)

I find the smaller the calculator the larger the tools required to open it:

all of which helped open this watch:

Edited: 3 May 2011, 2:24 a.m.

Re: Instructions from HP for disassembling calculators

*Message #7 Posted by **Jim Yohe** on 3 May 2011, 3:28 a.m.,*
in response to message #6 by Geoff Quickfall

Nice Geoff. Say ... I have all those tools in the garage. Maybe calculator repair won't be so hard after all. ;-)

Re: Instructions from HP for disassembling calculators

*Message #8 Posted by **Raymond Del Tondo** on 3 May 2011, 4:58 a.m.,*
in response to message #6 by Geoff Quickfall

Best of all is the classic 1701 (even if it has different labels) !

Re: Instructions from HP for disassembling calculators

*Message #9 Posted by **BruceH** on 3 May 2011, 8:56 a.m.,*
in response to message #6 by Geoff Quickfall

Hey Geoff, your attitude to personal safety is pretty poor -- there is no safety equipment shown at all.

You should always wear rigger-gloves, steel-toecap boots and a welding mask when undertaking any sort of calculator repair.

SOT:Instructions from HP for disassembling calculators

*Message #10 Posted by **exschr** on 3 May 2011, 9:59 a.m.,*
in response to message #9 by BruceH

> Quote:
>
> Hey Geoff, your attitude to personal safety is pretty poor -- there is no safety equipment shown at all.

Something like this should be fine:

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Collection is online 2

*Message #1 Posted by **Keith Midson** on 2 May 2011, 8:32 p.m.*

Hi all. I posted a message a few months back with a link to my collection posted on Flickr. Since then i've added many more photos and arranged in sets. See: http://www.flickr.com/photos/60529780@N02/
I've still got much more of the collection to upload, but most of the 'interesting' or rare items are up there now. Enjoy! Cheers, Keith

Re: Collection is online 2

*Message #2 Posted by **Eddie W. Shore** on 2 May 2011, 11:07 p.m.,*
in response to message #1 by Keith Midson

What a treat for the eyes. :). Thanks for sharing!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 30b programs Interest Rate conversions Negative Periods per Year and Fractional Periods per year

*Message #1 Posted by **gene wright** on 2 May 2011, 2:53 p.m.*

These programs allow the use of negative values for "Periods per year" when converting interest rates. They also allow the use of fractional periods per year. End of period compounding assumed.

First program: Computing the effective rate. Inputs: Nominal rate, =, number of periods.

```
/
Ans
) Swap
1
+
) Swap
Y^X
1
-
Shift+Stop
```

When run from the program catalog, key 0.1224 = 2 +/- = =

Result shown is 0.1346

2nd program: Effective rate to nominal rate. Inputs: Effective rate, =, number of periods.

```
=
=
shift+UP
1
+
) Swap
1/X
Y^X
1
-
*
Shift+STOP
```

Inputs: 0.1346 = 2 +/- = =

Outputs 0.1224

Inputs: 0.1346 = 360 = 210 / =

Outputs: 0.1310

Edited: 2 May 2011, 3:15 p.m.

Re: HP 30b programs Interest Rate conversions Negative Periods per Year and Fractional Periods per year

*Message #2 Posted by **Bart (UK)** on 3 May 2011, 11:25 a.m.,*
in response to message #1 by gene wright

Hi Gene,

Are you going to put it in the articles area? That will make it easier to find in future :). Thanks

edit: I see it's there now, thanks.

Edited: 4 May 2011, 7:07 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s Adding decimals to fractions

*Message #1 Posted by **Norman Dziedzic** on 2 May 2011, 10:00 a.m.*

On the 32sii and 35s I can be in fraction mode and type something like 0.125 + Which will add 1/8 to the number in X.

On the wp34s the same keystrokes don't add anything. Entering an integer works but it seems that as soon as I type the first decimal separator, it wants to see the second one as well.

Re: wp34s Adding decimals to fractions

*Message #2 Posted by **Walter B** on 2 May 2011, 11:00 a.m.,*
in response to message #1 by Norman Dziedzic

Hi Norman,

Thanks, you found another bug!

Walter

Re: wp34s Adding decimals to fractions

*Message #3 Posted by **Paul Dale** on 2 May 2011, 5:43 p.m.,*
in response to message #1 by Norman Dziedzic

You are in fraction mode. 0.125 is 0 / 125 which is plain zero.

What would you expect if you added 1.125 ? Or 1.1.125 ?

Where does fraction mode end and real mode being is the question here.

- Pauli

Re: wp34s Adding decimals to fractions

*Message #4 Posted by **gene wright** on 2 May 2011, 6:17 p.m.,*
in response to message #3 by Paul Dale

Hey Pauli.

I think the assumption is that the 32sII paradigm for fractions is "the way things should work".

Re: wp34s Adding decimals to fractions

*Message #5 Posted by **Paul Dale** on 2 May 2011, 7:15 p.m.,*
in response to message #4 by gene wright

Even if it is inconsistent?

I don't have a 32sII to hand so I can't experiment at the moment. However if 1.2 is a half, 0.2 should be 0 IMHO.

The problem might be that we're not changing the display during entry in fraction mode so it isn't clear enough what is happening.

- Pauli

Re: wp34s Adding decimals to fractions

*Message #6 Posted by **Norman Dziedzic** on 2 May 2011, 7:21 p.m.,*
in response to message #3 by Paul Dale

> Quote:
>
> You are in fraction mode. 0.125 is 0 / 125 which is plain zero.
>
> What would you expect if you added 1.125 ? Or 1.1.125 ?
>
> Where does fraction mode end and real mode being is the question here.
>
> - Pauli

Gene is right. I was going by the 32sii standard.

To enter 0/125 on the 32sii you would enter . 0 . 125

The operative part of enter a fraction is that decimal occurs twice in the entry. With only a single . the entry is considered a decimal entry. The 32sii gives the example of entering 5/8 as either . 5 . 8 OR 5 . . 8

Edited: 2 May 2011, 8:15 p.m. after one or more responses were posted

Re: wp34s Adding decimals to fractions

*Message #7 Posted by **Paul Dale** on 2 May 2011, 8:14 p.m.,*
in response to message #6 by Norman Dziedzic

I understand the difference now. Shows how often I use fraction mode on the 32sII :-)

- Pauli

Re: wp34s Adding decimals to fractions

*Message #8 Posted by **Walter B** on 2 May 2011, 11:47 p.m.,*
in response to message #6 by Norman Dziedzic

> Quote:
>
> With only a single . the entry is considered a decimal entry. The 32sii gives the example of entering 5/8 as either . 5 . 8 OR 5 . . 8

That's inconsistent. By plain and simple logic, 5/8 shall be entered as .5.8 - 5..8 enters 5 0/8 !

Re: wp34s Adding decimals to fractions

*Message #9 Posted by **Norman Dziedzic** on 3 May 2011, 12:56 a.m.,*
in response to message #8 by Walter B

> Quote:
>
> That's inconsistent. By plain and simple logic, 5/8 shall be entered as .5.8 - 5..8 enters 5 0/8 !

For better or worse, it is consistent with the 32sII manual ;-) Perhaps the developers of the 32sII realized that there is virtually no need to ever key in a fraction with numerator of 0.

HOWEVER, this input method which I'm choosing to call a *short cut* does not work on the 35s. (Yes I know it is technically not a short cut since it is the same number of keystrokes as . 5 . 8 but it is easier to key in because of the repeated .).

Working on a my 32sII with FDISP on.

```
Keypress   Display
--------   -------
5          5_
.          5._
.          5/_
8          5/8_
<ENTER>    0 5/8
```

I guess the major question is whether or not the 32SII should be followed exactly or not. If you want to duplicate the 32SII then I highly recommend reading chapter 5 of the 32SII manual which is on the Museum DVDs.

Re: wp34s Adding decimals to fractions

*Message #10 Posted by **Walter B** on 3 May 2011, 4:48 a.m.,*
in response to message #9 by Norman Dziedzic

We don't follow the 32SII exactly - you will never see anything like 0 5/8 on the wp34s I hope ;-)

When PROFRC is set, the logic behind our input is:

```
.5.8 ENTER results in 5/8
.58 ENTER shall result in 29/50
5.8 ENTER shall result in 5 4/5
5.8.9 ENTER results in 5 8/9
5.9.8 ENTER results in 6 1/8
5..8 ENTER results in 5 0/1
```

with the 0/1 indicating you're in fraction mode. One may discuss whether the 0/1 is necessary or should be discarded, since the missing decimal mark may be sufficient evidence.

Walter

Re: wp34s Adding decimals to fractions

*Message #11 Posted by **Marcus von Cube, Germany** on 3 May 2011, 10:43 a.m.,*
in response to message #10 by Walter B

The decimal mark is missing in most cases, so we need some indication.

Re: wp34s Adding decimals to fractions (now in)

*Message #12 Posted by **Walter B** on 6 May 2011, 2:25 a.m.,*
in response to message #10 by Walter B

Hi Norman, all,

FYI, the latest build (820) handles all such inputs and operations properly, as far as I checked. Enjoy - and continue testing :-) !

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 Programming

*Message #1 Posted by **SteveH** on 2 May 2011, 7:35 a.m.*

I've always done my programming on either an HP-42 or HP-1x series calculator an am slightly stuch trying to port a simple program to my HP-41CX.

How does one enter a conditional test such as X<Y? where it's not one that's accessible from the keyboard? I can see it in the catalog and could enter it in ALPHA mode but need the '<' symbol.

I suspect I'm missing something really simple.

Re: HP-41 Programming

*Message #2 Posted by **Paul Dale** on 2 May 2011, 7:42 a.m.,*
in response to message #1 by SteveH

> Quote:
>
> How does one enter a conditional test such as X<Y? where it's not one that's accessible from the keyboard? I can see it in the catalog and could enter it in ALPHA mode but need the '<' symbol.

Look at the plaque on the back of the calculator to see the characters associated with shifted alpha keys. '<' is on COS. Then enter the command via XEQ ALPHA.

- Pauli

Re: HP-41 Programming

*Message #3 Posted by **SteveH** on 2 May 2011, 7:48 a.m.,*
in response to message #2 by Paul Dale

I was missing something really simple then.

Cheers.

Re: HP-41 Programming

*Message #4 Posted by **Geoff Quickfall** on 2 May 2011, 1:29 p.m.,*
in response to message #1 by SteveH

I remember picking up my first HP41C for university in 1980. Left the manuals in the shrink wrap and started pounding away.

Found I could not create the commands using alpha as I was not used to a catalog of commands nor the requirement to create them!

I undid the shrink wrap ;-)

Cheers Geoff

Re: HP-41 Programming

*Message #5 Posted by **Namir** on 2 May 2011, 1:41 p.m.,*
in response to message #4 by Geoff Quickfall

Geoff,

The announcement of the HP-41C made it in USA Today in July 1979. I remember being in southern CA and looking at the yellow pages to find the nearest calculator dealer--EduCalc (surprise surprise). I drove there and asked about the 41C. They said they did ot have any yet, but they had the manuals. I don't remember if I bought one or borrowed it (with a deposit). I came back to our summer apartment and sat down reading the manual and becoming amazed at the new features of the 41C. Reading the manual made it very easy to work the machine which I obtained early September in Ann Arbor, MI, where I was studying.

Namir

Edited: 2 May 2011, 1:42 p.m.

Re: HP-41 Programming

*Message #6 Posted by **Eddie W. Shore** on 2 May 2011, 8:39 p.m.,*
in response to message #5 by Namir

How cool that one could borrow the manual of an upcoming product back then.

Re: HP-41 Programming

*Message #7 Posted by **exschr** on 3 May 2011, 1:46 a.m.,*
in response to message #6 by Eddie W. Shore

Today that would prevent buying stuff that's not well engineered.
at least for the guy who is a "manual reader" (like me ;-)

Re: HP-41 Programming

*Message #8 Posted by **geoff quickfall** on 3 May 2011, 2:27 a.m.,*
in response to message #5 by Namir

Hello Namir!

I was having a cinnamon bun at the University coffee shop (1980 fall) before classes, around 7am. The guy beside me was playing with this HP LCD calculator. I pulled out my hp 25 and he proceded to expound on the capabilities of this new HP-41C.

I think I was most impressed with the Star Trek game he had installed. THAT convinced me to trade in the HP 25 (sold to a fellow student) as I was tired with the lunar landing simulator on the 25.

;-)

Edited: 3 May 2011, 11:34 a.m. after one or more responses were posted

Re: HP-41 Programming

*Message #9 Posted by **Namir** on 3 May 2011, 10:35 a.m.,*
in response to message #8 by geoff quickfall

You made a very wise choice!!!

:-)

Namir

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-49G Connectivity Kit

*Message #1 Posted by **Paolo Cipollone** on 2 May 2011, 6:02 a.m.*

Hi all,

I am getting a 49G (NOT G+) with the PC connectivity kit. I'd like to know if I can use the cable supplied to connect my 48sx and my 95LX to a PC as well. This might have been brought up some other time, but I haven't managed to find a clear answer yet.

Thanks in advance,

Paolo

Re: HP-49G Connectivity Kit

*Message #2 Posted by **Paul Berger (Canada)** on 2 May 2011, 6:50 a.m.,*
in response to message #1 by Paolo Cipollone

No the connector used on the 49G is different from the one use on the 48 series and the 95LX.

Re: HP-49G Connectivity Kit

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 2 May 2011, 2:26 p.m.,*
in response to message #1 by Paolo Cipollone

All my 49Gs came with a serial cable ending in a 10 pin female plug (for the 49) and a 10 pin male to 4 pin female adapter (to use it with a 48).

Greetings,
Massimo

Re: HP-49G Connectivity Kit

*Message #4 Posted by **Paolo Cipollone** on 4 May 2011, 12:54 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Thanks, Paul and Massimo.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CMT-300 Programmable Measurement System

*Message #1 Posted by **Jeff Davis** on 1 May 2011, 8:24 p.m.*

Does anyone have the schematic for the CMT-300 Programmable Measurement System? I would like to duplicate this unit.

Thanks

Edited: 1 May 2011, 8:24 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 82037A reserve power pack

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 1 May 2011, 12:52 p.m.*

Hello:

I have an HP 82037A reserve power pack with no instructions (is used to charge HP41 HP82143A printer batteries and others), this reserve power pack has a red led diode that lights during charge, but what is the maximum time this reserve power pack must be connected to mains? 14-16 hours? In the instructions of the reserve power pack must be any indication, but I do not have it.

thanks

Re: HP 82037A reserve power pack

*Message #2 Posted by **Alberto Fenini** on 1 May 2011, 7:01 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

ciao Gonzalo,
sorry for the poor quality, but that was the fastest way,
looks like the charging time is about 6 hrs.
Let me know if you, or anyone else, is interested in a scanned pdf of this leaflet.
take care, Alberto

Re: HP 82037A reserve power pack

*Message #3 Posted by **Gonzalo Fernandez (Spain)** on 1 May 2011, 7:08 p.m.,*
in response to message #2 by Alberto Fenini

I have the information I need, donÂ´t need a scanned pdf, thanks!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Odd Bringslid HP 48SX

*Message #1 Posted by **aj04062** on 30 Apr 2011, 10:02 p.m.*

I just acquired a 48SX with a card that looks like it was signed by Odd Bringslid.

I checked the Library and it is a working Version 1.0 MAT I card in Norwegian, I believe.

Does anyone in this group have info on this? Is anyone interested in it? I might be if I could read Norwegian!

Re: Odd Bringslid HP 48SX

*Message #2 Posted by **Jesse Dodd** on 1 May 2011, 1:26 a.m.,*
in response to message #1 by aj04062

Google "Odd Bringslid" (in quotes). It looks like he is/was on the Faculty of Engineering at Buskerud College, in Kongsberg, Norway.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #1 Posted by **Diego Diaz** on 30 Apr 2011, 8:53 a.m.*

Hi all,

To the HW gurus out there: Has someone ever got an image of the program inside the 82164A processor? (I know it's difficult but, where else could I ask?)

HP P/N:1820-3218 => Intel 8048 microcontroller, 1K ROM.

Or, does someone has an 82164A (preferebly non-working) which can be left in loan for me to extract such image? (Yes, this is even more difficult than the previous one... :-))

Thanks and best wishes from the Canary Islands.

Diego.

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #2 Posted by **Prabhu Bhooplapur** on 30 Apr 2011, 10:11 a.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

You have a mail.

Best regards,

Prabhu

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #3 Posted by **Eric Smith** on 30 Apr 2011, 11:24 p.m.,*
in response to message #1 by Diego Diaz

Although the pinout shown in the service manual does match the 8048, I think the actual part must be an 8049 or (less likely) 8050. Those are the variants of the 8048 with more memory.

The 82164 is documented as having a 109 byte receive buffer, 14 4-bit R registers, 12 bytes of C registers, and 4 status bytes. That adds up to 131 bytes, and the 8048 only has 64 bytes of RAM. Even with the 128 bytes of RAM of the 8049, it's a tight squeeze; some of the RAM is taken up by working registers and stack, so some of the 82164A R and/or C register values must be used directly rather than buffered, etc.

I doubt that it's an 8050 because that has 256 bytes of RAM, and they would have been able to make the receive buffer even larger with that part.

Be careful when reading the ROM from an 8048/8049/8050. The verify mode is similar to that of the

8748/8749 EPROM version, but the 8048/8049/8050 should have 12V on the EA pin, vs. 18V for the EPROM version. Without realizing that, I did successfully read an 8049 once on a programmer set for the 8749, but when I tried to do that with another 8049 I damaged the part.

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #4 Posted by **Diego Diaz** on 1 May 2011, 12:37 p.m.,*
in response to message #3 by Eric Smith

Hi,

Prabhu: Thnaks a lot, you've got mail too.

Eric: Thanks for the remarks. I was certainly aware of the electrical specs for the MSC-48 family. I haven't think of the RAM amount though, and it looks like you must be right in your assumption that the part should be an 8049, despite the designation found in the Xref. tables. Anyhow, I also have the tools to preperly (and safely) read any of the types.

I'm concerned about the need of removing the chip. Does anyone know if it's placed in a socket or just soldered on the board?

Best wishes from Spain.

Diego.

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #5 Posted by **Eric Smith** on 1 May 2011, 5:54 p.m.,*
in response to message #4 by Diego Diaz

The service manual doesn't indicate that the part is socketed, so it seems fairly unlikely that it would be.

What equipment do you use for reading the masked-ROM parts? I've got a bunch of different commercial EPROM programmers, and all of them handle the EPROM parts but none of them handle the masked-ROM parts.

The last time I did this I hand-wired an adapter that disconnected pins 7, 25, and 26, wired pin 26 of the chip to pin 40 of the socket (Vcc), and had a 7812 regulator taking the 25V from pin 26 of the socket and providing 12V to pin 7 of the chip. This adapter worked on some programmers but not others, possibly due to the sequencing of the reset signal and Vpp by the programmer.

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #6 Posted by **Garth Wilson** on 1 May 2011, 7:16 p.m.,*
in response to message #5 by Eric Smith

I have the FSI164A which is almost identical in operation and instructions but has bigger buffers and more RS-232 channels (2 standard and up to 8 was optional) and had a battery option. It has an EPROM which I refreshed just a few years ago so I could catch it before the data went bad since it was about 20 years old. I thought I kept a .hex file of it I could email you but I can't find it at the moment and have not gotten my old Needham's EPROM programmer going again since changing DOS computers. I'm sure I just have to change the I/O address which is at 300h at the moment.

Re: HP-IL RS-232 (a-may-be too-)"techie" questions.

*Message #7 Posted by **Diego Diaz** on 1 May 2011, 7:41 p.m.,*
in response to message #5 by Eric Smith

Hi,

I'm using a Willem programmer, with some mods on my own, and the corresponding MSC-48 adapter.

It handles the whole family: ROM (8048, 8049, 8050), OTP and EPROM (8748, 8749).

It's a convenient device which also programs a wide range of EPROM's EEPROMs, Flash, Dallas (RTC's)... and serial devices: PIC's, I2C, SPI, Microwire...

Only drawback is that you need a parallel port (farily scarcy nowadays) to connect it to your computer.

Best wishes.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42 for Windows Phone 7

*Message #1 Posted by **Thomas Okken** on 29 Apr 2011, 6:49 p.m.*

Disclaimer: I didn't create this port, and I haven't tried it myself since I don't have a WP7 phone, but I thought I'd mention it:

http://www.marketplacebrowser.com/293817/42s
The author's web site is http://rayzzor.com/.

- Thomas

Edited: 29 Apr 2011, 6:55 p.m.

Re: Free42 for Windows Phone 7

*Message #2 Posted by **Walter B** on 30 Apr 2011, 1:01 a.m.,*
in response to message #1 by Thomas Okken

Very nice graphics :-)

Re: Free42 for Windows Phone 7

*Message #3 Posted by **Vincent Weber** on 30 Apr 2011, 10:49 a.m.,*
in response to message #1 by Thomas Okken

Thanks Thomas for the info. So, after all, somebody undertook the monstruous task to convert Free42 from C++ to C# ! :) What I can't understand is, why did he base this on Free42 1.4.63, which is a version without the TIME functions, and with two remaing bugs (ASIN and INVRT) ? Did he tell you if there is a particular reason, or if he will upgrade to the latest core any soon ? Anyway, interesting to know that Free42 is now available, with various degrees of maturation, on every mobile plateform that has a future for sure (Symbian is dead, and we still don't know about WebOS).

Cheers,

Vincent

Re: Free42 for Windows Phone 7

*Message #4 Posted by **Thomas Okken** on 30 Apr 2011, 2:55 p.m.,*
in response to message #3 by Vincent Weber

I assume 1.4.63 was the current version when he started. Converting everything to C# was a big task and Steve told me it took several months overall.
Regarding his plans to bring 42S in sync with the latest Free42 bug fixes and enhancements, you'll have to ask the author himself. :-)

Re: Free42 for Windows Phone 7

*Message #5 Posted by **Vincent Weber** on 1 May 2011, 5:46 a.m.,*
in response to message #4 by Thomas Okken

Thanks Thomas. Why not putting a link (with a disclaimer of course, that you did not supervise this) to this version from your website ? it will certainly increase your user base :) Cheers, Vincent

Re: Free42 for Windows Phone 7

*Message #6 Posted by **Thomas Okken** on 2 May 2011, 3:11 a.m.,*
in response to message #5 by Vincent Weber

Re: Why not put a link on my web site?

I removed all the links to third-party Free42 ports from my web site a few months ago, because none of them were being kept in sync with my releases in a timely manner, if at all.
I have no problem with third-party ports, even commercial ones, in fact I like all of them (*), but when it comes to endorsing or supporting them, I think I should focus on promoting the ones that I can actually support **myself**...

N.B. In case it sounds like I'm contradicting myself, given that this thread started with me mentioning the WP7 port: I think that that port is worth mentioning, on this forum, because any HP calculator emulator is a matter of interest here. I hope I've made it clear that I am *not* offering support for that port; anyone who discovers a problem with it should contact Steve, not me.

(*) Except for the INFOWISE iPhone version (I don't mean Byron Foster's iPhone version!). That one is published by a pure leech, not to mention a GPL violator. One of these days I may get the energy to do something about that...

Edited: 2 May 2011, 3:44 a.m. after one or more responses were posted

Re: Free42 for Windows Phone 7

*Message #7 Posted by **Paul Dale** on 2 May 2011, 3:35 a.m.,*
in response to message #6 by Thomas Okken

> Quote:
>
> N.B. In case it sounds like I'm contradicting myself, given that this thread started with me mentioning the WP7 port: I think that that port is worth mentioning, on this forum, because any HP calculator emulator is a matter of interest here. I hope I've made it clear that I am *not* offering support for that port; if anyone discovers a problem with it, they should contact Steve, not me.

Hear hear!

Such is open source.

- Pauli

Re: Free42 for Windows Phone 7

*Message #8 Posted by **Steven Ray** on 2 May 2011, 3:57 a.m.,*
in response to message #3 by Vincent Weber

Hi all,

Thomas, thanks for posting about the WP7 version here!

Vincent, to answer your question on the source version, 1.4.63 happened to be the source I had at my disposal when I decided to start this project. As I progressed, I also had to scale back on some features as the project was taking a long time and I decided to concentrate on the baseline functionality of the original HP-42S (hence the lack of extended functions for time, gps, etc).

I wasn't familiar with the ASIN and INVRT issues, so I'll look into those soon. I'll also take a look at the 30ish time functions to see what's involved, but not sure when I'll get to implementing them. Maybe for release 2.0.

In May, Microsoft is releasing 2500 new APIs for WP7 developers including sockets support. I was thinking of looking into using this in version 2.0 to implement program import and export (either to cloud or desktop) and printout file download. Gotta see what the APIs look like before I know what's involved. Also, I don't think apps built on these APIs will be able to go live until much later this year when the major OS update is released.

Anyway, I started this project because I was moving from the iPhone to WP7 to develop other apps and I just couldn't live without Thomas' program! It made a good test case for my first WP7 app and I hope those of you on the WP7 platform enjoy it. Feel free to send me feedback directly at support@rayzzor.com.

Cheers,
Steve

Re: Free42 for Windows Phone 7

*Message #9 Posted by **Thomas Okken** on 2 May 2011, 4:10 a.m.,*
in response to message #8 by Steven Ray

Hi Steve,

Welcome to the HP forum! :-)
Regarding the ASIN and INVRT bugs, those are easy to fix. I don't think I did anything else in the core since 1.4.63, so simply diffing 1.4.63 with the latest source should give you the required code changes without any noise.

UPDATE: Well, without any noise except for changing the copyright notice everywhere and some Android-related changes, anyway!
(I just moved my source repository from CVS to Subversion the other day and looking at the revision history with websvn is very cool...)

- Thomas

Edited: 2 May 2011, 4:30 a.m.

SOT: Subversion

*Message #10 Posted by **exschr** on 2 May 2011, 5:37 a.m.,*
in response to message #9 by Thomas Okken

Hi Thomas and Steve

Thank you for your work for the Android and WP7 versions!
I'm using both of these.

Regarding Subversion:
What platform do you run it on?
I'm looking for subversion on opensolaris, both platforms (SPARC/i386)
But I don't now which distribution to best go with! (Sunfreeware or OpenCSW, or even CollabNet)

Thanks Roger

Re: SOT: Subversion

*Message #11 Posted by **Thomas Okken** on 2 May 2011, 9:23 a.m.,*
in response to message #10 by exschr

I run Subversion on my Mac; it's included with Apple's software development tools. All I had to do was add a plist under /Library/LaunchDaemons to start svnserve at boot time.
I got WebSVN from websvn.tigris.org, and I run it under the Apache server that's included in OS X.

Regarding OpenSolaris, I have no idea!

Edited: 2 May 2011, 10:13 a.m.

Re: Free42 for Windows Phone 7

*Message #12 Posted by **Vincent Weber** on 2 May 2011, 4:44 a.m.,*
in response to message #8 by Steven Ray

Thanks Steve and Thomas for your answers ! :) Much appreciated to see that Free42, besides being one of the most significant contribution to the HP community, is also probably the most multi-platform piece of software in the world :)

Steve, looking at your screeshots, it looks like you don't care about the "singular matrix" options, just like Byron ? ;)

Thomas, I realise that your version is now free on the Appstore, whereas I think it used to be not free, which was totallly respectable as developping on Apple is not free for the developper... what triggered this (generous) change ?

Thanks and cheers,

Vincent

Re: Free42 for Windows Phone 7

*Message #13 Posted by **Thomas Okken** on 2 May 2011, 9:44 a.m.,*
in response to message #12 by Vincent Weber

> Quote:
>
> Thomas, I realise that your version is now free on the Appstore, whereas I think it used to be not free, which was totallly respectable as developping on Apple is not free for the developper... what triggered this (generous) change ?

I think charging money for software is totally respectable even if it is developed on a platform

where development is free! The cost of an Apple iOS developer membership is insignificant compared to the time I'm spending on this.

I decided to drop the price of the iPhone version to $0 because I didn't want to keep charging for an incomplete piece of software, given that I never seem to find the time or have the inclination to work on it lately. Once I finish the printer emulation window and local file import/export, I'll raise the price back to some non-zero level.

- Thomas

Re: Free42 for Windows Phone 7

*Message #14 Posted by **Vincent Weber** on 2 May 2011, 10:28 a.m.,*
in response to message #13 by Thomas Okken

Thomas,

You're absolutely right, sorry if I was unclear and seemed to imply that it would not be respectable to charge money for your time... You could actually charge HP big money for re-using Free42 for their next physical calculator, I don't think their development team can (any more) come even close to the quality of Free42 ! Your contribution to the HP community, by bringing for free a simulator which faithfullness matches the one of an emulator, of an accclaimed calculator which ROM is furthermore copyrighted, hence unavailable for the majority of people, is tremendous - on part with JF Garnier and Christoph Gosselin ! :)

My remark was just that you once posted you were making no apology for charging money to publish on the appstore, whereas other versions were free, so I was wondering why this had changed. Please, please, finish your version ! otherwise we will have to stick with Byron's version. His version is awsome, but is stretching too far in the direction of the HP-48 and I'm affraid someday something will be broken. With you, I'm 100% sure that the app will be 100% HP-42S :)

Cheers,

Vincent

Re: Free42 for Windows Phone 7

*Message #15 Posted by **Vincent Weber** on 2 May 2011, 12:17 p.m.,*
in response to message #8 by Steven Ray

Hi Steve again,

I am thinking out loud, if you do not want to wait for the socket API, can't the user have a WCF service running on the destkop to download .raw files from the phone ?

Thanks and regards,

Vincent

Re: Free42 for Windows Phone 7

*Message #16 Posted by **Steven Ray** on 2 May 2011, 3:15 p.m.,*
in response to message #15 by Vincent Weber

Hi Vincent,

Absolutely. In fact, that was the direction I was headed. I actually delayed the release for a month or two while I started work on feasibility projects to test WCF-based file transfer.

In the end, I decided to hold on this approach and release an initial version without communication support. My reasoning was:

1) With the current APIs, though it is possible, it's certainly not ideal, especially for the user interaction model I wanted to implement (e.g. query from the PC rather than push from the phone).

2) I didn't want to invest a lot of time into a communication link that whould be obsolete or at least much easier to implement as soon as MS came out with the API updates.

3) I figured getting a release out sooner with all the core functionality might be of interest to some. Then I can add on the extras (communication, time functions, gps, etc) as my schedule permits.

Good suggestion though, thanks!

Cheers,
Steve

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just out.

*Message #1 Posted by **Katie Wasserman** on 29 Apr 2011, 12:09 p.m.*

The latest version of HP Solve has Gene's 10bii+ review and more good stuff.

Edited: 29 Apr 2011, 12:11 p.m.

Re: Just out.

*Message #2 Posted by **gene wright** on 29 Apr 2011, 1:20 p.m.,*
in response to message #1 by Katie Wasserman

finally! :-)

Re: Just out.

*Message #3 Posted by **David Ramsey** on 29 Apr 2011, 1:25 p.m.,*
in response to message #1 by Katie Wasserman

I can't wait to see that HP-41 replacement CPU board!

Re: Just out.

*Message #4 Posted by **hugh steers** on 29 Apr 2011, 3:24 p.m.,*
in response to message #3 by David Ramsey

indeed! where can we get that 41 replacement board??

Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #5 Posted by **gene wright** on 29 Apr 2011, 3:50 p.m.,*
in response to message #4 by hugh steers

41CL

The first set of the boards are spoken for.

Edited: 29 Apr 2011, 4:27 p.m.

Re: Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #6 Posted by **M. Joury** on 29 Apr 2011, 5:21 p.m.,*
in response to message #5 by gene wright

Gene,

I have visited the site but I don't see how to purchase one or get on a waiting list. Any pricing information, etc. available?

Thanks.

Re: Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #7 Posted by **gene wright** on 29 Apr 2011, 9:21 p.m.,*
in response to message #6 by M. Joury

Sure, right here:

10bII+

The link through the business section is broken. Might be a while before the HP website is fixed.

Re: Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #8 Posted by **David Ramsey** on 30 Apr 2011, 12:27 a.m.,*
in response to message #7 by gene wright

Gene, how does a reference to HP's order page for a business calc answer a question about how to buy a third-party replacement processor for an HP-41? Am I missing something?

Re: Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #9 Posted by **gene wright** on 30 Apr 2011, 12:30 a.m.,*
in response to message #8 by David Ramsey

doh. I mixed up the 10bII+ with the 41CL.

No order page for the 41CL next set yet. Let Monte get the beta units out and in the hands of a group before he worries about taking orders for more.

Re: Review of HP 10bII+ in new hp Solve newsletter... just out

*Message #10 Posted by **M. Joury** on 30 Apr 2011, 2:01 a.m.,*
in response to message #9 by gene wright

Thanks for the info Gene.

Re: Just out.

*Message #11 Posted by **M. Joury** on 29 Apr 2011, 5:30 p.m.,*
in response to message #1 by Katie Wasserman

I also found the "Tweaking the HP42S" article interesting. Specially in light of the discussion of the WP34S keyboard layout. Although I have to say that I have a BIG problem with putting the X<>Y key on a shifted keyplane (as seems to be suggested by the image). I use X<>Y a lot more frequently than I use RDN and personally would switch those two if I could not have both unshifted.

Re: Just out.

*Message #12 Posted by **Jake Schwartz** on 29 Apr 2011, 8:17 p.m.,*
in response to message #11 by M. Joury

It is interesting...quickly checking through the models, the only ones I could find which had x<>y shifted

were the 17BII, 17BII+, 19BII, 28C/S (swap), 65 and 67. (For the 65/67, x<>Y and Roll down would be primary only if programs using the appropriate LBL had not been defined in program memory. Also, it is interesting that the 34C, 37E and 38E/C had x<>y primary, but roll down shifted.

...but of course, the purpose of articles like these are specifically for creating a dialog and I'm grateful that any sort of discussion might take place.

Jake Schwartz

Re: Just out.

*Message #13 Posted by **M. Joury** on 30 Apr 2011, 2:12 a.m.,*
in response to message #12 by Jake Schwartz

Hi Jake,

Thanks for the article! Actually of the three business calculators you mention (17BII, 17BII+ and 19BII) the X<>Y and RDN keys are printed as if they are shifted but they act as unshifted keys when in RPN mode.

Marwan

Re: Just out.

*Message #14 Posted by **Walter B** on 30 Apr 2011, 12:52 a.m.,*
in response to message #11 by M. Joury

Jake's new article has ancestors in 2008 as he mentioned in the last paragraph in HP Solve. Looking at them, you'll find tweaking is an hobby with a long tradition in this community, and also the wp34s has its parents and grandparents :-)

> Quote:
>
> I use X<>Y a lot more frequently than I use RDN and personally would switch those two if I could not have both unshifted.

I concur. OTOH only three scientific HPs needed one or both of these functions shifted. Jake listed them.

Walter

Re: Just out.

*Message #15 Posted by **Eddie W. Shore** on 1 May 2011, 5:31 p.m.,*
in response to message #11 by M. Joury

Concur, I prefer the swap and the roll down functions (and the STO function) all to be unshifted as well.

The keyboard with three shifted functions (not counting the alpha characters) is a bit crazy.

The key layout with the gold shift on top and blue shift on the bottom look the best IMO.

Re: Just out.

*Message #16 Posted by **M. Joury** on 2 May 2011, 12:29 a.m.,*
in response to message #15 by Eddie W. Shore

I'll second that on STO! I guess the logic is that you use RCL more than STO so shift STO. However, I like the old Pioneer layout (and the 41 for that matter) with STO, RCL, X<>Y and RDN all unshifted.

Re: Just out.

*Message #17 Posted by **Jose Gonzalez Divasson** on 29 Apr 2011, 6:41 p.m.,*
in response to message #1 by Katie Wasserman

I have to say that Gene's review can be used as a "getting started" guide - better than the one provided with the actual calculator. It's that good!

I say this because it helped me to understand some aspects that I did not "get" from the provided guide at a first reading.

Re: Just out.

*Message #18 Posted by **gene wright** on 29 Apr 2011, 9:17 p.m.,*
in response to message #17 by Jose Gonzalez Divasson

Heh. From your lips to HP's ears.

Seriously, all of that material is in there. I have no idea how the quick start guide was written.

The HP 10bII+ is a great little machine.

Re: Just out.

*Message #19 Posted by **Tim Wessman** on 29 Apr 2011, 10:49 p.m.,*
in response to message #18 by gene wright

Well, the quickstargt guide for the 10bII+ is essentially the "getting started" chapter from the original manual. A lot of the new things were put in there, but there wasn't enough space to cover it all.

The QSG *is* enough for you to effectively use the machine however. Unlike the 30b QSG. :-)

TW

Re: Just out.

*Message #20 Posted by **Eddie W. Shore** on 1 May 2011, 4:40 p.m.,*
in response to message #1 by Katie Wasserman

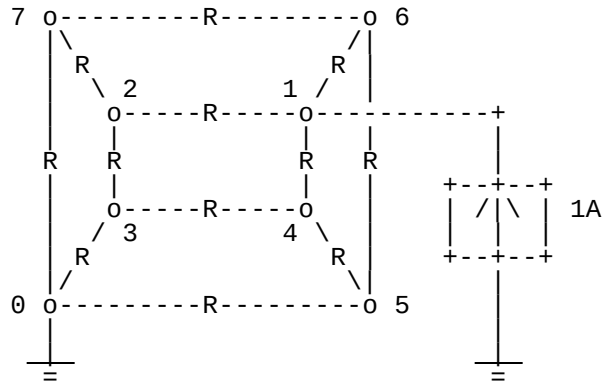
Very good stuff.

Re: Just out.

*Message #21 Posted by **Gerson W. Barbosa** on 1 May 2011, 9:56 p.m.,*
in response to message #1 by Katie Wasserman

Very good stuff indeed, thanks!

I took the time to finally solve the cube resistor problem. I never did all the exercises in my textbooks (quite the contrary!). That one was in Resnick & Halliday's book, but I skipped in '82 :-)



For easy visualization the cube has been redrawn to 2-D. For convenience, let's use 1 ohm resistors. The circuit will be solved through nodal analysis.
Let's take node 0 (ground) as a reference and inject 1 amp into node 1. For convenience, let R = 1 ohm. The seven nodal equations can be readily obtained:

1) $(V_1 - V_6) + (V_1 - V_2) + (V_1 - V_4) = 1$
2) $(V_2 - V_7) + (V_2 - V_1) + (V_2 - V_3) = 0$
3) $(V_3 - V_2) + (V_3 - V_4) + V_3 = 0$
4) $(V_4 - V_5) + (V_4 - V_1) + (V_4 - V_3) = 0$
5) $V_5 + (V_5 - V_6) + (V_5 - V_4) = 0$
6) $(V_6 - V_5) + (V_6 - V_7) + (V_6 - V_1) = 0$
7) $(V_7 - V_6) + (V_7 - V_2) + V_7 = 0$

Instead of putting the system of equations into matrix form before solving it, the equations may be used exactly as they are written and solved with help of the hp-50g program described here. The program finds V_1 = .833333333333, which implies the equivalent resistance across the nodes 0 and 1 is 5/6*R. Likewise, when the 1 Amp current source is connected to the nodes 5 or 6, for instance, other equivalent resistances can be determined. They are 7/12*R and 3/4*R, respectively.

Sets of equations to be used in the program:

```
%%HP: T(3)A(D)F(,);
{ 'V1-V6+V1-V2+V1-V4=1,' 'V2-V7+V2-V1+V2-V3=0,' 'V3-V2+V3-V4+V3=0,' 'V4-V5+V4-V1+V4-V3=0,'
'V5+V5-V6+V5-V4=0,' 'V6-V5+V6-V7+V6-V1=0,' 'V7-V6+V7-V2+V7=0,' }


%%HP: T(3)A(D)F(,);
{ 'V1-V6+V1-V2+V1-V4=0,' 'V2-V7+V2-V1+V2-V3=0,' 'V3-V2+V3-V4+V3=0,' 'V4-V5+V4-V1+V4-V3=0,'
'V5+V5-V6+V5-V4=1,' 'V6-V5+V6-V7+V6-V1=0,' 'V7-V6+V7-V2+V7=0,' }


%%HP: T(3)A(D)F(,);
{ 'V1-V6+V1-V2+V1-V4=0,' 'V2-V7+V2-V1+V2-V3=0,' 'V3-V2+V3-V4+V3=0,' 'V4-V5+V4-V1+V4-V3=0,'
'V5+V5-V6+V5-V4=0,' 'V6-V5+V6-V7+V6-V1=1,' 'V7-V6+V7-V2+V7=0,' }
```

Re: Just out.

*Message #22 Posted by **Katie Wasserman** on 1 May 2011, 10:34 p.m.,*
in response to message #21 by Gerson W. Barbosa

Nicely done.

When I took first year college physics we called it "Halliday & Resnick", probably the 1st edition. (I must be pretty old because whatever edition it was the section on relativity was a supplement!) I need to dig it out and see if that resistor problem is in there.....

Re: Just out.

*Message #23 Posted by **Gerson W. Barbosa** on 2 May 2011, 8:38 a.m.,*
in response to message #22 by Katie Wasserman

Without nodal analysis, an overkill here, the trick would be redrawing the circuit connecting together the nodes clearly at the same potential, like 2 and 4, for instance. I should have said "Halliday & Resnick". Actually we called it simply Halliday. Mine was probably the Brazilian 1st edition. I think the resistor cube problem is in the chapter 27 (Circuits).

http://www.amazon.com/Fundamentals-Physics-David-Halliday/dp/0471216437/ref=sr_1_6?s=books&ie=UTF8&qid=1304337310&sr=1-6

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Getting sucked in

*Message #1 Posted by **David Ramsey** on 29 Apr 2011, 12:06 p.m.*

My HP collecting has been pretty moribund for the last few years. After 20+ years of dedicated searching, I have all of the HP RPN scientific calculators, and even a few random items like an HP-01, Expander, etc. I've got 41C accessories out the wazoo, all four versions of the HP-35, et cetera so on and such forth. There are probably some HP-41 application ROMs I don't have (but I do have a lot of them), but all in all I'm complete. The last calc I got was an HP-35S pre-production model I got for sending an HP guy whose name I forget (but whom I met at the 2006 conference in San Jose) one of my 41s.

In the course of getting the calculators, I'd picked up three desktop machines: an HP-46, a 9815, and a 9825. But I wasn't planning on going after anything else, since they weren't the focus of my collection. Sure, if a 9100 or 9810 had drifted across my field of vision, I probably would have jumped. But I wasn't actively looking.

Due to years of habit I still check eBay calc auctions at least every week or so, which is when I saw Larry Atherton's beautifully refurbished HP-85s. Now, back in the late 1970s I worked at a computer store in Dallas (the KA Computer Store) that among the Apples and Ataris also sold HP-85s, which I could never have afforded at the time. But it made an impression, and I'd always thought if I found a nice one I'd grab it.

Well, Larry's refurbs aren't cheap, although eBay regularly hosts auctions for grotty unrestored and non-guaranteed-to-work versions for significantly more money. After trading a few e-mails I bought one.

It's spectacular: shiny new, with a razor-sharp CRT, whisper-quiet printer, and slick tape drive. The epoxy paint Larry uses on the case seems a bit glossier than I recall, but otherwise the machine might have been boxed in a warehouse since 1979.

Suddenly, my collector urges are coming back, this time aimed at the 9800 series machines. I'm getting an 87 and a 9121 disk drive from 360tech.com, and looking at 9835/45s with an eye towards finding some place to put one of these rather large machines. 360tech.com will be happy to sell me a 9845C for $4500. Fortunately I'm not that far gone. Yet.

Perhaps it's not quite as satisfying and finding unused old HPs at flea markets, yard sales, and at Weird Stuff, but those venues are pretty tapped out these days. And I'm having fun working on 3D rendering programs for the 85. Rough benchmarks indicate that my desktop PC has about 100,000 times the performance of the 85. But somehow it's still fun.

The last thing I'll note is that there seems to be a dedicated web site run by a fanatic for every single HP 98xx model. Didn't expect that, but it's cool.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Casio PRISM Current Draw?

*Message #1 Posted by **Tim Wessman** on 28 Apr 2011, 7:00 p.m.*

Has anyone seen/taken any measurements of the Prism at both idle and running? Different brightness levels?

TW

Re: [OT] Casio PRISM Current Draw?

*Message #2 Posted by **hugh steers** on 28 Apr 2011, 8:44 p.m.,*
in response to message #1 by Tim Wessman

i'll do some...

Re: [OT] Casio PRISM Current Draw?

*Message #3 Posted by **hugh steers** on 28 Apr 2011, 9:05 p.m.,*
in response to message #2 by hugh steers

ok, some quick results are:

max current when calculating (also on initial power up) = 30ma. sitting in the main (color) menu = 11ma. idling in the calculator (main app) = 7ma [why this is less than when on the main menu, not sure. unless the brightness is slightly different here]. when screen goes dim = 3ma

one other thing is that the current draw seems to fluctuate by about 1.5ma all the time. not sure why. my numbers above are averages.

Re: [OT] Casio PRISM Current Draw?

*Message #4 Posted by **Tim Wessman** on 29 Apr 2011, 12:37 a.m.,*
in response to message #3 by hugh steers

Interesting numbers. Thanks for that. I've been curious since it came out.

TW

Re: [OT] Casio PRISM Current Draw?

*Message #5 Posted by **Joerg Woerner** on 29 Apr 2011, 8:15 a.m.,*
in response to message #4 by Tim Wessman

I expected that you did these measurements at HP already in December 2010 ;-))

Cheers, Joerg

Re: [OT] Casio PRISM Current Draw?

*Message #6 Posted by **Tim Wessman** on 29 Apr 2011, 10:14 a.m.,*
in response to message #5 by Joerg Woerner

Nope. Just personal interest is all.

Speaking of which, how about some inspiring CX numbers? :-)

TW

Re: [OT] Casio PRISM Current Draw?

*Message #7 Posted by **Joerg Woerner** on 29 Apr 2011, 12:55 p.m.,*
in response to message #6 by Tim Wessman

Tim,

These were pre-production models and I had to sign a NDA that I don't open the units or do any kind of reverse engineering. I sent them back to Dallas a few days ago.

Regards, Joerg

Re: [OT] Casio PRISM Current Draw?

*Message #8 Posted by **Tim Wessman** on 29 Apr 2011, 2:04 p.m.,*
in response to message #7 by Joerg Woerner

Well, how about on just any other nspire model? I don't think I've seen power readings on that either.

TW

Re: [OT] Casio PRISM Current Draw?

*Message #9 Posted by **Joerg Woerner** on 2 May 2011, 7:55 a.m.,*
in response to message #8 by Tim Wessman

Tim,

Give me a few days - it is not that easy. The connection of the two 3V strings to the PCB isn't that straight forward.

Regards, Joerg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPN hp20s and lcd hp34c proposals

*Message #1 Posted by **Jose Poyan** on 28 Apr 2011, 6:05 p.m.*

Thanks to those who made possible the project wp34s. I would have contributed myself with something if my knowledge on computing would have been a little above zero :-) but it's not the case. However I have had for years a couple of ideas in my head related to the display and I'd like to mention them now, so you can give your opinion about it.

As everyone knows, the last series made by Hewlett Packard when till independent, the Pioneer, did not include a RPN model with segment lcd screen. That is to say, the RPN models in that serie used matrix screens. In other words, the RPN version of the HP20S was never produced. I noticed it when I was a kid and I bought my first Pioneer.

And this wasnt natural. In fact all the previous spice models had segment(obviously) led displays. So it would have been a logical step to make a simple RPN calculator with segment display, for example the lcd version of the HP34C.

I have problems to work with matrix displays. I love segment displays, which are clear and sharp, and I like simple calculators. I think it would be a good idea, based on the wp34s, to make a RPN model with Segment display by avoiding the use of the matrix section on the screen of the hp30b. It would cover a niche and the project would be almost straight forward! By this I mean that the layouts are already there: the HP20s and HP34C keyboards. And the manual doesnt need to be written; it was written decades ago: the HP34C manual.

What's your opinion?

jose poyan

Re: RPN hp20s and lcd hp34c proposals

*Message #2 Posted by **Martin Pinckney** on 28 Apr 2011, 6:56 p.m.,*
in response to message #1 by Jose Poyan

But of course the Voyagers were segment and RPN. But I like Pioneers better myself as well.

Re: RPN hp20s and lcd hp34c proposals

*Message #3 Posted by **Jose Poyan** on 28 Apr 2011, 7:58 p.m.,*
in response to message #2 by Martin Pinckney

I know. I was refering to the models with vertical format only.

Re: RPN hp20s and lcd hp34c proposals

*Message #4 Posted by **Marcus von Cube, Germany** on 29 Apr 2011, 8:47 a.m.,*
in response to message #3 by Jose Poyan

You might want to repurpose the new 10bii+. It comes with a plain segmented LCD, has the Pioneer

keyboard layout, so what would you want more?

Personally, I stick to wp34s. When the firmware is stable, I'll almost certainly will sacrifice a 30b for the purpose.

Re: RPN hp20s and lcd hp34c proposals

*Message #5 Posted by **Martin Pinckney** on 29 Apr 2011, 9:35 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I thought I read Tim saying it could not be repurposed. But I can't find the post.

Re: RPN hp20s and lcd hp34c proposals

*Message #6 Posted by **Marcus von Cube, Germany** on 29 Apr 2011, 10:07 a.m.,*
in response to message #5 by Martin Pinckney

Of course it can. The programming connector is the same. There is no JTAG connector for debugging and HP has yet to release technical information but this is not a principal problem.

Re: RPN hp20s and lcd hp34c proposals

*Message #7 Posted by **Tim Wessman** on 29 Apr 2011, 10:12 a.m.,*
in response to message #6 by Marcus von Cube, Germany

I don't think there will be any release of anything. The only difference between them (20/30b, 10bII+, 12c) is the screen. Just a LCD table is all you need different.

Personally, I am quite excited there is the ability to build using GCC. We always wanted to get around to that but just didn't have the time.

TW

Re: RPN hp20s and lcd hp34c proposals

*Message #8 Posted by **Marcus von Cube, Germany** on 29 Apr 2011, 12:41 p.m.,*
in response to message #7 by Tim Wessman

ATMEL provides the necessary startup files for GCC. I've recently switched to CodeSourcery G++ Lite, the free command line only compiler from them. I have yet to test if this realy works. The code is more compact then with the Yagarto or netX tool chains.

The LCD mapping for the new 12C and 10bii+ units (together with the necessary timing infos, i. e. what to write to the SLCDC controller registers) would be fine.

EDIT: The keyboard arrangement is sufficiently different from the 20b/30b to warrant same explanation, too.

Edited: 29 Apr 2011, 2:03 p.m.

Re: RPN hp20s and lcd hp34c proposals

*Message #9 Posted by **Eric Smith** on 29 Apr 2011, 4:56 p.m.,*
in response to message #8 by Marcus von Cube, Germany

When I've needed to determine a keyboard mapping, I've just used a simple C program to scan the GPIO pins one at a time, drive that pin alternately high and low, and read the other pins to see if any correspond. When a match is found, send the ID of the output and input GPIO pins out the serial port. Then I just press each key in turn and see what comes out.

Similarly for the display, I just sequentially toggle each bit in the LCD bitmap, with a delay (or a wait for a keypress or serial receive), and manually record what segments correspond.

Re: RPN hp20s and lcd hp34c proposals

*Message #10 Posted by **Marcus von Cube, Germany** on 29 Apr 2011, 6:06 p.m.,*
in response to message #9 by Eric Smith

That's a workable idea. The choices are limited as only the WAKEUP pins can be used the way HP designed the software.

For the display, you need to know some details about its physics to be able to configure the number of segments and commons and the corresponding frequencies correctly. Without a JTAG connector, you cannot peek into the settings of the original firmware.

Re: RPN hp20s and lcd hp34c proposals

*Message #11 Posted by **Eric Smith** on 29 Apr 2011, 6:16 p.m.,*
in response to message #10 by Marcus von Cube, Germany

It's not that hard to work out LCD settings by trial and error. There aren't really all that many parameters to adjust, and you don't have to get them all correct to see that you're making progress.

You can use SAM-BA commands over the serial port to write the registers, if you don't want to write a program to do it. See page 175 of the datasheet for the SAM-BA commands. (Prior pages describe how to get into SAM-BA boot mode.)

Re: RPN hp20s and lcd hp34c proposals

*Message #12 Posted by **Scott Newell** on 29 Apr 2011, 8:17 p.m.,*
in response to message #11 by Eric Smith

> Quote:
>
> It's not that hard to work out LCD settings by trial and error. There aren't really all that many parameters to adjust, and you don't have to get them all correct to see that you're making progress.

Exactly. Besides, there's not much variation in hardware between the units.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Alternate wp34s Keyboard Arrangement?

*Message #1 Posted by **Jeff O.** on 28 Apr 2011, 10:21 a.m.*

I have yet to cut an overlay or otherwise attempt to re-label my 30b keys or keyboard for wp34s. I try to remember some function locations and keep a printed copy of the keyboard layout handy for reference. One thing that I keep doing is scrolling up when I meant to scroll down, or wondering why the display says “XEQ _ _” when I wanted to scroll up. This is of course due to the fact that the up/down scroll arrows of the wp34s keyboard arrangement are moved down one key from the up/down arrow keys on the 30b keyboard. I guess it is hard for my brain to remember to not press the keys labeled for the function I want to do since they are so close to the functional locations of the wp34s key arrangement. (Maybe sort of like when you see the word “yellow” printed in red and are asked what color the letters are.) So I found myself wishing that in this case, the wp34s primary functions could have been assigned to the keys on the 30b keyboard with the proper labels. This made me wonder if there were other “opportunities” for matching the wp34s functions to the keys with the proper label on the 30b keyboard. I came up with two more: RCL and +/-. (I considered x<>y and Rv, but in my opinion the 30b labels for these functions are not worth retaining.) Based on the above, I came up with the arrangement depicted below for the wp34s keyboard. I tried to keep it as close as possible to Walter’s arrangement. It would allow 20 of the standard primary key labels to be re-used, 21 if we can live with INPUT instead of ENTER, vs. 16 (or 17) for the current arrangement. Of course, in a perfect world, the key assignments for all functions could go in their absolute optimum locations without regard to the standard 20b/30b labeling, because some good solution to label the keyboard and re-label the keys will be developed. But until we get to that situation, perhaps something like the below could make it easier to use.

I did present my ideas privately to Walter prior to posting here. He noted (among other things) that he felt that EXIT and XEQ should not be adjacent and that in general if the hardware cannot be used as-is, then the layout should be controlled by ergonomic and/or logic reasons. I can certainly see his point, and as the developers, he, Paul and Marcus can do whatever they feel is best. With that said, I guess I feel that my changes are relatively mild, (and Walter said that I was free to propose anything I want) so I thought I would go ahead and present it and see what others might think. My guess is that it is relatively trivial for Marcus to assign the functions to the key locations, so perhaps he could create a version with this change for people to try out. But if everyone thinks that it is pointless, then, as Emily Litella used to say, “never mind.”

Jeff

...

Re: Alternate wp34s Keyboard Arrangement?

*Message #2 Posted by **gene wright** on 28 Apr 2011, 10:37 a.m.,*
in response to message #1 by Jeff O.

This arrangement looks good to me and I would like to try it out.

I too have had trouble with the placement of the arrow keys compared to the default 20b/30b locations.

Why make something difficult when there are just as good and easy alternatives?

I have other thoughts, but I will not share them yet.

Re: Alternate wp34s Keyboard Arrangement?

*Message #3 Posted by **gene wright** on 28 Apr 2011, 10:38 a.m.,*
in response to message #2 by gene wright

This is my preferred version of the standard overlay. I had it tweaked in photoshop to improve contrast and readability, IMO.

Re: Alternate wp34s Keyboard Arrangement?

*Message #4 Posted by **Walter B** on 28 Apr 2011, 12:19 p.m.,*
in response to message #3 by gene wright

Gene, I see your points. Just for comparison, the following is what's in the repository since build 757 (Tuesday morning your time):

Walter

Edited: 28 Apr 2011, 12:20 p.m.

Re: Alternate wp34s Keyboard Arrangement?

*Message #5 Posted by **gene wright** on 28 Apr 2011, 1:41 p.m.,*
in response to message #4 by Walter B

That is certainly better, but a printed overlay looks better (IMO), when the back is totally black.

Also, the yellow and blue shifted symbols are not as easily read off the keyboard unless brightened as in the overlay after it was "photoshopped".

And, I have also found that the shift keys read better when they are the full color.

And, the red letters are difficult to read unless you are in very bright light.

Again, all IMO.

So, for now, I will continue to modify the overlay file and make these changes.

Re: Alternate wp34s Keyboard Arrangement?

*Message #6 Posted by **Walter B** on 29 Apr 2011, 9:14 a.m.,*
in response to message #5 by gene wright

> Quote:
>
> So, for now, I will continue to modify the overlay file and make these changes.

Enjoy, whatever "the overlay file" may be!

Updated layout and overlay

*Message #7 Posted by **Walter B** on 1 May 2011, 5:24 a.m.,*
in response to message #4 by Walter B

For those interested in, there is an updated layout for the WP34S Windows emulator. And in that course also the overlay was updated - well, actually it was done vice versa, but who cares ;-)

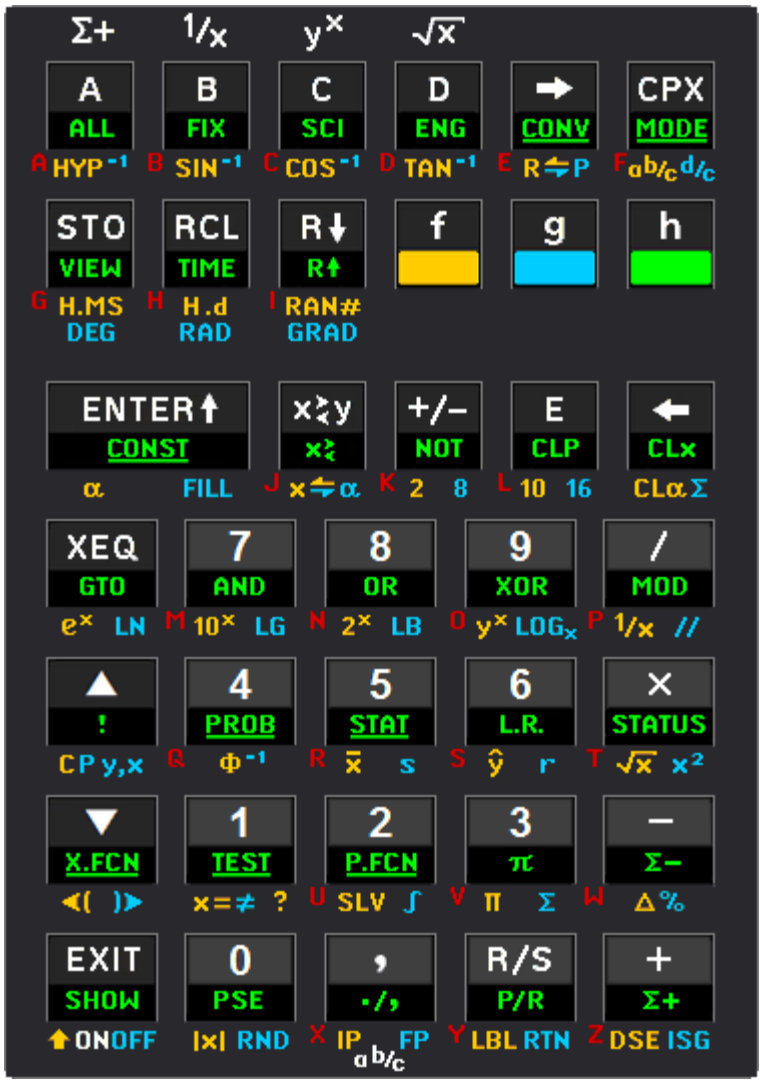
Enjoy,

Walter

Updated overlay

*Message #8 Posted by **Walter B** on 6 May 2011, 3:06 a.m.,*
in response to message #7 by Walter B

There's an update available for prints on whatever media you want to try:



It is less sharp than the emulator skin, thus better for many color printers out there IMO.

Walter

Re: Alternate wp34s Keyboard Arrangement?

*Message #9 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 11:59 a.m.,*
in response to message #1 by Jeff O.

> Quote:
>
> My guess is that it is relatively trivial for Marcus to assign the functions to the key locations

It would need an internal remap because the reference implementation shall not be changed. Internally, all keys are addressed by codes of the form K_rc, r and c being row and column. Shuffling keys will affect many places of the code if done natively.

I can, of course, add a conditional remapping but this will not change the key codes returned by KEY?, that is "f" will still return 9, not 6.

Re: Alternate wp34s Keyboard Arrangement?

*Message #10 Posted by **Jeff O.** on 28 Apr 2011, 1:11 p.m.,*

in response to message #9 by Marcus von Cube, Germany

Sounds like it is more work than I thought, although I could certainly live with KEY? returning the "original" location. Only try it if it is something you want to do.

Edited: 5 May 2011, 7:46 a.m.

Re: Alternate wp34s Keyboard Arrangement?

*Message #11 Posted by **Walter B** on 28 Apr 2011, 1:15 p.m.,*
in response to message #1 by Jeff O.

Jeff,

Thanks for presenting your proposal. It can be made this way for sure. Just allow four humble remarks:

- SW-wise, it seems to be not as trivial as you thought.
- Since you state it shall be a transitional solution, I doubt it's worth the hassle.
- It breaks a number of groups you may have not recognized: +/- and NOT, H.MS and DEG, ! and COMB and PERM, and especially the stack and memory group with STO, RCL, Rv, ENTER, x<>y, +/-, and E. The latter has a long tradition and - as Karl Schneider would say - is carefully arranged and well thought out.
- How about simply using the overlay with flaps and forgetting the old 20/30b labels? Saves extra work and reduces costs d:-)

Walter

Re: Alternate wp34s Keyboard Arrangement?

*Message #12 Posted by **Jeff O.** on 28 Apr 2011, 9:31 p.m.,*
in response to message #11 by Walter B

> Quote:
>
> It breaks a number of groups you may have not recognized: +/- and NOT, H.MS and DEG, ! and COMB and PERM...

Yes, I guess I did not pay close attention to those. Most could be set right, I think (except +/- and NOT, which I can sort of see, but could do without.)

> Quote:
>
> ...and especially the stack and memory group with STO, RCL, Rv, ENTER, x<>y, +/-, and E. The latter has a long tradition and - as Karl Schneider would say - is carefully arranged and well thought out.

I see that your arrangement matches the 32S and 42S, but if you look at other models, these functions have moved around quite a bit. My proposal keeps them grouped petty closely, I think.

> Quote:
>
> How about simply using the overlay with flaps and forgetting the old 20/30b labels? Saves extra work and reduces costs d:-)

I'd love to use the overlay with flaps - where can I get one :) In any case, my concept did not get much traction, so, we move on.

Edited: 28 Apr 2011, 9:53 p.m.

Re: Alternate wp34s Keyboard Arrangement?

*Message #13 Posted by **htom trites jr** on 29 Apr 2011, 12:22 p.m.,*
in response to message #11 by Walter B

I think of x<>y, R^, Rv, and LastX as a "group" that works on the stack, with x<>mem and its buddies as being part of the STO/RCL group, and have always wondered why R^, Rv and LastX were not shifts of x<>y. And (while I'm whining) isn't there a LastY? I should really go read the manual, and will.

Re: Alternate wp34s Keyboard Arrangement?

*Message #14 Posted by **Marcus von Cube, Germany** on 29 Apr 2011, 12:46 p.m.,*
in response to message #13 by htom trites jr

You can RCL Y but it's not saved as part of an operation such as X is to LastX (L). We would need a Last Stack command for a complete undo. Being short of battery backed up memory gets in the way here.

Re: Alternate wp34s Keyboard Arrangement?

*Message #15 Posted by **Walter B** on 29 Apr 2011, 1:27 p.m.,*
in response to message #13 by htom trites jr

> Quote:
>
> ... have always wondered why R^, Rv and LastX were not shifts of x<>y.

Many forumers will cry if/when Rv would become a shifted function {;-) I don't use it as much, and I can even live without R^ easily, but these two functions have very true friends here.

Concerning LASTx: if you did execute a complex operation (i.e. an operation on complex numbers) then ^{C}LASTx will recall both components of the complex argument, i.e. x and y. Else no way.

And yes, some reading may help d;-)

Walter

Re: Alternate wp34s Keyboard Arrangement?

*Message #16 Posted by **htom trites jr** on 29 Apr 2011, 5:11 p.m.,*
in response to message #15 by Walter B

The manual is very impressive. It's going to take a couple of hours, and I probably won't get to it until Sunday afternoon.

I understand the love of R^ and Rv. I'd prefer both X<>Y, R^, and Rv to be on keytops, myself, but there are so few of them (STO and RCL make more sense to me as shifted, they're used less from the keyboard) ... LastX and LastY should be shifts of ENTER, maybe, in some ideal world, along with LastEntry (which would be like LastX, but it reaches back in history to the LastX that was directly entered.)

Anyway, off to read more. Didn't mean to sound critical. FORTH may have corrupted my brain.

Edited: 29 Apr 2011, 5:12 p.m.

Re: Alternate wp34s Keyboard Arrangement?

*Message #17 Posted by **Paul Dale** on 28 Apr 2011, 6:34 p.m.,*
in response to message #1 by Jeff O.

I experienced these problems when I first flashed the hardware. With the overlay in place, they all disappeared. Don't let the existing decals trick your mind -- get a permanent marker and obscure the errant labels :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Proposal - wp34s GETKEY semantics and other input functions

*Message #1 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 5:14 a.m.*

I propose a function KEY? nn, nn being a register id.

This is at the same time an input, storage and conditional function:

nn can be any register including the stack registers and indirect addressing. KEY? queries the keyboard buffer (the keys are scanned in the background) and returns an integer value to the selected register. If no key is pressed, the next step is executed. In most cases, this will be a backwards jump.

Key codes are the internally used integer codes: Top left is zero, codes increase with each column by one and with each row by six.

Waiting for a key is performed with the PSE command which can wait from zero to 9.9 seconds. If a key is pressed, the PSE is ended. The key can then be queried with KEY?

What do you think?

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #2 Posted by **Walter B** on 28 Apr 2011, 5:38 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Sounds like an INPUT on HP-42s, but with automatic timeout. Good idea. Two remarks:

1. You didn't mention any output. Is there anything appearing on the display when KEY? is encountered?
2. Personally, I start counting with one and would vote for counting keys alike.

My 20 mâ,¬ only
Walter

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #3 Posted by **Paul Dale** on 28 Apr 2011, 5:52 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Not quite what I just did an outline implementation of :-)

Probably better albeit more complex.

This command polls the keyboard, nothing is displayed and program execution isn't halted.

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #4 Posted by **Walter B** on 28 Apr 2011, 7:13 a.m.,*
in response to message #1 by Marcus von Cube, Germany

OK, so input is limited to natural numbers from zero or one to the number of keys (maybe minus one), and there is no output from KEY?. Then we are missing INPUT still.

> Quote:
>
> Waiting for a key is performed with the PSE command which can wait from zero to 9.9 seconds. If a key is pressed, the PSE ((means: pause)) is ended. The key can then be queried with KEY?

The last sentence isn't quite clear to me. I'd have searched for the key pressed via RCL *nn* with *nn* being the one used in KEY? *nn* before. TIA for enlightenment :-)

Walter

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #5 Posted by **Paul Dale** on 28 Apr 2011, 7:21 a.m.,*
in response to message #4 by Walter B

This function returns the key pressed, don't think of it so much as a numeric input. It polls the keyboard and lets you know which key is down. This suggestion cannot be achieved via any keystroke program with our current command set.

The INPUT function can be achieved by "PROMPT STO" and I still don't see a pressing need for it :-)

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #6 Posted by **Walter B** on 28 Apr 2011, 7:36 a.m.,*
in response to message #5 by Paul Dale

Let me quote Marcus (emphases added by me):

> Quote:
>
> I propose a function KEY? nn, nn being a register id. ... nn can be any register ... . KEY? queries the keyboard buffer (...) and returns an integer value **to the selected register**. ... If a key is pressed, the *pause* is ended. The key can **then** be queried with KEY?

To me, the last sentence doesn't match what was said in the beginning. Marcus?

Walter

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #7 Posted by **Paul Dale** on 28 Apr 2011, 7:40 a.m.,*
in response to message #6 by Walter B

It does match. It is describing the interaction with pause.

```
PSE 99
KEY?
```

A key press terminates the pause early. The key pressed can then be queried using KEY? if desired. Makes sense to me at least.

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #8 Posted by **Walter B** on 28 Apr 2011, 7:52 a.m.,*
in response to message #7 by Paul Dale

Here we reach the limits of linear programming :-)

```
PSE 99
KEY?
NOP
PI
```

PSE 99 sets a 9.9s waiting interval before the next step is executed. What is meant here, however, is KEY? is executed immediately after the waiting interval was started, and *then* either a keystroke or a 9.9s timeout will cause the program to proceed. That's my understanding based on your explanations.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #9 Posted by **Paul Dale** on 28 Apr 2011, 7:55 a.m.,*
in response to message #8 by Walter B

Not at all. PSE 99 will wait 9.9 seconds. If a key is pressed, it exits early that all. Don't press a key and the full 9.9 seconds elapse. Press a key and it continues right away. This is normal pause behaviour as Marcus wrote it.

KEY? is executed only after the pause has finished either after 9.9 seconds or after a key press.

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #10 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 8:02 a.m.,*
in response to message #9 by Paul Dale

Pauli, no need to add to your explanations. You got it.

```
PSE 99
KEY? X
BACK 2
```

will wait for a keystroke and return it to the X register. The display is carried out by PSE, just the normal behaviour.

Edited: 28 Apr 2011, 8:02 a.m.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #11 Posted by **Paul Dale** on 28 Apr 2011, 8:05 a.m.,*
in response to message #10 by Marcus von Cube, Germany

I might have got it, but Walter hadn't :-(

The code in svn has the conditional backward I think...

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #12 Posted by **Walter B** on 28 Apr 2011, 8:06 a.m.,*
in response to message #9 by Paul Dale

OK, so the meaning of PSE was / shall be altered. It shall not wait for the time set before passing control to the next step, but the wait interval shall be interrupted by any keystroke happening within said interval.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #13 Posted by **Paul Dale** on 28 Apr 2011, 8:10 a.m.,*
in response to message #12 by Walter B

> Quote:
>
> It shall not wait for the time set before passing control to the next step, but the wait interval shall be interrupted by any keystroke happening within said interval.

I hope the first *not* is an error....

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #14 Posted by **Walter B** on 28 Apr 2011, 8:14 a.m.,*
in response to message #13 by Paul Dale

> Quote:
>
> I hope the first *not* is an error....

It would have been if I hadn't written *but* later in this sentence :-)

P.S.: Seems it becomes clear why the real good stuff in mathematics was written in Latin or French ...

Edited: 28 Apr 2011, 8:17 a.m.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #15 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 9:35 a.m.,*

in response to message #14 by Walter B

The original intention was to make PSE pause the commanded time but making it interruptible seemed a nice addition to me. If you don't touch the keyboard, the waiting time is honored.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #16 Posted by **Paul Dale** on 28 Apr 2011, 7:32 a.m.,*
in response to message #4 by Walter B

> Quote:
>
> The last sentence isn't quite clear to me. I'd have searched for the key pressed via RCL *nn* with *nn* being the one used in KEY? *nn* before. TIA for enlightenment :-)

KEY? doesn't say "store a future key press into a register". Rather, it asks "what key is pressed NOW?"

So we can have a wait for key press sequence:

```
LBL 00
PSE 99
KEY? X
RTN
GTO 00
```

Thus, XEQ 00 will keep looping until a key really has been pressed. The key code is in X.

However, there are other uses that don't involve just waiting for the key press -- the program can get on with other things.

e.g. to allow a lengthy calculation to be stopped at a nice place unlike R/S that stops it immediately. E.g. after the next term in a series is summed.

Another possibility would be to allow a program to looks like it has a custom catalogue and which responds properly to arrow keys.

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #17 Posted by **Paul Dale** on 28 Apr 2011, 7:41 a.m.,*
in response to message #16 by Paul Dale

Oops, I've got KEY? executing the next step on a key press in the example, which isn't what Marcus suggested. Still the basic idea should be clear.

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #18 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 8:05 a.m.,*
in response to message #16 by Paul Dale

Paul, look at my example. The next instruction shall be skipped if a key is pressed. Looping back is by far the more common operation if no key has been pressed. Agreed?

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #19 Posted by **Paul Dale** on 28 Apr 2011, 8:08 a.m.,*
in response to message #18 by Marcus von Cube, Germany

Definitely agreed, execute the next step when no key is pressed is better.

The name is a bit suspect. KEY? would normally execute the next step when a key is present (skip on false rule).

NOKEY? is silly (and too long).

POLL ?

- Pauli

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #20 Posted by **gene wright** on 28 Apr 2011, 10:01 a.m.,*
in response to message #19 by Paul Dale

Do if true is a good consistent rule to follow if at all possible, IMO.

So, Key? would do the next step if true, ISTM.

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #21 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 11:46 a.m.,*
in response to message #20 by gene wright

What about DSZ? The meaning is "Decrement, Skip if Zero" not "Decrement, Execute if Zero".

Re: Proposal - wp34s GETKEY semantics and other input functions

*Message #22 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 2:16 p.m.,*
in response to message #21 by Marcus von Cube, Germany

For those interested, I've implemented the proposal together with Pauli. It's in SVN as an emulator build. The flash file is totally untested.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-01 Calculator Watch Parts Info

*Message #1 Posted by **aj04062** on 27 Apr 2011, 11:09 p.m.*

Does anyone know the correct diameter of the o-ring for the back?

I've been trying to contact Geoff, but he must be out of reach.

Re: HP-01 Calculator Watch Parts Info

*Message #2 Posted by **geoff quickfall** on 28 Apr 2011, 2:33 a.m.,*
in response to message #1 by aj04062

Out of reach, yep!!

Internet connection died at home for 25 hours. Not after me trying to trouble shoot this end of it by stripping the system down and then checking cables, opening the computer and checking boards and ....

To much rain on the providers box outside causing noise.

The second problem is that I sent three emails to you while in Bejing. Unfortunately, emails from Beijing as I have found out, do not make it through using public wifi.

So here is the answer:

ISO 457 - 35.20 by 34.00 (inner and outer diameter) roughly equivalent to a number 6 in thickness.

Finally!

Cheers, Geoff

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #1 Posted by **Eddie W. Shore** on 27 Apr 2011, 10:07 p.m.*

I am still holding out hope for a solar-powered RPN calculator from HP, even if it is similar to the 11C. However, a solar powered HP 15C or 35S would be sweet.

In the meantime, here is my review of TI's 36X Pro:

TI 36X Pro Review

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #2 Posted by **Katie Wasserman** on 27 Apr 2011, 10:26 p.m.,*
in response to message #1 by Eddie W. Shore

This looks like a nice calculator, but I'm curious about the appeal of solar power. On a programmable calculator (like the 11C, 15C or 35s that you mention) you're absolutely going to need a battery anyway, so why bother with having a solar power in addition? I seriously doubt that a modern, high-speed programmable could run at a good speed on the tiny about of current you'd get form such a small solar cell array. I suppose that when running on solar power you could slow down the clock, but it would likely have to be really slow and what fun would that be?

-Katie

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #3 Posted by **Crawl** on 27 Apr 2011, 11:21 p.m.,*
in response to message #2 by Katie Wasserman

I love solar in scientific calculators. It might not be entirely rational; I like the idea that if I was on a desert island, my calculator could last forever.

Most calculators now that use solar are dual powered, and I think that does help -- the batteries seem to last an extremely long time.

The last time one of my dual powered calculators had its battery die, I tried some experiments to see what it could do with the solar cell alone. In room lights, some things (possibly root finding, integration, and even statistics [because it didn't keep running totals as you entered data, but only after you call a stat function]) would cause the calculator to reset. In direct sunlight, though, I think it could do anything.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #4 Posted by **Mike Morrow** on 28 Apr 2011, 1:20 a.m.,*
in response to message #3 by Crawl

Quote:

> I love solar in scientific calculators....Most calculators now that use solar are dual powered...

I agree. Non-programmable scientific calculators (what few still remain) should without any question be dual solar/battery powered.

There's just something appealing to a small micro-power consuming device capable of scientific calculations that can power itself. The physics, electrical engineering, materials science, and mathematics that are incorporated into such a calculator are still an object of great fascination for me.

I also agree that a solar-power option for programmable calculators would be of questionable utility. I doubt any solar panel could be incorporated that by itself can power such a calculator during program execution.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #5 Posted by **Mike Morrow** on 27 Apr 2011, 10:37 p.m.,*
in response to message #1 by Eddie W. Shore

Nice review, especially the comparison to the Casio fx-115ES and the Sharp EL-W516.

Based on my own personal comparison, the 115ES is an easier to use device than the W516. Both are available for about $17.50 in north Alabama. The only thing that the W516 does that I wish the 115ES did is preserve the state of the machine at shutdown so that it all appears when turned on again. The 115ES wipes the slate clean when it shuts off, manually or automatically.

That having been said, based on your description the 115ES would still be my calculator of choice, even ignoring the 30X Pro's 25 percent higher price. And, like all TI calculators produced over the past 20 years or so, the 30X Pro is god-awful ugly. (Who does TI's horrible industrial design?) I've developed such a liking for the 115ES that I've been able to get over it not being RPN. I carry one everywhere. It's an amazingly powerful device, and if it should get damaged, it's dirt cheap to replace.

As a matter of interest, the numerical integration scheme (Gauss-Kronrod) used by the 115ES greatly outperforms the Simpson's Rule method used by the W516 in terms of speed and accuracy. I wish HP would adopt that method for their machines. What does the 30X Pro use?

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #6 Posted by **Crawl** on 27 Apr 2011, 11:38 p.m.,*
in response to message #5 by Mike Morrow

I haven't tried the TI36x pro. I'll admit I'm skeptical, because the only TI calculator I like (love, in fact) is the TI89.

But I prefer the 516w to the 115es.

I had the 506w before I got the 516w, and the upgrade went perfectly smooth. Not only does the 516w add abilities, it loses none.

What's particularly impressive to me (especially over the 115es) is that it added functionality, but it's still just as easy to use, and just about every function is still directly accessible from the keyboard (without needing menus). One function that is buried in a menu is ALG (allows you to repetitively substitute values into an expression), but the ability to assign any function to one of four soft keys fixed that.

I haven't directly compared the 516's integration to the 115es's, but I don't think the 516's is merely Simpson's rule. It can use Simpson's rule in the exact same way the 506 does, if you pass an integer argument after the integration limits, but if you don't give that extra argument I think it uses Romberg integration (since it determines on its own "when to stop")

I haven't used the 115es in a while, so I don't remember how it does constants, but I really like the 516's constant library. It's a big improvement over the 506's. The 506 required you to memorize a two digit code for each constant. The 516 has a menu that shows both the symbol AND the unit of the constant! (even some HP scientifics don't do that, though the HP50g does) You can browse though the menu to find your constant, but if you happen to remember its two digit code you can go to it instantly.

The one thing I like more about the 115es is that it does have the ability to make iterative calculations easier (I call this "weak programming" -- and it's not documented!)

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #7 Posted by **Mike Morrow** on 28 Apr 2011, 12:36 a.m.,*
in response to message #6 by Crawl

> Quote:
>
> I haven't directly compared the 516's integration to the 115es's, but I don't think the 516's is merely Simpson's rule.

The W516 manual says that it uses Simpson's rule. And for every example I've tried on both the W516 and the 115ES, the 115ES returned more accurate results much more quickly (half the time or less). The Gauss-Kronrod quadrature method is fairly sophisticated, and produces better results quicker, especially on classes of functions that are notoriously hard to numerically integrate.

> Quote:
>
> I haven't used the 115es in a while, so I don't remember how it does constants, but I really like the 516's constant library.

I thought I would like that too, but I found that it takes longer (more keystrokes) to call a constant or conversion on the W516 than on the 115ES. But for the 115ES one has to refer to a chart of codes for such that's printed on the back of the sliding cover. I'll take that over the time the W516 requires.

The numerical accuracy of the 115ES is better as well. A simple show of that is Mike Sebastian's test arcsin(arccos(arctan(tan(cos(sin(9)))))) in DEG mode. The W516 produces 9.000000098906, while the 115ES produces 9.00000000733338. The error percentage is 13.48 times larger for the W516.

I also HATE the DRILL mode of the W516. It's absolutely idiotic. What a waste of firmware!

But I do like very much the preservation of machine state when the W516 shuts down. I wish the 115ES did that.

Edited: 28 Apr 2011, 12:55 a.m.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #8 Posted by **Michael Plant** on 28 Apr 2011, 10:04 a.m.,*
in response to message #7 by Mike Morrow

Thanks for the review - I'm looking forward to getting a TI-36X Pro for my collection when they become available near me.

Regarding the 115ES and the W516 I have both. I noticed a couple of weeks ago that there is a new version of the W516 available at my local Staples and bought one. When I got it home and compared it to my current unit, the only difference I could see is a REALLY significant re-styling. I didn't open the package and returned the newer version. Anyone else seen these? If so, IS there any functional difference?

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #9 Posted by **Eddie W. Shore** on 28 Apr 2011, 10:04 a.m.,*
in response to message #5 by Mike Morrow

Thanks, Mike.

I was not able to find the method in the 36X-Pro. Since the 36X-Pro has an 84+ interface, I am going to guess Guass-Kronod because the 84+ uses that method.

The 115ES is a favorite of mine overall - other than having to switch modes to use complex numbers, matrices, and vectors, it is an outstanding.

Casio also has a solar programming model, fx-50p. I had to get one online though. I wished that Casio did not bury the programming mode and commands though.

Edited: 28 Apr 2011, 10:05 a.m.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #10 Posted by **Pablo P (Spain)** on 28 Apr 2011, 10:09 a.m.,*
in response to message #1 by Eddie W. Shore

Nice review! I have noticed that in the fx-115ES (fx-991ES in Europe) there is no keyboard buffering so when entering a very long formula (with many factions, roots...) the calculator redraws after each key press, but as the formula becomes longer and slower redraw, it can miss keystrokes. Does it happen with the TI 36X-Pro and the Sharp's EL-W516? Can you test it please? Thanks

Edited: 28 Apr 2011, 10:10 a.m.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #11 Posted by **Crawl** on 28 Apr 2011, 11:58 a.m.,*
in response to message #10 by Pablo P (Spain)

Are you noticing that in "pretty print" mode, line mode, or both? My guess would be that pretty print mode would be the worse for that, but I almost always using line mode.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #12 Posted by **Pablo P (Spain)** on 28 Apr 2011, 12:18 p.m.,*
in response to message #11 by Crawl

Quote:

Are you noticing that in "pretty print" mode, line mode, or both? My guess would be that pretty print mode would be the worse for that, but I almost always using line mode.

It happens only in pretty print mode.

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #13 Posted by **Eddie W. Shore** on 28 Apr 2011, 10:51 p.m.,*
in response to message #10 by Pablo P (Spain)

Here are a few test calculations: (Sharp) EL-W516 vs. (Casio) fx115-ES vs. (TI) 36X-Pro. All three calculators are set to "pretty print" mode.

#1:
1200+3800+28700+2899+19000+2839+4657+2983-2930-10000 = 53148

I notice a little slowness in the 115ES towards the end, but not in the 36X-Pro. The EL-W516 works fine.

#2:

sqrt(7^2 + 7^3 + 8^2 + 8^3 + 9^2 + 9^3 + 10^2 + 10^3 + 11^2 + 11^3) = 65.80273551
[using the y^x key]

All three calculators work fine.

#3:

$$1 + \cfrac{1}{1 + \cfrac{1}{1 + \cfrac{1}{1 + \cfrac{1}{1}}}} \;*\; \cfrac{2}{2 + \cfrac{2}{2 + \cfrac{2}{2 + \cfrac{2}{3}}}}$$

= 35/24

= 1 + 1 / (1 + 1 / (1 + 1 /(1 + 1 / 2))) *
2 / (2 + 2 /(2 + 2 /(2 + 2 / 3)))

The fx-115ES returns the answer and works fine, and so does the EL-W516.

The 36X-Pro returns "MEMORY LIMIT" Error when using the fraction key, but expression works when using the division key and parenthesis.

4:

$$\pi \cdot \frac{\pi^{2.4} - \pi^{\pi} + e^{(2^{3.1})}}{e^{2.4} - e^{e^1} + \pi^{(2^{3.1})}} - 1.4 \ln(5)$$

= -1.348316376

fx-115ES: Calculator returns Syntax error (at pi^(2^3.1)). The calculator doesn't take every key stroke once I get to the last term

36X-Pro: calculation has to really "refresh" itself as I am finishing the denominator

EL-W516: This calculator wins with this example. Entry was responsive without slow down the entire calculation

```
# 5:

Integrate 3x^3 - x^2 + 1/x - 1/(x^2) + 1 from 1 to 10

= 7176.652585

The fx-115ES works fine.  I can enter the integral on the 36X-Pro fine, but took
several seconds for the integral to calculate.  The EL-W516 operates similarly to the
36X-Pro.

# 6:

Sum of sin(tan(x)) + tan(sin(x)) - cos(x) - cos(x)^2 from 1 to 10 - Radians Mode

= -0.2223937769

fx-115ES: entry is fine, but the calculator took a few seconds to find the sum

36X-Pro: entry is fine and the sum was instantly found

EL-W516: entry is fine but the calculator took a few seconds to find the sum

# 7:

sqrt(3^6 - 2^3 + 1)             2.7^2.5 - 1.7^2.5
-------------------   +  sqrt( ---------------------- )
  2 * cuberoot(4)               1.7^2.5 - cuberoot(6)

= 10.51498832

fx-115ES: the entry really slows down when I am entering the second term

36X-Pro:  The calculator flashes with each keystroke at the second term, but very
little speed slow down

EL-W516: This calculator handled the expression well - no slow down


Overall:

I think the EL-W516 wins with these super long expressions.
```

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #14 Posted by **Ren** on 3 May 2011, 4:57 p.m.,*
in response to message #1 by Eddie W. Shore

I would hope that _IF_ HP made a solar RPN calc, it would have the ability to display actual voltage/current/wattage from the solar cell(s) and could also be used as a photographic light meter, IR programming input and a data logger for the light readings. You know, none of the humdrum everyday just solar powered stuff...

B^)

Ren

dona nobis pacem

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #15 Posted by **Eddie W. Shore** on 3 May 2011, 11:23 p.m.,*
in response to message #14 by Ren

That sounds really cool!

Re: OT: TI 36X Pro and Wishes for a solar RPN calculator

*Message #16 Posted by **Kiyoshi Akima** on 4 May 2011, 7:16 p.m.,*
in response to message #1 by Eddie W. Shore

Do any of these machines provide a modulus (or remainder) function? Its lack on the fx-115ES is driving me crazy!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9121 or 82901?

*Message #1 Posted by **David Ramsey** on 27 Apr 2011, 4:14 p.m.*

Or, to put it another way: if I'm looking to add an HP-1B diskette drive for occasional use with an HP-85 or 87 (yes, I got the 85, and will be posting on it shortly), should I lean towards 3.5" or 5.25" disks?

Storage capacity isn't really an issue; this is just a toy. It seems to me as though the 5.25" drives might be more reliable long term since they lack the complex arrangement of articulating arms that mount and dismount the smaller 3.5" diskettes. 5.25" disks (and they look like Shugarts): they just have that simple lever-operated clamp.

Also, should I ever find a CP/M disk for my Auxiliary Processor module, it would be on 5.25" media, I believe.

Any other reason to choose one drive over the other?

Re: 9121 or 82901?

*Message #2 Posted by **Howard Owen** on 27 Apr 2011, 4:17 p.m.,*
in response to message #1 by David Ramsey

3.5" floppies are easier to store and less fragile than 5.25". The drives take up less space too. On the other hand, if you want to play with the CP/M coprocessor for the 85, the dual 5.25" floppy is mandatory.

Regards,
Howard

Re: 9121 or 82901?

*Message #3 Posted by **David Ramsey** on 27 Apr 2011, 4:25 p.m.,*
in response to message #2 by Howard Owen

Well, I have the coprocessor, but wonder what my chances are of finding an original, HP-specific CP/M disk...

Then maybe I could run WordStar!

Re: 9121 or 82901?

*Message #4 Posted by **Juergen Keller** on 27 Apr 2011, 4:42 p.m.,*
in response to message #3 by David Ramsey

No problem, http://www.hpmuseum.net has it all. Use the search field on the home page and enter CP/M. If you have the setup as I described in my other post, you can easily convert the Teledisk image to a LIF image, and HPDrive will read it ...

Re: 9121 or 82901?

*Message #5 Posted by **Juergen Keller** on 27 Apr 2011, 4:37 p.m.,*

in response to message #1 by David Ramsey

PC with HP-IB (ISA or PCI) interface card plus HPDrive software which emulates various disk drives. But with this setup you cannot read real floppy disks. I use it with my HP-85/86/9816/9845B.

Re: 9121 or 82901?

*Message #6 Posted by **David Ramsey** on 27 Apr 2011, 4:40 p.m.,*
in response to message #5 by Juergen Keller

Good suggestion, but my real PCs aren't physically near the old HPs. Also, finding a motherboard that has anything other than PCI-E slots might be hard for me. I love the old stuff, but stay relentlessly updated on my real computers.

Re: 9121 or 82901?

*Message #7 Posted by **Juergen Keller** on 27 Apr 2011, 4:48 p.m.,*
in response to message #6 by David Ramsey

Then I would buy a 9121. With my old PC I can write DS/DD 3.5" floppy disks so if you are in need of a CP/M system disk I can create one for you. On eBay you can still buy new DS/DD 3.5" floppy disks for some bucks.

Re: 9121 or 82901?

*Message #8 Posted by **Howard Owen** on 27 Apr 2011, 6:59 p.m.,*
in response to message #7 by Juergen Keller

Can you actually boot CP/M from a 9121?

Re: 9121 or 82901?

*Message #9 Posted by **David Ramsey** on 27 Apr 2011, 7:04 p.m.,*
in response to message #8 by Howard Owen

> Quote:
>
> Can you actually boot CP/M from a 9121?

More to the point, does the Aux Processor card require a special version of CP/M?

Heck, maybe I should get both drives...

Re: 9121 or 82901?

*Message #10 Posted by **Howard Owen** on 27 Apr 2011, 9:42 p.m.,*
in response to message #9 by David Ramsey

I don't currently have an 85 or an 82901, but I still have the coprocessor. My fuzzy recollection is that the coprocessor wouldn't work with the 9121 for some reason. And I do think you need the specific version of CP/M for the coprocessor. I also seem to recall that the CP/M was limited in its ability to read and write data from outside the CP/M environment. For example, you couldn't get it to work with an RS232 card, meaning all that CP/M terminal and file transfer software was useless.

Despite all that, I had a collector's trophy feeling about actually getting that sucker to boot. :)

Regards,
Howard

Re: 9121 or 82901?

*Message #11 Posted by **Olivier De Smet** on 29 Apr 2011, 2:57 a.m.,*
in response to message #10 by Howard Owen

Did someone have some schematics or hardware documents about this coprocessor ?

It could be fun to add it to my fpga HP86/87 (see Site)

Olivier

Re: 9121 or 82901?

*Message #12 Posted by **Juergen Keller** on 28 Apr 2011, 1:44 p.m.,*
in response to message #9 by David Ramsey

Yes, a special version of CP/M is required and available on hpmuseum.net. I successfully booted CP/M from my 9133 drive (which has a floppy and a hard disk drive). I do not have an 9121 device but I don't see an obvious reason why it shouldn't work with this drive, too. Please also note that the CP/M module requires an HP-86/87, it does not work with an HP-85 (due to the limited text display, CP/M requires 80x25).

Re: 9121 or 82901?

*Message #13 Posted by **Howard Owen** on 28 Apr 2011, 3:56 p.m.,*
in response to message #12 by Juergen Keller

> Quote:
>
> Please also note that the CP/M module requires an HP-86/87, it does not work with an HP-85 (due to the limited text display, CP/M requires 80x25).

Ah, that's right. Thanks for the correction. I ran it on my 87, which I also no longer have. :(

Regards
Howard

Re: 9121 or 82901?

*Message #14 Posted by **David Ramsey** on 28 Apr 2011, 9:50 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> Ah, that's right. Thanks for the correction. I ran it on my 87, which I also no longer have. :(

Get 'em here. Cheap! Well, relatively.

Re: 9121 or 82901?

*Message #15 Posted by **Howard Owen** on 29 Apr 2011, 10:44 a.m.,*
in response to message #14 by David Ramsey

Thanks for that link! I could seriously clutter up the apartment with gear from that site. :)

Regards,
Howard

Re: 9121 or 82901?

*Message #16 Posted by **Dave Shaffer (Arizona)** on 27 Apr 2011, 6:52 p.m.,*
in response to message #6 by David Ramsey

> Quote:
>
> Also, finding a motherboard that has anything other than PCI-E slots might be hard for me

I have an old Gateway pentium mother board I'd be glad to donate.

And, per Juergen Keller's

> Quote:
>
> On eBay you can still buy new DS/DD 3.5" floppy disks for some bucks.

I also have a few DS/DD floppies I'd be glad to send anybody who wants them (they may even come with (useless?) programs on them from 15-20 years ago!).

Re: 9121 or 82901?

*Message #17 Posted by **Juergen Keller** on 28 Apr 2011, 1:47 p.m.,*
in response to message #16 by Dave Shaffer (Arizona)

> Quote:
>
> I also have a few DS/DD floppies I'd be glad to send anybody who wants them (they may even come with (useless?) programs on them from 15-20 years ago!).

Do they contain DOS programs or HP related stuff? In the second case it might be worth to archive the software.

Re: 9121 or 82901?

*Message #18 Posted by **Dave Shaffer (Arizona)** on 28 Apr 2011, 2:31 p.m.,*
in response to message #17 by Juergen Keller

Just DOS and Windows 3.1 stuff - no HP stuff.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B Dice Games

*Message #1 Posted by **Howard Owen** on 27 Apr 2011, 4:24 a.m.*

Hello everyone,

I've been out of circulation for a while, but I've recently revived my interest in vintage HP calculators, particularly the HP-41C and the HP-71B. I dusted off my old YATZ71 dice program for the 71B, and packaged it up with a version of High Rollers I wrote. I wrote both of these back in 2005, but I'm announcing the latter program here for the first time. These aren't earth shaking applications, but I had fun writing them, and actually enjoy playing them on my 71. Feedback here or to hbo@egbok.com would be welcome.

A zip file containing text listings, documentation and a LIF image are at http://retrocalculator.com/HP71-Dice-Games-1.2.zip

Enjoy!
Howard

Re: HP-71B Dice Games

*Message #2 Posted by **Christoph Giesselink** on 28 Apr 2011, 3:01 p.m.,*
in response to message #1 by Howard Owen

It's nice to see that there are people interested into these old calculators. I read your article on your homepage about the 71B and your idea writing assembly language programs for this calculators.

You thought about using "areuh" as Saturn assembler.

Let us go back into the dark history of Saturn assembly programming in the late 80'ies. HP hadn't published an assembler for the Saturn CPU until 1989. The first one from HP was HPTOOLS for DOS from Nathan Zelle. So before every developer had to make his own assembler with own mnemonics for the same CPU. When you're looking for example at old HP28S programs quite often the CLASS mnemonics are used. For me the CLASS mnemonics seem to be inspired by the MC68000 mnemonics.

So nowadays it only makes sense to use the "HP mnemonics", because the 71B IDS and all original HP documentation even for the later calculators use these mnemonics.

So my first choice would be the HPTOOLS with the SASM assembler and SLOAD linker. BTW, JFG used the DOS version of the HPTOOLS to recompile the JPC ROM.

I personally used the DOS HPTOOLS from the mid 90'ies until ~2000 for my HP48 development. Since then the HP49G got into my focus and with the old DOS HPTOOLS it wasn't possible to compile HP49G RAMMAP.A assembly file. So I switched to the HPTOOLS 3.0.x series for Win32. These versions of SASM and SLOAD are fully backwards compatible to the sources written for the DOS HPTOOLS. Another positive thing is, besides the sources and the Win32 binaries are available, there are also fully compiled HPTOOLS 3.0.x binaries for Linux and Mac OS.

So IMHO there's no need to search for a different assembler package than HPTOOLS 3.0.x. All documentation

is also written in English so you don't need a language translation program and psychic abilities to understand the translation results. But perhaps you need the gift of second sight to read my "English" especially the grammar. ;-)

Any information about a tutorial writing LEX programs for the 71B and putting them into a LIF file on Win32 to load them on a calculator are welcome.

Best Regards,

Christoph

Re: HP-71B Dice Games

*Message #3 Posted by **Howard Owen** on 28 Apr 2011, 4:29 p.m.,*
in response to message #2 by Christoph Giesselink

Thanks for the informative reply, Christoph! Your English is completely intelligible to me. I've been a fan of your emulators for some time. You figured in my virtual 71B project. I loaded Hrast's HP-71X on emu48 on Windows in a virtual machine running on Linux. I can't recall if I added the HP-41C translator to 71X or not. It's been awhile :).

> Quote:
>
> Another positive thing is, besides the sources and the Win32 binaries are available, there are also fully compiled HPTOOLS 3.0.x binaries for Linux and Mac OS.

I had no idea. This point means I would never consider using anything else unless it had that kind of portability.

> Quote:
>
> All documentation is also written in English so you don't need a language translation program and psychic abilities to understand the translation results.

I read that now and laugh. JF helped me clean up the translation quite a lot and I was embarrassed by some of my errors. Fortunately I'm capable of laughing at myself :)

> Quote:
>
> But perhaps you need the gift of second sight to read my "English" especially the grammar. ;-)

As stated above, I have no problem at all understanding your English. :)

> Quote:
>
> Any information about a tutorial writing LEX programs for the 71B and putting them into a LIF file on Win32 to load them on a calculator are welcome.

I'm considering firing up the project to disassemble and extend the EXTFILES lex to cover the HP85 and 9000 file types. There's a lot I don't know that I will need to understand to accomplish that. I'm not worried though. The documentation exists and there are more than a couple of people here who understand the saturn pretty well :).

As to getting results onto a 71B, I'm currently using the ISA card on an old OmniBook 800CT running Windows 95. I plug in the ethernet cable (on a PCMCIA 10 mbit ethernet card) and scp the LIF image over using Cygwin. I think modern viruses might have trouble recognizing Windows 95, but I disconnect the ethernet anyway. :) Emu71 gets the image on to a 9114 floppy which I then read with my 71B. I can use the same path for the reverse direction too, but it's obviously awkward. I'm awaiting a PILbox, and I hope that will streamline the process. My ideal would be to drive the PILbox with a virtual machine running on my Mac, but I have a real Windows machine too in case that's no good.

Regards,
Howard

Re: HP-71B Dice Games

*Message #4 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 9:07 p.m.,*
in response to message #3 by Howard Owen

Howard, my last tests with the PILbox in Parallels on the Mac (WinXP) were successful.

Re: HP-71B Dice Games

*Message #5 Posted by **Howard Owen** on 29 Apr 2011, 1:24 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Great! I'm using WinXP on Parallels too.

Regards,
Howard

Re: HP-71B Dice Games

*Message #6 Posted by **gene wright** on 28 Apr 2011, 3:53 p.m.,*
in response to message #1 by Howard Owen

Thanks Howard! Have to pull my trusty HP-71B out of the drawer now.

Suggestion..? Try to come to HHC 2011 this year in San Diego and consider writing up a short presentation about the HP 71b focusing on something you like or that might be interesting to some of us. You KNOW that most HP attendees present won't know anything about the 71B.

Be good to see you there again.

Re: HP-71B Dice Games

*Message #7 Posted by **Howard Owen** on 28 Apr 2011, 4:33 p.m.,*
in response to message #6 by gene wright

I'd love to come to HHC 2011! I was there in 2007 and had a blast.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

different LCDs used in HP41C?

*Message #1 Posted by **exschr** on 26 Apr 2011, 5:06 p.m.*

I have different 41's:
Two of them have a yellowish LCD with lesser contrast and smaller digits: S/N 2227S, 2243S
The other three have sharp, crisp LCDs with digits, that are slightly bigger: 2209S, 2411S, 2505S
My first guess had been, that the older ones have an other LCD in them.
But the S/N seem not to support this (or one of them had it's LCD broken and replaced by the newer product)

Were there two different products in use?
Has anyone similar differences?

I read about the tantalum capacitor story, but I don't see how this applies here.

Re: different LCDs used in HP41C?

*Message #2 Posted by **Håkan Thörngren** on 26 Apr 2011, 5:47 p.m.,*
in response to message #1 by exschr

There were at least 3 different LCD used for the HP-41.

On the early ones (I have an early 1981 CV), you can see the unlit segments quite easily depending on how the light falls on it. On the second generation, seeing the unlit segments is a lot harder and they also look brighter. This LCD was at least in production machines around 1983 (I do not own any machine with it) and later (1985/86) the rounded corner halfnut LCD was introduced.

I think your yellowish are from the first generation, but I do not think they are that bad or maybe they have gone worse over the years?

I think your 2209S machine have had its LCD (or bottom) swapped.

Re: different LCDs used in HP41C?

*Message #3 Posted by **exschr** on 26 Apr 2011, 5:55 p.m.,*
in response to message #2 by Håkan Thörngren

It's exactly as you said, for the first generation I can see the unlit segments quite easily. For the second gen. I hardly can see them.
(And I don't have a halfnut)

The yellowish ones are not bad, but in comparison to the others it's quite remarkable difference!

Thank you for the input.

different LCDs used in HP41C?

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A first estimate for Student's t quantile (not only) on the WP34s

*Message #1 Posted by **Dieter** on 26 Apr 2011, 4:09 p.m.*

Hi all, hi Pauli. ;-)

over the last weeks there has been some discussion on the normal distribution and its inverse (quantile). I think the 34s performs pretty well now. The CDF should be exact and there also is a good first estimate for the quantile. After this, the Halley method returns results with fast convergence to the exact value. So far, so good.

The second important distribution we should take a closer look at now is Student's t-distribution. I have been experimenting a while with several approaches, and I finally got a result that I think is fine as a first estimate. Use at your own risk, expect any error you can imagine, but try this:

- For df = 1 or 2 degrees of freedom the quantile can be determined directly.
  This also is the case for n = 4, it only requires a bit care at very low t (close to zero) or p close to 0,5.

- For other degrees of freedom, i.e. df >= 3, the following method provides a nice first estimate. As usual, p is assumed to be less than 0,5 and t > 0.

```
if -ln(p) < 1,7 * df then
    x = guess_normal(p)
    u = (x^3 + x) / 4 / df
    v = (x^5 / 12 + x^3 / 4) / df^2
    t = x + u + v
else
    u = 2 * p * df * sqrt(Pi / (2*df - 1))
    t = sqrt(df) / u^(1/df)
end if
```

Here guess_normal is the well-known first estimate of the normal quantile (with the slight modification 1/u^2 instead of 0,2/u, as mentioned earlier). According to my results this estimate for t differs from the exact value by something like typically +/- 1...2%, in some cases a bit more.

This single estimate now can be used for a Newton-iteration - the first derivative simply is the Student PDF, so we get

$$t_{new} = t - \frac{tCDF(t) - p}{tPDF(t)}$$

If two guesses are required (e.g. for the 34s solver) we can simply use 1.1*t and 0.9*t (or something similar).

And now: try it and let me know about your results. ;-)

Dieter

Edit: tail formula now looks slighty more elegant ;-)

Edited: 27 Apr 2011, 4:01 p.m. after one or more responses were posted

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #2 Posted by **Paul Dale** on 26 Apr 2011, 6:37 p.m.,*
in response to message #1 by Dieter

We don't currently implement the t pdf and it looks pretty complex so I'd have to go with two bracketing estimates and use the built in solver. This is pretty what I'm doing now but the bracket is the t v=2 value and the upper normal estimate which is wider than I like.

When can we expect Chi^2 and F estimates ;-)

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #3 Posted by **Dieter** on 27 Apr 2011, 3:45 p.m.,*
in response to message #2 by Paul Dale

Hi Pauli,

> Quote:
>
> We don't currently implement the t pdf and it looks pretty complex

It *looks* a bit complex because of the two Gamma functions. But there is a nice trick that was also used in the t-quantile estimate: The required Gamma quotient can be approximated with sufficient precision. ;-)

$$\frac{\Gamma\left(\frac{n+1}{2}\right)}{\Gamma\left(\frac{n}{2}\right)} \approx \frac{\sqrt{2n-1}}{2}$$

I tried the Newton method both with the exact PDF and with a simplified substitute containing this approximation. The number of iterations required for two successive results agreeing in 14-15 significant digits was mostly 4 or 5 with the exact PDF and 5 to 7 using the approximation (slightly tweaked by adding 1/n^2 under the square root).

> Quote:
>
> so I'd have to go with two bracketing estimates and use the built in solver. This is pretty what I'm doing now but the bracket is the t v=2 value and the upper normal estimate which is wider than I like.

That's exactly why I proposed this new first estimate. ;-) If you want to use the solver, try a = 0.95 t and b = 1.05 t. The error of the estimate usually is less than 5% so that the true t-quantile can be expected in this interval. Of course an exact t-CDF is essential here for a precise quantile result.

> Quote:
>
> When can we expect Chi^2 and F estimates ;-)

First I need a benchmark algorithm that returns a sufficiently precise result. ;-)

I admit I finally was surprised how compact the final formulas for the t-estimate turned out. They are basically simplified (though improved) versions of two series expansions. The results I got actually were so good, I even detected an error in my reference algorithm far out in the distribution tails. ;-)

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #4 Posted by **Paul Dale** on 28 Apr 2011, 12:14 a.m.,*
in response to message #3 by Dieter

I've tried out the better initial estimate using the built in sovler. It is better by a couple of iterations across the bulk of the range and a few more in the extremes. Unfortunately, I don't think it is enough better to justify the space unfortunately. The additional code amounts to a bit under a kilobyte which is too much -- we've only got 3kb clear in total at the moment.

Likewise, I don't think specially implementing the pdf so we can use Newton's method will nett enough of a speed gain to justify the space cost.

What I have done is terminate the search when the relative error between estimates is 1e-24 or better, this saves a lot of iterations but should still give us decent accuracy when rounded to 16 digits. I've not timed this on a real unit yet but it should help most of the quantile functions.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #5 Posted by **Dieter** on 28 Apr 2011, 3:00 p.m.,*
in response to message #4 by Paul Dale

What? Just a couple of iterations saved? With the previous method the two initial guesses could be apart by a factor of 10, 100 or even more, and now it's merely 10%. Strange.

I tried the method with the approximate PDF. After the first iteration the error is order of 1E-3, and then each step gives about three more valid digits. Which matches the 5 - 7 iterations for 15 digits mentioned earlier. With the true PDF convergence is almost quadratic, as expected.

Pauli, I know you like results that are far, far more precise than required in the final 16-digit result, but a relative error of just 1E-24 in the t-approximation simply is too much. If two consecutive values differ by not more than 1E-24 this means that they match in 24 significant digits (+1 ULP) and already the *previous(!)* approximation was that precise. In other words, the *current* approximation has 27 or 30 or even more valid digits. But we need just 16... ;-)

Please do not forget: you can use as many digits as you want, but even a 100-digit result rounded to 16 digits has a potential error of 1 digit in the last place. It's only less likely. ;-) I would suggest to exit the iteration as the error drops below 1E-16. This way the last two approximations agree in all 16 digits (+1 ULP) and the current result even has some more correct digits. Too risky? Okay, then use 1E-20. ;-)

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #6 Posted by **Paul Dale** on 28 Apr 2011, 6:53 p.m.,*
in response to message #5 by Dieter

> Quote:
>
> What? Just a couple of iterations saved? With the previous method the two initial guesses could be apart by a factor of 10, 100 or even more, and now it's merely 10%. Strange.

I didn't exhaustively test thousands of cases but those I did showed modest improvement over most of the range and not a huge penalty at the extremes. Feel free to test lots more & let us know :-)

I do very much appreciate the efforts you've put into debugging and assisting with the improvements in the statistical functions.

The far more important factor here is space. The improved method uses about one third of the remaining flash space. At this stage, I'm unwilling to commit that much space to one distribution's inverse, especially when we're already getting accurate results albeit slowly. I'm sure there are plenty of bugs that cause inaccuracies and functions that are simply incorrect some of the time waiting to be discovered. We will need to fix those problems so I've always planned to have a small amount of buffer in the flash reserved for this.

If we had the space, your improved estimates would be in immediately. The code is in subversion and if we figure out a way to recover some space (& we've a few ideas floating around), in it will definitely go.

> Quote:
>
> With the true PDF convergence is almost quadratic, as expected.

The built in solver will achieve quadratic convergence almost always BTW. Brent's method is nice.

> Quote:
>
> Pauli, I know you like results that are far, far more precise than required in the final 16-digit result, but a relative error of just 1E-24 in the t-approximation simply is too much. If two consecutive values differ by not more than 1E-24 this means that they match in 24 significant digits (+1 ULP) and already the *previous(!)* approximation was that precise. In other words, the *current* approximation has 27 or 30 or even more valid digits. But we need just 16... ;-)

I like results that are likely to round correctly, more digits makes this more likely. For functions that are used by other functions (e.g. the normal QF) I like more digits again. I'm not a numerical analyst by profession so I'm deliberately applying a sledge hammer where it probably isn't required. Which would people prefer, slower but more accurate functions or faster and possibly incorrect?

Changing from 1e-24 to 1e-20 for the relative error will likely mean one iteration difference and possibly none for either method. I can live with that penalty for the extra security and comfort it brings :-)

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #7 Posted by **Dieter** on 30 Apr 2011, 7:11 p.m.,*
in response to message #6 by Paul Dale

Okay, I now tried an implementation of Brent's method in VBA, using two inital guesses the same way it's done now (a = value for 2 d.o.f. and b = normal quantile). These results were

compared to the approximations obtained with initial guesses based on the proposed method.

The results are quite exactly as expected: the current method does not require much more iterations as long as the two initial guesses are sufficiently close, i.e. in the center and not too far out in the tails. Values like p = 0.001 are still handled with only a few iterations more than required by the improved method.

Things change as soon as we get further out in the distribution tails. At n = 10, try p = 0.0001 or 1E-10 or even 1E-20. The number of iterations is twice or three times as high as with an optimized initial guess. It simply makes a difference whether the solver can work with two similar initial estimates or if it only knows the result is somewhere between 6 and 70000. ;-) If the calculation takes a second on a 2-GHz-system, imagine how long it will take on a real 20s or 30s. Maybe someone can try the following calculations on a re-flashed unit.

I tried the $t^{-1}(p)$ function on the emulator, version 1.17 673. Here are some results:

p	n	exact result	WP34s result	
1 E-5	10	-7,526954	-7,526954	so far
1 E-10	10	-25,466008	-25,466008	so good
1 E-15	10	-81,040891	-22360679	
1 E-20	10	-256,434699	-7071067812	oops...
1 E-40	10	-2,564 E+05	-7,071 E+19	
1 E-100	10	-2,564 E+10	"domain error"	

I think it's obvious where this 7,071... mantissa comes from. ;-)

The t quantile function works fine in the center. Maybe not as fast as possible, but the results are okay. The more we get out in the tails of the t-distribution, the less reliable the results get. Below a certain limit they are far off.

I see the problem with the available RAM. But I think something has to be done to get at least correct results. Precision is not optional. ;-)

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #8 Posted by **Paul Dale** on 30 Apr 2011, 7:40 p.m.,*
in response to message #7 by Dieter

> Quote:
>
> I tried the $t^{-1}(p)$ function on the emulator, version 1.17 673.

That is a very old version of the software. Current is 793. The results I get aren't anything like what you're seeing. Not in a good way: 1E-15 is giving a domain error instead of a wrong result. I guess this is slightly better.

At these small values, t(x) seems like it might be wrong too.

> Quote:
>
> I see the problem with the available RAM. But I think something has to be done to get at least correct results. Precision is not optional.

Agreed, I'll look into this. The lack of space is in flash not RAM. Well it is in both, but this isn't requiring much RAM.

If I can't fix it, the domain gets reduced or the function removed :-(

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #9 Posted by **gene wright** on 30 Apr 2011, 8:45 p.m.,*
in response to message #8 by Paul Dale

If I can vote, please reduce the domain rather than remove!

:-)

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #10 Posted by **Walter B** on 1 May 2011, 12:38 a.m.,*
in response to message #9 by gene wright

Please add my vote to Gene's d:-)

WP34s code size - Keep the functionality!

*Message #11 Posted by **Marcus von Cube, Germany** on 1 May 2011, 2:40 a.m.,*
in response to message #10 by Walter B

I'm working on the space issue. Maybe a combination of GCC 4.6.0 with some options used by CodeSourcery G++ (based on GCC 4.5.1) may help. At the moment, the latter produces tighter code then GCC 4.6.0 which puzzles me and which lets me hope that we can do even better.

Re: WP34s code size - Keep the functionality!

*Message #12 Posted by **Eric Smith** on 1 May 2011, 3:47 a.m.,*
in response to message #11 by Marcus von Cube, Germany

FSF GCC for the ARM always lags behind the development at CodeSourcery. CodeSourcery does send their improvements to the FSF, but it takes a while for them to get integrated into an FSF release. For ARM, using the latest CodeSourcery release is generally better in every way than using the FSF release.

Re: WP34s code size - Keep the functionality!

*Message #13 Posted by **Paul Dale** on 1 May 2011, 6:36 a.m.,*
in response to message #12 by Eric Smith

Being a contributor to GCC, I have a fair idea why this lag is occurring.... My changes were a couple of weeks' work, getting them accepted was far more painful.

- Pauli

Re: WP34s code size - Keep the functionality!

*Message #14 Posted by **Oliver Unter Ecker** on 1 May 2011, 5:29 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus,

Are you compiling with -Os?

Have you guys considered/tried LLVM? In my experience (and following Apple's party line) you can expect both greater speed and smaller size for ARM (and IA) code.

Re: WP34s code size - Keep the functionality!

*Message #15 Posted by **Paul Dale** on 1 May 2011, 7:16 p.m.,*
in response to message #14 by Oliver Unter Ecker

> Quote:
>
> Are you compiling with -Os?

We are but don't blindly trust -Os to reduce code size. On many platforms -O1 is small & often faster :-)

Gcc 4 for ARM, -Os seems to be the winner. For Gcc 3 for ARM it was -O1 almost always.

We've not tried llvm.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #16 Posted by **Paul Dale** on 1 May 2011, 7:15 a.m.,*
in response to message #9 by gene wright

I feel that domain reduction is the right way to go here.

Unlike the normal distribution which has uses as a function in its own right, the T-distribution is only used for statistical tests (as far as I'm aware -- let me know if I'm wrong here) and nobody in statistics really cares about probabilities less than 1e-10. Actually, a lot larger than this is sufficiently good :-)

Still, I'd like to fix the underlying problem and have it work globally. I was out most of today so didn't make any significant progress.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the

WP34s

*Message #17 Posted by **Dieter** on 1 May 2011, 10:25 a.m.,*
in response to message #16 by Paul Dale

I would not recommend a domain reduction for Student's distribution. There sure are other candidates that might get stripped somehow. Imagine a financial calculator accepting no values beyond 1E10 - *"because you won't have that much money anyway"*. ;-)))

Also, according to my results there is no fixed lowest probability for a cutoff. The limit depends on the degrees of freedom. For instance, the switch between the two formulas for the improved initial guess is done at $e^{-1,7\ df}$. Beyond that limit, the guess is so close to the true value that at least this (rounded) estimate could be returned. But, as mentioned before, I think neither the domain nor the precision of the results should be reduced as far as the t-distribution is concerned.

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #18 Posted by **Dieter** on 1 May 2011, 10:01 a.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> [Version 1.17 673] is a very old version of the software. Current is 793.

I looked at http://sourceforge.net/projects/wp34s/files/ and there was no newer version of the emulator than this, dated April 17. Where can I find a newer one? The emulator, that is. ;-)

> Quote:
>
> At these small values, t(x) seems like it might be wrong too.

That's my impression as well. Despite the extremely high internal precision there are lots of pitfalls as far as numeric accuracy is concerned. In my own programs for the 41C and 35s I often use different ways to evaluate a term, so that e.g. small and large values take different paths on their way through the algorithm. Even a simple term like 4*p*(1-p) is not trivial.

> Quote:
>
> If I can't fix it, the domain gets reduced or the function removed :-(

There are three destributions I would consider mandatory: Normal, Binomial and Student. Removing one of these, or even reducing their domain, is not an option, I think. There sure are other candidates that might get removed without major loss in functionality. If neccessary we could have another poll here. ;-)

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #19 Posted by **Walter B** on 1 May 2011, 2:42 p.m.,*
in response to message #18 by Dieter

Hallo Dieter,

look here for the newest emulator build. But watch out, this is closer to development, so more error prone than the "official" package at the address you mentioned.

Walter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #20 Posted by **Marcus von Cube, Germany** on 1 May 2011, 4:53 p.m.,*
in response to message #19 by Walter B

We're going to assemble a new official release early this week, I hope.

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #21 Posted by **Oliver Unter Ecker** on 1 May 2011, 5:30 p.m.,*
in response to message #1 by Dieter

Dieter,

Any keisan code for this? :-)

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #22 Posted by **Dieter** on 2 May 2011, 3:38 p.m.,*
in response to message #21 by Oliver Unter Ecker

Sure. Try this:

```
p = min(probability, 1-probability);   /* make sure p =< 0.5 */
s = sign(0.5 - probability);           /* set  correct sign  */


if ((-ln(p)) < 1.7 * df)
    {                                   /* first guess = normal quantile estimate */
    if (p < 0.2)
       {u=-2*ln(p); x=sqrt(-2*ln(p*sqrt((u-1)*2*pi))) + 1/u^2;}
    else
       {u = (0.5-p)*sqrt(2*pi); x = u + u^3/6;}
    u = (x^3 + x) / 4 / df;
    v = (x^5 / 12 + x^3 / 4) / df^2;
    t = x + u + v;}
else
    {u = 2*p*df*sqrt(pi/(2*df - 1));
    t = sqrt(df) / u^(1/df);}


println(t*s,0);                             /* print first guess (and a dummy zero) */
k = 0;
```

```
do {
   d = (tcd(t,df)-p)/tpd(t,df);
   t = t + d;
   err = d / t;
   r = int(-log(abs(err)));
   err = round(10^r * err, 3)/10^r;       /* round error */
   println(t*s, err);                     /* print current approximation and error */
   k = k+1;
   }
while(1 + abs(err)^2 <> 1);            /* a somewhat different exit condition ;-)
*/
                                        /* more conservative users may omit the square
*/
println(ticd(probability,df),k);       /* print exact t-value and number of iterations
*/
```

This will generate a small table with the current approximation and the relative error, compared to the previous iteration. You can also nicely see the (well, almost) quadratic convergence.

However, the t-distribution will push Keisan close to its limits - and beyond. Try 1E-100 and 50 degrees of freedom. The iteration returns a result, while Keisan returns a "system error". ;-) Also, too much digits may cause Keisan-problems because of insufficient internal precision. So better try 18, 30 or 38 digits.

A real-world implementation would require a bit more, for instance a check for p = 0,5 where t = 0 (leading to a division by zero here).

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #23 Posted by **Oliver Unter Ecker** on 3 May 2011, 6:54 a.m.,*
in response to message #22 by Dieter

Thank you very much, Dieter!

Here's my JavaScript "production" code, based on yours:

```
    "StudentTQuantile": function(df, x) {
        if (df != Math.floor(df)) throw Error("bad arg");
        if (x <= 0) return +Infinity; else if (x >= 1) return -Infinity; else if (x
== 0.5) return 0;
        var t, p = Math.min(x, 1-x), s = this.sign(0.5 - x);
        if (-this.ln(p) < 1.7 * df) {
            if (p < 0.2) {
                var u = -2*this.ln(p);
                x = Math.sqrt(-2*this.ln(p*Math.sqrt((u-1)*2*Math.PI))) + 1/(u*u);
            }
            else {
                var u = (0.5-p)*Math.sqrt(2*Math.PI);
                x = u + (u*u*u)/6;
            }
            var x3 = x*x*x;
            u = (x3 + x) / 4 / df;
            v = (x3*x*x / 12 + x3 / 4) / (df*df);
            t = x + u + v;
        }
        else {
            u = 2*p*df*Math.sqrt(Math.PI/(2*df - 1));
            t = Math.sqrt(df) / Math.pow(u,(1/df));
        }


        var d, k = 10;
        do {
            d = (this.StudentTDistribution(df, t) - p) / this.StudentTPDF(df, t);
            t += d;
        }
        while (d*d > 1e-30 && --k);


        return t*s;
```

```
    }
```

You'll notice the change in the termination criterion to get the result within one ULP (for IEEE754 doubles) but providing a hard iteration max to deal with too slow convergence and oscillations.

Here the results for your extreme values test:

```
     p        n           exact result        ND1 (max 10 iters)   ND1 (max 100
iters)
  ---------------------------------------------------------------------------
--
   1 E-5     10          7.526954019339    7.526954019333            7.526954019334
   1 E-10    10         25.466008           25.466010               25.466008
   1 E-15    10         81.040891           80.3924                 81.05831
   1 E-20    10        256.434699          -Infinity               -Infinity
   1 E-40    10        2.564 E+05          -Infinity               -Infinity
   1 E-100   10        2.564 E+10       19881486106.20             -Infinity
```

I guess a PDF at the mercy of the gamma function, may, in part, explain the slow convergence.

I'm going with the max of 10 iterations. For non-extreme values, results within +/- 1 ULP seem to be found in typically 3-5 iterations. The first estimate is great!

Do you have an iOS device? I'd love to give you a redeem code for a copy of ND1 (and CalcPad when it comes out).

Cheers.

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #24 Posted by **Dieter** on 3 May 2011, 2:18 p.m.,*
in response to message #23 by Oliver Unter Ecker

There must be a problem in the Student PDF or (more likely) the CDF. Here are the results evaluated by Keisan, set to 18 digits. All results were obtained after just 2 to 4 (!) iterations. Ten or even more iterations were not required. That's why I think the results of the CDF you use are not exact. But an exact CDF ist crucial for an exact quantile.

The initial estimate has a relative error order of 10^-2. So quadratic convergence should give a 15-digit result after three iterations, or let's say 4 or 5 under real world conditions. And that's exactly what I got. ;-)

```
   p        n           quantile           algorithm @ Keisan
 ------------------------------------------------------------------
  1 E-5     10          7.526954           7.52695401933965106
  1 E-10    10         25.466008          25.4660080216977262
  1 E-15    10         81.040891          81.040890880039345
  1 E-20    10        256.434699         256.434699318526186
  1 E-40    10        2.564 E+05         2.5645257010761472 E+05
  1 E-100   10        2.564 E+10         2.5645257189481978 E+10
```

The results seem to be okay. Maybe someone can check them with Mathematica or Maple. I'll see what can be done in Excel/VBA (15 digit floating point arithmetics). Here, decent distribution functions and quantiles are sorely missing. Excel seems to have a very... "special" reputation among statisticians. ;-)

BTW - no, I do not have any kind of i-device. I'm a bit conservative in these things. ;-)

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #25 Posted by **Oliver Unter Ecker** on 3 May 2011, 4:22 p.m.,*
in response to message #24 by Dieter

The algorithm is great and not to be blamed for slow convergence.

You were quite right: I found the CDF to be the culprit. For t=25.4, df=10, I'm only getting 5 good digits after the point.

The PDF, conversely, is exact.

I'll see how I can improve this, but as results seem to be quite good already, and convergence does occur for most values with 2 (corrected from 3, after testing) to 5 iterations, I'm quite happy with it already.

The CDF isn't entirely flawed. For t=25.4, df=2 I'm getting 16 good digits.

It's obvious you can do real math. So, yes, I can see how you don't need a permanent math i-companion. ;-)

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #26 Posted by **Paul Dale** on 3 May 2011, 7:33 p.m.,*
in response to message #24 by Dieter

> Quote:
>
> Excel seems to have a very... "special" reputation among statisticians. ;-)

It has a similar reputation amongst numerical analysts.

Hopefully, I'll get back to the statistical code this week.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #27 Posted by **Paul Dale** on 4 May 2011, 5:10 a.m.,*
in response to message #1 by Dieter

Good news, the better initial estimate is back in (or will be when we build next). Some flash space was recovered.

I'm not using Newton's method however, the pdf will be large and we're going to need the space for estimates for the other distributions I expect.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #28 Posted by **Dieter** on 6 May 2011, 3:46 p.m.,*
in response to message #27 by Paul Dale

As far as I can see the max. error of the t quantile estimate is about 4%. So the initial interval could even be set to 0,95...1,05 t. ;-)

I was about to write this and that concerning numeric accuracy in the distributions, e.g. using ln1+x and e^x-1, and avoiding terms like p-0.5 where values below a certain limit simply return 0,5 (cf Logistic quantile). But I see much of this work already has been done now, e.g. in the Exponential and Weibull CDF, but not in its QF which should be updated the same way. There also is an improvement in the t-quantile for 1 d.o.f. where tan(pi*(p-0,5)) was replaced by cot(p*Pi), which I wanted to suggest as well. So it seems this time you were faster, Pauli. At least at some points. ;-)

The improved evaluation of the t-quantile (1 d.o.f.) should also to be applied to the Cauchy distribution. The latter could be omitted completely since it's nothing but the t-distribution with 1 d.o.f. Without Cauchy there also is no need to rework its cdf - since the final step is adding 0,5 there is a point beyond which the result is a plain zero.

I did not look at the t CDF. Does it return 16 valid digits for any t-value or is there something that can be improved?

By the way - how fast do these functions execute on a real 20s or 30s?

Dieter

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #29 Posted by **Dieter** on 7 May 2011, 4:38 p.m.,*
in response to message #27 by Paul Dale

Pauli, I think there is a bug in the t-quantile routine: the solver seems to exit as soon as the result has reached display accuracy. Try p = 0,1 and 4 d.o.f. and you will get 1,5535 in FIX 2, while ALL returns the correct result 1,5532.

The Student CDF also does not work far out in the tails. Again, with four degrees of freedom, t = -1E10 returns 3E-40, and -1E20 should return 3E-80, but instead you get a plain zero. I assume the reason is some kind of digit cancellation: the limit is t = -sqrt(1E39). This also leads to substantial execution times for the quantile in that area, probably because more and more significant digits get lost as p drops below something like 1E-70. Values below 1E-78 simply throw a domain error.

Dieter

Edited: 7 May 2011, 4:57 p.m.

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #30 Posted by **Paul Dale** on 7 May 2011, 8:07 p.m.,*
in response to message #29 by Dieter

> Quote:
>
> I think there is a bug in the t-quantile routine: the solver seems to exit as soon as the result has reached display accuracy. Try p = 0,1 and 4 d.o.f. and you will get 1,5535 in FIX 2, while ALL returns the correct result 1,5532.

Nice catch. Fixed soon.

- Pauli

Re: A first estimate for Student's t quantile (not only) on the WP34s

*Message #31 Posted by **Paul Dale** on 7 May 2011, 9:11 p.m.,*
in response to message #29 by Dieter

> Quote:
>
> The Student CDF also does not work far out in the tails. Again, with four degrees of freedom, t = -1E10 returns 3E-40, and -1E20 should return 3E-80, but instead you get a plain zero. I assume the reason is some kind of digit cancellation: the limit is t = -sqrt(1E39). This also leads to substantial execution times for the quantile in that area, probably because more and more significant digits get lost as p drops below something like 1E-70. Values below 1E-78 simply throw a domain error.

Not so much a digit cancellation as digit loss. The transform I used from the T cdf to the incomplete beta function involved a sqrt($v + t^2$) term which got uninteresting as |t| got large.

I've found an alternative transformation that looks like it works a lot better.

Now to see if my Internet connection will allow me to commit these two changes or not...

- Pauli

Edited: 7 May 2011, 9:23 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S TIME Function

*Message #1 Posted by **Jake Schwartz** on 26 Apr 2011, 9:18 a.m.*

Hi Guys,

I know that the TIME function recalls the time from the internal clock, and I also believe that neither the 20b nor the 30b have a crystal. Yesterday I used SETTIM to set in the time of day in my 20b running wp34s, then checked back around 12 hours later and it was off by an hour and a half. (I kind of expected this....) Assuming that none of the available HP hardware platforms have a crystal to assure even modest accuracy, I wonder about the merits of having the TIME function occupying a precious position on the keyboard (even if it is on an h-shifted position), as opposed to being in the "X.FCN" menu like SETTIM, DATE and SETDAT. If this function is not going to be accurate, wouldn't one expect that no experienced user will ever press that button, and therefore something more useful could be "promoted" to the shifted keyboard?

Thanks,

Jake

Re: wp34S TIME Function

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 10:25 a.m.,*
in response to message #1 by Jake Schwartz

Even with a crystal installed, the clock will only be more accurate if the firmware actually uses the additional hardware. If users here are interested, I can prepare a special version of the image with the crystal oscillator enabled.

Re: wp34S TIME Function

*Message #3 Posted by **Walter B** on 26 Apr 2011, 10:53 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Intention of TIME was using it for runtime measurements, i.e. for typical intervals of seconds to minutes.

Walter

Re: wp34S TIME Function

*Message #4 Posted by **BobVA** on 26 Apr 2011, 7:33 p.m.,*
in response to message #2 by Marcus von Cube, Germany

A user is interested :-)

A separate file would be fine for me, but if it's inconvenient to provide/update perhaps the switch could be included as an X.FCN (something like "XTAL"). Downside is I think it will crash the calculator if executed without the appropriate hardware.

Other less crash prone possibilities:

- Use an X.FCN and prompt for confirmation, or

- Enable the crystal if a particular key is held down while coming out of a reset. This would need some kind of confirmation that it worked, though, after boot. Perhaps a message or number on the stack?

Having fun with the WP-34. Thanks for your efforts.

Regards, Bob

Edited: 26 Apr 2011, 7:39 p.m.

Re: wp34S TIME Function

*Message #5 Posted by **gene wright** on 26 Apr 2011, 7:42 p.m.,*
in response to message #4 by BobVA

For anyone reading this who isn't as versed in the 20b/30b hardware...Remember, the base 20b / 30b does not have a crystal at all, which means you would have to physically add one to the unit before using a 34s image that sees the added hardware.

I think that's correct.

Edited: 26 Apr 2011, 7:44 p.m.

Re: wp34S TIME Function

*Message #6 Posted by **Paul Dale** on 26 Apr 2011, 8:03 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Can't we detect if the oscillator is present?

Either start using it and rely on the watchdog to recover enough to not use it if it isn't installed or insist on an extra solder connection is made to an IO pin when the crystal is installed. If you are already soldering two tiny capacitors and a crystal onto the board, one extra wire link isn't asking too much.

- Pauli

Re: wp34S TIME Function

*Message #7 Posted by **Marcus von Cube, Germany** on 27 Apr 2011, 4:48 a.m.,*
in response to message #6 by Paul Dale

Both ideas are worth investigating. I start liking the watchdog idea.

Re: wp34S TIME Function

*Message #8 Posted by **hugh steers** on 26 Apr 2011, 11:04 a.m.,*
in response to message #1 by Jake Schwartz

i second this.

fwiw, i also think there should be a FIN (finance) menu. eg put L.R. into STAT and put FIN menu on h6. put TVM into the FIN menu.

would also like a way to use TVM (and other finance functions not yet implemented) without writing a program for the solver.

also CLP has no function outside of program mode (or does it?) perhaps this key (ie h-E) could do something else in normal mode.

Re: wp34S TIME Function

*Message #9 Posted by **Walter B** on 26 Apr 2011, 11:20 a.m.,*
in response to message #8 by hugh steers

A finance menu is quite improbable. We offer a scientific calc, we don't want to cannibalize HP's successful line of "business calculators". The few financial functions implemented (all starting with the letter % and thus easily accessed in X.FCN) may well vanish if we need the space for something important. And TVM was only added on my request, since IMHO it's one of the few advanced financial function being of use for common (wo)men. For more, please turn to the controller you trust in ;-) and his HP :-)

Walter

Re: wp34S TIME Function

*Message #10 Posted by **gene wright** on 26 Apr 2011, 11:51 a.m.,*
in response to message #9 by Walter B

Ah, but I am busy sometimes. :-)

Seriously, one thing that would help with TVM the way it is now (which is fine to me) would be a flag that could detect digit entry, like flag 22 on the HP 41.

Is such a thing possible? Sorry if it is in the PDF already, but I didn't see it.

Re: wp34S TIME Function

*Message #11 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 2:36 p.m.,*
in response to message #10 by gene wright

I don't think it is. I second the flag idea because it's useful in its own right. Clear the flag an a HALT and set it with any key that is not R/S or SST. We could even add a new conditional command ENTRY? So there is no need for the programmer to remember a numerical flag.

So, a digit entry flag on the 34s?

*Message #12 Posted by **gene wright** on 26 Apr 2011, 3:39 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Like Flag 22 on the HP 41.

Marcus suggested an "ENTRY?" conditional that is essentially a flag test.

How does that sound as an enhancement?

Good for games (ha).

Would make coding a routine for the TVM command MUCH easier. Prompt. FS?22? sequence for example.

Although, I would only set the flag after a PROMPT or a R/S if a 0-9 or CHS has been pressed.

Edited: 26 Apr 2011, 3:51 p.m.

Re: So, a digit entry flag on the 34s?

*Message #13 Posted by **Marcus von Cube, Germany** on 27 Apr 2011, 4:50 a.m.,*
in response to message #12 by gene wright

> Quote:
>
> Although, I would only set the flag after a PROMPT or a R/S if a 0-9 or CHS has been pressed.

I disagree. What about values you've stored in registers before?

Re: So, a digit entry flag on the 34s?

*Message #14 Posted by **Paul Dale** on 27 Apr 2011, 5:02 a.m.,*
in response to message #13 by Marcus von Cube, Germany

Then it would no longer be a digit entry flag :-)

- Pauli

Re: So, a digit entry flag on the 34s?

*Message #15 Posted by **gene wright** on 27 Apr 2011, 6:55 a.m.,*
in response to message #13 by Marcus von Cube, Germany

Ah, let me rephrase. :-)

```
CF ENTRY
PROMPT
ENTRY?
GTO X
```

something like that. What was I thinking? Ha!

Re: So, a digit entry flag on the 34s?

*Message #16 Posted by **Paul Dale** on 27 Apr 2011, 7:04 a.m.,*
in response to message #15 by gene wright

How about:

```
PROMPT
ENTRY?
GOT X
```

The prompt automatically clears the flag for you. So does anything else that stops program execution.

- Pauli

Re: So, a digit entry flag on the 34s?

*Message #17 Posted by **gene wright** on 27 Apr 2011, 8:21 a.m.,*

in response to message #16 by Paul Dale

Sure. The only thing I would ask is to try making it work as much like the 41c as possible. Whatever set flag 22 on the 41c should set the ENTRY? flag on the 34s.

By the way... what about a pause? Does Pause allow for a digit entry? (yes, I know I could check it :-) but my 34s is not at hand!)

Re: So, a digit entry flag on the 34s?

*Message #18 Posted by **Marcus von Cube, Germany** on 27 Apr 2011, 8:36 a.m.,*
in response to message #17 by gene wright

PSE does not allow digit entry, it just gets interrupted by a key press so you can shorten a programmed pause by pressing any key.

Re: So, a digit entry flag on the 34s?

*Message #19 Posted by **Walter B** on 27 Apr 2011, 10:22 a.m.,*
in response to message #17 by gene wright

Gene,

PROMPT is the command designated for digit or alpha entry. Good ol' STOP does it, too, but without message output. PSE may be used for message output, but doesn't allow for input. That's it IIRC.

Walter

P.S.: We are not featuring INPUT yet (as employed in HP-42S).

Edited: 27 Apr 2011, 10:55 a.m.

Re: wp34S TIME Function

*Message #20 Posted by **Paul Dale** on 26 Apr 2011, 6:31 p.m.,*
in response to message #10 by gene wright

We don't have this feature.

I like the ENTRY? conditional test for this.

Will have a think about this.

- Pauli

Re: wp34S TIME Function

*Message #21 Posted by **htom trites jr** on 27 Apr 2011, 6:06 p.m.,*
in response to message #20 by Paul Dale

There are several things being confounded: Was a key pressed? (I'm doing my thing, user wants to provide input.) Was a prompt answered? (I asked and wait.) Was a number pressed? (are . or eex numbers?) Was a digit pressed? (what about hex digits?) Was a shift key pressed? (which?

) Which key was pressed? Should the shift state change?

If the user wants to interrupt, I'm not into this project enough to provide input.

If the user has been asked, PROMPT would seem sufficient, if it waits and returns a value indicating which key was pressed. There are two especially handy things to return, a numeric value which indicates a key (0..99, zero meaning no key and we timed out waiting) or a set indicating a key (an array of bits, KEY, zero other than that bit that corresponds to the key; useful with boolean operations to branch depending on the values. If KEY and DIGITS then ... If KEY and HEXDIGIT then ...)

Re: wp34S TIME Function

*Message #22 Posted by **Paul Dale** on 26 Apr 2011, 6:29 p.m.,*
in response to message #8 by hugh steers

I'm with Walter here. No financial catalogue. Ever.

This is a scientific device. We barely have space for the scientific functions we want to include. We certainly don't have space to do even a half hearted financial function set as well let alone a proper financial implementation.

Doing TVM properly will require a lot more space than the current pathetic implementation. We'd actually have to care about accuracy and probably use different solving methods for each of the different parameters. I really don't want to go there -- this is not simple stuff to get right.

If you want a financial calculator, don't reflash your 20b / 30b :-)

CLP does what CLP does on many vintage HPs in run mode. Watch the BEG annunicator carefully.

- Pauli

Re: wp34S TIME Function

*Message #23 Posted by **Eddie W. Shore** on 27 Apr 2011, 10:10 p.m.,*
in response to message #22 by Paul Dale

In addition we can program TVM and other financial calculations if so desired. That's the beauty of a programmable calculator.

:)

We can probably find a suitable program for the common financial functions in the Museum's own program listing - or adopt and port a program from any of the HP's manuals.

Edited: 27 Apr 2011, 10:13 p.m.

Re: wp34S TIME Function

*Message #24 Posted by **Paul Dale** on 26 Apr 2011, 6:16 p.m.,*
in response to message #1 by Jake Schwartz

We considered this one long and hard and the poor accuracy was mentioned several times. I certainly agree that the clock is hopeless as it stands. However, both the 20b and 30b have pads on the circuit board for a crystal (& two capacitors) the addition of which would make the time keeping (more) reasonable.

Personally, I don't mind if the time functions are kept or removed (not the date ones of course). This would save a small amount of code but not a great deal. It would free up one of the most precious of resources -- a key.

For program timings we've got the TICKS command which is basically as good or better.

- Pauli

Re: wp34S TIME Function

*Message #25 Posted by **gene wright** on 26 Apr 2011, 6:44 p.m.,*
in response to message #24 by Paul Dale

Speaking for Jake here, but perhaps it is the keyboard spot being used for TIME that is a higher concern, given its limited utility?

Since it may only be used sparingly, perhaps placement in X.FCNS and something else brought out to the keyboard might be more useful?

Just a thought.

Re: wp34S TIME Function

*Message #26 Posted by **Jake Schwartz** on 26 Apr 2011, 9:52 p.m.,*
in response to message #25 by gene wright

> Quote:
>
> Speaking for Jake here, but perhaps it is the keyboard spot being used for TIME that is a higher concern, given its limited utility?

Agreed. It is not that the TIME function is included - by all means, I would NOT vote to have it removed from the firmware. I would only vote to swap it off the keyboard with something more useful on a day-to-day basis with something else in a catalog.

Thanks, Jake

Re: wp34S TIME Function

*Message #27 Posted by **sjthomas** on 26 Apr 2011, 10:28 p.m.,*
in response to message #26 by Jake Schwartz

What Jake says!

Re: wp34S TIME Function

*Message #28 Posted by **Jake Schwartz** on 26 Apr 2011, 10:30 p.m.,*
in response to message #26 by Jake Schwartz

Hi again,

I was just thinking how I miss the "LAST X" function not being on the keyboard. Perhaps that would be a worthy replacement for "TIME", should the decision be made. Then, pressing CPX LASTx would preform the complex version as well.

Thanks

Re: wp34S TIME Function

*Message #29 Posted by **svisvanatha** on 26 Apr 2011, 10:59 p.m.,*
in response to message #28 by Jake Schwartz

Last X is actually invoked by RCL L. Well designed IMO, but I would have preferred RCL ENTER for Last X. Seems more natural for a RPN, again IMO.

Re: wp34S TIME Function

*Message #30 Posted by **Walter B** on 27 Apr 2011, 2:48 a.m.,*
in response to message #29 by svisvanatha

> Quote:
>
> ... I would have preferred RCL ENTER for Last X. Seems more natural for a RPN, again IMO.

Understand. But no way to get L there :-) And ENTER is the only key wide enough to take CONST.

Walter

Re: wp34S TIME Function

*Message #31 Posted by **Paul Dale** on 27 Apr 2011, 2:03 a.m.,*
in response to message #28 by Jake Schwartz

> Quote:
>
> I was just thinking how I miss the "LAST X" function not being on the keyboard. Perhaps that would be a worthy replacement for "TIME", should the decision be made. Then, pressing CPX LASTx would preform the complex version as well.

We had it there for a very long time, however RCL L (RCL EEX) serves the same purpose and also requires two keystrokes -- there is no way LASTx will get an unshifted position. You can do CPX RCL EEX for the complex lastx.

We've still got the code for last x and complex last x in the firmware image. I guess I should remove them since they cannot be accessed anymore.

- Pauli

Re: wp34S TIME Function

*Message #32 Posted by **gene wright** on 27 Apr 2011, 6:56 a.m.,*
in response to message #31 by Paul Dale

RCL L is good for lastX.

Re: wp34S TIME Function

*Message #33 Posted by **Jake Schwartz** on 27 Apr 2011, 1:25 p.m.,*
in response to message #31 by Paul Dale

> Quote:
>
> You can do CPX RCL EEX for the complex lastx.

As long as complex "RCL L" (or RCL EEX) recalls both L *and* I registers. It is kind of a misnomer to call it "CPX RCL L" in that case; complex "Last x" is closer to the actual meaning IMHO. I understand the thinking, however.

Jake

Re: wp34S TIME Function

*Message #34 Posted by **Walter B** on 27 Apr 2011, 1:53 p.m.,*
in response to message #33 by Jake Schwartz

To make it crystal clear: The **command** is called LASTx. The **keystrokes** are RCL L. In complex domain, the **command** is ^{C}LASTx and the **keystrokes** are CPX RCL L. All this is readily readable in the manual. According to the bible: "Those having eyes for reading, read!"

HTH (but doubt it)

Walter

Edited: 27 Apr 2011, 1:56 p.m.

Re: wp34S TIME Function

*Message #35 Posted by **Jake Schwartz** on 27 Apr 2011, 2:34 p.m.,*
in response to message #34 by Walter B

> Quote:
>
> All this is readily readable in the manual.

Okay okay.... and Bill Wickes had a great proverb of his own: "Never piss off a volunteer". I am sorry, Walter, we have supported your efforts for a bunch of years now, but you are getting a bit too pompous for us volunteers.

Re: wp34S TIME Function (getting a bit OT)

*Message #36 Posted by **Walter B** on 27 Apr 2011, 4:18 p.m.,*
in response to message #35 by Jake Schwartz

Jake,

> Quote:
>
> ... but you are getting a bit too pompous for us volunteers.

AFAIK this whole project is a work of volunteers, mainly of two of that kind

being mad enough to pursue it for some 30 months. In the last few weeks the number of volunteers has increased steeply. Please note that a lot of thought went into that project in those months before, when many volunteers of today volunteered elsewhere. They are free to do this, of course, but then they should please show a little respect for the work done - be it only by reading thoroughly before claiming anything.

On topic again: Math is mainly about terms and definitions and then playing with them. So it's important IMHO not confusing things, for the sake of math.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s quadrature

*Message #1 Posted by **hugh steers** on 26 Apr 2011, 5:52 a.m.*

Hi,

the manual says this works like the 15c, but i get no difference when changing (eg) FIX mode size. is there some way of specifying the accuracy - or am i doing something wrong.

right now, im getting really appalling results. 2 figures correct, for example.

Re: WP34s quadrature

*Message #2 Posted by **Paul Dale** on 26 Apr 2011, 5:54 a.m.,*
in response to message #1 by hugh steers

There is no way to change the precision of the integration.

We're using a Gauss/Kronrod quadrature with a fixed number of points. It won't be terribly good for "difficult" functions.

- Pauli

Re: WP34s quadrature

*Message #3 Posted by **Walter B** on 26 Apr 2011, 6:40 a.m.,*
in response to message #1 by hugh steers

The manual clearly says "the user interface is as in HP-15C." Nothing more.

Walter

Re: WP34s quadrature

*Message #4 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 6:56 a.m.,*
in response to message #3 by Walter B

We can add a more sophisticated approach as a user code routine. Any contributions are welcome.

Re: WP34s quadrature

*Message #5 Posted by **Namir** on 26 Apr 2011, 7:59 a.m.,*
in response to message #1 by hugh steers

If I am not mistaken, the SOLVE and INTEGRATE functions had Professor Kahan as it's mentor. Kahan's philosophy was to push the accuracy to the machine limits and not by a user-defined value.

The HP-15C Advanced Functions Handbook has a section "Accuracy of the Function to be Integrated" that

specifies the accuracy of the integral, which is basically the accuracy of the function you are integrating. This tells me that if you are integrating a function using an empirical approximation, then expect more error in the integral.

Namir

Edited: 26 Apr 2011, 8:35 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34S

*Message #1 Posted by **geoff quickfall** on 26 Apr 2011, 3:13 a.m.*

Firstly, let me thank you both for your work on this project! Also for Cyrille, Tim and HP for providing the platform.

It is late here, and I should be working on the book, but I had to see what the hoopla was all about and, well, I am astounded.

Been flashing and playing and programming today, (pouring with rain) and I have a few questions:

```
1: when I select the function version I get 34s 1.17 673.  This
   appears to be the latest, what does the 673 stand for?


2: in program mode I cannot get HMS to appear in the program.
   Decimal does as well as a multitude of other functions, but HMS
   will not work in program mode as an instruction.  In fact it
   does not even appear in the step.  It does work in run mode. however.
```

Again, thanks! for more programming fun!!!!

Cheers, Geoff

Edited: 26 Apr 2011, 3:20 a.m.

Re: WP34S

*Message #2 Posted by **Paul Dale** on 26 Apr 2011, 3:24 a.m.,*
in response to message #1 by geoff quickfall

> Quote:
>
> 1 when I select the function version I get 34s 1.17 673. This appears to be the latest, what does the 673 stand for?

That is the subversion revision number. Larger is later & hopefully better. Currently we're at 754 although the functionality hasn't changed much quite a few bugs have been fixed.

Ideally, we'll remove this revision number once we're ready to release a final version.

> Quote:
>
> 2 in program mode I cannot get HMS to appear in the program. Decimal does as well as a multitude of other functions, but HMS will not work in program mode as an instruction.

HMS is a display mode and doesn't work in program mode. We recently removed HMS as a fully fledged mode because it just wasn't working out properly.

Sorry.

> Quote:
>
> Again, thanks! for more programming fun!!!!

Be the first to submit a program to the extra functions thread...

I refuse to believe there is only one person here capable of making a worthy keystroke program :-(

- Pauli

Re: WP34S

*Message #3 Posted by **Norman Dziedzic** on 26 Apr 2011, 7:12 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> That is the subversion revision number. Larger is later & hopefully better. Currently we're at 754 although the functionality hasn't changed much quite a few bugs have been fixed.

Not a complaint but I have noticed that most of the subversion calc.bin files do not show a version number for the VERS command. It would be very helpful to have this in for every image with more and more ppl flashing real hardware and testing.

Currently I'm bungling around with alpha prompts in Programs in 754. Occasionally I get the Bye... in the top alpha display area when leaving program mode and not when the calc is turned off. So far I don't have a reproduceable keystroke sequence as I'm still gettin used to getting into and out of alpha mode and writing down all my steps.

Re: WP34S

*Message #4 Posted by **Paul Dale** on 26 Apr 2011, 7:18 a.m.,*
in response to message #3 by Norman Dziedzic

Early versions of the firmware didn't have the release number. Later versions do. We're not going to go back and retrofit this to those.

What we might do is remove the version on the final version of a given number. Then again we might not.

- Pauli

Re: WP34S

*Message #5 Posted by **Norman Dziedzic** on 26 Apr 2011, 8:49 a.m.,*
in response to message #4 by Paul Dale

I downloaded 754 and flashed this morning. My VERS does not show 754. Only a blank where it should be. I'm on 30b hardware.

Re: WP34S

*Message #6 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 9:13 a.m.,*
in response to message #4 by Paul Dale

Getting the calc.bin file with SVN web access instead of an SVN client does not download the revision number. That's an SVN problem and cannot be changed by us.

Re: WP34S

*Message #7 Posted by **Jeff O.** on 26 Apr 2011, 8:31 a.m.,*
in response to message #3 by Norman Dziedzic

> Quote:
>
> ...I have noticed that most of the subversion calc.bin files do not show a version number for the VERS command.

Whenever I download a new version, I append the version number to the saved file name, e.g. calc754.bin. Then I open it with a hex editor and add the version number in the appropriate locations (1FFFB, 1FFFC and 1FFFD). Me poking around the bin file is akin to letting a monkey poke around the cockpit of a in-flight airplane, but so far I don't seem to have done any damage. For editing, I use a program called XVI32 which I found by searching the internet for "hex editor". The above process seems to work as the VERS command shows the version after I make the change.

...

Re: WP34S

*Message #8 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 9:14 a.m.,*
in response to message #7 by Jeff O.

Jeff, get a proper SVN client and no poking is necessary.

SVN Client for Windows(XP)

*Message #9 Posted by **svisvanatha** on 26 Apr 2011, 9:54 a.m.,*
in response to message #8 by Marcus von Cube, Germany

I am using TortoiseSVN on WinXP. It is quite good actually. Once you have downloaded and unpacked the zip file for the WP34S from SourceForge, you can simply right-click and hit 'update' on the folder where WP34S resides on your drive. It updates the calc.bin, emulators, artwork, manuals, etc to the latest and greatest. No need to fumble through the Sourceforge site anymore!

I make it easy - I have the WP34S folder as a shortcut on my desktop, and simply right click and update the SVN from there.

Edited: 26 Apr 2011, 9:55 a.m.

Re: SVN Client for Windows 7

*Message #10 Posted by **Walter B** on 26 Apr 2011, 10:56 a.m.,*
in response to message #9 by svisvanatha

Based on my experience so far, I can recommend Tortoise SVN for Windows 7 as well.

Walter

Edited: 26 Apr 2011, 10:57 a.m.

Re: SVN Client for Windows(XP)

*Message #11 Posted by **Norman Dziedzic** on 27 Apr 2011, 9:07 p.m.,*
in response to message #9 by svisvanatha

I'm not getting the Update Option when I right click the wp34s directory? Did you have to somehow tell TortoiseSVN that the directory is associated with the project?

Thanks,

Norm

Re: SVN Client for Windows(XP)

*Message #12 Posted by **svisvanatha** on 27 Apr 2011, 9:45 p.m.,*
in response to message #11 by Norman Dziedzic

Here are some detailed instructions. Open Windows Explorer, navigate to the directory that you want the 'wp34s' directory to appear:

```
1. right click on an empty space within the directory
2. you will see 'SVN Checkout'
3. Click on that
4. In the URL field, enter:
https://wp34s.svn.sourceforge.net/svnroot/wp34s
5. hit 'OK'
6. wait for the files to download
7. you should then have a directory named 'wp34s', with a green mark in
the folder.
8. Now try the right-click and update SVN.
```

Edited: 27 Apr 2011, 9:45 p.m.

Re: SVN Client for Windows(XP)

*Message #13 Posted by **Norman Dziedzic** on 27 Apr 2011, 10:08 p.m.,*
in response to message #12 by svisvanatha

Thank you.

Excellent instructions.

Re: SVN Client for Windows(XP)

*Message #14 Posted by **sjthomas** on 27 Apr 2011, 10:36 p.m.,*
in response to message #12 by svisvanatha

That's awesome! Thanks, svisvanatha.

Re: WP34S

*Message #15 Posted by **Paul Dale** on 26 Apr 2011, 3:29 a.m.,*
in response to message #1 by geoff quickfall

> Quote:
>
> It is late here, and I should be working on the book, but I had to see what the hoopla was all about and, well, I am astounded.

Thanks for the voice of support, comments like this make it all worthwhile. We've been designing & implementing the calculator we want to use. If it ends up being a worthy successor to many of the classic HP models, all the better.

Also, don't delay the book on our behalf. Many are waiting for it..... :-)

- Pauli

PS: bug reports are also very useful at the moment.

Re: WP34S

*Message #16 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 4:00 a.m.,*
in response to message #15 by Paul Dale

I think we will have to reintroduce HMS as a mode or even better as a tag, be it for the sake of Geoff and his flight schedules. :-)

Re: WP34S

*Message #17 Posted by **Paul Dale** on 26 Apr 2011, 4:04 a.m.,*
in response to message #16 by Marcus von Cube, Germany

Or a HMS view command :-)

HMS as a mode just didn't work. We're not going back there.

HMS as a tag comes after we've tagged integer and alpha.

- Pauli

Re: WP34S

*Message #18 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 5:16 a.m.,*
in response to message #17 by Paul Dale

I've a new idea for saving some precious ram. :-) This will not be enough for all tag bits we'll need, but at least for some, I hope. We can probably restrict tagging to a subset of all registers.

Re: WP34S

*Message #19 Posted by **Walter B** on 26 Apr 2011, 7:07 a.m.,*
in response to message #1 by geoff quickfall

Geoff,

Thanks for your kind words :-)

The basic idea behind HMS mode was having an easy way for displaying, adding and subtracting times. However, as Pauli mentioned already, it didn't work the way we wanted it. So the only remnants of this mode

are H.MS and [alpha]TIME displaying the time the way we planned.

Now, if you want to add or subtract times entered in the format hh.mmss, the functions H.MS+ and H.MS- are available in P.FCN. For keyboard use, assign them to one or two hotkeys and you're done - alternatively, use ->H.d, add/subtract and reconvert the result via ->H.MS. That's it so far.

We are all waiting for your book to appear, so please come on.

Walter

Edited: 26 Apr 2011, 8:13 a.m.

Re: WP34S

*Message #20 Posted by **Geoff Quickfall** on 26 Apr 2011, 1:05 p.m.,*
in response to message #19 by Walter B

I remember talking with Hugh Steers when he flashed the new software into my U-watch. HMS algorthim was problematical.

Of course I could always write a subroutine to create an hours, minutes seconds display with fix4 and round function but it does eat up the lack of programming lines.

I use the HMS to flip a decimal 'time' after a calculation into the HMS display with refernce to Latitude and Longitude calculations. No big deal to hit the HMS key once the calculation has run (IN A TENTH OF A SECOND! compared to 30 seconds on the HP 15C), but it would be convenient.

Like to second Jake's comment (posting above) about removing the time function since it does not keep time accurately. How about the HMS algorithim instead ;-)

Keep up the good work, (this is more fun then writing; focus, focus).

Cheers, Geoff

Re: WP34S

*Message #21 Posted by **Paul Dale** on 26 Apr 2011, 6:22 p.m.,*
in response to message #20 by Geoff Quickfall

> Quote:
>
> HMS algorthim was problematical.

Yeah, it was lots of fun to get correct. The 34s isn't quite there BTW, who'll be the first to find the known problem I wonder :-)

It sounds like you want a HMS-VIEW command or making HMS programmable. I think something can be done here.

> Quote:
>
> Keep up the good work, (this is more fun then writing; focus, focus).

So if we stop, you'll start???

- Pauli

Re: WP34S

*Message #22 Posted by **geoff quickfall** on 26 Apr 2011, 8:18 p.m.,*
in response to message #21 by Paul Dale

> Quote:
>
> So if we stop, you'll start???

Ha ha! Keep going and we will see you in San Diego! Yes, HMS programmable just as DECIMAL is. That would be great.

Cheers, Geoff '-)

Re: WP34S

*Message #23 Posted by **Paul Dale** on 26 Apr 2011, 8:50 p.m.,*
in response to message #22 by geoff quickfall

> Quote:
>
> Ha ha! Keep going and we will see you in San Diego!

Not likely. Flying half way around the world is a bit expensive.

- Pauli

Re: WP34S

*Message #24 Posted by **Marcus von Cube, Germany** on 27 Apr 2011, 4:42 a.m.,*
in response to message #23 by Paul Dale

We've opened the SF site to donations. :-)

Three tickets would be great! Or Geoff on a private trip to pick us all up. :-))

Re: WP34S

*Message #25 Posted by **Paul Dale** on 27 Apr 2011, 5:00 a.m.,*
in response to message #24 by Marcus von Cube, Germany

> Quote:
>
> We've opened the SF site to donations. :-)

We haven't :-) They got opened for a few minutes while I played around with the various settings. Then they were turned off again.

- Pauli

Re: WP34S

*Message #26 Posted by **Walter B** on 27 Apr 2011, 7:53 a.m.,*
in response to message #25 by Paul Dale

Hey, a few minutes won't do for three tickets ;-)

Re: WP34S

*Message #27 Posted by **Jeff O.** on 27 Apr 2011, 9:09 a.m.,*
in response to message #26 by Walter B

A quick check of Travelocity indicates that round-trip flights from Stuttgart or Frankfurt to San Diego would be approximately $1060. Not cheap, but not outrageous. Unfortunately, a round-trip flight from Brisbane to San Diego is about $2350. So, total approximately $4500 to get you three to San Diego for HHC 2011.

...

Re: WP34S

*Message #28 Posted by **Walter B** on 27 Apr 2011, 10:25 a.m.,*
in response to message #27 by Jeff O.

Jeff,

Thanks for checking, but IMHO your message ends a bit early ;-)

Walter

Re: WP34S

*Message #29 Posted by **Jeff O.** on 27 Apr 2011, 12:41 p.m.,*
in response to message #28 by Walter B

Well, I'd likely pony up a few dollars (or Euros or AUD) to help get you guys there, but it would take a lot of others to meet the need.

Re: WP34S

*Message #30 Posted by **Jake Schwartz** on 27 Apr 2011, 1:29 p.m.,*
in response to message #28 by Walter B

Please turn on "donations" again....let us help out.

Jake

Re: WP34S

*Message #31 Posted by **Paul Dale** on 27 Apr 2011, 5:58 p.m.,*
in response to message #30 by Jake Schwartz

If one of us is interested in going to the conference or requires some fund for something specific (and at the moment, it is really only Marcus who has spent a lot on this) then I'll turn donations on. I don't want to accept donations for no purpose.

- Pauli

Re: WP34S

*Message #32 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 4:18 a.m.,*
in response to message #31 by Paul Dale

Donations might help to:

cover travel expenses,

cover initial costs on manufacturing,

recover costs for tools already payed for,

buy us a beer.

So they aren't useless.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP34 base page view

*Message #1 Posted by **Cristian Arezzini** on 26 Apr 2011, 2:21 a.m.*

I've been trying the emulator for quite some time, while I wait for the "real hardware"... and I have a question. I tend to use base functions a lot (mainly in binary) so I use the "multiple-page" feature much, because most of the numbers I encounter are more than 12 bits. The keys to change "page" are both shifted. I was wondering if maybe the two up/down arrow (unshifted) keys could be used instead? I think that if you have a multi-page number, you want to be able to flip through the pages very quickly...

Cristian

Re: WP34 base page view

*Message #2 Posted by **Paul Dale** on 26 Apr 2011, 2:36 a.m.,*
in response to message #1 by Cristian Arezzini

> Quote:
>
> I was wondering if maybe the two up/down arrow (unshifted) keys could be used instead? I think that if you have a multi-page number, you want to be able to flip through the pages very quickly...

They single step programs forwards and backwards so giving them a different use here isn't going to happen I suspect.

We do have a shortcut that will assist you here. Press and hold the f-shift or g-shift and repeatedly press the windowing key and you will advance more quickly. This works for all three shift keys for any function I believe.

I don't know if it will work on the emulator or not but it definitely works on the real hardware. Until your real hardware arrives, you'd better learn your binary to hex conversions. Then it becomes a moot point ;-P

- Pauli

Re: WP34 base page view

*Message #3 Posted by **Cristian Arezzini** on 26 Apr 2011, 2:42 a.m.,*
in response to message #2 by Paul Dale

Pauli, thanks, I see your point. But for people who wouldn't use SST/BST much (am I the only one?), maybe there could be a system setting to choose whether the arrows behave as SST/BST or as general arrows (for navigating menus, switching pages and so on)... would that be conceivable?

Cristian

Re: WP34 base page view

*Message #4 Posted by **Walter B** on 26 Apr 2011, 2:54 a.m.,*
in response to message #3 by Cristian Arezzini

Ciao Christian,

Please look at page 52 (of 73) of the most recent version of the wp34s manual available in the doc-subdirectory at SourceForge. There's listed what has to be checked if the user simply presses one of the navigation keys, to find out what's to be done with this request. It's all about detecting what the user really wants ;-) when pressing such a key. If you find a nice and unambiguous clause to be included there for base page scrolling, please suggest.

Walter

Edited: 26 Apr 2011, 5:01 a.m.

Re: WP34 base page view

*Message #5 Posted by **Paul Dale** on 26 Apr 2011, 3:07 a.m.,*
in response to message #3 by Cristian Arezzini

I don't much like the idea of another system flag for what is really a fairly niche piece of functionality. This has always been a highly programmable device after all.

The only way I can think of to support this would be to allow integer windowing if there aren't any program steps defined. I think this would qualify as too confusing (and coming from me that is exceedingly rare -- some of my suggestions have been *interesting* to say the least).

I also don't think the shortcut I mentioned is too onerous. It is certainly no worse than all the transcendental functions (and better than most) which will be more commonly use I suspect.

- Pauli

Re: WP34 base page view

*Message #6 Posted by **hugh steers** on 26 Apr 2011, 5:46 a.m.,*
in response to message #5 by Paul Dale

what about the right arrow key on the top row. could this page?

Re: WP34 base page view

*Message #7 Posted by **Paul Dale** on 26 Apr 2011, 5:51 a.m.,*
in response to message #6 by hugh steers

That key is used too :-(

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

something interesting in early computer history

*Message #1 Posted by **Don Shepherd** on 26 Apr 2011, 12:20 a.m.*

I'm reading a recent book on Paul Allen, co-founder of Microsoft with Bill Gates. When IBM developed their personal computer, they asked Microsoft to develop the programming languages and the operating system for it. Bill Gates told them he had not developed an operating system before and referred them to Digital Research and Gary Kildall who had developed CP/M. The IBM reps went to Digital Research for a meeting. Gary Kildall was traveling on that day, so they met with his wife who was also involved with the company. IBM asked her to sign an NDA; she refused and asked them to sign Digital Research's NDA. IBM came back to Bill Gates and said they could not work with the Digital Research people, and Bill Gates agreed to develop what would become MS-DOS.

It's interesting to think what might have happened had Ms. Kildall just signed the NDA.

Re: something interesting in early computer history

*Message #2 Posted by **exschr** on 26 Apr 2011, 3:45 a.m.,*
in response to message #1 by Don Shepherd

Just to think of it makes me feel very sad.

I agree, to bad Ms. Kildall didn't jump for it!

Re: something interesting in early computer history

*Message #3 Posted by **Bill Zimmerly** on 26 Apr 2011, 4:59 a.m.,*
in response to message #1 by Don Shepherd

What actually happened after the Kildall incident was M$ purchased the rights to Tim Paterson's Seattle Computer Products' QDOS for $50,000 and the rest as they say is history...

http://inventors.about.com/library/weekly/aa033099.htm

Re: something interesting: Micro versus Mega

*Message #4 Posted by **exschr** on 26 Apr 2011, 7:29 a.m.,*
in response to message #3 by Bill Zimmerly

After the "Quick-and-Dirty" had been removed out of the name QDOS, it was named Microsoft (for MS-DOS)!

If they would have named it Software or even Mega-Soft, that would have been a bold exaggeration ...

10E-6 microSoftware

10E-0 Software

10E6 MegaSoftware

(I did it again, couldn't resist ;-)

Re: something interesting: Micro versus Mega

*Message #5 Posted by **Marcus von Cube, Germany** on 26 Apr 2011, 9:17 a.m.,*
in response to message #4 by exschr

> Quote:
>
> 10E-6 microSoftware
>
> 10E-0 Software
>
> 10E6 MegaSoftware

10^99 Google

:-)

Edited: 26 Apr 2011, 9:17 a.m.

OT: Re: something interesting: Micro versus Mega

*Message #6 Posted by **exschr** on 26 Apr 2011, 12:21 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> 10^99 Google
>
> :-)

ROFL

One Question: What is the reason to use the acronyms "TSS" for "10^99-Software" or "TAS" for "the expensive place to bet for vintage RPN calculators"?

Maybe I sould search the archive, but I beg on your grace to shed some light on this tread (or should I say treat, or even threat?!)

thanks in advance

Re: OT: Re: something interesting: Micro versus Mega

*Message #7 Posted by **Walter B** on 26 Apr 2011, 12:43 p.m.,*
in response to message #6 by exschr

IMHO, it all evolved from TOS, being a well established acronym in this forum for a site whose name must not be mentioned here (see older posts, and books of J.K. Rowling).

TAS: There were repeated discussions about to weight of that electronic concave costal section in the forum. Taking into account that forum discussions are archived and distributed on DC/DVD, links to that site will be broken soon and turn useless. Some forumers decided to

circumvent the original name of that site (erroneously assuming this name itself triggered anger) and soon TAS arose, pointing to That Auction Site. In fact, there even was a decision some years ago that pure auction stuff should not spoil this forum.

TSS: I guess that was created in analogy, calling it That Search Site.

HTH

Walter

Re: something interesting: Micro versus Mega

*Message #8 Posted by **Gerson W. Barbosa** on 26 Apr 2011, 3:51 p.m.,*
in response to message #5 by Marcus von Cube, Germany

From Google:

1 googol = 1.0×10^{100}

Re: something interesting: Micro versus Mega

*Message #9 Posted by **exschr** on 26 Apr 2011, 4:51 p.m.,*
in response to message #8 by Gerson W. Barbosa

> Quote:
>
> From Google:
>
> 1 googol = 1.0×10^{100}

very sharp!
Because it's not anymore just TSS but also gmail, maps, earth, translator, picasa, ...
we now speak of a comPLEX G-world:

1 googolplex = $1.0 \times 10^{\text{googol}}$

Re: something interesting in early computer history

*Message #10 Posted by **SteveH** on 26 Apr 2011, 7:32 a.m.,*
in response to message #1 by Don Shepherd

> Quote:
>
> Gary Kildall was traveling on that day

I always thought that rather than travelling he "blew off IBM to gallivant around in his airplane". Business Week

Re: something interesting in early computer history

*Message #11 Posted by **Les Bell** on 26 Apr 2011, 10:53 p.m.,*
in response to message #10 by SteveH

> Quote:
>
> I always thought that rather than travelling he "blew off IBM to gallivant around in his airplane".

That's a myth. The IBM'ers met with Dorothy McEwen, who was married to Gary Kildall and was marketing director of Digital Research, as well their corporate counsel (Jerry Davis, if I recall correctly). I understand the stumbling block was the IBM non-disclosure agreement.

Best,

--- Les
[http://www.lesbell.com.au]

Re: something interesting in early computer history

*Message #12 Posted by **Namir** on 26 Apr 2011, 7:50 a.m.,*
in response to message #1 by Don Shepherd

Don,

The story I heard that time was Kildall went flying in a small plane when the IBM came to see him. They felt snubbed and left. Also Bill gates purchased something like QDOS (a rival for CP/M) for $80K and sold it (or a variant of it) to IBM as PC-DOS.

Namir

Re: something interesting in early computer history

*Message #13 Posted by **Don Shepherd** on 26 Apr 2011, 4:28 p.m.,*
in response to message #12 by Namir

Namir, according to Paul Allen, Kildall said he was flying on business that day. And, yes, IBM purchased QDOS from Seattle Computer Products for $10,000 plus a royalty fee of $15,000 for every company that licensed the software from Microsoft, which initially was only IBM, so Bill Gates immediately paid $25,000 to Seattle Computer Products.

Re: something interesting in early computer history

*Message #14 Posted by **David Hayden** on 26 Apr 2011, 11:26 p.m.,*
in response to message #1 by Don Shepherd

At the time, Microsoft was doing a tidy business in BASIC interpreters for various microcomputers, including Apple. As I heard it, IBM asked them to create a BASIC interpreter for the PC, but IBM didn't have an operating system for it at the time. MS quickly realized that they needed an OS before they could do much of anything with BASIC.

Dave

Re: really interesting, isn't it

*Message #15 Posted by **exschr** on 27 Apr 2011, 4:17 a.m.,*
in response to message #14 by David Hayden

> Quote:
>
> MS quickly realized that they needed an OS before they could do much of anything with BASIC.

So they were into basic interpreters and not OS's, which only proofs that they should have better stayed with what they (thought they) were good at.

It's us that have to endure the mess out of it!
;-)

Re: really interesting, isn't it

*Message #16 Posted by **Katie Wasserman** on 27 Apr 2011, 9:57 a.m.,*
in response to message #15 by exschr

I was making my living using various pre-IBM PC's all of which ran Digital Research's CP/M back then. When the IBM-PC was released, I appreciated MS-DOS as it was easier to use than CP/M was and got much better over time. It wasn't until Windows that things started to head in the wrong direction, at least as far as reliability is concerned.

Re: really interesting, isn't it

*Message #17 Posted by **Don Shepherd** on 27 Apr 2011, 11:09 a.m.,*
in response to message #16 by Katie Wasserman

I agree. The thing I always disliked about MS Windows was the thousands of files that are required, some of which are undoubtedly needed but many of which, I am sure, you probably don't need, but it's almost impossible to know which is which.

And if you do a CTRL+ALT+DELETE and bring up the list of processes that are running, without an exhaustive Internet search it's hard to determine what all of those are for. Somehow the mentality of the Microsoft Windows designers was that it is OK to have thousands of operating system files present on the user's PC and it is not necessary to tell the user what they are for. I don't like that.

I'm still running Windows XP, which gives you access to the MSDOS prompt. Is that true for Vista and Windows 7?

Re: really interesting, isn't it

*Message #18 Posted by **Ren** on 27 Apr 2011, 1:14 p.m.,*
in response to message #17 by Don Shepherd

I have a casual interest in Minix, as an OS it has a "micro kernal" of ~4000 lines of code. This allows the kernel to run more efficiently (such as not running/storing in near memory, drivers that are not going to be used, such as for a lightpen or cassette tape drive). But so far it seems little more than a novelty.

As far as Windows command line goes, I believe Win98 stopped using DOS underpinnings and hence the "command line" simulates a DOS environment. Newer PC processors have RISC cores surrounded by silicon that adapts the x86 CISC commands to the RISC cores.

Ren

dona nobis pacem

Re: really interesting, isn't it

*Message #19 Posted by **Marcus von Cube, Germany** on 27 Apr 2011, 1:41 p.m.,*
in response to message #18 by Ren

It was Windows NT which stopped using DOS below the hood, Windows 98 and ME (the "latest and greatest") sticked to the old DOS first, then let Windows take as much control as necessary dogma.

Re: really interesting, isn't it

*Message #20 Posted by **spb** on 27 Apr 2011, 9:56 p.m.,*
in response to message #18 by Ren

> Quote:
>
> I have a casual interest in Minix, as an OS it has a "micro kernal" of ~4000 lines of code.

If you're interested in MINIX, Andrew Tannenbaum's *Operating Systems: Design and Implementation* is worth a read. MINIX was written by Tannenbaum to illustrate different principles of OS design, and the above text is essentially an extended commentary on MINIX.

It's also a commonly used textbook in OS design classes, so it's usually pretty easy to find used copies for next to nothing.

Re: really interesting, isn't it

*Message #21 Posted by **Norman Dziedzic** on 27 Apr 2011, 1:16 p.m.,*
in response to message #17 by Don Shepherd

> Quote:
>
> I'm still running Windows XP, which gives you access to the MSDOS prompt. Is that true for Vista and Windows 7?

Vista an 7 have a command window that looks very much like DOS.

I mostly use it to run the ping command which isn't in the help that comes up when you type HELP but never the less is useful.

Re: really interesting, isn't it

*Message #22 Posted by **exschr** on 27 Apr 2011, 1:54 p.m.,*
in response to message #17 by Don Shepherd

I don't want to start a war about which OS or what preference, just some thoughts of mine:
I agree to what Katie and Don said. DOS was ok, even batch programming had it's sophisticated not so obvious "features" that allowed for powerful scripts too.

But with Windows, it changed to "security through obscurity": The problem with that approach

is, it hinders the innocent user but the malicious mind still finds the holes and hidden information and will do harm.

Unfortunately we can't always freely choose, what OS is running on some computers. Every OS has it's disadvantages, just find the pearls and try to find a way around the ugly.

There are still pearls out there :-)

Re: really interesting, isn't it

*Message #23 Posted by **Eric Smith** on 27 Apr 2011, 2:12 p.m.,*
in response to message #22 by exschr

As a Three Dead Trolls in a Baggie song says, every OS sucks!

Re: really interesting, isn't it

*Message #24 Posted by **Don Shepherd** on 27 Apr 2011, 2:28 p.m.,*
in response to message #23 by Eric Smith

Thanks Eric. That guy is really good.

Re: really interesting, isn't it

*Message #25 Posted by **Katie Wasserman** on 27 Apr 2011, 10:40 p.m.,*
in response to message #23 by Eric Smith

Love it! Every OS does suck, well except for TOPS-20, but they killed that off long ago :(

Re: really interesting, isn't it

*Message #26 Posted by **Marcus von Cube, Germany** on 28 Apr 2011, 4:13 a.m.,*
in response to message #25 by Katie Wasserman

I'm used to working in the Guardian environment, the operating system created for the Tandem NonStop servers now being HP machines. You really need to get used to it and its paradigms but it has a bunch of features making it ideal for its purposes: Data safety, reliability, performance, scalability. It's a bit of a niche market but working with these machines is more fun than with other commercial offerings. I even have an old Tandem K202 in my basement.

Re: really interesting, isn't it

*Message #27 Posted by **Mike Morrow** on 27 Apr 2011, 11:48 p.m.,*
in response to message #23 by Eric Smith

> Quote:
>
> ...every OS sucks!

Not Exec 8 Level 27 for the Univac 1108! (1971)

Not the Poseidon Supervisor (affectionately called Pea Soup) for the Poseidon Ballistic Missile Submarine fire control computers. (1972)

Next thing you know, someone will claim that even IBM O/S 360 JCL sucks. (I still remember bumper stickers that read "Honk if you love JCL".)

Edited: 28 Apr 2011, 12:01 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help! HP-19C printer gone mad - fixed :-)

*Message #1 Posted by **Philippe Lasnier** on 25 Apr 2011, 6:04 p.m.*

Hi All,

Back in March, just over a month ago in fact, I posted a topic about my newly acquired HP-19C whose printer refused to behave. Donald Williams and Katie Wasserman responded and helped me out. As the discussion petered out, the action was left on me to try to make progress with connectivity and the power supply.

I am happy to report that, after cleaning up the inside, and managing to source a nice Sanyo NiCd battery pack which I soldered in directly, the HP-19C is now behaving very well.

Well, as well as can be for such a vintage calculator.

With the battery pack fully charged (it's 1000mAh), the calculator lasted over 9 hours running a closed-loop program before running out of juice (sometime after 9 hours; don't know when for sure). 7 hours after the start, I could still pause the program and do some printing successfully (that didn't work anymore past the 8th hour).

Again with the battery pack fully charged, I ran a test printing continuously for 25 minutes, over 1000 lines. I stopped it because I didn't want to wear it out ;-)

So a successful revitalisation of an old machine. Excellent!

Thanks for the help.

Re: Help! HP-19C printer gone mad - fixed :-)

*Message #2 Posted by **Katie Wasserman** on 25 Apr 2011, 10:08 p.m.,*
in response to message #1 by Philippe Lasnier

Thanks for the update and I'm happy to hear you've got it working again. I find that the 19C is the most fun HP calculator to play with. LEDs, printing and programming in such a small package!

-Katie

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 30b RND function

*Message #1 Posted by **Sujith Abraham** on 25 Apr 2011, 6:33 a.m.*

I am just curious how this is supposed to work. The manual says, on page 19 that it: "Rounds x to the number specified by the display format"

What is display format? Is it FIX?

When I press [Shift]+[RND] nothing is happening.

An illustration of how it is supposed to be used would be very helpful.

Thanks

Re: HP 30b RND function

*Message #2 Posted by **Norman Dziedzic** on 25 Apr 2011, 6:54 a.m.,*
in response to message #1 by Sujith Abraham

You are correct, it rounds to the number of decimals set with FIX.

To see the effects, calculate something with a repeating decimal like 1/3. Then set FIX 3 and RND. Then show all digits or set FIX higher than 3 and you will see 0.33300000..

You don't see it when you do it because it is rounding away the decimals you cannot see at the time.

Re: HP 30b RND function

*Message #3 Posted by **Dieter** on 25 Apr 2011, 8:36 a.m.,*
in response to message #1 by Sujith Abraham

You will find the answer yourself once you realize that there are two different things here:

- On the one hand there is the number of digits the calculator is working with. This may be something like 10, 12 or 16 digits, depending on the model. The calculator always uses this many digits for all its calculations, and all results have this precision.
- On the other hand there is the number of digits you want to see in the display. If you set FIX 2 you tell the calculator "just show me two decimals - I don't need to know the rest". This display setting only affects the number of digits you *see*, while internally all values and results still have their full 10, 12 or 16 digits.

The round function now does this: it replaces the current full-precision value by the rounded number you see in the display. In other words: before, the number only was *displayed* with two decimals, and afterwards it actually *has* only two decimals.

Assume the current value is Pi = 3,14159265358979323846264 3... and your calculator works with 12 digits. This is what happens:

```
              --- display set to ---
              FIX 2            FIX 4
                                                 now
  you see     3,14             3,1416            press      3,1416
                                                 [RND]
  calculator  3,14159265359    3,14159265359           =>  3,141600000000
  works with
```

So in FIX the round function rounds to the chosen number of digits behind the decimal point. In SCI and ENG it rounds to the number of *significant* digits you see. Finally try FIX 2, enter a value like 0,000004 and see what the round function does now.

Dieter

Edited: 25 Apr 2011, 8:39 a.m.

Re: HP 30b RND function

*Message #4 Posted by **Sujith Abraham** on 1 May 2011, 10:10 p.m.,*
in response to message #3 by Dieter

Thanks for the replies Norman and Dieter. I had RND in my Casio also, but it is only now I get its use!

One area I may be able to use this may be to get *correct* answers: answers in my text's TVM calculations, which uses data from PV Tables.

Can you please share what you use **RND** on your HPs? Since many of you use it in *real life situations*, it would be interesting.

Re: HP 30b RND function

*Message #5 Posted by **Thomas Radtke** on 25 Apr 2011, 9:18 a.m.,*
in response to message #1 by Sujith Abraham

> Quote:
>
> The manual says, on page 19 that it: "Rounds x to the number specified by the display format"

That sentence has to be corrected. The 35s manual is clear about RND: "Rounds x to n decimal places in FIX n display mode".

Re: HP 30b RND function

*Message #6 Posted by **C.Ret** on 25 Apr 2011, 12:32 p.m.,*
in response to message #5 by Thomas Radtke

Hi,

Perhaps a more correct sentence wil only mention "Display Format" since the RND instruction is rounding depending of displayed numbers in SCI n or ENG n modes (on model whre these modes are available).

Example: '4.pi'

```
Mode  :        DISPLAY:    RND result:
STD       12.5663706144    12.5663706144
FIX 4     12.5664          12.5664000000    (note the fourth decimal round up)
SCI 4      1.2566  E+01    12.5660000000
ENG 4     12.566   E+00    12.5660000000
```

Re: HP 30b RND function

*Message #7 Posted by **Thomas Radtke** on 25 Apr 2011, 12:55 p.m.,*
in response to message #6 by C.Ret

The manual actually mentions that. I've omitted it since it appeared to me 'FIX' was in focus of this thread. My fault.

[Return to Index | Top of Index]

Go back to the main exhibit hall

The Sigma Function on the WP34

*Message #1 Posted by **Eddie W. Shore** on 25 Apr 2011, 12:17 a.m.*

How is the Sigma function used?

I am trying to find the sum:

```
10
Sigma  .5^x * .2   (= .399805)
x=0
```

If understand the manual correctly, I am supposed to enter the counter in the x stack as ccc.fffiii:

So I would enter 0.01001? (final = 10, increment = 0, c = 0)

I am not getting the answer I expected. Please help.

Here is what I have:

```
LBL FF
.
5
x<>y
y^x
.2
x
RTN
```

.01001 g [3] f [ENTER] FF ?? (I'm not getting what I am expecting, I get .2000)

Thanks in advance.

Re: The Sigma Function on the WP34

*Message #2 Posted by **Paul Dale** on 25 Apr 2011, 12:54 a.m.,*
in response to message #1 by Eddie W. Shore

The source for sum is in the subversion repository.

The big problem I think you're encountering is that the loop is a DSE loop not an ISG one. So, try entering 10 SUM'FF

The finish value defaults to 0 and the increment/decrement defaults to 1.

- Pauli

Re: The Sigma Function on the WP34

*Message #3 Posted by **Paul Dale** on 25 Apr 2011, 6:20 a.m.,*
in response to message #2 by Paul Dale

Small correction.

You need to start the sum from 11 and subtract 1 at the start of the function. The sum stops before the zero term is evaluated.

Thus,

```
LBL A
DEC x
.
5
x<>y
y^x
5
/
RTN
```

Then 11 g Sigma A gives 0.3998046875

- Pauli

Re: The Sigma Function on the WP34

*Message #4 Posted by **Dieter** on 25 Apr 2011, 8:12 a.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> The big problem I think you're encountering is that the loop is a DSE loop not an ISG one. So, try entering 10 SUM'FF

Not just him. ;-) That's one of the things that made me read the manual twice before I finally realized that the sum and product loops are working backwards.

Pauli, I think this is a quite unintuitive feature. I'm a big fan of POLA user interfaces (policy of least astonishment - things should work the way the average user expects). That's why I think the sum and product functions should count upwards. Simply think of the way you write down a sum: it's from 1 to n, not from n down to 1. And this way there is also no problem with an index starting at zero. ;-)

Dieter

Re: The Sigma Function on the WP34

*Message #5 Posted by **Paul Dale** on 25 Apr 2011, 6:32 p.m.,*
in response to message #4 by Dieter

Originally I had both product and sum counting up then the documentation had them counting down so I switched.

There are arguments both ways on this:

- Counting up limits you to a final value to 999, counting down doesn't.

- Counting up lets you get a zero index easily, counting down doesn't.
- Counting up requires more keystrokes (e.g. sum 1 to 5 requires 1.005 SUM as opposed to 5 SUM).
- For summations whose terms diminish as the index increases (i.e. many), counting down is generally more accurate.

The change to make the count go the other way is trivial -- the DSE becomes an ISG in the main loop. I guess we could implement alternate commands to count the other way or switch to counting up again. I'm indecisive on this one, like I said advantages both ways.

- Pauli

Edited: 25 Apr 2011, 9:41 p.m.

Re: The Sigma Function on the WP34

*Message #6 Posted by **exschr** on 26 Apr 2011, 3:54 a.m.,*
in response to message #5 by Paul Dale

how about a flag to decide (switch) if counting up or down is used?

(but I bet you are tight on flag usage though)

Anyway, very nice work done, I'm looking forward to buy a 30b and starting to flash the business out of it ;-)

Thanks a lot for more fun!

Re: The Sigma Function on the WP34

*Message #7 Posted by **Paul Dale** on 26 Apr 2011, 4:03 a.m.,*
in response to message #6 by exschr

We wouldn't use a flag for this, we'd define two commands for each.

- Pauli

Re: The Sigma Function on the WP34

*Message #8 Posted by **Namir** on 26 Apr 2011, 7:47 a.m.,*
in response to message #7 by Paul Dale

How about using the sign of the summation range as a way to tell if you are summing up or down. Let's say a negative value means you are counting down, and vice versa?

Namir

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Submissions

*Message #1 Posted by **Paul Dale** on 24 Apr 2011, 4:08 a.m.*

After Gerson's rather nice quadratic solver routine, we figured it would be good if we could include some other keystroke programs as internal commands. So we've decided to accept code from everyone here for possible inclusion.

1. Usefulness. Kind of self-explanatory.
2. Brevity. The shorter the better. We don't have a huge amount of flash remaining and the more we fit in the better.
3. Similarity. Any new user code program would ideally be as close as possible to a built in command. I.e. not use any stack levels beyond what its arguments take, return results in the stack and do something sensible with LastX.

Gerson's quadratic solver scores highly on all three of these criteria.

So if you've a pet function which we haven't included, code it as compactly as you can and submit it here.

Being internal code, there are a few extras and limitations.

- Registers 00 through 04 and flags 00 through 14 are special internals and can be freely used without impacting the user's registers and flags. However, using these requires an extra instruction to prevent nesting and collisions.
- The stack will always be four levels and cannot be changed.
- The number of labels you can use is quite limited. Forward jumps and subroutines use labels 00 through 09 -- reuse these labels lots. Backward jumps are very very limited. Use the SKIP and BACK commands where ever possible.

Walter, Marcus and I will decide what, if anything, goes in. We'll also consider adding any submitted routines to the growing library of WP-34S code.

- Pauli

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Important SpeedUI update to 11.05

*Message #1 Posted by **Raymond Del Tondo** on 23 Apr 2011, 6:04 p.m.*

Hello all,

here's an important update for SpeedUI.

SpeedUI 11.05 fixes a display bug when starting a new edit line.

The whole SpeedUI package has been shrunken by several KB.

Prior to installation of the new SpeedUI, please remove ALL older SpeedUI components,
since CF.LIB has changed internally, and all other components have been adjusted to the new CF.LIB layout.

There are now two different favours of the SpeedBrowser, one compact version, and one ultra compact version.

For installation/uninstallation, please take a look into StartHere.pdf supplied with the SpeedUI 11.05 archive.

The new version is available here:
http://www.hpmuseum.org/guest/deltondo/speedui.pdf (Walkthrough PDF)
http://www.hpmuseum.org/guest/deltondo/sui_1105.zip (SpeedUI zip archive)

but _not_ on www.hpcalc.org (since the site has not been updated for more than 3 months now)

Have fun, and happy Easter days:-)

Raymond

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s SLV questions

*Message #1 Posted by **Norman Dziedzic** on 23 Apr 2011, 4:19 p.m.*

While using SLV is it normal that when one of the initial guesses is a root that it returns 0.0 instead of the root?

Is the convergence criteria determined by the number of decimals displayed like other calculators? I ask this because answers seem to return very quickly with FIX 1 but goes up drastically with FIX 2.

I'm using a simple quadratic 2*x^2-3*x+1 with initial guesses of -1 and 2.

Program:

```
LBL B
STO 99
X^2
2
*
RCL 99
3
*
-
1
+
RTN
```

with FIX 1 I get an answer almost instantly. With FIX 2 it's about 16 seconds? Is this right?

<Build 721 on 30b hardware>

Edited: 23 Apr 2011, 4:19 p.m.

Re: wp34s SLV questions

*Message #2 Posted by **gene wright** on 23 Apr 2011, 5:41 p.m.,*
in response to message #1 by Norman Dziedzic

Hey Norman. Glad you got the cable! :-)

On build 725 in Fix 4, it returns 1 in about 15-20 seconds.

With guesses of 0.98 and 1.02, it returns 1 in about 2 seconds. :-)

Re: wp34s SLV questions

*Message #3 Posted by **Gerson W. Barbosa** on 23 Apr 2011, 7:39 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> With guesses of 0.98 and 1.02, it returns 1 in about 2 seconds. :-)

While this is not improved, for quadratic equations I would suggest the following:

```
                                  X                                  Y                  Z
T             L

001 LBL A                         c                                  b                  a
T             L
002 RCL/ Z                      c/a                                  b                  a
T             c
003 X<> Z                         a                                  b                c/a
T             c
004 ST0+ X                       2a                                  b                c/a
T             c
005 /                          b/(2a)                              c/a                 T
T            2a
006 +/-                       -b/(2a)                              c/a                 T
T            2a
007 STO Z                     -b/(2a)                              c/a             -b/(2a)
T            2a
008 x^2                     b^2/(4a^2)                             c/a             -b/(2a)
T         -b/(2a)
009 x<>y                          c/a                          b^2/(4a^2)         -b/(2a)
T         -b/(2a)
010 -                       b^2/(4a^2)-c/a                       -b/(2a)             T
T           c/a
011 SQRT                 sqrt(b^2/(4a^2)-c/a)                    -b/(2a)             T
T       b^2/(4a^2)-c/a
012 STO L                sqrt(b^2/(4a^2)-c/a)                    -b/(2a)             T
T    sqrt(b^2/(4a^2)-c/a)
013 x<>y                      -b/(2a)                    sqrt(b^2/(4a^2)-c/a)        T
T    sqrt(b^2/(4a^2)-c/a)
014 STO+ Y                    -b/(2a)                -b/(2a)+sqrt(b^2/(4a^2)-c/a)    T
T    sqrt(b^2/(4a^2)-c/a)
015 RCL- L           -b/(2a)-sqrt(b^2/(4a^2)-c/a)  -b/(2a)+sqrt(b^2/(4a^2)-c/a)    T
T          -b/(2a)
016 RTN


        keystrokes               display

 2 ENTER 3 +/- ENTER 1 A           0.5          (instantly :-)

                     x<>y            1
```

Edited: 23 Apr 2011, 7:41 p.m.

Re: wp34s SLV questions

*Message #4 Posted by **Paul Dale** on 23 Apr 2011, 8:04 p.m.,*
in response to message #3 by Gerson W. Barbosa

Maybe I should put this short program into flash and introduce a command to invoke it :-)

- Pauli

Re: wp34s SLV questions

*Message #5 Posted by **Walter B** on 24 Apr 2011, 2:25 a.m.,*
in response to message #4 by Paul Dale

The next build will include a function SLVQ solving quadratic equations :-)

Walter

Re: wp34s SLV questions

*Message #6 Posted by **Norman Dziedzic** on 24 Apr 2011, 8:53 a.m.,*
in response to message #2 by gene wright

Gene, I should have sent you a thank you for the cable. "Thank You"

I wrote my PGM that way because I didn't know exactly how the solver worked but I knew if I stored the value in a register, then no matter how it worked my PGM would work. I don't have a 15C nor a manual for one so the reference in the wp34s manual didn't give me any guidance.

But really, I was just playing around and the main thing was that I had expected a result in less than a sec. And, looks like I found some anomalies that are being fixed.

Quadratic solver sounds like a good addition.

Re: wp34s SLV questions

*Message #7 Posted by **Paul Dale** on 24 Apr 2011, 9:01 p.m.,*
in response to message #6 by Norman Dziedzic

> Quote:
>
> But really, I was just playing around and the main thing was that I had expected a result in less than a sec. And, looks like I found some anomalies that are being fixed.

I guessed as much. They aren't being fixed, they are fixed in subversion.

We need a lot more testing to find the rough spots (of which I'm sure there are many).

- Pauli

Re: wp34s SLV questions

*Message #8 Posted by **gene wright** on 24 Apr 2011, 9:45 p.m.,*
in response to message #7 by Paul Dale

No worries on thanks for the cable. Join the party now.

I'll be trying the integration stuff shortly. All of the examples from the PPC rom should be tested, for sure.

Re: wp34s SLV questions

*Message #9 Posted by **Paul Dale** on 24 Apr 2011, 10:24 p.m.,*
in response to message #8 by gene wright

I can guarantee that the integration isn't going to deal with badly behaved functions very well. It isn't an adaptive method.

- Pauli

Re: wp34s SLV questions

*Message #10 Posted by **gene wright** on 24 Apr 2011, 10:53 p.m.,*
in response to message #9 by Paul Dale

Probably dumb question... has the integration code been published

and

how much room is left if someone suggests an improvement?

(which is not likely to be me!)

Re: wp34s SLV questions

*Message #11 Posted by **Paul Dale** on 24 Apr 2011, 11:06 p.m.,*
in response to message #10 by gene wright

> Quote:
>
> Probably dumb question... has the integration code been published

Of course. In subversion there is a version in *library/integrate.txt* and the actual code that is used internally is in *trunk/xrom.c*.

> Quote:
>
> how much room is left if someone suggests an improvement?

As much as is required. This is a sufficiently important function that we'll remove other things to ensure it fits in. If required, we can also partially merge the code into C as has been done with solve.

What we are short of is registers for the integrator to use. Five are currently dedicated and we could squeeze a sixth out of RAM. A seventh is when things would get very difficult. Unfortunately, we've got to use non-volatile RAM for these.

- Pauli

Re: wp34s SLV questions

*Message #12 Posted by **Dieter** on 23 Apr 2011, 6:37 p.m.,*
in response to message #1 by Norman Dziedzic

Solve should work independent from the display setting. But I wanted to mention another point: you have stored x in R99 in order to recall it a second time later in the formula. This is not necessary - the whole stack is filled with x, so you can recall it anytime you like from there. However, "real cowboys" of course would use the Horner scheme here - it's virtually *made for* RPN calculators:

```
conventional      Horner
approach          scheme

LBL B             LBL B
X^2               2
2                 *
*                 3
X<>Y              -
3                 *
*                 1
-                 +
1                 RTN
+
RTN
```

BTW - on the 35s it takes not much more than a second to obtain the result x = 1 from the initial guesses -1 and 2. Since the 20b and 30b are blazingly fast compared to the 35s, it sounds like something does not work the way it is supposed to. But let's wait for the software specialists. ;-)

Dieter

Re: wp34s SLV questions

*Message #13 Posted by **Paul Dale** on 23 Apr 2011, 7:26 p.m.,*
in response to message #12 by Dieter

> Quote:
>
> Solve should work independent from the display setting.

No. Solve iterates until successive estimates are the same based on the display setting. It uses the x[approx]? conditional test. This is the same as HP's solve has always done (i.e. from the 34c onwards).

> Quote:
>
> the whole stack is filled with x, so you can recall it anytime you like from there.

Again no. X, Y, Z and T are filled with the estimate. If you are using an eight level stack then A, B, C & D aren't filled. Is anyone using an eight level stack?

> Quote:
>
> BTW - on the 35s it takes not much more than a second to obtain the result x = 1 from the initial guesses -1 and 2. Since the 20b and 30b are blazingly fast compared to the 35s, it sounds like something does not work the way it is supposed to. But let's wait for the software specialists. ;-)

Try putting a short pause at the start of the routine and watching the successive estimates to see what is going on :-) The only way I could see this taking a long time is if the initial estimates cause a wild divergence from the true solution which then has to be found anew. If your initial estimates bracket the solution, this can never happen.

The returning zero for an initial guess of the root is wrong and will be fixed. It should return the guess -- probably just some stack management gone awry.

For those who are interested, sample source code for the solver is in the top level library folder in subversion. The real source is in xrom.c in trunk and this is ever so slightly different.

- Pauli

Re: wp34s SLV questions

*Message #14 Posted by **Dieter** on 24 Apr 2011, 7:25 a.m.,*
in response to message #13 by Paul Dale

> Quote:
>
> > Quote:

> Solve should work independent from the display setting.

> No. Solve iterates until successive estimates are the same based on the display setting. It uses the x[approx]? conditional test. This is the same as HP's solve has always done (i.e. from the 34c onwards).

I beg to differ. The Solve-implementations I know of return a full precision result at any display setting (as opposed to Integrate, here the display setting matters). As far as I remember the 34C manual even suggests a method to cut down solving times by rounding the result at the end of the function call (return zero if the result is small enough). The display setting really does not matter here. Which, in most cases, is a good idea, I think. However, I also like the idea of additional user control offered by changing the display setting. ;-)

The 34s manual says the user interface is the same as in the 15C. That's why I said Solve should work independent from the display setting. Obviously it doesn't. So I think either the manual or the algorithm should be changed.

You mentioned the X~= test in the 34s. I think this is an interesting feature... once you know how it works *exactly*. ;-) The manual says it tests true if the rounded values agree. So at FIX 4, for example, 1E-5 and 1E-10 would test true as they are both rounded to zero?

Dieter

Edited: 24 Apr 2011, 7:27 a.m.

Re: wp34s SLV questions

*Message #15 Posted by **Paul Dale** on 24 Apr 2011, 7:46 a.m.,*
in response to message #14 by Dieter

> Quote:
>
> I beg to differ. The Solve-implementations I know of return a full precision result at any display setting (as opposed to Integrate, here the display setting matters).

Now you know one that does :-)

Maybe I was misremembering integrate when I did this. Changing from approximately zero to exactly zero is easy. Which is better here?

Our integrate doesn't depend on the display setting, it uses a fixed Gauss/Kronrod quadrature. Fast, small and a limited number of registers required.

> Quote:
>
> You mentioned the X~= test in the 34s. I think this is an interesting feature... once you know how it works *exactly*. ;-) The manual says it tests true if the rounded values agree. So at FIX 4, for example, 1E-5 and 1E-10 would test true as they are both rounded to zero?

Try it and find out :-)

Fortunately, the full source code is available so you can work out exactly how it works if you need to and far better than the manual could explain.

- Pauli

Re: wp34s SLV questions

*Message #16 Posted by **Paul Dale** on 23 Apr 2011, 7:52 p.m.,*
in response to message #1 by Norman Dziedzic

The bad stack when an initial guess is correct has been fixed and will be in the next build. A roll up fixes things for a 4 level stack.

The slowness to converge is as I suspected, the estimates send the solver wandering around due to the secant step.

- Pauli

Re: wp34s SLV questions

*Message #17 Posted by **Paul Dale** on 23 Apr 2011, 8:45 p.m.,*
in response to message #16 by Paul Dale

I've forced a bisection step to occur if the two initial estimates are both on the same side of zero. This should stop the solver drifting far away from the solution here and having to work hard to get back.

- Pauli

Edited: 24 Apr 2011, 12:51 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10BII+ Battery removal warning

*Message #1 Posted by **Jim Yohe** on 22 Apr 2011, 11:46 p.m.*

Does anyone know why this message is molded into the battery cover of the 10BII+ :

> Quote:
>
> Batteries must not be removed at the same time. Please replace batteries one at a time.

It sounds ominous. I wasn't planning on replacing batteries at this time yet thought I'd ask.

Re: HP 10BII+ Battery removal warning

*Message #2 Posted by **Raymond Del Tondo** on 22 Apr 2011, 11:54 p.m.,*
in response to message #1 by Jim Yohe

Nothing ominous here. Replacing One batt at a time helps retaining calc memory;-)

HTH

Ray

Re: HP 10BII+ Battery removal warning

*Message #3 Posted by **Marcus von Cube, Germany** on 23 Apr 2011, 2:44 a.m.,*
in response to message #2 by Raymond Del Tondo

The processor works at three volts, not at six. So the batteries are wired in parallel. Older designs used to need higher voltages and had the batteries wired in a serial configuration. The two main cells were often accompanied by an extra cell for memory retention.

Re: HP 10BII+ Battery removal warning

*Message #4 Posted by **Martin Pinckney** on 23 Apr 2011, 6:03 a.m.,*
in response to message #2 by Raymond Del Tondo

Sounds ominous to me. Does it not have a capacitor to retain memory during battery changes like all other HP's since - what, the Voyagers?

Re: HP 10BII+ Battery removal warning

*Message #5 Posted by **Katie Wasserman** on 23 Apr 2011, 11:39 a.m.,*
in response to message #4 by Martin Pinckney

There's no capacitor in there to retain memory. None of the HP ARM-based calculators have a capacitor for memory retention. You've got at best a few seconds before you'll lose memory if you remove both coin cells in any of these machines.

Here's a pic of 10bii+ pcb:

-Katie

BF102A-10-3
E234156
SL-D
94V-0
SW41
LB1
LB2
TP1
TP2
TP3
TP4
TP5
TP30
TP31
TP32
TP33
TP34
TP35
TP36
TP37
TP38
TP40
TP41
TP42
TP43
TP44
VBAT1
GND1
DRXD1
DTXD1
VCC1
ERASE1
GND2
NRSTB1

Re: HP 10BII+ Battery removal warning

*Message #6 Posted by **Martin Pinckney** on 23 Apr 2011, 9:02 p.m.,*
in response to message #5 by Katie Wasserman

Excuse my (electronic) ignorance, but if there in no capacitor, why would you get even a few seconds?

Re: HP 10BII+ Battery removal warning

*Message #7 Posted by **Jim Yohe** on 23 Apr 2011, 9:27 p.m.,*
in response to message #6 by Martin Pinckney

If there were enough small valued (0.1uF) capacitors used for bypassing they might retrain enough of a small charge long enough, depending on the current drain in the circuit, to provide current to circuits to keep them active.

Re: HP 10BII+ Battery removal warning

*Message #8 Posted by **Katie Wasserman** on 23 Apr 2011, 9:36 p.m.,*
in response to message #7 by Jim Yohe

exactly

Re: HP 10BII+ Battery removal warning

*Message #9 Posted by **Martin Pinckney** on 25 Apr 2011, 2:48 p.m.,*
in response to message #8 by Katie Wasserman

It's a small thing, but I'm still not getting this:

@Katie:

> Quote:
>
> There's no capacitor in there to retain memory...You've got at best a few seconds before you'll lose memory if you remove both coin cells

@Martin:

> Quote:
>
> ...if there in no capacitor, why would you get even a few seconds?

@Jim:

> Quote:
>
> If there were enough small valued (0.1uF) capacitors used for bypassing they might retrain enough of a small charge...

@Katie:

> Quote:
>
> exactly

repeat @Katie:

> Quote:
>
> There's no capacitor in there to retain memory...

?

Re: HP 10BII+ Battery removal warning

*Message #10 Posted by **Gerson W. Barbosa** on 25 Apr 2011, 4:54 p.m.,*
in response to message #9 by Martin Pinckney

Katie:

> Quote:
>
> "None of the HP ARM-based calculators have a capacitor for memory retention."

Jim:

> Quote:
>
> If there were enough small valued (0.1uF) capacitors used for bypassing they might retrain enough of a small charge...

You:

> Quote:
>
> ?

Although there is not a large capacitor for long-term memory retention the small valued bypass capacitors might retain the memory for a short while. They are the small SMD components (CXX) around the black blob IC and elsewhere in the printed circuit board.

More about bypass capacitors here. The first two paragraphs and the Figure 4 might give you an idea.

Edited: 25 Apr 2011, 4:57 p.m.

Re: HP 10BII+ Battery removal warning

*Message #11 Posted by **Jim Yohe** on 25 Apr 2011, 9:54 p.m.,*
in response to message #10 by Gerson W. Barbosa

Nice article. It's obvious that nobody would think of distributing 76 64nF caps around that one device and normally a much smaller number of 0.1uF and 0.01uF caps around that "one" device being used in the article.

Some manufactures (i.e., Intel - since I use to work there as a PCB designer) would design in the number of caps they thought would be needed and then when the board was working satisfactorily would remove components to reduce costs but not so much as to exceed the amount of noise they needed to stay under to pass tests.

Never-the-less, thanks.

Re: HP 10BII+ Battery removal warning

*Message #12 Posted by **Gerson W. Barbosa** on 25 Apr 2011, 11:01 p.m.,*
in response to message #11 by Jim Yohe

The capacitors I am more familiarized with are somewhat bigger and are rated in kvar instead of nF or uF, but their smaller siblings are always interesting :-)

Regards,

Gerson.

Re: HP 10BII+ Battery removal warning

*Message #13 Posted by **Martin Pinckney** on 26 Apr 2011, 9:27 a.m.,*
in response to message #10 by Gerson W. Barbosa

Thanks. You splained it to me.

Re: HP 10BII+ Battery removal warning

*Message #14 Posted by **Katie Wasserman** on 25 Apr 2011, 5:02 p.m.,*
in response to message #9 by Martin Pinckney

Let me try to explain.....

Whenever an IC is used on a printed circuit board you will typically use a "bypass capacitor" across the power terminals as close to the IC as possible. The reason for this is to create a very small reservoir of current just for that IC. When IC needs to momentarily draw a larger amount of current it will have that available without the resistive drop created by the thin traces on the circuit board that would happen if the current had to come from further away on the board. This is particularly true for microprocessors that have high momentary current needs. Really any CMOS circuit with a lot of transistors has this issue.

It's pretty much a given that there's going to be a bypass capacitor for the ARM chip. Bypass capacitors are typically 0.1uF -- not very much capacitance. Depending on the off state current draw of the ARM chip (maybe .1uA, just a guess) you might get a few seconds (roughly: time=V*F/A; 3*.1uF/.1uA = 3 seconds) of memory retention from the bypass capacitor. A memory retention capacitor might be 100uF (often much more) depending on the off state current draw.

-Katie

Re: HP 10BII+ Battery removal warning

*Message #15 Posted by **Mike Morrow** on 23 Apr 2011, 6:34 a.m.,*
in response to message #1 by Jim Yohe

Nothing new there. Even the HP 30b cover warns: "Replace batteries one at a time."

Re: HP 10BII+ Battery removal warning

*Message #16 Posted by **Marcus von Cube, Germany** on 23 Apr 2011, 11:31 a.m.,*

in response to message #15 by Mike Morrow

This where my knowledge comes from.

Re: HP 10BII+ Battery removal warning

*Message #17 Posted by **Jim Yohe** on 23 Apr 2011, 12:19 p.m.,*
in response to message #15 by Mike Morrow

The difference with this one is the stronger message in the first sentence "Batteries must not ...".

Well, if it only has to do with loosing settings or data stored in memory then there's little to worry about since we can't program it. With programs that you don't really want to lose is when you'd want to be more cautious.

Thanks all.

HP 10BII+ Two Number Function

*Message #18 Posted by **Gerardo Rincon** on 23 Apr 2011, 1:03 p.m.,*
in response to message #1 by Jim Yohe

I wonder why the Y^x does not work like a"Two-number function"? for instance a % change works:

number 1 <INPUT> number 2 <% Chg>

However the Y^x works diferently using the "=" sign:

number 1 <Y^x> Number 2 <=>

% Change works like an RPN machine, but Y^x work like an algebraic machine. It is like using two different logics with "two-number functions". I would have called a Y^x a "two number function" and treat it like the % change. It's little confusing at first until one remembers they function differently...

Re: HP 10BII+ Two Number Function

*Message #19 Posted by **Tim Wessman** on 23 Apr 2011, 2:07 p.m.,*
in response to message #18 by Gerardo Rincon

Hello,

Please see page 37 on your manual where it talks about which functions function in the dual way. They are perm, comb, %chg, ddays, date, t, and inverse t.

The reason why not all are supported is that it needed to be able to support the fact that INPUT does an = for any pending operators. If something like * or ^ worked the same, if you wanted to do 4*5 INPUT then 4*2 %CHG, it would actually do 4*5*4 when you pressed the second * key.

TW

Re: HP 10BII+ Two Number Function

*Message #20 Posted by **Eddie W. Shore** on 24 Apr 2011, 9:52 a.m.,*
in response to message #19 by Tim Wessman

I like that the 10bii+ allows the number1 FUNCTION number2 = key sequence on two-argument functions (%CHG, DAYS, COMB, etc...).

The sequence is straight forward and consistent with the two-argument arithmetic operators.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Overwriting 41C module internals

*Message #1 Posted by **spb** on 22 Apr 2011, 8:05 p.m.*

I have an Advantage module that appears to be slightly damaged. All of the functions I've tested work as expected, with the exception of the MDET routine. Whenever the determinant of a matrix is computed either from the MATRX programme or by calling MDET directly the matrix whose determinant is being computed is overwritten with garbage. The correct determinant is computed, although immediately recomputing it will result in an incorrect result due to the matrix being overwritten. In particular the diagonal elements are being rewritten with garbage, often involving non-alphanumeric characters. The garbage is not, however, random---the same input matrix is consistently overwritten with the same garbage elements.

My first inclination was to simply write my own programme to compute the determinant of a matrix, call it MDET, and then expect that it would be called in preference to the MDET routine in the module, as per the documentation. Unfortunately while this works for direct invocation (e.g. via [ALPHA]MDET[ALPHA]) this does not work within the MATRX programme. I gather that this means that the MATRX programme is using some sort of direct addressing of the routine that has precedence over a user-written function.

My question is if there is some way to coerce a programme (like MATRX) to use a user-written function in the way I want to.

Re: Overwriting 41C module internals

*Message #2 Posted by **Raymond Del Tondo** on 22 Apr 2011, 9:30 p.m.,*
in response to message #1 by spb

The ROM-based MATRX program calls MDET via a ROMPTR / XROM call, not by name.
So if you want to override the (obviously faulty) ROM MDET, you may have to write your own MATRX program, and call your MDET from there.
Actually this could be achieved by copying the ROM-based MATRX program to main RAM via COPY, then replace the MDET call to your own routine, which should have a different name, like MDET1.
The latter insures the correct call is gerenrated, not an XROM call again;-)

HTH

Ray

Re: Overwriting 41C module internals

*Message #3 Posted by **spb** on 25 Apr 2011, 9:52 p.m.,*
in response to message #2 by Raymond Del Tondo

> Quote:
>
> Actually this could be achieved by copying the ROM-based MATRX program to main RAM via COPY, then replace the MDET call to your own routine, which should have a different name, like MDET1.

That makes sense. I was just wondering/hoping if there was some way to instruct the calculator to always prefer one routine over the other. Like if there was a hash table for all the routines defined by connected modules and user programmes that you could overwrite or something like that.

Re: Overwriting 41C module internals

*Message #4 Posted by **Ángel Martin** on 24 Apr 2011, 2:56 a.m.,*
in response to message #1 by spb

Like the HP15C, MDET uses a technique called LU Decomposition. The Advantage implementation re-writes some of the elements of the original matrix to save storage space, but that doesn't mean that the code is wrong or the function misbehaves.

Try to execute MINV *twice* on the matrix after the determinant is calculated - this should restore the "original" matrix in its unaltered status.

Re: Overwriting 41C module internals

*Message #5 Posted by **spb** on 25 Apr 2011, 10:00 p.m.,*
in response to message #4 by Ángel Martin

> Quote:
>
> Like the HP15C, MDET uses a technique called LU Decomposition. The Advantage implementation re-writes some of the elements of the original matrix to save storage space, but that doesn't mean that the code is wrong or the function misbehaves.

I'm familiar with LU decomposition; I wrote an RPN implementation of Crout's algorithm (shamelessly cribbed/transposed from the FORTRAN from my ancient copy of *Numerical Recipes*) when I had problems with the builtin function.

But unfortunately the function is definitely misbehaving; it is not overwriting the input matrix with numeric data, it's overwriting the matrix with nonsense. This also causes functions which opaquely call the in-module MDET (e.g. the solver in the MATRX programme) to provide incorrect results.

Re: Overwriting 41C module internals

*Message #6 Posted by **Ángel Martin** on 26 Apr 2011, 1:48 a.m.,*
in response to message #5 by spb

> Quote:
>
> it is not overwriting the input matrix with numeric data, it's overwriting the matrix with nonsense

This is standard behavior, it's done to save storage space.

Try the double inversion and see what results...

Re: Overwriting 41C module internals

*Message #7 Posted by **spb** on 26 Apr 2011, 4:08 a.m.,*
in response to message #6 by Ángel Martin

> Quote:
>
> This is standard behavior, it's done to save storage space. Try the double inversion and see what results...

Two inversions doesn't give the original matrix after taking the determinant. If I enter a matrix and then invert it twice without taking any other action it works as expected. If the matrix is entered, the determinate computed, and then the matrix is inverted twice then the diagonal elements are all incorrect in an apparently arbitrary (but consistent) way.

And like I said, this also affects functions which (I presume) invoke MDET internally. Working through the examples in the Advantage module documentation, for example, consistently gives incorrect results. It's also easy to determine that the solver is giving incorrect results with trivial cases (a matrix full of zeros, for example).

Thanks for pointing out that the non-numeric data isn't indicative of a fault by itself; I don't have another copy of the module to compare with.

I can't think of anything that could be causing the behaviour I'm seeing in the module apart from some sort of damage to the module itself. I'm using it in a 41-CV, and I've reset the calculator's memory (several times) with power on-backspace. If it was a 15C I might think it was some problem with real/imaginary data entry, but the MATRX programme explicitly queries for this and I presume handles things appropriately (I've just been testing with 2x2 and 3x3 real matrices).

I'd be delighted if this turned out to be some sort of error on my part (since that would be easier to fix than replacing the module or writing a bunch of code to work around the problem), but I can't think of anything it could be.

Re: Overwriting 41C module internals

*Message #8 Posted by **Ángel Martin** on 27 Apr 2011, 10:29 a.m.,*
in response to message #7 by spb

All I can suggest is trying w/ another module - perhaps you can share your matrix data (which - forgive me for being so basic, but I'm assuming it's invertible and det#0).

Re: Overwriting 41C module internals

*Message #9 Posted by **spb** on 27 Apr 2011, 9:46 p.m.,*
in response to message #8 by Ángel Martin

> Quote:
>
> All I can suggest is trying w/ another module - perhaps you can share your matrix data (which - forgive me for being so basic, but I'm assuming it's invertible and det#0).

I appreciate the offer, but it's pretty obvious something's wrong somewhere. Given an input matrix of [[0, 0], [0, 0]], taking the determinant, then inverting twice gives something like [[-11.2, 0], [0, 23.7]].

The first data I noticed this with was the sample problem in the Advantage module documentation---I started looking into it when following the example led to a bogus result. And since then I've just been testing with toy examples (like an all-zero 2x2 matrix) for

which mistakes are easy to identify by analysis.

Re: Overwriting 41C module internals

*Message #10 Posted by **Ángel Martin** on 28 Apr 2011, 7:44 a.m.,*
in response to message #9 by spb

> Quote:
>
> Given an input matrix of [[0, 0], [0, 0]], taking the determinant, then inverting twice gives something like [[-11.2, 0], [0, 23.7]].

Well, any singular Matrix (with Det=0) will yield the same absurd result since it won't be invertible. That's why I asked before if det#0 as a condition.

It's highly unlikely (albeit of course possible) that there's such an issue in the module, affecting just one function - that's what made me suspicious in the first place.

So I'm not saying there isn't a problem, but definitely the all-zero Matrix won't be a good troubleshooting aid.

Re: Overwriting 41C module internals

*Message #11 Posted by **spb** on 29 Apr 2011, 9:31 p.m.,*
in response to message #10 by Ángel Martin

> Quote:
>
> Well, any singular Matrix (with Det=0) will yield the same absurd result since it won't be invertible. That's why I asked before if det#0 as a condition.

Is this true on a working Advantage module? I would've expected it, like for example the 15C, to `invert' [[0, 0], [0, 0]] to [[10e99, 0], [0, 10e99]] as an artefact of the numerical algorithm used (and the limits of the machine itself). This is what the Advantage module I have gives if the matrix is inverted immediately after entering. Inverting again gives [[10e-99, 0], [0, 10e-99]], again matching the behaviour of the 15C. Attempting to do the same thing following taking the determinant gives the nonsensical result.

In any case it gives a similarly nonsensical result for [[1, 2], [3, 4]]. Specifically, inverting and re-inverting after taking the determinate does not give the original matrix, but rather apparently arbitrary values in the diagonal elements.

> Quote:
>
> It's highly unlikely (albeit of course possible) that there's such an issue in the module, affecting just one function - that's what made me suspicious in the first place.

I don't know if it's only in one function; I've only seen problems with one function, but I haven't attempted to manually check every function in the module. It's even possible that there are different errors in, for example, the solver used by MATRX as

well as MDET. I was just assuming that the solver called MDET internally and so the problem with MDET explained the spurious results given by the solver.

Re: Overwriting 41C module internals

*Message #12 Posted by **Raymond Del Tondo** on 27 Apr 2011, 3:11 p.m.,*
in response to message #7 by spb

Have you tried to reset your HP-41, after doing a backup of course?

There are many occasions for memory contents (main and extended) getting invalid in the HP-41,
so that would be a way to filter out a (rather unlikely) hardware defect.

HTH

Ray

Re: Overwriting 41C module internals

*Message #13 Posted by **spb** on 27 Apr 2011, 9:52 p.m.,*
in response to message #12 by Raymond Del Tondo

> Quote:
>
> Have you tried to reset your HP-41, after doing a backup of course?

I've cleared memory (several times) via power on/backspace. Are you aware of any flags that if set/unset might result in weird module behaviour?

I know that the 41C doesn't have a builtin self-test. Are there any user programmes that do self-testing or diagnostics? I know there's a (rare) module for this, but unfortunately I don't have one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Does anyone have a copy of this keyset font PDF from Luiz?

*Message #1 Posted by **gene wright** on 22 Apr 2011, 7:25 p.m.*

He had put it here:

http://www.logeng.com.br/downloads/using_keyset_ttf.pdf

But that link is no longer active.

He describes it here in this museum thread from 6 years ago:

Luiz PDF for fonts

Re: Does anyone have a copy of this keyset font PDF from Luiz?

*Message #2 Posted by **Didier Lachieze** on 23 Apr 2011, 12:46 a.m.,*
in response to message #1 by gene wright

Is this file - luizfonts.zip - including what's you're looking for?

Re: Does anyone have a copy of this keyset font PDF from Luiz?

*Message #3 Posted by **gene wright** on 23 Apr 2011, 9:25 a.m.,*
in response to message #2 by Didier Lachieze

Yes, that had it. Thank you.

Now my question is ...

the way the font works, you type (SIN) ad it will create a key looking symbol for the sine key.

But... if you try to color that key, the text and outer symbol will be colored if you change the text color.

What if you wanted to have SIN be in white and all the area inside the key symbol to be the color? How do you do that?

Luiz says "using the native functions of your word processor" but I haven't figured that out yet.

So...anyone want to try it and tell me?

It is using the Keyset 4 ttf font in Luiz's file.

Re: Does anyone have a copy of this keyset font PDF from Luiz?

*Message #4 Posted by **Dieter** on 23 Apr 2011, 11:26 a.m.,*
in response to message #3 by gene wright

> Quote:

> Luiz says "using the native functions of your word processor" but I haven't figured that out yet.

I do not know which word processor you use, but here's the way this can be accomplished with MS Word (at least with my good old Word 2000 ;-)).

Select the text for which you want to set color (here: mark the word "(sin)" including the parentheses). The background color is set in the Format menu, using the command for drawing frames and boxes around text, applying background shading and colors. In my German version it's called "Rahmen und Schattierung". In one of the tabs you can select your preferred color. There also should be an option that allows coloring only the selected text (as required here) or the whole paragraph. Then, in a second step, choose the font color as usual.

Please note that the background color fills the whole space taken by the character. So the color will also be applied to a little space outside of the surrounding parentheses. That's not nice but that's all an ordinary word processor can do. ;-)

Dieter

Thank you, that gets me close...but... :-)

*Message #5 Posted by **gene wright** on 23 Apr 2011, 11:55 a.m.,*
in response to message #4 by Dieter

The PDF shown below from Luiz shows key symbols nicely filled in, which nothing going outside the symbols.

The 34s manual looks the same.

The Word approach Dieter has suggested is very close, but not as nice as these two documents.

How do you get the very nice symbols?

How to use Keyset 4 PDF link

Re: Thank you, that gets me close...but... :-)

*Message #6 Posted by **Dieter** on 23 Apr 2011, 12:23 p.m.,*
in response to message #5 by gene wright

?!? - the method described for Word gives the same results as those in the PDF. Look at the example with the Enter-key. That's white letters on black background. This black background also appears slighty out of the white line that surrounds the letters. Above and below with any character entered, and left and right as the parentheses are added. That's exactly the way it looks here in Word. Maybe you can make a screenshot and post it here. ;-)

If you look at the first line ("1) Creating an arbitrary key lettering"): that's black letters on white background. Which is not visible if white paper is used. :-D And the "specific symbols" in the second paragraph already have their own surrounding line. Here you just set the font color.

Dieter

Ah, that led me to the final push I needed...

*Message #7 Posted by **gene wright** on 23 Apr 2011, 12:34 p.m.,*
in response to message #6 by Dieter

I have now seen how to make the "inverse" color things I needed. A bit dense today.

Thank you!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CX Decimal Point restore

*Message #1 Posted by **Joseph Banki** on 22 Apr 2011, 7:06 p.m.*

Hi;

After replacing the batteries, the decimal point became a comma, and can not restore it. Also I always used 4 decimals before and that does not come back either. I have the Basics Volume 1 only, and Volume 2 or 3 (?) handles that. Could you help?

Thank you

Joseph Banki enj-banki@sbcglobal.net 281-788-4007

Re: HP 41CX Decimal Point restore

*Message #2 Posted by **spb** on 22 Apr 2011, 7:52 p.m.,*
in response to message #1 by Joseph Banki

SF 28

Flag 28 controls the behaviour; when set the separator between the integer and decimal part is a period and the digit separator for the powers of three (if set) is a comma, and when cleared the semantics are reversed.

Re: HP 41CX Decimal Point restore

*Message #3 Posted by **Joseph Banki** on 25 Apr 2011, 11:48 a.m.,*
in response to message #2 by spb

Hello SPB;

It worked, and thank you very much.

Joseph

Re: HP 41CX Decimal Point restore

*Message #4 Posted by **Dieter** on 23 Apr 2011, 7:07 a.m.,*
in response to message #1 by Joseph Banki

That sounds more than strange. Replacing the batteries definitely does not affect the display setting or anything else of interest. Maybe something happened that put the 41 in an undefined state. If the calculator does not hold any important data I would recommend a master clear: Turn off, hold down the backspace key (left arrow), press ON and release all keys. This will reset and clear the whole unit, all data is lost and the calculator returns to its default settings. Including the display (FIX 4, decimal point, thousands separators on). So 12345 will display as "12,345.0000".

The decimal separator is controlled by Flag 28. Use CF 28 for a comma or SF 28 for a point (= default).

The thousands separator is controlled by Flag 29. Use CF 29 to turn it off or SF 29 to turn it on (= default).

The display format is set with FIX, SCI or ENG and the number of digits you want. You say Fix 4 "does not come back either". So you press FIX 4 and nothing happens?!? In this case it's definitely time for a reset.

Dieter

Re: HP 41CX Decimal Point restore

*Message #5 Posted by **Joseph Banki** on 25 Apr 2011, 11:51 a.m.,*
in response to message #4 by Dieter

Hello Dieter;

Thank you for the advices. As I posted to SPB, the calculator works properly now, decimal points, thousand separator and digits. Appreciate your help.Thanks again Joseph

Re: HP 41CX Decimal Point restore

*Message #6 Posted by **C.Ret** on 25 Apr 2011, 12:38 p.m.,*
in response to message #4 by Dieter

Or time to get out of Alpha mode. :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help with flashing HP30 ROM / WP-34s

*Message #1 Posted by **BobVA** on 22 Apr 2011, 7:05 p.m.*

Hi All: I'm trying to flash the WP-34s image into my HP-30b, but haven't had much luck. What I've done:

- Installed SAM-BA V2.10 on my computer (Win 7)

- Connected HP-30b via a programming cable (thanks Tim!!) and USB/Serial cable.

- Followed Cyrille's instructions in the Development Kit on how to erase the flash, connect and download the image via SAM-BA.

Results:

- The original flash image was successfully erased! :-)

- I started SAM-BA, selected the correct serial port (COM7) for the USB adapter and then tried both the "no_board" and "at91sam7L128" settings for the "board" entry in the start screen

- In both cases I see a process called sam-ba_cdc.exe running in the system process list, but I never get a window or other indication that it's started correctly. It doesn't show up in the Application List, either.

The USB/Serial cable I'm using has been very reliable with all kinds of other weird software run on the machine (e.g. DOS disk drive emulators for old computers, flash programmers for radios, etc.) so I don't think it's the problem.

Any ideas or help greatly appreciated. The HP-30S is too light to use as a proper paperweight (the only function currently working). And sorry if I'm being especially thick.

Thanks! Bob

Edited: 22 Apr 2011, 7:08 p.m.

Re: Help with flashing HP30 ROM / WP-34s

*Message #2 Posted by **gene wright** on 22 Apr 2011, 7:19 p.m.,*
in response to message #1 by BobVA

I had trouble with USB to serial converters, but others have had success. Tough to troubleshoot.

I have up and only use PCs with a serial port. Bought a $50 old laptop just for that purpose.

Have you tried the "MySamba" version of the flashing software? If you don't have it, email me and I will send the .zip file to you.

It probably should be loaded on the sourceforge location. Anyone want to do that?

If all else fails, you can send the 30b to me and I can probably reflash it for you. :-)

Re: Help with flashing HP30 ROM / WP-34s

*Message #3 Posted by **Marcus von Cube, Germany** on 23 Apr 2011, 2:47 a.m.,*
in response to message #2 by gene wright

Gene, can you tell me more about MySamba? I've never heard of it before.

Re: Help with flashing HP30 ROM / WP-34s

*Message #4 Posted by **gene wright** on 23 Apr 2011, 9:23 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Something Cyrille created/modified.

MySamba

Re: Help with flashing HP30 ROM / WP-34s

*Message #5 Posted by **Paul Dale** on 22 Apr 2011, 7:23 p.m.,*
in response to message #1 by BobVA

Try running the sam-ba program instead of the sam-ba-cdc one. I didn't have any success with the latter.

- Pauli

Re: Help with flashing HP30 ROM / WP-34s

*Message #6 Posted by **Tim Wessman** on 22 Apr 2011, 11:07 p.m.,*
in response to message #1 by BobVA

I have been unable to get it to work with win7.

TW

Re: Help with flashing HP30 ROM / WP-34s

*Message #7 Posted by **BobVA** on 23 Apr 2011, 12:18 a.m.,*
in response to message #1 by BobVA

Thanks all!

Gene/Pauli: your suggestions got me poking around on the web looking for more information on SAM-BA (no "_CDC"), MYSAMBA and USB/Serial links. That led me to discover (as Tim notes) that Win7 + USB/Serial is a no-go for SAM-BA.

I successfully flashed the WP-34s firmware using SAM-BA under XP.

...and there, I suspect, goes my weekend :-)

For anyone playing along at home: when you install the package under XP it creates two shortcuts to executables. As Pauli said, try the one one called just "SAM-BA Vx.xx" first. I also had no luck with the "_cdc" version (Interestingly, that version didn't even show up when installed under Win7.)

Thanks again, Bob

Edited: 23 Apr 2011, 8:03 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bii+ Review

*Message #1 Posted by **Eddie W. Shore** on 22 Apr 2011, 9:29 a.m.*

http://edspi31415.blogspot.com/2011/04/10bii-review.html

```
This is my review form the 10bii+ calculator.  Enjoy.  In short, this is a solid calculator,
despite the fact it does not have RPN.
```

Re: HP 10bii+ Review

*Message #2 Posted by **Katie Wasserman** on 22 Apr 2011, 9:43 a.m.,*
in response to message #1 by Eddie W. Shore

Nice review, but I need to take exception to your "last answer" bug report. In fact RCL =, is not a "last answer" function it's a "last =" function. It simply returns the last value shown after your pressed the = key. If you obtained an answer that did not use the = key then the value returned from RCL = will still be whatever was shown on the display the last time you pressed the = key.

-Katie

Edited: 22 Apr 2011, 9:45 a.m.

Re: HP 10bii+ Review

*Message #3 Posted by **Tim Wessman** on 22 Apr 2011, 11:58 a.m.,*
in response to message #2 by Katie Wasserman

Actually, it worked like this but a (rather unfortunate) 10bII behavior required a change. INPUT, N and so on does a = internally when you press those keys. Thus if you do 5*6 INPUT, RCL = will be 30. This behavior of doing the = when there are pending operations was actually used in some textbooks.

TW

Re: HP 10bii+ Review

*Message #4 Posted by **Katie Wasserman** on 22 Apr 2011, 10:24 p.m.,*
in response to message #3 by Tim Wessman

I stand corrected. Apparently I don't have the latest release of the firmware in my 10bii+.

TW, Can I get that somehow?

Thanks, Katie

Re: HP 10bii+ Review

*Message #5 Posted by **Tim Wessman** on 23 Apr 2011, 10:43 a.m.,*
in response to message #4 by Katie Wasserman

Just looked at it. I am sure you've got the latest/final firmware.

Basically, I misspoke. When you press INPUT it does do an internal = to evaluate anything. However, when you enter the next number and press something like %CHG, it does another =.

So if you do 20+30 INPUT, RCL = at this point will give 50. If you then do 30 %CHG, RCL = will return 30.

TW

Re: HP 10bii+ Review

*Message #6 Posted by **Jose Gonzalez Divasson** on 22 Apr 2011, 11:30 a.m.,*
in response to message #1 by Eddie W. Shore

Good!

I have added it to my (still short) review list

HP Calculator review list

Re: HP 10bii+ Review

*Message #7 Posted by **Tim Wessman** on 22 Apr 2011, 12:05 p.m.,*
in response to message #1 by Eddie W. Shore

A few comments here:

That last example of NPV was removed (since NPV is natively calculated). . . just not entirely. Oops!

K indicator - I had not though of that and I like it. Wish I had thought of it earlier. :-)

The reason the regression is not automatically selected is that for various reasons I had to wait until you actually did the calculation before doing it. I agree it is not perfect.

That repeating paragraph. . . wow! :-(

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Simple Math Dilemma Revisited

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 21 Apr 2011, 9:51 p.m.*

In an earlier thread "Simple Math Dilemma" (April 13) Chuck wrote:

> Quote:
>
> One thing led to another, and it got me thinking about the value of (-1)^(2/6).
>
> At first glance I "want" it to be +1, since we have "even" powers, (sort of).
>
> On second glance it could be 1/2 + sqrt(3)/2 i, (the principal sixth root of a negative is complex; and then squared).
>
> But, on third glance, basic algebra says to reduce all rational exponents to lowest terms before evaluating, which gives us -1. Hmmmm.
>
> The TI-8X calculators give the third-glance result (-1) and produces a graph from -inf to +inf (the typical cube root function).
>
> Mathematica gives the second-glance result (complex value), and a graph from 0 to +inf accordingly.
>
> Back On-track, slightly: my HP-15 gives -1 (as expected). Haven't checked the others. my 28S gives the complex answer (as does my Casio) and graphs for only x>0.
>
> I've yet to find one that gives +1 (bummer,even powers and all).
>
> What do other calculators (hp or non-hp) give,and what "should" it be?
>
> I now can only presume TI's are for the less mathematically mature student, and HP's are for the more mathematically advanced. (Ouch!)
>
> But I wait your opinions.

I was surprised by the comment "The TI-8X calculators give the third-glance result (-1)" with no mention of the capability to yield the so-called "second glance" result. The actual situation is

1. The TI-80, TI-81 and TI-82 can only give the "third glance" result since those machines do not have a built-in complex number capability. A program which would yield the "second glance" result may be able to be written for one or more of those machines but I am not aware of one.

2. The TI-83, TI-84, TI-85, TI-86 and TI-89 give the "third glance" result if the -1 is entered as a real number. Those machines will give the "second glance " result if the user enters the -1 as a complex number; i.e., as (-1 + 0i) with the TI-83, TI-84 and TI-89, or as (-1,0) with the TI-85 and 86. All that is required is that the user understand how the machines operate..

"What do other calculators (hp or non hp) give ...?" With my HP-41's the keyboard sequence

1 CHS ENTER 2 ENTER 6 / Shift y^x yields DATA ERROR

where Appendix E (Messages and Errors) says that "The HP-41 attempted to perform a meaningless operation." where y<0 and x is non-integer. If the Math Pac module is installed then the sequence

0 ENTER 1 CHS ENTER 2 ENTER 6 / XEQ ALPHA Z Shift ENTER N ALPHA

yields the "second glance" result even though the instructions say that this method will "Raise z to an integer power." I have tried other non-integer powers and get resultst which is the same as that received from my HP-28S, TI-83, etc. The sequence includes sixteen keystrokes.

On my TI-59 the sequence (1 +/-) y^x (2 / 6) = yields a flashing one error indication. The fourth error condition on page B-1 of the manual is "Raising a negative number to any power (or root). The power (Ior root) of the absolute value of the number is flashed. With the Master Library module installed the sequence

2nd Pgm 0 4 2 / 6 = A 0 A 1 +/-2nd A 0 2nd A D

yields the "second glance" result after niineteen keystrokes versus the sixteen keystrokes with the HP-41C with the Math Pac installed. My friend Richard Nelson would tell me that is one more demonstration of the keystroke efficiency of RPN.

The TI-59 with the Master Library module will permit the use of complex exponents. My HP-41C with the Math Pac module does not seem to permit the use of complex exponents -- but, maybe I just haven't figured out how to do that. I would expect that some other HP-41 module or stand-alone program will permit the use of complex exponents. I just don't have such a module or program in my collection.

Finally, I note that all the machines I tested can be induced to yield positive one for the problem if the user first squares the -1 value and then raises the intermediate result to the 1/6 power. Of course, that isn't consisten with the problem as written if one interprets parentheses in the standard manner. Positive one can be obtained if a different problem were proposed; i.e., ((-1)^2))(1/6) . Isn't it wonderful what a few added parentheses can achieve?

Re: Simple Math Dilemma Revisited

*Message #2 Posted by **Martin Pinckney** on 21 Apr 2011, 10:58 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> Isn't it wonderful what a few added parentheses can achieve?

Yes indeed. But don't tell that to Sam "we don't need no stinkin parentheses" Levy.

[;-)

Re: Simple Math Dilemma Revisited

*Message #3 Posted by **Dieter** on 22 Apr 2011, 5:50 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> "What do other calculators (hp or non hp) give ...?" With my HP-41's the keyboard sequence

> 1 CHS ENTER 2 ENTER 6 / Shift y^x yields DATA ERROR
>
> where Appendix E (Messages and Errors) says that "The HP-41 attempted to perform a meaningless operation." where y<0 and x is non-integer.

Right. The point is that the calculator cannot check if the reciprocal of the exponent is an odd integer (which is required for a valid real result). In fact, 1/0,3333333333 actually is 3,000000000300 when rounded to the internal 13 digits. ;-)

> Quote:
>
> If the Math Pac module is installed then the sequence
>
> 0 ENTER 1 CHS ENTER 2 ENTER 6 / XEQ ALPHA Z Shift ENTER N ALPHA
> (...)
> The sequence includes sixteen keystrokes.
> (...)
> My friend Richard Nelson would tell me that is one more demonstration of the keystroke efficiency of RPN.

Well, you forgot to mention that in your example seven of these "sixteen keystrokes" are used to call the Z^N function. Of course any HP-41 user handling complex numbers will assign the complex functions to the keys of their real counterpart. AFAIR this is even suggested in the math pac manual. So it's actually 10 keystrokes, maybe 11 if the function is shifted. So yes, 10 keystrokes instead of 19 really is a nice example of the keystroke efficiency of RPN. ;-)

> Quote:
>
> The TI-59 with the Master Library module will permit the use of complex exponents. My HP-41C with the Math Pac module does not seem to permit the use of complex exponents -- but, maybe I just haven't figured out how to do that. I would expect that some other HP-41 module or stand-alone program will permit the use of complex exponents.

Sure. I admit I always wondered why the software modules included so much examples of poor programming.

Dieter

Re: Simple Math Dilemma Revisited

*Message #4 Posted by **Hal Bitton in Boise** on 22 Apr 2011, 1:13 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi Palmer,
I went the rounds with this very phenomenon a couple of years back when my classmates TI 89's returned -1 for (-1)^(2/6), and my 50g returned 1/2 + sqrt(3)/2 i, or 1 at angle 60deg, or 1 at angle pi/3, even with complex deselected on the CAS screen. Of course, both machine naturally reduced the exponent to 1/3. The conclusion I came to was that the HP's algorithm was just written to return the principle root of any complex number. To remedy this, I wrote a short program for my 50G which would return all N of the Nth roots of ANY number, complex or real. (Of course, all numbers are complex, some just have an imaginary component of zero :) I could then select which ever root struck my fancy.
It is interesting how the order in which you apply the fractional exponent affects the outcome. Square first, then take the sixth root, and you just get 1. Reverse that order, and you get the aforementioned principle cube

root of 1.

I'm curious, however, as to how you got your 15C to return -1. For (-1)^(2/6) My 15C returns (.5, .87), or 1 at angle 60 if I convert to polar form. Although not at hand at the moment, I'm 99% sure my 42s returns likewise. Best regards, Hal

Re: Simple Math Dilemma Revisited

*Message #5 Posted by **Ángel Martin** on 22 Apr 2011, 2:04 p.m.,*
in response to message #4 by Hal Bitton in Boise

> Quote:
>
> I'm curious, however, as to how you got your 15C to return -1. For (-1)^(2/6) My 15C returns (.5, .87), or 1 at angle 60 if I convert to polar form. Although not at hand at the moment, I'm 99% sure my 42s returns likewise.

My 42S does exactly what you suspected - and so does the 41Z module. Not surprisingly since it's the principal root.

Re: Simple Math Dilemma Revisited

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 22 Apr 2011, 10:38 p.m.,*
in response to message #4 by Hal Bitton in Boise

> Quote:
>
> I'm curious, however, as to how you got your 15C to return -1. For (-1)^(2/6) My 15C returns (.5, .87), or 1 at angle 60 if I convert to polar form.

I don't have a 15C. It was Chuck who stated in the original thread that his 15C returned -1. We'll have to wait for him to explain. I do have an 11C and a 12C. Those devices don't offer complex mathematics and return the message "Error 0" which indicates a mathematics error. y^x with y<0 and x a noninteger is one of the options that gives "Error 0".

Re: Simple Math Dilemma Revisited

*Message #7 Posted by **Chuck** on 25 Apr 2011, 5:21 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Here is a short article written in the New York State math journal in 1992. A nice take on this phenomena (dilemma??)

Article on (-1)^(6/4)

CHUCK

Edited: 25 Apr 2011, 5:22 p.m.

Re: Simple Math Dilemma Revisited

*Message #8 Posted by **Hal Bitton in Boise** on 28 Apr 2011, 1:56 a.m.,*
in response to message #7 by Chuck

> Quote:

> Here is a short article written in the New York State math journal in 1992. A nice take on this phenomena (dilemma??)

Interesting read...thanks Chuck.
Best regards, Hal

[Return to Index | Top of Index]

Go back to the main exhibit hall

A fast and compact algorithm for the normal quantile

*Message #1 Posted by **Dieter** on 21 Apr 2011, 4:58 p.m.*

In earlier threads in this forum various improvements have been discussed concerning the most efficient way to evaluate the inverse normal distribution (quantile) on the 34s. Since this might be of some interest for other calculators and/or implementations I think it's okay to start a new topic here.

As usual, it's a tradeoff between memory usage, execution speed and numeric accuracy. The current implementation starts with two quite good initial guesses - one value slightly high, the other a bit low. Then the solver is called to determine the exact result.

We can do better. ;-)

I have tried the one or other approach, and finally it turned out that there is a simple method that converges very fast and might even use less memory than the current method. The very sophisticated 34s solver is not required here. There is a much simpler, yet effective way to determine the quantile with a different algorithm:

First we guess a good estimate for the quantile. Only one single value is required, for instance this one:

```
        p > 0,2                    p < 0,2
---------------------      --------------------
u = sqrt(2*pi)*(0,5-p)     u = -2 * ln p
x = u + u^3 / 6            x = sqrt(-2 * ln(p * sqrt((u-1)*2*pi))) + 0,2/u
```

Yes, the second term is a bit more complex than before but it's worth it.

After this, a dedicated though simple solver is used. The preferred algorithm here is the Halley method, which uses both the first and the second derivative of a function. In our case, the first derivative simply is the PDF, and the second derivative is a simple function thereof. This leads to a very compact form of the Halley equation:

Assuming x > 0 and p < 0.5, first the well-known Newton-Raphson quotient f / f' is evaluated:

$$t = \frac{cdf(x) - p}{pdf(x)}$$

The pdf already has been evaluated within the cdf routine, so its value is known and no additional calculation is required. Now the new and improved approximation is:

$$x_{new} = x + \frac{t}{1 - t*x/2}$$

Look, Pauli - no slow logs required here. ;-)

Okay, how does it perform? I tried this method in Excel/VBA with 15 significant digits. After just two (!) iterations the final result was achieved. The method seems to converge at least quadratic, theoretically it's even cubic. So a third iteration probably should return something like 30 valid digits.

Pauli, what do you think? This should be faster than before and maybe it even requires less memory since no equation for the solver has to be set up. And only three (hard-coded) iterations should return a result with far more

valid digits than actually required.

Dieter

(Edit: corrected error in first guess formula)

Edited: 22 Apr 2011, 6:06 a.m. after one or more responses were posted

Re: A fast and compact algorithm for the normal quantile

*Message #2 Posted by **hugh steers** on 21 Apr 2011, 8:26 p.m.,*
in response to message #1 by Dieter

can you check your formula,

```
set p = 0.97, and p > 0.2, so
u = -2*ln(p) = 0.060918414969417091838522 5
then (u-1)*2*pi = -5.900423617307076027606582
```

which does not sqrt.

i'm trying a little LUA program of your idea...

```
sqrt = math.sqrt
pi = math.pi
ln = math.ln
norm = math.norm
exp = math.exp


function pdf(x)
   return exp(-x*x/2)/sqrt(2*pi)
end


function invQ(p)


   local x, u
   local t, x2;


   -- initial values for iteration
   if p < 0.2 then
      u = sqrt(2*pi)*(0.5-p)
      x = u + u^3/6
   else
      u = -2*ln(p)
      x = sqrt(-2*ln(p * sqrt((u-1)*2*pi))) + 0.2/u
   end


   while true do
      t = (norm(x) - p)/pdf(x)
      x2 = x + t/(1-t*x/2)
      --print(x2)
      if x2 == x then break end
      x = x2
   end
   return x
end
```

Re: A fast and compact algorithm for the normal quantile

*Message #3 Posted by **Namir** on 21 Apr 2011, 9:18 p.m.,*
in response to message #2 by hugh steers

You can also try the following empirical formula that I have obtained using one of my best-curve fitting

programs:

```
Qinv = x/(0.063493571 - 0.198675274*x^2 - 0.017195871 * x^3)^(1/3)
```

Where x = 0.5 - alpha, Qinv is the inverse normal distribution, and alpha is the significance level in decimals.

Edited: 21 Apr 2011, 9:46 p.m.

Re: A fast and compact algorithm for the normal quantile

*Message #4 Posted by **Dieter** on 22 Apr 2011, 6:03 a.m.,*
in response to message #2 by hugh steers

Hugh, the algorithm is based on the assumption that p =< 0,5 and the result x is positive. This means that - as usual in approximations of the normal quantile - we only consider one half of the bell curve and the other half is obtained by simple symmetry.

In your case, simply replace p = 0,97 by p = 1 - 0,97 = 0,03 and finally adjust the sign of the result. In this case the first estimate for x is 1,867 (exact value: 1,881).

In other words and pseudo code:

```
signflag = false

if p > 0.5 then
   p = 1-p
   signflag = true
   end if

... (calculation)

if signflag then x = -x
```

However, there actually was an error in the formulas for the first estimate - I simply confused both cases (less or greater than 0,2). I just corrected this. The approximation x = u + u^3/6 is used in the center, i.e. 0,2 < p =< 0,5 - sorry for the mistake. ;-)

Your LUA program looks interesting. However, be sure that norm(x) returns a value < 0.5 for positive x. If norm(2) returns 0.9775 instead of 0.0225, simply use norm(-x) here. Do you have a sample output of your program?

Dieter

Edited: 22 Apr 2011, 6:35 a.m.

Re: A fast and compact algorithm for the normal quantile

*Message #5 Posted by **Paul Dale** on 22 Apr 2011, 6:46 a.m.,*
in response to message #1 by Dieter

> Quote:
>
> Pauli, what do you think? This should be faster than before and maybe it even requires less memory since no equation for the solver has to be set up. And only three (hard-coded) iterations should return a result with far more valid digits than actually required.

I'm tempted to give it a try, the built in solver should give quadratic convergence but this might be better and in avoids the slow logs. It won't be smaller however, the arithmetic to set things up is more involved.

There isn't a solver function for these inverses, I just use the cdf directly for most of them.

- Pauli

Re: A fast and compact algorithm for the normal quantile

*Message #6 Posted by **Paul Dale** on 22 Apr 2011, 7:23 a.m.,*
in response to message #1 by Dieter

The worst I've seen so far is five iterations to get to a relative error of 1e-32. Going to complete convergence takes a lot more -- I'm suspecting there is some oscillating going on in the last digit. Best case I've seen is convergence to that degree of relative error is one iteration. Seems to average four or five. Still it is better than what was there and it should be a lot faster.

- Pauli

Re: A fast and compact algorithm for the normal quantile

*Message #7 Posted by **Paul Dale** on 22 Apr 2011, 8:02 a.m.,*
in response to message #6 by Paul Dale

And it is in version 726 :-)

- Pauli

Re: A fast and compact algorithm for the normal quantile

*Message #8 Posted by **Dieter** on 22 Apr 2011, 8:02 a.m.,*
in response to message #6 by Paul Dale

Pauli, thanks for trying. ;-)

> Quote:
>
> The worst I've seen so far is five iterations to get to a relative error of 1e-32.

The algorithm should give at least quadratic, maybe even cubic convergence. If the exit condition is based on the difference of the last two approximations the result has more accuracy than required. A typical example: the new guess and the previous one differ by 1E-7. But actually the new result already has 15 correct digits now, so there is no need for another iteration.

For example, try p = 0,1:

```
                                 current approx.   actual
               estimate for x    minus previous    error
-----------------------------------------------------------
first guess:  1,2620 04083 42513     .             1,95 E-2
1st approx.:  1,2815 49321 97319    1,96 E-2       2,24 E-6
2nd approx.:  1,2815 51565 54460    2,24 E-6       0,00
```

So, after two iterations the result has not just five valid decimals, but all 15 digits are correct.

> Quote:
>
> Going to complete convergence takes a lot more -- I'm suspecting there is some oscillating going on in the last digit. Best case I've seen is convergence to that degree of relative error is

> one iteration. Seems to average four or five.

The algorithm assumes x is greater than zero and p less than 0,5. Just an idea: try 1 + t*x/2 in the denominator. Does it converge faster or slower now?

Dieter

Edited: 22 Apr 2011, 8:09 a.m.

Re: A fast and compact algorithm for the normal quantile

*Message #9 Posted by **Paul Dale** on 22 Apr 2011, 8:22 a.m.,*
in response to message #8 by Dieter

> Quote:
>
> > The algorithm assumes x is greater than zero and p less than 0,5. Just an idea: try 1 + t*x/2 in the denominator. Does it converge faster or slower now?

Much slower (assuming I got the code change correct which seems likely).

The algorithm seems to work for all values of p converging at the same rate for p>0.5 as for 1-p. Care has to be taken with the initial estimates since they do depend on p<0.5.

I know that the final iteration is to recognise that the previous iteration converged, I'd prefer to wear this cost than have a pathological case turn up where convergence isn't achieved in four iterations (I'm limiting the maximum iteration count to 10 regardless, at least until someone finds an accuracy problem). As usual, I'm also going well past the 16 digits we return to the user.

Anyway, I feel the new algorithm is a significant improvement over what was there previously.

- Pauli

Re: A fast and compact algorithm for the normal quantile

*Message #10 Posted by **Dieter** on 22 Apr 2011, 9:36 a.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> > Much slower (assuming I got the code change correct which seems likely).

Fine, so your original code was correct.

The algorithm indeed assumes p < 0.5 and the sign of the result is adjusted in a final step. However, after your results I had to check the original claim that three iterations should be sufficient for up to 30 digits. ;-) With 42 digits working precision the results look like this (initial guess rounded to 10 significant digits):

```
                          40 digits limit ---+
p = 0.49999                                  |
2.5066 28275 E-5                             |
2.5066 28274 89349 40015 68864 28261 76743 07333 31 E-5
2.5066 28274 89349 40015 68864 28261 76743 07333 30 E-5
2.5066 28274 89349 40015 68864 28261 76743 07333 30 E-5
2.5066 28274 89349 40015 68864 28261 76743 07333 30 E-5
```

```
p = 0.4
.25328 77625
.25334 71031 35763 85539 77556 28100 57078 81760 39
.25334 71031 35799 79879 81961 81424 24393 87872 03
.25334 71031 35799 79879 81961 81424 24393 87872 11
.25334 71031 35799 79879 81961 81424 24393 87872 11


p = 0.2
.82286 17271
.84161 97566 33296 85072 34697 72160 98145 07910 22
.84162 12335 72914 20445 15834 89086 50920 52227 84
.84162 12335 72914 20517 87061 21363 24810 06262 98
.84162 12335 72914 20517 87061 21363 24810 06262 98


p = 0.1
1.2620 04083
1.2815 49321 97304 25441 86934 96100 93831 29653 00
1.2815 51565 54460 04635 37247 05905 12098 06891 60
1.2815 51565 54460 04669 65103 32944 87428 18619 91
1.2815 51565 54460 04669 65103 32944 87428 18619 91


p = 0.05
1.6289 55362
1.6448 52064 50501 31885 89723 12911 91114 79820 87
1.6448 53626 95147 27133 68151 91925 65119 10851 86
1.6448 53626 95147 27148 63848 90799 16321 36083 20
1.6448 53626 95147 27148 63848 90799 16321 36083 20


p = 0.01
2.3167 24294
2.3263 47326 06755 23743 60871 45678 93555 71274 95
2.3263 47874 04084 11007 83975 20190 86122 37531 92
2.3263 47874 04084 11008 85606 16334 69117 23351 82
2.3263 47874 04084 11008 85606 16334 69117 23351 82


p = 0.001
3.0848 14785
3.0902 32153 47247 09318 54741 57117 90091 26631 30
3.0902 32306 16781 35415 36973 25208 17996 59903 08
3.0902 32306 16781 35415 40399 83010 73792 05491 01
3.0902 32306 16781 35415 40399 83010 73792 05491 01


p = 0.00001
4.2625 96685
4.2648 90773 62443 34415 61811 69034 21338 64748 90
4.2648 90793 92282 46284 98510 62791 40211 75093 32
4.2648 90793 92282 46284 98524 69890 63446 29356 05
4.2648 90793 92282 46284 98524 69890 63446 29356 05


p = 1E-10
6.3609 15452
6.3613 40902 13155 28775 83723 50960 51571 40311 68
6.3613 40902 40405 62046 95375 82819 36102 62300 27
6.3613 40902 40405 62046 95375 82826 52216 79203 94
6.3613 40902 40405 62046 95375 82826 52216 79203 94


p = 1E-100
21.273 63259
21.273 45356 11826 87004 95639 46564 76422 25829 69
21.273 45356 09653 24295 11721 21890 51240 14325 95
21.273 45356 09653 24295 11721 21886 62226 41864 88
21.273 45356 09653 24295 11721 21886 62226 41864 88


p = 1E-500
47.885 42765
47.885 37067 38888 34080 50406 93884 64596 70554 77
47.885 37067 38534 60195 01196 55452 81331 03683 06
47.885 37067 38534 60195 01196 55452 72865 56065 64
47.885 37067 38534 60195 01196 55452 72865 56065 64
```

Okay, I stand corrected - it obviously looks more like 40 digits. ;-)

Dieter

Edited: 22 Apr 2011, 9:51 a.m.

Have a test drive! (was: A fast and compact algorithm for the normal quantile)

*Message #11 Posted by **Dieter** on 23 Apr 2011, 10:55 a.m.,*
in response to message #10 by Dieter

Actually it's something near 50 digits. ;-)

If you don't want to look at endless tables with 50-digit numbers, simply try it yourself: I already mentioned Casios Keisan website in an earlier post. There also is a nice programmable calculator that we can use to test-drive the algorithm:

Visit the Keisan calculator and set it to 50 digits. Pauli may use 38 digits instead. ;-) Clear the "Expression" form and insert the following code:

```
/*********************************************/
/*                                           */
/*   Halley's method for the normal quantile   */
/*                                           */
/*********************************************/


p = min(probability, 1-probability);   /* make sure p =< 0.5 */
s = sign(0.5 - probability);           /* set  correct sign  */


if (p < 0.2)                            /* make a first guess */
   {u=-2*ln(p); z=sqrt(-2*ln(p*sqrt((u-1)*2*pi))) + 1/u^2;}
else
  {u = (0.5-p)*sqrt(2*pi); z = u + u^3/6;}


print(z*s);                             /* print first guess  */


k = 1;


do {
   t = (normalcd(z)-p)/normalpd(z);
   z = z + t/(1 - t*z/2);
   print(z*s);                          /* print current approximation */
   k = k+1;
   }
while(k=<3);                            /* three iterations should do  */


print(normalicd(probability));         /* compare with exact z-value  */
```

Press "Execute" and an input control labelled "probability" will appear.

Now enter a probability and press "Execute". Five lines of data will be printed. The first one is the initial guess, followed by three Halley-iterations, and the last line is the correct value as returned by the system. If you wish, the output labels ("ans1" ... "ans5") can be edited (double-click).

Dieter

Another taker (was: A fast and compact algorithm for the normal quantile)

*Message #12 Posted by **Oliver Unter Ecker** on 1 May 2011, 5:23 p.m.,*
in response to message #11 by Dieter

Hi Dieter,

This is *very* nice. Thank you for sharing this, and the beautiful development!

I'm adopting it in MorphEngine (ND1, CalcPad), which lacked all quantiles.

Here's how your code looks as a JavaScript user function in ND1:

```
function(probability) {
    var p = min(probability, 1-probability); /* make sure p =< 0.5 */
    var s = sign(0.5 - probability); /* set correct sign */


    if (p < 0.2) { /* make a first guess */
        var u=-2*ln(p);
        var z=sqrt(-2*ln(p*sqrt((u-1)*2*pi))) + 1/(u*u);
    }
    else {
        var u = (0.5-p)*sqrt(2*pi);
        var z = u + (u*u*u)/6;
    }


    calculator.stack.push(z*s); /* print first guess */


    var k = 1;


    do {
        var t = (NormalDistribution(0, 1, z)-p)/NormalPDF(0, 1, z);
        z = z + t/(1 - t*z/2);
        calculator.stack.push(z*s); /* print current approximation */
        k = k+1;
    }
    while(k <= 3); /* three iterations should do */


    return z;
}
```

(Notice, this is almost identical to your keisan code. Btw, I was surprised that keisan accepts =< as "less or equal than". The calculator.stack.push() statements above would be removed after debugging.)

Btw, one can write code like this on a desktop and automatically import into the calculator via WiFi, by "visiting" the variable under which the function is stored. (See Get and display remote code with mod'ed VISIT key)

I added returns of +Infinity and -Infinity for out-of-domain inputs and plan to look into making the code work with add'l mean and variance args for compatibility to UTPN and NDIST. (A first quick pass at that wasn't successful.)

I was surprised to see that on hp 50g one cannot use NDIST (or any of the distributions) in an expression for use in graphing (I'm getting "INVALID SYNTAX").

On ND1 this works, and I can report that NormalQuantile() runs quick enough to be graphed and zoomed/panned in real-time. (An advantage of returning Infinities over "out-of-

domain" error would also be that the user can still graph the function and visually discover the defined domain.)

Thanks again.

Re: A fast and compact algorithm for the normal quantile

*Message #13 Posted by **Dieter** on 22 Apr 2011, 1:47 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> The algorithm seems to work for all values of p converging at the same rate for p>0.5 as for 1-p.

Still I would suggest to use "the usual approach" here, i.e. use p or 1 - p and finally adjust the sign of the result. Otherwise for p close to 1 accuracy is wasted. Okay, with 39 digits you can look at this quite relaxed. ;-)

> Quote:
>
> (I'm limiting the maximum iteration count to 10 regardless, at least until someone finds an accuracy problem). As usual, I'm also going well past the 16 digits we return to the user.

I agree that there should be a few "guard digits", at least for the programmer's and user's peace of mind. In the olden days, HP was satisfied with two or three internal digits more than those displayed to the user. ;-) I have yet to find a case where the second iteration after the initial guess did *not* return a result with an error less than one unit of the 18th significant digit, and the third iteration returned at least 42 valid digits. If (!) the CDF is evaluated to full machine precision, that is. I assume the CDF algorithm will return results with slight errors beyond the 35th digit, but I do not think this is a problem here.

There still may be an issue we have not discussed yet: how does the 34s behave as the lower working limit is approached, i.e. at probablities like 1E-383...1E-399. Here numbers start getting subnormal. I think it's a good idea if in this range the first estimate is a little bit low (in absolute terms), so that the CDF does not underflow. This can be achieved with an alternative way of calculating (cdf(x)-p)/pdf(x) where the pdf can be cancelled out, or with a slight adjustment of the initial guess far out in the tail: I would recommend to replace the 0,2/u term in the current formula by a simple 1/u^2. This way the approximation is slightly low here (instead of slighty high). At least down to p = 1E-4000. ;-)

The first estimate for larger x still is a bit complex and requires two roots and two logs. Do you think it should be replaced by a (tiny ;-)) rational approximation with four three-digit constants? I think this might be faster, and the error of the first estimate would be uniformly distributed within something like +/- 0,002. But I cannot say if this would require more or less memory than now.

Dieter

Re: A fast and compact algorithm for the normal quantile

*Message #14 Posted by **Paul Dale** on 22 Apr 2011, 7:11 p.m.,*
in response to message #13 by Dieter

> Quote:
>
> In the olden days, HP was satisfied with two or three internal digits more than those displayed to the user. ;-)

They had William Kahan doing their algorithm design.

I'm not even close to his level of expertise.

Very few if any are :-)

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What brand / name / type were the Original 12c batteries?

*Message #1 Posted by **gene wright** on 21 Apr 2011, 11:56 a.m.*

I know you can use three Energizer 357 type cells, but does anyone know what was shipped with the first 12c models?

Curiosity and a cat have a meeting later.

Re: What brand / name / type were the Original 12c batteries?

*Message #2 Posted by **Michael de Estrada** on 21 Apr 2011, 12:56 p.m.,*
in response to message #1 by gene wright

According to the handbook dated August 1981, various batteries were recommended replacements:

Alkaline:

Eveready A76, UCAR A76, RAY-O-VAC RW82, National or Panasonic LR44

Silver-Oxide:

Eveready 357, UCAR 357, RAY-O-VAC RS76 or RW42, Duracell MS76

Silver-Oxide will last more than twice as long as Alkaline

Edited: 21 Apr 2011, 12:59 p.m.

Re: What brand / name / type were the Original 12c batteries?

*Message #3 Posted by **bill platt** on 21 Apr 2011, 1:30 p.m.,*
in response to message #2 by Michael de Estrada

but that doesn't answer the question. (And Gene already knows that list by heart :-)

I have to query my crainial database for memory of the 1st time I opened the battery compartment of my 11c, to see if I remember the brand, and then extrapolate that to the 12c.

Something jogs in me that they were alkaline. But how could that be a reliable memory? Too long ago and not an important thing to remember. I do remember being interested in the Silver for two reasons: one being the longer life, and the other being the interesting fact that alkalines go dead more gracefully.

Re: What brand / name / type were the Original 12c batteries?

*Message #4 Posted by **Michael de Estrada** on 21 Apr 2011, 1:37 p.m.,*
in response to message #3 by bill platt

Doesn't it stand to reason that the original batteries would have been the same as one of the recommended replacements? I seem to recall when I changed the original batteries in my HP-15c that

they were A76 alkalines.

Re: What brand / name / type were the Original 12c batteries?

*Message #5 Posted by **Randy** on 21 Apr 2011, 1:46 p.m.,*
in response to message #1 by gene wright

A76's from Eveready with the small Union Carbide logo stamped on them.

Edited: 21 Apr 2011, 1:47 p.m.

Re: What brand / name / type were the Original 12c batteries?

*Message #6 Posted by **db (martinez, ca.)** on 23 Apr 2011, 10:47 a.m.,*
in response to message #5 by Randy

Corroborating Evidence: i believe it was union carbide in my 11c too.

Re: What brand / name / type were the Original 12c batteries?

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 21 Apr 2011, 10:13 p.m.,*
in response to message #1 by gene wright

Gene:

I have three HP-11C's. Two have Kodak KA76's in them -- not even on the list. One of the two is S/N 2217A03623 which is an early enough unit to have the bug. I am fairly sure that I have never replaced the cells as I have hardly ever used it. The other has MS76 Silver Oxide cells.

Re: What brand / name / type were the Original 12c batteries?

*Message #8 Posted by **gene wright** on 21 Apr 2011, 11:22 p.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

Thanks all!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

free42 runs on Curtis KLU LT8025??

*Message #1 Posted by **Mike Reed** on 21 Apr 2011, 10:56 a.m.*

Hi e'1!! Anybody have a Curtis KLU LT8025?? I'm thinking of getting one and if i do, i want to put free42 on it, but don't know if it will run. the Klu is Android 2.1 o/s, 800x600 tablet, 2gb x 32gb, 256ram, Processor: IMAPx200 ARM 11 1 GHz. THANX!

Re: free42 runs on Curtis KLU LT8025??

*Message #2 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 10:59 a.m.,*
in response to message #1 by Mike Reed

At least it runs on my Archos 70 Internet tablet. Chances are high that your device will be supported, too. You will have to find a suitable skin, though.

Re: free42 runs on Curtis KLU LT8025??

*Message #3 Posted by **Thomas Okken** on 21 Apr 2011, 2:59 p.m.,*
in response to message #1 by Mike Reed

I believe that model has a resistive touchscreen... I once had the opportunity to play with an Archos 5, which has a resistive touchscreen as well, and I didn't like it. I find the capacitive ones *much* nicer to use -- you only have to touch the capacitive ones, while the resistive ones require pressure. YMMV, of course, but I'd recommend trying one to make sure that that is something you can live with.

(Regarding Free42 compatibility: I can't promise that Free42 will run on the LT8025, but I haven't received any reports of Free42 not working on any Android >= 1.5 device so far, so the odds appear to be good. There are one or two where the skins don't get scaled properly... Best thing to do is to try before you buy, if Free42 compatibility is a must for you.)

Edited: 21 Apr 2011, 3:04 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

If you always envied the young look of your collleague's Casios and Texas...

*Message #1 Posted by **Jose Gonzalez Divasson** on 21 Apr 2011, 10:13 a.m.*

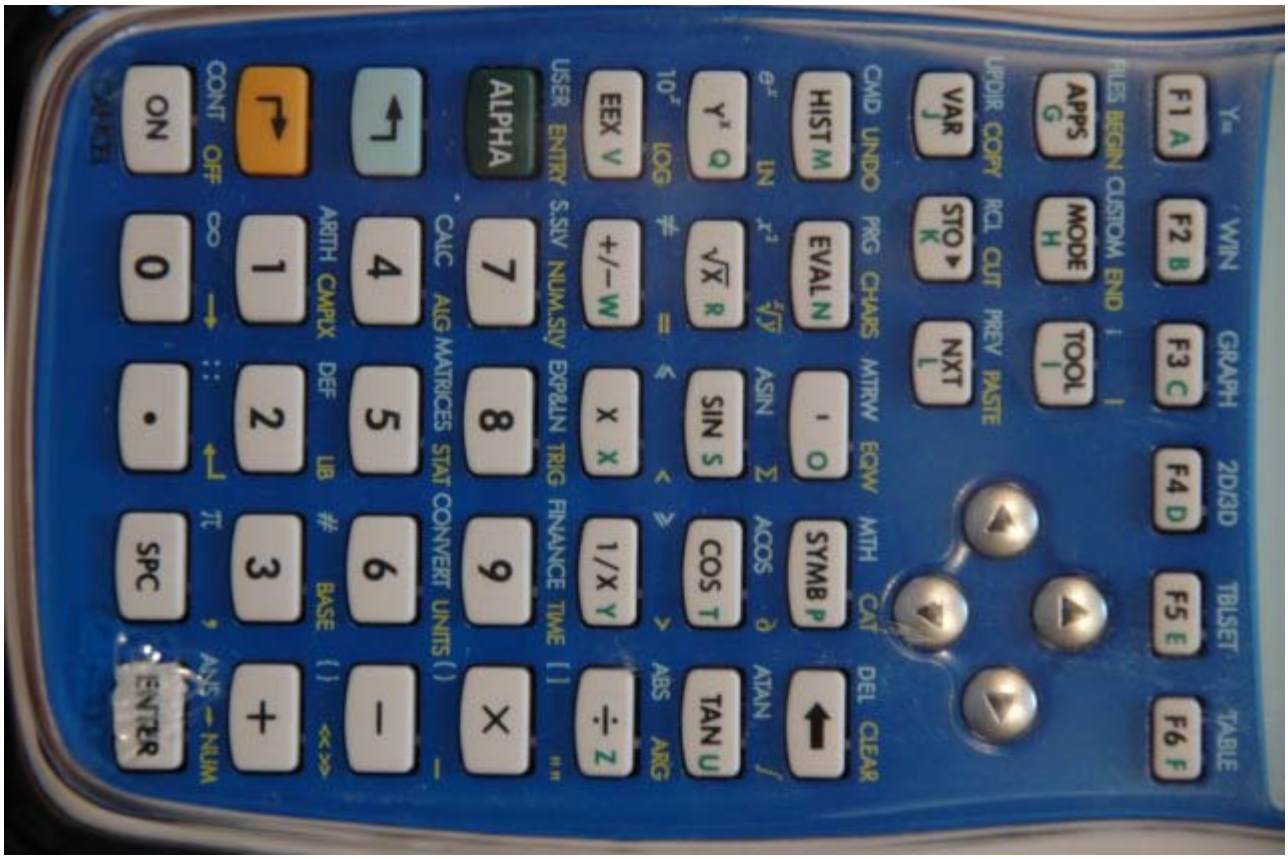
If you always envied the young look of your collleague's Casios and Texas...

While an old model already, I had not seen one in reality until recently.

As the English say on something they do not necessarily like: "interesting"

When it comes to contrast and readability, it is not too bad:

If you always envied the young look of your collleague's Casios and Texas...



"If you can't beat them, join them!"

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s stability update

*Message #1 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 10:06 a.m.*

I've prepared a new stability release to the wp34s flash image. It's still in SVN only, not yet in the release package. There are significant changes in the internal workings (keyboard scan, timers, power management) and only a few adaptions in the visible part of the software. So it is still at version 1.17.

It would be nice to hear from a few educated testers if the ROM image is stable enough for being put in the release package. Any comments are welcome.

Re: wp34s stability update

*Message #2 Posted by **Jeff O.** on 21 Apr 2011, 3:04 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I would not call myself educated, but it seems stable to me. The only program I have entered is as follows:

```
001: LBL A
002: 1
003: +
004: GTO A
005: RTN
```

If I let the above run for 60 seconds, both the 20b and 30b on which I am loading each version of the ROM count up to about 170,000.

I noticed that the BATT command returns 3.0 on both the 20b and 30b. A couple versions ago, I was getting 2.9 on the 20b and 2.8 on the 30b. I did not change batteries, so I was curious if this function has changed.

On the 30b, I noticed that when I turn it off the "Bye..." message appears only fleetingly, while on the 20b the message appears for a brief time (maybe 0.5 second?) and then the display fades away. Is there a hardware difference which causes this?

Re: wp34s stability update

*Message #3 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 5:00 p.m.,*
in response to message #2 by Jeff O.

The voltage display may be inaccurate because of the way it is measured (which has changed with the latest release. I'll check that again.) You can get a better result if you run BATT in a loop and display the value with PSE.

The "Bye..." message is a new addition. I start calculating the SRAM checksum and at the same time let fade the display out in an interrupt routine. I might be that both calculators have different performance so that you can see a difference but I'm not sure about this. If Tim could send me the original 30b firmware, I will try it on my 30b too.

Re: wp34s stability update

*Message #4 Posted by **svisvanatha** on 21 Apr 2011, 6:44 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I have the 30b firmware....ping me if you want it!

Re: wp34s stability update

*Message #5 Posted by **svisvanatha** on 21 Apr 2011, 8:55 p.m.,*
in response to message #1 by Marcus von Cube, Germany

build 718 issues: - P(69,2) briefly displays the correct result, then replaces X with an integer. - this appears on the 30B/WP34S hardware, but not on the windows emulator.

Re: wp34s stability update

*Message #6 Posted by **Marcus von Cube, Germany** on 22 Apr 2011, 1:15 a.m.,*
in response to message #5 by svisvanatha

Damn, the keyboard driver issue again! I was hoping I fixed it. :(

I just tried again on my hardware and there is no problem so it seems to be hardware dependent. I've increased the delay and committed a new build. Can you test it?

Re: wp34s stability update - Forget revision 725! - Or not?

*Message #7 Posted by **Marcus von Cube, Germany** on 22 Apr 2011, 2:16 p.m.,*
in response to message #1 by Marcus von Cube, Germany

If you have already downloaded revision 725 from SVN, ignore it because it's broken. Get the latest release before you flash!

EDIT: Sorry for the confusion! It seemed to be a local problem with my working copy.

Edited: 24 Apr 2011, 5:10 a.m. after one or more responses were posted

Re: wp34s stability update - Forget revision 725!

*Message #8 Posted by **svisvanatha** on 22 Apr 2011, 2:50 p.m.,*
in response to message #7 by Marcus von Cube, Germany

I downloaded earlier, and it caused reboots of the 30b. Will try latest later today.

Re: wp34s stability update - Forget revision 725! --- then what revision? :-)

*Message #9 Posted by **gene wright** on 23 Apr 2011, 10:02 a.m.,*
in response to message #7 by Marcus von Cube, Germany

You are suggesting ignoring 725 and waiting on the next release, correct?

And, as 725 is the highest revision of calc.bin out there right now... wait a bit longer? :-)

Re: wp34s stability update - Forget revision 725! --- then what revision? :-)

*Message #10 Posted by **Marcus von Cube, Germany** on 23 Apr 2011, 11:39 a.m.,*
in response to message #9 by gene wright

I did an update which should work. There must have been something wrong with the image I was assuming to be 725. Just get what is in the repository and try it. If it's broken it hangs directly on reset. If you can type in something, it's ok.

Re: wp34s stability update - Forget revision 725! --- then what revision? :-)
*Message #11 Posted by **Paul Dale** on 23 Apr 2011, 7:16 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I've got 725 flashed in here and it seems to be fine for all that I've tried.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP75 Plug-Module Simulator Manual pdf

*Message #1 Posted by **Jake Schwartz** on 20 Apr 2011, 10:29 p.m.*

Hi,

Fairly recently, a quick discussion came up regarding the HP75 Plug-module simulator manual and Jim Horn mentioned my having his copy. I did locate that binder and scanned the 40-page manual to pdf this evening. It may be accessed at: http://www.pahhc.org/2011/HP75_PMS.pdf for anyone who would wish to download a copy.

Jake

Re: HP75 Plug-Module Simulator Manual pdf

*Message #2 Posted by **Jim Horn** on 21 Apr 2011, 5:11 p.m.,*
in response to message #1 by Jake Schwartz

Wonderful! Thank you, Jake - I've often thought it would be fun to put that into a modern FPGA either in a plug-in module shell or even in the '75 itself. Of course, with my '75 long gone it's all acedemic but we engineers have a wierd sense of fun...

Re: HP75 Plug-Module Simulator Manual pdf

*Message #3 Posted by **Paul Berger (Canada)** on 23 Apr 2011, 7:59 p.m.,*
in response to message #2 by Jim Horn

I would also like to add my thanks to Jake for scanning this manual and making it available. I plan to build an expanded version of this, but fitting it into a module case is a little ambitious for me right now. At the very least I will end up with something that I could load ROM images into to expand my 75C. Now if I could only find an I/O ROM...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another WP-34S overlay option with costs

*Message #1 Posted by **svisvanatha** on 20 Apr 2011, 9:49 p.m.*

There are a few overlay options presented so far for the WP-34S. I contacted a company specializing in custom overlays for a quotation. They provided the following:

- 0.005" 8B35 lexan, Laminate 3M 467 Adhesive, Digitally cut to size
- 100 @ $12.96 each
- 1 NRE @ $350.00 (non-recurring expenses)
- NRE Includes: Create & Output Generate art and film positives from customer supplied electronic file, create custom tool. Includes color matching

For 100 overlays, the cost would come out to approximately $16.50 USD plus shipping from the supplier, plus shipping to individual customers.

The overlay will include the cuts for the keys. They were reluctant to attempt the labels for the keys for two reasons:
- in their experience, such small labels on keys do not last long - they tend to pop off
- they were worried about the size of the print on the keys being legible.

If key labels are not important, we could use the overlay that includes the primary function and green shift labels, and blank out the existing key labels.

This was a company I found online, so other suppliers may have better experience with such projects, and different costs.

I would really like the key labels, but according to this supplier, it seems to be difficult to accomplish.

If any others are interested in getting quotations, let's share them on this forum and go with the one that provides the best cost, durability and features (e.g. key labels in addition to overlay).

Re: Another WP-34S overlay option with costs

*Message #2 Posted by **Paul Dale** on 21 Apr 2011, 1:09 a.m.,*
in response to message #1 by svisvanatha

I could live with this price. The time saved cutting the holes makes it worthwhile I suspect.

- Pauli

Re: Another WP-34S overlay option with costs

*Message #3 Posted by **Walter B** on 21 Apr 2011, 1:33 a.m.,*
in response to message #2 by Paul Dale

:-) If I understand Svisvanatha correctly there will be no holes, just 3 cuts per key. If true I can live with that offer, too. Thanks, Svisvanatha! Nevertheless, a second offer (or more) will be interesting.

Walter

Re: Another WP-34S overlay option with costs

*Message #4 Posted by **Paul Dale** on 21 Apr 2011, 1:41 a.m.,*
in response to message #3 by Walter B

> Quote:
>
> If I understand Svisvanatha correctly there will be no holes, just 3 cuts per key. If true I can live with that offer, too. Thanks, Svisvanatha!

My reading of this was that the keys would have holes not flaps (i.e. four cuts per key, although likely die punched). I can live with too, blanking the keys is easy.

- Pauli

Re: Another WP-34S overlay option with costs

*Message #5 Posted by **svisvanatha** on 21 Apr 2011, 6:25 a.m.,*
in response to message #4 by Paul Dale

Sorry if it was not clear in the original post. The overlay would look like a 41C overlay, with 4 cuts per key. It is adhesive-backed Lexan with graphics as supplied by us. No attempt at providing labels for the keys. They did not specify if it was die punched, but I believe that to be the case due to the specification of 'tool' in the NRE.

Re: Another WP-34S overlay option with costs

*Message #6 Posted by **Walter B** on 21 Apr 2011, 1:38 a.m.,*
in response to message #1 by svisvanatha

Svisvanatha,

> Quote:
>
> ```
> They were reluctant to attempt the labels for the keys for two reasons:
> - ...
> - they were worried about the size of the print on the keys being legible.
> ```

Please specify: did their worries concern the height of the print or the width of the lines within the letters?

TIA, Walter

Re: Another WP-34S overlay option with costs

*Message #7 Posted by **svisvanatha** on 21 Apr 2011, 6:31 a.m.,*
in response to message #6 by Walter B

Here is where having exact dimensions of the keys would be beneficial.

They need to provide a 'rebate', if you will, from the edge of the physical keys so that the labels do not lift off easily. Since they do not have an actual unit, and are judging from pictures. They thought the overall size (read: Font size) of the lettering on the keys was too large for the size of label they could produce. If the font size was smaller, then they were worried about the readability. I believe this concern is more for the angled faces than the flat tops. Also, they were concerned about the durability of the labels on the keys

- in their experience such small labels do not last long. They recommended that the keys be labeled during the manufacturing of the unit!

It would be nice to get further feedback from other suppliers, and users of this forum if they have experience in this area.

Re: Another WP-34S overlay option with costs

*Message #8 Posted by **cyrille de brebisson** on 21 Apr 2011, 9:24 a.m.,*
in response to message #1 by svisvanatha

hello,

did you look at skin-it? they can do stuff like that relatively cheap...

cyrille

Re: Another WP-34S overlay option with costs

*Message #9 Posted by **svisvanatha** on 21 Apr 2011, 9:39 a.m.,*
in response to message #8 by cyrille de brebisson

Nope - I will look into that and contact them. Thank you!

What's your opinion?

*Message #10 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 9:55 a.m.,*
in response to message #8 by cyrille de brebisson

Bonjour Cyrille !

What do you think of our work? When you prepared the SDK, did you ever imagine, it would be exploited the way Walter, Paul and I did?

The same question goes to Tim, of course.

Re: What's your opinion?

*Message #11 Posted by **Tim Wessman** on 21 Apr 2011, 10:40 a.m.,*
in response to message #10 by Marcus von Cube, Germany

I personally am excited there is finally a full project taking advantage of what cyrille fought hard to get included.

While I personally feel the keyboard is a bit complicated and this would never be something that would sell well the the average consumer, it looks great for the enthusiast!

TW

Edited: 21 Apr 2011, 10:53 a.m. after one or more responses were posted

Re: What's your opinion?

*Message #12 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 10:45 a.m.,*
in response to message #11 by Tim Wessman

I think Walter has to comment on this. The keyboard is a compromise between directly accessible commands and menu driven access. It's as always: So many functions, so little keys! At least there are no hidden keyboard functions as in the 50G.

One additional remark: wp34s is based purely on open source software, no expensive development tools are necessary. To be on the safe side, when implementing the hardware parts, I certainly did have a look at what Cyrille had done in the SDK in order to understand how things should work, but I haven't copied a single line of HP code.

Edited: 21 Apr 2011, 11:08 a.m.

Re: What's your opinion?

*Message #13 Posted by **Walter B** on 21 Apr 2011, 4:05 p.m.,*
in response to message #11 by Tim Wessman

Hi Tim,

> Quote:
>
> While I personally feel the keyboard is a bit complicated and this would never be something that would sell well the the average consumer, it looks great for the enthusiast!

:-) Two points:

1. The "average consumer" will hardly ever get beyond +, -, x, / after (s)he finished school. % is just a shortcut. Seeing what the average banker does with these five, I'm grateful we didn't give them more powerful functions.
2. The user interface reflects a) the features of the LCD, b) the opinions of the active forum members. The layout would have looked significantly different if we had a full dot matrix like featured by the 17bii+ Silver allowing six softkeys - but we have not. And we learned many of our fellow forumers don't like menus - at least on their desk ;-) - which results in them preferring the 32sii over the 32s. Both a) and b) led to a layout well filled with 5 functions per average key. We still have to have a few menus to provide habitats for all the extra functions people are used to have (HP did spoil us ;-) or wanted to see implemented, though in the latter case "people" seldom exceeded 5 persons per function ;-) And as people say here "Der Appetit kommt beim Essen" (~ 'appetite grows while eating') ...

Anyway, thanks to HP calculator division and its technical staff (one, two, ...?) for providing such a repurposable platform, though we aren't finished yet. And personally, just in case you'll do it once more, I think the greatest space for improvement is the display. But you know this from many previous posts already ;-)

Walter

Re: What's your opinion?

*Message #14 Posted by **cyrille de brebisson** on 21 Apr 2011, 1:09 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Hello,

I am happy and glad to see that stuff beeing used. It took a lot of work to enable all of that and I am happy to see people taking advantage of it! great job.

cyrille

Re: What's your opinion?

*Message #15 Posted by **Walter B** on 21 Apr 2011, 3:30 p.m.,*
in response to message #14 by cyrille de brebisson

Bonjour Cyrille,

merci pour providing that tool kit and the interface - it was the basis of all our work :-)

Walter

Re: What's your opinion?

*Message #16 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 5:05 p.m.,*
in response to message #15 by Walter B

And thanks to you, Tim and HP for your kind words. I'm proud being part of the project.

Re: What's your opinion?

*Message #17 Posted by **Jake Schwartz** on 22 Apr 2011, 2:06 p.m.,*
in response to message #16 by Marcus von Cube, Germany

If you guys would enable the "Donate Money" button at Sourceforge, I am sure that a few of us would be willing to help offset any costs you might have incurred up to this point....even if it simply represents time spent. As Chris Farley (late of "Saturday Night Live" fame) might have said, "This project is AWWWWSOME!!!"

Thanks, Jake

Re: What's your opinion?

*Message #18 Posted by **Marcus von Cube, Germany** on 22 Apr 2011, 2:27 p.m.,*
in response to message #17 by Jake Schwartz

Jake, I love these comments!

It's by far not only time spent. I've invested a considerable amount of €s in Visual Studio and my Olimex adapter. But I did it without any direct financial interest. I'm hoping that my work will support my career. (I'm a freelance programmer with experience ranging from micro-controllers to HP NonStop hosts.) So it's sort of a PR investment concerning myself.

Re: What's your opinion?

*Message #19 Posted by **Walter B** on 22 Apr 2011, 2:41 p.m.,*
in response to message #17 by Jake Schwartz

Thank you, Jake! For me it's almost exclusively "time spent", though it has been quite a lot since Pauli and me started in December 2008. Personally, the driving force was to prove it can be done - something as close to a hypothetic 43S as possible can be made with next to no resources compared to the budgets of the companies being in that business. And it has materialized - no more "only vaporware" d:-) though it's not

finished yet.

Thanks again - after all it's a nice reward

Walter

Re: What's your opinion?

*Message #20 Posted by **Jose Poyan** on 22 Apr 2011, 6:37 p.m.,*
in response to message #19 by Walter B

I think too that the project is Spectacular ! When I saw the manual I was amazed. Just to imagen that someone carried on with the project and it didnt stay in words and it was made in such a professional way was shocking. It's the best thing since the hp42s emuler!

I plan to get my wp34s in some time when it's completly finished and the issue of the ovelay is solved. Hopefully I'll get my hands on the uCalc when Dave Jones complete his project and starts selling them. I also agree with the view that you shoud get donations, that will show how much people appreciate your idea.

Thank you guys for this great calculator !!

jose poyan

Edited: 22 Apr 2011, 6:55 p.m. after one or more responses were posted

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting news about the HP 15C

*Message #1 Posted by **Paul Guertin** on 20 Apr 2011, 8:57 p.m.*

While looking for something completely different, I found the following web page, with some information that might be of interest to readers of this forum.

http://www.techpoweredmath.com/hp-12c-special-edition-hp-15c-re-release/

"HP has informed Bach that in June, there will be a special limited edition run of the HP-15C."

Re: Interesting news about the HP 15C

*Message #2 Posted by **Eddie W. Shore** on 20 Apr 2011, 9:35 p.m.,*
in response to message #1 by Paul Guertin

Cool, we will keep an eye out for it. I would love to snatch one of them if I get a chance.

Re: Interesting news about the HP 15C

*Message #3 Posted by **Paul Dale** on 21 Apr 2011, 1:08 a.m.,*
in response to message #2 by Eddie W. Shore

If this comes to fruition, I'll be snatching more than one :-)

A keyboard with decals more suitable for a repurposing :-)

Pauli

Re: Interesting news about the HP 15C

*Message #4 Posted by **Walter B** on 21 Apr 2011, 1:48 a.m.,*
in response to message #3 by Paul Dale

Very interesting! If available in Europe for a reasonable price, I'd buy one as well :-)

@Pauli: How do you think there will be decals?

Walter

Re: Interesting news about the HP 15C

*Message #5 Posted by **Paul Dale** on 21 Apr 2011, 1:50 a.m.,*
in response to message #4 by Walter B

Decals as in the keyboard is printed for a 15c not a 12c.

I.e. labels.

Pauli

Re: Interesting news about the HP 15C

*Message #6 Posted by **Donald Ingram** on 21 Apr 2011, 1:11 a.m.,*
in response to message #2 by Eddie W. Shore

That's great news - sign me up for one ... or two.

Re: Interesting news about the HP 15C

*Message #7 Posted by **Gerson W. Barbosa** on 21 Apr 2011, 2:19 a.m.,*
in response to message #1 by Paul Guertin

This is in line with a recent notice by José González Divasson:

http://www.thecalculatorstore.com/epages/eb9376.sf/en_GB/?ObjectPath=/Shops/eb9376/Categories/Calculator_blog/New_products_coming

Re: Interesting news about the HP 15C

*Message #8 Posted by **Walter B** on 21 Apr 2011, 2:21 a.m.,*
in response to message #7 by Gerson W. Barbosa

Olá Gerson,

That makes sense. Shall the "million-seller" be the HP10BII+ ? Rats, I feared the financial guys have spread but didn't know :-(

Walter

Re: Interesting news about the HP 15C

*Message #9 Posted by **Gerson W. Barbosa** on 21 Apr 2011, 2:29 a.m.,*
in response to message #8 by Walter B

Hello Walter,

The HP-10BII+ is already available. Since they mention July and June perhaps the "million-seller" has yet to come... Another financial calculator, most likely. Not the 43s this time, I fear...

Gerson.

Re: Interesting news about the HP 15C

*Message #10 Posted by **Pal G.** on 22 Apr 2011, 12:13 a.m.,*
in response to message #9 by Gerson W. Barbosa

For them to sell a million units of one type of calculator won't they be keychain four bangers, that cost consumers $1.99 each, and cost HP about $0.12 each to have manufactured in China?

It will probably have a white LED built in so you can illuminate your door locks in the dark.

Re: Interesting news about the HP 15C

*Message #11 Posted by **svisvanatha** on 21 Apr 2011, 6:34 a.m.,*

in response to message #1 by Paul Guertin

Interesting that the 15C wikipedia article was updated to reflect this rumour a few days ago....

Re: Interesting news about the HP 15C

*Message #12 Posted by **Namir** on 21 Apr 2011, 6:57 a.m.,*
in response to message #1 by Paul Guertin

Given the limited resources of HP (and I say that with great sadness), I think you already have seen the "new HP-15C":

new HP-15C = HP-10BII+

The new machine is probably (my own guess) **it** for the rest of the year.

So cool your jets Mary!!!

Namir

Edited: 21 Apr 2011, 6:58 a.m.

Re: Interesting news about the HP 15C

*Message #13 Posted by **svisvanatha** on 21 Apr 2011, 7:56 a.m.,*
in response to message #12 by Namir

> Quote:
>
> Given the limited resources of HP (and I say that with great sadness), I think you already have seen the "new HP-15C":

And given their limited resources, I would argue that HP would try to leverage the effort and experience gained reusing the original 12C ROM in the 12C ARM variant. A limited run of the 15C would make sense if most of the development costs associated with such an effort were already expended during the 12C ARM development. And HP could charge a premium for this one, and people (like us) would still buy it. I would like a new 15C at the same price as the 12C, but probably wouldn't flinch at the checkout if it was 50% more than that.

Re: Interesting news about the HP 15C

*Message #14 Posted by **exschr** on 21 Apr 2011, 8:26 a.m.,*
in response to message #13 by svisvanatha

> Quote:
>
> And HP could charge a premium for this one, and people (like us) would still buy it. I would like a new 15C at the same price as the 12C, but probably wouldn't flinch at the checkout if it was 50% more than that.

this is so true! (AFAICM :-)

Re: Interesting news about the HP 15C

*Message #15 Posted by **Namir** on 21 Apr 2011, 5:23 p.m.,*

in response to message #13 by svisvanatha

I am curious .... in your opinion, if HP launches a new HP-15C, what do you think will happen to the prices of the original HP-15C on TAS??

Namir

Re: Interesting news about the HP 15C

*Message #16 Posted by **Michael de Estrada** on 21 Apr 2011, 5:50 p.m.,*
in response to message #15 by Namir

Same thing that happened to the prices of the original HP-12C on TAS.

Re: Interesting news about the HP 15C

*Message #17 Posted by **Thomas Radtke** on 22 Apr 2011, 5:15 a.m.,*
in response to message #16 by Michael de Estrada

> Quote:
>
> Same thing that happened to the prices of the original HP-12C on TAS.

What happened to it?

Anyway, hopefully some US stores offer shippment to my country :-/.

Re: Interesting news about the HP 15C

*Message #18 Posted by **svisvanatha** on 21 Apr 2011, 6:09 p.m.,*
in response to message #15 by Namir

While I am not one to frequent TAS for these things, so I may be uninformed as to what happened with 12C's - I think the law of supply and demand will hold ;)

Re: Interesting news about the HP 15C

*Message #19 Posted by **Allen** on 21 Apr 2011, 8:11 p.m.,*
in response to message #18 by svisvanatha

As long as the quality of the Keyboard is better than the 49g/20s class of calculator, I'd expect a 30 to 50% drop in prices for the vintage 15C machines available on TAS.

My reasoning is split between 3 factors: 1) Most of the older 15C's have bezel damage or logo damage which is unsightly for collectors and users alike

2) Based on my experience with the new 12C+, I should hope that any proposed ARM variant of the 15c would likely be faster than the original.

3) The more recent HP releases have seen a good increase in quality and keyboard feel.

Without that 'special sauce' of keyboard feel and speed, I do not believe a new 15C release will reduce TAS prices for original 15C's- much like the 33S had little effect on the 32sii pricing.

I suspect the 35S impacted the price of used 32Sii's more, but I believe neither the 33S nor 35S

release had much effect on the more capable 42S machines.

Re: Interesting news about the HP 15C

*Message #20 Posted by **Pal G.** on 22 Apr 2011, 12:32 a.m.,*
in response to message #15 by Namir

Does anyone have any idea what effect the new retro Ford Mustangs and Chevy Camaros, have had on late 60's and early 70's Mustangs and Camaros? I think originals are still fetching high prices. My guess would be original 15Cs will be ok, as long as folks can differentiate between original and new. I suspect the new 15C would have an extra battery and some other mark of distinction.

While I'm typing, I certainly hope HP does not limit the number of 15Cs they manufacture for reasons of maintaining some kind of exclusivity. They're not manufacturing Rolexes. Why would they limit production on a piece of plastic made in China? I'm sure if they manufacture 100,000 eventually they will be sold. They're not going to be tossed in a landfill like some cheap four banger.

Tim has mentioned some of these stores are uptight about what products are using up which hooks. I'm sure if large quantities are available, Amazon will sell them for years until they are all gone. Shoot, Amazon is still selling 35Ses for $49.99USD with this written below the price: "Only 20 left in stock--order soon (more on the way)." See that?! More on the way. Where are they getting more? The 35s came out in '97 (I think). Is HP still manufacturing them?

Re: Interesting news about the HP 15C

*Message #21 Posted by **Walter B** on 22 Apr 2011, 2:19 a.m.,*
in response to message #20 by Pal G.

> Quote:
>
> The 35s came out in '97 (I think).

The 35s came out in 2007 (I think) - celebrating the thirtyfifth anniversary of the HP-35.

Re: Interesting news about the HP 15C

*Message #22 Posted by **Martin Pinckney** on 22 Apr 2011, 10:27 a.m.,*
in response to message #20 by Pal G.

> Quote:
>
> Does anyone have any idea what effect the new retro Ford Mustangs and Chevy Camaros, have had on late 60's and early 70's Mustangs and Camaros? I think originals are still fetching high prices.

Weak analogy, IMO. The retro Mustangs, Camaros, Chargers, Challengers, T-birds, etc. are modern cars that simply *evoke* the cars of yesteryear. OTOH, the 15c+, when it happens, will be a nearly *exact* copy of the original.

Collectors who want (and can afford) a real '57 T-bird will still pay big bucks for it. A driver who just has nostalgia for it will buy a modern one.

Similar situation with the 15c, except there's more than nostalgia at work. Many users actually

like - well, *using* the 15c. So the originals will go down in price, at least somewhat.

Re: Interesting news about the HP 15C

Message #23 Posted by ***Howard Owen*** *on 22 Apr 2011, 11:16 a.m.,*
in response to message #20 by Pal G.

> Quote:
>
> Does anyone have any idea what effect the new retro Ford Mustangs and Chevy Camaros, have had on late 60's and early 70's Mustangs and Camaros? I think originals are still fetching high prices. My guess would be original 15Cs will be ok, as long as folks can differentiate between original and new. I suspect the new 15C would have an extra battery and some other mark of distinction.

That all depends on what percentage of the demand for original 15Cs is collector interest vs people looking for a capable/comfortable scientific calculator. At the risk of annoying 15C fans (among whose number I count myself,) I suspect that people who buy the 15C for the latter reason may overlap a lot with the former group. In other words, given a limited 15C reissue, the price on TAS for original 15Cs may not be affected much.

On the other hand, I first bought an original 15C in poor condition, just so I could get my hands on a working device to play with. So there might be some damping of enthusiast (vs collector) interest.

> Quote:
>
> While I'm typing, I certainly hope HP does not limit the number of 15Cs they manufacture for reasons of maintaining some kind of exclusivity. They're not manufacturing Rolexes. Why would they limit production on a piece of plastic made in China? I'm sure if they manufacture 100,000 eventually they will be sold. They're not going to be tossed in a landfill like some cheap four banger.

A production run of 15Cs would not be cost free. If they failed to sell out a run of 10,000, it would be insane to keep producing them.

If this rumor turns out to be genuine, then perhaps HP is seriously test marketing the commercial viability of an updated 15C. They should already have some idea of the actual demand based on sales of the (expensive) 15C iPhone app. If that's the case, and the pilot run sells out, then the price of original 15Cs might well go down in the face of a larger supply of new 15Cs, as long ago happened to the 12C. This would be good news for collectors, I should think. An early 12C in good condition is still attractive to a serious collector.

Regards,
Howard

My dreams about the HP 15C

Message #24 Posted by ***Csaba Tizedes (Hungary)*** *on 26 Apr 2011, 10:14 a.m.,*
in response to message #1 by Paul Guertin

Just preliminary, just simple Paint Cut and Copy - but it's amazing, I think! It needed more digits on LCD, some memory, and the classic LOGO of course, and this will be my perfect new calc!

Re: My dreams about the HP 15C

*Message #25 Posted by **Walter B** on 26 Apr 2011, 11:00 a.m.,*
in response to message #24 by Csaba Tizedes (Hungary)

d:-)

Re: My dreams about the HP 15C

*Message #26 Posted by **Martin Pinckney** on 26 Apr 2011, 9:39 p.m.,*
in response to message #25 by Walter B

You've essentially re-created the 32sii. {:-)

Re: My dreams about the HP 15C

*Message #27 Posted by **Michael de Estrada** on 26 Apr 2011, 10:10 p.m.,*
in response to message #26 by Martin Pinckney

Not quite. The HP-15C does matrix math; the HP-32SII doesn't.

Re: My dreams about the HP 15C

*Message #28 Posted by **Mike Morrow** on 26 Apr 2011, 10:31 p.m.,*
in response to message #27 by Michael de Estrada

More importantly, the HP-15C does complex math naturally and (almost) effortlessly. The HP-32SII and its follow-ons really do not.

But the calculator that is absolutely unique in capability and deserves restoration to the HP product line is the HP 42S, which is a grossly better calculator than the HP-15C in every particular except style.

Re: My dreams about the HP 15C

*Message #29 Posted by **Csaba Tizedes (Hungary)** on 27 Apr 2011, 1:04 a.m.,*
in response to message #26 by Martin Pinckney

Just it's looks better...

Re: My dreams about the HP 15C

*Message #30 Posted by **exschr** on 26 Apr 2011, 12:24 p.m.,*
in response to message #24 by Csaba Tizedes (Hungary)

I wouldn't mind if it's still in landscape (like the voyagers)

=> don't underestimate the "cool factor" :-)

Re: My dreams about the HP 15C

*Message #31 Posted by **Csaba Tizedes (Hungary)** on 26 Apr 2011, 1:08 p.m.,*
in response to message #30 by exschr

"cool factor"? Look at that vertical ENTER and five keys in all rows! This is really cool, I think! ;-)

Re: My dreams about the HP 15C

*Message #32 Posted by **exschr** on 26 Apr 2011, 2:31 p.m.,*
in response to message #31 by Csaba Tizedes (Hungary)

Now I see the vertical enter (haven't noticed that before)!
Yes, I agree that's cool too!
(Nice cutting and pasting BTW)

I'm just VERY sentimental about the voyagers and I'm so glad to be able to play with the 41c too, especially going through the synthetic programming books, that's just so much fun :-)

Re: My dreams about the HP 15C

*Message #33 Posted by **Gerardo Rincon** on 27 Apr 2011, 7:46 p.m.,*
in response to message #24 by Csaba Tizedes (Hungary)

Something like this would be simply perfect! Great job!

Re: My dreams about the HP 15C

*Message #34 Posted by **Csaba Tizedes (Hungary)** on 28 Apr 2011, 7:15 a.m.,*
in response to message #33 by Gerardo Rincon

Thanks! Maybe the ratio of side length according to golden ratio is more acceptable...

... and full metal, dust and waterproof housing (thin scratched black and polished chrome), ... 1:50 and 1:100 scales on the left and right side of calc for measuring on maps and designs ... HP keyboard with backlight, ... backlight for LCD, 12+3 digit on LCD, ... more memory (~4kB is acceptable) ... memory-safe battery, ... IR-LED, ... SD card support, ... GPS, ... digital compass, ... etc ...

:D

Re: My dreams about the HP 15C

*Message #35 Posted by **Walter B** on 28 Apr 2011, 7:55 a.m.,*
in response to message #34 by Csaba Tizedes (Hungary)

Hey Csaba, you're a bit early for Christmas, aren't you? ;-)

Re: My dreams about the HP 15C

*Message #36 Posted by **John B. Smitherman** on 28 Apr 2011, 9:47 p.m.,*
in response to message #35 by Walter B

Do Santa Claus and his elves know C++ ? ;-)

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Symbolic Integration, Continued

*Message #1 Posted by **Austin W.** on 19 Apr 2011, 10:23 p.m.*

Hi all!

A while back, I was lurking on these forums and I came across this thread: Symbolic Integration

I attempted to integrate dx /(1+x^16) like Mr. von Cube did with his NSpire. However, I used my 50g.

I am almost POSITIVE that I got an answer (Lots of ln and atan terms.) However, I tried again recently, and I got an INTVX (or RISCH) error: Unable to factor.

This really isn't terribly important; it just bothers me! Any ideas as to why it may have worked back then but doesn't now?

Thanks, Austin W.

Re: Symbolic Integration, Continued

*Message #2 Posted by **Valentin Albillo** on 20 Apr 2011, 7:36 a.m.,*
in response to message #1 by Austin W.

> Quote:
>
> Hi all!
>
> A while back, I was lurking on these forums and I came across this thread: Symbolic Integration
>
> I attempted to integrate dx /(1+x^16) like Mr. von Cube did with his NSpire. However, I used my 50g.
>
> I am almost POSITIVE that I got an answer (Lots of ln and atan terms.) However, I tried again recently, and I got an INTVX (or RISCH) error: Unable to factor.
>
> This really isn't terribly important; it just bothers me! Any ideas as to why it may have worked back then but doesn't now?

Most likely one of the following:

1) Insufficient memory. Free a respectable quantity, then try again.

2) Hitting some limit on the number of factors or length of the answer. See parameter settings.

3) Hitting some limit in the depth of factoring. See parameter settings.

If the above doesn't help, try changing the exponent 16 to 2, then 4, then 8, then 16, and see where it fails.

Regards from V. .

Hey, email me!

*Message #3 Posted by **gene wright** on 20 Apr 2011, 9:53 a.m.,*
in response to message #2 by Valentin Albillo

Give me a shout, Valentin!

Re: Symbolic Integration, Continued

*Message #4 Posted by **Marcelo Vanti (Brasil)** on 20 Apr 2011, 11:09 a.m.,*
in response to message #2 by Valentin Albillo

Hi,

> Quote:
>
> 2) Hitting some limit on the number of factors or length of the answer. See parameter settings.
>
> 3) Hitting some limit in the depth of factoring. See parameter settings.

Please, which parameter settings?
Thanks, Marcelo.

Re: Symbolic Integration, Continued

*Message #5 Posted by **Marcelo Vanti (Brasil)** on 20 Apr 2011, 11:18 a.m.,*
in response to message #2 by Valentin Albillo

Hi again,
It worked until n = 6. For greatest values, I got the same error.
Marcelo

Re: Symbolic Integration, Continued

*Message #6 Posted by **Austin W.** on 20 Apr 2011, 12:12 p.m.,*
in response to message #2 by Valentin Albillo

Hi there,

I did as you suggested, and I may have partially solved the problem. In exact mode,I set the "factorize" flag to numeric (I'm afraid I don't have the calculator with me at the moment, and so I can't tell you the flag number) and I use INTVX I'm are asked to switch modes (exact->appx) and I'm are given a large answer with ln and atan terms and a bunch of decimals. Using XQ I can get an integer answer. A wierd thing though, if I try it already in appx mode, the calculator "hangs." No error, it just sits for awhile. It may be that I am too impatient to let it finish. I may be mixing some things up too; I'll go look at it and come back later.

For now though, try setting "Num. factorize" and trying it.

Thanks, all of you for your responses!

-Austin W.

Re: Symbolic Integration, Continued

*Message #7 Posted by **Austin W.** on 20 Apr 2011, 12:17 p.m.,*
in response to message #6 by Austin W.

Haha, I changed from second to first person and really messed up my English. Sorry about that.

-Austin W.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Any suggestions for cleaning a calculator?

*Message #1 Posted by **Eddie W. Shore** on 19 Apr 2011, 9:08 p.m.*

... Without having to take the calculator apart or leaving scratches or streaks? Thanks in advance.

Re: Any suggestions for cleaning a calculator?

*Message #2 Posted by **Allen** on 20 Apr 2011, 6:25 p.m.,*
in response to message #1 by Eddie W. Shore

I like the Delrin-handled Clean Room brushes available from McMaster Carr. They are pricey, but the 0.008" diameter bristles are the perfect size and stiffness to clean dust and lint out keyboards and LCD bezels gently and will not scratch.

The part number is 7265T33.

bristle material	dia.	bristle length	part	cost
0.008" Nylon	3/8"	3/4"	5 1/4"	7265T33	$8.86

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Added the HP 10BII+ to the collection website

*Message #1 Posted by **Gerardo Rincon** on 19 Apr 2011, 8:39 p.m.*

Added the HP 10BII+ to the collection website

http://www.rinconcentral.com/

http://www.rinconcentral.com/hp10bIIplus.html

Re: Added the HP 10BII+ to the collection website

*Message #2 Posted by **hpnut** on 20 Apr 2011, 1:13 p.m.,*
in response to message #1 by Gerardo Rincon

Hi.

is this calculator already on sale?

hpnut in Malaysia

Re: Added the HP 10BII+ to the collection website

*Message #3 Posted by **Martin Pinckney** on 20 Apr 2011, 1:47 p.m.,*
in response to message #2 by hpnut

Yes, on HP's web store. Link

Re: Added the HP 10BII+ to the collection website

*Message #4 Posted by **Jose Gonzalez Divasson** on 20 Apr 2011, 2:50 p.m.,*
in response to message #3 by Martin Pinckney

In Europe, you can find it here

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - Pi used in a symphony now in court

*Message #1 Posted by **DavidShenk** on 19 Apr 2011, 5:28 p.m.*

It seems that two people (at least) had the idea of turning the digits of pi into music, and now one is suing the other for a copyright violation:

http://www.omaha.com/article/20110419/NEWS01/704199935/1013

Re: OT - Pi used in a symphony now in court

*Message #2 Posted by **Eddie W. Shore** on 20 Apr 2011, 12:55 a.m.,*
in response to message #1 by DavidShenk

Not enough pi to go around... *sigh*

Edited: 20 Apr 2011, 12:56 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Displaying Incorrect Values!

*Message #1 Posted by **Ian McParland** on 19 Apr 2011, 4:06 p.m.*

Hi,

My HP 15C displays the correct numbers for ln(2/3) but says it is positive!

Please, someone help me!

Re: HP 15C Displaying Incorrect Values!

*Message #2 Posted by **Marcus von Cube, Germany** on 19 Apr 2011, 4:11 p.m.,*
in response to message #1 by Ian McParland

Complex mode?

Re: HP 15C Displaying Incorrect Values!

*Message #3 Posted by **Jeff Kearns** on 19 Apr 2011, 5:21 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Even in Complex mode the answer is negative.

Jeff Kearns

Re: HP 15C Displaying Incorrect Values!

*Message #4 Posted by **bill platt** on 19 Apr 2011, 5:54 p.m.,*
in response to message #1 by Ian McParland

Try something simple:

type 7 CHS

do you see

- 7

or do you see

7

?

If the latter, you have a dead segment in the display.

Re: HP 15C Displaying Incorrect Values!

*Message #5 Posted by **Ian McParland** on 20 Apr 2011, 1:54 a.m.,*
in response to message #4 by bill platt

> Quote:
>
> Try something simple:
>
> type 7 CHS
>
> do you see
>
> - 7
>
> or do you see
>
> 7
>
> ?
>
> If the latter, you have a dead segment in the display.

Luckily I see the first! I have absolutely no idea what I did, but it is now working! Could someone please tell me what the complex mode is, and how it affects answers, because I am writing an exam on Thursday, and it would be disastrous if all my calculations were wrong because of my calculator? :D

Oh, and does anyone know where you can get cases for the HP 15C, and the original manuals? Not a PDF format, but a hard copy?

Thanks again.

Re: HP 15C Displaying Incorrect Values!

*Message #6 Posted by **Eric Smith** on 20 Apr 2011, 2:44 a.m.,*
in response to message #5 by Ian McParland

> Quote:
>
> Could someone please tell me what the complex mode is, and how it affects answers, because I am writing an exam on Thursday, and it would be disastrous if all my calculations were wrong because of my calculator?

In complex mode, you work with complex numbers instead of plain ol' real numbers. If you're not familiar with complex numbers, you can read about them on Wikipedia or Mathworld, so I'm not going to explain them here. Just to make sure that they don't trip you up, you can turn complex mode off by clearing flag 8: [g] [CF] 8

> Quote:
>
> does anyone know where you can get cases for the HP 15C, and the original manuals? Not a PDF format, but a hard copy?

eBay. Oops, I guess I was supposed to say "TAS".

Re: HP 15C Displaying Incorrect Values!

*Message #7 Posted by **Jeff O.** on 20 Apr 2011, 7:41 a.m.,*
in response to message #5 by Ian McParland

Please don't take offense, but are you absolutely, positively sure that you did not take ln(3/2)?

Regarding complex mode, like Eric said it is a mode that accepts complex numbers as arguments to functions, and returns complex numbers when appropriate. It is activated on the 15C by setting flag 8 (g SF 8), or by pressing f I. When active, it creates a parallel, unseen stack which holds the imaginary components of complex numbers. The real portions are held in the regular viewable stack. A small "c" appears in the lower right of the screen when in complex mode. The biggest potential gotcha is that all arguments are treated as radians for trigonometric functions when in complex mode, regardless of the angular mode setting of the calculator. So in complex mode, sin(60) will return -0.3048 instead of 0.8660.

..

Edited: 20 Apr 2011, 7:42 a.m.

Re: HP 15C Displaying Incorrect Values!

*Message #8 Posted by **Ian McParland** on 20 Apr 2011, 10:39 a.m.,*
in response to message #7 by Jeff O.

> Quote:
>
> Please don't take offense, but are you absolutely, positively sure that you did not take ln(3/2)?

Well, I am positive I did, but nevertheless, the keystrokes I made are as follows: 2 {Enter} 3 {/} {g} and then {e^x}

Re: HP 15C Displaying Incorrect Values!

*Message #9 Posted by **Walter B** on 20 Apr 2011, 9:02 a.m.,*
in response to message #5 by Ian McParland

Be sure you know your calculator before using it in your exam. Verify you know RPN. Then your 15C will serve you well for sure.

Re: HP 15C Displaying Incorrect Values!

*Message #10 Posted by **Ian McParland** on 20 Apr 2011, 10:42 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> Be sure you know your calculator before using it in your exam. Verify you know RPN. Then your 15C will serve you well for sure.

I love RPN, and have been using it for three years. How do I know if both my HP 35s and HP 15C are in complex mode?

Re: HP 15C Displaying Incorrect Values!

*Message #11 Posted by **bill platt** on 20 Apr 2011, 11:11 a.m.,*
in response to message #10 by Ian McParland

Hi Ian,

I think the reason Walter said that is that if you do:

```
3
enter
2
/
Ln
```

you get 0.4055, whereas if you do:

```
2
enter
3
/
Ln
```

you get -0.4055, and this inversion can happen if you accidentally do your operations infix instead of postifx.

For edification,

```
Ln(2/3) is carrried out as
2
enter
3
/
Ln
```

Re: HP 15C Displaying Incorrect Values!

*Message #12 Posted by **bill platt** on 20 Apr 2011, 11:23 a.m.,*
in response to message #10 by Ian McParland

The 35s does not have a complex mode in the same way that the 15c does. To learn how it works, refer to your manual. It can also be downloaded. In addition, you can buy the 15c manual in PDF by buying the appropriate museum dvd(s) or cd(s).

http://h10010.www1.hp.com/wwpc/pscmisc/vac/us/product_pdfs/user_guide.pdf

Re: HP 15C Displaying Incorrect Values!

*Message #13 Posted by **Bart (UK)** on 20 Apr 2011, 12:40 p.m.,*
in response to message #10 by Ian McParland

The 35s does not give complex answers unless it was given a complex argument, e.g. -2 {LN} returns error "LOG(NEG)" but -2+0**i** {LN} returns 0.69314718056+3.14159265359**i**. So it should not be a concern when working with real numbers.

Note that complex number display depends on settings and can be either x**i**y, x+y**i** or r**@**a (where @ represents theta symbol).

Re: HP 15C Displaying Incorrect Values!

*Message #14 Posted by **BobVA** on 20 Apr 2011, 6:39 p.m.,*
in response to message #5 by Ian McParland

Cases: You can shop around for any case that will fit the HP-12C (which is still sold).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B FRAM Extension: an update

*Message #1 Posted by **Hans Brueggemann** on 19 Apr 2011, 2:32 p.m.*

hi all,
still working on my HP-71 FRAM extension, i've gained some progress so far:
1) PEEks, POKEs, burst reads and writes are working now.
2) FRAM can be segmented into 16 individual blocks of 2kB to 32 KB each.
3) an additional feature to swap 64kBytes from $30000 into the ROM address space is working, too.
so, theoretically, there is an upgrade path from 1BBBB to 1CDCC (or anything you poked into $30000 and above) by simply setting a jumper...
4) and the best news: the complete hardware will most likely fit into one regular memory module (still working on the layout, it *is* cramped)

actually, there are still two problems to solve, and i would like know any opinion on how to address these.

a) although read / writes to the FRAM are working fine, FREE PORT does not. instead, FREE PORT is getting executed without error message, but the memory is still fully accessible and doesn't show up as freed memory during a SHOW PORT command.

b) copying the rom area into $30000, and afterwards swapping rom and ram area works...for ver 1BBBB, that is. any attempt to swap a ver 1CDCC into the rom area results in a crash after a power-on cycle. i suspect hardware incompatibilities with my 1BBBB machine and the 1CDCC rom data. can anybody shed some light on this? in fact i didn't use a "real" 1CDCC image for testing, but used the rom image from jeff's emu71.

thank you in advance for any hints!

cheers,
hans

Re: HP-71B FRAM Extension: an update

*Message #2 Posted by **Christoph Giesselink** on 20 Apr 2011, 2:39 p.m.,*
in response to message #1 by Hans Brueggemann

> Quote:
>
> b) copying the rom area into $30000, and afterwards swapping rom and ram area works...for ver 1BBBB, that is. any attempt to swap a ver 1CDCC into the rom area results in a crash after a power-on cycle. i suspect hardware incompatibilities with my 1BBBB machine and the 1CDCC rom data. can anybody shed some light on this? in fact i didn't use a "real" 1CDCC image for testing, but used the rom image from jeff's emu71.
>
> thank you in advance for any hints!

First one remark to the different CPU models. Early HP71B use a 1LF2 CPU, the later models a 1LK7 CPU from the 18C/28C calculators. The only difference between these two CPU revisions are the additional opcodes

PC=(A) and RSI in the 1LK7 revision.

Whether the 1AAAA, 1BBBB, 2CCCC or the 2CDCC ROM revision make use of these additional two opcodes.

The internal 16KB main RAM made with 16 1LG8 RAM chips (2K nibble). Four of them are always connected to a 4KB hybrid chip.

So lets have a look on the memory configuration after startup:

Hard configured:

```
ROM (64K)
$00000-$07FFF
$08000-$0FFFF
$10000-$17FFF
$18000-$1FFFF


Display Driver 1
I/O: $2E100-$2E1FF
RAM: $2F400-$2F7FF


Display Driver 2
I/O: $2E200-$2E2FF
RAM: $2F800-$2FBFF


Display Driver 3
I/O: $2E300-$2E3FF
RAM: $2FC00-$2FFFF
```

Soft configured:

```
Port0:
RAM (4K)
$30000-$307FF
$30800-$30FFF
$31000-$317FF
$31800-$31FFF


RAM (4K)
$32000-$327FF
$32800-$32FFF
$33000-$337FF
$33800-$33FFF


RAM (4K)
$34000-$347FF
$34800-$34FFF
$35000-$357FF
$35800-$35FFF


RAM (4K)
$36000-$367FF
$36800-$36FFF
$37000-$377FF
$37800-$37FFF
```

In the 2nd step let us add a HPIL module. The HPIL module is connected to the internal port0.

```
HPIL I/0
$20000-$2000F


ROM (16K)
$40000-47FFF
```

In the 3rd step let us add a MATHROM module in port slot4. The MATHROM module has 32KB made with two 1LG7 (32K nibble) chips. The address layout then

```
ROM (32K)
$48000-$4FFFF
$50000-$57FFF
```

In the 4th step let us add a 4KB module in port slot1. The RAM content is merged to the main RAM. The address layout then

```
RAM (4K)
$38000-$387FF
$38800-$38FFF
$39000-$397FF
$39800-$39FFF
```

This is directly behind the internal RAM.

Now let us free the port1 RAM to independent RAM with:

FREE PORT(1)

Now the RAM mapping in port1 moved from

```
RAM (4K)
$38000-$387FF
$38800-$38FFF
$39000-$397FF
$39800-$39FFF
```

to

```
RAM (4K)
$58000-$587FF
$58800-$58FFF
$59000-$597FF
$59800-$59FFF
```

That's directly behind the MATHROM.

Back to your entire question. As you see the address area beginning at $30000 is occupied by the internal RAM and not free. On "Emu71/DOS" the internal single 32KB main RAM is mapped at:

```
RAM (32K)
$30000-$3FFFF
```

The soft configuration mapping strategy seem to be (from lower to higher addresses):

1. I/O MEM
2. Main RAM MEM
3. ROM MEM
4. Independent RAM

In consequence this means after a FREE or CLAIM port or adding or removing a module the complete memory mapping can reordered by the HP71B OS.

Cheers

Christoph

Re: HP-71B FRAM Extension: an update

*Message #3 Posted by **Mike (Stgt)** on 21 Apr 2011, 8:34 a.m.,*
in response to message #2 by Christoph Giesselink

> Quote:
>
> "Emu71/DOS"

<VBG>

Anybody got the joke?

Happy Easter.....Mike

Re: HP-71B FRAM Extension: an update

*Message #4 Posted by **Hans Brueggemann** on 21 Apr 2011, 12:16 p.m.,*
in response to message #2 by Christoph Giesselink

christoph,
thank you for the info. (btw., i received youremail).
i totally agree with you concerning the memory handling that you are explaining in your post. i know that the HP-71B itself cares for the address handling of the plugins. to be more precise: for testing, i configured the FRAM extender as 2 x 32kByte RAM. therefore, the HP-71B reordered internal ram and plugin-ram in descending size order, meaning that the two 32kB RAMs became located from $30000 to $4FFFF, while the internal RAM got located at $50000 to $57FFF.
that's why memory swap between ROM address space $00000-$1FFFF and RAM address space $30000-$4FFFF will be working o.k., as long as the neccessary 64kB of plugin-RAM is configured as an assortment of modules that are all bigger than 4kB modules. otherwise...amnesia. (hm... should have mentioned that ;o) but that's not my headache. the problem is, that i don't have fully discovered yet how the FREE PORT command works, and whether it uses hardware commands that my extender does not properly decode yet.
at the moment,the commands as layed out in chapter 2.1.2 of the hardware IDS are all implemented with the exception of POLL and BUSCC, and the ominous command "B", which is described as being "reserved".

hans

Re: HP-71B FRAM Extension: an update

*Message #5 Posted by **Christoph Giesselink** on 26 Apr 2011, 5:23 p.m.,*
in response to message #4 by Hans Brueggemann

> Quote:
>
> i totally agree with you concerning the memory handling that you are explaining in your post. i know that the HP-71B itself cares for the address handling of the plugins. to be more precise: for testing, i configured the FRAM extender as 2 x 32kByte RAM. therefore, the HP-71B reordered internal ram and plugin-ram in descending size order, meaning that the two 32kB RAMs became located from $30000 to $4FFFF, while the internal RAM got located at $50000 to $57FFF.

Sorry, you're right. Larger RAM modules than the internal 4K are configured first. I missed that, so the addresses above are correct.

> Quote:
>
> but that's not my headache. the problem is, that i don't have fully discovered yet how the FREE PORT command works, and whether it uses hardware commands that my extender does not properly decode yet.

I added a hybrid 64KB (2*32KB) RAM in port 1 to a standard HP71B.

The C=ID codes for the two 32KB modules are: $00009 and $80009.

So the address layout for port 1 is

```
$30000-$3FFFF
$40000-$4FFFF
```

The address layout of the internal RAM for port 0 is

```
$50000-$507FF
$50800-$50FFF
$51000-$517FF
$51800-$51FFF


$52000-$527FF
$52800-$52FFF
$53000-$537FF
$53800-$53FFF


$54000-$547FF
$54800-$54FFF
$55000-$557FF
$55800-$55FFF


$56000-$567FF
$56800-$56FFF
$57000-$577FF
$57800-$57FFF
```

When you now call FREE PORT(1), first the independent RAM marker $B3DDDDDE is written to address $30000 (start of the port 1 memory) and the rest of the port 1 memory is set to 0.

Then the RESET command is called.

Now all soft configurated modules are getting a CONFIG command. Every first chip of a hybrid RAM is configured at address $80000, all other chips at $40000. I think, but not checked, the HP71B OS is trying to detect the independent RAM marker $B3DDDDDE.

When all modules have been configured, the RESET command is called a 2nd time.

But now we have differences between HP71B ROM rev. 1BBBB and 2CDCC.

In the new module configuration process with the CONFIG command, all modules are placed at their final memory address.

Port 0 with the internal RAM:

```
$30000-$307FF
$30800-$30FFF
$31000-$317FF
$31800-$31FFF


$32000-$327FF
```

```
$32800-$32FFF
$33000-$337FF
$33800-$33FFF


$34000-$347FF
$34800-$34FFF
$35000-$357FF
$35800-$35FFF


$36000-$367FF
$36800-$36FFF
$37000-$377FF
$37800-$37FFF
```

Port 1 with the 64KB independent RAM @ ROM rev 2CDCC:

```
$D0000-$DFFFF
$E0000-$EFFFF
```

Port 1 with the 64KB independent RAM @ ROM rev 1BBBB:

```
$E0000-$FFFFF
Unconfigured Size = $10000
```

The 2nd RAM with ID = $80009 is unconfigured because the HP71B OS is doing an UNCFG with C[A] = $FFF00. This is a known bug of ROM rev 1BBBB mentioned in the Soft Forth Manual p.2-2.

Everything works fine on a 1BBBB ROM when you have two 32KB modules both returning the ID's $80009 or with a 96KB hybrid module (32KB + 64KB) returnig the ID's $80009, $00009, $80009.

> Quote:
>
> at the moment,the commands as layed out in chapter 2.1.2 of the hardware IDS are all implemented with the exception of POLL and BUSCC, and the ominous command "B", which is described as being "reserved".

I don't think that a RAM or ROM module answer to a POLL command. I assume the timers inside the 1LF3 chips and for example the HPIL mailbox will answer for a POLL command in the case of a service request.

From the functional Saturn emulation aspect the bus commands described in chapter 2.1.2 of the hardware IDS are not emulated in Emu48 based emulators, so I can't say to much about this.

Christoph

Re: HP-71B FRAM Extension: an update

*Message #6 Posted by **Hans Brueggemann** on 27 Apr 2011, 6:13 p.m.,*
in response to message #5 by Christoph Giesselink

christoph,
thanks for your information. that is exactly what i was looking for. indeed, i could track down the problem now to the point where the "magic word" for the the independent ram ist written before the block erase happens, but isn't read back properly properly afterwards.

thanks again for your input, i'll keep you posted here on the proceedings!

best regards,
hans

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repairing a cracked Spice case

*Message #1 Posted by **Jeff Kearns** on 19 Apr 2011, 12:47 p.m.*

Hi everyone,

I just received a much anticipated 'Perfect Condition - Like New' HP 34C that is anything but...

It has a cracked case (1.5 cm hairline crack) on the lower edge of the battery compartment and the case is separated above one of the screws. Needless to say, the battery door does not stay on. Despite getting pictures and trying to ensure the state of the calculator, one can never be guaranteed that the unit will arrive as advertized. The front face is in decent shape at least.

I know a good technique for separating the case halves on a Spice based on Spice Repair and have successfully separated the cases of my 32E and 33E in this manner.

My question is: Can I successfully repair the case cracks from the underside (to hide any residue) with a special glue made for adhering plastic to plastic? Will it resist the outward pressure of the battery? Which glue is recommended?

Geoff: When can I get a copy of your book??

Thanks,

Jeff Kearns

Edited: 19 Apr 2011, 10:40 p.m. after one or more responses were posted

Re: Repairing a cracked Spice case

*Message #2 Posted by **Jose Poyan** on 19 Apr 2011, 6:37 p.m.,*
in response to message #1 by Jeff Kearns

Hi Jeff,

I had one with exactly the same defecf. I put trasluscent epoxy glue, the one you mix. It holded it for a short time. After three times installing and removing the battery cover, it broke again. I used a screw driver to introduce the glue through a gap, since I didnt want to remove the back cover. That is to say, I didnt have the chance to prepare the surface propperly. You may try by sanding the plastic to get good grip, but I feel that the case is subjected to too much pressure and the glue wont hold. Anyway you could remove it easily if it doent work. Of course, dont evey try super-glue.

jose

Re: Repairing a cracked Spice case

*Message #3 Posted by **Jeff Kearns** on 20 Apr 2011, 7:57 a.m.,*
in response to message #2 by Jose Poyan

I have been in touch with Geoff Quickfall by email who is offering to guide me through a repair process. The fellow from whom I bought the calculator claims to not have been aware of the crack(s), and I want to give him the benefit of the doubt. Geoff points out that the likely cause of the stress fracture is the increased length of modern AA batteries. I wonder if the custom rechargeable battery packs that are sold on TAS (of which I have two sets) for Spice calculators are of the correct length? Has anyone else had this problem?

Nonetheless, I paid a substantial sum for the unit, believing it to be in "Perfect, Like New" condition. He has offered a reversal of the transaction and an apology, but I prefer to keep the calculator and simply ask for a rebate. If this is not an inappropriate question for the forum, could someone please tell me what a fair price 'should' be for this unit, based on the description above? If the forum is not the place to discuss this, please email me with your answer.

Thanks in advance!

Jeff Kearns

Re: Repairing a cracked Spice case

*Message #4 Posted by **Jose Poyan** on 20 Apr 2011, 7:27 p.m.,*
in response to message #3 by Jeff Kearns

Hi,

Yes, it is a fact that the batteries in the original pack are shorter and if you replace them with normal batteries, leaving the aluminium case that keeps both cells toguether, the plastic case will visible suffer and actually you wont be able to introduce the pack into the calculator at all.

So in my case I replaced them with rechargable batteries and they got inside but only becouse the battery contacts were corroded and I had replaced them with copper foil which is very thin. They didnt make good contact though.

I imagen that the original pack used tagged rechargable batteries, but without tags so they are shorter.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s Overlay Interest

*Message #1 Posted by **Norman Dziedzic** on 18 Apr 2011, 7:31 p.m.*

I have a friend that does printing and may be able to do overlays on a vinyl medium with adhesive back.

Would ppl be willing to pay 5 to 10 usd for something like this? I believe cutting would still be with your own exacto at the peril of your own digits?

To that end does anyone have an Adobe vector graphic file or something similar where I could get some preliminary work done?

Would it be more desired to have as many overlay copies on a sheet as possible for a slightly higher cost? Would ppl want a couple different colors on a sheet?

Thanks,

Norm

Re: wp34s Overlay Interest

*Message #2 Posted by **Walter B** on 19 Apr 2011, 1:23 a.m.,*
in response to message #1 by Norman Dziedzic

Norman, dobar den,

> Quote:
>
> does anyone have an Adobe vector graphic file or something similar where I could get some preliminary work done?

The layouts are bmp- or png-files so far. I have no plans changing that.

Walter

Re: wp34s Overlay Interest

*Message #3 Posted by **Norman Dziedzic** on 19 Apr 2011, 1:30 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> dobar den

?

Re: wp34s Overlay Interest

*Message #4 Posted by **Walter B** on 19 Apr 2011, 1:33 a.m.,*
in response to message #3 by Norman Dziedzic

Norman, I was just guessing looking at your name you may live in former Yougoslavia ... Sorry :-)

Re: wp34s Overlay Interest

*Message #5 Posted by **Norman Dziedzic** on 19 Apr 2011, 2:01 a.m.,*
in response to message #4 by Walter B

Ah, Thanks for the clarification.

My ancestors lived in Poland but I'm not a speaker. :-(But I would have picked up dzień dobry.

I'm in USA. I'm working on an SVG overlay version in Inkscape. Will probably be a few days.

Re: wp34s Overlay Interest

*Message #6 Posted by **Norman Dziedzic** on 19 Apr 2011, 1:10 p.m.,*
in response to message #2 by Walter B

What font(s) did you use creating your images?

Re: wp34s Overlay Interest

*Message #7 Posted by **Walter B** on 19 Apr 2011, 1:27 p.m.,*
in response to message #6 by Norman Dziedzic

The golden, blue, green, and dark red characters are all homegrown graphics, edited pixel by pixel for optimum legibility. At least the golden, blue, and green letters are identical. For the white print, however, I used Arial as a starter though not everywhere. An the white print is the most blurred now, so maybe I'll go over that when I've got time.

HTH (probably not much)

Walter

Re: wp34s Overlay Interest (update)

*Message #8 Posted by **Walter B** on 20 Apr 2011, 8:41 a.m.,*
in response to message #7 by Walter B

Hi all,

Please find an updated layout in the repository, build 704. Optimized with respect to legibility of the white labels. Digit keys are (almost) Arial. Now, that's it IMO if we don't change any keys anymore d:-)

Walter

Re: wp34s Overlay Interest (update)

*Message #9 Posted by **Walter B** on 22 Apr 2011, 7:33 a.m.,*
in response to message #8 by Walter B

Well, I shouldn't write "that's it" anymore :-? Anyway, I changed some pixels to make the layout looking more HP-ish. Please see build 722 in the repository.

Walter

Re: wp34s Overlay Interest

*Message #10 Posted by **Paul Dale** on 19 Apr 2011, 2:27 a.m.,*
in response to message #1 by Norman Dziedzic

> Quote:
>
> Would it be more desired to have as many overlay copies on a sheet as possible for a slightly higher cost? Would ppl want a couple different colors on a sheet?

I'm certainly going to make more than one WP-34S so a couple on a sheet would be good for me.

I don't see much point in different colours. We've red, green, yellow, blue and white labels. It will be difficult to find decent, well contrasting backgrounds to all of these -- black or dark grey seems like the only choices.

I'd like a single sheet that covered the entire front front, not just the keyboard area.

Also, something to cover the key fronts and tops would be required. In fact, this is likely more important than a keyboard overlay -- it isn't all that difficult to make a decent overlay, it is harder to make key covers. I've done this by cutting separate pieces for each key which fiddly and time consuming.

- Pauli

Re: wp34s Overlay Interest

*Message #11 Posted by **svisvanatha** on 19 Apr 2011, 6:14 a.m.,*
in response to message #10 by Paul Dale

I am in contact with a company which produces overlays and keyboard re-purposing labels. They are currently pricing out the job. It may prove to be expensive (relatively), but would also likely require siginificant volume. Will update here when I get more info from them.

Re: wp34s Overlay Interest

*Message #12 Posted by **Walter B** on 19 Apr 2011, 6:24 a.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> Also, something to cover the key fronts and tops would be required. In fact, this is likely more important than a keyboard overlay -- it isn't all that difficult to make a decent overlay, it is harder to make key covers. I've done this by cutting separate pieces for each key which fiddly and time consuming.

Again, IMHO it's not required to have something separate. Just get some wear-resistant foil and make 3 cuts instead of 4 for each key (please see here). KISS :-)

Walter

Re: wp34s Overlay Interest

*Message #13 Posted by **Paul Dale** on 19 Apr 2011, 6:31 a.m.,*
in response to message #12 by Walter B

Which means either the tab isn't stuck to the key or you will be stretching the joint to the real overlay on every keystroke. Neither is good long term.

As an interim measure and for development, is is fine.

- Pauli

Re: wp34s Overlay Interest

*Message #14 Posted by **Walter B** on 19 Apr 2011, 7:35 a.m.,*
in response to message #13 by Paul Dale

If you'd watch the key movements carefully you may see that the relative dislocation of "tab" and key top is next to zero in a keystroke. I'm not going to make a drawing 50:1, however. I'd simply try it :-)

Walter

Re: wp34s Overlay Interest

*Message #15 Posted by **Paul Dale** on 19 Apr 2011, 7:41 a.m.,*
in response to message #14 by Walter B

Press a key, watch the gap widen at the bottom. That is more than enough to wreck a single piece overlap given time :-) I don't want to have to resurface the keyboard ever.

The pivot point of the key is below the keyboard surface so this is unavoidable.

Anyway, the overlay you suggest can be modified by removing the key covers and putting them on separately.

- Pauli

Re: wp34s Overlay Interest

*Message #16 Posted by **Jeff O.** on 19 Apr 2011, 7:54 a.m.,*
in response to message #15 by Paul Dale

How about Walter's idea, which I think makes the left, top and right cuts around each key and sticks the whole overlay on the keyboard, then after application, the bottom key-cut could be made to finish the job. Avoids having to attempt to stick on all the individual key covers separately. Hope this makes sense.

Re: wp34s Overlay Interest

*Message #17 Posted by **Walter B** on 19 Apr 2011, 8:45 a.m.,*
in response to message #15 by Paul Dale

Pauli, I wrote:

> Quote:

> If you'd watch the key movements carefully you may see that the relative dislocation of "tab" and key **top** is next to zero in a keystroke.

You responded:

> Quote:
>
> Press a key, watch the gap widen at the bottom. That is more than enough to wreck a single piece overlap given time

I don't see any contradiction d8-)

Walter

Ceterum censeo: nuntiata esse diligenter legenda.

Re: wp34s Overlay Interest

*Message #18 Posted by **Tim Wessman** on 19 Apr 2011, 12:11 p.m.,*
in response to message #1 by Norman Dziedzic

I have AI files for the HP keyboard layout. I can provide 1:1 keyboard lines/outlines for someone to make a perfectly sized overlay. Contact if desired.

TW

Re: wp34s Overlay Interest

*Message #19 Posted by **Marcus von Cube, Germany** on 19 Apr 2011, 12:18 p.m.,*
in response to message #18 by Tim Wessman

HP is listening. :-))

Re: wp34s Overlay Interest

*Message #20 Posted by **Walter B** on 19 Apr 2011, 1:38 p.m.,*
in response to message #19 by Marcus von Cube, Germany

That's what I hope :-)

Re: wp34s Overlay Interest

*Message #21 Posted by **svisvanatha** on 19 Apr 2011, 12:22 p.m.,*
in response to message #18 by Tim Wessman

Would that also include the dimensions of the angled and top faces of the keys?

Re: wp34s Overlay Interest

*Message #22 Posted by **Tim Wessman** on 19 Apr 2011, 1:18 p.m.,*
in response to message #21 by svisvanatha

Nope, don't have that information readily accessible.

TW

Re: wp34s Overlay Interest

*Message #23 Posted by **David Hayden** on 19 Apr 2011, 5:21 p.m.,*
in response to message #1 by Norman Dziedzic

I'd be willing to buy at least 2. I think colors should be consistent with the authors' design so they match what's in the manual.

Dave

Re: wp34s Overlay Interest

*Message #24 Posted by **Hugh Evans** on 27 Apr 2011, 1:23 a.m.,*
in response to message #1 by Norman Dziedzic

I would be more than happy to shell out some cash for this and $5-$10 sounds very reasonable. While working on OpenRPN I studied human optics and interface design extensively, and if you're interested I would be happy to provide you with color schemes and font designs that have been optimized for legibility.

Re: wp34s Overlay Interest

*Message #25 Posted by **Walter B** on 28 Apr 2011, 4:34 a.m.,*
in response to message #24 by Hugh Evans

Hugh,

I remember your considerations of that time, and I think I've implemented them to some extent. Nevertheless, if you have any concise statements covering said topic, please drop me a mail or publish the link here. TIA

Walter

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

20b/30b flashing question

*Message #1 Posted by **sjthomas** on 18 Apr 2011, 3:17 p.m.*

Can the 20B or 30B be re-flashed using Windows XP Compatibility Mode under Windows 7? The flashing guide says that Windows XP and a serial port are required, but my only remaining computer running XP does not have a serial port (and it's a laptop, so I can't add one).

Re: 20b/30b flashing question

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 3:22 p.m.,*
in response to message #1 by sjthomas

A USB adapter is working fine on mine. I have no idea if Windows 7 gets in the way.

Re: 20b/30b flashing question

*Message #3 Posted by **Walter B** on 18 Apr 2011, 3:43 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I'll find out tomorrow ...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

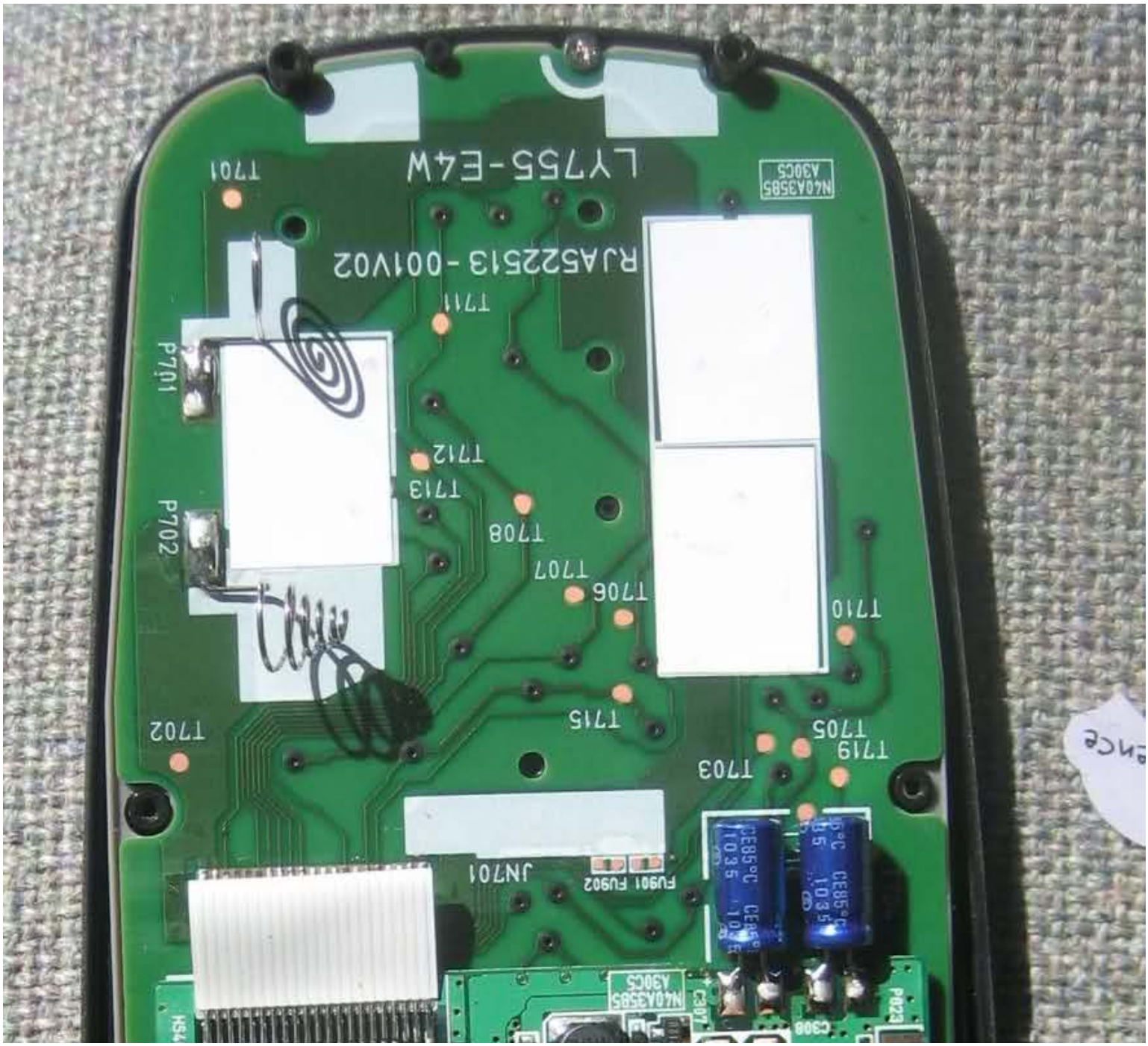
casio fx-cg10 topless!

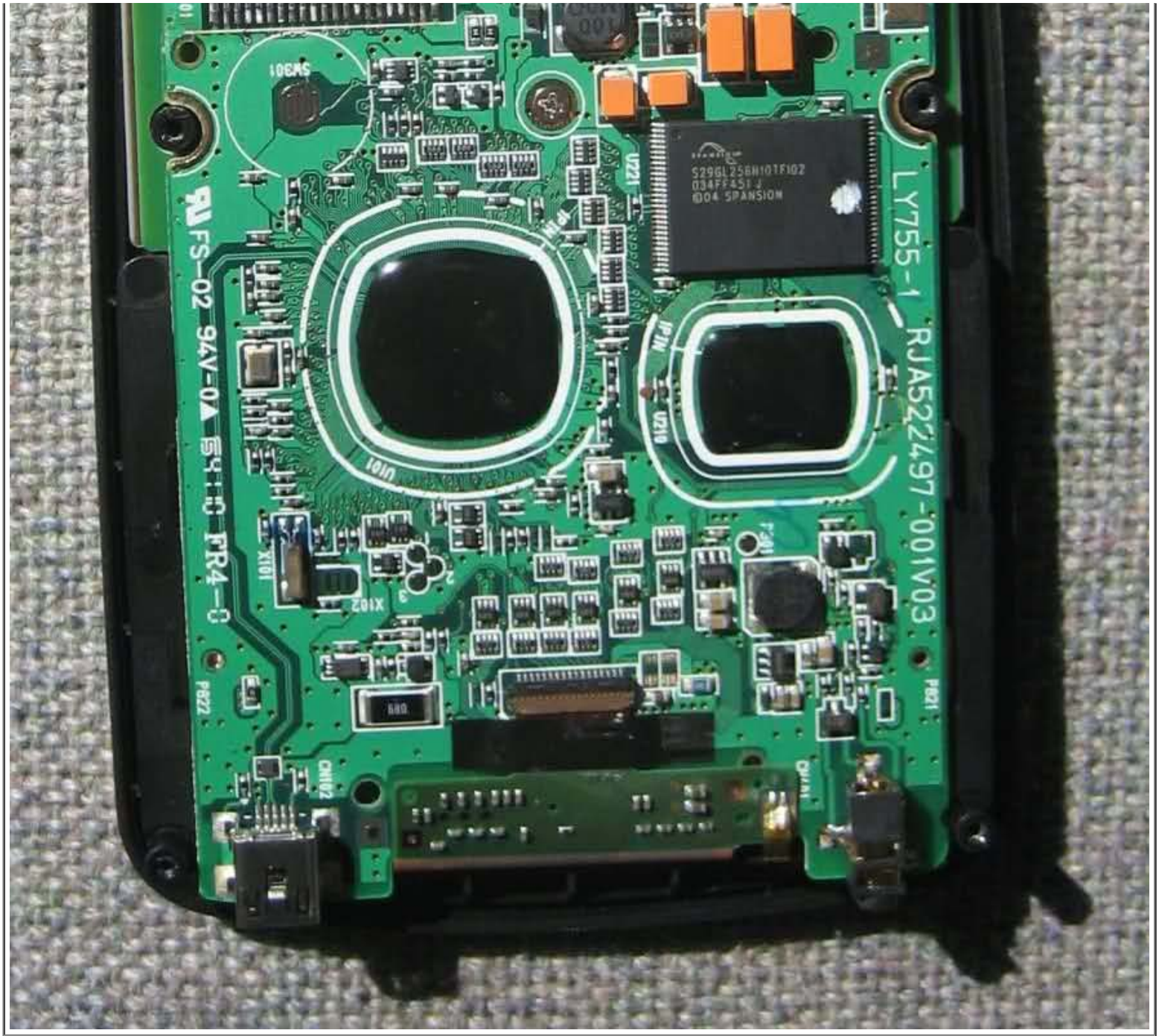
*Message #1 Posted by **hugh steers** on 18 Apr 2011, 2:38 p.m.*

off topic for HP, but some of you might be interested. here's a pic of the circuit board from the casio fx-cg10. im assuming the large blob is the processor (SH3) and the others are flash and ram?

i've been trying to find out how much ram it actually has. i know it's more than the official 64k. im thinking it might be 512k.

anyhow,





Re: casio fx-cg10 topless!

*Message #2 Posted by **Eric Smith** on 18 Apr 2011, 3:47 p.m.,*
in response to message #1 by hugh steers

Seems more likely to be 256KB. They need 165,888 bytes for the frame buffer, if they aren't using a CLUT (color lookup table).

Note that the flash chip shown is 32MB, so they must be reserving half of it for the firmware and other system use.

Edited: 18 Apr 2011, 6:08 p.m.

Re: casio fx-cg10 topless!

*Message #3 Posted by **hugh steers** on 18 Apr 2011, 6:56 p.m.,*
in response to message #2 by Eric Smith

i know that the screen is 162k at 16bpp. im told that the system needs to buffer a copy of the screen. this would require 324k and therefore more than 256, if true.

with a lot of help, i've managed to get some native code running on it. i'll have to write some hacks to explore the ram limits.

i took the back off, incase it was obvious from the board, but the blob attack has thwarted me.

Edited: 18 Apr 2011, 6:57 p.m.

Re: casio fx-cg10 topless!

*Message #4 Posted by **Eric Smith** on 18 Apr 2011, 8:42 p.m.,*
in response to message #3 by hugh steers

A screen buffer, sure. The hardware reads the buffer, serializes the data, and presents it to the display drivers. But there's no good reason for a product like this to have TWO screen buffers unless they are doing some major animation. For small animations, they can simply update the relevant portions of the buffer during retrace time.

Good job getting native code running! It will be interesting to hear what else you discover.

Re: casio fx-cg10 topless!

*Message #5 Posted by **hugh steers** on 19 Apr 2011, 9:07 a.m.,*
in response to message #4 by Eric Smith

i can't claim any credit for getting the native code running. i got all the help from the casio hackers. but im hoping to port some of my graphical stuff to it. that's why im interested in the ram and the screen layout.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Voyager key repair?

*Message #1 Posted by **Nicholas Winterer** on 18 Apr 2011, 1:27 p.m.*

I bought a 16C on eBay with a messed up 5 key. The key still has a click and still registers, but there seems to be less travel then the other keys (the problem is especially noticeable if you use the 16c while its sitting on a desk instead of holding it in the hand and pressing the keys with the thumbs).

Is this something that can be fixed, or should I try to get a return? I have a USA 12c with a similar feeling on the FV key (though not as bad) which I can use for practice.

Re: Voyager key repair?

*Message #2 Posted by **exschr** on 19 Apr 2011, 3:44 a.m.,*
in response to message #1 by Nicholas Winterer

If the click is still noticable it must be the rubberpad, that has a worn-out spot exactly there.

This could IMHO easily be replaced from an other spare voyager (say a cheap 12C from EBAY). There is just some efford needed to get underneed the PCBoard and for the putting together afterwards!

If the 16c is functioning properly besides the keyboard problem, I would consider repairing the issue and not sending it back. Maybe you will be lucky and get some refund though.

good luck

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 20b/30b programming cable eats on batteries!

*Message #1 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 12:15 p.m.*

I've made some new current draw measurements with my lab HP 20b. I was astonished to see that having HP's cable plugged in alone, even with the calculator turned off, draws permanently 5 mA. This is 20 times what the wp34s firmware draws in idle mode!

So unplug the cable when you're done with flashing!

BTW, I'm working on the power requirements of the wp34s. It will go down, at least in idle mode, be assured! :-)

Re: HP 20b/30b programming cable eats on batteries!

*Message #2 Posted by **gene wright** on 18 Apr 2011, 1:41 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hey Marcus, if / when you can, let us know when you post a good calc.bin file or note on the calc.bin area on sourceforge whether a calc.bin file is good to install.

:-)

Please? that would help

Re: HP 20b/30b programming cable eats on batteries!

*Message #3 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 3:01 p.m.,*
in response to message #2 by gene wright

What's in the ZIP should be usable. My latest SVN update is working, too.

Re: HP 20b/30b programming cable eats on batteries!

*Message #4 Posted by **gene wright** on 18 Apr 2011, 4:27 p.m.,*
in response to message #3 by Marcus von Cube, Germany

For example, the Revision 685 calc.bin file has this as its comment: "Turn of flash memory while idle"

which probably says turns off flash memory when idle.

But... is it a stable build? is it worth loading? Or should I load for real testing Revision 673 from Sunday?

That's the only reason I thought to ask you to note on the builds if it is a partial "I fixed X but haven't looked at Y" build or "Hey, this is a pretty solid build and you can use this to load your 34s" build.

:-)

Sorry for causing trouble...

Re: HP 20b/30b programming cable eats on batteries!

*Message #5 Posted by **Paul Dale** on 18 Apr 2011, 5:50 p.m.,*
in response to message #4 by gene wright

There are no stable builds at the moment :-)

Generally the latest subversion build will be best, we're bug fixing not featuring adding presently.

- Pauli

Re: HP 20b/30b programming cable eats on batteries!

*Message #6 Posted by **Walter B** on 19 Apr 2011, 1:31 a.m.,*
in response to message #4 by gene wright

Well, we're in an alpha-beta test phase still. So expect surprises. That said, the last builds were pretty stable for what I'd call standard functions. So you won't see any smoke nor too many crashes ;-)

Safe for testing by educated users, I'd say.

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

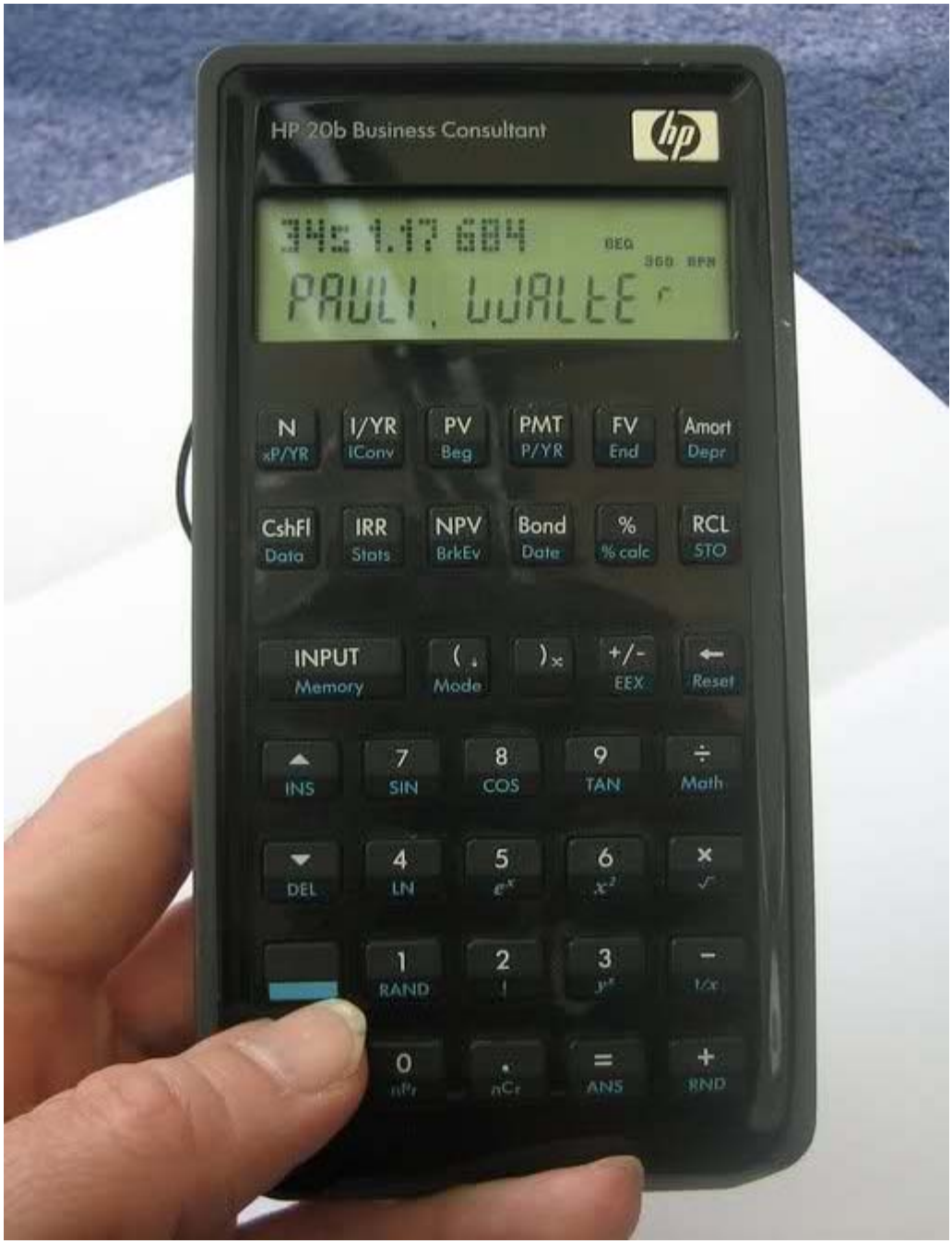
HP Forum Archive 20

[Return to Index | Top of Index]

dealing with 20b/30b/wp34s power drain

*Message #1 Posted by **hugh steers** on 18 Apr 2011, 9:37 a.m.*

fed up with burning button cells?



cells die during flashing?

here is the answer!

is fine on desk too.

:-)

Re: dealing with 20b/30b/wp34s power drain

*Message #2 Posted by **Walter B** on 18 Apr 2011, 10:17 a.m.,*
in response to message #1 by hugh steers

Hi Hugh, you created the backpacker's calculator d:-)

Re: dealing with 20b/30b/wp34s power drain

*Message #3 Posted by **hugh steers** on 18 Apr 2011, 2:25 p.m.,*
in response to message #2 by Walter B

more seriously, i do think HP should consider a model with a slightly thicker part to accommodate maybe AAA batteries.

This would give a much extended battery life, could afford to run the processor faster on average, plus it could provide the current to drive a micro SD card slot.

my hack shown in the pictures is the result of some goose chase regarding weak button batteries. basically, i had a situation where the unit did flash, but drained the battery whilst doing so to the point that it wouldnt operate the unit. i thought i'd bricked it until i tried driving from a psu.

incidentally, im thinking the WP34s rom requires more current to run, since a weak battery wouldnt activate it, but the same battery worked in another unit. something to watch out for.

-- hugh.

Re: dealing with 20b/30b/wp34s power drain

*Message #4 Posted by **Marcus von Cube, Germany** on 19 Apr 2011, 12:16 p.m.,*
in response to message #3 by hugh steers

> Quote:
>
> incidentally, im thinking the WP34s rom requires more current to run

I'm working on it...

Re: dealing with 20b/30b/wp34s power drain - new findings

*Message #5 Posted by **Marcus von Cube, Germany** on 19 Apr 2011, 1:49 p.m.,*
in response to message #4 by Marcus von Cube, Germany

To be more precise:

I'm now able to power the processor down when there is no program running and no key down. This lowers the current draw to 0.15 mA. I have the feeling that this is just the PIO being active for wake up.

During a programmed pause, the CPU stays on and the current draw is between 0.25 and 0.3 mA. With full power at 32 MHz, the demands are significantly higher. I measured 15 mA while a program was running.

In my very first attempts, in CPU off mode the draw was higher than with the PIO off but the CPU on. That was until I figured out that I had the pull-up resistors active on the outputs which were tied low. I must have measured the current flowing through these resistors (summing up to 0.4 mA).

Tim, what does the 20b firmware demand on the batteries in idle mode? Can I get below my 0.15 mA?

BTW, the new image is on SF in the repository.

Re: dealing with 20b/30b/wp34s power drain - new findings

*Message #6 Posted by **Marcus von Cube, Germany** on 20 Apr 2011, 4:54 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Paul has reported problems with the stability of the last build (699). As a measure, I've relaxed the power saving strategies slightly. Turning of the flash rom while idling doesn't seem to save enough power to be worth the hazzle. So it's gone for now. Going to processor off mode is now postponed to half a second after the last keystroke. You can see it by watching the tiny equals sign in the display.

The new release is in the repository. If it is reported to be stable I'll put it in the standard download.

Re: dealing with 20b/30b/wp34s power drain - new findings

*Message #7 Posted by **Marcus von Cube, Germany** on 20 Apr 2011, 10:39 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Once again! I've posted another update of the flash image to the SVN repository. The auto power down feature which is supposed to turn the calculator off after about three minutes of inactivity seems still to be a bit flaky. Please try out the new build!

Re: dealing with 20b/30b/wp34s power drain

*Message #8 Posted by **Paul Dale** on 18 Apr 2011, 5:48 p.m.,*
in response to message #1 by hugh steers

All that effort to save replacing some twenty five cent button cells :-)

- Pauli

Re: dealing with 20b/30b/wp34s power drain

*Message #9 Posted by **robert rozee** on 18 Apr 2011, 7:07 p.m.,*
in response to message #8 by Paul Dale

> Quote:
>
> All that effort to save replacing some twenty five cent button cells

a more accurate response would have been :
All that effort to save **THE INCONVENIENCE OF** replacing some twenty five cent button cells

it's not so much the cost of the batteries i suspect, but the hassle of having to change them so often. the cost of a pair of 2032 cells is miniscule compared to the cost of the petrol consumed driving down to the battery shop, and the time taken for the trip.

Re: dealing with 20b/30b/wp34s power drain

*Message #10 Posted by **Paul Dale** on 18 Apr 2011, 7:11 p.m.,*
in response to message #9 by robert rozee

Buy them in bulk lots from eBay or the like. Then they arrive at your door and the price is still twenty five cents including shipping.

At least this is what I do for button cells.

- Pauli

Re: dealing with 20b/30b/wp34s power drain

*Message #11 Posted by **hugh steers** on 19 Apr 2011, 9:16 a.m.,*
in response to message #10 by Paul Dale

it only takes for those button cells to be not quite tip-top, and there's a problem, either flashing or operational brown out (try Q^-1). you'll all be crying into your beers when you're hacking at 3am and run out of 'em :-)

but more seriously, now ive made my paper overlay and have the 34s here on my desk, the angle incline is rather nice. doesn't rock about either!

:-)

PS. how do i enter more than 12 digits in DEC 10 mode?

Re: dealing with 20b/30b/wp34s power drain

*Message #12 Posted by **Walter B** on 19 Apr 2011, 9:21 a.m.,*
in response to message #11 by hugh steers

Hugh,

> Quote:
>
> how do i enter more than 12 digits in DEC 10 mode?

?? FIX, SCI, ENG? :-)

Walter

Re: dealing with 20b/30b/wp34s power drain

*Message #13 Posted by **Paul Dale** on 19 Apr 2011, 4:56 p.m.,*
in response to message #11 by hugh steers

> Quote:
>
> PS. how do i enter more than 12 digits in DEC 10 mode?

You can't directly.

- Pauli

Re: dealing with 20b/30b/wp34s power drain

*Message #14 Posted by **gene wright** on 19 Apr 2011, 5:07 p.m.,*
in response to message #11 by hugh steers

Just buy a pack of 100 of the coin cells off ebay. That will last quite a while.

Cost? About $10-15 or so?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 Blinky or Red Eye

*Message #1 Posted by **Mike (Stgt)** on 18 Apr 2011, 9:08 a.m.*

Hello emulators and simulators!

Anybody here who may shed some light on the internals of the HP41 Infrared Printer Module? I am still not able to use it in an emulator or simulator. TIA.

Ciao.....Mike

Re: HP41 Blinky or Red Eye

*Message #2 Posted by **Eric Smith** on 18 Apr 2011, 8:43 p.m.,*
in response to message #1 by Mike (Stgt)

I looked at it a few years ago. It seems like the ASIC in it has *lots* of registers or flags. I didn't make much progress.

Re: HP41 Blinky or Red Eye

*Message #3 Posted by **Mike (Stgt)** on 19 Apr 2011, 11:36 a.m.,*
in response to message #2 by Eric Smith

Same with me, every 4th year I take half an hour and give up. But perhaps I should try harder and keep going deeper into it. With no knowledge about the internals the only chance is to do some tests with real hard ware, not to analyze only the trace of an incomplete emulator/simulator.

Wonder who will be first with a solution.

Ciao.....Mike

Re: HP41 Blinky or Red Eye

*Message #4 Posted by **Eric Smith** on 19 Apr 2011, 5:43 p.m.,*
in response to message #3 by Mike (Stgt)

I doubt that anyone but us emulation writers care about it; "normal" users are probably perfectly satisfied with 82143A and 82162A emulation. The 82242A doesn't really bring that much more to the table.

Re: HP41 Blinky or Red Eye

*Message #5 Posted by **Mike (Stgt)** on 20 Apr 2011, 4:27 a.m.,*
in response to message #4 by Eric Smith

Correct, it is an emulator programmer who reminded me lately about this unexplored field. Well, there remains some white space on the map, at least for the HP-41. <VBG>

Re: HP41 Blinky or Red Eye

*Message #6 Posted by **Ángel Martin** on 20 Apr 2011, 3:07 p.m.,*
in response to message #5 by Mike (Stgt)

so many "secrets" lost in the sands of time... this just another one.

Best,'AM

Re: HP41 Blinky or Red Eye

*Message #7 Posted by **Mike (Stgt)** on 21 Apr 2011, 8:46 a.m.,*
in response to message #6 by Ángel Martin

Well, in this case it is not too much a pitty. As Eric sayed, 'it will not bring that much to the table' because there are 82143A and 82162A emulators. But for me its just an interest of comparing technology: has Blinky it's own clock or is the IR signal triggert with timers of the HP-41?

BTW, is there an graphing printer ermulator I may attach to the V-41?

Ciao.....Mike

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP75D AT&T Version

*Message #1 Posted by **Alberto Fenini** on 17 Apr 2011, 5:08 p.m.*

ciao a tutti
this is a unit that I have received few days ago,
it is in working conditions, and the battery compartment has been fully cleaned
however, I'd like to remove the docking station from the unit for further inspection.
Later on, I have also purchased the optical wand that should go with the unit
Does anyone know how to separate the unit and the docking station,
and where I could find the additional documentation from AT&T ??
What was the difference from the standard HP75D (beside the modem and the additional memmory) ??
Thanks in advnace to everyone, take care Alberto

Re: HP75D AT&T Version

*Message #2 Posted by **John Pierce** on 17 Apr 2011, 10:46 p.m.,*
in response to message #1 by Alberto Fenini

I have a .pdf copy of the Pod's manual which has installation instructions. Send me your email address and I can send it to you. John Pierce

Re: HP75D AT&T Version

*Message #3 Posted by **Jeff O.** on 18 Apr 2011, 8:21 a.m.,*
in response to message #1 by Alberto Fenini

In case you have not connected with John, and/or for anyone else who needs to know, here is how to remove the pod:

How to Remove Pod from HP-75D:
Turn the pod upside-down and you'll see various philips screws. Unscrew the 6 large ones (3 on either side of the pod). Then you can take away the two side-panels which hold the HP75 in place. Gently lift the HP75 and you'll see that the port-plug is connected with a flex-cable. Unplug the HP75 and there you are. A common problem is that HP75 which come in a pod don't have the battery door to run them independently.

Above is not my own, is courtesy of Daniel (last name not known by me), probably from this Forum.

I needed the instructions for the exact same reason you do, to remove the pod from ATT-branded 75D's. I found four of them at a Hamvention seven or eight years ago. I think one or two of them worked (they were wet, having been exposed to rain.) I never found any information on what ATT did with them.

...

Re: HP75D AT&T Version

*Message #4 Posted by **Alberto Fenini** on 18 Apr 2011, 8:37 a.m.,*
in response to message #3 by Jeff O.

Thanks Jeff,
I have sent him an email few minutes ago,
but your note is very helpful anyway.
Where you able to dial a number and make a data connection ?
Why has the modem two ports ?

Take care and thanks, Alberto

Re: HP75D AT&T Version

*Message #5 Posted by **Jeff O.** on 18 Apr 2011, 9:28 a.m.,*
in response to message #4 by Alberto Fenini

Alberto,
I made no attempt to dial a number or make a data connection. When I said that one or two of mine worked, I meant that they seemed to function as a 75D. I never attempted to use any of the functions provided by the pod.
Good luck with yours,
Jeff

...

Re: HP75D AT&T Version

*Message #6 Posted by **John Pierce** on 18 Apr 2011, 12:44 p.m.,*
in response to message #1 by Alberto Fenini

You have 9mgb of mail.

Re: HP75D AT&T Version

*Message #7 Posted by **Alberto Fenini** on 19 Apr 2011, 6:15 a.m.,*
in response to message #6 by John Pierce

Got it !
Thank you very much, Alberto

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Anyone have a copy of this?

*Message #1 Posted by **gene wright** on 17 Apr 2011, 2:22 p.m.*

Or any other old SR-52 SR-56 books or materials? I made it my aim a few years ago to help encourage the documenting of the TI calculator story since the HP side was already pretty well documented.

For example, at one time, there was a quite extensive user collected library of game programs for the 100 step SR-56 calculator, but I have not been able to find copies of the programs anywhere.

So, anyone?

Book Review Statistics for the SR-52: Keyboard Data, 188 pages $10.00; Statistics for the SR-52: Card Data, 100 pages $11.00; and Statistics for the SR-56, 79 pages $9.30; all by C Donaldson Ellis, published 1977 by Wilmardon Publishing Box 461 Storrs, CT 06268.

All three volumes are printed in a pica typewriter font, one side of 8½ x 11 paper, with direct copy of PC-100 printer listings opposite manually generated mnemonics for program listings. Each program begins with a brief description of what it does (assuming user familiarity with statistics usage), along with special requirements and limitations.

User instructions are contained in a step-numbered Procedure section. This is followed by a table of register contents, and the program listing. Applicable formulas and algorithms are noted as being found in one or more of five references, but are not printed in the text; there are no sample problems. All programs are written for use with the PC-100, with notes covering required modifications for SR-52/56 use only.

The SR-52 keyboard manual covers 54 statistics programs, some requiring more than 224 steps. Input data are entered as required from the keyboard. The card manual arranges half of the keyboard programs to allow for data storage and retrieval via mag cards.

Data packing and unpacking routines are given, but actual card storage is by program step only (no mention is made of direct storage to/from program registers. Register tables show data assignments to Reg 98, 99, 00, ... 19.

Note that a 2 X 2/ 3 X 3 matrix inversion program requires 445 steps, and one titled "Four-way ANOVA--Unweighted Means" requires 1736 steps (8 cards).

The SR-56 manual follows along the same lines, covering 40 programs, some of which require more than 100 steps. The longest program is "Mixed ANOVA 1 Within and 1 Between" which requires 242 steps (3 programs to key in).

Re: Anyone have a copy of this?

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 2:35 p.m.,*
in response to message #1 by gene wright

I used to have an SR-56 at the time and even managed to write my own 3x3 linear equation solver. Sadly, the material is long gone. :(

Re: Anyone have a copy of this?

*Message #3 Posted by **Frido Bohn** on 18 Apr 2011, 3:52 a.m.,*
in response to message #1 by gene wright

Hello Gene,

in the download area of Joerg Woerner's Datamath Museum (www.datamath.org) you will find countless documentation about TI calculators, among others:

- SR-56 Coding Form (European)
- SR-56 Owners Manual
- SR-56 Programming Workbook

The "SR-56 Applications Library" was somewhere I cannot recall, in case of interest send me an email.

Frido

Re: Anyone have a copy of this?

*Message #4 Posted by **gene wright** on 18 Apr 2011, 7:50 a.m.,*
in response to message #3 by Frido Bohn

Thank you, but I have all of that. It is the slightly more obscure materials I had hoped to find.

In fact, on www.rskey.org in the "Library" section, you'll find a ton of documentation for the old SR52 and SR56 that I arranged to be published on that site. :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Angular modes (another poll)

*Message #1 Posted by **Walter B** on 17 Apr 2011, 12:33 p.m.*

Hi all,

So far, we have the traditional three DEG, RAD, GRAD implemented in the WP 34S. All trigonometric functions will sense the mode set and operate within the respective mode. There are also five conversion commands as follow:

```
Assumed input                      Operation   Output
---------------------------------+-----------+-------------------------------


decimal value in degrees             D>R      radians, ang. mode as before
decimal value in radians             R>D      degrees, ang. mode as before
decimal value in any ang. mode       >DEG     degrees, ang. mode set to DEG
decimal value in any ang. mode       >GRAD    grads, ang. mode set to GRAD
decimal value in any ang. mode       >RAD     radians, ang. mode set to RAD
```

That said, is there anything missing? Or any suggestions for a better set of operations?

Walter

Re: Angular modes (another poll)

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 1:12 p.m.,*
in response to message #1 by Walter B

I wasn't aware of the different sets of operations with and without change of mode. This makes obsolete my former idea of a user flag which decides whether with the conversion the mode shall be updated. I prefer the set of operations as pictured above.

In fact, we have 4 possible modes (not completely implemented):

RAD, GRAD, DEG and HMS. HMS only exists as a display option. We should investigate the possibility of tagging register content with the associated mode, at least concerning HMS or decimal. OK, I know that Pauli believes we cannot find the necessary bits for this. But I already have an idea. :)

Re: Angular modes (another poll)

*Message #3 Posted by **Paul Dale** on 17 Apr 2011, 5:50 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> We should investigate the possibility of tagging register content with the associated mode, at least concerning HMS or decimal. OK, I know that Pauli believes we cannot find the necessary bits for this. But I already have an idea. :)

Far more important than tagging a value as being H.MS is tagging it as being an integer or alpha data. So after you've found two bits for each of our 112 registers then go looking for space for a H.MS tag :-)

Actually, I know how to get some tag bits for reals. Reduce the accuracy of reals to 12 digits plus exponent and use the saved space to tag values. We could then mark angular mode (all four not just one), fraction, whatever.

- Pauli

Re: Angular modes (another poll)

*Message #4 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 1:55 a.m.,*
in response to message #3 by Paul Dale

I was thinking of a single decimal digit for the purpose. For H.MS we could even stick to subnormal numbers.

Re: Angular modes (another poll)

*Message #5 Posted by **Dieter** on 18 Apr 2011, 1:45 p.m.,*
in response to message #4 by Marcus von Cube, Germany

One single digit should do - that's four bits, as far as I can see, so 16 different tags are possible. This could mean that there are some additional options - for instance calendar dates. They could be handled as integers, representing their Julian day number, this way allowing simple addition and subtraction instead of special commands. In a similar way, values tagged as h°m's" could be handled without special commands as well. Okay, all this needs some coding... ;-)

In a way it's similar to the Excel approach: every value is stored in a number that can stand for a real number, a date, a percentage, whatever.

If all this can be done with one single digit less I think the advantages outweigh the minimal loss of precision. 15 digits (or 12 displayed plus three "guard digits") are fine for me.

BTW - in earlier HP machines like the HP-41 these tags were simply coded in four mantissa sign bits. I assume this is not an option here?

Dieter

Re: Angular modes (another poll)

*Message #6 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 3:10 p.m.,*
in response to message #5 by Dieter

The decimal64 is described in detail in Wikipedia. It's not as easy as it seems. 3 digits are packed in ten bits. You cannot simply take a digit and hope it's four bits worth. In fact, 10 different tags would be possible this way. I had anther idea: If we can live without subnormal numbers (numbers which start with one or more zero digits) we could use a limited range of numbers with tags without losing precision on normal reals.

Edited: 18 Apr 2011, 3:11 p.m.

Re: Angular modes (another poll)

*Message #7 Posted by **Paul Dale** on 18 Apr 2011, 8:58 p.m.,*
in response to message #5 by Dieter

This won't work as is. Integers are separate and use all 64 bits available. Likewise, alpha data probably needs a separate bit -- a 64 bit integer holds 64 bits worth of alpha data.

I think we're better defining our own numeric format (which is what this suggestion is doing anyway) and using that.

I'm not sure how we'll go on the code size front. Tagging values will require extra code.

And the first digit in a decimal64 only has 10 states we could use but it would be possible to use I guess. Things are BCD and tightly packed.

- Pauli

Re: Angular modes (another poll)

*Message #8 Posted by **Dieter** on 17 Apr 2011, 1:39 p.m.,*
in response to message #1 by Walter B

First I would suggest a complete set of conversions without any change of the current angular mode. Second, I like the idea of conversions with a simultaneous switch to the target angular mode as well. In other words:

command name	command description	angular mode after execution
D->R	degrees to radians	unchanged
R->D	radians to degrees	unchanged
D->G	degrees to grads	unchanged
G->D	grads to degrees	unchanged
R->G	radians to grads	unchanged
G->R	grads to radians	unchanged
->R	current to radians	Radians
->D	current to degrees	Degrees
->G	current to grads	Grads

By the way: for programming purposes I always liked the idea to get certain key values (like a full or half or quarter circle) in the current angular mode. This usually is done with an inverse trig function: for instance, arccos(-1) returns 180 degrees or Pi or 200 grads. I wonder if this can be done more elegantly with the 34s command set.

Dieter

Re: Angular modes (another poll)

*Message #9 Posted by **Paul Dale** on 17 Apr 2011, 5:45 p.m.,*
in response to message #8 by Dieter

Dieter missed three options:

R->	radians to current	unchanged
D->	degrees to current	unchanged
G->	grads to current	unchanged

Making the full suite:

command name	command description	angular mode after execution
D->R	degrees to radians	unchanged
R->D	radians to degrees	unchanged
D->G	degrees to grads	unchanged
G->D	grads to degrees	unchanged
R->G	radians to grads	unchanged

```
 G->R        grads to radians       unchanged
  ->R        current to radians     Radians
  ->D        current to degrees     Degrees
  ->G        current to grads       Grads
  R->        radians to current     unchanged
  D->       degrees to current     unchanged
  G->        grads to current       unchanged
```

Ask what people want and they come back everything and then some :-)

- Pauli

Re: Angular modes (another poll)

*Message #10 Posted by **Dieter** on 18 Apr 2011, 1:06 p.m.,*
in response to message #9 by Paul Dale

> Quote:
>
> Dieter missed three options:
>
> ```
> R->        radians to current     unchanged
> D->        degrees to current     unchanged
> G->        grads to current       unchanged
> ```

Well, I was not sure if these three make sense. But now I see these three additions will solve exactly the problem I mentioned in my last sentence:

```
Pi   R->    returns the equivalent of a half circle
180  D->    dto.
90   D->    returns the equivalent of a right angle
400  G->    returns the equivalent of a full circle

...in units of the current angular mode.
```

Great! I like it! :-)

Dieter

Edited: 18 Apr 2011, 1:07 p.m.

Re: Angular modes (another poll)

*Message #11 Posted by **Gerson W. Barbosa** on 17 Apr 2011, 2:33 p.m.,*
in response to message #1 by Walter B

However the most useful conversions (that is, keeping the current mode) one would like to do from the keyboard , D>R and R>D, require at least five keystrokes each:

```
D->R:  h  X.FCN  ->  ^  ENTER

R->D:  h  X.FCN  6   ^  ENTER
```

Why not define shortcuts for them?

```
D->R:  ->  5

R->D:  ->  D
```

Furthermore, since simultaneous conversions and changes of mode is not a concern to you, why not save two positions by using cyclic angle mode switching as Pauli has suggested? The blue GRAD under Rv could be

replaced with DRG so our table now would be:

```
Assumed input                    Operation          Output                  Shortcut
-------------------------------+----------+-------------------------------+--------------
---
decimal value in any ang. mode     D>R      radians, ang. mode as before       -> 5
decimal value in any ang. mode     R>D      degrees, ang. mode as before       -> D


decimal value in any ang. mode     DRG      unchanged, angle mode
                                            annunciators changed cyclically
                                            from ...360 to RAD to G...


            .                                                                    \
            .                                                                     |
decimal value in degrees          >DRG      radians, ang. mode set to RAD      -> Rv   |
                                   >DRG      grads, ang. mode set to GRAD       -> Rv   |
cyclically
                                   >DRG      degree, ang. mode set to DEG       -> Rv   |
            .                                                                     |
            .                                                                    /
```

Of course DRG and ->DRG could not be programmable commands.

The drawback would be another poll for choosing the functions that should occupy the free positions.

Regards,

Gerson.

Re: Angular modes (another poll)

*Message #12 Posted by **Paul Dale** on 17 Apr 2011, 5:46 p.m.,*
in response to message #11 by Gerson W. Barbosa

> Quote:
>
> Furthermore, since simultaneous conversions and changes of mode is not a concern to you, why not save two positions by using cyclic angle mode switching as Pauli has suggested? The blue GRAD under Rv could be replaced with DRG so our table now would be:

A single mode switch command is badness. It doesn't save any commands for programming purposes.

- Pauli

Re: Angular modes (another poll)

*Message #13 Posted by **Gerson W. Barbosa** on 17 Apr 2011, 7:09 p.m.,*
in response to message #12 by Paul Dale

I meant saving positions on the keyboard for the functions that are now missing due to the A label and Sigma+ latest changes. Anyway, I'd be pleased with the shortcuts for D>R and R>D only, if possible.

Gerson.

Re: Angular modes (another poll)

*Message #14 Posted by **Paul Dale** on 17 Apr 2011, 7:20 p.m.,*
in response to message #13 by Gerson W. Barbosa

The only commands we lost putting in the A button were %+ and %- and nobody seemed to want either of those.

As for the short cuts, Walter is usually the final authority on keyboard design.

- Pauli

Re: Angular modes (another poll)

*Message #15 Posted by **Eddie W. Shore** on 17 Apr 2011, 3:08 p.m.,*
in response to message #1 by Walter B

That looks good - however conversions to gradients would be cool.

>DEG >RAD >GRAD

or D-G, R-G, G-D, G-R

Re: Angular modes (another poll)

*Message #16 Posted by **Walter B** on 17 Apr 2011, 3:17 p.m.,*
in response to message #15 by Eddie W. Shore

Hi Eddie,

> Quote:
>
> conversions to gradients would be cool.

a "gradient" is something different d:-)

Re: Angular modes (another poll)

*Message #17 Posted by **David Hayden** on 17 Apr 2011, 5:52 p.m.,*
in response to message #1 by Walter B

You're missing another set of conversions: going *to* the current angle mode:

```
DEG>   Degrees to current angle mode
RAD>   Radians to current angle mode
GRAD>  Grads to current angle mode.
```

Rather than doing a full set of conversions, I'd consider converting to/from radians only. So a conversion from degrees to grads would be done in two steps (D>R, R->G). This would cut down on the number of commands needed and might make it more feasible to add HMS a fully supported mode. HMS would be useful for navigation and surveying, which seem to be applications that these machines are commonly used for.

Dave

Re: Angular modes (another poll)

*Message #18 Posted by **Paul Dale** on 17 Apr 2011, 6:06 p.m.,*
in response to message #17 by David Hayden

> Quote:

> Rather than doing a full set of conversions, I'd consider converting to/from radians only. So a conversion from degrees to grads would be done in two steps (D>R, R->G). This would cut down on the number of commands needed and might make it more feasible to add HMS a fully supported mode. HMS would be useful for navigation and surveying, which seem to be applications that these machines are commonly used for.

One small problem here, conversion to and from radians implies a rounding step and an accuracy loss. I can convert degrees directly to gradians exactly e.g.

Does it matter in real life? Probably not.

- Pauli

Re: Angular modes (another poll)

*Message #19 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 2:01 a.m.,*
in response to message #18 by Paul Dale

Just a thought: Why not have an "exact radians" mode where the numbers are multiples of PI? In this mode, 1.5 SIN would return -1.

Re: Angular modes (another poll)

*Message #20 Posted by **Paul Dale** on 18 Apr 2011, 5:57 a.m.,*
in response to message #1 by Walter B

Since they seem to be wanted, I've added commands for D->G, R->G, G->D and G->R.

To reiterate the big open question, does anyone really want ->DEG, ->RAD and ->GRAD to change the trig mode or just convert the number? Those who've commented about this above don't need to comment again.

- Pauli

Re: Angular modes (another poll)

*Message #21 Posted by **Walter B** on 18 Apr 2011, 1:47 p.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> Since they seem to be wanted, I've added commands for D->G, R->G, G->D and G->R.

We're going to have a flooding if we continue this way: remember we've included R>D and D>R for backward compatibility only. So I vote for keeping these two with their traditional names in X.FCN or P.FCN for exactly that reason, and for putting all 6 conversions possible between DEG, RAD and GRAD into CONV, operating without a mode change.

Additionally, we have 3 conversions "current" to DEG/RAD/GRAD. We get them for free as long as we keep DEG, RAD, and GRAD on the keyboard.

And there was the desire introducing DEG/RAD/GRAD to "current", FWIW.

> Quote:

> To reiterate the big open question, does anyone really want ->DEG, ->RAD and ->GRAD to change the trig mode or just convert the number? Those who've commented about this above don't need to comment again.

To change or not to change (modes in these conversions), that's the question.

Walter

Re: Angular modes (another poll)

*Message #22 Posted by **David Hayden** on 18 Apr 2011, 2:32 p.m.,*
in response to message #20 by Paul Dale

> Quote:
>
> To reiterate the big open question, does anyone really want ->DEG, ->RAD and ->GRAD to change the trig mode or just convert the number?

I would just convert the number, without changing the trig mode. In general I've found that commands that do too much usually hurt more than they help. It's easy to forget about the side effect (where the "side effect" is "the thing that the command does in addition to the thing that I want it to do") and this can easily lead to programming bugs. Also, if a command is going to change the way future commands work, I think it needs to be very explicit.

There's my 2 cents worth. :)

Dave

Re: Angular modes (another poll)

*Message #23 Posted by **Jeff O.** on 18 Apr 2011, 8:04 p.m.,*
in response to message #22 by David Hayden

I will vote with David, so we are up to 4 cents.

Jeff

Re: Angular modes (another poll)

*Message #24 Posted by **htom trites jr** on 19 Apr 2011, 3:00 p.m.,*
in response to message #23 by Jeff O.

I'd like degrees minutes seconds.fractionalseconds too, please. Abbreviation DMS. Navigation and old-fashioned surveying.

Four modes, five if we allow real*PI, which would be handy sometimes. There are going to be few exact conversions from one to another, other than some special values.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42/Android skin handling change

*Message #1 Posted by **Thomas Okken** on 17 Apr 2011, 11:32 a.m.*

Yesterday I updated Free42 in the Android Market and on my web site. I posted four updates in quick succession, but only the release notes for the most recent one (1.4.67.4) appear on the Market page, and to make things even more confusing, the "updated" date still shows April 10th.

There have been a couple of minor bug fixes, but the important change is skin handling. Originally, the app would look for the *.gif and *.layout files in /sdcard/Free42, but that causes problems on some devices, because of an incorrect /sdcard symlink, or because of case-smashing in the FAT32 filesystem. This new version of Free42 for Android is meant to avoid these problems, by letting the user select skins from anywhere, using a file selection dialog.

I had originally planned to make the skins directory location configurable, but then it occurred to me that making the user select the directory in one place and then choose the skin in another made no sense; I might as well combine the two.

Note that if a skin is selected from an SD card, Free42 will not be able to load that skin if it is relaunched later when that SD card has been removed. In that case, Free42 will revert to the built-in skin, but it will remember the external skin's path, and when it is relaunched with the SD card once again present, it will load the external skin again.

If you want to have a set of custom skins permanently available, regardless if what's in the SD card slot, you may have to root your phone and/or use a file manager to copy the skins to a directory in the built-in storage. Free42 does not help with the process of copying skins, but it can use them once they are copied.

This new implementation is not perfect, but I think it will meet the needs of most users, without adding a lot of complexity to the code or the user interface.

- Thomas

Re: Free42/Android skin handling change

*Message #2 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 11:48 a.m.,*
in response to message #1 by Thomas Okken

Locating skins works fine, but Free42 does not react on the orientation of my device, nor does it revert to landscape mode, if the skin is wider then high. I usually hold my Archos in landscape mode. :(

Re: Free42/Android skin handling change

*Message #3 Posted by **Thomas Okken** on 17 Apr 2011, 12:01 p.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Locating skins works fine, **but Free42 does not react on the orientation of my device**

I never said it would. Landscape mode support is still on my to-do list.

Re: Free42/Android skin handling change

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 12:14 p.m.,*
in response to message #3 by Thomas Okken

Thanks for the clarification. So I need to find a suitable portrait skin for my device. Will go hunting.

Re: Free42/Android skin handling change

*Message #5 Posted by **Jeroen Van Nieuwenhove** on 18 Apr 2011, 4:14 a.m.,*
in response to message #1 by Thomas Okken

Thanks, Thomas, for the update of this excellent port of Free42. Free42 is my favorite calc on my desktop computer and I was delighted to find it on Android Market when I purchased an Android phone recently. Would it be possible to provide an option to (de)activate key click sounds in a future update? Thanks in advance.

Re: Free42/Android skin handling change

*Message #6 Posted by **Thomas Okken** on 18 Apr 2011, 4:16 p.m.,*
in response to message #5 by Jeroen Van Nieuwenhove

Such an option is on my to-do list; in the meantime, until I get around to implementing it, you can make the key clicks stop using CF 26 (but that will disable TONE, BEEP, and the error beeps as well).

Re: Free42/Android skin handling change

*Message #7 Posted by **Jeroen Van Nieuwenhove** on 19 Apr 2011, 6:38 p.m.,*
in response to message #6 by Thomas Okken

I should have thought of the native quiet mode. That will do for me.

Re: Free42/Android skin handling change

*Message #8 Posted by **Thomas Okken** on 20 Apr 2011, 12:27 p.m.,*
in response to message #1 by Thomas Okken

I added landscape mode support, and an "enable key clicks" Preferences setting (so you can control key clicks independently of TONE/BEEP).

Landscape support is a bit primitive: apart from allowing the orientation change, Free42 doesn't do anything to support it actively, which means the OS has to shut down the app and then relaunch it with the new orientation. While this works fine, it means that the orientation switch can be slow, particularly if you are working with large matrices.

I haven't added a built-in landscape skin yet, because the ones I have don't look very good at 480x320, but depending on screen size, the 42ct, HP42CY, or Voyager42 skins from the Free42Skins.zip package may be usable. By default, you're just going to get the built-in 320x480 skin (or whatever you had selected instead), squished to fit, which will probably not look very good. :-)

I'll have to do something about the file selection dialog to make it look better in landscape mode, and find or create a decent landscape skin, but for the time being, this should be usable. Looking forward to your

feedback!

- Thomas

Edited: 20 Apr 2011, 12:28 p.m.

Re: Free42/Android skin handling change

*Message #9 Posted by **Jeroen Van Nieuwenhove** on 21 Apr 2011, 5:33 p.m.,*
in response to message #8 by Thomas Okken

Now THAT was fast. Thanks a lot, Thomas. Key click selection works fine and orientation switch is smooth. I am going to try out the existing landscape skins you mentioned, although I never use them on my desktop computer.

Re: Free42/Android skin handling change

*Message #10 Posted by **Günter Schink** on 24 Apr 2011, 12:43 p.m.,*
in response to message #8 by Thomas Okken

I've installed the latest release 1.4.69 now, and played around a little bit. I found the best fitting skins for the Galaxy I9000 (800x480) in the maemo5 port for the Nokia N900. There are both, portrait and landscape skins that look rather good. Automatic change of orientation works sufficiently good, though the appearance change from a pionneer to a voyager layout is rather funny

The landscape skin is 42ct-maemo5. The Skin uses 800x428 of the bitmap

The portrait skin is Ehrling42sl-new-maemo5-full. This skin uses 480x729 of the bitmap.

What size is the status line of Android?

Günter

Re: Free42/Android skin handling change

*Message #11 Posted by **Thomas Okken** on 24 Apr 2011, 4:44 p.m.,*
in response to message #10 by Günter Schink

In the Android Emulator and on the HTC Aria/Liberty, the status line is 25 pixels. Those both have 320x480 screens; on devices with higher-resolution screens the status bar is probably higher.

Re: Free42/Android skin handling change

*Message #12 Posted by **Marcus von Cube, Germany** on 24 Apr 2011, 5:34 p.m.,*
in response to message #11 by Thomas Okken

On the large screen devices, an option not to stretch the skin to the full window dimensions might be useful.

Re: Free42/Android skin handling change

*Message #13 Posted by **Thomas Okken** on 26 Apr 2011, 8:03 p.m.,*
in response to message #12 by Marcus von Cube, Germany

I agree. I added it to my to-do list.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #1 Posted by **John Pierce** on 17 Apr 2011, 11:20 a.m.*

Does anyone have info or knowledge of an HP-71B ROM PAC produced by Viewtronics in 1986 titled "UDL-71*"? I bought it to use an a 32k EPROM but it has five protected files on it. The ROM PAC may be useful to someone for its software. John Pierce

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #2 Posted by **J-F Garnier** on 18 Apr 2011, 3:51 p.m.,*
in response to message #1 by John Pierce

Hi John,

I have no special information on it, but I'm interested by the pac. Can you make a ROMCOPY to a disc image file (I know you have a PIL-Box :-)

J-F

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #3 Posted by **John Pierce** on 18 Apr 2011, 6:02 p.m.,*
in response to message #2 by J-F Garnier

Hello Jean-Francois, You have mail. John Pierce

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #4 Posted by **Howard Owen** on 21 Apr 2011, 4:38 a.m.,*
in response to message #1 by John Pierce

Viewtronics was a monitor and terminal maker in the 80s. I purchased several of the inexpensive VTxxx compatible terminals they made when I was the computer manager at the UCSB Physics department. The company seems to be defunct. The domain name is registered to an individual in Ahrensburg, Germany, but no name server answers for a query on "www.viewtronics.com" or "viewtronics.com." Reading the wikipedia entry on ViewSonics, it is clear that company is not a successor or otherwise related to Viewtronics.

I'd be interested to know what that module is about. The obvious thing would be if it contained a driver for a Viewtronics terminals. Regardless, it should be interesting.

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #5 Posted by **J-F Garnier** on 21 Apr 2011, 1:31 p.m.,*
in response to message #4 by Howard Owen

Thanks to John, I was able to have a look at the ROM PAC.

The ROM is mainly made of a large BASIC program that deals with files, the Wand, and HP-IL devices (the well known "HP82164A" interface, but also two unknown HP-IL devices: "KBUSL48" and "DMX1"). I have no idea of the purpose of this program.

If someone is interested, I have the ROM image available on a LIF image file (for Emu71 or for the HP-71B using the PIL-Box/ILPer), with protection removed...

```
UDL71D     LEX     531 12/16/87 14:52 5.01
UDLMAIN    BASIC 22568 12/16/87 14:53 5.01
UDLRTNS    BASIC  4654 12/16/87 14:53 5.01
UDLSTR     LEX     837 12/16/87 14:54 5.01
UDLCUST    LEX    1007 12/16/87 14:54 5.01


Header line of UDLMAIN:
5 REM UDL-71 PROGRAM GRID/SEQ. VER:D <SETTIME/DATE/MAN.>Copyright (c) VIEWSONICS,
1986,87
```

J-F

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #6 Posted by **John Pierce** on 21 Apr 2011, 7:09 p.m.,*
in response to message #4 by Howard Owen

After J-F posted his reply I double checked the ROM. My error !!! When I was with Hughes Aircraft we used Viewtronics terminals also. The printing on the UDL-71* ROM PAC is very small and my imagination and 72 year old eyes morphed it from Viewsonics to Viewtronics. I apologize. John Pierce

Re: HP71B ROM PAC "UDL-71*" by Viewtronics

*Message #7 Posted by **Howard Owen** on 22 Apr 2011, 10:49 a.m.,*
in response to message #6 by John Pierce

Curiouser and curiouser. The display company is actually "Viewsonic" without the trailing "s." Wikipedia's entry on the company says that it was formed in 1987, but that it wasn't called Viewsonic until 1990. So this ROM may have been produced by a company I've never heard of before. The ROM dump shows that this code isn't display related on its face, although I suppose it could turn out to be on closer inspection.

Here's some speculation based again on the name "Viewsonics." Perhaps this is a data collection component for a system designed to visualize audio data?

Regards,
Howard

P.S. Obviously you aren't the only one to get confused over subtle name differences. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

The legend lives on: Two new 41 Modules announced

*Message #1 Posted by **Ángel Martin** on 17 Apr 2011, 7:10 a.m.*

Joining forces with Jean-Marc Baillard, two new 8k Power-Math modules are being released in a few days, as follows:

1. The BESSEL ROM, a compendium of MCODE functions and FOCAL programs to calculate Bessel, Gamma, and other Bessel-Type functions. Real and Complex variables, Integro-differeciation, Spherical, Asymptotic expansion... just to name a few. Includes an all-new Reiman's Zeta using the Borwein algorithm for real and complex variables, don't miss that!

2. The (ultimate) Polynomial ROM, a collection of utilities and programs for Polynomial analysis - Roots, Interpolation, Factorization... both real and complex variables. Don't miss the new LIST capability to introduced the coefficients as list elements using Alpha and dedicated MCODE functions.

Rounding off the final touches - will be coming soon at a TOS near you, the legend lives on.

Cheers, 'AM.

Re: The legend lives on: Two new 41 Modules announced

*Message #2 Posted by **Namir** on 17 Apr 2011, 7:24 a.m.,*
in response to message #1 by Ángel Martin

Jean-Marc is an exceptional mathematician/programmer. He has written advanced calculus applications for the HP-41C that I thought to be beyond the 41's reach!! His skills to push the calculator programming to the limit remind of those the late Swiss professor Peter Henrici had for the HP-25C and HP-33C.

Since the 41C is very dear to me, Jean-Marc's new modules for that machine is a true joy to have. It's like Christmas in spring!

Thank you Angel for sharing and thank you Jean-Marc for developing these new modules. I hope you can attend HHC 2011 so many folks, like myself, could meet you in person!!!

Namir

Re: The legend lives on: Two new 41 Modules announced

*Message #3 Posted by **Ángel Martin** on 17 Apr 2011, 9:22 a.m.,*
in response to message #2 by Namir

I gree with your assessment Namir. In this case it's a 50-50 cooperation between the both of us, so hopefully you've got the "best of both styles".

These modules comprise the best of the SandMath, 41Z, JMB_Math and JMB_Matrix - for the subjects they're concerned with, of course. That plus a few new tricks to round it all off nicely, if I'm allowed to say.

BTW I neglected to mention that the MCODE functions use the 13-digit accuracy wherever possible - and it sure makes a difference.

Cheers, 'AM

Re: The legend lives on: Two new 41 Modules announced

*Message #4 Posted by **Namir** on 17 Apr 2011, 10:10 a.m.,*
in response to message #3 by Ángel Martin

Angel,

When it comes to complex math on the HP-41C you are the "Hercules" of this aspect.

I am really looking forward to downloading these modules.

Namir

Re: The legend lives on: Two new 41 Modules announced

*Message #5 Posted by **Ángel Martin** on 22 Apr 2011, 2:45 p.m.,*
in response to message #4 by Namir

The modules are already available at TOS - enjoy!

PS. You don't want to miss QPOL: introducing the polynomial coeffs on a LIST as string elements, then watch ANUMDEL in action...

Re: The legend lives on: Two new 41 Modules announced

*Message #6 Posted by **JMBaillard** on 17 Apr 2011, 4:56 p.m.,*
in response to message #2 by Namir

Hi Namir,

Thank you for your compliments !
While these programs will be so appreciated,
why would we stop ?

Best wishes,
Jean-Marc.

Re: The legend lives on: Two new 41 Modules announced

*Message #7 Posted by **Paul Dale** on 17 Apr 2011, 7:34 a.m.,*
in response to message #1 by Ángel Martin

Very nice.

And so compact.

- Pauli

Re: The legend lives on: Two new 41 Modules announced

*Message #8 Posted by **Geir Isene** on 17 Apr 2011, 10:08 a.m.,*
in response to message #1 by Ángel Martin

It is truly a joy to be the audience to gurus like you two. I thrive in acquiring new knowledge, and people like you make it easy for me to thrive.

Re: The legend lives on: Two new 41 Modules announced

*Message #9 Posted by **Ángel Martin** on 17 Apr 2011, 12:26 p.m.,*
in response to message #8 by Geir Isene

Well, let's put it this way: no project is good without users - so you also make it happen!

Re: The legend lives on: Two new 41 Modules announced

*Message #10 Posted by **SteveH** on 17 Apr 2011, 3:45 p.m.,*
in response to message #1 by Ángel Martin

I didnâ€™t realise that new modules were still being developed for the â€™41.

Do you have a link for these? I wasnâ€™t sure what TOS is.

Re: The legend lives on: Two new 41 Modules announced

*Message #11 Posted by **Walter B** on 17 Apr 2011, 4:14 p.m.,*
in response to message #10 by SteveH

Steve, FYI, TOS (The Other Site) is a site like this museum but with hp41 standing where hpmuseum is written here. It must not be mentioned explicitely here for reasons way back in history [;-)

HTH, Walter

Edited: 17 Apr 2011, 4:16 p.m.

Re: The legend lives on: Two new 41 Modules announced

*Message #12 Posted by **Ángel Martin** on 18 Apr 2011, 3:42 p.m.,*
in response to message #10 by SteveH

The modules will be posted shortly. In the mean time I'd encourage you to peruse Jean-Marc's excellent (and comprehensive) web pages, at: http://hp41programs.yolasite.com/

You can spend a couple of life-times going through all his material, well worth repeated visits!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP65 vs HP67 card reader

*Message #1 Posted by **Alberto Fenini** on 17 Apr 2011, 6:26 a.m.*

ciao a tutti,
I'm trying to repair the HP65 shown on the left of the picture,
it is working but the previous owner has ruined the head cabling.
Between my HP67s I have found the one pictured on the right,
which differently from the others has a card reader apparently identical.
What do you think ??
Can I take this HP67 card reader and use it on the HP65 ??
Or, on the other hand, does anyone has ever found a replacement for the HP65 magnetic head ??
As usual, thanks for any suggestion, enjoy the weekend !!!
Alberto

Re: HP65 vs HP67 card reader

*Message #2 Posted by **Ignazio Cara (Italy)** on 17 Apr 2011, 1:18 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

IMHO, you can swap entirely the card reader assembly (head/motor/Reader PCB) among the calculators. The 67's sense-amplifier is compatible with the 65, I have changed this chip with success in one of mine. For sure you can't make damage to the calculator's logic PCB.

About your second question,

> Quote:
>
> Or, on the other hand, does anyone has ever found a replacement for the HP65 magnetic head ??

take a look at this old post:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=167082#167082

Let me know how the work proceeds, take care.

Ignazio

Re: HP65 vs HP67 card reader

*Message #3 Posted by **Alberto Fenini** on 17 Apr 2011, 5:09 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Ciao Ignazio, I sure will !!

Thank you very much for the hint, take care Alberto
OT:
Didn't we have to call each other on the phone over the weekend ??

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can you identify this soft case?

*Message #1 Posted by **Michael de Estrada** on 16 Apr 2011, 9:33 p.m.*

The TAS seller claims this soft case is for an HP-97, but it clearly is different from the normal Topcat soft case. So, what HP calculator or product is this actually designed for?

Re: Can you identify this soft case?

*Message #2 Posted by **Martin Pinckney** on 17 Apr 2011, 3:41 p.m.,*
in response to message #1 by Michael de Estrada

I have no specific knowledge, and the dimensions are not given in the auction description, so this is only conjecture: based on the aspect ratio, perhaps an HP-94D?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10bII+ first impressions

*Message #1 Posted by **Jose Gonzalez Divasson** on 16 Apr 2011, 2:46 p.m.*

We have received the new HP10bII+ and have posted our first impressions

HP 10bII+ first impressions

While not a substitute for the whole review that will come in a few days, I think that there is another candidate for repurposing - with a far better keyboard than the 20b!

Re: HP 10bII+ first impressions

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 3:17 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Thanks for the review. Now that I'm in the repurposing business, I would love to see a review of the ongoing wp34s project.

Re: HP 10bII+ first impressions

*Message #3 Posted by **svisvanatha** on 16 Apr 2011, 3:30 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I was thinking of devoting a post on my blog to the very same...

And in terms of repurposing projects - I believe that most of the elements are in place to create a '15c+' using the new 12c+ as the hardware, and reusing functions from the wp34s. Matrix operations to mimic the 15c's would need to be developed though.

<hides under desk>

Re: HP 10bII+ first impressions

*Message #4 Posted by **Paul Dale** on 17 Apr 2011, 4:02 a.m.,*
in response to message #3 by svisvanatha

The screen makes it not worthwhile.

- Pauli

Re: HP 10bII+ first impressions

*Message #5 Posted by **Tim Wessman** on 16 Apr 2011, 5:23 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

FYI - There are no other connectors of interest inside (JTAG), nor a place for a crystal or any additions. The circuit board is quite bare compared to the 20/30b.

TW

Re: HP 10bII+ first impressions

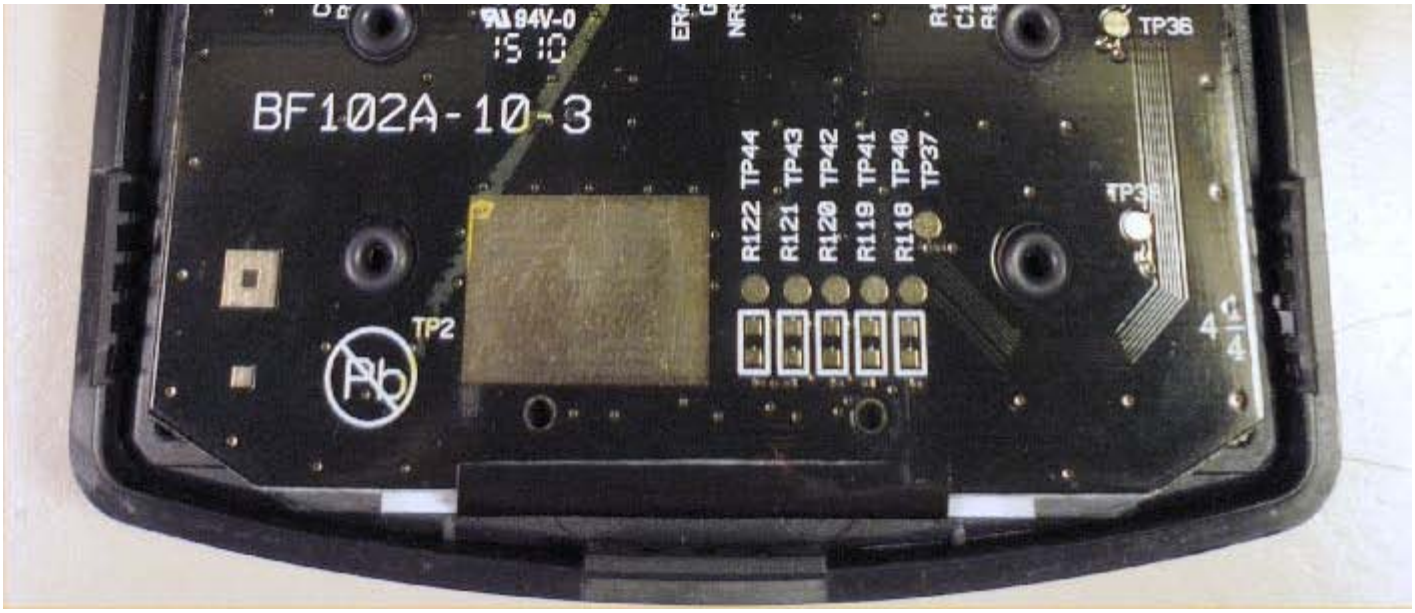
*Message #6 Posted by **Jim Yohe** on 16 Apr 2011, 7:09 p.m.,*
in response to message #5 by Tim Wessman

Keep it simple ... keep it cheap. ;-)

Re: HP 10bII+ first impressions

*Message #7 Posted by **Katie Wasserman** on 16 Apr 2011, 10:43 p.m.,*
in response to message #5 by Tim Wessman

Yep, not much in there except for test points, lots of shorted resistor locations and open capacitor locations. Most of the test points seem to be the keyboard scan lines, but not all of them.



-Katie

Re: HP 10bII+ first impressions

*Message #8 Posted by **Raymond Del Tondo** on 17 Apr 2011, 6:21 a.m.,*
in response to message #7 by Katie Wasserman

So what are the six points named ERASE1,GND1,NRSTB1,DRX01,DTX01,VCC1 for? I thought those were the wanted pins?

Re: HP 10bII+ first impressions

*Message #9 Posted by **Paul Dale** on 17 Apr 2011, 6:32 a.m.,*
in response to message #8 by Raymond Del Tondo

They'll be the serial programming pins.

- Pauli

Re: HP 10bII+ first impressions

*Message #10 Posted by **Eddie W. Shore** on 16 Apr 2011, 7:24 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

From the pictures, it looks like to be a solid machine.

Re: HP 10bII+ first impressions

*Message #11 Posted by **hpnut** on 16 Apr 2011, 10:37 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Please, please...I am praying this has RPN! has it?

Re: HP 10bII+ first impressions

*Message #12 Posted by **gene wright** on 16 Apr 2011, 10:38 p.m.,*
in response to message #11 by hpnut

No, algebraic or chain mode only.

Re: HP 10bII+ first impressions

*Message #13 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 3:59 a.m.,*
in response to message #12 by gene wright

At least it adds algebraic mode to the 10b feature set.

Edited: 17 Apr 2011, 3:59 a.m.

Re: HP 10bII+ first impressions

*Message #14 Posted by **Tim Wessman** on 16 Apr 2011, 10:43 p.m.,*
in response to message #11 by hpnut

We tried hard to put it in (even as a hidden mode or something), but I can tell you that there was a lot of research done with various professors and real estate people (the main target for this machine) and it was unanimous that even if it was well hidden they didn't want it in there. . .

Too much concern about possibility of messing things up for students and test takers. Yeah, I think it is dumb too but the target research was clear.

TW

Re: HP 10bII+ first impressions

*Message #15 Posted by **DeboT** on 17 Apr 2011, 9:10 a.m.,*
in response to message #14 by Tim Wessman

> Quote:
>
> ...but the target research was clear.

To recall something something that I think most here already know:
From HP's own website, see the Fun Fact on this page. (I know this is on the Museum site too, but I like to remind manufacturers what's on their own website :-)

Without which we may never have been here at all! Thanks Bill :-)

Re: HP 10bII+ first impressions

*Message #16 Posted by **Jim Yohe** on 17 Apr 2011, 12:13 p.m.,*
in response to message #15 by DeboT

Yes we would need mighty large pockets to carry a "calculator be the size of a typewriter or adding machine" had marketing had their way. ;-)

Re: HP 10bII+ first impressions

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 18 Apr 2011, 9:56 p.m.,*
in response to message #15 by DeboT

> Quote:

> Without which we may never have been here at all! Thanks Bill :-)

There already were some pocket sized four-bangers. Sooner or later some manufacturer was going to build a pocket sized scientific calculator. H-P's good fortune was that they built the first one, even though everyone knows that it took a really big pocket to hold an HP-35.

Re: HP 10bII+ first impressions

*Message #18 Posted by **Eddie W. Shore** on 19 Apr 2011, 1:37 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

Here are my first impressions of the 10bii+. I plan to have a full review of the 10bii+ in a few days.

First Look at HP 10bii+

Edited: 19 Apr 2011, 1:38 a.m.

Re: HP 10bII+ first impressions

*Message #19 Posted by **Jose Gonzalez Divasson** on 20 Apr 2011, 3:01 p.m.,*
in response to message #18 by Eddie W. Shore

Wow! I look forward to the full review!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Refurbished HP-85

*Message #1 Posted by **David Ramsey** on 16 Apr 2011, 1:26 p.m.*

I've been casually looking for a good-condition HP-85 for my collection for some years. Not too seriously-- I'm mainly into the scientific handhelds, but I've got all of those, and have picked up a 9815, 9826, and HP-46 along the way.

This auction on the auction site describes a "professionally refurbished" HP-85. The company, LA Tech Renewal, claims to have replaced the CRT, installed a new QIC tape drive, repainted the case with epoxy paint, and all in all gone to a lot of trouble to bring this device back as close to "as new" condition as possible.

Looks like a dream machine, really.

So: any advice from the membership? Has anyone dealt with these folks before? The Buy It Now price is admittedly high, but there's at least one other non-refurb 85 available that's even higher.

Re: Refurbished HP-85

*Message #2 Posted by **gene wright** on 16 Apr 2011, 1:44 p.m.,*
in response to message #1 by David Ramsey

Very interesting, David! But yes, a bit high for MY tastes. :-)

That said, do you think you might come down to HHC this year in San Diego? Lots of fun things this year and would be good to see you again.

Had MacPaint 2.0 open just last week for fun. ;-)

Re: Refurbished HP-85

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 2:16 p.m.,*
in response to message #2 by gene wright

Any HHC sponsors for the 34s team? :)

Re: Refurbished HP-85

*Message #4 Posted by **David Ramsey** on 16 Apr 2011, 3:11 p.m.,*
in response to message #2 by gene wright

Hm. Maybe I should-- it's been years, after all! When is the get-together this year?

(And I'm impressed that you're still running a Mac that can handle MacPaint; they took the 68K emulator out of the OS back with Leopard, I believe...)

Edited: 17 Apr 2011, 12:25 p.m. after one or more responses were posted

Email me, David...

*Message #5 Posted by **gene wright** on 16 Apr 2011, 3:45 p.m.,*
in response to message #4 by David Ramsey

Give me a shout through the forum email.

HHC 2011 web page

Re: Refurbished HP-85

*Message #6 Posted by **Steve Leibson** on 16 Apr 2011, 4:11 p.m.,*
in response to message #1 by David Ramsey

LA Tech Renewal and the owner Larry Atherton are AOK in my book. First came across them when buying a ROM langage board for my HP 9826. Subsequently, Atherton refurbished a DC100 tape drive for my HP 9825. I wrote about the experience here:

http://www.hp9825.com/html/qic_and_the_dead.html

--Steve

The QIC and the Dead

Edited: 16 Apr 2011, 4:13 p.m.

Re: Refurbished HP-85

*Message #7 Posted by **David Ramsey** on 16 Apr 2011, 6:53 p.m.,*
in response to message #6 by Steve Leibson

> Quote:
>
> LA Tech Renewal and the owner Larry Atherton are AOK in my book. First came across them when buying a ROM langage board for my HP 9826. Subsequently, Atherton refurbished a DC100 tape drive for my HP 9825. I wrote about the experience here:
>
> http://www.hp9825.com/html/qic_and_the_dead.html
>
> --Steve
>
> The QIC and the Dead

Good to know. I'm very tempted...

Re: Refurbished HP-85

*Message #8 Posted by **Eric Smith** on 16 Apr 2011, 8:35 p.m.,*
in response to message #1 by David Ramsey

Might be a "new old stock" QIC tape drive, but there's no such thing as a "new" QIC tape drive that will work in an HP-85.

Re: Refurbished HP-85

*Message #9 Posted by **Steve Leibson** on 16 Apr 2011, 9:46 p.m.,*

in response to message #8 by Eric Smith

It's not a new QIC drive, if you read the article, Atherton refurbishes the old drive and mills the rails to take new QIC cartridge tapes.

--Steve

Re: Refurbished HP-85

*Message #10 Posted by **Jose Gonzalez Divasson** on 17 Apr 2011, 8:28 a.m.,*
in response to message #9 by Steve Leibson

I bought a refurbished drive from Atherton for my HP-85, and I received the standard applications and math pacs in brand new tapes. I had the service manual to perform all the changes.

It has worked flawlessly since. It was a pleasure to deal with him!

Re: Refurbished HP-85

*Message #11 Posted by **Jeff Davis** on 17 Apr 2011, 8:03 p.m.,*
in response to message #1 by David Ramsey

I have a HP-85A that I hand picked from several units that is in need of re-furbish. I am sure we can work a deal if you want to refurbish yourself. Let me know

Re: Refurbished HP-85

*Message #12 Posted by **David Ramsey** on 18 Apr 2011, 1:55 p.m.,*
in response to message #11 by Jeff Davis

Hm. How functional is the unit you have? I've repaired the tape readers before (heat-shrink tubing around the drive wheel in my 9825 has worked for about 15 years now), but wouldn't be able to do any electronics...

Re: Refurbished HP-85

*Message #13 Posted by **Jeff Davis** on 20 Apr 2011, 7:07 p.m.,*
in response to message #12 by David Ramsey

Well, the keyboard will need to be cleaned good. The printer will need new belts and of course the tape drive will need the gummy wheel replaced. The case is slightly yellowed but was picked from five units to be the least yellow. The CRT is probably original but does still work.Shoot me a private e-mail and I can get some pictures to you.

Re: Refurbished HP-85

*Message #14 Posted by **BobVA** on 17 Apr 2011, 10:25 p.m.,*
in response to message #1 by David Ramsey

I am really, really glad I don't have room for that :-) Fantastic looking, and I'm sure it would be a blast to play with.

Re: Refurbished HP-85

*Message #15 Posted by **David Ramsey** on 18 Apr 2011, 1:57 p.m.,*
in response to message #14 by BobVA

Yeah...I used to work at the KA Computer Store in Dallas, Texas, in the late 1970s. We sold HP-85s (as well as Apple][s and Ataris). I used to love playing with the 85s but could never have afforded one then.

Frankly the Apple and Atari computers of the time were both cheaper and more capable than the 85, as long as you didn't need the 85's connectivity. But there was just something about it...

Re: Refurbished HP-85

*Message #16 Posted by **Namir** on 18 Apr 2011, 2:35 p.m.,*
in response to message #15 by David Ramsey

The HP-85 was my first personal computer. I bought it in December 1980 and added the matrix ROM, more memory, and the advanced programming ROM. I was able to write cool programs that did matrix manipulation very easily (you can find similar program for the HP-71B and its math ROM on my web site).

The thing that bugged me was the data cartridge. It was slow. I considered adding a disk drive but when I looked at the cost (it cost more than an Apple][+), I decided to sell the HP-85 (and its accessories and applications) and buy an Apple][+. I ended up with THREE disk drives for the Apple. It was a wonderful computer. I had VisiCalc and other VISI programs. I also ran UCSD Pascal (learning Pascal was awesome), and eventually added a CP/M board.

I finally sold the Apple for the then new CP/M machine and eventually getting an IBM XT (with an 15 MB hard drive), ushering me in the world of DOS.

I still long for the HP-85. Space is what makes me shy away from buying a refurbished machine. That's why I enjoy the HP-85 emulator.

Namir

Edited: 18 Apr 2011, 2:36 p.m.

Re: Refurbished HP-85

*Message #17 Posted by **JDonley** on 18 Apr 2011, 8:20 p.m.,*
in response to message #16 by Namir

My first computer was an HP-85 also and still own it. It was purchased at EduCalc, sits in storage in near perfect condition with no case discoloration. I bought one of the big HP cases to store it. At this point I think it has more upside potential than the US dollar, so will keep it.

Re: Refurbished HP-85

*Message #18 Posted by **David Ramsey** on 19 Apr 2011, 7:35 p.m.,*
in response to message #16 by Namir

> Quote:
>
> The HP-85 was my first personal computer. I bought it in December 1980

I didn't even know they were available in Iraq...

Re: Refurbished HP-85

*Message #19 Posted by **Namir** on 19 Apr 2011, 7:41 p.m.,*
in response to message #18 by David Ramsey

I bought my HP-85 in the US.

Re: Refurbished HP-85

*Message #20 Posted by **David Ramsey** on 20 Apr 2011, 1:03 a.m.,*
in response to message #19 by Namir

> Quote:
>
> I bought my HP-85 in the US.

I was joshing; I recall you saying you came over in the 70's when we had falafels at the 2006 HHC in San Jose.

(At least I think that's what you said. It was 5 years ago...)

Re: Refurbished HP-85

*Message #21 Posted by **David Ramsey** on 20 Apr 2011, 8:36 p.m.,*
in response to message #1 by David Ramsey

FWIW, I did buy the 85. I expect to be quite happy with it...

Re: Refurbished HP-85

*Message #22 Posted by **BobVA** on 20 Apr 2011, 10:00 p.m.,*
in response to message #21 by David Ramsey

Cool! Post a review when you get it!

Re: Refurbished HP-85

*Message #23 Posted by **David Ramsey** on 21 Apr 2011, 11:02 a.m.,*
in response to message #22 by BobVA

I shall!

Re: Refurbished HP-85

*Message #24 Posted by **David Ramsey** on 22 Apr 2011, 7:23 p.m.,*
in response to message #22 by BobVA

In other news, I picked up a boatload of 85 stuff for $45 at TAS. 7(!) ROM drawers (yes, I know I can only use one) full of ROMs, two 16K memory carts (ditto), a modem (300 baud!), and a serial and BCD interface.

Obviously I can't use all of this stuff. Anyone else here with an 85 that might want some, lemme know, and you can have it for cost of shipping.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

NEW WP 34S bug list

*Message #1 Posted by **Walter B** on 16 Apr 2011, 12:02 p.m.*

Hi all,

I start a new thread herewith since the old has become quite long, and OTOH we have a new build since yesterday where we don't know of any bugs so far :-)

So come on, you alpha-beta testers: check the device and the emulator and please report your findings. I suggest we start counting again from 1.

Walter

Re: *NEW* WP 34S bug list - and new release

*Message #2 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 12:22 p.m.,*
in response to message #1 by Walter B

We are preparing a new "offical" release of version 1.17 complete with manual, emulator and flash image. It will be available on SourceForge as a standard download. So no need to go to the SVN repository. I'll keep you posted...

New release 1.17

*Message #3 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 2:50 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I've updated the release package on SourceForge.net. There may a few minor updates to this package if we detect errors in the software or documentation, but major function updates will only be introduced with the next release.

Go here: https://sourceforge.net/projects/wp34s/

The green download button should work for all of you. The flash image is included.

Re: New release 1.17 - bug fixes

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 3:31 a.m.,*
in response to message #3 by Marcus von Cube, Germany

I've put up an new zip file to SF. Instead of having the manual twice in the file, I've added a small Windows cmd file to copy it to the emulator to make Help work.

Untested from my side.

Re: New release 1.17 - more bug fixes

*Message #5 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 7:22 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Current release now is 673. If you find errors, try this one first!

Re: New release 1.17 - more bug fixes

*Message #6 Posted by **Paul Dale** on 17 Apr 2011, 7:25 a.m.,*
in response to message #5 by Marcus von Cube, Germany

All the problems mentioned so far (except the SUM lock up) plus a couple of others should have been fixed in this release.

- Pauli

Re: New release 1.17 - what is my revision?

*Message #7 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 7:36 a.m.,*
in response to message #6 by Paul Dale

The VERS command displays the internal revision number along with the version number. If you look at the flash image calc.bin with a hex editor, the revision number is at the very end of the 128 KB long file.

Re: New release 1.17 - what is my revision?

*Message #8 Posted by **svisvanatha** on 17 Apr 2011, 8:18 a.m.,*
in response to message #7 by Marcus von Cube, Germany

This will make bug reporting and tracking easier. Thanks.

Re: New release 1.17 - what is my revision?

*Message #9 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 8:32 a.m.,*
in response to message #8 by svisvanatha

It will *not* work, if you get your files via the SVN web interface. This is a peculiarity of SVN. No problem if you use an SVN client on your computer.

Re: New release 1.17 - what is my revision?

*Message #10 Posted by **svisvanatha** on 17 Apr 2011, 9:15 a.m.,*
in response to message #9 by Marcus von Cube, Germany

I am using an SVN client ... easier to update that way.

Bug 16 - binomial

*Message #11 Posted by **gene wright** on 16 Apr 2011, 1:36 p.m.,*
in response to message #1 by Walter B

This is using the flash from late yesterday afternoon, so I think it is the proper calc.bin file.

The binomial distribution calculation has an apparent problem with an argument of 0 successes.

Store 0.5 in J, 5 in K.

Key 0 green PROB ENTER.

A value of 0 is returned.

I think it should have been 0.03125 instead.

As a check, I keyed 4 green PROB ENTER and got 0.96875, which implies a 0.03125 probability of exactly 5 successes.

Since the distribution is symmetrical at these values, 0 should return the 0.03125 I think.

Re: Bug 16 - binomial

*Message #12 Posted by **Walter B** on 16 Apr 2011, 2:30 p.m.,*
in response to message #11 by gene wright

Gene,

This looks like a simple counting error. When you take Binom[sub-p], you find the pdf is indeed symmetric, but with

```
p(0) = p(5) = 0 which should be 0.03125
p(1) = p(4) = 0.3125 which should be 1/2 of it, i.e. 0.15625
p(2) = p(3) = 0.3125 which is correct.
```

So the sum of all these probabilities exceeds 1 obviously.
OTOH, the cdf returns

```
P(0) = 0        which should equal p(0)
P(1) = 0.1875   which is correct, as well as the following values
P(2) = 0.5
P(3) = 0.8125
P(4) = 0.96875
P(5) = 1
```

Pauli will know what he did there.

Walter

Edited: 16 Apr 2011, 2:47 p.m.

Re: Bug 16 - binomial

*Message #13 Posted by **Paul Dale** on 16 Apr 2011, 8:09 p.m.,*
in response to message #12 by Walter B

Fixed in next release.

Wasn't a counting error, it was a x<=0 boundary test instead of an x<0 test. The same was present in the Poisson distribution.

- Pauli

Bug 17 - lockup doing Sum label

*Message #14 Posted by **gene wright** on 16 Apr 2011, 3:15 p.m.,*
in response to message #1 by Walter B

Ok, have reproduced this twice.

First, make LBL A RTN as a program.

Then key 10 BLUE SUM (the 3 key) A to sum from 1 to 10, showing 55 as result.

Then, key 10 YELLOW PI A to show the factorial of 10, which is 3,628,800.

Then as a mistake, press BLUE SUM A with the 3,628,800 in the display. Realize after a second or two that this was a mistake and press R/S to stop.

Here comes the lockup...

Now key 10 blue SUM A and you're locked. Have to yank the batteries.

:-)

Re: Bug 17 - lockup doing Sum label

*Message #15 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 3:18 p.m.,*
in response to message #14 by gene wright

Can you test this on the emulator, please?

Re: Bug 17 - lockup doing Sum label - same on emulator

*Message #16 Posted by **gene wright** on 16 Apr 2011, 3:24 p.m.,*
in response to message #15 by Marcus von Cube, Germany

emulator locks too.

Re: Bug 17 - lockup doing Sum label - same on emulator

*Message #17 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 3:54 p.m.,*
in response to message #16 by gene wright

Something for Paul to look into. I may help with the debugger. It's always helpful when a problem occurs in the emulator, too. It's far easier to debug this way.

I ask you a favour: We've updated the release a few minutes ago. Can you check with the current emulator revision please?

Re: Bug 17 - lockup doing Sum label - same on emulator

*Message #18 Posted by **gene wright** on 16 Apr 2011, 4:04 p.m.,*
in response to message #17 by Marcus von Cube, Germany

I downloaded using the green button you pointed out earlier today. :-)

Build date is 2011-4-16 (654)

Re: Bug 17 - lockup doing Sum label - same on emulator

*Message #19 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 4:09 p.m.,*
in response to message #18 by gene wright

What for Pauli to report back.

Re: Bug 17 - lockup doing Sum label

*Message #20 Posted by **Paul Dale** on 16 Apr 2011, 8:15 p.m.,*
in response to message #14 by gene wright

Without having tested anything here, I *think* I know what might be going on.

The final SUM command executes fine and returns into the previous SUM command when it finishes which then continues. SUM is just a keystroke program and you stopped it with R/S so the return stack stays intact.

I thought there was locking to prevent nesting here but clearly it isn't working. Or I've diagnosed this incorrectly.

- Pauli

Re: Bug 17 - lockup doing Sum label

*Message #21 Posted by **Paul Dale** on 19 Apr 2011, 3:28 a.m.,*
in response to message #14 by gene wright

I made a change so that R/S cannot interrupt an internal program. Rather it waits until we're back in user code before stopping. This shouldn't take very long and I doubt it will ever be noticeable.

On the Windows emulator, I now get the "SLV [integrate] [Sigma] [Pi] Nested" error which is what I'd have expected the originally. Twice out of two tries. I haven't tried this on the hardware yet.

Doing 10 g-shift SUM A after this works properly as the error clears the nesting flag and resets the subroutine return stack.

- Pauli

> Quote:
>
> Ok, have reproduced this twice.
>
> First, make LBL A RTN as a program.
>
> Then key 10 BLUE SUM (the 3 key) A to sum from 1 to 10, showing 55 as result.
>
> Then, key 10 YELLOW PI A to show the factorial of 10, which is 3,628,800.
>
> Then as a mistake, press BLUE SUM A with the 3,628,800 in the display. Realize after a second or two that this was a mistake and press R/S to stop.
>
> Here comes the lockup...
>
> Now key 10 blue SUM A and you're locked. Have to yank the batteries.

Re: *NEW* WP 34S bug list

*Message #22 Posted by **Dieter** on 16 Apr 2011, 4:23 p.m.,*
in response to message #1 by Walter B

Start with an completely erased 34s. Enter program mode, see 477 available steps. Enter LBL A or RCL 01 or some other step. See 476 steps left - but not the previously entered program step. Clear program (CLP), and still see 476 available steps, not 477. The first step seems to have disappeared somewhere where it is not visible while it still occupies some memory.

Dieter

Re: *NEW* WP 34S bug list

*Message #23 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Apr 2011, 4:47 p.m.,*
in response to message #22 by Dieter

Is there a PACK function on the WP34S?

:-) with fond HP-41 memories

Re: *NEW* WP 34S bug list

*Message #24 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 5:01 p.m.,*
in response to message #23 by Andrés C. Rodríguez (Argentina)

I don't think you'll need this. Because its processor is fairly slow, the 41C had to postpone memory reorganization until it was inevitable. We have some more horsepower, so it's done in real time.

Re: *NEW* WP 34S bug list

*Message #25 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Apr 2011, 8:05 p.m.,*
in response to message #24 by Marcus von Cube, Germany

I know; it was just a non-serious comment about the "missing" memory capacity mentioned in a previous post.

Re: *NEW* WP 34S bug list

*Message #26 Posted by **Paul Dale** on 16 Apr 2011, 8:57 p.m.,*
in response to message #23 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> Is there a PACK function on the WP34S?

We'll we've something similar to PACK. "h-shift 0 9 9" is the magic invocation sequence to activate this special command. It doesn't say packing but otherwise has all the visible effects of PACK :-)

- Pauli

Re: *NEW* WP 34S bug list

*Message #27 Posted by **Paul Dale** on 16 Apr 2011, 8:18 p.m.,*
in response to message #22 by Dieter

There is no step 477. I don't yet know why it appears on cold start.

- Pauli

Re: *NEW* WP 34S bug list

*Message #28 Posted by **Paul Dale** on 16 Apr 2011, 8:35 p.m.,*
in response to message #27 by Paul Dale

Got it, the RAM integrity check didn't work on a clean power up. Fixed.

Until then I recommend a CLALL after first turning the device on. This isn't necessary after an Erased message however.

- Pauli

Re: *NEW* WP 34S bug list

*Message #29 Posted by **Gerson W. Barbosa** on 17 Apr 2011, 8:48 a.m.,*
in response to message #1 by Walter B

Not a bug, but a cumbersome feature: combined angle conversion and angle mode switching. Pauli told me this was done on request, but I would ask you to consider changing back to the original feature (perhaps after a democratic poll). If I let the calculator in DEG mode, for instance, that's because most angles I am dealing with at the moment are in degrees. In case an angle in radians appear while in that mode, I would just do the conversion (-> g DEG). Under the current implementation two additional keystrokes (g DEG) are required after every conversion in order to keep the calculator in the desired DEG mode. Thanks!

Gerson.

Automatic mode switching

*Message #30 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 9:10 a.m.,*
in response to message #29 by Gerson W. Barbosa

Gerson, automatic mode switching is not to everyone's liking. I vote for having a user settable flag decide if ->DEG switches to degrees mode or not. In order not to compromise the portability of user programs the setting should only influence direct mode. In program mode, all mode switching should be explicit.

Re: *NEW* WP 34S bug list

*Message #31 Posted by **Dieter** on 17 Apr 2011, 11:32 a.m.,*
in response to message #1 by Walter B

I took a look at stats.c (revision 672) and the code for the normal cdf and its inverse. At some points it looks familiar. ;-) However, here are some suggestions for improvements and even a bugfix:

- The quantile is determined by solving ln [1 + (cdf(x)-p)/p] for x, as suggested in an earlier post. However, if I get the code right, it actually evaluates ln[1+(cdf(x)-p)]/p. Obviously lines 902 and 903 should get swapped here.

  The log1+x may even be omitted since the initial guesses are rather close to the final result now. Without log1+x we simply solve for the relative error to become zero (or less than 1E-16). I haven't tried this, so please check. The log may be useful since it makes the remaining error more linear which might lead to faster convergence.

- The normal CDF is evaluated either by a series (center) or a continued fraction expansion (tails), with s split at x=10. This means that even for x=5 or x=8 the series is used, which converges very slowly here (in fact the series works best for |x|<1). That's why the split between both methods should be done much earlier, usually somewhere between 2 and 3. In this range both methods require roughly the same time

so that the result is obtained as fast as possible. But there's another, even more important reason for an earlier split: the series expansion finally adds a constant 0,5 - which means that there is a loss of precision because of cancelled digits. With 39 digits this might be tolerable as we only need 16 digits in the final result. But at x=10 the CDF is 7,6 E-24, so things get very close here. Mathematically, the best point to split would be quantile(0,1) = 1,28155. As mentioned, a value between 2 and 3 would be better in terms of execution speed, so the optimum here is quantile(0,01) = 2,3263. Up to this point only one digit is lost in the CDF. So just one guard digit is required, while we got more than 20 of those. ;-) And the final result is obtained much faster than before.

This of course means that the number of terms for the CF calculation has to be known. Right now 20 terms are used for any value > 10, which should give about 20 valid digits. For this precision I would suggest to try n = 5 + k/(|x|-1) with k = 150...180. This seems to be a good estimate for |x| > 2.

BTW the CF implementaion has a minor error which usually does not show up in the result but should be removed anyway. It was obviously copied from an earlier post (also found in "normal-formulas") that includes the same error:

```
"not quite right" ;-)             correct
-------------------------------------------------------
n := [ see above ]                n := [ see above ]
s := 1/n                          s := 0
for c := n-1 downto 1 do          for c := n downto 1 do
    s := c / (s + x)                  s := c / (s + x)
s := s + x                        s := s + x
cdf := pdf(x) / s                 cdf := pdf(x) / s
```

This should be corrected.

At the moment the CF method is used only for large *negative* arguments, so x = +5 or x = +8 are calculated by the series expansion. I strongly suggest to use the series only for arguments with an *absolute value* less than a certain limit, and finally return the result or 1-result. As mentioned, the split between CF and series should be done somewhere near x = 2...3.

- The documentation ("formulas") includes a series for the inverse error function. This can be used here as well. I also mentioned a short (four-term) series for the inverse quantile which gives exact results near the center (p = 0,495...0,505). This is quite useful since here the solver may return a slightly imprecise result, because very close to the center there are hundreds or even millions of quantiles that return the same CDF.

Finally two remarks on the date functions:

- The split between Julian and Gregorian dates now is done in 1752, which is the date the British Empire and its colonies happened to switch. Please, use the "official" date, which is 4 October 1582 (last Julian date) resp. 15 October 1582 (first Gregorian date). I do not know of any other calendar algorithm that would use a different date. Okay, Unix may be an exception. ;-)

- There also seems to be an extensive error check for illegal dates. This could be simplified by converting the date to its Julian day number and back again. If this result is the same as the original date it's valid, otherwise it's not. ;-)

Dieter

Re: *NEW* WP 34S bug list

*Message #32 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 11:57 a.m.,*
in response to message #31 by Dieter

Pauli should add you to the list of developers so that you can implement your welcome suggestions

yourself. The tools needed are either open source (gcc and friends) or freely available (MSVC Express).

Pauli, Walter, what do you think?

Re: *NEW* WP 34S bug list

*Message #33 Posted by **Dieter** on 17 Apr 2011, 1:20 p.m.,*
in response to message #32 by Marcus von Cube, Germany

Waaaah! No way! ;-) I just know a little bit about algorithms for the normal distribution and its inverse. My programming skills include a bit Pascal and VBA, and that's it. By no means I am some kind of "software developer". I only can try to understand a bit of your C-code and suggest some minor improvements. GCC (and the whole world of C) is absolutely foreign territory to me. ;-)

Dieter

Re: *NEW* WP 34S bug list

*Message #34 Posted by **svisvanatha** on 17 Apr 2011, 2:01 p.m.,*
in response to message #32 by Marcus von Cube, Germany

> Quote:
>
> The tools needed are either open source (gcc and friends) or freely available (MSVC Express).

I compiled the command line emulator a few months ago. Does the Windows emulator compile under VC Express? I thought I read you had to purchase full MSVC for this aspect?

Development tools

*Message #35 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 2:26 p.m.,*
in response to message #34 by svisvanatha

I managed to split the emulator functions into a DLL requiring the full blown Visual Studio to compile (because of MFC dependencies) and the wp34s kernel. The latter can be compiled (and even debugged) with VC++ Express. Pauli does so all the time. :)

For the real build, you need MinGW, Yagarto and the common unix utilities like uname, make, and the like.

Re: *NEW* WP 34S bug list

*Message #36 Posted by **Paul Dale** on 17 Apr 2011, 6:04 p.m.,*
in response to message #31 by Dieter

Thanks for the suggested improvements. I'll have a look later today hopefully. Anything which makes the code better is good.

> Quote:
>
> The log1+x may even be omitted since the initial guesses are rather close to the final result now. Without log1+x we simply solve for the relative error to become zero (or less than 1E-16).

Our initial guesses aren't very good for all the distributions we invert. e.g. the F distribution is very bad but others suffer from this as well. We're solving down to a relative error way below 1e-16 btw,

> Quote:
>
> The normal CDF is evaluated either by a series (center) or a continued fraction expansion (tails), with s split at x=10. This means that even for x=5 or x=8 the series is used, which converges very slowly here ...

The split point was determined by the number of terms I happened to have integer constants for :-) It isn't difficult to change, it will mean building some of these constants at run time which isn't a problem.

> Quote:
>
> The documentation ("formulas") includes a series for the inverse error function. This can be used here as well. I also mentioned a short (four-term) series for the inverse quantile which gives exact results near the center (p = 0,495...0,505). This is quite useful since here the solver may return a slightly imprecise result, because very close to the center there are hundreds or even millions of quantiles that return the same CDF.

I've not done this at this stage due to space limitations. Your recent proposals will use more flash than I'd like currently :-(The imprecise result shouldn't be an issue because the calculation is done to an insanely high internal precision.

> Quote:
>
> The split between Julian and Gregorian dates now is done in 1752, which is the date the British Empire and its colonies happened to switch. Please, use the "official" date, which is 4 October 1582 (last Julian date) resp. 15 October 1582 (first Gregorian date). I do not know of any other calendar algorithm that would use a different date. Okay, Unix may be an exception. ;-)\

Far more people use the 1752 change over date than the 1582 one. The population of India alone exceeds the world Catholic population and that was only a portion of the British empire. Walter didn't want me to add a flag to indicate which so I'm sticking with the more popular date even if it is wrong for most of Europe :-)

- Pauli

Re: *NEW* WP 34S bug list

*Message #37 Posted by **Walter B** on 18 Apr 2011, 1:27 a.m.,*
in response to message #36 by Paul Dale

> Quote:
>
> Far more people use the 1752 change over date than the 1582 one. The population of India alone exceeds the world Catholic population and that was only a portion of the British empire. Walter didn't want me to add a flag to indicate which so I'm sticking with the more popular date even if it is wrong for most of Europe

That's less than half true. I wanted Pauli to switch to 1582 and I did use population as an auxiliary

argument :-) Whoever cares in India about the British Empire of 1752 anymore ...

Walter

Re: *NEW* WP 34S bug list

*Message #38 Posted by **Paul Dale** on 18 Apr 2011, 2:48 a.m.,*
in response to message #37 by Walter B

By the same argument who cares about 1582 anywhere in the world :-)

Your great great great great great great great great great great great great great parent's day give or take a great or two.

- Pauli

Re: *NEW* WP 34S bug list

*Message #39 Posted by **Walter B** on 18 Apr 2011, 3:16 a.m.,*
in response to message #38 by Paul Dale

Come on, the battle is lost. 1582 is the date. Period. 2 out of 3 developers support this :-)

Re: *NEW* WP 34S bug list

*Message #40 Posted by **Dieter** on 18 Apr 2011, 2:26 p.m.,*
in response to message #38 by Paul Dale

> Quote:
>
> By the same argument who cares about 1582 anywhere in the world :-)

That's exactly the point. ;-)

Please take a look at this overview on en.wikipedia.org. Here you can see how the Gregorian calendar has been adopted throughout the world, spanning a time of several centuries. There is no single switch date. If the size of the population is an argument, the preferred date was 1912 - at that time China switched, which accounts for about 20% of the world's population.

Just *because* the switch dates are so different the only option that really makes sense is the choice of "the official source" (tm), which is Pope Gregory's document dated February 1582, stating the switch in October that year. I don't think this is a question of one's confession, or if you live in a country of the Commonwealth, the European Union or elsewhere in the world. We should consider *Inter Gravissimas* a simple administrative act (if the term is correct here ;-).

That's why I think that JG1582 should be at least the default setting on the WP34s. :-)

Dieter

Re: *NEW* WP 34S bug list

*Message #41 Posted by **Paul Dale** on 18 Apr 2011, 6:01 p.m.,*
in response to message #40 by Dieter

> Quote:

> If the size of the population is an argument, the preferred date was 1912 - at that time China switched, which accounts for about 20% of the world's population.

India + USA far exceeds China's population BTW. Both ex-British colonies. And the latter is probably the bulk of our user base.

> Quote:
>
> That's why I think that JG1582 should be at least the default setting on the WP34s. :-)

And `,' as the default decimal marker too?

I know very well how screwed up calendars are, politicians like to meddle often for no real reason beyond they can :-(

- Pauli

Re: *NEW* WP 34S bug list

*Message #42 Posted by **Gerson W. Barbosa** on 18 Apr 2011, 6:41 p.m.,*
in response to message #41 by Paul Dale

> Quote:
>
> India + USA far exceeds China's population BTW. Both ex-British colonies. And the latter is probably the bulk of our user base.

Except that India has its own national calendar:

http://en.wikipedia.org/wiki/Indian_national_calendar

Native Spanish and Portuguese speakers outnumber by far native English speakers, if this can give a clue who is the majority :-)

http://geography.about.com/od/culturalgeography/a/10languages.htm

Incidentally two of the greatest writers of the two most spoken western languages share the same death dates: both William Shakespeare and Miguel de Cervantes Saavedra died on April 23rd, 1616. However Cervantes died ten days earlier. This is only a small example of confusion caused by the late adoption of the Gregorian calendar by the English.

http://portal.unesco.org/culture/en/ev.php-URL_ID=5125&URL_DO=DO_TOPIC&URL_SECTION=201.html

Gerson.

Re: *NEW* WP 34S bug list

*Message #43 Posted by **Paul Dale** on 18 Apr 2011, 6:53 p.m.,*
in response to message #42 by Gerson W. Barbosa

Quote:

> This is only a small example of confusion caused by the late adoption of the Gregorian calendar by the English.

I'd put this down to the introduction of the Gregorian calendar. That was the change that made dates diverge. The calendar's equivalent of day light saving time. Check out the aforementioned wikipedia page to see the widespread chaos that this introduction caused :-)

- Pauli

Re: *NEW* WP 34S bug list

*Message #44 Posted by **Marcus von Cube, Germany** on 18 Apr 2011, 1:51 a.m.,*
in response to message #36 by Paul Dale

Why is an Australian so fond of the British Empire? Pauli, please add the flag or just change the Julian to Gregorian date conversion to the proper point in history!

Re: *NEW* WP 34S bug list

*Message #45 Posted by **Paul Dale** on 18 Apr 2011, 3:20 a.m.,*
in response to message #44 by Marcus von Cube, Germany

Quote:

> Why is an Australian so fond of the British Empire? Pauli, please add the flag or just change the Julian to Gregorian date conversion to the proper point in history!

Actually, we're still part of the British Commonwealth and the Queen of England is the Queen of Australia too. Ties are closer then you suspect. I'm also a dual national :-)

And the North Americans use the same date :-)

Anyway, there is a flag now.

- Pauli

Re: *NEW* WP 34S bug list

*Message #46 Posted by **Walter B** on 18 Apr 2011, 3:29 a.m.,*
in response to message #45 by Paul Dale

Which flag?

Re: *NEW* WP 34S bug list

*Message #47 Posted by **Paul Dale** on 18 Apr 2011, 3:40 a.m.,*
in response to message #46 by Walter B

Quote:

> Which flag?

Two new commands JG1582 and JG1752. I'll let you figure out which is which :-)

- Pauli

Re: *NEW* WP 34S bug list

*Message #48 Posted by **Walter B** on 18 Apr 2011, 3:47 a.m.,*
in response to message #47 by Paul Dale

> Quote:
>
> > Quote:
> >
> > > Quote:
> > >
> > > Anyway, there is a flag now.
> >
> > Which flag?
>
> Two new commands JG1582 and JG1752.

An unambiguous description is worth half the job ;-)

Re: *NEW* WP 34S bug list

*Message #49 Posted by **Paul Dale** on 18 Apr 2011, 4:17 a.m.,*
in response to message #31 by Dieter

> Quote:
>
> The quantile is determined by solving ln [1 + (cdf(x)-p)/p] for x, as suggested in an earlier post. However, if I get the code right, it actually evaluates ln[1+(cdf(x)-p)]/p. Obviously lines 902 and 903 should get swapped here.

Fixed. Ln() is a very expensive function on the device. It takes about 0.06 seconds to execute once. I can do a lot of adds, multiplies, divides and even square roots in this time. Thus, this transformation isn't ideal from a time perspective, but it is good for accuracy.

I've changed the normal cdf to use the series below x = PI and the CF expansion above this point. PI was fortuitous, the actual break even point is fractionally higher circa 3.2 to 3.3 but the difference is small. One iteration of the series is approximately twice the work of one iteration of the CF expansion BTW. I increased the number of terms in the CF expansion to give us accuracy beyond the 16 digits displayed to the user -- we need some extra to get correct rounding and we need potentially quite a few extra so the solver can invert correctly.

> Quote:
>
> BTW the CF implementaion has a minor error which usually does not show up in the result but should be removed anyway.

Fixed. Nice find. You know coding better than you let on :-)

> Quote:
>
> There also seems to be an extensive error check for illegal dates. This could be simplified by converting the date to its Julian day number and back again. If this result is the same as the original date it's valid, otherwise it's not. ;-)

Changed. Smaller code is always good even if this means slightly slower execution.

- Pauli

Re: *NEW* WP 34S bug list

*Message #50 Posted by **David Hayden** on 17 Apr 2011, 5:58 p.m.,*
in response to message #1 by Walter B

Walter,

I'm embarrassed to ask this because I'm sure I'm missing something, but where can we find the ROM image to load onto a 20b? It might be worthwhile to create a separate thread devoted to the mechanics of converting a 20b or 30b to a WP-34s

Thanks, Dave

Re: *NEW* WP 34S bug list

*Message #51 Posted by **David Hayden** on 17 Apr 2011, 6:02 p.m.,*
in response to message #50 by David Hayden

Nevermind, I think I found it. Why is that everytime you can't find something, it appears moments after you ask someone else? "Honey, have you seem my car keys... oh, nevermind...."

The answer is from Marcus's post:

> Quote:
>
> Go here: https://sourceforge.net/projects/wp34s/
>
> The green download button should work for all of you. **The flash image is included.**

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

First WP 34S R&D Meeting Central Europe

*Message #1 Posted by **Walter B** on 15 Apr 2011, 2:50 p.m.*

Hi all,

It's a great pleasure for me telling you we had said meeting in Wehrheim (next to the center of Europe ;-) today and made great progress. We increased the number of flashed 20bs in our development team by breathtaking 50% in half a day. Together we got rid of the nasty LNGamma bug. In consequence, also the COMB and PERM and FACT bugs flew away :-) Thus there is a new build on SVN. Try it out!

On behalf of the R&D division
Walter

P.S.: There will be some pictures online soon. - Oh, here they are already! Now you know how a GAWP looks like (a German After Work Party) ;-)

Edited: 15 Apr 2011, 3:20 p.m.

Re: First WP 34S R&D Meeting Central Europe

*Message #2 Posted by **gene wright** on 15 Apr 2011, 3:36 p.m.,*
in response to message #1 by Walter B

Great.

I reflashed and can verify that the Perm and Comb bugs appear to be gone.

Build 630 speed tests

*Message #3 Posted by **gene wright** on 15 Apr 2011, 3:56 p.m.,*
in response to message #2 by gene wright

Program: LBL A, INC X, BACK 01, RTN

396,508 counts in 60 seconds in floating mode.

In binary mode, 11001101011101011010101111101011101 counts in 60 seconds.

just kidding on the binary. The 396K count is a real result.

Re: Build 630 speed tests

*Message #4 Posted by **Paul Dale** on 15 Apr 2011, 6:50 p.m.,*
in response to message #3 by gene wright

Quote:

> Program: LBL A, INC X, BACK 01, RTN
>
> 396,508 counts in 60 seconds in floating mode.

That is a better performance result :-)

- Pauli

Re: First WP 34S R&D Meeting Central Europe

*Message #5 Posted by **Gerson W. Barbosa** on 15 Apr 2011, 5:02 p.m.,*
in response to message #2 by gene wright

> Quote:
>
> I reflashed and can verify that the Perm and Comb bugs appear to be gone.

These were hairy bugs indeed! :-)

I'll get a 20b soon myself. Would it be easier on the 30b? Thanks!

Re: First WP 34S R&D Meeting Central Europe

*Message #6 Posted by **Walter B** on 15 Apr 2011, 5:10 p.m.,*
in response to message #5 by Gerson W. Barbosa

The 30b has a far better keyboard. Besides that, I don't know any major technical differences - the function sets will be overwritten by ours anyway :-)

Walter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41C Forecast 1 Module

*Message #1 Posted by **Jeff Kearns** on 15 Apr 2011, 10:31 a.m.*

Does anyone have documentation related to this module/pac that can be shared? My version of the Museum DVD does not include this Pac. Thanks,

Jeff Kearns

Re: HP 41C Forecast 1 Module

*Message #2 Posted by **Namir** on 15 Apr 2011, 11:48 a.m.,*
in response to message #1 by Jeff Kearns

If you need the documentation to *play* with the HP-41C, then I can't help you.

If on the other hand you mean to **use** the module to do forecasting, then let me suggest the open source R language. It is free (actually a free clone for the S and S-PLUS commercial packages) and a very powerful statistical tool. The software has a GUI interface and uses a "command prompt" window. You can also open script windows and data windows (where each such window edits a specific vector or matrix). Since R is free it has gained a lot of momentum and many books have been published that use R as the software to drive the books' code.

I have written several free tutorials on various aspects of using and programming R. Click here to get to the main page for my tutorials for R. One tutorial focuses on regression and provides powerful R code that allows you to test hundreds of regression models to select a few best models. This R program takes the Best Fit routines in the HP41CV's Advantage module and PPC-ROM, or the HP42S to new limits!!

Namir

Edited: 15 Apr 2011, 11:48 a.m.

Re: HP 41C Forecast 1 Module

*Message #3 Posted by **Allen** on 16 Apr 2011, 6:02 p.m.,*
in response to message #2 by Namir

Namir, What a great tutorial!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41C Overlay Generator

*Message #1 Posted by **spb** on 14 Apr 2011, 7:54 p.m.*

I recently wrote a little web-based application that generates overlays for the HP-41C. The interface allows you to edit the label for each key on the overlay, choose the font and colour for the labels, and choose the colour and label for the decorative stripe around the perimeter of the overlay.

The output is an SVG file containing the overlay. Most browsers of recent vintage should have no problem correctly displaying and printing SVG. IE is the notable exception; if you're using IE you'll have to save the output (use .svg as the extension) and use an external application that understands SVG (like PhotoShop or Inkscape).

The generator is at http://hp.meshuggeneh.net/.

I put this together for personal use, but figured other people might find it useful. Feedback is welcome.

Re: HP-41C Overlay Generator

*Message #2 Posted by **Xavier A. (Brazil)** on 14 Apr 2011, 8:25 p.m.,*
in response to message #1 by spb

Good "evening", SPB,

This is really a great idea, certainly very useful to every owner of '41 here (or elsewhere!). Thank you, I am going to test this little jewel right now!

***

After testing: accentuated letters (é, è, ê, etc.) are not welcome apparently. But it seems to be very powerful. Thank you again!

Edited: 14 Apr 2011, 8:44 p.m.

Re: HP-41C Overlay Generator

*Message #3 Posted by **spb** on 15 Apr 2011, 12:01 p.m.,*
in response to message #2 by Xavier A. (Brazil)

> Quote:
>
> After testing: accentuated letters (é, è, ê, etc.) are not welcome apparently.

You should now be able to use any characters that are allowed in UTF-8 (assuming the font you've selected supports them). Originally I had written it to support only special characters that are defined as HTML entities; this covers most mathematical symbols, Greek letters, and so on, and as a North American English speaker it didn't occur to me to bother with umlauts and so forth.

Re: HP-41C Overlay Generator

*Message #4 Posted by **Xavier A. (Brazil)** on 16 Apr 2011, 9:03 a.m.,*
in response to message #3 by spb

Works perfectly, as far as I know. Thanks!

Re: HP-41C Overlay Generator

*Message #5 Posted by **Dinamarco** on 14 Apr 2011, 10:15 p.m.,*
in response to message #1 by spb

Hi... It is a very nice program, congratulations... I could suggest you to change the "HP-41C" for "HP-41CX" or other... and add in the side of the layer the "name". Just it. Thank you very very much for it. Regards... Dinamarco

Re: HP-41C Overlay Generator

*Message #6 Posted by **spb** on 15 Apr 2011, 12:08 p.m.,*
in response to message #5 by Dinamarco

> Quote:
>
> I could suggest you to change the "HP-41C" for "HP-41CX" or other... and add in the side of the layer the "name".

The label is editable; just change what's in the **stripe label** blank. The `HP41C' text is just a default, which I expect most people will change to reflect the function of the overlay, following the conventions of the original module-specific overlays from HP.

If I'm feeling ambitious I might add in the ability to add labels/text along the sides. The main difficulty there is that the sides of the overlay are curved, which complicates text placement.

Re: HP-41C Overlay Generator

*Message #7 Posted by **Xavier A. (Brazil)** on 16 Apr 2011, 9:10 a.m.,*
in response to message #6 by spb

I hope you will.

2nd functions are pretty common, particularly on the first line ('a to e' labels).

But at this time it is ever possible to print two times on the same overlay to place first and second functions on the same line, even if the result may appear confusing or fuzzy.

Re: HP-41C Overlay Generator

*Message #8 Posted by **spb** on 18 Apr 2011, 8:15 p.m.,*
in response to message #7 by Xavier A. (Brazil)

> Quote:
>
> 2nd functions are pretty common, particularly on the first line ('a to e' labels).

There are now two label blanks for each key. The first is for the label that goes over the key and the

second is for a label to be placed to the left of the key. The side labels are all blank by default.

You can label every key, but if you also leave the decorative stripe and label enabled this will tend to conflict with side labels on the leftmost keys on the lower rows.

The numbering of the keys has also been changed to reflect the HP-41C's internal numbering semantics. So now if you click on the top left key it will tell you you're editing key 11, click on the middle key in the second row and it's key 23, and so forth. This has no practical effect on the overlay and is done entirely for consistency.

Re: HP-41C Overlay Generator

*Message #9 Posted by **Xavier A. (Brazil)** on 19 Apr 2011, 1:30 p.m.,*
in response to message #8 by spb

Excellent! Thank you ;°)

(and very very useful, indeed)

Edited: 19 Apr 2011, 1:31 p.m.

Re: HP-41C Overlay Generator

*Message #10 Posted by **Bill Zimmerly** on 15 Apr 2011, 2:13 a.m.,*
in response to message #1 by spb

Excellent! Thank you. ;)

Re: HP-41C Overlay Generator

*Message #11 Posted by **Johnny Bjoern Rasmussen** on 15 Apr 2011, 3:38 a.m.,*
in response to message #10 by Bill Zimmerly

Very very nice :-D

Re: HP-41C Overlay Generator

*Message #12 Posted by **exschr** on 15 Apr 2011, 8:09 a.m.,*
in response to message #1 by spb

Very very nice!

Thank you

Re: HP-41C Overlay Generator

*Message #13 Posted by **Eddie W. Shore** on 15 Apr 2011, 9:25 a.m.,*
in response to message #1 by spb

This looks like fun - I am going to test this too. Thanks. However I can not edit a key - the page does not respond when I click on a key to be edited.

Edited: 15 Apr 2011, 9:33 a.m.

Re: HP-41C Overlay Generator

*Message #14 Posted by **Mark Storkamp** on 15 Apr 2011, 9:53 a.m.,*
in response to message #13 by Eddie W. Shore

For me, it doesn't work with Safari, but it does work with Firefox. (Can't have too many browsers installed these days.)

But thanks to the OP for making it available.

Re: HP-41C Overlay Generator

*Message #15 Posted by **spb** on 15 Apr 2011, 12:10 p.m.,*
in response to message #13 by Eddie W. Shore

> Quote:
>
> This looks like fun - I am going to test this too. Thanks. However I can not edit a key - the page does not respond when I click on a key to be edited.

The editing functions require that you have JavaScript enabled, so it sounds like you might have it disabled on your browser. If that's not the case I'd be interested to hear the browser/OS that's giving problems.

Re: HP-41C Overlay Generator

*Message #16 Posted by **Håkan Thörngren** on 15 Apr 2011, 4:30 p.m.,*
in response to message #15 by spb

Editing does not seem to work for me using Chrome10.0.648.204 on Mac OS X. JavaScript is enabled.

Re: HP-41C Overlay Generator

*Message #17 Posted by **spb** on 15 Apr 2011, 5:14 p.m.,*
in response to message #16 by Håkan Thörngren

> Quote:
>
> Editing does not seem to work for me using Chrome10.0.648.204 on Mac OS X. JavaScript is enabled.

It should be working now.

For anyone who's interested, the image was displayed using the OBJECT tag, and it appears that Chrome won't use an image map with an image in an OBJECT tag. I believe this is a bug, but it's easy enough to work around.

Re: HP-41C Overlay Generator

*Message #18 Posted by **Håkan Thörngren** on 16 Apr 2011, 3:24 p.m.,*
in response to message #17 by spb

> Quote:
>
> It should be working now.

Now I can click on a key and have some kind of visual feedback, but no typing is recorded.

Re: HP-41C Overlay Generator

*Message #19 Posted by **spb** on 17 Apr 2011, 7:23 p.m.,*
in response to message #18 by Håkan Thörngren

> Quote:
>
> Now I can click on a key and have some kind of visual feedback, but no typing is recorded.

Hm. I'm not sure what the problem is. I'm using Chrome 10.0.648.205 on linux and it works as expected. I don't have access to a mac, so I'm not sure when I'll be able to fix it if it's some sort of mac-specific issue.

If you're comfortable with the debugging built into Chrome, you could try clicking on the keys with the debugger open and telling me or copy/pasting what errors (if any) are showing up.

Re: HP-41C Overlay Generator

*Message #20 Posted by **Diego Diaz** on 15 Apr 2011, 12:59 p.m.,*
in response to message #1 by spb

Great tool indeed!

A suitable method to trim the key holes will now be really welcome... ;-)

Thanks for sharing.

Diego.

Re: HP-41C Overlay Generator

*Message #21 Posted by **spb** on 15 Apr 2011, 5:17 p.m.,*
in response to message #20 by Diego Diaz

> Quote:
>
> A suitable method to trim the key holes will now be really welcome... ;-)

If you have any CNC hardware---for example a laser cutter---they generally either accept SVG or come with software that will convert SVG into what they do accept. This is in fact one of the motivations that lead me to decide to use SVG as the output format.

Re: HP-41C Overlay Generator

*Message #22 Posted by **Massimo Gnerucci (Italy)** on 15 Apr 2011, 3:29 p.m.,*
in response to message #1 by spb

Great job!
A really nice addition to the 41C arsenal.

Thanks a lot for sharing.

Greetings,
Massimo

Re: HP-41C Overlay Generator

*Message #23 Posted by **Geir Isene** on 19 Apr 2011, 2:19 p.m.,*
in response to message #1 by spb

A real asset. Thank you very much - also for the addition of the left-hand labels.

A+

Re: HP-41C Overlay Generator

*Message #24 Posted by **Marcus von Cube, Germany** on 22 Apr 2011, 2:59 a.m.,*
in response to message #1 by spb

Here is an interesting post in a cutting machine forum:

http://forum.make-the-cut.com/discussion/12747/mtc-rocks-i-made-my-own-hp-41cx-overlay-/p1

This might be interesting for wp34s users, too.

Overlay Cutting Machine !

*Message #25 Posted by **Walter B** on 22 Apr 2011, 7:23 a.m.,*
in response to message #24 by Marcus von Cube, Germany

Hallo Marcus,

Thanks for finding & sharing. Now we only have to find a way to get it printed in reasonable quality on the right material.

Walter

Re: Overlay Cutting Machine !

*Message #26 Posted by **svisvanatha** on 22 Apr 2011, 9:21 a.m.,*
in response to message #25 by Walter B

Interesting indeed! I did not know that such machines existed for personal use!

Some experimentation on one of these Cricut machines would likely lead to a reasonable homegrown solution. And, not being tied to a 'external' supplier is advantageous for smaller runs, adjustments, etc.

I will poke around with people that I know are into scrapbooking to see if any of them use these types of cutters.

Re: Overlay Cutting Machine !

*Message #27 Posted by **spb** on 22 Apr 2011, 7:41 p.m.,*
in response to message #26 by svisvanatha

Yes, this is one of the main reasons the overlay generator produces output in the form of an SVG.

If you look at a rasterised image format (like for example JPG or GIF) it consists of a list of pixels and their values. So if you could read the binary blob of a JPG directly, it would look something like: draw a dot of such-and-such colour, then draw a dot of such-and-such colour, then draw a dot of such-and-such colour, and so on for however many pixels there are in the image. This is a bit of a simplification, but that's the basic idea.

If you look at the SVG output created by the overlay generator, you can see it is a text file (specifically an XML document). It contains instructions like `make a rectangle so wide and so high'.

In something like a CNC machine or laser cutter the statements in the SVG can be directly translated into instructions to the device: `make a rectangle so wide and so high' becomes, directly, `make a rectangular cut so wide and so high'. And so on.

SVG also has the advantage of being scalable without loss. This is really useful when you're trying to produce something like a keyboard overlay that has to physically match the dimensions of an existing object. Since different output devices might slightly change the size of the overlay (although they *shouldn't* because everything is given in dimensions of mm) this is very useful if you have to tweak the size of the overlay---changing the size won't result in any blurriness or other scaling artefacts.

If you are planning on outputting an overlay to a cutter of some sort, you'll need to use two passes. One to output the labels and so forth to the sheet to be cut, and then another to do the cutting. Most cutter frontends should allow you to select which objects/paths to cut and which to ignore. Alternately you can just manually create a second SVG that contains only the cut lines (the key outlines and the outline of the overlay itself).

If this is something a lot of people plan on doing I could easily modify the generator to create both a `cut' and a `label' SVG file.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 10BII+ available for sell

*Message #1 Posted by **Gerardo Rincon** on 14 Apr 2011, 7:29 p.m.*

The HP 10BII+ available for sell.

HP Business Store

Does anyone have the electronic manual?

Edited: 14 Apr 2011, 7:34 p.m.

Re: HP 10BII+ available for sell

*Message #2 Posted by **Jake Schwartz** on 14 Apr 2011, 7:44 p.m.,*
in response to message #1 by Gerardo Rincon

Six days ago, the link was posted:

http://hpcalculating.com/HP_10bII+_User_Guide_English_EN_NW239-90001_Edition_1.pdf

Jake

Re: HP 10BII+ available for sell

*Message #3 Posted by **Gerardo Rincon** on 14 Apr 2011, 7:47 p.m.,*
in response to message #2 by Jake Schwartz

Great! Thank you!

Re: HP 10BII+ available for sell

*Message #4 Posted by **Martin Pinckney** on 14 Apr 2011, 11:23 p.m.,*
in response to message #1 by Gerardo Rincon

The 10bii+ sells for $40, same as 20b.

HP's pricing structure is interesting. The 30b, according to those on here who have used it, is the most capable of all HP's financial models, yet at $50, its half the price of the 17bii+.

The 12cp is more than the new super-fast 12c.

Probably the 10bii+ was priced both to generate extra profit from excitement over it's release, and to help clear out remaining 10bii's, then the plus will drop down to $30.

Re: HP 10BII+ available for sell

*Message #5 Posted by **Katie Wasserman** on 15 Apr 2011, 12:29 a.m.,*
in response to message #4 by Martin Pinckney

The 17bii+ can do many things that the 30b can't do: real time functions, large number of cash flows and statistics, easy to use and powerful algebraic solver and printer output. I think that justifies the much higher price.

I'll bet that you're right about the 10bii+ price drop after the 10bii's are gone.

-Katie

Re: HP 10BII+ available for sell

*Message #6 Posted by **Mike Morrow** on 15 Apr 2011, 12:40 a.m.,*
in response to message #5 by Katie Wasserman

> Quote:
>
> ...easy to use and powerful algebraic solver...

What's wrong with the SOLVER on the HP 30b?

Re: HP 10BII+ available for sell

*Message #7 Posted by **Don Shepherd** on 15 Apr 2011, 3:41 a.m.,*
in response to message #6 by Mike Morrow

```
17b:
sq(a)+sq(b)=sq(c)


30b:
prgm 0
rcl 1
x²
rcl 2
x²
+
rcl 3
x²
-
rtn
```

Re: HP 10BII+ available for sell

*Message #8 Posted by **Mike Morrow** on 15 Apr 2011, 9:36 a.m.,*
in response to message #7 by Don Shepherd

Don, thanks for an excellent illustration.

The 17bii+ solver is easier to configure, but in my outlook that doesn't make it more "powerful" than that of the 30b. Unless, of course, there's some class of problem that the 17bii+ handles which the 30b can not.

Re: HP 10BII+ available for sell

*Message #9 Posted by **Don Shepherd** on 15 Apr 2011, 12:44 p.m.,*
in response to message #8 by Mike Morrow

> Quote:

there's some class of problem that the 17bii+ handles which the 30b can not.

Mike, I doubt that there is a particular class of problem that the 17bii solver can do that the 30b solver cannot do. The 17b solver has IF and Σ, but the 30b can do that via programming of course.

I've just always appreciated solvers that don't make you write programs.

Re: HP 10BII+ available for sell

*Message #10 Posted by **Bruce Bergman** on 16 Apr 2011, 11:17 a.m.,*
in response to message #9 by Don Shepherd

The only limit to the number of programs (solve equations) in the 17bii+ is memory. You could have 100, if you wanted. All named, be able to scroll through them, retain variables, etc.

On the 30b, you can have 10 programs.

Just one difference. There's a reason why the 17bii+ is priced the way it is.

Re: HP 10BII+ available for sell

*Message #11 Posted by **Mike Morrow** on 15 Apr 2011, 12:36 a.m.,*
in response to message #4 by Martin Pinckney

Quote:

The 30b, according to those on here who have used it, is the most capable of all HP's financial models, yet at $50, its half the price of the 17bii+.

AFAIK, about the only thing important that the 17bii+ has and the 30b does not is real-time clock and calendar. Also, there's no IR printer output or beeper tone. I believe that the 30b hardware could have supported the clock function. Maybe there'll be a 30bii out someday that adds the RT clock.

For a $10 difference there's not much reason to select the 10bii+ over the 30b. (I know...direct keyboard access to certain functions and all that.) The HP 30b is the first financial calculator that I've ever liked, because it's so useful in areas outside of finance.

Re: HP 10BII+ available for sell

*Message #12 Posted by **Tim Wessman** on 15 Apr 2011, 1:19 a.m.,*
in response to message #11 by Mike Morrow

1. Tests/ease of transition from current teaching materials. 2. Some like the form factor. 3. Familiarity.

Anyway, I agree at first glance there doesn't seem to be a place for this one. However, when the current install base and customer is considered (students, school, real estate exams), this will probably have the quickest uptake of any HP unit ever.

TW

Re: HP 10BII+ available for sell

*Message #13 Posted by **Eddie W. Shore** on 15 Apr 2011, 9:22 a.m.,*
in response to message #12 by Tim Wessman

I wish that program steps were merged better on the 30b. You could use a lot steps finding functions that are well buried in the menus.

Edited: 15 Apr 2011, 9:22 a.m.

Re: HP 10BII+ available for sell

*Message #14 Posted by **Jim Yohe** on 15 Apr 2011, 1:24 a.m.,*
in response to message #4 by Martin Pinckney

I think I might just wait until it comes down.

Re: HP 10BII+ available for sell

*Message #15 Posted by **Tim Wessman** on 15 Apr 2011, 10:03 a.m.,*
in response to message #14 by Jim Yohe

Must have missed the email below. Please send me an email as I can't through the forum (you have your email turned off so I can't message directly).

TW

Re: HP 10BII+ available for sell

*Message #16 Posted by **Scott Newell** on 15 Apr 2011, 10:46 a.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> Probably the 10bii+ was priced both to generate extra profit from excitement over it's release, and to help clear out remaining 10bii's, then the plus will drop down to $30.

I think you're on to something. I bought three 35S calcs, two of the 20B calcs, and a 12C+ as soon as I could find one. I'll probably buy one of these to play with too, even though I really dislike non-RPN business calcs. At least they changed the part number this time so we don't have to peer through the edge of the packaging to ID the new model by the size of the battery door!

Re: HP 10BII+ available for sell

*Message #17 Posted by **Jim Yohe** on 15 Apr 2011, 5:05 p.m.,*
in response to message #4 by Martin Pinckney

> Quote:
>
> The 12cp is more than the new super-fast 12c

Why is the regular 12c faster than the platinum 12c? Isn't the 12cp more recent and I'd assume using either the same or faster processor?

If this was covered earlier in archives please tell me where and I'll read about it there. Thanks.

Re: HP 10BII+ available for sell

*Message #18 Posted by **Martin Pinckney** on 15 Apr 2011, 5:36 p.m.,*
in response to message #17 by Jim Yohe

Jim, it's been covered a lot. In a nutshell, HP made a new 12c that uses an ARM processor (whatever that is), that emulates the original 12c code, and runs, maybe 100 times (!) faster than the original 12c. HP never made an announcement, just started shipping the new version and buyers just discovered this on their own. There are a lot of posts about it, just search the archives.

Try this or this for starters.

Edited: 15 Apr 2011, 5:45 p.m.

Re: HP 10BII+ available for sell

*Message #19 Posted by **Jim Yohe** on 20 Apr 2011, 10:28 p.m.,*
in response to message #4 by Martin Pinckney

It appears that HP may be preparing for a price reduction. I found this link, http://www.shopping.hp.com/webapp/shopping/product_detail.do?product_code=NW239AA%23ABA&aoid=20715&ci_src=14110944&ci_sku=NW239AA#ABA showing a $29.99 price.

I got to the shopping cart and the only difference was they tacked on shipping because my potential purchase was just about $10 short of where I needed to be for free shipping.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Y/N MCODE Routine

*Message #1 Posted by **Jeff Davis** on 14 Apr 2011, 6:30 p.m.*

Seems to me I have seen a Y/N MCODE routine in one of the ROMS before. Can someone direct me to this.

Thanks

Re: Y/N MCODE Routine

*Message #2 Posted by **Raymond Del Tondo** on 15 Apr 2011, 12:10 a.m.,*
in response to message #1 by Jeff Davis

C64 ?

SCNR, but which platform are you talking about?

Re: Y/N MCODE Routine

*Message #3 Posted by **Mike (Stgt)** on 15 Apr 2011, 6:40 a.m.,*
in response to message #2 by Raymond Del Tondo

MCode Yes - MCODE No!

Nice WE Ciao.....Mike

Re: Y/N MCODE Routine

*Message #4 Posted by **Jeff Davis** on 15 Apr 2011, 6:46 a.m.,*
in response to message #2 by Raymond Del Tondo

Sorry I missed that piece of info. The HP-41C/CV/CX

Re: Y/N MCODE Routine

*Message #5 Posted by **Raymond Del Tondo** on 15 Apr 2011, 11:40 a.m.,*
in response to message #4 by Jeff Davis

There are various ROMs which contain s.t. like a Y/N confirmation function. The ProfiSET, CCD Module, CCD OS/X , to name a few.

HTH

Ray

Re: Y/N MCODE Routine => Paname ROM

*Message #6 Posted by **Didier Lachieze** on 15 Apr 2011, 7:16 a.m.,*

in response to message #1 by Jeff Davis

Hello, there is one in the Paname ROM.

Edited: 15 Apr 2011, 7:16 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

11c Badge Touch Up

*Message #1 Posted by **Matt_12c** on 14 Apr 2011, 6:15 p.m.*

Hi, I have an 11c with a badge where the silver(?) paint has essentially been rubbed away (70%). Is there a paint pen or some other way to refurbish it to look good? I also have some chrome paint but it's a spray so I'd probably have to find a way to blot it on. What has worked for you? Is this a heat gun/remove and touch up procedure or is it something to do in place? It is a mid/late '80s model.

I did a search but most badge content was related to replacement and not touching up rubbed away finish.

Thanks. Matt

Re: 11c Badge Touch Up

*Message #2 Posted by **Dallas Osborne** on 14 Apr 2011, 7:30 p.m.,*
in response to message #1 by Matt_12c

That stuff isn't paint I am sorry to say. It is a very thin layer of metal across the top of the plastic logos. Early logos were metallic; those will last forever. But, if you aren't going for the like-new look and don't mind if it looks painted, the "silver leaf" paint pen at your local hobby store will be the best compromise in ease of application and look. It will not be reflectively smooth, though.

I have tried nearly everything from aluminum leaf, silver laquer paint, to paint pens. I even tried electro-plating. (It wasn't cool at all.) (I don't have access to the equipment to try milling, but that could work.) No die maker would machine a die set to strike new ones from aluminum sheet stock. So I did the only thing I could imagine after that and started casting them in silver. That was moderately successful and I had to justify the entire endeavor as entertainment so I wouldn't have to face the massively embarrassing history of my quest. I am sure I could have bought a spanking new 11c and 15c for what I put into trying to restore my logo.

But it was fun.

I have a few of the poorer 11c logos if you want me to send you a couple photos. I have eight investments of 15c logos with 5 waxes each in the kiln right now and will cast them tomorrow.

Edited: 14 Apr 2011, 7:35 p.m.

Re: 11c Badge Touch Up

*Message #3 Posted by **robert rozee** on 14 Apr 2011, 8:48 p.m.,*
in response to message #2 by Dallas Osborne

has anyone ever tried this stuff :
http://www.krylon.com/products/looking_glass_mirror_like_paint/

i've been thinking about it for making reflectors for LED torches. some of the torches you can buy do have aluminium reflectors with a mirror paint applied, in particular the ones with an 'orange peel' finish (think of a cross between the old-fashioned 'hammered finish' paint and the above mirror paint).

another option i'm surprised nobody has tried is simply a small square of aluminium with the logo silk screened on in black. it would be non-original, but where a logo is missing would fill the space. in many circumstances a restoration with obviously non-original parts is considered quite acceptable, sometimes more so than a near-identical-to-original fake.

Re: 11c Badge Touch Up

*Message #4 Posted by **Martin Pinckney** on 14 Apr 2011, 11:27 p.m.,*
in response to message #3 by robert rozee

Haven't tried that particular product, but every other spray paint that claims to produce a metallic mirror finish, doesn't.

Re: 11c Badge Touch Up

*Message #5 Posted by **Dallas Osborne** on 15 Apr 2011, 1:05 p.m.,*
in response to message #4 by Martin Pinckney

I have to agree with Martin on this one. This type of product is designed to work with glass so that it uses the very plane surface to keep the viewing side mirror smooth. To get this stuff to work, you would spray it at the back side of a piece of glass. The mirror finish is then the surface as viewed through the glass.

The only way I know of to get a true mirror finish is to use a process called vacuum metallization. Not. Cheap.

Re: 11c Badge Touch Up

*Message #6 Posted by **HAL9000** on 16 Apr 2011, 12:10 p.m.,*
in response to message #2 by Dallas Osborne

Hello: I have an HP15C calculator with a missing logo, could you please tell me if you have an extra logo you could sell me, and if so, for how much? Thanks.

PS: I tried to contact you directly but I just got an account and the system would not allow me (you probably can and if so please do). By the way, I am in Colorado, at 9000ft, on firm ground.

Re: 11c Badge Touch Up

*Message #7 Posted by **aj04062** on 14 Apr 2011, 9:18 p.m.,*
in response to message #1 by Matt_12c

I've been thinking about trying to make some using a waterjet. I am pretty sure it could be done.

Once I had the metal blank it could even be chrome plated.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

wp34S ALPHA

*Message #1 Posted by **Jake Schwartz** on 14 Apr 2011, 10:50 a.m.*

Hi,

First, let me say that I have read the 1.16 and 1.17 manuals many times....but I have some questions regarding use of ALPHA: 1. If I fill ALPHA with more characters than can be displayed at once and only the right-hand end is shown, how do I get to view the left end again? Is there any way to scroll ALPHA left and right, like with integers? At least the HP41 did automatic scrolling when ALPHA was larger than the display. 2. The manual indicates that alpha-STO stores the leftmost 6 characters into a destination, but after doing ASTO 00 (for instance), a RCL 00 only shows me a numeric value and not the six characters I expected to see. Nothing I could find in the manual indicates how ALPHA characters are stored (or encoded) in a numeric register. If there is any insight into these items, I'd appreciate hearing it.

Thanks, Jake

Re: wp34S ALPHA

*Message #2 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 11:27 a.m.,*
in response to message #1 by Jake Schwartz

Windowing the alpha register is still under discussion and will be implemented somehow. Scrolling will not.

The companion to aSTO is aRCL which has to be done in alpha mode or from a program. It might be a useful addition to allow a range of numeric registers be stored from and recalled to alpha, at least two for the full display length. To be negotiated...

A short explanation: Until now, registers are not tagged as containing alpha or integer or HMS data or whatever. So a RCL always interprets the contents as a real number with strange effects.

Re: wp34S ALPHA

*Message #3 Posted by **Walter B** on 14 Apr 2011, 3:10 p.m.,*
in response to message #1 by Jake Schwartz

Jake,

Alpha is - in a way - the ugly duckling in this project. It took some effort to get in even the standard alpha operations of the 42S. It isn't complete yet.

Answer 1: As Marcus mentioned, alpha scrolling is waiting for implementation, so the respective description on page 52 of the recent documentation is only wishful thinking so far (though it shows our plans). The sample string of page 24 (v1.17) was carefully keyed in and documented in parallel :-)

Answer 2: Whatever you store using alphaSTO, you may recall with alphaRCL. We've also added a new command alphaRC# for appending numbers to the string as well. Please check and play, it's working fine IMHO.

Walter

Edited: 14 Apr 2011, 3:12 p.m.

Re: wp34S ALPHA

*Message #4 Posted by **Paul Dale** on 14 Apr 2011, 7:02 p.m.,*
in response to message #1 by Jake Schwartz

As has been mentioned alpha-RCL is needed. There simply isn't space in our registers to have a flag indicating alpha data or not. We might be able to squeeze this into reals with a bit of trickery but there is no chance for integers which also support alpha STO and RCL operations.

Alpha characters are stored as their byte values first character highest. The number of characters varies in integer mode based on the current word size. The function that does this is basically:

```
z = 0
n = #characters per register

for i = 1 to n
        z = (z * 256) + alpha[i]
return z
```

Take some alpha data and reduce it modulo 256 to extract the characters again.

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

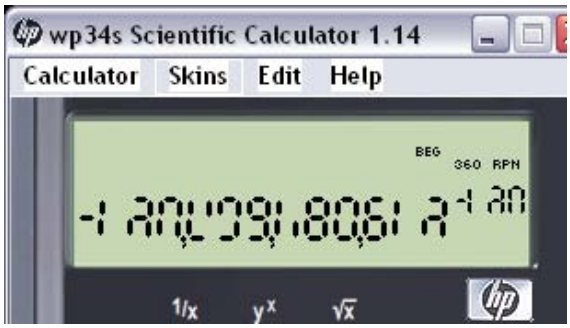
[Return to Index | Top of Index]

wp34s Gallery

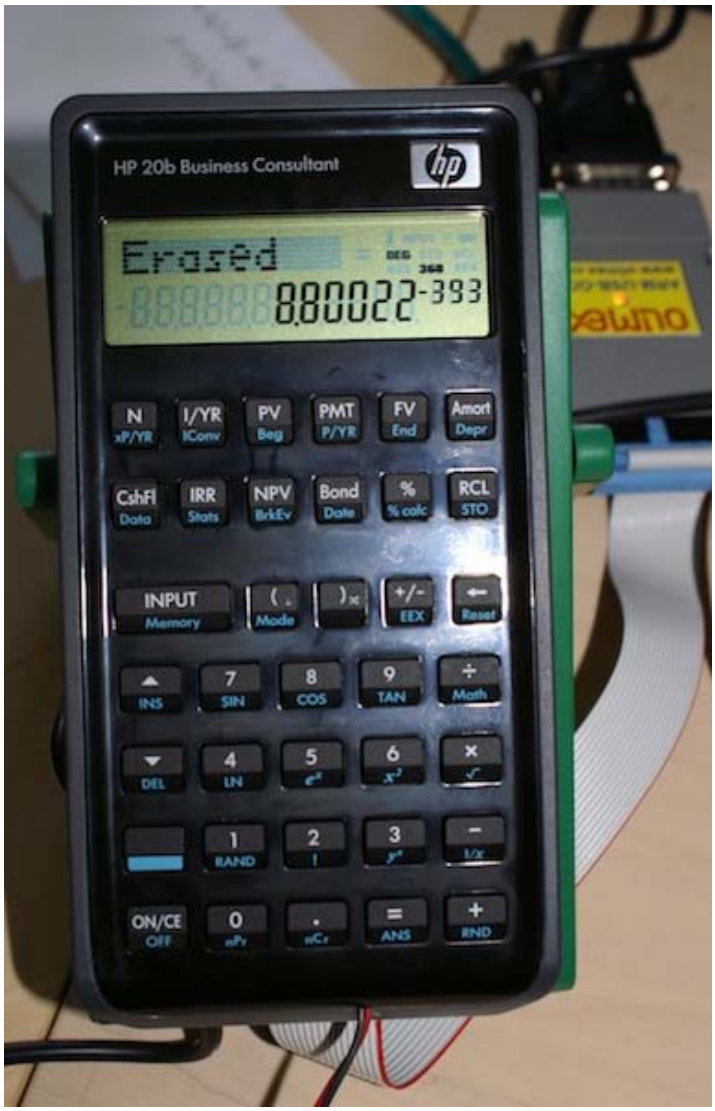
*Message #1 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 3:30 a.m.*

I'd like you to post photos or links to videos with wp34s in action here. I expect a lot of fun from this thread.

Let's start early! My first attempts at implementing the emulator weren't really working well:

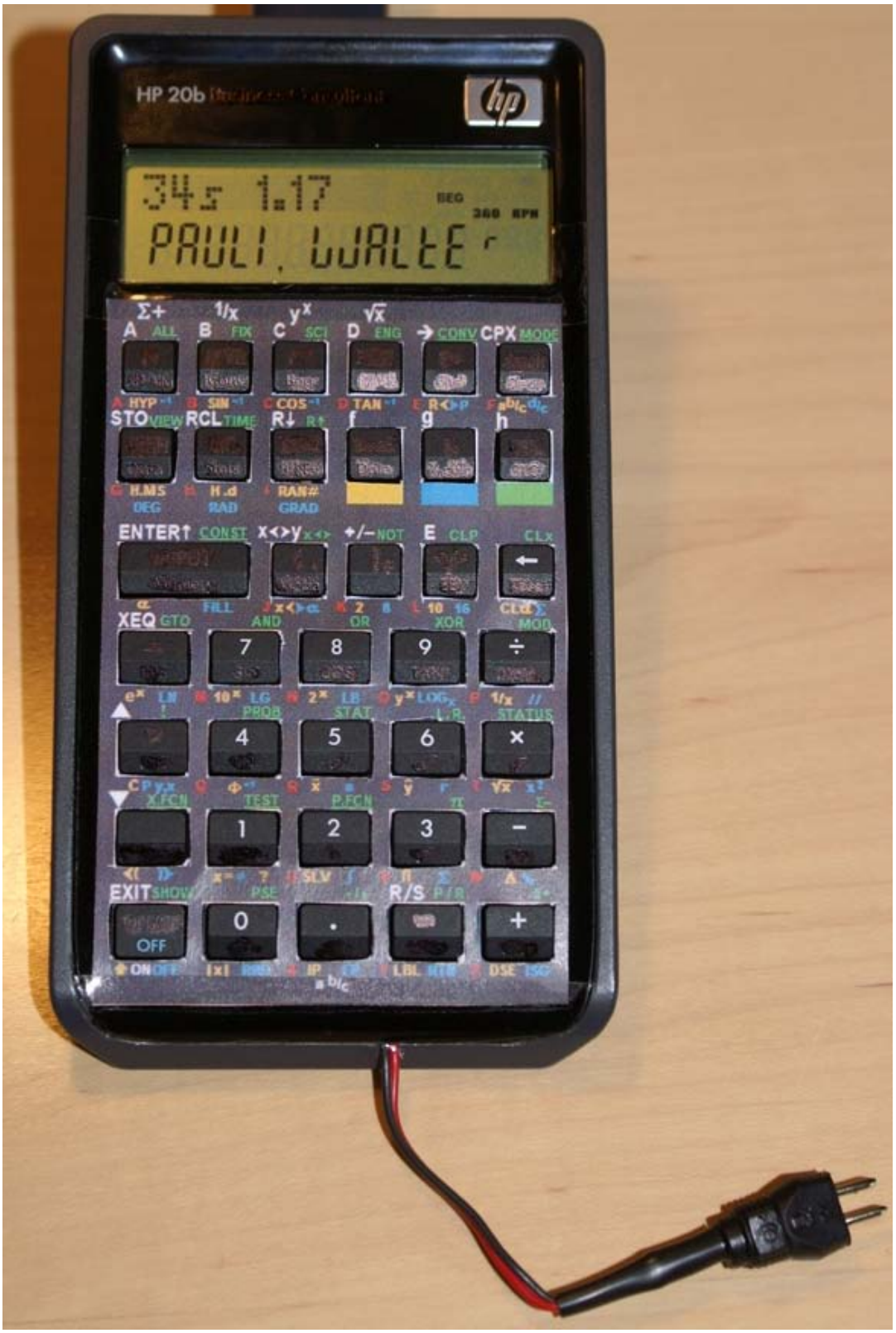


Here is the very first photo I took of my 20b in action. It was the initial boot of the very first flash image downloaded to my development 20b:



The keyboard was still unresponsive and as you can see, there was a problem with the proper display of zero. ;)

Compare this to my second picture:



What a difference!

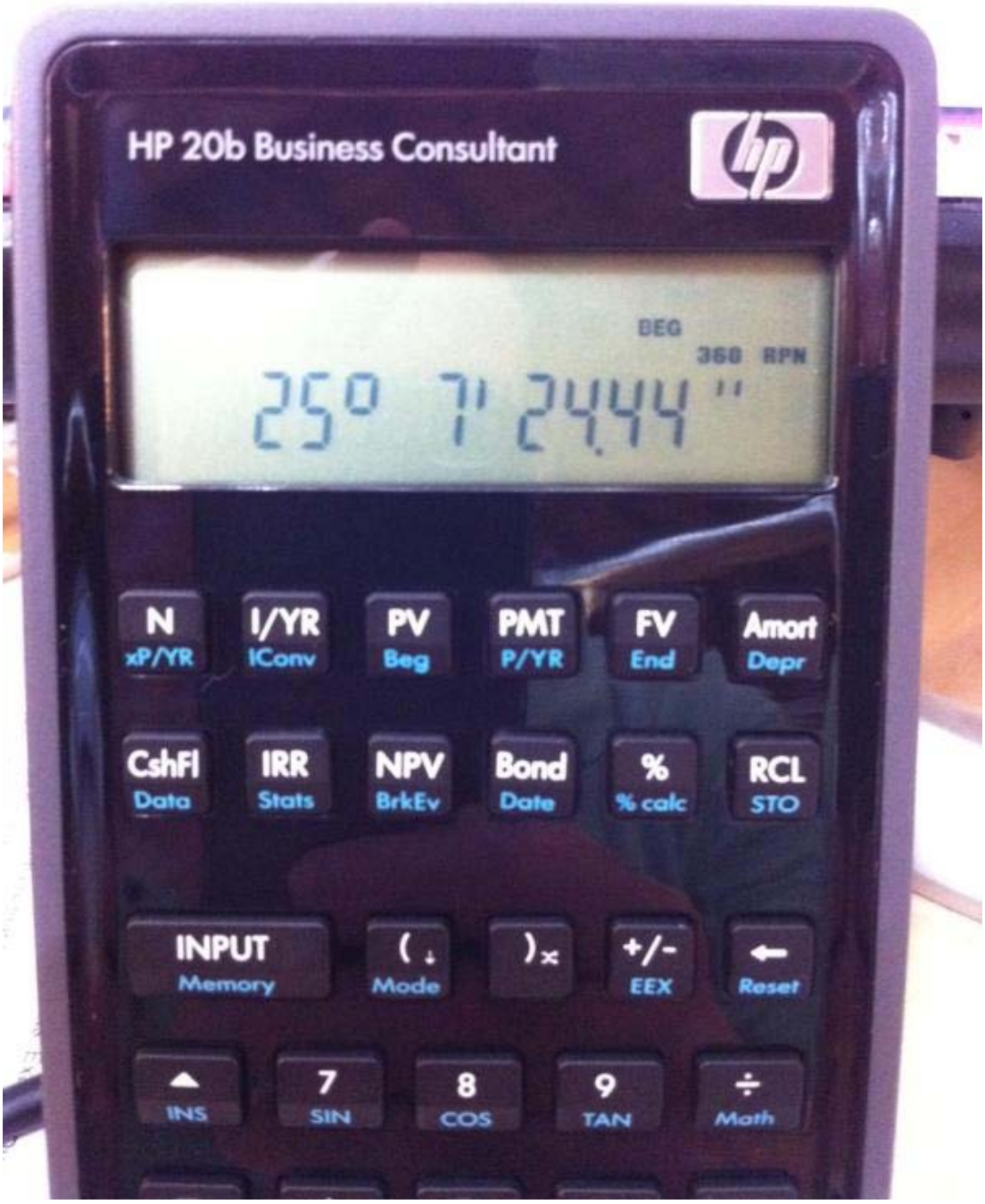
I have made some pictures from my opened 20b when I added the JTAG connector and the power cord. I'll post them later.

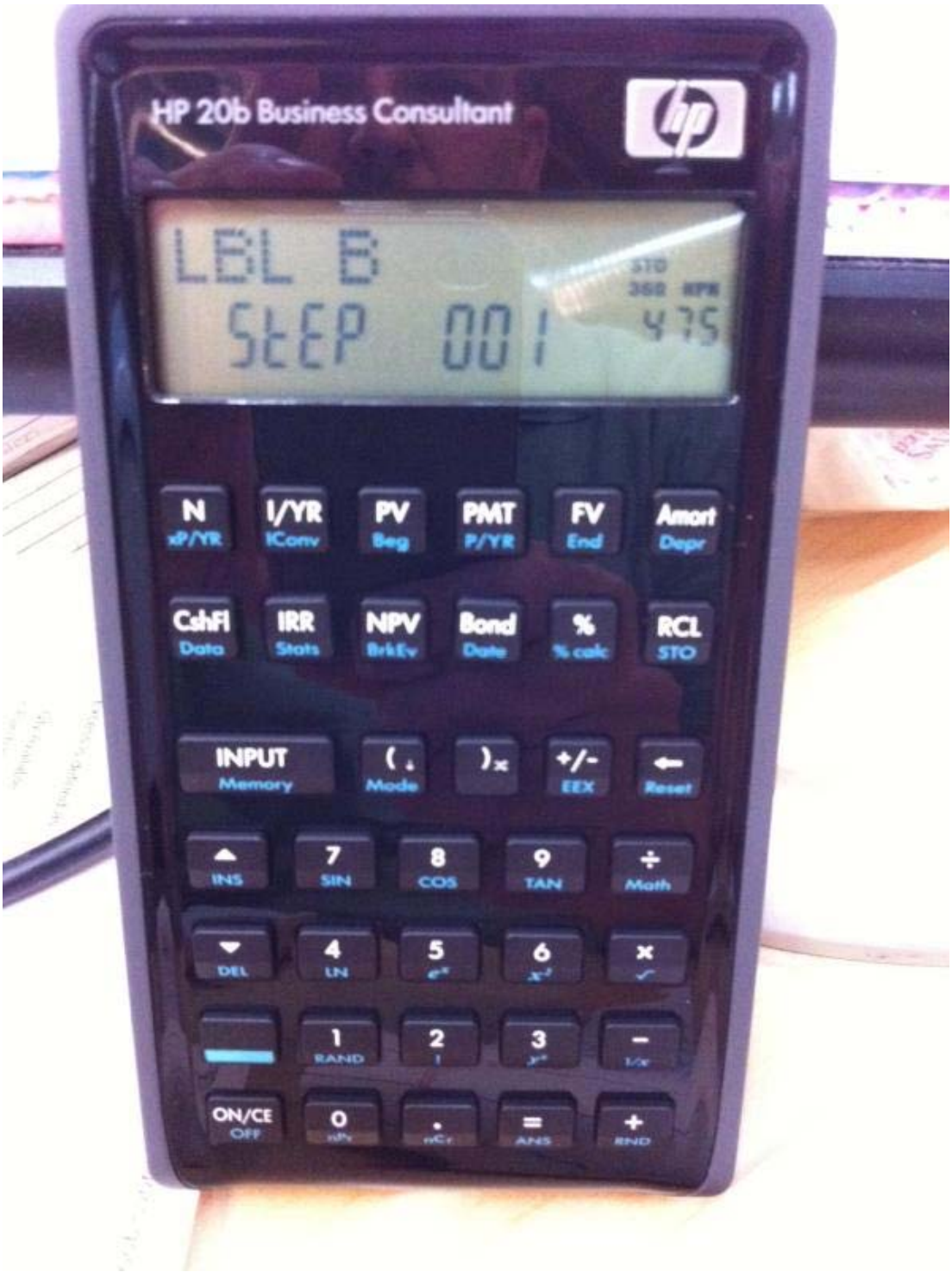
Edited: 13 Apr 2011, 4:19 a.m. after one or more responses were posted

Re: wp34s Gallery - Gene's pictures

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 4:02 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Here are Gene's pictures rotated and scaled down:


HP 20b Business Consultant
BEG
360 RPN
25° 7' 24.44"
N
xP/YR
I/YR
IConv
PV
Beg
PMT
P/YR
FV
End
Amort
Depr
CshFl
Data
IRR
Stats
NPV
BrkEv
Bond
Date
%
% calc
RCL
STO
INPUT
Memory
(↓
Mode
)×
+/-
EEX
Reset
INS
7
SIN
8
COS
9
TAN
÷
Math


HP 20b Business Consultant
LBL B
StEP 001
475
N
I/YR
PV
PMT
FV
Amort
CshFl
IRR
NPV
Bond
%
RCL
INPUT
Memory
Mode
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EEX
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DEL
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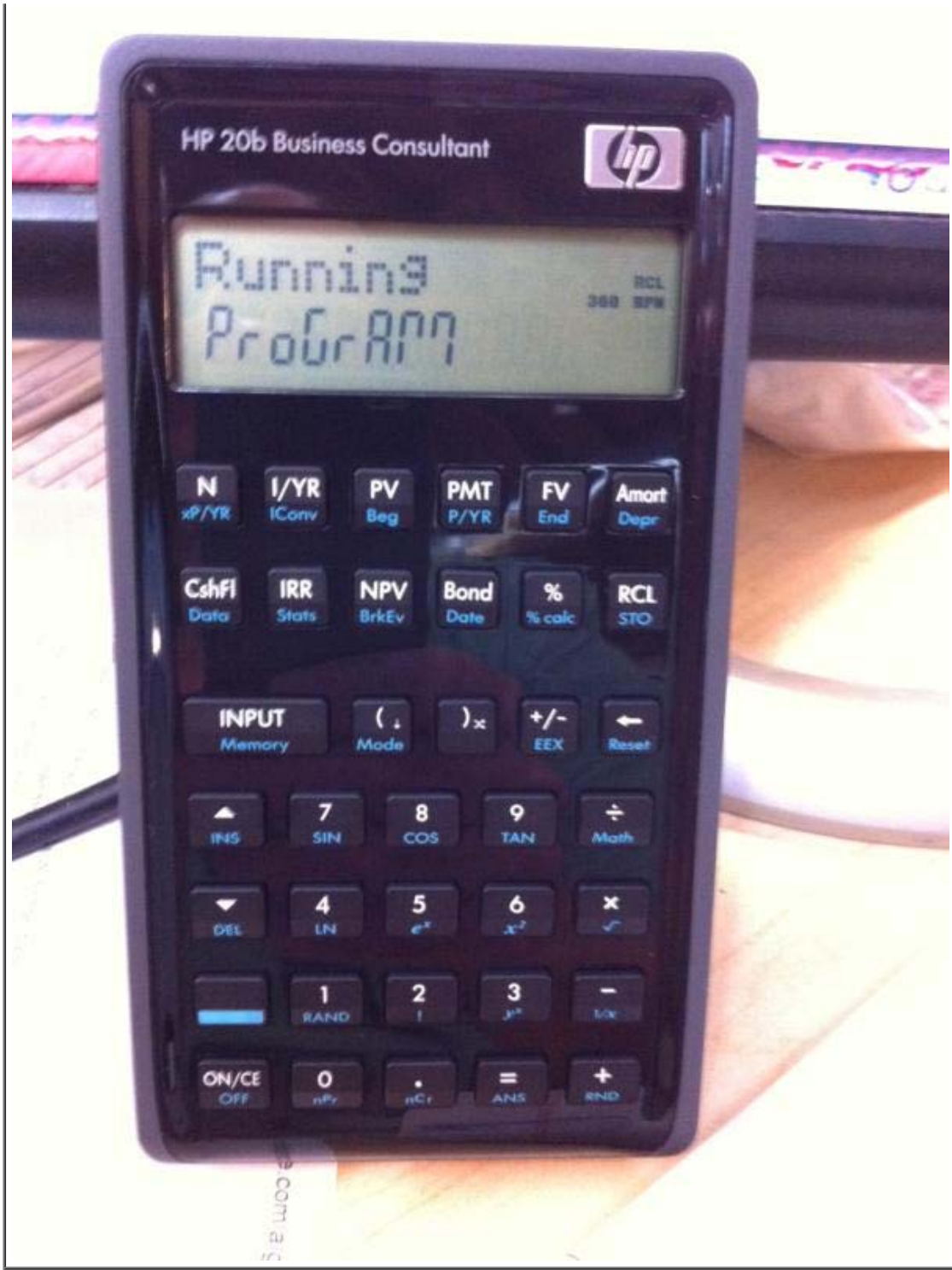


Re: wp34s Gallery - Gene's pictures

*Message #3 Posted by **gene wright** on 13 Apr 2011, 8:12 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Here's my unit with the overlay. An admittedly rather poor job of using the Xacto knife, but it works!

Re: wp34s Gallery - Gene's pictures

*Message #4 Posted by **Walter B** on 13 Apr 2011, 9:04 a.m.,*
in response to message #3 by gene wright

Gene, now we know why it's called Xacto ;-)

BTW, did you receive my mail?

Re: wp34s Gallery - Gene's pictures

*Message #5 Posted by **gene wright** on 13 Apr 2011, 10:33 a.m.,*
in response to message #4 by Walter B

Yes, and responded!

Re: wp34s Gallery - Gene's pictures

*Message #6 Posted by **Walter B** on 13 Apr 2011, 2:51 p.m.,*
in response to message #5 by gene wright

Nothing found here, please try again.

Re: wp34s Gallery - Gene's pictures

*Message #7 Posted by **Eddie W. Shore** on 13 Apr 2011, 3:36 p.m.,*
in response to message #3 by gene wright

How did the ROM get loaded into the calculator? Am I correct to assume that the calculator had to be taken apart for the ROM to be downloaded.

Re: wp34s Gallery - Gene's pictures

*Message #8 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 3:46 p.m.,*
in response to message #7 by Eddie W. Shore

Flashing the 20b is perfectly described in Tim's document here. No taking apart necessary. :) In fact that wouldn't even help because the flash ROM is inside the main chip and is only accessible through either special hardware or, even easier, through the built in SAM-BA boot loader software.

I'd like to see more pictures and less discussion in this thread, agreed?

Re: wp34s Gallery

*Message #9 Posted by **svisvanatha** on 13 Apr 2011, 6:43 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Without knowing what others were doing for overlays, I constructed mine by printing the emulator skin to size, and taping it to my 30B:

I also posted a video (amateur quality) of the WP34S/30B a few days ago:

Video of WP34S running on HP30B

Edited: 13 Apr 2011, 7:33 a.m. after one or more responses were posted

Re: wp34s Gallery

*Message #10 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 7:13 a.m.,*
in response to message #9 by svisvanatha

> Quote:
>
> Without knowing what others were doing for overlays, I constructed mine by printing the emulator skin to size, and taping it to my 30B:

Be assured you where first. :)

Can you convert the link to something clickable by surrounding it with [url: your link] (without the spaces)?

Re: wp34s Gallery

*Message #11 Posted by **svisvanatha** on 13 Apr 2011, 7:34 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Thanks, and Done!

Re: wp34s Gallery

*Message #12 Posted by **Jake Schwartz** on 13 Apr 2011, 11:12 p.m.,*
in response to message #9 by svisvanatha

I just flashed the 20b this evening. The overlay was done this morning. During the cutting of the key holes with Exacto knife and ruler, I realized that "the index finger never forgets" (See PPC Journal Volume 7 Number 4 Page 4 [May, 1980] under the "Club Projects" column).

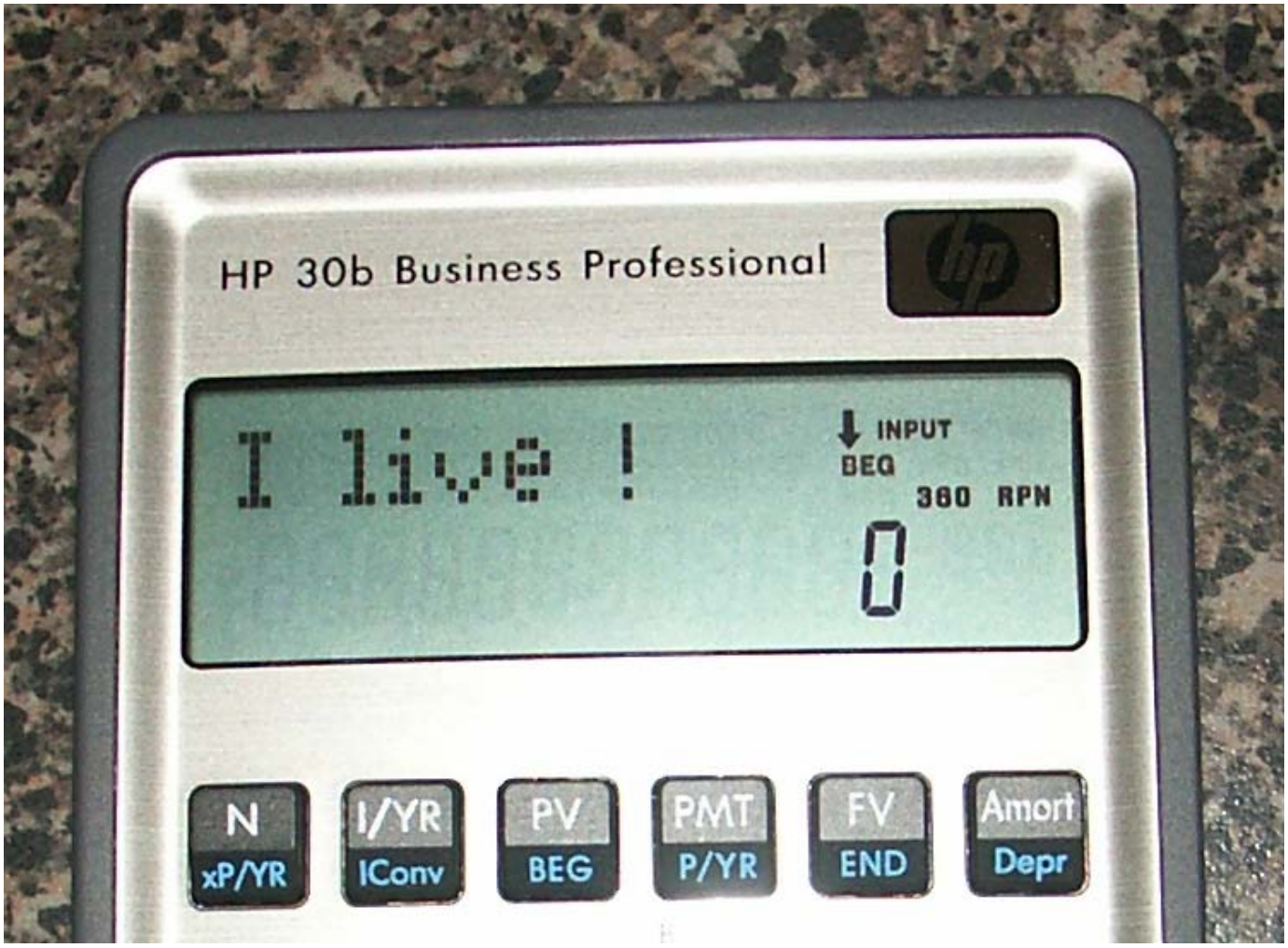
Jake

HP 20b Business Consultant
34s 1.17
BEG
360 RPN
PAUL. WALTER
N
I/YR
PV
PMT
FV
Amort
CshFl
IRR
NPV
Bond
%
RCL
INPUT
Memory
Mode
EEX
Reset
INS
SIN
COS
TAN
Math
DEL
LN
CLEAR
EXIT
ON/CE
OFF
RAND
PSE
R/S
nPr
nCr
ANS
RND

Re: wp34s Gallery -Pauli's first attempt

*Message #13 Posted by **Marcus von Cube, Germany** on 15 Apr 2011, 6:20 a.m.,*
in response to message #1 by Marcus von Cube, Germany

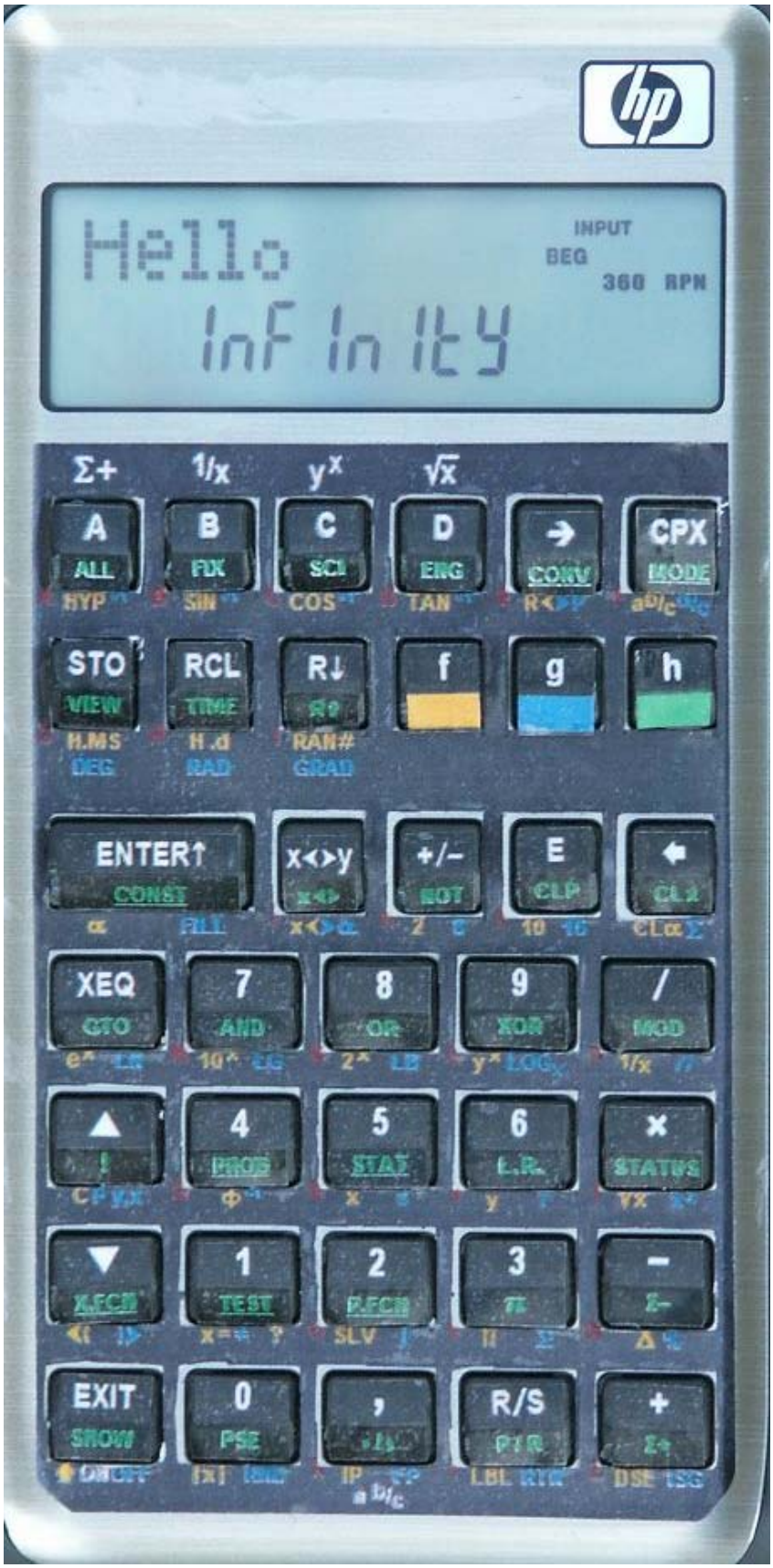
Here is Pauli's first attempt at flashing his calculator:



Re: wp34s Gallery -Pauli's overlay

*Message #14 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 3:35 a.m.,*
in response to message #13 by Marcus von Cube, Germany

Here it is:



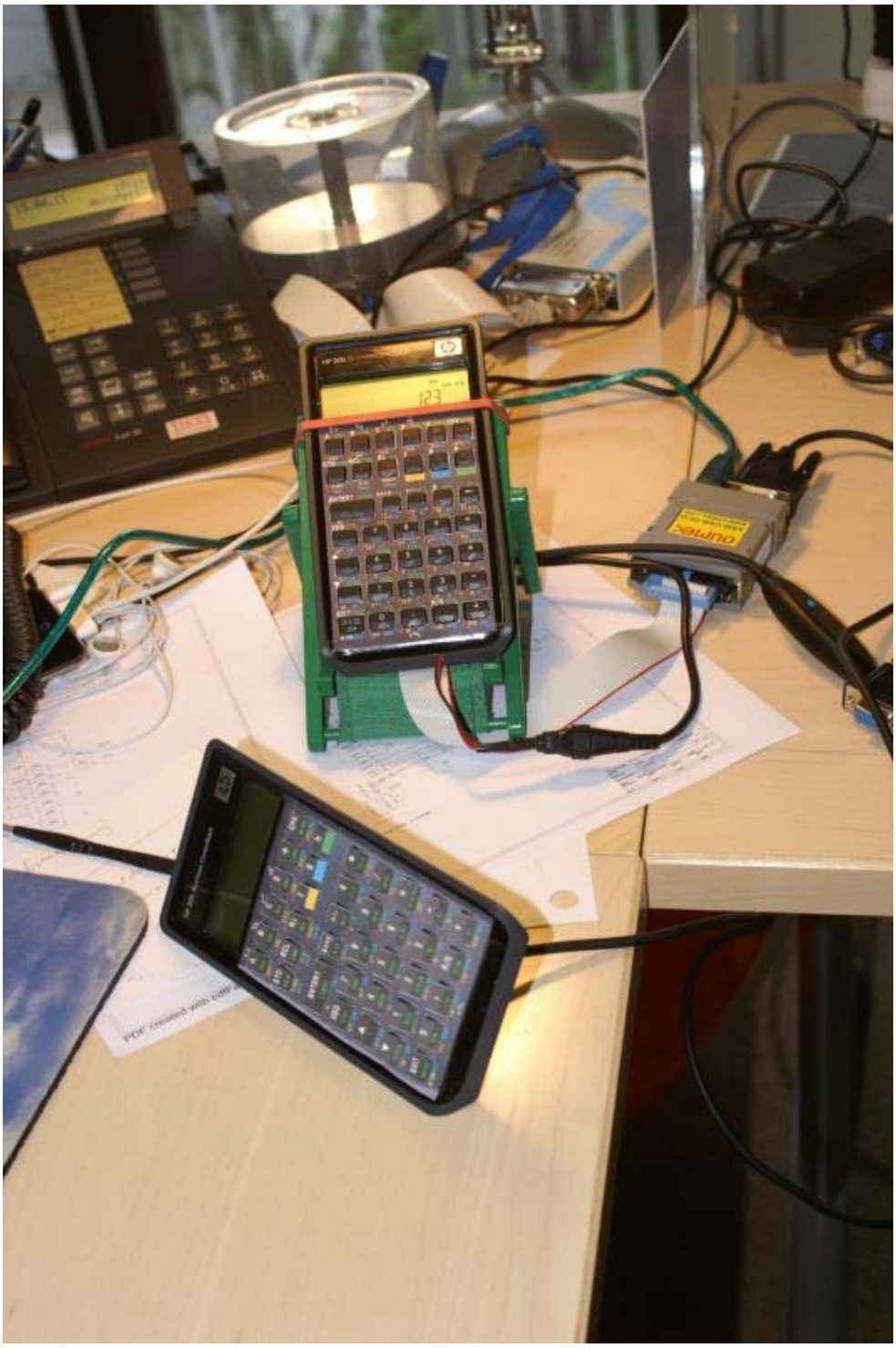
Re: wp34s Gallery - A very welcome guest

*Message #15 Posted by **Marcus von Cube, Germany** on 15 Apr 2011, 3:07 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Guess who is pictured here:

And who is this Guy?

Here is what we have done:



After work party:

Edited: 15 Apr 2011, 3:18 p.m. after one or more responses were posted

Re: wp34s Gallery - A very welcome guest

*Message #16 Posted by **Walter B** on 15 Apr 2011, 3:15 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Thanks to you, Marcus, for your hospitality d:-)

Walter

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Slightly OT: simple math dilemma

*Message #1 Posted by **Chuck** on 12 Apr 2011, 10:46 p.m.*

I was asked by a colleague yesterday about real solutions to equations, i.e.,

sqrt(1-x)-sqrt(x-3)= 0

Question: is 2 a solution? and at what level of math should it be accepted as a solution. Most math texts will say it's not a solution: if y=sqrt(1-x) and y=sqrt(x-3) are graphed, they don't intersect in the real plane, yet the real number 2 is a solution (can't argue with that). So what constitutes a real solution. I claim you can't slide into the complex world and then back to real world; or since 2 isn't in the real domain of the functions, it can't be considered as a solution.

One thing led to another, and it got me thinking about the value of (-1)^(2/6).

At first glance I "want" it to be +1, since we have "even" powers, (sort of).

On second glance it could be 1/2 + sqrt(3)/2 i, (the principal sixth root of a negative is complex; and then squared).

But, on third glance, basic algebra says to reduce all rational exponents to lowest terms before evaluating, which gives us -1. Hmmmm.

The TI-8X calculators give the third-glance result (-1) and produces a graph from -inf to +inf (the typical cube root function).

Mathematica gives the second-glance result (complex value), and a graph from 0 to +inf accordingly.

Back On-track, slightly: my HP-15 gives -1 (as expected). Haven't checked the others. my 28S gives the complex answer (as does my Casio) and graphs for only x>0.

I've yet to find one that gives +1 (bummer,even powers and all).

What do other calculators (hp or non-hp) give,and what "should" it be?

I now can only presume TI's are for the less mathematically mature student, and HP's are for the more mathematically advanced. (Ouch!)

But I wait your opinions.

Enjoy.

Re: Slightly OT: simple math dilemma

*Message #2 Posted by **Eddie W. Shore** on 13 Apr 2011, 1:15 a.m.,*
in response to message #1 by Chuck

Anything that solves the equation is a solution IMHO. Just not always the desirable or sensible one.

Re: Slightly OT: simple math dilemma

*Message #3 Posted by **Frido Bohn** on 13 Apr 2011, 5:43 a.m.,*
in response to message #1 by Chuck

sqrt(1-x)-sqrt(x-3)= 0

can be transformed into:

sqrt(1-x)=sqrt(x-3)

thus, squaring both sides leads to:

1-x = x-3

and consequently to:

1+3 = 2x

and to:

x = 2

Is this too simplistic?

Regards

Re: Slightly OT: simple math dilemma

*Message #4 Posted by **Dieter** on 13 Apr 2011, 2:04 p.m.,*
in response to message #3 by Frido Bohn

> Quote:
>
> x = 2
>
> Is this too simplistic?

Nothing it soo simplistic as long as it's correct. ;-) But this solution isn't. You ran into an absolutely classic error here.

Consider the original equation

```
sqrt(1-x) - sqrt(x-3) = 0
```

For a real result this implies that both 1-x >= 0 and x-3 >=0.

```
1 - x >= 0  =>  x =< 1
x - 3 >= 0  =>  x >= 3
```

So x must to be not more than 1, and at the same time it has to be greater or equal to 3. In other words, a (real) solution is impossible here. Your result 2 as well as any other.

What's wrong with your result? There are two things.

First, you did not check the valid domain for a possible (real) result. Since the obtained value 2 does not

fall in the domain for a valid result, it simply is no solution at all.

Second, the step where both sides of the equation are squared is the weak point here. While "-4 = 4" is obviously wrong, squaring turns it to "16 = 16", which is correct. ;-)

There are lots of other occasions that look tricker than initially expected:

```
   (x^2 - 1)  /  (x - 1)
 =  (x+1)(x-1) /  (x - 1)    ; x-1 cancels out
 =   x + 1     ; really ?-)
```

Of course the first and third line are not equal. Try to plot both graphs and look at the point where x equals 1. ;-)

Dieter

Re: Slightly OT: simple math dilemma

*Message #5 Posted by **Maarten Ambaum (Reading, UK)** on 14 Apr 2011, 5:14 a.m.,*
in response to message #4 by Dieter

Dieter,

I don;t understand your last example. The two expressions _are_ the same: the only difference would be that (x^2-1)/(x-1) appears to be undefined at x=1, but the limit of x -> 1 for (x^2-1)/(x-1) is perfectly defined (just write x=1+e, for small e, to find (x^2-1)/(x-1) = 2+e, and take the limit e-> 0)

The confusion in all this discussion is whether certain factors can be undefined, such as 1/(x-1) in your example, while the full expression (x^2-1)/(x-1) is perfectly valid and has correct continuous limits at all points on the real axis (which is the case).

Maarten

Re: Slightly OT: simple math dilemma

*Message #6 Posted by **Frido Bohn** on 14 Apr 2011, 2:00 p.m.,*
in response to message #4 by Dieter

Quote:

```
   (x^2 - 1)  /  (x - 1)
 =  (x+1)(x-1) /  (x - 1)    ; x-1 cancels out
 =   x + 1     ; really ?-)
```

Well, for me is

(x^2 - 1) / (x - 1) = x + 1

If you factor

(x^2 - 1)

you get

(x+1)(x-1)

and thus, the equation I quoted is an identity.

If you try it the hard way with cancelling out

(x-1) off (x+1)(x-1) / (x - 1)

you get

x+1.

Then, we have the "challenging" equation

(x^2 - 1) / (x - 1) = x + 1

Factoring (x^2 - 1) gets

(x+1)(x-1) / (x-1) = x+1

Cancelling again x-1 gets

x+1 = x+1

and needless to say

x = x

I never tried to graph x=x, and neither the ancients greeks tried to solve a mathematical problem by means of graphing. They used geometry, and it worked fairly well. Perhaps, somebody can show me a geometric solution of this '(x^2 - 1) / (x - 1) = (x+1)(x-1) / (x - 1)' problem?

Re: Slightly OT: simple math dilemma

*Message #7 Posted by **Manolo Sobrino** on 13 Apr 2011, 10:30 p.m.,*
in response to message #3 by Frido Bohn

f(z)= + sqrt(1-z) - sqrt(z-3) over C has a root in z = 2, it comes from the imaginary part of f(z), there's nothing weird.

wolfram alpha

(I prefer this one,

sqrt(1-z) - sqrt(z-3) = 0

i sqrt(z-1) = i sqrt(3-z)

(z-1) = (3-z)

z = 2

)

Cheers

Edited: 13 Apr 2011, 10:36 p.m.

Re: Slightly OT: simple math dilemma

*Message #8 Posted by **Valentin Albillo** on 13 Apr 2011, 10:08 a.m.,*
in response to message #1 by Chuck

.

> Quote:
>
> *I claim you can't slide into the complex world and then back to real world*

Disagree. Here you are, a classic counterexample:

Best regards from V.

Re: Slightly OT: simple math dilemma

*Message #9 Posted by **Mike (Stgt)** on 13 Apr 2011, 12:17 p.m.,*
in response to message #1 by Chuck

> Quote:
>
> I claim you can't slide into the complex world and then back to real world

No, there are situations where you may only find _real_ solutions by using complex math.

Ciao.....Mike

Re: Slightly OT: simple math dilemma

*Message #10 Posted by **Mike Morrow** on 13 Apr 2011, 5:05 p.m.,*
in response to message #9 by Mike (Stgt)

I always liked i^i = exp(-PI/2). The result "seems" (at first) so non-intuitive.

Probably the group that has the most day-to-day routine control of a process whose behaviour is described by real and imaginary complex variables is AC electric generating plant control room operators. They control their station's output of REAL load (MW) and REACTIVE load (MVAR), which can be represented by vectors in phase quadrature with each other. Unlike the MW loading, the MVAR loading can be grossly varied with no effect upon the fuel consumption of the machine driving the generator. Thus it even has a sort of "imaginary" aspect to it. :-)

Re: Slightly OT: simple math dilemma

*Message #11 Posted by **Thomas Klemm** on 13 Apr 2011, 1:30 p.m.,*
in response to message #1 by Chuck

The confusion arises because you don't define the domain of the sqrt-function. If it should give only real results then the best you could use is: 0 <= x.

But with this condition you would get:

```
0 <= 1-x   ->   x <= 1

0 <= x-3   ->   3 <= x
```

These two conditions are contradictory, thus no solution exists.

However when you allow all real numbers as domain of the sqrt-function you will get complex numbers as intermediate results. There's no problem with the fact that the end-result is real.

Conclusion: without specification of the domain, a function is not defined, thus the equation is meaningless.

Cheers
Thomas

Re: Slightly OT: simple math dilemma

*Message #12 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 2:56 p.m.,*
in response to message #1 by Chuck

The result of (-1)^(2/6) is defined as a number which, raised to the power of 6/2 (or 3), gives -1, hence one of the three possible values in the complex plane.

Is there a point in rearranging the expression to ((-1)^2)^(1/6) ? Or to ((-1)^(1/6))^2. The former would reduce the number of solutions to 1, the latter to 6 (which might collapse to less by squaring, I haven't checked.) In the latter case, 1 should be one of the solutions.

Writing this down, I tend to the idea that the expression has six solutions in the complex plane, the real values -1 and 1 being amongst them. I'm still puzzled.

Re: Slightly OT: simple math dilemma

*Message #13 Posted by **Chuck** on 13 Apr 2011, 11:22 p.m.,*
in response to message #12 by Marcus von Cube, Germany

They actually do collapse to only three values; two complex and -1 (using De Moivre's formula) . My desired +1 just isn't there. :(

Re: Slightly OT: simple math dilemma

*Message #14 Posted by **Chuck** on 13 Apr 2011, 11:13 p.m.,*
in response to message #1 by Chuck

Excellent discussion. It seems the level of math a student has is what may determine the expected result. I presume a student who has not been introduced to complex numbers would have to assume square-roots of negatives are not possible and therefore no solution.

A student with a rudimentary knowledge of complex numbers would conclude that 2 is an easily found and appropriate answer.

And a student with a fairly thorough knowledge of complex numbers would recognize that the complex result for (-1)^(2/6) is preferred, but that there are a total of three solutions.

Along with this, I find it very interesting the results that are given by various calculators and math programs. One can start to glimpse the mathematical sophistication of the manufacturers target consumer population. Fun

stuff.

Edited: 13 Apr 2011, 11:20 p.m.

Re: Slightly OT: simple math dilemma

*Message #15 Posted by **Manolo Sobrino** on 13 Apr 2011, 11:44 p.m.,*
in response to message #14 by Chuck

I think you're mixing things up a little bit, it's actually complex analysis 101 to prove that any complex number has n different nth roots, and the first problem's answer is x=2, rudimentary or not ;)

Edited: 13 Apr 2011, 11:47 p.m.

[Return to Index | Top of Index]

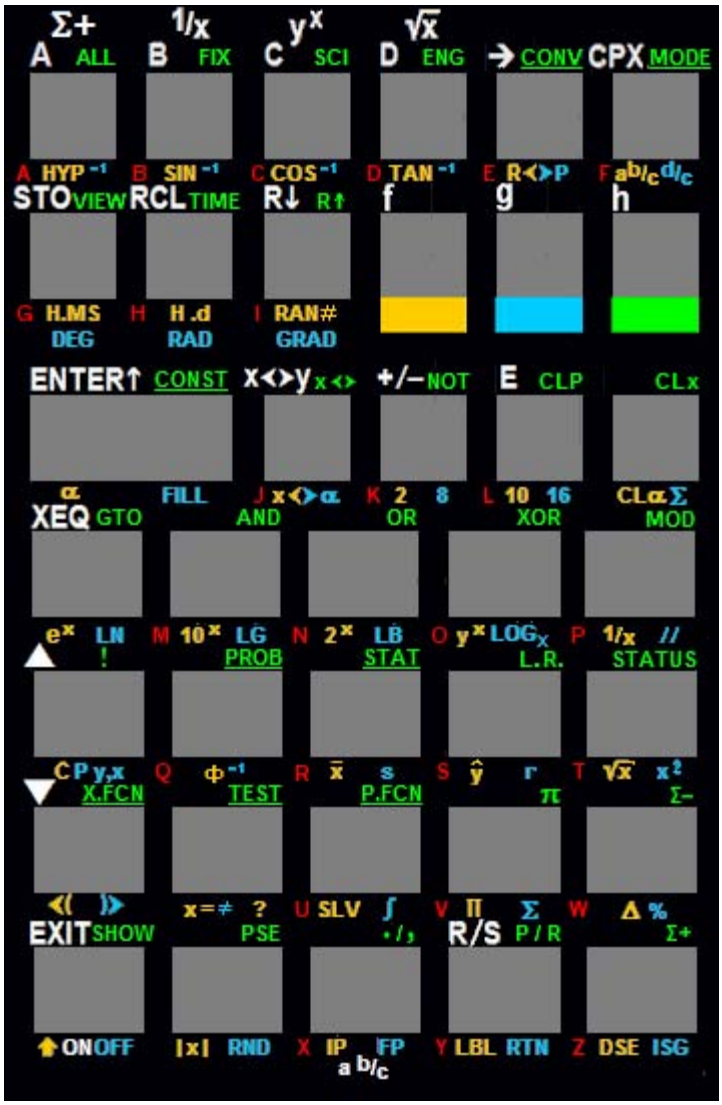
Go back to the main exhibit hall

Link to 34s overlay...

*Message #1 Posted by **Gene Wright** on 12 Apr 2011, 3:10 p.m.*

Taking the time to print this out and put it on a 20b or 30b is well worth it. MUCH easier to use this way. Thanks to Marcus for putting this together.

My edited Overlay: Edited



Marcus' original Overlay:

34s overlay

Edited: 12 Apr 2011, 4:18 p.m.

Re: Link to 34s overlay...

*Message #2 Posted by **Walter B** on 13 Apr 2011, 2:44 a.m.,*
in response to message #1 by Gene Wright

Putting at least one dimension on it may be beneficial ...

Re: Link to 34s overlay... Instructions for artists

*Message #3 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 3:20 a.m.,*
in response to message #2 by Walter B

The PNG file has the resolution embedded. With proper software, it is printed at the correct dimensions.

The resolution is 141 dpi, the printed size is 6.4 x 9.9 cm or 2.5 x 3.9 inches.

For all the designers among us who want to improve on the skins or the overlay: Go to the repository at http://wp34s.svn.sourceforge.net/viewvc/wp34s/artwork/ and get the XCF files! I've done all my work with The Gimp. The files contain multiple layers and the bitmap files are simply exports with different layers made visible or hidden. The effect that Gene was aiming at with his version can be easily reproduced with the file wp34s_medium.xcf:

1. Make visible the two layers named Overlay and Overlay-Background.

2. Hide all other layers.

3. Adjust the *opacity* of the background to your liking.

4. Print or export the result.

The exported file has the dimensions of the medium skin file. You can easily crop it by reloading the result into Gimp and doing it there. The reason why I've put the overlay in the same file as the medium skin is easy to follow: Just turn on the visibility of the original bitmap background image and you see the keys shine through. This made it possible for me to get the dimensions right.

Edited: 13 Apr 2011, 3:43 a.m.

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #4 Posted by **Walter B** on 13 Apr 2011, 4:12 a.m.,*
in response to message #3 by Marcus von Cube, Germany

If you want to get a less cluttered keyboard for 25% less (!) work, then take overlay_1 in said directory and cut the white lines only 8-)

Enjoy!

Walter

P.S.: I did it the easy way (KISS). For the right size, the width shall be 71mm.

P.P.S.: That printed on an adhesive and we are set IMHO (well, still some deblurring shall be done, but that's easy, only tedious if you want real good results). I tried and even some strips of good ol' double-sided Tesa do it d:-) Anyone knowing a print shop doing this in quantities of - let's say - some 100?

Hey, I never fealt so close to a serious scientific instrument - I'm getting really excited by the prospect 8-))

Edited: 13 Apr 2011, 5:55 a.m.

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #5 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 7:06 a.m.,*
in response to message #4 by Walter B

Here is Walter's work:

This is much closer to the original layout but I fear it wears out early, except if professionally produced. Any takers?

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #6 Posted by **Walter B** on 13 Apr 2011, 7:48 a.m.,*
in response to message #5 by Marcus von Cube, Germany

The newest advertising spam is attaching ads to the ground in e.g. train stations. These foils or films really last though many people walk over them everyday. Maybe we can employ this "technology" for something beneficial. It doesn't even have to stick so hard :-) Anyone having more insight?

Edited: 13 Apr 2011, 7:59 a.m.

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #7 Posted by **Paul Dale** on 13 Apr 2011, 8:59 p.m.,*
in response to message #6 by Walter B

Another possibility. Print the overlay and laminate it with a sheet of paper behind (so the laminate only sticks to the printed side). Cut carefully and use spray adhesive to glue onto

the calculator.

Another possibility is it use a Xyron machine with a combined adhesive/laminate roll. Not as nice a finish as the above but quicker and less messy.

- Pauli

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #8 Posted by **exschr** on 13 Apr 2011, 11:32 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Great work done! Thank you all.

Just one thought:

The green on the overlay somehow sticks out like a sore thumb and makes the classic yellow and blue somehow disapear.

It doesn't look like a HP (sorry to be that picky...)

would it be possible to use a HP-like color, say the orange that's used on the 42s?

(I just don't know if the yellow and the orange would be distinguishable?!)

Re: Link to 34s overlay... Instructions for lazybones - Print shop wanted :-)

*Message #9 Posted by **Walter B** on 15 Apr 2011, 5:12 a.m.,*
in response to message #8 by exschr

The basic challenge is finding 5 colors being sufficiently differentiable on a grey to black background. Some years ago we had a wider discussion here about this topic. I'm pretty sure I chose "my" colors based on that. We even had at least one "visually challenged" (Hi USA! For the others: "rot-grün blind" IIRC) person participating in said discussion - and he was also happy with that choice.

So, you cannot argue about white ;-) Gold and blue are next to the colors HP chose for good reasons before they went off the track :-) Dark red is a decent color for less important labels (after all, we still have a calculator here, not a text processor). You're right, the green is a bit sore (we call such a color "toxic" here), but it differentiates very well from the others IMHO. I won't use orange - too close to gold. Feel free to return with a better offer :-)

Walter

Re: Link to 34s overlay... Instructions for artists

*Message #10 Posted by **gene wright** on 13 Apr 2011, 7:30 a.m.,*
in response to message #3 by Marcus von Cube, Germany

Yes, the file prints fine in photoshop since it recognizes the inherent dimensions.

Re: Link to 34s overlay...

*Message #11 Posted by **Paul Dale** on 16 Apr 2011, 11:49 p.m.,*

in response to message #1 by Gene Wright

I've done my overlay. Photo coming later.

I printed out Walter's overlay graphic twice.

I ran both of these through a Xyron laminating machine using a laminate/permanent adhesive roll.

With a razor knife and a steel ruler I carefully cut just outside the white lines for the keys. Peel the backing off and stick to the calculator.

Then cut the keys out of the second overlay just inside the white lines. Keep the face and top of the key decal together. I cut entire rows out and then cut the keys out one at a time after I'd peeled off the backing. Carefully, stick each decal onto the key and down the front.

It is probably possible to do this with a single printout of the overlay but much harder.

- Pauli

Re: Link to 34s overlay...

*Message #12 Posted by **Marcus von Cube, Germany** on 17 Apr 2011, 3:34 a.m.,*
in response to message #11 by Paul Dale

I'll put up the photo in the gallery.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12C with sticky keys

*Message #1 Posted by **David Osborne** on 12 Apr 2011, 10:13 a.m.*

Some of the keys on my ancient HP 12C have stopped working. How easy is it to take apart and clean, please?

David

Re: 12C with sticky keys

*Message #2 Posted by **exschr** on 12 Apr 2011, 2:56 p.m.,*
in response to message #1 by David Osborne

First of all: I have an old 12C with no LCD but perfect working keyboard, if you are interested get in contact with me!

This procedure workes for me, maybe others have better ways of doing it: -take out the batteries

-open the case (four screws under the four rubber feet)

-take care not to lose the two tiny springs!

-cut the many black melted heads of plastic carefully with sharp knifeblade (take care not to slip and if possible go underneath and lift up. This way you have a chance to end up with enough plastic to melt again afterwards

-lift up the PCB carefully and out of the case

-underneath the rubber mat are the keys

-clean! Maybe thats all that is needed, otherwise replace parts from an other 12C and put back together in reverse order

-to melt the PCB back in place, put it firmly and tightly back into the case, use a solderung gun to warm the plastic and press it flat with one finger. Do this for all the plastic rods.

If possible take some ESD precautions!

Maybe after all, it's just easier to buy an old working 12c from EBAY? Just don't throw your old buddy out: the LCD is still a great replacement part for other Voyagers! (Now you know why mine has no LCD anymore! It's in a 11C :-)

Cheers an good luck

Re: 12C with sticky keys

*Message #3 Posted by **Randy** on 12 Apr 2011, 5:26 p.m.,*
in response to message #1 by David Osborne

Pulling the keyboard completely out of Voyager to clean a few problematic keys is totally unnecessary as keys can be easily cleaned from the exposed back side of the board through the key vent hole.

Make a miniature wire brush from a few strands of stiff brass wire cut from a small wire wheel. Chuck them in a pin vise and trim the ends flush. Place a few drops of isopropyl alcohol into the key dome and scratch around with the wire brush. Repeat if needed.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Sorting algorithms as dances

*Message #1 Posted by **Thomas Klemm** on 12 Apr 2011, 5:05 a.m.*

Enjoy!

Cheers
Thomas

Re: OT: Sorting algorithms as dances

*Message #2 Posted by **Katie Wasserman** on 12 Apr 2011, 9:27 a.m.,*
in response to message #1 by Thomas Klemm

I love this, but was disappointed to not see how they would have done Quick Sort. OTOH, it makes bauble sort on the original 12C look blindingly fast.

Thanks for posting this!

-Katie

Edited: 12 Apr 2011, 9:27 a.m.

Re: OT: Sorting algorithms as dances

*Message #3 Posted by **Tim Wessman** on 12 Apr 2011, 9:31 a.m.,*
in response to message #2 by Katie Wasserman

Quicksort would definitely have to be a modern dance.

TW

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

30B/34s - adding more RAM

*Message #1 Posted by **robert rozee** on 11 Apr 2011, 11:38 p.m.*

hi, one complaint of the 30B platform seems to be a lack of available RAM, as well as what is emerging as a bit of an issue with running out of space in the flash for all the 34s features people would like to have.

it has occurred to me that the processor used does have a few 'general purpose' pins that come out to the programming header?

why not add external serial (I2C or SPI bus) RAM via these pins, to allow for a much larger (even if slow to access) RAM? one could also extend this concept a little further with a serial flash device used to hold the code associated with less frequently used functions, that could then be paged into the (small) onboard RAM when required.

an interesting concept? if anyone is interested in it, i'd be happy to troll through the datasheets to find potential devices. something with combined RAM and flash would be absolutely ideal!

cheers, rob :-)

Re: 30B/34s - adding more RAM

*Message #2 Posted by **Paul Dale** on 12 Apr 2011, 2:01 a.m.,*
in response to message #1 by robert rozee

The small amount of RAM is limiting. Many of our design decisions concentrated around this limitation. 6kb total, 2kb of which is battery backed. We use the 4kb of volatile memory for the stack plus a few global variables, a fair amount of this is required. The 2kb is committed.

The flash issue isn't so bad. Flash is pretty full, agreed, but no matter how much we had people would want more :-) As it is, the feature set included is very comprehensive. I'd like to get the Bessel & elliptic functions in but that looks unlikely. Fortunately, user code can provide these easily enough (albeit at somewhat reduced accuracy).

It would be possible to add RAM and flash via the IO pins. I'm not sure how useful it would really be. There isn't really enough RAM to load compiled code from flash to run, keystroke programs might be possible however. As you added more external memory, you'd have to consume more of the internal RAM as buffers, cache and for management purposes. I expect you'd have to push all registers and keystroke code onto the external storage fairly quickly. Still it would be possible and might be interesting.

- Pauli

Re: 30B/34s - adding more RAM

*Message #3 Posted by **robert rozee** on 12 Apr 2011, 10:10 a.m.,*
in response to message #2 by Paul Dale

a suitable device may be the N25S818HA / N25S830HA : OnSemi serial SRAM

32k bytes is the larger size listed. you could use this exclusively for holding user programs, then reserve all (or most) of the 2k of battery-backed onboard ram exclusively for registers (ie, no flexible partitioning between variables and program steps). user programs being composed of sequences of high-level keystrokes means that the external ram would end up being accessed at a relatively slow rate (in terms of the number of cpu cycles occurring between fetching stored keystrokes). under such conditions i believe that buffering would provide a minimal speedup, hence would not be necessary.

just an idea :-) since the city i live in was moderately destroyed by an earthquake in february, i find myself, a (now) relatively unemployed electronics engineer, with too much time to muse on such things!

btw, are there any plans floating around for a 10bII+ re-purposing project? i'm assuming that the 10bII+ would appeal as a target as the hardware will be available much cheaper than the 20b/30b.

and a second question: how easy can the 20b/30b be opened up to add the above mentioned RAM internally to the case? will the 10bII+ be similarly easy/hard to crack open?

Re: 30B/34s - adding more RAM

*Message #4 Posted by **Tim Wessman** on 12 Apr 2011, 10:26 a.m.,*
in response to message #3 by robert rozee

The 10bII+ screen is only using some 130 or so of the available pixels, so unless you want even less information it isn't ideal.

I think the 10bII+ is even more difficult to open then the 20/30b. The clips that hold the halves together are much more plentiful and hold with more force. I tried to open at least 4-5 of them and didn't manage to open one without either breaking one of the tabs or cosmetically marring the case somewhere.

Processor wise, either of them are essentially identical.

Also, why use RAM when flash will use less power overall?

TW

Edited: 12 Apr 2011, 10:26 a.m.

Re: 30B/34s - adding more RAM

*Message #5 Posted by **robert rozee** on 12 Apr 2011, 11:11 a.m.,*
in response to message #4 by Tim Wessman

> Quote:
>
> The 10bII+ screen is only using some 130 or so of the available pixels, so unless you want even less information it isn't ideal.
> [...]
> Also, why use RAM when flash will use less power overall?

flash has a limited (though admittedly large) lifetime wrt write cycles, and will consume more peak current (i'm assuming) when carrying out these writes. in a device powered by a couple of button-cells, any operation that draws a higher than average current, even for a short duration, is of concern - one may end up in the embarrassing situation where the cells fail to have enough 'oomph' to ride through the flash writes long before they are otherwise exhausted. and a failed write flash

will lead to... corrupted contents. a bad thing in anyone's books.

the down side of SRAM is the backup current, but for the OnSemi devices this is a somewhat negligible 1uA maximum. assuming a very conservative 30mAh of total capacity, this would be good for nearly 3 1/2 years of backup.

the 12-digit 7-segment display is no worse than that of the hp-15c, which is only 10 digits. and the 10bII+ also has more keys (40) available than the 20b/30b (only 36). hmmm, as i write this i am thinking, "will we see an hp-15cII+ released in the same format/case as the 10bII+?".

Re: 30B/34s - adding more RAM

*Message #6 Posted by **Katie Wasserman** on 12 Apr 2011, 11:54 a.m.,*
in response to message #5 by robert rozee

I like the 10bii+ keyboard and overall case much more than the 20b/30b. It sits on the desk without rocking and fits well in the hand too. While the display is short on annunciators, the digits are large and clear and easier to see than any other HP calculator aside from LED models. I think it would be an excellent calculator to re-purpose.

I agree with Tim that this is a difficult calculator to open and I haven't seriously tried opening mine but I'll give it a try soon (when I have some tools available for stuff like this).

-Katie

Re: 30B/34s - adding more RAM

*Message #7 Posted by **Scott Newell** on 12 Apr 2011, 1:11 p.m.,*
in response to message #2 by Paul Dale

> Quote:
>
> The small amount of RAM is limiting. Many of our design decisions concentrated around this limitation. 6kb total, 2kb of which is battery backed. We use the 4kb of volatile memory for the stack plus

It's been a while since I've looked at the datasheet, but can't you use all 6 kB as nonvolatile? The tradeoff would be increased current consumption when powered off (drop to wait mode instead of backup or off mode). Looks like 9 uA (wait) vs. 3.5 uA (backup) vs. 100 nA (off). That would limit you to what, 5.8 years of power down lifetime, assuming two 230 mAH cells? Someone check me on this.

Re: 30B/34s - adding more RAM

*Message #8 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 1:48 p.m.,*
in response to message #7 by Scott Newell

How do you get 9 uA for wait mode? What has to be switched off and how do I get out of it? I can see 200 uA for idle mode (processor clock stopped) on my multimeter for my development device. This is what the calculator consumes when it is turned on.

Re: 30B/34s - adding more RAM

*Message #9 Posted by **Scott Newell** on 12 Apr 2011, 2:37 p.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> How do you get 9 uA for wait mode? What has to be switched off and how do I get out of it? I can see 200 uA for idle mode (processor clock stopped) on my multimeter for my development device. This is what the calculator consumes when it is turned on.

Haven't measured it. I pulled the value straight from table 5-1 ("Low Power Mode Configuration Summary"). Table 35-7 claims to be measured values...note that that 9 uA is pretty optimistic, especially with fresh batteries and at higher temps.

Re: 30B/34s - adding more RAM

*Message #10 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 3:35 p.m.,*
in response to message #9 by Scott Newell

I've just looked at the manual again. Wait mode has a severe drawback: The processor gets out of it only by a low value on the wakeup pins. The ON key is connected to the force wakeup, not one of the 16 wakeup inputs. Neither works the RTC with this. :(

I have to try it if the processor returns from wait mode on any of the regular wakeup sources but I doubt it.

Re: 30B/34s - adding more RAM

*Message #11 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 12:33 p.m.,*
in response to message #1 by robert rozee

The only useful application for an external memory chip is program storage. Writing to program memory is certainly much rarer then reading, so flash is a good technology for this. I'd prefer a removable device. I was thinking about saving a few pages of internal flash for the purpose: Write and test some user code and when you're pleased with it, copy it to flash by a special command. You'll need a way to manage your flash area, so this gets the more complicated the more you think about it.

Re: 30B/34s - adding more RAM

*Message #12 Posted by **Diego Diaz** on 13 Apr 2011, 1:00 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Hi all,

Although I have nothing to do with these new models and the re-purposing project (which IMHO seems an outstanding job), I do have certain experience in adding RAM (or ROM) to existing devices.

One of the main issues when dealing with RAM is the power requirements, and this was the point when it comes to choosing the RAM chips in the NoV's projects for the HP-41 series.

RAMTRON manufactures a wide range of non-volatile RAM, both serial and parallel. In the serial range you'll find SPI and I2C interfaces at Vcc's as low as 2.0v up to 5.5v.

The main benefit is a zero power data retention (like EEPROM/Flash), and byte addessing immediate write (like RAM).

I use the 32KBytes "FM24C256" (do not confuse with 24C256 EEPROM) with I2C interface, which is pretty easy to implement.

I'll be happy to contribute if you think my experience can be useful.

Best from Madrid.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

50g won't plot summation function, but emulator will.

*Message #1 Posted by **Hal Bitton in Boise** on 11 Apr 2011, 7:16 p.m.*

This one is drivng me a bit nuts. when I try to plot this sigma function on my 50G,:

E(X=1,X,X^2) from 1 to 5 I get a "sigma error: bad argument type" returned.

Plotting the identical function on my 50G emulator gives me the correct graph.

I've checked all flag settings, CAS settings, and even the PPAR variables between the emulator and the real calc to be sure they are the same, to no avail.

The fact that the sigma (summation) function is accepted into the equation field of the plot setop window would seem to indicate it's a valid plot function (and indeed it is so on the emulator).

Any ideas greatly appreciated.

Best regards, Hal

Re: 50g won't plot summation function, but emulator will.

*Message #2 Posted by **Norman Dziedzic** on 11 Apr 2011, 11:41 p.m.,*
in response to message #1 by Hal Bitton in Boise

I got an error with E(x=1,x,x^2) but I was able to plot E(t=1,x,t^2).

But it only evaluate at the integers

Re: 50g won't plot summation function, but emulator will.

*Message #3 Posted by **Hal Bitton in Boise** on 12 Apr 2011, 7:14 p.m.,*
in response to message #2 by Norman Dziedzic

Thanks very much, Norman.
That did the trick. I realize now that x is the independant variable for the plot function, but t (or any variable other than the plot independant variable) serves as the independant variable for the sigma function.

Best regards, Hal

50g won't plot summation function, but emulator will.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41CX power consumption

*Message #1 Posted by **Egan Ford** on 11 Apr 2011, 2:15 p.m.*

Can someone please tell me power consumption of a 41CX in use (flying goose)? Thanks.

Re: HP41CX power consumption

*Message #2 Posted by **Eric Smith** on 11 Apr 2011, 2:37 p.m.,*
in response to message #1 by Egan Ford

I've measured a fullnut at about 72 mW (12 mA at 6V). There's probably a moderate amount of variation between units.

I'd expect a halfnut to draw less.

Re: HP41CX power consumption

*Message #3 Posted by **Juergen Keller** on 11 Apr 2011, 5:24 p.m.,*
in response to message #1 by Egan Ford

Is the goose flying forwards or backwards? Sorry, couldn't resist ;-)

Re: HP41CX power consumption

*Message #4 Posted by **Eric Smith** on 11 Apr 2011, 5:53 p.m.,*
in response to message #3 by Juergen Keller

I've modified mine to have a flying grouse.

Re: HP41CX power consumption

*Message #5 Posted by **Patrice** on 11 Apr 2011, 7:50 p.m.,*
in response to message #3 by Juergen Keller

It is POSSIBLE with some synthetic programming :)

Re: HP41CX power consumption

*Message #6 Posted by **exschr** on 12 Apr 2011, 3:22 p.m.,*
in response to message #1 by Egan Ford

From what I could find out there for the flying bird:

From service manual, finseth.com and from 41CL (aka systemyde.com/hp41)

50mA 12.5mA 7.9mA

For IDLE and for OFF:

1mA 1mA 4.2mA

0.05mA 0.02mA 0.11mA

I made once some investigations, I can't remember the details, but the current consumption was in the order of the numbers from service manual (slightly below). But as already mentioned: your mileage might vary

Re: HP41CX power consumption

*Message #7 Posted by **Garth Wilson** on 12 Apr 2011, 11:30 p.m.,*
in response to message #1 by Egan Ford

My owner's manual, P.381-382, says for program running it's 5-20mA; for ON but idle it's .5 to 2.0mA, and for OFF it's .01 to .05mA. This is a 41cx Halfnut. I used to go a couple of years on a set of batteries, then got a double extended memory module and that took the battery life down to about six months.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

34s bug reports

*Message #1 Posted by **gene wright** on 11 Apr 2011, 1:44 p.m.*

Suggest numbering bug reports sequentially. These were on the actual unit itself. Here are the first few:

1) Permutations and combinations seem to turn off the display when given 69 ENTER 2 as the arguments.

2) Inverse normal distribution blanks the screen too. Argument used was 0.8413.

3) Where is the = symbol in alpha? :-)

Edited: 11 Apr 2011, 4:40 p.m. after one or more responses were posted

Re: 34s bug reports

*Message #2 Posted by **Walter B** on 11 Apr 2011, 3:39 p.m.,*
in response to message #1 by gene wright

Gene, did you crosscheck on the emulator? Both bugs work fine on the most recent build of the emulator FWIW. I'll get my flashed 20b but don't have it yet ...

Re: 34s bug reports

*Message #3 Posted by **Paul Dale** on 11 Apr 2011, 7:47 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> 3) Where is the = symbol in alpha? :-)

In the alpha comparisons catalogue. h-shift TEST in alpha mode.

- Pauli

Re: 34s bug reports

*Message #4 Posted by **svisvanatha** on 11 Apr 2011, 9:53 p.m.,*
in response to message #1 by gene wright

I can confirm that Bug #1 does exist on the 34s firmware on the 30B.

Awaiting a newer binary from Marcus before listing bugs I have observed.

Re: 34s bug reports

*Message #5 Posted by **Paul Dale** on 12 Apr 2011, 6:53 a.m.,*
in response to message #4 by svisvanatha

Quote:

> Awaiting a newer binary from Marcus before listing bugs I have observed.

If the bug is in the emulator and the real hardware, I suspect it is going to be my problem, so you might as well let me know.

Tried programming a 20b and 30b tonight without success :-(Seems Linux doesn't like the serial programming cable. Hopefully, the erase process hasn't bricked them.

On a positive note, I've freed up some more flash space. Slight speed penalty but we'll not know exactly how much for a while.

- Pauli

Re: 34s bug reports

*Message #6 Posted by **svisvanatha** on 12 Apr 2011, 8:37 a.m.,*
in response to message #5 by Paul Dale

FWIW - I cannot get my serial flashing cable to work under Ubuntu. Under WinXP. it is fine.

Bugs appearing in (linux) emulator and 30B/WP34S:

4. When menu items such as h-shift TEST are active, you cannot then select another menu item directly such as h-shift MODE without hitting 'EXIT' first. This is not consistent with the manner in which the 42S treats menus. 4a. Although I did notice that if you select h-shift STAT, and then h-shift PROB, it is equivalent to entering h-shift STAT and then the up arrow

5. Set the BASE to 2 by pressing f-shift 2 (the base 2 on the CHS key). Switch back to base 10. The '2c 64' and 'd' annunciators still persist. There is no way I could find to clear those annunciators. In addition, selections of FIX, SCi, ENG do not work after setting the base back to 10. Battery pull clears this condition on the hardware, but no obvious way to clear in the emulator. 5a. h-shift CONST does not work after setting the base in this manner. Other menus appear to work after setting BASE.

6. Calculator seems to start in HP48 'std' display mode, but after swithcing to FIX 2 for instance, there is no obvious way to switch back to STD.

Bugs appearing the 30B/34S, but working on the (linux) emulator

7. set to 'RAD' mode. h-shift PI - displays value of PI in X. f-shift COS freezes calc. Cannot be turned off, or other entry possible. Battery pull clears this condition.

8. with any numbers on the stack press f-shift R<- (f and then the 2nd key from the right on the top row to convert to rectangular) - should convert to rectangular coords - but all it does is turn off calculator, and calc cannot be turned on again, without battery pull. Similar function f->P (to polar coords) works fine.

9. Dot matrix area (upper left of LCD) has persistent lightly lit vertical bands that shift around randomly after X register changes.

Edited: 12 Apr 2011, 9:03 a.m.

Re: 34s bug reports response

*Message #7 Posted by **Walter B** on 12 Apr 2011, 9:13 a.m.,*
in response to message #6 by svisvanatha

> Quote:
>
> 4. When menu items such as h-shift TEST are active, you cannot then select another menu item directly such as h-shift MODE without hitting 'EXIT' first. This is not consistent with the manner in which the 42S treats menus.

This is not a bug, this is a feature so far as described in the manual. I see no urgent need changing it, but maybe ...

> Quote:
>
> 4a. Also I did notice that if you select h-shift STAT, and then h-shift PROB, it is equivalent to entering h-shift STAT and then the up arrow

Funny. We'll correct that. Thanks :-)

> Quote:
>
> 5. Set the BASE to 2 by pressing f-shift 2 (the base 2 on the CHS key). Switch back to base 10. The '2c 64' and 'd' annunciators still persist. There is no way I could find to clear those annunciators. Battery pull clears this condition.

Base 10 is different to decimal. Base 10 is integer! If you want to set decimal, press f .d instead (f-shifted RCL). Please see the manual.

> Quote:
>
> 5a. h-shift CONST does not work after setting the base in this manner. Other menus appear to work after setting BASE.

Almost all constants are real numbers. Calling them in integer mode doesn't make sense. Please see the manual.

> Quote:
>
> 6. Calculator seems to start in HP48 'std' display mode, but after swithcing to FIX 2 for instance, there is no obvious way to switch back to STD.

This is called ALL mode in RPN. Press h ALL (top left key) to get it back. Please see ...

Summary: Thanks for your reports.

Walter

Edited: 12 Apr 2011, 9:32 a.m.

Re: 34s bug reports response

*Message #8 Posted by **svisvanatha** on 12 Apr 2011, 10:27 a.m.,*
in response to message #7 by Walter B

Thank you Walter for your time. A combination of not paying attention and lack of sleep led me to the erroneous reports on the bases! I apologize!

I think I must be using a different version without 'ALL' as an h-shift function. Mine is Sigma- in the top left (version 1.17). I Will check into that.

I promise to be more diligent in the future ;)

Re: 34s bug reports response

*Message #9 Posted by **Walter B** on 12 Apr 2011, 1:23 p.m.,*
in response to message #8 by svisvanatha

Svisvanatha,

No problem with errors. All of us make them (sometimes). And they give us the opportunity to learn.

> Quote:
>
> I think I must be using a different version without 'ALL' as an h-shift function. Mine is Sigma- in the top left (version 1.17).

You're right. We changed that yesterday. That's the curse of open development: you're aiming at a moving target ;-) The version in the zipped package is the official one and is (relatively) stable - everything else you may find on SourceForge concerning our project may change several times a day - we don't care since it's our workshop. So use it at your own risk.

Walter

Re: 34s bug reports response

*Message #10 Posted by **Paul Dale** on 12 Apr 2011, 6:07 p.m.,*
in response to message #9 by Walter B

And to answer your question, the old way to get ALL was 'FIX .'

- Pauli

Re: 34s bug reports

*Message #11 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 11:38 a.m.,*
in response to message #1 by gene wright

Thanks for your testing. I've put up a new image on SourceFourge.

Link to current version

*Message #12 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 1:55 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Gene has asked for this, but it will certainly help all of us:

http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/

Binomial distribution

*Message #13 Posted by **Gene Wright** on 12 Apr 2011, 4:15 p.m.,*
in response to message #12 by Marcus von Cube, Germany

Another reason I think a more introductory manual would be a good thing.

The Binomial distribution requires three inputs: Number of observations, number of successes, and the probability of a success on an event.

So, 10 coin flips at 50% probability of a head on each flip...what is the probability of 5 heads?

10, 5, 0.5 are the three arguments.

The existing manual suggests on page 24 of 61 that the probability is to be in X. Back on page 10 of 61, there is the statement that registers J and K (110 and 111) may be taken for other probability distributions.

So, are the arguments keyed in the stack as 10 ENTER 5 ENTER 0.5 then shift PROB ?

Or, do you store two of the parameters in J and K and only key the 0.5 then shift PROB?

Inquiring minds want to know. :-)

Re: Binomial distribution

*Message #14 Posted by **Paul Dale** on 12 Apr 2011, 6:10 p.m.,*
in response to message #13 by Gene Wright

Probability in J, total number in K. The number you're asking about in X.

So 0.5 in J, 10 in K and 5 in X.

We tried putting all three on the stack and it ended up painful to use so we put the distribution parameters in registers (originally 01 and 02 and later J and K).

- Pauli

Re: Binomial distribution

*Message #15 Posted by **Gene Wright** on 12 Apr 2011, 6:11 p.m.,*
in response to message #14 by Paul Dale

Ah, thanks. That is the kind of info that has to be spelled out in the manual. :-)

Re: Binomial distribution

*Message #16 Posted by **Paul Dale** on 12 Apr 2011, 6:17 p.m.,*
in response to message #15 by Gene Wright

Quote:

> Ah, thanks. That is the kind of info that has to be spelled out in the manual. :-)

Agreed. Better start writing :-)

- Pauli

Re: Binomial distribution

*Message #17 Posted by **Walter B** on 12 Apr 2011, 7:08 p.m.,*
in response to message #15 by Gene Wright

It is already. Who has eyes to read, please read! Just search for Binom and you'll find it.

Re: Binomial distribution

*Message #18 Posted by **Paul Dale** on 12 Apr 2011, 7:15 p.m.,*
in response to message #17 by Walter B

In the released manual on sourceforge, the parameters are mentioned as being in the J and K registers but the wrong way around. So the question would still have had to be asked even if the manual was fully read and understood :-(

The latest manual is available from subversion: doc/ENTER_20b_1_17.pdf There have been a number of small changes.

- Pauli

Re: Binomial distribution

*Message #19 Posted by **Walter B** on 12 Apr 2011, 7:23 p.m.,*
in response to message #18 by Paul Dale

This is due to the fact we agreed on the order of these arguments after the released manual was released. Such is life in an open environment :-)

> Quote:
>
> There have been a number of small changes.

Oh yes. But mathematically speaking, they are countable still ;-)

Walter

Edited: 12 Apr 2011, 7:25 p.m.

Re: Binomial distribution

*Message #20 Posted by **Gene Wright** on 12 Apr 2011, 7:38 p.m.,*
in response to message #17 by Walter B

Hey Walter.

I did search for "Bino" and found a couple of places, but no where did I see it say "Store this is J and this in K, and put this in X". The only place it really talks about it is on...

Page 24 of 61 says: "= BINOMDIST(x; j; k; 1) in MS Excel, with the sample size j and the gross error probability k. B–1(p) returns the number of successes g for a given probability p in X."

That did not suggest to me to store 10 in J, 0.5 in K and 5 in X. The 0.5 is the probability of a success being observed, not a gross error probability. :-)

TVM function missing from manual

*Message #21 Posted by **Gene Wright** on 12 Apr 2011, 7:49 p.m.,*
in response to message #20 by Gene Wright

In the X.FCN menu. Not in the manual. :-)

Re: TVM function missing from manual

*Message #22 Posted by **svisvanatha** on 12 Apr 2011, 7:59 p.m.,*
in response to message #21 by Gene Wright

Looks like a newer addition

http://wp34s.svn.sourceforge.net/viewvc/wp34s/doc/ENTER_20b_1_17.pdf?revision=588

Re: TVM function missing from manual

*Message #23 Posted by **Paul Dale** on 12 Apr 2011, 8:04 p.m.,*
in response to message #22 by svisvanatha

Yes, this was a late addition. TVM is a user code program in flash that evaluates the TVM equation taking parameters from registers 80-84 and flag 80 from memory.

- Pauli

Re: Binomial distribution

*Message #24 Posted by **Walter B** on 13 Apr 2011, 2:03 a.m.,*
in response to message #20 by Gene Wright

> Quote:
>
> Page 24 of 61 says: "= BINOMDIST(x; j; k; 1) in MS Excel, with the sample size j and the gross error probability k. B–1(p) returns the number of successes g for a given probability p in X."
>
> That did not suggest to me to store 10 in J, 0.5 in K and 5 in X. The 0.5 is the probability of a success being observed, not a gross error probability. :-)

Thanks for the last point. I know why this happened ;-) and I'll correct that.

For the remainder: Please note there are Print Conventions framed at the bottom of page 3. And the memory layout is explained on page 10, explicitely telling the

purpose of registers J and K. So when you read the explanation of the binomial distribution you know what ***j*** and ***k*** represent, don't you? Else please return to page 3.

That said, the manual you refer to is of 28.3. describing v1.16, the last state zipped AFAIK. As soon as v1.17 is in the zipped package, this package will include the respective manual. For the time being, please find a (changing!!) manual representing (almost!) the current state of the SW here: http://wp34s.svn.sourceforge.net/viewvc/wp34s/doc/ENTER_20b_1_17.pdf?view=log

WARNING: Also the manual is work in progress. Since it is written on the other side of the Atlantic it may require some inevitable extra thinking sometimes. Similar requirements are posed by authors from the US of A on global readers every day. Please accept it - we do it as well. Think (sometimes)!

DISCLAIMER: Please apologize I cannot frame the last paragraph.

HTH

Walter

Edit: Bug 10 seems being fixed. The manual is corrected. Continue searching ;-)

Edited: 13 Apr 2011, 2:41 a.m.

Re: 34s bug reports - #10

*Message #25 Posted by **Gene Wright** on 12 Apr 2011, 6:14 p.m.,*
in response to message #1 by gene wright

Binomial locks up the 34s. :-)

So 0.5 in J, 10 in K and 5 in X.

Shift Prob ENTER locks the machine. Battery removal required.

Re: 34s bug reports - #10

*Message #26 Posted by **Walter B** on 12 Apr 2011, 7:12 p.m.,*
in response to message #25 by Gene Wright

This setup causes a +infinity error in the emulator. May help in debugging.

Re: 34s bug reports - #10

*Message #27 Posted by **Paul Dale** on 13 Apr 2011, 2:15 a.m.,*
in response to message #26 by Walter B

Actually it is an uninitialised return value. Probably from the mucking around and space saving I've done with the distributions recently.

Fix out soon.

- Pauli

Re: 34s bug reports #11

*Message #28 Posted by **svisvanatha** on 12 Apr 2011, 7:40 p.m.,*
in response to message #1 by gene wright

```
11. Trig functions do not always return correct values.


e.g. GRAD 200 COS should be -1
WP34S/30B - result is -1
Wp34S  emulator - result is -1


But, GRAD -200 COS should also be -1
WP34S/30B - result is 0
Wp34S  emulator - result is 0


similarly:


DEG -90 SIN should be -1
WP34S/30B - result is 1
Wp34S  emulator - result is 1


I assume that negative arguments should be allowed similar to HP-35S, and HP-48SX.  I did
not see anything in the manual which stated that positive arguments only are allowed.
```

Edited: 12 Apr 2011, 7:41 p.m.

Re: 34s bug reports #11

*Message #29 Posted by **Paul Dale** on 12 Apr 2011, 8:02 p.m.,*
in response to message #28 by svisvanatha

Nice find.

The code that returns exact answers for multiples of 90 degrees/100 gradians isn't handling negatives properly. A fix in in the pipeline.

The underlying trig routines are working properly. Witness SIN(-PI/2). I don't even remember why I put this special case in :-(

- Pauli

Re: 34s bug reports #11

*Message #30 Posted by **svisvanatha** on 12 Apr 2011, 8:08 p.m.,*
in response to message #29 by Paul Dale

```
Well, since you point out this specific example ;) :


RAD PI 2 / CHS SIN should be -1


WP34S/30B - result is: calculator blanks out, and returns -6.36619772368E-1!


Wp34S  emulator - result is -1
```

Re: 34s bug reports #11

*Message #31 Posted by **svisvanatha** on 12 Apr 2011, 8:12 p.m.,*
in response to message #30 by svisvanatha

See also Bug #7 above for similar with Cos of PI in RAD mode - that makes the calculator freeze!

What factors would contribute to two different outcomes for hardware vs emulator? Memory on hardware not being addressed correctly? I am nowhere near a hardware guy...

Edited: 12 Apr 2011, 8:14 p.m.

Re: 34s bug reports #11

*Message #32 Posted by **Paul Dale** on 12 Apr 2011, 8:25 p.m.,*
in response to message #31 by svisvanatha

We're probably trashing memory/running out of our 4kb stack :-(

Trig operations in radians require a reduction modulo 2 PI and this has to be done in very high precision to avoid loss of accuracy. For degrees and gradians I do the modulo reduction before converting to radians so this step is fast and accurate.

I'm still without working hardware so have to test everything in the emulator :-(

- Pauli

Re: 34s bug reports #11

*Message #33 Posted by **svisvanatha** on 12 Apr 2011, 8:29 p.m.,*
in response to message #32 by Paul Dale

Thanks - at least you know where the issue is.

Do you/Walter/Marcus think a better bug tracker is required now that the *.bin is being made publicly available? There is one on sourceforge I believe as part of the project page. It would require users to sign up there though. I am happy to keep reporting in this forum if you all wish!

Re: 34s bug reports #11

*Message #34 Posted by **Paul Dale** on 12 Apr 2011, 8:33 p.m.,*
in response to message #33 by svisvanatha

I've thought about this a bit but haven't talked to the others yet. Proper tracking will be essential but at the moment it is probably too heavy weight ... this is well pre-alpha stage software.

- Pauli

Re: 34s bug reports #11

*Message #35 Posted by **svisvanatha** on 12 Apr 2011, 9:39 p.m.,*
in response to message #32 by Paul Dale

```
 Bug 7 and the specific example you gave *appear* to have been fixed with
newer BIN image dated Rev 569 that Marcus uploaded to SF.


With that image, and the latest Windows emulator, try:


RAD PI SIN, which should be 0
```

```
WP34S/30B - result is 2.38462643383E-16
Wp34S emulator - result is 2.38462643383E-16

Now, SIN-1 of that result returns the argument exactly.

RAD PI COS returns -1 for both emulator and 34S/30B

But the SIN behaviour is similar to the 48SX...
```

Edited: 12 Apr 2011, 9:45 p.m.

Re: 34s bug reports #11

*Message #36 Posted by **Paul Dale** on 12 Apr 2011, 11:02 p.m.,*
in response to message #35 by svisvanatha

In this case the 34s is correct. This is not a bug.

PI isn't exactly pi, rather it is pi rounded to 16 significant digits. Thus SIN(PI) has to return the best result for its argument.

From wolfram alpha:

```
SIN(3.141592653589793) =
2.384626433832795028841971693993728458138352436257608... × 10^-16
```

We match exactly with the precision available.

The reason cosine is returning minus one is again due to accuracy. Again from alpha:

```
COS(3.141592653589793) = -
0.99999999999999999999999999999971567783855329432161056631...
```

Round this to sixteen significant digits and you get -1.

- Pauli

Edited: 13 Apr 2011, 2:16 a.m.

Re: 34s bug reports

*Message #37 Posted by **svisvanatha** on 13 Apr 2011, 6:22 a.m.,*
in response to message #1 by gene wright

Regarding Bug #1 - Py,x and Cy,x:

Gene: This appears to have been fixed with newer BIN image dated Rev 569 that Marcus uploaded to SF.

However, the WP34S/30B is *quite* slow at returning the result compared to even the HP-35S. I would say the result is returned some 4 seconds after executing P(69,2). In that time, the LCD contains the the following: dot matrix part - the shift key pressed; numeric part - X

The wait is so long, that if this is indeed expected, there should be a wait annunciator displayed to indicate the calculator is thinking. I know that program execution causes the RCL annunciator to flash.

The speed of the Windows emulator is fine.

Edited: 13 Apr 2011, 6:24 a.m.

Re: 34s bug reports

*Message #38 Posted by **Paul Dale** on 13 Apr 2011, 6:38 a.m.,*
in response to message #37 by svisvanatha

That is very very slow. Cy,x does three log gamma evaluations and some extra work but it doesn't do that much extra. There is a trig evaluation once the reflection comes into play (which it shouldn't) but otherwise it is a basic fixed length series evaluation.

I wonder if the clock rate fails to kick up sometimes or somesuch.

- Pauli

Re: 34s bug reports

*Message #39 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 3:06 p.m.,*
in response to message #38 by Paul Dale

I've played around with the factorial which is implemented with LNGAMMA as well. It's slow. So I tried next with LN alone. It takes a noticable time to compute, more then the trig functions. I assume "hier ist der Hund begraben" as we say in Germany.

Re: 34s bug reports - speed

*Message #40 Posted by **gene wright** on 13 Apr 2011, 12:05 p.m.,*
in response to message #37 by svisvanatha

Running the addition benchmark under various circumstances.

1) In "10" mode, which is base 10 integer, I think.

LBL A INC X GTO A

with a starting 0 in X, results in a value of about 73000 in a minute.

2) Same "10" mode, but this code:

LBL A + GTO A

with the stack loaded with 1, 1, 1, 0, results in a value of about 71,800.

3) In DECM mode, the code:

LBL A + GTO A

results in a value of about 78,700.

So, this is SLOWER than I got the other day, when I got a value of about 135,000. Thoughts?

Re: 34s bug reports - speed

*Message #41 Posted by **Paul Dale** on 13 Apr 2011, 6:19 p.m.,*
in response to message #40 by gene wright

Quote:

> So, this is SLOWER than I got the other day, when I got a value of about 135,000. Thoughts?

Space saving measures. If we end up not needing them, they will be reverted. That is a lot slower so I might revert them regardless.

- Pauli

Re: 34s bug reports - #12

*Message #42 Posted by **gene wright** on 13 Apr 2011, 12:07 p.m.,*
in response to message #1 by gene wright

Had the 34s in "10" mode to do some base 10 integer calculations.

Then tried to find the DECM command, which was difficult. It appears that the 1.17 manual suggests Yellow H.d on page 28 of 68.

So, I had a value of about 70,000 in X and pressed yellow H.d.

Display shows "infinity".

That seems like a bug.

Also, is there another place the DECM command lives?

Re: 34s bug reports - #12

*Message #43 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 1:44 p.m.,*
in response to message #42 by gene wright

Switching between integer and float is implemented similar to the 16C. It does some computations which I have never understood.

Re: 34s bug reports - #12

*Message #44 Posted by **Walter B** on 13 Apr 2011, 2:23 p.m.,*
in response to message #43 by Marcus von Cube, Germany

I concur :-) IIRC, it performs the transition from integer to decimal and vice versa exactly like the 16C, FWIW.

Gene, you are right with respect to DECM. There's a table showing the mode transitions on page 17 of the manual v1.17.

Walter

Re: 34s bug reports - #12

*Message #45 Posted by **Paul Dale** on 14 Apr 2011, 2:30 a.m.,*
in response to message #42 by gene wright

As Walter said, it isn't a bug just not entirely obvious.

We do as the 16c does.

We had a discussion about what else could be done but nothing substantial came of it.

Pauli

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #46 Posted by **svisvanatha** on 13 Apr 2011, 9:29 p.m.,*
in response to message #1 by gene wright

Scenario: You are within program mode, and want to browse a catalog for a function to use. You enter a catalog, and realize that 1) it is not the correct one (note 1), or 2) the function is accessible from the keyboard. So you EXIT the catalog to return to the program step you are in.

Try this on the WP34S (emulator or WP34S/30B)

```
1. Enter program mode
2. f-Shift MODE
3. EXIT
```

This returns you to the stack instead of the program step that you were on.

Coming from a user of 42S, and 35S, this seems odd. Is this designed behaviour or an oversight?

From the manual pg 52 of v1.17: "...while EXIT leaves the catalog without executing anything, returning to the mode as set before." From this, I assume that my expectation of returning to program mode is correct.

(note 1): Bug #4 I filed previously was shown to be designed behaviour, but having used the WP34S over the past few days, I find it odd. You can switch Shift modes by simply cycling F-G-H, but not for catalogs? I realize enhancements are probably not high on the list at this point, and will leave it at that!

Thanks!

Edited - changed wording

Edited: 13 Apr 2011, 9:40 p.m.

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #47 Posted by **Paul Dale** on 13 Apr 2011, 9:51 p.m.,*
in response to message #46 by svisvanatha

> Quote:
>
> Is this designed behaviour or an oversight?

This is as designed. Someone wanted ON to exit program mode and this is a follow on to that. Will be looked into in due course.

> Quote:
>
> You can switch Shift modes by simply cycling F-G-H, but not for catalogs?

The problem here is the catalogue entry keystrokes are often also associated with characters that are used for navigation. You can't have both.

- Pauli

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #48 Posted by **svisvanatha** on 13 Apr 2011, 10:45 p.m.,*
in response to message #47 by Paul Dale

> Quote:
>
> This is as designed. Someone wanted ON to exit program mode and this is a follow on to that. Will be looked into in due course.

Thanks.

> Quote:
>
> The problem here is the catalogue entry keystrokes are often also associated with characters that are used for navigation. You can't have both.

Forgive my naivety - how does being able to switch between different catalogs (without first pressing EXIT) interfere with other calculator functions? e.g. h-SHIFT MODE followed by h-SHIFT CONV. I am simply trying to understand your viewpoint.

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #49 Posted by **Paul Dale** on 13 Apr 2011, 11:40 p.m.,*
in response to message #48 by svisvanatha

> Quote:
>
> Forgive my naivety - how does being able to switch between different catalogs (without first pressing EXIT) interfere with other calculator functions? e.g. h-SHIFT MODE followed by h-SHIFT CONV. I am simply trying to understand your viewpoint.

There are some alpha characters defined on the h-shift plane. These characters can be used to quickly navigate catalogues just like any alpha input can when a catalogue is showing.

Thus, they cannot be used to switch between catalgoues. Sure, not all keys have h-shift alpha definitions and these could switch catalogues I guess but then we'd have an inconsistency in that some catalogues could be accessed and others couldn't.

- Pauli

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #50 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 2:18 a.m.,*
in response to message #49 by Paul Dale

Since the shifted alpha characters are not labeled on the keyboard, we could simply ignore the shift keys in navigation mode except for the keys with green catalog labels and treat them separately. Or we could leave the temporary alpha mode with each shift key and simply execute the selected function, be it a catalog or whatever. Even more intuitive: Just exit a catalog upon any of the shift keys. I prefer the latter: easy to implement and visually consistent.

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #51 Posted by **Paul Dale** on 14 Apr 2011, 2:29 a.m.,*
in response to message #50 by Marcus von Cube, Germany

It isn't quite that simple. We need g-shifted navigation to access the Greek alphabet.

- Pauli

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #52 Posted by **Walter B** on 14 Apr 2011, 4:49 a.m.,*
in response to message #50 by Marcus von Cube, Germany

... and we need h-shift for % and f-shift e.g. for (, +, -. Such is life ;-)

Walter

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #53 Posted by **svisvanatha** on 14 Apr 2011, 7:31 a.m.,*
in response to message #49 by Paul Dale

OK - thank you. I was not using the 'search' function within catalogs. I can see the merits of allowing search, especially for long catalogs.

I'll leave this one alone - it is just not natural (for me) coming from using previous implementatations of catalogs. Thanks!

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #54 Posted by **Paul Dale** on 14 Apr 2011, 7:46 a.m.,*
in response to message #53 by svisvanatha

> Quote:
>
> OK - thank you. I was not using the 'search' function within catalogs. I can see the merits of allowing search, especially for long catalogs.

Several of the catalogues are quite painful to navigate one step at a time. I highly recommend the searching as a time and keyboard saver.

Also remember you can keep typing letters to refine the search (although after a short pause or one of the navigation arrows this is reset). You'll appreciate this most if you start accessing the statistical accumulations in the STATS catalogue :-) Although there are other places where there are long sequences of commands that start with the same letter.

- Pauli

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #55 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 7:49 a.m.,*
in response to message #54 by Paul Dale

You can also hold down the arrow keys. They repeat. :-))

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #56 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 2:20 a.m.,*
in response to message #47 by Paul Dale

> Quote:
>
> Someone wanted ON to exit program mode and this is a follow on to that.

EXIT should only clear the status flags which are relevant in the current mode. It must be made context sensitive.

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #57 Posted by **svisvanatha** on 14 Apr 2011, 7:31 a.m.,*
in response to message #56 by Marcus von Cube, Germany

Yup - agreed.

Re: 34s bug reports #13 - Exit in Catalogs within Program Mode

*Message #58 Posted by **svisvanatha** on 14 Apr 2011, 7:57 p.m.,*
in response to message #46 by svisvanatha

BIN v611 from SF appears to have the EXIT key enhancement in it! Behaviour is now as follows: when browsing a catalog in Program mode, EXIT returns you to the program step you were on before entering the catalog.

Thanks!

Edited: 14 Apr 2011, 7:57 p.m.

Re: 34s bug reports #14 - CPX CLx appears to not work

*Message #59 Posted by **svisvanatha** on 13 Apr 2011, 10:52 p.m.,*
in response to message #1 by gene wright

From manual v1.17 pg. 27, I understand that:

CPX h-SHIFT CLx should clear both X and Y registers (Re and Im parts)

However, both emulator and WP34s/30B appear to leave stack unchanged after execution.

Edited: 13 Apr 2011, 10:53 p.m.

Re: 34s bug reports #14 - CPX CLx appears to not work

*Message #60 Posted by **Paul Dale** on 13 Apr 2011, 11:44 p.m.,*
in response to message #59 by svisvanatha

> Quote:
>
> From manual v1.17 pg. 27, I understand that:
>
> CPX h-SHIFT CLx should clear both X and Y registers (Re and Im parts)

> However, both emulator and WP34s/30B appear to leave stack unchanged after execution.

Nothing is done for this key sequence currently. I'm not sure complex CLx makes sense. Will see -- either the documentation changes, the code changes or both.

- Pauli

Re: 34s bug reports #14 - CPX CLx appears to not work

*Message #61 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 2:22 a.m.,*
in response to message #60 by Paul Dale

CPLX CLX doesn't make much sense without dropping the stack one level and disabling stack lift so you can enter a new number.

Re: 34s bug reports #14 - CPX CLx appears to not work

*Message #62 Posted by **Paul Dale** on 14 Apr 2011, 2:37 a.m.,*
in response to message #61 by Marcus von Cube, Germany

Exactly. I did write that it didn't make much sense.

- Pauli

Re: 34s bug reports #14 - CPX CLx appears to not work

*Message #63 Posted by **Walter B** on 14 Apr 2011, 4:42 a.m.,*
in response to message #62 by Paul Dale

:-) So we all agree. I removed CPX CLx from the manual.

Walter

Re: 34s bug reports - new image

*Message #64 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 11:37 a.m.,*
in response to message #1 by gene wright

The moving target has moved again:

http://wp34s.svn.sourceforge.net/viewvc/wp34s/trunk/realbuild/

Re: 34s bug reports - new image

*Message #65 Posted by **gene wright** on 14 Apr 2011, 11:40 a.m.,*
in response to message #64 by Marcus von Cube, Germany

Ok, will reload the rifle and follow that moving target. ;-)

Re: 34s bug reports - new image

*Message #66 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 11:54 a.m.,*
in response to message #65 by gene wright

You will lose all RAM with the update, I'm afraid.

Re: 34s bug reports - new image

*Message #67 Posted by **gene wright** on 14 Apr 2011, 1:13 p.m.,*
in response to message #66 by Marcus von Cube, Germany

The Perils of Beta testing (and I call it beta...this is too full featured and behaving well to be an Alpha release).

No problem. I'm not keeping much in ram at the moment.

Bug 15

*Message #68 Posted by **gene wright** on 14 Apr 2011, 1:15 p.m.,*
in response to message #67 by gene wright

Heh, no sooner posted than...

Store 0.5 in J, 10 in K. Key 5 then Green PROB ENTER.

Warm start. Erased message shown.

Was just playing around with binomial distribution. Changing J and K values results in invalid parameter, FYI.

Bug 16

*Message #69 Posted by **gene wright** on 14 Apr 2011, 2:18 p.m.,*
in response to message #68 by gene wright

69 ENTER 2 yellow C x,y to do combinations.

Shows the result and then pushes an integer over the result in the X register.

Doing another 69 ENTER 2 blue shift P x,y will show the result and then overwrites the answer with the previous integer plus one.

Re: Bug 16

*Message #70 Posted by **Walter B** on 14 Apr 2011, 3:27 p.m.,*
in response to message #69 by gene wright

Both examples work here and return the correct results. Maybe you should reset your calculator?

Walter

Re: Bug 16

*Message #71 Posted by **svisvanatha** on 14 Apr 2011, 7:52 p.m.,*
in response to message #69 by gene wright

I did a fresh flash to latest bin (611 on SF), and the Cy,x behaviour is erratic. Sometimes gives correct result, sometimes turns calculator off, and sometimes does exactly what Gene has described. Py,x appears fine. Both are faster than I reported before, but not

quick.

Edited: 14 Apr 2011, 7:58 p.m.

Re: Bug 15

*Message #72 Posted by **Walter B** on 14 Apr 2011, 3:23 p.m.,*
in response to message #68 by gene wright

Your example returns reasonable results for various X here on my emulator. What exactly is the bug you are claiming?

Swapping J and K must lead to an invalid parameter error for obvious reasons.

Walter

Re: Bug 15

*Message #73 Posted by **gene wright** on 14 Apr 2011, 3:49 p.m.,*
in response to message #72 by Walter B

The warmstart referenced is the bug I am reporting for the parameters listed.

Re: Bug 15

*Message #74 Posted by **Walter B** on 14 Apr 2011, 3:59 p.m.,*
in response to message #73 by gene wright

Not observed here :-/

Re: Bug 15

*Message #75 Posted by **gene wright** on 14 Apr 2011, 4:21 p.m.,*
in response to message #74 by Walter B

We have to get you a physical unit to run your child on. :-)

Do you have one yet or are you still on the emulator only?

Re: Bug 15

*Message #76 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 4:24 p.m.,*
in response to message #75 by gene wright

I do have a physical one. ;) But I'm busy with other things. I hope Pauli will chime in. It's probably a memory overrun problem which does not exist in the emulator.

Re: Bug 15

*Message #77 Posted by **svisvanatha** on 14 Apr 2011, 4:42 p.m.,*
in response to message #76 by Marcus von Cube, Germany

Both P and C are working for me, but I have not updated since last night :)

Will update my SVN tonite with latest, reflash and report back.

Re: Bug 15

*Message #78 Posted by **Paul Dale** on 14 Apr 2011, 7:05 p.m.,*
in response to message #76 by Marcus von Cube, Germany

Nothing comes to mind here.

Marcus, did you do a clean rebuild? Our dependencies into the decNumber library aren't quite correct and I reverted the slow down.

- Pauli

Re: Bug 15

*Message #79 Posted by **Marcus von Cube, Germany** on 15 Apr 2011, 2:50 a.m.,*
in response to message #78 by Paul Dale

I think I did cleanup before I rebuild. We probably need some stack checking code.

Re: Bug 15

*Message #80 Posted by **Paul Dale** on 15 Apr 2011, 2:59 a.m.,*
in response to message #79 by Marcus von Cube, Germany

Stack checking is a good idea but there really is no recovery if we run out :-(

I've reduced the size of the worst of the functions (trig in radians which also appears in lots of other functions e.g. the gamma reflection formula).

- Pauli

Re: Bug 15

*Message #81 Posted by **Marcus von Cube, Germany** on 15 Apr 2011, 3:29 p.m.,*
in response to message #80 by Paul Dale

It looks like we have about 1K of stack free when calculating a factorial. I did some memory corruption tests with Walter today.

Re: Bug 15

*Message #82 Posted by **svisvanatha** on 14 Apr 2011, 8:02 p.m.,*
in response to message #68 by gene wright

I just tried Gene's example, and experienced the exact behaviour he described with warmstart. (v611 of bin from SF)

Re: Bug 15

*Message #83 Posted by **Marcus von Cube, Germany** on 15 Apr 2011, 6:16 a.m.,*
in response to message #68 by gene wright

> Quote:
>
> Store 0.5 in J, 10 in K. Key 5 then Green PROB ENTER. Warm start. Erased message shown.

The bug is still present in 621. :-(

Let's see what I can find out about this.

Re: Bug 15

*Message #84 Posted by **Walter B** on 15 Apr 2011, 3:24 p.m.,*
in response to message #83 by Marcus von Cube, Germany

We got rid of that bug in build 630 :-)

Walter

Re: 34s bug reports - new image

*Message #85 Posted by **Paul Dale** on 14 Apr 2011, 7:07 p.m.,*
in response to message #67 by gene wright

> Quote:
>
> The Perils of Beta testing (and I call it beta...this is too full featured and behaving well to be an Alpha release).

I don't consider this good enough for beta. We've got too much going wrong still :-)

- Pauli

Re: 34s bug reports - new image

*Message #86 Posted by **Jake Schwartz** on 15 Apr 2011, 9:40 a.m.,*
in response to message #85 by Paul Dale

> Quote:
>
> I don't consider this good enough for beta. We've got too much going wrong still :-)

Whatever you call it, it has been simply amazing and I continue to be in awe of this achievement. Now of course, when all settles down, somebody will inevitably ask "when do we get the iPhone or Android app for wp34s?" <grin>

Keep up the great work!

Jake

Re: 34s bug reports - new image

*Message #87 Posted by **svisvanatha** on 15 Apr 2011, 12:53 p.m.,*
in response to message #86 by Jake Schwartz

I agree with this sentiment. I am showing it off at the office all week, and many HP users here are excited by it.

Re: 34s bug reports - new image

*Message #88 Posted by **Paul Dale** on 15 Apr 2011, 5:38 p.m.,*
in response to message #86 by Jake Schwartz

> Quote:
>
> Now of course, when all settles down, somebody will inevitably ask "when do we get the iPhone or Android app for wp34s?"

We don't :-) Those devices don't have proper keyboards.

Of course the source is available...

- Pauli

Re: 34s bug reports - new image

*Message #89 Posted by **Paul Dale** on 15 Apr 2011, 5:40 p.m.,*
in response to message #86 by Jake Schwartz

> Quote:
>
> Whatever you call it, it has been simply amazing and I continue to be in awe of this achievement.

Thanks for the vote of confidence. I'll clarify my not beta comment.

We're still fiddling around with the functionality and so forth. e.g. AGM got added last night -- it is used in the new logarithm code.

We're still finding major bugs :-(

Beta software doesn't have the former and shouldn't have the latter.

- Pauli

Re: 34s bug reports - Guide to flashing for new comers?

*Message #90 Posted by **Henry Chan** on 16 Apr 2011, 2:10 a.m.,*
in response to message #64 by Marcus von Cube, Germany

want to try but the thread is getting big and board. Sorry if I were asking newbie questions, how do you prepare the cable for flashing

from tim's guide one would need the amtel software and 20b_flash_kit but i am looking for the URL?

Thirdly, all the sources were on sourceforge, but how is the .bin file under real build related to the rom in windows emulator? which was generated from which?

thanks in advance Henry 4/16

reference

Moving Image Target

Yes, any 30b / 20b could be repurposed into a 34s #68 Flashing the 20b is perfectly described in Tim's document here. No taking apart necessary. :) In fact that wouldn't even help because the flash ROM is inside the main chip and is only accessible through either special hardware or, even easier, through the built in SAM-BA boot loader software.

The creators of WP-34s :) #14

Edited: 16 Apr 2011, 2:15 a.m.

Re: 34s bug reports - Guide to flashing for new comers?

*Message #91 Posted by **Paul Dale** on 16 Apr 2011, 2:28 a.m.,*
in response to message #90 by Henry Chan

> Quote:
>
> The creators of WP-34s :) #14

Not all of them. My face isn't there :-)

- Pauli

Re: 34s bug reports - Guide to flashing for new comers?

*Message #92 Posted by **Henry Chan** on 16 Apr 2011, 2:37 a.m.,*
in response to message #91 by Paul Dale

Sorry about that, I should have meant some of the creators :)

Re: 34s bug reports - Guide to flashing for new comers?

*Message #93 Posted by **Walter B** on 16 Apr 2011, 5:12 a.m.,*
in response to message #92 by Henry Chan

Henry, no need for excuses, we've got the qualified majority for changing the constitution ;-)

Re: 34s bug reports - Guide to flashing for new comers?

*Message #94 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 4:46 a.m.,*
in response to message #91 by Paul Dale

> Quote:
>
> Not all of them. My face isn't there :-)

It's a DIY project, so add a picture yourself! :)

Re: 34s bug reports - Guide to flashing for new comers?

*Message #95 Posted by **Paul Dale** on 16 Apr 2011, 4:51 a.m.,*
in response to message #94 by Marcus von Cube, Germany

> Quote:
>
> It's a DIY project, so add a picture yourself! :)

I don't want to put you and Walter to shame....

:-)

- Pauli

Re: 34s bug reports - Guide to flashing for new comers?

*Message #96 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 4:54 a.m.,*
in response to message #95 by Paul Dale

Come on!

Re: 34s bug reports - Guide to flashing for new comers?

*Message #97 Posted by **Marcus von Cube, Germany** on 16 Apr 2011, 4:54 a.m.,*
in response to message #90 by Henry Chan

> Quote:
>
> Thirdly, all the sources were on sourceforge, but how is the .bin file under real build related to the rom in windows emulator? which was generated from which?

Hi Henry,

there is no such thing like a "ROM" in the windows emulator. wp34sgui.exe is directly compiled from the C sources as a Windows executable which behaves similar to a real machine but not necessarily identical. For the developers it's a test bed to make sure the functionality is there. If some function works in Windows but not on the hardware, the bug must be in the hardware drivers or some such.

In fact, the first flash image was created way after the emulator was finished. I started porting to the hardware after porting Pauli's Unix/Linux code to Windows.

Have fun with the project! It's worth it. :)

Re: 34s bug reports - Guide to flashing for new comers?

*Message #98 Posted by **Dieter** on 16 Apr 2011, 12:29 p.m.,*
in response to message #97 by Marcus von Cube, Germany

> Quote:
>
> there is no such thing like a "ROM" in the windows emulator. wp34sgui.exe is directly compiled from the C sources as a Windows executable ...

Mayby this is a very dumb question, but recently I read a lot about new software versions for "real hardware" while on the other hand the last emulator version I can find is 1.16 which is more than two weeks old now. It doesn't even have an "A"-key. ;-) Am I missing something here?

Dieter

Re: 34s bug reports - Guide to flashing for new comers?

Message #99 Posted by ***Marcus von Cube, Germany*** *on 16 Apr 2011, 12:46 p.m.,*
in response to message #98 by Dieter

Dieter, the new release 1.17, including a flash image, will be out soon. We've started a new thread (see above).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

34s screen shots running on a 20b

*Message #1 Posted by **gene wright** on 11 Apr 2011, 11:11 a.m.*

Take a look. Bravo. After 5 minutes, I am impressed, as I thought I would be. Only issue I have seen so far is trying to turn OFF the 20b unit. :-)

Speed test: Did the program of LBL B, +, GTO B with the stack loaded with 1. Counts in one minute were 137,779.

AND... who needs a flash cable? I have some, but will need to cover my shipping cost. A corporation might be able to send them gratis, but I do need to cover shipping. Figure $3 in the USA and $5 international. I certainly will NOT be making a fortune, but have at least 20 cables for those who need one. Paypal will work as the method.

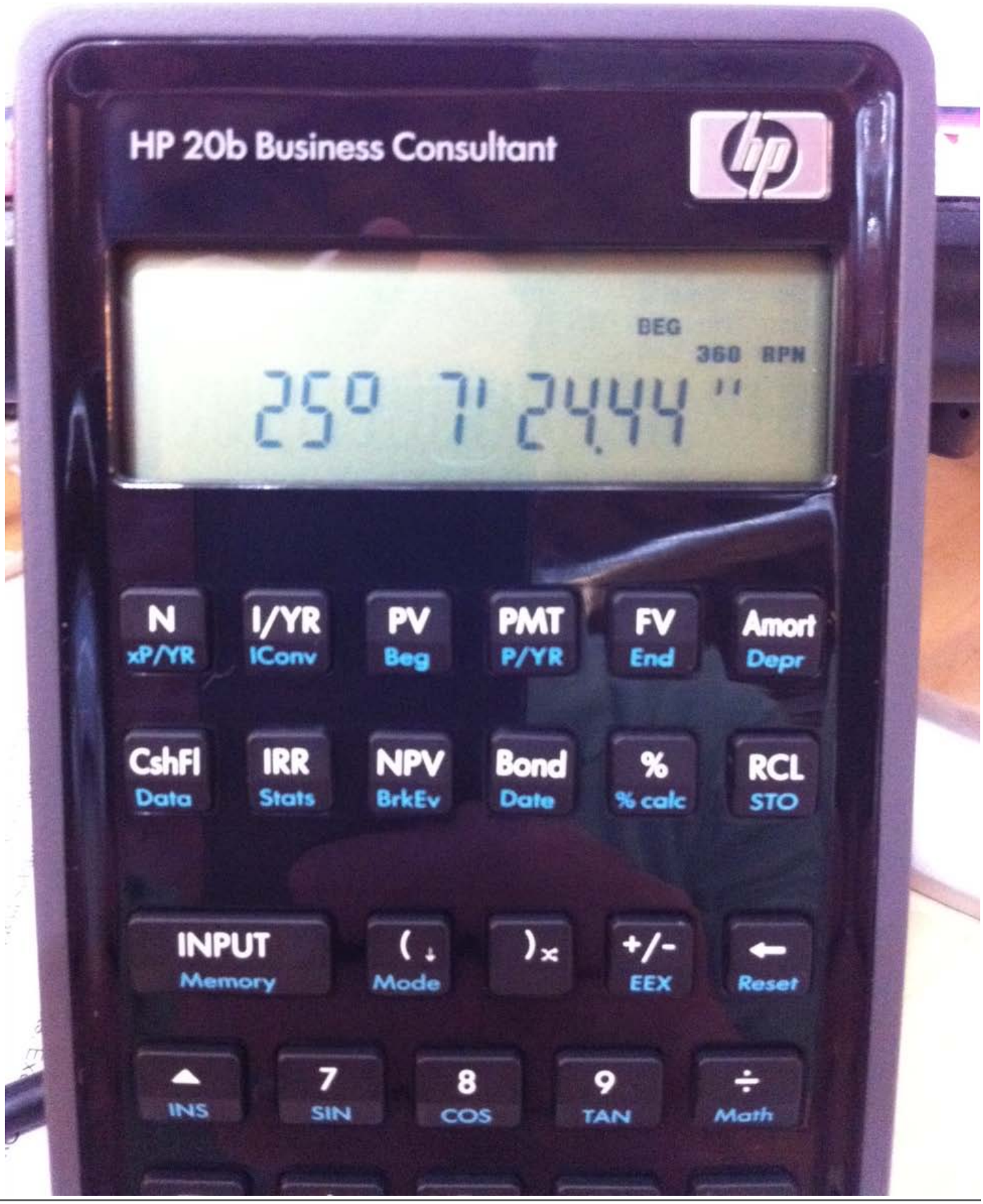
First come, first served...

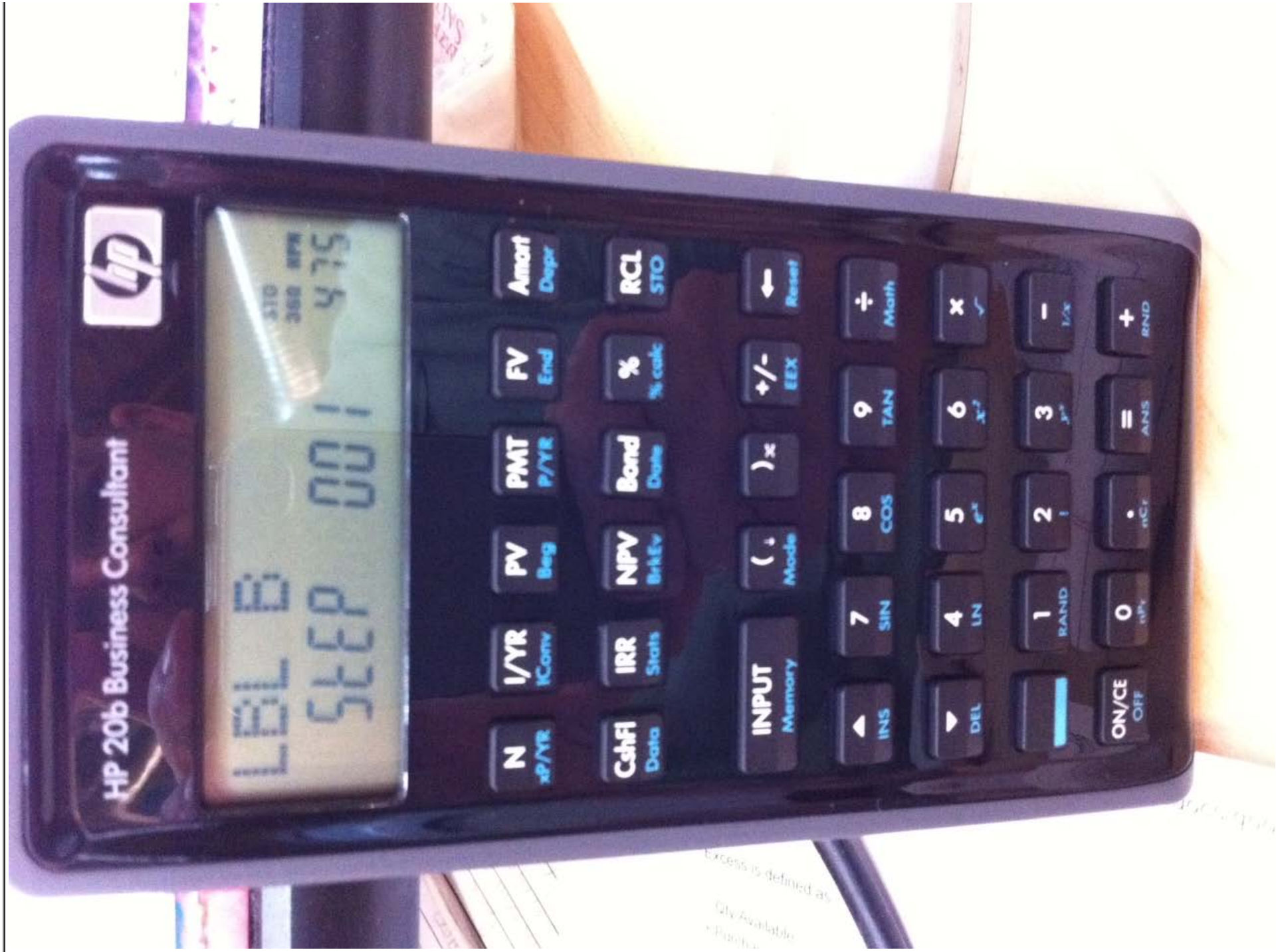
FYI... I don't know why these pictures show up sideways for me. Oh well.

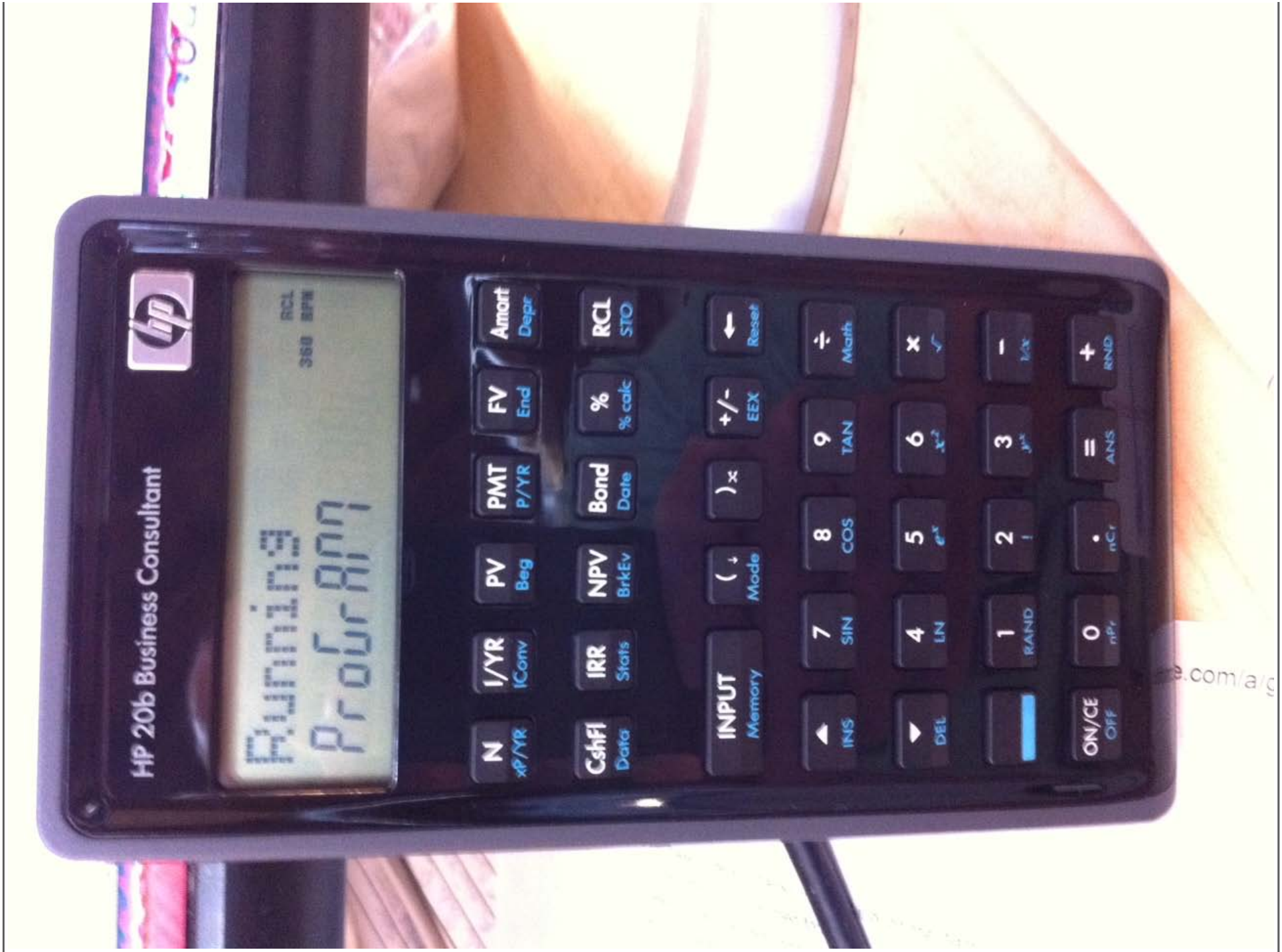
Instructions for flashing a 20b with a new rom can be found here:

20b flashing instructions

HP 20b Business Consultant
FL 00-29
RCL
360 RPN
N xP/YR
I/YR IConv
PV Beg
PMT P/YR
FV End
Amort Depr
CshFl Data
IRR Stats
NPV BrkEv
Bond Date
% % calc
RCL STO
INPUT Memory
(Mode
)
+/- EEX
Reset
INS
7 SIN
8 COS
9 TAN
÷ Math
DEL
4 LN
5 e^x
6 x^2
×
1 RAND
2 !
3 y^x
− 1/x
ON/CE OFF
0 nPr
. nCr
= ANS
+ RND


HP 20b Business Consultant
BEG
360 RPN
25° 7' 24.44"
N
xP/YR
I/YR
IConv
PV
Beg
PMT
P/YR
FV
End
Amort
Depr
CshFl
Data
IRR
Stats
NPV
BrkEv
Bond
Date
%
% calc
RCL
STO
INPUT
Memory
(↓
Mode
)x
+/-
EEX
Reset
INS
7
SIN
8
COS
9
TAN
÷
Math


HP 20b Business Consultant
LBL B 001
STEP
N
I/YR
PV
PMT
FV
Amort
IRR
NPV
%
RCL
INPUT
ON/CE
0
1
2
3
4
5
6
7
8
9
+
=



Edited: 11 Apr 2011, 2:43 p.m. after one or more responses were posted

Re: 34s screen shots running on a 20b

*Message #2 Posted by **Namir** on 11 Apr 2011, 11:54 a.m.,*
in response to message #1 by gene wright

Super cool Gene! This is the first publicly/internet shown hardware that runs the 34s.

Namir

Edited: 11 Apr 2011, 2:02 p.m. after one or more responses were posted

Re: 34s screen shots running on a 20b

*Message #3 Posted by **Walter B** on 11 Apr 2011, 12:27 p.m.,*
in response to message #2 by Namir

> Quote:
>
> This is the first publicly/internet shown hardware that runs the 32s.

32s ??

Re: 34s screen shots running on a 20b

*Message #4 Posted by **gene wright** on 11 Apr 2011, 12:39 p.m.,*
in response to message #3 by Walter B

Namir just mistyped the 34s as 32s.

I should get NONE of the credit for this as all I have done is what most everyone here can do, which is flash a 20b with the ROM the project members here have created!

VIDEO of WP-34S running on a 30b

*Message #5 Posted by **svisvanatha** on 11 Apr 2011, 12:54 p.m.,*
in response to message #4 by gene wright

I flashed yesterday evening, and had a few minutes to compose a video. Do you recognize the hardware under the 'skin'??!!

Bravo to the team for this amazing piece of work. Hardware bug report are a comin!

Link to video: https://picasaweb.google.com/lh/photo/uuMb4Y5lK5Zy4YocUnPS2g?feat=directlink

Edited: 11 Apr 2011, 3:51 p.m. after one or more responses were posted

Re: VIDEO of WP-34S running on a 30b

*Message #6 Posted by **Marcus von Cube, Germany** on 11 Apr 2011, 2:19 p.m.,*
in response to message #5 by svisvanatha

Many bugs should already be fixed in the next release so wait with any complaints until you hear from me. I'm constantly working on the power handling logic which is quite convoluted. HP did a good job but I went my own way. This may use some more power while the calculator is idle but I understand it better. ;)

Edit: typo.

Edited: 12 Apr 2011, 11:52 a.m. after one or more responses were posted

Re: VIDEO of WP-34S running on a 30b

*Message #7 Posted by **svisvanatha** on 11 Apr 2011, 2:29 p.m.,*
in response to message #6 by Marcus von Cube, Germany

Thanks. I have had to pull batteries several times now. Will wait for the next release to file reports. Should that be done on SF to be better tracked? Till then, using my 34S/30B at work today!

Re: VIDEO of WP-34S running on a 30b

*Message #8 Posted by **Paul Dale** on 11 Apr 2011, 5:38 p.m.,*
in response to message #5 by svisvanatha

Nicely done overlay :-)

- Pauli

Re: VIDEO of WP-34S running on a 30b

*Message #9 Posted by **svisvanatha** on 11 Apr 2011, 5:48 p.m.,*
in response to message #8 by Paul Dale

Thanks. It has the added benefit of being upgradable with subsequent releases ;)

Re: 34s screen shots running on a 20b

*Message #10 Posted by **Paul Dale** on 11 Apr 2011, 5:34 p.m.,*
in response to message #1 by gene wright

> Quote:
>
> Speed test: Did the program of LBL B, +, GTO B with the stack loaded with 1. Counts in one minute were 137,779.

Try it again in integer mode, I'd expect it to be faster there.

Also LBL B INC X GTO B ought to be slightly faster again. And even better INC X BACK 01.

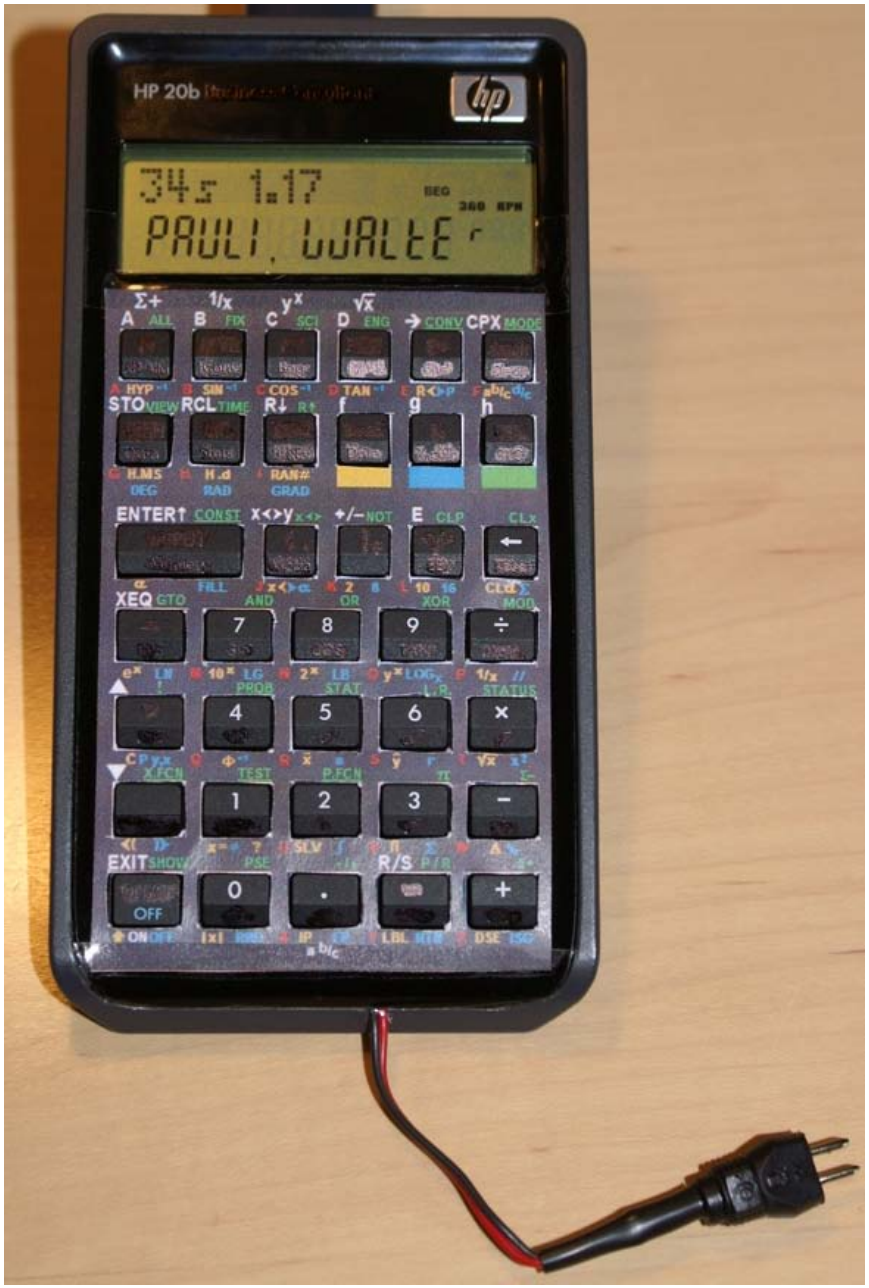
- Pauli

Re: 34s screen shots running on a 20b

*Message #11 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 8:35 a.m.,*
in response to message #10 by Paul Dale

I've created an overlay for my 20b:

And here is the result:



This is much easier than repainting the keys. I used a black pen to cover the original legends.

The firmware is work in progress and you can expect changes in execution speed. I'm still working on the power saving modes. As you can see, my 20b is equipped with an external power cord. I know, why. ;)

Edited: 13 Apr 2011, 3:56 a.m. after one or more responses were posted

Re: 34s screen shots running on a 20b

*Message #12 Posted by **Eddie W. Shore** on 12 Apr 2011, 9:41 a.m.,*
in response to message #11 by Marcus von Cube, Germany

That is amazing work.

Re: 34s screen shots running on a 20b

*Message #13 Posted by **Tim Wessman** on 12 Apr 2011, 10:56 a.m.,*
in response to message #11 by Marcus von Cube, Germany

I would recommend trying to follow the power code that is there. It took a long time and many revisions to get to the current level.

Essentially, you are shutting off the CPU between every keystroke.

TW

Re: 34s screen shots running on a 20b

*Message #14 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 12:12 p.m.,*
in response to message #13 by Tim Wessman

Tim, I understand your approach but I don't like it very much because you lose the 4 K RAM with each power off. I've a running timer (the PIT) which cannot wake up the CPU, only interrupt it. The PIT should at least be running while the calculator is doing useful work. It's also used with the PAUSE command or to implement key repeat on the arrows. If you look at the 20b firmware, it has a similar working scheme if it needs to scroll a message in the display.

What I do is switching speeds between 32MHz, 2MHz and around 32KHz (the latter does not work on SLCK for unknown reasons so I use the internal oscillator / 64). I also play with the voltage regulator and the flash power supply. This is not completed yet and is subject to change.

Eventually I'll follow the original logic after a second of inactivity or so if users complain about wp34s eating their expensive coin cells. The current draw in idle mode at present is 0.2mA. Two 2032s should be good for 90 hours.

Re: 34s screen shots running on a 20b

*Message #15 Posted by **Paul Dale** on 12 Apr 2011, 6:13 p.m.,*
in response to message #11 by Marcus von Cube, Germany

Instead of the black pen a rotary tool and a fine sanding disc works wonders.

- Pauli

Re: 34s screen shots running on a 20b

*Message #16 Posted by **Paul Dale** on 12 Apr 2011, 6:13 p.m.,*
in response to message #10 by Paul Dale

> Quote:
>
> And even better INC X BACK 01.

An oops in the BACK code. You need something (anything) after the BACK 01 instruction for this to work. That extra instruction is never executed.

- Pauli

Re: 34s screen shots running on a 20b

*Message #17 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 11:50 a.m.,*
in response to message #1 by gene wright

Gene, the document by Tim discourages the use of USB-Serial converters. I run SAM-BA on a Windows XP virtual machine on my iMac. The 20b is connected through a USB/Serial converter.

Sometimes the connection breaks but normally it works. So no need to buy an old PC for the process.

New thread

*Message #18 Posted by **Marcus von Cube, Germany** on 13 Apr 2011, 3:46 a.m.,*
in response to message #1 by gene wright

I've just started a new thread dedicated to pictures of wp34s in action. See above!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 75C

*Message #1 Posted by **Joerg Woerner** on 10 Apr 2011, 9:50 p.m.*

Yes, I know - this request comes from the Dark Side ;-))

Short question: Is there anyone here in the US willing to send me a working HP 75C for a few days as a loan? It is just a photo shooting - nothing destructive ;-))

Best regards,

Joerg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Funstuff roms and the 41CL ... questions?

*Message #1 Posted by **gene wright** on 10 Apr 2011, 4:35 p.m.*

Angel's funstuff thread

At the thread above, Angel Martin lays out his very nice game ROM images and their contents.

The Funstuff (volume 2) says that it is a 16K rom. When used with the 41CL (or NoVRAM for that matter), that will take up two logical ports, correct? Port 1 and 2, for example. Top and bottom of 1 and top and bottom of 2.

The Adventure ROM (volume 3) says it is 24K. that means it takes up three ports, correct?

I'm asking because if so, that means we'll need to pass along a correction to Monte and his manual. he indicates modules that take a full port, but does not have any notations about things like the FUNS rom, which would take TWO ports.

Am I thinking properly? If not, wouldn't be the first time. :-)

Re: Funstuff roms and the 41CL ... questions?

*Message #2 Posted by **Monte Dalrymple** on 10 Apr 2011, 5:38 p.m.,*
in response to message #1 by gene wright

Adventure 1 is 16k and needs to be plugged into Port 1.
Adventure 2 is 12k and needs to be plugged into Port 3.
Funstuff is 16k and needs to be plugged into Port 1 or 3.

The PLUG functions only enforce the odd-numbered Port restriction,
so the user will have to PLUG in the Adventure ROMs correctly.

I will have to update the documentation for the Funstuff ROM.

Monte

Re: Funstuff roms and the 41CL ... questions?

*Message #3 Posted by **Geir Isene** on 11 Apr 2011, 5:29 a.m.,*
in response to message #2 by Monte Dalrymple

As a side question; Include the NOV CHAP in the CL list of images?

Re: Funstuff roms and the 41CL ... questions?

*Message #4 Posted by **Monte Dalrymple** on 11 Apr 2011, 10:36 a.m.,*
in response to message #3 by Geir Isene

The cutoff date for inclusion was at the end of January. So no, it was not included.

Re: Funstuff roms and the 41CL ... questions?

*Message #5 Posted by **gene wright** on 11 Apr 2011, 12:18 p.m.,*
in response to message #2 by Monte Dalrymple

So... the 16K in 1 or 3 is because when plugged into 1, it takes up 1 and 2, correct?

Need more coffee today.

Re: Funstuff roms and the 41CL ... questions?

*Message #6 Posted by **Monte Dalrymple** on 11 Apr 2011, 12:47 p.m.,*
in response to message #5 by gene wright

Correct.

Re: Funstuff roms and the 41CL ... questions?

*Message #7 Posted by **Ángel Martin** on 11 Apr 2011, 2:35 a.m.,*
in response to message #1 by gene wright

Hi Gene, you're right but I prepared a "CL-ready" version of the Adventure module, splitting it in two separate images as Monte details in his response.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Foot Pads for 12c

*Message #1 Posted by **Matt_12c** on 10 Apr 2011, 1:12 p.m.*

Has anyone attempted to replace a missing foot pad on a 12c? Are there any particular materials that are ideal to use? What is your source? Thanks.

Re: Foot Pads for 12c

*Message #2 Posted by **Katie Wasserman** on 10 Apr 2011, 5:26 p.m.,*
in response to message #1 by Matt_12c

There have been many thread on this.

Try this one.

or

this one

You can buy a set.

Edited: 10 Apr 2011, 5:33 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

CELESTIAL NAVIGATION

*Message #1 Posted by **robert coles** on 10 Apr 2011, 10:42 a.m.*

I calculated LOP in Celestial navigation in the 70's with a 49C. I now have a HP12C. Can anyone give me the new listing for this app? And how to use it - if it is feasible with this machine? Thank you.

Re: CELESTIAL NAVIGATION

*Message #2 Posted by **BobVA** on 11 Apr 2011, 6:26 p.m.,*
in response to message #1 by robert coles

Probably pretty difficult with the 12c, since it doesn't support the necessary trig functions.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP 34S Top Left Key Poll

*Message #1 Posted by **Walter B** on 10 Apr 2011, 3:37 a.m.*

Hi all,

I start a new thread for this else it's deeply buried in an older one.

You all know how the WP 34S is looking now. There has been some discussion about the set of hotkeys we offer. A few people stumbled across the B C D layout and did ask where 'A' did go to ;-) or why we don't show it.

Though I bet all forumers are perfectly aware of the alphabet and able to start at an arbitrary position within, I offer the following alternative layout for the peace of mind of whom it may concern:

This would bring up another hotkey top left at the cost of deleting the two functions %- and %+. Default primary function of said hotkey will be Sigma+ and that's not negotiable. Please compare with the present layout.

I ask for your votes, please.

Walter

Re: WP 34S Top Left Key Poll

*Message #2 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 8:22 a.m.,*
in response to message #1 by Walter B

I agree with Walter's suggestion.

Re: WP 34S Top Left Key Poll

*Message #3 Posted by **Dieter** on 10 Apr 2011, 9:08 a.m.,*
in response to message #1 by Walter B

Walter wrote:

> Quote:
>
> This would bring up another hotkey top left at the cost of deleting the two functions %- and %+.

That's not cost, that's profit. ;-)

> Quote:
>
> Default primary function of said hotkey will be Sigma+ and that's not negotiable.

If the Sigma+ really is not negotiable (why?) I'll agree with the new layout. It's much better than before.

And now let's talk about the "//" function. ;-)

Dieter

Re: WP 34S Top Left Key Poll

*Message #4 Posted by **Gerson W. Barbosa** on 10 Apr 2011, 3:09 p.m.,*
in response to message #3 by Dieter

I do agree with Walter's suggestion.

> Quote:
>
> And now let's talk about the "//" function. ;-)

I have liked this one. Now, why can't GRAD reside only inside a menu?

Gerson.

Re: WP 34S Top Left Key Poll

*Message #5 Posted by **Paul Dale** on 10 Apr 2011, 5:25 p.m.,*
in response to message #4 by Gerson W. Barbosa

> Quote:
>
> I have liked this one. Now, why can't GRAD reside only inside a menu?

Or a DRG command that cycles through the three trig modes?

We'd still need DEG, RAD and GRAD but they can be buried in catalogues.

- Pauli

Re: WP 34S Top Left Key Poll

*Message #6 Posted by **Walter B** on 10 Apr 2011, 5:29 p.m.,*
in response to message #5 by Paul Dale

With DEG, RAD, GRAD in a catalogue, conversions would become significantly more difficult. With DEG, RAD, GRAD readily accessible on the keyboard, you simply press e.g. -> and RAD and voilá d:-)

Re: WP 34S Top Left Key Poll

*Message #7 Posted by **Gerson W. Barbosa** on 10 Apr 2011, 6:38 p.m.,*
in response to message #6 by Walter B

I've noticed -> g RAD does the conversion but changes the angular mode also. Furthermore, if the calculator is is Degrees mode and I want to convert 1 rad to degrees, I just can't. If GRAD is deleted from the keyboard, then -> g RAD and -> g DEG could consistently mean DEG->RAD and RAD->DEG, respectively. I would also suggest the prefix keys should be omitted whenever possible.

Re: WP 34S Top Left Key Poll

*Message #8 Posted by **Walter B** on 10 Apr 2011, 7:18 p.m.,*
in response to message #7 by Gerson W. Barbosa

There's a command R->D in X.FCN doing exactly what you want, i.e. conversion keeping the present angular mode set. And yes, we omit the prefixes whenever it's unambiguously possible.

Re: WP 34S Top Left Key Poll

*Message #9 Posted by **Gerson W. Barbosa** on 10 Apr 2011, 8:58 p.m.,*
in response to message #8 by Walter B

> Quote:
>
> And yes, we omit the prefixes whenever it's unambiguously possible.

Oh, I see. In order to minimize the use of prefixes, perhaps H.MS/DEG and H.d/RAD should not have shared the same key. I am sure, however, the keyboard layout has been carefully thought out, so changes at this stage are not advisable. In the hp-33s, for instance, it appears they swapped the Rv and RCL keys in the last moment so that STO and RCL were located in the same row. As a result HYP has been moved a bit away from the trig keys. Likewise Rv and R^ have been separated from the x<>y key.

Gerson.

Re: WP 34S Top Left Key Poll

*Message #10 Posted by **Paul Dale** on 10 Apr 2011, 9:17 p.m.,*
in response to message #9 by Gerson W. Barbosa

As a special case "-> g RAD" can omit the 'g' Likewise for DEG and GRAD. The thinking was that the trig conversions are more commonly used than the H.MS ones.

- Pauli

Re: WP 34S Top Left Key Poll

*Message #11 Posted by **Paul Dale** on 10 Apr 2011, 9:20 p.m.,*
in response to message #7 by Gerson W. Barbosa

An earlier version didn't change the trig mode on these operations and doing so was suggested. Can't win either way ;-)

- Pauli

Re: WP 34S Top Left Key Poll

*Message #12 Posted by **Gerson W. Barbosa** on 10 Apr 2011, 6:44 p.m.,*
in response to message #5 by Paul Dale

I had thought about that myself, but I wasn't aware DEG, RAD and GRAD can be used with -> for angle conversions. Non-programmable calculator used to have also a cyclic angle conversion key ->DRG.

Gerson.

Re: WP 34S Top Left Key Poll

*Message #13 Posted by **Eddie W. Shore** on 10 Apr 2011, 10:49 a.m.,*
in response to message #1 by Walter B

Your suggestion looks good.

Re: WP 34S Top Left Key Poll

*Message #14 Posted by **Norman Dziedzic** on 10 Apr 2011, 11:34 a.m.,*
in response to message #1 by Walter B

I vote for the suggestion by Walter.

Re: WP 34S Top Left Key Poll

*Message #15 Posted by **Jim Yohe** on 10 Apr 2011, 1:31 p.m.,*
in response to message #1 by Walter B

Okay, it may have been discussed elsewhere and I apologize for bring it up as a question but, why isn't the primary key function printed on the key and the hotkey printed on the surface of the faceplate above the key instead of the way it's shown now?

Otherwise I'm in agreement with you Walter.

Edited: 10 Apr 2011, 1:33 p.m.

Re: WP 34S Top Left Key Poll

*Message #16 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 1:36 p.m.,*
in response to message #15 by Jim Yohe

The "primary" function is only active if you are in run mode and label "A" is not assigned. So it's more of a backup function, not a real primary.

Re: WP 34S Top Left Key Poll

*Message #17 Posted by **Gerson W. Barbosa** on 10 Apr 2011, 3:03 p.m.,*
in response to message #16 by Marcus von Cube, Germany

What if the user forgets there are programs assigned to those top row keys? The lack of annunciators for the presence of programs 'A'..'D' might lead to wrong results. What about 2-key access to 1-letter label programs? For instance, XEQ H instead of XEQ f alpha H ENTER? This wouldn't apply to M, N, O, Q, R, S, U and V of course, but we would have 18 of these left. If one-key access to programs are really necessary, then a USER mode à la 15C would be a better option, IMHO. I have noticed the program counter skips one step for two or three-letter labels, for instance,

```
001 LBL'AB'
003 RTN
```

Am I missing something here? I haven't found anything in the manual about this (I may not have searched enough - if such is the case, sorry!).

Re: WP 34S Top Left Key Poll

*Message #18 Posted by **Walter B** on 10 Apr 2011, 5:24 p.m.,*
in response to message #17 by Gerson W. Barbosa

Olá Gerson,

> Quote:
>
> What if the user forgets there are programs assigned to those top row keys?

Hmmmh, on this side of the Atlantic it's his/her fault. For the other side we could print a warning: **Do not forget you put something in your calculator's memory!** or **Items stored in your calculator may look less existent than they are!** Please choose your favourite.

> Quote:
>
> The lack of annunciators for the presence of programs 'A'..'D' might lead to wrong results.

May be. But we're not as nasty as it seems. STATUS will tell you the hotkey labels defined in user program memory. But I admit, now you've to remember this keystroke. Want another recommendation message in the manual?

No offense intended, just couldn't resist. Will think about your access suggestions later.

Walter

Re: WP 34S Top Left Key Poll

*Message #19 Posted by **Gerson W. Barbosa** on 14 Apr 2011, 3:18 p.m.,*
in response to message #18 by Walter B

> Quote:
>
> Want another recommendation message in the manual?

Local proverb: "When everything else fails, read the manual!" :-). I think I will print a hardcopy of the manual (and read it) now most changes have been made.

Another reason why I should have read it: somehow I thought the wp-34s firmware would run only on the hp-30b, so I didn't buy the only 20b I found after searching in many stores in São Paulo yesterday morning. It was selling for only R$ 80.00 (about 50 dollars), a bargain compared to Walmart, I mean *our* Walmart:

http://www.walmart.com.br/Produto/Eletronicos/Calculadoras/HP/107001-Calculadora-Financeira-HP-20B?Filtro=&strBusca=&utm_source=ShoppingUOL&utm_medium=Calculadoras&utm_campaign=107001-Calculadora-Financeira-HP-20B&idsku=

Gerson.

Re: WP 34S Top Left Key Poll

*Message #20 Posted by **Walter B** on 14 Apr 2011, 3:33 p.m.,*
in response to message #19 by Gerson W. Barbosa

Yeah, reading may really help sometimes ;-) I don't recommend printing, however, since the file

frequently updated for various reasons. Just download the pdf on a daily basis and you're set IMHO.

Cumprimentos,

Walter

Re: WP 34S Top Left Key Poll

*Message #21 Posted by **Walter B** on 14 Apr 2011, 3:54 p.m.,*
in response to message #17 by Gerson W. Barbosa

> Quote:
>
> What about 2-key access to 1-letter label programs? For instance, XEQ H instead of XEQ f alpha H ENTER? This wouldn't apply to M, N, O, Q, R, S, U and V of course, but we would have 18 of these left. If one-key access to programs are really necessary, then a USER mode à la 15C would be a better option, IMHO.

Looking at page 16 (of 70) you see you have the fastest and easiest access to the labels A, B, C, D. Second easiest are two-digit numeric labels. Further alpha labels need more keystrokes. This addressing scheme was an arbitrary decision pretty early in this project - we could have made the access to alpha labels easier, then numeric labels had become difficult. We can't please everybody with every feature.

> Quote:
>
> I have noticed the program counter skips one step for two or three-letter labels, for instance,
>
> ```
> 001 LBL'AB'
> 003 RTN
> ```
>
> Am I missing something here? I haven't found anything in the manual about this.

No, you're right - I was missing something. Thanks for your report. I'll update the documentation. The reason for taking two steps for the longer alpha label is simply the need for a bit more memory.

Walter

Re: WP 34S Top Left Key Poll

*Message #22 Posted by **Gerson W. Barbosa** on 14 Apr 2011, 4:29 p.m.,*
in response to message #21 by Walter B

> Quote:
>
> The reason for taking two steps for the longer alpha label is simply the need for a bit more memory.

Quite correct, but shouldn't sequential step numbering be preferrable than just skipping line numbers?

```
HP-42S examples


00 { 6-Byte Prgm }          00 { 7-Byte Prgm }
01 LBL "AB"                 01 LBL "ABC"
02 END                      02 END
```

Gerson.

Re: WP 34S Top Left Key Poll

*Message #23 Posted by **gene wright** on 14 Apr 2011, 4:35 p.m.,*
in response to message #22 by Gerson W. Barbosa

Under the current 001 to 003 change for LBL AB, what would happen if you did this:

```
010 SKIP 02
011 LBL AB
013 R/S
```

The SKIP 02 would jump into the middle of the LBL, correct?

Re: WP 34S Top Left Key Poll

*Message #24 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 4:37 p.m.,*
in response to message #23 by gene wright

That is the reason why these functions are hidden. They were originally intended for internal firmware use only. To be used with care.

Re: WP 34S Top Left Key Poll

*Message #25 Posted by **Gerson W. Barbosa** on 15 Apr 2011, 4:32 p.m.,*
in response to message #23 by gene wright

BACK would be a problem also. I don't see why the program counter shouldn't be fixed. In this side of the Atlantic, n is usally followed by n+1 :-)

Re: WP 34S Top Left Key Poll

*Message #26 Posted by **Walter B** on 15 Apr 2011, 5:16 p.m.,*
in response to message #25 by Gerson W. Barbosa

As Pauli did mention before, SKIP and BACK are both made for internal use only. Please see Appendix A of the manual. If you want to use them, do so at your own risk, but don't complain ([:-)

Walter

Re: WP 34S Top Left Key Poll

*Message #27 Posted by **Gerson W. Barbosa** on 15 Apr 2011, 5:41 p.m.,*
in response to message #26 by Walter B

Guten Abend, Walter!

The point is not SKIP and BACK, but ordered logical sequences, like "A B C D" instead of "B C D". But I won't insist on this anymore lest you reply "Don't like it? Write your own firmware!" :-)

Gerson.

Re: WP 34S Top Left Key Poll

*Message #28 Posted by **Walter B** on 15 Apr 2011, 6:25 p.m.,*
in response to message #27 by Gerson W. Barbosa

Muito bom dia, Gerson,

> Quote:
>
> The point is not SKIP and BACK, but ordered logical sequences, like "A B C D" instead of "B C D".

AFAICS, both these sequences are logically ordered, aren't they? And another sequence "A, C, D" is logically ordered as well. I guess that's not your point, but that's what you have written, so how can I *know* better? ;-)

Cumprimentos e boa noite
Walter

Re: WP 34S Top Left Key Poll

*Message #29 Posted by **Gerson W. Barbosa** on 15 Apr 2011, 6:42 p.m.,*
in response to message #28 by Walter B

That was written in a hurry as I had to leave. When I got back and checked for your response minutes ago and reread my post, I guessed WHAT your reply would be (and I haven't been disappointed :-). I meant the B C D special keys looked strange to some because A was missing. I hadn't complained about that myself, but I have to admit it is better this way.

Regards,

Gerson.

Re: WP 34S Top Left Key Poll

*Message #30 Posted by **Paul Dale** on 15 Apr 2011, 6:58 p.m.,*
in response to message #25 by Gerson W. Barbosa

> Quote:
>
> BACK would be a problem also. I don't see why the program counter shouldn't be fixed. In this side of the Atlantic, n is usally followed by n+1 :-)

There is a reason for letting the PC skip like it does. Partly laziness and partly practicality.

Alpha labels take two steps. So do all the other commands that can accept alpha labels as arguments: GTO, XEQ, solve, integrate, product, sum, f' and f".

Now to figure out what the "real" step number is and display it would require scanning program memory from the beginning and counting steps. I figured it wasn't worth the effort and CPU to do this. I figured these are likely to be fairly uncommon instructions & Walter agreed, at least at the time, that the step skip was a minor inconvenience

Now if somebody wants to code around this (efficiently in both time and space use), I don't see why we wouldn't include it.

Hot key and numeric labels take a single step for all of the aforementioned instructions so this isn't an issue unless you use alpha labels.

- Pauli

Re: WP 34S Top Left Key Poll

*Message #31 Posted by **Paul Dale** on 15 Apr 2011, 6:49 p.m.,*
in response to message #23 by gene wright

> Quote:
>
> Under the current 001 to 003 change for LBL AB, what would happen if you did this:
>
> ```
> 010 SKIP 02
> 011 LBL AB
> 013 R/S
> ```
>
> The SKIP 02 would jump into the middle of the LBL, correct?

Nope, the SKIP goes past the R/S. No branching to the middle of steps. Ditto for BACK. They are fairly safe operations in reality.

- Pauli

Re: WP 34S Top Left Key Poll

*Message #32 Posted by **gene wright** on 15 Apr 2011, 8:41 p.m.,*
in response to message #31 by Paul Dale

Rats!

I thought I had discovered a way to do synthetic programming on the 34s.

:-)

Re: WP 34S Top Left Key Poll

*Message #33 Posted by **Paul Dale** on 15 Apr 2011, 9:44 p.m.,*
in response to message #32 by gene wright

> Quote:
>
> I thought I had discovered a way to do synthetic programming on the 34s.

If synthetic programming is possible on the 34s, I've failed :-)

- Pauli

Re: WP 34S Top Left Key Poll

*Message #34 Posted by **Marcus von Cube, Germany** on 14 Apr 2011, 4:35 p.m.,*
in response to message #22 by Gerson W. Barbosa

Not quite. The step number is just the position of the step in memory. The program area is a simple array.

Re: WP 34S Top Left Key Poll

*Message #35 Posted by **Jim Yohe** on 10 Apr 2011, 3:57 p.m.,*
in response to message #16 by Marcus von Cube, Germany

While not a primary function it's a bit misleading printed on the face of the key rather than on the faceplate as a secondary function.

Re: WP 34S Top Left Key Poll

*Message #36 Posted by **Walter B** on 10 Apr 2011, 4:19 p.m.,*
in response to message #35 by Jim Yohe

Jim, please turn to your HP-65 or 67. What do you see on top row of keys? Sic!

Re: WP 34S Top Left Key Poll

*Message #37 Posted by **Jim Yohe** on 10 Apr 2011, 5:44 p.m.,*
in response to message #36 by Walter B

But those are dedicated programmable keys without other primary functions associated with them. Oh well ...

Re: WP 34S Top Left Key Poll

*Message #38 Posted by **Walter B** on 10 Apr 2011, 6:04 p.m.,*
in response to message #37 by Jim Yohe

Slowly: What do you see printed above key A of the HP-67 (top left key)? For comparison: I see 1/x. When will this 1/x rule? As long as there's no program loaded using the key A. How can we apply this observation to the wp 34s? Lessons learned? [:-?

Re: WP 34S Top Left Key Poll

*Message #39 Posted by **Jim Yohe** on 10 Apr 2011, 6:24 p.m.,*
in response to message #38 by Walter B

I only looked at the photo of the HP-65 (you mentioned that one, remember?) and saw no functions listed above the top row key. Don't worry about it Walter. I'm bowing out.

Re: WP 34S Top Left Key Poll

*Message #40 Posted by **Walter B** on 10 Apr 2011, 7:11 p.m.,*
in response to message #39 by Jim Yohe

I mentioned both. And we can play the same game with the 65 as well d:-)

Re: WP 34S Top Left Key Poll

*Message #41 Posted by **Martin Pinckney** on 10 Apr 2011, 8:09 p.m.,*
in response to message #40 by Walter B

Walter,

> Quote:
>
> Hmmmh, on this side of the Atlantic it's his/her fault. For the other side we could print a warning: Do not forget you put something in your calculator's memory! or Items stored in your calculator may look less existent than they are! Please choose your favourite.

This is funny.

> Quote:

> Slowly: What do you see printed above key A of the HP-67 (top left key)? For comparison: I see 1/x. When will this 1/x rule? As long as there's no program loaded using the key A. How can we apply this observation to the wp 34s? Lessons learned?

This is condescending.

See the difference?

Re: WP 34S Top Left Key Poll

*Message #42 Posted by **Walter B** on 11 Apr 2011, 1:12 a.m.,*
in response to message #41 by Martin Pinckney

Martin,

If you feel this way for these dialogues, I like your feelings about the first better, of course. For the second, please see its development:

It started with Jim's question and a quick and concise response of mine pointing to two obvious examples. Images of the 65 and 67 are readily available at this very museum. Then his response with that trailing "Oh well..." after more than an hour. I admit I was feeling provoked and thinking he was blind - sorry, "visually challenged" - or even worse: it was so obvious >:-(Maybe I should have left this response unanswered ... without that "Oh well..." I might have done.

You see I'm not made for diplomacy. I beg your pardon.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can this actually work?

*Message #1 Posted by **Michael de Estrada** on 9 Apr 2011, 10:41 p.m.*

I came across this TAS Auction which includes a so-called "USB Power Adapter" that directly connects the calculator AC adapter pins to a computer USB port. Since this is a Classic series calculator, its AC adapter has two separate outputs to operate the calculator, approximately 5 vdc, and to charge the battery, approximately 17 vdc. So I don't see how a USB cord could do this. Also, I don't see how a USB port could provide sufficient power for these tasks. So I ask, can this device actually work, and if so how?

Re: Can this actually work?

*Message #2 Posted by **Katie Wasserman** on 9 Apr 2011, 11:56 p.m.,*
in response to message #1 by Michael de Estrada

This looks like a straight USB cable with no molded-in voltage conversion circuit, however.....

A USB port can supply at least 500ma, so powering the calculator is certainly possible. 5 volts is also fine, I power all my classic calculators from 3 x AAA Energizer lithium cells which works out to be 5.1 volts when they are new.

Charging the 3 nicad cells in a classic from a 5V DC source will work fine as well. Nicads are fully charged at 1.45 volts per cell, so 5 volts will do it.

The high voltage that you measure from the standard HP chargers/adapter is an open circuit voltage, it drops considerably when loaded. Also as long as the voltage across the nicads cells being charged is greater than 1.45 per cell they will fully charge. The current flowing determines how fast they charge.

-Katie

Re: Can this actually work?

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 10 Apr 2011, 4:23 a.m.,*
in response to message #1 by Michael de Estrada

Old threads about these cables: 1 and 2

Greetings,
Massimo

Re: Can this actually work?

*Message #4 Posted by **Diego Diaz** on 10 Apr 2011, 7:59 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Hi there,

I've been using a USB to HP-41 cable (connected to an empty port) to run my 41's for the last copule of

years or so, and they work like a charm from 5v.

Due to its internal design, Halfnuts show the BAT annunciator on, however they also work without problems.

Best from Spain.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free42 for Android

*Message #1 Posted by **Thomas Okken** on 9 Apr 2011, 8:05 p.m.*

I finished my Android port of Free42; the big missing features (program import & export and printing to files) are done. It's on my web site now.
Once I have tested it on a few real phones, I'll put it in the Android Market, too, but that may take another week or so.

- Thomas

Re: Free42 for Android

*Message #2 Posted by **Forrest Switzer** on 9 Apr 2011, 11:17 p.m.,*
in response to message #1 by Thomas Okken

Thomas,

That is FANTASTIC. Thank you very much. Let us know when it hits the market. :)

Forrest

Re: Free42 for Android

*Message #3 Posted by **Bill (Smithville, NJ)** on 10 Apr 2011, 9:58 a.m.,*
in response to message #2 by Forrest Switzer

I second this - Fantastic work you have done.

Having file i/o now makes it the perfect calculator for my Droid X. Works great on Droid X.

One small suggestion - could you add a preference to turn off key clicks? Or better yet, toggle it to vibrate?

I'm now busy downloading RAW files to the phone.

Thanks.

Bill

Re: Free42 for Android

*Message #4 Posted by **Thomas Okken** on 10 Apr 2011, 12:47 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

Bill, your suggestion is noted. I can't say when I'll implement it, but in the meantime, you can make the key clicks go away by clearing flag 26. Of course that disables *all* sounds.

Re: Free42 for Android

*Message #5 Posted by **Bill (Smithville, NJ)** on 10 Apr 2011, 6:45 p.m.,*
in response to message #4 by Thomas Okken

Thomas,

Thanks. The clicks are anoying during meetings.

Bill

Re: Free42 for Android

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 8:34 a.m.,*
in response to message #1 by Thomas Okken

A quick check on my Archos 70 is promising. The real estate for the keys is pure luxury. I'd like to see a hires skin, the image looks very "pixely".

Re: Free42 for Android

*Message #7 Posted by **Thomas Okken** on 10 Apr 2011, 12:36 p.m.,*
in response to message #6 by Marcus von Cube, Germany

I don't have any skins designed specifically for Androids yet, but you could try some of the other "mobile" skins (from the Pocket PC, PalmOS, or iPhone skins packages). The Android version stretches skins to fill the screen so you don't need an exact fit.

Re: Free42 for Android

*Message #8 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 2:33 p.m.,*
in response to message #7 by Thomas Okken

How do I install new skins? I managed to copy them to a local file. The filer isn't very helpful, it seems to hide most of the file system.

Re: Free42 for Android

*Message #9 Posted by **Thomas Okken** on 10 Apr 2011, 2:55 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Put them in /sdcard/Free42. They will be picked up the next time Free42 is launched.

Re: Free42 for Android

*Message #10 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 3:55 p.m.,*
in response to message #9 by Thomas Okken

My /sdcard link is wrong, it points to /mnt/storage instead of /mnt/storage/sdcard. This must be a bug in the firmware. :(

Do you know of an ssh server so that I can administer my device better? I try rooting my device and correct the link but I don't know if that's permanent.

Re: Free42 for Android

*Message #11 Posted by **Thomas Okken** on 10 Apr 2011, 5:08 p.m.,*
in response to message #10 by Marcus von Cube, Germany

I'm afraid I'm an Android newbie myself -- I can't help you with advanced topics like rooting the device or setting up ssh.
You're not the first one I've heard from that said that the /sdcard path doesn't work; I think in the next release I'll add a field to the Preferences dialog to let you specify the skins directory yourself.

Re: Free42 for Android

*Message #12 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 5:30 p.m.,*
in response to message #11 by Thomas Okken

I suggest dropping /sdcard and using /mnt/storage/sdcard instead.

A custom option would be fine, too, for devices without an SD card. You should copy the skins to a local directory and update the files if a newer version is found in the configured directory. This way, you can add or update skins via the SD card without having to keep the card in the device. If the automatic update isn't feasible, a dialog "Import skins" would solve the problem.

Edited: 10 Apr 2011, 5:57 p.m. after one or more responses were posted

Re: Free42 for Android

*Message #13 Posted by **Thomas Okken** on 10 Apr 2011, 5:38 p.m.,*
in response to message #12 by Marcus von Cube, Germany

I doubt that that path works everywhere, either. I think full user-configurability is the only way to go here.

Re: Free42 for Android

*Message #14 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 5:58 p.m.,*
in response to message #13 by Thomas Okken

I've just edited my previous post.

Re: Free42 for Android

*Message #15 Posted by **Alex L** on 11 Apr 2011, 5:05 p.m.,*
in response to message #10 by Marcus von Cube, Germany

ConnectBot can open a local console. I have it on my HTC Droid Incredible and it works like a charm.

Free42 in Android Market

*Message #16 Posted by **Thomas Okken** on 10 Apr 2011, 3:02 p.m.,*
in response to message #1 by Thomas Okken

I just posted it in Android Market. Just search for "Free42", or click this link.

N.B. This is my first time interacting with the Market; it was pretty painless, but in case anyone notices a problem, please let me know.

Also N.B. The app in the Market was signed with a different key than the ones I have been posting on my web site so far, so you will not be able to upgrade from the previous versions; this will be a new install and your persistent state from the previous install will not be preserved. You'll have to transfer your programs manually. I'll leave the version with the old signature on my web site for a while so you can upgrade to that first (in case you were using one of my alpha releases), export your programs, then uninstall and get the latest from the Market, then import your programs.

All future releases will be signed with this new key, both on the Market and on my web site, so this upgrade headache should not happen again in the future.

Edited: 10 Apr 2011, 3:30 p.m.

Re: Free42 for Android

*Message #17 Posted by **Pal G.** on 11 Apr 2011, 9:30 a.m.,*
in response to message #1 by Thomas Okken

Thomas,

Thank you so much for the port of Free42. I installed it on my Motorola Droid (first gen) last night and look forward to using it. I did notice the "LCD display" is quite blurry on Droid. My screen is 854x480. Have other users mentioned this? Is there currently a way to sharpen the output?

Thanks again.

Edited: 11 Apr 2011, 9:30 a.m.

Re: Free42 for Android

*Message #18 Posted by **Thomas Okken** on 11 Apr 2011, 3:45 p.m.,*
in response to message #17 by Pal G.

Hi Pal,

Free42 for Android stretches the skin to fit the screen, and the display is stretched along with it. If you're using a skin whose size is much smaller than the screen's, the end result is that both the skin and the display look blurry (*).

You say your phone has an 480x854 screen; compare that to the 320x480 screen that the built-in skin was designed for, and you can see the problem. Try using a larger skin, for example, one of the 640x920 skins designed for the iPhone/iPod "retina" displays; there are a few in the Free42iPhoneSkins.zip package. You have to copy the skins' *.gif and *.layout files to /sdcard/Free42, and Free42 will recognize them the next time it is launched.

Apart from the built-in skin, I currently don't have any skins that were specifically designed for Android screen sizes, but if/when I receive any, I'll put them up on my web site in an Android-specific package.

- Thomas

(*) I actually tried using graphics options to disable smoothing there, since scaling a blocky monochrome bitmap like the HP-42S display gives much better results without it... Unfortunately, it appears that some devices don't honor that option, and apply smoothing whether you want them or not.
I had the same problem with the iPhone version, interestingly enough, and had to resort to using a screen-resolution (UPDATE: I said "display-resolution" before, but that was wrong) off-screen bitmap for my buffering, since I just couldn't make scaling work the way I wanted it to. I may end up doing the same in

the Android version at some point.

Edited: 11 Apr 2011, 8:11 p.m. after one or more responses were posted

Re: Free42 for Android

*Message #19 Posted by **Pal G.** on 11 Apr 2011, 4:03 p.m.,*
in response to message #18 by Thomas Okken

Thank you for the quick response. I thought the LCD and the Skin might be drawn differently, so I did not think to try another skin yet. I will try it right away.

I may attempt to make an WVGA skin. I will report back if it is presentable..

Thanks again.

Update: Two of the iphone skins look excellent on my Droid (HofferthHiRes, Andy480x800), but the LCD is still slightly blurry, but usable.

Not complaining! Just saying..

Edited: 11 Apr 2011, 4:16 p.m.

Re: Free42 for Android

*Message #20 Posted by **Günter Schink** on 11 Apr 2011, 5:37 p.m.,*
in response to message #19 by Pal G.

Moin Pal,

on my Galaxy GT9000 (480x480) the jgoizueta_retina for the IPhone gives the best result.

Günter

Re: Free42 for Android

*Message #21 Posted by **Bill (Smithville, NJ)** on 11 Apr 2011, 5:33 p.m.,*
in response to message #18 by Thomas Okken

Thomas,

You wrote:

> Quote:
>
> to /sdcard/Free42

This originally confused me a little bit. I created a /sdcard directory and then a Free42 directory.

In reality, on a locked phone, the root is already at the /sdcard and I only needed to create the Free42 directory. The /sdcartd is hidden from the user.

This may not be true with all phones, but is what happens on a Droid X locked phone.

Bill

Re: Free42 for Android

*Message #22 Posted by **Thomas Okken** on 11 Apr 2011, 7:14 p.m.,*
in response to message #21 by Bill (Smithville, NJ)

Bill,

(Unix jargon alert!) The SD card is a separate filesystem which is mounted on /sdcard on most phones; on others, it may be mounted on some other mount point like /mnt/storage/sdcard, with a symbolic link from /sdcard to the actual mount point. Either way, when you connect the phone to your PC and select the "connect as disk" option, what gets mounted on the PC is only the SD card, and not the phone's entire filesystem hierarchy, so what you saw -- no /sdcard being in evidence, nor other directories you'd expect at the top level in a Unix system, like /etc -- is normal.

I suppose I should write a README file explaining all this. :-) Once I add an option in Preferences to let users select their own skins directory, I expect most of the confusion will take care of itself, since you can just browse the filesystem then and tell Free42 to use whichever directory you happen to have your skins in. That'll be in 1.4.68.

- Thomas

Edited: 11 Apr 2011, 7:29 p.m.

Re: Free42 for Android

*Message #23 Posted by **Bill (Smithville, NJ)** on 11 Apr 2011, 7:31 p.m.,*
in response to message #22 by Thomas Okken

Thomas,

Understood. I'm an old unix hack from a long time ago. But it did take me a little thinking about it before I got it right. I'm guessing that most of us here are aware that Android is based on Unix/Linux, but there are probally a few people that just see the phone as it is and really don't think in terms of file systems.

Like you say, it'll all get clearer when you can browse the file system.

Since the real HP-42S is my favorite calculator, I'm having a blast with Free42S. Thanks again for all your hard work on it and for making it available.

Bill

Re: Free42 for Android

*Message #24 Posted by **Thomas Okken** on 11 Apr 2011, 7:52 p.m.,*
in response to message #23 by Bill (Smithville, NJ)

Bill,

My pleasure! And I will keep your feedback in mind -- Marcus' also -- I'll see what I can do about improving the skins business.

- Thomas

Re: Free42 for Android

*Message #25 Posted by **Marcus von Cube, Germany** on 12 Apr 2011, 12:39 p.m.,*
in response to message #22 by Thomas Okken

On my Archos 70 with Android 2.2, the symbolic link /sdcard is broken and cannot be fixed (root file system is read only). :(I'm waiting for the Thomas' update.

Re: Free42 for Android

*Message #26 Posted by **Thomas Okken** on 13 Apr 2011, 10:11 a.m.,*
in response to message #25 by Marcus von Cube, Germany

I'll add the skins directory location to Preferences and release a new version this weekend. Another user reported that the state file doesn't get saved, or not reliably anyway, on the Archos 43T, and the fix for that will also be in the next release.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT : Seiko Worldtime

*Message #1 Posted by **Alberto Fenini** on 9 Apr 2011, 6:02 p.m.*

Dear All,
I know it's OT, but still, I'll give it a try.
Beside my HP collection, I have started to collect LED/LCD watches,
and I like the Worldtime serie from Seiko.
Does anyone has instructions booklets for these models ?
Eventually a spare 708-5000 module is something i'm looking for.
On the other end, if anyone else is interested in how to remove
scratches from mineral glasses (not plastic, you read right) I'll be happy to share my mistakes and my little progresses !!
take care and thanks in advance Alberto !!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41C overlays

*Message #1 Posted by **Art Leyenberger** on 9 Apr 2011, 4:36 p.m.*

I have two HP41C overlays which I cannot determine what they are.

1) Functions on the overlay (top row) include: DCV/ACV, TEM/REF,2W(ohm symbol)/4w(ohm symbol), FRQ/TOT, RED/WRT

2) Functions on the overlay (top row) include: T/E, J/K, S/R, RTD/4WRTD, THM, 4WTHM.

2nd func is f (gold) shift - e.g. f ACV on the top left key of the first overlay.

Anybody know what these two overlays are for?

Thanks.

.....Art

Re: HP41C overlays

*Message #2 Posted by **Donald Williams** on 9 Apr 2011, 7:18 p.m.,*
in response to message #1 by Art Leyenberger

Sounds like the overlays for the HP 3421A Data Acquisition unit control module. I have the module but have never seen the overlays.

Re: HP41C overlays

*Message #3 Posted by **Raymond Del Tondo** on 9 Apr 2011, 8:59 p.m.,*
in response to message #2 by Donald Williams

The overlays for the 3421A control module are of the protective type,
which means they cover the whole keyboard, like the 82220A protective keyboard overlay.

HTH

Ray

Re: HP41C overlays

*Message #4 Posted by **Donald Williams** on 9 Apr 2011, 11:42 p.m.,*
in response to message #3 by Raymond Del Tondo

The 3421A was my first thought, but there are no CLS or OPN commands described, which would be used on the 3421A. So my next guess would be the overlay for an HP 3468A/B Digital Multimeter. The commands described on the overlay would be used for multimeter functions. I was not aware that the 3468 module even existed, but I can't think of any other HPIL controlled multimeter.

Edit

Is this your overlay

Here - see page 17

This would be used for a very rare module

Edited: 10 Apr 2011, 12:16 a.m.

Re: HP41C overlays

*Message #5 Posted by **Art Leyenberger** on 10 Apr 2011, 1:29 p.m.,*
in response to message #4 by Donald Williams

Yes, that's one of them. Thank you Donald.

.....Art

Re: HP41C overlays

*Message #6 Posted by **reth** on 10 Apr 2011, 6:36 a.m.,*
in response to message #1 by Art Leyenberger

Even though calculators are only history/nostalgia today, here it is: overlays looked like smart thing initially, but turned out to be useless. Experienced user doesn't look at key legend anyway.

Re: HP41C overlays

*Message #7 Posted by **Jake Schwartz** on 10 Apr 2011, 10:47 a.m.,*
in response to message #6 by reth

> Quote:
>
> ...but turned out to be useless. Experienced user doesn't look at key legend anyway.

Oh - so you asked every experienced user and the results were unanimous? I wholeheartedly disagree, so here's a 32-year HP41 user feeling the opposite way. Making "declarations" like that seem foolhardy to me. Plus, the blank overlays were great for markings for new programs with a new set of assignments. They may not have sold well from HP, but that may have been due to the relatively high cost.

Jake Schwartz

Re: HP41C overlays

*Message #8 Posted by **reth** on 11 Apr 2011, 2:07 a.m.,*
in response to message #7 by Jake Schwartz

What I wrote is my observation only. All people I know using HP41 *knew* their module user keys so did I. I believe you asked every user out there with the exception of the ones I know and they can't live without overlays; I didn't so I'm sorry for not been clear enough.

Re: HP41C overlays

*Message #9 Posted by **Ángel Martin** on 10 Apr 2011, 2:14 p.m.,*

in response to message #6 by reth

Overlays on the 41 were just great, and continue to be. Its user interface has the power of a juggernaught and the simplicity and elegance of a keypad, talk about ease of use - can you spell Soft-Alpha? No thanks.

That of course assumes that you use the calculator for multiple, different aaplications. The USER keyboard(s) will be impossible to navigate without the overlays as visual keys.

Re: HP41C overlays

*Message #10 Posted by **reth** on 11 Apr 2011, 2:17 a.m.,*
in response to message #9 by Ángel Martin

Well that assumption solves the problem. As a surveyor I never used the overlay. I used to work with structural engineers and they knew their user keys and I have never seen them using the overlay. I agree if someone uses multiple modules overlays would be necessary, but I do not know such people.

Re: HP41C overlays

*Message #11 Posted by **Ángel Martin** on 11 Apr 2011, 4:14 p.m.,*
in response to message #10 by reth

yeah, I think it's called "splintered personality" :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: What is so special with the Casio fx-602P

*Message #1 Posted by **Joerg Woerner** on 9 Apr 2011, 2:16 p.m.*

Hi There,

I tried multiple times on e**y to obtain a Casio fx-602P for the Datamath Calculator Museum as a reference for LCD calculators with dotmatrix displays.

Well, they usually sell above $100 - any idea what makes them "so" collectible?

The one I watch now (Casio fx-602P) is already at EUR 45,50 (about USD 65.00) and still one day left.

Any hints welcome.

Thanks and Regards, Joerg

Re: OT: What is so special with the Casio fx-602P

*Message #2 Posted by **marais** on 9 Apr 2011, 5:43 p.m.,*
in response to message #1 by Joerg Woerner

Well, it simply is a great calculator. Back at the time, the FX-602P competed with the HP-41C and a TI machine, and I couldn't help but consider the FX 602 the superior machine: It features a real dot-matrix display, has a bounce-free keyboard, a decent programming model, and an extension slot which allows to save programs on tape recorders. It lacks the 41C system approach and some of the more advanced higher math functions, but overall is a very capable (and cute - with its slim metal case) machine. I replaced mine eventually with a 28S, when complex math became a necessity and my complex arithmetic programs written for the 602P no longer did the job. Casio later issued a successor, the FX-603P, which is even more difficult to find.

Andreas

Re: OT: What is so special with the Casio fx-602P

*Message #3 Posted by **Paul Dale** on 9 Apr 2011, 7:12 p.m.,*
in response to message #1 by Joerg Woerner

The 602p was simply a great calculator.

Lots of program memory (511 steps I think) & registers (22), alpha messages and prompts, a good selection of functions on the keyboard, IO via cassette tape and a printer and it is fast. It could play music via the cassette interface. Oh, and best of all it was cheap.

This one drew me away from HP for quite a few years. I wish mine hadn't died.

I've lots of fond memories here. I spent more than a bit of time programming a minimax search so it could play tic-tac-toe :-)

- Pauli

Re: OT: What is so special with the Casio fx-602P

*Message #4 Posted by **Eddie W. Shore** on 9 Apr 2011, 8:33 p.m.,*
in response to message #3 by Paul Dale

The machine looks very slick.

Re: OT: What is so special with the Casio fx-602P

*Message #5 Posted by **Joerg Woerner** on 9 Apr 2011, 10:14 p.m.,*
in response to message #3 by Paul Dale

WOW - Thanks for your answers!

Regards, Joerg

Re: OT: What is so special with the Casio fx-602P

*Message #6 Posted by **Donald Ingram** on 9 Apr 2011, 11:00 p.m.,*
in response to message #5 by Joerg Woerner

The Casio is one of those calculators I regret giving out on a loan ... never to see it again.

It was blindingly fast compared to the HP41CX I upgraded to.

The Casio had a cassette interface - which could be use for output tones : the same as Kraftwerk did with the predecessor Casio fx-501.

It was also possible to save programs and interestingly if the read back was interrupted mid text, the corrupted string could be manipulated to access extra non keyboard characters.

Edited: 9 Apr 2011, 11:01 p.m.

Re: OT: What is so special with the Casio fx-602P

*Message #7 Posted by **marais** on 10 Apr 2011, 6:43 a.m.,*
in response to message #6 by Donald Ingram

The processor clock rate could also be increased, and memory extensions were possible. I still got my 602P, complete with interface and a printer, all of which still work. Should publish a photo on my web site.

Andreas

Re: OT: What is so special with the Casio fx-602P

*Message #8 Posted by **Pal G.** on 12 Apr 2011, 4:16 p.m.,*
in response to message #1 by Joerg Woerner

I thought I would add this to the discussion. It probably won't make it into your museum, but it might help anyone curious..

Casio FX-602P simulator for Android

Re: OT: What is so special with the Casio fx-602P

*Message #9 Posted by **Thomas Chrapkiewicz** on 20 Apr 2011, 5:44 p.m.,*
in response to message #8 by Pal G.

Is there documentation for the audio codes that are emitted from this calculator? As you know, this machine put out the program (and data) as audio codes that were then recorded on an audio recorder to be read in at a later time. It might be interesting to design a modern day decoder/encoder.

TomC

Re: OT: What is so special with the Casio fx-602P

*Message #10 Posted by **Donald Ingram** on 21 Apr 2011, 1:15 a.m.,*
in response to message #9 by Thomas Chrapkiewicz

http://en.wikipedia.org/wiki/Kansas_City_standard

Re: OT: What is so special with the Casio fx-602P

*Message #11 Posted by **Paul Dale** on 21 Apr 2011, 1:20 a.m.,*
in response to message #10 by Donald Ingram

I'm pretty sure the programs were stored using the Kansas City standard at 300 baud. The music on the other hand, wasn't -- it was tones at the correct frequency. I've no idea what form they took (square, sine, triangle, whatever wave).

- Pauli

Re: OT: What is so special with the Casio fx-602P

*Message #12 Posted by **Donald Ingram** on 21 Apr 2011, 1:53 a.m.,*
in response to message #11 by Paul Dale

I seem to remember that parts of this were recorded from a fx-501

Kraftwerk : Pocket Calculator

see also 1:13 into this Casio FX on stage ?

Edited: 21 Apr 2011, 1:57 a.m.

Re: OT: What is so special with the Casio fx-602P

*Message #13 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 7:19 a.m.,*
in response to message #12 by Donald Ingram

I've created a software package for dealing with Casio (and others) cassette recordings. The software does not deal with the fx-602, only its BASIC siblings and the fx-8000G graphic calculator. It may serve as a head start as all the low level stuff of reading and creating the correct wave patterns is already there.

IIRC, there exists some software specifically written for the fx-602. It's some time ago that I stumbled across it. I don't have the name or the author at hand right now.

My work is here: http://www.mvcsys.de/doc/casioutil.html

Re: OT: What is so special with the Casio fx-602P

*Message #14 Posted by **Thomas Chrapkiewicz** on 21 Apr 2011, 10:21 a.m.,*
in response to message #13 by Marcus von Cube, Germany

Thanks for the info.

I realize the coding was Kansas City Standard, but I am curious to know if anyone has documented the actual hex data representing the keycodes in the 502/602 series.

Thanks, TomC

Re: OT: What is so special with the Casio fx-602P

*Message #15 Posted by **Marcus von Cube, Germany** on 21 Apr 2011, 10:41 a.m.,*
in response to message #14 by Thomas Chrapkiewicz

Piotr Piatek has info on this: http://pisi.com.pl/piotr433/fx602foe.htm

Re: OT: What is so special with the Casio fx-602P

*Message #16 Posted by **Thomas Chrapkiewicz** on 21 Apr 2011, 3:56 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Thanks!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Ebay

*Message #1 Posted by **Matthias Wehrli** on 9 Apr 2011, 6:57 a.m.*

Hi

I was "away" for a longer periode of time. From time to time I looked on the electronical bay if there is something interesting for my HP collection. during the last year I only found two items that were really interesting: one HP-41 module I didn't knew, a HP prototyp. Most of the items sold on ebay are new (selaed) calculators, that aren't worth looking for them each day. Do I fail or do you also observe that ebay becomes more and more a marketplace for new calculaotrs? I can not find that many old items I found 2-3 years ago. Also aside of ebay I only had one really interesting deal: one of the "holy grails" of all HPs has found a new home. Seems that all HP goodies are in collectors hands now. True? Did I miss really nice items? (Oh, good fu***ing geocaching. Takes a lot of time I should better have used for searching the Web for HPs?)

Matthias

Re: Ebay

*Message #2 Posted by **bill platt** on 9 Apr 2011, 8:07 a.m.,*
in response to message #1 by Matthias Wehrli

I agree with your observation that ebay is becoming overrun with new stuff. It is annoying. If I wanted new, I'd go to a store!

But the collection stuff not being there? You know more than I do about that.

Re: Ebay

*Message #3 Posted by **Namir** on 9 Apr 2011, 11:19 a.m.,*
in response to message #2 by bill platt

Hello Matthias,

Yes, I see more new calculators too. At the same time I think your collection has reached saturation where you have your wide range (if I did not see it with my own eyes a few years ago, I would not believe it) of vintage machines as well as rare custom specimen and rare modules.

Namir

Re: Ebay

*Message #4 Posted by **Michael de Estrada** on 9 Apr 2011, 12:24 p.m.,*
in response to message #1 by Matthias Wehrli

TAS has become much less friendly to amateur small time sellers who are more likely to have unique vintage calculators for sale. Nowadays, it's mostly junk dealers that are selling randomly. Having said that, on occasion I've seen unique items such as a prototype HP-45 with a green LED display, although it sold for a very high

price. I've stopped selling on TAS and all my most recent sales have come via the classifieds on this forum, where I've had 100% success.

Re: Ebay

*Message #5 Posted by **Matthias Wehrli** on 9 Apr 2011, 1:51 p.m.,*
in response to message #4 by Michael de Estrada

The HP-45A with the green display is in my collection now ;) It was the only intersting part in this year.

Re: Ebay

*Message #6 Posted by **Keith Midson** on 10 Apr 2011, 9:34 p.m.,*
in response to message #1 by Matthias Wehrli

Hi Matthias, I have also noticed that ebay has become less 'interesting', but having said that, my collection is fairly mature - I have most items that I want in my collection.
I think if I were just starting out collecting then i'd be excited about items like a boxed 65, or a mint 42S, etc. It gets harder to get excited about items that are listed that you already have.
There are definitely more new items being listed now compared to a few years ago - there also seems to be a lot of 'refurbished' sellers out there now. Obviously there is a market for cheap new models. Cheers, Keith

Re: Ebay

*Message #7 Posted by **Michael de Estrada** on 10 Apr 2011, 10:07 p.m.,*
in response to message #6 by Keith Midson

I agree that mostly it really hasn't changed that much, it's just that many of us have pretty much completed our collections to the extent that we've met our core goals. So, we don't pay attention to items that previously would have been interesting. For example, for many years I kept looking for an HP-70 to complete my set of HP Classics. Then last year there was a veritable flood of them on TAS, I picked one up, and now I don't notice whether any more appear for auction. Really rare items like an HP-35 Red Dot only appear in geologic time anyways, so trying to judge TAS within a short time frame cannot produce enough data to reach a conclusion regarding its truly unique items.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 75 memory repair assistance request

*Message #1 Posted by **Greg Angelow** on 9 Apr 2011, 6:30 a.m.*

I have my 75C now for about 30 years and it still works fine, in general. A few day ago I got error message <17 RAM is invalid>. I found out, that the 8k RAM extension module (Part. 82700A) has a problem with half of its capacity (4k) not working. When I open it, I find 4 chips CMOS RAM Toshiba TC5516 AF. A lot of googling gives me the impression that these chips are no longer available.

Can anyone help me kindly how I can get the memory working with a schematic of the memory, a chip source or maybe a spare module 82700A to sell. BTW: I'm also interested to acquire used 75's. Thanks.

Re: HP 75 memory repair assistance request

*Message #2 Posted by **Paul Berger (Canada)** on 9 Apr 2011, 12:28 p.m.,*
in response to message #1 by Greg Angelow

The RAM chip used in there is a standard pinout 2Kx8 CMOS static RAM so there are many other type that would be suitable replacements. From the datasheet I found online for the TC5516 it would seem to be a 250nS part, so any 2K part with an access time equal to or faster than that would be suitable. For instance I have in front of me a Sony CXK5816 and a Fujitsu MB9416 and looking at the specs for them either one of them would be suitable.

As for a schematic, there only seems to be the 4 SRAMs in the module so I would suspect that all the address and data lines and R/-W are connected to pins common to all 4 chips and then there would be separate -enable lines for each chip. Since there is no glue logic in the module It seems that the -enable for each chip comes from the main logic of the 75, likely from the chip called 'MAR' this chip seems to provide all of the RAM control logic, and the SRAM chips on board are also 2K x 8 so it would seem likely that this chip divides the RAM space into 2K pages and provides -enable lines for each of them. unfortunately the copy of the service guide I found is missing some of the schematic pages so I cannot confirm that.

Since the -enable is supplied by the 75 this raises the possibility of the problem being inside, or perhaps even a connection issue between the module and the main board, did you try reseating it? It is possible, depending on how the 75 'discovers' the RAM that only one chip is at fault. If it reads through the memory until it detects that it does not read back what it wrote and from that assumes it is the end of memory then if the 3rd 2K chip was bad you would still loose 4K.

Re: HP 75 memory repair assistance request

*Message #3 Posted by **Greg Angelow** on 9 Apr 2011, 5:30 p.m.,*
in response to message #2 by Paul Berger (Canada)

Thanks, Paul, for your prompt expertise.

I will follow you and examine the substitute chips you mention. Maybe my problem is, that I'm not familiar with this kind of electronics and the distributors I get my components usually from (e.g. Farnell) do not offer CMOS RAM. At the other side, datasheets are easy to find.

As you recommend, I inspected the board and the edge connector and cannot find any wear - the contacts are bright. I also re-soldered the edgeconnector to consider a cold joint.

The enable signal at the RAM should be detectable with the scope, I guess.

Re: HP 75 memory repair assistance request

*Message #4 Posted by **Paul Berger (Canada)** on 9 Apr 2011, 7:21 p.m.,*
in response to message #3 by Greg Angelow

Yes you could see it on a scope but it might be hard to catch as it would not be a regular pulse, a storage scope would be able to capture it or a logic probe. These RAM chips have two -enable lines, pins 18 and 20 but in the 8K module they are tied together on each chip.

Re: HP 75 memory repair assistance request

*Message #5 Posted by **Eric Smith** on 9 Apr 2011, 6:25 p.m.,*
in response to message #2 by Paul Berger (Canada)

One of the most common part numbers for a CMOS 2K*8 static ram is 6116 (originally from Hitachi as HM6116). You want the L suffix for low power, e.g., 6116L-3 which is 150 ns. They should be available from many sources, such as Unicorn Electronics.

Re: HP 75 memory repair assistance request

*Message #6 Posted by **Paul Berger (Canada)** on 9 Apr 2011, 7:24 p.m.,*
in response to message #5 by Eric Smith

Yes I looked there too but they do not say what package they are, for the 8K module the plastic flat pack package is required.

Re: HP 75 memory repair assistance request

*Message #7 Posted by **Bart (UK)** on 11 Apr 2011, 5:11 p.m.,*
in response to message #6 by Paul Berger (Canada)

I purchased the HT6116-70S from here (see under heading "RAM's - SMD Type"). That is a 330mil (~8.5mm) wide plastic flat pack (the actual IC that I received is HM6116LFP-3). I used for my PC1251 (which I ended up upgrading to 10k, picture and description - the 2k IC on the left is the 6116 from Futurlec)

Edited: 11 Apr 2011, 5:33 p.m.

Re: HP 75 memory repair assistance request

*Message #8 Posted by **Jakob B. Sorensen** on 10 Apr 2011, 4:44 p.m.,*
in response to message #2 by Paul Berger (Canada)

The system Sw supports RAM increments of 2K (ref. HP-75 Service manual). The schematics shows the following signals for the J1 connector to expansion RAM:

```
Signal  Pin             Signal  Pin
------------              ------------
VC      1               VC      A
GND     2               GND     B
-E6/-E10        3               -E7/-E11        C
```

```
-E4/-E8 4               -E5/-E9 D
-W      5               A9      E
A8      6               A7      F
A6      7               A5      H
A4      8               A3      J
A2      9               A1      K
A0      10              R07     L
R06     11              R05     M
R04     12              R03     N
R02     13              R01     P
R00     14              A10     R
```

The four enable lines are either connected to -E8..-E11 or to -E4..-E9 supporting the discussion about HP-75 originally was planned with 8K RAM onboard.

Re: HP 75 memory repair assistance request

*Message #9 Posted by **Greg Angelow** on 11 Apr 2011, 5:33 a.m.,*
in response to message #8 by Jakob B. Sorensen

Very interesting info. I'm asking myself, if the memory controller, which Paul named 'MAR', has some spare enable lines to feed more memory. As far as I know, the Series 80 desktops have 32k at the bottom end and 512k with bank switching. I have a source now for IDT6116LA45SO chips and try to replace the Toshiba chips of the extension board.

Re: HP 75 memory repair assistance request

*Message #10 Posted by **Paul Berger (Canada)** on 11 Apr 2011, 6:58 a.m.,*
in response to message #9 by Greg Angelow

Unfortunately no, it provides 12 select lines for 2K pages of memory, for a total of 24K, that is all that the 75 was designed for. It is possible to install RAM in the front bank selected ports, however memory installed there cannot be used as regular RAM. HP made a device "82713A HP-75 Plug-In Module Simulator" that contained battery backed up RAM. The intent of this device was to assist with the development of ROM plug-ins. I have no first hand experience with this device but it is my understanding that programs and LEX files can be stored in it to free up space in RAM.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Updated Version of The "PPC DVD" of HP Handheld Calculator Materials Available

*Message #1 Posted by **Jake Schwartz** on 8 Apr 2011, 7:08 p.m.*

Hi, The "PPC DVD", consisting of the four original PPC CDs of HP-calculator users' publications from the U.S., U.K. and Australia, along with various other historical materials has been updated with almost 4000 additional pages. For more information, check out http://www.pahhc.org/ppccdrom.htm.

Jake Schwartz

Re: New Updated Version of The "PPC DVD" of HP Handheld Calculator Materials Available

*Message #2 Posted by **Namir** on 8 Apr 2011, 9:02 p.m.,*
in response to message #1 by Jake Schwartz

Cool! You have an order!

:-)

Namir

Re: New Updated Version of The "PPC DVD" of HP Handheld Calculator Materials Available

*Message #3 Posted by **David Hayden** on 8 Apr 2011, 9:45 p.m.,*
in response to message #1 by Jake Schwartz

You have another order! :)

Dave

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A comparison of three Hp 17bII generations

*Message #1 Posted by **Jose Gonzalez Divasson** on 8 Apr 2011, 6:51 p.m.*

I have the chance of having all three models (original, gold trim and silver), and I have made a comparison in the blog:

Comparison between all three HP 17bII generations

Surprisingly, the original one was the nearly the fastest (the silver being the slowest!), and the key feel is still the best.

The silver one is a clear improvement over the gold trim version in all respects but speed. And there is a quality factor that I had not considered until now: how they are suited for single-handed calculations (handling the calculator and keying numbers with the same hand, like in a presentation). There were huge differences in that respect!!

Re: A comparison of three Hp 17bII generations

*Message #2 Posted by **Don Shepherd** on 8 Apr 2011, 7:35 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

Jose, this is a good comparison of the three 17bii units, but I have to believe that your speed figures for the 17bii+ gold are in error. I don't currently have the silver unit, but a few years ago I did some benchmarks of the solver and found virtually no difference between the 17bii+ gold and silver: both were substantially slower than the 17b or 17bii. You reported the gold unit took 78 seconds to do your benchmark; I just ran it on my gold unit and it took 167 seconds, comparable to the 17bii+ silver. My 17b ran it in 80 seconds.

You mention that later units do not have the Let and Get functions, nor do their manuals mention those. My experience is different. All versions of the 17b, including 17b, 17bii, 17bii+ gold, and 17bii+ silver, have the Let and Get functions. The manuals for the 17b and 17bii do not mention Let and Get, but the calculators have the functions. The manuals for the 17bii+ gold and 17bii+ silver do mention Let and Get, and those calculators have those functions as well.

While the plus units have much more memory, the solvers are different between the 17b/17bii and the plusses; the original solvers were faster and executed in a logical way. The new solvers are inferior.

Re: A comparison of three Hp 17bII generations

*Message #3 Posted by **Jose Gonzalez Divasson** on 9 Apr 2011, 5:28 a.m.,*
in response to message #2 by Don Shepherd

Don,

I have rechecked the loop results - I might have lost 1 minute in the count - but I still get 85 seconds (today is 5º colder than yesterday - I don't know if that can be a factor), still much better than the silver model and in the same region as the original,

When it comes to Let and Get, I cannot find them in my Spanish hp 17bII manual, first edition; but it does come in the downloadable English manual, second edition. I stand corrected !!

Best regards,

José

Re: A comparison of three Hp 17bII generations

*Message #4 Posted by **Don Shepherd** on 9 Apr 2011, 8:22 a.m.,*
in response to message #3 by Jose Gonzalez Divasson

Thanks Jose.

I have a hunch that Let and Get may have been put in the original 17b solver as a debugging tool for the developers, and perhaps they found it so useful that they left it in the production version but forgot to update the manual. Later, when users discovered it (probably in this forum!), the manuals were updated. The "Technical Applications for the HP-27S and HP-19B" manual (on the museum DVD) has a whole section on the Let and Get functions and many equations using those instructions.

I read a post a few years ago in this forum that Let and Get were not in the original 17b solver, but I got a 17b on EBay and they are there.

These are the types of things I really admire in HP calculators. For the 17b, Let and Get, If, and Σ turn the solver into a minimal programming language capable of many things that a simpler solver would be unable to do. And on the 12c, cfj effectively gives you indirect addressing, and Valentin pointed out how NPV and IRR can turn the 12c into an equation solver. Amazing.

Edited: 9 Apr 2011, 9:40 a.m.

Re: A comparison of three Hp 17bII generations

*Message #5 Posted by **James Lee** on 10 Apr 2011, 6:44 a.m.,*
in response to message #3 by Jose Gonzalez Divasson

Hi Jose,

Nice review of the three generations of the 17bII's. I ran that loop test twice on my 17bII+ (gold) and got 85 and 87 seconds respectively.

The one small gripe I do have with mine is the grey rubber on the sides of it. When holding the calculator, it kind of feels like your fingers are sweating. Also, the case provides good protection but it's bulky.

What case is supplied with the silver one?

Regards,

James

Re: A comparison of three Hp 17bII generations

*Message #6 Posted by **Jose Gonzalez Divasson** on 10 Apr 2011, 9:09 a.m.,*
in response to message #5 by James Lee

James,

The case is equal in material, slightly large for the silver one. It looks better than the previous Pioneers, but when you look at how you use, the original is better for most applications (jacket pockets and so on)

The gold is not a bad calculator, but pales in comparison with the former and the latter ones

Re: A comparison of three Hp 17bII generations

*Message #7 Posted by **Jose Gonzalez Divasson** on 10 Apr 2011, 3:45 p.m.,*
in response to message #6 by Jose Gonzalez Divasson

Added some pictures to the review...

HP 17bII 3 generations review

Re: A comparison of three Hp 17bII generations

*Message #8 Posted by **John B. Smitherman** on 12 Apr 2011, 10:36 a.m.,*
in response to message #3 by Jose Gonzalez Divasson

With fresh batteries I got 170 seconds on my gold 17bii+ which has s/n CNA61801536.

John

Re: A comparison of three Hp 17bII generations

*Message #9 Posted by **Don Shepherd** on 12 Apr 2011, 12:49 p.m.,*
in response to message #8 by John B. Smitherman

Thanks John. It seems that a couple of people got a much quicker response on their 17bii+ gold units, so I have to wonder if maybe later gold units had a faster processor or something, compared to earlier gold units. Oh well, I guess it doesn't matter since the silver unit replaced the gold one. I assume that the gold ones aren't in the supply chain anymore.

As for me, I'll take the 17b or 17bii.

Re: A comparison of three Hp 17bII generations

*Message #10 Posted by **Keith Midson** on 14 Apr 2011, 2:28 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

I've posted this before, but here's the evolution of the 17B ...
http://www.midsontraffic.com.au/HP17Bseries.jpg
Cheers, Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

82240B / HP48 Interaction poorly documented

*Message #1 Posted by **Thomas Chrapkiewicz** on 8 Apr 2011, 6:03 p.m.*

While working with an HP48 and a HP82240B printer, I noticed that the printer seems to be stuck in ECMA font mode.

This violated what the HP82240B technical interface guide indicates - that is - that the font settings are 'sticky' and will remain in the font setting until changed with the other font escape code.

Well, printing from the HP48 after having set the printer to ROMAN8 font, the printout was still in ECMA font.

I then tried the same code from an HP28. This seemed to work fine. Very strange.

I then discovered that the HP48 pre-appends all strings sent out of the IR with the ECMA font setting string (27 249). I found this documented (in the very last paragraph)here:

http://page.mi.fu-berlin.de/raut/WR49/Ioman.htm

I then verified this using INPRT on another HP48 to capture the IR output of the sending HP48.

[I am surprised that this is not documented elsewhere; I checked the AUR, Wickes and Donnelly!]

TomC

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

'New' HP10bii+

*Message #1 Posted by **Michael O** on 8 Apr 2011, 12:54 p.m.*

Not sure if I missed something - quickly scanned forum and did not pick up any threads in recent posts - I noticed a new 10bii+ with added math capability and Breakeven and Probability :

http://h10010.www1.hp.com/wwpc/us/en/sm/WF06a/215348-215348-64232-20036-215349-5034296.html

I am sure I haven't seen this before- the keyboard layout is exact as latest model 10bii but with many more blue key functions including math. Can someone point me to thread where forum experts discussed this model - when was it launched?

Re: 'New' HP10bii+

*Message #2 Posted by **Jim Yohe** on 8 Apr 2011, 2:40 p.m.,*
in response to message #1 by Michael O

That's nice to see trig functions, Pi, etc in the revision!

How, if you don't mind revealing, did you discover this new revision? That link doesn't show a current part number, manual, or even that you can purchase it (quote: The product you selected is not available in HP's online store.)

Under the "old"/current HP10bii it says, "Out of stock / Please check back soon" so I bet they are cleared of stock and going to put that new one in it's place soon.

Re: 'New' HP10bii+

*Message #3 Posted by **Gerson W. Barbosa** on 8 Apr 2011, 6:31 p.m.,*
in response to message #2 by Jim Yohe

> Quote:
>
> That's nice to see trig functions, Pi, etc in the revision!

I've always wondered why these have not been included in the HP-12C Platinum, since its code has been rewritten from scratch. The only trouble I see is backward compatibility with old 12C programs. For instance,

```
01-    42 9  f 9
```

would have to be replaced with

```
01-42, X, 9  f FIX 9
```

This would occur very rarely however to be a problem.

Re: 'New' HP10bii+

*Message #4 Posted by **Tim Wessman** on 10 Apr 2011, 12:30 p.m.,*
in response to message #2 by Jim Yohe

Jim, please send me an email.

TW

Re: 'New' HP10bii+

*Message #5 Posted by **gene wright** on 8 Apr 2011, 2:47 p.m.,*
in response to message #1 by Michael O

What do you want to know? Ask away.

A full review will be in the next HP Solve, due out shortly.

Great unit.

For 25 years, I have begged, pleaded, harassed, and begged some more for a financial calculator with at least trig and some other scientific features to allow college students to have one calculator that handled all of their classes.

The new 10bII+ is SO MUCH more than I ever dreamed would be available in an entry level machine. It is marvelous.

But, before anyone asks... No, it does not have RPN. :-(

Re: 'New' HP10bii+

*Message #6 Posted by **Jim Yohe** on 8 Apr 2011, 2:53 p.m.,*
in response to message #5 by gene wright

How about when will it be available to purchase? And how do you know this?

My birthday's coming up and this could be hint to my wife. ;-)

Edited: 8 Apr 2011, 2:55 p.m.

Re: 'New' HP10bii+

*Message #7 Posted by **Tim Wessman** on 8 Apr 2011, 3:08 p.m.,*
in response to message #6 by Jim Yohe

Should be available around May. Units are shipping, but takes that long to get places.

TW

Re: 'New' HP10bii+

*Message #8 Posted by **Martin Pinckney** on 8 Apr 2011, 3:41 p.m.,*
in response to message #6 by Jim Yohe

Jim,

> Quote:

> And how do you know this?

Gene is a contributor to the HP Solve newsletter. See his post above yours.

> Quote:
>
> A full review will be in the next HP Solve, due out shortly.

Edited: 8 Apr 2011, 3:42 p.m.

Re: 'New' HP10bii+

*Message #9 Posted by **Tim Wessman** on 8 Apr 2011, 3:07 p.m.,*
in response to message #1 by Michael O

Which new unit? Do you mean this one?

Or perhaps the manual would be of more interest. Surely someone will recognize where most of the content for the sections on probability and advanced distributions came from. . . they were pulled from another HP manual.

TW

Edited: 8 Apr 2011, 3:17 p.m.

Re: 'New' HP10bii+

*Message #10 Posted by **gene wright** on 8 Apr 2011, 3:22 p.m.,*
in response to message #9 by Tim Wessman

So, this does everything the existing / previous HP 10bII will do PLUS...

Depreciation

Bonds

Breakeven

Date calculations

6 regression models

Data editing abilities for cash flow and statistics. Data does not disappear into register sums like the 10bII or 12c approach does.

Trig and inverse in degrees or radians.

Hyperbolics (heh)

Single key permutations and combinations

Normal and inverse normal distribution. Students t distribution and inverse.

Selective clearing of just the bond, breakeven, TVM or cash flow data rather than having to clear the entire machine.

Algebraic hierarchy or chain calculation mode.

Parentheses!

As I said this is a really great machine.

Re: 'New' HP10bii+

*Message #11 Posted by **Martin Pinckney** on 8 Apr 2011, 3:37 p.m.,*
in response to message #10 by gene wright

Almost seems like HP is competing with itself. If the keyboard is good, why do we need the 20b?

I still can't believe that with all this recent activity in financial, there is no new scientific on the horizon.

Re: 'New' HP10bii+

*Message #12 Posted by **gene wright** on 8 Apr 2011, 3:48 p.m.,*
in response to message #11 by Martin Pinckney

Couple of thoughts.

!) The HP 10bII+ uses a different approach to the solution than the 20b/30b/TIBAII+ models. The HP 10bII+ is much more a function-per-key and uses few menus. The 20b/30b/TIBAII+ use menus/worksheets. Each have their advantages and disadvantages.

I know those tradeoffs well, having taught business math and stats to college students for 20 years.

2) The HP 20b has RPN. HP 10bII+ does not. The 20b function set is broader as well. More features on the 20b.

That said, the 10bII+ is a great little machine.

Re: 'New' HP10bii+

*Message #13 Posted by **Pal G.** on 8 Apr 2011, 4:09 p.m.,*
in response to message #12 by gene wright

Gene,

> Quote:
>
> I know those tradeoffs well, having taught business math and stats to college students for 20 years.

Are any of your course materials available online/download (besides all of your fabulous learning modules)? I wouldn't mind taking a bus. math or stats class that focuses on an HP calc. Or is that the cart before the horse?

> Quote:
>
> The HP 20b has RPN. HP 10bII+ does not. The 20b function set is broader as well.

> More features on the 20b.

Just curious. Why did you mention the 20b three times, and not the 30b? Is the 20b somehow superior to the 30b? I thought the 30b superseded the 20b. (I own neither, but would like to buy one or the other, if recommended).

Thanks.

Re: 'New' HP10bii+

*Message #14 Posted by **gene wright** on 8 Apr 2011, 4:13 p.m.,*
in response to message #13 by Pal G.

1) the materials are in my business math book still available :-) on amazon or Eric's hpcalc.org website.

2) The 30b is more expensive and in a somewhat different league with programming, etc. The real competitors for the college student $30-ish market are the 10bII, 10bII+ now, the 20b, and the TI BAII+ calculators.

Re: 'New' HP10bii+

*Message #15 Posted by **Eric Rechlin** on 8 Apr 2011, 4:15 p.m.,*
in response to message #13 by Pal G.

> Quote:
>
> Are any of your course materials available online/download (besides all of your fabulous learning modules)?

Not free, but here's a book.

Re: 'New' HP10bii+

*Message #16 Posted by **Jim Yohe** on 8 Apr 2011, 8:13 p.m.,*
in response to message #15 by Eric Rechlin

Hey Gene ... are you going to update "Quantitative Analysis for Business" as a fourth edition to include the fuller 10bii+ functionality? :-D

Re: 'New' HP10bii+

*Message #17 Posted by **Martin Pinckney** on 8 Apr 2011, 4:10 p.m.,*
in response to message #12 by gene wright

> Quote:
>
> The HP 20b has RPN. HP 10bII+ does not.

Right. When I said "we," I meant "the world," not the members of this Forum. [;-)

Re: 'New' HP10bii+

*Message #18 Posted by **Joerg Woerner** on 8 Apr 2011, 4:23 p.m.,*

in response to message #12 by gene wright

Gene,

Any idea why the 20b is only on the Business section of HP's "wonderful" website and not on the Home and Home Office part?

Surprisingly I had to google into the Business section to catch the 10bii+ and 20b - starting with hp.com didn't work out for me.

Cheers,

Joerg

The HP website...

*Message #19 Posted by **gene wright** on 8 Apr 2011, 5:10 p.m.,*
in response to message #18 by Joerg Woerner

The HP website is riddle wrapped in an enigma carried by a black cat at midnight in a coal mine.

Seriously, it is often really messed up. What else can explain why the HP 17bII+ learning modules are the ones done back in 2003 and not the updated ones including several using the solver that were done in 2007.

Bizarre. Really. :-)

Re: 'New' HP10bii+

*Message #20 Posted by **Mark Harman** on 8 Apr 2011, 3:54 p.m.,*
in response to message #11 by Martin Pinckney

Actually it is competing against TI. But, that is a good question about the 20b. I think it has a weird spot to fill between the 10bII+ and the 30b that may seem unnecessary. I wouldn't be surprised if the 20b is eventually discontinued. Then again, the 20b is still a good unit with an excellent function set. Additionally, it is the lowest priced RPN unit from HP.

Financial calculators are a huge business, also. My inkling is that HP is releasing this unit to be super competitive in the collegiate arena.

On another note, I've had a prerelease version of one of these for a while now and I will have to say that it is the nicest entry level financial calculator I have ever used. It is ridiculously feature-packed for its price (I think it is starting at $29.99). Given my experience with TI's - their products don't hold a candle to this amazing machine. It is extremely competitive with their offerings.

It is amazingly fast, as it uses the same ARM7 chip that the 30b uses.

The keys on the unit I received are absolutely fantastic. The aesthetics are really nice. It FEELS like a quality device. It is nice and light without feeling insubstantial. Ergonomics are good, too. Of course, anyone with the most recent version of the 10bII will have experienced that, as well. Really, this machine is just a function-extended version of the prior model.

Function-wise, it has a really strong set of statistical functions with two probability models and their inverses. It has 6 regressions and best fit. When I saw that this calculator had these things, my eyes almost popped out of my head.

There are some features it lacks, such as RPN, MIRR, and DUR, that I would have appreciated. However, not having these features is far from being a deal breaker. I will certainly recommend it to people who are going through business programs who don't have the need for something as advanced as the 30b.

All-in-all, either this or the 30b are the calculators I wish I had when I was going through my undergrad program. I think if the device is well marketed, it would result in A LOT of lost sales for TI in the financial calculator segment.

Like Gene, I am also happy to answer any questions regarding the 10bII+. Of course, the link to the manual that Tim posted should leave the reader fairly well informed.

Regards,

Mark

Edited: 8 Apr 2011, 3:57 p.m.

Re: 'New' HP10bii+

*Message #21 Posted by **gene wright** on 8 Apr 2011, 4:11 p.m.,*
in response to message #20 by Mark Harman

And, HP added all this functionality to the 10bII and did not break ANYTHING from the original 10bII.

All keystroke sequences that perform a valid function on the 10bII model still work. Nothing was broken.

That is a tremendous help to teachers and authors. Everything that worked last week on the 10bII still works perfectly on the new HP 10bII+.

Re: 'New' HP10bii+

*Message #22 Posted by **Mark Harman** on 8 Apr 2011, 4:48 p.m.,*
in response to message #21 by gene wright

Exactly. They really did a superb job in designing this upgrade.

Mark

Re: 'New' HP10bii+

*Message #23 Posted by **Martin Pinckney** on 8 Apr 2011, 4:28 p.m.,*
in response to message #20 by Mark Harman

> Quote:
>
> Given my experience with TI's - their products don't hold a candle to this amazing machine. It is extremely competitive with their offerings.
> ...
> When I saw that this calculator had these things, my eyes almost popped out of my head.
> ...
> I think if the device is well marketed, it would result in A LOT of lost sales for TI

> in the financial calculator segment.

Therein lies the problem, IMO. Does HP do *any* marketing, other than on their own websites?

Re: 'New' HP10bii+

*Message #24 Posted by **Mark Harman** on 8 Apr 2011, 4:54 p.m.,*
in response to message #23 by Martin Pinckney

There are many marketing avenues. Word of mouth has been, in my experience, the best method of selling product.

However, I am pretty sure HP does do marketing by engaging educators and professionals that are likely to use calculators - and also subsequently have influence over their students' and peers' buying decisions. If they can get accounting, finance, and other business professors on board with these devices, I think they will see a huge upswing in sales.

Mark

Edited: 8 Apr 2011, 4:54 p.m.

Re: 'New' HP10bii+

*Message #25 Posted by **Mike Morrow** on 8 Apr 2011, 10:52 p.m.,*
in response to message #20 by Mark Harman

> Quote:
>
> ...I think it is starting at $29.99...

For only $20 more the excellent and grossly more capable HP 30b could be purchased. And that's assuming HP's non-discounted MSRP is the price to be paid. It's hard to understand the appeal or the point of the HP 10BII+ under that circumstance. I'd have thought that HP should be trying to thin the "b" herd.

Re: 'New' HP10bii+

*Message #26 Posted by **Mark Harman** on 8 Apr 2011, 11:08 p.m.,*
in response to message #25 by Mike Morrow

Mike,

You won't get an argument from me regarding the value of the 30b. I honestly think it is the best financial calculator ever made. I only paid $39 for mine from a dealer on Amazon. I got a great deal and it was essentially free to me since I used a gift card I got from a brother.

The 10bII+, on the other hand, doesn't just have a lower price. It also has a different operating paradigm. I can imagine that with discounts, it will go for a bit less than the MSRP from other retailers. The appeal of the 10bII+ is that it will work for any business major without having a lot of complication added. It hits a sweet spot for functionality and price that positions it much better than the TI BA II Plus. I would have loved to have had a calculator like the 10bII+ during my collegiate courses - especially stats, where I used a 20s.

Regards,

Mark

Re: 'New' HP10bii+

*Message #27 Posted by **David Hayden** on 8 Apr 2011, 9:52 p.m.,*
in response to message #9 by Tim Wessman

Yippee!

Congratulations to HP, the calculator team, and Tim specifically for this new machine.

Re: 'New' HP10bii+

*Message #28 Posted by **Pal G.** on 9 Apr 2011, 1:07 a.m.,*
in response to message #9 by Tim Wessman

What's under the hood? I haven't seen specs on CPU model, CPU speed, memory, etc..

The "Specifications" tab on its webpage at HP is inoperable.

Since it is coined a "+", is it as fast or faster than the "12c+"?

Will it soon be on the benchmark list?

Re: 'New' HP10bii+

*Message #29 Posted by **gene wright** on 9 Apr 2011, 8:41 a.m.,*
in response to message #28 by Pal G.

Since it is not programmable, there wont' be any loop of addition program tests to benchmark. :-)

Solving any pre-programmed function on the unit is essentially instantaneous with the exception of some tough inverse Students t distribution problems where it can take a second or two.

Re: 'New' HP10bii+

*Message #30 Posted by **Katie Wasserman** on 9 Apr 2011, 10:43 a.m.,*
in response to message #28 by Pal G.

What's under the hood is the same ARM processor used in the 20b, 30b and 12C+. It's extremely fast, same speed as the HP20b/HP30b as far as I can tell. Unless the final product has changed, it also has the same 6-pin programming port so this calculator too can be re-purposed. However, I don't know if HP is planning on making an SDK available so it might take some playing around to figure out the keyboard and LCD mapping.

-Katie

Re: 'New' HP10bii+

*Message #31 Posted by **Tim Wessman** on 9 Apr 2011, 5:44 p.m.,*
in response to message #30 by Katie Wasserman

No changes. It still has the serial connecter (no internal JTAG).

Basically, the keyboard/screen works the same on all the units. Same memory position for the screen buffer and the same calls for the keyboard reading. Once there is one project working on the

platform, putting in others is actually quite simple.

TW

Question: 'New' HP10bii+

*Message #32 Posted by **Gerardo Rincon** on 8 Apr 2011, 6:03 p.m.,*
in response to message #1 by Michael O

How is the Keyboard feel? Smooshy like the HP 20b? or "clicker" like the 30b?

It looks like a great calculator, if it only offered RPN as an option.....

Re: Question: 'New' HP10bii+

*Message #33 Posted by **gene wright** on 8 Apr 2011, 6:08 p.m.,*
in response to message #32 by Gerardo Rincon

Clicky, like the existing 10bII and 30b.

Want RPN? there's the 30b which is more capable with programming and clicky keys or the 12c, etc. :-)

Re: Question: 'New' HP10bii+

*Message #34 Posted by **Gerardo Rincon** on 8 Apr 2011, 6:39 p.m.,*
in response to message #33 by gene wright

Thanks Gene! I have the 30b.... I don't use it very much because of the Menus. I really don't like menu driven functions...

I prefer a one-key function type calculator. The size of the 10bii is great! That's why I find this one so attractive. I only wish it offered RPN.

I like to use the HP 12C and HP 35S at work....the 35S is little too big to carry around, so I end up using the 12C most of the time.

This is my collection: www.rinconcentral.com

I'll be adding this one to the collection... great looking calculator! Great job!

Edited: 8 Apr 2011, 6:42 p.m.

Re: Question: 'New' HP10bii+

*Message #35 Posted by **Jim Yohe** on 8 Apr 2011, 8:08 p.m.,*
in response to message #34 by Gerardo Rincon

> Quote:
>
> I have the 30b.... I don't use it very much because of the Menus. I really don't like menu driven functions...

That's the same reason I rarely am using my 30b as well, though I recognize it's power and appreciate what I can do with it, but I too like "one-key" functions and think this revised 10bii+ will be the one I settle into for financial and other work. (Though I may change my mind as I

"fight" with it since it's not RPN)

I wish it had engineering notation instead of scientific ... ;-)

Re: Question: 'New' HP10bii+

*Message #36 Posted by **Don Shepherd** on 8 Apr 2011, 8:21 p.m.,*
in response to message #35 by Jim Yohe

Jim, remember that any function in a 30b menu can be assigned to any key (or shift+key or shift+hold+key, with a few exceptions), so you won't need to go through the menu to get it.

Don

Re: Question: 'New' HP10bii+

*Message #37 Posted by **Mark Harman** on 8 Apr 2011, 10:44 p.m.,*
in response to message #36 by Don Shepherd

Exactly. Plus, if you want customized features that work a certain way, the 30b can do that too with key assignments. I have programmed quite a few features into my 30b that take advantage of the key assignments. They include a mod function, a combinatorial with repetition function, and a percentage change function that doesn't require a menu, amongst other things.

Regards,

Mark

Re: Question: 'New' HP10bii+

*Message #38 Posted by **Katie Wasserman** on 8 Apr 2011, 10:17 p.m.,*
in response to message #35 by Jim Yohe

The 10bii+ is really excellent. It's easy to get used to with good key clicks, display visibility and function layout. While it's not RPN some of the function allow both algebraic and RPN-ish function entry. For example, you can use the date difference function as either:

```
date1
delta-days
date2
=
```

or

```
date1
INPUT
date2
delta-days
```

This won't work for basic arithmetic.

Gene left out that the factorial function is also gamma (x+1). There's also a useful feature that allows you to recall the last result after press the '=' key, something like LASTx. The CF and Stat Data editor is unique and at first blush seems quirky but it works well.

-Katie

Re: Question: 'New' HP10bii+

*Message #39 Posted by **gene wright** on 9 Apr 2011, 8:54 a.m.,*
in response to message #38 by Katie Wasserman

Katie is correct, but I WAS trying to leave some things to be surprises in the review. :-)

Assuming HP Solve gets published any time soon.

Re: Question: 'New' HP10bii+

*Message #40 Posted by **Katie Wasserman** on 9 Apr 2011, 10:13 a.m.,*
in response to message #39 by gene wright

Sorry about that!

Re: Question: 'New' HP10bii+

*Message #41 Posted by **Mark Harman** on 8 Apr 2011, 10:41 p.m.,*
in response to message #34 by Gerardo Rincon

Gerardo

You know, I seem to recall you having a complaint about this in a previous post. Your biggest problem was that the 30b didn't have a top level percentage change function. I am pretty sure I wrote a program for you that did this. In fact, I thought it was a really good program as it behaves exactly like top-level percentage change functions on other RPN models and takes very few lines.

Please look back in the old posts for my response. I really thought I was being helpful to you. Please don't hold it against me if I am a bit frustrated by your response.

Regards,

Mark

Re: Question: 'New' HP10bii+

*Message #42 Posted by **Gerardo Rincon** on 8 Apr 2011, 10:57 p.m.,*
in response to message #41 by Mark Harman

Mark,

You are correct on the % change. You and Katie both wrote a program for % change. I entered it and it works wonderfuly. I have the program saved in case I have to re-enter it in the future.

I am not much of a programmer, so I am really thankful to you for it. I use it al the time.

Re: Question: 'New' HP10bii+

*Message #43 Posted by **Mark Harman** on 8 Apr 2011, 11:31 p.m.,*
in response to message #42 by Gerardo Rincon

I'm glad you like it. For some reason, I was under the impression that it was overlooked or something since I didn't get a response to my original post.

You can also save 4 bytes of memory on my % change program by eliminating the message at the end. It will make the program 9 bytes with a checksum of 003. I just like adding the

messages because it actually tells you what the function does when they are executed.

I was looking at Katie's program that you posted and I was a little confused by the entry. Something must have gotten lost in the copy and paste, or something.

The great thing about the programming function on the 30b is that you don't even have to be an adept programmer to use it. If you have a series of keystrokes that you follow to perform an operation, you just record those as you would enter them and then you can execute it later. I wasn't much of a programmer when I got the 30b. However, I love its customizability.

If you would like, I can post my combinatorial with repetition function (nCr Rept) and mod function programs here, too.

Regards,

Mark

Re:30b% change

*Message #44 Posted by **Gerardo Rincon** on 8 Apr 2011, 11:18 p.m.,*
in response to message #41 by Mark Harman

Mark: This is the solutions you gave me for % change for the 30b

> Quote:
>
> Here is a program I whipped up really quick to add a straight %Change function to the 30b. I have it assigned as a Shift-hold to the percentage key. Use a high-numbered program space so you can keep the low numbered ones for processor-intensive programs.
>
> When programming it, scroll up to start at line zero so you can assign the key. Press Shift-hold %
>
> SH%
>
> Swap
>
> -
>
> Ans (this is the same as Lastx)
>
> /
>
> 1
>
> 0
>
> 0
>
> *
>
> You can enter a message on line 9 so your function is represented. I entered in [delta symbol] %

It takes 13 bytes and your checksum should be 050

To get it to work. Just enter in your old number first and the number it is changing to second, then hit shift-hold % to execute this function.

For example, what is the percentage change from 80 to 200?

80 Input 200 shift-hold %

Nine lines is all it takes - and now you can bring your 30b with you to work!

Cheers,

Mark

Edited: 8 Apr 2011, 11:33 p.m. after one or more responses were posted

% Change 30b

*Message #45 Posted by **Gerardo Rincon** on 8 Apr 2011, 11:32 p.m.,*
in response to message #44 by Gerardo Rincon

Here is Katie's solution for programming % change on the 30b:

%-change is really an interactive menu on the 30b. If you want the good old RPN way of doing it you need to write a little program and assign that program to the '%' key.

I do this (assuming you're in RPN mode)

Enter program mode by pressing SHIFT Keypad. Choose a program slot (0 is the default) and press INPUT. Then enter the following steps. (You'll need to press the up arrow to get to line 0.)

0 % ; line zero is the (optional) key assignment location

1) Swap ; this is just swap but shows the ')' too

2 -

3 ANS ; same as LASTx in RPN mode

4 /

5 1

6 0

7 0

8 x

9 Stop ; (This is SHIFT-HOLD RCL)

Press SHIFT Keypad again and you'll see: 10.126 (10 bytes used, checksum = 126)

Use the above program like you would %-change on most HP RPN calculators:

4 INPUT 5 %

and you'll see: 25

-Katie

Re: 'New' HP10bii+

*Message #46 Posted by **Erturk Kocalar** on 8 Apr 2011, 10:34 p.m.,*
in response to message #1 by Michael O

OMG, another calculator to spend money on.

Hello, I'm a calcuholic.

erturk

Re: 'New' HP10bii+

*Message #47 Posted by **Eddie W. Shore** on 9 Apr 2011, 8:09 p.m.,*
in response to message #1 by Michael O

This calculator looks like a winner, and in my opinion, it looks way better than the TI BAII+ Professional. Is there any chance we can order the new 10bII+ online now? (why not the HP 11b?). If not, office stores and my university bookstore will be getting some visits from me.

Re: 'New' HP10bii+

*Message #48 Posted by **Jim Yohe** on 9 Apr 2011, 8:37 p.m.,*
in response to message #47 by Eddie W. Shore

HP 11b?

Re: 'New' HP10bii+

*Message #49 Posted by **Martin Pinckney** on 9 Apr 2011, 9:14 p.m.,*
in response to message #48 by Jim Yohe

Well, if it *were* RPN, 10b2+ would result in a 12b. [;-)

Re: 'New' HP10bii+

*Message #50 Posted by **Mike Morrow** on 9 Apr 2011, 10:05 p.m.,*
in response to message #49 by Martin Pinckney

I get '10b+2' :-)

Re: 'New' HP10bii+

*Message #51 Posted by **Jim Yohe** on 10 Apr 2011, 1:23 a.m.,*
in response to message #49 by Martin Pinckney

Is the meaning of the "C" designation one that originated with the HP-25C for "continuous memory" (CMOS) or was it because of the whole landscape "compact" calculator series (10, 11, 12,

15, 16)?

I can see the "B" designation meaning "business", the "S" meaning scientific, and maybe the "E" for engineering (?) but even that would have been used inconsistently.

I know this is somewhat unrelated to mathematically converting a '10b2+' <--looks RPNish or '10b+2' <--looks algebraic into a 12B.

Re: 'New' HP10bii+

*Message #52 Posted by **Walter B** on 10 Apr 2011, 3:55 a.m.,*
in response to message #51 by Jim Yohe

Jim,

> Quote:
>
> Is the meaning of the "C" designation one that originated with the HP-25C for "continuous memory" (CMOS) or was it because of the whole landscape "compact" calculator series (10, 11, 12, 15, 16)?

The first is correct. You can verify this looking at the pairs 33E/33C and 38E/38C. The rule of 'C' began with the 25C and ended with the 28C IIRC - the 12C is just a continuation of the old one. No idea what 'E' should mean then, maybe 'electronic'?

'S' and 'B' came up with the launch of the Pioneers. Before, there wasn't any easy separation of scientific and business models.

Walter

Re: 'New' HP10bii+

*Message #53 Posted by **Massimo Gnerucci (Italy)** on 10 Apr 2011, 4:48 a.m.,*
in response to message #51 by Jim Yohe

It was suggested that 'E' stood for "economy" ;-)

Greetings,
Massimo

Re: 'New' HP10bii+

*Message #54 Posted by **Jake Schwartz** on 10 Apr 2011, 10:57 a.m.,*
in response to message #53 by Massimo Gnerucci (Italy)

> Quote:
>
> It was suggested that 'E' stood for "economy"

I distinctly remember hearing someone say at the time that the HP folks thought the "E" was "sexy". I am still scratching my head :-)

Jake

Re: 'New' HP10bii+

*Message #55 Posted by **Martin Pinckney** on 10 Apr 2011, 5:23 p.m.,*
in response to message #53 by Massimo Gnerucci (Italy)

> Quote:
>
> It was suggested that 'E' stood for "economy" ;-)

To all: If you haven't yet followed Massimo's link, do it. It's hilarious!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is there a self-test program for the HP 25 or 29c ?

*Message #1 Posted by **Michael de Estrada** on 8 Apr 2011, 10:30 a.m.*

Has anyone written a self-test routine that can be run on a HP 25/25c or 29c? The HP 65/67/97 have self-tests (diagnostic program)that are part of their Standard Pacs and the Spices have built-in self-tests (STO ENTER).

Re: Is there a self-test program for the HP 25 or 29c ?

*Message #2 Posted by **Xavier A. (Brazil)** on 10 Apr 2011, 3:09 p.m.,*
in response to message #1 by Michael de Estrada

Hello,

In my humble opinion, and with my experience of those two calcs, unfortunately the answer is: NO.

Typing an efficient program that would examine every function would be longer than typing the functions themselves and adding a simple "x+1" pgm.

Edited: 10 Apr 2011, 3:11 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wisdom from old Carl Sagan book

*Message #1 Posted by **Don Shepherd** on 8 Apr 2011, 3:19 a.m.*

Here is a brief excerpt from an old Carl Sagan book from 1973 that I think we all can appreciate. I especially like his comment about if kids can survive twelve years of regimented education. I think it is probably as true today as it was in 1973: kids are smarter than we generally believe.

Re: wisdom from old Carl Sagan book

*Message #2 Posted by **Mike Morrow** on 8 Apr 2011, 10:27 a.m.,*
in response to message #1 by Don Shepherd

Sagan wrote two of my favorite books, "Broca's Brain" and "The Demon-Haunted World". "Cosmos" is still, 31 years after first appearance, THE best popular science series of all time.

Sagan wishes in the article that the students will grow up fast and start running things. Those students today are 44 years old. Just how well did that work out? :-(

Re: wisdom from old Carl Sagan book

*Message #3 Posted by **Namir** on 8 Apr 2011, 12:35 p.m.,*
in response to message #2 by Mike Morrow

Indeed his TV shows is awesome. About 10 years ago I bought the DVD set and watched a few DVD. I need to go back and watch the whole series.

I also remember when Sagan would be a guest of Johny Carson on the Tonight Show. Johny would make fun of Sagan's use of the world "billion" in reporting the typical number of stars in a galaxy and the number of galaxies. As the years went by and I started buying Cosmos-related DVDs, I realized that Sagan was not exaggerating. Perhaps the only number he left out is the billions of universes that may well exist in the big, mighty, and mind-boggling multiverse.

Namir

Edited: 8 Apr 2011, 12:51 p.m.

Re: wisdom from old Carl Sagan book

*Message #4 Posted by **bill platt** on 8 Apr 2011, 10:29 p.m.,*
in response to message #2 by Mike Morrow

> Quote:
>
> Sagan wishes in the article that the students will grow up fast and start running things. Those students today are 44 years old. Just how well did that work out? :-(

Give us another 10 years--we are still in "middle management" :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP brochure from 1975

*Message #1 Posted by **Marcus von Cube, Germany** on 7 Apr 2011, 6:26 p.m.*

zpalm, a member of MySilicium (link to posting), a French forum, has scanned an interesting HP calculator brochure from 1975: Hewlett-Packard Pocket Calculator Buyers Guide - Fall 1975. It's an original scan from his paper original.

Re: HP brochure from 1975

*Message #2 Posted by **gene wright** on 7 Apr 2011, 6:51 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Yes, one of my favorites. I am lucky enough to have this one as well as the one that came before it.

These were before the DIGEST days.

In fact, the space one shown at the link is the one in which I saw my first HP ever. I was TI only at that point and wondered what that big ENTER key was all about. :-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Light Scratches on 12c Bezel - Steel Wool?

*Message #1 Posted by **Matt_12c** on 7 Apr 2011, 5:20 p.m.*

For a 12c with light scratches on the metal bezel (or whatever the correct term is), do you have any good solutions on getting rid of those? I don't want to make it worse! Any tips appreciated.

Matt

Re: Light Scratches on 12c Bezel - Steel Wool?

*Message #2 Posted by **geoff quickfall** on 7 Apr 2011, 6:04 p.m.,*
in response to message #1 by Matt_12c

There is a light coating of laqueur on the bezel. So any attempt to remove scratches will involve removing all the laqueur and then using "3m pot scrubber" or re laqueuring.

check out this posting and do a search:

bezel restoration

Geoff

Re: Light Scratches on 12c Bezel - Steel Wool?

*Message #3 Posted by **Randy** on 8 Apr 2011, 1:10 a.m.,*
in response to message #1 by Matt_12c

Refinishing only works for the 10/11/15/16C as the 12C finish is a gold anodize. Any attempts to remove scratches will result in a partially silver bezel once you remove the anodized coating.

Re: Light Scratches on 12c Bezel - Steel Wool?

*Message #4 Posted by **Michael Plant** on 8 Apr 2011, 7:29 p.m.,*
in response to message #3 by Randy

> Quote:
>
> Refinishing only works for the 10/11/15/16C as the 12C finish is a gold anodize. Any attempts to remove scratches will result in a partially silver bezel once you remove the anodized coating.

+1... found this one out the hard way!

Re: Light Scratches on 12c Bezel - Steel Wool?

*Message #5 Posted by **Matt_12c** on 10 Apr 2011, 1:36 p.m.,*
in response to message #4 by Michael Plant

Thanks all. On the lacqueur, what kind is best? Or should I say, what kind that is readily available is best? Do you use spray or brush on, satin, gloss or semigloss?

Thanks much.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-71B slower with HP-IL

*Message #1 Posted by **scalpa49** on 7 Apr 2011, 5:28 a.m.*

I've found that my HP-71b is much slower with hp-il 82401 plugged in (with no cables attached). It take more than 4 seconds to compute a square root ! When HP-IL is unplugged, the speed is back to normal. Is it the normal behavior ?

Re: HP-71B slower with HP-IL

*Message #2 Posted by **Eric Smith** on 7 Apr 2011, 5:32 a.m.,*
in response to message #1 by scalpa49

Yes. The HP-71B is trying to communicate on the HP-IL loop, and failing due to the lack of a loop. If you're not using any HP-IL devices, either connect a cable directly between the two ports, or give an "OFF IO" command.

If you use "OFF IO", to reenable I/O you use the "RESTORE IO" command. It always seemed to me that it should be "ON IO", but that doesn't work.

Re: HP-71B slower with HP-IL

*Message #3 Posted by **scalpa49** on 7 Apr 2011, 5:45 a.m.,*
in response to message #2 by Eric Smith

Thank you for your quick answer. This machine is rather new for me but i find the community very pleasant. As i have no cable (yet), i'll be using OFF IO/RESTORE IO commands.

Re: HP-71B slower with HP-IL

*Message #4 Posted by **Garth Wilson** on 7 Apr 2011, 2:42 p.m.,*
in response to message #1 by scalpa49

Isn't the long time just to turn on, and it's fast after that? Mine always takes a couple of seconds upon turn-on to check out the loop before the time-out makes it conclude that the loop is broken since otherwise everything would have resonded by then, but after that everything has always been fast, even with no cable. I never use OFF IO but just leave I/O on all the time.

Edited: 7 Apr 2011, 2:44 p.m.

Re: HP-71B slower with HP-IL

*Message #5 Posted by **Marcus von Cube, Germany** on 7 Apr 2011, 5:59 p.m.,*
in response to message #4 by Garth Wilson

Garth, there might be a "DISPLAY IS" command still active. "OFF IO" should take care of this.

Re: HP-71B slower with HP-IL

*Message #6 Posted by **Garth Wilson** on 7 Apr 2011, 6:47 p.m.,*
in response to message #5 by Marcus von Cube, Germany

or DISPLAY IS *

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

To the Atmel ARM gurus: Problems with OpenOCD

*Message #1 Posted by **Marcus von Cube, Germany** on 6 Apr 2011, 3:34 p.m.*

This is a very technical question, but probably someone has a pointer for me. I'm working on the hardware port of wp34s, i. e. the flashing of the Atmel AT91SAM7L128 in the HP 20b. We (Pauli, Walter & me) are doing all our work with open source tools (except the Windows emulator which requires Visual Studio 2010 because of its MFC dependency).

One of the tools is OpenOCD, a software suite that supports on chip debugging with low cost JTAG probes. In my csae, it's an Olimex ARM-OCD. The problem I'm facing is that the ATM91SAM7**L**128 chip is not directly supported. I've had mixed success so far. The software detects my HP20b and I can submit commands like clock setup or flash erase. What I'm unable to do so far is programming the flash through OpenOCD. The pages are written with 00000008 and an error (protection bit set) is returned.

Is anybody here who has some experience with OpenOCD and the AT91SAM7L128 chip and can help me?

Re: To the Atmel ARM gurus: Problems with OpenOCD

*Message #2 Posted by **Scott Newell** on 6 Apr 2011, 9:02 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Here's an example of my OpenOCD config (note I'm using a different JTAG dongle):

```
interface ft2232
target arm7tdmi little reset_run 0 arm7tdmi
jtag_device 4 0x1 0xf 0xe
jtag_speed 0x8
ft2232_layout evb_lm3s811
ft2232_device_desc "LM3S811 Evaluation Board A"
ft2232_vid_pid 0x0403 0xbcd9
working_area 0 0x2ff000 0x1000 nobackup
flash bank at91sam7 0 0 0 0 0
```

I ended up either using SAM-BA to burn flash, or running a little OpenOCD script to burn a sector at a time. It looked something like:

```
soft_reset_halt
load_image page-000.bin 0x100000 bin
mww 0xffffff64 0x5a000003 # command flash controller to erase/burn
sleep 10
load_image page-001.bin 0x100100 bin
mww 0xffffff64 0x5a000103 # command flash controller to erase/burn
sleep 10


...


load_image page-070.bin 0x104600 bin
mww 0xffffff64 0x5a004603 # command flash controller to erase/burn
sleep 10
verify_image test.bin 0x100000 bin
```

Pretty hacky, I know. Somewhere I've got a little windows program to build those .bin files if you need it.

Obviously on the 12C+, I was just doing crash and burn debugging with SAM-BA directly (no JTAG pins, no need for OpenOCD).

Re: To the Atmel ARM gurus: Problems with OpenOCD

*Message #3 Posted by **Marcus von Cube, Germany** on 7 Apr 2011, 2:27 a.m.,*
in response to message #2 by Scott Newell

Scott, thanks for you config file. It's not what I was hoping for. :(

Maybe I have to add myself to the list of OpenOCD developers and modify the respective algorithms. Do you think it may have to do with the processor speed? Have you tried different settings?

```
working_area 0 0x2ff000 0x1000 nobackup
flash bank at91sam7 0 0 0 0 0
```

These two lines make me curious. I thought the working area needs to be in RAM which is @ 0x200000 and not @ 0x2ff000. The size (4K) is correct.

The second line simply doesn't work for me because the flash algorithm does not identify the chip and therefore does not know about the flash layout and size. AFAIK, it makes no attempt at reading the flash layout info directly from the respective control registers.

Your splitting idea isn't very elegant at first sight but it might be improved by some TCL code. I'm new to TCL but if everything else fails, I can try this approach.

For the time being I'll stick to SAM-BA for flashing and use the adapter only for debugging.

Re: To the Atmel ARM gurus: Problems with OpenOCD

*Message #4 Posted by **Scott Newell** on 7 Apr 2011, 9:22 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Scott, thanks for you config file. It's not what I was hoping for. : (

Sorry.

> Quote:
>
> ```
> working_area 0 0x2ff000 0x1000 nobackup
> flash bank at91sam7 0 0 0 0 0
> ```
>
> These two lines make me curious. I thought the working area needs to be in RAM which is @ 0x200000 and not @ 0x2ff000. The size (4K) is correct.

Oh, that's just a trick I used to have a solid 6k block of ram...check the databook (section 8 in my old copy): "The user can see the 6 Kbytes of SRAM contiguously at address 0x002F F000"

> Quote:
>
> The second line simply doesn't work for me because the flash algorithm does not identify the chip and therefore does not know about the flash layout and size. AFAIK, it makes no attempt at reading the flash layout info directly from the respective control registers.

I'll have to dig everything out and check, but I wasn't using much, if any, flash support from OpenOCD. Seems like I was doing a block copy from ram to the flash, then telling the flash controller to actually program the flash. That's what the script snippet was all about.

> Quote:
>
> Your splitting idea isn't very elegant at first sight but it might be improved by some TCL code. I'm new to TCL but if everything else fails, I can try this approach.

I think (it's been a while) that the script was generated as part of the makefile, so everytime I compiled the OpenOCD command script and flash image chunks were built automatically. If not, it certainly could be.

> Quote:
>
> For the time being I'll stick to SAM-BA for flashing and use the adapter only for debugging.

That's what I ended up with, once I upgraded to XP and SAM-BA ran quick enough. I started on win2k, and program times through SAM-BA were very long (~15 minutes).

Re: To the Atmel ARM gurus: Problems with OpenOCD

*Message #5 Posted by **Scott Newell** on 7 Apr 2011, 9:26 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Scott, thanks for you config file. It's not what I was hoping for. :(

Did you check 20B:flash_hacking ?

Re: To the Atmel ARM gurus: Problems with OpenOCD

*Message #6 Posted by **Marcus von Cube, Germany** on 7 Apr 2011, 1:07 p.m.,*
in response to message #5 by Scott Newell

Hi Scott,

Yes I've checked every mention of the AT91SAM7L on the Net...

I can debug now and I still use SAM-BA for flashing. It's not perfect but I can proceed with the real problems in my code. And there are many...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: The Dream

*Message #1 Posted by **Bob Patton** on 5 Apr 2011, 3:00 p.m.*

Has everyone discovered that almost all techies have the same recurring nightmare: you are back in school and suddenly realize an exam is due in a course you have totally ignored.

Our group realized this when it appeared in Ann or Abby around 1980. Twenty years later Ed Nitley mentioned it in Dr. Dobbs Journal.

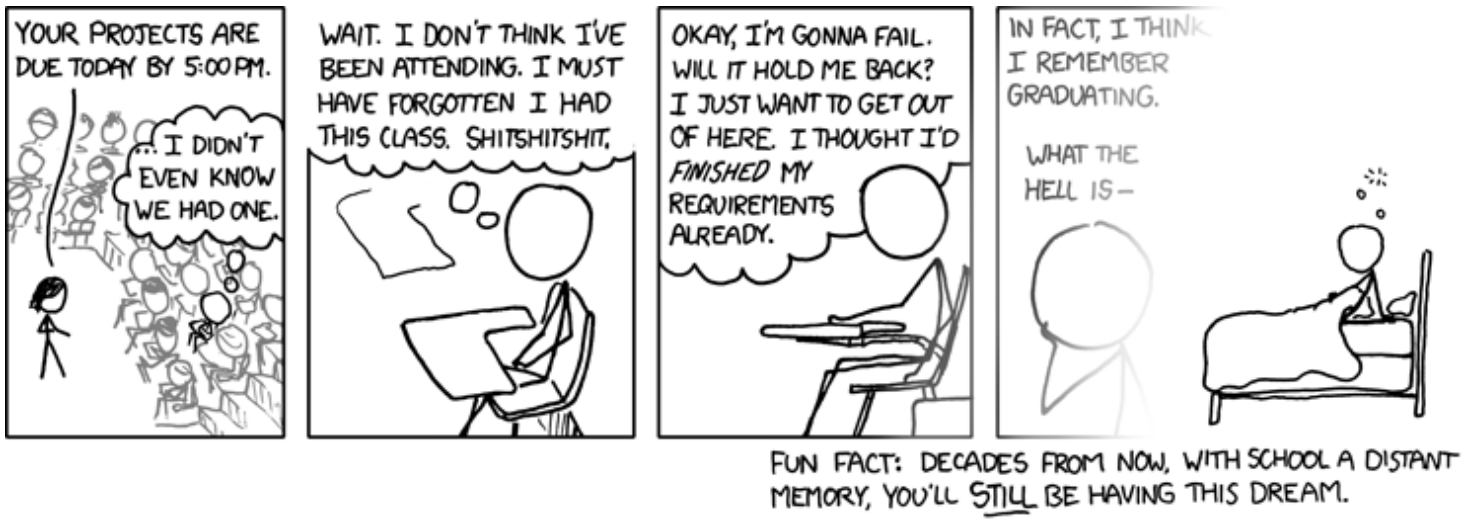
You can be relieved that you are not alone in this.

Re: OT: The Dream

*Message #2 Posted by **Jeff O.** on 5 Apr 2011, 3:45 p.m.,*
in response to message #1 by Bob Patton

I have that dream all the time. Most times I can't even find the classroom, or a copy of my schedule to tell me where the room is.

Do you have evidence it is just "techies?" The cartoon below seems to indicate it is more widespread. I guess I figured it might be anyone who attended college.



Re: OT: The Dream

*Message #3 Posted by **JJB299** on 5 Apr 2011, 4:08 p.m.,*
in response to message #2 by Jeff O.

The cartoon is right on. I still have that dream years out of school. And what's interesting is the progression of thought the cartoon outlines. The first thought is always surprise/fear, then moving right to acceptance, and THEN the logical reasoning that wakes me up. I wonder why I don't take the time to stop to think about the situation first? Cool post.

Re: OT: The Dream

*Message #4 Posted by **designnut** on 5 Apr 2011, 4:25 p.m.,*
in response to message #3 by JJB299

Never had that problem, Planned ahead and went to a movie or something relaxing the night before. Same way about projects. Prior planning prevents poor performance. sam 82

Re: OT: The Dream

*Message #5 Posted by **Michael Plant** on 5 Apr 2011, 4:47 p.m.,*
in response to message #4 by designnut

I too often have this dream. Usually, I am in a crowded hallway fighting my way to a final exam in a subject that I had forgotten signing up for and for which I have attended no lectures and have read no textbooks/primary material. What's weird is that I always write the exam anyway... The dream usually ends somewhere in the middle of me realizing that I am going to completely bomb the exam.

Re: OT: The Dream

*Message #6 Posted by **Geoff Quickfall** on 5 Apr 2011, 5:43 p.m.,*
in response to message #5 by Michael Plant

STill get that one!!! and it's been 25 years since post grad finished!!

8-0

Re: OT: The Dream

*Message #7 Posted by **Namir** on 5 Apr 2011, 5:49 p.m.,*
in response to message #6 by Geoff Quickfall

No nightmare says it quite like the one where you have an exam in Arabic poetry and you can't remember a single verse!!

:-)

Namir

Re: OT: The Dream

*Message #8 Posted by **Martin Pinckney** on 5 Apr 2011, 7:52 p.m.,*
in response to message #5 by Michael Plant

> Quote:
>
> I too often have this dream. Usually, I am in a crowded hallway fighting my way to a final exam in a subject that I had forgotten signing up for and for which I have attended no lectures and have read no textbooks/primary material.

How can it be that so many people have this same dream? (Me included).

Re: OT: The Dream

*Message #9 Posted by **Jeff O.** on 5 Apr 2011, 8:42 p.m.,*
in response to message #5 by Michael Plant

Exactly! I'll write and write and then realize I don't know what the question is and what I have written makes no sense.

Re: OT: The Dream

*Message #10 Posted by **Namir** on 5 Apr 2011, 5:53 p.m.,*
in response to message #4 by designnut

I was very talented in Chemistry so the night before final Chemistry exams in College I'd go to our social club to watch a 7-pm movie. On many occasions, people at the club would ask me if I had finished the final exams altogether! I'd give it a wide grin and say "No, no yet. It's just that tomorrow is the Chemistry final! exam"

Re: OT: The Dream

*Message #11 Posted by **Martin Pinckney** on 5 Apr 2011, 7:54 p.m.,*
in response to message #4 by designnut

> Quote:
>
> Never had that problem, Planned ahead and went to a movie or something relaxing the night before. Same way about projects. Prior planning prevents poor performance. sam 82

There's one in every crowd...

Re: OT: The Dream

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 6 Apr 2011, 12:27 a.m.,*
in response to message #11 by Martin Pinckney

> Quote:
>
> There's one in every crowd...

Actually, there are at least two in this crowd since I have never had that dream. A possible reason is that very early in my college career I was introduced to the idea that hours spent studying during the early weeks of a course were much more effective in successful completion of the course than hours spent cramming for the final exam.

Another possible answer: If I am not mistaken I think that "design nut" was in school at the same time as I was.

Re: OT: The Dream

*Message #13 Posted by **bill platt** on 5 Apr 2011, 6:06 p.m.,*
in response to message #2 by Jeff O.

The naked dream for nerds.

Re: OT: The Dream

*Message #14 Posted by **Bob Patton** on 5 Apr 2011, 8:14 p.m.,*
in response to message #2 by Jeff O.

I have no personal indication that it's only techies, but Nitley in his Dr. Dobb's blurb did say he had asked several liberal arts majors with negative results. He conjectured it was due to the intensity of the curriculum.

Re: OT: The Dream

*Message #15 Posted by **Katie Wasserman** on 5 Apr 2011, 8:21 p.m.,*
in response to message #14 by Bob Patton

I've asked many people and I've come to the opposite conclusion -- that it's a very common dream for anyone that's been to college.

Re: OT: The Dream

*Message #16 Posted by **Martin Pinckney** on 5 Apr 2011, 9:39 p.m.,*
in response to message #15 by Katie Wasserman

> Quote:
>
> ...it's a very common dream for *anyone* that's been to college. [Emphasis added]

Some curricula are apparently very easy, non-stressful. So I would have to agree with Bob Patton:

> Quote:
>
> ...it was due to the intensity of the curriculum.

...regardless of major.

Re: OT: The Dream

*Message #17 Posted by **John B. Smitherman** on 6 Apr 2011, 9:21 a.m.,*
in response to message #16 by Martin Pinckney

This Wikipedia article contains examples of common recurring dreams: Article

John

Re: OT: The Dream

*Message #18 Posted by **Dusan Zivkovic** on 6 Apr 2011, 11:29 a.m.,*
in response to message #17 by John B. Smitherman

Seems that we all have hidden backup copies of recurring dreams. We'd all like to delete them, but they keep coming back. I was reading this thread while listening to a song which has a line "but I'll be back again, because my backups are forever". I never interpreted the song as a recurring dream, but with a bit of an imaginative stretch, it fits that interpretation quite neatly. And the video is suitably dreamy.

Enjoy :)

Backups Are Forever

Edited: 6 Apr 2011, 11:30 a.m.

Re: OT: The Dream

*Message #19 Posted by **Eddie W. Shore** on 6 Apr 2011, 8:38 a.m.,*
in response to message #1 by Bob Patton

I have not had this dream lately. I am more calm about exams since I graduated with a Masters in Math recently.

Re: OT: The Dream

*Message #20 Posted by **Bill Zimmerly** on 7 Apr 2011, 2:50 p.m.,*
in response to message #1 by Bob Patton

I've never had a dream like that one, but I do have one like this all the time:

(Background information: I went to the University of Missouri, Rolla, in the mid-70's. It's the weekend, and everybody has gone "home." The place was quite literally a "ghost town.")

In my dream, I'm reliving an experience over and over again of walking the streets of Rolla and seeing no activity at all for long stretches of time. No people, no cars driving on the roads, no businesses open ... this dream is vivid, lonely, and very real. I usually wake up feeling quite good to have waken up!

It's like an episode of the Twilight Zone!

Re: OT: The Dream

*Message #21 Posted by **Gerson W. Barbosa** on 8 Apr 2011, 5:18 p.m.,*
in response to message #20 by Bill Zimmerly

> Quote:
>
> It's like an episode of the Twilight Zone!

A quite good analogy! One of my favorite Twilight Zone episodes is *Shadow Play*, about a man trapped in a recurring nightmare:

http://en.wikipedia.org/wiki/Shadow_Play_(1961_The_Twilight_Zone_episode)

Re: OT: The Dream

*Message #22 Posted by **Matt_12c** on 7 Apr 2011, 5:57 p.m.,*
in response to message #1 by Bob Patton

I didn't catch this thread initially but it's so true. I had this for two classes - a PE class and a marketing class (with a completely inept teacher). I am glad I'm not alone!

The dreams stopped or at least slowed down about 2-3 years ago. However, I'm in a Master's program now so that should take me almost to retirement with these night terrors.

Re: OT: The Dream

*Message #23 Posted by **Crawl** on 8 Apr 2011, 12:29 p.m.,*
in response to message #1 by Bob Patton

Yeah, I have this dream and a lot of variations on it.

Sometimes it turns out that one of my degrees has been invalidated and I have to go back to take a class to get it back.

Sometimes it turns out that I even have to go back to highschool.

A lot of times, when it's the end of the semester, the reason I will get a bad grade in this particular class is that even from the beginning of the semester I was never able to find the room it was held in.

Other times, I drop in and out of the class, but over the course of the semester I get overwhelmed with all the courses I'm taking and forget about one.

And often the reason I'm doing so badly in the course is that it's something I know nothing about ("Religion in 15th Century France", let's say). Though often, when I'm wondering why I'm taking that course, it's the tip off that I'm dreaming.

Schooling seems to be a pretty traumatizing experience.

Re: OT: The Dream

*Message #24 Posted by **Gerson W. Barbosa** on 8 Apr 2011, 6:01 p.m.,*
in response to message #23 by Crawl

Mine are always the same: I'm puzzled about why I should be taking that one more exam. I have to solve a problem, but time passes and I cannot find a solution. I feel I won't pass the exam. It is a great relief when I wake from the dream.

From the posts above I'm glad to know I'm in good company!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41: New release: The NoV CHAP rom

*Message #1 Posted by **Geir Isene** on 5 Apr 2011, 11:06 a.m.*

Own a NoV or HEPAX module? Want to get the most out of it?

Or maybe you own neither but want to get your hands on a really cool module image for your beloved HP-41?

Finally, after much work and testing, we are proud to release the NOV CHAP rom - the software companion to the HEPAX and NoV modules.

It includes both MCODE and FOCAL functions in four categories;

- NOV functions
- Advanced HEPAX functions
- Advanced Extended Memory (XM) functions
- Special utilities.

Try it out - and please report any bugs or suggested improvements by adding your comment in this thread or send an e-mail to Geir Isene.

Get the ROM, Source and User Manual at the NOV CHAP website

Sincerely yours,

Team IceAngel
(Geir Isene & Ángel Martin :)

Re: HP-41: New release: The NoV CHAP rom

*Message #2 Posted by **Diego Diaz** on 7 Apr 2011, 9:59 p.m.,*
in response to message #1 by Geir Isene

No matter what I think when developing a new module's features; some users always manage to go one step beyond... ;-)

Thanks a lot for that!!

Diego.

Edited: 7 Apr 2011, 10:00 p.m.

Re: HP-41: New release: The NoV CHAP rom

*Message #3 Posted by **Geir Isene** on 8 Apr 2011, 2:12 a.m.,*
in response to message #2 by Diego Diaz

Your inventions make it possible and inspiring to do so. Thanks right back at you :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Buy, Sell or Neutral?

*Message #1 Posted by **Michael de Estrada** on 5 Apr 2011, 10:52 a.m.*

I'm addressing this query to those on this forum who consider themselves to be calculator "collectors." What do you consider to be the current state of your collection. Are you actively seeking to increase the size of your collection? Are you in the process of reducing it's size or even selling it off? Or are you in a neutral maintenance mode, selling a few duplicate items, while seeking to fill a few holes with missing items? I'm currently in a neutral mode, having been in an aggressive buy mode for the past few years. I've decided that my collection size has reached a sensible limit and I've met most of my criteria in terms of the types of calculators I wish to collect (RPN, LED or VFD, pocket / handheld size). Also, I've tried to maximize the number of working specimens, repairing what I can and disposing of the remainder.

Another question I have is to what extent you consider yourself to be a restorer as opposed to simply a collector of as is condition calculators. Are you willing to tinker with calculators in an attempt to repair them, knowing that you may do further damage, but gain knowledge in the process? How important is it that the calculator be a complete set with all original accessories or that it be in like new "mint" condition? Is there a limit to how much you are willing or able to pay for a very rare item?

Anyways, lots of questions I know, but hopefully this will stimulate some interesting discourse.

Re: Buy, Sell or Neutral?

*Message #2 Posted by **Namir** on 5 Apr 2011, 11:09 a.m.,*
in response to message #1 by Michael de Estrada

The answer is Yes!

Re: Buy, Sell or Neutral?

*Message #3 Posted by **Geoff Quickfall** on 5 Apr 2011, 11:29 a.m.,*
in response to message #1 by Michael de Estrada

YES...

;-)

Re: Buy, Sell or Neutral?

*Message #4 Posted by **Walter B** on 5 Apr 2011, 5:35 p.m.,*
in response to message #1 by Michael de Estrada

42 d;-)

Re: Buy, Sell or Neutral?

*Message #5 Posted by **Eddie W. Shore** on 6 Apr 2011, 8:37 a.m.,*
in response to message #1 by Michael de Estrada

Buyer; although I am buying more calculator apps an physical calculators these days.

Re: Buy, Sell or Neutral?

*Message #6 Posted by **David Ramsey** on 7 Apr 2011, 11:10 a.m.,*
in response to message #1 by Michael de Estrada

After almost 30 years of collecting (HP RPN handheld scientifics), I'm in a holding pattern, since I have every one (and all the variations of individual models I'm aware of). Having the complete set (box, accessories, etc.) is nice but a clean working calc is good enough. I got pretty good at restoring first-gen calcs and rebuilding card readers but haven't done any of that in years.

I've bid on (but not won) a couple of oddball versions like a green-LED HP-45 and a 41 built in a blue plastic case.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-48/49/50 software sites?

*Message #1 Posted by **x34** on 5 Apr 2011, 3:23 a.m.*

Are there any active hp-48-50 software sites? Hpcalc seems to be dead since last year, no updates and no info.

Re: HP-48/49/50 software sites?

*Message #2 Posted by **Norman Dziedzic** on 5 Apr 2011, 7:28 a.m.,*
in response to message #1 by x34

> Quote:
>
> dead since last year, no updates and no info.

While there haven't been updates, I would hardly call the site "dead".

It is an invaluable resource I find myself viewing at least once a week. A site like hpcalc relies on submissions from users to have material to do updates. No submissions, no updates.

Even making suggestions on a forum such as this for a needed utility or program can help generate content for sites such as hpcalc.

Let the community know what you are looking for and more likely than not, someone will take on the challenge and start working on a new project. Or if you have something not represented there, you could offer it up as a submission.

Re: HP-48/49/50 software sites?

*Message #3 Posted by **x34** on 6 Apr 2011, 2:11 a.m.,*
in response to message #2 by Norman Dziedzic

Well, it was not at all in my thoughts to diminish the value of hpcalc. Sure, i visit it frequently and it is a great site. I just want to know if there are another "consolidated" sites with HP-48 software. I'm really sorry for being rude.

I could not find information on HP-50g emulators with full ARM support on hpcalc. x49gp mentioned there is very old, while newer versions do certainly exist, but have problems with HPGCC integration.

Maybe some links to current HPGCC and HPLUA projects?

Re: HP-48/49/50 software sites?

*Message #4 Posted by **David Hayden** on 7 Apr 2011, 5:44 p.m.,*
in response to message #3 by x34

> Quote:

> Maybe some links to current HPGCC and HPLUA projects?

I'll make a shameless plug for my HPObjects library for HPGCC. This library lets you create and decode native HP objects from within your C code. It largely eliminates the need to write wrapper functions.

I've also been successful at getting C++ to work with HPGCC (thanks to a post by Claudio) and I've gotten HPGCC code working on the 48gii. I'd be happy help you do either of these things if you're interested.

Dave

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TDS-256k RAM Card

*Message #1 Posted by **aj04062** on 4 Apr 2011, 11:15 p.m.*

Do these work on a 48-GX?

I cannot initialize this on my GX and was wondering if that is the problem.

Re: TDS-256k RAM Card

*Message #2 Posted by **geoff quickfall** on 5 Apr 2011, 2:16 a.m.,*
in response to message #1 by aj04062

Built in battery or replaceable? My TDS had a built in battery which needed replacing.

check out this posting from a while ago to gain access for the built in battery:

Access to the TDS battery

Of course, format the card and etc before accessing the battery.

Cheers, Geoff

Re: TDS-256k RAM Card

*Message #3 Posted by **aj04062** on 5 Apr 2011, 6:30 a.m.,*
in response to message #2 by geoff quickfall

I've replaced the battery. It came to me with none. I run PINIT but I can't eliminate the message "bad card data".

Do I need the TDS softare to use this ram card?

Re: TDS-256k RAM Card

*Message #4 Posted by **Bart (UK)** on 5 Apr 2011, 6:49 a.m.,*
in response to message #3 by aj04062

> Quote:
>
> Do I need the TDS softare to use this ram card?

No, I have used one in my 48GX without TDS software.
(Mine came with a TDS surveying card, the RAM card can be used without the surveying software, but the surveying software can't be used without a RAM card)

My 2c worth

Bart

Edit: on reading Geoff's post, a note: I had a 256K TDS RAM card specifically for the GX, thus not a bank switching type.

Edited: 5 Apr 2011, 6:17 p.m.

Re: TDS-256k RAM Card

*Message #5 Posted by **Geoff Quickfall** on 5 Apr 2011, 11:27 a.m.,*
in response to message #1 by aj04062

Someone may correct me but I just googled tds ram card hp48gx and came up with the following link:

256 and 512 TDS cards

I don't know if this is true but I pulled the following quote from the site:

6.24 I've heard about other manufacturer's RAM cards. Will they work? While some cards may work, there is a chance that you may severely damage your HP48. You should only use cards specifically designed for the HP48. Naturally, HP sells such cards, and some third parties also make cards that will work in an HP48. Some cards work with both the S/SX and the G/GX. Some, however only work on the S/SX, or only on the G/GX. Make sure that the card is designed to work for your version before using it.

SX: The S/SX can only naturally support up to 128K per port. HP sells 32K and 128K RAM cards. However, TDS, using software "bank switches" produces 256K and 512K RAM cards. These bank switching cards do not work in the G/GX series. CMT also makes 128K cards, which work in all HP48 calculators.

GX: While you cannot use the TDS 256K and 512K cards, Sparcom has come out with 256K and 512K cards for the G/GX only. HP also sells 1MB RAM cards that work for G/GX only. The G/GX is able to accept a 4MB RAM card, but none are on the market at this time.

It may be that your card will not work, also try the card in slot two.

google "256K tds ram card hp48gx" and review the use of pinit and pinvar.

Cheers, Geoff

or wait for a 48GX expert, I have 4 and one with a 512K TDS card (see above post) and a 1MB card (HP) but I am by no means an expert 48GX user, I just fix them occasionally ;-)

Re: TDS-256k RAM Card

*Message #6 Posted by **aj04062** on 5 Apr 2011, 12:08 p.m.,*
in response to message #5 by Geoff Quickfall

Thanks Geoff,

I've seen some of the same posts. I've tried many of the suggestions. I need to download some data and try and store it to the card, I think.

Haven't tried pinvar...

Re: TDS-256k RAM Card

*Message #7 Posted by **Geoff Quickfall** on 5 Apr 2011, 12:55 p.m.,*

in response to message #6 by aj04062

I know there is a specific TDS site that walks you through a TDS RAM card set up. I was trying to find it and will still try if it has not been removed.

Cheers, Geoff

p.s. you replaced the battery, I know there is a program that keeps the GX on so the battery can be recharged. It defeats the timed turn off function but you do need a new set of batteries installed. It turns the calc on every 4 minutes and 55 seconds. Run it over night and the card battery will be fully charged. A new uncharged (or barely charged) battery will cause memory and card reading problems. Have you tried this?

pps this is all from memory (2 years ago!) and my battery has not been charged for awhile ;0)

Edited: 5 Apr 2011, 1:08 p.m.

Re: TDS-256k RAM Card

*Message #8 Posted by **aj04062** on 5 Apr 2011, 1:27 p.m.,*
in response to message #7 by Geoff Quickfall

There was no 2016 battery in the card when I got it. I replaced it with a new lithium 2016 a few days ago.

This is a different style card with a removable tray for the battery. I'll post some pictures tonight.

Edited: 5 Apr 2011, 2:34 p.m.

Re: TDS-256k RAM Card

*Message #9 Posted by **aj04062** on 7 Apr 2011, 12:27 p.m.,*
in response to message #8 by aj04062

Okay, no pictures, but here's what made it work (for others if needed)

Card was made for 48SX. This was determined by the fact it was made in 91 and the GX came out in 93.

Given that, it needs a program call Super Switch installed (available on hpcalc.org) to switch between the two 128k banks. After this was installed AND some files were written to the two banks, the Invalid Card Data message stopped.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

17bII+ available for $72.99

*Message #1 Posted by **Jeff O.** on 4 Apr 2011, 12:37 p.m.*

In case there is any interest, my daily e-mail from Buy.com had the 17bII+ for $72.99 with free shipping. Not sure how long it will be available. I have no connection to the seller, just passing along information.

...

Re: 17bII+ available for $72.99

*Message #2 Posted by **Jim Yohe** on 4 Apr 2011, 5:35 p.m.,*
in response to message #1 by Jeff O.

Though you take your chances making a purchase from many of those unknown dealers you could always place an order on Walmart's site and get it for $80.56 plus $3.97 shipping. Just a thought and have no affiliation with the retail mega-giant.

Re: 17bII+ available for $72.99

*Message #3 Posted by **gene wright** on 4 Apr 2011, 5:52 p.m.,*
in response to message #2 by Jim Yohe

buy.com has been around for 5+ years and has good ratings at resellerratings.com

No association with them myself either and I have no plans to buy the 17b2+ from them, but buy.com is a fairly well known e-tailer.

Re: 17bII+ available for $72.99

*Message #4 Posted by **Jim Yohe** on 4 Apr 2011, 6:07 p.m.,*
in response to message #3 by gene wright

buy.com may be well know of recent years and I've heard of them before but they funnel sales, it appears, to other e-retailers who make the sale. Are return policies and the quality of merchandise guarenteed by buy.com or the e-retailer you're purchasing from?

Re: 17bII+ available for $72.99

*Message #5 Posted by **Don Shepherd** on 4 Apr 2011, 7:29 p.m.,*
in response to message #1 by Jeff O.

The 17bii+ is going for a whole lot less than $70 or $80 on EBay; typical recent auctions were in the $30-$50 range, some in the $20's.

Re: 17bII+ available for $72.99

*Message #6 Posted by **Jeff O.** on 5 Apr 2011, 7:34 a.m.,*

in response to message #5 by Don Shepherd

Don,
Are those prices for new units?

I posted the link mostly because I was surprised to see it pop up in the buy.com ad and it seemed to be a good price. I checked the HP.com price which was was higher, but did not think to look at Walmart or eBay.

Re: 17bII+ available for $72.99

*Message #7 Posted by **Don Shepherd** on 5 Apr 2011, 12:02 p.m.,*
in response to message #6 by Jeff O.

Jeff, those price are for used units, the owners of which are selling them on EBay. I've bought a lot of calculators on EBay over the years and have never been disappointed. I'd much rather pay $30 for a slightly used unit than $80 for a new unit.

But regarding the 17bii+, I'd much rather have a 17b or 17bii to play around with solver programming, because the solver on the + disappoints.

Edited: 5 Apr 2011, 12:10 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP32s Relative GTO

*Message #1 Posted by **Mike T.** on 4 Apr 2011, 10:29 a.m.*

I've just managed to obtain an HP32s - but it does seem to be a little limited when it comes to labels, I find that having to use a label when I could use a relative jump seems rather wasteful goven the number of program steps...

Can't figure out how to do a relative GTO - is there another (more efficent) way of constructing a (conditional) loop...?

Mike T.

Re: HP32s Relative GTO

*Message #2 Posted by **Katie Wasserman** on 4 Apr 2011, 10:50 a.m.,*
in response to message #1 by Mike T.

There is no relative branching mechanism on the 32s, you've got just the 26 labels available. However, there's a very limited program memory space (390 bytes), the ratio of one label per 15 bytes seems pretty reasonable to me. Considering that most instructions take 1.5 bytes that's one label per 10 steps. Furthermore, in practice you'd use some of those 390 bytes for variables so you'd have even more than 1 label per 10 steps.

-Katie

Re: HP32s Relative GTO

*Message #3 Posted by **Mike T.** on 4 Apr 2011, 4:33 p.m.,*
in response to message #2 by Katie Wasserman

Thanks for your reply.

Not having a relative jump is a pity - but I'm still very pleased with the HP32S. I almost brought one in London in the late '80s to replace my HP33C but didn't as it seemed 'too complicated'. I think it was the menus that put me off, and the huge price tag!

I'm still not a big fan of menus but having used my 'new' machine for a few hours I have to admit that the HP32S implements them in a reasonably intuitive fashion (the only function I have trouble finding is PSE).

Mike T.

Re: HP32s Relative GTO

*Message #4 Posted by **Jim Yohe** on 4 Apr 2011, 5:40 p.m.,*
in response to message #1 by Mike T.

There's indirect addressing in the 32sii if that helps but I don't know if the 32s (rather than the 32sii) is more limited. Page 13-19 of the manual.

Re: HP32s Relative GTO

*Message #5 Posted by **Don Shepherd** on 4 Apr 2011, 7:33 p.m.,*
in response to message #4 by Jim Yohe

The 32s has indirect addressing too (except for indirect access to the 6 stats registers which only the sii has). The 32sii programming also adds text prompts via EQN, which is nice. And the algebraic solver is very nice.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Free Calculator Day

*Message #1 Posted by **Chuck** on 3 Apr 2011, 8:35 p.m.*

A co-worker gave me a virtually brand new 17BII last week. I doubt it's been touched in the last 15-18 years (I believe its a 1993 model). Not having many business models in the collection, this is a fine addition. And after a new set of batteries, and 20 minutes of playing just about everything is self explanatory except one feature: pressing MODES and BEEP a few times to set the beeper off and on, there is also a BEEPER ON: APPTS ONLY setting. Whatever could this be for?

CHUCK

Re: Free Calculator Day

*Message #2 Posted by **Katie Wasserman** on 3 Apr 2011, 8:48 p.m.,*
in response to message #1 by Chuck

The manual is here.

Re: Free Calculator Day

*Message #3 Posted by **Chuck** on 3 Apr 2011, 9:30 p.m.,*
in response to message #2 by Katie Wasserman

Fantastic. Thanks Katie.

CHUCK

Re: Free Calculator Day

*Message #4 Posted by **Eddie W. Shore** on 4 Apr 2011, 12:26 a.m.,*
in response to message #1 by Chuck

Wow! That is so cool!

Re: Free Calculator Day

*Message #5 Posted by **Juergen Keller** on 4 Apr 2011, 2:31 a.m.,*
in response to message #1 by Chuck

Note that early 17BII models had a dangerous bug, see: http://www.youtube.com/watch?v=hOBCpp4t6cg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Battery pack rebuild

*Message #1 Posted by **Dane Ericksen** on 2 Apr 2011, 10:36 p.m.*

I have posted to my Webshots album how I learned to rebuild the battery pack for an HP82143A peripheral printer. Still in use daily for engineering calculations, along with my HP41CX calculator, twenty-five years later. The link is http://home-and-garden.webshots.com/album/579997687ROUizG

Re: Battery pack rebuild

*Message #2 Posted by **dinamarco** on 4 Apr 2011, 12:55 p.m.,*
in response to message #1 by Dane Ericksen

Dear Dane Ericksen...

I'd like to konw, if it's possible, the exactly link to buy the batteries... I'm trying to find it out on the site: alleletronics.com but.... can you send me the complete link? Best regards... and THANK YOU FOR HELP! Friendly Nelson Dinamarco

Re: Battery pack rebuild

*Message #3 Posted by **dinamarco** on 4 Apr 2011, 12:59 p.m.,*
in response to message #1 by Dane Ericksen

I found these one: http://www.allelectronics.com/make-a-store/item/NCB-SC/SUB-C-NICAD-W/SOLDER-TAB//1.html

is it correct???

Re: Battery pack rebuild

*Message #4 Posted by **Dane Ericksen** on 4 Apr 2011, 7:39 p.m.,*
in response to message #3 by dinamarco

Yes, that is the All Electronics sub-C nicad that can be used to rebuild the battery pack.

Re: Battery pack rebuild

*Message #5 Posted by **dinamarco** on 6 Apr 2011, 1:40 p.m.,*
in response to message #4 by Dane Ericksen

thank you very much... ps: I'm a "cigar lover" too.... regards...

[Return to Index | Top of Index]

Go back to the main exhibit hall

Battery pack rebuild

HP Forum Archive 20

[Return to Index | Top of Index]

HP-01 Back Cover Tool

*Message #1 Posted by **aj04062** on 3 Apr 2011, 11:41 a.m.*

I'm considering having my machine shop make one of these for my own use.

Is anyone else interested? I will likely make it out of aluminum with brass pins to engage the cover.

Re: HP-01 Back Cover Tool

*Message #2 Posted by **Matthias Wehrli** on 3 Apr 2011, 12:51 p.m.,*
in response to message #1 by aj04062

Interesting. And what will be the price?

Re: HP-01 Back Cover Tool

*Message #3 Posted by **aj04062** on 3 Apr 2011, 4:31 p.m.,*
in response to message #2 by Matthias Wehrli

The more people there are, the lower.

I would guess at this point $30-40

Re: HP-01 Back Cover Tool

*Message #4 Posted by **Allen** on 3 Apr 2011, 7:23 p.m.,*
in response to message #1 by aj04062

If it were made of metal, could it not damage the back plate and/or strip the threads? The original ones were made of hard plastic, if I recall.. cheap to manufacture and would likely break before shearing any of the metal watch parts.

Re: HP-01 Back Cover Tool

*Message #5 Posted by **aj04062** on 3 Apr 2011, 8:56 p.m.,*
in response to message #4 by Allen

I don't think what I am proposing would damage the back. Both Aluminum and Brass have a lower hardness than the Stainless Steel back.

What I was thinking of producing was something like this one

Except make it in aluminum with brass pins. I suppose it could be made with plastic (Delrin or CPVC) and the pins pressed into it.

traces of metal

*Message #6 Posted by **Frank Boehm (Germany)** on 4 Apr 2011, 7:41 a.m.,*
in response to message #5 by aj04062

I'd suggest to grab a cheap watch and do some tests. I could imagine, that brass and aluminium will leave traces on brushed steel, and it's probably hard to remove these traces.

Re: HP-01 Back Cover Tool (pictures to hook your interest)

*Message #7 Posted by **Geoff Quickfall** on 4 Apr 2011, 2:32 p.m.,*
in response to message #1 by aj04062

Hello AJ....

I think that it is a great idea (and I would order at least one), and if manufactured correctly then marking the case back would not be a problem.

I have restored over 150 watches, including 10 hp-01's and some of the main case markings are done by over-zealous rough watch repairers scoring the case backs. Mainly due to the incorrect use of the wrench. However a wrench of this style would be unlikely to slip and score the case back.

Another type of case wrench I use is an old India rubber ball (super ball). This of course does not scratch a case back but will also not remove a 'stuck' case either.

The HP-01 'Cricket' comes with (if you are lucky enough) a plastic wrench which contains 5 357 spare batteries, two back case gaskets and of course the prongs which mesh with the grooves in the case back. So the caveat would be that the prongs are not too long!

The problem with standard watch wrenches(figure 1 and 2) is that the prongs are too deep and will ruin the piezo

transducer (figure 3 "A") which is attached to the inside case back:

figure 1:

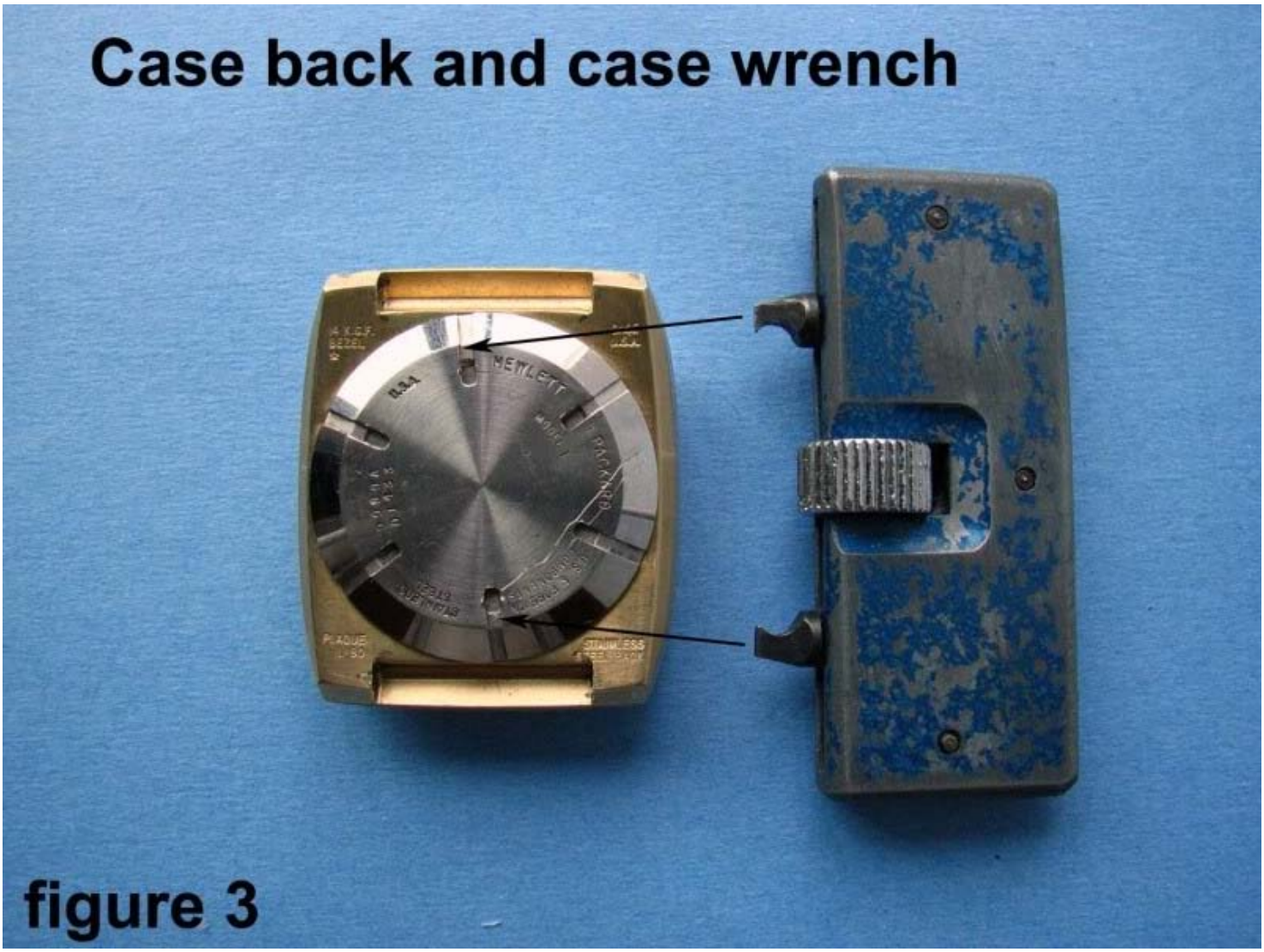
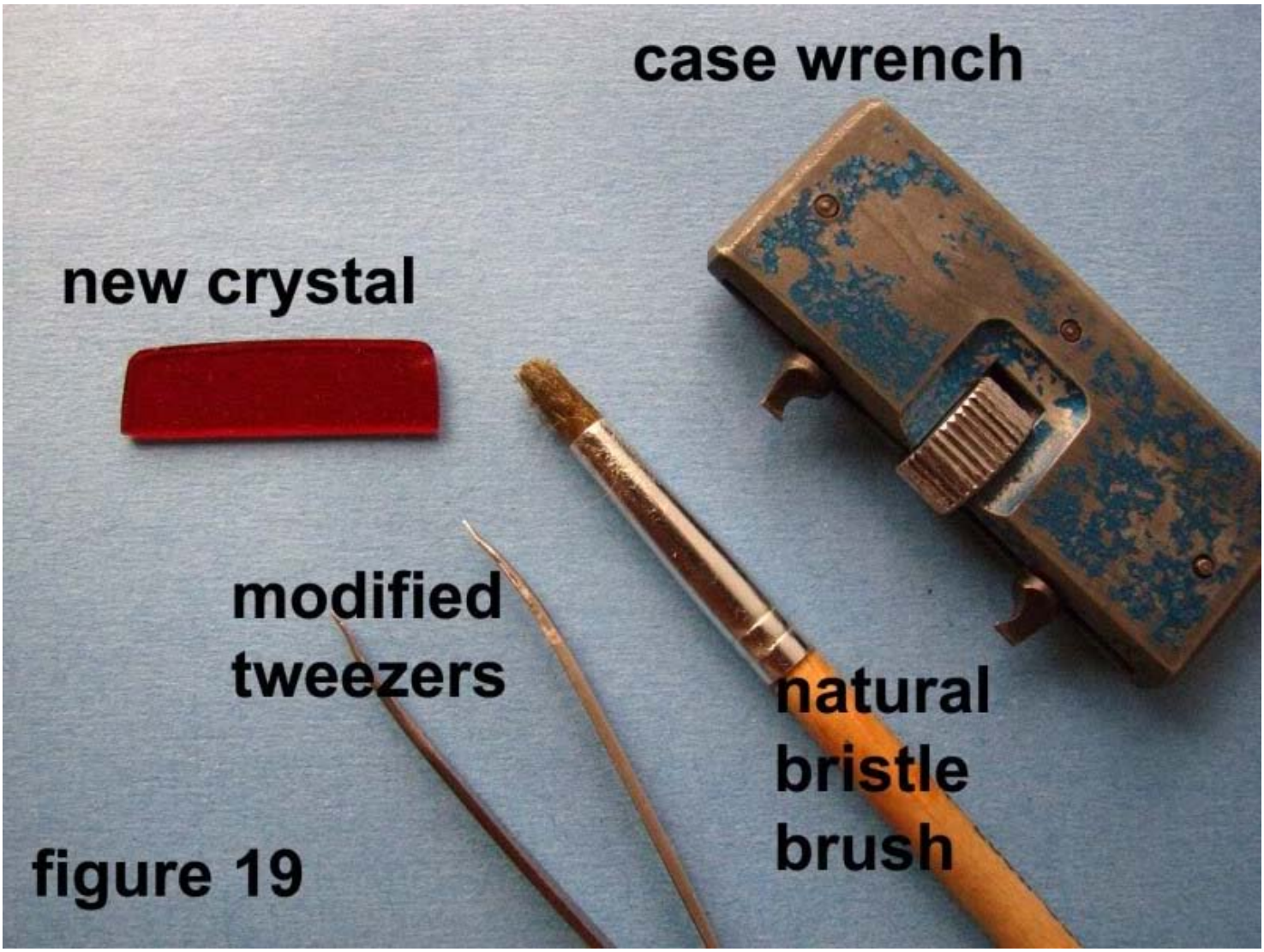
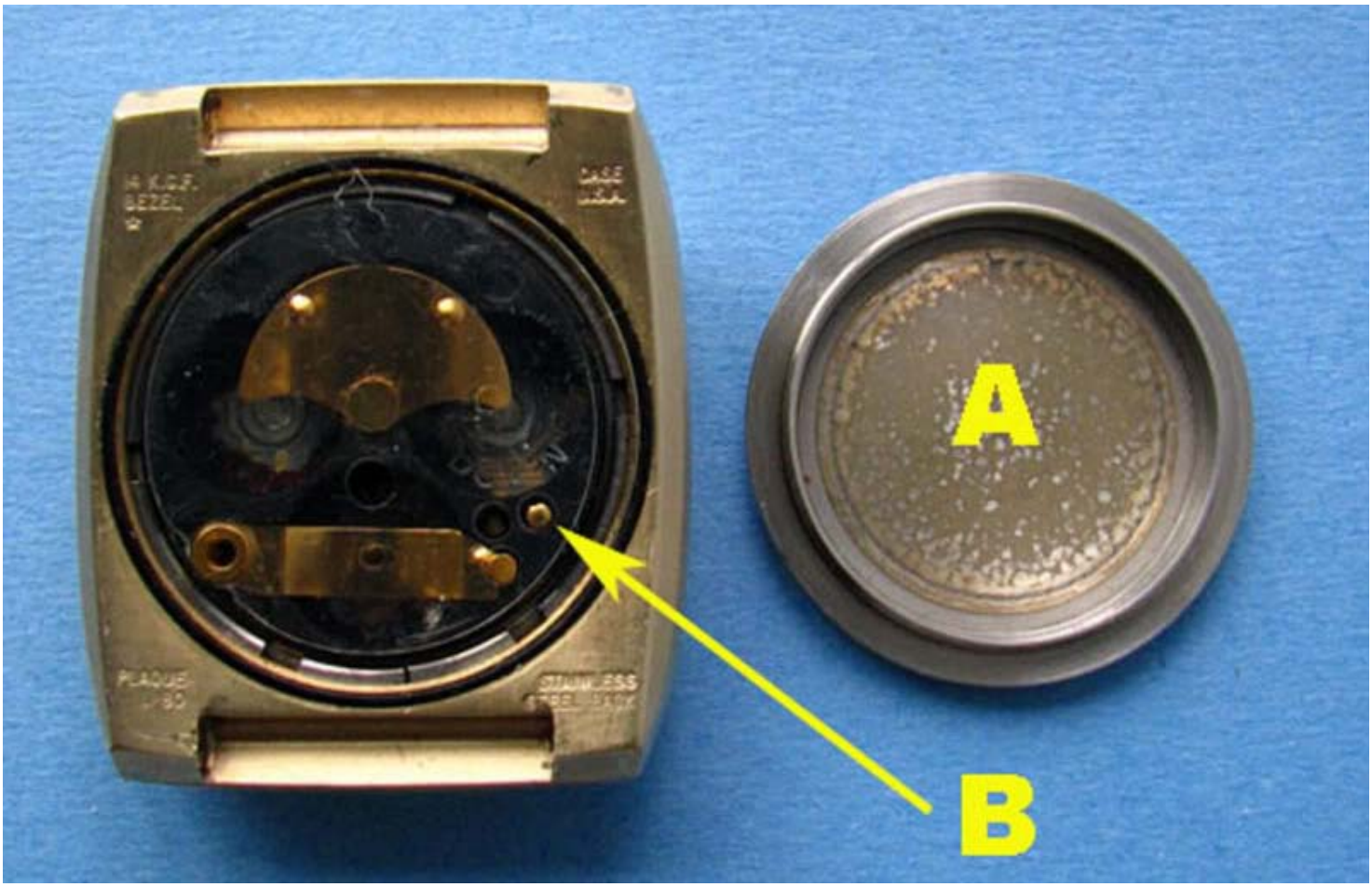


figure 2:



figrue 3 (A: piezo transducer which is visible from the top side of the back case in the deeper part of the recess.)



Of course what posting would be complete without some gratuitous eye candy. For the full posting of this restoration see the following

link: **HP 01 RESTORATION**. This is an older post and the book contains a much more refined series of photos and labels sans humor! This one actually made it on the BBC series "Antiques Roadshow", albiet, in the background on a display table surrounded by other LED watches.

22:44.07

CASE
U.S.A.
STAINLESS
STEEL
U.S.A.
HEWLETT
PACKARD
MODEL 1
CHANGE BATT.

CASE
U.S.A.
HEWLETT
U.S.A.
MODEL 1
STAINLESS STEEL

This is all covered in chapter six of the book!

Edited: 4 Apr 2011, 2:41 p.m.

Re: HP-01 Back Cover Tool (pictures to hook your interest)

*Message #8 Posted by **aj04062** on 4 Apr 2011, 10:54 p.m.,*
in response to message #7 by Geoff Quickfall

Okay,

I am going to make from UMHW (Delrin) with some metal pins.

Re: HP-01 Back Cover Tool (pictures to hook your interest)

*Message #9 Posted by **Geoff Quickfall** on 5 Apr 2011, 2:13 a.m.,*
in response to message #8 by aj04062

Delrin is excellent.

Actually Omega and Lemania use it in their 861 Speedmaster movements due to its self hardness and 'slipperiness' as part of the cam system for stopping and starting the chronograph.

Good choice and sign me up for one!

Geoff

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

RPL+

*Message #1 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 9:39 a.m.*

This does not relate to HPs, but to an RPL platform being built:

I think that RPL, the language, can be improved.
I've started to implement a few strictly optional language features that I think make for a better language.
The result is called "RPL+".

I just posted another round of planned features here.
These are pretty drastic, yet I hope they will do good.

Is code like this

```
\<< =n
   0 'n>295' {R\->I} IFT =zero
   n mkpents =pents
   [0 1 1 0] =signs
   {1} =partitions
   1 n FOR j
      zero @ running sum
      1 =k
      WHILE
         pents[k]
         j \=<
      REPEAT
         partitions[pents[k] j -]
         signs[k 4 MOD] {+} {-} IFTE
         ++k
      END
      partitions push @ add to partitions
   NEXT
   partitions[n]
\>>
```

recognizable to you as RPL?

Would you like to write code like this?

Or do you think RPL should not be changed?

I'd love some input.

Edited: 3 Apr 2011, 12:13 p.m.

Re: RPL+

*Message #2 Posted by **Namir** on 3 Apr 2011, 2:24 p.m.,*
in response to message #1 by Oliver Unter Ecker

Do you have an emulator for RPL+???

A few years ago I implemented RPN2 (an extension to RPN) using Excel. The Excel interface helped type in and run RPN2 programs which supported a whole variety of registers (stack, multiple Alpha registers,

multiple array indexing registers), strings, matrices, and flags. I presented RPN2 in HHC2009 (i believe).

The point I am making is the having an emulator allows you to breath life into your concepts.

Namir

Re: RPL+

*Message #3 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 3:56 p.m.,*
in response to message #2 by Namir

Namir,

RPN2? That sounds cool. (I will confess to you, though, that I barely know RPN...)

>Do you have an emulator for RPL+???

Well. I'm not re-purposing hardware (my hat's off to everyone involved in the WP34s project, btw; it's beautiful), so I don't need an emulator. I'm building the real thing.

In the post I referred to, what is not flagged as "(planned)" already exists. And it's out in the wild, actually. Today, there're many thousands of RPL+ calculators (really: apps; currently ND0 and ND1) in the hands of users. So, RPL+ is real.

(Caveat: app buyers are not like calculator buyers. Most of my users don't know what RPL is, and, I suspect, don't use it. But then, 50g language capability and one-tap downloading of code only appeared in an update a month ago.)

What I'm proposing today, I may implement today. And you may download it in two weeks. (The framework that enables me to do that I built over the course of two years.)

RPN2

*Message #4 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 4:17 p.m.,*
in response to message #2 by Namir

Namir,

I don't want to be annoying, but let me tell you that you *could* implement your RPN2 for MorphEngine calculators (the two mentioned before for iOS, but more are in the pipeline, for more OSes; see the road-map).

Either in JavaScript. Using or not using the math and type functionality that is provided by MorphEngine (which is much easier to use than you'd think; essentially, if you know your calculator command-set, you know how to use it after 20 minutes of reading documentation).

Or in RPL. (Is there possibly even something like an RPN emulator implemented in RPL? Should be possible.)

You don't need a development environment. You can do this on the device! (In either language.) (Though, if you have an iPad, you may want to wait for CalcPad (another MorphEngine calc) for a larger editing window.)

You could also develop on a desktop, in JavaScript, and transfer files to run on the device. Setting up a custom server is described in the ND1 reference docs and makes this a one-tap, one-second affair.

If you have a stand-alone JavaScript implementation, developed on a desktop, it takes very little time (probably minutes!) to adapt to MorphEngine, and make it run in the calculator. You could then make it available to all users as a (free) shared folder download. There's a concept of an "extension" and your language could be permanently installed in all calculators of users who press your Install button. It will then be as if the calculator had RPN2 built-in!

If you'd like any of this, I'd be happy to point you the right way and lend some support.

Re: RPN2

*Message #5 Posted by **Namir** on 4 Apr 2011, 12:30 a.m.,*
in response to message #4 by Oliver Unter Ecker

The Excel interface allowed me to view a lot of information simultaneously. Behind the RPN's functions and operation stands thousands of lines of VBA code.

The main goal for RPN2 is to provide structured or modular programming that allows the development of reusable code where one can not worry about clashing register number/names and label names. RPN2 supports modules and each module define a scope for its memory registers and labels.

Anyway, this project of mine is not active. I may add a few small features to enhance decision-making, but there is no rush now.

Namir

Re: RPN2

*Message #6 Posted by **Oliver Unter Ecker** on 4 Apr 2011, 3:06 a.m.,*
in response to message #5 by Namir

Sounds like a really nice project. Love the idea of using Excel as emulator.

Cheers.

Re: RPN2

*Message #7 Posted by **Namir** on 4 Apr 2011, 8:01 a.m.,*
in response to message #6 by Oliver Unter Ecker

Click here to go to my web page and click on **HHC2009 RPN2** to download the file RPN2.ZIP.

Edited: 4 Apr 2011, 8:02 a.m.

Re: RPN2

*Message #8 Posted by **Oliver Unter Ecker** on 4 Apr 2011, 9:37 a.m.,*
in response to message #7 by Namir

Hi Namir,

I didn't know you were a prolific writer, and a language whiz.

Thanks for the link. I started to peruse the RPN2 material and am well impressed. Also, I found the root finding articles interesting and may come back to it (my project is in dire need of a capable solver).

Your R "tutorial" is a book! (But you know that...)

It's a pity your RPN2 project's not active. You put a lot of work into that! (It looks really good to me.)

Edited: 4 Apr 2011, 9:38 a.m.

Re: RPN2

*Message #9 Posted by **Namir** on 4 Apr 2011, 11:36 a.m.,*
in response to message #8 by Oliver Unter Ecker

Oliver,

Thank you for your most kind compliments.

I am very glad that the R tutorials attracted your attention. I agree, they can be a book.

Regards,

Namir

[] operator

*Message #10 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 4:35 p.m.,*
in response to message #1 by Oliver Unter Ecker

Ok. I know I want the array access operator "[]".

But which one of the following two would you choose:

A

```
                  |   syntax   |
                  v     v v    v
ex1    partitions[pents[k] j -]
ex2    signs[k 4 MOD]
       ^        ^
       | local  | any RPL
```

or

B

```
ex1    partitions[pents[k] - j]
ex2    signs[MOD(k, 4)]
       ^        ^
       | local  | an expression (w/o quotes)
```

?

Note, **B** makes array access look identical to a C-like language.

Is this too scary for the RPL mind? Think of it as replacing

```
signs 'MOD(k, 4)' EVAL 1 + GET
```

To me "signs[MOD(k, 4)]" reads better. (And the comfort doesn't come at a price. Quite the opposite. It's way faster to run.)

Edited: 4 Apr 2011, 3:01 a.m.

Re: [] operator

*Message #11 Posted by **David Hayden** on 4 Apr 2011, 4:29 p.m.,*
in response to message #10 by Oliver Unter Ecker

Oliver,

I think it's really a question of what syntax will you use for an expression. In both cases, the general syntax appears to be

```
partitions[ any expression ]
example: partitions[pents[k] + 2]
```

Note that HP solved this by inventing the algebraic object, so in RPL it might be

```
'partitions[pents[k] + 2]'
```

But I'm not sure how you'd distinguish between an array reference and an object followed by a single entry array. For example, is

```
partitions [1]
```

a reference to an element in partitions, or does it put the value of partitions on the stack, followed by the array [1]?

Dave

Re: [] operator

*Message #12 Posted by **Oliver Unter Ecker** on 4 Apr 2011, 8:16 p.m.,*
in response to message #11 by David Hayden

David,

The overall structure of both cases is

```
    array[something]
```

In case A, "something" is RPL.
In case B, "something" is an algebraic expression without quotes.

Each case gives two examples.

I'm getting an "invalid syntax" error if I try to place brackets inside an expression, so 'partitions[pents[k] + 2]' does not work for me (on an HP-49).
Maybe you mean 'partitions(pents(k) + 2)'?

Yes, case B

```
   partitions[pents[k] + 2]
```

would indeed be equivalent to

```
   'partitions(pents(k) + 2)' EVAL
```

Thanks for pointing this out. This should make the syntax look friendlier in RPL eyes. I know the lack of quotes may be weird. But the proposed syntax is equivalent to the one in C-like languages.

(Conversely, the expression syntax, what with having "()"s, needing quotes, and an EVAL, is probably very weird from the point of view of most other languages.)

Unsurprisingly, this

```
\<< [1 2 3] \-> x \<< 1. 1000. START 'x(1)' EVAL DROP NEXT \>>
```

runs 6.5x slower than this

```
\<< [1 2 3] \-> x \<< 1. 1000. START x 1 GET DROP NEXT \>>
```

on Emu-48/HP-49.

So, using expressions instead of GET for array access seems unfeasible. But, again, thank you for pointing out that my proposed syntax B looks almost like the whole thing wrapped in an expression.

> partitions [1]

This one is easy. The proposed operators are "fused": they *must* be connected to the name of a local. No white-space inbetween allowed. So, your example has the regular meaning. Only

```
partitions[1]
```

would be the new thing.

If you try to enter "partitions[1]" on an HP-calc you get "partitions [1]" on the stack, so that wouldn't work. But, then, RPL+ is not meant to (or, rather, cannot) be retro-fitted to existing HP calcs.

Thanks for feeding in!

Edited: 5 Apr 2011, 6:13 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New update for Clonix, NoV's and configuration utility.

*Message #1 Posted by **Diego Diaz** on 2 Apr 2011, 7:33 p.m.*

Hi all,

I've built a new configuration utility interface.

It is intended to make users life easier, by handling many of the different options that required a spacific file to be loaded.

Main points are:

- Advantage module is now available for every module that can load it into its ROM.

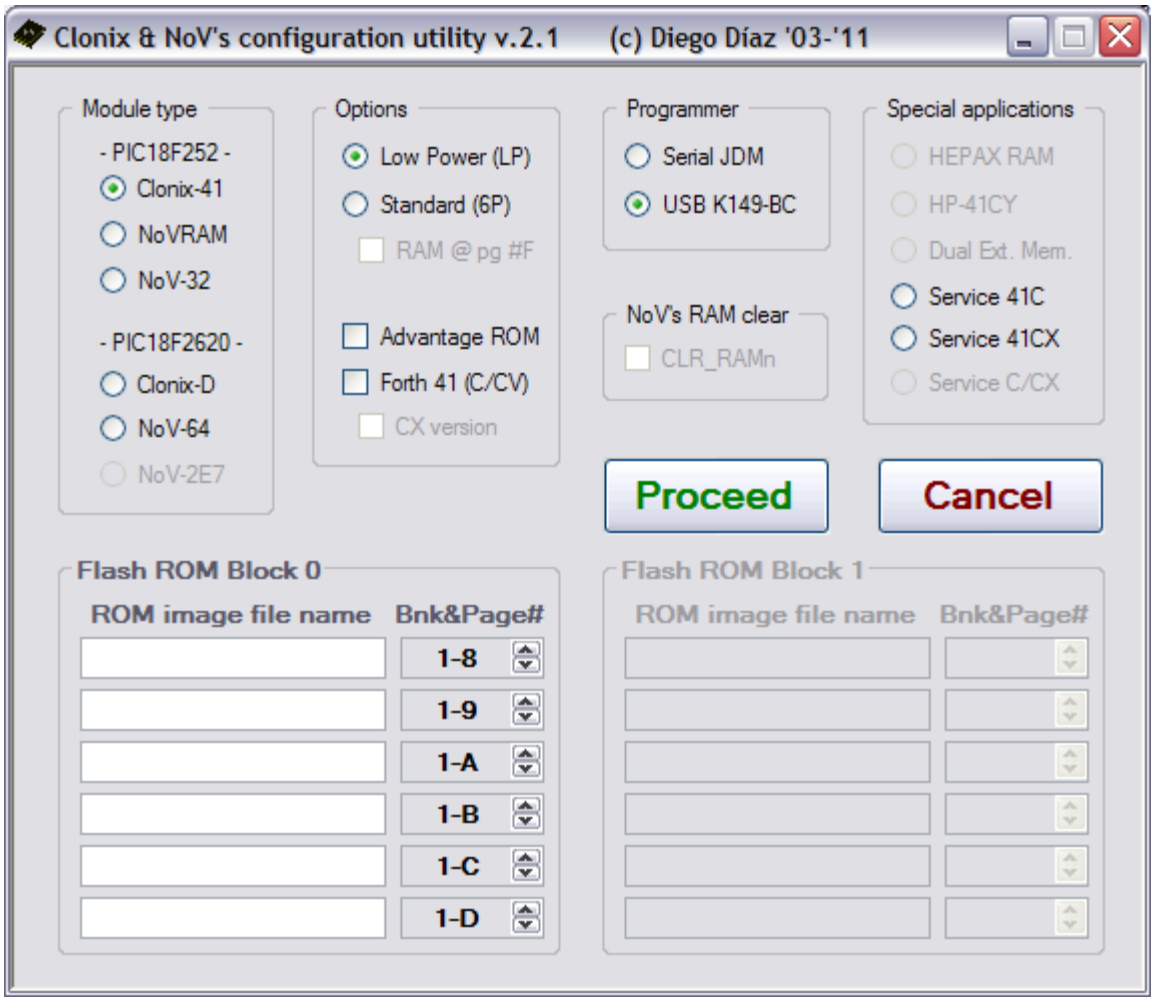
- Also Forth-41 (for CV and CX) is available.

- The "fast" 6P version for Clonix-41, including its 512 RAM words is available too.

- Latest SW for NoV-64, including Crash Recovery function and RAM shadowing is included. Updated NoV-64 manual is also included.

- New dedicated application: emulation of HEPAX 2 MEM module is available for NoVRAM, NoV-32 and NoV-64.

This is how it looks:



Please visit clonix41 to download; and (if you're so kind...) read the manual... ;-))

Enjoy your 41's!

Best from the Canary Islands.

Diego

Edited: 2 Apr 2011, 7:39 p.m.

Re: New update for Clonix, NoV's and configuration utility.

*Message #2 Posted by **Geir Isene** on 3 Apr 2011, 8:22 a.m.,*
in response to message #1 by Diego Diaz

This is freakin' Awesome!

Kudos to The Diego :)

You are doing a splendid job of breathing life into the Best Calculator. I will try to help a bit; I am working on the user manual for the NOV CHAP module to make the software side of the NoV family complete. It's been a cool endeavor working with Angel Martin. Team IceAngel is soon ready to release :)

Re: New update for Clonix, NoV's and configuration utility.

*Message #3 Posted by **Diego Diaz** on 3 Apr 2011, 9:11 a.m.,*

in response to message #2 by Geir Isene

Hi Geir,

Thanks for your comments; and thanks again for the efforts you and Ángel are doing to build a friendly tool so non M-coders can take full advantage of the many posibilities inside these modules.

Look forward to digging into this manual... ;-)

Best whishes from the southernmost part os Spain.

Diego.

Re: New update for Clonix, NoV's and configuration utility.

*Message #4 Posted by **Matthias Wehrli** on 3 Apr 2011, 1:13 p.m.,*
in response to message #1 by Diego Diaz

Sorry for my curiosity: What is the Clonix-D project? Matthias

Re: New update for Clonix, NoV's and configuration utility.

*Message #5 Posted by **Diego Diaz** on 3 Apr 2011, 2:34 p.m.,*
in response to message #4 by Matthias Wehrli

Hi Matthias,

Your curiosity is welcome :-)

Clonix-D ("D" stands for Double) is a superset of the original Clonix-41 module.

It has two ROM blocks of 6 pages each, hence the "double"; and user can select which block is active by choosing the port where the module is plugged: Odd ports select block 0 while even ports select block 1.

Hope this helps.

Best wishes.

Diego.

Re: New update for Clonix, NoV's and configuration utility.

*Message #6 Posted by **Ángel Martin** on 4 Apr 2011, 12:41 p.m.,*
in response to message #1 by Diego Diaz

Saludos Diego

Looks like "a good thing just got better" - or more aptly, an excellent thing just got even more so!

Definitely good news. So glad you're rounding off the "Clonix GUI" and providing more flexibility to the configurations even for "non-expert" users :-)

Best, ÁM

Re: New update for Clonix, NoV's and configuration utility.

*Message #7 Posted by **Diego Diaz** on 5 Apr 2011, 3:39 p.m.,*
in response to message #6 by Ángel Martin

Hi Ángel,

And thanks again.

Seems you and Geir are also easing things a lot for the NoV's, HEPAX, XM and IL users with the new NOVCHAP. (this will probably fulfill the whole HP-41 users range... :-))

Best from the Canaries.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 25 Battery Cover Stuck?

*Message #1 Posted by **M. Pollock (Canada)** on 2 Apr 2011, 5:35 p.m.*

Hi, I just acquired an HP25 calculator. It's in mint physical condition but I can't seem to remove the rear battery cover. Either I'm doing something wrong or there is a corrosion issue. Any suggestions? Thanks.

Re: HP 25 Battery Cover Stuck?

*Message #2 Posted by **Michael de Estrada** on 2 Apr 2011, 6:01 p.m.,*
in response to message #1 by M. Pollock (Canada)

The door is really the top of the battery pack, which you remove by sliding it forward towards the bottom of the calculator and then pushing down to release the rear of the pack. The battery cells are spring loaded and the springs should compress to allow the pack to slide forward when you push on it.

Edited: 2 Apr 2011, 6:02 p.m.

Re: HP 25 Battery Cover Stuck?

*Message #3 Posted by **M. Pollock (Canada)** on 2 Apr 2011, 6:29 p.m.,*
in response to message #2 by Michael de Estrada

Hi, Thanks, I tried that, it just doesn't budge.

Re: HP 25 Battery Cover Stuck?

*Message #4 Posted by **Michael de Estrada** on 2 Apr 2011, 7:28 p.m.,*
in response to message #3 by M. Pollock (Canada)

Is it possible for you to contact the seller about this? Sometimes these battery packs are rebuilt by splitting the case and then gluing it back together, such that the pack is slightly thicker and becomes a very tight fit in the calculator. I have a few that are a bit tight and require a bit of force to open, however, I've always been able to open them without resorting to prying, which will cause some cosmetic damage.

Re: HP 25 Battery Cover Stuck?

*Message #5 Posted by **Randy** on 2 Apr 2011, 8:33 p.m.,*
in response to message #4 by Michael de Estrada

Pop out the top two rubber feet and remove the two Phillips screws underneath. Now, with the same Phillips you removed the screws with, push on either one of the two charger input pins and push the keyboard assembly out at the top. Now you can lift the electronics up and out leaving you with the battery and case back as one piece. Once that is complete, you can easily remove the battery.

Edited: 2 Apr 2011, 8:34 p.m.

Re: HP 25 Battery Cover Stuck?

*Message #6 Posted by **Michael de Estrada** on 2 Apr 2011, 9:57 p.m.,*
in response to message #5 by Randy

I've opened plenty of Woodstock cases with the battery pack removed, but never with one installed. Wouldn't the pressure of the battery terminals against the pcb contacts prevent you from separating the keyboard assembly from the case and battery pack?

Re: HP 25 Battery Cover Stuck?

*Message #7 Posted by **Geoff Quickfall** on 3 Apr 2011, 3:19 a.m.,*
in response to message #6 by Michael de Estrada

As usual, Randy is absolutely correct. Simple undo the screws and gently push the contacts so that they clear the case internally.

I have had a few 'stuck' battery packs on the woodstocks.

Geoff

Re: HP 25 Battery Cover Stuck?

*Message #8 Posted by **M. Pollock (Canada)** on 3 Apr 2011, 8:40 a.m.,*
in response to message #7 by Geoff Quickfall

Thank you everyone for your help. I'll give it a try.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34s Functionality Poll

*Message #1 Posted by **Paul Dale** on 2 Apr 2011, 5:29 a.m.*

It looks like there is a small amount of flash free after all the current functions are included plus a couple of extras recently finished. So we're taking suggestions as to what should be included. There is no guarantee that anything specific will go in of course. There isn't even a guarantee that we'll add anything else.

We've recently added additional statistics and a very simple TVM equation. We will likely add a keyboard poll routine.

Things that aren't going to be possible, so don't bother suggesting these:

- User writable flash based storage - there isn't a clear page.
- I/O commands - there is none on the device.
- Financial commands - we've got a TVM command and quite a few percentages already and that is enough. This is a scientific calculator not a business one.
- Cannot use any RAM storage - persistent RAM is full and there isn't any spare.

What we do have implemented already and thus are easy to add are:

1. **AGM** - The limit of the arithmetic / geometric mean. Defined in both reals and complex versions.
2. **Riemann's Zeta function** - Defined for both real and complex argument.
3. **Digamma (Psi)** - The digamma function d/dx Ln(Gamma(x)). Defined for both real and complex arguments.
4. **Jacobi's Elliptical Functions** - SN, CN & DN defined for real and complex arguments.
5. **Bessel Functions (real)** - J_n, I_n, Y_n & K_n. Real order and argument. I've separated the real from the complex here since these functions are quite large and the complex versions aren't working yet.
6. **Bessel Functions (complex)** - J_n, I_n, Y_n & K_n. Complex order and argument. I've separated the real from the complex here since these functions are quite large and the complex versions aren't working yet.
7. **Fused Multiply Add** - A single operation that returns X*Y+Z correctly rounded in the last digit. Defined for real arguments only. This operation can be done using a complex multiplication but less nicely.
8. **Cubes** - Cube root of X and X^3. The cube root correctly handles negative values unlike 3 1/x y^x. Defined for real and complex arguments as well as in integer mode.
9. **x!!** - The double factorial function defined for real and complex argument.
10. **!n** - The subfactorial or derangement function defined for integer real arguments only.
11. **Easter** - Given a year or date, return the date of Easter for that year.

The only other piece of functionality that can be easily included is to add a Ridder's Step into the solver. The solver

uses a variation of Brent's Method and I didn't notice any improvement by adding Ridder's Step in the little testing I undertook.

Feel free to suggest other functions or capabilities (or better submit code for them).

We can also add keystroke programs to flash and these are generally fairly code dense. If people have pet programs of this nature, feel free to port them to the 34s and submit the code. There are fifteen hidden flags (00-14) and five hidden registers (00-04) that flash based programs can use freely without disturbing user programs. Flash based programs can optionally take a user label as an argument and can call back to this user code -- this being how solve and integrate are implemented.

- Pauli

edit: added note that RAM is full

Edited: 2 Apr 2011, 5:23 p.m. after one or more responses were posted

Re: WP-34s Functionality Poll

*Message #2 Posted by **Namir** on 2 Apr 2011, 5:45 a.m.,*
in response to message #1 by Paul Dale

I suggest the following functions:

1. Legendre polynomials.

2. Lauguerre polynomials.

3. Hermite polynomials.

4, Chebyshev polynomials.

5. Gauss–Laguerre quadrature (from 0 to infinity).

6. Gauss-Chebyshev quadrature (from minus infinity to plus infinity).

Namir

Edited: 2 Apr 2011, 5:47 a.m.

Re: WP-34s Functionality Poll

*Message #3 Posted by **David Hayden** on 2 Apr 2011, 8:35 a.m.,*
in response to message #1 by Paul Dale

I haven't been following the 34s as closely as I'd like, so I don't know if you have onboard help. If not, this might be a good thing to add.

But mostly, I would leave the space empty so there's room for future bug fixes.

Dave

Re: WP-34s Functionality Poll

*Message #4 Posted by **Marcus von Cube, Germany** on 2 Apr 2011, 11:33 a.m.,*
in response to message #3 by David Hayden

We're talking of kilobytes not megabytes. ;)

No, help will certainly not be on the machine. The display is just too limited.

Re: WP-34s Functionality Poll

*Message #5 Posted by **Maarten Ambaum (Reading, UK)** on 2 Apr 2011, 9:17 a.m.,*
in response to message #1 by Paul Dale

Hi Pauli,

I haven't studied the current 34s functionality yet, but are date calculations (as in the DATE menu on the 30b) included? This I find useful (and fun).

Out of the suggestions you put forward, I'd go for the Bessel functions.

Maarten

Re: WP-34s Functionality Poll

*Message #6 Posted by **Walter B** on 2 Apr 2011, 12:02 p.m.,*
in response to message #5 by Maarten Ambaum (Reading, UK)

Hi Maarten,

Date calculations featured: DATE, DAY, DATE+, [Delta]DAYS, etc. Please read the documentation contained in the zipped package found here d8-) for full information.

Walter

Re: WP-34s Functionality Poll

*Message #7 Posted by **Paul Dale** on 2 Apr 2011, 4:36 p.m.,*
in response to message #6 by Walter B

And conversion to and from Julian day numbers.

And date of Easter if enough people want it :-)

- Pauli

Re: WP-34s Functionality Poll

*Message #8 Posted by **Dieter** on 3 Apr 2011, 10:38 a.m.,*
in response to message #7 by Paul Dale

The date routines only work for Gregorian Dates (i.e. since 15-Oct-1582). Adding Julian calendar support (by assuming a proleptic Julian calendar for every earlier date) is virtually no effort. Common algorithms handle years down to -4712. Various methods can be found on this Website. Readers interested in the basics of calendar calculations start here.

Another option is a general calendar flag (similar to the date mode setting) that switches between the Gregorian and Julian calendar - which is still used in some parts of the world.

This example is one of the reasons why I think the WP34s does not need *more* functions, but *better*

implementations instead.

Dieter

Edited: 3 Apr 2011, 10:55 a.m.

Re: WP-34s Functionality Poll

*Message #9 Posted by **Walter B** on 3 Apr 2011, 12:35 p.m.,*
in response to message #8 by Dieter

Hallo Dieter,

> Quote:
>
> Another option is a general calendar flag (similar to the date mode setting) that switches between the Gregorian and Julian calendar - which is still used in some parts of the world.

I count this as your suggestion.

> Quote:
>
> This example is one of the reasons why I think the WP34s does not need *more* functions, but *better implementations* instead.

Where's the beef? What do you want implemented differently?

Walter

Re: WP-34s Functionality Poll

*Message #10 Posted by **Dieter** on 3 Apr 2011, 2:30 p.m.,*
in response to message #9 by Walter B

Hallo, Walter -

> Quote:
>
> I count this as your suggestion.

The addition of earlier dates than 15-Oct-1582, yes. The calculator should be able to handle dates both before and after this date. So that, for example, ddays(4.10.1582, 15.10.1582) will return 1 in Gregorian mode and 11 in Julian mode.

> Quote:
>
> Where's the beef? What do you want implemented differently?

There are issues with some functions regarding numeric accuracy. I expect a quality calculator to return results within 1 ULP. Otherwise this has to be documented and the result should be rounded to the number of actually valid digits. Back in the Seventies, my first calculator could evaluate all transcendent functions to not more than 5 significant digits.

So it returned lg 2 as "0,30103" - and not one single digit more. At least an honest answer. It didn't pretend to be more precise than it actually was. ;-)

I haven't checked all more or less exotic functions on the 34s, but I took a closer look at the normal distribution. With 39 internal digits a 16-digit result should be no major problem, even with the quantile function. Right now this function returns good results in the far tails (the values I checked were correct within 1 ULP), but there is a problem with common values in the range p = 0,01 ... 0,2. Here, the emulator sometimes requires up to one whole second (!) on a 1,8 GHz system before it returns a result with not more than 11-12 valid digits:

```
   p        exact z-quantile           WP34s result
0,01    -2,326 3478 7404 0841   -2,326 3478 7404 0841  so far,
0,03    -1,880 7936 0815 1251   -1,880 7936 0815 1251  so good. ;-)
0,05    -1,644 8536 2695 1473   -1,644 8536 2697 9906  but then...
0,10    -1,281 5515 6554 4600   -1,281 5515 6554 8626
0,15    -1,036 4333 8949 3790   -1,036 4333 8949 4112
0,20    -,8416 2123 3572 9142   -,8416 2123 3574 9220
```

The problem already starts with the simple CDF:

```
   x        exact CDF                 WP34s result
-0,5    3,085 3753 8725 9869 E-1   3,085 3753 8726 0659 E-1
-0,8    2,118 5539 8583 3967 E-1   2,118 5539 8583 5966 E-1
-1,0    1,586 5525 3931 4571 E-1   1,586 5525 3932 2540 E-1
-1,5    6,680 7201 2688 5807 E-2   6,680 7201 2717 4097 E-2  (!)
-2,0    2,275 0131 9481 7921 E-2   2,275 0131 9481 7921 E-2
```

I also tried some calculations with Student's distribution - with similar results.

```
   p    df     exact t-quantile          WP34s result
0,01     3   -4,540 7028 5856 8134    -4,540 7028 5856 8325
0,05     5   -2,015 0483 7333 3024    -2,015 0483 7333 3021
0,10     5   -1,475 8840 4882 4481    -1,475 8840 4882 4385


   t    df     exact CDF                 WP34s result
-1       5   0,1816 0873 3824 5613    0,1816 0873 3823 9048
-2       7   0,0428 0966 4281 48803   0,0428 0966 4281 48889
```

So the precision is something between 10 and 16 digits. I just noticed that the latest 34s-version uses only the displayed 12 digits when "copy number" is used (instead of all 16 before). This makes some sense... ;-)

Dieter

Edit: correction because of cdf and pdf confusion. ;-)

Edited: 4 Apr 2011, 2:28 p.m. after one or more responses were posted

Re: WP-34s Functionality Poll

*Message #11 Posted by **Paul Dale** on 3 Apr 2011, 6:01 p.m.,*
in response to message #10 by Dieter

I'm wondering how bad these values really are.

For the values I tested, applying the cdf to the answer comes back to the initial value within a couple of ULP and in many cases back to the exact initial value.

- Pauli

Re: WP-34s Functionality Poll

*Message #12 Posted by **Dieter** on 4 Apr 2011, 2:20 p.m.,*
in response to message #11 by Paul Dale

Yes, that's exactly the point: there are errors both in the CDF and its inverse. If the inverse (quantile) is calculated by the solver, it *has to* return an erroneous result, because it *thinks* it has found the correct inverse, since the CDF of the current root indeed returns the expected probability (and not the correct value, slightly off).

Example:

```
    Exact normal quantile for p = 0,1:
          z = -1,281 5515 6554 4600
    Normal CDF for this value on WP34s:
     =>   p =  0,1000000000007065
    Which makes the solver think it has to correct the already exact
z-result.


    Actually the CDF is (almost) exactly 0,1:
          p =  0,1  (+8E-17)


    On the 34s only the "wrong" value
          z = -1,281 5515 6554 8626
    returns the same nearly-exact
          p =  0,1  (-7E-17)
```

In other words, most of the inaccuracies (not all) should be gone once the CDF is computed correctly.

Pauli, please forgive me if I'm a bit picky here. I really appreciate all your (and Walter's) effort for the WP34s project. But all I want is a calculator that returns correct results. :-)

Dieter

Edited: 4 Apr 2011, 2:25 p.m.

Re: WP-34s Functionality Poll

*Message #13 Posted by **Paul Dale** on 4 Apr 2011, 6:59 p.m.,*
in response to message #12 by Dieter

> Quote:
>
> Yes, that's exactly the point: there are errors both in the CDF and its inverse. If the inverse (quantile) is calculated by the solver, it *has to* return an erroneous result, because it *thinks* it has found the correct inverse, since the CDF of the current root indeed returns the expected probability (and not the correct value, slightly off).

Drat, I thought I'd fixed the normal cdf problems :-(Obviously not quite yet.

Even if the cdf was correct, there will still be problems with the qf. The inversion maps p in the range 0, 1 onto x in the range -infinity, infinity. There must be multiple floating point values of x that map from the same p simply because there are more values of x than p.

> Quote:

> Pauli, please forgive me if I'm a bit picky here. I really appreciate all your (and Walter's) effort for the WP34s project. But all I want is a calculator that returns correct results. :-)

No, keep it up. This is the best way to identify and fix problems :-)

- Pauli

Re: WP-34s Functionality Poll

*Message #14 Posted by **Marcus von Cube, Germany** on 5 Apr 2011, 2:18 a.m.,*
in response to message #13 by Paul Dale

It's the main point of having ported the Windows emulator from the SDK over to wp34s: Attract more testers to find bugs or get their opinions.

Re: WP-34s Functionality Poll

*Message #15 Posted by **Dieter** on 6 Apr 2011, 5:22 p.m.,*
in response to message #13 by Paul Dale

I think the major problem here is the general common approach that's used for different distributions, not only for the Normal case. If I remember correctly, some time ago you said the Normal integral as well as some other CDFs are treated as a special case of some kind of Beta function, and for the inverse the solver is used.

Obviously the CDF is not evaluated exactly enough to get near machine precision. On the other hand, at least for the normal distribution the CDF can be computed with arbitrary precision - fast and with little memory usage. I tried the usual two algorithms (cf. Abramowitz and Stegun 26.2.11 for the center and 2.26.14 for the tails) on the emulator and the results are mostly within 1 ULP when rounded to 15 significant digits. With a working precision of 20 digits a full 16-digit result is no problem at all.

There are also fast and precise ways to determine the inverse. If the classic approach (three (7;7) rational approximations) is not possible the value can be evaluated to 9 digits with an additional Newton step, which is trivial since we know the CDF's derivative, i.e. the PDF.

However, using the solver should not be a problem here. First, the equation to solve for x can be ln(x) = ln(p), as discussed before. This requires at least three guard digits, so we're already on the safe side when we use the proposed 20 internal digits (39 are fine, but not necessary).

You said there will be a problem with the inverse since it maps the]0; 1[range to]-inf, +inf[: *"There must be multiple floating point values of x that map from the same p simply because there are more values of x than p."* Well, this is also true for functions like arcsin or arccos. ;-)

For most values of p using the solver should return the correct result. Consider this example:

```
    p =  1 E-99
 => x = -21,16 5179 3439 3891 1286 9902 2340 ...
```

If this value, rounded to 16 digits, is fed back into the CDF routine, the correct result is

```
    x = -21,16 5179 3439 3891
 => p =   1,000 0000 0000 0027 E-99
```

If x is now increased only by 1 ULP, the CDF will change significantly:

```
    x = -21,16 5179 3439 3892
    p =  0,9999 9999 9999 8152 E-99
```

So the solver "knows" that the exact value is somewhere between these two adjacent x-values, and there simply is no 16-digit result which would return an exact 16-digit 1,000 0000 0000 0000 E-99. The closest possible result is -21,16 5179 3439 3891.

It can be shown that there is no problem with any x >= 1. Here, changing x by one ULP means that the CDF will change by more than 1,7 ULP, up to several hundred ULPs (like in the example). In other words: any change in x will result in a more or less even bigger change in the CDF. So the solver can be used.

The only problem are values where x < 1. Here in fact several x-values can return the same CDF. Right in the center even a difference in the first or second (!) significant digit of x makes no difference for the CDF. So here the solver will fail. However, it will work if the calculation can be done with twice the number if digits required in the final result, i.e. in this case with 32 digits.

Dieter

Re: WP-34s Functionality Poll

*Message #16 Posted by **Paul Dale** on 7 Apr 2011, 3:41 a.m.,*
in response to message #15 by Dieter

> Quote:
>
> If I remember correctly, some time ago you said the Normal integral as well as some other CDFs are treated as a special case of some kind of Beta function, and for the inverse the solver is used.

I'm using the regularised incomplete gamma function for the normal. The incomplete beta is used for the F and T distributions amongst others. I've had doubts about the implementation of these two for a while now.

We've also found a problem with using for solver for Chi squared distribution. I'm going to rework all these distributions so that the solver isn't used. It will consume a goodly amount of our remaining space but it should be worthwhile.

- Pauli

Re: WP-34s Functionality Poll

*Message #17 Posted by **Walter B** on 7 Apr 2011, 3:48 a.m.,*
in response to message #16 by Paul Dale

> Quote:
>
> It will consume a goodly amount of our remaining space but it should be worthwhile.

For sure it shall, though it will consume a good amount d;-)

Re: WP-34s Functionality Poll

*Message #18 Posted by **Paul Dale** on 7 Apr 2011, 6:31 a.m.,*
in response to message #15 by Dieter

I've recoded the normal CDF and it looks good now. Your examples above are all coming out correct to the last digit. The solver seems to work okay but the time to computer will likely be large. The new binary is in subversion on sourceforge but not properly released yet.

Now the rest of the distributions...

- Pauli

Re: WP-34s Functionality Poll

*Message #19 Posted by **Dieter** on 7 Apr 2011, 8:40 a.m.,*
in response to message #18 by Paul Dale

> Quote:
>
> I've recoded the normal CDF and it looks good now. Your examples above are all coming out correct to the last digit.

Fine. BTW, for those who need high precision values for various functions (or simply want to check the results of their algorithms without a Mathematica installation): try this service by an unnamed calculator manufacturer. ;-) The maximum precision is 50 digits.

> Quote:
>
> The solver seems to work okay but the time to computer will likely be large.

So the two initial guesses are somewhat off. There are various simple ways to fix this for the normal quantile:

- Determine a high-quality estimate by using a known approximation, such as the good old Hastings method (absolute error < 0,00045). Or, even better, the Bailey method (cf. Applied Statistics vol. 30 no. 3, 1981), or an improved version I

worked out some time ago. ;-) After this, a few Newton iterations will provide the exact quantile. Or, even better, two or three Newton-Halley steps, which is trivially simple here, giving about 2-3 times the number of correct digits with each step. Of course also the solver can be used instead.

- If the solver is used two quite good initial guesses can be evaluated this way:

```
0,5 >= p >= 0,15          0,15 >= p > 0
-----------------------------------------------
a = 3 * (0,5 - p)         a = sqrt(-2*ln(p) - e)
b = a * 5/6               b = a - 1/4
```

  The exact result is in this interval. The two guesses differ only by 20% resp. by merely 0,25 so that the solver will find the result fast with only a few iterations.

Addendum: I just tried the solver in a WP34s user program with the two initial guesses mentioned above, solving for the root of the equation ln 1 + (cdf(x)-p)/p to avoid problems in the far tails, using the ln1+x function. The results are returned immediately and the values I checked show about 15 valid digits (out of the 16 used for all calculations).

Dieter

Edited: 7 Apr 2011, 9:09 a.m.

Re: WP-34s Functionality Poll

*Message #20 Posted by **Walter B** on 7 Apr 2011, 3:11 p.m.,*
in response to message #19 by Dieter

Hallo Dieter,

> Quote:
>
> BTW, for those who need high precision values for various functions (or simply want to check the results of their algorithms without a Mathematica installation): try this service by an unnamed calculator manufacturer. ;-) The maximum precision is 50 digits.

Great link. Thanks :-)

Walter

Re: WP-34s Functionality Poll

*Message #21 Posted by **Paul Dale** on 7 Apr 2011, 5:47 p.m.,*
in response to message #19 by Dieter

> Quote:
>
> BTW, for those who need high precision values for

> various functions (or simply want to check the results of their algorithms without a Mathematica installation): try this service by an unnamed calculator manufacturer. ;-) The maximum precision is 50 digits.

I use Wolfram alpha which seems to be Mathematica in disguise.

- Pauli

Re: WP-34s Functionality Poll

*Message #22 Posted by **Paul Dale** on 8 Apr 2011, 7:38 p.m.,*
in response to message #19 by Dieter

> Quote:
>
> If the solver is used two quite good initial guesses can be evaluated this way:
>
> ```
>     0,5 >= p >= 0,15          0,15 >= p > 0
>     ----------------------------------------
> -------
>     a = 3 * (0,5 - p)         a = sqrt(-
> 2*ln(p) - e)
>     b = a * 5/6               b = a - 1/4
> ```

This works wonderfully. I've modified the normal quantile function to start with these guesses and convergence to full precision is a matter or ten or so iterations everywhere except at the very extremes.

I've also fixed up the solver based quantile functions for the chi^2, t, f, binomial and Poisson distributions. Although the initial estimates here aren't very good so convergence isn't always quick. If anyone can suggest decent initial values for these distributions, it would be appreciated.

- Pauli

Re: WP-34s Functionality Poll

*Message #23 Posted by **Dieter** on 10 Apr 2011, 11:13 a.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> This works wonderfully. I've modified the normal quantile function to start with these guesses and convergence to full precision is a matter or ten or so iterations...

Fine. Although it should take less than ten iterations. ;-)

> Quote:

> ...everywhere except at the very extremes.
>
> ---

The mentioned formulas for the two initial guesses are very simple. But they approximate the exact value with a relative error less than 20% resp. an absolut error less than 0,25. With a little more effort we can easily provide two better guesses which can nail down the true value with an absolute error in the order of 10^-5 to 10^-8 (!) in the far tails (p =< 10^-10). This is possible because here the quantile can be evaluated by a series - the farther out in the tail, the less terms are required, especially with a little tweaking of the "exact" series. ;-) So it comes down to the question how much effort (and memory) can be spent for two even better initial guesses which would require, say, only 1/2 or 1/3 the number of iterations.

Here's a quick and dirty improvement for the far tail. It's a slight modification of the original formula, now providing two guesses that are only 0,09 or even merely 0,025 apart:

```
    0,15 >= p > 0
    ------------------------
    a = sqrt(-2*ln(p) - e)
    b = a - 1/4
    if a >= 4,5 then a = a - 1/a ; b = a - 1/11
```

or, even better, but on a smaller interval:

```
    if a >= 9 then a = a - a^-(3/4) ; b = a - 1/40
```

On the other hand, in the very center (i. e. p close to 0,5 resp. z close to zero) using the solver will cause problems because there are multiple z-values that will return the same 16-digit CDF. I would suggest the following solution:

Near p = 0,5 the quantile can easily be calculated directly (!) by a simple series:

```
     u  =  sqrt(2*Pi) * (p - 0,5)
                1          7          127
4369          243649
     z  =  u +  -- u^3  +  -- u^5  +  --- u^7  +  -
--- u^9  +  ------ u^11  +  ...
                3!         5!          7!
9!           11!
```

The nominators of the coefficients are integer series A002067.

For 0,495...0,505 (or |u| =< 0,0125) an exact 16-digit results requires only four terms, i.e. up to u^7. With one more term (u^9) the result is exact for p = 0,486...514 (or |u| =< 0,035).

This leads to the following algorithm (assuming p =< 0,5):

```
    if p > 0,15 then
       u = sqrt(2*Pi) * (p - 0,5)
       a = u + (u^3)/6 + (u^5)*7/120 +
(u^7)*127/5040
       if p > 0,495
         then return a and quit   ; a already is
exact
         else
              b = a * 1,006
```

```
            return solverresult(a, b)
      end if
   else     ; p =< 0,15
      a = sqrt(-2 * ln(p) - e)
      b = a - 1/4
      if a >= 9 then   ; far tail
         a = a - a^-(3/4)
         b = a - 1/40
      end if
      return solverresult (a, b)
   end if
```

In other words: for p > 0,15 determine a very good first guess. If p is close enough to 0,5 this guess already is exact, so simply return it as the final result. Otherwise provide a second guess slightly higher and let the solver do the rest. Which is done very quickly since the error is less than 0,6%. In the tails determine two reasonably good guesses, and in the far tails two even better ones that reduce the remaining error by a factor of 10.

> Quote:
>
> I've also fixed up the solver based quantile functions for the chi^2, t, f, binomial and Poisson distributions. Although the initial estimates here aren't very good so convergence isn't always quick. If anyone can suggest decent initial values for these distributions, it would be appreciated.

For these distributions things are a bit more complicated, especially in those cases where there's more than one parameter.

Dieter

Edited: 10 Apr 2011, 11:48 a.m.

Re: WP-34s Functionality Poll

*Message #24 Posted by **Paul Dale** on 10 Apr 2011, 5:19 p.m.,*
in response to message #23 by Dieter

> Quote:
>
> Although it should take less than ten iterations.

Not to full precision it shouldn't :-) I could cut back the accuracy to a few more than the 16 digits we need if performance is lacking.

I'll have a look at your other suggestions, this function is used internally in a couple of places so making it faster is worth a bit more flash (but not a lot).

I've done approximations for the chi^2 and t distributions that aren't awful. For chi^2 I'm using one of the asymptotic normal approximation to provide bounds -- unfortunately not fantastically tight but better than nothing.

For t, I'm solving exactly for v=1 or 2 and using the v=2 estimate and the normal estimate as bounds for the search -- the result must lie in this range. I looked at using the exact v=4 solution but it seemed to be more effort than it was worth. These bounds are fairly tight around the middle of the distribution and become progressively looser at the far extremes.

Pauli

Re: WP-34s Functionality Poll

*Message #25 Posted by **Dieter** on 12 Apr 2011, 5:27 p.m.,*
in response to message #24 by Paul Dale

> Quote:
>
> I could cut back the accuracy to a few more than the 16 digits we need if performance is lacking.

No way! I got this off-brand RPN-calculator, probably a kind of Novus clone, that needs several seconds for all its inverse trig functions, before it finally displays a 12-digit result... with usually 10 valid digits. I think we can do better. ;-)

> Quote:
>
> I'll have a look at your other suggestions, this function is used internally in a couple of places so making it faster is worth a bit more flash (but not a lot).

There are several options. It is quite easy to set up a simple approximation for the normal quantile with a combination of elementary functions. I tried a slighty more sophisticated approach than before, resulting in a maximum absolute error near 0.02, approaching zero in the center and something close to 1E-4 for p < 1E-50. On the other hand a very simple rational approximation can be used, which requires only four 3-digit coefficients and returns a result with absolute error less than +/- 0.002 over the whole range from p = 0,5...1E-400. I think this is the preferred solution.

> Quote:

> I've done approximations for the chi^2 and t distributions that aren't awful. For chi^2 I'm using one of the asymptotic normal approximation to provide bounds -- unfortunately not fantastically tight but better than nothing.

Sorry, right now I got no idea for the Chi^2 case.

> Quote:
>
> For t, I'm solving exactly for v=1 or 2 and using the v=2 estimate and the normal estimate as bounds for the search -- the result must lie in this range. I looked at using the exact v=4 solution but it seemed to be more effort than it was worth. These bounds are fairly tight around the middle of the distribution and become progressively looser at the far extremes.

There are algorithms like the good old A396 which - with some small improvements - can give results with errors near 1E-6. This method requires a more or less precise estimate for the normal quantile, where 6 digits of z should be fine for a decent t-approximation. Afterwards the solver should find the exact value with just a few iterations.

Dieter

Re: WP-34s Functionality Poll

*Message #26 Posted by **Dieter** on 15 Apr 2011, 2:23 p.m.,*
in response to message #25 by Dieter

A few days ago I wrote:

> Quote:
>
> On the other hand a very simple rational approximation can be used, which requires only four 3-digit coefficients and returns a result with absolute error less than +/- 0.002 over the whole range from p = 0,5...1E-400. I think this is the preferred solution.

And here it is - I designed a rational approximation, hand crafted to meet our needs. ;-) It has the following properties:

- It works for probabilities down to 1E-500 or |z| up to 48.
- It requires only four numeric constants with just two or three significant digits.
- No special care has been taken of the center (z very close to zero) since here the exact quantile can be evaluated easily.
- It returns an estimate for |z| which is slightly high (in absolute terms). The absolute error is greater than 0,0001 and less than 0,0036. So this estimate and a second guess 0,0037 lower define an interval that definitely includes the exact quantile.

So the normal quantile can now be evaluated this way:

```
if p > 0,5
   then
      signflag = false
      q = 1 - p
   else
      signflag = true
      q = p
   endif
if q >= 0,495
   then  ; use series and determine exact
result
      t = (0,5 - q)^2 * 2 * Pi
      z = (127/5040*t + 7/120)*t + 1/6)*t
+ 1) * sqrt(t)
   else  ; use solver with two close
guesses a and b
      t = sqrt(-2 * ln(q))
      a = t - (0,373*t + 2,37)/((0,068*t +
1,1)*t + 1)
      b = a - 0,0037
      z = solver(a, b)
   endif
if signflag then z = -z
return z
```

And now for the t-quantile... ;-)

Dieter

Re: WP-34s Functionality Poll

*Message #27 Posted by **Paul Dale** on 7 Apr 2011, 6:57 a.m.,*
in response to message #10 by Dieter

Now I feel ashamed.

My implementation of the incomplete beta function terminated when successive terms were 1e-10 apart. Fixing this, and the T distribution matches your values.

This should follow over for the F and binomial distributions which are also special cases of the incomplete beta function.

Still, the inverses could do with some work to avoid the solver.

- Pauli

[edit: and a similar problem in the incomplete gamma function]

Edited: 7 Apr 2011, 7:36 a.m.

Re: WP-34s Functionality Poll

*Message #28 Posted by **Paul Dale** on 7 Apr 2011, 7:53 a.m.,*
in response to message #10 by Dieter

I think I've finally fixed the cdfs. A new version is in subversion but not released yet.

Now for the quantile functions without the solver.

- Pauli

Re: WP-34s Functionality Poll

*Message #29 Posted by **Paul Dale** on 3 Apr 2011, 5:52 p.m.,*
in response to message #8 by Dieter

> Quote:
>
> The date routines only work for Gregorian Dates (i.e. since 15-Oct-1582).

They are coded to work for Gregorian and Julian dates with a change over 2nd of September 1752 the next day being the 14th. This matches the Unix date command. They worked when I last checked them (which was quite a while ago).

What exactly isn't working?

- Pauli

Re: WP-34s Functionality Poll

*Message #30 Posted by **Dieter** on 4 Apr 2011, 1:57 p.m.,*
in response to message #29 by Paul Dale

Hi Pauli,

> Quote:
>
> They are coded to work for Gregorian and Julian dates with a change over 2nd of September 1752 the next day being the 14th.

Yes, indeed. I was quite sure that the last time I checked, dates before 1582-10-15 were rejected. Which made perfect sense to me. Sorry for the confusion, you're right.

However, the switch between Julian and Gregorian dates should be between 1582-10-04 and 1582-10-15. This is the official date of the calendar switch, initiated by pope Gregory XIII - cf. Wikipedia: *The last day of the Julian calendar was Thursday, 4 October 1582 and this was followed by the first day of the Gregorian calendar, Friday, 15 October 1582 (...).*

It is correct that the Gregorian calendar was only gradually adopted throughout the world, especially in Protestant regions it took a while before the new calendar was used. In Britain (including its American colonies) the switch indeed took place in September 1752, while

here in the Holy Roman Empire the Catholic parts of the country switched immediately in 1582, just as some South European countries, while others did so not before 1700. Japan followed in 1873 and Russia even continued to use the Julian calendar up to the 1920ies.

But if we have to set *one single* switch date, in my very humble opinion the only date that makes sense here is the 15th of October 1582, the official date mentioned in *Inter Gravissimas*. In this case the Julian day number for 1582-10-15 is 2299161, while the day before was 1582-10-04 with JD 2299160 (last day of the Julian calendar). The calendar algorithms I know of use this convention. OK, I don't know anything about Unix. ;-)

Dieter

Re: WP-34s Functionality Poll

*Message #31 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Apr 2011, 10:35 a.m.,*
in response to message #1 by Paul Dale

I have just played for a few moments with the emulator, and browsed the overwhelming manual. In my opinion, mathematical/scientific needs have been impressively covered, beyond limits; so in first place receive my congratulations.

Given the display limitations and, worse, the key legends / overlay pending solution, I would suggest to implement one of the most useful features of the HP41/42, regrettably absent from other models, as the 48/49/50 and 32/33 lines: NULL. Holding down a key causes the function name to be dispayed and, after a couple of seconds, the function is cancelled. Going further, hints to function syntax may even be displayed in some cases.

For me, it's a good thing to check what function I'm about to invoke and, if the function is not the intended one, have a simple manner to cancel it. This is mostly useful when the keyboard can be remapped, but it also helps when the legends are not very readable, or when you just made a mistake.

Other possible feature on the "convenience" side may be a welcome screen with programmable owner's name (it must be a short string, indeed) and telephone number, allowing international formats as "+54 90 1234-5678","11 22 33 44", and "(212) 123-4567". The welcome screen should last for a configurable interval (for instance, 0, 5 and 10 seconds); the name may be scrolled due to display limitations. Regrettably, owner's email may be difficult to display.

Both of these functions don't need their own keyboard space, which seems to be more valuable and scarce than Flash space.

Best regards.

(Please disregard idiomatic mistakes)

Edited: 2 Apr 2011, 10:36 a.m.

Re: WP-34s Functionality Poll

*Message #32 Posted by **Marcus von Cube, Germany** on 2 Apr 2011, 11:38 a.m.,*
in response to message #31 by Andrés C. Rodríguez (Argentina)

I have yet to create the keyboard code for the real hardware. The emulator doesn't provide "key released" so this option is some more work if it should be available on the emulator as well as the hardware. Isn't it a bit confusing that a function is only executed as the key is released? What about repeating keys, e. g. the arrows?

Re: WP-34s Functionality Poll

*Message #33 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Apr 2011, 2:13 p.m.,*
in response to message #32 by Marcus von Cube, Germany

Just some quick answers:

I don't think there is a serious problem if the emulator doesn't have the NULL option and the real hardware does.

In a calculator you don't have many auto-repeating keys, I can only think about Backspace and the up-down scrolling keys.

In normal use, there is no noticeable difference between functions executed on key press or on key release. Of course, a menu item may enable-disable this feature as per user preference.

Re: WP-34s Functionality Poll

*Message #34 Posted by **Walter B** on 2 Apr 2011, 12:26 p.m.,*
in response to message #31 by Andrés C. Rodríguez (Argentina)

Olá Andrés,

> Quote:
>
> I have just played for a few moments with the emulator, and browsed the overwhelming manual. In my opinion, mathematical/scientific needs have been impressively covered, beyond limits; so in first place receive my congratulations.

Muchas grazias! d:-)

> Quote:
>
> Given the display limitations and, worse, the key legends / overlay pending solution, I would suggest to implement one of the most useful features of the HP41/42, regrettably absent from other models, as the 48/49/50 and 32/33 lines: NULL. Holding down a key causes the function name to be dispayed and, after a couple of seconds, the function is cancelled. Going further, hints to function syntax may even be displayed in some cases.

Some syntax hints are displayed already, like on the HP 42S. I don't think we can go much further: the useable display space is very (!) limited indeed. Nevertheless, whenever you have ideas what may be displayed within 43x6 pixels, suggest it :-)

Personally, I think NULL is a good idea for the reasons you gave - and everybody can see it working on the 42S - but I'm not the HW guy in this project. I've experienced cases, however, where I'd wished NULL had been implemented already.

> Quote:
>
> Other possible feature on the "convenience" side may be a welcome screen with programmable owner's name (it must be a short string, indeed) and telephone number, allowing international formats as "+54 90 1234-5678","11 22 33 44", and "(212) 123-4567". The welcome screen should last for a configurable interval (for instance, 0, 5 and 10 seconds); the name may be scrolled due to display limitations.

We don't support scrolling yet - manual scrolling of alpha strings will come, automatic presumably not. Phone numbers may be displayed in the bottom line, but have a HW limit of 12 digits. So you better forget brackets, spaces and the like. Within these limits, almost everything is possible - see the extended character set provided d8-)

Walter

Re: WP-34s Functionality Poll

*Message #35 Posted by **Paul Dale** on 2 Apr 2011, 4:44 p.m.,*
in response to message #31 by Andrés C. Rodríguez (Argentina)

Nice suggestions.

You managed to hit one of the things I neglected to mention. Last time I checked, there were 12 bytes of RAM left & some of this will be required for the hardware drivers. So features that required extra storage are out.

This likely means no welcome message :-(

- Pauli

Edited: 2 Apr 2011, 5:21 p.m. after one or more responses were posted

Re: WP-34s Functionality Poll

*Message #36 Posted by **John B. Smitherman** on 2 Apr 2011, 5:16 p.m.,*
in response to message #35 by Paul Dale

Hello World!

Re: WP-34s Functionality Poll

*Message #37 Posted by **Marcus von Cube, Germany** on 2 Apr 2011, 5:27 p.m.,*
in response to message #35 by Paul Dale

We can display alpha or the contents of a user register on power up, if a flag is set.

Re: WP-34s Functionality Poll

*Message #38 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Apr 2011, 5:15 p.m.,*
in response to message #37 by Marcus von Cube, Germany

Using a flag (or timeout values of 0, 5 and 10 secs, for instance) to display ALPHA and a user register may be a good way to show a welcome message and a telephone number without using extra memory. It would be nice to have some format options for the phone number, because not all countries have the same number and grouping of digits. Usual number formats will be of little help. Of course, the limitations of memory and flash space are there, and quite restrictive.

Re: WP-34s Functionality Poll

*Message #39 Posted by **George Bailey (Bedford Falls)** on 4 Apr 2011, 2:43 a.m.,*
in response to message #38 by Andrés C. Rodríguez (Argentina)

I suppose, the welcome message is intended for people who **find** (not steel) the lost calculator, not to remind the owner of his own phone number. In this case I suggest to just stick a printed label on the back. At least this is what I do with items I'm likely to lose because it doesn't depend on a working battery. And thieves won't be held back by either.

I don't see why Easter date calculation should take up memory. Don't you guys have a calendar? ;)

I also would not rule out business functions for the reason of it being a scientific calculator. These would open a large market. Business people would not mind the scientific functions and scientific users could use them from time to time as an added bonus.

Edited: 4 Apr 2011, 2:48 a.m.

Re: WP-34s Functionality Poll

*Message #40 Posted by **Paul Dale** on 4 Apr 2011, 3:45 a.m.,*
in response to message #39 by George Bailey (Bedford Falls)

> Quote:
>
> I don't see why Easter date calculation should take up memory. Don't you guys have a calendar? ;)

And your calendar tells you when Easter was in 1903 or when it will be in 2013? :-)

> Quote:
>
> I also would not rule out business functions for the reason of it being a scientific calculator. These would open a large market. Business people would not mind the scientific functions and scientific users could use them from time to time as an added bonus.

We're taking a perfectly good HP-30b and replacing its business functionality with scientific. Why would any business person want to do this? Any business functionality we add will pale in comparison to the original and the 30b has basic scientific support for those that require it.

- Pauli

Re: WP-34s Functionality Poll

*Message #41 Posted by **George Bailey (Bedford Falls)** on 4 Apr 2011, 5:06 a.m.,*
in response to message #40 by Paul Dale

Re: Easter

Sure, it might be a nice to have for some people (although I don't really see why one would need to find out the Easter date of 1903 **on a calculator**), if you have plenty of memory available! But if you don't, Easter would be the first to go IMHO.

Re: Business functions

There you have a point!

Re: WP-34s Functionality Poll

*Message #42 Posted by **Norman Dziedzic** on 4 Apr 2011, 8:41 a.m.,*
in response to message #40 by Paul Dale

Re: Easter

Aren't there sometimes two different dates for Easter?

For instance next year, western Easter is April 8th but eastern (orthodox) Easter is April 15th.

Seems like more confusion than it's worth.

Re: WP-34s Functionality Poll

*Message #43 Posted by **George Bailey (Bedford Falls)** on 5 Apr 2011, 2:02 a.m.,*
in response to message #42 by Norman Dziedzic

There are almost always different Easter dates for western and orthodox churches. Even if you would implement both functions, you still would have to accommodate Jewish and Muslim users with their even more different date calculation needs... ;)

But as I learned above, it is a purely scientific and not a business machine. Why would it need religious functions at all?

Edited: 5 Apr 2011, 2:03 a.m.

Re: WP-34s Functionality Poll

*Message #44 Posted by **Paul Dale** on 5 Apr 2011, 3:48 a.m.,*
in response to message #43 by George Bailey (Bedford Falls)

I suspect the likelihood of the Easter command being included it pretty close to zero, so we needn't worry ourselves.

- Pauli

Re: WP-34s Functionality Poll

*Message #45 Posted by **Namir** on 2 Apr 2011, 1:03 p.m.,*
in response to message #1 by Paul Dale

Can you implement relational tests that compare the X and Y stack registers and SKIP TWO STEPS steps if the relation is false? I suggest the syntax to include TWO question marks, such as:

X=Y?? will skip two steps if X and Y are unequal.

X=Y? The current version that skips the next step if X and Y are unequal

I have come across many cases where I need to execute two steps if a relation is true. The suggested syntax will save using labels.

Example:

```
X#Y??
```

```
1
-
STO 0
...
```

As opposed to

```
X=Y?
GTO 1
1
-
LBL 1
STO 0
...
```

Namir

Edited: 2 Apr 2011, 1:10 p.m.

Re: WP-34s Functionality Poll

*Message #46 Posted by **Marcus von Cube, Germany** on 2 Apr 2011, 1:23 p.m.,*
in response to message #45 by Namir

Next, you will want us to treat numbers (not digits) as a single step. Don't hold your breath!

There are the commands BACK and SKIP which are originally meant for the internal keystroke routines only but appear in a catalogue and can be used freely.

Edited: 2 Apr 2011, 1:30 p.m.

Re: WP-34s Functionality Poll

*Message #47 Posted by **Dieter** on 2 Apr 2011, 3:38 p.m.,*
in response to message #45 by Namir

Yes, skipping two steps after a test would be nice. Or three steps, or four... ;-)

There are occacions where a "real", structured programming language has its advantages. But I don't think we will see much of this in the more assembler-like approach in an RPN calculator.

BTW - the problem you mentioned can be solved easily:

```
X#Y?              STO 01
DEC X     or      X#Y?
STO 01            DEC 01    ; leaves X unchanged
```

Yes, I like these INC and DEC commands. I already liked them 30 years ago on the TI58/59 with their OP 20..29 and OP 30...39. *g,d&r* ;-)

Dieter

Re: WP-34s Functionality Poll

*Message #48 Posted by **Paul Dale** on 2 Apr 2011, 4:51 p.m.,*
in response to message #47 by Dieter

> Quote:
>
> Yes, I like these INC and DEC commands.

Me too. They are a surprisingly recent addition and I'm finding I'm using them quite a bit already.

As for the initial question, negate the condition and use SKIP is the best solution.

I'm sorely tempted to expose some of the internal commands more freely:

- **SKIP nn** - Skip ahead nn steps.
- **BACK nn** - Skip back nn steps.
- **RTN+1** - Return from subroutine with a skip.

The first two are pretty useful to save labels and code space at the cost of uneditability. The third one is great for making your own conditional tests.

- Pauli

Edited: 2 Apr 2011, 4:53 p.m.

Re: WP-34s Functionality Poll

*Message #49 Posted by **Namir** on 2 Apr 2011, 7:12 p.m.,*
in response to message #48 by Paul Dale

The BACK and SKIP commands should do instead of the multi-step-skip conditionals that I suggested.

Namir

Re: WP-34s Functionality Poll

*Message #50 Posted by **Norman Dziedzic** on 2 Apr 2011, 5:43 p.m.,*
in response to message #1 by Paul Dale

My simple request would be to have the three decimal setting modes SCI/FIX/ENG automatically exit from FRACTION mode. I know the 32SII does this.

Re: WP-34s Functionality Poll

*Message #51 Posted by **Paul Dale** on 2 Apr 2011, 5:51 p.m.,*
in response to message #50 by Norman Dziedzic

> Quote:
>
> My simple request would be to have the three decimal setting modes SCI/FIX/ENG automatically exit from FRACTION mode. I know the 32SII does this.

This is more like a bug than a new feature. It will be done in the next release.

- Pauli

Re: WP-34s Functionality Poll

*Message #52 Posted by **Paul Guertin** on 2 Apr 2011, 7:53 p.m.,*
in response to message #1 by Paul Dale

I don't know if this is easy or hard to add, but how about Stirling numbers and partition numbers? This would

appeal to students and users of discrete math.

Paul Guertin

Re: WP-34s Functionality Poll

*Message #53 Posted by **gene wright** on 3 Apr 2011, 10:34 p.m.,*
in response to message #1 by Paul Dale

1) How about some extra statistics, if these aren't in already.

Covariance, standard error of the X and Y mean.

2) Of the ones already written, I'd like to see the Bessel functions and the double factorial.

But those are getting VERY picky on my part. :-)

Re: WP-34s Functionality Poll

*Message #54 Posted by **Walter B** on 4 Apr 2011, 1:19 a.m.,*
in response to message #53 by gene wright

> Quote:
>
> Covariance, standard error of the X and Y mean.

The latter two are in already, and standard error of weighted mean as well 8)
COV is a no-brainer - thanks for your suggestion - we missed that so far :)

Walter

Re: WP-34s Functionality Poll

*Message #55 Posted by **Erturk Kocalar** on 4 Apr 2011, 2:25 a.m.,*
in response to message #1 by Paul Dale

If not too late, you can add this:

casio calculators (I have f9860g slim) has a mode where it is scientific but uses & accepts the greek alphabets to denote the 10^x part. for example. in electrical engineering, you can do 5V / 5k and you get the result in mA (5 / 5k = 1m).

I find it very useful especially in the lab, calculating stuff. I dont think hp calculators have that.

thanks, erturk

Re: WP-34s Functionality Poll

*Message #56 Posted by **Walter B** on 4 Apr 2011, 7:13 a.m.,*
in response to message #55 by Erturk Kocalar

Not that k and m look really Greek to me ;-) I understand what you want: kind of a special ENG mode with at least a part of the full line

```
 a   f   p   n   µ   m     k   M   G   T   P
-18 -15 -12 -9  -6  -3  0  3   6   9  12  15
```

I don't think any further prefixes became popular yet. So beyond P and below a the normal ENG mode would rule.

With the LCD given, however, and only 7 segments in the numeric section, displaying M in the exponent may look a bit strange, and I don't have any solution for m nor for differentiating P and p :-(So, sorry, I'd suggest a paper strip attached above of the display d:-)

Walter

Re: WP-34s Functionality Poll

*Message #57 Posted by **Paul Dale** on 4 Apr 2011, 7:15 a.m.,*
in response to message #56 by Walter B

> Quote:
>
> I don't think any further prefixes became popular yet. So beyond P and below a the normal ENG mode would rule.

'c' is quite popular :-) It doesn't fit ENG mode.

At one stage, I did suggest some SI prefix constants/commands to do the multiply by the appropriate power of ten. It didn't make the cut.

- Pauli

Re: WP-34s Functionality Poll

*Message #58 Posted by **Walter B** on 4 Apr 2011, 8:48 a.m.,*
in response to message #57 by Paul Dale

> Quote:
>
> 'c' is quite popular

Sharing my habitat with these units, I can tell you cm is the only really popular. And for beverages, you see cl on the jars. And that's it. But people understanding cm and cl understand mm and ml as well, so no need for an exception here. And those not understanding don't care either way.

Walter

Re: WP-34s Functionality Poll

*Message #59 Posted by **Andrés C. Rodríguez (Argentina)** on 4 Apr 2011, 8:05 a.m.,*
in response to message #56 by Walter B

Not for the WP-34S, but we may consider that, after P (peta) comes E (Exa). Certainly it would not fit, and an "E" may even be confusing with the "exponent" abbreviation for scientific notation. Oh , and now we have the "IT" prefixes like Ki (2^10), Mi (2^20) and so on. At least we don't have binary subunits!!

Re: WP-34s Functionality Poll

*Message #60 Posted by **Andrew H.** on 7 Apr 2011, 12:05 a.m.,*
in response to message #1 by Paul Dale

Paul,

My suggestion is the 'two-sided' inverse chi-square cumulative distribution function (to calculate confidence intervals for the variance and standard deviation).

Take example 1 on p. 18-34 of the HP 50g User's Guide (which is wrong).

'Determine the 95% confidence interval for the population variance σ² based on the results from a sample of size n = 25 that indicates that the sample variance is $s^2 = 12.5$.'

The calculator would return two values, a = 12.79 and b = 40.38 (NOT a = 12.40 and b = 39.36 as given in the User's Guide), such that the integral from a to b of f(x), the chi-square probability density function, is 0.95 and that of x.f(x) is 24 (the number of degrees of freedom). The second criterion produces an 'unbiased' confidence interval that matches the unbiased estimator s^2. An equivalent criterion is that the integral from a to b of f(x) with an additional two degrees of freedom (i.e. 26) is also 0.95.

The confidence interval is then (7.43, 23.45).

Andrew

PS The work you have done is just outstanding.

Re: WP-34s Functionality Poll

*Message #61 Posted by **Walter B** on 7 Apr 2011, 1:15 a.m.,*
in response to message #60 by Andrew H.

Hi Andrew,

> Quote:
>
> My suggestion is the 'two-sided' inverse chi-square cumulative distribution function (to calculate confidence intervals for the variance and standard deviation).

Good idea. I'll check.

Walter

Re: WP-34s Functionality Poll

*Message #62 Posted by **Walter B** on 7 Apr 2011, 12:03 p.m.,*
in response to message #61 by Walter B

Andrew,

please apologize the long response time, but your question helped us unveiling a bug. Now here we go:

> Quote:
>
> 'Determine the 95% confidence interval for the population variance σ² based on the results from a sample of size n = 25 that indicates that the sample variance is $s^2 = 12.5$.'

Pedestrian's approach: 24 degrees of freedom, lower Chi^2 for 2.5% probability, upper Chi^2 for 97.5%.

Start WP 34S in FIX 2 mode (you can't do the following yet due to a bug in chi^2INV, but soon you will):

```
24 STO J
.025 chi^2INV  ;returns 12.40 (access this function via PROB ^ XEQ)
/
12.5
x              ;returns 7.62 as lower limit
RCL L
RCL J
x
.975 chi^2INV  ;returns 39.36
/              ;returns 24.19 as upper limit
```

d8-)

IMHO the values given in the 50G manual are correct. Anyway, you suggest a function taking inputs of variance, probability, and degrees of freedom, and returning the limits of the confidence interval. For sake of equal opportunities, we shall then have similar functions for standard deviations and mean values. And other people may prefer single-sided limits. Eventually we'd have a whole bunch of special commands, where IMHO the look up time would exceed the time saved compared with keying in the formula directly. It's really easy as shown above. I'd prefer having a small routine for this task when I need such results frequently, assigned to one of the hotkeys. YMMV.

Walter

Re: WP-34s Functionality Poll

*Message #63 Posted by **Andrew H.** on 7 Apr 2011, 7:20 p.m.,*
in response to message #62 by Walter B

Walter,

Your response time is an order of magnitude better than mine. In helping you find a bug, at least I've made a small contibution to your work.

I'm not sure whether you are referring to the arithmetic or to the methodology in the HP 50g User's Guide. The arithmetic, as you have shown, is correct; the methodology is not.

An edge case will demonstrate why.

Let's change the example to calculate a 0% confidence interval, which must be [12.5, 12.5] because the confidence interval must contain the point estimator. According to the methodology of the User's Guide, the confidence interval would be [12.4998, 12.4998], which cannot be correct (although it is a very good approximation). The error arises from basing the confidence interval on the median instead of on the mean.

This only becomes relevant when calculating two-sided confidence intervals for asymmetric distributions, which excludes the normal and Student's t-distribution, leaving the chi-square and F-distributions, and I'm not sure there is any requirement to calculate two-sided confidence intervals for the F-distribution. Consequently, this would only need to be implemented for the chi-square distribution.

The function would take two inputs, the number of degrees of freedom (e.g. 24) and the size of the confidence interval (e.g. 0.95), and return two outputs, the lower and upper boundaries of the confidence interval (e.g. 12.79 and 40.38), which is different from combining the results for the

lower and upper tails (e.g. 12.40 and 39.36) as you have done.

Andrew

Re: WP-34s Functionality Poll

*Message #64 Posted by **Walter B** on 8 Apr 2011, 5:38 a.m.,*
in response to message #63 by Andrew H.

Andrew,

> Quote:
>
> The function would take two inputs, the number of degrees of freedom (e.g. 24) and the size of the confidence interval (e.g. 0.95), and return two outputs, the lower and upper boundaries of the confidence interval (e.g. 12.79 and 40.38) ...

IMHO the function needs the point estimator, too, so three inputs. Anyway, please explain how you get 12.79 and 40.38.

Walter

Edited: 8 Apr 2011, 5:41 a.m.

Re: WP-34s Functionality Poll

*Message #65 Posted by **Andrew H.** on 8 Apr 2011, 8:29 p.m.,*
in response to message #64 by Walter B

Walter,

Thanks for your patience.

Let me run you through the steps. I used Excel to calculate the values, so I'll use Excel functions in what follows.

1. We're seeking a 95% two-sided confidence interval, which implies that CHIDIST(a, 24) – CHIDIST(b, 24) = 0.95, where a and b are the values from which we'll calculate the upper and lower bounds of the confidence interval respectively.

2. There are an infinite number of pairs of values (a, b) that meet this criterion, so we need a further criterion by which to choose the best one. We do this by noting that S^2 is an unbiased estimator, i.e. $E(S^2) = \text{sigma}^2$, because the mean of the chi-square distribution is equal to the number of its degrees of freedom (24 in this case). Consequently, we choose the best interval to be the one that is unbiased. The unbiased interval will be the one such that the integral from a to b of x.f(x).dx, where f(x) is the chi-square probability density function, is equal to the number of degrees of freedom of f(x). This is equivalent to the additional criterion that CHIDIST(a, 24 + 2) – CHIDIST(b, 24 + 2) = 0.95 (i.e. the number of degrees of freedom increases by 2).

As an aside, S^2 is the maximum-likelihood estimator of sigma^2, and the unbiased interval is also the interval of maximum likelihood.

3. Iteration using Excel yields a = 12.79 and b = 40.38.

4. Checking against our criteria yields:

CHIDIST(12.79, 24) – CHIDIST(40.38, 24) = 0.9695 – 0.0195 = 0.9500; and

CHIDIST(12.79, 26) – CHIDIST(40.38, 26) = 0.9858 – 0.0358 = 0.9500.

Note that calculating a and b does not depend on s^2, so a function to determine a and b would not require s^2 (12.5) as an input.

5. We can now calculate the upper and lower bounds of the confidence interval:

Upper bound = 24 * 12.5 / 12.79 = 23.45; and

Lower bound = 24 * 12.5 / 40.38 = 7.43.

Note that this step is the same as in the HP 50g User's Guide, except that the values are different.

Andrew

Re: WP-34s Functionality Poll

*Message #66 Posted by **Paul Dale** on 10 Apr 2011, 1:02 a.m.,*
in response to message #65 by Andrew H.

Andrew, can you provide a reference or link to this method that describes why it does what it does? It isn't obvious to me why adding two to the degrees of freedom results in centrality of the confidence interval you suggest or how it ties into the sample standard deviation. It isn't something I remember encountering during my degree in statistics years ago (not that that means much these days).

- Pauli

Re: WP-34s Functionality Poll

*Message #67 Posted by **Andrew H.** on 10 Apr 2011, 7:42 p.m.,*
in response to message #66 by Paul Dale

Paul,

I don't have a reference. I tried googling for one, but only papers in academic journals seem relevant, and they'e all behind paywalls. I'd have to do a proper literature search, but I'm not a student or faculty member. Maybe someone on the forum could help.

As for why adding two degrees of freedom results in an unbiased confidence interval, it's just a matter of integrating by parts. I'd be happy to write out the derivation (in LaTeX or by hand) and forward it to you, although it would have to wait until the end of the week.

Andrew

Re: WP-34s Functionality Poll

*Message #68 Posted by **Walter B** on 11 Apr 2011, 1:16 a.m.,*
in response to message #67 by Andrew H.

Andrew, please send me the derivation as well. TIA.

Re: WP-34s Functionality Poll

*Message #69 Posted by **Dieter** on 7 Apr 2011, 3:49 p.m.,*
in response to message #1 by Paul Dale

After all these suggestions concerning new functions to add (and existing ones that should be improved) I would like to hear if the community also thinks that certain functions are obsolete and can be removed. This might also free up some RAM (or keys) that might be used for other, more useful things.

Okay, I'll start the list:

- The // function IMHO is too special and is of only very limited use - if it is really required it takes only a few key presses or a very short routine in program memory.
- After my first look at the %+ and %- functions I wondered what kind of image the programmers might have of "those business guys" that might use these functions. #-) Let's face it: noone (yes: noone) needs a function that does nothing but [%] [+], saving one single key. The %MU function (buried deep down in the X.FCN menu, and therefore obviously not intended for everyday use) is obsolete as well since the delta-% function can do the same job.

  If a percent function *really* makes sense it should be implemented similar to the %+MG function: 100 [ENTER] 20 [function] should not return 80, but 16,67. Pressing [-] then gives 83,33. That's a useful function e.g. for calculating prices with and without VAT, returning both tax and net price. Currently this can also be accomplished by keying 100 [ENTER] -20 [%+MG] if (!) this useful function was directly accessible on the keyboard (e.g. instead of the useless %+ and %- functions). It also should leave the y-register unchanged (no stack drop), just like the standard %-function.

- Once again, I would like to mention that I really would prefer an "A" key instead of the current Sigma+. Does anyone really use this function so extensively that a primary key is required? In my humble opinion f Sigma+ and g Sigma- are fine, while on the other hand I really miss an "A"-key.

What could be implemeted instead of these functions? A few suggestions:

- I could not find a function that calculates the population standard deviation (only the sample SD). It it really missing?
- A cube and cube root function, or more generally an XROOT function would be nice. Not just because it's more convenient to use but also because the numeric precision is better. And finally that's what a calculator is all about, isn't it ?-)
- We had this discussion about useful display formats. I think there were some good points that deserve to be realized on the 34s.

Dieter

Re: WP-34s Functionality Poll

*Message #70 Posted by **gene wright** on 7 Apr 2011, 4:17 p.m.,*
in response to message #69 by Dieter

I would also be fine with killing the %+ and %- functions, FWIW.

Re: WP-34s Functionality Poll

*Message #71 Posted by **Walter B** on 9 Apr 2011, 9:07 a.m.,*

in response to message #70 by gene wright

OK, two votes are a qualified minority on this forum ;-)

How about placing H.MS+ and H.MS- at these h-shifted locations instead?

Walter

Re: WP-34s Functionality Poll

*Message #72 Posted by **gene wright** on 9 Apr 2011, 11:19 a.m.,*
in response to message #71 by Walter B

I'd certainly be ok with that. More useful, I would think! :-)

And, Walter... do you have a word document of the 34s owners manual rather than the PDF? If so, can I have it? I'd like to start thinking of making some introductory material for it.

Re: WP-34s Functionality Poll

*Message #73 Posted by **Walter B** on 9 Apr 2011, 2:54 p.m.,*
in response to message #72 by gene wright

Gene,

Thanks for your kind offer. How about you setting up what you want to include, and then sending me a little .doc-file? Will be easier this way IMHO - though I've many years experience in repairing confused MS WORD formatting, it's not sufficient yet to make me like this job ;-) No personal offence intended, of course - I've simply seen enough. TIA

Walter

Re: WP-34s Functionality Poll

*Message #74 Posted by **gene wright** on 9 Apr 2011, 3:06 p.m.,*
in response to message #73 by Walter B

My feeling now is that the existing manual assumes way too much on the previous knowledge of the user. I mean, I have been using HP scientifics and programming for a long time and it is tough for ME to read...much less someone with less experience.

I think it needs some introductory material surrounding it.

My thought was to take the existing word document and start modifying it to add such material.

Sending you a word document probably would not work, since I would be taking a completely different approach to trying to explain things than has been done so far. I would work to create a complementary document, not a replacement for the existing one or the one you guys create/update.

Example: The bottom of the first page of explanation is already talking about the -> function and how it operates. Imagine the HP 67 owners manual talking about P<>S or MERGE on the first page.

I think it assumes a lot. Room for making it more "idiot friendly" ... and I'm an expert on

being an idiot.

My 2 cents and worth less than that.

Re: WP-34s Functionality Poll

*Message #75 Posted by **Walter B** on 9 Apr 2011, 5:32 p.m.,*
in response to message #74 by gene wright

Gene, all,

Thanks for your advise. I never thought of this little file becoming a stand-alone manual. It was designed to be an addition to the manuals of the 'parent calculators', mainly the HP-42S and HP-16C. This intention was always clearly stated in the header of the Index of Operations. This statement is still there, but due to a lot of text preceding this index now it went to page 24 in my copy. Presumably I shall pull it to the front again :-)

I acknowledged your point about -> and changed the basic example, taking the key 5 now instead.

Wherever you find similar stuff feel free to point it out. That was our intention in publishing the emulator and its manual: take your chance and stand up - yes you can change things here, more than elsewhere. We will not follow everything, however, since we've got our own ideas as well and want them becoming reality with our project we pursue for some 28 months so far. But we read carefully - most times ;-)

Walter

Re: WP-34s Functionality Poll

*Message #76 Posted by **Paul Dale** on 10 Apr 2011, 1:31 a.m.,*
in response to message #74 by gene wright

Is there a problem with Gene writing a user's guide? I'd like that I think.

Walter's manual is very impressive but, as mentioned, it really isn't for novice users. It is a complete reference manual and specifications document for the device.

I vote for two manuals. One introductory and novice friendly and the other containing all the exquisite details.

- Pauli

Re: WP-34s Functionality Poll

*Message #77 Posted by **Jake Schwartz** on 10 Apr 2011, 11:07 a.m.,*
in response to message #76 by Paul Dale

> Quote:
>
> I vote for two manuals. One introductory and novice friendly and the other containing all the exquisite details.

Should this thing make it to the real hardware and be relatively stable by HHC2011

conference time, that would be an excellent place for at least one "workshop"-type session on introducing wp34S to the "masses". If we could round up enough 20bs, maybe they could all be re-flashed prior to the event and handed out to attendees. Of course re-labeling the keys is still a problem to be tackled.

Jake

P.S. - HHC2011 is now firm in San Diego in September....see http://hhuc.us/2011/index.htm for details

Re: WP-34s Functionality Poll

*Message #78 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 12:45 p.m.,*
in response to message #77 by Jake Schwartz

Jake, I've an image running on my 20b. :-)

I's on SVN, so feel free to get it.

34s user's guide

*Message #79 Posted by **gene wright** on 11 Apr 2011, 10:22 a.m.,*
in response to message #76 by Paul Dale

I could certainly write a manual on my own without any direct permission :-) but what I was hoping to do was to not have to start from scratch. There is a great deal of information in the existing technical summary manual thing, but it is quite overwhelming and needs a lot of flushing out and added explanations.

That's why I was hoping to get a word document of the manual...not to edit it and send it back to the developers as a change of the existing technical document, but to create a totally separate user's guide that made fewer assumptions about the reader.

Lacking that, I can try starting from scratch, but the joy factor will be less. :-)

Re: 34s user's guide

*Message #80 Posted by **Walter B** on 11 Apr 2011, 12:35 p.m.,*
in response to message #79 by gene wright

Gene,

You can get a .docx-file if you are willing to sign a nonproliferation agreement. I don't want to see this file spread all over the world for various reasons. Please drop me a mail.

Walter

Re: WP-34s Functionality Poll

*Message #81 Posted by **Dieter** on 9 Apr 2011, 1:27 p.m.,*
in response to message #71 by Walter B

Walter, maybe there is an even better idea. ;-) Since %+ and %- are shifted functions of the Plus and Minus-key they are the perfect place for Σ+ and Σ-. This would free up the key in the upper left

corner and allow for a dedicated "A"-key (finally). Even with another useful default function, for instance LN.

The 34s has one row of keys less than the 41-series or the 35s so that actually every single mathematical function (except + - x /) is shifted. So the default key assignments of the top row really make sense. My proposal would allow for another often used function. Yes, and an "A"-key as well. ;-)

Dieter

Re: WP-34s Functionality Poll

*Message #82 Posted by **Walter B** on 9 Apr 2011, 2:45 p.m.,*
in response to message #81 by Dieter

Dieter, please see below ;-)

Re: WP-34s Functionality Poll

*Message #83 Posted by **Paul Dale** on 7 Apr 2011, 5:33 p.m.,*
in response to message #69 by Dieter

Quote:

- I could not find a function that calculates the population standard deviation (only the sample SD). It it really missing?
- A cube and cube root function, or more generally an XROOT function would be nice. Not just because it's more convenient to use but also because the numeric precision is better. And finally that's what a calculator is all about, isn't it ?-)
- We had this discussion about useful display formats. I think there were some good points that deserve to be realized on the 34s.

In order:

- Population standard deviation is a lower case sigma in the statistics catalogue.
- Cube and cube root are in just not in the release yet. XROOT is a good suggestion.
- I not keen on doing too much with the real number formatting code. It is a pretty horrible piece and changes are difficult. Still, the ideas presented have been good.

- Pauli

Re: WP-34s Functionality Poll

*Message #84 Posted by **Marcus von Cube, Germany** on 7 Apr 2011, 6:07 p.m.,*
in response to message #83 by Paul Dale

Just to keep you posted. I've downloaded a first image to my 20b. The results are still frustrating. I'm at a very early state...

Re: WP-34s Functionality Poll

*Message #85 Posted by **Marcus von Cube, Germany** on 8 Apr 2011, 4:36 p.m.,*

in response to message #84 by Marcus von Cube, Germany

Things are starting to get better. The debugger is operational and some functions on the hardware are already working. Obviously some aren't such as power saving or on/off. Progress is better than I was hoping. I'm confident that the upcoming release will contain a working ROM image.

Order your cables now!

Re: WP-34s Functionality Poll

*Message #86 Posted by **gene wright** on 8 Apr 2011, 5:11 p.m.,*
in response to message #85 by Marcus von Cube, Germany

Woohoo!

Re: WP-34s Functionality Poll

*Message #87 Posted by **svisvanatha** on 9 Apr 2011, 4:30 p.m.,*
in response to message #85 by Marcus von Cube, Germany

Exciting! Cable and 30B standing by!

Re: WP-34s Functionality Poll

*Message #88 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 9:38 a.m.,*
in response to message #87 by svisvanatha

Be brave! Use SVN to get the most recent flash image out of SourceFourge!

Where is the latest flash image?

*Message #89 Posted by **gene wright** on 10 Apr 2011, 1:52 p.m.,*
in response to message #88 by Marcus von Cube, Germany

I went to the sourceforge link and the file seemed 10 days old.

What is the link to the most recent files?

Re: WP-34s Functionality Poll

*Message #90 Posted by **svisvanatha** on 10 Apr 2011, 2:09 p.m.,*
in response to message #88 by Marcus von Cube, Germany

I used SVN to get the latest, and there appears to be 2 *.bin files: calc.bin and calc2.bin - which to use?

Re: WP-34s Functionality Poll

*Message #91 Posted by **svisvanatha** on 10 Apr 2011, 2:26 p.m.,*
in response to message #90 by svisvanatha

calc.bin did not flash for me. calc2.bin did flash to the device, but the LCD is entirely lit up, but calculator is not functioning!

Re: WP-34s Functionality Poll (with link!)

*Message #92 Posted by **Marcus von Cube, Germany** on 10 Apr 2011, 2:37 p.m.,*
in response to message #91 by svisvanatha

calc2.bin is outdated, calc.bin is the one to use. Why doesn't it flash?

If the problems persist, I can copy the binary elsewhere.

Here is a direct link to the repository. I've removed the outdated versions. The file to use is calc.bin.

Edited: 10 Apr 2011, 2:46 p.m.

Re: WP-34s Functionality Poll (with link!)

*Message #93 Posted by **svisvanatha** on 10 Apr 2011, 5:29 p.m.,*
in response to message #92 by Marcus von Cube, Germany

Sweet! I wasn't patient enough! It did flash with calc.bin. I am pressed for time at this moment, but will do a video of it in action!

Thank you to Pauli, Walter and Marcus - amazing!

Re: WP-34s Functionality Poll

*Message #94 Posted by **Walter B** on 8 Apr 2011, 5:33 p.m.,*
in response to message #69 by Dieter

Dieter,

> Quote:
>
> Once again, I would like to mention that I really would prefer an "A" key instead of the current Sigma+. Does anyone really use this function so extensively that a primary key is required? In my humble opinion f Sigma+ and g Sigma- are fine, while on the other hand I really miss an "A"-key.

Maybe you have told us already, but I don't remember: What do you want to do with an "A"-key?

Walter

Re: WP-34s Functionality Poll

*Message #95 Posted by **gene wright** on 8 Apr 2011, 5:49 p.m.,*
in response to message #94 by Walter B

My guess is that it just looks odd and feels odd to some of us to have a Binary Coded Decimal key layout (BCD ha), but to have Sigma+ taking the spot where the A key would be.

Is the location of Sigma+ at that top corner that sacrosanct or important to make B, C, and D be the default user defined keys? Could it be moved over to the D location and BCD become ABC?

Eh... I'll just be tickled to have firmware to load and play with. Great job guys.

Re: WP-34s Functionality Poll

*Message #96 Posted by **Marcus von Cube, Germany** on 9 Apr 2011, 11:52 a.m.,*
in response to message #95 by gene wright

I'm trying hard to get past the most basic power saving options which are essential if you don't want to replace two 2032s on a daily basis. I was a bit busy today with other things. So you'll probably have to wait some more days. Days, not weeks! :)

I propose to delegate the sigma+/- functions to where the percentages are now. This gets us an A key and another secondary function.

Regarding H.MS+/-, I'm thinking of a different approach: It would be nice if numbers where flagged to be H.MS or real. H.MS values are converted to reals on the fly before processing. This renders + and - to H.MS arithmetic keys.

Re: WP-34s Functionality Poll

*Message #97 Posted by **Dieter** on 9 Apr 2011, 1:37 p.m.,*
in response to message #96 by Marcus von Cube, Germany

Marcus wrote:

> Quote:
>
> I propose to delegate the sigma+/- functions to where the percentages are now. This gets us an A key and another secondary function.

Incredible! That's *exactly* what I wrote five minutes ago. Great! This way we once again have a "qualified minority" here. :-)

Dieter

Re: WP-34s Functionality Poll

*Message #98 Posted by **Walter B** on 9 Apr 2011, 2:39 p.m.,*
in response to message #97 by Dieter

Dieter,

You didn't answer my question yet. Please see above.

Walter

Re: WP-34s Functionality Poll

*Message #99 Posted by **Dieter** on 9 Apr 2011, 3:42 p.m.,*
in response to message #98 by Walter B

I felt another explanation was not necessary because the "A"-key was already eplained here. ;-)

Yes, the label keys in the top row (now "B", "C" and "D") are fine. But can you imagine a TI58/59, a HP65 or HP67 with a top row labelled Σ+ B C D ? Even my HP-34C has A and B, not B and C. ;-) Another advantage is the additional default function that can be assigned to this key as long as LBL A is not defined. As proposed in my earlier post. This idea (assign the Sigma-functions to h + and h - and use the key in the upper left

corner as an "A"-key, working just as the B, C and D-keys) seems to be so obvious that Marcus and I had exactly the same idea here. :-)

Dieter

Re: WP-34s Functionality Poll

*Message #100 Posted by **Walter B** on 9 Apr 2011, 4:30 p.m.,*
in response to message #99 by Dieter

You may have read that Gene was **guessing** there. Thus I wanted the original author explaining what he's after ;-) Now we **know**.

IMHO it's not really logic but *psycho*logic (i.e. the opposite). For sake of peace, however, I suggest the following for the top left and bottom right keys:

What do you think?

Walter

Re: WP-34s Functionality Poll

*Message #101 Posted by **Dieter** on 9 Apr 2011, 6:49 p.m.,*
in response to message #100 by Walter B

Nahmt, Walter -

> Quote:
>
> IMHO it's not really logic but psychologic (i.e. the opposite).

Life is far more than just logic. ;-)

> Quote:
>
> What do you think?

That's better. However I would prefer a more useful function as default for the

A-key. For instance LN.

In my humble opinion the idea that Sigma+ should be on a primary key "because it's important for the statistics guys" in about as correct as "those business guys need a [%+] and [%-] function". ;-)

Maybe we should have another poll here. :-D

Dieter

Re: WP-34s Functionality Poll

*Message #102 Posted by **Paul Dale** on 9 Apr 2011, 7:40 p.m.,*
in response to message #96 by Marcus von Cube, Germany

> Quote:
>
> Regarding H.MS+/-, I'm thinking of a different approach: It would be nice if numbers where flagged to be H.MS or real. H.MS values are converted to reals on the fly before processing. This renders + and - to H.MS arithmetic keys.

No RAM clear to store the extra information unfortunately. I'd love to tag numbers based on what they are: angle mode, units, etc.

- Pauli

Re: WP-34s Functionality Poll - Space considerations

*Message #103 Posted by **Marcus von Cube, Germany** on 11 Apr 2011, 2:02 a.m.,*
in response to message #1 by Paul Dale

Hi world ! ;)

We are running out of flash space in the moment. I therefore ask you to think about functions you don't need or you would like to swap against different ones.

It might be necessary to create a common ground wp34s where functions can be added from several groups by changing options during compile. The final release will then include different versions of the flash image. That's some logistic work and I really don't like it. We're working on some more space savings but I see limits to this approach. So be inventive, please!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reciting digits of pi

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 2 Apr 2011, 1:25 a.m.*

Calvin Trillin's article "DIGITS - TRY TO REMEMBER" on pages 23-24 of the April 4 issue of *The New Yorker* offers some interesting comments the recitation of many digits of pi.

Re: Reciting digits of pi

*Message #2 Posted by **Ed Look** on 2 Apr 2011, 11:16 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

I learned this sentence from a little paperbound book I ordered from Scholastic (or some such outfit) Books as a little kid in elementary school:

May I have a large container of coffee?

3___1__4_1___5____9___2___6

I sometimes teach it to some students. Some got a kick out of it, some didn't really care, and I think, unfortunately, few remember it!

Edited: 2 Apr 2011, 11:20 a.m.

Re: Reciting digits of pi

*Message #3 Posted by **Jim Yohe** on 2 Apr 2011, 1:32 p.m.,*
in response to message #2 by Ed Look

Why would some of them care about memorizing a mnemonic when it's so easy to press a key on a calculator and come up with 8-12 digits of Pi in an instant? Yet the subject of "Piphilology" is very interesting and fun. I like, "See, I have a rhyme assisting my feeble brain, its tasks oft-times resisting".

Did you bring the subject up to your students on Pi Day (March 14th)? Have them check out how far they've memorized Pi by testing them here if they'd prefer something interactive: http://www.cow-pi.com/eng

Re: Reciting digits of pi

*Message #4 Posted by **Jim Yohe** on 2 Apr 2011, 2:12 p.m.,*
in response to message #2 by Ed Look

Challenge your students (especially if you're a math teacher) to an instant "A" if they can beat either the current world record holder Chao Lu (http://pi-world-ranking-list.com/lists/memo/) for memorizing 67,890 digits of Pi or the unrecognized (by Guinness that is) of Akira Haraguchi (http://en.wikipedia.org/wiki/Akira_Haraguchi) at a 100,000 digits.

Re: Reciting digits of pi

*Message #5 Posted by **Crawl** on 2 Apr 2011, 11:19 p.m.,*
in response to message #4 by Jim Yohe

A mere "A" for getting a world record seems kind of a pathetic reward.

That'd be like an English teacher using Shakespeare to challenge his students: Write 38 plays that are likely to be remembered as some of the greatest ever even 400 years from now, and you can get an A in the course!

Or maybe a business teacher offering an A to the person in the class who becomes the world's richest person.

I think even memorizing enough digits to get a 100% score on this game is worth a reward. Maybe an automatic 3 full letter grade boost. Though if the person was likely to get an A anyway (which would probably be the case for anyone willing to make the effort) they'd need an extra reward on top. Maybe a calculator?

Re: Reciting digits of pi

*Message #6 Posted by **Paul Dale** on 2 Apr 2011, 11:22 p.m.,*
in response to message #5 by Crawl

It isn't pathetic if it is the only way to achieve an A :-)

- Pauli

Re: Reciting digits of pi

*Message #7 Posted by **Jim Yohe** on 3 Apr 2011, 2:02 a.m.,*
in response to message #6 by Paul Dale

I remember my last high school electronics teacher telling me that the only way I could get an "A" in his class was to get my ham radio license so ... I studied for it in the classroom storage area so I could do it in relative quiet. Got my "A".

Wasn't quite the achievement as memorizing nth digits of Pi would have been ...

Re: Reciting digits of pi

*Message #8 Posted by **Jim Yohe** on 3 Apr 2011, 1:55 a.m.,*
in response to message #5 by Crawl

I agree that receiving an "A" would be a pathetic reward for such an achievement. If one could memorize that many of "anything", Pi or otherwise, they probably could go on achieve whatever they set their mind to.

Re: Reciting digits of pi

*Message #9 Posted by **Ed Look** on 4 Apr 2011, 2:32 p.m.,*
in response to message #4 by Jim Yohe

No Jim, I'm not a math teacher; but I'm a chemist and these are college courses. I suspect (hope??) a couple of them could teach ME some math. I've heard some folks kid around about Mole Day (June 23), but I never remember.

I actually use that little pi mnemonic sometimes to chide them for their over-reliance on things electronical, even my beloved calculators. They (well, mainly freshmen and sophomores) report digits, as those of pi, as if they were a totalitarian secret police intended to spy on numerals, because that's what the stoolie calculator told them. No thought is given to the reality of the situation as far as the precision of the input figures, so how much less is given to the results!

In most science, even the classroom, how many significant digits are generally used? Certainly, it isn't nine or twelve. So, often I tell them when the ask, "It's 3.14; that's good enough for us!" Sometimes, it's even 3.1415!

(And let's not even worry about the error of the result, or even how many digits ought to be reported in that value itself!) What was that word used once, innumeracy?

Re: Reciting digits of pi

*Message #10 Posted by **Gerson W. Barbosa** on 2 Apr 2011, 3:32 p.m.,*
in response to message #2 by Ed Look

Pi up to 12 digits is not much of a problem: 3.14159265359, from memory. Now, just in case I forget about 32, I've made this little reminder :-)

163/ln(163)+1/((744+1/(19*pi^6*(744/12+1/33)+1/(744(Sqrt(2)-1))))^2(sqrt(3)-3/10+1/(3^4*(744+1/(19*pi^6*(744/12+1/33)+1/(744 (sqrt(2)-1)))))))

Now seriously, I prefer this one:

```
How I want a drink, alcoholic of course, after the heavy lectures involving quantum
mechanics!
 3. 1   4  1   5       9       2    6      5     3   5      8         9        7
9
```

Not to be taught to young students though.

Regards,

Gerson.

Re: Reciting digits of pi

*Message #11 Posted by **Gordon Strickland** on 2 Apr 2011, 8:01 p.m.,*
in response to message #10 by Gerson W. Barbosa

Is it easier to get pi by remembering the mnemonic, or to get the mnemonic by remembering pi?

Re: Reciting digits of pi

*Message #12 Posted by **Gerson W. Barbosa** on 2 Apr 2011, 10:23 p.m.,*
in response to message #11 by Gordon Strickland

I'd forgotten the second part:

```
All of thy geometry, Herr Planck, is fairly hard.
 3   2  3      8       4     6     2   6      4
```

http://mathworld.wolfram.com/PiWordplay.html

Re: Reciting digits of pi

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 3 Apr 2011, 9:33 p.m.,*
in response to message #10 by Gerson W. Barbosa

How I want a drink, alcoholic of course, after the heavy lectures involving quantum mechanics!

The article in *The New Yorker* offered nearly the same mnemonic, but with "chapters" replacing "lectures".

The article also stated that this form of poetry (?) is known as a piem. I don't find that word in any of my dictionaries.

Back in the 1980's My friend George Thomson (now deceased) sent a mnemonic for remembering the first thirty digits of pi which had appeared on page 309 of the April 1969 issue of *Datamation*;

Now I, even I, would celebrate in rhymes inept, The great immortal Syracusan, rivaled nevermore, Who in his wondrous lore passed on before, Left men his guidance how to circles mensurate.

Re: Reciting digits of pi

*Message #14 Posted by **Gerson W. Barbosa** on 4 Apr 2011, 8:25 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

> Quote:
>
> The article also stated that this form of poetry (?) is known as a piem. I don't find that word in any of my dictionaries.

That's a wordplay with poem. In the mathworld link elsewhere in this thread there's a mnemonic by M. Keith based on Edgar Allan Poe's "The Raven". Here is a link to the full *piem* or ***Poe***m:

http://www.cadaeic.net/naraven.htm

> Quote:
>
> Now I, even I, would celebrate in rhymes inept, The great immortal Syracusan, rivaled nevermore, Who in his wondrous lore passed on before, Left men his guidance how to circles mensurate.

That's also a very nice one. I first read about it in this old thread.

Once I mentioned a series that would converge quickly to pi, but only for the first few digits. I couldn't help bragging then: "Hey, I have a nifty algorithm to better solve the first decimals!" :-)

Re: Reciting digits of pi

*Message #15 Posted by **Ed Look** on 4 Apr 2011, 2:37 p.m.,*
in response to message #10 by Gerson W. Barbosa

Unfortunate, Gerson!

Most taking quantum mechanics as a class are still kids! But who needs pi to anything more than three to five digits in quantum??! Not even in stat mech (thermo)!...

... maybe such precision could be needed in calibrating a thermocouple or some reference volume... or maybe not!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Invisible message passing

*Message #1 Posted by **Jim Yohe** on 1 Apr 2011, 6:30 p.m.*

In MoHPC's information about the HP-48S/SX's infrared output a statement says, "HP limited the range of 2-way communication at the request of teachers who were nervous about invisible message passing". Now-a-days, of course, you can't stop students from passing messages short of taking their cell phones away from them ... which I think would be a great idea. ;-)

Re: Invisible message passing

*Message #2 Posted by **Don Shepherd** on 1 Apr 2011, 10:51 p.m.,*
in response to message #1 by Jim Yohe

> Quote:
>
> Now-a-days, of course, you can't stop students from passing messages short of taking their cell phones away from them ... which I think would be a great idea. ;-)

While most schools don't actually ban cell phones, they do prohibit their presence during classes. Students can keep their phone in their pocket (or purse), but if a teacher sees the student in class with a phone, it then belongs to the principal.

The school at which I teach (a private boarding school) prohibits cell phones and all electronic devices. Public schools probably couldn't get away with that.

Re: Invisible message passing

*Message #3 Posted by **David Hayden** on 2 Apr 2011, 10:23 a.m.,*
in response to message #1 by Jim Yohe

My daughter said that in 7th and 8th grade, she and her friends could send text messages without even taking the phone out of their pocket. They learned to do it entirely by feel. So the only hard part was sneaking a peek at the phone to read the messages.

Re: Invisible message passing

*Message #4 Posted by **Don Shepherd** on 2 Apr 2011, 10:41 a.m.,*
in response to message #3 by David Hayden

Perhaps that skill may one day lead to everyone having a tiny wireless transmitter/receiver implanted in the body, and the brain is able to send and receive messages and thoughts from other brains.

FutureWorld?

Re: Invisible message passing

*Message #5 Posted by **Ken Shaw** on 4 Apr 2011, 2:15 p.m.,*
in response to message #4 by Don Shepherd

You must be referring to a Cerebrum Communicator.

http://www.youtube.com/watch?v=uUa3np4CKC4

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Cleaning up the collection

*Message #1 Posted by **Michael de Estrada** on 1 Apr 2011, 10:09 a.m.*

I think it's inevitable that collectors such as myself end up with too many redundant instances of a particular calculator model and too many broken / non-functioning calculators. For example I had 10 HP-45s and over a dozen broken calcs. The time had come to perform collection triage and decide which calcs to sell / junk and which to retain / repair. I ended up disposing of a dozen calcs, including 4 HP-45s, and successfully repairing 2 of them. I now have only 4 broken calcs and only one that is possibly repairable, the remainder being spare parts. Although there is certainly room for further improvement, I feel much better with the current state of my collection.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A more useful standard display format

*Message #1 Posted by **Dieter** on 1 Apr 2011, 9:24 a.m.*

First time users of classic HP calculators may be slighty puzzled when the display shows 0,00 or 0,0000 as the device is turned on. I even remember the question why *"such an expensive calculator"* would only give a three-digit result, while a cheap 5-Euro-Casio... ;-)

Both the first HP (-35) and newer models (last 20 years) offer a display format ALL or STD where the whole singificant mantissa is shown. So 1/8 is displayed as 0,125 and 1/3 as 3,33333333333E-1. The WP34s project even uses this format as its default display mode.

However, for everyday use there's a major drawback in this implementation. Even moderately small values like 0,5153... or 0,03543... are displayed in scientific notation, which means that the user's eye has to move all the way across the display to its right end, read the exponent there and translate it back into a meaningful result. As far as I am concerned, I do *not* want to see "2,04135445874E-2" if a calculated price simply is "2 cents", or "3,35283587165E-1" if the result is 33,5% or even just "roughly one third". It's even worse on the HP-35s with its 14-digit-display hiding the complete exponent. The user has to scroll the display manually before he is able to see whether the result is 0,33 or 0,03 or something even less.

A simple FIX 2 or FIX 4 is not an option here since in this case the major advantages of the ALL format are lost: if the result is an integer, the display shows an integer (3 instead of 3,00 which could also stand for 2,99835 or 3,00208). Generally, useless trailing zeroes are omitted while on the other hand all significant digits are visible.

Okay, what's my point now? I would like to suggest a useful standard display format similar to what I remember from earlier non-HP calculators: Moderately small results should *not* be displayed in scientific notation, even if this means the last two mantissa digits are not visible. The advantage is a much more intuitive and "natural" display format that allows the user to capture the result faster, easier and without any "exponent translation error". My suggestion is: All numbers with absolute value >= 0,01 or 0,001 should be displayed like 0,012345... resp. 0,0012345... and only values *below* this limit should be displayed in scientific notation. Like this:

```
  current display           improved display
-------------------------------------------
 3,12354882604E-2            0,03123548826
 6,66666666667E-1            0,66666666667
-1,41421356237E-3           -0,00141421356
 3,14159265359E-6            3,14159265359E-6
```

For obvious reasons this cannot be implemented in current HP calculators. But it can be done on the WP34s. :-)

Dieter

Re: A more useful standard display format

*Message #2 Posted by **Timo** on 1 Apr 2011, 9:56 a.m.,*
in response to message #1 by Dieter

Hi Dieter,

a very interesting thought! Personally as an engineer, I'd prefer you 0,001 limit, since the "Mili"-Something

units (what a terminus for an engineer... :o) are found more frequently when doeing engineering calculations.

Personally, I almost exclusively work with the FIX4 or FIX6 setting since these modes display the digits I'm usually most interested in. However, I'd really like to see your proposal implemented, at least for beta testing purposes.

Re: A more useful standard display format

*Message #3 Posted by **Martin Pinckney** on 1 Apr 2011, 11:01 a.m.,*
in response to message #2 by Timo

I almost always use FIX format because the nature of my work seldom requires displaying very large or small numbers, and FIX is easier to read. I change the number of decimal digits displayed depending on the needs of the project at hand. Most often I use FIX 2 or 3; occasionally 4.

Re: A more useful standard display format

*Message #4 Posted by **Garth Wilson** on 1 Apr 2011, 2:19 p.m.,*
in response to message #2 by Timo

My 41 is rarely in a mode other than ENG 3. The exponent in ENG quickly translates to "giga," "mega," "kilo," units, "milli," "micro," "nano," etc. which we use all the time in engineering. SCI is a small waste of time in figuring it out. On a couple of programs on the 71, I have it replace those exponents with the letters representing the above before printing, like "kHz" (instead of "___E3 Hz"), "µA" (instead of "___E-6 Amp"), etc., or just removing "E0". So what I would prefer, if the current situation were a problem at all, would be a mode that puts the exponent into letters, which take less display room than the E numbers with possible minus signs.

As for the size of the decimal point, the 71 uses a square of four dots instead of a single dot. It is very visible without looking like a huge pot hole.

Re: A more useful standard display format

*Message #5 Posted by **Walter B** on 1 Apr 2011, 6:43 p.m.,*
in response to message #4 by Garth Wilson

ENG 3 is a very useful mode, I fullheartedly agree. With the mantissa right adjusted, you get all the important information within a small area. It would be nice to get E0 suppressed, but it's only this - nice, not really necessary IMHO.

In most real life calculations (except in finance, of course), 4 significant figures are sufficiently precise - if they are significant at all ;-)

Re: A more useful standard display format

*Message #6 Posted by **Paul Dale** on 2 Apr 2011, 1:22 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> In most real life calculations (except in finance, of course), 4 significant figures are sufficiently precise - if they are significant at all ;-)

A bit of an over generalisation here I suspect. My day job requires 7+ digits all the time. Look up ECEF coordinates. To get centimeter accuracy, 9 digits are required. Likewise, for a field that is

10km long, 4 digits just aren't close to sufficient.

- Pauli

Re: A more useful standard display format

*Message #7 Posted by **Walter B** on 2 Apr 2011, 3:29 a.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> A bit of an over generalisation here I suspect.

For sure :-) I know many people inevitably *need* a high computing precision built in - but many, many more believe in and bother with lots of insignificant figures :-(Personally, I've met many of the latter set.

Re: A more useful standard display format

*Message #8 Posted by **Garth Wilson** on 2 Apr 2011, 2:35 p.m.,*
in response to message #6 by Paul Dale

He did say *most*, and I'm sure that's true.

Re: A more useful standard display format

*Message #9 Posted by **Eric Smith** on 1 Apr 2011, 9:08 p.m.,*
in response to message #4 by Garth Wilson

I want a FIX mode that over-/under-flows to ENG instead of SCI. It was possible to do that on the HP-41 with synthetic programming, but it should be a standard mode.

Re: A more useful standard display format

*Message #10 Posted by **Paul Dale** on 1 Apr 2011, 9:31 p.m.,*
in response to message #9 by Eric Smith

> Quote:
>
> I want a FIX mode that over-/under-flows to ENG instead of SCI. It was possible to do that on the HP-41 with synthetic programming, but it should be a standard mode.

The wp34s now has this ability :-)

For FIX *and* ALL modes when gaining an exponent.

- Pauli

Edit: added the commands effected.

Edited: 2 Apr 2011, 12:26 a.m.

Re: A more useful standard display format

*Message #11 Posted by **Manolo Sobrino** on 1 Apr 2011, 10:05 a.m.,*

in response to message #1 by Dieter

And that's why some classic "EOS" Casios are great. Fx-5000f did exactly like that, it switched to scientific mode when results were too small, otherwise it remained in standard notation up to the third decimal digit (maybe fourth, mine is not here to check). More recent ones (e.g fx-6300G, fx-5500LA -I'd like to try fx-4000P and fx-4500PA, don't like newer ones too much- switch to scientific just when there's no mantissa to show, pain in the neck...) Throw in the nice ENG button and I'd get one.

Re: A more useful standard display format

*Message #12 Posted by **designnut** on 1 Apr 2011, 10:56 a.m.,*
in response to message #11 by Manolo Sobrino

I think displays might use a more prominent symbol for the decimal point. It tends to be obscured by the numbers. I suggest a ddouble height symbol in place of a single dot. I get a little lost when we have a long string after the decimal with no thousands delineators. couldn't some symbol be used as a marker to aid this display.

Re: A more useful standard display format

*Message #13 Posted by **Marcus von Cube, Germany** on 1 Apr 2011, 12:12 p.m.,*
in response to message #12 by designnut

We Europeans don't have the visibility problems you mention. :)

The format mentioned by Dieter is used by many Casio calculators. It's called NORM 1 and switches to scientific notation for 0.001 but shows 0.01 as is.

Re: A more useful standard display format

*Message #14 Posted by **Manolo Sobrino** on 1 Apr 2011, 12:28 p.m.,*
in response to message #13 by Marcus von Cube, Germany

You're absolutely right about Casio, I hadn't even noticed (what a shame), thank you. By selecting NORM mode once you enter into NORM 1 mode: 10^-2(0.01)>|x|, by selecting NORM mode twice you enter into NORM 2 mode: 10^-9(0.000000001)>|x|. Apparently FX-1000F/5000F,6500G,7500G just have a single NORM mode that cancels FIX or SCI modes and works like NORM 1.

Edited: 1 Apr 2011, 3:28 p.m.

Re: A more useful standard display format

*Message #15 Posted by **Dieter** on 2 Apr 2011, 12:13 p.m.,*
in response to message #14 by Manolo Sobrino

Of course a HP or even WP calculator has to top this, so we will have to introduce a general NORM n mode, switching to scientific notation not before the value is less than 1E-n. So NORM 3 would display 0,0123 and 0,00123 while smaller values are shown as 1,23E-4 or 1,23E-16. ;-)

Dieter

Re: A more useful standard display format

*Message #16 Posted by **Nigel J Dowrick** on 1 Apr 2011, 5:07 p.m.,*
in response to message #1 by Dieter

I too find the "fixed decimal" format annoying; I also feel that ALL modes or their equivalent give me too much information. When would I ever want 10 significant figures? (I'm a physics teacher, not an accountant.) Scientific or Engineering mode is good for limiting significant figures, but I don't like to see powers of 10 for numbers that aren't too big or too small.

When I wrote my own calculator program (a RPN calculator for the Casio FX-9860G series) I hard-wired in a limit of 6 significant figures. Numbers are displayed without trailing zeroes after the decimal point; standard form is used if a number is greater than 1e9 or smaller than 1e-4.

So 2.4 is 2.4 (not 2.40000); pi is 3.14159; pi times 1e8 is 314159000; pi times 1e-4 is 0.000314159. (Sixteen significant figures are stored internally.)

I really like this system, but I suppose it's a personal thing. I've never missed the undisplayed significant figures. Does anyone else feel that six is enough? (except when dealing with sums of money greater than £10000, of course! Not often a problem for me.)

Nigel (UK)

Another useful display format

*Message #17 Posted by **Dieter** on 2 Apr 2011, 11:54 a.m.,*
in response to message #16 by Nigel J Dowrick

> Quote:
>
> I too find the "fixed decimal" format annoying; I also feel that ALL modes or their equivalent give me too much information. When would I ever want 10 significant figures?

I think this is a good point. Especially since I was about to propose the following additional display format. ;-)

There is something I always missed on other calculators - a display format showing a certain number of *significant* digits. Yes, this can be done in SCI mode: SCI n simply shows n+1 significant digits. But, you guessed it, in scientific notation. My preferred format would look like this:

```
display format: SIG 6


value          display
-----------------------
Pi             3,14159
e^Pi           23,1407
10^Pi          1385,46
10^(Pi^2)      19333,7
e^-Pi          0,0432139
10^-Pi         7,21784E-4   or   0,000721784
3^25           8,47289E+11  or   847289000000
```

Yes, it's roughly the same as SCI 5 RND ALL. In other words: all values are shown the way they were displayed on a (in this case) 6-digit calculator. So finally SIG 12 is the same as ALL. What do you think about this?

Dieter

Re: Another useful display format

*Message #18 Posted by **Paul Guertin** on 2 Apr 2011, 7:33 p.m.,*
in response to message #17 by Dieter

> Quote:
>
> There is something I always missed on other calculators - a display format showing a certain number of *significant* digits.

I agree that this would be a valuable improvement.

Paul Guertin

Re: Another useful display format

*Message #19 Posted by **Ken Shaw** on 4 Apr 2011, 2:58 p.m.,*
in response to message #17 by Dieter

Agreed. I have the same issues with the difficulty of displaying significant figures in Excel.

On HP calculators, I typically go with FIX 4, which gives a reasonable balance between digits to the left and right of the radix. It's not ideal, though.

Re: A more useful standard display format

*Message #20 Posted by **David Hayden** on 2 Apr 2011, 10:35 a.m.,*
in response to message #1 by Dieter

For a calculator that can display any character in any position of the display, Dieter's proposal not only makes sense but it can be done with no loss of information when the cutoff is 0.01. For example, .00123 requires exactly the same number of characters to display in either format:

```
1.23E-3
0.00123
```

adding more significant digits adds the same number of characters to either display format.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP42S

*Message #1 Posted by **Dwight Sturrock** on 31 Mar 2011, 11:13 p.m.*

Anyone have an idea on how to turn CAPS lock off when in ALPHA on the HP42S?

Re: HP42S

*Message #2 Posted by **Glen Sanft** on 31 Mar 2011, 11:18 p.m.,*
in response to message #1 by Dwight Sturrock

Press the shift key immediately prior to your specific character selection.

Re: HP42S

*Message #3 Posted by **Dwight Sturrock** on 1 Apr 2011, 6:33 a.m.,*
in response to message #2 by Glen Sanft

Thanks for the info. I was actually looking for a "sticky" caps off lock so I don't have to press the shift key every time. Maybe there isn't one.

Re: HP42S

*Message #4 Posted by **Timo** on 1 Apr 2011, 8:44 a.m.,*
in response to message #3 by Dwight Sturrock

Hi Dwight,

I've just tried it on my 42S and have also taken a look into the manual. The only way for making the lower case "sticky" is to keep the shift key pressed while typing the letters.

Regards, Timo

Re: HP42S

*Message #5 Posted by **svisvanatha** on 31 Mar 2011, 11:21 p.m.,*
in response to message #1 by Dwight Sturrock

I know you can enter *lowercase* letters by using the shift key and pressing the top row key of the letter you are interested in. I am not sure you can set caps lock to off though.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-75 EPROM programmer

*Message #1 Posted by **Jeff Davis** on 31 Mar 2011, 9:30 p.m.*

Just noticed a device that looks like an HP-75 EPROM programmer on tas. look at auction 300542525954 . I have two EPROMs for sale if someone buys it!

Re: HP-75 EPROM programmer

*Message #2 Posted by **Paul Berger (Canada)** on 31 Mar 2011, 9:57 p.m.,*
in response to message #1 by Jeff Davis

Darn seller says he will not ship to Canada, and is not available to answer questions. I am looking for just this kind of thing for a 75.

Re: HP-75 EPROM programmer

*Message #3 Posted by **Jim Yohe** on 31 Mar 2011, 10:02 p.m.,*
in response to message #2 by Paul Berger (Canada)

Sounds like something two enterprising individuals on MoHPC might engage in to bypass (so to speak) the TAS's seller's objection to sending goods to our friends to the North.

Re: HP-75 EPROM programmer

*Message #4 Posted by **Paul Berger (Canada)** on 31 Mar 2011, 10:24 p.m.,*
in response to message #3 by Jim Yohe

If it comes to that I would certainly appreciate assistance getting this item. I will keep on trying to contact the seller.

If I where to get it would be happy to reverse engineer it and share a schematic with anyone who was interested. The EPROMs on it look like 2532s which are a non-standard pinout 4K eprom made by TI among others.

Re: HP-75 EPROM programmer

*Message #5 Posted by **Thomas Chrapkiewicz** on 31 Mar 2011, 10:45 p.m.,*
in response to message #4 by Paul Berger (Canada)

If you need a US shipping address, drop me an email.

TomC

Re: HP-75 EPROM programmer

*Message #6 Posted by **John Robinson** on 1 Apr 2011, 2:30 a.m.,*
in response to message #2 by Paul Berger (Canada)

Paul,

I recognize the seller handle, I have bought from him before. His name is Bruce Larribee, and I found him to be an extremely helpful guy. From what I know about Bruce, the lack of shipping to Canada is probably just an oversight, as he had the same limitation on shipping to Australia at one point, but he was more than happy to ship here. Bruce is an ebay newbie, so it's probably just a matter of someone in the US or Australia contacting Bruce and asking him to modify the auction etc.

Let me know if you want me to contact him on your behalf.

Cheers, John

Re: HP-75 EPROM programmer

*Message #7 Posted by **Paul Berger (Canada)** on 1 Apr 2011, 6:30 a.m.,*
in response to message #6 by John Robinson

Thanks I think its probably an oversight too. I tried to bid but I got a message saying that seller restriction prevent me from bidding.

If you would contact the seller on my behalf, I would certainly appreciate it.

Edited: 1 Apr 2011, 7:11 a.m.

Re: HP-75 EPROM programmer

*Message #8 Posted by **Eric Smith** on 1 Apr 2011, 1:49 a.m.,*
in response to message #1 by Jeff Davis

There does not appear to be any circuitry to either generate or switch a programming voltage. I suspect that it is a module emulator. HP did their firmware development on various "big" computers, and used commercially available EPROM programmers, so they would have been unlikely to develop their own EPROM programmer specifically for the HP-75.

Based on the number of EPROMs and sockets, it looks like probably emulates the mainframe ROMs in addition to plug-in ROMs. If so, and unless that mainframe ROM emulation can be disabled, it won't be useful with a normal HP-75.

Relatively late in the HP-75 product life, HP introduced the 82713A Plugin Module Simulator, which would be far more useful to a user or developer than this device which was intended for internal HP use.

Re: HP-75 EPROM programmer

*Message #9 Posted by **Paul Berger (Canada)** on 1 Apr 2011, 7:02 a.m.,*
in response to message #8 by Eric Smith

I also noted that there does not seem to be any facility to program EPROMs onboard, but that is not an issue for me have have enough EPROM programmers, evn some that can handle old obsolete type like 2532.

It occurred to me too that they may have been a code development jig for the 75, 10 regular sockets would be 40K and the 4 ZIFs would be another 16K.

Yes I have heard of the 82713A but they seem to be in very short supply, and you may be right that this item may not be of a lot of use, but I think at the very least it would be interesting.

Re: HP-75 EPROM programmer

*Message #10 Posted by **Jim Horn** on 1 Apr 2011, 12:05 p.m.,*
in response to message #9 by Paul Berger (Canada)

If you can't find a HP-75 Eprom emulator, you may be able to make one fairly easily using the tech manual for it. It should be available either from the Museum or from Jake Schwartz. I believe I sent him my manual set many years ago for inclusion in CD-ROMs (including the '41s dedicated printer and various others).

Using a modern CPLD or FPGA the entire emulator could probably be built inside a '75 module or even into the '75 itself, including more flash memory than the entire '75 software universe could fill.

Jim (with many fond memories of my '75, long gone)

Re: HP-75 EPROM programmer

*Message #11 Posted by **Jim Horn** on 1 Apr 2011, 12:01 p.m.,*
in response to message #1 by Jeff Davis

I suspect this was the development board that sat outside the prototype HP-75 back when they were still writing the code for it. I had a proto-75 for a while in the early 1980s for use in evaluating the still-being-defined HP-IL in the spectrum analyzers and modular measurement systems (HP70000 series) being designed in their instrumentation group.

One item that made that fun was that I received the proto-75 the same weekend I drove up to Corvallis for a big PPC (HHC) conference there. Needless to say, I had to make sure the trunk of my Scirocco was kept closed when other HP user friends were around lest they see the much-rumored but not-yet-announced 75...

Current design tools - with high quality simulation, TCP/IP, and flash memory in real devices - sure are better than what we had back then!!

No, I don't have that '75 - it went back to Corvallis once HP-IL was defined (and I bought my own '75).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Worthy successor of the HP 41C secretly revealed!

*Message #1 Posted by **Joerg Woerner** on 31 Mar 2011, 8:12 a.m.*

Hello calculator aficionados,

While doing some research on the TI-Nsprire CX prototypes (they are actually loaners from Texas Instruments), I asked the folks in Texas if they could surrender me a Casio Prizm.

I guess it doesn't imply industrial espionage, but these guys actually know, what is going on! And best of all, my NDA with Texas Instruments is limited (I'm not a lawyer but I have some common sense) to TI products only!

Well, Hewlett Packard fans, in the meantime I received an incredible Hewlett Packard calculator. No, it is NOT another graphing calculator, to me it is the best and most exciting development in the past 30 years! I really appreciate that marketing people at Hewlett Packard's calculator division focus on their roots again, I liked already in 2007 the idea to reintroduce kind of a retro HP 35S and notice all the hopes for a HP 43S or similar on this forum.

What I just disassembled is to me the successor of the HP 41C, the machine that killed "our" TI-88 (yes, I'm more into Texas Instruments' calculators).

What I like about the "HP 41 CQ":

Landscape orientation! Since the HP-10C series and the TI-66 the standard for a perfect scientific calculator.

Color! It is color – but not a backlit display, good for the battery lifetime. The viewing angle is an astonishing 180 degrees. LCD, not OLED!

Alphanumeric mode! Once again a calculator with a segment-based alphanumeric display. Works multi-lingual, I tested so far English and German.

Built quality! Ten screws, rigid frame, metal face plate. This is how you do calculators! Even in China…

Innovation! This is to calculators what Swatch was for wristband watches. They manufacture it upside down. It was never that interesting to dismantle a calculator.

Features! Obviously former HP CEO Mark Hurd was involved. "Just add a feature that nobody expects from a calculator". This one is unique – find it out on my brief review!

Ladies and Gentlemen, please allow me to show you the incredible **"HP 41CQ"!**! *(No numeric name tag on the calculator)*

Have a wonderful day.

Regards, Joerg

Re: Worthy successor of the HP 41C secretly revealed!

*Message #2 Posted by **Gerson W. Barbosa** on 31 Mar 2011, 8:51 a.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> **Alphanumeric mode!** Once again a calculator with a segment-based alphanumeric display.

Doesn't a 14 or even 16-segment display severely limit the capabilities of such a wonderful calculator? I hope it does include an optional module, something like HP-4_1 GOTU (Graphic-Oriented Terminal Unit).

Regards,

Gerson.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #3 Posted by **C.Ret** on 31 Mar 2011, 9:01 a.m.,*
in response to message #2 by Gerson W. Barbosa

Right !

That will be helpful ! A true 3D display, with or without dedicated glasses, fully graphic oriented calculator. Not a calculator able of pseudo 3D representation in flat 2D screen anymore.

This will help a lot in the spatial representations from chemistry, biochemistry, geometry, design, mechanical conception and engineering and signal processing.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #4 Posted by **Gene Wright** on 31 Mar 2011, 9:24 a.m.,*
in response to message #3 by C.Ret

Hey Joerg.

This is March 31st. Wrong day.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #5 Posted by **Maximilian Hohmann** on 31 Mar 2011, 10:20 a.m.,*
in response to message #4 by Gene Wright

> Quote:
>
> Hey Joerg.
>
> This is March 31st. Wrong day.

Not in Australia :-)

Re: Worthy successor of the HP 41C secretly revealed!

*Message #6 Posted by **Walter B** on 31 Mar 2011, 11:06 a.m.,*
in response to message #5 by Maximilian Hohmann

Hallo Jörg,

was treibst du im Pazifik? Ich hab' immer gedacht du lebst in Kanada ... :-?

(What are you doing down under?)

Walter

Re: Worthy successor of the HP 41C secretly revealed!

*Message #7 Posted by **Joerg Woerner** on 31 Mar 2011, 6:13 p.m.,*
in response to message #6 by Walter B

Hallo Walter,

Ich lebe an der Ostkueste vom Amerika. Upstate New York.

Viele Gruesse aus Rochester,

Joerg

Re: Worthy successor of the HP 41C secretly revealed!

*Message #8 Posted by **Walter B** on 1 Apr 2011, 7:05 a.m.,*
in response to message #7 by Joerg Woerner

Hallo Jörg,

tja, dann warst du doch einen Tag zu früh d;-)

Viele Grüße

Walter

Re: Worthy successor of the HP 41C secretly revealed!

*Message #9 Posted by **Joerg Woerner** on 1 Apr 2011, 9:45 a.m.,*
in response to message #8 by Walter B

Ich denke halt global - deshalb habe ich den Link erst abends freigeschaltet - als im Pazifik schon der 1. April begonnen hatte ;-))

Gruss, Joerg

Re: Worthy successor of the HP 41C secretly revealed!

*Message #10 Posted by **Joerg Woerner** on 31 Mar 2011, 6:12 p.m.,*
in response to message #4 by Gene Wright

Gene,

I know - the link doesn't work. Give me an hour or so.

Regards, Joerg

Re: Worthy successor of the HP 41C secretly revealed!

*Message #11 Posted by **Didier Lachieze** on 31 Mar 2011, 12:05 p.m.,*
in response to message #1 by Joerg Woerner

May I share a picture of this secrete HP 41c successor?

Edited: 31 Mar 2011, 12:07 p.m.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #12 Posted by **Joerg Woerner** on 31 Mar 2011, 6:14 p.m.,*
in response to message #11 by Didier Lachieze

Didier,

No - it is not green!!!

Joerg

Re: Worthy successor of the HP 41C secretly revealed!

*Message #13 Posted by **Namir** on 31 Mar 2011, 3:26 p.m.,*
in response to message #1 by Joerg Woerner

Hi Joerg,

Your timing about that old HP machine could have not been worse. I just heard over the net that HP bought TI and all NDA signed with TI ALSO apply to HP products present and past. In the words of Ricky Ricardo (of the old I love Lucy TV shows) ... Hey Lucy! You have some esssplaining to do!!!

:-)

Namir

Edited: 31 Mar 2011, 3:27 p.m.

LINK INCLUDED: Worthy successor of the HP 41C secretly revealed!

*Message #14 Posted by **Joerg Woerner** on 31 Mar 2011, 6:16 p.m.,*
in response to message #1 by Joerg Woerner

Sorry folks, I forgot the link to the story.

Here we are:

Datamath Calculator Museum

Please click on the "TOP SECRET" logo on the orange banner!

Have a great day!

Best regards, Joerg

OMG it's magnetic!

*Message #15 Posted by **Michael de Estrada** on 31 Mar 2011, 6:55 p.m.,*
in response to message #14 by Joerg Woerner

I have one, but never realized that the big hard grey piece on the back is a magnet! Sure enough, it sticks to my refrigerator door, along with all the other magnetic stickies.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 2 Apr 2011, 1:58 a.m.,*
in response to message #1 by Joerg Woerner

> Quote:
>
> What I just disassembled is to me the successor of the HP 41C, the machine that killed “our” TI-88 (yes, I’m more into Texas Instruments’ calculators).

The HP-41C was released in 1979. Pre-release versions of the TI-88 became available in mid-1982. So, it doesn't seem likely that it was the HP-41C which killed the TI-88. My recollection is that the TI-88 was developed as a competitor for the HP-41C. We were told that the TI-88 was abandoned when TI made the big push with the 99/4 in late 1982 and early 1983. Later, I heard that it was the keyboard of the TI-88 which was the problem.

Re: Worthy successor of the HP 41C secretly revealed!

*Message #17 Posted by **Marcus von Cube, Germany** on 2 Apr 2011, 4:03 a.m.,*
in response to message #16 by Palmer O. Hanson, Jr.

I've heard of ESD problems, too.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

OT but neverthess interesting: A 12 year old takles Einstein's theories

*Message #1 Posted by **Marcus von Cube, Germany** on 31 Mar 2011, 2:23 a.m.*

Here is the article on times.com: http://newsfeed.time.com/2011/03/26/12-year-old-genius-expands-einsteins-theory-of-relativity/

Re: OT but neverthess interesting: A 12 year old takles Einstein's theories

*Message #2 Posted by **Maarten Ambaum (Reading, UK)** on 31 Mar 2011, 5:03 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Fun to see a young boy enjoying his calculus - and being good at it. The video has on the Time site has of course nothing to do with Einstein's theories. He just explains partial integration - something that any student of calculus would do very early on in their course!

The little snippet where he talks about his take on relativity is too vague and doesn't sound particularly profound or interesting.

Ah well, it makes for a good story to fill some pages.

Re: OT but neverthess interesting: A 12 year old takles Einstein's theories

*Message #3 Posted by **reth** on 31 Mar 2011, 5:17 a.m.,*
in response to message #1 by Marcus von Cube, Germany

a pathetic attempt to copy justin bieber's story in a wrong field though. is the mother involved?

Re: OT but neverthess interesting: A 12 year old takles Einstein's theories

*Message #4 Posted by **Michael Plant** on 31 Mar 2011, 9:57 a.m.,*
in response to message #3 by reth

I sort of agree - more because the write up implies that the point of the kid going through this was to prove to explain all of this to his math illiterate mother, who happened to tape it. It comes across as a slick and rehearsed presentation for YouTube. Clearly he knows what he is doing/talking about though. I haven't finished watching it and haven't gotten to relativity...

IQ 170

*Message #5 Posted by **Frank Boehm (Germany)** on 1 Apr 2011, 10:45 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Well, impressive :)
Even more impressive is the fact that IQ 170 is the upper bound for children, so when reaching the adult rating age, some more points are possible.
What impresses me the most are the facts that he a) seems to be a rather normal kid, b) he is helpful and not arrogant and c) is able to do free speech in front of an audience.

Let's hope he doesn't burn out soon, if he keeps his current (and past) pace, Einstein might soon look like a n00b :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

AA NiCad battery cells are now 1100 mAh rated

*Message #1 Posted by **Michael de Estrada** on 30 Mar 2011, 7:48 p.m.*

I stopped by my local Batteries Plus store today to pick up another supply of AA flat top NiCad battery cells for battery pack rebuilds and noticed that they were marked "1100" instead of the customary "1000". I asked the clerk about this and he confirmed that AA NiCads are now available in an 1100 mAh rating, up 10% from the previous 1000 mAh rating. I can remember not so long ago when they were only rated at 700 mAh, and about 450 mAh in the 1970s when the LED HP models were made. It also seems that the self-discharge rate is lower, so they hold their charge longer when placed in storage. I realize that NiCads don't compare with NiMH cells for mAh rating, but I prefer to use them because the original charging systems were designed for them.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #2 Posted by **Eric Smith** on 31 Mar 2011, 1:42 a.m.,*
in response to message #1 by Michael de Estrada

As far as I can see, the only issue with using NiMH cells in place of NiCd in HP calculators is that it will take longer to charge them. HP's charging circuit is little more than a current limiting resistor, so there doesn't appear to be any potential for mischief that wasn't already present with the NiCD cells.

I prefer to charge cells outside the calculator anyhow.

I now use the "low self discharge" NiMH cells. They have lower capacity (2000 mAh, vs. 2500 mAh for the normal NiMH AA cells). The latest Sanyo eneloop AAs take three years to drop to 75% of their original charge, and are rated for 1500 cycles.

As with alkalines, lithium, and NiCd cells, cheap off-brand NiMH usually have far less actual capacity than claimed on the label and package.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #3 Posted by **robert rozee** on 31 Mar 2011, 5:35 a.m.,*
in response to message #2 by Eric Smith

you are quite right that in HP calculators a set of Ni-Mh batteries will be a pretty much ok substitute.

the only caveat (in some other applications), is that when charged using any sort of 'smart' charger circuitry that is not designed with Ni-Mh cells in mind, it is likely the charging circuitry will not recognize the 'end of charge' conditions, which are far most subtle with Ni-Mh's than with Nicads.

as a general rule, as long as you don't charge at higher than 1/10th of the rated capacity (1/20th would be preferable), and don't leave the calculator sitting on charge for way TOO long, then all will be well. in other words, a 2000mAh Ni-Mh cell will be perfectly happy being charged at 150mA or so for a not too long time interval (no more than a day perhaps).

btw, Nicads do still have some advantages over Ni-Mh cells in certain quite specific applications. A Nicad can deliver a MUCH higher instantaneous current than a Ni-Mh cell without causing itself internal injury,

making Nicads a good choice in applications like battery drills. The environmental concerns of cadmium in the environment, of course, are a whole different matter!

rob :-)

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #4 Posted by **Randy** on 31 Mar 2011, 2:27 p.m.,*
in response to message #1 by Michael de Estrada

Sanyo has been making the 1100mah KR-1100AAU cell for at least eight years... and others are currently making 1200 mah AA nicds.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #5 Posted by **Michael de Estrada** on 31 Mar 2011, 3:18 p.m.,*
in response to message #4 by Randy

Are the 1200 mAh versions available as flat tops?

Edited: 31 Mar 2011, 3:21 p.m.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #6 Posted by **designnut** on 31 Mar 2011, 5:32 p.m.,*
in response to message #5 by Michael de Estrada

NiCad cells also have a memory of usage. One engineer bought an HP65 on a project budget and proudly wore it on his belt, and never used it. He came to me in tears, his battery would only last 5 minutes. I asked him what the instructions said to do, "run it flat and recharge it". My 65 batteries gained strength in use and would last 3 hours. Ordinary Nimh cells have a high self discharge rate, I use Sanyo eneloop with a LaCrosse smart charger. I used to have 2 chargers nearly full time just to replenish the self discharge, now I use one charger seldom. Sam

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #7 Posted by **Walter B** on 31 Mar 2011, 5:38 p.m.,*
in response to message #5 by Michael de Estrada

Where has gone the frugality of engineering? 2000 mAH are 2 Ah !

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #8 Posted by **Dieter** on 31 Mar 2011, 6:58 p.m.,*
in response to message #7 by Walter B

Walter! I'm deeply disappointed! I would have expected this from anyone else, but not *you!* 2000 mAH of course is 2000 Milliampere-Henry! What kind of unit is *that*?!

BTW - sure, 2000 mAh = 2 Ah, but would you also recommend to label all 2000 Microfarad capacitors as "2 Millifarad" ?-)

Dieter

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #9 Posted by **Walter B** on 31 Mar 2011, 7:04 p.m.,*
in response to message #8 by Dieter

Ooops, that quick and dirty post of mine was dirtier than I thought :O

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #10 Posted by **robert rozee** on 31 Mar 2011, 7:14 p.m.,*
in response to message #7 by Walter B

"mAh" is the far more commonly understood unit by the 'general public' these days. for much the same reason LED brightness is often quoted in mcd's (millicandellas): "Brightness at centre of beam measured as 12000 lux at 40cm, or 1,920,000 mcd".

personally, i'd be happier using the 'correct' units, but the 1/1000th unit has crept into folk culture and taken front seat.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #11 Posted by **Michael de Estrada** on 31 Mar 2011, 8:07 p.m.,*
in response to message #10 by robert rozee

The problem is that if you start using Ah instead of mAh, then you have to use decimal values in most cases, such as 1.1mAh or 1.2mAh. It's always been easier for me to grasp whole integer values.

Re: AA NiCad battery cells are now 1100 mAh rated

*Message #12 Posted by **Randy** on 1 Apr 2011, 1:17 p.m.,*
in response to message #5 by Michael de Estrada

Yes. Here are some bargain cells with tabs if you want to build your own packs: 1200 mah nicd with tabs

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[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator Historical literature unearthed... . ....

*Message #1 Posted by **Thomas Chrapkiewicz** on 30 Mar 2011, 11:08 a.m.*

I am looking for recommendation(s) for any/all 'Calculator Museum' type websites that these recently 'unearthed' documents should be sent. Many may not be of interest in the Hpmuseum website.

TomC

In a recent 'deep dive' into my calculator archives (Which started around 1972), I've come across a number of items which I do not believe have been archived yet.

- Texas Instruments SR-60 sales literature (1976, 8 pages) (An early printing desktop scientific)

- Olympic Sales Company 'Wholesale Price List', 1976, 82 pages

- 'MITS' Creative Electronics Catalog (Scientific, desktop calculators), 1974, 10 pages

- MITS various calculator data sheets (7400, 1200,1440, DC6, DC4, ICT1800) 197?

- Compucalc Model 6500 (a HP65 printer attachment), 1977 1 page

- HP97S I/O Calculator Color Sales brochure, 1977 6 pages

- Casios 'Super Calculators' (fx58,fx68, fx120, etc...), 4 pages

- National Semiconductor Calculator and support Integrated Circuits datasheets (MM5471S VF display and Sci Calc, MM5780 educational calculator, MM5784 8digit, 5function calculator with accumulating memory, MM5767 slide rule calculator, MM5758 Scientific Calculator, MM5760 Slide Rule calculator, MM5762 financial calculator, MM5763 statistical calculator, MM5764 conversion calculator) Calculator Kits guide - 2page brochure Handheld Calculator battery systems App Note 149.

TomC

Edited: 30 Mar 2011, 11:16 a.m.

Re: Calculator Historical literature unearthed... . ....

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Mar 2011, 12:11 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

You can send the Casio stuff to Olivier, ledudu13 <at> yahoo dot fr. He's the curator of http://www.ledudu.com, a french Casio web site.

Edited to update email address.

Edited: 31 Mar 2011, 2:17 a.m.

Re: Calculator Historical literature unearthed... . ....

*Message #3 Posted by **Karl-Ludwig Butte** on 30 Mar 2011, 3:52 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

Hello Tom,

may I suggest to send the

- HP97S I/O Calculator Color Sales brochure, 1977 6 pages

to Dave Hicks 'cause I couldn't find it in his section "Hewlett Packard Advertisements".

And the "Olypic sales club" topic was just recently discussed here in the forum by Gene Wright.

If you have a pdf version of both I would be very happy if you could drop a copy into my mailbox ;-)

Kind regards

Karl

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator key mechanics - Which design is more durable?

*Message #1 Posted by **Timo** on 30 Mar 2011, 3:50 a.m.*

Hi forum members,

only yesterday I took out two of my non HP-calculators, namely a Sharp EL-512 and an EL-512H. The first one was used by my father almost daily in office for as long as I can think, the latter was given to me by my father when I entered the Gymnasium (High School). Both saw really extensive use over many many years and still work like a charm especially the keyboards.

I never opened one of my Sharp calcs, but considering the almost total absence of tactile feel for their keys I'd presume, that there is almost no mechanics involved in the keyboard design. Does anyone know how the Sharp mechanics compares to that of the HP keyboard?

Furthermore, that made me wonder which key mechanics design philosophy is the more durable one? The Sharp design with almost now tactile feel but (presumably) very limited and simple key machanics, or the well known HP design?

All my HP calcs still feel pretty new, but I can recall a number of TAS auctions that stated sticky keys or keys that lost their typical "klick".

What is your experience/opinion about this?

Regards, Timo

Re: Calculator key mechanics - Which design is more durable?

*Message #2 Posted by **Eric Smith** on 30 Mar 2011, 3:52 a.m.,*
in response to message #1 by Timo

Compared to **which** HP keyboard? HP has gone through many designs over the years.

Re: Calculator key mechanics - Which design is more durable?

*Message #3 Posted by **Timo** on 30 Mar 2011, 4:36 a.m.,*
in response to message #2 by Eric Smith

Well, the keyboards I thought about are the ones I have experienced first hand, i.e. HP-41, HP-42S, HP-48GX, HP-15C.

Re: Calculator key mechanics - Which design is more durable?

*Message #4 Posted by **Walter B** on 30 Mar 2011, 9:03 a.m.,*
in response to message #3 by Timo

As Eric mentioned, there were and are quite different keyboard technologies used in HP's calculators under the keyboard. Mechanics was very simple (and I guess it still is): the individual keys are held up

by the force of a mechanical spring. This spring also produces the "snap" or tactile feedback. The very first in the Classics were gold-plated sheets of metal since apparently no domes were available ... I leave the details for others who have opened more calcs than me.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #1 Posted by **gene wright** on 29 Mar 2011, 11:17 p.m.*

I remember these catalogs from around 1975-1977 that had wonderful line drawings of calculators. In particular, I remember line drawings of the big M55 and S61 Commodore calculators.

Does **anyone** still have a copy of this catalog who could scan it to PDF?

I've been looking for some time for this piece of my past. :-)

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #2 Posted by **Mark Harman** on 30 Mar 2011, 1:38 a.m.,*
in response to message #1 by gene wright

Gene,

Wow, this brings back some interesting memories from my childhood in the 1980s! I remember getting Boy's Life magazine and seeing the Olympic Sales Club ads that often flanked the back cover. I remember the ads vividly with "Captain O" and telling kids to call the toll free number and "ask for Ruth." Several times, my older brothers and I requested the catalogs and information only to never sell the stuff... :^D

We didn't think it was worth the effort for the prizes or cash. It was more profitable and easier for us to deliver newspapers, where we had steady customers, cash flow, and better opportunities to win prizes. Heck, we all won wads of savings bonds. :)

My oldest brother was involved in Cub Scouts and Boy Scouts in the late 1970's. He likely had some of those catalogs, but I am sure they are long gone as he never sold any of their merchandise. I think actually selling the stuff would be required to form enough of an emotional connection to it to hold on to those catalogs. In other words, I wish you luck.

Anyhow, no copies - but plenty of thanks for bringing back some good (and retrospectively humorous) memories.

Thanks,

Mark

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #3 Posted by **Thomas Chrapkiewicz** on 30 Mar 2011, 10:25 a.m.,*
in response to message #2 by Mark Harman

Hi Gene:

Got one here!

1976-1977 Olympic Sales Company Catalog. Page 51 has the line drawings you referenced; drop me an email. I had purchased my HP65 from Olympic Sales in 1975ish; their price was discounted by $100.00.

TomC

ps: Found much other 'ancient' (MITS, NSC IC data sheets) lit in my archives which I'll report back on later.

Edited: 30 Mar 2011, 10:26 a.m.

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #4 Posted by **Mark Harman** on 30 Mar 2011, 11:16 p.m.,*
in response to message #3 by Thomas Chrapkiewicz

Uhm... Okay, I'm feeling silly now. Are we not talking about the Olympic Sales Club here? Or are we talking about an electronics distributor in the 70's that has nothing to do with what I am thinking of? In any case, the one I was thinking about did offer calculators as prizes that could be earned for selling boxes of Christmas cards and other things.

Mark

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #5 Posted by **Gene Wright** on 31 Mar 2011, 7:45 a.m.,*
in response to message #4 by Mark Harman

I think it is the Company not the club, but someone had told me they were one and the same, which apparently they are not.

Electronics yes, prizes no. :-)

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #6 Posted by **Joerg Woerner** on 30 Mar 2011, 10:42 a.m.,*
in response to message #1 by gene wright

I have at least a 16-page Commodore brochure covering the S61, N60 and M55 calculators.

Joerg

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #7 Posted by **Gene Wright** on 30 Mar 2011, 10:55 a.m.,*
in response to message #6 by Joerg Woerner

Great! Can you scan that to PDF?

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #8 Posted by **Thomas Chrapkiewicz** on 30 Mar 2011, 11:24 a.m.,*
in response to message #7 by Gene Wright

Gene:

You've got mail!

Regards, TomC

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #9 Posted by **Gene Wright** on 30 Mar 2011, 4:42 p.m.,*
in response to message #8 by Thomas Chrapkiewicz

Thanks Thomas.

I'd love to see most of the catalog... primarily of course the pages dealing with calculators.

I forget what other stuff might have been in there. Been a long time.

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #10 Posted by **Joerg Woerner** on 30 Mar 2011, 2:19 p.m.,*
in response to message #7 by Gene Wright

Commander Wright:

16 pages equals about 1 hour to scan, photoshop and PDF it. Consider it done by 10:0p PM Eastern Time.

Regards, Joerg

PS: Gene, this will be an exciting evening! I requested a few days ago from Texas Instruments a Casio Prizm to compare it with my TI-Nspire CX's prototypes. Fedex tracking shows the box delivered since a few minutes and according to TI does it include a "surprise with the Hewlett Packard logo"!!! Can't wait to leave the Office today ;-))

Re: Olympic Sales Club - catalog with calculators? Anyone have a copy to scan?

*Message #11 Posted by **Gene Wright** on 30 Mar 2011, 2:40 p.m.,*
in response to message #10 by Joerg Woerner

Hilarious.

TI is buying Casio's to send to you? I need to get on that list. :-)

And, wonder what HP sku TI would be sending you? A 50g perhaps?

A good night, indeed!

and thanks for the scans. I have all three of those Commodores and they are among my favorite.

I distinctly remember having that Olympic Sales catalog with me nearly every day in the 8th grade and would often look at the line drawings of the M55 wondering what each of those wild functions meant.

Re: Commodore Specialized Calculators Leaflet online

*Message #12 Posted by **Joerg Woerner** on 30 Mar 2011, 7:06 p.m.,*
in response to message #7 by Gene Wright

Gene,

The '76 catalogue is online!

Just visit Datamath Calculator Museum and click on the left navigation frame "DOWNLOADS" and "SALES LEAFLETS". You now have to follow the QUICK-LINK to non-TI calculators. You'll find a full-color PDF copy with about 4.3 MByte - original scan was provided by fellow collector Bob Patton!

Regards, Joerg

Re: Commodore Specialized Calculators Leaflet online

*Message #13 Posted by **Gene Wright** on 30 Mar 2011, 10:00 p.m.,*
in response to message #12 by Joerg Woerner

Thanks! That looks great!

Oddity ... Re: Commodore Specialized Calculators Leaflet online

*Message #14 Posted by **Gene Wright** on 31 Mar 2011, 9:20 a.m.,*
in response to message #13 by Gene Wright

Interesting tidbit.

Look at the first page. Shows the calculators covered in the brochure from a side angle.

however, one of them on the front cover is different than the detailed pictures in the brochure itself.

Spot which one? and I wonder why?

Re: Oddity ... Re: Commodore Specialized Calculators Leaflet online

*Message #15 Posted by **Marcus von Cube, Germany** on 31 Mar 2011, 11:50 a.m.,*
in response to message #14 by Gene Wright

The M-55 looks darker in the single shot than on the first page. I guess it's a matter of illumination, not a real difference.

Re: Oddity ... Re: Commodore Specialized Calculators Leaflet online

*Message #16 Posted by **Gene Wright** on 31 Mar 2011, 1:23 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Nope, there is a difference... big difference... between one model on the front page and the detailed pic of the same model later in the brochure.

Re: Oddity ... Re: Commodore Specialized Calculators Leaflet online

*Message #17 Posted by **Gene Wright** on 31 Mar 2011, 1:56 p.m.,*
in response to message #16 by Gene Wright

I'll go ahead and tell what I think the difference is...

The front cover shows the calculator with color keys that is probably the 4190, but the internal detail is the non-color key 9190.

If you look, the non-M55, S61, N60, PR100 calculator has color on the keys, but inside the brochure, the calculator with color on the keys is all non-color.

Just a quirk. Eh.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting Avionics HP-67 on TAS

*Message #1 Posted by **Michael de Estrada** on 29 Mar 2011, 9:36 p.m.*

Browsing TAS I saw this interesting Avionics HP-67. IIRC, something like this was for sale previously, but it wasn't clear what it actually was or how it worked. Perhaps someone here will recognize it.

Re: Interesting Avionics HP-67 on TAS

*Message #2 Posted by **Mike Morrow** on 30 Mar 2011, 2:16 a.m.,*
in response to message #1 by Michael de Estrada

Very interesting! I've owned an HP-67 since 1977, yet this application is one I've never seen, nor heard mentioned.

Re: Interesting Avionics HP-67 on TAS

*Message #3 Posted by **Juergen Keller** on 30 Mar 2011, 9:37 a.m.,*
in response to message #1 by Michael de Estrada

You also find the Control Unit itself on TAS. The device is also pictured on a brochure in the HP-67 auction, unfortunately, the HP-67 covers most of it. The third device involved seems to be the monitor. But I don't know what this is all about ...

Re: Interesting Avionics HP-67 on TAS

*Message #4 Posted by **Katie Wasserman** on 30 Mar 2011, 10:36 a.m.,*
in response to message #3 by Juergen Keller

This has come up before. See discussions here and a followup here.

(and some more posts too I think)

Re: Interesting Avionics HP-67 on TAS

*Message #5 Posted by **BobVA** on 31 Mar 2011, 8:58 p.m.,*
in response to message #1 by Michael de Estrada

I found a couple of references to the BX2000 avionics system. Apparently the calculator was used as both a storage device for loading way points and could also be used as a keyboard for numerical entry. One reference noted that the "controller/programmer" was a TI SR-52; not sure if that's a mistake or if they used both calculators at some point.

Bob

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Weird 28S keyboard on Anniversary model

*Message #1 Posted by **Keith Midson** on 29 Mar 2011, 3:53 a.m.*

I bought a 100th Anniversary edition of the 28S a few years ago - mint physical condition but the bottom row of keys on the alpha keyboard didn't work. So I just bought another from TAS thinking that this one would be fine (laws of probability would surely work in my favour ...), but it's got EXACTLY the same problem!!
Now I have about 7 other 28S's as well as 3 x 28C's and a few 18C's and 19B's in my collection and have never come across this before. Has anyone else had this issue? Was there a batch quality control issue with the limited edition version? Very strange. Keith.

Re: Weird 28S keyboard on Anniversary model

*Message #2 Posted by **Martin Pinckney** on 29 Mar 2011, 9:22 a.m.,*
in response to message #1 by Keith Midson

> Quote:
>
> (laws of probability would surely work in my favour ...), ... Now I have about 7 other 28S's as well as 3 x 28C's and a few 18C's and 19B's

The laws of probability are working *against* you. Conclusion: too many clamshells. [;-)

Re: Weird 28S keyboard on Anniversary model

*Message #3 Posted by **Thomas Radtke** on 29 Mar 2011, 1:54 p.m.,*
in response to message #2 by Martin Pinckney

And still not enough Clamshells for good statistics ;-).

Re: Weird 28S keyboard on Anniversary model

*Message #4 Posted by **Keith Midson** on 29 Mar 2011, 7:13 p.m.,*
in response to message #3 by Thomas Radtke

Actually it's proof of Murphy's Law.

Re: Weird 28S keyboard on Anniversary model

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 29 Mar 2011, 1:02 p.m.,*
in response to message #1 by Keith Midson

> Quote:
>
> Has anyone else had this issue? Was there a batch quality control issue with the limited edition version? Very strange. Keith.

For whatever it is worth my 100 Year American Mathematics 1888-1988 HP-28S serial number 2801A04702 does NOT have a problem with the bottom row of the alpa keyboard.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another collecting success

Message #1 Posted by ***Palmer O. Hanson, Jr.*** *on 29 Mar 2011, 12:07 a.m.*

On the past Sunday I purchased a mint condition Casio fx-7000G, the first graphing calculator, with a mint condition user's manual for four dollars at the local Salvation Army thrift store. My original one, which was purchased directly from Casio at the time the device came on the market, had developed that sort of dark bloom in the display which made it hard to read.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Date calculations on the 35s

*Message #1 Posted by **PeterP** on 28 Mar 2011, 7:52 p.m.*

Hi, just wondering if someone has written a little program to do date calculations on the 35s that they would be willing to share.

Thanks!

Peter

Re: Date calculations on the 35s

*Message #2 Posted by **Don Shepherd** on 28 Mar 2011, 9:05 p.m.,*
in response to message #1 by PeterP

Here is a very nice algorithm that is easy to implement as an RPN program.

Re: Date calculations on the 35s

*Message #3 Posted by **Gerson W. Barbosa** on 28 Mar 2011, 9:44 p.m.,*
in response to message #1 by PeterP

Peter,

I don't have the HP-35s anymore, but I think the following should work on it with little or no change.

Regards,

Gerson.

```
DATE & DAYS BETWEEN DATES ROUTINES (HP-33S VERSION)


G0001 LBL G
G0002 x<>y
G0003 STO A
G0004 x<>y
G0005 ENTER
G0006 IP
G0007 STO C
G0008 Rv
G0009 RLC C
G0010 -
G0011 100
G0012 *
G0013 ENTER
G0014 IP
G0015 STO B
G0016 Rv
G0017 FP
G0018 4
G0019 10^x
G0020 *
G0021 STO D
G0022 2
```

```
G0023 ENTER
G0024 RCL C
G0025 x>y?
G0026 GTO H
G0027 RCL D
G0028 1
G0029 -
G0030 100
G0031 /
G0032 1
G0033 +
G0034 IP
G0035 0.75
G0036 *
G0037 IP
G0038 +/-
G0039 RCL D
G0040 1
G0041 -
G0042 4
G0043 /
G0044 IP
G0045 +
G0046 RCL C
G0047 1
G0048 -
G0049 31
G0050 *
G0051 +
G0052 RCL B
G0053 +
G0054 RCL D
G0055 365
G0056 *
G0057 +
G0058 RTN



H0001 LBL H
H0002 RCL D
H0003 365
H0004 *
H0005 RCL B
H0006 +
H0007 RCL C
H0008 1
H0009 -
H0010 31
H0011 *
H0012 +
H0013 RCL C
H0014 0.4
H0015 *
H0016 2.3
H0017 +
H0018 IP
H0019 -
H0020 RCL D
H0021 4
H0022 /
H0023 IP
H0024 +
H0025 RCL D
H0026 100
H0027 /
H0028 1
H0029 +
H0030 0.75
H0031 *
H0032 IP
H0033 -
H0034 RTN



N0001 LBL N
N0002 XEQ G
N0003 RCL A
N0004 XEQ G
```

```
N0005 RCL A
N0006 -
N0007 +/-
N0008 RTN



W0001 LBL W
W0002 XEQ G
W0003 ENTER
W0004 +/-
W0005 7
W0006 /
W0007 IP
W0008 7
W0009 *
W0010 +
W0011 RTN



Length & Checksum Table:



LBL    CK   LN
 G    7A9E  318
 H    75E1  210
 N    E3B8   24
 W    3A2B   57



Usage:



date 1 (MM.DDYYYY)
ENTER
date 2 (MM.DDYYYY)
XEQ N  => number of days between dates



date   (MM.DDYYYY)
XEQ W  => weekday (0=Sat, 1=Sun, ... , 6=Fri)
```

Re: Date calculations on the 35s

*Message #4 Posted by **Eddie W. Shore** on 29 Mar 2011, 9:04 a.m.,*
in response to message #1 by PeterP

```
I think I ported this from some place (old calculator program perhaps), but here is what I
have.


Days between dates:
1.  Enter date in mm.ddyyyy format, XEQ X001
2.  Store result in A
3.  Enter second date, XEQ X001
4.  Subtract A from the result


Find the date so many days after starting date:
1.  Enter date, XEQ X001
2.  Add the number of days to the result
3.  XEQ X037


General:
X001 - mm.ddyyyy to Julian
X037 - Julian to mm.ddyyyy


Program:
X001 LBL X
X002 INTG
```

```
X003 STO M
X004 LASTx
X005 FP
X006 1E2
X007 x
X008 INTG
X009 STO D
X010 LASTx
X011 FP
X012 1E4
X013 x
X014 STO Y
X015 2
X016 RCL M
X017 x > y ?
X018 GTO X023
X019 1
X020 STO- Y
X021 12
X022 STO+ M
X023 1
X024 STO+ M
X025 RCL Y
X026 365.25
X027 x
X028 INTG
X029 30.6001
X030 RCLx M
X031 INTG
X032 +
X033 RCL+ D
X034 1720982
X035 +
X036 RTN


X037 ENTER
X038 68569
X039 +
X040 STO A
X041 4
X042 x
X043 146097
X044 /
X045 INTG
X046 STO B
X047 146097
X048 x
X049 3
X050 +
X051 4
X052 /
X053 INTG
X054 +/-
X055 RCL+ A
X056 STO A
X057 1
X058 +
X059 4000
X060 x
X061 1461001
X062 /
X063 IP
X064 STO Y
X065 1461
X066 x
X067 4
X068 /
X069 INTG
X070 +/-
X071 31
X072 +
X073 RCL+ A
X074 STO A
X075 80
X076 x
X077 2447
X078 /
X079 INTG
X080 STO M
```

```
X081 2447
X082 x
X083 80
X084 /
X085 INTG
X086 +/-
X087 RCL+ A
X088 STO D
X089 RCL M
X090 11
X091 /
X092 INTG
X093 STO A
X094 12
X095 x
X096 +/-
X097 2
X098 +
X099 RCL+ M
X100 STO M
X101 RCL B
X102 49
X103 -
X104 1E2
X105 x
X106 RCL+ Y
X107 RCL+ A
X108 STO Y
X109 FIX 6
X110 1E-6
X111 x
X112 +
X113 x<>y (SWAP)
X114 1E-2
X115 x
X116 +
X117 RTN
```

Re: Date calculations on the 35s

*Message #5 Posted by **PeterP** on 29 Mar 2011, 3:14 p.m.,*
in response to message #4 by Eddie W. Shore

wow, you guys are simply awesome, thank you so much, this is exactly what I was looking for. Thanks!!!

Peter

Re: Date calculations on the 35s. (International date version)

*Message #6 Posted by **Eddie W. Shore** on 3 Apr 2011, 5:15 p.m.,*
in response to message #4 by Eddie W. Shore

```
Here is the International Version:


Days between dates:
1.  Enter date in dd.mmyyyy format, XEQ X001
2.  Store result in A
3.  Enter second date, XEQ X001
4.  Subtract A from the result



Find the date so many days after starting date:
1.  Enter date, XEQ X001
2.  Add the number of days to the result
3.  XEQ X037
```

```
General:
X001 - dd.mmyyyy to Julian
X037 - Julian to dd.mmyyyy



Program:
X001 LBL X
X002 INTG
X003 STO D
X004 LASTx
X005 FP
X006 1E2
X007 x
X008 INTG
X009 STO M
X010 LASTx
X011 FP
X012 1E4
X013 x
X014 STO Y
X015 2
X016 RCL M
X017 x > y ?
X018 GTO X023
X019 1
X020 STO- Y
X021 12
X022 STO+ M
X023 1
X024 STO+ M
X025 RCL Y
X026 365.25
X027 x
X028 INTG
X029 30.6001
X030 RCLx M
X031 INTG
X032 +
X033 RCL+ D
X034 1720982
X035 +
X036 RTN



X037 ENTER
X038 68569
X039 +
X040 STO A
X041 4
X042 x
X043 146097
X044 /
X045 INTG
X046 STO B
X047 146097
X048 x
X049 3
X050 +
X051 4
X052 /
X053 INTG
X054 +/-
X055 RCL+ A
X056 STO A
X057 1
X058 +
X059 4000
X060 x
X061 1461001
X062 /
X063 IP
X064 STO Y
X065 1461
X066 x
X067 4
X068 /
X069 INTG
```

```
X070 +/-
X071 31
X072 +
X073 RCL+ A
X074 STO A
X075 80
X076 x
X077 2447
X078 /
X079 INTG
X080 STO M
X081 2447
X082 x
X083 80
X084 /
X085 INTG
X086 +/-
X087 RCL+ A
X088 STO D
X089 RCL M
X090 11
X091 /
X092 INTG
X093 STO A
X094 12
X095 x
X096 +/-
X097 2
X098 +
X099 RCL+ M
X100 STO M
X101 RCL B
X102 49
X103 -
X104 1E2
X105 x
X106 RCL+ Y
X107 RCL+ A
X108 STO Y
X109 FIX 6
X110 1E-6
X111 RCL M
X112 1E-2
X113 *
X114 +
X115 RCL+ D
X116 RTN
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-42S Repair and Color Match

*Message #1 Posted by **aj04062** on 28 Mar 2011, 7:10 p.m.*

For what it's worth, I have repaired my HP-42S Original Thread:

Original Thread

A very steady hand and several re-dos with the silver trace repair and I have a fully functional LCD again. I repaired about 6 traces in all. Thanks to all who assisted.

Now to make it "almost new" I was wondering if anyone has tried to touch up damaged brown paint on the faceplates of these calcs. Somehow the previous owner spilled something that damaged a small area.

I suppose I could buy a few model paints and start mixing to try and match, but was wondering if anyone has ever found an off the shelf match.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

An Encounter at WAL-MART

*Message #1 Posted by **Namir** on 28 Mar 2011, 10:46 a.m.*

Hi All,

I was shopping at my local WAL-MART this morning. As I passed one of the the main isles, my eyes (OK, I had some serious problems with them recently ... as in being half blind for two months) caught the display of a sizable lot of TI Graphing calculators--their location seemed out of place. I walked towards these "machines" and realized they were TI-84 Plus machines ... when I looked at the price ... it was FIVE DOLLARS!!! My gut reaction (for one who watches TAS calculators on a hourly basis) was to grab as many of these machines as I can ... somehow WAL-MART is GIVING AWAY these little darlings away for JUST FIVE DOLLARS. That's when the other part of my brain, which takes time to evaluate and study the situation, kicked in. I realized that the FIVE dollars were buying my plastic calculator covers .. and not the machines itself!!! Bummer!@&^#%@# When I turned to share with my wife (who used to sell calculators at a local university store until 3 years ago) what I found, there was another woman standing next to her who had the same experience I had!!! We laughed about our hasty conclusions and wished the illusion to be true ... oh how much we would have made on TAS.

Sigh!!!!!!!!!!

Namir

Re: An Encounter at WAL-MART

*Message #2 Posted by **Mike Morrow** on 28 Mar 2011, 12:12 p.m.,*
in response to message #1 by Namir

Sometimes great sales can be found at a local Wal-Mart, where there appears to be great discretion allowed to local management in setting prices for items to be cleared from inventory.

Last year my local Wal-Mart cleared most of their high-end calculators. I got a TI-89 Titanium with Version 4 hardware for $42.50, and a Casio fx-9750GII for $23.50. Both brand new in unopened bubble pack.

The excellent Casio fx-115ES was being sold for months last year at $13.00, before disappearance. But these have just been re-stocked again at my local store, but for the old normal price of $17.48.

(No connection here to Wal-Mart except as a customer.)

Re: An Encounter at WAL-MART

*Message #3 Posted by **Martin Pinckney** on 28 Mar 2011, 1:12 p.m.,*
in response to message #2 by Mike Morrow

> Quote:
>
> Sometimes great sales can be found at a local Wal-Mart, where there appears to be great discretion allowed to local management in setting prices for items to be cleared from inventory.

Some of you may remember a couple years ago I bought 39 10bii's (discontinued bronze version) for $2 each. I gave some to my wife for prizes for her HS students. Sold the rest on eB** for $16 each, I think. This enabled me to pick up a few Pioneers and maybe a Leatherman or two that I wanted.

Re: An Encounter at WAL-MART

*Message #4 Posted by **Mike Morrow** on 28 Mar 2011, 2:57 p.m.,*
in response to message #3 by Martin Pinckney

At my local W-M last year, I picked up two of those HP 10bii units for $5.50 each. I've no complaints even though that's much higher than your $2 price. :-)

If I have time and I'm in an unfamiliar W-M, I usually try to find the clearance aisle to see if there's anything dirt cheap upon which I normally would not waste money. I think that the TI-89 HW4 unit I got was worth $42.50. But given the availability (but NOT at W-M) of the far superior HP 50G at very reasonable price, I'm not sure that the TI-89 was worth any *more* than what I paid.

Edited: 28 Mar 2011, 3:01 p.m.

Re: An Encounter at WAL-MART

*Message #5 Posted by **Namir** on 28 Mar 2011, 5:51 p.m.,*
in response to message #2 by Mike Morrow

Several years ago I found in the same WAL-MART an HP-17BII, which they only sell/sold online. When I asked for its price, they huffed and puffed and ended up giving me the same price of an HP-10B. So I bought the machine!

:-)

Namir

Re: An Encounter at WAL-MART

*Message #6 Posted by **Paul Gaster** on 29 Mar 2011, 12:28 p.m.,*
in response to message #5 by Namir

The calculator section at my local Walmart is always a mess. Calculators are always in the wrong spot so finding the real price takes some work. It's not customers moving things around either. Sometimes you can tell somebody unloaded a case of calculators, had no room, and just stuck them in any open slots based on how many extra of one type of calculator is there. Actually, many items throughout the store are like this as well. You have to be very careful. It seems like the best value items in each section/isle are constantly out of stock and often workers fill in those areas with other more expensive items. If you don't pay close attention you will end up spending a lot more than you think. I have been meaning to complain, but to be honest I don't think they care, or this is deliberately done to make more money. I really should just start shopping elsewhere.

Re: An Encounter at WAL-MART

*Message #7 Posted by **Martin Pinckney** on 29 Mar 2011, 1:30 p.m.,*
in response to message #6 by Paul Gaster

Quote:

> ... to be honest I don't think they care, or this is deliberately done to make more money.

Or just general incompetence. They buy stuff made in China at virtual slave-labor wages, ship it in huge containers, sell it in mega-stores designed to minimize costs, staffed by the cheapest labor money can buy.

Is it any wonder we long for the days of the $300 HP calculators?

Wait - as a matter of fact, those days are still here, thanks to eB**!

Re: An Encounter at WAL-MART

*Message #8 Posted by **Jim Yohe** on 29 Mar 2011, 1:39 p.m.,*
in response to message #7 by Martin Pinckney

ROFL

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP IL Video interface 82163A

*Message #1 Posted by **dinamarco** on 28 Mar 2011, 9:41 a.m.*

I received a few days ago a new video interface HP82163A, running.. quite different from I bought in TAS. The advises I received from members helped. Thanks for help me. Best Regards...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

not bashing an ebay seller

*Message #1 Posted by **db (martinez, ca.)** on 28 Mar 2011, 12:09 a.m.*

First; i have nothing to do with posting these auctions nor do i know who is doing them.

There is someone selling 5 non-hp-RPN calculators on ebay right now. He clearly knows what they are but instead of starting the bidding out at $250 he priced each of them at .99 to start and is letting them float. I bid on the Harvard myself and there are 4 rare scientifics there that i already have. I think that everyone needs at least one non-hp RPN.

http://shop.ebay.com/hokie1985/m.html?_trksid=p4340.l2562

Re: not bashing an ebay seller

*Message #2 Posted by **robert rozee** on 28 Mar 2011, 5:49 a.m.,*
in response to message #1 by db (martinez, ca.)

he is indeed a virtuous man - though it is a shame he's only shipping to US addresses.

Re: not bashing an ebay seller

*Message #3 Posted by **Namir** on 28 Mar 2011, 8:16 a.m.,*
in response to message #1 by db (martinez, ca.)

not bashing = praising (??)

I like this kind of starting prices .... he may end up doing very well!!

:-)

Namir

Re: not bashing an ebay seller

*Message #4 Posted by **Michael de Estrada** on 28 Mar 2011, 10:50 a.m.,*
in response to message #1 by db (martinez, ca.)

I saw those listings too. He also has a very nice HP-19c starting at $199.99, which is extremely reasonable for that unit. Too bad the Prinztronic is apparently kaput, since I don't have one.

Meanwhile, I continue to sell off my excess HP RPN calcs, while continuing to acquire more non-HP RPN calcs to the point where the non-HP RPN calcs now represent more than 1/4 of the total of RPN calcs in the collection. I've managed to cut down to the point where the total number of working calculators is an even 100, although some of those have serious functional issues such as bad keyboards, displays etc.

Edited: 28 Mar 2011, 11:18 a.m.

Re: not bashing an ebay seller

*Message #5 Posted by **Michael de Estrada** on 6 Apr 2011, 7:27 p.m.,*
in response to message #4 by Michael de Estrada

Well, now that the auction is over, I can happily announce that I am the proud owner of two more non-HP RPN calcs, my second APF Mark 55 and first Prinztronic Program (same chipset as the Novus 4515 Mathematician PR). The Prinztronic was advertised as not working, but it turned out to be nothing more than a bad ON (power) switch. I simply cut the wires connected to the switch terminals inside the calc and spliced them together, and operate the calc using an AC adapter instead of AA cells. In stark contrast to the tiny mushy keyboard buttons on the Novus, the Prinztronic has nice clicky buttons.

Re: not bashing an ebay seller

*Message #6 Posted by **Peter Geiser** on 29 Mar 2011, 2:48 p.m.,*
in response to message #1 by db (martinez, ca.)

Sometimes, when I'm selling part of my collection, I am just glad to rid myself of the stuff...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Summing Function

*Message #1 Posted by **Jim Yohe** on 27 Mar 2011, 9:08 p.m.*

Is there a similar function to the HP-27S Summing {***sigma***} Function (page 108 of Owner's Manual) but available on the HP-42S or the HP-32SII and in the related owner's manual(s)? I can't seem to find one but I could have overlooked it.

FYI, from HP-27S manual:

{***sigma***}(counter variable : starting value : ending value : step size : algebraic expression)

Definition: Sums values of the algebraic expression for values of the counter variable. The counter variable starts with the starting value and is incremented in steps to a final ending value.

I'd like to try out the following equation in SOLVE on my 42S and 32SII if possible.

Solve for PI' (since PI is already a function):

PI'=(6÷SQRT(3))*{***sigma***}(I:0:LAST:1:(-1)^I÷((2xI+1)x3^I))

It takes a value of 21 in variable LAST to produce 12 digits of accuracy (last digit rounded up) for PI'.

Ref: The history of the approximation of the number PI; 4.1. Gottfried Wilhelm Leibniz (1646-1716); Scholz, Werner; http://cwscholz.net/projects/fba/fba.html

=== Confounded ... how, if even possible, do I embed special characters like the {***sigma***} symbol (Σ) into a forum message? :-/

Re: Summing Function

*Message #2 Posted by **Don Shepherd** on 27 Mar 2011, 9:30 p.m.,*
in response to message #1 by Jim Yohe

There is no sigma command in the 32sii solver, but you could do it in a program.

This gives you the sigma character in a forum post (thanks Thomas Klemm):
[img:http://www.hpmuseum.org/software/symsums.gif]

Re: Summing Function

*Message #3 Posted by **Jim Yohe** on 27 Mar 2011, 9:40 p.m.,*
in response to message #2 by Don Shepherd

Yes, thank you Thomas (and Don). Too bad I didn't know it earlier, but better late than never.

PI'=(6÷SQRT(3))*Σ(I:0:LAST:1:(-1)^I÷((2xI+1)x3^I))

That looks better!

Edited: 27 Mar 2011, 10:52 p.m.

Re: Summing Function

*Message #4 Posted by **Thomas Klemm** on 29 Mar 2011, 2:18 a.m.,*
in response to message #2 by Don Shepherd

You might like to read my article: How to use a formula in a post .

Here's the formula in LaTeX:

```
\frac{\pi}{6}=\frac{1}{\sqrt{3}}\sum_{n=0}^{\infty}\frac{(-1)^n}{(2n+1)3^n}
```

At that's the result:

$$\frac{\pi}{6} = \frac{1}{\sqrt{3}} \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n+1)3^n}$$

> Quote:
>
> you could do it in a program

```
00 { 42-Byte Prgm }
01>LBL "Leibniz"
02 STO 00
03 SIGN
04 ENTER
05 ENTER
06 LBL 00
07 X<> ST Z
08 2
09 +
10 X<>Y
11 -3
12 /
13 ENTER
14 RCL/ ST Z
15 R^
16 +
17 DSE 00
18 GTO 00
19 3
20 SQRT
21 *
22 STO+ ST X
23 END
```

Run:

```
21
XEQ "Leibniz"
```

Kind regards
Thomas

Edited: 29 Mar 2011, 2:24 a.m.

Re: Summing Function

*Message #5 Posted by **Jim Yohe** on 29 Mar 2011, 3:24 a.m.,*
in response to message #4 by Thomas Klemm

Thomas, that looks even better but it's not the why it looks when the equation is entered into the HP-27S, but thank you non-the-less. I'll have to practice playing around with LaTeX a bit in between my studies. So much to do ... so little time. :-)

Thanks for the HP-42S program, as well.

Re: Summing Function

*Message #6 Posted by **Martin Pinckney** on 29 Mar 2011, 9:10 a.m.,*
in response to message #5 by Jim Yohe

> Quote:
>
> Thomas, that looks even better but it's not the why it looks when the equation is entered into the HP-27S...

$$\frac{\pi}{6} = \frac{1}{\sqrt{3}} \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n+1)3^n}$$

Jim, if you want to see something like the above, you'll need a 48GX ;-)

Re: Summing Function

*Message #7 Posted by **Jim Yohe** on 29 Mar 2011, 1:37 p.m.,*
in response to message #6 by Martin Pinckney

That's nice to know and I will be able to see that for myself when I become the owner of a 48GX soon. :-D

Though my main question was whether the 42s and 32sii had a similar "summing function" as the 27s since I failed find one in either of the owner's manuals. Don directly answered my question for the 32sii and I'd assume the 42s doesn't provide that same function either with Thomas' indirect answer of a programming solution.

Obviously you can do so much more through programming than relying on build in "functions" and I'm content with that. Thank you all.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Batteries (Update)

*Message #1 Posted by **BrianDH** on 27 Mar 2011, 8:43 p.m.*

I just wanted to let people know that Equilizer 357 batteries worked fine in my 15C. Got them at Target for about $5, so not too expensive.

Re: HP 15C Batteries (Update)

*Message #2 Posted by **Bill (Smithville, NJ)** on 28 Mar 2011, 4:24 a.m.,*
in response to message #1 by BrianDH

Brian,

I have been using the Energizer 357 batteries for several years now, and they do work great. The nice thing is they come three to a package at a very resonable price. I usually keep a few extra packages of batteries around at work and home so I never run out of battery power.

Bill

Re: HP 15C Batteries (Update)

*Message #3 Posted by **Paul Dale** on 28 Mar 2011, 4:31 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

That's something you don't hear often. A voyager running out of power :-)

- Pauli

Re: HP 15C Batteries (Update)

*Message #4 Posted by **Jeff Kearns** on 28 Mar 2011, 11:04 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Hi Bill,

You must be a power - HP 15C user. I have changed my batteries only once since 1986. Aren't you concerned the batteries in your drawer will be almost as dead as the ones in your calculator by the time you have to use them?

Jeff Kearns

Re: HP 15C Batteries (Update)

*Message #5 Posted by **Michael Plant** on 28 Mar 2011, 1:22 p.m.,*
in response to message #4 by Jeff Kearns

Quote:

> Aren't you concerned the batteries in your drawer will be almost as dead as the ones in your calculator by the time you have to use them?

One tip to keep new batteries "fresh" is to keep them in the fridge... pun intended ;)

Re: HP 15C Batteries (Update)

*Message #6 Posted by **Randy** on 28 Mar 2011, 5:57 p.m.,*
in response to message #5 by Michael Plant

> Quote:
>
> One tip to keep new batteries "fresh" is to keep them in the fridge... pun intended ;)

Actually, that's a really bad idea. From Enegizer's website FAQ's:

Q: Is it a good idea to store batteries in a refrigerator or freezer?

No, storage in a refrigerator or freezer is not required or recommended for batteries produced today. Cold temperature storage can in fact harm batteries if condensation results in corroded contacts or label or seal damage due to extreme temperature storage. To maximize performance and shelf life, store batteries at normal room temperatures (68°F to 78°F or 20°C to 25°C) with moderated humidity levels (35 to 65% RH).

And this is another good point, especially for 41's and 48's:

Why is mixing batteries of different chemistries, brands or age a potential problem?

Mixing of battery types (different chemistries, brands and/or fresh vs. used) in a device is not recommended and can significantly increase the potential for leakage and reduced device run time. The primary concern is an imbalance in capacities or available energy between the installed batteries. As the weakest battery becomes exhausted, it will be force discharged by the stronger batteries to very low or negative voltage levels which drastically increases the potential for leakage.

Re: HP 15C Batteries (Update)

*Message #7 Posted by **Michael Plant** on 29 Mar 2011, 10:12 a.m.,*
in response to message #6 by Randy

Thanks for that Randy - very good information!

Re: HP 15C Batteries (Update)

*Message #8 Posted by **Bill (Smithville, NJ)** on 28 Mar 2011, 3:48 p.m.,*
in response to message #4 by Jeff Kearns

Hi Jeff,

No, not a power user, but I have several calcs that all use the same batteries and the batteries were installed at different times. I don't keep track of when they were installed, so it's just a nice feeling knowing I have a few spare sets laying around. The shelf life on uninstalled batteries is pretty long - or at least longer than when they are installed. And at $5 for three, they're cheap enough to keep some spares.

Bill

Edited: 28 Mar 2011, 3:49 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New HP-45 Emulator for iPad

*Message #1 Posted by **Namir** on 27 Mar 2011, 5:47 p.m.*

I just found a new HP-45 emulator for the HP-45. The emulator uses an image of the HP-45. You can run it as the legacy HP-45 or as a Super-45. The latter mode doubles your memory register, supports complex operations, supports linear regression, solves the roots of quadratic and cubic polynomials, solve a system of 2 linear equations, performs basic financial calculations, and supports some basic basic statistical distribution. The emulator also supports the timer!!!

I was happy to add this emulator to my collection of iPad calculator emulators.

Namir

Re: New HP-45 Emulator for iPad

*Message #2 Posted by **Eddie W. Shore** on 27 Mar 2011, 6:21 p.m.,*
in response to message #1 by Namir

I was looking at this the other day. This is like a "do everything" model sans programming.

Re: New HP-45 Emulator for iPad

*Message #3 Posted by **Namir** on 27 Mar 2011, 6:27 p.m.,*
in response to message #2 by Eddie W. Shore

Indeed!!!

What I like about emulators is that you can always offer an enhanced version mode that adds memory, programming steps, and functions.

I think the developer of that HP-45 emulator is Swiss.

Namir

Edited: 27 Mar 2011, 6:27 p.m.

Re: New HP-45 Emulator for iPad

*Message #4 Posted by **gene wright** on 27 Mar 2011, 11:01 p.m.,*
in response to message #3 by Namir

What's the exact name of the iTunes Store app ?

Re: New HP-45 Emulator for iPad

*Message #5 Posted by **sjthomas** on 27 Mar 2011, 11:13 p.m.,*
in response to message #4 by gene wright

Hi, Gene. RPN-45 Calc (apparently iPad only)

Edited: 28 Mar 2011, 12:19 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

10 Key Calculators vs RPN

*Message #1 Posted by **Matt_12c** on 26 Mar 2011, 8:04 p.m.*

Hi, I'm new to the HP calculators. I am in a graduate accounting program after having graduated with my BS in the mid '90s. I decided I wanted a business calculator, preferably that acted like a 10 key so I researched what was popular. Imagine my amazement when I found that the HP 12C was still a major player! I remember being a "poor college student" back in the '90s wishing I could get a 12c but settling for a weak Casio, that didn't have business functions and barely handled stats! Not to mention that I went through hard core finance classes with it. I digress but I'm sure someone can relate.

So I get a 12c (a nice Malaysian one). I'm curious - what is the difference between 10 key calculators (ie tape calculators) and RPN? They are obviously related somehow. I initially wanted a tape calculator because of what I always thought was RPN, and its fast ability to enter a column of numbers. The business functions of a 12c would be great but I really wanted a portable calculator that was like a 10 key. Why is it that you can buy a 10 key with tape, but can't buy a calculator that operates like a 10 key but not tape (ie compact and portable)? I'd think it would be easy to put one out. I get the whole seeing the tape thing but that's not crucial.

I thoroughly enjoy using my 12C but I'm curious how they are related, and why there doesn't seem to be any such thing as a 10 key without tape! One other thing - I get using the enter key for HP to either fill the stack or for basic operations, but why would a person not want to just enter 5 + 5 + to get 10 rather than 5 ENTER 5 +.

Hope this makes sense.

Matt

Edited: 26 Mar 2011, 8:05 p.m.

Re: 10 Key Calculators vs RPN

*Message #2 Posted by **Glen Sanft** on 26 Mar 2011, 8:52 p.m.,*
in response to message #1 by Matt_12c

"5 + 5 +" would work just fine so long as the Y register initially contained zero. In practice, it's not necessary to clear anything [on the stack] prior to starting a new calculation with an RPN device, so the safest bet would be "5 ENTER 5 +". The ENTER key is really only necessary to separate two subsequent numeric entries; those which don't require any other operations being performed on the first one. That is to say, if you'd enter "25 square-root 5 +", or "0.2 '1/x' 5 +" it'd not be necessary to use the ENTER key at all.

I can't begin to comment on the other aspect of your topic...

Edited: 26 Mar 2011, 8:53 p.m.

Re: 10 Key Calculators vs RPN

*Message #3 Posted by **Paul Berger (Canada)** on 26 Mar 2011, 10:29 p.m.,*
in response to message #1 by Matt_12c

They are quite similar for functions like adding a column of numbers, in both cases you can add up the numbers by entering the number and press the + key, there are however some differences in operation.

On a 10 key machine if you where not sure that the accumulated total was cleared you would press the total key and it would print what ever the accumulated total was and then clear it. Most modern "10 key" machines also have an electronic display that shows you the number as you enter it and also displays the running total after you press the plus key. You enter positive numbers by pressing the + and negative numbers by pressing - key. As you enter the number it goes into a temporary register and when you press the function key the number is added or subtracted from the accumulated total. When you are finished with a column of figures you would press the total key, and the accumulated total would be printed on the tape and the accumulated total is cleared automatically.

On a HP RPN calculator with a one line display, it is always showing you the contents of the X register which would be similar to the accumulator on the 10 key machine. When you start to enter a number the value in the X register gets pushed up to the Y register and then when you press the plus or minus key the value in X will be added or subtracted from the value in Y and the result will be placed in the X reg, sounds very much like the 10 key so far, so here are the differences. When you start to enter a column of figures to make sure you don't end up inadvertently adding to a value that is already in X, you can either press the "clear X" key that most RPN calculators are equipped with or you can press enter after the first number. Pressing enter forces the number you entered to remain in X without having anything else done to it. I am not aware of any HP RPN calculators that have a total key, but like the 10 key machine after you press the function key the running total is displayed.

If you have a model that has printing capabilities, like the HP-97 that sits beside me at my desk, with the printer in normal mode it prints the numbers as entered, and the LED display shows the number as entered, and the running total after the function key is pressed, just, like the 10 key machine, however to print the total on the tape I need to press the "print X" key, but that does not clear the accumulated total from X, however since my 97 is programmable I could easily program it to emulate a 10 key machine if I desired.

Re: 10 Key Calculators vs RPN

*Message #4 Posted by **Eddie W. Shore** on 26 Mar 2011, 10:45 p.m.,*
in response to message #1 by Matt_12c

<pre> You could simulate some basic 10 Key operations by using the Statistics keys:

f CLEAR SIGMA (SST key) clears the Stat registers or "clears the tape"

number SIGMA+ (similar to the + key on the 10 Key) - the calculator displays the item count

To subtract: number CHS SIGMA+ (do not use SIGMA- because it will erase the last input)

Total: RCL 2 - this is similar to the S* key because you can continue an addition. There is no 10-Key T key so to start a new calculation you have to start over (f CLEAR SIGMA)

Item Count: RCL 1

I think this works on the all of the HP RPN calculators, but storage registers used for statistics very with each model. The registers on this post are specific to the HP 12C. </pre>

Re: 10 Key Calculators vs RPN

*Message #5 Posted by **Martin Pinckney** on 26 Mar 2011, 10:55 p.m.,*
in response to message #1 by Matt_12c

I wonder about the HP Printcalc 100. Does that possibly act like a 10-key calculator? It is fairly compact compared to most 10-keys.

Re: 10 Key Calculators vs RPN

*Message #6 Posted by **Jim Yohe** on 26 Mar 2011, 11:56 p.m.,*
in response to message #5 by Martin Pinckney

Well, compared to my 10 key that HP is tiny. It's missing some keys that my 10 key has but I bet I could get use to it. Sorry. No direct experience with it so I'll sit back was read. ;-)

Re: 10 Key Calculators vs RPN

*Message #7 Posted by **Allen** on 27 Mar 2011, 3:06 p.m.,*
in response to message #1 by Matt_12c

A 17bii+ Silver with an 82240A or 82240B IR printer would do what you suggest. While the 17bii++ series is not as fast as the 12C, it is much more capable and memory is more spacious. Together with the utility of printing, that's the best you're going to get with RPN+tape.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Navtronic Navigator Calculator

*Message #1 Posted by **Jeff Davis** on 26 Mar 2011, 6:02 p.m.*

Doesnt this calculator keyboard look familiar???

http://mathcs.albion.edu/~mbollman/AvCalc.html

Re: Navtronic Navigator Calculator

*Message #2 Posted by **geoff quickfall** on 26 Mar 2011, 6:53 p.m.,*
in response to message #1 by Jeff Davis

check out this posting,

little key quiz: key quiz?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #1 Posted by **Eddie W. Shore** on 25 Mar 2011, 9:32 p.m.*

```
My HP 25c App Face Off


GO 25 Sci RPN - BigCatOS
Looks like the real calculator
Comes with sample programs
You can send programs by email, disk, in another app, or by printer
Keys has good feel, but takes a little getting used to
Programs are retained when app is closed
Comprehensive help included


rpn-25 - Maciej Bartosiak
You can be fast and the key input is accurate
Keys have larger press area
Programs are lost when app is closed
No online help...yet
Execution of program is "real", you see the the calculator "thinking"
```

Verdict: GO 25 Sci RPN - *****, iPad version shines rpn 25 - **** (I am sure that this app will improve with time) - better form factor for iPod/iPhone

Edited: 25 Mar 2011, 9:34 p.m.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #2 Posted by **Michael Meyer** on 25 Mar 2011, 10:15 p.m.,*
in response to message #1 by Eddie W. Shore

I wonder why they haven't developed any for the Android system yet? The Android market is suppposed to soon surpass the iPhone market.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #3 Posted by **Jerry Raia** on 26 Mar 2011, 2:54 a.m.,*
in response to message #2 by Michael Meyer

Nice :)

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #4 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 9:21 a.m.,*
in response to message #2 by Michael Meyer

I've just got an Archos 70 with Android 2.2. I have to learn how to program for it in order to port wp34s. :)

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #5 Posted by **Eddie W. Shore** on 27 Mar 2011, 9:34 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Hewlett Packard should consider re-releasing the HP 25c. The calculator with a good manual can further make a new generation of RPN fans.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #6 Posted by **Namir** on 27 Mar 2011, 5:49 p.m.,*
in response to message #5 by Eddie W. Shore

Are you hinting at something YOU know and we don't????

Ok Tim and Cyril!! Time to fess up!!!

Namir

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #7 Posted by **Eddie W. Shore** on 27 Mar 2011, 6:18 p.m.,*
in response to message #6 by Namir

I wish I was LOL

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #8 Posted by **Namir** on 27 Mar 2011, 6:29 p.m.,*
in response to message #7 by Eddie W. Shore

I think we need to search for a parallel universe where HP is re-releasing the HP-25C against all sound marketing and management advice ... just for the fun of it.

Let the search begin!

Edited: 27 Mar 2011, 6:30 p.m.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #9 Posted by **Eddie W. Shore** on 28 Mar 2011, 1:04 a.m.,*
in response to message #8 by Namir

I am loving the fact that with GO 25, I can transfer files between my iPod and iPad. Currently, it is my favorite calculator app.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #10 Posted by **Steve Perkins** on 28 Mar 2011, 7:37 p.m.,*
in response to message #5 by Eddie W. Shore

Actually I'm voting for the HP-29C!

I loved my HP-25, but I've always wished for more memory and subroutines.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #11 Posted by **Namir** on 28 Mar 2011, 7:54 p.m.,*
in response to message #10 by Steve Perkins

I wrote to the developer of GO-25 asking him about his plans for a GO-29. He wrote back and said that for that to happen he will need a real HP-29C to emulate with the software. Since he has no HP-29C he feels that his hands are tied.

Namir

Edited: 28 Mar 2011, 7:55 p.m.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #12 Posted by **John B. Smitherman** on 29 Mar 2011, 10:34 a.m.,*
in response to message #11 by Namir

With Free 42 available I'm wondering why the 25/29 paradigm is appealing?

Regards,

John

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #13 Posted by **Steve Simpkin** on 29 Mar 2011, 4:41 p.m.,*
in response to message #12 by John B. Smitherman

You question is logical. The HP-42 beats the HP-25 in any practical measurement one can think of. In my case, I bought GO-25 because the HP-25 was my first (you never forget your first!) and still my favorite HP calculator. I used it for many years and know every key (including shifted) by heart. Even though I use a HP-48SX as my daily calc, I still have a soft spot for my HP-25. I suspect others have similar reasons.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #14 Posted by **Jerry Raia** on 29 Mar 2011, 10:24 p.m.,*
in response to message #13 by Steve Simpkin

I have to agree, the 25 was my first hp calc as well. Got me started down the RPN road as well as other HP handhelds. To have it on my iPhone (along with the rest of the emulated HPs) is quite nice.

Re: HP 25c Apps Review: GO 25 SCI, rpn 25

*Message #15 Posted by **Andrés C. Rodríguez (Argentina)** on 29 Mar 2011, 5:10 p.m.,*
in response to message #12 by John B. Smitherman

I understand your question, and in fact I use Free42 on my iPod touch as my main calculator. Using an HP25 emulator only serves nostalgic feelings, which I indeed have. The HP25 was a very important tool in my university days, and I have fond memories related to this model, as other persons also seem to. To use such emulators is similar to collecting physical calculators; there are few (if any) logical reasons to justify collecting, or paying over U$S 1K for a HP01, so to speak. But many of us do it, at least in a modest way. Paying for such apps also encourages developers not to abandon their efforts; perhaps they may recover some of their costs and time, but I don't think they will obtain significant profits.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Moldy Oldies

*Message #1 Posted by **Michael Meyer** on 25 Mar 2011, 7:02 p.m.*

Well, a first for me. I bought a cheap HP-11C in a calculator lot for $16, hoping it would look better in person than in the photo. This time, it did not. It does, however, work fine. So, being badly in need of restoration, I took it completely apart. I've seen dirt, blue corrosion, green corrosion, etc., but seeing a calculator full of black mold? That's a first for me. I'm surprised it worked... the mold was everywhere! Time for a major bath, this time also in bleach, a first for me.

Re: Moldy Oldies

*Message #2 Posted by **Don Shepherd** on 25 Mar 2011, 7:34 p.m.,*
in response to message #1 by Michael Meyer

Hey Mike, how about a pic of that. I'd like to see it.

Don

Re: Moldy Oldies

*Message #3 Posted by **Michael Meyer** on 25 Mar 2011, 8:00 p.m.,*
in response to message #2 by Don Shepherd

Oops. Already started cleaning it. Sorry.

Re: Moldy Oldies

*Message #4 Posted by **Jim Yohe** on 25 Mar 2011, 8:02 p.m.,*
in response to message #2 by Don Shepherd

This has got to be something to see.

Re: Moldy Oldies

*Message #5 Posted by **Michael Meyer** on 25 Mar 2011, 10:25 p.m.,*
in response to message #4 by Jim Yohe

It was pretty gross. This was the first time I've used a heat gun to remove the keyboard faceplate and display plate. Sorry I didn't get photos. Picture little black spots and patches all over the circuit board, tape, display holder...everything. Yuck.

Re: Moldy Oldies

*Message #6 Posted by **John B. Smitherman** on 25 Mar 2011, 11:31 p.m.,*
in response to message #5 by Michael Meyer

It is probably the legendary one that was swallowed by the hippopotamus. Aren't you glad the zoo

keeper retreived it after it passed. ;-)

Enjoy!

John

Re: Moldy Oldies

*Message #7 Posted by **Jim Yohe** on 26 Mar 2011, 2:11 a.m.,*
in response to message #6 by John B. Smitherman

lmao ...

Re: Moldy Oldies

*Message #8 Posted by **Walter B** on 26 Mar 2011, 3:03 a.m.,*
in response to message #6 by John B. Smitherman

Think of sweet little hippo droppings in your washing :-)

Edited: 26 Mar 2011, 3:03 a.m.

Re: Moldy Oldies

*Message #9 Posted by **Michael Meyer** on 26 Mar 2011, 1:39 p.m.,*
in response to message #8 by Walter B

What a crappy deal.

Re: Moldy Oldies

*Message #10 Posted by **Randy** on 26 Mar 2011, 2:12 p.m.,*
in response to message #9 by Michael Meyer

It's dead mold. It's more common than you think for units that get left in really damp or wet basements and tropical climates. Sometimes they'll have the smell but not the fuzz. Right fine incubators ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-27S "Technical Manager" vs. "Scientific"

*Message #1 Posted by **Jim Yohe** on 25 Mar 2011, 3:34 a.m.*

Did HP entitle their HP-27S as "Technical Manager" then at some point then switch over the "Scientific", or perhaps that title was used for a specific customer base?

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #2 Posted by **Jake Schwartz** on 25 Mar 2011, 11:30 a.m.,*
in response to message #1 by Jim Yohe

> Quote:
>
> Did HP entitle their HP-27S as "Technical Manager" then at some point then switch over the "Scientific", or perhaps that title was used for a specific customer base?

Hi,

Here are the words from the 1/4/88 HP press release:

"The HP-27S scientific calculator ($110 U.S. list) is designed for technical professionals in management. It has a wide range of technical and financial functions, including time-value of money, amortization, forecasting, trig functions, statistics and standard math and scientific functions...."

All versions of the machine I've ever seen do say "SCIENTIFIC" on the case, but they certainly intended it for a multi-disciplinary user.

Jake Schwartz

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #3 Posted by **Didier Lachieze** on 25 Mar 2011, 11:55 a.m.,*
in response to message #1 by Jim Yohe

According to the Original Box, the HP-27s is a "Scientific Calculator for the Technical Manager":

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #4 Posted by **Jim Yohe** on 25 Mar 2011, 1:48 p.m.,*
in response to message #3 by Didier Lachieze

And here's the one I'm talking about showing the "Technical Manager" title instead of "Scientific":

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #5 Posted by **Martin Pinckney** on 25 Mar 2011, 2:33 p.m.,*
in response to message #4 by Jim Yohe

I think you may have a rare variant. Want to sell?

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #6 Posted by **Randy** on 25 Mar 2011, 2:55 p.m.,*
in response to message #5 by Martin Pinckney

It was pre-production, the name changed when it went into production. I have one as well that I obtained from an HP employee that worked in the calculator group. There is no stamped serial number on the unit, only a hand written number of 1691 in black ink.

Note the top row of keys, that too changed when it went into full production.

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #7 Posted by **Jim Yohe** on 25 Mar 2011, 3:04 p.m.,*
in response to message #6 by Randy

The top row of keys was actually the thing that I noticed first then the title. I just turned mine over and found no stamped serial number either but instead a 665 hand written on it.

Edited: 25 Mar 2011, 3:11 p.m.

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #8 Posted by **Jim Yohe** on 3 Apr 2011, 2:11 a.m.,*
in response to message #5 by Martin Pinckney

Congrats to Martin who will within days be the new owner of this "rare variant". Wasn't my intent when posting this question but he made a nice offer.

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #9 Posted by **Eddie W. Shore** on 25 Mar 2011, 9:35 p.m.,*
in response to message #4 by Jim Yohe

That is a rare beauty.

Re: HP-27S "Technical Manager" vs. "Scientific"

*Message #10 Posted by **Walter B** on 26 Mar 2011, 2:38 a.m.,*
in response to message #4 by Jim Yohe

Great find! Congratulations! :->

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How to identify the 'new' HP-12C

*Message #1 Posted by **Jeff Kearns** on 24 Mar 2011, 10:01 p.m.*

I was in a Bureau en Gros (Quebec version of Staples) today and saw a $120 HP-12C in a modern blister pack with the following serial number on the back of the pack: 4CY02805760. I assume this is the serial number of the actual calculator but I cannot decipher its meaning in terms of YYWWC##### as in days of old.

How can one tell whether this is the 'super-fast' 12C that everyone has been talking about of late? There was no indication on the blister pack of battery type that I could see, but I was able to press some of the keys and the unit did seem to respond much more rapidly than the relatively modern one I bought second hand last year - serial # MY84005759. The calculator is simply identified as a 12C - no 12C+. Is it the fast 12C referenced in the following link?

New Blazing Fast HP 12C

Jeff Kearns

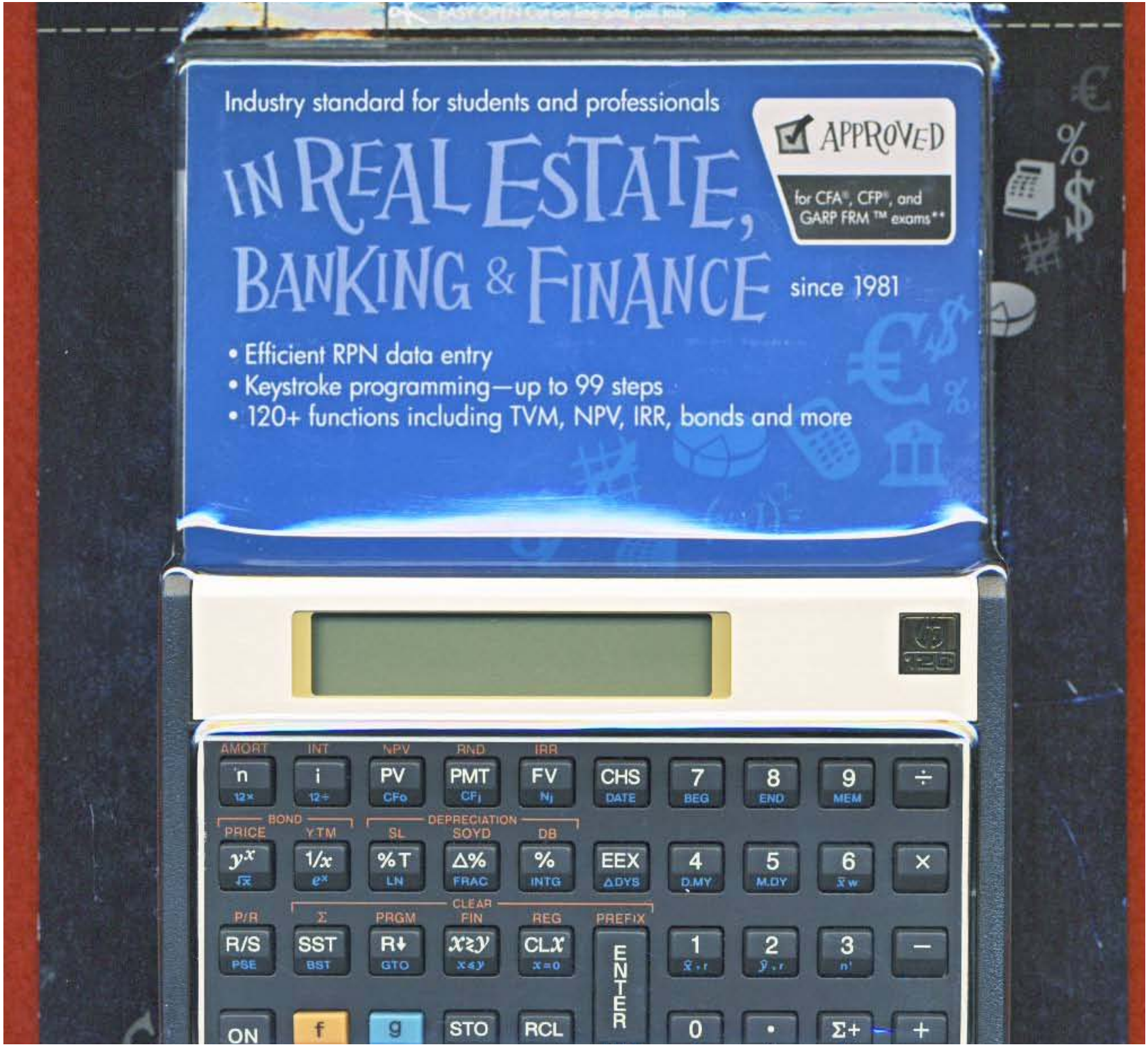
Re: How to identify the 'new' HP-12C

*Message #2 Posted by **svisvanatha** on 24 Mar 2011, 10:09 p.m.,*
in response to message #1 by Jeff Kearns

Could you get a look at the battery door through the blister pack? If you can get a look at that side of the unit, the battery door should be pretty wide compared to the 3 cell (old) battery door. I'll have a look at Staples here tomorrow!

Re: How to identify the 'new' HP-12C

*Message #3 Posted by **Jeff Kearns** on 24 Mar 2011, 10:19 p.m.,*
in response to message #2 by svisvanatha


Industry standard for students and professionals
IN REAL ESTATE, BANKING & FINANCE
since 1981
APPROVED
for CFA®, CFP®, and GARP FRM ™ exams**
• Efficient RPN data entry
• Keystroke programming—up to 99 steps
• 120+ functions including TVM, NPV, IRR, bonds and more
AMORT INT NPV RND IRR
n i PV PMT FV CHS 7 8 9 ÷
12× 12÷ CFo CFj Nj DATE BEG END MEM
BOND DEPRECIATION
PRICE YTM SL SOYD DB
y^x 1/x %T Δ% % EEX 4 5 6 ×
√x e^x LN FRAC INTG ΔDYS D.MY M.DY x̄,w
CLEAR
P/R Σ PRGM FIN REG PREFIX
R/S SST R↓ x≷y CLx ENTER 1 2 3 −
PSE BST GTO x<y x=0 x̂,r ŷ,r n!
ON f g STO RCL 0 . Σ+ +

I could not determine what the battery door looked like, however to quote Allen, it was, as in the above photo "packaged thusly with the blue book behind the calculator in a black package". Of course the one I saw was in a bilingual blister pack but similar to the one pictured above.

Jeff Kearns P.S. Sorry about the size of the image. I do not know to resize it.

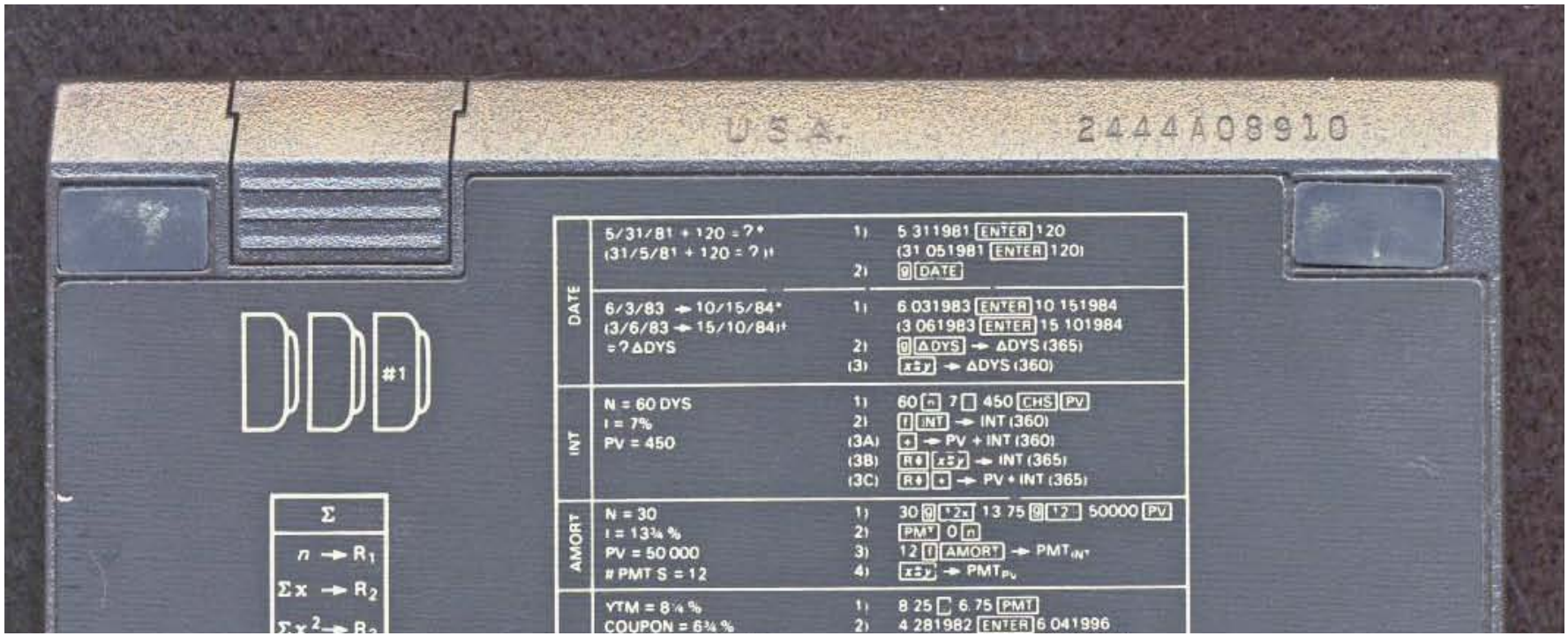
Edited: 24 Mar 2011, 10:23 p.m.

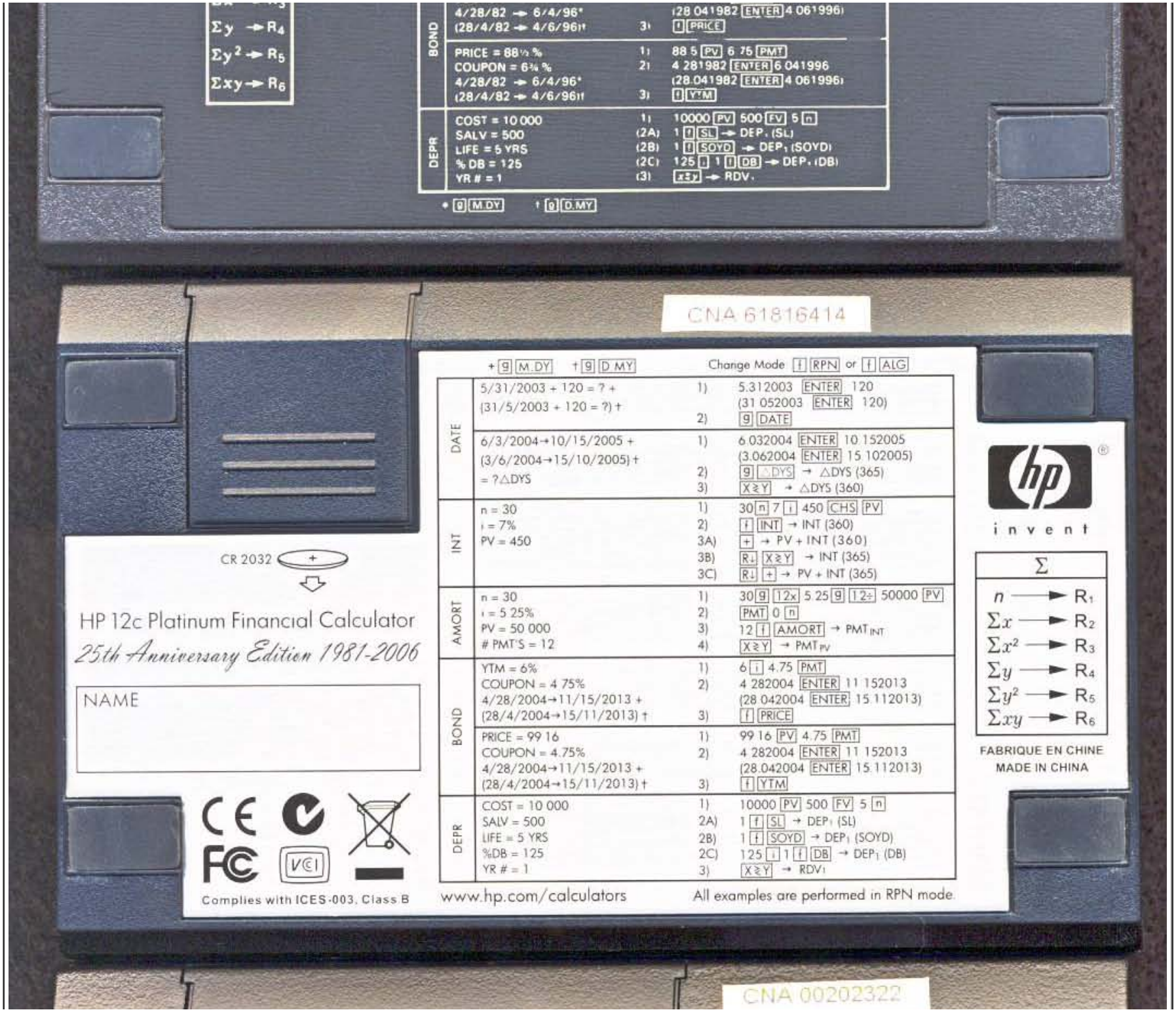
Re: How to identify the 'new' HP-12C

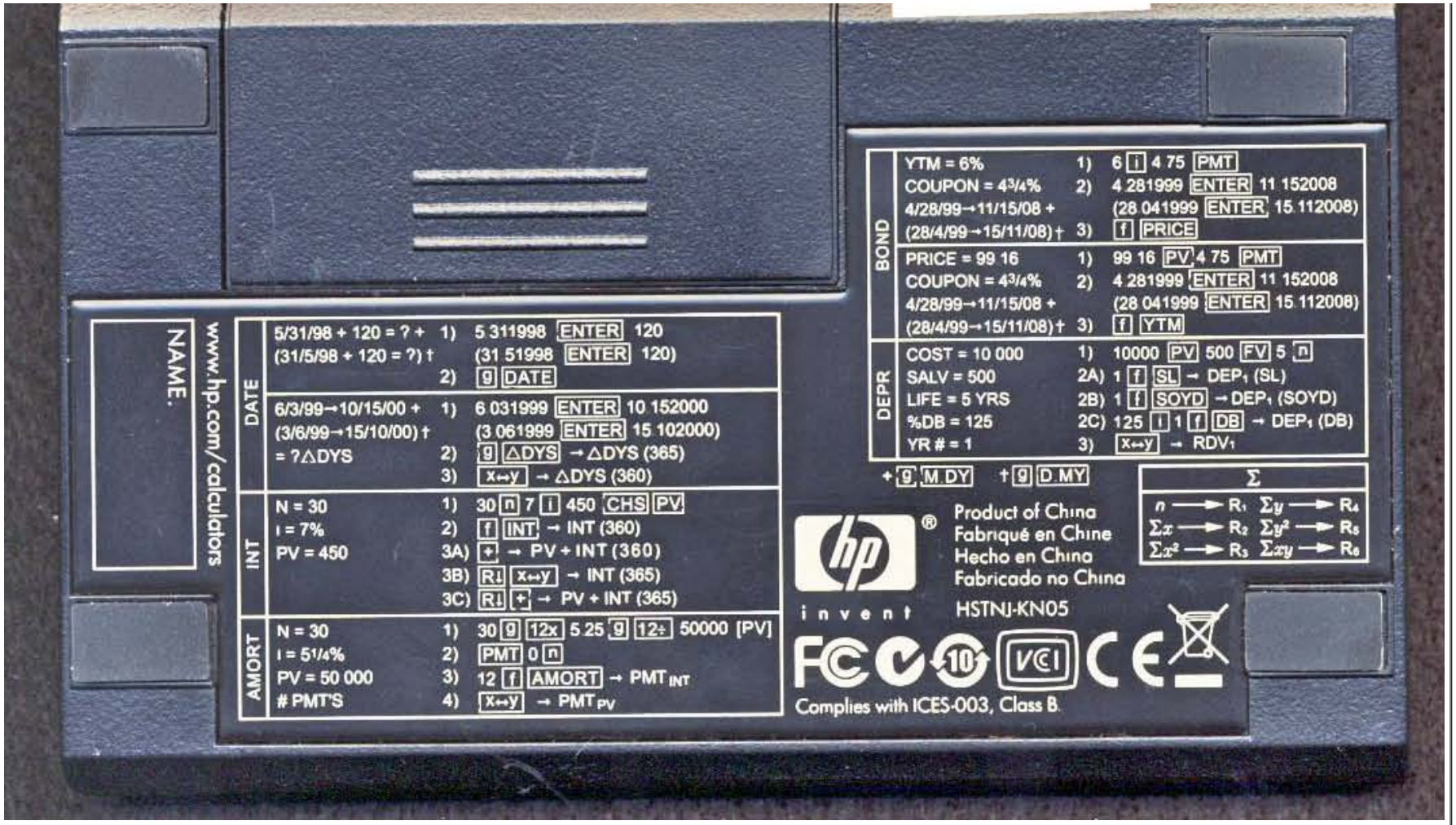
*Message #4 Posted by **Allen** on 24 Mar 2011, 10:55 p.m.,*
in response to message #3 by Jeff Kearns

Here's an example of a 12c, 12C platinum, and the FAST 12c (last photo)

You can tell the width of each of the battery doors while in the blister pack.




Σy → R4
Σy² → R5
Σxy → R6
BOND
4/28/82 → 6/4/96*
(28/4/82 → 4/6/96)†
3) f PRICE
PRICE = 88½ %
COUPON = 6¾ %
4/28/82 → 6/4/96*
(28/4/82 → 4/6/96)†
1) 88 5 PV 6 75 PMT
2) 4 281982 ENTER 6 041996
(28.041982 ENTER 4 061996)
3) f YTM
DEPR
COST = 10 000
SALV = 500
LIFE = 5 YRS
% DB = 125
YR # = 1
1) 10000 PV 500 FV 5 n
(2A) 1 f SL → DEP1 (SL)
(2B) 1 f SOYD → DEP1 (SOYD)
(2C) 125 i 1 f DB → DEP1 (DB)
(3) x≷y → RDV1
* g M.DY † g D.MY
CNA 61816414
+ g M.DY † g D.MY
Change Mode f RPN or f ALG
DATE
5/31/2003 + 120 = ? +
(31/5/2003 + 120 = ?) †
1) 5.312003 ENTER 120
(31 052003 ENTER 120)
2) g DATE
6/3/2004→10/15/2005 +
(3/6/2004→15/10/2005) †
= ?△DYS
1) 6 032004 ENTER 10 152005
(3.062004 ENTER 15 102005)
2) g △DYS → △DYS (365)
3) X≷Y → △DYS (360)
INT
n = 30
i = 7%
PV = 450
1) 30 n 7 i 450 CHS PV
2) f INT → INT (360)
3A) + → PV + INT (360)
3B) R↓ X≷Y → INT (365)
3C) R↓ + → PV + INT (365)
AMORT
n = 30
i = 5.25%
PV = 50 000
# PMT'S = 12
1) 30 g 12× 5.25 g 12÷ 50000 PV
2) PMT 0 n
3) 12 f AMORT → PMTINT
4) X≷Y → PMTPV
BOND
YTM = 6%
COUPON = 4.75%
4/28/2004→11/15/2013 +
(28/4/2004→15/11/2013) †
1) 6 i 4.75 PMT
2) 4 282004 ENTER 11 152013
(28.042004 ENTER 15.112013)
3) f PRICE
PRICE = 99.16
COUPON = 4.75%
4/28/2004→11/15/2013 +
(28/4/2004→15/11/2013) †
1) 99.16 PV 4.75 PMT
2) 4 282004 ENTER 11 152013
(28.042004 ENTER 15.112013)
3) f YTM
DEPR
COST = 10 000
SALV = 500
LIFE = 5 YRS
%DB = 125
YR # = 1
1) 10000 PV 500 FV 5 n
2A) 1 f SL → DEP1 (SL)
2B) 1 f SOYD → DEP1 (SOYD)
2C) 125 i 1 f DB → DEP1 (DB)
3) X≷Y → RDV1
CR 2032
HP 12c Platinum Financial Calculator
25th Anniversary Edition 1981-2006
NAME
Complies with ICES-003, Class B
www.hp.com/calculators
All examples are performed in RPN mode.
invent
Σ
n → R1
Σx → R2
Σx² → R3
Σy → R4
Σy² → R5
Σxy → R6
FABRIQUE EN CHINE
MADE IN CHINA
CNA 00202322



Re: How to identify the 'new' HP-12C

*Message #5 Posted by **Eric Smith** on 25 Mar 2011, 2:21 a.m.,*
in response to message #3 by Jeff Kearns

You have to look at the top edge of the calculator. Look at the blister-pack from above.

Re: How to identify the 'new' HP-12C

*Message #6 Posted by **svisvanatha** on 26 Mar 2011, 3:22 p.m.,*
in response to message #1 by Jeff Kearns

Jeff, I was at Staples today here in Toronto, and saw the 12c there. It was the new fast unit. It looks like the picture you posted, and when I looked at the top edge of the calculator, I could see the wide battery door edge.

They also had the new 17BII and the 35S on the shelf as well!

Re: How to identify the 'new' HP-12C

*Message #7 Posted by **Jeff Kearns** on 1 Apr 2011, 2:26 p.m.,*
in response to message #6 by svisvanatha

I finally returned to Bureau en Gros and confirmed the 'new battery door' model and purchased one. Then I decided to return it the next day after examining it and trying it out. As an owner of several 1980's era Voyagers, including a 12C, I am appalled at the Made in China low quality feel and construction of this new 12C calculator and its slip case. There is no printed user's manual, the keys don't have an acceptable feel to them, the case is too small and poorly sewn together, the dimensions are also a little different (more than one mm longer that the originals, although I did not precisely measure it), and the foot pads are too thick. Perhaps a valiant attempt to reproduce the look of a 12C, but it falls short of my expectations of a HP calculator.

I could not justify the $144 price tag for this unit just to have a processor 150 X as fast as the original. I can wait the extra couple of seconds for the types of calculations I need to perform. Verdict: not worth more than $20 IMHO.

Admittedly, I am a little biased: if a similar quality 15C that was 150 times as fast as the original were available at Staples today, I would likely buy one and not return it... Bring back the HP 15C.

Jeff Kearns

Re: How to identify the 'new' HP-12C

*Message #8 Posted by **Gene Wright** on 1 Apr 2011, 3:30 p.m.,*
in response to message #7 by Jeff Kearns

Hey Jeff.

I have to admit I'm surprised.

I know full well the terrible 12c units that came from China in the past. It was always funny to show the color drift of the blue and yellow shift symbols to people at HP and ask "Why is this happening?"

But, I have a couple of 12c+ units and I have never thought they felt cheap or low quality.

A shame we can't compare units and exchange ideas across a table at lunch, huh?

Re: How to identify the 'new' HP-12C

*Message #9 Posted by **Jeff Kearns** on 1 Apr 2011, 4:25 p.m.,*
in response to message #8 by Gene Wright

Gene,

Would very much enjoy a discussion with you at some point. I took a couple of snaphots with my BB camera but can not figure out how to load them into this response... Perhaps I can email them to you?

The one I tried out was definitely different than the one pictured above. The % key as an example was made with a different font (more elongated) that did not match that of the D% font. By contrast, older 12Cs, and the one pictured above have a consistent % font. The foot pads were not '~flush' as in the pads of past models, they were significantly thicker and seemed as though they would fall out sooner than later. The calculator body was also a little larger than older Voyagers. It is as though they were given specs, but did not have a 6Sigma process in place to ensure a consistent look and feel with the original 12C.

I suspect your 12C+ units are of a higher quality batch and I would have to refrain from calling the unit I returned a true Voyager. It is a knock-off.

Regards,

Jeff Kearns

Re: How to identify the 'new' HP-12C

*Message #10 Posted by **Katie Wasserman** on 1 Apr 2011, 5:31 p.m.,*
in response to message #9 by Jeff Kearns

Jeff,

The couple of 12C+ calculators that I have are excellent as well. The key-click is possibly the best of any Voyager I've ever had or used. The plastic used to make the keys feels a little cheap but that's my only nit to pick (and it's a very small nit).

I suspect that the one you had is indeed a knock off one somehow. The dimensions of the 12C+ exactly the match those of the original 12C. While I didn't check with a micrometer, I can't imagine that they differ by more than 1mm.

-Katie

Jeff's 12c image

*Message #11 Posted by **gene wright** on 3 Apr 2011, 2:17 p.m.,*
in response to message #9 by Jeff Kearns

The serial number is: 4CY02805760. You can see that the % symbol font looks different from the other % on the calculator and looks different my my 12c+ % key.

Re: Jeff's 12c image

*Message #12 Posted by **Katie Wasserman** on 3 Apr 2011, 3:14 p.m.,*
in response to message #11 by gene wright

Is this a bogus HP-12C+ or has quality control gone to pot?

TW, are you following this thread?

Re: Jeff's 12c image

*Message #13 Posted by **Tim Wessman** on 3 Apr 2011, 5:22 p.m.,*
in response to message #12 by Katie Wasserman

Yes. I am investigating.

TW

Re: Jeff's 12c image

*Message #14 Posted by **James Lee** on 4 Apr 2011, 2:34 a.m.,*
in response to message #13 by Tim Wessman

I recently purchased a similar 12C+ from a Staples store here in Vancouver. The serial # has the same three 4YCxxxxxxxx sequence that Jeff shared at the beginning of this thread. It looks and feels like it`s sturdy enough, well, considering the build quality of many manufactured things these days. The font of some characters definitely does look different, and look just a tad bigger. When depressing the keys, they have a similar

feel and sound to my 17bII+ (not the earlier one with the key issues and not the new silver one). The case is definitely cheap and flimsy for a $99.00 calculator!

However, I was very surprised that these newer ones are still going to market with the older 2008-06-28 firmware (i.e. with the bug that Katie discovered). You'd figure that by 2011 they`d be flashed with the latest speedy firmware containing the bug-fixes. Could these particular ones be manufactured in a different plant somewhere in the HP supply chain.

Anyways, I'm wondering if you might be able point me it direction on getting my 12c+ flashed, as it would be greatly appreciated. ;)

Regards,

Jim

Re: Jeff's 12c image

*Message #15 Posted by **Marcus von Cube, Germany** on 4 Apr 2011, 4:06 p.m.,*
in response to message #14 by James Lee

James, given you have a Windows PC, Tim should be able to provide the necessary cable and firmware file. The software SAM-BA from Atmel is free. The procedure is non invasive but you will lose RAM contents.

Re: Jeff's 12c image

*Message #16 Posted by **Ken Shaw** on 4 Apr 2011, 2:35 p.m.,*
in response to message #12 by Katie Wasserman

I think these must be genuine. They're widespread in the Staples stores around Toronto. I don't like the key font either, it looks "skinny".

Also, the price of these is jaw-dropping. Around $150 for a 12C and $175 for the 17BII+. For those prices, it's hard to understand what is keeping them from including luxurious manuals and leather cases.

Oh wait, maybe it's because they aren't selling any...

Edited: 4 Apr 2011, 2:37 p.m.

Re: Jeff's 12c image

*Message #17 Posted by **Scott Newell** on 4 Apr 2011, 7:30 p.m.,*
in response to message #11 by gene wright

> Quote:
>
> The serial number is: 4CY02805760. You can see that the % symbol font looks different from the other % on the calculator and looks different my my 12c+ % key.

That's not all--the capital "R" (RCL, R/S, Rdown) font also looks quite different from my 12C+. I'm not so sure about the italic X (as in y^x, CLX, and X<>Y), but it also looks like the serifs are different.

Re: Jeff's 12c image

*Message #18 Posted by **Katie Wasserman** on 4 Apr 2011, 8:27 p.m.,*
in response to message #17 by Scott Newell

Also, I think the subscript for the CFj and Nj looks more like an 'i' than a 'j'.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

major number theory discovery, if you can translate

*Message #1 Posted by **Don Shepherd** on 24 Mar 2011, 5:39 p.m.*

I read in the current issue of Scientific American that a fellow at Emory University has discovered a formula for determining the number of "partitions" (P) for n.

For example, the number 5 has 7 partitions:

1. 5
2. 1+1+1+1+1
3. 1+1+1+2
4. 1+1+3
5. 1+2+2
6. 1+4
7. 2+3

I was hoping the formula would be "simple" so that I could readily understand it. Alas. I'm hoping somebody here can translate this to "simple" math.

References here and here.

Re: major number theory discovery, if you can translate

*Message #2 Posted by **Allen** on 24 Mar 2011, 6:36 p.m.,*
in response to message #1 by Don Shepherd

Don, I understand everything from the word INTRODUCTION to the number 1002 on page 1. Everything else is a little fuzzy. That's one reason why I'm a math MINOR not a Math Major.. in Engineering, we say.. "Look, it's off by 0.5 - close enough!", Send it to the marketing department and move on.

Re: major number theory discovery, if you can translate

*Message #3 Posted by **sjthomas** on 24 Mar 2011, 7:50 p.m.,*
in response to message #1 by Don Shepherd

It seems a quite elegant solution -- whatever it says.

Re: major number theory discovery, if you can translate

*Message #4 Posted by **Jeff Kearns** on 24 Mar 2011, 9:29 p.m.,*
in response to message #3 by sjthomas

I especially like their 'amusing proof of the fact that p(1) = 1.'

No need for a calculator on that one! -- Jeff Kearns

Re: major number theory discovery, if you can translate

*Message #5 Posted by **Allen** on 24 Mar 2011, 8:37 p.m.,*
in response to message #1 by Don Shepherd

Really, it sounds like a great solution, but they propose a Theorem them offer a proof, but I fail to see a connection between either the proof, or the example, or the p(n) partitions introduction- in fact the whole thing seems like a joke.

Re: major number theory discovery, if you can translate

*Message #6 Posted by **Dave Shaffer (Arizona)** on 24 Mar 2011, 9:19 p.m.,*
in response to message #1 by Don Shepherd

Is it the "APRIL" issue?!

Re: major number theory discovery, if you can translate

*Message #7 Posted by **Don Shepherd** on 24 Mar 2011, 10:29 p.m.,*
in response to message #6 by Dave Shaffer (Arizona)

Dave, yes it is the April issue of Scientific American, it came in the mail today. I would not think a serious journal like Scientific American would be offering up April fools jokes, at least knowingly (the article in SA does not describe the algorithm, only its discovery).

One might wonder, if the description of the algorithm is so complex that an average person can't figure it out, perhaps it could be a practical joke. I teach middle school math, and this stuff is way way beyond my knowledge level. I posted this here hoping some brilliant person could convert this to "simple math," but I have a feeling that is probably not possible.

Re: major number theory discovery, if you can translate

*Message #8 Posted by **Dave Shaffer (Arizona)** on 24 Mar 2011, 10:34 p.m.,*
in response to message #7 by Don Shepherd

Don,

SA may well be joking - I saw somewhere (here?) just the other day a reference to a Scientific American April Fool's article (from the 70's, I think).

Re: major number theory discovery, if you can translate

*Message #9 Posted by **Katie Wasserman** on 25 Mar 2011, 12:01 a.m.,*
in response to message #8 by Dave Shaffer (Arizona)

I don't think this is a joke. Watch the presentation, read the paper and make up your own mind. I'm not a professional mathematician but this looks to me about as as real as it gets. I have no idea if the proof is mistake free but the theorem seems reasonable and makes sense.

-Katie

p.s. here's the full, serious paper.

Edited: 25 Mar 2011, 12:10 a.m.

Re: major number theory discovery, if you can translate

*Message #10 Posted by **Kiyoshi Akima** on 25 Mar 2011, 1:04 p.m.,*
in response to message #8 by Dave Shaffer (Arizona)

There was an old SA April issue which was almost entirely an April Fool's joke. It contained, if I remember properly, a disproof of the four-color map theorem, an exception to the theory of relativity, and others.

(edited to fix a typo)

Edited: 25 Mar 2011, 1:05 p.m.

Re: major number theory discovery, if you can translate

*Message #11 Posted by **Thomas Radtke** on 25 Mar 2011, 1:23 p.m.,*
in response to message #7 by Don Shepherd

> Quote:
>
> I would not think a serious journal like Scientific American would be offering up April fools jokes [...]

It's tradition. Even HP did this once. You know which calculator has been targeted by the HP fools? :-)

Re: major number theory discovery, if you can translate

*Message #12 Posted by **Geir Isene** on 25 Mar 2011, 2:42 a.m.,*
in response to message #1 by Don Shepherd

An HP-41 program would make it all very clear. I would have to decipher the maths to be able to make one, and I believe others on this forum is better equipped to decipher this... any takers?

Re: major number theory discovery, if you can translate

*Message #13 Posted by **Katie Wasserman** on 25 Mar 2011, 12:08 p.m.,*
in response to message #12 by Geir Isene

Although this is a major theoretical breakthrough and gives a non-infinite series for computing p(n), for practical purposes Euler's generating function is much faster for reasonably small values of n. It's quite understandable and is described here.

I think that this would make for a good programming exercise on any calculator with a decent amount of memory. You need to store the values of p(n) in order to avoid an impossible amount of recursion. Of course p(100) is a 9-digit number, and p(200) is a 13-digit number, so unless you've got bignums you're going to be limited anyway.

Here is the algorithm in Java

Edited: 25 Mar 2011, 12:12 p.m.

Re: major number theory discovery, if you can translate

*Message #14 Posted by **Geir Isene** on 25 Mar 2011, 5:25 p.m.,*
in response to message #13 by Katie Wasserman

I wasn't really looking for a program to calculate the partitions - but rather a way to understand the new work... and an HP-41 program would (for me) be the easiest way to get my head around it.

Re: major number theory discovery, if you can translate

*Message #15 Posted by **Oliver Unter Ecker** on 26 Mar 2011, 7:28 a.m.,*
in response to message #13 by Katie Wasserman

Thanks, Don, for the links! I watched Ken Ono's presentation. Fascinating stuff.

Katie, thanks for digging out that code.
I did a quick adaptation to JavaScript.
You're quite right, this method by Euler runs fast for reasonably small numbers. It takes about 3s to compute the number of partitions for 1000. The result is returned as a BigInt.
(It would run at similar speed in RPL, btw, because the time is spent in BigInt functions.)

Anyone with ND0 or ND1 can pick this up by downloading the new "Number Theory" shared folder.

I sure would like to try and implement Ken Ono's method. My understanding needs to catch up with the paper first, though...
I'd love to see an implementation.

Cheers.

Code:

```
function(n) {
    var depent = Math.sqrt(1.0+n);
    var signArray = [];
    var pentArray = [];
    signArray[0]=-1; signArray[1]=1;
    pentArray[0]=0; pentArray[1]=1;
    for (var i=1; i<=depent; i++) {
        signArray[2*i] = -signArray[2*i-2];
        signArray[2*i+1] = -signArray[2*i-1];
        pentArray[2*i] = (i*(3*i+1))/2;
        pentArray[2*i+1] = ((i+1)*(3*i+2))/2;
    }
    var partitionArray = [];
    partitionArray[0] = BigInteger.ONE;
    for (var j=1; j<=n; j++) {
        var partSum = BigInteger.ZERO;
        for (var k=1; pentArray[k]<=j; k++) {
            if (signArray[k]==1)
                partSum = partSum.add(partitionArray[j-pentArray[k]]);
            else
                partSum = partSum.subtract(partitionArray[j-pentArray[k]]);
        }
        partitionArray[j] = partSum;
    }
    return partitionArray[n];
}
```

Edited: 26 Mar 2011, 7:31 a.m.

Re: major number theory discovery, if you can translate

*Message #16 Posted by **Namir** on 26 Mar 2011, 10:37 a.m.,*
in response to message #15 by Oliver Unter Ecker

Oliver,

Can you please add some minimal html code so I can save the source code and html tags to an html file and then run it?

Thanks!

Namir

Re: major number theory discovery, if you can translate

*Message #17 Posted by **Oliver Unter Ecker** on 27 Mar 2011, 2:51 p.m.,*
in response to message #16 by Namir

Hi Namir,

Getting this to work in the browser needs a bit more than some HTML tags. You need a bit of a UI and, crucially, you need a BigInteger library. The given code is JavaScript but it assumes one. (BigInteger math is *not* standard in JavaScript.)

As you seem to have an iOS device, can I ask you to do the much easier thing and give ND0 (or ND1) another try?
As you didn't like Modern mode, just go into the Settings app, find ND0 and switch it to "Classic".
In ND0, go to My Data, under Downloadables, tap Folders, tap "Number Theory". That downloads the data and makes it available in the calculator.
Tap ND0, and operate this exactly like an HP-28, -48, 50g: tap VAR, tap Number Theory and you're ready to play with it.

Enter a number, and tap the "p" soft-key. You'll get your result on the stack. (For values to about 100, this is instantaneous.)

If you want to play with the code, edit "p" using the RCL and EDIT keys. (Or use, as on the 50g, the 2nd-level key + soft-key shortcut.) The code will appear in a scrolling editor. When you're done, enter, and use STO to save the code again as 'p', or under a new name.

If you're familiar with any RPL calc, these operations function just the same way.

If you manage to implement Ken Ono's "simple and beautiful function" we'll all be in awe. (And I'm willing to lend support to your efforts.) This can be done either in JavaScript or in RPL.

Oliver

Edited: 27 Mar 2011, 2:52 p.m.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #18 Posted by **C.Ret** on 31 Mar 2011, 5:19 a.m.,*
in response to message #13 by Katie Wasserman

As a lot of you, I am unable to clearly understand and play with the specific mathematical notioa couple of n, Bessel function and infinite series extensively used in this publication. I am unable to follow the tricky path the authors have used to achieve to an ‘arithmetic expression’ of the partition *p(n)* of any integer *n*.

But the link and recommendations that **Katie** give us in her post, allow me to use one of the recurrent approach of the problem to write of few codes to calculate partitions on any HP28C/S or HP41C.

Recursion, arithmetic and memory

As **Katie** have advert it, my code stores the values of *p(n)* in order to avoid an impossible amount of recursion. In the same time, this makes computation much more time efficient.

The philosophy of my approach is to store the first *m* pre-calculated values of *p(n)* into the calculator register Thus, asking for any partition number *p(n)* where $n \leq m$ is as trivial as recalling a register content. For any non pre-calculated *p(n)*, the following method is used to compute and store in memory *p(n)* from previous (and already store in most case) *p(n-q)* : From Euler's pentagonal number theorem, we have the general sum:

$$p(n) = p(n - 1) + p(n - 2) - p(n - 5) - p(n - 7) + p(n - 12) + p(n - 15)...$$

Where terms of this sum are $(-1)^{(k+1)} p(n - \frac{k(3k-1)}{2})$ where *k* is a relative integer used to generate a suitable set of "Euler's pentagonal numbers" *q*.

This summation gives the new and unknown number of partitions *p(n)* as a function of previous value *p(n-q)*. Validity is that we have to sum for any $0 \leq n\text{-}q < n$, which lead to a sequence of alternatively positive and negative *k* 1, -1, 2, -2, 3, -3, 4, -4, ... and so on until $q \geq n$. A special attention have to be care incase when $q = n$ where $p(0) = 1$ has to be consider. But this will be treated later in code, due to a specific memory usage. Only *p(n)* for $n = 1$ to *m* are store in memory or memory register from R_{01} to R_{mm}

Example1:

```
Already in memory: p(1) = 1, p( 2 ) = 1
Computing p(3)
```

k	1	-1	2
Sign	+	+	-
q	1	2	5 out of range q>n
n-q	2	1	
p(n-q)	+2	+1	

Thus *p(3) = 2 + 1 = 3*

Example2:

```
Already in memory : p(1) = 1, p( 2 ) = 1, p(3) = 3, p(4) = 5
Computing p(5)
```

k	1	-1	2
Sign	+	+	-
q	1	2	5
n-q	3	2	0
p(n-q)	+3	+5	-1

Thus *p(5) = 3 + 5 – 1 = 7*

Example3:

```
Already in memory : p(1) to p(5)
Computing p(10)
```

k	1	-1	2	-2	3	
Sign	+	+	-	-	+	
q	1	2	5	7	12	out of range q>10
n-q	9	2	5	3		
p(n-q)	+(30)	+(22)	-7	-3		() indicate external recursive calls

Thus *p(5) = 30 + 22 – 7 - 3 = 42*

The behavior of the summation when attempting to use an non pre-calculated *p(n-q)* partition depends of the power of the calculator and its ability to recursively compute it.

That why I have first developed an algorithm on my HP28S, since large memory allow directly recursive calls for unknown (and non store) value.

For the HP41C version, the purely recursive algorithm was adapted for using no strictly recursive calls. In fact, the really first tries on the HP28S show me that any attempt to compute a new *p(n)* greater that the last *p(m)* in memory generate cascading recursive calls to compute *p(n-1)*, *p(n-2)*, *p(n-3)*, ... *p(m+1)* since any summation start with q=1. So, the HP41C avoid any recursive calls by simply looping from *m* to *n* by step 1. This spares large among of memory and time.

To generate the *sign* sequence, two flag are used which greatly help generated the *k* sequence and summation/subtraction alternate.

k	ope	Flag#1	Flag#2	q	p(n-q)	sum/sub
1	+1	0	0	1	p(n-1)	+
-1	neg	1	0	2	p(n-2)	+
2	+1	0	1	5	p(n-5)	-
-2	neg	1	1	7	p(n-7)	-
3	+1	0	0	12	p(n-12)	+
etc						

Clearly two flags are needed to code a four steps sequence. Flag#1 indicate when *k* have to be incremented after its sign change. Flag#2 indicate when subtraction is replacing addition of *p(n-q)*

HP 28C/S version

Three programs: INIT to initiate PDAT array in memory and set p(1)=1. P to compute *p(n)* from memory (i.e. PDAT array) or by recursively calling PCALC

PCALC to compute *p(n)* when n is greater then pre-calculated *p(m)*.

Memory usage: The *p(n)* are stored in the array 'PDAT' initialized up to 200 elements with ‘PDAT(1) = 1’ only, all other set to zero.

Usage: Before any use of P, one may invoke initialization of memory array ‘PDAT’ by typing INIT [ENTER] or using USER menu soft key.

Recursive computation of any *p(n)* from 1 to m can be lunch by typing or using softkeys *m* P [ENTER] or equivalently *m* PCALC [ENTER]

After initial pre-calculation, any *p(n)* with $n \leq m$ can be obtain immediately by typing : *n* P [ENTER]

CODE for HP28C/S or any RPL calculators

```
@@ ------------------------- INIT      ---------------:


« {200} 0 CON 1 1 PUT 'PDAT' STO »
'INIT' STO                      @ construct an array of 200 elements all zero except
#1 which is 1 (p(1)=1)



@@ ------------------------- P         ---------------:
« 'PDAT' OVER GET
  IF DUP                        @ test zero which indicate non pre-stored value
```

```
     THEN SWAP DROP             @ makes p(n) top of the stack
     ELSE DROP PCALC            @ call n PCALC to compute unknown p(n)
  END
»
'P' STO


@@ -------------------------- PCALC      ---------------:
« -> n                          @ n
   « 1 SF 2 SF
     0                          @ Initialise sum
     0                          @ Initialise k
     DO                         @ main loop - summing/soustracting  p(q_k)
        NEG                     @ k --> -k
        IF 1 FS?C               @ clear flag #1 (next loop only change sign of k)
           THEN
              2 NF              @ change position of flag #2  (cf. NF )
              1 +               @ k --> k+1
           ELSE
              1 SF              @ set flag #1 (next loop increment k)
        END
        3 OVER * 1 - OVER * 2 / @ compute pentagonal integer q = k(3k-1)/2
        n SWAP -
        IF DUP 0 >              @ test validity of n-q as
        THEN
           « P » RSTF           @ recursively call p(n-q) preserving flags status
(cf. RSTF)
        ELSE
           0 ==                 @ hold 1 when p(0) is involve in the sum
           SWAP DROP 0 SWAP     @ set k to zero ( = loop exit condition )
        END
        ROT SWAP
        IF 2 FS?                @ test flag #2 for
           THEN -               @    soustrating
           ELSE +               @ or additing   p(n-q) to sum
        END
        SWAP
     UNTIL DUP NOT END          @ loop until k has been set to zero
     DROP
     'PDAT' n 3 PICK PUT        @ put p(n) in PDAT for further uses
     n   1 DISP                 @ display n in line 1
     DUP 2 DISP                 @ display p(n) in line 2
     CLMF
   »
»
'PCALC' STO



@@ -------------------------- flag #1 & #2 rules ---------------:
          F#1    F#2   Sum    q=k(3k-1)/2  p()
   k= 1    c      c     +       1          p(n-1)
   k=-1    s      c     +       2          p(n-2)
   k= 2    c      s     -       5          p(n-5)
   k=-2    s      s     -       7          p(n-7)
   k= 3    c      c     +      12          p(n-12)
   k=-3    s      c     +      15          ...
   etc...
   k= 0                exit loop           q>n


P.S.: if n=q, p(0)=1 have to be take into account.


@@ ----------------------------------NF subprogram ----------------------
« IF DUP FS?                    @ negate flag status
     THEN CF
     ELSE SF
  END
»
'NF' STO


@@ ---------------------------------RSTF subprogram ---------------------
« RCLF -> F « EVAL F STOF » »   @ Execute (EVAL) a program and restore initial
flag's status
```

HP 41C version

This version is an adaptation of the HP28S version code. The same sub-programs may be found in the code at the specific labels. Main differences are that direct recursive calls of PCALC have been transform into a from *m+1* to *n* one by one step loop using ISG 00.

Program: Type [EXC][ALPHA]PART[ALPHA] to initiate memory and set p(1)=1. The calculator display 1.0000 indicates a successfully initialization.

Usage To compute *p(n)* simply enter *n* and press [A] soft key (S+ key in USER mode).

If *p(n)* already in memory, result is immediately display. The sequence is equivalent to recalling or viewing register (RCL nn or VIEW nn can be used to display p(nn) for any nn<100). If n is greater than previously computed and memorized *p(n)*, the calculator sequentially compute any *p(n)* from last in memory up to *n*. The larger n, the slowest is the computation.

Memory usage: The *p(n)* are stored in the register from R_{01} up to R_{mm} depending of available memory and the SIZE mmm setting.

The register R_{00} is used to count/loop and store the last register position.

The ALPHA register is used to display progression during extended computations.

Flag#0 is used for indicating erroneous condition (mainly badly initiate register or interrupted R/S) Flag#1, Flag#2 are used for *k* sequence and summation/subtraction alternate. Flag#3 is used for treated the special *n = q* cases.

CODE for HP41C/CV/CX or any compatible calculators

```
PRGM            t:      z:      y:      x:/disply       Comments


01 LBL "PART                                            @ Init PARTition program
02 CLRG                                                 @ clear all the registers
03 1                                     1
04 STO 01                                               @ p(1) = 1
05 STO 00                                               @ nb of registred p(n) set to 1 (m)
06 RTN
                                    1.0000
-------------------------------------------------------
                                         n
07 LBL "A                                               @ ENTER n PRESS "A" key
08 CF 00                                                @ clear error indicator (Flag #0)
09 RCL IND X                    n       Rn              @ recall p(n)
10 x=0?
11 GTO 00                       n       0               @ Goto to PCalc routine
12 RTN
                                n       p(n)
-------------------------------------------------------  PCalc
13 LBL 00                       n       0
14 RDN                                  n
15 1 E 3
16 /                                    .nnn    @
17 RCl 00                       .nnn    m
18 INT
19 +                                    m.nnn
20 STO 00                                               @ store loop index in R00
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
21 LBL 01                                               @ increment R00 (m.nnn)
22 ISG 00
23 GTO 02                                               @ goto new p(n) computation
24 DSE 00                                               @ decrease R00 to match register
contents
25 RTN
26 RTN                          p(n)    @ stop when m = n
                                                        @ leave p(n) in x: (true end of
program)
- - - - - - - - - -  - - - - - - - - - -  - - - - - - - - - - - - - - - - - - - - - - - - p(n)=SUM +-
p(n-q)
```

```
27 LBL 02
28 CF 01                                              @
29 SF 02
30 0                            m.nnn   0             @ Initialise sum
31 0                    m.nnn   0       0             @ Initialise k
- - - - - - - - - -  - - - - -  - - - - - - - - - - - - - - - - - - - - - - Main Loop
SUM +-
32 LBL 03                       S       k             @ Main loop (summing)
33 CHS
34 FS?C 01                                            @ F1=c next k is k+1
35 GTO 04
36 1
37 +                                                  @ k <-- k+1
38 SF 01                                              @ F1=s next k is -k
39 FS?C 02
40 GTO 04                                             @ invert F2
41 SF 02                                              @ F2=s substrat p(n-q)
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
42 LBL 04               ~       S       k             @ compute pentagonal integer k(3k-
1)/2
43 3                    S       k       3
44 RCL Y        S       k       3       k
45 *            S       S       k       3k
46 1            S       k       3k      1
47 -            S       S       k       3k-1
48 RCL Y        S       k       3k-1    k
49 *            S       S       k       k(3k-1)
50 2            S       k       k(3k-1) 2
51 /            S       S       k       q             @ q=k(3k-1)/2
52 RCL 00       S       k       q       m.nnn
53 INT          S       k       q       n
54 x<=y?                                              @ test n<=q  ?
55 GTO 05                                             @    then exit main loop
56 x<->y        S       k       n       q
57 -            S       S       k       n-q
58 RCl IND X    S       k       n-q     p(n-q)
59 x=0?
60 SF 00                                              @ tag error (unconsistant register
value)
61 FS? 02
62 CHS                                                +-p
63 ST+ T        S+-p    k       n-q     p(n-q)
64 RDN          ~       S+-p    k       n-q
65 RDN          ~       ~       S+-p    k
66 GTO 03                                             @ do main loop (summing)
-  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
67 LBL 05       S       k       q       n             @ End of main loop
68 x=y?
69 SF 03                                              @ n=q flag
70 R^           k       q       n       S
71 FC?C 03                                            @ test special cas n=q ?
72 GTO 06
73 1            q       n       S       1
74 FS? 02                                             @ test +/- sequence position
75 CHS  q       n       S       +-1
76 +            q       q       n       S+-1
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
77 LBL 06                       n       S
78 STO IND Y                                          @ memorize p(n) <-- S
79 CLA
80 ARCL Y                                             @ Prepare display
81 "~:
82 ARCL X
83 AVIEW                                              @ display progress during PRGM run
84 GTO 01
85 END
------------------------------------------------------------------------


@@ ------------------ Flag 1 & 2 rules
        F1 F2  sum
  k= 1   s  c  +
  k=-1   c  c  +
  k= 2   s  s  -
  k=-2   c  s  -
```

Conclusion

As expected, this code may not obtain exact partition number up to *p(200)* due to the calculator's number of digit limits. The 12-digit HP28C/S arithmetic allow me to compute exact p(179)= 625846753120. And the limit of exact partition number on the HP41C (with two memory modules) is p(131)=5964539504. This result is confirmed by the HP28S display. Note that expected largest 10-digit partition number was p(135)=9035836076 but is unachieved on the HP41C due to the 10-digits limitation in summation/subtraction process. As well the expected maximal 12-digit number of partition p(184)= 980462880430 is not exact on the HP28S.

I am waiting for any improvements of this from any HP enthusiast user.

Edit: Add missing END of the DO ... UNTIL main loop

Edited: 31 Mar 2011, 12:10 p.m. after one or more responses were posted

Re: major number theory discovery, HP28C/S and HP41C codes

Message #19 Posted by ***Gerson W. Barbosa*** *on 31 Mar 2011, 12:09 p.m.,*
in response to message #18 by C.Ret

> Quote:
>
> As well the expected maximal 12-digit number of partition p(184)= 980462880430 is not exact on the HP28S.

The HP-50g in exact mode gets it right. The last number in the list matches the one in page 155 of my translated copy of Marcus du Sautoy's *The Music of Primes*. Your program runs unchanged (except for a missing END in the DO structure and the CLMF command, which the 50g lacks). For n=200, it takes 11 minutes and 7 seconds:

```
%%HP: T(3)A(R)F(,);
DIR
  PCALC
  \<< \-> n
    \<< 1 SF 2 SF 0 0
      DO NEG
        IF 1 FS?C
        THEN 2 NF 1 +
        ELSE 1 SF
        END 3 OVER * 1 - OVER * 2 / n SWAP -
        IF DUP 0 >
        THEN
          \<< P
          \>> RSTF
        ELSE 0 == SWAP DROP 0 SWAP
        END ROT SWAP
        IF 2 FS?
        THEN -
        ELSE +
        END SWAP
      UNTIL DUP NOT
      END DROP 'PDAT' n 3 PICK PUT n 1 DISP DUP 2 DISP
    \>>
  \>>
  INIT
  \<< { 200 } 0 CON 1 1 PUT 'PDAT' STO
  \>>
  NF
  \<<
    IF DUP FS?
    THEN CF
    ELSE SF
    END
  \>>
  P
  \<< 'PDAT' OVER GET
```

```
    IF DUP
    THEN SWAP DROP
    ELSE DROP PCALC
    END
  \>>
  PDAT [ 1 2 3 5 7 11 15 22 30 42 56 77 101 135 176 231 297 385 490 627 792 1002
1255 1575 1958 2436 3010 3718 4565 5604
6842 8349 10143 12310 14883 17977 21637 26015 31185 37338 44583 53174 63261 75175
89134 105558 124754 147273 173525
204226 239943 281589 329931 386155 451276 526823 614154 715220 831820 966467
1121505 1300156 1505499 1741630 2012558
2323520 2679689 3087735 3554345 4087968 4697205 5392783 6185689 7089500 8118264
9289091 10619863 12132164 13848650
15796476 18004327 20506255 23338469 26543660 30167357 34262962 38887673 44108109
49995925 56634173 64112359 72533807
82010177 92669720 104651419 118114304 133230930 150198136 169229875 190569292
214481126 241265379 271248950 304801365
342325709 384276336 431149389 483502844 541946240 607163746 679903203 761002156
851376628 952050665 1064144451 1188908248
1327710076 1482074143 1653668665 1844349560 2056148051 2291320912 2552338241
2841940500 3163127352 3519222692 3913864295
4351078600 4835271870 5371315400 5964539504 6620830889 7346629512 8149040695
9035836076 10015581680 11097645016
12292341831 13610949895 15065878135 16670689208 18440293320 20390982757
22540654445 24908858009 27517052599 30388671978
33549419497 37027355200 40853235313 45060624582 49686288421 54770336324
60356673280 66493182097 73232243759 80630964769
88751778802 97662728555 107438159466 118159068427 129913904637 142798995930
156919475295 172389800255 189334822579
207890420102 228204732751 250438925115 274768617130 301384802048 330495499613
362326859895 397125074750 435157697830
476715857290 522115831195 571701605655 625846753120 684957390936 749474411781
819876908323 896684817527 980462880430
1071823774337 1171432692373 1280011042268 1398341745571 1527273599625
1667727404093 1820701100652 1987276856363
2168627105469 2366022741845 2580840212973 2814570987591 3068829878530
3345365983698 3646072432125 3972999029388 ]
  RSTF
  \<< RCLF \-> F
    \<< EVAL F STOF
    \>>
  \>>
END
```

The math involved is far beyond my skills. I would suggest only a few minor changes to your didactic RPL listing above. Not much gain, though: 10 minutes and 40 seconds for n=200.

Regards,

Gerson.

```
%%HP: T(3)A(R)F(,);
DIR
  PCALC
  \<< \-> n
    \<< { 200 } 0 CON 1 1 PUT 'PDAT' STO 1 SF 2 SF 0 0
      DO NEG
        IF 1 FS?C
        THEN 2 DUP FS? { CF } { SF } IFTE 1 +
        ELSE 1 SF
        END 3 OVER * 1 - OVER * 2 / n SWAP -
        IF DUP 0 >
        THEN
          \<< P
          \>> RSTF
        ELSE 0 == NIP 0 SWAP
        END ROT SWAP 2 FS? { - } { + } IFTE SWAP
      UNTIL DUP NOT
      END DROP 'PDAT' n 3 PICK PUT n 1 DISP DUP 2 DISP
    \>>
  \>>
  P
  \<< 'PDAT' OVER GET DUP { NIP } { DROP PCALC } IFTE
  \>>
```

```
  RSTF
  \<< RCLF \-> F
    \<< EVAL F STOF
    \>>
  \>>
END
--------------
```

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #20 Posted by **C.Ret** on 31 Mar 2011, 12:39 p.m.,*
in response to message #19 by Gerson W. Barbosa

Hi,

Thank you **Gerson** for pointing my attention on the missing END.

It is a shame that, I have no way to transmit data from my HP28S to my computer. A way to connect a HP28S to a computer is missing. And I am prone to copy/past error when typing code.

May I have to spend same time to look for a way to use the IR port of my laptop to receive any IR transmissions from my HP28S?

The HP28S is about 23min to compute up to p(200) with << INIT 200 PCALC >>

I am currently looking for sparing a few minutes by using: << INIT 2 200 FOR I I PCALC NEXT >> I am currently suspected the numerous recursive calls to consume a large bunch of memory and as a consequence to be slow in execution time.

The HP 41C's algorithm seems to be much faster than my HP28S (I just start the two computation on both calculators at the same time). The rabbit looks to be beaten by the turtle! again?

Concerning the mathematic underneath, I also not really sure to understand all the detail in depth. It appears to me as a combinational approach. To compute one p(n) partition you have to add partition of previous , but because of a couple of redundancies in your count you have to subtract same of them. Why is working with these specific "Euler's pentagonal number" is a mystery for me ! Is "pentagonality" equivalent in the additions to the "orthogonality" in the multiplication? This is one more mystery. There is a lot of mystery in nature and numbers are really natural mathematical objet. This is part of the charm of the "number theory".

Edited: I was right, INIT 2 200 FOR I I PCALC NEXT reach p(200) in only 12 min. It's less than half the time of brute force direct recursion !!

Edited: 31 Mar 2011, 1:00 p.m.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #21 Posted by **Gerson W. Barbosa** on 31 Mar 2011, 1:38 p.m.,*
in response to message #20 by C.Ret

> Quote:
>
> A way to connect a HP28S to a computer is missing.

I think there is an indirect way, by using INPRT and one HP-48.

Once I read about a serial interface design for the HP-28S, perhaps here, but I am not sure. Anyway, I don't think you would be willing to open up your HP-28S :-)

> Quote:
>
> The HP 41C's algorithm seems to be much faster than my HP28S.

Your HP-41C program demonstrates the importance of that new discovery. I don't know about the previous methods, but I guess they would be hard to implement even on the 50g. The program should run very fast and accurately on Free42 Decimal. I'll try it later.

Regards,

Gerson.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #22 Posted by **C.Ret** on 31 Mar 2011, 3:18 p.m.,*
in response to message #21 by Gerson W. Barbosa

I am sorry. I was mistakely comparing speed of HP41C's to sequently compute from p(2) to p(100) with HP28S's time to compute directly p(200) by worste case using most loads of direct recurrence calls.

In fact, the HP41C is much slower than the HP28C by a factor of nearly 4.

Here are execution times running for HP41C and HP28C

```
 p(n) |   10     25     50     75    100    125    150    175   200
------+-------------------------------------------------------------
 HP41C|   40"  2'05"  5'35" 10'20" 15'30" 21'40" 28'25" 35'40"   na
 HP28S|   10"    30"  1'25"  2'35"  4'00"  5'35"  7'30"  9'20"  12'
```

Edited: 31 Mar 2011, 3:21 p.m.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #23 Posted by **Oliver Unter Ecker** on 31 Mar 2011, 7:36 p.m.,*
in response to message #19 by Gerson W. Barbosa

Hmm.

Something seems to kill performance here.
I bet a non-recursive version would run quite a bit faster.

The JavaScript version takes 0.2s for p(200) on ND1 (on an iPhone 3GS), by the way.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #24 Posted by **C.Ret** on 1 Apr 2011, 5:29 a.m.,*
in response to message #23 by Oliver Unter Ecker

You are right, recursive calls kill the beast !

The best way to get the *p(n)* list is to compute it one step by one step since the previous and

previous by one are needed. Making things in order is logical and speed up the process.

p(n)	10	25	50	75	100	125	150	175	200
HP41C (1)	40"	2'05"	5'35"	10'20"	15'30"	21'40"	28'25"	35'40"	na
HP28S (1)	10"	30"	1'25"	2'35"	4'00"	5'35"	7'30"	9'20"	12'
(2)	10"	30"	1'30"	2'50"	4'25"	6'10"	8'05"	10'10"	13'
(3)	10"	30"	1'40"	3'25"	5'45"	8'50"	12'40"	17'20"	23'

(1) Best method: each p(n) is compute when any p(n-1) p(n-2) p(n-3) ... are already know and store in memory register. Memory is initiated only once.

(2) Intermediate method: Memory is initiated only once. For each column, the results from the previous run are kept in memory. The recursive depth s limited; only 25 p(n) values are missing at each run.

(3) Worst method: memory is clear before each computation (each column in table) resulting in deepest recursive calls stack.

This table clearly shows the effect of massive recursive calls. This is specific to the HP28C/S calculators which have specific memory management.

Edited: 2 Apr 2011, 1:44 a.m.

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #25 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 7:55 a.m.,*
in response to message #24 by C.Ret

Ok. Here's a non-recursive, stack- and local vars-based implementation:

```
p:
\<< \-> n \<<
   0. 'n>180' {R\->I} IFT \-> zero \<<
   0. \-> k \<<
   n mkpents \-> pents \<<
   [0. 1. 1. 0.] \-> signs \<<
   {1} @ partitions; kept top-of-stack
   1. n FOR j
      zero @ running sum
      1. 'k' STO
      WHILE
         pents k GET
         DUP @ for re-use next
         j \<=
      REPEAT
         PICK3 j ROT - 1. + GET
         signs k 4. MOD 1. + GET {+} {-} IFTE
         1. 'k' STO+
      END
      DROP @ duped condition val
      + @ add to partitions
   NEXT
   n 1. + GET
\>>\>>\>>\>>\>>\>>


mkpents:
\<< DUP 1. + \v/ \-> n m \<<
   {1.}
   1. m FOR i
      i 3. * 1. + i * 2. /
      +
      i 3. * 2. + i 1. + * 2. /
      +
   NEXT
\>>\>>
```

As is, this will only run on HP-49, HP 50g or on ND1.

I *think* I'm using only two commands specific to those.
In order to make this run on HP-28S
- make the second line simply "0 \-> zero" (lacking bignums, I'm not sure how high you'll be able to go before results get wrong on the HP-28S)
- change PICK3 into "3 PICK"

Note, the code switches from using Reals to using Real Integers (bignums) for n>295. I've not tried it on a 50g. It may need a lesser number.

Run-time for p(200) is 7s on ND1. It's 16s, if I set the threshold to n>195 and force it to use bignums.

[EDIT: I changed the threshold value to 180, so this code gives an exact result on HP-49 and 50g, which have lower precision.]

Edited: 6 Apr 2011, 7:11 a.m. after one or more responses were posted

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #26 Posted by **Oliver Unter Ecker** on 6 Apr 2011, 7:05 a.m.,*
in response to message #25 by Oliver Unter Ecker

I implemented recently proposed array and local operators in RPL+.

Here's the RPL+ version of the code above:

```
\<< =n
   0 'n>295' {R\->I} IFT =zero
   n mkpents2 =pents
   [0 1 1 0] =signs
   {1} =partitions
   1 n FOR j
      zero @ running sum
      1 =k
      WHILE
         j pents[k] - =:diff
         0 >=
      REPEAT
         partitions[diff]
           signs[k,4] {+} {-} IFTE
         ++k
      END
      =partitions[j]
   NEXT
   partitions[n]
\>>
```

Run-time for p(200) is 2.3s on ND1. It's 2.7s, if I set the threshold to n>195 and force it to use bignums. That is, the speed gain for RPL+ is 300% and 700%, respectively.

I don't know how fast the RPL code in the previous post runs on a 50g. I'd love to get a result from someone who has one. (I punched the code into HP-49G running on Emu48 on a Mac, and get 35.2s for p(200). Extrapolated from previous results, this suggest 2.5 to 5 minutes for 50g.)

Edited: 6 Apr 2011, 7:14 a.m.

Re: major number theory discovery, HP28C/S and HP41C

codes

*Message #27 Posted by **Gerson W. Barbosa** on 6 Apr 2011, 9:22 a.m.,*
in response to message #26 by Oliver Unter Ecker

1 minute and 50.3 seconds (HP 50g)

```
<< 200 p >> TEVAL

->     3972999029388
          s:110.4585
```

Re: major number theory discovery, HP28C/S and HP41C codes

*Message #28 Posted by **Oliver Unter Ecker** on 6 Apr 2011, 5:53 p.m.,*
in response to message #27 by Gerson W. Barbosa

Nice.

Thank you, Gerson!

Over at comp.sys.hp48 someone posted a Sys RPL implementation that runs in 8s! I'm impressed at that gain thru Sys RPL. I can't read Sys RPL. I wonder if he's doing anything cleverer algorithmically. The implementation above could be improved by having the full sign array precomputed vs doing the circular buffer.

Re: major number theory discovery, if you can translate

*Message #29 Posted by **Oliver Unter Ecker** on 31 Mar 2011, 7:28 p.m.,*
in response to message #1 by Don Shepherd

After spending more time trying to understand the math (and learning and still failing--by a large shot) I sent email to Mr. Bruinier, congratulating and asking if they have an implementation that they could share, for any kind of math system or platform.

He kindly responded, and told me that they don't have complete code yet, and that he will give this task to a student as a thesis project.

Wow. What a surprise.

Speaking of slightly hard to read and surprising.
Can you believe that this piece of code computes p using the Euler method:

```
f=:[:(0<@-."1~>@{:)](,([:<@;(-i.)@#([,.(>:{."1)#])&.>]))@]^:[(<i.1 0)"_
```

Code Golfing for p()

I'm working on a 3rd language for ND1, which, I think, will allow an even shorter implementation (and be just as unreadable).

Re: major number theory discovery, if you can translate

*Message #30 Posted by **C.Ret** on 2 Apr 2011, 2:44 a.m.,*
in response to message #29 by Oliver Unter Ecker

Hi, It’s true that this code is concise and not really easy readable by human eyes.

Actually it's not Golfing code, pas a true **J** code. **J** is a very terse array programming language, and is most suited to mathematical and statistical programming, especially when performing operations on matrices. J will certainly perfectly fit into the NT1 project.

And precisely, **P** is not computing the partition number *p(n)* but the partition itself.

```
     P =: [: (0 <@-."1~ >@{:) ] (, ([: <@; (- i.)@# ([ ,. (>: {."1) # ])&.> ]))@]^:[
(<i.1 0)"_


   P 1
+-+
|1|
+-+
   P 2
+-+---+
|2|1 1|
+-+---+
   P 3
+-+---+-----+
|3|2 1|1 1 1|
+-+---+-----+
   P 4
+-+---+---+-----+-------+
|4|3 1|2 2|2 1 1|1 1 1 1|
+-+---+---+-----+-------+
   P 5
+-+---+---+-----+-----+-------+---------+
|5|4 1|3 2|3 1 1|2 2 1|2 1 1 1|1 1 1 1 1|
+-+---+---+-----+-----+-------+---------+
```

The useful **#** verb in **J** returns the size of an array, thus the correct **J** program to compute number of partitions *p(n)* is **# P *n***.

```
   #P 1
1
   #P 2
2
   #P 3
3
   #P 4
5
   #P 5
7
   #P 10
42
   #P 50
204226
   #P 100
|out of memory: P
|   #    P 100
```

As can be seen, despite its concise and terse syntax, this code has to draw all the partitions in order to count it. This is not as efficient or power full as it looks at first. On my system (2 Go RAM) draw all the 190569292 partitions of integer 100 seems to be impossible.

Here is a code to display any partition on a HP41C.

It use statistic fonctions Σ+ and Σ- to add or remove element in the partition. This is a trick sparing a few instruction to maintain the sum of element (Σx) and the number of element in the current partition (n).

Usage

Enter the integer and press [EXQ][ALPHA]PART[ALPHA] to get the list of all the way to get this integer. Press R/S key at each individual display to get the next one.

Example

```
7[EXQ]PART
"7             " [R/S]
"6+1           " [R/S]
"5+2           " [R/S]
"5+1+1         " [R/S]
"4+3           " [R/S]
"4+2+1         " [R/S]
"4+1+1+1       " [R/S]
"3+3+1         " [R/S]
"3+2+2         " [R/S]
"3+2+1+1       " [R/S]
"3+1+1+1+1     " [R/S]
"2+2+2+1       " [R/S]
"2+2+1+1+1     " [R/S]
"2+1+1+1+1+1 " [R/S]
"1+1+1+1+1+1+"
"+1+1+1+1+1+1" [R/S]
7.0000
```

Code for HP41C

```
01 LBL "PART
02 ΣREG 31
03 CLΣ
04 STO 00
05 FIX 0


06 LBL 01     @ ------------- Put value in the  partition
07 Σ+
08 LastX
09 STO IND 36
10 RCL 00
11 RCl 31                        @  Σx
12 -
13 x=0?
14 GTO 02                        @  Display partition
15 x>y?
16 RDN                           @  limit max of next value to previous one
17 GTO 01


18 LBL 02     @ ------------- Display  partition
19 RCL 36                        @ nb of value in partition (n)
20 1 E3
21 /
22 SF 01                         @ Flag to add + between value
23 CLA                           @ clear alpha register
24 ISG X                         @ start with value 1.nnn


25 LBL 03    @ -------------- Put values in alpha register
26 FC?C 01
27 "~+                           @ where ~ is the 'append' symbol
28 ARCL IND X
29 ISG X
30 GTO 03                        @ loop until x is greater than n  (R36)
31 AVIEW
32 STOP                          @ display partition wait for user R/S press


33 LBL 04    @ -------------- Decrease/remove last element
34 1
35 RCL IND 36
36 -
37 LastX                         @ remove last element
38 Σ-
39 x<->y
40 CHS
41 x>0?
42 GTO 01                        @ if element is one or bigger, put it in partition
43 RDN                           @ else put n top of stack
44 x>0?
```

```
45 GTO 04                       @ if still an element in partition, decrease it by one
46 FIX 4
47 END                          @ of PART
```

Edited: 2 Apr 2011, 2:26 p.m. after one or more responses were posted

Re: major number theory discovery, if you can translate

*Message #31 Posted by **Oliver Unter Ecker** on 2 Apr 2011, 6:58 a.m.,*
in response to message #30 by C.Ret

Hi C.Ret.

Thanks for telling me what the J implementation did. It's so unreadable... I certainly missed that.

The language I'm working on for ND1 (really MorphEngine) is GolfScript. Even terser than J. And even better suited as it starts out as a stack-based language. I morph it into RPL (you can even see the RPL result which makes it so much more readable...), which is byte-code compiled (in the future: morphed) into JavaScript. It will be interesting to see how its performance compares to the Ruby implementation. And it'll be fun to play with those terse one-liners on-the-go.

I've not found a GolfScript implementation of p(n). If you come across one...

Re: major number theory discovery, if you can translate

*Message #32 Posted by **Oliver Unter Ecker** on 3 Apr 2011, 8:03 a.m.,*
in response to message #31 by Oliver Unter Ecker

If GolfScript / RPL interests you, you may wanna check out GolfScript/MorphEngine.

Edited: 3 Apr 2011, 8:04 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dennis, Even HP pimped their calculators

*Message #1 Posted by **Joerg Woerner** on 24 Mar 2011, 8:26 a.m.*

Dennis,

First the yellow strip on my National Semiconductor CLONE and now even a BLUE HP 12C ;-))

Cheers,

Joerg

Re: Dennis, Even HP pimped their calculators

*Message #2 Posted by **Martin Pinckney** on 24 Mar 2011, 9:44 a.m.,*
in response to message #1 by Joerg Woerner

Blue legends on blue keys? Now that there's ridiculous.

Re: Dennis, Even HP pimped their calculators

*Message #3 Posted by **Howard Owen** on 24 Mar 2011, 3:57 p.m.,*
in response to message #1 by Joerg Woerner

The face of the calculator is really beat up, but the blue color seems pristine.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

wp34s - New Release

*Message #1 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 8:24 a.m.*

We've made some progress regarding numeric accuracy and usability of wp34s. Find a new release here: http://sourceforge.net/projects/wp34s/files/. You want to grab wp34s.zip.

The math and statistic specialists here are kindly asked to check the probability functions again. Pauli has put some work in better algorithms.

For the rest of us: The overall usability has improved. As an example, navigating in catalog(ue)s is possible with sequences of alpha characters. Typing C L R will bring you directly to CLRREG in the X.FCN catalog(ue). A short time of inactivity resets the sequence, so typing C L, waiting 3 seconds and then typing R will take you to RESET.

You should also notice, that the key labels of the compact and LED skins are better readable then before.

Enjoy!

Edited: 24 Mar 2011, 8:25 a.m.

Re: wp34s - New Release

*Message #2 Posted by **gene wright** on 24 Mar 2011, 9:04 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Question: Was there a specific reason not to have an A key in addition to B C D ?

The Sigma+ function could have been the default above the key and an A key placed there instead.

As well thought out as everything is, I'm betting you guys had a reason. ;-) Just curious.

Re: wp34s - New Release

*Message #3 Posted by **Walter B** on 24 Mar 2011, 9:35 a.m.,*
in response to message #2 by gene wright

Gene,

As you may have seen, the default primary functions of the other hotkeys appear elsewhere on the keyboard. So when any of the labels B, C, D is used in a program, the respective function is easily accessible still. OTOH Sigma+ has no backup location. Sigma+ shall be a primary function in any case IMHO - and in almost all vintage HP calculators it is. And it shall be located either next to '+' or at another position reached easily. Since in the WP 34S R/S took the location often held by Sigma+ in the past (IIRC we even had a poll about that here), top left or top right were two positions coming into my mind next. The top right side takes all the prefixes, so top left was left ;-) Sufficient?

Walter

Edited: 24 Mar 2011, 9:36 a.m.

Re: wp34s - New Release

*Message #4 Posted by **gene wright** on 24 Mar 2011, 10:03 a.m.,*
in response to message #3 by Walter B

Yep, makes sense Walter. Had not noticed that the B, C, D functions existed somewhere else on the keyboard. And, the explanation makes sense.

Re: wp34s - New Release

*Message #5 Posted by **Tim Wessman** on 24 Mar 2011, 3:59 p.m.,*
in response to message #3 by Walter B

How do I turn on chain algebraic mode? My math isn't working right.

TW

Re: wp34s - New Release

*Message #6 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 4:23 p.m.,*
in response to message #5 by Tim Wessman

I hope you're kidding.

Or is chain mode an explicit requirement for any 20b/30b repurposing project? I couldn't find it in the license texts of the SDK.

Re: wp34s - New Release

*Message #7 Posted by **Tim Wessman** on 24 Mar 2011, 5:09 p.m.,*
in response to message #6 by Marcus von Cube, Germany

It is in a very, very, very small font. ;-)

TW

Re: wp34s - New Release

*Message #8 Posted by **Paul Dale** on 24 Mar 2011, 6:57 p.m.,*
in response to message #5 by Tim Wessman

> Quote:
>
> How do I turn on chain algebraic mode?

This feature is very well hidden. First you need to visit your friendly back street neurosurgeon. Ask nicely for the *wire hook lobotomy*. Once that is done, you'll understand ;-)

- Pauli

Re: wp34s - New Release

*Message #9 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 9:37 a.m.,*

in response to message #2 by gene wright

I was not involved in the decision, I joined the team when the functionality was long decided upon. But I have an opinion, of course. :)

Firstly, I agree. Another directly addressable label seems logical. But, secondly, the default function of the key must exist somewhere else on the keyboard or in a catalogue. Burying Sigma+ too deeply is probably a bad idea because it might not be used by everybody, but if, then it should be readily available on the keyboard for rapid data entry.

Make a suggestion where to put Sigma+ when label A is in use and Pauli and Walter will decide upon this.

Re: wp34s - New Release

*Message #10 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 9:38 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Log base x is back!

Thank you all very much!

Gerson.

Re: wp34s - New Release

*Message #11 Posted by **Walter B** on 24 Mar 2011, 9:40 a.m.,*
in response to message #10 by Gerson W. Barbosa

Well, thank *you* all - it was a result of a poll on this forum ;-)

Walter

Re: wp34s - New Release

*Message #12 Posted by **Dieter** on 24 Mar 2011, 4:17 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Ah, great - it's LOGxY again. :-)
Both in this and in earlier releases I noticed some details I would like to mention.

1. At several occasions the emulator simply disappeared from the screen and did not come back - although it was still active and its icon was visible in the task bar. Start WP34s, switch to another program (e.g. Notepad), try to switch back to WP34s - and nothings happens. The only way to resolve this: close the program and restart it. OS: Windows XP SP3.

2. After the emulator has been switched to "hide titlebar" there is no way to move it across the screen. The user has to turn the titlebar on, move the program window and hide the titlebar again. I think the usual keyboard shortcuts like Alt+Space (Windows) should work even with the titlebar turned off.

3. A right-click anywhere on the calculator surface works like pressing the f prefix. Is this a bug of a hidden feature?

4. While a program is running the display shows the x-register, not something like "running", like other HPs. The only thing that hints at a running program is a tiny flashing "RCL" in the upper right corner. BTW, I would prefer something moving across the display, like... a running chicken, a swimming duck, ...you get the idea. ;-)

5. VIEW is not working (edit: not SHOW, as originally stated). At least it's not working the way I'd expect. Try this short example:

```
001 LBL B
002 1
003 0
004 STO 01
005 LBL 01
006 VIEW 01
007 PSE
008 DSZ 01    ; aaah, finally DSZ is back. :-)
009 GTO 01
010 RTN
```

   Instead of the expected countdown the display shows nothing but a "10" (or simply X, if interrupted and restarted) and a flashing RCL-announciator - for the whole ten seconds the program is running.

6. -123 mod 5 gives -3 on the 34s. My other HPs with MOD or RMDR function return 2. I assume that's also true for the 42s which the manual refers to regarding this function.

7. The normal CDF now is more precise, but full machine precision is not achieved. Especially in the tails (x >= 2) this could be done easily with a simple continued fraction expansion. Unoptimized pseudo-code:

```
n := 4 + 100 div (x-1)  ; see below
s := 1/n
for c := n-1 downto 1 do
    s := c / (s + x)
s := s + x
cdf := pdf(x) / s
```

   I tried to determine a rule for the number of terms n, depending on x and the desired accuracy (d digits). As far as I can tell on a system working with usual binary double precision numbers (15-16 valid decimals) this value can be estimated for d = 8...16 digits quite exactly by

```
k >= 17 + d * (d-5) / 2   (the example uses k = 100 for d ~= 16)
n >= 4 + int(k / (x-1))
```

   This should return the value for s with d valid digits and an error near 0,2 ULP. With 39 internal digits on the 34s the desired 16-digit result can be evaluated without effort, since the required pdf and its exp(-0,5*x^2) can be evaluated with sufficient precision. All this is calculated in virtually no time.

8. While we're on this topic: the common use of the symbols P and Q for the cumulative normal distribution is P for the lower tail and Q for the upper. The 34s uses both symbols exactly vice versa. Thar's why I think either the symbol should be changed or the values should get the opposite sign:

```
x =  1,5   =>   Q =  0,06681
x = -1,5   =>   Q =  0,93319
Q =  0,1   =>   x =  1,28155
Q =  0,9   =>   x = -1,28155
```

9. Regarding Sigma-plus: I never understood why this function should require a primary key. Even in the days when I used statistics virtually every day I never used this function on any of my calculators. I always wondered if someone *really* used this function at all. ;-) Using my 41C it always drove me mad when I wanted to start a program at label A, but instead Sigma+ was executed because I forgot to turn on user mode. And so one accidental key press destroyed not less than six memory registers. No, LastX Sigma- is not always an option.

   In other words: If I could design a calculator, this Sigma+ key would be the first function I'd remove from a primary key. The 34C uses f Sigma+ and g Sigma-, which is perfectly okay. In simple words: yes, I want a decicated "A"-key.

Otherwise I think an actual "hardware" 34s would be one of the greatest calculators I ever used. ;-)

Dieter

Edited: 24 Mar 2011, 6:36 p.m. after one or more responses were posted

Re: wp34s - New Release

*Message #13 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 4:42 p.m.,*
in response to message #12 by Dieter

Dieter, I can only comment on the first few items.

The emulator kernel is still mostly what comes with the SDK. I couldn't reproduce the "can't find the window again" problem you're mentioning. My development system is a WinXP virtual machine, so close enough to what you are using.

Dragging a frameless window should be no problem at all. Just grab the window anywhere and drag it around. I can't comment on standard Windows shortcuts, I just didn't dig deep enough into the emulator mechanics. I was happy enough to cope with the MFC code without being dependent on the runtime DLLs. ;)

The right click anywhere except the logo is borrowed from the original code which sends a blue shift to the application. I just adapted the behavior to the wp34s key layout.

The proper display in run mode is still under investigation. I did some changes to Pauli's routines in preparation for the hardware port which might have broken the intended functionality. Walter should add this to our internal bug list.

All the math questions go to Walter and Pauli...

> Quote:
>
> Otherwise I think an actual "hardware" 34s would be one of the greatest calculators I ever used. ;-)

Danke für die Blumen. :)

Re: wp34s - New Release

*Message #14 Posted by **Tim Wessman** on 24 Mar 2011, 5:27 p.m.,*
in response to message #13 by Marcus von Cube, Germany

If that comes from some of the original emulator UI code from a while back (which I highly suspect is the case), that non redrawing bug can be found in the cDlg file. If it is the same and I am remembering properly, it happens when you minimize and then maximize the window. It could cause a flag not to be set properly and it wouldn't redraw correctly.

Not sure if that is the case, but it could be.

TW

Re: wp34s - New Release

*Message #15 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 6:25 p.m.,*
in response to message #14 by Tim Wessman

I can't reproduce the error here. Sorry for any inconvenience.

Re: wp34s - New Release

*Message #16 Posted by **Dieter** on 24 Mar 2011, 5:57 p.m.,*
in response to message #13 by Marcus von Cube, Germany

> Quote:
>
> The emulator kernel is still mostly what comes with the SDK. I couldn't reproduce the "can't find the window again" problem you're mentioning.

It happens especially every time I use notepad.exe and close it again. Afterwards the WP34s simply has disappeared.

> Quote:
>
> Dragging a frameless window should be no problem at all. Just grab the window anywhere and drag it around.

Aaaaaargghh.... I haven't even tried it - after clicking on the window I somehow expected the mouse coursor to become a hand, as usual. Since this did not happen... But okay, it works.

> Quote:
>
> Danke für die Blumen. :)

Bitte, bitte. 8-)

Dieter

Re: wp34s - New Release

*Message #17 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 6:45 p.m.,*
in response to message #16 by Dieter

> Quote:
>
> It happens especially every time I use notepad.exe and close it again. Afterwards the WP34s simply has disappeared.

This used to happen here also (Vista). I was able to reproduce it by successively minimizing and maximizing the application by right-clicking the shortcut in the task bar, as Tim has suggested (I've hidden the title bar because I'm using 1280x800 resolution).

Gerson.

Edited to fix a typo

Edited: 25 Mar 2011, 6:33 a.m. after one or more responses were posted

Re: wp34s - New Release

*Message #18 Posted by **Marcus von Cube, Germany** on 25 Mar 2011, 4:57 a.m.,*
in response to message #17 by Gerson W. Barbosa

I can reproduce it now. It only happens with the Window frame hidden. If you leave the title bar on, everything works as expected.

The bug must be deeply hidden in the emulator sources. I'm not sure I'll ever find it.

Re: wp34s - New Release

*Message #19 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 7:32 a.m.,*
in response to message #18 by Marcus von Cube, Germany

I think I found a fix. I commented out some strange code in the emulator sources and that seems to help. The next release will include the fix.

Re: wp34s - New Release

*Message #20 Posted by **Glen Sanft** on 27 Mar 2011, 10:52 a.m.,*
in response to message #19 by Marcus von Cube, Germany

I apologize. I should have reported earlier that with the titlebar absent, a minimized-to-the-taskbar WP34S could not be made to return for use, running under Wine (I'd assume fairly recent) under Ubuntu 10.04. It's been no big deal, as Alt+mouse_drag on the window for me allows shoving the titlebar off the top of the display anyway.

Re: wp34s - New Release

*Message #21 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 11:54 a.m.,*
in response to message #20 by Glen Sanft

The vanishing window is one of the issues fixed with the upcoming release. The EXE is ready but there are enough changes to justify a new manual with the release.

Re: wp34s - New Release

*Message #22 Posted by **Walter B** on 27 Mar 2011, 1:56 p.m.,*
in response to message #21 by Marcus von Cube, Germany

The manual is ready now - we'll see to get all the stuff packed and zipped and then ... tataa! :-)

Re: wp34s - New Release

*Message #23 Posted by **Paul Dale** on 24 Mar 2011, 6:09 p.m.,*
in response to message #12 by Dieter

Dieter,

Great feedback thanks.

> Quote:
>
> While a program is running the display shows the x-register, not something like "running", like other HPs. The only thing that hints at a running program is a tiny flashing "RCL" in the upper right corner. BTW, I would prefer something moving across the display, like... a running

> chicken, a swimming duck, ...you get the idea. ;-)

We should be able to do something here.

> Quote:
>
> SHOW is not working. At least not the way I'd expect. Try this short example:

Yes, this one is known already :-(The pause is forcing a screen redraw which destroys the VIEW. If you replace the pause with a small loop it works okay but that isn't a fix.

We've always has ISZ and DSZ in order to support integer mode where ISG and DSE don't make much sense. They just happen to work on reals like the early HPs :-)

> Quote:
>
> -123 mod 5 gives -3 on the 34s. My other HPs with MOD or RMDR function return 2. I assume that's also true for the 42s which the manual refers to regarding this function.

Hmmm, bug or not? I'm not sure :-) We're honouring the sign the same as division or multiplication would.

> Quote:
>
> The normal CDF now is more precise, but full machine precision is not achieved.

Sadly, I've not got back to this one yet. It will be fixed eventually though.

> Quote:
>
> While we're on this topic: the common use of the symbols P and Q for the cumulative normal distribution is P for the lower tail and Q for the upper. The 34s uses both symbols exactly vice versa. Thar's why I think either the symbol should be changed or the values should get the opposite sign:

My vote was for Z.

Our P is a Poisson distribution not a normal one. The parameter comes from register J. We tried having the parameter(s) on the stack for the distributions but it was painful to do anything.

Again, thanks for the feedback,

- Pauli

Edited: 24 Mar 2011, 11:43 p.m. after one or more responses were posted

Re: wp34s - New Release

*Message #24 Posted by **Marcus von Cube, Germany** on 24 Mar 2011, 6:22 p.m.,*
in response to message #23 by Paul Dale

I'm working on the VIEW problems. The next release will be better (but probably far from perfect) in this respect. VIEW then displays the selected register and PAUSE does not destroy it. You will be able to omit the PAUSE and let the program continue without interruption. This will, of course, interfere

with any flying gooses we might introduce.

Re: wp34s - New Release

*Message #25 Posted by **Dieter** on 24 Mar 2011, 7:05 p.m.,*
in response to message #23 by Paul Dale

Hi Pauli,

> Quote:
>
> The pause is forcing a screen redraw which destroys the VIEW. If you replace the pause with a small loop it works okay but that isn't a fix.

OK, I tried a loop instead of PSE:

```
5
0
0
0
0
0
LBL 02
DSZ X
GTO 02
```

The display now shows "10", then "18" (?!) and stays so until the program finishes after 10 seconds.

> Quote:
>
> My vote was for Z. (...) Our P is a Poisson distribution not a normal one.

The use of "Q" is perfectly okay - just change the sign of x. ;-) "Z" is not very clever here, as it refers to the pdf (cf. Abramovitz & Stegun). There's just one reason why P might be preferred: if for all other distributions the lower tail integral is determined, and using the upper tail only for the normal distribution would make it the only exception. Otherwise the solution is simple: use Q and evaluate the upper tail.

Edit - what about this: simply use an uppercase Greek Phi for the normal integral. This is a commonly used symbol. One might even provide a lowercase phi function that returns the pdf. :-)

Dieter

Edited: 24 Mar 2011, 7:12 p.m.

Re: wp34s - New Release (VIEW)

*Message #26 Posted by **Walter B** on 25 Mar 2011, 3:38 a.m.,*
in response to message #25 by Dieter

VIEW works now.

Walter

Re: wp34s - New Release (VIEW)

*Message #27 Posted by **Marcus von Cube, Germany** on 25 Mar 2011, 4:58 a.m.,*
in response to message #26 by Walter B

But has yet to be released?

Re: wp34s - New Release

*Message #28 Posted by **Dieter** on 26 Mar 2011, 12:30 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I've found another problem: Solve (SLV) crashes the emulator. Try this simple test:

```
LBL D
X^2
2
-
RTN


1 ENTER 2
SLV D
```

Instead of the expected instantaneous 1,4142... the emulator simply crashes.

Addendum:
Integrate crashes as well. Test:

```
LBL D
SIN
RTN


DEG FIX 4
0 ENTER 90
Integrate D
```

Instead of the expected 180/Pi = 57,2958 the emulator crashes immediately.

Dieter

Edited: 26 Mar 2011, 6:13 p.m. after one or more responses were posted

Re: wp34s - New Release

*Message #29 Posted by **Glen Sanft** on 26 Mar 2011, 12:46 p.m.,*
in response to message #28 by Dieter

That works okay for me here using labels 'A', 'B', 'C', or 'D', with or without the final 'RTN' instruction. This with the latest build as of this date running via Wine on GNU/Linux, and as the only program in memory.

[edit: pertains only to the first part of your post]

[edit further: pertains /also/ to the second part -- "Works fine for me here"]

Perhaps a crash has left your "calculator" in a weird state. Try a reset. Though I should state that I'm using "." as the radix and didn't try it with ",", but I rather doubt that'd be the problem for you.

Edited: 26 Mar 2011, 12:54 p.m.

Re: wp34s - New Release

*Message #30 Posted by **Marcus von Cube, Germany** on 26 Mar 2011, 1:05 p.m.,*
in response to message #29 by Glen Sanft

Dieter, I second Glen's proposal: reset the calculator or remove the wp34s.dat file. If you can reproduce the error with a certain dat file I'd be interested to debug the crash scenario here with your data.

Re: wp34s - New Release

*Message #31 Posted by **Dieter** on 26 Mar 2011, 6:15 p.m.,*
in response to message #30 by Marcus von Cube, Germany

Removing the .dat-file does not make a difference. Both Solve and Integrate crash immediately.

Dieter

Re: wp34s - New Release

*Message #32 Posted by **Jeroen Van Nieuwenhove** on 26 Mar 2011, 3:42 p.m.,*
in response to message #29 by Glen Sanft

I could reproduce both of these crashes, even with an erased wp34s.dat file. Latest build on Windows Vista x64.

Re: wp34s - New Release

*Message #33 Posted by **Walter B** on 26 Mar 2011, 5:17 p.m.,*
in response to message #32 by Jeroen Van Nieuwenhove

Hmmh, I hate I have to concur. Crashed with program 1 (and 2) even after RESET, build 377. Windows 7.

Edited: 26 Mar 2011, 5:24 p.m.

Re: wp34s - New Release

*Message #34 Posted by **Marcus von Cube, Germany** on 26 Mar 2011, 5:59 p.m.,*
in response to message #33 by Walter B

OK, something to do on Sunday. :(

Re: wp34s - New Release

*Message #35 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 8:07 a.m.,*
in response to message #34 by Marcus von Cube, Germany

We found a fix. The next release will work. :)

Re: wp34s - New Release

*Message #36 Posted by **Paul Dale** on 26 Mar 2011, 8:27 p.m.,*
in response to message #28 by Dieter

This looks to be a problem with Windows. It works fine under Wine on a Mac (and Linux as mentioned below). Likewise the console versions seem to be okay too.

I'm assuming that sum and product are also broken the same way.

Will be looked into.

- Pauli

Re: wp34s - New Release

*Message #37 Posted by **Dieter** on 27 Mar 2011, 5:24 a.m.,*
in response to message #36 by Paul Dale

Right, the sum and product functions also crash.

Dieter

Re: wp34s - New Release

*Message #38 Posted by **Thomas Radtke** on 27 Mar 2011, 6:20 a.m.,*
in response to message #1 by Marcus von Cube, Germany

This morning, wp34s failed to start. I had to remove wp34s.dat (and immediately realized that this file could have been of interest :-/).

About rounding: ROUNDI rounds Integer x + 0.5 to x+1 always. Is there any way to change this behaviour?

And: Change the icon from hp to wp, please ;-).

Re: wp34s - New Release

*Message #39 Posted by **Paul Dale** on 27 Mar 2011, 6:50 a.m.,*
in response to message #38 by Thomas Radtke

The short answer is no. The longer answer involves the rounding modes supported by the IEEE standard.

The underlying mathematics library supports these rounding modes:

Mode	Description	WP34S
CEILING	round towards +infinity	CEIL
DOWN	round towards 0 (truncate)	TRUNC
FLOOR	round towards -infinity	FLOOR
HALF_DOWN	0.5 rounds down	
HALF_EVEN	0.5 rounds to nearest even	
HALF_UP	0.5 rounds up	ROUNDI
UP	round away from 0	

The WP34S also has an extra mode invoked by ROUND. This rounds to the value shown on the display using the current display mode settings.

So we support all but three of the available rounding modes. Half down is easy: CHS ROUNDI CHS. Round half even is more difficult.

It would be easy enough to add extra commands to support the other three modes if there is sufficient interest. So, if you want the extra commands please post which you want (& suggest command names -- limit of six characters).

- Pauli

oops: CHS ROUNDI CHS doesn't do half down :-(

Edited: 27 Mar 2011, 7:56 a.m. after one or more responses were posted

Re: wp34s - New Release

*Message #40 Posted by **Walter B** on 27 Mar 2011, 6:59 a.m.,*
in response to message #39 by Paul Dale

AFAIK we don't feature TRUNC, it's called IP.

Re: wp34s - New Release

*Message #41 Posted by **Thomas Radtke** on 27 Mar 2011, 7:03 a.m.,*
in response to message #39 by Paul Dale

> Quote:
>
> So, if you want the extra commands please post which you want (& suggest command names -- limit of six characters).

I recommend HALF_EVEN, either as a dedicated function (RHEVEN), or as a MODE to ROUNDI. Anyone supporting this?

Re: wp34s - New Release

*Message #42 Posted by **Walter B** on 27 Mar 2011, 7:06 a.m.,*
in response to message #41 by Thomas Radtke

Just for curiosity: what do you need that for?

Re: wp34s - New Release

*Message #43 Posted by **Paul Dale** on 27 Mar 2011, 7:20 a.m.,*
in response to message #42 by Walter B

> Quote:
>
> Just for curiosity: what do you need that for?

Round half even is the recommended naive rounding mode for numerical computations. Rounding errors generally tend to cancel out better in this mode. Round half odd is also good but not typically supported. This error cancellation doesn't happen with round half up or round half down.

Of course, we're rounding to integer here (rather than rounding the last digit in the mantissa) so the whole thing is pretty moot. I don't see much reason to include this.

However, including support for the rounding modes is another matter. We use round half even for conversions to our register format.

And yes, it is IP not TRUNC :-(

- Pauli

Re: wp34s - New Release

*Message #44 Posted by **Glen Sanft** on 27 Mar 2011, 10:43 a.m.,*

in response to message #43 by Paul Dale

> Quote:
>
> Round half even is the recommended naive rounding mode for numerical computations. Rounding errors generally tend to cancel out better in this mode. Round half odd is also good but not typically supported. This error cancellation doesn't happen with round half up or round half down.
>
> Of course, we're rounding to integer here (rather than rounding the last digit in the mantissa) so the whole thing is pretty moot. I don't see much reason to include this.

Back in the late '70s I was working as a draftsman. Our drawings were in decimal inches, using two decimal places. The [rather large] company policy was a "5" in the third decimal place would round up a second-place "odd" but not a second-place "even". This was different from what I'd learned about rounding, namely that a "5" would always round up, so I inquired.

I was given the example of a part being an inch long with a hole placed at 3/8" from one end. If the dimensions were listed to both ends from the hole, they'd add up to 1.01 inches if both 0.375 and 0.625 had gotten rounded up.

Furthermore, all our calculations (figuring torque loads, etc.) were to be recorded on our scratch sheets using this method with the reason given as repeatability by subsequent folks who would likely have a different make/model calculator!

It would be very nice to be able to have a calculator which honored an individually-chosen rounding method, thus eliminating the necessity to "fix" two extra digits in the display. It would make it especially convenient to "RND" the displayed values, knowing that all results thus followed a (whichever) "proper" convention. It is exactly for this type of reason that prospects of such projects as this gives me joy. Depending on how far one might want to roll their sleeves up they should be able to customize to their heart's content.

Re: wp34s - New Release

*Message #45 Posted by **Thomas Radtke** on 27 Mar 2011, 7:23 a.m.,*
in response to message #42 by Walter B

Unbiased rounding, but w/o an application in mind. We discussed this earlier. In rare cases, a user might request a series of rounded numbers for further processing. However, to me it is just that I'm to proud using a rounding function only bankers would use ;-).

[Edit to remove one out of possibly many typos]

Edited: 27 Mar 2011, 7:28 a.m.

Re: wp34s - New Release

*Message #46 Posted by **Paul Dale** on 27 Mar 2011, 7:41 a.m.,*
in response to message #45 by Thomas Radtke

These commands round to integer. I just don't see the point of unbiased rounding here.

- Pauli

Re: wp34s - New Release

*Message #47 Posted by **Thomas Radtke** on 27 Mar 2011, 8:26 a.m.,*
in response to message #46 by Paul Dale

And I don't see the point of biased rounding ;-).

Well, hard to imagine anyone is doing statistics on rounded integers. OTOH ... you never know.

It's not at all important to me, I was just curious about the choice of the rounding method. I guess it is tradition, or to not be questioned by people expecting something different.

Re: wp34s - New Release

*Message #48 Posted by **Dieter** on 27 Mar 2011, 2:24 p.m.,*
in response to message #39 by Paul Dale

While we're on this topic: I really would like a special command that rounds the 16-digit value to the displayed 12 significant digits, removing the four additional "guard digits". In other words: a simple shortcut for

```
RCLM
X<>Y       ; save display mode
SCI 11
RND        ; round to 12 sign. digits
X<>Y
STOM       ; restore display mode
DROP
```

...just without disturbing the stack. In the olden days there was a similar key sequence for the TI58/59 which used EE INV EE to remove the three guard digits.

Dieter

Re: wp34s - New Release

*Message #49 Posted by **Walter B** on 27 Mar 2011, 2:42 p.m.,*
in response to message #48 by Dieter

Hallo Dieter,

one possibility may be attaching a parameter to RND, so something like RND 12 would do what you want.

Walter

Re: wp34s - New Release

*Message #50 Posted by **Glen Sanft** on 27 Mar 2011, 3:14 p.m.,*
in response to message #49 by Walter B

... using whichever "MODE"d method of rounding (or truncating) has been selected would be especially tasty...

Re: wp34s - New Release

*Message #51 Posted by **Dieter** on 27 Mar 2011, 5:10 p.m.,*
in response to message #49 by Walter B

Yes, this could actually be used for three different ways of rounding:

- "RND 4" could round X to 4 digits behind the decimal point
- "RND -4" might round X to 4 significant digits
- "RND ," would round X according to the current display mode

Dieter

Re: wp34s - New Release

*Message #52 Posted by **Paul Dale** on 27 Mar 2011, 6:06 p.m.,*
in response to message #48 by Dieter

Executing ROUND in ALL mode also does this.

All mode is set by default after an erase and by "FIX ."

- Pauli

Re: wp34s - New Release

*Message #53 Posted by **Walter B** on 27 Mar 2011, 7:04 a.m.,*
in response to message #38 by Thomas Radtke

> Quote:
>
> Change the icon from hp to wp, please

We did already. We didn't highlight the changes, however, so look carefully ;-)

Re: wp34s - New Release

*Message #54 Posted by **Thomas Radtke** on 27 Mar 2011, 7:33 a.m.,*
in response to message #53 by Walter B

I'd have noticed, but I was using an outdated version. Great :-).

Re: wp34s - New Release

*Message #55 Posted by **Eddie W. Shore** on 27 Mar 2011, 1:51 p.m.,*
in response to message #54 by Thomas Radtke

The logo looks like the hp logo but I can tell it is different. Also, if the keyboard is used, it is best to use the keypad or use NUM LOCK on the keyboard.

Re: wp34s - New Release

*Message #56 Posted by **Tim Wessman** on 27 Mar 2011, 2:33 p.m.,*
in response to message #53 by Walter B

Might be better to make it even more distinctive that it isn't an "hp" and avoid any possibility some

overzealous brand protection lawyer takes issue. They can even be sensitive about things like "the way it looks" and so on.

TW

Re: wp34s - New Release

*Message #57 Posted by **Walter B** on 27 Mar 2011, 2:49 p.m.,*
in response to message #56 by Tim Wessman

Tim,

Please, send'em to China. They'll find more than enough important work there, so they don't need shooting at a community project.

Ceterum censeo: HP, launch a 43S yourself.

Walter

Re: wp34s - New Release - Version 1.16

*Message #58 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 2:37 p.m.,*
in response to message #1 by Marcus von Cube, Germany

The latest enhancements, bugfixes and a new manual have been uploaded to SourceForge.

* All known bugs and crashes are hopefully gone.

* PSE (formerly PAUSE) now has a duration parameter in tenth of seconds. Indirection via -> works in the usual way.

* Two new functions compute the first and second derivative of a programmed function. See manual for details.

* Numerical accuracy has improved in certain areas.

It's still "only" an emulator. Feel free to complain. ;)

Edited: 27 Mar 2011, 2:38 p.m.

Re: wp34s - New Release - Version 1.16

*Message #59 Posted by **Dieter** on 27 Mar 2011, 4:12 p.m.,*
in response to message #58 by Marcus von Cube, Germany

Fine - Solve and Integrate no longer chrash now. But Integrate returns its result with the wrong sign. At least if, according to the manual, the lower limit is in Y and the upper limit in X.

```
LBL C                              LBL D
SIN                                X^2
RTN                                2
                                   -
DEG                                RTN
0 ENTER 90  Integrate C            0 ENTER 1  Integrate D
=> -57,2957795131                  =>  1,66666666667
```

Unlike the classic HP implementations, Integrate also does not seem to return the estimated error in Y.

I also noticed that Solve behaves slightly different from the way it is implemented in the 34C and 15C.

There, X and Y return the two best possible approximations, which are usually equal or differ only in the last digit. 1 ENTER 2 SLV D returns 1,41421356237 in X, but 1,41421356696 in Y.

The manual also says that Solve and Integrate work as in the 15C. As far as I know the 15C fills the whole stack with the current x-value, just like my 34C. Here on the 34s, this obviously is not the case.

Is this the way these functions are supposed to work or is the manual wrong?

Dieter

Edited: 27 Mar 2011, 4:24 p.m. after one or more responses were posted

Re: wp34s - New Release - Version 1.16

*Message #60 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 4:22 p.m.,*
in response to message #59 by Dieter

The sources of the solver and integrator are in the 34slib directory. So you can check for yourself. But I'm sure, Pauli will have some explanations for you.

Re: wp34s - New Release - Version 1.16

*Message #61 Posted by **Dieter** on 27 Mar 2011, 4:42 p.m.,*
in response to message #60 by Marcus von Cube, Germany

I took a look at integrate.txt and found:

```
On return the stack looks like:
     L       integral (Gauss)
     I       unchanged


     T       lower limit (Y on input)
     Z       upper limit (X on input)
     Y       error estimate (Gauss - Kronrod)
     X       integral (Kronrod)
```

In fact, on return T holds the original X-value and Z the original Y-value, which would explain the erroneous sign.

On the other hand I was wrong about the missing error estimate. It actually is returned in Y, but it was zero for the example since the algorithm gives an exact result for the mentioned function.

Dieter

Re: wp34s - New Release - Version 1.16

*Message #62 Posted by **gene wright** on 27 Mar 2011, 5:11 p.m.,*
in response to message #61 by Dieter

Just did an integration of sin(x)/x from -1 to 1 in RAD mode.

X returned value, but Y when shown with x<>y showed "Not Numeric".

Ideas?

Re: wp34s - New Release - Version 1.16

*Message #63 Posted by **Marcus von Cube, Germany** on 27 Mar 2011, 5:18 p.m.,*

in response to message #62 by gene wright

"not numeric" indicates an IEEE NaN ("Not a Number"). You can easily create one with "0 ENTER 0 /". I've no idea what caused it in the integrator. We have to wait for Pauli to answer the question properly.

Re: wp34s - New Release - Version 1.16

*Message #64 Posted by **Gerson W. Barbosa** on 27 Mar 2011, 5:25 p.m.,*
in response to message #63 by Marcus von Cube, Germany

Probably the function is evaluated at x=0, when this happens.

Re: wp34s - New Release - Version 1.16

*Message #65 Posted by **Paul Dale** on 27 Mar 2011, 6:03 p.m.,*
in response to message #63 by Marcus von Cube, Germany

> Quote:
>
> "not numeric" indicates an IEEE NaN ("Not a Number"). You can easily create one with "0 ENTER 0 /". I've no idea what caused it in the integrator. We have to wait for Pauli to answer the question properly.

Unless you set the danger flag (flag D), this won't create a NaN, it will show a domain error.

There is, however, an easy way to make one. In the constants catalogue there is a NaN entry :-)

- Pauli

Re: wp34s - New Release - Version 1.16

*Message #66 Posted by **Dieter** on 27 Mar 2011, 5:22 p.m.,*
in response to message #62 by gene wright

Same here. And again the absolute value is right but the sign is wrong (result should be +1,892166...). In any case adjusting the integration algorithm is trivial. ;-)

Dieter

Re: wp34s - New Release - Version 1.16

*Message #67 Posted by **Paul Dale** on 27 Mar 2011, 5:41 p.m.,*
in response to message #62 by gene wright

> Quote:
>
> Just did an integration of sin(x)/x from -1 to 1 in RAD mode.
>
> X returned value, but Y when shown with x<>y showed "Not Numeric".
>
> Ideas?

The Kronrod estimate failed because of the divide by zero when evaluating at the mid point, x=0, so the Gauss estimate was returned without an error estimate.

PS: use the built in SINC function instead for this. It handles x=0 properly :-)

- Pauli

Re: wp34s - New Release - Version 1.16

*Message #68 Posted by **Paul Dale** on 27 Mar 2011, 6:08 p.m.,*
in response to message #60 by Marcus von Cube, Germany

The real sources are in trunk/xrom.c. Although this is a C file, it really contains keystroke programs.

The doc/integrate.txt version is slightly different but using both allows double integrals to be evaluated :)

- Pauli

Re: wp34s - New Release - Version 1.16

*Message #69 Posted by **Paul Dale** on 27 Mar 2011, 6:00 p.m.,*
in response to message #59 by Dieter

> Quote:
>
> I also noticed that Solve behaves slightly different from the way it is implemented in the 34C and 15C. There, X and Y return the two best possible approximations, which are usually equal or differ only in the last digit. 1 ENTER 2 SLV D returns 1,41421356237 in X, but 1,41421356696 in Y.

This is the same behaviour. We converge slightly faster than the 34c and 15c usually do :-) We not only do a secant step with a bisection guard but we've got a quadratic regression step as well. There is the option for a Ridder's step as well but that didn't seem to improve matters enough to warrant the extra code.

That said, we don't always return the second best estimate, just a recent one. In this case, however, it is returning the previous estimate.

> Quote:
>
> The manual also says that Solve and Integrate work as in the 15C. As far as I know the 15C fills the whole stack with the current x-value, just like my 34C. Here on the 34s, this obviously is not the case.

We fill X, Y, Z & T with the value like the 15c and 34c. This is the whole stack in SSIZE 4 mode and not in SSIZE 8 mode.

I've fixed the sign problem with integrate. I have thought it was backwards for ages but didn't check the 15c manual to be sure.

- Pauli

Re: wp34s - New Release - Version 1.16

*Message #70 Posted by **Dieter** on 28 Mar 2011, 1:50 p.m.,*
in response to message #69 by Paul Dale

> Quote:
>
> That said, we don't always return the second best estimate, just a recent one. In this case, however, it is returning the previous estimate.

I always considered the 34C/15C way very useful. Solving x^2 - 5 shows immediately that sqrt(5) is somewhere between 2,236067977 and 2,236067978. ;-)

> Quote:
>
> We fill X, Y, Z & T with the value like the 15c and 34c. This is the whole stack in SSIZE 4 mode and not in SSIZE 8 mode.

Sorry, must have been my fault yesterday when it didn't work. Anyway, now it's working fine.

> Quote:
>
> I've fixed the sign problem with integrate. I have thought it was backwards for ages but didn't check the 15c manual to be sure.

If you look very closely the 34C and 15C key labels say "Integral from y to x". The limits are entered just the way you would expect. It's as intuitive as log_x of Y. :-)))

Dieter

Re: wp34s - New Release - Version 1.16

*Message #71 Posted by **Marcus von Cube, Germany** on 31 Mar 2011, 6:34 p.m.,*
in response to message #58 by Marcus von Cube, Germany

I've just released a new version of the emulator dll. It fixes a minor annoyance with moving the frameless emulator off the screen.

Stay tuned for 1.17 and the "real thing"! we are making progress. :)

Re: wp34s - New Release - Version 1.16

*Message #72 Posted by **Glen Sanft** on 31 Mar 2011, 11:01 p.m.,*
in response to message #71 by Marcus von Cube, Germany

FYI the titlebarless minimize-to-taskbar is now completely borken in my wine/Linux. I must kill the process manually. It's inconsequential to me in any event since I just shove the titlebar out the top of the display anyway. If the program was stopped normally with a hidden titlebar, at next restart it's initially displayed with space allocated above it for a titlebar anyway, so there's absolutely no benefit to be derived for me to hide the titlebar; I must still Alt-grab/move the window anyway.

All else that I've toyed with in the "calculator" seems to work just fine; I realize this current "problem" doesn't reflect upon the calculator operation itself, but I suppose anything worth doing is worth doing right; right? :)

Re: wp34s - New Release - Version 1.16

*Message #73 Posted by **Marcus von Cube, Germany** on 1 Apr 2011, 2:12 a.m.,*
in response to message #72 by Glen Sanft

Glen, I apologize. This is code originally created by HP. It makes some assumptions about what is passed as the position on the screen to the move routine on minimize/restore. Probably Wine works differently here. You should replace the dll by the old version if you still have it. Walter B benefits from the recent changes, as do presumably other Windows users.

Any Wine specialists here who know what gets passed to the window move message in x and y when an application is minimized? On Windows it's -32000 for both.

EDIT: I've updated the DLL again. Please try it out and report here!

Edited: 1 Apr 2011, 4:09 a.m.

Re: wp34s - New Release - Version 1.16

*Message #74 Posted by **Walter B** on 1 Apr 2011, 7:13 a.m.,*
in response to message #73 by Marcus von Cube, Germany

Now the old bug returned: Under Windoofs 7 (not that I like it but I have it) I cannot move the emulator window over the top limit of the screen again. We had that once before and repaired it ... :-?

Re: wp34s - New Release - Version 1.16

*Message #75 Posted by **Marcus von Cube, Germany** on 1 Apr 2011, 12:01 p.m.,*
in response to message #74 by Walter B

The repair broke Wine. I can move the emulator (but not beyond the LCD). It works only in frameless mode.

Re: wp34s - New Release - Version 1.16

*Message #76 Posted by **Glen Sanft** on 1 Apr 2011, 3:39 p.m.,*
in response to message #75 by Marcus von Cube, Germany

Oh, well. May just as well get the code compiled where it'll run on the native hardware at this point instead of chasing this little mess. Whatever you want to do with the emulator is fine by me. I rarely run it without the titlebar (mostly just to test what you're ever currently trying at the moment). And I almost-as-rarely minimize a window, seeing how the "device" maintains state and is so readily accessible.

Thanks for all your (plural) work on this project.

Re: wp34s - New Release - Version 1.16

*Message #77 Posted by **Marcus von Cube, Germany** on 1 Apr 2011, 5:17 p.m.,*
in response to message #76 by Glen Sanft

Progress on the hardware port is slow. It is really hard to deal with all the power saving stuff necessary to conserve battery power while maintaining a good performance and useful overall functionality. A first go on the hardware may be

possible some time next week. I need the weekend for other things. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator blog

*Message #1 Posted by **Jose Gonzalez Divasson** on 23 Mar 2011, 7:20 p.m.*

Before creating a calculator blog, I looked in Google for others. I only found this one:

http://aha-hp-calcs.blogspot.com/

Do you know about others?

I finally created mine:

My Calculator blog

It does not reach the mathematical heights of this forum - but at the end (if we're honest to ourselves) it is about the hardware...

(disclaimer: it is in a shop, but you can still read the blog for free!)

Re: Calculator blog

*Message #2 Posted by **Nigel J Dowrick** on 24 Mar 2011, 4:41 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

An interesting blog (and shop!). There are some exciting teasers in the blog. I'm fascinated by the new HP calculators, one of which

> Quote:
>
> ...will likely sell in the millions (not hundreds of thousands - millions!)

and one which

> Quote:
>
> ...will be a limited run of 10000 units - and that's all.

I don't suppose that you'd like to give any further clues? Perhaps your comment at the end of the "HP-50g vs HP-15c" article is a hint?

Anyway, I shall be looking at your blog regularly to see what else appears!

Nigel (UK)

Re: Calculator blog

*Message #3 Posted by **Jim Yohe** on 24 Mar 2011, 1:09 p.m.,*

in response to message #2 by Nigel J Dowrick

I wonder if you're suggesting that Jose's blog is hinting of a new scientific calculator the size of a 15c but with the capabilities of the 50g? ;-)

It would be nice if more clues were released for us to feed on.

Re: Calculator blog

*Message #4 Posted by **Jose Gonzalez Divasson** on 24 Mar 2011, 5:37 p.m.,*
in response to message #3 by Jim Yohe

Hi, Jim, Nigel,

I have very few details on the "big runner" of the 2 calculators.

I have some more info on the 10.000 uds. model, but I still don't have a protoype in my hands to give an informed opinion.

The blog just shows my personal preferences (with my limited knowledge). I do think that the HP 50g is a substantial improvement over the HP48g family in screen, speed, and software. Not better in keyboard quality, but not bad either. I do think as well that the colour scheme is better than on the 48g/gx (not than 48sx).

As for the 15c, it is a little lovely calculator. It does everything I need on a daily basis, and I can program it with my eyes closed. I like the HP42s and I can admit that is a better overall calculator, but I don't "love" it.

Yesterday I had a nice surprise with the 30b. Good all-rounder for business, and good keyboard. Extremely fast. There is future!

Re: Calculator blog

*Message #5 Posted by **hpnut** on 25 Mar 2011, 10:40 p.m.,*
in response to message #4 by Jose Gonzalez Divasson

I have two 30b, on one of them, the "9" key feels mushy. :-(

Re: Calculator blog

*Message #6 Posted by **Mark Harman** on 25 Mar 2011, 11:37 p.m.,*
in response to message #5 by hpnut

If it feels mushy or problematic, contact HP for warranty service.

Regards,

Mark

Re: Calculator blog

*Message #7 Posted by **Crawl** on 25 Mar 2011, 11:27 p.m.,*
in response to message #4 by Jose Gonzalez Divasson

I do agree with you that the graphing + scientific calculator combo can work quite well.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI introduces new calculator! Takes world by storm! HP quits business and asks forgiveness!

*Message #1 Posted by **gene wright** on 23 Mar 2011, 5:25 p.m.*

Here's the new item!

:-) Just kidding. Thought I would mess with my friend Joerg. This is the Santron 400 from his site.

Santron at Datamath.org

And, yes, a bit early for an April fools joke.

Edited: 23 Mar 2011, 5:39 p.m.

Re: TI introduces new calculator! Takes world by storm! HP quits business and asks forgiveness!

*Message #2 Posted by **Namir** on 23 Mar 2011, 5:51 p.m.,*
in response to message #1 by gene wright

Looks like Kadhafi's new make up ... so he can slip out easily out of Libya!!

Gene you are WRONG! Hewlett Packard was FIRST!!!

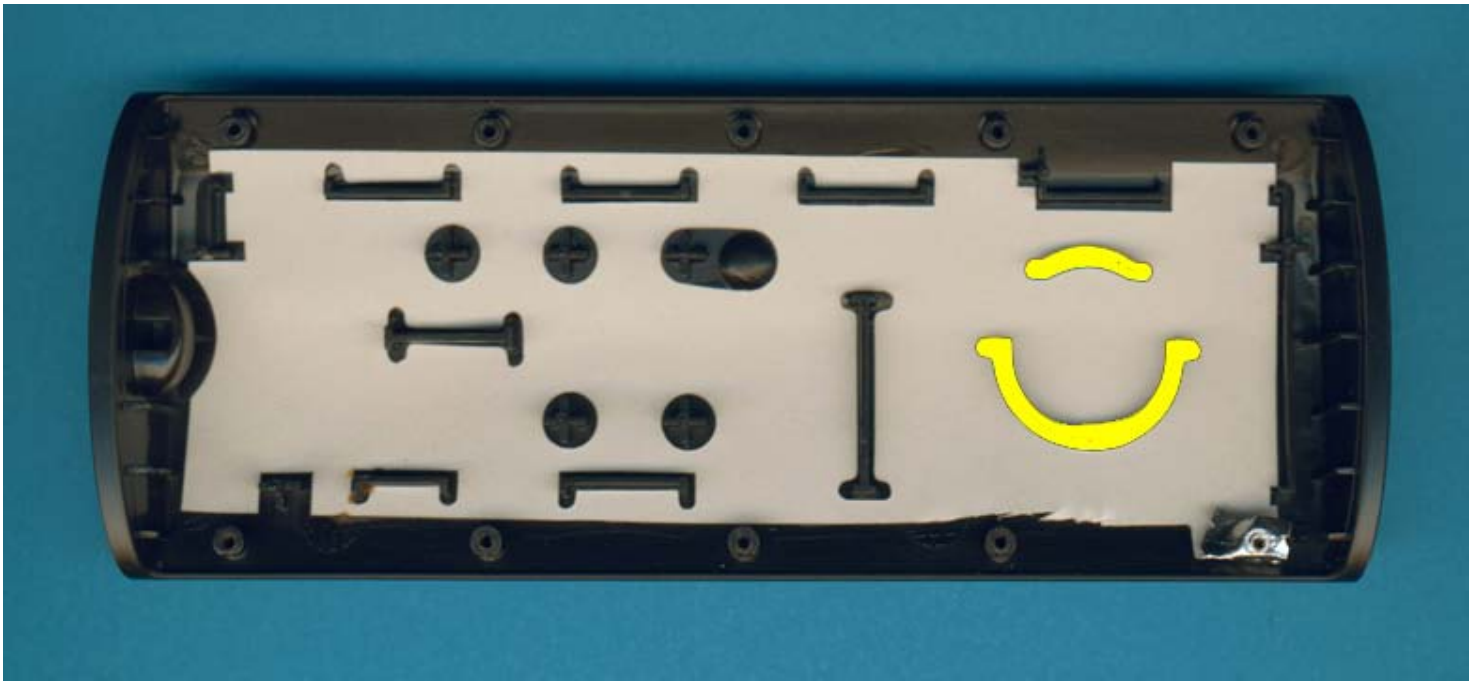
*Message #3 Posted by **Joerg Woerner** on 23 Mar 2011, 8:29 p.m.,*
in response to message #1 by gene wright

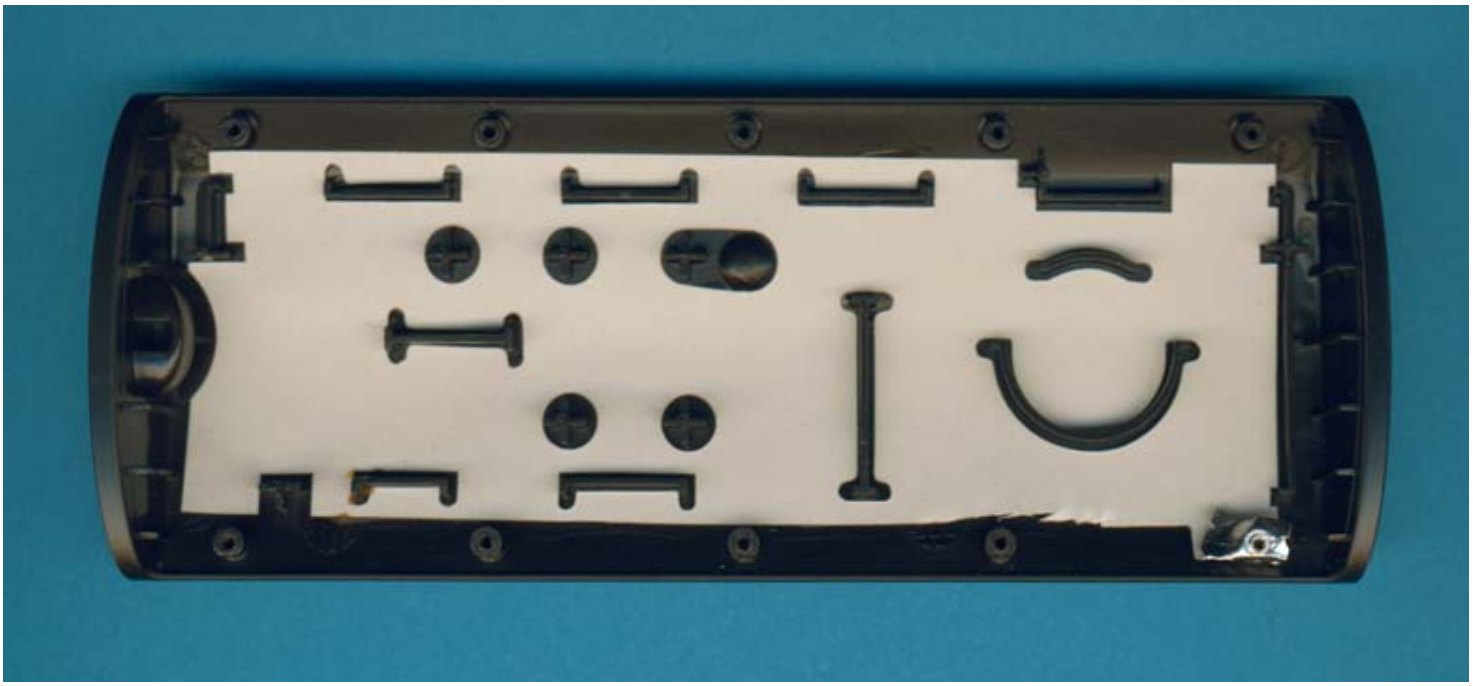
Gene,

You are wrong - and I'm not kidding. The Datamath Calculator Museum is a serious business and we recently reverse engineered the successor of the HP 41C.

After removing no less than 10 (typical HP quality!) screws from the calculator and dismantling it completely I was shocked!

The mold of the calculator frame had a SMILEY embedded:





So what?

Cheers,

Joerg

Edited: 23 Mar 2011, 8:30 p.m.

Re: Gene you are WRONG! Hewlett Packard was FIRST!!!

*Message #4 Posted by **John B. Smitherman** on 23 Mar 2011, 8:58 p.m.,*
in response to message #3 by Joerg Woerner

What?! There's no double-wide Enter key. Is it RPN or RPL? How deep is the stack? Does it support IR, SD, serial or USB? Is it LED or LCD? ;-)

Remember, a smile is an upside down frown.

Regards,

John

Re: Gene you are WRONG! Hewlett Packard was FIRST!!!

*Message #5 Posted by **gene wright** on 23 Mar 2011, 9:56 p.m.,*
in response to message #3 by Joerg Woerner

Shock! :-)

Joerg, you are a good sport!

We now have a mutual calculator friend... Scott, whose father lives near you.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP-12C mini-challenge - Heegner numbers

*Message #1 Posted by **Gerson W. Barbosa** on 22 Mar 2011, 7:30 p.m.*

Heegner Numbers is a finite set of integer numbers which share some interesting properties. They were discovered by Gauss who conjectured there were only nine of them {1, 2, 3, 7, 11, 19, 43, 67, 163}, what was eventually proved by Stark and Heegner.

The challenge is to write an HP-12C program that displays these nine numbers, one at a time, using 22 steps or less (final GTO 00, if necessary, included). For example:

```
GTO 00 R/S   =>     1
       R/S   =>     2
        .            .
        .            .
        .            .
       R/S   =>    67
       R/S   =>   163
       R/S   =>   9.999999E99 (to indicate 163 is the last number in the set)
```

The displaying of the last result above is not required, provided the program stops when the last Heegner number is shown.

Have fun! :-)

Gerson.

Edited: 22 Mar 2011, 7:38 p.m.

Re: HP-12C mini-challenge - Heegner numbers

*Message #2 Posted by **Kiyoshi Akima** on 23 Mar 2011, 2:01 a.m.,*
in response to message #1 by Gerson W. Barbosa

I suppose a program like RCL 1 : R/S : RCL 2 : R/S ... RCL 9 : R/S doesn't qualify.

Re: HP-12C mini-challenge - Heegner numbers

*Message #3 Posted by **Paul Dale** on 23 Mar 2011, 2:31 a.m.,*
in response to message #2 by Kiyoshi Akima

Come on, we can do neater:

```
1 R/S 2 R/S 3 R/S 7 R/S 11 R/S 19 R/S 43 R/S 67 R/S RCL 0 GTO 00
```

Where 163 is stored in register 0.

22 steps exactly.

I've had no luck solving this one properly. Not yet at least. I can't think of a generating function for the tail of the sequence. Likewise, I can't see how to save two keystrokes...

- Pauli

Re: HP-12C mini-challenge - Heegner numbers

*Message #4 Posted by **C.Ret** on 23 Mar 2011, 5:01 a.m.,*
in response to message #1 by Gerson W. Barbosa

Here is my humble attempted RPN code to display the nine Heegner's numbers. Nearly adapted for an HP-12C , without any guaranty, since I have no HP12C at hand to verify.

Initialisation

```
 4122175134. STO 01
           1. STO 00
```

Usage:

```
GTO 00 R/S
1.     R/S  2.     R/S  3.     R/S  7.     R/S  11.    R/S
19.    R/S  43.    R/S  67.    R/S  163.   R/S  Error
```

Divide by zero 'Error' statment indicates end of Heegner's integer list.

Program:

```
01 * LBL 00
02   RCL 00
03   STO/ 01
04   R/S
05 * LBL 01
06   1
07   STO+ 00
08   RCL 01
09   RCL 00
10   /
11   FRAC
12   x==0 ?
13   GTO 00
14   LAST x
15   INT
16   x==0 ?
17   1/x
18   GTO 01
```

Edited: 23 Mar 2011, 5:03 a.m.

Re: HP-12C mini-challenge - Heegner numbers

*Message #5 Posted by **Paul Dale** on 23 Mar 2011, 5:27 a.m.,*
in response to message #4 by C.Ret

Converted for the 12c:

```
01-      45 0  RCL 0
02-   44 10 1  STO/ 1
03-        31  R/S
04-         1  1
05-   44 40 0  STO+ 0
06-      45 1  RCL 1
07-      45 0  RCL 0
08-        10  /
09-     43 24  FRAC
10-     43 35  x=0
11- 43,33 01  GTO 01
12-     43 36  LSTx
13-     43 25  INTG
14-     43 35  x=0
```

```
15-        22  1/x
16- 43,33 04  GTO 04
```

So 16 steps plus two registers is the smallest so far.

- Pauli

Re: HP-12C mini-challenge - Heegner numbers

*Message #6 Posted by **Namir** on 23 Mar 2011, 7:54 a.m.,*
in response to message #5 by Paul Dale

Starting with the products of all the Heegner numbers and then using integer division tests certainly works, but I have a feeling it's NOT what Gerson had in mind.

The approach used by the last two listings basically works for any sequence of prime numbers.

:-)

Namir

Edited: 23 Mar 2011, 8:13 a.m.

Re: HP-12C mini-challenge - Heegner numbers

*Message #7 Posted by **Gerson W. Barbosa** on 23 Mar 2011, 10:58 a.m.,*
in response to message #6 by Namir

Playing with the product I've found it is equivalent to

```
'744*(744^2*(10+7/744)-(10+17/744))-1' =

'744*(10+7/744)*(744^2-1)-11' =

'744*(744*(744*10+7)-10)-18'
```

None of these will help towards a better solution though.

In terms of memory usage, each storage register is equivalent to seven steps. However, since I made no restriction about that I think all solutions that have been presented here are valid. Thanks everyone for the interest!

My program uses one register, no initialization and takes up 22 steps, only two shorter than what would be required to just listing the numbers (1 R/S 2 R/S . . . 163 GTO 00).

By the way, it would be nice if there were a neat formula in the OEIS sequence. :-)

Regards,

Gerson.

Re: HP-12C mini-challenge - Heegner numbers

*Message #8 Posted by **Paul Dale** on 23 Mar 2011, 5:26 p.m.,*
in response to message #7 by Gerson W. Barbosa

Quote:

> By the way, it would be nice if there were a neat formula in the OEIS sequence. :-)

I know, I checked OEIS after I couldn't find an obvious pattern.

- Pauli

Re: HP-12C mini-challenge - Heegner numbers

*Message #9 Posted by **Gerson W. Barbosa** on 23 Mar 2011, 6:57 p.m.,*
in response to message #8 by Paul Dale

Well, I checked OEIS prior to trying to find a pattern. The first differences was the next idea. This shows a feeble pattern, but again no formula:

http://oeis.org/A038551

I have used this to get a recurring formula for the fourth Heegner number ownards. No mathematical meaning, but it works.

Gerson.

Re: HP-12C mini-challenge - Heegner numbers

*Message #10 Posted by **Thomas Klemm** on 24 Mar 2011, 4:03 a.m.,*
in response to message #9 by Gerson W. Barbosa

I'm using recursive formulas of the form: $x_{n+1} = a\,x_n + b\,x_{n-1} + c$

- A: $x_{n+1} = 4\,x_{n-1} - 1$
- B: $x_{n+1} = 4\,x_n - 2\,x_{n-1} - 11$
- C: $x_{n+1} = (-\,x_n + 9\,x_{n-1} + 6)/2$

These produce just the next three elements correctly but they may be combined to achieve the whole list of Heegner numbers:

```
A:      1      2      3      7     11     27    ...
B:      3      7     11     19     43    123    ...
C:     11     19     43     67    163    223    ...
```

```
 01>LBL "Heegner"    12>LBL C            24>LBL A            32>LBL B
 02 1                13 X<>Y             25 X<>Y             33 ENTER
 03 STOP             14 9                26 4                34 ENTER
 04 2                15 *                27 *                35 +
 05 STOP             16 RCL Y            28 1                36 R^
 06 XEQ A            17 -                29 -                37 -
 07 XEQ A            18 6                30 STOP             38 ST+ X
 08 XEQ B            19 +                31 RTN              39 11
 09 XEQ B            20 2                                    40 -
 10 XEQ C            21 /                                    41 STOP
 11 XEQ C            22 STOP                                 42 END
                     23 RTN
```

Well, not exactly for the HP-12C but you still might like the solution.

Cheers
Thomas

Edit: Replaced PROMPT by STOP as suggested by Namir below.

Edited: 24 Mar 2011, 8:55 a.m. after one or more responses were posted

Re: HP-12C mini-challenge - Heegner numbers

*Message #11 Posted by **Namir** on 24 Mar 2011, 8:15 a.m.,*
in response to message #10 by Thomas Klemm

Thomas,

I like your very elegant solution as it uses two simple values to initialize the sequence and then employed recursive relations to calculate the rest of the sequence numbers. I ran it on my 41CX (replacing PROMPT with R/S) and got the Heegner numbers. I also like the way it ends wihout using errors.

Namir

Re: HP-12C mini-challenge - Heegner numbers

*Message #12 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 1:31 p.m.,*
in response to message #11 by Namir

> Quote:
>
> I also like the way it ends wihout using errors.

So do I. Also, when the program stops at 163 the next R/S displays it again so as to confirm this is really the last number in the sequence. In my first version, written on the HP-32SII, after the last number the sequence would cycle again. I've changed to the 12C because on the 32SII the program required one third more memory than when just displaying the numbers. However, in order to save a couple of steps I had to resort to using an overflow error to stop to program.

Looks like I haven't succeeded in turning this minor shortcoming in an advantage :-)

```
HP-32SII program


B01 LBL B
B02 1
B03 STOP
B04 2.007
B05 STO N
B06 IP
B07 STOP
B08 3
C01 LBL C
C02 STOP
C03 RCL N
C04 0.6
C05 *
C06 IP
C07 x!
C08 4
C09 *
C10 +
C11 ISG
C12 GTO C
C13 RTN


     size      checksum
B:   20 bytes    5EF3
C: 27.5 bytes    70C0
```

Re: HP-12C mini-challenge - Heegner numbers

*Message #13 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 9:08 a.m.,*
in response to message #10 by Thomas Klemm

Thomas,

Interesting recursive formulas albeit they don't allow for less memory usage when compared to just displaying the list.

I am not sure whether mine is a true recursive formula though. Not so useful as one third of the elements of such a small set has to be predefined.

Cheers,

Gerson.

```
--------------------


h0 = 1
h1 = 2
h2 = 3
hn = hn-1 + 4*(Floor(3/5*(n - 1))!)


spread sheet

  |     F       G                   G (formulas)
--+-----------------
3 |     n      Hn
4 |     0       1          =1
5 |     1       2          =2
6 |     2       3          =3
7 |     3       7          =G6+4*FACTORIAL(INT(3/5*F6))
8 |     4      11          =G7+4*FACTORIAL(INT(3/5*F7))
9 |     5      19          =G8+4*FACTORIAL(INT(3/5*F8))
10|     6      43          =G9+4*FACTORIAL(INT(3/5*F9))
11|     7      67          =G10+4*FACTORIAL(INT(3/5*F10))
12|     8     163          =G11+4*FACTORIAL(INT(3/5*F11))


HP-12C program


01- 1
02- R/S
03- 2
04- R/S
05- STO 0
06- +
07- R/S
08- ENTER
09- n!          ; overflows when hn > 67
10- Rv
11- RCL 0
12- .
13- 6
14- *
15- INTG
16- n!
17- 4
18- *
19- 1
20- STO+ 0
21- Rv
```

```
22- GTO 06
```

Re: HP-12C mini-challenge - Heegner numbers

*Message #14 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 10:48 a.m.,*
in response to message #13 by Gerson W. Barbosa

I think this is the proper way to write it:

$h_{n+1} = h_n + 4*(Floor(3/5*n)!)$

3/5, 5/8, 8/13, 13/21, 21/34... would work as well, but 3/5 or .6 is more compact.

A little trivia involving 163:

EVAL these on the HP-48/50g

```
'(163/3)^2*(5/2+1/(2/5*163^2))'

'pi!!'
```

Re: HP-12C mini-challenge - Heegner numbers

*Message #15 Posted by **Thomas Klemm** on 24 Mar 2011, 12:57 p.m.,*
in response to message #14 by Gerson W. Barbosa

My first attempt was to use the continued fraction:

```
1+1/(2+1/(3+1/(7+1/(11+1/(19+1/(43+1/(67+1/163)))))))) =
7,300,315,266/5,100,342,683
```

But unfortunately the accuracy of the HP-12C is not sufficient. However it works with Free42. The program in the main loop would be very short:

```
FRAC
1/X
```

Another idea would be to use the #RAN function of the HP-11C/15C with a well chosen seed. Thanks for the challenge. They are always inspiring.

Best regards
Thomas

Re: HP-12C mini-challenge - Heegner numbers

*Message #16 Posted by **Gerson W. Barbosa** on 24 Mar 2011, 1:56 p.m.,*
in response to message #15 by Thomas Klemm

I've checked your idea manually on WP-34s and it worked up to 67.

The Monte Carlo approach would qualify if the HP-11C were allowed. However you'd need a fast simulator to find a suitable seed.
Unfortunately Nonpareil doesn't offer a maximum speed option.

> Quote:
>
> Thanks for the challenge. They are always inspiring.

You're welcome. The best part of these challenges it they sometimes yield unexpected by-products.

Best regards,

Gerson.

Re: HP-12C mini-challenge - Heegner numbers

*Message #17 Posted by **Gerson W. Barbosa** on 23 Mar 2011, 6:32 p.m.,*
in response to message #5 by Paul Dale

C.Ret's program can be shortened even more:

```
01-        1  1
02-   44   0  STO 0
03-   45   0  RCL 0
04-44 10   1  STO/ 1
05-       31  R/S
06-   43   3  n!
07-        1  1
08-44 40   0  STO+ 0
09-   45   1  RCL 1
10-   45   0  RCL 0
11-       10  /
12-   43  24  FRAC
13-   43  35  x=0
14-43,33  01  GTO 03
15-43,33  04  GTO 07
```

One step and one initialization less if 9.999999e99 after 163 instead of Error is not a concern.

Gerson.

Re: HP-12C mini-challenge - Heegner numbers

*Message #18 Posted by **Gerson W. Barbosa** on 26 Mar 2011, 10:07 a.m.,*
in response to message #1 by Gerson W. Barbosa

I haven't been able to make my HP-12C any shorter than the 22-step program I presented ealier. However, I've come up with a nicer algorithm (not necessarily less memory consuming though). I've noticed the last seven Heegner numbers can be expressed as:

```
  3 =  1*4 - 1
  7 =  2*4 - 1
 11 =  3*4 - 1
 19 =  5*4 - 1
 43 = 11*4 - 1
 67 = 17*4 - 1
163 = 41*4 - 1
```

Notice that 2, 3, 5, 11, 17 and 63 in the sequence of multiplicands above are the Euler's lucky numbers. Since there is not a formula for them this doesn't help much. However, the first differences of the terms of that sequence (1, 1, 2, 6, 6, 24) can be determined by a simple formula:

```
a(n) = (Floor(3*n/4))!, n=1..6)
```

The following HP-71B BASIC program illustrates the algorithm:

```
10 DESTROY ALL @ DISP 1 @ DISP 2
20 A=1
30 FOR N=1 TO 7
40 DISP 4*A-1
50 B=FACT(IP(3*N/4))
```

```
60 A=A+B
70 NEXT N
>
>RUN
 1
 2
 3
 7
 11
 19
 43
 67
 163
>
```

Here is an equivalent 22-step HP-12C program:

```
01- CLEAR SIGMA    ; R2 <- 0
02- SIGMA+         ; R1 <- 1
03- R/S
04- 2
05- R/S
06- 1
07- STO+ 2
08- RCL 1
09- 4
10- *
11- 1
12- -
13- R/S            ; 167! will cause the
14- n!             ; program to stop here
15- RCL 2
16- 9
17- 12/            ; 3/4
18- *
19- INTG
20- n!
21- STO+ 1
22- GTO 06
```

Thanks again to all participants. I hope you have enjoyed.

Gerson.

Edited to fix a typo as per Jeff's observation below.

Edited: 26 Mar 2011, 2:43 p.m. after one or more responses were posted

Re: HP-12C mini-challenge - Heegner numbers

*Message #19 Posted by **Jeff O.** on 26 Mar 2011, 1:02 p.m.,*
in response to message #18 by Gerson W. Barbosa

Gerson fixed the typo, no need to preserve the details...

Edited: 28 Mar 2011, 7:49 p.m. after one or more responses were posted

Re: HP-12C mini-challenge - Heegner numbers

*Message #20 Posted by **Gerson W. Barbosa** on 26 Mar 2011, 2:41 p.m.,*
in response to message #19 by Jeff O.

> Quote:
>
> 63*4 - 1 equals 251, and 163 equals 41*4 - 1.

You're right. Thanks for pointing this out. Actually that was a typo. Will fix it right away.

Regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Solving a cubic equation using trigonometry
*Message #1 Posted by **Thomas Klemm** on 22 Mar 2011, 4:57 a.m.*

A while ago I've posted a program that uses *ACOSH* to solve a quadratic equation:

Short Quadratic Solver (HP-42S) Message #29

Recently I stumbled across a way to solve a cubic equation using trigonometry. Some of you might find that interesting as well.

Cheers
Thomas

Equations

A general cubic equation can be transformed to the following form using a substitution:

$$x^3 + px + q = 0$$

The trick is to use the following identity:

$$\sin 3\theta = 3\sin\theta - 4\sin^3\theta$$

Here we set:

$$x = \sin\theta$$

With the following substitution we can get a closed-form solution:

$$3r = p$$

$$2s = q$$

$$x = 2\sqrt{-r}\sin\frac{1}{3}\sin^{-1}\frac{s}{\sqrt{(-r)^3}}$$

A similar formula can be found using the following identity:

$$\sinh 3\alpha = 3\sinh\alpha + 4\sinh^3\alpha$$

$$x = -2\sqrt{r}\sinh\frac{1}{3}\sinh^{-1}\frac{s}{\sqrt{r^3}}$$

Programs

```
00 { 31-Byte Prgm }
01>LBL "CuEq"
02 2
03 /
04 X<>Y
05 -3
06 /
07 /
08 LASTX
09 SQRT
10 /
11 LASTX
12 X<>Y
13 ASIN
14 3
15 /
16 SIN
17 *
18 2
19 *
20 END
```

```
00 { 34-Byte Prgm }
01>LBL "CuEqH"
02 2
03 /
04 X<>Y
05 3
06 /
07 /
08 LASTX
09 SQRT
10 /
11 LASTX
12 X<>Y
13 ASINH
14 3
15 /
16 SINH
17 *
18 -2
19 *
20 END
```

Examples

$x^3 + 6x - 2 = 0$

```
CuEq:    3.27480002074E-1 i0
CuEqH:   3.27480002074E-1
```

$x^3 + 3x - 4 = 0$

```
CuEq:    1 i0
CuEqH:   1
```

References

Cubic Formula

Edited: 22 Mar 2011, 12:51 p.m. after one or more responses were posted

Re: Solving a cubic equation using trigonometry

*Message #2 Posted by **Paul Dale** on 22 Mar 2011, 5:23 a.m.,*
in response to message #1 by Thomas Klemm

Thomas,

Very nice.

Worthy of an article?

- Pauli

Re: Solving a cubic equation using trigonometry

*Message #3 Posted by **x34** on 22 Mar 2011, 5:36 a.m.,*
in response to message #1 by Thomas Klemm

Doesn't general cubic equation contain a squared element also?

Re: Solving a cubic equation using trigonometry

*Message #4 Posted by **Thomas Klemm** on 22 Mar 2011, 6:18 a.m.,*
in response to message #3 by x34

cf.Cubic Formula

> Quote:
>
> To solve the general cubic (1), it is reasonable to begin by attempting to eliminate the a_2 term by making a substitution of the form $z \equiv x - \lambda$.

This leads to formulas for p and q based upon a_i.

Cheers
Thomas

Re: Solving a cubic equation using trigonometry

*Message #5 Posted by **Frido Bohn** on 24 Mar 2011, 3:26 a.m.,*
in response to message #3 by x34

> Quote:
>
> Doesn't general cubic equation contain a squared element also?

Indeed, the presented formula shows a "depressed cubic".

Re: Solving a cubic equation using trigonometry

*Message #6 Posted by **Crawl** on 22 Mar 2011, 7:47 a.m.,*
in response to message #1 by Thomas Klemm

By the way, this was the basis for HP15C minichallenge: Impossibly Short

Re: Solving a cubic equation using trigonometry

*Message #7 Posted by **Thomas Klemm** on 22 Mar 2011, 11:40 a.m.,*
in response to message #6 by Crawl

Thanks for pointing that out. The challenges of this forum are always a marvelous source of inspiration.
However here's my source:

Mathematical Omnibus: Thirty Lectures on Classic Mathematics
Dmitry Fuchs, Serge Tabachnikov

Chapter 2. Equations
Lecture 4. Equations of Degree Three and Four

Though I haven't read the whole book yet I can only recommend it.

Best regards
Thomas

Re: Solving a cubic equation using trigonometry

*Message #8 Posted by **Namir** on 22 Mar 2011, 8:56 a.m.,*
in response to message #1 by Thomas Klemm

Last fall I spent much time studying the solution of polynomials, from cubic and up. I spent a lot time looking at the algorithms that solve general cubic polynomials. I used Matlab as the primary tool and then attempted to port solutions to Excel VBA and the HP41C.

I came to the conclusion that to solve cubic polynomials you best need a tool that automatically handles complex numbers. Matlab does that well and the graphing HP calculators too (although I only used PROOT to do that and wrote about it in the HP's SOLVE newsletter). The HP-42S is probably useful. J.M. Baillard has developed really cool HP41C programs that solve for the roots of polynomials (with real and complex coefficients. You can find them on this web site's HP41C program library section.

Namir

Re: Solving a cubic equation using trigonometry

*Message #9 Posted by **Ángel Martin** on 22 Mar 2011, 5:02 p.m.,*
in response to message #8 by Namir

> Quote:
>
> I came to the conclusion that to solve cubic polynomials you best need a tool that automatically handles complex numbers

Like the 41Z module perhaps? :-)

Well, notwithstanding all the references you mention (well worthy of their effort) the 41Z includes ZPROOT, adapted from Valentin Albillo's original program for the 41.

Cheers, 'AM

Re: Solving a cubic equation using trigonometry

*Message #10 Posted by **Namir** on 23 Mar 2011, 12:04 a.m.,*
in response to message #9 by Ángel Martin

And the 41Z module too!!!

:-)

Namir

Re: Solving a cubic equation using trigonometry

*Message #11 Posted by **Eddie W. Shore** on 26 Mar 2011, 5:42 p.m.,*
in response to message #1 by Thomas Klemm

We can combine this with a synthetically dividing the cubic equation by the root and then use the quadratic formula to find the other two roots.

Very nice.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #1 Posted by **Sujith Abraham** on 22 Mar 2011, 4:50 a.m.*

Hi HP Fans!

A friend recently saw my HP 30b and asked me whether I know about HP 12CP and TI BA II Pro (CFAI approved calculators). Since no one here has even heard about calculators made by anyone other than Casio, he thought I could help.

But I don't know a thing about those two machines. Hope you guys can throw some light on which way to go.

From my reading it appears that the *new* 12CP is as fast as the TI. What about the functions? Are they equal or one has more functions than the other?

The input method is OK, he tried RPN on my 35S and 30b and he is open to learning it.

What about programming? Any good programs that may be useful for CFA exams on the HP 12C?

I know that Gene coaches for CFA exams. So I am waiting for your suggestions :-)

- SA

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #2 Posted by **bink** on 22 Mar 2011, 6:22 p.m.,*
in response to message #1 by Sujith Abraham

I did the CFA a couple of years ago and used the 12C, and also helped a friend with the TI, so got to know that.

I preferred using the 12C - the types of calculations common to the CFA, such as interest rate conversions, compounding, etc, seem to be easier to execute on the 12C.

Regarding CFA programs, you cannot take any programs into the exam, as all calculators must have the memory cleared beforehand. The proctors are quite strict about enforcing the rules, so don't count on any programs. Regardless, I don't think there are any programs that would be of use, since the questions are generally basic.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #3 Posted by **Don Shepherd** on 22 Mar 2011, 6:43 p.m.,*
in response to message #2 by bink

> Quote:
> ---
> I don't think there are any programs that would be of use
> ---

You may be right about that, but I wonder if the proctors are knowledgeable enough to know how to clear program memory on the 12c. Do they know you have to be in program mode first? If not, you could pull a fast one on them!

Don

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #4 Posted by **Sujith Abraham** on 22 Mar 2011, 10:28 p.m.,*
in response to message #3 by Don Shepherd

> Quote:
> ---
> You may be right about that, but I wonder if the proctors are knowledgeable enough to know how to clear program memory on the 12c.
> ---

Exam invigilators are a lot that I don't mess with. Some are nice, some doesn't even have humility at all. Better play safe with them :)

I didn't knew that there was such a restriction in place for custom programs. Thanks for telling me.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #5 Posted by **Mark Harman** on 23 Mar 2011, 1:17 p.m.,*
in response to message #2 by bink

> Quote:
> ---
> I preferred using the 12C - the types of calculations common to the CFA, such as interest rate conversions, compounding, etc, seem to be easier to execute on the 12C.
> ---

The TI financials, both models, are much more feature-packed than the 12c series. The only thing I don't like about them is that they aren't RPN. However, they have built-in interest conversion functions that are extremely easy to use (as easy as the 30b). They also can be set for different compounding and payment frequencies, just like the 30b. The 12c requires jumping through a bunch of hoops to perform interest conversions and asynchronous compounding.

The TIs even have much more robust statistical function set than the 12c series.

The Professional model also has with the ability to calculate MIRR and bond duration.

If I were to take the CFA right now, I would use a TI BA II Plus Professional. However, I would wish that my 30b were allowed.

Regards,

Mark

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #6 Posted by **Sujith Abraham** on 23 Mar 2011, 3:29 p.m.,*
in response to message #5 by Mark Harman

So, on sheer feature set TI is better than 12C and 12CP. If someone can live without RPN they should simply choose TI, right?

Another unrelated doubt is why is CFAI not allowing any other calculators other than theese two models? Any ideas?

- SA

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional

*Message #7 Posted by **Mark Harman** on 23 Mar 2011, 5:32 p.m.,*
in response to message #6 by Sujith Abraham

Sujith,

Yes, if someone can live without RPN, the TI *might* be the better choice. It all depends on how comfortable you are with your math ability and memorization of certain formulas. If you can memorize the steps for interest conversions on the 12c, then it might not benefit you much to switch to a TI - especially if you can fly along with RPN. Also, the 12c doesn't have menus to have to worry about - all features are displayed on the keyboard. Even solving for any TVM variable on the TI takes an extra step since you have to press CPT. That hassle isn't a feature on the HPs.

In practice, I am not against owning multiple calculators and I do have more than a few. I haven't dumped my TI just because I plan on taking the CFA exam sometime in the next year or so. Still, a 12c is a tempting option just based on the RPN aspect alone.

CFAI doesn't allow other calculators because the logistics of tracking a multitude of different calculators is tedious. It is easier to keep it down to the two versions of each of the allowed models thus keeping things simple for the exam proctors . However, with the fact that the recent 12c's are ARM-powered and can be repurposed, I wonder if some ambitious and technically savvy user might be tempted to create and load an extended feature set. Personally, I've always felt that the 12c lacks in many ways. It would be nice if it could have built-in interest conversion, nPr, nCr, and other features to make it at least on parity with the TIs. I think that a person who could combine the elegance of the 12c layout and its RPN input with the features of the TI could have a tremendous advantage in an exam setting. At the same time, there are ethical implications to this regardless if it results in having no more features than the TI.

I think the ability to update the flash memory might possibly be considered a huge drawback by the CFAI. I have to wonder if they will ever take notice of this possibility and eventually press HP to create a version without the pogo port.

Regards,

Mark

Edited: 23 Mar 2011, 5:37 p.m.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #8 Posted by **bink** on 23 Mar 2011, 7:54 p.m.,*
in response to message #7 by Mark Harman

Some further points:

1. The calculator functions used on the exam are limited, and most calculations are very simple, so the additional feature set of the TI is of little or no use.

2. The speed of the original 12C is not a limiting factor for the CFA exam. I don't think you should be concerned at all about the speed differences for the purposes of the exam.

3. Specifically regarding interest rate conversions: Doing them on the HP is trivial, and from my experience showing someone how to use the functions on the TI, this takes longer. Regardless of this, understanding interest rate conversions is quite an important skill, and also one which is simple to learn. I highly recommend learning this and being able to do them on the HP 12C, it will save you time and simplify more complex calculations further down the road.

4. If you look around trading floors, you will see more HP 12C calculators than any other.

Let me know if you have any specific questions.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #9 Posted by **Sujith Abraham** on 24 Mar 2011, 1:00 a.m.,*
in response to message #8 by bink

Bink, Mark

Thanks for the reply guys. It might sound dumb, but can you show me an example of this interest rate conversion problems?

If I have a good conceptual grounding then tackling them won't be a problem. Is that what you are implying?

- SA

(sent from mobile)

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #10 Posted by **bink** on 24 Mar 2011, 2:29 a.m.,*
in response to message #9 by Sujith Abraham

Re interest rate conversions, they are trivial, and far more easily executed with simple steps as part of a larger calculation, than entering them longhand into a TI function.

Two basic types - converting into annual equivalent or into a periodic equivalent.

Q: Interest rate is 9% compound monthly. What is the effective annual rate.

HP Shortcut:

.09 <Enter> 12 / 1 + 12 y/x

This spits out 1.0938, and you can subtract 1, but the result is clearly 9.38%

Q: Effective annual rate is 5%. What is the rate compounded quarterly.

HP Shortcut: 1.05 <Enter> 4 1/x y/x 4 x

You could also just enter 0.25 instead of the reciprocal of 4, but I wanted to show the method for generalized periods.

This gives 4.0488, and the answer is 4.88% You could take the extra step of subtracting 1 after the y/x to give you 0.0488 if the leading 4 is confusing.

Edited: 24 Mar 2011, 2:31 a.m.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #11 Posted by **Mark Harman** on 24 Mar 2011, 5:18 a.m.,*
in response to message #10 by bink

bink,

I am curious why you consider the TI method to be "longhand."

For your first example, using the TI:

2ND 2 (to get into ICONV menu)

9 Enter (for NOM) Up 12 Enter (for C/Y) Up CPT (to compute EFF)

The answer for your second example you posted is incorrect. It should be 4.91%. However, your method is correct. Perhaps, you miskeyed or something...

For your second example, using the TI:

Down 5 Enter Down 4 Down CPT

Now, the shortcuts you gave are good and I am familiar with both of them. But, the TI method is more straightforward, less confusing, and uses fewer keystrokes. Not only that, I can extend this further to easily solve, for example, conversions involving asynchronous compounding.

For example: What is the rate of 5% account that compounds quarterly with monthly deposits?

5 enter up 4 enter up CPT down 12 enter down CPT

4.97931 is the answer - 13 keystrokes

Combining the shortcuts for the HP yields the following solution:

.05 enter 4 / 1 + 4 y/x 12 1/x y/x 12 x

12.0497931 - 17 keystrokes

Regards,

Mark

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #12 Posted by **bink** on 24 Mar 2011, 5:48 a.m.,*
in response to message #11 by Mark Harman

Mark,

Thanks for pointing out the error - I didn't have my HP handy, so I used something else for the numbers.

The TI / HP comparison I did was some time ago, but aside from finding RPN better for calculations, I don't find the manual approach onerous, plus I prefer not digging through menus.

Also, I find it easier to incorporate these techniques into a more complex calculation, rather than refocusing on using the menus. I didn't get into the TI, though I still have it as my friend ended up abandoning it, since they didn't like it either (they initially got it because they didn't want to learn RPN).

Actually, I also prefer the landscape format of the HP12C. I looked at the new 30B, but the fact that some important functions have been moved to menus, keeps me using the 12C.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #13 Posted by **Mark Harman** on 24 Mar 2011, 2:23 p.m.,*
in response to message #12 by bink

I suppose we have to go with what is best for us personally. I don't have a problem with that, either.

I prefer using a 30b over either the TI or the 12c. The 30b combines elegance of RPN with a robust feature set. Because I use my calculator for so much more than what the function set of the 12c provides, it is essential that I have features that do what I need. The only reason why the 30b has so many features in menus is simply because the sheer number of features prevents it from having all the features on the keyboard similar to the 12c. By the way, what are the important functions do you use that have moved to menus?

I do like the landscape format of the 12c, but I also like the portrait format of the 30b, as well. This isn't a deal breaker for me.

If you don't mind me asking, what more complex calculation are you taking about regarding the techniques for interest conversion? I'm interested in knowing more.

Regards,

Mark

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #14 Posted by **bink** on 25 Mar 2011, 3:49 a.m.,*
in response to message #13 by Mark Harman

Mark,

I am not familiar with asynchronous compounding so I looked it up and found an interesting paper, not sure if you have seen it:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1001145&http://www.google.com/url?sa=t&source=web&cd=1&ved=0CBMQFjAA&url=http%3A%2F%2Fpapers.ssrn.com%2Fsol3%2FDelivery.cfm%2FSSRN_ID1001145_code341122.pdf%3Fabstractid%3D1001145%26mirid%3D1&rct=j&q=asynchronous%20interest%20compounding&ei=Y0aMTeLLEoyCvgOy55SeDQ&usg=AFQjCNH4cOyfx96ONM4CB1JoK8OMxofl8Q

Anyway, the calculations I refer to are just general calculations where part involves converting rates. For example, swap rates where different conventions are used.

The layout of the 30B I dislike, compared to the 12C is as follows:

- STO key is shifted - I use STO/RCL a lot.

- y/x and 1/x also shifted - used a lot for interest calculations.

- Stat functions and Day changes buried in menus (as I understand it).

(Sorry if formatting is off, program doesn't like carriage returns).

Other differences I don't remember at present, but I wish they had an extra row of keys, and an extra shifted function set (like the 12C with the f and g shifts)

I also don't understand why they have trig functions on the main keys - if anything, these should be in menus. I mean, I haven't seen NPV functions prominently used on a scientific calculator.

Granted, the 30B may be simpler to use, but for everyday use as a supplement to a computer, I prefer the 12C.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #15 Posted by **gene wright** on 25 Mar 2011, 9:43 a.m.,*
in response to message #14 by bink

Remember a couple of things:

1) The keyboard of the 30b can be fairly easily redefined to "assign" a function in a menu to a key location. If you don't like the trig functions (which I suspect are there to let people KNOW they are there), and would prefer to have DATE and DDAYS on the keyboard instead, that is easy enough to do. Make the machine like you want it. Same thing with STAT functions. Want mean and standard deviation on the keyboard? Easy. This is described in the 30b learning modules with examples.

2) After having used the 12c for nearly 30 years, authored a textbook, and even taught college classes in finance with it, I'm well aware of doing things the "periodic interest" way as well as converting interest rates the way the 12c requires. However, I do believe that interest rate conversions are easier done with the ICONV approach on the 30b.

3) The shifted STO issue is one that is brought to HP's attention quite a bit at HHC conferences. It seems the view is that people tend to store less often than recall, so they do it this way.

4) The 30b is the first HP financial model that a college student could buy and use for all their classes...business, biology, chemistry, math, etc. That's one reason it is done as an "all in one" model.

5) Keep in mind the incredible extra features the 30b has compared to my beloved 12c. Such as...

Built-in probability distributions and inverses for FOUR distributions. Wow. Standard error of the mean, covariance (a first!), multiple regression models, black scholes, MIRR, and lots more.

I understand your dislikes. Truly. I think many of them can be "fixed" using the abilities of the 30b.

I rarely pick up my 12c any longer. I cried a lot at first, but much less now. :-)

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #16 Posted by **bink** on 31 Mar 2011, 10:33 p.m.,*
in response to message #15 by gene wright

Gene,

One of the great things about the 12C is it's ubiquity in finance, so you can pick up any 12C on someone's desk and use it, without worrying about key assignments. That is a disadvantage of the 30B, in that you could use a 30B without knowing that functions have been reassigned.

At least the HP41 series had an overlay with adhesive labels to show function reassignments.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #17 Posted by **Mark Harman** on 1 Apr 2011, 2:10 a.m.,*
in response to message #16 by bink

I don't think it is a disadvantage of the 30b if one is doesn't use top-level or shifted keys when doing the assignments... All of my functions and programs that I need assigned to keys are assigned using shift-hold instead of shift. Plus, it really isn't reassigning, because the parent location of the function usually stays the same. Meaning, for example, that Pi, probability distributions, etc, will still be in the math menu even if you assign them to a key.

I would agree that if you assign functions as being top-level or shifted, then it might create some confusion. However, having them be shift-hold functions would make no one know any differently.

Mark

Edited: 1 Apr 2011, 2:19 a.m.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #18 Posted by **Gene Wright** on 1 Apr 2011, 7:41 a.m.,*
in response to message #17 by Mark Harman

Mark, I agree that the shift-hold key plane makes the most sense.

For example, I have the inverse trig functions "assigned" to the shift-hold trig key locations. Work like a charm.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #19 Posted by **bink** on 4 Apr 2011, 6:28 p.m.,*

in response to message #17 by Mark Harman

> Quote:
>
> I don't think it is a disadvantage of the 30b if one is doesn't use top-level or shifted keys when doing the assignments... All of my functions and programs that I need assigned to keys are assigned using shift-hold instead of shift. Plus, it really isn't reassigning, because the parent location of the function usually stays the same. Meaning, for example, that Pi, probability distributions, etc, will still be in the math menu even if you assign them to a key. Mark

What I mean is that if I pick up someone else's 30B, I don't know how their functions are set up, and I probably cannot use it the way that I have set mine up. Even if I use mine without assignments, it is possible that their calculator has been customized.

This is a disadvantage.

In a commercial environment (i.e. bank, brokerage house, etc) people often pick up any calculator on a desk.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #20 Posted by **Katie Wasserman** on 1 Apr 2011, 11:10 a.m.,*
in response to message #16 by bink

> Quote:
>
> .... so you can pick up any 12C on someone's desk and use it,

Exactly! I often do exactly this as do so many other people. I think that this is exactly the reason why it's still such a big seller for HP after almost 30 years.

It's a standard, important desk accessory in finance, much like a stapler.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #21 Posted by **Allen** on 22 Mar 2011, 7:25 p.m.,*
in response to message #1 by Sujith Abraham

I agree the 12C would be my choice.. I've been auditing some of the CFP courses from Boston University, and found the 12C to be quite adequate, and likely faster than the TI.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #22 Posted by **Martin Pinckney** on 22 Mar 2011, 9:25 p.m.,*
in response to message #1 by Sujith Abraham

> Quote:
>
> From my reading it appears that the *new* 12CP is as fast as the TI.

Don't know about the speed relative to the TI. But AFAIK the only *new* 12CP(latinum) is the one with the black body and brushed "chrome" bezel. The original 12CP was all chrome. I don't think there is any speed difference between the two.

OHOH the new*12C* with two cells is significantly faster.

> Quote:
>
> The input method is OK, he tried RPN on my 35S and 30b and he is open to learning it.

OK, but don't forget the 12CP has *both* RPN *and* ALG. The 12C is *only* RPN.

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #23 Posted by **Sujith Abraham** on 22 Mar 2011, 10:30 p.m.,*
in response to message #22 by Martin Pinckney

> Quote:
>
> OHOH the new12C with two cells is significantly faster.

I am getting confused here, sir. So currently there are two 12C versions?

Re: Calculator for CFA; HP 12C Platinum or TI BA II Plus Professional
*Message #24 Posted by **Martin Pinckney** on 22 Mar 2011, 11:46 p.m.,*
in response to message #23 by Sujith Abraham

There's the original 12c, which has always been RPN only. It has the gold-colored bezel. This was updated a couple years ago with a new processor which runs many times faster than the older version.

Then there's the 12CP (Platinum), which has both RPN and algebraic modes. The first version of this was all silver-colored on the front. It came out about 7(?) years ago. Then it was revised about 4 years ago to have a black keyboard and silver bezel. This one is faster than the original 12C above, but not nearly so fast as the upgraded 12C.

There's a huge amount of info on these variations in previous posts on this forum, but here you have it in a nutshell.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Collection is online

*Message #1 Posted by **Keith Midson** on 22 Mar 2011, 12:21 a.m.*

Hi all, i've been busy uploading a portion of my collection onto Flickr recently. Originally I intended to just upload my clear cased HP's, but i've added many of my HP's, some Sharps and Casios as well. I thought it would be better to share this with everyone than just have it all sitting in my office. I will keep uploading photos over the next few months or so.
http://www.flickr.com/photos/60529780@N02/
Enjoy!
Cheers, Keith

Edited: 22 Mar 2011, 12:22 a.m.

Re: Collection is online

*Message #2 Posted by **John Robinson** on 22 Mar 2011, 1:55 a.m.,*
in response to message #1 by Keith Midson

Nice collection Keith !!

Cheers, John

Re: Collection is online

*Message #3 Posted by **Jim Yohe** on 22 Mar 2011, 3:30 a.m.,*
in response to message #1 by Keith Midson

Yes a very nice photographic spread of your calculator collection. :-)

Re: Collection is online

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 22 Mar 2011, 6:32 a.m.,*
in response to message #1 by Keith Midson

I am speechless :-D

Re: Collection is online

*Message #5 Posted by **Michael de Estrada** on 22 Mar 2011, 1:53 p.m.,*
in response to message #1 by Keith Midson

Beautiful collection! I especially like the clear cased prototypes. I also have a Sharp PC-1211 that is still functional, however, sadly the orange LCD display is bleeding badly. I did find a Radio Shack TRS-80 Pocket Computer (made by Sharp for Radio Shack) with a good display to replace it. I also have the Sharp CE-122 Printer and Cassette Interface for it. I didn't see any Woodstocks in your Flickr photos; do you have any? No collection would be complete without a few Woodstock models.

Re: Collection is online

*Message #6 Posted by **Keith Midson** on 22 Mar 2011, 4:02 p.m.,*
in response to message #5 by Michael de Estrada

Thanks Michael, the Woodstocks are coming! I've got a 21, 25, 27 & 29c to upload. Also got the Tandy/Radio Shack series - my first pocket computer was the PC8 in about 1988 - probably the worst one of the series! Cheers, Keith

Re: Collection is online

*Message #7 Posted by **Keith Midson** on 22 Mar 2011, 7:08 p.m.,*
in response to message #5 by Michael de Estrada

There you go Michael - just added 25, 27 & 29C. I should have transferred the battery pack from the 27 to show the others working. I might even put up a non-HP RPN or a TI just to mix it up. Cheers, Keith

Re: Collection is online

*Message #8 Posted by **Xavier A. (Brazil)** on 22 Mar 2011, 8:49 p.m.,*
in response to message #7 by Keith Midson

Very nice collection! Congratulations!

BTW, I am intending to store/show some HP calcs in wood boxes, and wondering what type of inner foam I could use.

Keith, how did you get your HP-12c woodcase (or did it, or transform it, etc.)?

I would be very happy to read you about this particular aspect of your collector habits.

Re: Collection is online

*Message #9 Posted by **Keith Midson** on 22 Mar 2011, 9:12 p.m.,*
in response to message #8 by Xavier A. (Brazil)

Thanks Xavier, I bought this from TAS a few years ago from someone in the UK. They had a few of them and they were a promotional HP special from memory. It was quite expensive for a humble 12C - I will post another photo of it for you. The foam is quite firm and is covered in a black silk. Cheers, Keith

Re: Collection is online

*Message #10 Posted by **Xavier A. (Brazil)** on 22 Mar 2011, 9:37 p.m.,*
in response to message #9 by Keith Midson

Thank you for this answer.

Well, if I have to spend some time on building a wood case, I might understand this work got its price, above all for a perfect result!

My problem is now to understand foam "industry", or "know-how". Is it complex/easy to do? What does it require as material/machines, etc.? Can it be found easily? and so on...

I would appreciate your new picture, thank you.

Re: Collection is online

*Message #11 Posted by **Keith Midson** on 22 Mar 2011, 10:11 p.m.,*
in response to message #10 by Xavier A. (Brazil)

Sounds like a good plan. I've uploaded some more photos that give you a better idea. Interestingly I keep a large portion of my collection in high quality wooden chocolate boxes. Cheers, Keith

Re: Collection is online

*Message #12 Posted by **Xavier A. (Brazil)** on 23 Mar 2011, 7:44 a.m.,*
in response to message #11 by Keith Midson

Nice picture, thank you Keith.

Re: Collection is online

*Message #13 Posted by **Dave Shaffer (Arizona)** on 23 Mar 2011, 12:26 p.m.,*
in response to message #11 by Keith Midson

High quality chocolate or high quality boxes!? Might help get the wife on board for adding to your collection!

Nice pictures - I teach PHOTO 101 occasionally at the local university and know how hard it is to get such nice lighting. Do you use a light box, soft box, photo diffusers, or ...?

Re: Collection is online

*Message #14 Posted by **Keith Midson** on 24 Mar 2011, 3:44 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

Thanks Dave, they are just happy snaps from within my office! The diffuse lifting is a combination of natural light from the nearby windows and flouro lights above. You can actually see the reflection of the flouro lights in some of the photos. I do a bit of photography though - one of my other hobbies. Cheers, Keith

Re: Collection is online

*Message #15 Posted by **Keith Midson** on 24 Mar 2011, 3:46 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

... And the boxes are wood - they used to have German chocolates in them. My wife's parents own two boutique chocolate shops, so life is good! Cheers, Keith

Re: Collection is online

*Message #16 Posted by **Jeroen Van Nieuwenhove** on 23 Mar 2011, 9:09 p.m.,*
in response to message #11 by Keith Midson

Those are nice pictures indeed. Can I make one suggestion? Use a tripod and decrease the aperture of your camera (i.e. increase the f-number) to increase the depth of field (DOF). All the keys, as well as the screen of the calculator should be reasonably sharp. Something like f/9 or f/11 should do, depending on your distance to the object.

Re: Collection is online

*Message #17 Posted by **Keith Midson** on 24 Mar 2011, 3:48 a.m.,*
in response to message #16 by Jeroen Van Nieuwenhove

Hi Jeroen, I will do this. Some pictures I took in a hurry (especially the Woodstocks which I took for Michael!). I've got the tripod in the office now and have another batch of calculators lined up for photos. Cheers, Keith

Re: Collection is online

*Message #18 Posted by **dinamarco** on 23 Mar 2011, 9:15 a.m.,*
in response to message #1 by Keith Midson

congratulations.. your collection is wonderfull.... the wood box is perfect...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 71B, lurking, thanks and other stuff

*Message #1 Posted by **geoff quickfall** on 21 Mar 2011, 9:23 p.m.*

Hello all,

firstly, thanks to everyone that has lent me a calculator/s for repair for the book. I will be in touch shortly (Gene, DB, Mike and etc...). I have been a lurker here, sporadically as this year has been extremely busy!

Most of the book is done, but every time I get going, something happens, home, work, family...and you PEOPLE. Stop comming up with MORE novel fixes!!!

Just came off a 3 week course on the B777 which interupted the March book and calculator schedule. Suffice to say, I will be in touch, and the book, well, I am aiming for San Diego. I will be there by hook or by crook!

Speaking of the book the Titan chapter is now complete and here are some shots an HP 71B with the following:

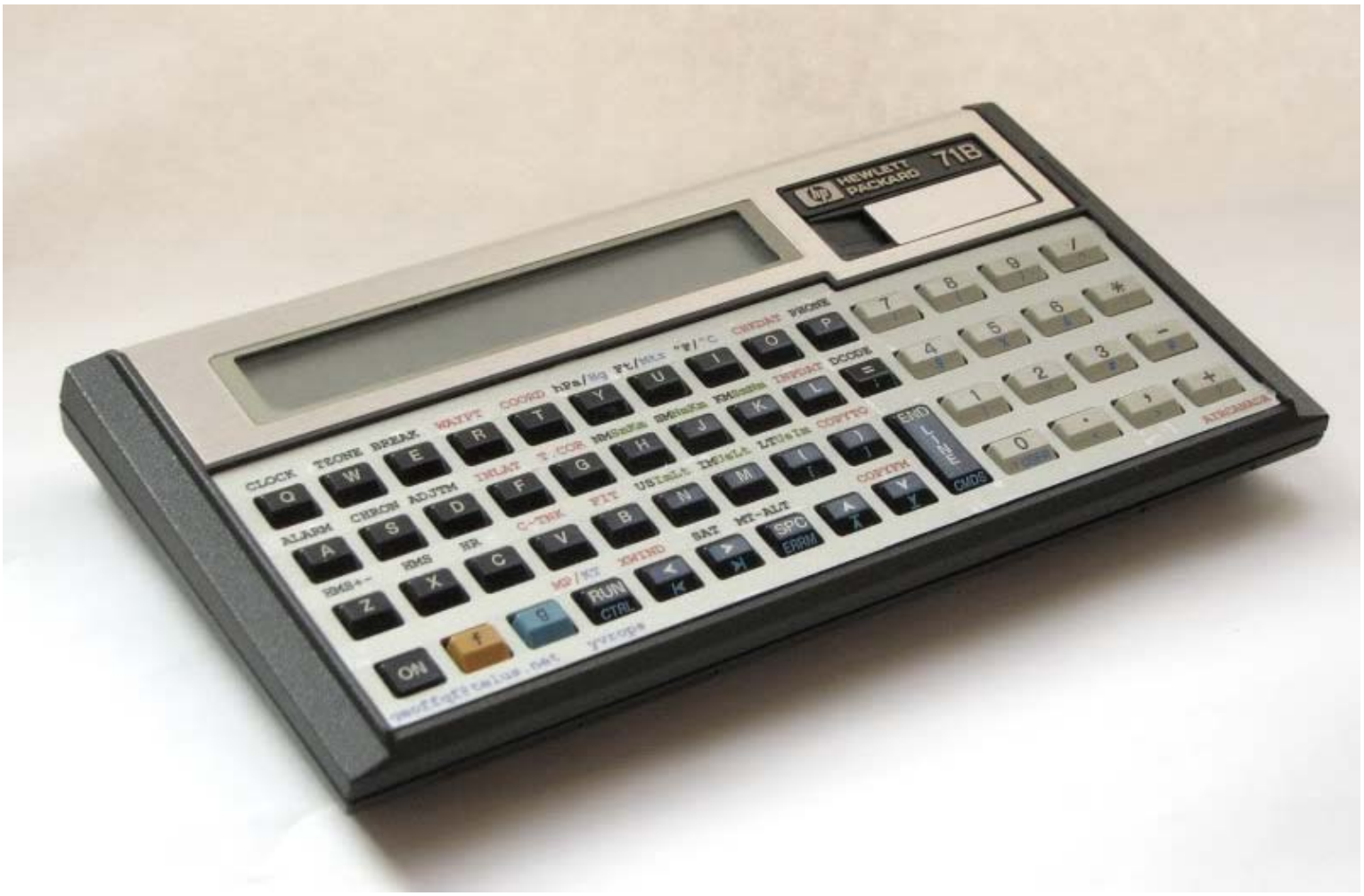
- HP71:1BBB CLK:A HMS:A HPIL:1A MATH:1A - two 32K RAM modules - math ROM - HPIL - Card reader - Customized overlay for the 'office'

I was given four beaters to work with for the titan chapter and one of the projects was to scavenge two 4K rams from one unit and piggy back them to another creating a larger built in RAM, and documenting it. Plus an LCD screen swap from one with a destroyed keyboard to another with a bad LCD but pristine keyboard. Similar to the HP 15C swap just posted lately. Also a repair involving the newer version keyboard to logic board connection.

here are the 71B images:

plan view with overlay used at work. Overlay printed on 'clear label' media then sliced with razor and placed on the overlay.

artsy quarter view of the 71B with overlay



artsy quater view of the 71B without overlay. I prefer the older version with the metal back as the yellow 'F' labels are more visible then the newer versions:

Looking forward to San Diego and returning all the lent items to their rightful owners.

Cheers all, Geoff

Re: HP 71B, lurking, thanks and other stuff

*Message #2 Posted by **John Pierce** on 23 Mar 2011, 3:29 p.m.,*
in response to message #1 by geoff quickfall

Beautiful work, as always. I am anxious to read your book because I have 2 very heavily used 71Bs which I would like to recondition. I hope you write some details on how you were able to do such an outstanding job labelling the keyboard overlays. Thanks for all your work. John Pierce

Re: HP 71B, lurking, thanks and other stuff

*Message #3 Posted by **Karl-Ludwig Butte** on 23 Mar 2011, 4:30 p.m.,*
in response to message #1 by geoff quickfall

Hello Geoff,

the photos you've posted are absolute superb and one could hardly guess how much work goes in these restauration projects. Of course a key factor is the know how. So please notify us, when you're ready to take orders for your book and I hope you're going to send it to overseas, too (Germany in my case).

All the best to you.

Kind regards

Karl

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-97S with a bad BCD interface: help me!

*Message #1 Posted by **Ignazio Cara (Italy)** on 21 Mar 2011, 2:17 p.m.*

Hi All, I'm looking for a little big help with a not working BCD interface. I have tested it with the Test connector and the test program. Nothing is happened, the program stop at line 005 LBL A waiting a response from the interface. Who can give me an help?

Re: HP-97S with a bad BCD interface: help me!

*Message #2 Posted by **Katie Wasserman** on 21 Mar 2011, 8:10 p.m.,*
in response to message #1 by Ignazio Cara (Italy)

The pod for the 97S has 50 or so 4000 series CMOS chips in it, it's possible one or more of them are bad -- I've seen this happen in one case in particular All of these chips except one ROM are still readily available for purchase and they are very inexpensive.

The 97S manual has a partial schematic of the pod which will help in debugging, but in working with a friend of mine we decided to pull all the chips (i.e., de-solder them) and test them in a handi-dandy IC tester I have. We were able to find the bad chips and replace them pretty easily.

You can find some of the 4000 series part numbers cross referenced to the HP part number here.

Better still, here's an almost complete cross reference list of the IC's used in the 97S pod from my notes:

```
1820-0927 4028
1820-0936 4024
1820-0938 4027
1820-0939 4013
1820-0946 4001
1820-0949 4011
1820-1114 4516
1820-1145 4049
1820-1466 4017
1820-1483 4071
1820-1485 74C221(?)
1820-1665 4099
1820-2037 4081
1820-2080 4035
1820-1518 4076
1820-1408 4073
MC14043B  4043 (obviously)
MC14512   4512 (obviously)
```

If you want to debug by tracing signals you should get a hold of Tony Duell's hand drawn schematics for the 97s pod, that will help a lot.

-Katie

Edited: 21 Mar 2011, 8:34 p.m.

Re: HP-97S with a bad BCD interface: help me!

*Message #3 Posted by **Ignazio Cara (Italy)** on 22 Mar 2011, 3:28 a.m.,*

in response to message #2 by Katie Wasserman

Hi Katie, I have another BCD interface and I have swapped the upper PCB to test where is the issue: this is the bad PCB. Thanks a lot for the great info about the cross reference, I hope to find the spare parts to replace the chip step by step.

Regards from Italy and thanks again

Ignazio

Re: HP-97S with a bad BCD interface: help me!

*Message #4 Posted by **Katie Wasserman** on 22 Mar 2011, 3:54 a.m.,*
in response to message #3 by Ignazio Cara (Italy)

Having a working 97S i/o pod is a big help!

Here's a great place for old and obsolete parts: Unicorn Electronics.

I'm sure that they have all the 4000 IC's you'll need. However, I'm not sure if they'll ship outside the US.

BTW, the IC tester that I have is a clone of this. It's been around for a long time and has been cloned several times. If you look around you may find it for not much money at all.

-Katie

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

There's a new RPL kid on the block

*Message #1 Posted by **Oliver Unter Ecker** on 20 Mar 2011, 10:42 p.m.*

I believe ND1 is the only non-HP (and non-HP-ROM emulator) RPL calculator in existence.
The latest version, v1.3, adds significantly to its RPL abilities.

The language is now on the level of the 50g, with a 360-strong command subset.

In addition to being an RPL thing, ND1 is it's own thing.

There's a new visual guide to capabilities that sums it all up.

What RPL ND1 runs, it runs it fast. Check out the benchmark section in the Comparison to HP calculators.

Re: There's a new RPL kid on the block

*Message #2 Posted by **Stuart Sprott** on 21 Mar 2011, 8:44 a.m.,*
in response to message #1 by Oliver Unter Ecker

Just one question. Where do get them ?

Re: There's a new RPL kid on the block

*Message #3 Posted by **bhtooefr** on 21 Mar 2011, 9:06 a.m.,*
in response to message #2 by Stuart Sprott

Looks like you'd get it from the App Store, just like any other iOS app.

(I won't get into my opinions on iOS in this thread, they're best to not be shared in polite company. :))

Re: There's a new RPL kid on the block

*Message #4 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 10:02 a.m.,*
in response to message #2 by Stuart Sprott

Apple AppStore. Just search for "ND1". Or try out free "ND0" first. (Limited to 3 stacks positions, and two shared folder downloads.)

If you like it, it would be great if you could rate the app (either one).

Thousands of people who don't understand what RPN is have downloaded ND0, given it one sec (probably typing "2+2"), ignored all warnings about having to learn RPN (there's almost 300 pages of online documentation), and many go on to rate the app one star. Thousands others keep the app, but never bother to rate it. (This part is very frustrating...)

Everyone who knows what they're talking about (except one person) rate it 5 stars. The average, though, sucks and hurts the project.

Thanks.

P.S. Next month should finally see the release of CalcPad for iPad. That's the same MorphEngine and RPL compatibiliy, but a different UI.

Edited: 21 Mar 2011, 10:06 a.m.

Re: There's a new RPL kid on the block

*Message #5 Posted by **Howard Owen** on 21 Mar 2011, 6:05 p.m.,*
in response to message #4 by Oliver Unter Ecker

Android? :)

Re: There's a new RPL kid on the block

*Message #6 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 7:28 p.m.,*
in response to message #5 by Howard Owen

Android is coming. (And Kindle, too.)

Re: There's a new RPL kid on the block

*Message #7 Posted by **Namir** on 21 Mar 2011, 6:23 p.m.,*
in response to message #1 by Oliver Unter Ecker

It's a nice App, but ND1 interface is not very intuitive to folks who have used HP calculators.

Re: There's a new RPL kid on the block

*Message #8 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 7:44 p.m.,*
in response to message #7 by Namir

There're two sets of key layouts, between which you can easily switch:

"Modern", shown in most screenshots in the document, is not recognizable to HP users, I agree.
But give it five minutes, and you'll see that it simply trades what non-HP users would consider cryptic text (STO, RCL, SWAP) with iconic symbols. After those five minutes you may agree it makes the (tight) space look less cluttered. You may also find that you like the Enter in the middle (simply because that's where your thumb likes to rest when holding an iPhone or iPod touch), and you may like 9 (instead of 6) soft-keys.
This mode looks daring, I know, but it's the result of holding the device and experimenting for quite a bit.

"Classic", shown in a couple of screenshots, too, is *exactly* the HP-28S key layout and key caps. Except CHS became +/- and USER became VAR. (Some 2nd level functions moved.)

I don't know what your HP reference is. A 41 sure looks quite different from a 28.

Finally: you can change the keycaps and the function of *any* key. You can even add or remove keys. You could even have a single-wide Enter key, but that would be crazy, of course... ;-)

Edited: 21 Mar 2011, 7:45 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

GO-25 An HP-25C Emulator for the iPod and iPad

*Message #1 Posted by **Namir** on 20 Mar 2011, 10:34 p.m.*

Hello All,

I found in the Apple Store the new GO-25 emulator application for the iPod and iPad. The application emulates an HP-25C. The iPad version allows you to view the stack, memory registers, and program steps (it supports 99 steps instead of 49). When you double tap the memory/registers pad you get a list of the commands you have entered. The program pad shows the program mnemonic as well as the key codes.

I am sooooo happy to have this nice HP-25C emulator in addition to the other RPN-25 emulator for the HP-25.

The GO-25 emulator is brought to us by the same developer who created GO-21 the HP-21 emulator.

Namir

Edited: 20 Mar 2011, 10:38 p.m.

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #2 Posted by **hpnut** on 21 Mar 2011, 11:23 a.m.,*
in response to message #1 by Namir

cool! finally I have an HP-25 red LED, albeit an iPod emulator :-)

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Mar 2011, 11:37 a.m.,*
in response to message #2 by hpnut

Please take a look to "rpn-21" and "rpn-25" emulators, by Maciej Bartosiak, and based on Eric Smith's NonPareil. The look and feel is more iPhone-styled rather than a Woodstock replica; but they are a very good option too.

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #4 Posted by **Namir** on 21 Mar 2011, 11:38 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

I have both versions!

I collect emulators, simulators, and the real McCoy!!!

:-)

namir

Edited: 21 Mar 2011, 3:00 p.m.

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Mar 2011, 1:15 p.m.,*
in response to message #1 by Namir

I guess that the name "GO" came from "HP" with each character decremented by one; in the same sense that the name "HAL" (from "2001, An Space Odyssey") was formed decrementing each of the "IBM" characters.

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #6 Posted by **Gerson W. Barbosa** on 21 Mar 2011, 1:42 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

I guess you're right! Also, decrementing the characters by one was the best choice. I guess IQ-21, IQ-25 or even IQ-97 would not sell :-)

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #7 Posted by **Thomas Chrapkiewicz** on 21 Mar 2011, 2:47 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Well 'known' folklore, however the author of 2001 (Sir Arthur C. Clarke) has disputed that claim!

Re: GO-25 An HP-25C Emulator for the iPod and iPad

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Mar 2011, 8:32 a.m.,*
in response to message #7 by Thomas Chrapkiewicz

Correction acknowledged, will be taken into account from now on. Thanks!!

Re: GO-25 An HP-25C Emulator for the iPod and iPad / HAL and Clarke

*Message #9 Posted by **Thomas Chrapkiewicz** on 22 Mar 2011, 9:12 a.m.,*
in response to message #8 by Andrés C. Rodríguez (Argentina)

BTW, see the Forward of the book, 'HAL's Legacy', Stork, editor, forward by Arthur C. Clarke, p.xi.

Also, chapter 11 of, 'The Lost Worlds of 2001', Arthur C. Clarke. (which also references Sir Clarkes gifted HP 9100A calculator).

TomC

Re: GO-25 An HP-25C Emulator for the iPod and iPad / HAL and Clarke

*Message #10 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Mar 2011, 1:57 p.m.,*
in response to message #9 by Thomas Chrapkiewicz

I only hope that the usage of the well-known "The quick brown fox... " string, in the film scene where HAL is being deprived of its memory boards is not an artifact of my... well, memory! :-)

Re: GO-25 An HP-25C Emulator for the iPod and iPad / HAL and Clarke

*Message #11 Posted by **Walter B** on 22 Mar 2011, 2:11 p.m.,*
in response to message #10 by Andrés C. Rodríguez (Argentina)

IIRC, they let him (? it? HAL!) sing "Hänschen klein" at that point in the synchronized German edition of that movie.

Re: GO-25 An HP-25C Emulator for the iPod and iPad / HAL and Clarke

*Message #12 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Mar 2011, 8:35 a.m.,*
in response to message #11 by Walter B

In the english version of "2001" in film, he (granted!) sings a very simple song named "Daisy", in the version with spanish voices the translation of HAL singing was not very good... However, the classic "quick brown fox" string appeared somehow as part of HAL's deconfiguration (sort of). I wonder if it appears in a printed version of the novel I read many years ago; in that case I mixed the printed and film versions.

Re: GO-25 An HP-25C Emulator for the iPod and iPad / HAL and Clarke

*Message #13 Posted by **Walter B** on 23 Mar 2011, 10:38 a.m.,*
in response to message #12 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> However, the classic "quick brown fox" string appeared somehow as part of HAL's deconfiguration (sort of). I wonder if it appears in a printed version of the novel I read many years ago; in that case I mixed the printed and film versions.

Just checked: It appears in the book as well. In the German print they took "Fischers Fritz fischt frische Fische" instead :-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Rebalancing my RPN portfolio

*Message #1 Posted by **Michael de Estrada** on 20 Mar 2011, 8:48 p.m.*

Over the past year I've been rebalancing my RPN calculator collection (aka portfolio), by selling off duplications in my HP RPN collection, while seeking out rare non-HP RPN calculators. By my count, I've sold 6 HPs (2 Woodstocks and 4 Classics), whilst acquiring 5 non-HP RPN calcs, the latest being a Commodore 4921. At this time HP RPN calcs represent approximately 59% of the total collection, while non-HP RPN calcs represent 18%. The remaining 23% are non-RPN calcs, although some of them are non-collectible elcheapo 4 bangers. About 90% of them are in good working condition, while the remainder of are in various states of disrepair and are mostly retained for spare parts, although some are junk that I really should just give away or throw in the trash. I really don't see myself acquiring any more vintage HP calcs and unless HP comes out with something really exciting in a new model, I may have bought my last HP calc. I'm selling off a few more HP RPN calcs that are duplicates, while still seeking to fill a few holes in my non-HP collection (anyone have a Privileg PR 55 NC they want to sell?).

Re: Rebalancing my RPN portfolio

*Message #2 Posted by **Joerg Woerner** on 20 Mar 2011, 9:18 p.m.,*
in response to message #1 by Michael de Estrada

Michael,

Not a Privileg but the Hiradástechnika TK-1023.

Unfortunately is it since 2:00 PM Eastern time on TAS :-(

Regards, Joerg

Re: Rebalancing my RPN portfolio

*Message #3 Posted by **Michael de Estrada** on 20 Mar 2011, 10:26 p.m.,*
in response to message #2 by Joerg Woerner

Joerg,

I saw all your listings on TAS. I already own a complete Novus Scientist 4520 in excellent condition with a new battery, which is the same as the TK-1023, so I'm not interested. In fact, I own virtually all the Novus / National Semiconductor RPN models. I also already have an Omron 12SR which I bought from you, along with a Corvus 500 and a APF mark 55. Now, if you can find a good Privileg SR 54 NC or PR 55 NC, then you'll definitely get my attention. :)

Michael

Re: Rebalancing my RPN portfolio

*Message #4 Posted by **db(martinez,ca)** on 20 Mar 2011, 11:05 p.m.,*
in response to message #3 by Michael de Estrada

Michael; I'm not bidding on it either, but Joerg's TK-1023 does have one unique feature i have never seen on any of that family before. There's a yellow racing stripe down the middle. That should have been done to all the 41s with the speeded-up clocks.

Re: Rebalancing my RPN portfolio

*Message #5 Posted by **Michael de Estrada** on 20 Mar 2011, 11:25 p.m.,*
in response to message #4 by db(martinez,ca)

Haha, good point. Tomorrow I'm going to the hobby shop to get a bottle of Testors bright yellow paint so I can put a racing stripe on my Novus Scientist.

On an unrelated note, I read your writeup on the Commodore 4921 on your website, and I think your statement that it has 10 registers is incorrect. I downloaded the manual from Katie's website, and it supposedly has only 3 registers (0,1,2), which are all used when performing statistical operations (sum n, sum x, sum x^2). Anyway, I won't know for sure, and that could be weeks from now, since it's comming from the UK.

Michael

Re: Rebalancing my RPN portfolio

*Message #6 Posted by **db(martinez,ca)** on 21 Mar 2011, 10:33 p.m.,*
in response to message #5 by Michael de Estrada

mine stores and recalls numbers in 0 through 9.

Re: Rebalancing my RPN portfolio

*Message #7 Posted by **Michael de Estrada** on 21 Mar 2011, 11:22 p.m.,*
in response to message #6 by db(martinez,ca)

Weird. I wonder if it's an undocumented feature. We are talking about the SR4921 RPN, correct? Do you have the manual? If so, look at page 24. Anyway, when I get mine, we'll find out for sure.

Re: Rebalancing my RPN portfolio

*Message #8 Posted by **db(martinez,ca)** on 22 Mar 2011, 11:47 p.m.,*
in response to message #7 by Michael de Estrada

yep. 4921. & serial no. 15350. made in Hong Kong.
Mine may have a bug. It does have a red dot on the on switch.
i may be stretching things there.

Re: Rebalancing my RPN portfolio

*Message #9 Posted by **Joerg Woerner** on 23 Mar 2011, 5:11 p.m.,*
in response to message #8 by db(martinez,ca)

Red dot or yellow stripe - triples the value of a calculator!

Cheers, Joerg

The mystery is solved.

*Message #10 Posted by **Michael de Estrada** on 28 Mar 2011, 7:46 p.m.,*
in response to message #6 by db(martinez,ca)

My Commodore SR4921 RPN arrived today and I observed that it indeed can store and recall numbers in registers 0 though 9, and in fact can also perform memory arithmetic such as M+ and Mx. But, wait, it is all an illusion, since in fact there are only 3 real independent storage memories and the values in memories 0 through 2 are replicated in the other phantom registers. Registers 0,4,8 are the same storage location, 1,3,5,7,9 are the same and 2,6 are the same. Store a number or perform storage arithemetic on any one of them, and the result will be replicated in the others. Use the statistical functions, and values will be stored in all of them, not just the first three. So basically, the other number keys have been mapped to the same memory locations, instead of giving an error indication as would be the case with most other caculators when attempting such an illegal operation.

Re: The mystery is solved.

*Message #11 Posted by **db (martinez, ca.)** on 28 Mar 2011, 9:36 p.m.,*
in response to message #10 by Michael de Estrada

well i'll be dipped in s.....you're right.
that was sloppy, or trusting, of me. any other calcs do this sort of trick? - other than the 41's sto a = sto 01, sto b = sto 02 etc.

Re: The mystery is solved.

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 29 Mar 2011, 12:23 a.m.,*
in response to message #11 by db (martinez, ca.)

> Quote:
>
> any other calcs do this sort of trick?

The address code for TI-59/PC-100 printer characters did the same sort of thing. In that case it was the eights digit which was being ignored , not the fours digit as with your units.

Re: Rebalancing my RPN portfolio

*Message #13 Posted by **Mike T.** on 21 Mar 2011, 8:02 p.m.,*
in response to message #1 by Michael de Estrada

That brings back some memories - one of those was my first calculator, beleive it did only have 3 registers and I remember that the trig functions were sometimes only a little better than using 4 digit trig tables, but it was easier to use!

It is amazing to think that it is now a sought after machine...

Mike T/

Re: Rebalancing my RPN portfolio

*Message #14 Posted by **Michael de Estrada** on 21 Mar 2011, 10:35 p.m.,*
in response to message #13 by Mike T.

I think it's only sought after by RPN junkies like myself, but in time as we die off it's value will wane, and it will just become another ubiquitous antique calculator.

Re: Rebalancing my RPN portfolio

*Message #15 Posted by **Joerg Woerner** on 25 Mar 2011, 2:17 p.m.,*
in response to message #14 by Michael de Estrada

Michael,

Well done!!! And it is NOT just a National Semi clone ;-))

Cheers, Joerg

Re: Rebalancing my RPN portfolio

*Message #16 Posted by **db(martinez,ca)** on 25 Mar 2011, 10:05 p.m.,*
in response to message #15 by Joerg Woerner

Joerg; Very true. As you probably already know; the only 4 calculators listed in Meke Sebastian's **Calculator Forensics** website as having the same trig results are all Commodores.

Not that there's anything wrong with a Nat Semi clone.....

Re: Rebalancing my RPN portfolio

*Message #17 Posted by **Michael de Estrada** on 26 Mar 2011, 9:20 a.m.,*
in response to message #16 by db(martinez,ca)

Speaking of clones, the Brazilian Dismac HF-90 is an OEM clone of the Commodore SR 4921 RPN, that uses the same Mostek MPS7561 chipset. It also has the same calculator forensic number, which is different from any of the NS / Novus models.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Can anyone Identify this HP-41 Overlay?

*Message #1 Posted by **aj04062** on 20 Mar 2011, 2:04 p.m.*

Edited: 20 Mar 2011, 2:05 p.m.

Re: Can anyone Identify this HP-41 Overlay?

*Message #2 Posted by **Walter B** on 20 Mar 2011, 2:53 p.m.,*
in response to message #1 by aj04062

Hmmmh, with so many blank keys, it looks like a system they used 2008 - just missing the random number generator >;->

Re: Can anyone Identify this HP-41 Overlay?

*Message #3 Posted by **aj04062** on 20 Mar 2011, 3:27 p.m.,*
in response to message #2 by Walter B

who is "they" HP?

Re: Can anyone Identify this HP-41 Overlay?

*Message #4 Posted by **Walter B** on 20 Mar 2011, 4:55 p.m.,*
in response to message #3 by aj04062

The stock traders of course.

Re: Can anyone Identify this HP-41 Overlay?

*Message #5 Posted by **db(martinez,ca)** on 20 Mar 2011, 9:17 p.m.,*
in response to message #4 by Walter B

Do you need a secret handshake to know which keys are assigned to boundless hubris, endless greed, pump & dump, call for taxpayer funded bailout, bongsmoke I.P.O., and naked shortsell?

Re: Can anyone Identify this HP-41 Overlay?

*Message #6 Posted by **Eric Smith** on 20 Mar 2011, 9:43 p.m.,*
in response to message #5 by db(martinez,ca)

It's no secret. All of them.

Re: Can anyone Identify this HP-41 Overlay?

*Message #7 Posted by **Walter B** on 21 Mar 2011, 2:36 a.m.,*

in response to message #5 by db(martinez,ca)

> Quote:
>
> Do you need a secret handshake to know which keys are assigned to boundless hubris, ...?

Encountered the second time, so please allow a linguistic question: Do you (i.e. English speaking people) generally replace the Greek "y" by "u"? It's spelled "hybris" on this side of the pond, at least on the continent AFAIK ... but I've already encountered someone claiming the Greek "M" and "N" are spelled "mu" and "nu" in English, respectively. OTOH I've never seen an odussey yet d:-?

Re: Can anyone Identify this HP-41 Overlay?

*Message #8 Posted by **Eric Smith** on 21 Mar 2011, 4:06 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> It's spelled "hybris" on this side of the pond, at least on the continent AFAIK

"hubris" in the US

> Quote:
>
> but I've already encountered someone claiming the Greek "M" and "N" are spelled "mu" and "nu" in English, respectively.

Yes.

If you start from the premise that the English language follows a set of logical rules, you've already lost the battle.

Re: Can anyone Identify this HP-41 Overlay?

*Message #9 Posted by **DeboT** on 21 Mar 2011, 8:01 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> Encountered the second time, so please allow a linguistic question: Do you (i.e. English speaking people) generally replace the Greek "y" by "u"? It's spelled "hybris" on this side of the pond, at least on the continent AFAIK ... but I've already encountered someone claiming the Greek "M" and "N" are spelled "mu" and "nu" in English, respectively. OTOH I've never seen an odussey yet d:-?

Hi Walter,

Despite the rigour with which spelling was taught when I was in school, it is not an exact science - especially when it comes to importing foreign words. Heck, even established words can vary e.g. someone who advises you can be an advisor or adviser - both forms are

accepted. Then there is the argument about that black bit of rubber we put on our car wheels, "tire" or "tyre". Some say the one is American and the other UK spelling, but as this article shows it was never that clear cut. I know a Polish family here in England where different members spell their surname differently in an attempt to get the english to pronounce it correctly, a futile task as 5 miles - that's 8km in continental speak ;) - down the road they could be pronouncing things totally differently anyway.

Re: Can anyone Identify this HP-41 Overlay?

*Message #10 Posted by **Chris Randle (UK)** on 21 Mar 2011, 3:10 p.m.,*
in response to message #7 by Walter B

> Quote:
>
> but I've already encountered someone claiming the Greek "M" and "N" are spelled "mu" and "nu" in English

Well, that's how they're spelt in Greek! The uppercase Greek Ypsilon "Y" is written "u" in lowercase, and "N" is written "v" in lowercase. Hence (in Greek) "mu" and "vu", but MY and NY.

The transliteration, unfortunately, usually leads to a mispronunciation, since we (English) tend to say "mu" as in music, whereas, in Greek, it's pronounced "me" as in me, myself.

Re: Can anyone Identify this HP-41 Overlay?

*Message #11 Posted by **Walter B** on 21 Mar 2011, 6:36 p.m.,*
in response to message #10 by Chris Randle (UK)

Thanks for the explanations. An example of divergent spelling came into my mind after my posting: "hubris" and hybrid - but I'll try hard not to ask questions about the intrinsic logic of this language anymore ;-)

The hypothesis that the English spelling reflects the Greek looks a bit off IMHO. While the Greek lower case Y looks similar to a Latin u, this tells nothing about the pronounciation, neither today nor when Sokrates spoke. Today it's pronounced like an English ee, but short. Way back it was pronounced like an ü - our well known detector for English speaking folks ;-)

Re: Can anyone Identify this HP-41 Overlay?

*Message #12 Posted by **db(martinez,ca)** on 21 Mar 2011, 10:59 p.m.,*
in response to message #7 by Walter B

Walter; When i taught English as a Second Language (yes there IS an American English), my students would often ask "professor, por que...."----- why is the spelling in English so crazy?" I answered that it is not really as bad as it seems. A word from *Ingles viejo* is usually spelled using old English rules. The same goes for Welsh and Celtic words. What we inherited from Latin may have kept a Latin flavor in it's spelling. If we stole it from Spanish, French or Italian; those rules might apply. Our Dutch and German words will try to approximate what guttural sounds we've managed to keep. `A`a- and Pa-hoehoe, the Hawaiian words which have been adopted by English refer to these distinct types of lava, are spelled phonetically.
So our spelling just has lots of mutually exclusive sets of rules.

Re: Can anyone Identify this HP-41 Overlay?

*Message #13 Posted by **Martin Pinckney** on 22 Mar 2011, 9:10 a.m.,*
in response to message #12 by db(martinez,ca)

db, thanks for this. I was trying to formulate a similar response. The many odd spelling "rules" really come from the richness of English because of it's borrowing.

A similar observation can be made about cuisine. I had often heard snobbish American world travelers sniff that American "Italian" cuisine was nothing like "real" Italian cuisine. But I once employed a woman who married an Italian in Germany and lived there many years running a restaurant. On a visit to the U.S., they had tried some "Italian" cuisine. His reaction was something like "Oh, yes, this is just like my grandmother used to cook!"

Re: Can anyone Identify this HP-41 Overlay?

*Message #14 Posted by **Cristian Arezzini** on 23 Mar 2011, 12:22 p.m.,*
in response to message #13 by Martin Pinckney

Hi Martin, Just to add to your "American Italian cuisine"... I'm Italian, and my wife is American (from NY), so I get to travel to the US a lot, and though I don't usually eat at Italian restaurants there, it has happened in the past. There is an Italian place I remember, in Tarrytown (Westchester), where I had the best tiramisu ever - I'm serious, I never had one as good in Italy. But then there were a lot of italian restaurants (especially in Manhattan) that served things I've never, ever seen here in Italy - and which don't even make much sense as far as I'm concerned! :)

Cristian

Re: Can anyone Identify this HP-41 Overlay?

*Message #15 Posted by **Etienne Victoria** on 21 Mar 2011, 10:25 a.m.,*
in response to message #1 by aj04062

It is THE very overlay that was used on an Hp-41C tall keys with 4 (four) memory modules to trigger the whole economic crisis we're still struggling with.

The keys "Stock", "Index", "Trading" and "System" were incorrectly used by an engineer to try recover the value of the HP stock that went down because of Hp inability to relaunch a proper Hp-15C.

The calculator was connected to the whole financial planet through the Hp-IL --> nutIP and this allowed this evil/uncompetent engineer to contaminate the stock markets with his ill-conceived transactions.

You know the rest of the nightmare...

A "panic button" called "GOLD" was added to the overlay to enable immediate return to the gold stallion which would have allowed a stabilization of the economy.

However, the engineer determined that the "GOLD" key was solely designed to test the Hp-41 gold plated internal strip connector.

Therefore the only key he pressed after understanding his high magnitude mistake was (obviously) "Run"

Adding insult to treachery, a large engineer-driven lobby -including some of the most senior members of this

forum- worked hard to put the blame on investors, bean-counters, marketing people ... and other TI renegates or even SWEKAs ("Simple Width Enter Key Apostates")

As one of the latter, I would like to thank you for allowing the pure simple truth to be established here.

No wonder, this overlay is difficult to identify.

Have a nice spring !

Etienne

Re: Can anyone Identify this HP-41 Overlay?

*Message #16 Posted by **Donald Williams** on 21 Mar 2011, 2:00 p.m.,*
in response to message #15 by Etienne Victoria

Etienne

Having been sworn to secrecy for many years I can finally divulge my knowledge of the events you portray. That renegade engineer finally repented and confessed to me shortly before his demise the facts concerning this catastrophe. May he rest in peace.

Of course the rumors about his activities have circulated for some time, and the details you have described are very accurate, but your dates are wrong. He ran his program in the late 1990's which caused the "dot com" bust. He acknowledged his participation in the 90's and accepted responsibility for the consequences, but he was bitter about the accusation that he caused the 2008 recession. He rightly reasoned that HPIL was just too slow to cause the 2008 recession. Having a penchant for calculator trading systems he was able to do some forensic investigations following the economic meltdown and this is his account of how the 2008 recession came about.

It was done on a TI BA II Plus.

It seems a summer Intern was hired by Wall Street executives to calculate the year end bonus. He was given a BA II Plus calculator to aid in his work. Details are sketchy, but the engineer in question deduced that the intern failed to include a complete set of parenthesis in the complicated formula. He also believed that half way through the task the keyboard had intermittent failures. In any case, instead of receiving bonuses the new calculations indicated the traders and brokers owed the calculated values. The faulty calculation results were posted on Face book for only about 5 minutes but the page received a million hits before it could be taken down. The traders and brokers, well aware of their past treachery, naturally assumed they had been finally caught, and behaved accordingly. Before the end of that day the real estate market was glutted with mansions and summer homes which precipitated the housing meltdown.

The rest of course is history. I believe he was telling the truth.

Re: Can anyone Identify this HP-41 Overlay?

*Message #17 Posted by **Martin Pinckney** on 21 Mar 2011, 2:35 p.m.,*
in response to message #16 by Donald Williams

This is all very speculative, if you will pardon the expression. So far no one has offered an explanation of the labeling below the [3] key.

Does it describe what happened on the banks? The behavior of the traders?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New hp-01 in the making?

*Message #1 Posted by **PeterP** on 20 Mar 2011, 9:23 a.m.*

Nyt article on metawatch from hp

Re: New hp-01 in the making?

*Message #2 Posted by **Allen** on 20 Mar 2011, 2:16 p.m.,*
in response to message #1 by PeterP

May I summarize FOSSIL's idea in one word: STUPID!

I will rely on conservation of energy to explain why I feel this is a boondoggle. Of all the tablets/phones/ect.. devices I use, why pick the **smallest** one to act as a radio-repeater?? It has the smallest battery, the most disadvantaged antenna, and although it's further from center-of-mass, the user's arm in the near-field all day (that is the 20% of the time it's not being charged).

There is a reason Crocodile Dundee didn't pull out a multi-function swiss army knife when he said THIS IS A KNIFE! You wouldn't look for a computer that makes cookies or a document scanner/lawn mower, either?

High-end wristwatches, and before them pocket watches are not problems looking for a solution - they are fashion accessories who are most prized when they do the two things they do best- look nice and tell time - without the hassle of charging batteries, updating OS's or resetting.

Re: New hp-01 in the making?

*Message #3 Posted by **Thomas Radtke** on 20 Mar 2011, 3:10 p.m.,*
in response to message #2 by Allen

> Quote:
>
> [...] they are fashion accessories who are most prized when they do the two things they do best- look nice and tell time - without the hassle of charging batteries, updating OS's or resetting.

Of course, the new 'watches' will have an automatic movement ;-).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Yet another pocket RPL idea...

*Message #1 Posted by **bhtooefr** on 19 Mar 2011, 6:45 p.m.*

So, I'm thinking about how a pocket RPL calculator could be done. (While I don't really do programming on my 50g, I do like using an RPL calculator. And not just because of the infinite stack. I just wish the thing were smaller.)

The basic idea would be a hybrid between the 28C/S capabilties, the 48S/SX/G/G+/GX keyboard, and something like a 42S or even smaller form factor.

(This thing, I know HP wouldn't ever produce it. However, who says someone else can't? There's enough public documentation out there that it's likely possible to make something that's compatible with user and potentially even system RPL, without infringing on HP's intellectual property.)

So, the first thing is... make keys smaller, and go back to a 4-line display. With modern technology, this'll make a nice small handheld. I actually like the keys on my BB Curve 9300 a lot, for tactility, so something like that (but bigger, preferably) would work nicely.

As for keyboard layout, a few changes that could be made:

1. Menu disable button. On a 4 line display, this is EXTREMELY useful for viewing more stack.
2. Move the arrow keys up into the softkeys, and they're functional whenever the menus are disabled. This is how the 28C/S do it.
3. If possible, remove a row of keys, merging all of their functions with the remaining keys, and moving keys into a logical layout. This'll allow keys to be a little larger, or reduce the form factor further. It'll also be only one row more than the 42S and other calculators that are known to do it.
4. If you do 3, then you might have to move Alpha keys around. Potentially a 42S-like solution as an OPTION (not necessarily a default, or maybe a mode that uses both - when hitting Alpha, you get the alpha menu and the alpha keys work as well, and hitting an alpha key gives you 48/49/50-like behavior and the alpha menu goes away, whereas using the alpha menu gives you 42S-like behavior) would work, too.

Hardware... use an ARM7 microcontroller that has a built-in LCD controller, and you're good to go, CPU-wise. LiIon battery would be nice, with USB charging and data, but a couple button cells would probably work, too. (And, you could underclock it significantly to save power - if you're doing a re-implementation of RPL, rather than using HP's actual firmware, you don't have the emulation overhead that the HP calculators have.)

Theoretically, I'd think this thing could be in the 35s pricing ballpark, maybe a little more, if you didn't have to worry about cannibalizing 48gII and 50g sales.

So, anyone interested in making this happen? (For that matter, that includes HP.) Unfortunately, I don't have the skills to make it happen, just some ideas for something I'd like to see.

Re: Yet another pocket RPL idea...

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 20 Mar 2011, 10:53 a.m.,*
in response to message #1 by bhtooefr

For me, the [iPod Touch + Free42] combination provides a current, supported, pocketable (and eventually replaceable) RPN calculator that I use everyday without carrying and risking my physical HP42S. There are many emulators for different calculators on the Apple iOS platform, including at least two for the HP48; some of them are free or have a more than acceptable price tag. There are some for Android OS too. BTW, I also run Free42 in my cellphone, but it doesn't look or feels as good as on the iPod Touch 4G. I know Blackberry has an application development environment, perhaps you may find a suitable emulator for your BB.

Re: Yet another pocket RPL idea...

*Message #3 Posted by **bhtooefr** on 20 Mar 2011, 11:35 a.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

The BB is actually my work phone, my personal phone is (currently) a WinMo 6.5 phone, and I have Emu48 on that.

I prefer real calculator buttons when I'm calculating, though.

Re: Yet another pocket RPL idea...

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Mar 2011, 11:14 a.m.,*
in response to message #3 by bhtooefr

I prefer physical keys too, but I'm getting used to the iPod (4 Gen) touchscreen and display resolution.

Re: Yet another pocket RPL idea...

*Message #5 Posted by **John B. Smitherman** on 20 Mar 2011, 11:37 a.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

Hi Andres. I agree with you that iPod Touch + Free42 is a good solution. I also enjoy using GO-21 which emulates an HP 21 on the iPod Touch, iPhone and iPad. GO-21

Regards,

John

Re: Yet another pocket RPL idea...

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Mar 2011, 11:12 a.m.,*
in response to message #5 by John B. Smitherman

Hi John!,

Well, I have some 10+ emulators on the iPod, but Free42 (or 42S) is the one I use the most. Of course, I would like to have physical keys or, at least, some kind of vibration as feedback (as my Android-based cellphone has); but it's rather useable. Best regards.

Re: Yet another pocket RPL idea...

*Message #7 Posted by **Oliver Unter Ecker** on 20 Mar 2011, 11:34 p.m.,*
in response to message #1 by bhtooefr

Your "hybrid between 28 and 48" is exactly what ND1 is, so your post certainly stroke a chord with me. Check out the link in my other "RPL kid" post, and see what keypad decisions were made.

The project you're proposing would be very sweet. I don't think HP would go for it, though, because, if they

went through the trouble of starting a new generation, they'd want it to scale. At the top of the line needed to be something that's more powerful than a 50g, and creating that (from scratch; required to make true progress) is, I think, a big challenge.

I wouldn't be surprised if someone discovered that the market for such an RPL thing is not worth it. RPL is aging, and not many users seem to be interested in programming these days.

Plus, like it not, it's really an app-world now.

Re: Yet another pocket RPL idea...

*Message #8 Posted by **bhtooefr** on 21 Mar 2011, 6:33 a.m.,*
in response to message #7 by Oliver Unter Ecker

Huh. I see advantages and disadvantages to ND1's approach, but it looks quite impressive. (And, an Android version coming up? Sounds like, when I replace the WinMo pile of garbage with something Android-based, I'll have this up front and center on my home screen.) And, I don't even care about the CAS, so this is perfect. (Honestly, I use my 50g like a 4-banger with an infinite stack, and seamless unit conversion, most of the time.)

I still like real buttons, though... but, the fact that you've reimplemented RPL from scratch means that it's definitely within the realm of possibility, given enough time and resources.

Re: Yet another pocket RPL idea...

*Message #9 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 8:00 a.m.,*
in response to message #8 by bhtooefr

I like real buttons, too. Especially for number keys and basic operators.

But for writing code (RPL or JavaScript), I tell you that I quickly (within a day) much preferred a QWERTY soft-keyboard over small/crammed physical keys. It works even better than on the Kindle, for example, which has a pretty generous keyboard.

Being able to scroll through code and position the cursor at a touch of the finger, is so much better than fiddling with cursor keys.

As for unit conversions. Unit support is about the last thing that's still on HP-28S level. There'll soon be a Units object that will permit you to enter "5cm" and then simply touch the unit badge next to the object (looking like the Color, BigNum, or Chem objects in the doc) and choose from a list of applicable unit conversions.

Re: Yet another pocket RPL idea...

*Message #10 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 8:10 a.m.,*
in response to message #8 by bhtooefr

> but, the fact that you've reimplemented RPL from scratch means that it's definitely within the realm of possibility, given enough time and resources.

Yes. Using the JavaScript approach. I'm a C++ guy, but I swear this would not have been pretty using another approach.

If I were in the hardware business, I'd put my software on a minimal 4 inch EInk minimal Webkit-browser-machine (running some kind of embedded Linux), with a ~15c form factor (maybe just a little

larger). Touch-screen would be very nice, but wouldn't be a must (depending on cost). A color display is pretty useless in a calculator. (Even though ND1 has a Color type...) A screen that can be used outside and sips battery would be so much nicer. A device like this could go a month on a charge.

Edited: 21 Mar 2011, 8:13 a.m.

Re: Yet another pocket RPL idea...

*Message #11 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 8:56 a.m.,*
in response to message #10 by Oliver Unter Ecker

Oh. And it has to have Wi-Fi.

I think what has largely obsoleted the high-end calculator (outside the education niche market), is that it's been, so far, an island.

Have a powerful code-compatible desktop system and let the calculator be the faithful, mobile companion (with one-button, one-second data exchange between the two; like in ND1 today), and you have, in my mind, a new reason for a high-end calculator.

Sell it for $79 (w/ EInk display and physical keys), and everyone will want one.

Make incremental money with selling specialized code libraries, and create a little app-store for 3rd parties to participate. A platform cannot be successful in isolation. (Even if it's from HP.)

There's nothing wrong with keeping RPL, btw. It's lovely to script JavaScript...

Edited: 21 Mar 2011, 9:01 a.m.

Re: Yet another pocket RPL idea...

*Message #12 Posted by **bhtooefr** on 21 Mar 2011, 8:59 a.m.,*
in response to message #10 by Oliver Unter Ecker

Hmm, maybe the best option would be something that combines the modern slider smartphone form factor with some 28 ideas, then, and doing things a bit in reverse.

Have a portrait form factor calculator with the most commonly used functions on the keypad, and a 320x240 display or so. Except it's not really 320x240... slide the keypad off to the side, and it becomes 320x640, with the 320x400 area that's been exposed as a secondary keypad that customizes itself for whatever operation is currently being performed.

Another way I've thought of is to just rip the 28 off, with a slider to hide the alpha keys when in normal operation.

And, there's also going for a ClassPad/Xpander-like approach, where there's a decent-sized touchscreen and a very simple dedicated keypad for number/primary operation entry.

Re: Yet another pocket RPL idea...

*Message #13 Posted by **Oliver Unter Ecker** on 21 Mar 2011, 9:45 a.m.,*
in response to message #12 by bhtooefr

Your slider ideas sound lovely. Though purists (and many HP followers are; and we're talking RPL (an HP thing), here) may not go for it, on account of the potential flimsiness aspect.

But I think you cannot ignore the reality of price.

If it's a dedicated calculator it will sell in much lower quantities than a generic slider-phone. What you're describing sounds more like a mini-tablet, actually. If you need the calculator to be at most half the price of a fully-fleshed small tablet (which may come down to $250 sometime this year; already there's a glut of Android <2.2 devices with capacitive touchscreens (which suck), that you can pick up for $130-160), I fear you cannot afford that kind of hardware.

If I were HP, I'd try to build this with as little HW mods as possible to the existing range. Just a different screen and different keys. Optionally, a low-res touch layer could provide support for soft-menus and soft-keys. (And serve to bring the key count down and give space to the larger screen.)

All just idle dreams, of course. I see no-one but HP actually pulling off building such a new high-end calc.

(Regardless of RPL being a subject here or not, I'm not counting in TI, because they've already chosen their approach: a clunky brick for education, that will probably not be treasured 20 years from now...)

Re: Yet another pocket RPL idea...

*Message #14 Posted by **bhtooefr** on 21 Mar 2011, 7:38 p.m.,*
in response to message #13 by Oliver Unter Ecker

I was going more for something like the HP Xpander, the Casio ClassPad, or the TI PLT, although a smaller form factor.

Being a dedicated calculator, it could get away with a lower-cost (or, more calculator-suited - e-ink would be AWESOME on a calculator) display, with resistive touch instead of capacitive.

Still, soft-keys like the 28/48/49/50 line and the 42S can work well, too, to help reduce cost.

Re: Yet another pocket RPL idea...

*Message #15 Posted by **Oliver Unter Ecker** on 23 Mar 2011, 10:10 a.m.,*
in response to message #14 by bhtooefr

Thanks for those links, bhtooefr.
I had heard of the first two, but never seen them.

Boy, they're ugly. (The new nspire cx, in contrast, looks like 300% overkill to me (though I get the point about its use in education), but very spiffy/good-looking.)

I hadn't thought about this too much, but I come to realize that my personal preference (and I realize it may be way off from what other people want), is pocketability. That is, not much larger than an iPod touch. And about that thick! (That is, very thin.)

Anything larger, you lose pocketability and may just as well make the jump to a tablet.

Continuing to dream, that leaves two options:
- No keys, but a big touchscreen. Something like an iPod touch, with color display swapped for an EInk display. (And 1 GB flash shall be ok...)
- Half and half: 320x240 touch display with equally-sized bottom area for basic physical

keys. Soft-menus, on-screen soft-keys.

I bet this sounds very unattractive for any company to build.
An iPod touch with a slow EInk display?! What the!

The "only" advantages over a smart device (iOS, Android, whatever) would be a lasting battery and a display that displays while it's off (I absolutely love that part on the Kindle...).

Back to reality, I did a search for the smallest e-reader. 5" is actually the smallest (Pearl) display that EInk currently produces (though they'd manufacture anything if you're buying enough units, I'm sure). They're ugly as hell. One is nice and has a touchscreen: The Sony Reader Pocket Edition.

An RPL calculator on that would be nice, IMHO. (Though I'd still prefer smaller.)

Edited: 23 Mar 2011, 10:17 a.m.

Re: Yet another pocket RPL idea...

*Message #16 Posted by **bhtooefr** on 23 Mar 2011, 12:30 p.m.,*
in response to message #15 by Oliver Unter Ecker

Yeah, I'd want pocketability, too - but that basic idea, just smaller, would be interesting to see, I think.

And, let's face it, a 50g is ugly with its array of buttons, if you're using that definition of ugly.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: Help with Logic Dart AC adapter

*Message #1 Posted by **Donald Williams** on 18 Mar 2011, 9:54 p.m.*

I think there may be a few forum members who have access to the HP LogicDart logic probe instrument. I have one which I have recently been using extensively. I would like to ditch the battery mode of operation and go to an AC adapter. Apparently I have put my AC adapter (9100-5557)in such a safe location, that now I cannot find it. The LogicDart owners manual has no description or spec for the AC adapter. On the rear of the unit it states 12V at 0.1 amp , which seems quite reasonable. There is no mention of AC or DC. It is the diagram of the contacts that bothers me. This drawing indicates the center pin as a negative contact and the outer shell as the positive contact, which at least suggests a -12V DC supply which is not a conventional approach but possible. That is not something that I would expect.

I just don't want to connect -12V DC to the unit and accidentally damage the instrument. As far as I can determine HP never released a service manual for this device, therefore I do not know if it is reverse polarity protected. I suppose it is even possible that the device needs 12V AC. I just don't have enough information.

Does anyone on the forum have that AC adapter that they could measure and confirm the contact polarity? Does anyone have a LogicDart with that same diagram on the top rear?

Any information that anyone can provide is really appreciated.

Re: OT: Help with Logic Dart AC adapter

*Message #2 Posted by **Eric Smith** on 19 Mar 2011, 12:02 a.m.,*
in response to message #1 by Donald Williams

I'm looking at a 9100-5557 right now. It is marked 12V DC 150 mA, tip (center) negative, ring (sleeve) positive.

The applied voltage isn't positive or negative; that has no meaning without a common reference. In other words, you don't have to find a -12VDC supply, as a +12VDC supply will work perfectly well. The requirement is simply that the tip be at a 12V lower potential than the ring. 0V tip and +12V ring would work fine, or -12V tip and 0V ring, or -6V tip and +6V ring.

Of course, this supply should be electrically isolated from the circuit you're testing with the LogicDart; with a wall wart this will generally be the case.

Re: OT: Help with Logic Dart AC adapter

*Message #3 Posted by **Donald Williams** on 19 Mar 2011, 12:33 a.m.,*
in response to message #2 by Eric Smith

Eric

Thanks very much for the info. You have confirmed the diagram.

I understand, that of course, everything is relative to the reference, but I thought it odd that the center pin

would be the reference. That is a little unconventional in my experience, but no reason why it should not work.

Now I can strap it to a bench supply and leave it running full time. I was getting annoyed by the automatic turn off after 5 minutes. I cancelled the turn off in system settings and of course 2 nights in a row forgot to tun it off manually. Now I can quit wasting batteries and just run it off a bench supply.

The information available from the members of this forum, once again, proves invaluable.

Thanks.

Re: OT: Help with Logic Dart AC adapter

*Message #4 Posted by **Eric Smith** on 19 Mar 2011, 5:40 a.m.,*
in response to message #3 by Donald Williams

I wish the LogicDart had been more commercially successful, so that I could buy the new Agilent LogicDart II now.

Re: OT: Help with Logic Dart AC adapter

*Message #5 Posted by **Donald Williams** on 19 Mar 2011, 10:20 a.m.,*
in response to message #4 by Eric Smith

Agreed. It is one of the handiest little gadgets I have ever owned. It would have been great to see it evolve over time. Somehow I got the impression it was not developed in house. I was always interested in the design of the unit but could never locate any schematics. I think that the $800.00 initial price was what killed it. At about half that it would have been wildly successful.

Re: OT: Help with Logic Dart AC adapter

*Message #6 Posted by **Eric Smith** on 19 Mar 2011, 4:16 p.m.,*
in response to message #5 by Donald Williams

Actually it was developed in-house at HP, and some of the people involved were from the calculator division. Eric Vogel of HP gave a presentation to the Philadelphia club on June 5, 1997. Jake Schwartz has information and photos here.

Re: OT: Help with Logic Dart AC adapter

*Message #7 Posted by **Donald Williams** on 19 Mar 2011, 9:53 p.m.,*
in response to message #6 by Eric Smith

Interesting| My assumption was based on the lack of documentation. Usually HP eventually releases documentation after an instrument became obsolete and the warranty period expired. Not so with this instrument. I just assumed they didn't possess the doc's. If they exist, I cannot find them. I may try to get that video.

Re: OT: Help with Logic Dart AC adapter

*Message #8 Posted by **Eric Smith** on 19 Mar 2011, 10:22 p.m.,*
in response to message #7 by Donald Williams

In the 1990s HP moved toward keeping the innards of some test instruments secret, as had been done from the outset with calculators.

Re: OT: Help with Logic Dart AC adapter

*Message #9 Posted by **hpnut** on 19 Mar 2011, 6:32 a.m.,*
in response to message #1 by Donald Williams

Hi Donald,

I am not sure if the Agilent page Logic Dart User's Guide can help you.

http://www.home.agilent.com/agilent/facet.jspx?cc=MY&lc=eng&k=logic+dart&sm=g

hpnut in Malaysia

Re: OT: Help with Logic Dart AC adapter

*Message #10 Posted by **Donald Williams** on 19 Mar 2011, 10:22 a.m.,*
in response to message #9 by hpnut

Thanks for the info. I do have the manual but the manual gives no details on the AC adapter. Eric has provided the details I need so all is good.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Chip-Level Question

*Message #1 Posted by **Jeff** on 18 Mar 2011, 11:18 a.m.*

I was wondering how HP calculators arrive at answers. With a PC, of course, it uses the ALU part of the CPU. But how about calculators? Is it software embedded in ROM?

What about simple 4-function units?

Thanks.

Re: Chip-Level Question

*Message #2 Posted by **Eric Smith** on 18 Mar 2011, 3:53 p.m.,*
in response to message #1 by Jeff

Most calculators have software in ROM, often called "firmware". In the early days HP and TI firmware was referred to as "microcode".

Some of the early four-function calculators were hardwired rather than using a processor, but that went out of style quickly once it became relatively easy and inexpensive to use a processor.

In the past most calculator processors were four-bit, with HPs use of a 56-bit word being a notable exception. AFAICT, most calculators now use 8-bit processors, with high-end calculators using 16-bit or 32-bit processors.

Re: Chip-Level Question

*Message #3 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 4:06 p.m.,*
in response to message #2 by Eric Smith

The newer ARM based HPs (12C, 20b, 30b) use a 32 bit core. The "processor" is in fact an all in one solution with all necessary functionality on one chip, including memory.

TI introduced this technology in the early days of the TI-30, the LED model. A single chip, bonded directly to the board which carried the LED bar on its back, contained the complete calculator. The functionality has of course vastly increased over the years. We can assume that the chip contains a processor and its firmware but you can't tell from the outside.

Re: Chip-Level Question

*Message #4 Posted by **Eric Smith** on 18 Mar 2011, 4:25 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Actually the single-chip calculator predates the TI-30 by almost five years (September 1971, vs. June 1976).

Re: Chip-Level Question

*Message #5 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 4:39 p.m.,*
in response to message #4 by Eric Smith

At the age of 12, my interest in calculator electronics hadn't sufficiently developed to recognize this. ;)

Re: Chip-Level Question

*Message #6 Posted by **Mike Morrow** on 19 Mar 2011, 1:48 a.m.,*
in response to message #4 by Eric Smith

Joerg Woerner's interesting TMS-0102 webpage gives some details of the early one-chip design (minus display drivers) that was in many four-function machines of 40 years ago. Including my first, the Bomar 901B that cost me the 2011 equivalent of $700.

Re: Chip-Level Question

*Message #7 Posted by **Joerg Woerner** on 19 Mar 2011, 9:43 a.m.,*
in response to message #4 by Eric Smith

How "single" is single-chip???

The TI-30 included the display drivers while the TMS1802 (1971) needed four additional integrated circuits to drive the LED's.

The TMS08** (1974) needed one display driver and the TMS9** (1975) was the first "single-chip" solution from TI. Think TI-1200!

Regards, Joerg

Re: Chip-Level Question

*Message #8 Posted by **Eric Smith** on 19 Mar 2011, 4:29 p.m.,*
in response to message #7 by Joerg Woerner

I seem to recall that there were single-chip calculators using the Mostek MK6010 by mid-1971. However, they did use some discrete transistors as well.

Re: Chip-Level Question

*Message #9 Posted by **Frank Boehm / Germany** on 18 Mar 2011, 7:00 p.m.,*
in response to message #3 by Marcus von Cube, Germany

The bonded die has been used by National Semiconductor as early as 1975 (Novus 650).
Novus 650
(Even if the page states 1976, the date code 540 aka 7540 is clearly visible.)

Re: Chip-Level Question

*Message #10 Posted by **Joerg Woerner** on 19 Mar 2011, 9:53 a.m.,*
in response to message #9 by Frank Boehm / Germany

Two chips below the blob ;-))

Joerg

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

WP-34s Demostration

*Message #1 Posted by **Paul Dale** on 18 Mar 2011, 6:39 a.m.*

It is my pleasure to announce that a proper *demonstration version* of the current **WP-34s** scientific firmware for the HP-20b & HP-30b calculators is now available.

The Source Forge page has the demo software in the files section.

Download *wp34s.zip* and run *wp34sgui.exe* after unpacking. Non-Windows users can run the demonstration using Wine or a virtual PC.

Enjoy & please give us some feedback.

- Pauli

Re: WP-34s Demonstration

*Message #2 Posted by **Walter B** on 18 Mar 2011, 7:16 a.m.,*
in response to message #1 by Paul Dale

... and since our worldwide service team is awake 24/7, we can promise fast reaction times.

Enjoy!

Walter

Re: WP-34s Demostration

*Message #3 Posted by **Thomas Radtke** on 18 Mar 2011, 8:12 a.m.,*
in response to message #1 by Paul Dale

Very nice:-).

No fractions yet?

When will the production of re-programmed and re-labeled calculators start? ;-)

Re: WP-34s Demostration

*Message #4 Posted by **gene wright** on 18 Mar 2011, 8:24 a.m.,*
in response to message #3 by Thomas Radtke

Now that's an emulator! Good job. Much easier to use and try out.

I predict progress will increase a great deal!

Good job!

Re: WP-34s Demostration

*Message #5 Posted by **Walter B** on 18 Mar 2011, 8:28 a.m.,*
in response to message #3 by Thomas Radtke

Hallo Thomas,

> Quote:
>
> No fractions yet?

Please enter one of the two available fraction modes via f- or g-shifted top right key. Enjoy!

> Quote:
>
> When will the production of re-programmed and re-labeled calculators start?

As soon as we succeeded porting the code to the real thing. This will not be next week ... d;-)

Re: WP-34s Demostration

*Message #6 Posted by **Thomas Radtke** on 18 Mar 2011, 8:46 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> Please enter one of the two available fraction modes via f- or g-shifted top right key. Enjoy!

Ah, thanks! What was the reason to not just invoke any of the modes by just entering a number with two radices?

> Quote:
>
> As soon as we succeeded porting the code to the real thing. This will not be next week ... d;-)

So there's a chance for the 28th of March 2011! :-D

Re: WP-34s Demostration

*Message #7 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 8:52 a.m.,*
in response to message #6 by Thomas Radtke

Thomas, read my answer to svisvanatha!

Automatic mode switching is not after everybody's taste. We're currently discussing this in more than one area. The emulator has already helped a lot in streamlining the user interface, more than the console emulator could ever provide.

Is anybody here who might want to take care of the hardware side of things? Creating a keyboard overlay end adhesive key labels in a small production run would be a tremendous help.

Re: WP-34s Demostration

*Message #8 Posted by **Paul Dale** on 22 Mar 2011, 7:54 a.m.,*
in response to message #6 by Thomas Radtke

Thomas wrote:

> Quote:
>
> What was the reason to not just invoke any of the modes by just entering a number with two radices?

We now support this :-)

- Pauli

Re: WP-34s Demostration

*Message #9 Posted by **Thomas Radtke** on 22 Mar 2011, 1:51 p.m.,*
in response to message #8 by Paul Dale

Great!

I should start looking for a cable to get the software on my 20b when it's finished :-).

Re: WP-34s Demostration

*Message #10 Posted by **Marcus von Cube, Germany** on 22 Mar 2011, 2:14 p.m.,*
in response to message #9 by Thomas Radtke

> Quote:
>
> Great!
>
> I should start looking for a cable to get the software on my 20b when it's finished :-).

Thomas, I have a spare. Tim is sending them out in pairs. Are you far from the Rhein/Main area?

Don't hold your breath for the firmware. I'm off for a week, suspending development slightly.

Re: WP-34s Demostration

*Message #11 Posted by **Thomas Radtke** on 22 Mar 2011, 4:13 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> Quote:
>
> Thomas, I have a spare. Tim is sending them out in pairs. Are you far from the Rhein/Main area?

Unfortunately yes. Being currently in Emsland, I'm far away from *everything* ;-).

Would you mind send it by mail? Of course, I'll refund p&p.

Re: WP-34s Demostration

*Message #12 Posted by **svisvanatha** on 18 Mar 2011, 8:31 a.m.,*
in response to message #1 by Paul Dale

Exciting! Much easier to use than the one I used a month ago from the Linux command line!

Can you give us an idea of the challenges you now face in porting to the hardware?

Many thanks!

Re: WP-34s Demostration

*Message #13 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 8:46 a.m.,*
in response to message #12 by svisvanatha

Some of the challenges:

Cyrille's SDK and the wp34s software are a very close mismatch. ;) I had a lot of fun mating the GUI emulator and Paul's sources to the version you can use now.

We plan to use Eclipse and the Yagarto gcc tool chain which is free, instead of the IAR compiler which would cost more than 1400 Euros. I've already spent more than 500 Euros for the professional edition of Visual Studio and another 80 Euros for a JTAG adapter for my 20b. I have no plans to stretch the budget further. The SDK is written for IAR. You can imagine the work ahead.

I've never written any code for an ARM core, so some getting used to has to be taken into account.

Re: WP-34s Demostration

*Message #14 Posted by **Gerson W. Barbosa** on 18 Mar 2011, 8:48 a.m.,*
in response to message #1 by Paul Dale

Very nice!

Here is the WP-34s version for dartboard pi, without reading the manual for an optimization:

```
001 LBL B
002 STO 00
003 CLx
004 STO 01
005 STO 02
006 LBL 00
007 RAN#
008 x^2
009 RAN#
010 x^2
011 +
012 1
013 x>? Y
014 STO+ 02
015 STO+ 01
016 DSE 00
017 GTO 00
018 4
019 RCL* 02
020 RCL/ 01
021 RTN
```

```
 1,000,000 XEQ B  ->  3.141268

10,000,000 XEQ B  ->  3.1412384 (2 min 27 s @ 1.86 GHz)
```

What is the expected running time for 1,000 loops on hardware?

Ceterum censeo WP-34s esse faciendum. Audis HP? :-)

Gerson.

Re: WP-34s Demostration

*Message #15 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 8:55 a.m.,*
in response to message #14 by Gerson W. Barbosa

We will certainly have to optimize for code size, not for speed. The maximum useful operating frequency of the Atmel ARM chip is something around 40 MHz. So you can extrapolate. Remember, that little thingy works on two lithium cells, not a 300 Watts power supply. ;)

Re: WP-34s Demostration

*Message #16 Posted by **Walter B** on 18 Mar 2011, 9:04 a.m.,*
in response to message #14 by Gerson W. Barbosa

Olá Gerson,

> Quote:
>
> ```
>  1,000,000 XEQ B  ->  3.141268
>
> 10,000,000 XEQ B  ->  3.1412384 (2 min 27 s @ 1.86 GHz)
> ```

You may save keystrokes by simply pressing B instead of XEQ B.

> Quote:
>
> *Ceterum censeo WP-34s esse faciendum. Audis HP?* :-)

Tibi gratia!

Walter

Edited: 18 Mar 2011, 9:20 a.m.

Re: WP-34s Demostration

*Message #17 Posted by **Gerson W. Barbosa** on 18 Mar 2011, 11:33 a.m.,*
in response to message #16 by Walter B

Ave Walter!

> Quote:

> You may save keystrokes by simply pressing B instead of XEQ B.

I should have known better. Looks like I've been using the 33s too much lately :-)

Gerson.

Re: WP-34s Demostration

*Message #18 Posted by **Paul Dale** on 18 Mar 2011, 9:14 a.m.,*
in response to message #14 by Gerson W. Barbosa

Having trouble sleeping....

This is a slightly more optimised version:

```
001 LBL B
002 STO 00
003 STO 01
004 CLx
005 STO 02
006 RAN#
007 x^2
008 RAN#
009 x^2
010 +
011 x<=1?
012 INC 02
013 DSE 00
014 BACK 08
015 4
016 RCL* 02
017 RCL/ 01
018 RTN
```

It highlights a few of the new features. Register increment (and decrement) without a skip; conditional tests again 1 (we've also conditional tests of X versus any register not just Y) and a fast backwards jump (which is well hidden :-)

The zip file contains the start of a software library for the device. Included are versions of the solve, integrate, summation and product builtins (which are implemented as keystroke programs). Additionally:

A generalised Fibonacci function value for any real input (integers generate the Fibonacci numbers.

The eight queens benchmark, slightly optimised.

And a prime number sieve that doesn't use any non-stack registers and leaves its results in the flags (a chance to use STATUS :-)

- Pauli

Re: WP-34s Demostration

*Message #19 Posted by **Dieter** on 18 Mar 2011, 10:53 a.m.,*
in response to message #1 by Paul Dale

Great! And it also shows that a black 30s looks much better than the existing silver one. ;-)

After all the positive feedback I hope you forgive me if I mention some problems I had with the emulator.

The first thing I tried was the normal distribution (sorely missed on most other calculators). It looks like the 34s cannot handle values in the far tails: For x < -10 the results first get less precise, then everything beyond x

= -13.3 simply returns zero. There are similar issues with the inverse function: the problems start somewhere beyond 1E-30, and finally everything less than about 1E-45 returns the same result -12,41...

Then, complex logs do not work for negative numbers without imaginary part. For instance, 0 ENTER -1 CPX LN throws an error, while 1E-99 ENTER -1 CPX LN returns 0 + Pi i as expected. Bug or feature?

At the first look I thought LOGy would give wrong results as it returns the reciprocal of the correct answer. While 1024 LB works fine and returns 10 as expected, 2 ENTER 1024 LOGy returns 0.1. Then I realized: Hey! That's exactly the way I suggested some time ago! In other words, the function now evaluates LOGxY, the base-x log of Y! Great! However, the key label and the manual have to be adjusted: it's LOGxY now, and not LOGy as originally intended.

I also noticed that the clipboard copy functions do not work (copy number, copy screen). However, "paste number" works fine. Can someone confirm this?

Dieter

Re: WP-34s Demostration

*Message #20 Posted by **Walter B** on 18 Mar 2011, 11:20 a.m.,*
in response to message #19 by Dieter

Hallo Dieter,

Copy Screen works flawlessly here (Windows 7). Can you tell something more about it?

I'll check your other points soon.

Walter

Addendum 1: Your observation concerning LOGy is correct. Point 2 on the bug list :-)

Addendum 2: Regarding the Gaussian distribution, the 21S is my handy benchmark (it just calculates the error probability, while we integrate from minus infinity as we were taught in math): According to my quick check, the results of the 21S are well equal to those of the 34s within |z| < 12. Personally, I don't care too much about probabilities below 1E-30, but YMMV.

Addendum 3: Concerning complex logs, you're right. This looks like point 3 on the bug list, and I have to pass it to Pauli - it's too long ago I was fond in this.

Edited: 18 Mar 2011, 12:06 p.m.

Re: WP-34s Demostration

*Message #21 Posted by **Dieter** on 18 Mar 2011, 12:27 p.m.,*
in response to message #20 by Walter B

Hallo, Walter -

> Quote:
>
> *Addendum 1:* Your observation concerning LOGy is correct. Point 2 on the bug list :-)

I assume you refer to the key label and the manual that have to be corrected. :-)

Quote:

> *Addendum 2:* Regarding the Gaussian distribution, the 21S is my handy benchmark (it just calculates the error probability, while we integrate from minus infinity as we were taught in math): According to my quick check, the results of the 21S are well equal to those of the 34s within |z| < 12. Personally, I don't care too much about probabilities below 1E-30, but YMMV.

Others do not care about angles between 89.9 and 90 degrees, or 12 to 16 places of Pi, but this certainly is no reason why incorrect results are acceptable. Look, this is a scientific calculator. In such a device, the least thing I expect are correct results over the whole working range. For daily use my 35s holds a normal distribution program that, of course, accepts p = 1E-499 and returns z = -47.8372821357. BTW within two seconds, which in some cases is faster than the emulator on a 1,8 GHz machine. ;-) Of course events with such a low probabilty virtually "do not happen at all", but that does not mean such values are meaningsless. A calculator is a "math tool", and it should give mathmatically correct answers. Not interpretations like "a very small number without practical meaning".

If the algorithm really is not able to handle values beyond |z| = 12 or p < 1E-40 it *has to* return an error message, and this restriction has to be documented in the manual.

But, honestly, I would expect the 34s to work like any other HP, TI, Casio, whatever calculator: simply return the correct answer. Am I asking for too much?

Dieter

Re: WP-34s Demostration

*Message #22 Posted by **Walter B** on 18 Mar 2011, 12:49 p.m.,*
in response to message #21 by Dieter

Hallo Dieter,

point well taken - we'll look into it. It was just an attempt ... ;-)

Walter

Re: WP-34s Demostration

*Message #23 Posted by **Dieter** on 18 Mar 2011, 4:04 p.m.,*
in response to message #22 by Walter B

I now would like to know a bit about the working range of the 34s. Obviously it can handle values below 10^{385}. So it makes sense that the calculator does not accept exponents greater than this - an attempt to key in "E385" simply cancels the leading 3.

At the other end of the working range I found a strange behaviour:

- 10^{-384} can not be entered as [E] [+/-] [3][8][4]. On the other hand [E] [3][8][4] [+/-] is possible.
- The calculator can handle even lower numbers down to about 10^{-398}, but with reduced accuracy. Try this: Fill the stack with 1/3, then enter 1E-380 and press the multiplication key several times. As the result drops below about 10^{-387} the number of significant digits decreases. Eventually the result is displayed as "0 $^{-398}$".

Now, what is the official working range of the "real" 30b Hardware? I searched its manual and was quite suprised I couldn't find a specific value. Also, does the hardware use BCD or binary arithmetics? The calculator seems to work with 16 (BCD?) digits while 12 digits are displayed. Compared to the HPs I know of, these four guard digits are not removed, so the user can make them visible if he wants to. Reminds me of the good old days when I used a TI58/59 now and then (10-digit display, three additional hidden digits). Or does the 30b (resp. 34s) handle numbers differently?

Dieter

Re: WP-34s Demostration

*Message #24 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 4:08 p.m.,*
in response to message #23 by Dieter

Wikipedia knows it: http://en.wikipedia.org/wiki/Decimal64_floating-point_format

Re: WP-34s Demostration

*Message #25 Posted by **Paul Dale** on 18 Mar 2011, 5:21 p.m.,*
in response to message #23 by Dieter

> Quote:
>
> The calculator can handle even lower numbers down to about 10^{-398}, but with reduced accuracy. Try this: Fill the stack with 1/3, then enter 1E-380 and press the multiplication key several times. As the result drops below about 10^{-387} the number of significant digits decreases. Eventually the result is displayed as "0 - 398"

You just discovered sub-normal numbers :-)

We support full IEEE-854 decimal arithmetic. This includes infinities, sub-normals and not numbers.

- Pauli

Re: WP-34s Demostration

*Message #26 Posted by **Walter B** on 18 Mar 2011, 6:25 p.m.,*
in response to message #20 by Walter B

Hallo Dieter, all,

1) the complex log bug you found is fixed now, 2) LOGy works as documented from now on (hopefully ;-)

Get the most recent build at sourceforge and enjoy!

Walter

Re: WP-34s Demostration

*Message #27 Posted by **Dieter** on 20 Mar 2011, 9:52 a.m.,*

in response to message #26 by Walter B

I haven't tried the latest version yet, but I hope you changed the documentation resp. the bitmap files and not the log-function. Else I would have to keep the first version. ;-)

Dieter

Re: WP-34s Demostration

*Message #28 Posted by **Marcus von Cube, Germany** on 20 Mar 2011, 4:02 p.m.,*
in response to message #27 by Dieter

```
10
ENTER
100
g log_Y
```

Result: 2

Is this what you wanted?

Re: WP-34s Demostration

*Message #29 Posted by **Gerson W. Barbosa** on 20 Mar 2011, 5:16 p.m.,*
in response to message #28 by Marcus von Cube, Germany

Marcus,

This may have already been discussed, but wouldn't LOG_x be more natural than LOG_y? Surely LOG_y is a useful instruction and should save a couple of steps in a program, but only one step if it has to be used together with $x<>y$, which may happen more often.

Gerson.

Re: WP-34s Demostration

*Message #30 Posted by **Dieter** on 20 Mar 2011, 5:26 p.m.,*
in response to message #29 by Gerson W. Barbosa

Exactly! I see I'm not the only one. ;-)

Dieter

Re: WP-34s Demostration

*Message #31 Posted by **Dieter** on 20 Mar 2011, 5:24 p.m.,*
in response to message #28 by Marcus von Cube, Germany

No, I'd prefer it just the other way round, i.e. LOGx of Y. IMHO that's far more useful. Think of something like $\log_3$sqrt(3*pi) - you would first calculate the square root and then the base-3 logarithm. [3] [Pi] * [SQRT] 3 [LOGxY]. Just the way you'd calculate a cube root by pressing 3 [XROOT] - I think HP knew why they did it that way. ;-) The way the log implemented on the 34s now requires an additional x<>y.

Dieter

Re: WP-34s Demostration

*Message #32 Posted by **Marcus von Cube, Germany** on 20 Mar 2011, 6:22 p.m.,*
in response to message #31 by Dieter

Walter and Pauli are the custodians of the keyboard and the functionality. They will certainly chine in here.

Re: WP-34s Demostration

*Message #33 Posted by **Paul Dale** on 20 Mar 2011, 11:09 p.m.,*
in response to message #32 by Marcus von Cube, Germany

This one was Walter's choice :) I don't much mind either way -- I'm forever doing x<>y before subtract and divide as it is.

- Pauli

Re: WP-34s Demonstration (general LOG)

*Message #34 Posted by **Walter B** on 21 Mar 2011, 2:03 a.m.,*
in response to message #33 by Paul Dale

So now you know who's to blame [;-)

How about starting a poll: As long as $\mathbf{y^x}$ is the general exponentiation, shall $\mathbf{LOG_y\ x}$ or $\mathbf{LOG_x\ y}$ be the general logarithm? RPN enthousiasts of all countries, vote!

Walter

Re: WP-34s Demonstration (general LOG)

*Message #35 Posted by **Paul Dale** on 21 Mar 2011, 2:52 a.m.,*
in response to message #34 by Walter B

We could implement both but we'd still need to favour one for the keyboard.

I did have both y^x and x^y in an early version but the latter was vetoed :-)

- Pauli

Re: WP-34s Demonstration (general LOG)

*Message #36 Posted by **Gerson W. Barbosa** on 22 Mar 2011, 8:53 a.m.,*
in response to message #35 by Paul Dale

The HP-35 is the only HP calculator that had x^y. According to the Museum, because it lacks 10^x. Whilst this allows the decimal logarithm to be computed using only three keystrokes, most of the times it will require an aditional x<>y for the much more common exponentiation operation.

Another reason why y^x is better than x^y is this nice keystroke sequence for the last Heegner number:

1 ENTER 2 ENTER 3 ENTER 4 y^x * +

Gerson.

Re: WP-34s Demonstration (general LOG)

*Message #37 Posted by **Gerson W. Barbosa** on 21 Mar 2011, 9:16 a.m.,*
in response to message #34 by Walter B

LOG_x y, as in the first release. Example:

```
32 ENTER 2 LOGxy       ->  5
```

On the hp 33s, I usually do

```
32 ENTER 2 LN x|/y LN  ->  5

where   x|/y == XROOT
```

because XROOT is a primary function and it's close to LN.

Thanks!

Gerson.

Re: WP-34s Demonstration (general LOG)

*Message #38 Posted by **Paul Dale** on 22 Mar 2011, 2:13 a.m.,*
in response to message #37 by Gerson W. Barbosa

> Quote:
>
> On the hp 33s, I usually do
>
> ```
> 32 ENTER 2 LN x|/y LN  ->  5
>
> where   x|/y == XROOT
> ```

Why on earth not 32 LN 2 LN / ???? One keystroke less and the same entry order.

- Pauli

Re: WP-34s Demonstration (general LOG)

*Message #39 Posted by **Gerson W. Barbosa** on 22 Mar 2011, 8:31 a.m.,*
in response to message #38 by Paul Dale

I should have said 32 was already on the X stack register as the result of a previous calculation when I did that, thus ENTER was not necessary. In that case [2] [LN] [XROOT] [LN] is the shortest way to get $\log_2 32$, both in number of steps and finger travel accross the keyboard. Other options I see are [LN] [x<>y] [LN] [/] [1/x] and

[x<>y] [LN] [x<>y] [LN] [/], but they are one step longer. Furthermore, [/] is way farther than [XROOT] :-)

Gerson.

Re: WP-34s Demonstration (general LOG)

*Message #40 Posted by **Thomas Klemm** on 21 Mar 2011, 11:29 a.m.,*
in response to message #34 by Walter B

Mathematica uses:

Power[*x*, *y*] gives x to the power y.

Binomial[*n*, *m*] gives the binomial coefficient .

Log[*b*, *z*] gives the logarithm to base b.

Therefore I suggest to use: $\mathbf{Log_y\ x}$

Best regards
Thomas

Re: WP-34s Demonstration (general LOG)

*Message #41 Posted by **Dieter** on 21 Mar 2011, 5:45 p.m.,*
in response to message #40 by Thomas Klemm

> Quote:
>
> Log[*b*, *z*] gives the logarithm to base b.

This sure makes sense for a system where an expression is entered essentially the same way it is written on paper, i.e. with a usual computer/typewriter keyboard. There, writing $\mathrm{LOG}_a b$ as LOG[*a*, *b*] is fine and perfectly intuitive. But I do not think this is the case on a pocket calculator, especially with RPN.

Dieter

Re: WP-34s Demonstration (general LOG)

*Message #42 Posted by **Thomas Klemm** on 21 Mar 2011, 10:08 p.m.,*
in response to message #41 by Dieter

What would you expect without reading the manual? Log[*b*, *z*] or Log[*z*, *b*] ?

I just wanted to point out that your favored choice contradicts what probably most people are used to. IMHO this has nothing to do with RPN. Once you've decided whether the base *b* is the first or the second argument of the logarithm function all the rest follows. And yes, *this* has something to do with how RPN works: arguments of a function are pushed to the stack in the order they appear from left to

right.

Cheers
Thomas

Re: WP-34s Demonstration (general LOG)

*Message #43 Posted by **gene wright** on 21 Mar 2011, 11:29 p.m.,*
in response to message #42 by Thomas Klemm

I still think this example makes the choice for me:

Think of something like log3sqrt(3*pi) - you would first calculate the square root and then the base-3 logarithm. [3] [Pi] * [SQRT] 3 [LOGxY].

Compute the value, then enter the log base and compute LogxY.

Re: WP-34s Demonstration (general LOG)

*Message #44 Posted by **Paul Dale** on 22 Mar 2011, 12:08 a.m.,*
in response to message #42 by Thomas Klemm

> Quote:
>
> What would you expect without reading the manual?

In our case, the function is (will be) printed on the keyboard so no reference to the manual is required.

- Pauli

Re: WP-34s Demonstration (general LOG)

*Message #45 Posted by **Dieter** on 21 Mar 2011, 5:33 p.m.,*
in response to message #34 by Walter B

Okay, you know what I'm thinking, so just for the record: LOGxY of course. Shorter, faster, more intuitive. Or in other words: simply the RPN way. ;-)

Dieter

Re: WP-34s Demostration

*Message #46 Posted by **David Hayden** on 21 Mar 2011, 7:15 a.m.,*
in response to message #31 by Dieter

> Quote:
>
> No, I'd prefer it just the other way round, i.e. LOGx of Y. IMHO that's far more useful. Think of something like $\log_3$sqrt(3*pi)

To me, this is a compelling reason for $\log_x$ instead of $\log_y$. The base is likely to be a very simple expression - usually a constant. The argument will probably be more

complicated. So by doing $\log_x$ you likely reduce the number of stack levels needed to evaluate the expression.

Dave

Re: WP-34s Demostration

*Message #47 Posted by **gene wright** on 21 Mar 2011, 7:33 a.m.,*
in response to message #46 by David Hayden

I agree with this.

Re: WP-34s Demostration

*Message #48 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 11:22 a.m.,*
in response to message #19 by Dieter

Copy screen should work, at least it did once. I'll check it. Try to paste into a graphics application like IrfanView.

Copy number might be broken because it assumes too much about the 20b/30b firmware which was replaced by a totally different beast. Forgive me! I guess I can change that easily. It's just a matter of getting up from the couch back to my development system. ;)

Re: WP-34s Demostration

*Message #49 Posted by **Dieter** on 18 Mar 2011, 11:55 a.m.,*
in response to message #48 by Marcus von Cube, Germany

Okay, so "copy screen" writes an image to the clipboard. I had expected something like an ASCII-representation. :-) Works fine with both XnView and the Faststone Image Viewer (if you only know Irfanview, just give them a try).

However, the "copy number" function obviously needs an update. While we're on this topic: what about the usual shortcuts Ctrl+C, Ctrl+V? Maybe with an additional Ctrl+Shift+C for "copy screen"? At the moment Ctrl+C or V does the same as a simple "C" or "V".

Dieter

Re: WP-34s Demostration

*Message #50 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 1:31 p.m.,*
in response to message #49 by Dieter

> Quote:
>
> However, the "copy number" function obviously needs an update. While we're on this topic: what about the usual shortcuts Ctrl+C, Ctrl+V? Maybe with an additional Ctrl+Shift+C for "copy screen"? At the moment Ctrl+C or V does the same as a simple "C" or "V".

I have yet to understand how to program a Windows GUI. At the moment I'm totally happy with being able to adapt it to our needs. Don't wait for Ctrl-C!

I've updated copy & paste. Just give it a try!

Re: WP-34s Demostration

*Message #51 Posted by **Dieter** on 18 Mar 2011, 3:15 p.m.,*
in response to message #50 by Marcus von Cube, Germany

The copy and paste functions work fine now - thank you very much. Also a new "copy textline" function has been added.

Let me mention just one detail: the copied number always has a decimal *point*, regardless which radix mark is set on the calculator. There also are no thousands separators. In other words: while the display shows 12.345,67 the copied string is 12345.67 - that's no big deal, but... ;-)

Anyway - I really appreciate your work on this project. If it eventually comes alive to run on a physical 30s it sure will be the most remarkable effort of this communitiy. At least I do not know of anything that comes close. :-)

Dieter

Re: WP-34s Demostration

*Message #52 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 3:28 p.m.,*
in response to message #51 by Dieter

In order to convert the X register to something suitable for the clipboard, I use an internal function of the decimal library. This lib has no notion of the calculator flags. It neither honors any FIX or ENG display settings.

On "Copy Textline", I tried to copy the current display string in the upper area, if set, and the alpha register if not. I don't know why, but obviously the function always returns the alpha register. Maybe it will stay like this.

Ok, I want an HP 34s

*Message #53 Posted by **Gene Wright** on 18 Mar 2011, 11:30 a.m.,*
in response to message #19 by Dieter

After playing with the GUI emulator, I'm convinced.

I want one. We should start a drive where we make a list of what needs to happen to bring it to life. We need a plan laid out.

Re: Ok, I want an HP 34s

*Message #54 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 11:45 a.m.,*
in response to message #53 by Gene Wright

The firmware will be created in the foreseeable future, it's just too much fun for stopping it early. :)

Hardware modifications are a completely different task. Any help is greatly appreciated.

Re: Ok, I want an HP 34s

*Message #55 Posted by **gene wright** on 18 Mar 2011, 11:51 a.m.,*
in response to message #54 by Marcus von Cube, Germany

At the very least, some sort of sticky overlay could be done for the shift functions.

The primary key functions might require a bit more work, but I'm not above using WHITE OUT fluid if I have to and then a permanent marker.

I think Jake Schwartz is going to weigh in on this aspect at some point.

But Bravo!

Re: Ok, I want an HP 34s

*Message #56 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 1:32 p.m.,*
in response to message #55 by gene wright

> Quote:
>
> But Bravo!

Accepted! :)

Re: Ok, I want an HP 34s

*Message #57 Posted by **Jake Schwartz** on 18 Mar 2011, 1:46 p.m.,*
in response to message #55 by gene wright

> Quote:
>
> I think Jake Schwartz is going to weigh in on this aspect at some point.

I was considering using CD label paper and printing the keytop labels on it, cutting them out and then peeling off the backing and sticking them directly to the keys. When the time is right, I'll report on the success of the method. The preparation may be the larger job - which would be figuring out the best size for each key label for printing.

Wouldn't it be cool if at the HHC2011 conference, the user community "announced" a new scientific calculator *to HP* ?

Jake

Re: Ok, I want an HP 34s

*Message #58 Posted by **Walter B** on 18 Mar 2011, 5:42 p.m.,*
in response to message #57 by Jake Schwartz

Jake,

do you really think T.W. isn't reading this? ;-)

Walter

Re: Ok, I want an HP 34s

*Message #59 Posted by **Tim Wessman** on 18 Mar 2011, 6:13 p.m.,*
in response to message #58 by Walter B

Nope.

TW

Re: Ok, I want an HP 34s

*Message #60 Posted by **Namir** on 18 Mar 2011, 6:04 p.m.,*
in response to message #57 by Jake Schwartz

Jake,

Announcing the WP34S based on customizable HP calculators should make HP glad, since we have to buy MORE of their machines to create the custom version.

Of course history of calculators and electronics has shown how products ended being used or customized beyond the manufacturer's original plan and vision.

Namir

Re: Ok, I want an HP 34s

*Message #61 Posted by **Timo** on 18 Mar 2011, 2:01 p.m.,*
in response to message #53 by Gene Wright

> Quote:
>
> After playing with the GUI emulator, I'm convinced.
>
> I want one.

I second Gene!

Were is the list I can put my name on so that I receive one when it's released?? :)

No honestly, very fine work! We'd all do good not tp press release of this goody! I think it deserves every ounce of time it takes to come up with solid firmware and reworked hardware. I for sure will patiently await the release...

Regards, Timo

Re: Ok, I want an HP 34s

*Message #62 Posted by **gene wright** on 18 Mar 2011, 2:03 p.m.,*
in response to message #61 by Timo

My guess is that there won't be any formal reworked "hardware".

the firmware would be available, you would have to flash your 30b (or 20b but why not a 30b?), and then perhaps use a kit someone might make to redo the keyboard and keys with some kind of labels.

Re: Ok, I want an HP 34s

*Message #63 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 2:04 p.m.,*

in response to message #61 by Timo

It will be a DIY project. When we are done, you'll find a flash image which you can download to a 20b or 30b. The rest is up to you. ;)

Re: Ok, I want an HP 34s

*Message #64 Posted by **Timo** on 18 Mar 2011, 4:12 p.m.,*
in response to message #63 by Marcus von Cube, Germany

> Quote:
>
> It will be a DIY project. When we are done, you'll find a flash image which you can download to a 20b or 30b. The rest is up to you. ;)

Even better so, it cuts waiting time considerably! ;)

However, I wonder what HP would do if you approached them with this "ready to use" firmware. It shouldn't take them too long to come up with a changed 30B faceplate and key labeling, or should it? Is this maybe something to talk about at the upcoming HHC2011?

Re: Ok, I want an HP 34s

*Message #65 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 4:19 p.m.,*
in response to message #64 by Timo

We have already massacred our poor HPs for the project. My 20b still has all the original key labels but I've soldered a JTAG connector and an external power supply to the board. I'll probably create a keyboard overlay next.

It's not a beauty, more of a prototype board. I can post photos when I'm done. At the moment it just runs the 20b firmware or Cyrille's number guessing game. That will certainly change.

Re: Ok, I want an HP 34s

*Message #66 Posted by **Timo** on 18 Mar 2011, 4:31 p.m.,*
in response to message #65 by Marcus von Cube, Germany

A slight problem I see is, that not everyone interested in the WP will possess a flash programmer - I certainly do not. However, I would actually consider buying one as it would give you the possibility to continously upgrade the calc once new bug fix releases of the firmware come out.

As for the labeling: We have a shop next door doing all kind of very professional labeling on whatever you give them for merchandising purposes. I wouldn't be suprised if they could erase the existing labels using some clever laser treatment and then place new lables on the keys and the faceplate. It would maybe not be a bargain, but it would be worth the investment in my eyes (at least considering what some of us do spent on vintage calculatorts anyway...) ;)

Re: Ok, I want an HP 34s

*Message #67 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 4:36 p.m.,*
in response to message #66 by Timo

Programming is possible through a serial cable that Tim Wessman distributes for free. You just need some free software from Atmel (SAM-BA).

Yes, any 30b / 20b could be repurposed into a 34s

*Message #68 Posted by **gene wright** on 18 Mar 2011, 5:38 p.m.,*
in response to message #67 by Marcus von Cube, Germany

with the appropriate cable (these were given out at HHC 2010) and a free software package and a serial port on a PC.

Re: Yes, any 30b / 20b could be repurposed into a 34s

*Message #69 Posted by **David Ramsey** on 19 Mar 2011, 8:04 p.m.,*
in response to message #68 by gene wright

A what port? You mean those DB-9 connectors for RS-232/422? What if I don't have a computer from the 20th century?

Re: Yes, any 30b / 20b could be repurposed into a 34s

*Message #70 Posted by **Gerson W. Barbosa** on 19 Mar 2011, 9:12 p.m.,*
in response to message #69 by David Ramsey

Any low-cost USB to serial RS-232 DB9 adapter cable would do.

Re: Yes, any 30b / 20b could be repurposed into a 34s

*Message #71 Posted by **Paul Dale** on 19 Mar 2011, 9:40 p.m.,*
in response to message #69 by David Ramsey

> Quote:
>
> What if I don't have a computer from the 20th century?

Then you don't need a calculator that should have been from the 20th century :-)

- Pauli

Re: Yes, any 30b / 20b could be repurposed into a 34s

*Message #72 Posted by **gene wright** on 20 Mar 2011, 6:10 p.m.,*
in response to message #69 by David Ramsey

Well, given that we are Apple guys, we don't really know what those are anyway.

Was running MacPaint 2.0 a while ago. Heh.

You should consider coming to HHC 2011 in San Diego this year. You'd enjoy it and would be good to see you again!

Re: Ok, I want an HP 34s

*Message #73 Posted by **Paul Dale** on 18 Mar 2011, 5:32 p.m.,*
in response to message #64 by Timo

> Quote:
>
> However, I wonder what HP would do if you approached them with this "ready to use" firmware.

They weren't interested when I approached them about this. Of course, there wasn't ready to run firmware and there still isn't.

- Pauli

Re: Ok, I want an HP 34s

*Message #74 Posted by **Ed Look** on 18 Mar 2011, 4:26 p.m.,*
in response to message #63 by Marcus von Cube, Germany

How do you flash a 20b? There's no pre-designed I/O. Would you have to REALLY DIY it, as in opening the case, and connecting the chip to a PC?

Re: Ok, I want an HP 34s

*Message #75 Posted by **Timo** on 18 Mar 2011, 4:33 p.m.,*
in response to message #74 by Ed Look

Have a look here under "Communications". The development kit can be downloaded a little further down on that page.

There is a programming connector under the backpane of the calc. You would, however, need a flash programmer as far as I understand it... --> Correction: See message #37 posted by Marcus

Edited: 18 Mar 2011, 4:40 p.m.

Re: Ok, I want an HP 34s

*Message #76 Posted by **db(martinez,ca)** on 19 Mar 2011, 11:57 a.m.,*
in response to message #63 by Marcus von Cube, Germany

Sounds great. I have an hp20b & cable ready. Two things:

Marcus; Please use the most standard methods to send this over the internet that you can find. There was a 20b > hp45 rewrite a while back but the writer only provided it through some goofball hermaphroditic sort of file compression that i & no one i know could get to work. It does no good if we can't decompress it. Again, PLEASE.

Gene; Back when they were just cheap and not extremely collectible, i printed the global labels and functions i used onto my cx blanknut. For the function names i used the stickers that came with my first 41. This would probably work better for someone who has cleaner hands at work. I found no *good* way for the program names so i just used some finger nail polish and the tiniest brush i could buy - applied before my morning coffee. It stuck great but is in-elegant.

Re: WP-34s Demostration

*Message #77 Posted by **Paul Dale** on 18 Mar 2011, 5:26 p.m.,*
in response to message #19 by Dieter

> Quote:
>
> The first thing I tried was the normal distribution (sorely missed on most other calculators). It looks like the 34s cannot handle values in the far tails: For x < -10 the results first get less precise, then everything beyond x = -13.3 simply returns zero. There are similar issues with the inverse function: the problems start somewhere beyond 1E-30, and finally everything less than about 1E-45 returns the same result -12,41...

Our accuracy on the probabilities distributions isn't as good as I'd like. Especially for their inverses which use the solver code. Something to work on I guess.

- Pauli

Re: WP-34s Demostration

*Message #78 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 5:28 p.m.,*
in response to message #77 by Paul Dale

The source code is freely available via Subversion on SourceForge. So if anybody wants to chime in...

Re: WP-34s Demostration

*Message #79 Posted by **Paul Dale** on 19 Mar 2011, 5:53 a.m.,*
in response to message #19 by Dieter

> Quote:
>
> The first thing I tried was the normal distribution (sorely missed on most other calculators). It looks like the 34s cannot handle values in the far tails: For x < -10 the results first get less precise, then everything beyond x = -13.3 simply returns zero. There are similar issues with the inverse function: the problems start somewhere beyond 1E-30, and finally everything less than about 1E-45 returns the same result -12,41...

I started looking at this and the problem lies in the implementation of the regularised incomplete gamma function. The normal CDF is a special case of this function. Does anyone know of a reliable series approximation that converges over the reals?

Pauli

Re: WP-34s Demostration

*Message #80 Posted by **Paul Dale** on 20 Mar 2011, 6:39 a.m.,*
in response to message #19 by Dieter

> Quote:
>
> The first thing I tried was the normal distribution (sorely missed on most other calculators). It looks like the 34s cannot handle values in the far tails: For x < -10 the results first get less precise, then everything beyond x = -13.3 simply returns zero. There are similar issues with the inverse function: the problems start somewhere beyond 1E-30, and finally everything less

> than about 1E-45 returns the same result -12,41...

I've mostly fixed the first half of this. For values x >= -10, the function should be returning sixteen digit accuracy. For values x < -10, it is only getting about 10 digits -- increasing as x decreases further. The next release will include this change (probably fairly soon). For the very curious, I calculated Q using the error function ERF: Q(x) = 0.5 * (1 + ERF(x / sqrt(2))). ERF was being calculated to pretty much full precision (39 digits) but its value was very close to -1. Cancellation ensued :-(Thus the loss of accuracy and eventual zero result.

The inverse function is more problematic. The solver is having trouble with these very small values. I'm going to have to implement a specific inverse either to Q, ERF or our regularised incomplete gamma function.

- Pauli

Re: WP-34s Demostration

*Message #81 Posted by **Dieter** on 20 Mar 2011, 10:32 a.m.,*
in response to message #80 by Paul Dale

> Quote:
>
> For values x >= -10, the function should be returning sixteen digit accuracy. For values x < -10, it is only getting about 10 digits -- increasing as x decreases further.

I assume the CDF returns 16 valid digits for 0 <= |x| <= 10, and further out in the tails it drops down to 12...10...8 digits, maybe even less. Did I get you right?

If the problem is in the far tails there is an easy solution that provides exact results, works fast and requires not much effort: simply use the well-known continued fraction representation for the CDF. For |x| > 10 only 12...5 terms are needed.

> Quote:
>
> ERF was being calculated to pretty much full precision (39 digits)

That means... you have 39-digit internal precision? Great! In this case the following suggestion should work:

> Quote:
>
> The inverse function is more problematic. The solver is having trouble with these very small values.

What about this: *If* you really want to use the solver, simply do not solve for p but for ln p instead. This requires up to three additional digits internally: A relative error < 1E-16 means that the logarithm has to carry 16 places behind the decimal point, plus up to three for the integer part. So, if 19-digit accuracy is possible, this might be a way. Use sqrt(-2*ln p) as the initial guess and the solver should find the solution almost instantly.

> Quote:
>
> I'm going to have to implement a specific inverse either to Q, ERF or our regularised

> incomplete gamma function.

There are rational approximations for the normal quantile with relative errors less than 1E-16. If only values far out in the tails are problematic one can think about such an approximation for this interval only.

BTW - the last time I used it the inverse Q function accepted arguments =< 0 and >=1. This should be easy to fix. :-)

Dieter

Re: WP-34s Demostration

*Message #82 Posted by **Paul Dale** on 20 Mar 2011, 5:31 p.m.,*
in response to message #81 by Dieter

> Quote:
>
> I assume the CDF returns 16 valid digits for 0 <= |x| <= 10, and further out in the tails it drops down to 12...10...8 digits, maybe even less. Did I get you right?

Not quite. We should get 16 digits for x >= -10, at least rounded within 1 ULP. Large positive x isn't a problem, the problem came only from negative x losing too many digits due to a subtraction (1 + almost -1 means loss of digits whereas 1 + almost 1 doesn't).

I'm using a continued fraction expansion for x < -10, I should add a few more terms to get those last few digits.

Yes, we carry 39 digits internally. It is an odd number but there are reasons for its choice.

I'm not fixated on using the solver, it makes for very small code thats all and we're pressing against the flash space limit on the device. The lack of range checking in the distribution inverses isn't good & I've just committed a fix.

- Pauli

Re: WP-34s Demostration

*Message #83 Posted by **Dieter** on 20 Mar 2011, 6:10 p.m.,*
in response to message #82 by Paul Dale

> Quote:
>
> Large positive x isn't a problem, the problem came only from negative x losing too many digits due to a subtraction (1 + almost -1 means loss of digits whereas 1 + almost 1 doesn't).

I usually do it this way: ignore the sign of x, simply take abs(x) and evaluate the upper tail integral, i.e. get a result that's always less than 0.5. If this is done by means of the error function, use the complementary error function erfc() instead of erf(), which solves exactly the problem you mentioned. Finally, return this result or 1-result, depending on the sign of x.

> Quote:

> I'm using a continued fraction expansion for x < -10, I should add a few more terms to get those last few digits.

The larger |x| gets the less terms are needed. However, since speed is not an issue here you can simply use the number of terms required for the lowest x. For x >= 10 and 16 digits this should be something like 12 terms.

> Quote:
>
> Yes, we carry 39 digits internally. It is an odd number but there are reasons for its choice.

Great. So the solver can be used. Suggestion: let q = min(p, 1-p), find x so that ln Q(x) = ln q, and finally adjust the sign of x.

Dieter

Re: WP-34s Demostration

*Message #84 Posted by **Paul Dale** on 20 Mar 2011, 11:29 p.m.,*
in response to message #83 by Dieter

> Quote:
>
> I usually do it this way: ignore the sign of x, simply take abs(x) and evaluate the upper tail integral, i.e. get a result that's always less than 0.5. If this is done by means of the error function, use the complementary error function erfc() instead of erf(), which solves exactly the problem you mentioned. Finally, return this result or 1-result, depending on the sign of x.

I looked for a nice series for erfc() and didn't find one :-(I am sure some are out there but all too many implementations use 1-erf() which will encounter the same problem I did. I'll keep looking.

I'm actually using the regularised incomplete gamma function to implement erf() which is then used to get Q(x).

> Quote:
>
> Great. So the solver can be used. Suggestion: let q = min(p, 1-p), find x so that ln Q(x) = ln q, and finally adjust the sign of x.

I've implemented solving for the log probability. Not with the minimum you suggest but it seems to work okay, although I've not checked the accuracy properly. Not sure if it made it into the latest release or not.

The min(p, 1-p) isn't going to work for all the other distributions we support -- they are all solved the same way.

Since you've clearly got some insight here, feel free to recode or add to some of the routines. The sources are all available :-)

- Pauli

Re: WP-34s Demostration

*Message #85 Posted by **Namir** on 18 Mar 2011, 6:01 p.m.,*
in response to message #1 by Paul Dale

This is a very cool emulator!! Excellent job Paul!!

:-)

Namir

Re: WP-34s Demostration

*Message #86 Posted by **Paul Dale** on 18 Mar 2011, 6:08 p.m.,*
in response to message #85 by Namir

Marcus (& HP) are responsible for the emulator.

I'm responsible for pretty much all the rest of the code.

Still, we're glad you like it :)

- Pauli

Re: WP-34s Demostration

*Message #87 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 6:14 p.m.,*
in response to message #86 by Paul Dale

It's probably more HP than me. Still enough work from me but the credits go elsewhere. I'm pretty good in generalizing other's work.

Re: WP-34s Demostration

*Message #88 Posted by **Tim Wessman** on 18 Mar 2011, 6:21 p.m.,*
in response to message #86 by Paul Dale

Well that emulator interface looks vaguely familiar. . . :-)

TW

Re: WP-34s Demostration

*Message #89 Posted by **Marcus von Cube, Germany** on 18 Mar 2011, 6:32 p.m.,*
in response to message #88 by Tim Wessman

What I mainly did was separating the emulator MFC kernel from the application in a DLL with a single interface. If you are interested, look at emulator_ddl.c and wp34sgui.c in the sources available via SVN. Some streamlining made things smoother and the skin files are customized for the modified keyboard layout.

The mechanics of the emulator are well thought out. This made porting it a manageable task. Thanks HP!

Edited: 18 Mar 2011, 6:35 p.m. after one or more responses were posted

Re: WP-34s Demostration

*Message #90 Posted by **Paul Dale** on 18 Mar 2011, 6:35 p.m.,*
in response to message #89 by Marcus von Cube, Germany

> Quote:
>
> ...and the skin files are customized for the modified keyboard layout.

And the (not supplied because it isn't quite working) red LED skin looks great :-)

Pauli

Re: WP-34s Demostration

*Message #91 Posted by **Walter B** on 18 Mar 2011, 6:46 p.m.,*
in response to message #90 by Paul Dale

> Quote:
>
> And the ... red LED skin looks great :-)

Especially at night :-)

Walter

Re: WP-34s Demostration

*Message #92 Posted by **Mark Harman** on 19 Mar 2011, 2:26 a.m.,*
in response to message #1 by Paul Dale

I would love to load this on my Mac but, for some reason, I can't seem to get it to launch from the terminal. Can you give me some insight on this?

Thanks,

Mark

Re: WP-34s Demostration

*Message #93 Posted by **Paul Dale** on 19 Mar 2011, 4:03 a.m.,*
in response to message #92 by Mark Harman

Try:

```
wine wp34sgui.exe
```

Failing that, there is a Mac console version but it is nowhere near as pretty.

- Pauli

Re: WP-34s Demostration

*Message #94 Posted by **Marcus von Cube, Germany** on 19 Mar 2011, 8:22 a.m.,*
in response to message #93 by Paul Dale

> Quote:
>
> Try:
>
> ```
> wine wp34sgui.exe
> ```

WINE isn't installed by default on my Macs. Can you explain where to get it, Pauli?

Re: WP-34s Demostration

*Message #95 Posted by **Glen Sanft** on 19 Mar 2011, 9:03 a.m.,*
in response to message #94 by Marcus von Cube, Germany

Wine Is Not an Emulator

Try http://winehq.org/.

Re: WP-34s Demostration

*Message #96 Posted by **Howard Owen** on 19 Mar 2011, 10:35 a.m.,*
in response to message #94 by Marcus von Cube, Germany

Alternatively, a very good commercial packaging of WINE is available from Codeweavers. That company is one of the primary contributors to the WINE project. The principle benefits of the commercial software are lots of prebuilt installers for popular Windows software, and a nice GUI for managing all the bits.

Re: WP-34s Demostration

*Message #97 Posted by **Marcus von Cube, Germany** on 19 Mar 2011, 1:16 p.m.,*
in response to message #96 by Howard Owen

I run Windows XP under Parallels on my Macs, so no need for another commercial offering in this arena. I just wanted to see, how it would look like with MacOS window decorations.

Re: WP-34s Demostration

*Message #98 Posted by **Mark Harman** on 19 Mar 2011, 1:33 p.m.,*
in response to message #97 by Marcus von Cube, Germany

I think I will do something similar. I have Windows7 launching in a VirtualBox (a very good free virtualization program) environment. I just don't like resorting to doing that when I prefer using a Mac.

Mark

Re: WP-34s Demostration

*Message #99 Posted by **Howard Owen** on 21 Mar 2011, 6:02 p.m.,*
in response to message #97 by Marcus von Cube, Germany

> Quote:

> I run Windows XP under Parallels on my Macs ..

WINE is a bit lighter in its footprint than virtual machines like Parallels or Virtual Box. It's a Windows API compatibility layer so there is no need to boot a separate OS or fire up a virtual machine. On my Mac, all that extracts a penalty in performance. On the other hand, a real copy of Windows running in a VM is obviously going to do better at providing a consistent platform for Windows applications. Some programs won't run in WINE, or run with glitches.

I don't use a lot of Windows software, but if I have to, I try it under WINE first. If that fails, I'll boot Windows on Parallels.

Re: WP-34s Demostration

*Message #100 Posted by **Marcus von Cube, Germany** on 21 Mar 2011, 9:39 p.m.,*
in response to message #99 by Howard Owen

Howard, which wine implementation for Mac are you using? I couldn't find a precompiled binary on the winhq pages.

Re: WP-34s Demostration

*Message #101 Posted by **Howard Owen** on 23 Mar 2011, 2:40 p.m.,*
in response to message #100 by Marcus von Cube, Germany

> Quote:
>
> Howard, which wine implementation for Mac are you using? I couldn't find a precompiled binary on the winhq pages.

Hi, Marcus,

As I mention above, I use Crossover partly out of laziness, but also because Codeweavers does so much to sustain the WINE project. They contribute all of their extensive work on the WINE core back upstream.

There's a WINE available under Macports. Macports, if you aren't familiar with it, provides a ton of Unix and Linux open source software in packages called "ports." These packages provide source code that the "port" command uses to automatically build and install binary packages. It's an idea derived from FreeBSD, which MacOS uses for a lot of its "userland" environment. With Macports installed, all you have to do is issue a command like "port install wine" or something similar. It can take a while before the binary package gets built from source code. Here's a guide that claims to walk you through the process of installing WINE with Macports. The tutorial looks good to me, but I haven't tried it.

Good luck,
Howard

Edit:

I have a new Mac on which I didn't have Macports installed, so I went through installing wine as described at the above referenced site. It took quite a long time.

With a new Macports installation, a ton of prerequisites needed to be built. The whole thing took over two hours to complete. The results were good, however. I ended up with a fully functional copy of wine accessible from the command line

Regards,
Howard

Edited: 24 Mar 2011, 3:54 p.m.

Re: WP-34s Demostration

*Message #102 Posted by **Mark Harman** on 19 Mar 2011, 1:31 p.m.,*
in response to message #93 by Paul Dale

Thanks. I will try the wine version. However, I downloaded the Mac console version and it won't launch.

Mark

Edited: 19 Mar 2011, 1:31 p.m.

Re: WP-34s Demostration

*Message #103 Posted by **Marcus von Cube, Germany** on 19 Mar 2011, 2:19 p.m.,*
in response to message #102 by Mark Harman

Mark, with XCode installed and the source tree which is freely available, you can compile the console version yourself.

Re: WP-34s Demostration

*Message #104 Posted by **Mark Harman** on 19 Mar 2011, 4:16 p.m.,*
in response to message #103 by Marcus von Cube, Germany

I would if I knew what I was doing in that regard. I'm a finance/accounting/business guy - not a programmer/scientist guy. :D

Mark

Re: WP-34s Demostration

*Message #105 Posted by **gene wright** on 19 Mar 2011, 4:48 p.m.,*
in response to message #104 by Mark Harman

I just run it in Parallels. WinXP forever!

Re: WP-34s Demostration

*Message #106 Posted by **Mark Harman** on 19 Mar 2011, 8:23 p.m.,*
in response to message #105 by gene wright

LOL...

I have VirtualBox running Windows 7. I'll just run it that way.

Mark

Re: WP-34s Demostration

*Message #107 Posted by **Paul Dale** on 19 Mar 2011, 5:56 p.m.,*
in response to message #104 by Mark Harman

> Quote:
>
> I'm a finance/accounting/business guy - not a programmer/scientist guy.

That isn't an excuse ;-)

At a guess, the console version isn't working because it needs a library of some kind. I included the one which I knew was non-standard but you might need to install XCode as well.

If you're going that far, get X11 (again from Apple) and Wine and run the GUI version. The console version is hideous and difficult to use in comparison.

- Pauli

Re: WP-34s Demostration

*Message #108 Posted by **Mark Harman** on 19 Mar 2011, 8:39 p.m.,*
in response to message #107 by Paul Dale

Yeah, I guess I can try running it in Wine in X11. But, I will likely run Windows in VirtualBox and run it that way.

Thanks for your help.

Mark

Re: WP-34s Demostration

*Message #109 Posted by **Mark Harman** on 19 Mar 2011, 8:55 p.m.,*
in response to message #107 by Paul Dale

Okay... I got it working in Windows 7 in virtualization. Way cool. Good job!

Regards,

Mark

WP-34s Emulator Release Update

*Message #110 Posted by **Marcus von Cube, Germany** on 20 Mar 2011, 6:32 p.m.,*
in response to message #1 by Paul Dale

For all interested, there have been some changes, updates and improvements lately which can now be found on the download site http://sourceforge.net/projects/wp34s/files/.

- It's still $\log_Y$ I'm afraid.
- It's still only an emulator, not a hardware port.
- Accuracy on some functions might still improve.

But have a look at the third skin! :)

Edited: 21 Mar 2011, 6:16 a.m.

Re: WP-34s Demostration

*Message #111 Posted by **Namir** on 20 Mar 2011, 8:14 p.m.,*
in response to message #1 by Paul Dale

Can you add in the next version of the emulator a feature to read/write programs, memory registers, and the entire machine's state?

Namir

Re: WP-34s Demostration

*Message #112 Posted by **Paul Dale** on 20 Mar 2011, 11:13 p.m.,*
in response to message #111 by Namir

The entire machine state should be saved into wp34s.dat on quit. This is to simulate continuous memory.

We don't have read/write programs or registers separately. Not too difficult to add but these won't/can't be present on the real hardware.

- Pauli

Re: WP-34s Demostration

*Message #113 Posted by **Werner** on 21 Mar 2011, 4:45 a.m.,*
in response to message #1 by Paul Dale

Why not implement complex support like in the 15C, with a parallel stack for the imaginary numbers? All commands work equally well on reals as on complex numbers, and there's no need to have 'c' counterparts for sin, cos and whatnot.

Re: WP-34s Demostration

*Message #114 Posted by **Paul Dale** on 21 Mar 2011, 5:06 a.m.,*
in response to message #113 by Werner

There was a reason which slips my mind. Walter might remember. It might not even be relevant anymore. I have a vague feeling that originally it might have been that we hadn't allocated enough registers for a parallel complex stack.

Truth be known, I don't much like the 15c's handling of its complex stack. I always get the number entry wrong and having Re<>Im in a shifted position isn't optimal :-(I don't like the complex vs real mode separation all that much either. I do like the comprehensive suite of operations however.

Since the 20b's display isn't up to displaying a full complex number like the 42s can (and we did consider this), we had to compromise. We went the way of the 32sii and its successors. We filled out the operations available since the 32sii is lacking in this regard.

This solution allows for a lot more flexibility: a two or four level complex stack (plus complex last x) or a four or eight level real stack (plus real last x and an extra register I). You also get complete control over the stack and it is a natural extension of traditional RPN operation.

Has anyone played with SSIZE8 (from the Mode catalogue) and complex numbers?

- Pauli

Re: WP-34s Demostration

*Message #115 Posted by **Paul Dale** on 21 Mar 2011, 5:34 a.m.,*
in response to message #114 by Paul Dale

We added complex STO and RCL (and arithmetic flavours), complex stack manipulations (x<>y, Rv, R^, FILL etc) and complex conditional tests to make dealing with complex number that little bit easier.

I wouldn't mind feedback from someone (or someones) who use complex numbers often.

- Pauli

Re: WP-34s Demostration

*Message #116 Posted by **Jeff O.** on 21 Mar 2011, 8:46 a.m.,*
in response to message #115 by Paul Dale

> Quote:
>
> I wouldn't mind feedback from someone (or someones) who use complex numbers often.

I would prefer the 15C paradigm. Replace the CPX key with an "i" key, with a shifted theta function to enter in polar form. (If you want to convert everything to rectangular form after entry, that's OK with me.) That should help you enter the components in the proper order. When you enter a complex number using the "i" or theta key, it automatically switches to complex mode. I would have no problem with re-allocating the 100 storage registers such that R0 is paired with R50, R1 with R51, etc. to form the complex pairs when in complex mode. In other words, I would gladly take 50 complex registers over 100 real registers in order to get the complex number functionality that I want.

I realize the above is easy for me to propose and there may be reasons it cannot be done, including you and Walter simply liking your way better. Thanks for your work on this project, you and Walter have done a great job. I look forward to loading it on a 30b regardless of how it handles complex numbers.

Best regards,
Jeff

...

Re: WP-34s Demostration

*Message #117 Posted by **svisvanatha** on 21 Mar 2011, 9:03 a.m.,*
in response to message #116 by Jeff O.

> Quote:
>
> ... I realize the above is easy for me to propose and there may be reasons it cannot be done, including you and Walter simply liking your way better. Thanks for your work on this project, you and Walter have done a great job. I look forward to

> loading it on a 30b regardless of how it handles complex numbers. ...

I agree with this statement. It is easy to suggest alternate ways of doing things, but not easy to get as far as you have with the WP-34s. I cannot wait to try it out on the actual hardware. Once that is done, you may find that other projects will use the WP-34s as a basis for alternate firwares! (Individual users could have their own custom firmware for example).

Re: WP-34s Demostration

*Message #118 Posted by **Paul Dale** on 21 Mar 2011, 5:33 p.m.,*
in response to message #116 by Jeff O.

> Quote:
>
> I realize the above is easy for me to propose and there may be reasons it cannot be done, including you and Walter simply liking your way better.

Well, it would require a lot of work to make such a change and many many things would be impacted.

Of course the sources are freely available so feel free ;-)

> Quote:
>
> Thanks for your work on this project, you and Walter have done a great job. I look forward to loading it on a 30b regardless of how it handles complex numbers.

Thanks for the voice of support (& thanks to all the others expressing similar).

- Pauli

Re: WP-34s Demostration

*Message #119 Posted by **gene wright** on 21 Mar 2011, 5:45 p.m.,*
in response to message #118 by Paul Dale

From what I can find in the manual, the 100 data registers are fixed... no partitioning between memory and program space?

Re: WP-34s Demostration

*Message #120 Posted by **Paul Dale** on 21 Mar 2011, 6:43 p.m.,*
in response to message #119 by gene wright

Correct, no memory partitioning. Much simpler to code that way. I hope the balance we've achieved is adequate for most.

There are more than 100 registers BTW.

* A, B, C, D are the top four levels of the eight level stack and are freely available if the four level stack is being used.

* I is the complex part of Last X and is free to use if complex operations aren't.

* J & K are used to specify parameters to statistical distributions and are free otherwise.

* Finally, X, Y, Z, T & L which aren't freely usable but are registers nonetheless.

So 112 registers in all. For most operations you can just press the corresponding letter key to get the extra register.

- Pauli

Re: WP-34s Demostration

*Message #121 Posted by **Walter B** on 21 Mar 2011, 6:43 p.m.,*
in response to message #119 by gene wright

Correct. We tried to keep things as simple as possible. The number 100 has some nice side effects, please see page 10.

Walter

Re: WP-34s Demostration

*Message #122 Posted by **gene wright** on 21 Mar 2011, 6:46 p.m.,*
in response to message #121 by Walter B

I asked only because I had hoped for more program steps. Can't please everyone eh?

Back in my TI-58C days, I always partitioned the unit to be 320 steps and 20 memories.

I've just gotten used to being able to change and 100 was larger than I ever kept my 41c. :-)

Re: WP-34s Demostration

*Message #123 Posted by **Paul Dale** on 21 Mar 2011, 9:01 p.m.,*
in response to message #122 by gene wright

> Quote:
>
> I asked only because I had hoped for more program steps. Can't please everyone eh?

Exactly, we can't please everyone. I'm sure some people will want more registers and others more program space. I'm in the latter camp but we had to draw a line somewhere and 100 registers is a nice round number.

Fortunately, the source code is available and we'd likely be interested in dynamic allocation between programs and registers if somebody took the effort to code it. Four program steps would equal one register.

You are going to have more of both registers and program than the TI-58C. And our program steps are more powerful and fully merged. We've got over twenty thousand different opcodes available in program mode :-)

As usual, it comes back to how many steps do you want on a device with no IO?

- Pauli

Edited: 22 Mar 2011, 7:46 a.m. after one or more responses were posted

Re: WP-34s Demostration

*Message #124 Posted by **gene wright** on 21 Mar 2011, 10:36 p.m.,*
in response to message #123 by Paul Dale

True true.

I did have a question about the BACK instruction.

It seemed the manual suggested that was not available in regular programs? Yes? No?

Re: WP-34s Demostration

*Message #125 Posted by **Paul Dale** on 22 Mar 2011, 12:07 a.m.,*
in response to message #124 by gene wright

At the moment it is: CPX h-shift CPX. Don't tell Walter :-)

- Pauli

Re: WP-34s Demostration

*Message #126 Posted by **Walter B** on 22 Mar 2011, 2:14 a.m.,*
in response to message #124 by gene wright

What did you say? ;-)

The commands on pp. 56f are for the system programmer's use. No attempt has been made to give them a user-friendly face. In such an environment, you move at your own risk. That said, that's what you do everyday, don't you? Just remember there won't be any label like "hot beverage" ;-)

Re: WP-34s Demostration

*Message #127 Posted by **Paul Dale** on 22 Mar 2011, 2:41 a.m.,*
in response to message #126 by Walter B

> Quote:
>
> No attempt has been made to give them a user-friendly face.

I think they are sane enough and mostly safe enough to be useful in some situations. I've added some sanity checks to their code to prevent some failures.

However, Walter is quite correct, use at own risk.

You will crash your calculator, your pets will expire, your country

will sink, the Moon will explode, the Earth will fall into the Sun and melt and the universe will end. Apart from these, nothing untoward will be noticed.

- Pauli

Re: WP-34s Demostration

*Message #128 Posted by **Jeff O.** on 22 Mar 2011, 9:25 p.m.,*
in response to message #123 by Paul Dale

> Quote:
>
> As usual, it comes back to how many steps do you want on a device with no IO?

I'll go ahead and ask a potentially stupid question. Could programs be developed on an emulator, then uploaded to the calculator as part of or otherwise with the rom?

Re: WP-34s Demostration

*Message #129 Posted by **Paul Dale** on 22 Mar 2011, 11:26 p.m.,*
in response to message #128 by Jeff O.

> Quote:
>
> I'll go ahead and ask a potentially stupid question. Could programs be developed on an emulator, then uploaded to the calculator as part of or otherwise with the rom?

There are no stupid questions :-)

Yes and no. It depends on exactly what you're wishing to do.

Can you write a program on the emulator and then add it directly to the existing ROM? No. There are more than a few problems to overcome before this would be possible (reducing the firmware footprint, adding some file management commands and hooking everything together).

Can you write a program and add it to the firmware source code which then gets built into the ROM? Yes. Solve, integrate, sum and product are all examples of this -- their key stroke sources are in the xrom.c file. There are hooks to call code in ROM via user commands but they require knowledge of what is there to function and they aren't very flexible.

The big caveat is that there will be very limited ROM space left. The exact amount is not currently known & won't be until there is a hardware port. There are also a few extra functions slated for possible inclusion (see the back of the manual). Then if there is any space left over, I suspect we'll be asking for suggestions for what to put in.

More pie in the sky would be hardware modifications to include a serial port to allow save and restore or even a SD card which could not only

save and restore but allow direct program execution. This kind of thing is just a dream currently. Let's get something going on the hardware first :-)

- Pauli

Re: WP-34s Demostration

*Message #130 Posted by **Marcus von Cube, Germany** on 23 Mar 2011, 4:04 a.m.,*
in response to message #129 by Paul Dale

I see a remote possibility to update the internal RAM via the programming cable under program control. We'll need some space in the ROM to implement a simple up/down-loading protocol. The cable needed would be the same that is needed to reprogram the device.

This has not the highest priority, of course.

Re: WP-34s Demostration

*Message #131 Posted by **Paul Dale** on 23 Mar 2011, 4:16 a.m.,*
in response to message #130 by Marcus von Cube, Germany

We'd need commands to save/restore registers, programs & everything. Maybe the HP-41 card reader would be a good model for this.

Anyway, let's wait until after we've got working hardware.....

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] TAS continues to screw sellers

*Message #1 Posted by **Michael de Estrada** on 17 Mar 2011, 1:15 p.m.*

Lately TAS has been changing their seller fee policies to line their greedy pockets at the expense of sellers. I recently sold some items on TAS, and discovered that the final sale price fee has been increased to a 9% flat rate, regardless of the amount of the sale. Previously, it was a decreasing scale based on the sale price, such that it was much less than it is now. Anyway, I received a new "good news" message from TAS stating that they are further changing their policies, as follows:

"Also, because we know buyers take into consideration the total cost of an item, also starting April 19, to encourage sellers to keep shipping costs low, the Final Value Fee will be applied to the total amount of the sale--including shipping."

So now, they are charging a fee for what is actually a cost to the seller. This will be especially damaging to sellers shipping large items or shipping internationally, where the costs are much higher. For example, an HP-81 sold recently to a buyer in Europe, and I suspect the shipping costs exceeded $100, which translates into an additional $9 in TAS fees. Now, I realize that TAS will claim that sellers have been inflating shipping costs, while reducing BIN prices in order to reduce TAS fees, but in reality this is rarely the case, since most sellers such as myself simply use the shipping calculator to determine actual postage and don't charge any additional handling fees.

Basically, this discourages international selling, since any potential increase in sale price will be offset by increased TAS fees. It also discourages no reserve auctions with low start prices, and leaves the buyer with mostly high priced BIN "auctions" from the likes of Mr. C. It is interesting that TAS has also amended their policies to waive initial listing price fee, further encouraging sellers to list their items at high BIN prices.

"Starting April 19, you'll be able to list your items Auction-style FREE, at any start price, up to 50 listings a month. Plus you can add the Buy It Now option to these listings FREE to grab buyers in a hurry. Set the price you want and sell it fast! This is not a limited-time special but a change in eBay Standard fees to help you list more for FREE all the time--even those high ticket items! Pay only if your item sells."

So what this means is that if the items I have now listed in the MoHPC classifieds don't sell, I will list them at higher prices on TAS and won't ship internationally. In the past I sold NR and with a low start price, but no more. I have sold several calcs privately to forum members, and it worked out very well for both of us, so hopefully I won't have to deal with TAS anymore.

Re: [OT] TAS continues to screw sellers

*Message #2 Posted by **bill platt** on 17 Mar 2011, 2:26 p.m.,*
in response to message #1 by Michael de Estrada

Within 3 years, Ebay will no longer be the Auction site of popular culture. It isn't an auction now, at all. Someone else will come in and fill the void.

The beauty of this is that Ebay doesn't think they will lose their position. Yahoo didn't think they'd lose theirs, either....

Re: [OT] TAS continues to screw sellers

*Message #3 Posted by **Paul Gaster** on 17 Mar 2011, 2:52 p.m.,*
in response to message #2 by bill platt

They are out of control. Listing fees, final value fees, paypal fees, which they own anyway, and now they want a cut from the money I needed to ship something? That is pretty insane. Craigslist may be a decent alternative for selling some items, but of course doesn't get enough visibility for specialized items like HP calculators. If all the Craigslists could be searched at once and people would state whether they wanted to ship or just deal locally activity would explode.

Re: [OT] TAS continues to screw sellers

*Message #4 Posted by **Michael Plant** on 17 Mar 2011, 3:37 p.m.,*
in response to message #3 by Paul Gaster

All I see happening is sellers being forced to charge flat rates to ship items and rolling the TAS costs into it, so the buyer will wind up paying more for shipping... Wonderful.

Re: [OT] TAS continues to screw sellers

*Message #5 Posted by **Michael de Estrada** on 17 Mar 2011, 4:10 p.m.,*
in response to message #4 by Michael Plant

Regardless, both seller and buyer are getting the short end of the stick, and eBay gets to line their pockets w/o providing any value added. It's kind of like dealing with a commission stock broker; they make money at both ends of the deal regardless of whether you make or lose money. I don't buy very much from their stores, because most of the time I can find the same item elsewhere for less from an online vendor not affiliated with them that doesn't have to absorb all the fees, not to mention PayPal.

Re: [OT] TAS continues to screw sellers

*Message #6 Posted by **robert rozee** on 17 Mar 2011, 8:19 p.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> It's kind of like dealing with a commission stock broker; they make money at both ends of the deal regardless of whether you make or lose money

are you wanting to suggest that if you make a loss on an auction, then the auction site should bear some of that loss?

i must admit that the continual whinging and whining about "TAS" is staring to get a little tedious. they charge a fraction of the fees that a 'bricks and mortar' auction house would charge. and as a seller, one can always VOTE WITH YOUR FEET by simply choosing to not list your wares. nowhere do i see a "TAS" employee holding a gun to anyone's head forcing them to list items.

as an aside, i am personally EXTREMELY pleased to see auction fees extended to cover the postage component. i am currently purchasing (new) items out of china and reselling locally... one item i deal in has a list price of us$1, with us$8 shipping, while the same item can also be purchased via buy-it-now for us$10 with free shipping. clearly a little sleight-of-hand going on there, the raw manufacturing cost of said item well exceeds the us$1 sale price.

sellers need to realize that "TAS" is a business that provides a pretty amazing and unique service. they have opened up whole new markets to buyers and sellers alike, and unshackled everyone from the tyrannical fees charged by 'bricks and mortar' auction houses that would often exceed 30%.

if any buyer or seller is unhappy, simply choose to not partake. if you are a seller, bump up your reserve price by 10% or so to cover the fees. better still, try holding your breath until you turn blue!!

Re: [OT] TAS continues to screw sellers

*Message #7 Posted by **Michael de Estrada** on 17 Mar 2011, 8:49 p.m.,*
in response to message #6 by robert rozee

You need to take a course in reading comprehension.

First off, neither I nor most amateur sellers seek to make a profit on shipping fees. We charge the actual cost and don't charge a handling fee, so if anything we lose money in the process, what with packing supplies and gas driving to the post office.

Second, my auctions are all "no reserve" and start at a low price, so I'm at the mercy of the bidders as to the final sale price. Ebay charges a hefty listing fee for reserve price auctions, so even if your item doesn't sell, you pay a significant fee.

Third, brick and mortar auction houses have a significant overhead that eBay doesn't. So, to compare any brick and mortar retailer to an online store is just plain ignorant. This is why all online retailers can provide goods and services at a substantial savings to consumers.

There is nothing amazing about eBay. They are simply another monopoly that has taken advantage of their current position to gouge their users. But you are correct about one thing; I won't use them anymore. Oh, and I don't visit Walmarts either.

Re: [OT] TAS continues to screw sellers

*Message #8 Posted by **robert rozee** on 18 Mar 2011, 3:22 a.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> There is nothing amazing about eBay. They are simply another monopoly that has taken advantage of their current position to gouge their users.

that would be a monopoly that exists because nobody else has stepped in to provide a better service at a better price? again, i don't see EBAY squashing competition, using standover tactics, or hiding behind government regulation. all i see is a company providing a comprehensive service at a quite modest price, a service that no other company in the whole wide world has been able to better.

if any seller of vintage HP calculators is unhappy, i can see no reason why they can not simply VOTE WITH THEIR FEET and freely choose to not sell their wares through said site. after all, they can get so much better prices by selling elsewhere! or not.

Re: [OT] TAS continues to screw sellers

*Message #9 Posted by **Michael de Estrada** on 18 Mar 2011, 9:10 a.m.,*
in response to message #8 by robert rozee

> Quote:
>
> they can get so much better prices by selling elsewhere!

Indeed, that has been my recent actual experience.

Sounds to me like you're a shill for ebaby.

Re: [OT] TAS continues to screw sellers

*Message #10 Posted by **bill platt** on 18 Mar 2011, 9:36 a.m.,*
in response to message #9 by Michael de Estrada

He ain't a shill--he's just being frank.

Seriously, we have only ourselves to blame (collectively) for ebay's success...

Comparison: Why is google the "only" search engine? Because most people stopped using Lycos, Alta Vista and Yahoo within one year of Google's remarkable early rise.

Re: [OT] TAS continues to screw sellers

*Message #11 Posted by **Michael de Estrada** on 18 Mar 2011, 10:58 a.m.,*
in response to message #10 by bill platt

Until recently, eBay fees were reasonable, which is why I and others happily used them. eBay has always been profitable, and they didn't need to raise their fees dramatically in order to make a reasonable profit. Once they established themselves as the sole widely used service of their type, they took advantage of this to make these dramatic fee increases. To provide a numerical example, let's say I sell a calculator for $200, and then ship it to Europe USPS priority mail medium flat rate box insured for an actual cost to me of $50. Under the old eBay fee structure, the eBay sale fee would be $8.31, whereas under the new fee structure it will be $22.50, or a 270% increase. More notable, since part of the fee is based on a cost, the new fee represents 11.3% of the profit, whereas before it was 4.2%. Add in the eBay PayPal fee ($7.50), and the effective fee rises to 15%. Now the Kiwi can argue that this is reasonable because of some skewed comparison with brick and mortar auction houses or whatever, but for me it is not, and so as I stated before I choose to walk away.

Re: [OT] TAS fees cheaper than any time in 5 years

*Message #12 Posted by **Allen** on 18 Mar 2011, 6:51 p.m.,*
in response to message #11 by Michael de Estrada

> Quote:
>
> Until recently, eBay fees were reasonable...

I question the validity of some of the assertions in this thread. Remember the collective fees depend on many things including annual sales, monthly sales, store type, merchant account type, buyers ratings, listing category, final price, starting price, additions, listing time, etc... You're quoting worse case and calling that an "numerical example". It's not representative of what is happening at ebay.

Ebay/paypal fees have steadily dropped for me from 10% in 2009 to 8% in 2011- the cheapest they've been for over half a decade. If you take into account buyer-incentive programs like Ebay BUCKS program they started in 2010, and paypal cash back credit cards the effective rate slides below 6%. How is that unreasonable??

There are two things I agree with, which are not mentioned much above:

1)The ebay fee structure has become very complex, paralleling the US IRS tax structure in number of categories, tables, exceptions, credits, additions, etc.. This is not helpful for anyone.

2)The current (and likely proposed) fee/incentive structure is skewed to benefit large sellers (>$1000 monthly sales) more than occasional sellers.

Annual ebay fee changes, combined with the frequent change in US Post Office cost/policy structure make it very difficult for infrequent sellers satisfy buyers demands regarding packaging, shipping times, and accurate cost estimates for postage.

There's Amazon for those considering an alternative. ETSY also stands out among non-Ebay sites, though for pre-owned goods both companies have a fraction of the audience commanded by the San Jose hegemony.

Re: [OT] Maybe for you but not for me

*Message #13 Posted by **Michael de Estrada** on 18 Mar 2011, 7:35 p.m.,*
in response to message #12 by Allen

I think you hit the nail on the head, when you state that eBay is totally skewed towards high volume high $ sellers. As you can tell from my example, my fees have more than doubled since I began selling about 5 years ago. This is not conjecture, but hard numerical fact. Frankly, I'm more offended by the concept of taxing someone on an expense (charging a fee for a shipping cost), than the actual fee itself. If they are genuinly trying to crack down on shipping cost fraud ($10 shipping on a $1 item), then why not apply this only to fixed shipping rates, and exempt calculated rates only if the seller actual pays for the shipping through PayPal for the stated and charged shipping method. I'm sure eBay management knows perfectly well what they are doing, and are trying to bury the fee increase under the moniker of shipping honesty. If they had simply come out and said that the sale price fee was being increased to say 10% without all this obfuscation, then it would be a little bit easier to swallow. Anyways, I'm seeking out alternatives, since I really don't want to deal with such duplicity, and if that means that it takes me longer to sell my vintage calcs then so be it.

Just one more thought. I contacted another seller of vintage HP calcs and custom replacement parts as to his thoughts on this, and this was his reply:

"I don't sell much anymore and probably won't for much longer. They are going after the people who charge outrageous shipping charges (then charge next to nothing for the item) to avoid the final value fee. The rest of us get to pay."

Now, I can tell you that this person is one of the most honest and valuable sellers that I've known, and that his leaving will be a great loss to the vintage calculator collector community. Some of my very finest acquisitions were from him, and all at very reasonable prices. Hopefully, he will still be willing to sell parts privately. Otherwise, I fear this is all we may be left with in the future:

HP-45 on TAS

Edited: 18 Mar 2011, 8:24 p.m.

Re: [OT] Maybe for you but not for me

*Message #14 Posted by **Paul Gaster** on 19 Mar 2011, 3:35 p.m.,*
in response to message #13 by Michael de Estrada

I agree and just thought of a few more examples that really upset me.

Recently I was trying to help a friend who needed a TI-83 for a class, so I was looking on TAS. I saw one guy selling 2 of them, separately, for $0.99, but with $74.99 shipping. I reported these auctions and then watched what would happen, which was nothing. I reported them again a few days later, and again, nothing. Ebay is either lazy or incompetent when it comes to policing these kind of people and their auctions, so now it seems they will just push through an unfair policy to make sure they get their money. It's pathetic.

Also, don't forget that TAS limits shipping charges in many categories. I have sold some video game systems for example and there are limits for those types of items, and I'm sure other categories as well. There is no way to tack on some extra to cover the ebay fees there, you will just get screwed.

Edited: 19 Mar 2011, 3:35 p.m.

Re: [OT] TAS continues to screw sellers

*Message #15 Posted by **robert rozee** on 18 Mar 2011, 9:41 a.m.,*
in response to message #9 by Michael de Estrada

> Quote:
>
> Sounds to me like you're a shill for ebaby.

not at all - i just use their site and find it incredibly useful, and for the rock-solid service they provide the fees are extremely reasonable.

'bricks and mortar' auction houses tend to charge around 20-30% in fees these days, made up of selling fee, commission, and a buyer premium. ebay allows me to buy items from around the world, while via paypal they handle the payment for me (including currency conversion across boarders), and to boot they even provide a guarantee service too. literally, i can complete a transaction that spans the globe in less than 60 seconds.

i tend to avoid buying goods from america, as american sellers (with one or two notable exceptions) seem to charge quite ridiculous postage fees - and when the item arrives from america, the postage marked on the package is usually substantially lower than what the seller charged.

on the other hand, out of china the postage costs are minimal, and often 'free'. parts of europe are also pretty cheap for postage, and they have good supplies of old HP calculators.

there are a small number of 'pioneering' companies that have transformed the landscape for the consumer:
ebay
amazon
trademe (in new zealand)

each have opened up otherwise unavailable markets, and at a cost unheard of before the advent of the internet. 99.9% of consumers and merchants are extremely happy with the variety of goods now available and substantially cheaper costs, they don't begrudge the likes of ebay taking a cut.

it is only a very small number who complain incessantly over the fact that these companies are successful - and that is the crux of the complaints. it irks me.

Edited: 18 Mar 2011, 9:42 a.m.

Re: [OT] TAS continues to screw sellers

*Message #16 Posted by **Michael de Estrada** on 18 Mar 2011, 11:07 a.m., in response to message #15 by robert rozee*

> Quote:
>
> parts of europe are also pretty cheap for postage, and they have good supplies of old HP calculators.

Penny wise and pound foolish. HP calcs usually are much more expensive and in poorer condition from European sources than from the USA.

> Quote:
>
> on the other hand, out of china the postage costs are minimal, and often 'free'.

Good luck buying vintage HP calcs from China.

Re: [OT] TAS continues to screw sellers

*Message #17 Posted by **Raymond Del Tondo** on 19 Mar 2011, 9:33 a.m.,*
in response to message #16 by Michael de Estrada

> Quote:
>
> HP calcs usually are much more expensive and in poorer condition from European sources than from the USA.

I'd say it's the other way round. Seriously, there are very nice calcs offered in Europe and USA, but you can also get wrecks on both sides of the atlantic sea.

This is just a matter of your shipping quote.

*Message #18 Posted by **Frank Boehm (Germany)** on 18 Mar 2011, 4:48 a.m.,*
in response to message #7 by Michael de Estrada

If you just quote the actual shipping quotes, accepting payments via PayPal mean an overall loss for you (ever been), since the payment fee has been calculated on $itemprice+$shipping. You should have quoted $itemprice+$shipping+$paypalfeeforshipping to cover your costs.
Your new calculation needs to include the ebay-fee too, i.e. the above+$ebayfeeforshipping.

I think the new calculation is very understandable from ebays point of view, from the sellers point of view, it simply sucks to have fees added twice to the shipping costs - but I cannot come up with a clever solution to avoid the general adding of a fee without allowing "ebay sales fee fraud" (aka low item price, high shipping costs).
Maybe it's a little piece of gear towards becoming a shipping agent - in Germany, DHL and Deutsche Post are very tightly integrated into the sales process...

Re: This is just a matter of your shipping quote.

*Message #19 Posted by **Michael de Estrada** on 18 Mar 2011, 9:02 a.m.,*
in response to message #18 by Frank Boehm (Germany)

> Quote:
>
> I cannot come up with a clever solution to avoid the general adding of a fee without allowing "ebay sales fee fraud" (aka low item price, high shipping costs).

This tactic is only used in fixed price style (Buy it Now) listings, and you rarely if ever see ordinary citizen amateur sellers such as myself doing this. The typical listing is an auction style with the shipping fees calculated automatically, based on the service, such that the shipping amount is the actual cost to the seller. Also, most sellers, be they amateur or pro, do not use this tactic. If this is Ebay's rationale, then they are just using it as an excuse to extort additional fees from all sellers, whether they are honest or not. As I stated above, this will hurt especially with international sales, where shipping costs are much higher. So all you fine folks in Europe are

going to find it even more difficult to obtain HP calcs from sellers in the USA, unless of course you are wise enough to buy them through the MoHPC classifieds.

Re: [OT] TAS continues to screw sellers

*Message #20 Posted by **Martin Pinckney** on 17 Mar 2011, 7:35 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> Within 3 years, Ebay will no longer be the Auction site of popular culture. It isn't an auction now, at all. Someone else will come in and fill the void.

I wish I could believe you are right. But I don't think this will happen any more than I think something will replace Walmart or Microsoft.

We (American) consumers are complicit in the near monopoly of all of the above, because of our own choices.

We go to eB** because we think we'll get more money selling or have more choices buying. We're rewarded with "policies to line their greedy pockets."

We go to Walmart for the cheap prices, and we're rewarded with nothing but Chinese junk to buy, and loss of jobs to China to boot.

Maybe Clinton was right all along in trying to bust Microsoft.

Edited: 17 Mar 2011, 9:49 p.m.

Re: [OT] TAS continues to screw sellers

*Message #21 Posted by **David Hayden** on 18 Mar 2011, 7:31 a.m.,*
in response to message #20 by Martin Pinckney

> Quote:
>
> I wish I could believe you are right. But I don't think this will happen any more than I think something will replace Walmart or Microsoft.

30 years ago, you might have said Woolworths and Digital Equipment Corporation.

I tend to agree that ebay is in danger of pricing themselves out of the market. Don't bricks and mortar auction houses typically charge 10%? I suspect that someone will pop up to take some of ebay's business. That will force them to lower their fees.

Re: [OT] TAS continues to screw sellers

*Message #22 Posted by **Martin Pinckney** on 18 Mar 2011, 8:41 a.m.,*
in response to message #21 by David Hayden

> Quote:
>
> 30 years ago, you might have said Woolworths and Digital Equipment Corporation.

I take your point.

> Quote:
>
> I suspect that someone will pop up to take some of ebay's business. That will force them to lower their fees.

Some have tried and largely failed. We now have eBid. A quick check revealed a whopping 6 listings for the search "HP calculator."

Re: [OT] TAS continues to screw sellers

*Message #23 Posted by **Anthony (USA)** on 17 Mar 2011, 9:30 p.m.,*
in response to message #1 by Michael de Estrada

I've been wondering for a while now, I even tried doing a Google search, but I still don't know what TAS stand for. Will anyone explain what it stands for? Thank you. :)

Re: [OT] TAS continues to screw sellers

*Message #24 Posted by **Gerson W. Barbosa** on 17 Mar 2011, 9:37 p.m.,*
in response to message #23 by Anthony (USA)

The Auction Site. It appears e**Y is considered a bad word here.

Re: [OT] TAS continues to screw sellers

*Message #25 Posted by **Michael de Estrada** on 17 Mar 2011, 9:37 p.m.,*
in response to message #23 by Anthony (USA)

It stands for The Auction Site. I think someone on this forum coined the term to avoid mentioning the evil name itself.

Re: [OT] TAS continues to screw sellers

*Message #26 Posted by **Anthony (USA)** on 17 Mar 2011, 9:42 p.m.,*
in response to message #25 by Michael de Estrada

Haha, that's awesome. Thank you all. :)

example of a good store engine

*Message #27 Posted by **db(martinez,ca)** on 17 Mar 2011, 10:19 p.m.,*
in response to message #1 by Michael de Estrada

Michael, Bill; A friend used to be into buying/selling/collecting/building/playing-with/designing Lego stuff. His opinion of ebaby was not too high, but it doesn't matter to Lego folks. They have something called bricklink. It was written by a Lego guy (who is no longer alive) and it exists for their community. It made enough profit to keep running and John said it is still running and owned by his family. I remember asking about it and while it didn't seem perfect for the calculator sales market, it looked way better than eblay. He said that some folks had made offers to license the software but the writer didn't want to do that (!?!?!?) Maybe his heirs would. Just taking the bloodsucking mercenary robber-baron aspect out of the system would improve it.

Re: [OT] TAS continues to screw sellers

*Message #28 Posted by **PeterP** on 18 Mar 2011, 3:34 p.m.,*
in response to message #1 by Michael de Estrada

wow this is shocking, and just as I am getting ready to sell a large chunk of my collection! unfortunately, this has been here already in the past and had no effect, see these threads from 3 years ago:

Outcry over new listing fees CNN Money 2008

EBay rivals circle vulnerable auctions kingpin CNN Money 2008

Re: [OT] TAS continues to screw sellers

*Message #29 Posted by **Michael de Estrada** on 18 Mar 2011, 4:57 p.m.,*
in response to message #28 by PeterP

Have you tried using the MoHPC classifieds? I've already sold several HP calcs to forum members, and we're all satisfied. The worst that can happen is that you don't get any interest, but the ads are free, so you can't lose anything other than time. I recently sold 3 on TAS, but the sale price on 2 of them was shockingly low, so the market seems weak at this time anyway. Had I listed them BIN, then they probably wouldn't have sold anyway. Unless you have something super rare like an HP-70, I don't see a lot of opportunity on TAS at this time.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] Casio fx 98 on TAS

*Message #1 Posted by **Manolo Sobrino** on 16 Mar 2011, 3:10 p.m.*

This oh so cute model has been mentioned on this forum some time ago... Finally one specimen comes up (and I think it's going to break all records on Casio auctions).

link (beware - you really don't need this)

Re: [OT] Casio fx 98 on TAS

*Message #2 Posted by **Mike Morrow** on 16 Mar 2011, 7:50 p.m.,*
in response to message #1 by Manolo Sobrino

An even better version of the fx-98 is the one that Casio made for Radio Shack, the EC-4009. That model was identical except for having permutation and combination functions that the fx-98 lacks (on the same keys as the parenthesis). They were cheap enough that I gave a bunch away as casual gifts 26 years ago. Today, I have only my one remaining.

There was a slightly smaller Casio scientific (non-solar) from 1977 called the fx-48. Mine survives and still works well 34 years after I bought it.

I'd like to see a re-issue of the EC-4009.

Edited: 16 Mar 2011, 7:55 p.m.

Re: [OT] Casio fx 98 on TAS

*Message #3 Posted by **Dave** on 16 Mar 2011, 9:57 p.m.,*
in response to message #2 by Mike Morrow

I also have an EC-4009. It's a great little calculator. I had one in high school in the mid-80s. Several of my friends got them too after they saw mine. Unfortunately it was stolen not long after. After watching ebay for about 5 years, I snagged one for $50 not too long ago. I passed up several high priced ones during my long search.

They don't make 'em like they used to.

Re: [OT] Casio fx 98 on TAS

*Message #4 Posted by **Eric Smith** on 17 Mar 2011, 1:39 a.m.,*
in response to message #2 by Mike Morrow

How thick is the body of one of these "credit card" calculators, not counting the protrusion of the buttons?

Re: [OT] Casio fx 98 on TAS

*Message #5 Posted by **Julián Miranda (Spain)** on 17 Mar 2011, 4:22 p.m.,*

in response to message #4 by Eric Smith

I had one, I'm sure I didn't throw it away but I don't know where it is. I don't know if it was the solar cell, or the connexions, it began to stop working and in the end didn't even turn on. It was a pitty, I liked it a lot.
I would say it was 3 or 4 mm (0.12 - 0.16 inch) thick, not more.

Re: [OT] Casio fx 98 on TAS

*Message #6 Posted by **hugh steers** on 18 Mar 2011, 7:26 a.m.,*
in response to message #4 by Eric Smith

I seem to remember it being about the same thickness as their regular folding scientific. it's just not as tall.

Re: [OT] Casio fx 98 on TAS

*Message #7 Posted by **Pavel Nemec (CZ)** on 19 Mar 2011, 8:14 a.m.,*
in response to message #4 by Eric Smith

I also like mine - Casio fx68, no solar, 8 digits. Measured dimensions are 54mm x 91mm x 5mm (body only, keys protrusion not included). Still working but about month ago glued metal faceplate peeled off which ended in my first calculator restoration attempt.
My daughter (12) prefers 30b (yet in ALG mode).

Pavel

Re: [OT] Casio fx 98 on TAS

*Message #8 Posted by **Eric Smith** on 19 Mar 2011, 4:30 p.m.,*
in response to message #7 by Pavel Nemec (CZ)

Thanks for measuring the dimensions. The outline is, perhaps unsurprisingly, close to the dimensions of a Japanese business card. What is the height with the keys?

Edited: 19 Mar 2011, 4:32 p.m.

Re: [OT] Casio fx 98 on TAS

*Message #9 Posted by **Pavel Nemec (CZ)** on 20 Mar 2011, 7:54 a.m.,*
in response to message #8 by Eric Smith

> Quote:
>
> Thanks for measuring the dimensions. The outline is, perhaps unsurprisingly, close to the dimensions of a Japanese business card. What is the height with the keys?

Eric, I have tried new more precise measurement which revealed thickens of the body 4,8 mm plus 1,2 mm keys protrusion. There are some pictures in the link. Hope it will help (is there something cooking?)

Pavel

Re: [OT] Casio fx 98 on TAS

*Message #10 Posted by **Eric Smith** on 20 Mar 2011, 4:46 p.m.,*
in response to message #9 by Pavel Nemec (CZ)

Just some thoughts on how one might make a thin calculator. Don't yet know whether anything is likely to result. Wish I had more time to spend on calculator development!

Looks like the case is stamped aluminum? I wonder what it costs to have a suitable die made. Probably not practical for low volume production.

Re: [OT] Casio fx 98 on TAS

*Message #11 Posted by **hugh steers** on 18 Mar 2011, 7:30 a.m.,*
in response to message #2 by Mike Morrow

It could well be that the 98 model also has the permutation function - but the keys are not labelled!

i've seen this before with casio. for example the fx-29 has permutations and combinations on [shift] * and / keys, but it not marked. the labelling is there on the fx-39.

this my guess, since radio shack used to simply rebrand. it should be checked however.

-- hugh.

Re: [OT] Casio fx 98 on TAS

*Message #12 Posted by **Eddie W. Shore** on 17 Mar 2011, 12:21 a.m.,*
in response to message #1 by Manolo Sobrino

That is a lot for just a scientific calculator. Wow. A nice looking calculator.

Re: [OT] Casio fx 98 on TAS

*Message #13 Posted by **Johnny Bjoern Rasmussen** on 17 Mar 2011, 4:23 a.m.,*
in response to message #1 by Manolo Sobrino

Hi Manolo.
Nice calculator. Regarding the term "beware - you really don't need this" it sometimes gets swept away by "hey I remember that I really wanted that gadget once". By that I mean that I from time to time stumble over (even non-HP) items that I remember reading about in electronics magazines back in the 1980's and 90's. Back then they were too expensive for me (being being just introduced on the market) as the latest technology is almost always expensive. Today the same items are often 20+ years old and the owners have got tired of looking at them in the desktop drawer thinking "I don't need that anymore. Hmm... I wonder if some geek collects those things?". Well, that is just lucky for us collectors so we might find that Holy Grail item that we never got our fingers in back then when we were studying or just did not have eg. $300 to buy that thing. As late as the day before yesterday I came across an Atari Portfolio with a $3 price tag. Now that's a great deal for a collector.
So what I mean is that even if you are not in need for an extra calculator/pda/gadget/bicycle/set of winther tires it would be crazy not to buy it if you can afford it without putting your whole economical situation at risk. If the item is not sold the seller often sends the item for recycling. And that is a shame.

Best regards
Johnny Bjoern Rasmussen

Re: [OT] Casio fx 98 on TAS

*Message #14 Posted by **Manolo Sobrino** on 17 Mar 2011, 11:44 a.m.,*
in response to message #13 by Johnny Bjoern Rasmussen

Hi Johnny,

Of course, if you come upon a bargain like that (3$ for a Portfolio is just plain burglary! ;)), you should get it or else you will regret for decades (and every finely crafted tool deserves a loving home, you know). I understand too the pleasure to fulfil some cravings. But lately, before I wonder if I can afford some new old gadget, I find myself trying to decide whether I just have enough time/room for it, or whether there is another tool that can do the job better (and be easily replaced, I turned down recently a very nice hp 200lx because of that... sometimes it's hard).

I have a NIB casio fx-78 (almost as small as this one, not solar, but ten digits). Build quality is the best I've ever seen, but it is not as useful as my other calcs, so the poor thing sleeps in its box, that's a bit sad too.

Regards,

Manolo

Re: [OT] Casio fx 98 on TAS

*Message #15 Posted by **Bill Wiese** on 19 Mar 2011, 6:52 p.m.,*
in response to message #14 by Manolo Sobrino

In high school (1979) my geomtry teacher had a Casio FX-28, which was in 'landscape' format and similar to the '98 except perhaps with a few less functions. I recall the FX28 having quite a 'yellow' LCD display.

In 1980 I got a similar Casio FX-68 'credit card' calculator. However, it was arranged in a vertical "portrait" layout and came in a little folding vinyl wallet.

I believe Radio Shack rebranded one of these calcs and it would have had some model number like "EC-nnnn"

Bill Wiese San Jose CA

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Comparing HP and Dell

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 15 Mar 2011, 10:25 p.m.*

The article "Rebooting their systems" on pages 73-74 of the March 12-18 issue of *The Economist* discusses prospects for HP and Dell. It is interesting readiing. Here's a sentence from the article:

> Quote:
>
> HP's boss will also need to decide whether the computers-to-calculators company, which has $126 billion of annual revenues and 325,000 employees, can continue to dabble in so many areas.

Re: Comparing HP and Dell

*Message #2 Posted by **bill platt** on 15 Mar 2011, 10:52 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

$388.000, revenue per employee

Re: Comparing HP and Dell

*Message #3 Posted by **Martin Pinckney** on 16 Mar 2011, 1:20 a.m.,*
in response to message #2 by bill platt

I guess you are using the European radix.

In my little company, I would consider one fourth of that to be wonderful.

Re: Comparing HP and Dell

*Message #4 Posted by **Bill Wiese** on 16 Mar 2011, 3:59 a.m.,*
in response to message #3 by Martin Pinckney

When we were targeting ourselves to be bought (or other 'exit strategy' perhaps) we were trying to achieve/exceed the magic > $1 million per employee that investors love. That's the sign of growth + a lean operation.

Bill Wiese San Jose CA

Re: Comparing HP and Dell

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Mar 2011, 7:53 a.m.,*
in response to message #4 by Bill Wiese

These kind of ratios (revenue/employee, etc.) are meaningless and misleading, except for a few cases where other data is also taken into account. Revenue is not the same than profit, profit is not the same than return from investment, and so on. But, sadly, many decision makers make their

assesments just based on such ratios... Some of the consequences are visible almost everywhere.

Re: Comparing HP and Dell

*Message #6 Posted by **bill platt** on 16 Mar 2011, 10:47 a.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Yes! You could have $2millions revenue per employee, but be borrowing to make their paychecks....

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #1 Posted by **Anthony (USA)** on 15 Mar 2011, 6:12 p.m.*

Hi, everyone. I ordered a humble HP 95LX and received it today. Well, I put two new 1.5V AA batteries and a new 3V CR 2032 coin cell, and every time I turn it on I always get the "Main Battery Low" message. I go to SET UP and to the System menu and the battery status is approximately one-fifth dead. Any suggestions why it's almost out? Thank you. :)

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #2 Posted by **DeboT** on 15 Mar 2011, 6:37 p.m.,*
in response to message #1 by Anthony (USA)

Have you tried a second set? You may just have a dud battery.

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #3 Posted by **Bill (Smithville, NJ)** on 16 Mar 2011, 3:07 a.m.,*
in response to message #2 by DeboT

Do you have any PCMCIA memory or other cards installed. If so they can cause a voltage drop on turn on.

Which battery brand are you using? I remember that on my unit, Duracell batteries would not provide the high turn on current while Everready didn't exhibit the problem. With Duracell, I would get the main battery low every time I turned the unit on.

Of course now, I just use Lithium AA batteries.

Bill

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #4 Posted by **robert rozee** on 15 Mar 2011, 8:25 p.m.,*
in response to message #1 by Anthony (USA)

hi,

this is a known problem with the 95lx, mostly (as far as i can tell) affecting 512kb models. i've never encountered a 1mb model with this problem and assume that by the time the 1mb models were in production HP had made component changes to prevent it.

i am afraid the only solution is a hardware one - replacing a defective tantalum capacitor with a ceramic one. you can find a short item i wrote on the procedure here, including pictures:

http://www.hermocom.com/en/knowledgebase/hplx/95lxlowbattery

you need to find someone nearby who is handy with a soldering iron, and able to follow the pictures :-) HP did

repair defective units for some time free of charge, but that was way back in the 90's.

FYI, i much prefer the 95lx over the later 100/200lx, simply because of the far more readable LCD screen.

cheers, rob :-)

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #5 Posted by **Anthony (USA)** on 15 Mar 2011, 10:14 p.m.,*
in response to message #4 by robert rozee

Thank you all. I don't have access to a soldering iron, but when I find a friend who do, I will definitely get it fixed then. Until then, do you think I could keep using my HP 95LX without having the batteries run dry after just days of use?

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #6 Posted by **robert rozee** on 16 Mar 2011, 7:48 a.m.,*
in response to message #5 by Anthony (USA)

the messages do not affect power consumption, and are purely an annoyance. the only problem will be that you won't know when the batteries are really empty, so you'll need to save frequently and have a spare set handy for when the unit stops running.

Edited: 16 Mar 2011, 7:51 a.m.

Re: HP 95LX - New Batteries But Still Shows "Main Battery Low"

*Message #7 Posted by **Anthony (USA)** on 16 Mar 2011, 3:48 p.m.,*
in response to message #6 by robert rozee

Thank you, that really puts the message into perspective. Okay, I'll make sure to save constantly and carry with me batteries. Thank you. :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

offtopic: is HPCALC.ORG dead?

*Message #1 Posted by **x34** on 15 Mar 2011, 4:50 p.m.*

No software updates for several months, now site is not working at all.

Re: offtopic: is HPCALC.ORG dead?

*Message #2 Posted by **Raymond Del Tondo** on 15 Mar 2011, 5:24 p.m.,*
in response to message #1 by x34

> Quote:
>
> now site is not working at all.

Could also be the regular site mirror maintenance. I think I saw a posting from Eric here in the forum lately (unrelated to this topic)

Re: offtopic: is HPCALC.ORG dead?

*Message #3 Posted by **DeboT** on 15 Mar 2011, 6:44 p.m.,*
in response to message #1 by x34

See Eric's response to the same question on comp.sys.hp48:
hpcalc.org Status?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

This is it!

*Message #1 Posted by **Joerg Woerner** on 14 Mar 2011, 8:17 p.m.*

Calculator users - stop searching!

Engineers - stop developing!

Competitors - don't even try it!

I received today, almost 40 years after the introduction of the famous Bowmar 901B, samples of the new Texas Instruments TI-nspire CX and TI-nspire CX CAS.

My first reaction after unpacking them: WOW!

The first reaction of my 16 year old test driver Stefan: WOW!

Two hours of playing with both units, comparing it with the different evolutions of the nspire, the TI-84 Plus SE and a TI-89 Titanium: See my headline.

The first pictures of the CX looked nice, but holding this cutie in your own hands is something different. It is sleek, it looks and feels just perfect and both the screen and keyboards are outstanding. Believe it or not - the keys click exactly how we liked it about 35 years ago. Not too much travel, not to hard, simply perfect. Even the plastic material used for the keys, not too mushy, not too soft, not too hard. Feels like a good old SR-51! And the screen? I can't scan it right with my equipment - just believe me. You never saw a calculator screen that crisp and bright.

I guess that in a few hours we will read the news on the CX, the yellow part on one of the provided pictures is actually a Wi-Fi adapter!

Enjoy the two pictures:

Happy Pi Day!

Regards, Joerg

Re: This is it!

*Message #2 Posted by **TychoBrahe** on 14 Mar 2011, 8:40 p.m.,*
in response to message #1 by Joerg Woerner

It really is a nice screen. I'll probably end up getting one of these (unless a worthy successor to the HP50g comes out - one with a display from this century) but I really wish TI would branch the hardware and create a version more engineer friendly.

One with a qwerty keypad, discrete trig keys and a reciprocal key. Hell, while they're at it the ability to remap the keys (at least some of them) the way you want. And much better programming abilities (API, pixel drawing, key and touchpad detection). Since wifi is already available, maybe a web browser is possible on the hardware. Useless for a calculator to do ? Pretty much. But very cool from a geek standpoint. That sounds like a lot but the hardware is 95% in place to do all that.

I realize all of those limitations are probably because the Nspire is geared toward high school students with test acceptance a priority but still I can dream.

I haven't had the chance to test any of the Nspires with the touchpad. How easy is it to get used to the touchpad ?

Re: This is it!

*Message #3 Posted by **robert rozee** on 14 Mar 2011, 9:09 p.m.,*
in response to message #1 by Joerg Woerner

certainly is less ugly than it's predecessor!

can it make phone calls?

cheers, rob ;-)

Re: This is it!

*Message #4 Posted by **Joerg Woerner** on 14 Mar 2011, 10:03 p.m.,*
in response to message #3 by robert rozee

No phone calls so far - but a double-wide ENTER key ;-))

Joerg

Re: This is it!

*Message #5 Posted by **Glen Sanft** on 14 Mar 2011, 10:34 p.m.,*
in response to message #4 by Joerg Woerner

But you're still obliged to drill through menus to get things done, which is tedious enough. (Menu-driven interfaces always suck) Especially so will it be tedious to use without native RPN or RPL! No amount of ancillary whiz-bang can possibly make that thing a joy to use day in and day out. /Play/ with it for a short while? Perhaps /that/ could be some fun.

It'd be entertaining-enough to put through some paces, no doubt, at least until you have to do something as asinine as

"sin-1(cos-1(tan-1(tan(cos(sin 9))))="

Please count out for us all the keystrokes/gestures required for /that/.

Re: This is it!

*Message #6 Posted by **Hal Bitton in Boise** on 15 Mar 2011, 12:02 a.m.,*
in response to message #5 by Glen Sanft

Well put Glen,

When the ordinary student or engineer just wants to see the associated frequency for the period they just computed, "ancillary whiz bang" will make them compose another expression. RPL will put fourth with but 1 keystroke in such an instance (1/x).

Just for the record, your expression "sin-1(cos-1(tan-1(tan(cos(sin 9)))))= Would be summarily rejected by the yellow rose of Texas as not having enough brackets! Yes, 5 sets is not enough...you forgot to put the innermost "9" in brackets! I'm betting that's close to 30 whiz-bangin' keystrokes when it's all said and done. Lacking all this glitz and flash, my poor old RPL machine (50G) makes me solve this expression in a pathetic 10 keystrokes. Gosh, I feel deprived! HB

Re: This is it!

*Message #7 Posted by **Gerson W. Barbosa** on 15 Mar 2011, 7:45 a.m.,*
in response to message #6 by Hal Bitton in Boise

> Quote:
>
> Lacking all this glitz and flash, my poor old RPL machine (50G) makes me solve this expression in a pathetic 10 keystrokes.

The very first RPL machine, the HP-28C, does it in an even more pathetic eight keystrokes :-)

Re: This is it!

*Message #8 Posted by **Crawl** on 15 Mar 2011, 11:17 a.m.,*
in response to message #7 by Gerson W. Barbosa

You might be able to get it down to 7 on the HP50G IF you already had the TRIG softmenu set up (or maybe you're counting that as the 8th keystroke?)

Re: This is it!

*Message #9 Posted by **Gerson W. Barbosa** on 15 Mar 2011, 11:51 a.m.,*
in response to message #8 by Crawl

Yes, only 7 keystrokes on the HP-28C/S if the TRIG menu was already activated. But then again the TRIG menu key had to be pressed previously, therefore it should be counted.

```
[9] [TRIG] [SIN] [COS] [TAN] [ATAN] [ACOS] [ASIN]
```

Re: This is it!

*Message #10 Posted by **Crawl** on 15 Mar 2011, 3:51 p.m.,*
in response to message #9 by Gerson W. Barbosa

Opps, it looks like the 50g's TRIG menu doesn't contain ASIN, ACOS, ATAN. I guess they figured they weren't necessary since they're accessible from the keyboard.

Re: This is it!

*Message #11 Posted by **Martin Pinckney** on 15 Mar 2011, 12:28 p.m.,*
in response to message #6 by Hal Bitton in Boise

> Quote:

> I'm betting that's close to 30 whiz-bangin' keystrokes when it's all said and done.

Surely not on the CAS+ version, which has the trig functions on the keyboard, but perhaps on the others.

> Quote:
>
> ...my poor old RPL machine (50G) makes me solve this expression in a pathetic 10 keystrokes. Gosh, I feel deprived! HB

My old 48sx will also do 10 keystrokes via RPN input. It's so well designed that entering it as an algebraic object only adds one keystroke. Interestingly, the much-maligned HP 38g also takes 11, because it automatically assumes the trailing parentheses.

Yellow rose of texas?

*Message #12 Posted by **Allen** on 16 Mar 2011, 11:38 p.m.,*
in response to message #6 by Hal Bitton in Boise

> Quote:
>
> ... summarily rejected by the yellow rose of Texas ...

Funny moniker for the TI Wifi dongle- probably such a bright yellow so the teachers can easily tell when it's attached during tests.

Ironically the historic "yellow rose of Texas" and subject of so named song was a prostitute instrumental in Texas winning the War with Mexico, IIRC. An interesting history read! The anniversary of the Battle of San Jacinto is just around the corner on April 21st.

Re: This is it!

*Message #13 Posted by **bill platt** on 15 Mar 2011, 11:52 a.m.,*
in response to message #5 by Glen Sanft

Am I missing something? Doesn't Ti use implied parenthesis?

On my 48GX, the count of keystrokes doesn't match what others have done.

```
Method RPL:
9
ENTER
sin
cos
tan
leftshift
tan-1
leftshift
cos-1
leftshift
sin-1


That is eleven keystrokes.


Method ALG:
'
leftshift
sin-1
```

```
leftshift
cos-1
leftshift
tan-1
tan
cos
sin
9
EVAL
```

That is 12 keystrokes. Big deal. Who cares?

Re: This is it!

*Message #14 Posted by **Gerson W. Barbosa** on 15 Mar 2011, 12:10 p.m.,*
in response to message #13 by bill platt

Bill, have you tried omitting the ENTER key?

Re: This is it!

*Message #15 Posted by **bill platt** on 15 Mar 2011, 1:45 p.m.,*
in response to message #14 by Gerson W. Barbosa

Oops! OK so 10 versus 12.

Re: This is it!

*Message #16 Posted by **Martin Pinckney** on 15 Mar 2011, 2:15 p.m.,*
in response to message #13 by bill platt

> Quote:
>
> Am I missing something? Doesn't Ti use implied parenthesis? ... That is 12 keystrokes. Big deal. Who cares?

Exactly. As Joerg pointed out, only two more for the new TI.

Re: This is it!

*Message #17 Posted by **bill platt** on 15 Mar 2011, 3:21 p.m.,*
in response to message #16 by Martin Pinckney

But as silly as it sounds, to me, a scientific calculator without direct keys for trig is just, um, stupid.

Re: This is it!

*Message #18 Posted by **Don Shepherd** on 15 Mar 2011, 3:45 p.m.,*
in response to message #17 by bill platt

That's true. The NSpire is not a scientific calculator, it is a math student's calculator. I don't know why people are trying to make it into something it is not.

Re: This is it!

*Message #19 Posted by **bill platt** on 15 Mar 2011, 4:24 p.m.,*
in response to message #18 by Don Shepherd

It is also a stupid cutesy name. Nothing a little electrical tape couldn't tame

Re: This is it!

*Message #20 Posted by **Martin Pinckney** on 15 Mar 2011, 10:18 p.m.,*
in response to message #18 by Don Shepherd

Excellent point, Don. I think people are reacting to the OP glowing description, whether meant in jest or not.

Re: This is it!

*Message #21 Posted by **Don Shepherd** on 15 Mar 2011, 10:49 p.m.,*
in response to message #20 by Martin Pinckney

Thanks, Martin.

Yes, Joerg's description is certainly good. The pictures, I'm sure, don't do justice to the quality of the color display. If it is anything like the Casio Prizm (and I'm sure it is), it is indeed a fine display, and this overcomes one of the biggest complaints about the NSpire from day one: you just couldn't discern the display unless you shine a bright light directly on it. I kept a flashlight next to mine, for this reason. So I'm happy to see this improvement.

But this new version still does not overcome another problem of the NSpire, namely, the touchpad (and "clickpad" before it) is a cumbersome human interface for manipulating objects on the screen. Using the touchpad to grab a point or a line or a vertex or a slider and drag it across the screen (which is what students will do to explore math concepts on the NSpire) is not an easy process to learn or execute; it is downright frustrating, frankly. What the NSpire needs is a stylus and a touchscreen. Color certainly adds a lot, but a touch-sensitive screen would make the NSpire about 200% better, in my opinion.

And, yes, TI is not marketing this to engineers. It's place is in the classroom of high schools and colleges.

Don

Re: This is it!

*Message #22 Posted by **bill platt** on 15 Mar 2011, 10:54 p.m.,*
in response to message #21 by Don Shepherd

Wouldn't software running on a laptop just blow this friggin' thing out of the water, for mathstudents?

Re: This is it!

*Message #23 Posted by **Don Shepherd** on 15 Mar 2011, 11:15 p.m.,*
in response to message #22 by bill platt

Bill, I don't know, but Mathematica for Students (for example) + the cost

of a laptop would undoubtedly be more than the cost of the NSpire. I don't know how many high schools currently use the NSpire but I have a feeling the NSpire is nowhere near as prevalent as the TI-83 and 84. Whether the color NSpire will change that, who knows.

Re: This is it!

*Message #24 Posted by **Joerg Woerner** on 16 Mar 2011, 8:04 a.m.,*
in response to message #21 by Don Shepherd

Touchscreen, QWERTY keyboards etc are show stoppers for the AP, SAT etc exams.

Regards, Joerg

Re: This is it!

*Message #25 Posted by **Joerg Woerner** on 15 Mar 2011, 1:13 p.m.,*
in response to message #5 by Glen Sanft

Glen,

Less keystrokes than you expected!

This little thing places all the brackets automatically ;-))

And you might have noticed the little arrow below the [trig]? This key brings up "sin" if you press it, "cos" if you hold it a little longer, then "tan" etc.

It is [trig] [enter] [trig] [enter] [trig] [enter] [trig] [enter] [trig] [enter] [trig] [enter] [9] [enter]

Or 14 keystrokes.

Cheers, Joerg

Re: This is it!

*Message #26 Posted by **Gerson W. Barbosa** on 15 Mar 2011, 3:53 p.m.,*
in response to message #25 by Joerg Woerner

> Quote:
>
> This little thing places all the brackets automatically ;-))

So does the HP-71B in calc mode:

```
[f] [ASIN] [f] [ACOS] [f] ATAN [f] [TAN] [f] [COS] [f] [SIN] [9] [END LINE]
```

14 keystrokes as well, without worrying about when releasing any of the keys :-)

Regards,

Gerson.

Edited: 15 Mar 2011, 3:55 p.m.

Re: This is it!

*Message #27 Posted by **Hal Bitton in Boise** on 16 Mar 2011, 2:05 p.m.,*
in response to message #25 by Joerg Woerner

> Quote:
>
> Less keystrokes than you expected!
>
> This little thing places all the brackets automatically ;-))

Don't forget that you would have to space over all those closing brackets should you want to continue the expression...that's an instant 6 more keystrokes. =)

Re: This is it!

*Message #28 Posted by **Jim Horn** on 16 Mar 2011, 1:14 p.m.,*
in response to message #5 by Glen Sanft

Number of keystrokes on *any* calculator, HP or TI: 1: 9

By trivial inspection, the functions cancel each other out. Of course, 9>+/-PI, so you could normalize out the middle two terms with 9 SIN ASIN or 4 keystrokes on the '42S, '50g, etc.

Re: This is it!

*Message #29 Posted by **bill platt** on 16 Mar 2011, 3:07 p.m.,*
in response to message #28 by Jim Horn

Ah, but Jim, you are speaking of mathematics. Here, we are speaking only of calculator addicts! :)

Re: This is it!

*Message #30 Posted by **Gerson W. Barbosa** on 16 Mar 2011, 4:03 p.m.,*
in response to message #29 by bill platt

Also, that particular expression has a special meaning here:

http://www.rskey.org/~mwsebastian/miscprj/forensics.htm

Simplify it... and no joy!

Re: This is it!

*Message #31 Posted by **Gerson W. Barbosa** on 17 Mar 2011, 5:50 p.m.,*
in response to message #30 by Gerson W. Barbosa

BTW, I have an algebraic calculator that returns 15.5894 (after 10 keystrokes), but it's not the one in Mike Sebastian's table.

http://www.rskey.org/~mwsebastian/miscprj/results.htm

Re: This is it!

*Message #32 Posted by **Namir** on 15 Mar 2011, 7:25 a.m.,*
in response to message #4 by Joerg Woerner

I bet you that wide ENTER key was put by a former HP employee working for TI.

Overall .... very nice!!!

Amazon has an entry for the CX model but shows nothing yet.

Namir

Edited: 15 Mar 2011, 7:26 a.m.

Re: This is it!

*Message #33 Posted by **Chuck** on 15 Mar 2011, 1:05 a.m.,*
in response to message #1 by Joerg Woerner

Wow, everybody on the planet that buys one of these just gained 23.6 points on their IQ score. I still don't see the huge benefit of more powerful hand calculators. Call me old school, but I'd much rather partner with a smart human than a smart machine. Not impressed.

Re: This is it!

*Message #34 Posted by **Walter B** on 15 Mar 2011, 6:23 a.m.,*
in response to message #1 by Joerg Woerner

Too many keys IMHO. And too close for my fingers. And the wrong keys in foreground. And I don't need a hand-held colour TV. We'll try coming with a better offer d;-)

Re: This is it!

*Message #35 Posted by **Paul Dale** on 15 Mar 2011, 7:45 a.m.,*
in response to message #34 by Walter B

At least they're using the CX suffix made famous by HP :-)

Looks like overkill for a calculator to me.

- Pauli

Re: This is it!

*Message #36 Posted by **Martin Pinckney** on 15 Mar 2011, 11:00 a.m.,*
in response to message #1 by Joerg Woerner

Why so many versions? I see six on the TI site. There's only one 50g.

Re: This is it!

*Message #37 Posted by **bhtooefr** on 16 Mar 2011, 8:20 a.m.,*
in response to message #36 by Martin Pinckney

Simple.

The 50g is for engineers, who are buying the calculator as a tool.

The Nspire is for students, who have to buy a specific version of the calculator to meet their class and standardized test requirements. Different versions have different features enabled and disabled.

For something similar in HP's lineup, look at the 39g and 40g lines.

Edit: Oh, and there's six Nspire models, not six Nspire CX models - the original Nspire, in both standard and CAS models, the touchpad version of the original Nspire, also in both standard and CAS models, and the CX, in both standard and CAS models.

The HP equivalent would be saying that there's six models in the 39g line - there are, but four of them (the 39G/40G (which are 49G-based) and the 39g+/40g+ (which are 49g+-based)) are outdated.

Edited: 16 Mar 2011, 8:30 a.m.

Re: This is it!

*Message #38 Posted by **Timo** on 15 Mar 2011, 12:17 p.m.,*
in response to message #1 by Joerg Woerner

Well, I think this calc is kind of a mixed blessing...

On the one hand, I admire the technology. During college I've used a Voyage 200 for some time and the nSpire CAS CX is way beyond the abilities of the Voyage, as far as I can tell from the specs. For students I'm sure that it can definitely be a superb learning aid, provided the teachers know how to use this calculator as a teaching instrument. I'm also fascinated by the Vernier sensors that you can connect to the CX - I wished something comparabel had existed when I attended physics in school...

For engineers I think it's a different story. The whole concept of working with the calc by means of "documents" and "problems" is not very engineering-like. It's only the scratchpad mode that one would use regularly, all the other functionalities might very likely be replaced by computer based tools like Scilab, Ecxel, Matlab, Maple or Mathematica. After all, documenting a development is much easier using these tools than the calculator. Provided you have access to a workstation, that is.

I also second all posts stating that the TI menu system is very tedious to use. In fact, it was the thing that I found most annoying on the Voyage 200. In contrast, the soft-menu used on the 48/49/50-series calculators from HP is something I'm really fond of, sice it provides a very quick way of accessing the individual functions.

So after all, I wouldn't buy this calculator for engineering use. However, it seems to me, that at a certain point it will be hard to resist from an "entertainment" point of view - or maybe out of pure technological curiosity... ;)

Re: This is it!

*Message #39 Posted by **Han** on 16 Mar 2011, 1:24 p.m.,*
in response to message #1 by Joerg Woerner

Not to rain on anyone's parade, but the screen looks horrible. Perhaps in person the screen is more legible, but from those pictures, how can anyone read anything on the screen? At least the older version of the Inspire has a nice, clear, and legible screen.

I don't understand the point of a wifi connection -- to me that seems like a gimmick add-on that does not serve any real, useful purpose. If you want to connect with a PC, it may save having to use a real cable, but then the transfers are probably slower via wifi.

As said my prior posts, the Inspire's design team does not seem to have a good hold on what exactly they want their product to be. As a calculator, there are not enough dedicated keys (everything is done via a menu). As a handheld with wifi, its screen is extremely poor and the the device is too large and clunky -- not to mention that most handhelds (smart phones) are much more capable for not that much more in terms of price. As a "computer" it has a terrible set of inputs (keyboard and a real mouse is preferable).

This is NOT a student's calculator. It's more of a device for teachers to show examples and do mini-projects in the class. You wouldn't "calculate" with it because the whole notion of a "document" is completely contrary to picking up a calculator to do a few random calculations.

Re: This is it!

*Message #40 Posted by **Marcus von Cube, Germany** on 16 Mar 2011, 1:59 p.m.,*
in response to message #39 by Han

The WiFi is for in classroom connection. A student can be selected to show his solution on his handheld on the teacher's projector. The teacher can download examples to the students devices. The same already existed in form of a more clunky device for the previous models.

The screen is certainly as bright as the Prizm's which is a pleasure to read. On a scan, this is obviously not correctly reproduced.

Counting the number of different Nspire models returns six on first sight but it's in fact much less. Software wise there are just two incarnations: with or without CAS. All models can be updated to the same version in their respective (non) CAS variant.

The clickpad CAS and the touchpad CAS Nspire are physically different because the CAS version does not support keyboard swapping. The newer model has a removable keyboard in order to get to the batteries but no replacement keyboard.

The touchpad (non CAS) Nspire has just an updated keyboard. You can upgrade your old Nspire with a new keyboard to the touchpad version. The only difference is that you don't get the possibility to install the rechargeable battery option.

OK, the both CXs are new. But they still run a version of the software which can be installed on the respective older models.

Edited: 16 Mar 2011, 2:02 p.m.

Re: This is it!

*Message #41 Posted by **Don Shepherd** on 16 Mar 2011, 2:27 p.m.,*
in response to message #39 by Han

> Quote:
>
> Not to rain on anyone's parade, but the screen looks horrible. Perhaps in person the screen is more legible, but from those pictures, how can anyone read anything on the screen? At least the older version of the Inspire has a nice, clear, and legible screen.

This is an example where the pictures give a totally unrealistic view of the actual products. The CX screen is crystal clear and bright. The older NSpire screen is nowhere near as legible and bright as it appears in the picture. If you had the actual products in your hand, you would understand.

> Quote:

> I don't understand the point of a wifi connection -- to me that seems like a gimmick add-on that does not serve any real, useful purpose.

I'm sure that wifi connector will be used to communicate with the TI Navigator, a device in the classroom that receives signals from the students' machines and displays the students screens on the whiteboard. I doubt that TI plans to use that connector for Internet access, although it may be possible.

> Quote:
>
> the Inspire's design team does not seem to have a good hold on what exactly they want their product to be.

Oh, I think the design team knows exactly what they want the NSpire to be: a tool to help kids explore and better understand math principles and concepts. That was the purpose of the NSpire from day one, and it hasn't changed. The enhanced screen of the CX will further that purpose.

> Quote:
>
> This is NOT a student's calculator.

Don't think of it as just a calculator. It's actually more than that, it is a device students (and teachers, of course) use to explore and experiment with math concepts, as I said. And the document-based architecture supports this goal by allowing all pages (calculator pages, graph pages, spreadsheet pages, geometry pages, and notes and data) related to a given problem to be stored in a single document. These pages might have been created by the teacher, the student, or a combination of both. The NSpire is actually a very powerful device for helping students to better understand math.

It's not for engineers, and wasn't meant to be.

Re: This is it!

*Message #42 Posted by **bill platt** on 16 Mar 2011, 3:30 p.m.,*
in response to message #41 by Don Shepherd

How does this technology actually help to understand better than chalk? Every time I have been in some lecture with "technology" the technology ends up being the focus and everything you thought you were going to learn goes out the window. Or the machine has to be re-booted. Or the batteries die.

What mathematical concepts actually benefit from such a strange specialized not-a-calculator tool?

Maybe I am just getting so old and grumpy that I cannot see anything new?

Re: This is it!

*Message #43 Posted by **Don Shepherd** on 16 Mar 2011, 4:01 p.m.,*
in response to message #42 by bill platt

Bill, my wife tells me I'm getting old and grumpy too, so you're in good company!

Here is an example of how technology might be used to give students a better understanding of a math concept, rather than chalk. By the way, the school I teach at only a couple of weeks ago replaced the old chalk blackboards with white dry-erase boards. I'm sure we were the last school in Louisville to do so.

The graph is of the quadratic equation ax^2+bx+c. At the upper left hand corner are 3 "sliders" which lets the students dynamically change the values of variables a, b, and c, and observe how the characteristics of the graph change at the same time. Now, you could draw a graph on the blackboard and tell the kids how the graph would change if you changed a, b, and c, and I'm sure they would believe it (especially if you made them draw another graph), but seeing it change electronically before their eyes, direcly from their inputs, possibly makes the learning more interesting and, hopefully, permanent.

I didn't use the handheld NSpire to do this example, I used the teacher PC software because using the mouse is a lot easier than using either the clickpad or touchpad on the actual handheld.

But that's the general idea. Seeing a graph dynamically change might cause some kids to understand the relationship between a, b, and c and the final graph a little easier.

I don't use the NSpire in my classes because my school doesn't have them, but from the nspire google forum I see that several teachers have created very nice NSpire applications, and I think these have value.

Don

Re: This is it!

*Message #44 Posted by **gene wright** on 16 Mar 2011, 4:28 p.m.,*
in response to message #43 by Don Shepherd

Which of course, the Quad Explorer app did on the HP 38g 15 years ago. :-)

Re: This is it!

*Message #45 Posted by **Katie Wasserman** on 16 Mar 2011, 5:15 p.m.,*
in response to message #44 by gene wright

...and you could easily (with a tiny program) do this on the Casio fx7000g 26 years ago.

Re: This is it!

*Message #46 Posted by **Marcus von Cube, Germany** on 16 Mar 2011, 5:15 p.m.,*
in response to message #42 by bill platt

I'm neither student nor teacher but the machine has still its potential. Some weeks ago, the notebook where my wife used to record the mileage and consumption of her car ran out of pages. She gave it to me and I entered all the numbers into my Nspire. I wanted to analyze the data to know more about the actual consumption of the car over the years.

First of all, the machine is capable enough to store all the data in its spreadsheet. No other calculator has enough working memory for such a data set (probably except the 50g). The spreadsheet has another advantage: You can define column formulas which fill complete columns without repeating the formula in each cell. Next useful feature to mention here: You can program a user function and put it in a column header for customized evaluation.

The formulas I created compute the actual consumption in liters per 100 km (the European way of expressing miles per gallon) and, as a user function, the moving average of the latter over a variable range of elements.

Graphing selected columns of such a table is a no brainer with the Nspire. I graphed the average consumption per 100km against the absolute km value. I added a slider to modify the range value for the moving average to the graph. Moving the slider immediately showed the effect of different values of the number of elements used to compute the average. It was apparent that consumption varies over the seasons of a year if you set the range to a value above 5. With a value of 1 (no average) the graph looks more like random noise.

If you're interested I can upload the document to my site. I must admit that the PC application was more useful in this scenario because the reaction to slider movements is a bit sluggish on the handheld. Data entry has been done on the Nspire and the graph can be used there too. Its just the mere amount of data that slows things down. (The car is 10 years old and has run more the 200,000 km).

Re: This is it!

*Message #47 Posted by **TychoBrahe** on 16 Mar 2011, 8:39 p.m.,*
in response to message #42 by bill platt

I found these links to be helpful in understanding the target audience. I have to admit, I don't have an HP50g and have no idea if things like this are possible on it. And if anyone would care to answer I would interested in knowing that. But as far as seeing how clear the display really is and the things I thought sort of illustrated the supposed purpose of the calculator model, engaging students in math and science and helping them visualize concepts, maybe these are helpful.

As a side note, I've been on the fence for years purchasing my first graphing calculator (and yes, I'm an old man) just for purposes of going through my old electrical engineering textbooks (I have a sick and unpopular idea of fun) again. To me, the HP50g display as it looks in screen shots on web pages, amazon and so on, looks way too pixelated. Then again, so did the rest of the calculators until the grayscale Nspires came out (but too blurry), the Casio Prizm and the Nspire CX. If HP came out with an updated 50g with a screen like this I'd probably buy it in a heartbeat.

Anyway, not being a student or using this for my job I am probably in the tiny minority of people who would prefer the calculator of my choice to be incredibly powerful (hardware wise), flexible, very programmable, and to have a fun and modern feel.

Some images showing the display quality

Conic sections video

Geometry Video

Lots of videos here

Re: New Screenshots added!

*Message #48 Posted by **Joerg Woerner** on 16 Mar 2011, 9:49 p.m.,*
in response to message #39 by Han

Han,

You are right - the screen looks horrible!!!

I use an ordinary flatbed scanner for all my images in the Datamath Calculator Museum. Works perfect with traditional calculator displays but failed completely with the new backlit displays.

I shot this afternoon some pictures with a Digital Still Camera and put them on the web. They are not that crisp but show the colors of the screen much better. Just load www.datamath.org and follow the link in the headline.

Have a good evening.

Regards, Joerg

Re: This is it!

*Message #49 Posted by **Ren** on 16 Mar 2011, 1:41 p.m.,*
in response to message #1 by Joerg Woerner

Just a "couple hours" of playing with it and the CX is at 75% battery?

Ren

dona nobis pacem

Edited: 16 Mar 2011, 1:42 p.m.

Re: This is it!

*Message #50 Posted by **Joerg Woerner** on 16 Mar 2011, 3:15 p.m.,*
in response to message #49 by Ren

>50 hours estimated time per charge. Li-Ion batteries 3.7 Volt, 1230 mAh.

Regards, Joerg

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

LCD fading, not only in the calcs

*Message #1 Posted by **Alberto Fenini** on 14 Mar 2011, 5:29 p.m.*

Dear All,
while browsing the archives, I have found this thread :
HP41C LCD/Display
I'm attaching two pics of one of my Seiko Watches which has a similar problem,
has anyone ever find a solution for increasing the contrast ??

take care and thanks in advance for any advice,
Alberto

Re: LCD fading, not only in the calcs

*Message #2 Posted by **Alberto Fenini** on 14 Mar 2011, 5:35 p.m.,*
in response to message #1 by Alberto Fenini

P.S. if the curator believes this is O.T., I ask him to remove it immediately, Alberto

Re: LCD fading, not only in the calcs

*Message #3 Posted by **TychoBrahe** on 14 Mar 2011, 8:22 p.m.,*
in response to message #1 by Alberto Fenini

I had a Casio fx-4000P calculator that did a similar thing. It's from the late 1980s so I wasn't too surprised, but I was really fond of the calculator.

About 10 years ago the display was starting to get dim, causing me to either up the contrast or buy new batteries (which helped, for a few years). But eventually nothing I would try would help.

I've always wondered if it could be a capacitor that dried out or at least something that I could fix.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Pi Day's ramblings

*Message #1 Posted by **Valentin Albillo** on 14 Mar 2011, 1:02 p.m.*

Hi all, long time no see:

Today's Pi Day, so I feel like indulging in some quick Pi antics to commemorate the event, namely showing off two little-known, rarely seen, extremely short ways to compute this most ubiquitous constant.

I'll use the HP-71B (+ MathROM) to enter and run the algorithms described. If you'd like to key them in as shown and don't own an HP-71B, get the excellent freeware emulator Emu71 by J-F Garnier (Google for it) or any other capable emulator of your choice (Math ROM emulation required) or that failing try and adapt the code to your favorite HP calculator.

Let's see:

1. **An asymptotically exact, probabilistic way:**

   This 50-byte one-liner will compute Pi using random numbers, you'll have to input how many tries (say 100,000) and it'll display the resulting Pi approximation at the end. The more tries the more correct Pi digits you'll get:

```
10 INPUT K @ N=0 @ FOR I=1 TO K @ N=N-MOD(IROUND(RND/RND),2) @ NEXT I @ DISP 1-4*N/K
```

   To run it, key it in and then key in the following at the ">" prompt:

```
>DESTROYALL @ RANDOMIZE 260 @ FIX 4    [Enter]
>RUN   [Enter]

   ? 100000  [Enter]

      3.1416
```

   As I said, the more tries the more correct digits you'll get. See if you can figure how and why it works, and if so check if you can prove that it actually produces the exact value of Pi in the limit.

2. **A faster, very precise, approximate way:**

   Do the following:

   a) Compute the real root of the cubic equation $\mathbf{x^3 - 6*x^2 + 4*x - 2}$**:**

```
>DESTROYALL @ STD
>FNROOT(-10,10,FVAR^3-6*FVAR^2+4*FVAR-2)

    5.31862821775
```

   b) raise it to the 24th power:

```
>RES^24
```

```
2.62537412641E17
```

c) compute the natural logarithm of the result:

```
>LN(RES)

    40.1091699911
```

d) Divide the result by the square root of 163:

```
>RES/SQR(163)

    3.14159265359
```

You'll get Pi correct to all displayed digits and then some. Again, see if you can figure how and why this works and if so, check if you can prove that it won't produce an exact value of Pi but just a fairly good approximation.

That's all. Best regards from V.

Re: Pi Day's ramblings

*Message #2 Posted by **gene wright** on 14 Mar 2011, 2:59 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin. Good write-up. Give me a shout!

Re: Pi Day's ramblings

*Message #3 Posted by **Valentin Albillo** on 15 Mar 2011, 6:46 a.m.,*
in response to message #2 by gene wright

> Quote:
>
> Hi Valentin. Good write-up. Give me a shout!

Thanks, Gene, I'll give you "a shout" this next weekend for sure, sooner if I can manage.

Best regards from V.

Re: Pi Day's ramblings

*Message #4 Posted by **Fernando del Rey** on 14 Mar 2011, 3:43 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentín, welcome back!!!

I will try the two programs in my 71+MathROM, which I haven't used in ages. It should be fun.

Regards

Re: Pi Day's ramblings

*Message #5 Posted by **Valentin Albillo** on 15 Mar 2011, 6:56 a.m.,*
in response to message #4 by Fernando del Rey

Hi, Fernando !! :D

> Quote:
>
> Hi Valentín, welcome back!!!
>
> I will try the two programs in my 71+MathROM, which I haven't used in ages. It should be fun.

Yes, it should.

You might also want to try this Java version for the first one as well:

```
        private static void pi() {
                double pi = 0.0;
                for (long i = 0; i < Long.MAX_VALUE; i++) {
                        pi = pi - Math.round((Math.random()/Math.random()))%2;
                        if ((i&0x80000)==0x80000) {
                                System.out.printf("%d: %s%n", i, 1-4*pi/i);
                        }
                }
        }
```

I left it running yesterday on one of my servers, all night long (16 hours), and it produced the following:

```
...
487,446,282,239 tries  -> 3.141592254139215
487,447,330,815 tries  -> 3.141592246519439
487,448,379,391 tries  -> 3.141592254556738
...
```

which is as expected, 7 correct digits for some 500 (US) billion tries. Only one core was used and it managed *22,000 tries per millisecond*. Not bad.

The result also shows that Java's random number generator is working Ok, else there would be some bias which would be noticeable in the final result's accuracy.

Best regards from V.

Re: Pi Day's ramblings

*Message #6 Posted by **Dieter** on 14 Mar 2011, 4:59 p.m.,*
in response to message #1 by Valentin Albillo

Regarding the second challenge: that's not too hard to solve once you got access to some symbolic math software - Wolfram Alpha will do. ;-)

Determine the real solution of the polynomial, raise the result to the 24th power, take the natural log and divide by sqrt(163), and you'll get a result, whose continued fraction representation looks quite familiar:

```
[3; 7, 1, 15, 292, 1, 1, 1, 2, 1, 3, 1, 14, 2, 1, 1, ...]
```

Right, these are the first sixteen terms of the continued fraction representation of Pi. Its first seventeen significant digits agree with the true value.

I'm sure someone else will provide a decutive proof. ;-)

Dieter

Re: Pi Day's ramblings

*Message #7 Posted by **gene wright** on 14 Mar 2011, 5:07 p.m.,*
in response to message #1 by Valentin Albillo

Valentin wrote: "that it won't produce an exact value of Pi"

What is this exact value anyway? :-)

Re: Pi Day's ramblings

*Message #8 Posted by **Dieter** on 14 Mar 2011, 5:12 p.m.,*
in response to message #7 by gene wright

Simple: the exact value of Pi is... Pi. :-)

Dieter

Re: Pi Day's ramblings

*Message #9 Posted by **Gerson W. Barbosa** on 14 Mar 2011, 5:43 p.m.,*
in response to message #1 by Valentin Albillo

Hello Valentin,

Welcome back!

I've used WolframAlpha to solve the equation (solve x^3 - 6*x^2 + 4*x - 2 = 0 for x) and asked for more digits and repeated the steps using the windows calculator:

```
5.31862821775018565910968015331802247^24

262537412640768767.99999999999922

40.109169991132519846765626111088

3.14159265358979324562286127779 83
```

When I compared the result to pi

```
3.14159265358979323846264338327 95
```

I found the first 17 digits to match.

However, if 24 is subtracted from the result between steps b and c, the approximation is even more impressive:

```
ln(5.31862821775018565910968015331802246772191980883690026023^24-24)/sqrt(163) =

3.14159265358979323846264338327950319783820424737150850414

3.14159265358979323846264338327950288419716939937510582097 4945 (pi)
```

I have no idea why this works though, even after checking this MathWorld reference:

http://mathworld.wolfram.com/RamanujanConstant.html

Best regards,

Gerson.

Re: Pi Day's ramblings

*Message #10 Posted by **Valentin Albillo** on 15 Mar 2011, 7:07 a.m.,*
in response to message #9 by Gerson W. Barbosa

.
Hi, Gerson:

> Quote:
>
> Hello Valentin,
>
> Welcome back!

Thanks.

> Quote:
>
> I've used Wolfram Alpha to solve the equation (solve x^3 - 6*x^2 + 4*x - 2 = 0 for x) and asked for more digits and repeated the steps using the windows calculator:
>
> However, if 24 is subtracted from the result between steps b and c, the approximation is even more impressive:

Yes, I knew. However, I chose to omit the subtraction of 24 as the final result was close enough to Pi that it would nevertheless be indistinguishable in 10-digit and 12-digit calculators, and you wouldn't be able to notice it unless you resorted to multiprecision computations which would deny the simplicity, so I opted for one step less.

Best regards from V.
.

Re: Pi Day's ramblings

*Message #11 Posted by **Crawl** on 14 Mar 2011, 9:06 p.m.,*
in response to message #1 by Valentin Albillo

The first one implies that the probability of one (evenly distributed between 0 and 1) random variable divided by another having a result between (.5 to 1.5) or (2.5 to 3.5) or (4.5 to 5.5) or (6.5 to 7.5) or ... is

(pi - 1) / 4.

Wikipedia talks about ratio distributions, and in fact that one in particular here.

Using the result there, you then have to integrate between the limits in the first paragraph, giving

1/4 + 1/2*((1 - 2/3) + (2/5 - 2/7) + (2/9 - 2/11) + (2/13 - 2/15) +...

(the first term is the hardest one: You have to break up the first integral into one from 0.5 to 1, of 1/2; and one

from 1 to 1.5, of 1/(2x^2). The others are all of 1/(2x^2), for the whole range)

or -1/4 + (1-1/3+1/5-1/7+...)

That infinite series is the Leibniz formula for pi, so the probability is

-1/4 + pi / 4.

which is what was to be shown.

Re: Pi Day's ramblings

*Message #12 Posted by **Crawl** on 14 Mar 2011, 9:15 p.m.,*
in response to message #11 by Crawl

By the way, I do think that is a more interesting example than the well-known Buffon needle problem. That is supposedly an example of pi coming up in a non-obvious situation, but I don't agree. It's obvious that when you toss a needle, the possible angles the needle could trace out when it lands will make a circle. And in fact you use circles and geometry to derive the probability.

In this example, however, it's really not obvious how pi is involved. And geometry is not used in the derivation.

Re: Pi Day's ramblings

*Message #13 Posted by **Valentin Albillo** on 15 Mar 2011, 7:14 a.m.,*
in response to message #12 by Crawl

> Quote:
>
> By the way, I do think that is a more interesting example than the well-known Buffon needle problem.

Agreed. As far as obtaining Pi via Monte-Carlo methods (algorithms using random numbers) I think that this is by far the simplest and most elegant, apart from being utterly non-obvious.

Best regards from V.
.

Re: Pi Day's ramblings

*Message #14 Posted by **Valentin Albillo** on 15 Mar 2011, 7:11 a.m.,*
in response to message #11 by Crawl

> Quote:
>
> The first one implies that the probability of one (evenly distributed between 0 and 1) random variable divided by another having a result between (.5 to 1.5) or (2.5 to 3.5) or (4.5 to 5.5) or (6.5 to 7.5) or ... is
>
> (pi - 1) / 4.

Correct.

Best regards from V.

Re: Pi Day's ramblings

*Message #15 Posted by **Paul Dale** on 15 Mar 2011, 7:17 a.m.,*
in response to message #1 by Valentin Albillo

How about using the following loop to get an estimate:

```
RAN#
RAN#
R->P
IP
SIGMA+
```

Any takers to finish this?

Had an open day when I was studying mathematics at university. We did this dartboard PI estimate and the value was running a bit low. In stepped one of the older tutors who proceeded to correct the estimate a bit by putting a pile of darts on the same spot :-)

- Pauli

Re: Pi Day's ramblings

*Message #16 Posted by **Gerson W. Barbosa** on 16 Mar 2011, 8:49 a.m.,*
in response to message #15 by Paul Dale

HP-33s program

```
P0001 LBL P
P0002 STO N
P0003 CLSIGMA
R0001 LBL R
R0002 RANDOM
R0002 RANDOM
R0004 y,x->theta,r
R0005 IP
R0006 SIGMA+
R0007 RCL N
R0008 n
R0009 x<y?
R0010 GTO R
R0011 1/x
R0012 x<>y
R0013 SIGMAx
R0014 -
R0015 *
R0016 4
R0017 *
R0018 RTN


P: LN= 9 CK=B364
R: LN=66 CK=E2BB
```

Regards,

Gerson.

Re: Pi Day's ramblings

*Message #17 Posted by **Gerson W. Barbosa** on 16 Mar 2011, 10:31 a.m.,*
in response to message #16 by Gerson W. Barbosa

Average of 14 runs of 7 XEQ P:

```
44/14 or 22/7 (YMMV)
```

Free42 might be an option for much faster results:

```
00 { 31-Byte Prgm }
01 LBL "PI"
02 STO 00
03 CLSIGMA
04 LBL 00
05 RAN
06 RAN
07 ->POL
08 IP
09 SIGMA+
10 RCL 00
11 RCL 16
12 x<y?
13 GTO 00
14 1/X
15 X<>Y
16 RCL 11
17 -
18 *
19 4
20 *
21 RTN
22 .END.
```

Re: Pi Day's ramblings

*Message #18 Posted by **Dieter** on 16 Mar 2011, 2:55 p.m.,*
in response to message #17 by Gerson W. Barbosa

May I humbly suggest some improvements? :-)

Since the number of loops is known I think using DSE is the obvious way to go here. When the program finishes the values for n and N are the same, so there is no need to distinguish between both. And since only the sum of all x-values is used, the relatively slow Sigma+ is not required either.

Here's a version for the HP-35s which also shows how to get along without the infamous R->P command. ;-)

```
P001 LBL P
P002 INPUT N   ; get and save n
P003 STO K     ; initialize loop counter
P004 CLX
P005 STO S     ; initialize sum
P006 RANDOM
P007 RANDOM
P008 i
P009 x
P010 +
P011 ABS       ; = sqrt(random1^2 + random2^2)
P012 IP
P013 STO+ S    ; add 0 or 1
P014 DSE K     ; decrement and check loop counter
P015 GTO P006
P016 RCL N
P017 RCL- S
P018 RCL/ N
P019 4
P020 x         ; result = 4*(n-sum)/n
P021 RTN
```

My 35s runs 1000 loops in 2:45 minutes.

Edit: here's another version that requires just one memory register.

```
P001 LBL P
P002 INPUT N    ; get and save n
P003 CLSTK      ; clear sum
P004 RCL N
P005 R^         ; save n in stack
P006 RANDOM
P007 i
P008 x
P009 RANDOM
P010 +
P011 ABS        ; = sqrt(random1^2 + random2^2)
P012 IP
P013 +          ; add 0 or 1
P014 DSE N      ; decrement and check loop counter
P015 GTO P006
P016 -
P017 X<>Y
P018 /
P019 4
P020 x          ; result = 4*(n-sum)/n
P021 RTN
```

Dieter

Edited: 16 Mar 2011, 3:15 p.m.

Re: Pi Day's ramblings

*Message #19 Posted by **Gerson W. Barbosa** on 16 Mar 2011, 6:21 p.m.,*
in response to message #18 by Dieter

> Quote:
>
> May I humbly suggest some improvements? :-)

Of course, and don't be humble: your improvements are perfect!

I imagined Sigma+ was slow but I wanted to use all the instructionS Paul had provided. Prior to using Sigma+, I tested the idea in the third program below, which runs 1000 loops in 1 minute and 46 seconds (at first, I had used an HP-15C). As a comparison, the HP-33s program above runs in 2 minutes and 1 second, using Sigma+; I was expecting it to take more time.

The first program below is based in another (not so good) idea I had tried on the 15C. The indirect addressing slows it a bit. The second one is based on your first version, except the R->P instruction is still being used. It appears the newer machines don't benefit much from the faster DSE and ISG loop control instructions.

Regards,

Gerson.

```
T0001 LBL T
T0002 STO N
T0003 CLx
T0004 STO A
T0005 STO B
V0001 LBL V
V0002 RANDOM
V0003 RANDOM
V0004 y,x->theta,r
V0005 IP
V0006 1
V0007 +
V0008 STO i
```

```
V0009 STO+(i)
V0010 DSE N
V0011 GTO V
V0012 2
V0013 RCL* A
V0014 RCL+ B
V0015 RCL/ A
V0016 8
V0017 /
V0018 1/x
V0019 RTN


2' 13"




T0001 LBL T
T0002 STO N
T0003 STO A
T0004 CLx
T0005 STO S
V0001 LBL V
V0002 RANDOM
V0003 RANDOM
V0004 y,x->theta,r
V0005 IP
V0006 STO+ S
V0007 DSE A
V0008 GTO V
V0009 RCL N
V0010 RCL- S
V0011 RCL/ N
V0012 4
V0013 *
V0014 RTN


2'03"



T0001 LBL T
TO002 STO N
T0003 CLx
T0004 STO A
T0005 STO B
V0001 LBL V
V0002 RANDOM
V0003 RANDOM
V0004 y,x->theta,r
V0005 1
V0006 x>y?
V0007 STO+ B
V0008 STO+ A
V0009 RCL N
V0010 RCL A
V0011 x<y?
V0012 GTO V
V0013 1/x
V0014 RCL* B
V0015 4
V0016 *
V0017 RTN


1' 46"
```

Re: Pi Day's ramblings

*Message #20 Posted by **Dieter** on 16 Mar 2011, 7:05 p.m.,*
in response to message #19 by Gerson W. Barbosa

Hi Gerson,

> Quote:
>
> The first program below is based in another (not so good) idea I had tried on the 15C. The indirect addressing slows it a bit. The second one is based on your first version, except the R->P instruction is still being used. It appears the newer machines don't benefit much from the faster DSE and ISG loop control instructions.

This is an interesting point. Obviously every calculator has its specific "slow" and "fast" instructions. Regarding the 35s I can say that especially numeric constants are processed *very* slowly. So I often use workarounds like these:

```
constant    workaround
 (slow)      (faster)
   1          Clx e^x  (or simply SGN if x>0)
   2          e   IP
   3          Pi  IP
  ...         ...
```

There also is another advantage: on the 35s the "fast" versions even use less memory.

Back to the various Pi-programs. Looking at the second 35s-version I wondered how fast or slow the 35s might process complex numbers, so I replaced lines P006 to P011 by a straightforward...

```
P006 RANDOM
P007 x^2
P008 RANDOM
P009 x^2
P010 +
P011 SQRT
```

...and guess what: it's much faster! 1000 loops are now done in 2:09.

Dieter

Re: Pi Day's ramblings

*Message #21 Posted by **Gerson W. Barbosa** on 16 Mar 2011, 7:32 p.m.,*
in response to message #20 by Dieter

> Quote:
>
> Looking at the second 35s-version I wondered how fast or slow the 35s might process complex numbers, so I replaced lines P006 to P011 by a straightforward...
>
> ```
> P006 RANDOM
> P007 x^2
> P008 RANDOM
> P009 x^2
> P010 +
> P011 SQRT
> ```
>
> ...and guess what: it's much faster! 1000 loops are now done in 2:09.

Likewise when these instructions replace lines V0002 through V0004 in the third HP-33s program above, the running time drops from 1min 46sec to 1min 04sec. However, I think Paul Dale was concerned about size rather than speed.

Actually SQRT is not necessary. If both terms of SQRT(random#$_1^2$ + random#$_2^2$) > 1 are squared, the inequality still holds. Thus, when SQRT is removed the running time for 1000 loops drops down to 53 seconds for the HP-33s program and to about 2 minutes for your 35s program.

Edited: 16 Mar 2011, 9:54 p.m.

Re: Pi Day's ramblings

*Message #22 Posted by **Paul Dale** on 17 Mar 2011, 1:51 a.m.,*
in response to message #21 by Gerson W. Barbosa

> Quote:
>
> However, I think Paul Dale was concerned about size rather than speed.

I wasn't. I just wanted to see what the folks here could do to the dart board approach to finding Pi :-)

I haven't been disappointed by the interesting programs.

- Pauli

Re: Pi Day's ramblings

*Message #23 Posted by **Dieter** on 17 Mar 2011, 8:47 a.m.,*
in response to message #21 by Gerson W. Barbosa

Right, the square root is obsolete - that's what I also realized after my last message yesterday.
The modified program now takes 1:55 minutes. So it's shorter *and* faster. ;-)

Dieter

Re: Pi Day's ramblings

*Message #24 Posted by **Gerson W. Barbosa** on 17 Mar 2011, 9:25 a.m.,*
in response to message #23 by Dieter

Hello Dieter,

DSE is really slower on the HP-33s, as we can see from the timings belows. Is it also slower on the HP-35s? Thanks!

```
HP-33s & HP-32SII


T0001 LBL T                    T0001 LBL T
TO002 STO N                    TO002 STO N
T0003 CLx                      T0003 CLx
T0004 STO A                    T0004 STO A
T0005 STO B                    T0005 STO B
V0001 LBL V                    V0001 LBL V
V0002 RANDOM                   V0002 RANDOM
V0003 x^2                      V0003 x^2
V0004 RANDOM                   V0004 RANDOM
```

```
V0005 x^2                       V0005 x^2
V0006 +                         V0006 +
V0007 1                         V0007 1
V0008 x>y?                      V0008 x>y?
V0009 STO+ B                    V0009 STO+ B
V0010 STO+ A                    V0010 STO+ A
V0011 RCL N                     V0011 DSE N
V0012 RCL A                     V0012 GTO V
V0013 x<y?                      V0013 4
V0014 GTO V                     V0014 RCL* B
V0015 1/x                       V0015 RCL/ A
V0016 RCL* B                    V0016 RTN
V0017 4
V0018 *
V0019 RTN


1,000 loops timing


0' 53" (HP-33s)                 1' 14" (HP-33s)
1' 28" (HP-32SII)               1' 26" (HP-32SII)



HP-42S


00 { 38-Byete Prgm }
01>LBL "PI"
02 STO 00
03 CLX
04 STO 01
05 STO 02
06>LBL 00
07 RAN
08 x^2
09 RAN
10 x^2
11 +
12 1
13 X>Y?
14 STO+ 02
15 STO+ 01
16 DSE 00
17 GTO 00
18 4
19 RCL* 02
20 RCL/ 01
21 RTN
22 .END.


30,000,000 loops timing


1' 10" ( Free42 Binary 1.4.67 @ 1.86 GHz )
```

Re: Pi Day's ramblings

*Message #25 Posted by **Dieter** on 17 Mar 2011, 10:27 a.m.,*
in response to message #24 by Gerson W. Barbosa

On the 35s I excpected a version without DSE to run even slower, as it requires a numeric constant ("1") within the loop. And so it was:

```
P001 LBL P
P002 INPUT N
P003 CLSTK
P004 RCL N
P005 R^
P006 ENTER
P007 Clx
P008 RANDOM
P009 x^2
P010 RANDOM
```

```
P011 x^2
P012 +
P013 IP
P014 +
P015 1
P016 STO- N
P017 Clx
P018 RCL N
P019 X>0?
P020 GTO P007
P021 RDN
P022 -
P023 X<>Y
P024 /
P025 4
P026 x
P027 RTN


Running time: 2:16
```

As mentioned before there are several ways to avoid numeric constants:

```
P015 RCL N                    P015 RCL N
P016 SGN                      P016 ENTER
P017 STO- N                   P017 SGN
P018 Clx                      P018 -
P019 RCL N                    P019 STO N
P020 X>0?                     P020 X>0?
P021 GTO P007                 P021 GTO P007
...                           ...


Running time: 1:55            Running time: 1:59
```

So the two last solutions take about the same time as the original version with DSE.

Dieter

Re: Pi Day's ramblings

*Message #26 Posted by **Crawl** on 17 Mar 2011, 9:39 a.m.,*
in response to message #17 by Gerson W. Barbosa

> Quote:
>
> Average of 14 runs of 7 XEQ P:
>
> ```
> 44/14 or 22/7 (YMMV)
> ```

There's a good point in there. pi is known to be approximately 22/7, or, even better, approximately 355/113.

If you used a multiple of 113 as the number of trials, you might be able to get very close this way.

The same idea is suggested in the article on Buffon's needle I linked above.

Re: Pi Day's ramblings

*Message #27 Posted by **Dieter** on 17 Mar 2011, 10:47 a.m.,*
in response to message #26 by Crawl

Crawl wrote:

> Quote:
>
> If you used a multiple of 113 as the number of trials, you might be able to get very close this way.

Since the experiment approximates Pi/4 I would suggest an integer multiple of 4*113 = 452.

This way n*452 trials will result in Pi ~= 355/113 if the number of hits is n*355.

Dieter

Re: Pi Day's ramblings

*Message #28 Posted by **Gerson W. Barbosa** on 17 Mar 2011, 2:20 p.m.,*
in response to message #26 by Crawl

> Quote:
>
> If you used a multiple of 113 as the number of trials, you might be able to get very close this way.

I had tried that earlier, but to no avail. I was trying single runs of 113 trials. I've finally made it with a single run of 452, as per Dieter's suggestion, the first time I tried. I little cheating though in order to ensure immediate success ;-)

On the real HP-42 and the 38-byte program above:

```
     94 SEED 452 XEQ PI  =>  3.14159292035  (after 1 min 45 sec)
```

On Free42 Binary 1.4.67:

```
66 SQRT SEED 452 XEQ PI  =>  3.14159292035  (instantaneously)
```

```
--------
```

```
00 { 34-Byte Prgm }
01>LBL "X"
02 STO 04
03>LBL 01
04 RCL 04
05 SQRT
06 SEED
07 452
08 XEQ "PI"
09 PI
10 -
11 ABS
12 1E-4
13 X>Y?
14 STOP
15 DSE 04
16 GTO 01
17 RTN
18 .END.
```

On the real 42S, line 05 is not necessary to find a "right" seed for the random numbers generator. That's because Free42 will always generate the same random number for seeds with same fractional parts, except when the seed is set to 0, when SEED behaves as it does on the real 42S, that is, always generates internally a different random number:

```
                              Free42              HP-42S
1   SEED   RAN  =>  5.23054829358E-1    7.31362440213E-1
2   SEED   RAN  =>  5.23054829358E-1    4.31362440213E-1
3   SEED   RAN  =>  5.23054829358E-1    1.31362440213E-1
3.1 SEED   RAN  =>  1.20349678274e-1    8.01362440213E-1
4.1 SEED   RAN  =>  1.20349678274e-1    5.01362440213E-1
5.1 SEED   RAN  =>  1.20349678274e-1    2.01362440213E-1
0   SEED   RAN  =>   undetermined         undetermined
0   SEED   RAN  =>   undetermined         undetermined

----------------
```

On Free42 Binary 1.4.67 @ 1.86 GHz:

```
9236 SQRT SEED 132408 XEQ PI  =>  3.14159265301  (about half a second)
```

Edited: 18 Mar 2011, 10:48 p.m.

Those days...

*Message #29 Posted by **Frank Boehm (Germany)** on 15 Mar 2011, 8:28 a.m.,*
in response to message #1 by Valentin Albillo

I remember a "Spektrum der Wissenschaft" (the german release of "Scientific American") essay about "shooting at pi", using the random generator. If I remember correctly, I used my newly purchased Amiga to do the calculations and graphical representation. Lots of fun. While googling for the essay, I stumbled across this: Pi
Looks like someone invested quite a bit of time for pi day ;)

Re: Those days...

*Message #30 Posted by **Palmer O. Hanson, Jr.** on 15 Mar 2011, 11:41 p.m.,*
in response to message #29 by Frank Boehm (Germany)

A. K. Dewdney's column "Computer Recreations" in the April 1985 issue of *Scientific American* discussed this methodology. He used the analogy of a cannon firing into a square field which included an inscribed circular pond. Readers were asked to send the results for 1000 shots to him.

Re: Pi Day's ramblings

*Message #31 Posted by **Dieter** on 15 Mar 2011, 12:58 p.m.,*
in response to message #1 by Valentin Albillo

Here's my approach for the second challenge.

The key is a constant found by Ramanujan who showed that

```
R = e^(Pi * sqrt(163))
```

is *almost* an integer. In fact, the exact value for R is

```
R = 262 537 412 640 768 743,999 999 999 999 250...
```

and so

```
R = ~= 262 537 412 640 768 744
```

In other words:

```
Pi ~= sqrt(163) * ln R
```

The value of this expression agrees with Pi in its first 30 decimals.

Now, R also is the intermediate value 2,62537412641 E+17 mentioned in the challenge. At least is looks quite close - the given 12 digits are the same as in R.

So the remaining question is: Why is the real solution of the given cubic equation, raised to the 24th power, so close to R? Or, more precisely, indistinguishable in its first 12 digits.

The analytic solution to the given cubic equation is

$$x = 2 + (5 + \sqrt{489}/9)^{1/3} + (5 - \sqrt{489}/9)^{1/3}$$
$$= 5,318\ 628\ 217\ 750\ 185\ 659\ 109\ 680\ ...$$

Now, the 24th power of x is

$$x^{24} = 262\ 537\ 412\ 640\ 768\ 767,999\ 999\ 999\ 999\ 251\ ...$$

which is quite exactly R + 24. Which in turn is close enough to R to that also

$$R \sim= x^{24} \sim= e^{(Pi * \sqrt{163})}$$

or finally

$$Pi \sim= \ln(x^{24}) * \sqrt{163}$$

which is the value that was calculated in the challenge.

This also explains why the Pi-approximation gets much better if the intermediate is corrected by 24, as Gerson mentioned.

However, there still is one thing left for the perfect solution:

Assume R resp. $R^{1/24}$ is given. Now find a cubic equation with integer coefficents where its real solution is as close as possible to this value.

Dieter

Edited: 15 Mar 2011, 1:22 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Pi Day Rematch: Apple II vs. HP-41C

*Message #1 Posted by **Egan Ford** on 14 Mar 2011, 12:48 p.m.*

Some retro fun on Pi Day: http://jerkwerks.com/?p=378

Re: Pi Day Rematch: Apple II vs. HP-41C

*Message #2 Posted by **gene wright** on 14 Mar 2011, 3:11 p.m.,*
in response to message #1 by Egan Ford

I'm insulted!

The HP 41c cannot be allowed to lose! :-)

I figure that Monte's 41CL in 50X turbo mode would help things out.

The article states:

==========

"HP-41C cries foul!

If you could only use what came in the box with your Apple II or HP-41C, then what would be the results? Fortunately the Apple II mini-assembler is in the box.

In 1982 Glen Bredon wrote an APPLE PI program in assembly that blows the battery door off the 41C with a time of 194 seconds. Game over! The Apple II wins again. My 1496 second FORTH version doesn't hold an LED to assembly. If you are looking for Glen's program, it is packaged with the Merlin Assembler.

HP-41C Machine Language

To be thorough I asked a friend of mine to compute Pi on the 41C with a 100% machine language (ML) program. He came back with 5 hours, 9 minutes. No question, the Apple II is king."

==========

Gene: I have trouble thinking that a machine language PI program would take 5 hours if a user code program takes 8 hours. That must be a somewhat poor ML program, I would think.

Anyone wish to help put the Apple II in its place? :-)

Re: Pi Day Rematch: Apple II vs. HP-41C

*Message #3 Posted by **Egan Ford** on 15 Mar 2011, 2:30 a.m.,*
in response to message #2 by gene wright

Quote:

> Anyone wish to help put the Apple II in its place? :-)

Tau day (6.28) and *the other* Pi day (22/7) are coming up. Perhaps you can make that a goal.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happy Pi Day -- date formats

*Message #1 Posted by **Katie Wasserman** on 14 Mar 2011, 12:11 p.m.*

Happy Pi Day to those of us in the US (and maybe some in Canada).

According to wikipedia the US is mostly alone in its use of MDY date format. So while we can celebrate Pi Day those using DMY date format can celebrate 'e Day' (27/1). A belated Happy e Day to you!

To make this a non-OT topic, I noticed that China, Japan and Korea use YMD format but I've never seen that on an HP calculator. (I'm not sure that I've ever used any non-HP calculator that allowed for date entries in the YMD format.) Considering that almost all calculators are made in this region of the world I find this remarkable. Do calculators that are made to sell in China, Japan and Korea have YMD as date formats?

-Katie

Edited: 14 Mar 2011, 12:13 p.m.

Re: Happy Pi Day -- date formats

*Message #2 Posted by **Kiyoshi Akima** on 14 Mar 2011, 12:36 p.m.,*
in response to message #1 by Katie Wasserman

I haven't seen any that use the YMD format, but I sure would like one. If nothing else, the YMD format makes sorting dates a lot easier.

Re: Happy Pi Day -- date formats

*Message #3 Posted by **Kiyoshi Akima** on 14 Mar 2011, 3:43 p.m.,*
in response to message #2 by Kiyoshi Akima

I spoke too soon. After I changed the batteries in one of my calculators, I noticed it did have a YMD option. It's the 84Plus Silver Edition from that company in Texas. Their 89Titanium also has that option.

Re: Happy Pi Day -- date formats

*Message #4 Posted by **George Bailey (Bedford Falls)** on 14 Mar 2011, 12:51 p.m.,*
in response to message #1 by Katie Wasserman

I can't answer your question, but have one of my own: For both formats, YMD and DMY, I can come up with a more or less logical explanation. YMD is going from big to small, logically followed by HMS. DMY is presenting the most needed information for every day use first; while you will most certainly remember the year and month you're currently in, the number of the day might escape your attention the easiest and therefor is the most crucial to be noted.

Is there any logic behind MDY? What pupose does this format serve?

Re: Happy Pi Day -- date formats

*Message #5 Posted by **Dave Shaffer (Arizona)** on 14 Mar 2011, 2:33 p.m.,*
in response to message #4 by George Bailey (Bedford Falls)

> Quote:
>
> Is there any logic behind MDY? What pupose does this format serve?

That matches the way we (at least in the US) talk. If somebody asked me when I was born, I would most likely answer that "I was born on February 17, 1946."

I would usually say "Today is March 14th" although I might also say "Today is the 14th of March."

What does someone in Europe say? "I was born (on?) 17 February, 1946"? Perhaps: from my rusty French recollections, I might well say "Je suis ne le dix-sept fevrier, 1946." (Please excuse any missing accents!)

Re: Happy Pi Day -- date formats

*Message #6 Posted by **Martin Pinckney** on 14 Mar 2011, 3:42 p.m.,*
in response to message #5 by Dave Shaffer (Arizona)

I think you have it right. I do believe Europeans say the day first, then month, just as we in the U.S. do the opposite.

Re: Happy Pi Day -- date formats

*Message #7 Posted by **Thomas Radtke** on 15 Mar 2011, 5:43 a.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> I think you have it right. I do believe Europeans say the day first, then month, just as we in the U.S. do the opposite.

Yes.

"Remember, remember the fifth of November [...]" ;-)

It could have changed to "November the fith" and finally, to save time, "November fifth".

In Germany, it is valid grammar to put it the other way round: "Fu"nfter November".

Re: Happy Pi Day -- date formats

*Message #8 Posted by **Paul Dale** on 15 Mar 2011, 5:57 a.m.,*
in response to message #7 by Thomas Radtke

Which reminds me of this little gem:

Q: Who is the only man to enter Parliament with good intentions?

A: Guy Fawkes

True then and still true now :-(

- Pauli

Re: Happy Pi Day -- date formats

*Message #9 Posted by **Mike Morrow** on 14 Mar 2011, 1:50 p.m.,*
in response to message #1 by Katie Wasserman

And on the periphery of calculator display discussions, who chose the bizarre format of the HP 49/50 TIME and DATE display at the top of LCD?

An example of 49/50 format is: "17:21 MAR:14"
There's no SECOND or YEAR information, the MONTH is non-numeric, and a very non-standard ":" is used to separate month from day.

The earlier format used on the 48 series is much better: "03/14/11 17:21:42"

Even if there is not enough space for the 49/50 LCD to accomodate all the information in the 48 series format, even "03/14 17:21" would be far better than what the 49/50 series uses.

I kept hoping over the years the one of the 49/50 firmware updates would correct the error of using an ALPHA month label and a colon as month-day delineator.

Re: Happy Pi Day -- date formats

*Message #10 Posted by **Gordon Strickland** on 15 Mar 2011, 4:27 a.m.,*
in response to message #9 by Mike Morrow

I am running Meta Kernel on my HP-48GX, and it is interesting to see that it also uses the less desirable 49/50 style of date and time display. I suppose that there is a certain consistency there.

Re: Happy Pi Day -- date formats

*Message #11 Posted by **x34** on 14 Mar 2011, 3:22 p.m.,*
in response to message #1 by Katie Wasserman

YMD format is actually ISO standard (http://en.wikipedia.org/wiki/ISO_8601) and is used all across the world (especially with IT, military and government). It is also national standard in many countries, including many European. Due to spread of computers, it is becoming more and more popular.

Re: Happy Pi Day -- date formats

*Message #12 Posted by **Martin Pinckney** on 14 Mar 2011, 3:46 p.m.,*
in response to message #11 by x34

No more Pi days, then. Anywhere.

Re: Happy Pi Day -- date formats

*Message #13 Posted by **Dave Shaffer (Arizona)** on 14 Mar 2011, 4:11 p.m.,*
in response to message #12 by Martin Pinckney

If you allow 9 instead of 09, then Sept 26 in the year 31415 qualifies!

Re: Happy Pi Day -- date formats

*Message #14 Posted by **x34** on 15 Mar 2011, 6:39 a.m.,*
in response to message #13 by Dave Shaffer (Arizona)

Well, things are not so bad for us geeks. Computers mainly speak binary, so "Binary Pi days" happen!

When is the nearest one?

Re: Happy Pi Day -- date formats

*Message #15 Posted by **bhtooefr** on 16 Mar 2011, 1:32 p.m.,*
in response to message #12 by Martin Pinckney

It becomes 03-14 instead of 03/14, in ISO 8601. Still same MD order, just Y moves in front.

Any other format is middle-endian, which makes no sense, IMO. (Even the European DMY standard - because with two digit day and month, and a four digit year, here are the numbers in order of significance:

YYYY-MM-DD 1234-56-78

That is, it's most important that you get the millenium right, so on, so on.

In DMY, you get something like this:

78.56.1234

Middle-endian.

At least it's not as middle-endian as MDY:

56/78/1234)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Putting n stack levels into a string

*Message #1 Posted by **Bart (UK)** on 14 Mar 2011, 10:55 a.m.*

This is actually a follw-on from Oliver Unter Ecker's *"[RPL] ROLL Challenge (tricky)"*

Is there a command to put n elements from the stack into a string? (i.e. similar to the ->ARRAY and ->LIST commands)

If not, perhaps a challenge to find the best way? My solution so far is:

```
n -> LIST
<< " " SWAP + + >>
STREAM
```

-Bart

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Important SpeedUI update to 11.04

*Message #1 Posted by **Raymond Del Tondo** on 14 Mar 2011, 5:58 a.m.*

Hello all,

here's an important update for SpeedUI.

SpeedUI 11.04 accelerates the stack display and editing even more, and adds a new feature:
You can now switch between 2, 1 or 0 header lines, giving a total of up to 9 stack and edit lines.

A THL (Tog Header Lines) shortcut has been added to the QSM.

The mandatory files to update are CF.LIB, UI.LIB and UF.LIB .
The other components have been recompiled only to reflect the new version number.

For installation/uninstallation, please take a look into StartHere.pdf supplied with the SpeedUI 11.04 archive.

The new version is available here:
SpeedUI Walkthrough SpeedUI Zip Archive

but _not_ on www.hpcalc.org (since the site has not been updated for 3 months now)

Have fun:-)

Raymond

Re: Important SpeedUI update to 11.04

*Message #2 Posted by **Timo** on 14 Mar 2011, 4:17 p.m.,*
in response to message #1 by Raymond Del Tondo

Hi Raymond,

thanks for this update of SpeedUI. I've just uninstalled and the re-installed the three affected libs and it works like a charm!

Also, I think the section on uninstalling the individual SpeedUI libs in your PDF documentation has really improved and is much easier to comprehend and apply now.

Keep up the great work!!!

Kind regards, Timo

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 MCODE breakpoint/trap instruction?

*Message #1 Posted by **Håkan Thörngren** on 13 Mar 2011, 5:12 p.m.*

Has someone defined/allocated an opcode for a breakpoint instruction in HP-41 MCODE? (Similar to what was done with the WRITE-MLDL 040 instruction.)

Re: HP-41 MCODE breakpoint/trap instruction?

*Message #2 Posted by **Eric Smith** on 13 Mar 2011, 6:55 p.m.,*
in response to message #1 by Håkan Thörngren

Not that I've heard. In my simulator, I track breakpoints in a separate array, so that I don't have to modify the code at all. Alternatively, one could use an extra bit stored in the same array as the code, effectively extending the word from ten to eleven (or more) bits. Some simulators have used extra bits in that fashion to define new instructions, extend the addressing range of existing instructions, etc.

Re: HP-41 MCODE breakpoint/trap instruction?

*Message #3 Posted by **Håkan Thörngren** on 15 Mar 2011, 8:40 a.m.,*
in response to message #2 by Eric Smith

Great ideas! They are both easier than rewriting the instructions.

I will start with the challenge of rewriting the code anyway, as I am interested in trying it out.

> Quote:
>
> Not that I've heard. In my simulator, I track breakpoints in a separate array, so that I don't have to modify the code at all. Alternatively, one could use an extra bit stored in the same array as the code, effectively extending the word from ten to eleven (or more) bits. Some simulators have used extra bits in that fashion to define new instructions, extend the addressing range of existing instructions, etc.

Re: HP-41 MCODE breakpoint/trap instruction?

*Message #4 Posted by **J-F Garnier** on 14 Mar 2011, 4:09 a.m.,*
in response to message #1 by Håkan Thörngren

I used the 080h opcode for breakpoints in Emu41.

BTW, I also defined a FPU extension opcode (0C0h), but I never implemented it. It was supposed to be a 2-word opcode (0C0h xxxh) to speed up math routines in emulators.

J-F

Re: HP-41 MCODE breakpoint/trap instruction?

*Message #5 Posted by **Håkan Thörngren** on 15 Mar 2011, 8:22 a.m.,*
in response to message #4 by J-F Garnier

Great! Then I go for 080h.

> Quote:
>
> I used the 080h opcode for breakpoints in Emu41.
>
> BTW, I also defined a FPU extension opcode (0C0h), but I never implemented it. It was supposed to be a 2-word opcode (0C0h xxxh) to speed up math routines in emulators.
>
> J-F

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Symbolic Complex Linear System Solver (HP-28S, HP-48G/GX and HP-50g)

*Message #1 Posted by **Gerson W. Barbosa** on 13 Mar 2011, 3:10 p.m.*

This program was written many years ago by Francisco Matheus, one of my classmates back then, originally for the HP-28S. It was particularly useful during Circuit Analysis examinations. The program would accept symbolic equations, no further rearrangement being necessary, which was very impressive.

The author has authorized its free use with the hope it continues to be useful for EE students. No warranty shall be provided though. Test it on your textbook examples before you decide it's suitable for your needs. The HP-48G/GX and HP-50g built-in linear system solver is an option.

1) $V_1 - V_2 = 10*I_x$

2) $V_1/j20 + (V_1 - V_3)/20 + V_2/10 + (V_2 - V_3)/-j10 = 0$

3) $V_3/j10 + (V_3-V_2)/-j10 + 2\underline{/-45} + (V_3 - V_1)/20 = 0$

4) $I_x = -V_3/j10$

where j = sqrt(-1) and 2/-45 is 2 angle -45 degrees.

As an example, the equations in the linear system above would be entered as

```
'V1-V2=10*IX'
'V1/(0,20)+(V1-V3)/20+V2/10+(V2-V3)/(0,-10)=0'
'V3/(0,10)+(V3-V2)/(0,-10)+(1.41421356237,-1.41421356237)+(V3-V1)/20=0'
'IX=-V3/(0,10)'
```

On the HP-28S 2/-45 would have to be previously converted from polar to retangular coordinates. Notice the number of equations could have been reduced to three by substituting eq. 4 in eq. 1, but we'll use the example as it has been presented.

Copy the programs to an empty HP-28S directory. Enter the four equations of the example system, enter the list of unknowns {V1 V2 V3 IX} then run SYS program to solve the linear system. The '<-' program cleans up the directory, that is, it purges all objects at the left of it in the menu.

The lines below can be copied and pasted to Emu42 with an HP-28S ROM and then saved to 'SYS', '<-' and 'EQS', respectively, after applying the STR-> command. ('<-' should be entered as 142 CHR STR->)

’ DUP SIZE l n ’ n LIST 'EQS' STO 0 n FOR i 1 n FOR j i j == 1 0 IFTE l j GET STO NEXT 1 n FOR j 'EQS(j)' NUM NEXT n ARRY i IF NOT THEN NEG 'VET' STO ELSE VET + ARRY DROP END NEXT { n n } ARRY l PURGE TRN CONJ 'MAT' STO VET MAT / n 1 FOR i DUP i GET l i GET STO -1 STEP VET ARRY DROP { n 1 } ARRY 'VET' STO DROP “ “

’ VARS 1 OVER 'Ž' POS 1 - SUB PURGE “

{ 'V1-V2=10*IX' 'V1/ (0,20)+(V1-V3)/20+V2 /10+(V2-V3)/(0,-10)= 0' 'V3/(0,10)+(V3-V2)/(0,-10)+ (1.41421356237,-1.41421356237) +(V3-V1)/20=0' 'IX=- V3/(0,10)' }

Contents of the directory after the example linear system is solved

HP-28S Version:

```
--------------------------


  V1 (-1.88561808316,
-24.5130350811)
  V2 (-1.88561808316,
-5.65685424948)
  V3 (-18.8561808316,0)
  IX (0,-1.88561808316)
  MAT
[[ (1,0) (-1,0) (0,0) (-10,0) ]
 [ (.05,-.05) (.1,.1) (-.05,-.1) (0,0) ]
 [ (-.05,0) (0,-.1) (.05,0) (0,0) ]
 [ (0,0) (0,0) (0,-.1) (1,0) ]]
  VET
[[ (0,0) ]
 [ (0,0) ]
 [ (-1.41421356237,1.41421356237) ]
 [ (0,0) ]]
  EQS { 'V1-V2=10*IX' 'V1/
(0,20)+(V1-V3)/20+V2
/10+(V2-V3)/(0,-10)=
0' 'V3/(0,10)+(V3-V2
)/(0,-10)+
(1.41421356237,-1.41421356237)
+(V3-V1)/20=0' 'IX=-
V3/(0,10)' }


  <-
« VARS 1 OVER '<-'
POS 1 - SUB PURGE
»


  SYS
« DUP SIZE \-> l n
  « n \->LIST 'EQS'
STO 0 n
    FOR i 1 n
      FOR j i j == 1
0 IFTE l j GET STO
      NEXT 1 n
      FOR j 'EQS(j)'
\->NUM
      NEXT n \->ARRY i
      IF NOT
      THEN NEG 'VET'
STO
      ELSE VET +
ARRY\-> DROP
      END
    NEXT { n n }
\->ARRY l PURGE TRN
CONJ 'MAT' STO VET
MAT / n 1
    FOR i DUP i GET
l i GET STO -1
    STEP VET ARRY\->
DROP { n 1 } \->ARRY
'VET' STO DROP
  »
»


--------------------------
```

HP-48G/GX Version:

On the HP-48G/GX and the HP-50g, the third equation can be entered as

```
'V3/(0,10)+(V3-V2)/(0,-10)+(2,∠-45)+(V3-V1)/20=0'
```

On the HP-48G/GX the angle symbol '∠' is accessible through right-shift SPC (ALPHA right-shift 6 on the HP-50g).

```
--------------------------


%%HP: T(3)A(D)F(.);
DIR
  V1 (-1.88561808316,-24.5130350811)
  V2 (-1.88561808316,-5.65685424948)
  V3 (-18.8561808316,0)
  IX (0,-1.88561808316)
  MAT
[[ (1,0) (-1,0) (0,0) (-10,0) (0,0) ]
 [ (.05,-.05) (.1,.1) (-.05,-.1) (0,0) (0,0) ]
 [ (-.05,0) (0,-.1) (.05,0) (0,0) (-1.41421356237,1.41421356237) ]
 [ (0,0) (0,0) (0,-.1) (1,0) (0,0) ]]
  EQS { 'V1-V2=10*IX' 'V1/(0,20)+(V1-V3)/20+V2/10+(V2-V3)/(0,-10)=0' 'V3/(0,10)+(V3-V2)/(0,-
10)+(1.41421356237,-1.41421356237)+(V3-V1)/20=0' 'IX=-V3/(0,10)' }
  \183\<-
    \<< VARS 1 OVER '\183\<-' POS 1 - SUB PURGE
    \>>
  SYS
    \<< DUP SIZE \-> l n
      \<< n \->LIST 'EQS' STO 0 n
        FOR i 1 n
          FOR j i j == 1 0 IFTE l j GET STO
          NEXT 1 n
          FOR j 'EQS(j)' \->NUM
          NEXT n \->ARRY i
          IF NOT
          THEN NEG 'VET' STO
          ELSE VET + ARRY\-> DROP
          END
        NEXT { n n } \->ARRY l PURGE TRN CONJ 'MAT' STO VET MAT / n 1
        FOR i DUP i GET l i GET STO -1
        STEP DROP MAT VET n 1 + COL+ 'MAT' STO 'VET' PURGE
      \>>
    \>>
END


--------------------------
```

HP-50g Version:

CAS mode should be set to Complex.

```
--------------------------
%%HP: T(3)A(D)F(.);
DIR
  V1 (-1.88561808316,-24.5130350811)
  V2 (-1.88561808317,-5.65685424948)
  V3 (-18.8561808316,0.)
  IX (0.,-1.88561808316)
  MAT
[[ (1.,0.) (-1.,0.) (0.,0.) (-10.,0.) 0. ]
 [ (.05,-.05) (.1,.1) (-.05,-.1) (0.,0.) (0.,0.) ]
 [ (-.05,0.) (0.,-.1) (.05,0.) (0.,0.) (-1.41421356237,1.41421356237) ]
 [ (0.,0.) (0.,0.) (0.,-.1) (1.,0.) (0.,0.) ]]
  EQS { 'V1-V2=10*IX' 'V1/(0+20*i)+(V1-V3)/20+V2/10+(V2-V3)/(0+-10*i)=0' 'V3/(0+10*i)+(V3-
V2)/(0+-10*i)+(2*COS(-45)+2*SIN(-45)*i)+(V3-V1)/20=0' 'IX=-V3/(0+10*i)' }
  \183\<-
  \<< VARS 1 OVER '\183\<-' POS 1 - SUB PURGE
  \>>
  SYS
  \<< DUP SIZE \-> l n
    \<< n \->LIST 'EQS' STO 0 n
      FOR i 1 n
        FOR j i j == 1 0 IFTE l j GET STO
        NEXT 1 n
        FOR j 'EQS(j)' \->NUM
        NEXT n \->ARRY i
        IF NOT
        THEN \->NUM NEG 'VET' STO
```

```
        ELSE VET + \->NUM ARRY\-> DROP
        END
      NEXT { n n } \->ARRY l PURGE TRAN 'MAT' STO VET MAT / n 1
      FOR i DUP i GET l i GET STO -1
      STEP DROP MAT VET n 1 + COL+ 'MAT' STO 'VET' PURGE
    \>>
  \>>
END


--------------------------
```

Edited: 13 Mar 2011, 4:00 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[RPL] ROLL Challenge (tricky)

*Message #1 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 2:19 p.m.*

Come up with an RPL program that will transform this string
"5 1 2 3 4 6"
into this string
"5 1 4 6 3 2"

using no more than 11 of only these commands: STR->, ROLL
You may also use numbers, quotes and the "+" operator, which we shan't count as commands.
Caveat: Repeated ROLLs may not be provided the same number as argument, unless it's 2.

The program using the smallest number of commands wins.

Hint: There're at least two approaches one can take. And there may be a twist. Or two.

Edited: 13 Mar 2011, 2:26 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #2 Posted by **Raymond Del Tondo** on 13 Mar 2011, 7:09 p.m.,*
in response to message #1 by Oliver Unter Ecker

Maybe this one?

```
STR->
6 ROLL " " +
6 ROLL + " " +
3 ROLL + " " +
2 ROLL + " " +
2 ROLL + " " +
2 ROLL +
```

Ray

Re: [RPL] ROLL Challenge (tricky)

*Message #3 Posted by **Eric Smith** on 13 Mar 2011, 7:31 p.m.,*
in response to message #2 by Raymond Del Tondo

He said that you can't use the same roll count more than once, except 2.

Re: [RPL] ROLL Challenge (tricky)

*Message #4 Posted by **Raymond Del Tondo** on 13 Mar 2011, 7:37 p.m.,*
in response to message #3 by Eric Smith

Yes, it's _2_ ROLL, so that should be ok.

Re: [RPL] ROLL Challenge (tricky)

*Message #5 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 7:56 p.m.,*
in response to message #2 by Raymond Del Tondo

Ray,

Very nice! I'm impressed. But, you're using the 6 twice, which violates the caveat.

Without yet revealing what you did, can you tell us if you used FORs, DOSUBs, or lots of Monkeys on typewriters?

Re: [RPL] ROLL Challenge (tricky)

*Message #6 Posted by **Raymond Del Tondo** on 13 Mar 2011, 8:34 p.m.,*
in response to message #5 by Oliver Unter Ecker

Now I see what Eric meant.

Ok, the sequence

```
STR-> 6 ROLL " " +
```

has to be replaced by

```
STR-> " " 7 ROLL 2 ROLL +
```

resulting in one more ROLL;-)

> Quote:
>
> lots of Monkeys on typewriters?

?

Edited: 13 Mar 2011, 8:37 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #7 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 11:02 p.m.,*
in response to message #6 by Raymond Del Tondo

Ray,

Cool. Ok. 8 "commands" it is for your entry. You're in the lead.

I figured the solution was of the form
stringToStack ROLL_1..ROLL_N stackToString
and I was wrong.

Your solution meshes rolling and gluing, and that's great.

The monkeys on typewriters will be explained tomorrow.

Edited: 13 Mar 2011, 11:04 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #8 Posted by **Glen Sanft** on 14 Mar 2011, 8:02 a.m.,*
in response to message #7 by Oliver Unter Ecker

> Quote:
>
> The monkeys on typewriters will be explained tomorrow.

We're all familiar with the story of how Microsoft develops product...

:)

Re: [RPL] ROLL Challenge (tricky)

*Message #9 Posted by **Eric Smith** on 13 Mar 2011, 7:31 p.m.,*
in response to message #1 by Oliver Unter Ecker

It can be done with only one STR-> command, no ROLL commands, and a modest number of the specified uncounted items (numbers, quotes, "+" operator).

```
<< STR-> + + + + +
-16 + " " +
1 + " " +
4 + " " +
6 + " " +
3 + " " +
2 + >>
```

This assumes exact mode and FIX 0.

If you allow numbers inside quotes it can be even shorter.

Re: [RPL] ROLL Challenge (tricky)

*Message #10 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 8:05 p.m.,*
in response to message #9 by Eric Smith

Eric.

Oh, darn! You out-twisted me. Your solution is perfectly valid and you carry home the price.

But maybe I can be forgiven of not having constructed the challenge in a watertight manner, and amend as follows:

"5 1 2 3 4 6" becomes "5.1 1.2 2.6 3.5 4.3 6.4"

"5 1 4 6 3 2" becomes "5.1 1.2 4.3 6.4 3.5 2.6"

and there's no "."s allowed in the solution... ;-) Thank you!

That is, the challenge really wants you to use ROLLs to solve the problem. But, actually, it might be STR-> that plays center-stage.

Edited: 13 Mar 2011, 8:33 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #11 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 8:39 p.m.,*
in response to message #9 by Eric Smith

Hey, wait! What's that "-" doing in your solution? (MOC grabs trophy back from would-be winner.)

Back to original strings.

Re: [RPL] ROLL Challenge (tricky)

*Message #12 Posted by **Oliver Unter Ecker** on 13 Mar 2011, 8:48 p.m.,*
in response to message #11 by Oliver Unter Ecker

Hmm. I guess negative numbers are "numbers" too...
So, apologies, keep that trophy and I'm buying a second one. :-)

The challenge becomes amended to say "natural numbers" or "number keys" instead of "numbers".

Re: [RPL] ROLL Challenge (tricky)

*Message #13 Posted by **Paul Dale** on 14 Mar 2011, 1:06 a.m.,*
in response to message #1 by Oliver Unter Ecker

My first thought is this gem: DROP "5 1 4 6 3 2" for a zero count.

For the amended version, something similar can be done using SREPL I should think.

- Pauli

Re: [RPL] ROLL Challenge (tricky)

*Message #14 Posted by **Tim Wessman** on 14 Mar 2011, 2:05 a.m.,*
in response to message #13 by Paul Dale

SysRPL version:

DOSTR> 2SWAP SWAP DEPTH {}N DO>STR THREE OVERLEN$ #2- SUB$

Makes the assumptions that you are in exact mode, standard format, and no arguments on the stack except the input. Works for any type of valid string input and desired output of the same format.

(I really can't program userRPL... brain too used to sys)

TW

Edited: 14 Mar 2011, 2:21 a.m. after one or more responses were posted

Re: [RPL] ROLL Challenge (tricky)

*Message #15 Posted by **Paul Dale** on 14 Mar 2011, 2:16 a.m.,*
in response to message #14 by Tim Wessman

> Quote:
>
> (I really can't program userRPL... brain to used to sys)

I'm a bit surprised that sysRPL is still in vogue :-)

- Pauli

Re: [RPL] ROLL Challenge (tricky)

*Message #16 Posted by **reth** on 14 Mar 2011, 7:03 a.m.,*
in response to message #15 by Paul Dale

I'd like to know how many people *still* speak Latin only too

Re: [RPL] ROLL Challenge (tricky)

*Message #17 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 6:49 a.m.,*
in response to message #14 by Tim Wessman

Holy...
Ok. This one wins the "most rules-disrespecting while simultaneously unreadable though probably working" price.

(Nice, though, if you like scary...)

Re: [RPL] ROLL Challenge (tricky)

*Message #18 Posted by **Tim Wessman** on 14 Mar 2011, 12:36 p.m.,*
in response to message #17 by Oliver Unter Ecker

Nah, makes perfect sense. :-)

```
DOSTR>  (equivalent to STR->)
2SWAP   (swap with 2 arguments each being swapped, 1 2 3 4 -> 3 4 1 2)
SWAP
DEPTH   (just like userRPL)
{}N     (equivalent to ->LIST)
DO>STR  (equivalent to ->STR)
THREE
OVERLEN$ (get string in level 2 and do SIZE)
#2-      (subtract 2 from length)
SUB$     (SUBSTRING from 3-STRING_LEN_-2)
```

See, perfectly readable.

As to the rules. . . :-P

TW

Edited: 14 Mar 2011, 12:39 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #19 Posted by **Eric Smith** on 14 Mar 2011, 2:13 a.m.,*
in response to message #13 by Paul Dale

I don't see "DROP" in the list of allowed commands. Otherwise I would have used it myself. :-)

Re: [RPL] ROLL Challenge (tricky)

*Message #20 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 6:39 a.m.,*
in response to message #1 by Oliver Unter Ecker

This challenge turned from tricky to messy, and I'm in a bit of a pickle: I'm no longer sure what the shortest solution is. I think, though, that the challenge isn't over. There might be a solution of 6 or 7 commands, besting Jay's 8.

Bear with me, if you're patient.

The challenge was meant to not be about writing a solution program. But, rather, writing a program that will find the solution program. That is, if you took the second approach of two approaches I saw:

Two approaches:
- Path of Admirable Intuition
- Brute Force

My basic assumption of the solution template to necessarily look like this

```
  stringToStack instruction1..instructionN stackToString
where
  instructionX: number ROLL
  stringToStack: STR-> (check)
  stackToString: needs "" (check) + bunch of string concatenations (+), " " (check), and
SWAP (missing)
  SWAP: 2 ROLL (check)
```

was proven wrong by Jay's solution, which meshes the ROLLs with building up the result string from the stack.

Here's my development of the brute force approach. It's invalidated to find *the* solution now that my assumed template is known to be not the shortest. But it may be re-tooled to either find a shorter solution OR prove that there are no shorter solutions.

Brute force: write an RPL program that writes all possible RPL programs (within our constraints) and test which ones, when applied to the input string, will yield the output string. (ROLL was meant to be but one "shuffle" function that, when applied a few times would be non-linear/head-spinning enough to have people give up on finding a "manual" solution.)

Note, the challenge said nothing about constraints to a program that would be used to "come up" with the solution program. So you can use all RPL commands for former. (One of the twists...)

There's 6 chars in the string which will end up on the stack. That is, there's a max of 6 sensical ROLLs: 1 ROLL, 2 ROLL, 3 ROLL, 4 ROLL, 5 ROLL, 6 ROLL. As no same-arg ROLLs are allowed -> 6 6 PERM (=720) possible programs. One instruction is a no-op: 1 ROLL -> 5 5 PERM (=120) possible programs.

It's unknown how many instructionX we'll have. Except: it cannot be more than 11 (known number of instructions for a solution) minus 1 (STR->) minus # commands to implement stackToString.

We can write stackToString. Let's.
Given 6 numbers on the stack, we need five concatenations, of numbers and spaces.
stackToString: "" + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL +
commands to implement stackToString: 5

-> upper limit for N: 11 - 1 - 5 -> 5
That is, as per challenge wording, a max of 5 ROLLs is needed. That matches the combinatorial complexity, and doesn't simplify things. But, reading between lines, "program using the smallest number of commands wins" suggests a solution with a lesser number of ROLLs exists. Since we cannot save on any other instructions (OR SO I THOUGHT), it's implied that <= 4 ROLLs are needed.

5 4 PERM (=120) possible programs

Let's implement a program generator:

```
\<< { 2 3 4 5 6 } permutate    @ produce all non-no-op permutations of possible ROLL args
    DUP SIZE V\-> DROP 4 \->V2 RDM       @ reduce to 4 picks
    1
    \<<
      "" SWAP
      1
      \<< + " ROLL " + \>>     @ assemble RPL program, precede each ROLL with element
      DOSUBS                   @ iterate over elements of each permutation
      keepIfSolution           @ test program; keep on stack (->DOSUBS will roll into
result array) if it's a solution
    \>>
    DOSUBS @ iterate over permutations
\>>

permutate: your favorite implementation that will produce an array of permutations, given
an array
```

And a program tester:

```
keepIfSolution:
\<< \-> prg \<<
    X STR\->                     @ unpack input string to stack
    prog STR\->                  @ unpack and execute (!) ROLL instructions
    "" + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL +
    Y ==                         @ compare against desired result string
    prg IFT                      @ keep ROLL instruction string, if match (implied drop,
otherwise)
\>> \>>
```

X: input string Y: desired output string

Run, and 2.6s later (on ND1), a single solution is found: "5 ROLL 3 ROLL 2 ROLL 6 ROLL"

Can we do better?

```
Change this
    DUP SIZE V\-> DROP 4 \->V2 RDM       @ reduce to 4 picks
to
    DUP SIZE V\-> DROP 3 \->V2 RDM       @ reduce to 3 picks
```

Run, and get another single solution: "2 ROLL 5 ROLL 6 ROLL"

That is, the shortest challenge solution program (UNDER THE ASSUMED TEMPLATE) is:

```
\<< STR->
    2 ROLL 5 ROLL 6 ROLL
    "" + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL +
\>>
```

9 commands, as per (odd) challenge definition of "command".

Note, STR-> is used to execute an RPL program that was written on-the-fly. I discovered this feature of STR-> only the other day. I found it so… arbitrary. But inspiring, too, to try and construct a challenge around it. (Btw, one can get the same effect with OBJ-> or LIST->, which seem far more canonical than STR-> for arbitrary command execution.)

The "Path of Admirable Intuition" was a no-go for me, but the solution offered a "Path of Knowing in Hindsight": Play through how 2 ROLL, 5 ROLL, 6 ROLL work on the input. Given the (deceptive) proximity of the input and desired output strings, it transpires that if someone had the intuition that
- the solution string will be built up in reverse
- the *reverse* of the solution is very close after doing one SWAP
they could possibly find the solution in seconds. I find it hard to visualize more than one overlapping ROLL, let alone trying to aim for a solution in reverse.

Anyway. I'm not quite sure how Jay found the solution. If repeated application of overlapping ROLLs was linear enough to "just do it" (without a headache), my challenge failed to pose a challenge to finding *a* solution. But is it the best or only solution?

Can someone deliver a proof?

I'll report on my re-tooling to assume a new template but keeping the brute force approach.

Edited: 14 Mar 2011, 7:09 a.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #21 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 7:14 a.m.,*
in response to message #20 by Oliver Unter Ecker

I guess the monkeys on typewriters are explained now.
If you can't afford DOSUBS or FORs, you gotta have monkeys to write the candidate programs to test for you.

Re: [RPL] ROLL Challenge (tricky)

*Message #22 Posted by **Bart (UK)** on 14 Mar 2011, 10:22 a.m.,*
in response to message #20 by Oliver Unter Ecker

My sulotion is the same count as Raymond's:

```
STR->
3 roll
4 roll
" " 2 ROLL + +
" " 2 ROLL + +
" " 2 ROLL + +
" " 2 ROLL + +
" " 2 ROLL + +
```

Also, your *"That is, the shortest challenge solution program (UNDER THE ASSUMED TEMPLATE)"* can become 8 "commands":

```
\<< STR->
    3 ROLL 4 ROLL
    " " 2 ROLL + + " " 2 ROLL + + " " 2 ROLL + + " " 2 ROLL + + " " 2 ROLL + +
\>>
```

Ideally the solution would be:

StringToStack
3 ROLL
4 ROLL
StackToString

but the ->STR does not work like the ->ARRAY or ->LIST.
However, using some commands not in listed the first post, this is an alternative:

```
STR->
3 ROLL
4 ROLL
6 -> LIST
<< " " 2 ROLL + + >>
STREAM
```

-Bart

Re: [RPL] ROLL Challenge (tricky)

*Message #23 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 12:34 p.m.,*
in response to message #22 by Bart (UK)

Thank you, Bart.
A second valid solution. You're tied with Ray with 8 commands.

Your solution uses different ROLL args, so I wouldn't say it's "the same" as Ray's.
The question remains if there might be a shorter solution.

The ideal solution might be

```
stringToStack
rollIntoRightOrderAndStackToString
```

where rollIntoRightOrderAndStackToString uses up only 5 commands. Even 6 commands for this would still best the current total.

Your STREAM solution is not in the running, but I like it!

Edited: 17 Mar 2011, 3:15 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #24 Posted by **David Hayden** on 14 Mar 2011, 8:50 a.m.,*
in response to message #1 by Oliver Unter Ecker

```
DROP
"5 1 4 6 3 2"
```

Obviously this isn't the kind of solution that was intended, but I'm posting it to make a point about programming: it's easy to over-generalize a program. Or to put it another way, when writing a program, look at the specifics of the problem and see if there is a way to exploit them.

Edited: 14 Mar 2011, 8:50 a.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #25 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 12:13 p.m.,*
in response to message #24 by David Hayden

Sorry, as Eric points out DROP is not in the list of allowed commands.

Re: [RPL] ROLL Challenge (tricky)

*Message #26 Posted by **Tim Wessman** on 14 Mar 2011, 12:38 p.m.,*
in response to message #25 by Oliver Unter Ecker

How about "CLEAR"? :-)

TW

Re: [RPL] ROLL Challenge (tricky)

*Message #27 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 12:53 p.m.,*
in response to message #1 by Oliver Unter Ecker

Here's a solution taking 7 commands.

```
\<< STR->
    "2 ROLL 5 ROLL 6 ROLL" STR->
    "" + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL +
\>>
```

Point here is that "2 ROLL 5 ROLL 6 ROLL" (or Bart's shorter sequence) is a string, the contents of which don't matter and don't count against the commands limit.

If one of you posted this, I'd (reluctantly) accept it as solution. As I posted it, I'm calling this an attempt to circumvent the spirit of the challenge (although here STR-> truly *is* playing center-stage) and say it doesn't count.

Number to beat is still 8.

Edited: 14 Mar 2011, 12:53 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #28 Posted by **Oliver Unter Ecker** on 14 Mar 2011, 1:14 p.m.,*
in response to message #27 by Oliver Unter Ecker

Actually, better yet, here's a 6-command solution:

```
\<<
    "STR-> 2 ROLL 5 ROLL 6 ROLL" STR->
    "" + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL + " " + 2 ROLL +
\>>
```

And if string contents don't matter, even a one-command solution is possible:

```
\<<
    "commands to solve problem not requiring quotes" STR->
\>>
```

Btw: There's no escape character for a quote to permit a string in a string in RPL, is there? (Something like "\" \"" in other languages.)

Edited: 14 Mar 2011, 1:40 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #29 Posted by **Oliver Unter Ecker** on 17 Mar 2011, 12:50 p.m.,*
in response to message #1 by Oliver Unter Ecker

Ok. It's a challenge, after all.
The number of commands to beat is 6. (With no trickery.)
I'll post the solution tomorrow, if no-one feels inclined to preempt me. ;-)

Edited: 17 Mar 2011, 12:52 p.m.

Re: [RPL] ROLL Challenge (tricky)

*Message #30 Posted by **Oliver Unter Ecker** on 18 Mar 2011, 7:20 p.m.,*
in response to message #29 by Oliver Unter Ecker

Ok, here's the solution:

```
\<< STR\->
  " " + " " 2 ROLL
  + + 2 ROLL +
  " " + 2 ROLL +
  " " 2 ROLL + +
  " " 2 ROLL + +
\>>
```

Note, no ROLL args other than 2 (which effectively is a SWAP) are used. Given that a minimum of 5 swaps are needed to glue the numbers on the stack back into a string, this is a minimal solution.

Thank you to those who participated and spent some time on this!
Apologies, for not having constructed this challenge better and not having a target number to beat when the challenge was fresh.

The intended route--having to use programmatic construction of programs to test--seemingly unraveled, but it actually shifted from having to find indices, to having to find the minimal instruction ordering.

Cheers.

Re: [RPL] list ROLL Challenge (easy)

*Message #31 Posted by **C.Ret** on 23 Mar 2011, 12:22 p.m.,*
in response to message #30 by Oliver Unter Ecker

HI.

Sorry, I read this too late to participate to this interesting challenge.

NOTE to HP28C/S users:

Please note that on HP28C/S the following sequence is illegal :

```
2 " " +   ---------> + Error: Bad Argument Type.
```

So there is no solution to this challenge on HP28C/S since it is impossible to reconstruct any string from integers without a ->STR instruction.

Proposition: Rephrased challenge for HP28C or HP28S users:

> Quote:
>
> Come up with a native RPL program compatible with any RPL's system (from HP28 to HP50 and sysRPL) that will transform
>
> this **list** { 5 1 2 3 4 6 } into this **list** { 5 1 4 6 3 2 }
>
> using no more than 11 of only these commands:
> LIST-> (or OBJ-> which is tolerate on RPL system where no more LIST-> command exists)
> ->LIST
> *n* ROLL (where *n* stand for any single key-digit 0 to 9).
>
> Use of any numbers (except ROLL single key-digit argument), quotes and the "+" or "ADD" operator are prohibited since they may have a different behavior depending of the RPL system.

Caveat: Repeated ROLLs may not be provided the same number as argument, **whenever** it's 2 or not.

The program using the smallest number of commands practicable on any HP28C, HP28S, HP48, HP48gx, HP49 and HP50g wins.

Special extra prize:to any winning program which reorders any list [bold]{ *a b c d e f* } into { *a b e f d c* } where *a..f* stand for any object.

NOTE: *n* ROLL counts as two steps command.

Edited: 23 Mar 2011, 1:11 p.m.

Re: [RPL] list ROLL Challenge (easy)

*Message #32 Posted by **Oliver Unter Ecker** on 23 Mar 2011, 3:08 p.m.,*
in response to message #31 by C.Ret

Hi C.Ret,

Yes, thanks for that correction. It should actually be further changed, because ROLL was a very poor choice. It made finding "a" solution (though not the intended one) way too easy.

You probably guessed it, the solution I posted I didn't actually write myself. My RPL calc did. (Note that the challenge asks to "come up" with a solution, not "write" one...)

I didn't post the full code because a) I'm using a couple of instructions in ND1 that don't exist on the 50g and I didn't have the time (yet) to look up implementations there and b) maybe I can construct a better challenge exploring this theme at another time, when everyone's forgotten about it...

I wonder if algorithmic composition of RPL programs has been explored elsewhere.

Let me say that I would have loved to see your solution on the HP-28S! I know you're an incredible wizard on the HP-28S--having solved the FibTriangle on it, is, I think, the biggest calculator-related surprise I had in my life. :-)

Cheers.

Edited: 23 Mar 2011, 3:10 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP clear cased prototypes

*Message #1 Posted by **Keith Midson** on 13 Mar 2011, 12:19 a.m.*

Over the years i've collected some interesting clear cased HP's along with their 'normal' HP counterparts. Thought i'd share them with you - be interesting to see what else other people have. I've seen a 12C and a 65 - be greatful to know of any others.
I've uploaded some photos on Flickr: Link
The clear cased HP's in my collection are: 28S, 71B, 17B, & 67.
Cheers, Keith

Edited: 13 Mar 2011, 4:39 a.m.

Re: HP clear cased prototypes

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 13 Mar 2011, 5:39 a.m.,*
in response to message #1 by Keith Midson

Very very nice collection and endeed very nice photos.
Cheers!
Johnny

Re: HP clear cased prototypes

*Message #3 Posted by **Keith Midson** on 13 Mar 2011, 8:06 a.m.,*
in response to message #1 by Keith Midson

I've posted a bunch of other HP's from my collection. I will add more over the next few weeks. Cheers, Keith

Re: HP clear cased prototypes

*Message #4 Posted by **Namir** on 13 Mar 2011, 9:15 a.m.,*
in response to message #1 by Keith Midson

Keith my friend, you have a fantastic collection of clear calculators!! Had I know you had these machines, I would have flown, last November, from Sydney to Hobart to meet you and see your collection. I remember several years ago making a six-hour round trip by train to meet Matthias and see his fantastic collection (which I think is among the best, if not THE best collection).

Namir

Re: HP clear cased prototypes

*Message #5 Posted by **Keith Midson** on 15 Mar 2011, 2:08 a.m.,*
in response to message #4 by Namir

Hi Namir,
Next time!! I've just added a big chunk of my collection onto the site. Cheers, Keith

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another Day Dreamer on TAS

*Message #1 Posted by **Namir** on 12 Mar 2011, 9:12 p.m.*

This HP-15C auction on TAS is asking a lot of bacon for an HP-15C whose LCD has a serious black area and which will most likely need a lot of TLC. Also missing the the HP logo.

What a catch! ..... NOT!!!

Namir

Edited: 12 Mar 2011, 9:13 p.m.

Re: Another Day Dreamer on TAS

*Message #2 Posted by **Michael de Estrada** on 12 Mar 2011, 9:47 p.m.,*
in response to message #1 by Namir

According to the seller:

"The HP Logo in present but the shinney chrom color has faded."

Re: Another Day Dreamer on TAS

*Message #3 Posted by **Philippe Lasnier** on 14 Mar 2011, 9:04 a.m.,*
in response to message #2 by Michael de Estrada

I would not trust this seller.

A couple of years back I noticed that a few HP-16C he had listed all had the same photos, clearly implying that he was using the same photos of *one* of his calculators for all his others.

When I questioned him about it, he implied that because they were all the same in his opinion, there was no need to post actual photos of the item. That's even though the implication (sometimes explicit) in each listing is that the photos are of the actual item for sale. I noticed the same thing again and again on subsequent listings.

He is obviously still doing it, as witness the comments in neutral feedback he got recently.

So I wouldn't even trust that the HP-15C in the photos is the one he is actually selling in this auction. Assuming it is (and even if it isn't) it also looks like an HP-15C I saw doing the rounds on TAS last year...Recycling is good ;-)

Having said all that, the seller has "top-rated seller" status, so despite his deceptions (whether intentional or just through not caring), he must be doing something right.

Philippe

Re: Another Day Dreamer on TAS

*Message #4 Posted by **bill platt** on 12 Mar 2011, 10:47 p.m.,*
in response to message #1 by Namir

I bought a Sharp with this defect, for a few bucks. Within a year, the machine was unusable and all black. If anyone wants it for parts...

Re: Another Day Dreamer on TAS

*Message #5 Posted by **robert rozee** on 13 Mar 2011, 8:21 a.m.,*
in response to message #4 by bill platt

what is the model?

Re: Another Day Dreamer on TAS

*Message #6 Posted by **Namir** on 13 Mar 2011, 9:16 a.m.,*
in response to message #5 by robert rozee

It's an HP-15C.

Re: Another Day Dreamer on TAS

*Message #7 Posted by **robert rozee** on 13 Mar 2011, 9:44 a.m.,*
in response to message #6 by Namir

i kinda meant which model of SHARP does bill have with a broken display!! i'm pretty sure it won't be a sharp-15c :-)

Re: Another Day Dreamer on TAS

*Message #8 Posted by **Namir** on 13 Mar 2011, 10:47 a.m.,*
in response to message #7 by robert rozee

Perhaps Sharp should shock HP (and US) and come out with a 15C ... and sell a ton on the market. I bet the Sharp 15C would have RPN and BASIC as ways to program the machine.

Wouldn't that be something?

Anyone can assemble an image for the Sharp 15C???

:-)

Namir

Edited: 13 Mar 2011, 10:47 a.m.

Re: Another Day Dreamer on TAS

*Message #9 Posted by **Mike Morrow** on 13 Mar 2011, 1:28 p.m.,*
in response to message #8 by Namir

> Quote:
>
> I bet the Sharp 15C would have RPN and BASIC as ways to program the machine.

And would it have all that great HP-15C alphanumeric display capability too? :-)

Re: Another Day Dreamer on TAS

*Message #10 Posted by **Namir** on 13 Mar 2011, 4:50 p.m.,*
in response to message #9 by Mike Morrow

Why not? If it has BASIC with alphanumeric capabilities, then there should be no problem tapping into that!!

It's a very very very tall order!

:-)

Namir

Re: Another Day Dreamer on TAS

*Message #11 Posted by **robert rozee** on 13 Mar 2011, 8:20 a.m.,*
in response to message #1 by Namir

we shall have to see what the reserve is when the auction finishes. the seller might well have no understanding of the technicalities of the compromised display, so might be forgiven the high buy-now price.

HOWEVER, also remember that the calculator would be a prime candidate for a display transplant from a donor 12C. the rest of the machine (case, keyboard, bezel) does appear at first glance to be in fair condition. so with a transplanted display it could indeed be a bargain at the right price.

cheers, rob :-)

Re: Another Day Dreamer on TAS

*Message #12 Posted by **Namir** on 13 Mar 2011, 9:18 a.m.,*
in response to message #11 by robert rozee

Rob,

Thanks for your informative comments. This way I know that a bad 15C display can easily be fixed. Since I am not a hardware guy, I don't know which parts of various calculator models are interchangeable.

Namir

Re: Another Day Dreamer on TAS

*Message #13 Posted by **Michael Plant** on 13 Mar 2011, 1:03 p.m.,*
in response to message #11 by robert rozee

But not at the BIN price...

Re: Another Day Dreamer on TAS

*Message #14 Posted by **Namir** on 13 Mar 2011, 4:50 p.m.,*
in response to message #13 by Michael Plant

> Of course not!!!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

ARM-based 12c compared to the old one

*Message #1 Posted by **Jose Gonzalez Divasson** on 12 Mar 2011, 12:11 p.m.*

Here you can find a short comparison of the venerable HP12c (made in Brazil) compared with a new, ARM based HP 12c

HP12c new vs. old comparison

There is hope of a new HP15c being released - as Eric would say, "those who know do not speak, those who speak..."

Re: ARM-based 12c compared to the old one

*Message #2 Posted by **Tim Wessman** on 12 Mar 2011, 5:02 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

>Only HP and Eric Smith know how much Nonpareil lies within the new calculator.

None at all. Cyrille was very thankful to have a resource like Eric available to discuss with as needed, and to have a reliable way to check his emulator was behaving properly, but it is all original HP code. Granted that was before my time at HP, but I do have it direct from at least 1 of the parties involved. :-)

Cyrille's emulator is different since it was designed from the start for a hardware product and so some things were optimized away in order to maximize battery life (sometimes causing problems since special cases are handled individually - the SST capability comes to mind).

Great page!

Regarding the 12cp, have you taken a look at the current models? They have no known bugs I am aware of. I think everyone agrees the first two revisions were rather bad. Once the 25th anniversary one came out though I've not heard any complaints (regarding software at least).

TW

Edited: 12 Mar 2011, 5:15 p.m.

Re: ARM-based 12c compared to the old one

*Message #3 Posted by **Eric Smith** on 12 Mar 2011, 8:42 p.m.,*
in response to message #2 by Tim Wessman

I believe Tim is correct; I don't think there is any of my Nonpareil code in any HP product. The closest thing is that I contributed a short snippet of C code that does parallel BCD addition, vs. digit-at-a-time. That C code has been posted here, and Cyrille also posted a highly-optimized ARM assembly language version here. (HP has filed a patent application on how Cyrille implemented the carry out.) I don't know which calculators HP is using this in, but the 12C, 20b, and 30b are obvious candidates.

As Tim says, I have from time to time tried to help Cyrille with ensuring that some details of his simulation code are accurate.

Re: ARM-based 12c compared to the old one

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 14 Mar 2011, 3:36 p.m.,*
in response to message #3 by Eric Smith

With due respect to people more knowledgeable than me (Eric and Cyrille)... may there be enough originality in a carry-out method to deserve a patent? Would it be generic or processor-architecture dependent? Would it be enforceable?

I understand and respect copyright claims; but I suppose a patent needs more than this kind of substance. Just my humble opinion.

Disclaimer: I'm no lawyer, no patent expert or otherwise intellectual-property expert... I just learned a little about these matters reading IEEE articles about these issues (Richard Stern's MicroLaw column in IEEE Micro magazine, among others) many years ago.

Re: ARM-based 12c compared to the old one

*Message #5 Posted by **Eric Smith** on 14 Mar 2011, 4:08 p.m.,*
in response to message #4 by Andrés C. Rodríguez (Argentina)

I believe that there is prior art for the way the carry out is done. It remains to be seen whether a patent is actually issued.

Re: ARM-based 12c compared to the old one

*Message #6 Posted by **cyrille de brebisson** on 16 Mar 2011, 10:24 a.m.,*
in response to message #5 by Eric Smith

hello,

I beleive that the patent has actually been issued... one more useless SW patent... but companies love to have large "portfolio" of patent.. my understanding is that it's the size of the patent portfolio (mesured in inches of printed paper) that is important...

To be honnest, I personally do not like SW patents, but hey, the company likes them... so...

all Atmel based calcualtors use this code.

Eric has been of great help, providing me with a modified version of NoPareil that would generate log file of executed instructions... this has been extremly usefull to see when my code path execution was varying from his and find where my emulator was buggy... however, I have never looked at his code to avoid any possible questions about HP using free code without respecting lisences...

cyrille

Re: ARM-based 12c compared to the old one

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 16 Mar 2011, 11:39 a.m.,*
in response to message #6 by cyrille de brebisson

Cyrille, thank you for your comments and openess. Very enlightening! Best regards, Andrés.

Re: ARM-based 12c compared to the old one

*Message #8 Posted by **Thomas Radtke** on 13 Mar 2011, 7:26 a.m.,*
in response to message #1 by Jose Gonzalez Divasson

> Quote:
>
> There is hope of a new HP15c being released [...]

Why do you think so? While development costs might be rather low, that thing has to be produced and sold ;-). Imagine a 15C between all those calculators with graphical displays and lots of RAM. Only few will buy, since the strengths of the 15C cannot be marketed easily.

You know, 'ease of use' today means 'simple' or 'entry level'. And 'bugfreeness'? One even don't knows if it is. And people are over-optimistic in the light of a high-specs gadget anyway, I fear.

In the end, some more important people might ask why HP needs to get back to a model that ancient. What's their concept of 'innovate'? ;-)

But ... HP could camouflage it as a retro-toy sold for their next anniversary :-D.

Re: ARM-based 12c compared to the old one

*Message #9 Posted by **sylvandb** on 13 Mar 2011, 3:02 p.m.,*
in response to message #8 by Thomas Radtke

> Quote:
>
> While development costs might be rather low, that thing has to be produced and sold ;-). Imagine a 15C between all those calculators with graphical displays and lots of RAM. Only few will buy, since the strengths of the 15C cannot be marketed easily.

I can't imagine a new 15c being sold at retail. Very few HP calcs are sold at retail and as you point out, the 15C would not compare well.

Internet sales should be very inexpensive.

As for production costs, has anyone tried the 15c firmware replacing the 12c firmware component in the current emulated 12c?

If the display is sufficient, and the emulator is sufficient or could be fixed, then incremental production costs for the 15c over the 12c calculator are limited to a different paint job on the keys and a different firmware load. Conceivably even the firmware load could be done post-manufacture if this is a small scale effort.

If no packaging and manual are needed it seems that financing the cost of a small production run would be well within the means of many of the HP calculator hobbyists. (With legal permission from HP, of course.) HP would have no means to deal with a small production run like that, but for an individual or small group selling via the internet then the missing "commercial" package and documentation seem reasonable.

Re: ARM-based 12c compared to the old one

*Message #10 Posted by **Thomas Radtke** on 13 Mar 2011, 3:31 p.m.,*

in response to message #9 by sylvandb

> Quote:
>
> If the display is sufficient, and the emulator is sufficient or could be fixed, then incremental production costs for the 15c over the 12c calculator are limited to a different paint job on the keys and a different firmware load.

I have no clue what that costs, I admit. It is an interesting question for the 20b/30b repurposing projects anyway.

> Quote:
>
> If no packaging and manual are needed it seems that financing the cost of a small production run would be well within the means of many of the HP calculator hobbyists. (With legal permission from HP, of course.) HP would have no means to deal with a small production run like that, but for an individual or small group selling via the internet then the missing "commercial" package and documentation seem reasonable.

Right. Would HP deal with a bunch of hobbyists willing to do the job?

Thanks for your interesting thoughts about this matter!

Re: ARM-based 12c compared to the old one

*Message #11 Posted by **robert rozee** on 13 Mar 2011, 11:56 p.m.,*
in response to message #1 by Jose Gonzalez Divasson

would someone like to humour me and tell me where i might find any repository of information on the ARM based 12C? has anyone had a go at developing a GCC toolchain to do programming of it? is there documentation on port mappings, etc?

am toying with the idea of getting hold of one and having a go at doing something useful with it...

cheers, rob :-)

Re: ARM-based 12c compared to the old one

*Message #12 Posted by **Eric Smith** on 14 Mar 2011, 2:35 a.m.,*
in response to message #11 by robert rozee

There's an SDK from HP for developing on the 20b. The new 12c has basically the same hardware, with different keyboard and LCD mapping, so the 20b SDK is mostly applicable.

As supplied, the SDK works with the IAR toolchain. The "Kickstart" version of the IAR toolchain is available for download from IAR at no charge. It has almost all of the features of the full version, except that it won't link an executable larger than 32KB of object code.

The GNU toolchain from CodeSourcery should be perfectly suitable for developing for the 12c/20b/30b, but using the 20b SDK would then require some modification.

I'm currently using IAR Kickstart on a different platform (ARM Cortex-M3), but plan to switch to CodeSourcery at some point.

Re: ARM-based 12c compared to the old one

*Message #13 Posted by **Scott Newell** on 14 Mar 2011, 8:58 a.m.,*
in response to message #11 by robert rozee

> Quote:
>
> would someone like to humour me and tell me where i might find any repository of information on the ARM based 12C? has anyone had a go at developing a GCC toolchain to do programming of it? is there documentation on port mappings, etc?

Yes, GCC works. I've mapped out the keypad and LCD.

Re: ARM-based 12c compared to the old one

*Message #14 Posted by **robert rozee** on 15 Mar 2011, 8:30 p.m.,*
in response to message #13 by Scott Newell

sounds like what i'm after - is your work posted anywhere on the net?

cheers, rob :-)

Re: ARM-based 12c compared to the old one

*Message #15 Posted by **Marcus von Cube, Germany** on 15 Mar 2011, 11:38 a.m.,*
in response to message #11 by robert rozee

I'm working on a 20b/30b repurposing project (wp34s). I've plans to use the Yagarto toolchain. It's freely downloadable and came with my Olimex JTAG adapter. I'll keep you posted here how it works out.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

restoring an HP11C

*Message #1 Posted by **Alberto Fenini** on 12 Mar 2011, 10:37 a.m.*

ciao a tutti (*Hello everyone*)
I have almost completed the restauration of an HP11C that was in a bad condition, but working perfectly
It's almost done, except for the logo that is drying, I have painted with a silver paint and a very thin brush.
I'm very satisfied with the bezel, which has been done using the 3M scothbrite
while I think the faceplate could have done a little bit better.
I have used a black permanent marker to touch up, but if you look at the faceplate with a strong ligt you can see it
does anybody else has ever tried a different method with better results ??
Hope the pics will help someonelse that as to disassemble a Voyger ...
take care and enjoy the weekend !!
Alberto

Re: restoring an HP11C

*Message #2 Posted by **Dallas Osborne** on 12 Mar 2011, 11:15 a.m.,*
in response to message #1 by Alberto Fenini

Nice work! Let me know if you would like a re-fab 11C badge. I ran another batch of silver cast ones.

-Dallas

Re: restoring an HP11C

*Message #3 Posted by **John Robinson** on 12 Mar 2011, 7:55 p.m.,*
in response to message #2 by Dallas Osborne

Hi Dallas, are you reproducing all Voyager series badges, or just the 11c ones ?

Thanks John

Re: restoring an HP11C

*Message #4 Posted by **Dallas Osborne** on 14 Mar 2011, 10:29 a.m.,*
in response to message #3 by John Robinson

I have only done 11c badges so far; no one has been willing to toss a 15c job in the mail to me.

...however, if I get my hands on a 15c badge with decent form I will certainly cast a batch of them. A donor badge doesn't have to be mint with all the shinny stuff on the plastic. It just has to have a good form. I have been casting these in de-ox silver, enameling the badge in matte black paint, and polishing off the surface metal. Touching them up would be wiping it off on your jeans unless you scratch the paint inside the grooves. (In that case, just repaint and strip the surface off with a nail file to give that 'brushed' look.)

Re: restoring an HP11C

*Message #5 Posted by **Gerson W. Barbosa** on 14 Mar 2011, 11:15 a.m.,*
in response to message #4 by Dallas Osborne

I can send you one from my 2740B30986 unit. It appears to be fine, except the silver painting has vanished off. Is it a destructive process, that is, will I have it back when the mold is done?

Re: restoring an HP11C

*Message #6 Posted by **Dallas Osborne** on 14 Mar 2011, 11:33 a.m.,*
in response to message #5 by Gerson W. Barbosa

The process isn't destructive at all. I make a silicone mold from yours and use it to cast little waxes. Then I spree up the waxes and encase them in an investment of fine plaster. I fire the whole thing in a kilm until the wax is burnt out. Then I sling a puddle of melted silver into the mold, cool, and crack it. The actual hard part is cleaning up the badges to look good.

The costs aren't too bad, but I have a good relationship with the silversmith and get a decent rate for equipment time. If I was making only one, it would be one very expensive art project. But when I sell about 10-15, I break even and get a kick out of seeing new badges on old equipment.

So, yes, if you mail me one, I will get your original back and a shinny silver one in exchange for your loan.

My timeline depends a bit on my work schedule.

PM me for mailing details.

Re: restoring an HP11C

*Message #7 Posted by **Gerson W. Barbosa** on 14 Mar 2011, 11:41 a.m.,*
in response to message #6 by Dallas Osborne

You've got mail!

Re: restoring an HP11C

*Message #8 Posted by **bill platt** on 14 Mar 2011, 4:38 p.m.,*
in response to message #6 by Dallas Osborne

Assuming you are running a batch of 15, what will it cost for a 15c logo?

Re: restoring an HP11C

*Message #9 Posted by **Dallas Osborne** on 14 Mar 2011, 11:38 a.m.,*
in response to message #3 by John Robinson

John, which model are you thinking about?

Re: restoring an HP11C

*Message #10 Posted by **Alberto Fenini** on 14 Mar 2011, 5:16 p.m.,*
in response to message #2 by Dallas Osborne

That could be an idea,
what would it be the cost for one ?
take care Alberto

Re: restoring an HP11C (logo pics)

*Message #11 Posted by **Alberto Fenini** on 14 Mar 2011, 5:53 p.m.,*
in response to message #10 by Alberto Fenini

By the way, this is how the logo looks now :

take care, Alberto

Re: restoring an HP11C (logo pics)

*Message #12 Posted by **Dallas Osborne** on 14 Mar 2011, 9:12 p.m.,*
in response to message #11 by Alberto Fenini

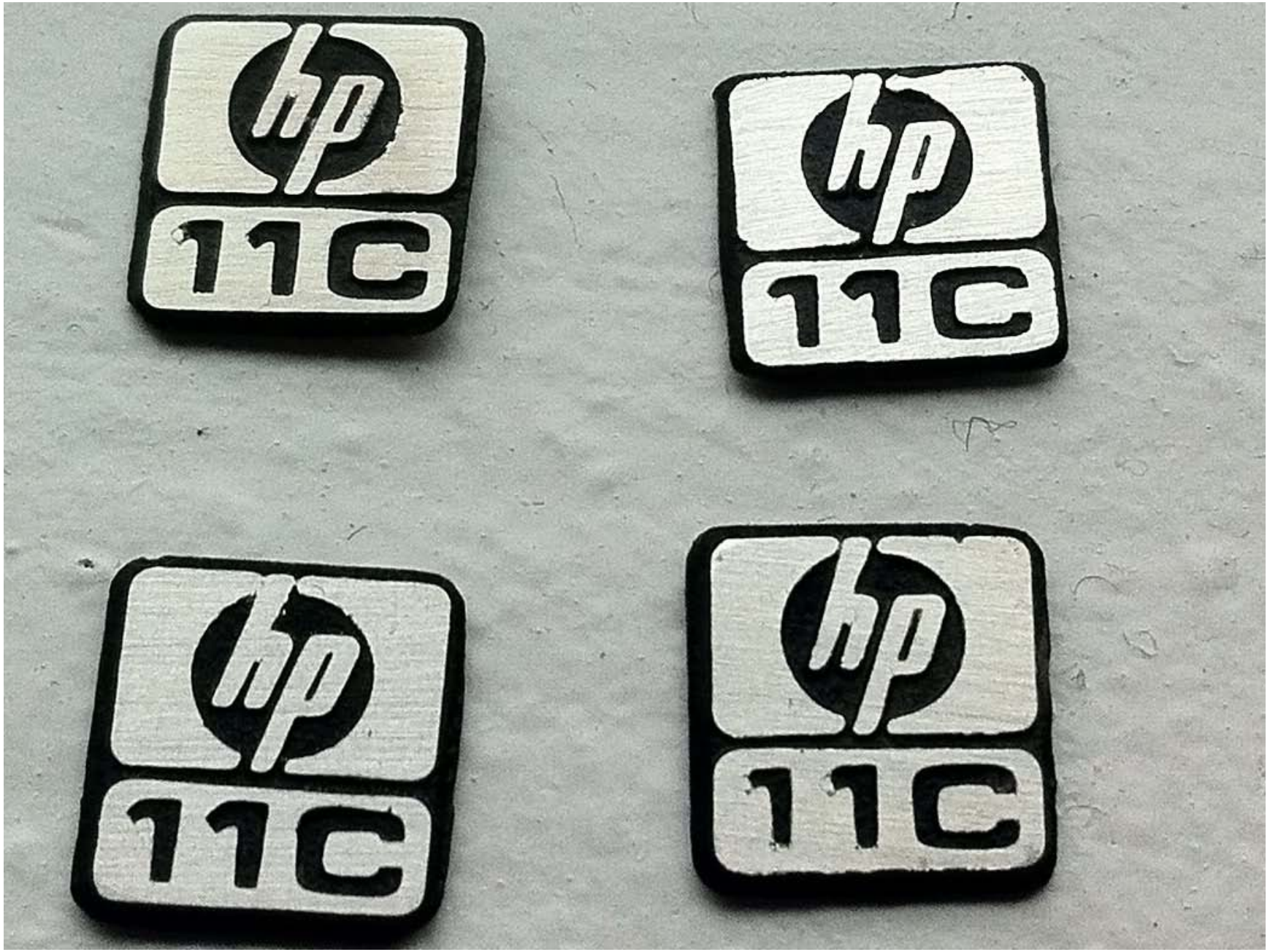
I have been selling the premiums at $35, slightly defected at $25, and the runts of the litter at $20. (And the last slightly defected one went last night.)

Yup, last four. All goofy someway or another. But, they are solid silver and, depending on how skilled you were with a fine needle, some of the bits could be cleaned up. Regardless: sorry, Mates; that's what's left. If I had a world class shop at my disposal, well, I could do wonders for trademark violation.

But covering costs and materials is enough at this point.

So, Alberto: $20 and pick which one you want.

Bill, Assuming I get a heck of lot better at this and produce some beauties, I would run them at $40. If the same quality comes out, then the same prices will stick.



Re: restoring an HP11C (logo pics)
*Message #13 Posted by **Dallas Osborne** on 14 Mar 2011, 9:24 p.m.,*
in response to message #11 by Alberto Fenini

Oh, Bill,

This is an example of a good one. (The little dark spot on the upper left hand is a bit of dust that snuck in there. And the yellow shade is due to the poor lighting I just snapped this shot in; this one normally had a very nice white silver look.)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

29C needs help!

*Message #1 Posted by **Dieter** on 11 Mar 2011, 5:19 p.m.*

Hi all,

A few days ago I acquired a HP-29C in nice condition for a good price. Aaah... red LEDs. So small and handy - it's a real cutie, isn't it? :-) The battery compartement has been modified so that the unit now runs on regular AA-size NiMH batteries, providing about five times the original operation time and allowing the use of a decent processor-controlled external charger. So far, so good.

First tests showed that the 29C runs significantly faster than my good old (even slightly newer) 34C. So I tried the 8-queens-benchmark on http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=700 to find out more.

Since the 29C is not listed there I used the sample program for the 11C/34C, only slightly modified for the 29C since it uses register 0 for indirect addressing. The result was quite surprising: While the 34C is listed with 73 minutes, the 29C did the job in just 42! Even better, a simple factorial program (i.e. essentially a simple loop) runs quite exactly twice as fast as on the 34C. I had expected an execution speed close to that of the HP-67, or maybe something comparable to the 34C/15C.

Today there was another surprise. The 29C was running a program when, after about half an hour, I suddenly noticed the display showed nothing but twelve zeros: "000000000000" and no reaction on any key press. :-(

Now, there are two questions:

- The calculator worked perfectly for a few days. What might have happened here? What can I do now?
- I wonder if the 29C really is so much faster than the 34C or even the 67. Maybe other 19C or 29C-users may try the 8-queens-benchmark program and state their results. Has my unit possibly been modified? In this case, may this have caused the mentioned problem?

Dieter

Re: 29C needs help!

*Message #2 Posted by **Namir** on 11 Mar 2011, 5:48 p.m.,*
in response to message #1 by Dieter

I am not a hardware expert, but I have been burned many times by running HP-25 calculators using AA Alkaline batteries. My humble guess is that the batteries you are using messed up the chips and friend a circuit or two .. or three ... or more. That's why the only HP25 and HP-29C I touch nowadays are emulators.

Maybe hardware savvy folks can offer a better diagnostic.

Namir

Re: 29C needs help!

*Message #3 Posted by **Dieter** on 11 Mar 2011, 6:09 p.m.,*
in response to message #2 by Namir

Namir, thanks for your response, but of course I didn't use Alkaline batteries but rechargeable NiMHs, having exactly the same voltage as as the original NiCds.

However, I wonder if disposable Alkaline batteries really may harm a 25(C) or 29C. Their voltage (1.5 V when new, then continuously dropping) is just about 10% higher than the 1.4 V of a freshly charged NiCd. Which then quickly drops to almost constant 1.3...1.2 Volts in use.

Dieter

Re: 29C needs help!

*Message #4 Posted by **Namir** on 11 Mar 2011, 7:09 p.m.,*
in response to message #3 by Dieter

The alkaline batteries have fried more than one HP-25 which were functional when I received them. So I have some statistical data to back my suspicion.

Re: 29C needs help!

*Message #5 Posted by **Katie Wasserman** on 11 Mar 2011, 9:35 p.m.,*
in response to message #4 by Namir

I use Energizer lithium cells in all my woodstocks and never had a problem. Their initial voltage is around 1.7 per cell, much higher than fully charged nicads. Running up to 3.5 volts or so has never been an issue for me.

The thing to watch out for is the 9 volts or so that you get from running these calculators off the AC adapter with no nicads inside (or at least no nicads making contact with the battery terminals).

-Katie

Re: 29C needs help!

*Message #6 Posted by **Michael Meyer** on 13 Mar 2011, 7:18 p.m.,*
in response to message #5 by Katie Wasserman

Like Katie, I have fortunately never had a problem with the lithium batteries. I suspect that, if the calculator is "fried", it was already on the verge of failing.

Re: 29C needs help!

*Message #7 Posted by **Hal Bitton in Boise** on 13 Mar 2011, 9:56 a.m.,*
in response to message #1 by Dieter

Hi Dieter, Be sure to check all contacts in the battery loop...scrub them so they shine. As you have put in NiMH cells, I'll bet you've done away with the soldered strap which originally connected the two cells, and are relying on the tensioning spring for the cell to cell connection...just be sure this area is clean.

My 29C has occasionally exhibited whacky behavior, and this has always been the culprit. (Incidentally, I bought my 29C brand new in 1978, and it's been with me ever since!)

Same problem has been discussed before (was: 29C needs help!)

*Message #8 Posted by **Dieter** on 13 Mar 2011, 10:01 a.m.,*
in response to message #1 by Dieter

I wrote:

> Quote:
>
> The 29C was running a program when, after about half an hour, I suddenly noticed the display showed nothing but twelve zeros: "000000000000" and no reaction on any key press. :-(

In the meantime I searched the forum and found exactly the same problem in this thread from 2001. Just like here, the 29C crashed after about half an hour while running a program, locking up with twelve zeroes in the display.

Since neither I nor the previous owner had the original Wookstock AC-adapter (the batteries were charged in an external charger) the problem cannot have occured due to overvoltage or another cause related to the charger.

May I ask the experts if this and the information in the earlier thread sheds some light on both Mark's and my problem?

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Help! HP-19C printer gone mad

*Message #1 Posted by **Philippe Lasnier** on 11 Mar 2011, 5:03 p.m.*

Hi Guys,

Here I am again asking for help, but this time for an HP-19C.

I've just managed to acquire (at last!) an HP-19C.

The seller I got it from (yes, on TAS) was the original owner, but said that it hadn't been used for 30 years. The battery pack was removed then (allegedly), and everything put in a drawer. Of course, the battery pack is long dead, and it had leaked, but the calculator was apparently intact (and no trace of white dust from the battery cells inside the calculator). Using the dead battery pack's shell, I replaced the dead cells with fully charged NiMH. I inserted the battery pack, making sure the connections to the terminals were ok (voltmeter in hand), and turned on the calculator.

That's where things go wrong. The printer head just travels across and comes back, and the paper advances, a small pause, and this repeats itself. There's no way to stop it. Nothing gets printed. It doesn't matter that the printer switch is on MAN/TRACE or NORM. It doesn't matter that the power switch is on PRGM or RUN. For the short moments that the printer head is not moving between cycles, the display lights up seemingly properly. If I am fast enough (in RUN mode) I can enter some digits, but no function works.

I opened up the calculator, and didn't find much wrong that I could see. There is what looks like spots of green corrosion here and there on some tracks of the power supply/printer PCB (from battery's degassing?), and the power circuit's large resistor has made the PCB black, but that's all.

Looking around I found this, but the battery *is* working fine and full of juice, so it may be the same symptoms but doesn't look like the same cause.

The HP-19C is in otherwise excellent physical condition. It would be an utter shame if it cannot be made to work again. I sent an e-mail to fixthatcal, but Randy hasn't replied yet.

Should I clean all the contacts etc. (DeoxIT, slight vinegar wash for green spots, Isopropanol, etc.) before I cry for help?

Any idea or suggestion? (no, I haven't got an oscilloscope :-(

Hopeful regards,

Philippe

Re: Help! HP-19C printer gone mad

*Message #2 Posted by **Donald Williams** on 11 Mar 2011, 5:39 p.m.,*
in response to message #1 by Philippe Lasnier

It is most likely a power supply problem. Either the Vgg or Vss side of the supply is failing. I have 2 of them

on the bench right now trying to troubleshoot the same problem. So far I have replaced one open NPN transistor. I hate to work on this model. I have great difficulty trying to marry the logic board back to the stakes on the power supply board. If you are not very careful the stakes can easily get bent when you try to close the two halves back together, and I have not found a source for stake replacements. I won't even get into the flaky contacts on the flex wire circuit between the keyboard and the logic board. An intermittent contact here can drive you crazy. Good luck with your repair.

Edited: 11 Mar 2011, 5:42 p.m.

Re: Help! HP-19C printer gone mad

*Message #3 Posted by **Katie Wasserman** on 11 Mar 2011, 9:41 p.m.,*
in response to message #2 by Donald Williams

I agree that it's some sort of power supply issue, but may not be the internal supply. Before you start digging around in there (these are a pain to work on) try using an external 5 or 6 volt power supply in place of the batteries, one that can supply at least couple of amps. It might be that your current cells just can deliver enough current for this calculator.

-Katie

Re: Help! HP-19C printer gone mad

*Message #4 Posted by **Philippe Lasnier** on 12 Mar 2011, 12:03 p.m.,*
in response to message #3 by Katie Wasserman

Hi Katie, Donald,

Thanks for replying. The fact that you both think that it's still a power supply problem is reassuring, in a way, however I find myself very ill-equipped to proceed; I'd like to have an oscilloscope to be able to monitor various points, and a bench power supply so that I can feed whatever I need - I have neither.

On the power front, the NiMH cells I used are of good quality and were fully charged. At 2200mAh, I would have expected them to feed enough current for the motor. Of course, there could also be a problem at the PCB contacts with the battery I suppose, however I monitored the voltage on the points' solder and that looked fine, although there was some voltage drop during "printing".

I will try to re-tin the PCB contacts with some solder, and also try to rig up 4xAA new alkaline batteries straight to the PCB tracks. I'll let you know how I get on.

Donald, you mentioned that you replaced one open NPN transitor. Had it failed? Why would that be? Do you have the schematics?

Many thanks,

Philippe

Re: Help! HP-19C printer gone mad

*Message #5 Posted by **Donald Williams** on 12 Mar 2011, 12:57 p.m.,*
in response to message #4 by Philippe Lasnier

Schematics

see here

cause of transistor failure, unknown.

Edited: 12 Mar 2011, 1:03 p.m.

Re: Help! HP-19C printer gone mad

*Message #6 Posted by **Philippe Lasnier** on 12 Mar 2011, 3:43 p.m.,*
in response to message #5 by Donald Williams

Thanks. I'm an HPCC member, but I didn't spot these ;-)

Re: Help! HP-19C printer gone mad

*Message #7 Posted by **Katie Wasserman** on 12 Mar 2011, 7:16 p.m.,*
in response to message #6 by Philippe Lasnier

Some of Tony's schematics are available for download here, just search for 'schematic', however the 19C is not among them. For the full set of schematics (including the 19C) you need to contact Dave Colver at the link that Donald provided.

-Katie

Re: Help! HP-19C printer gone mad

*Message #8 Posted by **Philippe Lasnier** on 13 Mar 2011, 10:51 a.m.,*
in response to message #7 by Katie Wasserman

I have had some success last night.

I soldered leads directly to the battery contacts on the PCB, reconnected the PCB to the keyboard/CPU PCB, and connected my leads to four fresh AA alkaline cells outside the calculator. Effectively I have an HP-19C without its back, and I have to be careful with the printer (it's not held by anything) and its head's flex connector.

As soon as I switched on, I knew there was progress, as the printer stopped its merry dance.

Printing itself doesn't work. There are just a few pixel columns getting printed (from the right). At one point last night, after wiggling the various contacts between the PCBs, I got the printer to work properly (printing the stack, printing statistic registers, TRACE operating as normal), but since then it hasn't worked anymore.

I am not sure that it was the "wiggling" that made printing work, and I hope that I haven't damaged any electronics. It feels as if the data to print isn't making it to the printer's electronics.

That short period of normal operation at least proved that there is no burnt filaments in the print head. It also proved that the printing *could* work, at least with the assumption that I haven't caused any damage.

The calculator itself (i.e. with printing on MAN) seems to be working fine, STO/RCL works, various operations +-/* Log Ln etc. work, I was able to write program steps and run them.

Of interest: according to my meter, the calculator draws between 100mA and 140mA

when 'on' (depending on the number of lit digits). When printing a line, this jumps to 160mA to 180mA. Considering that I'm feeding it 6V or slightly over, this is just about 1W being used, as stated. At one point I had the printer flex connector impaired, and the current jumped to 220mA or so. All this seems reasonable.

Would the concensus be now that I have got a connectivity problem between the PCBs? Surely it cannot be a power problem anymore?

Philippe

Re: Help! HP-19C printer gone mad

*Message #9 Posted by **Philippe Lasnier** on 13 Mar 2011, 10:57 a.m.,*
in response to message #7 by Katie Wasserman

Forgot to mention: I also cleaned the various spots of green corrosion that I could find on the power/printer PCB.

Re: Help! HP-19C printer gone mad

*Message #10 Posted by **Katie Wasserman** on 13 Mar 2011, 12:48 p.m.,*
in response to message #9 by Philippe Lasnier

The contacts between the PCB's are all gold plated so they're not likely to be a problem, but since you mention the "green corrosion" I'm betting on that being the problem. You've likely got one or more bad solder joints due to this corrosion. Clean off all the corrosion and re-solder all the nearby joints and I'll bet that your 19C is back to 100%.

Re: Help! HP-19C printer gone mad

*Message #11 Posted by **Philippe Lasnier** on 13 Mar 2011, 1:19 p.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> [...] and I'll bet that your 19C is back to 100%

That would be nice ;-)

I haven't got time to spend on it anymore right now, but I'll carry on cleaning corrosion and checking tracks and solder joints.

On another tack, I have been trying to get in touch with Randy at fixthatcalc, but he is not replying. Is he a member of the forum, so that I could try to reach him another way? Ultimately I haven't got the adequate equipment to fully repair these things.

Regards,

Philippe

Re: Help! HP-19C printer gone mad

*Message #12 Posted by **Philippe Lasnier** on 13 Mar 2011, 5:17 p.m.,*

in response to message #10 by Katie Wasserman

I just spent an hour scrapping off any trace of green oxidation that I could find, checking that tracks and solder joints were ok around each, and soldered a wire that fell off. I dusted off everything, and reconnected the power PCB with the keyboard.

Again, for a few seconds, things seemed to be slightly better; I was getting a few characters printed out. For instance the whole of "PRST" appeared as I asked to print the stack...but not the stack values. Quickly, the printing went back to as bad as it was before.

But I noticed something else (I had vaguely noticed yesterday, but hadn't paid much attention): every "bad" printing zaps Y Z and T, and the motor's pitch changes. So for instance if I am in TRACE mode, with 5 in X, and I press 4 and then +, then 4 stays in the display after the printer flounders. The printer only runs once, instead of twice (as it should to print "4 +" and then "9 ***"), and going to MAN and cycling the stack with R« I notice that Y has been set to zero. The addition operation obvioulsy didn't happen either. A similar observation goes for stack printing. If (in MAN mode) I load the stack with 1, 2, 3, and 4, then do PRST, then the printer runs twice (as if to print "PRST" and the subsequent blank line) then stops, instead of printing the stack. Examining the stack, only X remains at 4, with T, Z, and Y, having been reset to zero.

Considering that storage registers 16-29 and the stack registers Y, Z & T are not in permanent memory and are zeroed when the power is turned off, this looks like a power cut (maybe from overload) is effected somehow when the printer runs.

So here is my conclusion: the printing starts, and some pixel columns get printed. Most often though , a power "cut" occurs, which stops everything. The power comes back on effectively immediately, and because the printer's end-stop switch is open, the printer is driven all the way until the switch gets closed again (starting position). There's no printing that would happen during that "run back to start" stage, and that's actually audible - the pitch of the motor is different and the printhead speed is faster.

Now, as to what is causing this power glitch, I don't know. Sometimes it doesn't happen. If it's a bad solder joint somewhere, I haven't found it (it might help to know where in the circuit it's most likely to happen, but I don't know). If it's a bad connector, I don't know where it is; and considering that the power circuit and the printer are on the same PCB, a bad connector is less likely.

Could it be an (intermittently) faulty component? And if so, which one? It could still be the power supply, but I'm pretty sure mine is ok at the moment.

Re: Help! HP-19C printer gone mad

*Message #13 Posted by **Philippe Lasnier** on 12 Mar 2011, 12:08 p.m.,*
in response to message #3 by Katie Wasserman

Before you point out that the battery's capacity of 2200mAh has nothing to do with current delivered, yes, sorry, I realise that; I expressed myself incorrectly. What I meant was that such batteries should be able to output a couple of Amps easily.

Philippe

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

"Dispute" oder HP-48GX SN

*Message #1 Posted by **Timo** on 10 Mar 2011, 8:34 a.m.*

Hi there,

a colleague of mine and I got into a discussion over a serial number on his black LCD HP-48GX. It bears the SN ID3XX... and according to the information given on hpcalc.org the unit should have been manufactured in 1993. However, I doubted this and seem to recall, that the new serial numbers were introduced in 1997 an that therefore his 48GX should have been manufactured in 2003. At least the black LCD would be a strong indication for this later year of production. Can anyone of the HP-48 experts clearify this for us?

Thanks in advance, Timo

Re: "Dispute" oder HP-48GX SN

*Message #2 Posted by **Martin Pinckney** on 10 Mar 2011, 9:46 a.m.,*
in response to message #1 by Timo

The hpcalc.org article you linked clearly states that the new SN system started in 1997, as you said you recalled. So 2003 is the answer.

Re: "Dispute" oder HP-48GX SN

*Message #3 Posted by **Mike Morrow** on 10 Mar 2011, 11:43 a.m.,*
in response to message #1 by Timo

I don't remember when the HP 48GX was officially discontinued. My latest one was made in 1997 in Singapore (S/N SG724xxxxx). IIRC, the HP 49G successor appeared in 1998 or 1999.

Regardless of all that, stocks of replacement calculators were made for years after the models were officially discontinued. Most HP calculators since the Pioneers are officially non-repairable and must be replaced to fulfill warranty. Units were made after discontinuance in order to fulfill this HP obligation to "repair" (replace) units that were still under warranty after the specific model was discontinued. For example, I've seen 1997 ID7xxxxxxx HP 42S units, a model discontinued in 1995.

It is likely the unit in question was made as a post-discontinuance warranty-fulfillment unit. Some of these warranty stocks seem to have been released for general sales after the obligation expired. AFAIK, these units did not come with manuals or case. They show up on ebay sometimes.

Edited: 10 Mar 2011, 11:57 a.m.

Re: "Dispute" oder HP-48GX SN

*Message #4 Posted by **Randy** on 10 Mar 2011, 6:39 p.m.,*
in response to message #3 by Mike Morrow

Quote:

> It is likely the unit in question was made as a post-discontinuance warranty-fulfillment unit. Some of these warranty stocks seem to have been released for general sales after the obligation expired. AFAIK, these units did not come with manuals or case. They show up on ebay sometimes.

Mike, you are correct on HP's behavior up to about year 2000. They did in fact support the 42S for five years past the point of discontinuance. It was dropped in 1995 and they continued to build units in Indonesia until year 2000. Sometime in 2002, IIRC, they sold off the remaining service spares for $92 each. Some of us here were lucky enough to grab one or more.

Coming back to the GX, the unit in question was not a service spare as they were actively sold until 2003 when it died a quick death along with the remaining models (including the 32Sii) when they ceased all calculator production internally. The interesting note here is that they had only a small inventory of spares when they did this. I believe they did not make it to the end of the one year warranty period before running out of replacements for the GX and 32Sii. In some cases, I heard they offered cash refunds. So much for the five year service window. Gone. Forget about it. Carly is in the house...

As for the remaining service spares, they did have a bunch of 12C and 48G+'s spares which they sold at auction when they converted just about every thing that wasn't nailed down to generate cash to buy Compaq.

Re: "Dispute" oder HP-48GX SN

*Message #5 Posted by **Mike Morrow** on 10 Mar 2011, 9:12 p.m.,*
in response to message #4 by Randy

Thanks much for the clarifying historical details, Randy. I incorrectly assumed there was a consistent program for repair spares for all the "non-repairable" Pioneers and HP 48-series machines after discontinuance, and I thought the 48GX was discontinued before 2003. I seem to recall vaguely that this was announced in late 2002, but I'm probably wrong.

With the recent HP 30b, at least it *appears* that HP is returning to a case design that is designed to be opened. (But...I haven't tried to open mine.) It may be that some things are getting better.

Did those "repair spare" HP 42S units that were sold for $92 come with manuals? I suppose all were firmware version C.

Re: "Dispute" oder HP-48GX SN

*Message #6 Posted by **Dave Shaffer (Arizona)** on 10 Mar 2011, 11:22 p.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> Did those "repair spare" HP 42S units that were sold for $92 come with manuals? I suppose all were firmware version C.

They certainly did not come with manuals - I got one. They came in an otherwise empty brown box. If you can tell me how to check the firmware version, I will do so.

Re: "Dispute" oder HP-48GX SN

*Message #7 Posted by **Mike Morrow** on 11 Mar 2011, 9:46 a.m.,*

in response to message #6 by Dave Shaffer (Arizona)

> Quote:
>
> They certainly did not come with manuals - I got one... ...tell me how to check the firmware version, I will do so.

That's what I'd heard...no manuals. It makes sense, and for the price, it was a great value even without a manual. Does it have an S/N starting with ID7xxxxxx?

Here's how to determine firmware revision on some Pioneers:
(For models that don't have keys labeled the same as the HP 42S, use that machine's keys which are in the same physical location.)
0. Turn calculator ON. :-)
1. Push EXIT and LOG at same time.
--Starts step-wise self-tests.
2. Push <- (left arrow).
--Displays HEX firmware debugger.
--Example Pioneer displays show 16 nybbles of memory beginning at location:
-----Nybble 023F1 on HP 42S Rev. A
-----Nybble 023F5 on HP 42S Rev. C
-----Nybble 021E8 on HP 17BII Rev. B
3. Push . (period).
--Executes firmware at location shown.
--Letter that then momentarily appears on LCD at left is the firmware revision.
--Display reverts back to HEX display after a few seconds.
4. Repeat step 3 to see revision again, if desired.
5. Push EXIT and SQRT at same time to exit test/debug mode.
--Harmless "Machine Reset" message appears (no memory loss).

The HP 32SII does not have a similar debugger.
The HP 48SX has a similar debugger, while the HP 48GX does not.

RAM locations can be modified with the debugger. Example: On the HP 42S, changing contents of nybble 40300 from 7 (default) to F will (temporarily) double CPU speed. Value resets to 7 after next machine reset.

Edited: 11 Mar 2011, 2:58 p.m. after one or more responses were posted

Re: "Dispute" oder HP-48GX SN

*Message #8 Posted by **Thomas Chrapkiewicz** on 11 Mar 2011, 10:16 a.m.,*
in response to message #7 by Mike Morrow

Where would one find documentatin on the HP48SX debugger?

Tia, TomC

Re: "Dispute" oder HP-48GX SN

*Message #9 Posted by **Mike Morrow** on 11 Mar 2011, 12:20 p.m.,*
in response to message #8 by Thomas Chrapkiewicz

Many here are more knowledgeable than I, but to find the 48SX firmware version the method is similar to that described above:

0. Turn calculator ON.
1. Push ON and D at same time.
--Starts step-wise self-tests.
2. Push <- (left arrow).
--Displays HEX firmware debugger.
--Example: HP 48SX Rev. E displays 16 nybbles of memory beginning at nybble 705D9.
3. Push EVAL.
--Executes firmware at location shown.
--Display momentarily shows (for Rev. E example):
----Version HP48-E
----Copyright HP 1989
--Display reverts back to HEX display after a few seconds.
4. Repeat step 3 to see revision again, if desired.
5. Push ON and C at same time to exit test/debug mode.

For the 48GX and most later, type VERSION to get the same info:
-------Version HP48-R
----Copyright HP 1993

Edited: 11 Mar 2011, 12:36 p.m.

Re: "Dispute" oder HP-48GX SN

*Message #10 Posted by **Dave Shaffer (Arizona)** on 11 Mar 2011, 1:12 p.m.,*
in response to message #7 by Mike Morrow

Ser # is ID13400073

Firmware is version C, per above instructions.

Re: "Dispute" oder HP-48GX SN

*Message #11 Posted by **Mike Morrow** on 11 Mar 2011, 2:55 p.m.,*
in response to message #10 by Dave Shaffer (Arizona)

Wow! An HP 42S made in late 2001. That's the latest that I've ever heard about.

Re: "Dispute" oder HP-48GX SN

*Message #12 Posted by **Dave Shaffer (Arizona)** on 11 Mar 2011, 4:35 p.m.,*
in response to message #11 by Mike Morrow

These (the replacement units that went on sale as HP "parts") were probably the very last ones made.

Who else has one and can check the SN?

Re: "Dispute" oder HP-48GX SN

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 11 Mar 2011, 6:23 p.m.,*
in response to message #12 by Dave Shaffer (Arizona)

Actual replacement unit, obtained in 2001: ID027027xx

Greetings,
Massimo

Re: "Dispute" oder HP-48GX SN

*Message #14 Posted by **Marcus von Cube, Germany** on 11 Mar 2011, 2:07 a.m.,*
in response to message #5 by Mike Morrow

> Quote:
>
> With the recent HP 30b, at least it *appears* that HP is returning to a case design that is designed to be opened. (But...I haven't tried to open mine.)

I've opened my 20b in order to fit a JTAG connector. The calculator cannot be repaired beyond the point of replacing it. Behind the back of the case there is just a heat staked sandwich of board, keys and display.

Re: "Dispute" oder HP-48GX SN

*Message #15 Posted by **Raymond Del Tondo** on 10 Mar 2011, 4:04 p.m.,*
in response to message #1 by Timo

Hi Timo,

it's 2003 in this case;-)

I bought my HP-48G+ Turbo new in late November 2003 at Dynatech, and up to then, the HP-48G+/GX units were regular stock at Dynatech, not service replacements. They also said they had several in stock.
However at the beginning of 2004, I wanted to buy another new HP-48GX,
but sales seemed to have been very good that stocks were empty then...I should have bought two in the first place.

Regards

Raymond

Re: "Dispute" oder HP-48GX SN

*Message #16 Posted by **Timo** on 11 Mar 2011, 2:44 a.m.,*
in response to message #15 by Raymond Del Tondo

Hi again,

I did not expect to kick off such a discussion, but thanks for the multiple feedbacks! I certainly do learn a **lot** here on the forum...

Re: "Dispute" oder HP-48GX SN

*Message #17 Posted by **Martin Pinckney** on 11 Mar 2011, 1:33 p.m.,*
in response to message #16 by Timo

> Quote:
>
> I did not expect to kick off such a discussion...

Not too unusual with this group.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Equation library w/ units

*Message #1 Posted by **Eric Smith** on 9 Mar 2011, 8:05 p.m.*

Dumb question time: When I'm using the equation library, and in the process of entering a value go to the units menu, how do I get back to where I was in the equation library?

Thanks!

Re: Equation library w/ units

*Message #2 Posted by **Michael de Estrada** on 9 Mar 2011, 8:45 p.m.,*
in response to message #1 by Eric Smith

Well, I don't know which specific calculator model you are using, but if for example it is an HP-48SX you would type ATTN (below ON key), followed by <right shift> LAST MENU, which will return you to the previous menu.

Edited: 9 Mar 2011, 8:50 p.m.

Re: Equation library w/ units

*Message #3 Posted by **David Hayden** on 9 Mar 2011, 9:10 p.m.,*
in response to message #1 by Eric Smith

On a 50g, does left-shift [hold] PREV do it? That normally takes you back to the previous menu.

Dave

Re: Equation library w/ units

*Message #4 Posted by **Michael de Estrada** on 9 Mar 2011, 9:55 p.m.,*
in response to message #3 by David Hayden

Yes it does. Also the sequence 0 ENTER MENU ENTER will do this.

Edited: 9 Mar 2011, 10:05 p.m.

Re: Equation library w/ units

*Message #5 Posted by **Eric Smith** on 9 Mar 2011, 10:15 p.m.,*
in response to message #3 by David Hayden

That did the trick, thanks!

I suppose that might be in the manual somewhere, but I wasn't able to find it.

Re: Equation library w/ units

*Message #6 Posted by **Michael de Estrada** on 9 Mar 2011, 10:56 p.m.,*
in response to message #5 by Eric Smith

Don't feel bad, Eric, I also have a HP-50g, and there's tons of stuff that isn't documented, even in the Advanced User's Reference Manual. I figured out a lot of things from the excellent documentation that came with my HP-48SX.

Re: Equation library w/ units

*Message #7 Posted by **Jim Yohe** on 10 Mar 2011, 2:11 a.m.,*
in response to message #6 by Michael de Estrada

Maybe the thing to do is get a hold of a HP-48SX manual to use for the extra information that the 50g manual is missing, apparently.

Re: Equation library w/ units

*Message #8 Posted by **David Hayden** on 10 Mar 2011, 11:55 a.m.,*
in response to message #7 by Jim Yohe

My favorite poorly documented feature on the 50g: right-arrow for SWAP. This is an essential function in RPN mode but its existence is buried deep in the documentation.

Dave

Re: Equation library w/ units

*Message #9 Posted by **Michael de Estrada** on 10 Mar 2011, 1:02 p.m.,*
in response to message #8 by David Hayden

Well, at least it is documented somewhere (page 3-179 of the Advanced User's Reference Manual, which you have to download from HP). The HP-48SX printed manual documents this on page 63, and the right arrow on that calc performs this operation as well, however, there is also a SWAP command above that key accessible via the left shift key. On the HP-50g, it is buried in a sub menu (left shift PRG STACK SWAP). You can also access this on either machine by typing in the SWAP command (alpha S W A P ENTER), but this is really only useful for programming). Basically, virtually all the features of the HP-48SX are carried forward to the HP-50g, however, access is either not as convenient or poorly documented / not documented. The printed User's Manual that comes with the HP-50g is very poor and rife with errors. It's truly a shame that such a powerful device is so poorly supported by useful documentation, such that most users never experience it's full capabilities. Were it not for my HP-48SX and this forum, I certainly would not be able to do so.

Re: Equation library w/ units

*Message #10 Posted by **Ángel Martin** on 10 Mar 2011, 2:52 p.m.,*
in response to message #9 by Michael de Estrada

I find increasingly unnerving that a "Museum" site needs to double roles to supply the lack of information in modern-day HP calculators. Of course it's great to share and helpful people abound on this forum, but on the other hand should the documentation live up to the system it's documenting, wouldn't the subject of this sharing be about more productive things?

Just a thought... I Suppose.

Re: Equation library w/ units

*Message #11 Posted by **Martin Pinckney** on 10 Mar 2011, 4:25 p.m.,*
in response to message #10 by Ángel Martin

The heading for the Forum states: "This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc."

So, at least as far as this forum is concerned, the term "Museum" is not really applicable.

I understand your feelings, however, about the lack of good information from the manufacturer.

Re: Equation library w/ units

*Message #12 Posted by **Mark Storkamp** on 10 Mar 2011, 3:45 p.m.,*
in response to message #9 by Michael de Estrada

When I first went to work in the '80s we had both Technical Writers and Drafters. I wonder if there's a company left today with either. (and document control departments too)

We see quite often in this forum the effect that loosing competent writers can have.

Every day I deal with the crap that engineers sketch out and call their drawings. All that has done is forced manufacturing to make the engineering decisions, since they often don't have direct access to the engineer, whereas the drafter would have worked with the engineer to iron out the problems of manufacturability.

And the bean counters are happy because they've "reduced redundancy".

We get keyboards that don't work, but that doesn't really matter after all since there's no documentation on how to use it anyway.

(you can guess the kind of day I've been having)

Re: Equation library w/ units

*Message #13 Posted by **Chris Randle (UK)** on 10 Mar 2011, 2:49 p.m.,*
in response to message #8 by David Hayden

In my copies of the HP 50g's documentation, I find reference to this SWAP shortcut here:

On page 2-5 (and 10-12) of the User's Guide in the chapter "Introducing the calculator".

On page 7 of the newer Quick Start Guide in the section "Using RPN".

On page 3-244 of the Advanced User's Reference Manual in the "Full Command and Function Reference" entry for SWAP and also in Appendix G-2 "Keyboard Shortcuts".

Re: Equation library w/ units

*Message #14 Posted by **Michael de Estrada** on 10 Mar 2011, 3:57 p.m.,*

in response to message #13 by Chris Randle (UK)

As I mentioned above, it can be found in the Advanced User's Reference Manual. I prefer the older version of the manual, where you can click on a page number in the table of contents and jump directly to the location. I do see on page 2-5 and 10-12 of the User's Guide where this is mentioned as part of examples, but there is no lead in to this information and no mention of it in the Index (Appendix N), so basically you have to read the whole book just to stumble on things like this. I can't comment on the Quick Start Guide, since I don't have one. By stark contrast, HP-48SX has a very comprensive Index, which covers this and all other items for quick referral.

Re: Equation library w/ units

*Message #15 Posted by **Ronald Williams** on 10 Mar 2011, 5:07 p.m.,*
in response to message #8 by David Hayden

FYI - Look on page 7 of HP 50g Quick Start Guide Edition 2 (item 18 will tell you how to SWAP between level 1 and 2). I think you can thank Tim for bringing RPL/RPN back as the primary operating mode of the HP 50g.

Re: Equation library w/ units

*Message #16 Posted by **Michael de Estrada** on 10 Mar 2011, 6:02 p.m.,*
in response to message #15 by Ronald Williams

I'm curious as to where you found the Quick Start Guide. I didn't get one with my HP-50g and I don't see it on the HP website. I don't need one, really, but just wondered since you mentioned it.

Re: Equation library w/ units

*Message #17 Posted by **Ronald Williams** on 10 Mar 2011, 7:11 p.m.,*
in response to message #16 by Michael de Estrada

Recently I changed from hp 49g+ to a 50g and it was packaged with the calculator. You can check this post:

"Re: Is there something going on out there? (or Getting Back to My Roots...) Message #4 Posted by Tim Wessman on 27 Apr 2010, 12:27 a.m., in response to message #3 by David Hayden"

Re: Equation library w/ units

*Message #18 Posted by **Chris Randle (UK)** on 11 Mar 2011, 5:12 a.m.,*
in response to message #16 by Michael de Estrada

The FTP link to the Quick Start Guide in the post that Ronald Williams gave no longer works ("530 Login incorrect.") - Tim Wessman warned that it was temporary - but a Google search of:

```
50g quick start guide site:hp.com
```

gave me a link to a PDF download from HP's IT Resource Center Forums (forums11.itrc.hp.com) as the first hit.

I think it's well worth getting a copy - it's a very readable manual and not too long;

the introduction suggests that you can work through it in about an hour.

I downloaded one when Tim Wessman first posted his FTP link, but my second 50g, purchased a few days ago, came with a paper copy of it.

I'm in the UK, so for my countrymen I ought to add that I *think* that my newer calculator might be US stock (it had a red "North America" tag on the blister packer, whereas my older one from a year ago had a blug "EMEA" tag). So I don't know for certain whether UK ones are currently shipping with the Quick Start Guide or the original User's Manual.

Edited: 11 Mar 2011, 5:36 a.m.

Re: Equation library w/ units

*Message #19 Posted by **Bart (UK)** on 11 Mar 2011, 5:30 a.m.,*
in response to message #16 by Michael de Estrada

Hi,

See the following thread: Re: No Manual Included?
Link should take you to message #8 which has the QSG as attachment.

Regards.

Re: Equation library w/ units

*Message #20 Posted by **Michael de Estrada** on 11 Mar 2011, 8:26 a.m.,*
in response to message #19 by Bart (UK)

Yes, that works. Thanks.

Re: Equation library w/ units

*Message #21 Posted by **Walter B** on 11 Mar 2011, 8:59 a.m.,*
in response to message #19 by Bart (UK)

Thanks as well d:-)

Re: Equation library w/ units

*Message #22 Posted by **John Keith** on 13 Mar 2011, 10:57 a.m.,*
in response to message #19 by Bart (UK)

Thanks also for that link. However, I found a nasty typo on page 47 that might trip up the unwary:

"However, to avoid loss of data, remove the backup battery and main batteries at the same time."

This should, of course, read "DO NOT remove the backup battery and main batteries at the same time."

Hopefully someone will fix this ASAP.

John

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

/0, n00b!

*Message #1 Posted by **Egan Ford** on 9 Mar 2011, 7:20 p.m.*

http://www.ipadjailbreak.com/2011/03/ipad-app-crash.html

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

48sx Numerical Integration Question

*Message #1 Posted by **svisvanatha** on 9 Mar 2011, 4:05 p.m.*

I am performing a numerical integration of a function f(x)=g(x)*h(x) over an interval [a,b]. In other words, "integral (f(x)*dx)". I am also interested in plotting the integral's result as a function of the distance along the interval [a,b].

The algorithm that the calculator uses to perform the integration must calculate the integral at a fixed number of intermediate points along [a,b].

So, my question is whether that information is available to the user when using the built-in numerical integration routine?

I can do what I want by performing a summation of the integral's value over a fixed number of divisions over the interval [a,b]. However, I thought that these intermediate values may be available and accessible.

Any thoughts?

Edited: 9 Mar 2011, 4:08 p.m.

Re: 48sx Numerical Integration Question

*Message #2 Posted by **Namir** on 9 Mar 2011, 4:55 p.m.,*
in response to message #1 by svisvanatha

If I am reading you correctly, you want to plot the the area from a to b, varying the value of b from a until you hit bmax:

```
For b = a to bmax
  area = area under f(x) curve between [a,b]
  plot value for area on a graph showing area vs b
Next
```

Yes? No?

Namir

Edited: 9 Mar 2011, 4:58 p.m.

Re: 48sx Numerical Integration Question

*Message #3 Posted by **svisvanatha** on 9 Mar 2011, 6:19 p.m.,*
in response to message #2 by Namir

Yes, that is correct.

The issue becomes one of speed, since the built-in numerical integration function divides the interval into a finite number of strips, calculates the area of that strip for a given ordinate, and adds that to the total sum. With your method, there is alot of computational overlap between successive iterations. I came up with a

similar method, but it basically mimics the built-in routine. I was hoping that the intermediate values for iterations of the numerical solver are available in some manner, but seems like wishful thinking.

Thanks!

Re: 48sx Numerical Integration Question

*Message #4 Posted by **Crawl** on 9 Mar 2011, 7:00 p.m.,*
in response to message #3 by svisvanatha

It seems like it would be easier to do with a program.

Supposing that the distance between pixels is dx, you'd want to integrate f(x) between x and dx for each coordinate x, and add the result to variable that keeps the total.

Since the limits are so close, for most functions I'd imagine the integral would converge quickly.

Re: 48sx Numerical Integration Question

*Message #5 Posted by **svisvanatha** on 10 Mar 2011, 6:38 a.m.,*
in response to message #4 by Crawl

OK, so I divided the interval into a number of sub-intervals. For each sub-interval, I used the built-in numerical integration routine. I increment an area variable by that amount, and also store the total area and upper limit of the current interval as a 2 column row within a matrix.

At the end, I have the total area as well as the area as a function of the distance along the interval (a,b).

Thanks for the replies!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How many versions of the HP-35 are there?

*Message #1 Posted by **Michael de Estrada** on 9 Mar 2011, 12:05 p.m.*

According to this museum and many other sources there are 4 production versions of the HP-35, to wit:

1) Version 1, aka Red Dot 2) Version 2, no red dot 3) Version 3, front label with 35 4) Version 4, wider top keys with legends and raised OFF/ON legends

However, there appear to be two variations of the Version 2:

Version 2a - very similar to Version 1 with s/n label outside case, OFF/ON switch nearly flush with case, same bridge contact etc.

Version 2b - very similar to Version 3 with s/n inside battery compartment, tall OFF/ON switch, still has bump on 5 key and buggy ROM, but otherwise same as Version 3.

It's the Version 2a that has been used to create fake Red Dots in the past, although it has been stated that there are significant internal differences in construction between a true Version 1 Red Dot and any subsequent versions.

I offer this for academic discussion and otherwise no particular purpose.

Re: How many versions of the HP-35 are there?

*Message #2 Posted by **Thomas Chrapkiewicz** on 9 Mar 2011, 8:54 p.m.,*
in response to message #1 by Michael de Estrada

It would be interesting for us to track the serial numbers and versions (sort of like megarat has done here for the HP48 series). It would be interesting to provide pictures also.

I would be willing to collect and publish this if others are interested.

TomC

red dot/early V2

*Message #3 Posted by **Frank Boehm (Germany)** on 10 Mar 2011, 4:32 a.m.,*
in response to message #1 by Michael de Estrada

Much easier to check are differences between the ser#-labels - but I'm not going to disclose them, sorry. (If you are in doubt, supply a highres-pic to the forum and those knowing will do their judgement...)
The internal parts are different too (and not exchangeable), but one rarely gets pictures of those.

Re: red dot/early V2

*Message #4 Posted by **Michael de Estrada** on 10 Mar 2011, 9:01 a.m.,*
in response to message #3 by Frank Boehm (Germany)

I am well aware of the differences between the serial number label on a Version 1 Red Dot and an early Version 2, and will also not reveal the differences ;). I was merely pointing out that it's the early Version 2, Version 2A if you will, that has been the basis for attempted fakes. My discussion is more oriented towards the variations on the Version 2, and suggestion that perhaps they should be considered two different versions. This would mean that there were five production versions of the HP-35, rather than 4, although the significance of this conclusion is about as important as the position now taken by astronomers that Pluto should no longer be considered a planet.

Edited: 10 Mar 2011, 9:02 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

9815A/S option ROM

*Message #1 Posted by **Joel Setton (France)** on 8 Mar 2011, 12:43 p.m.*

Folks,

The option ROM which is built into the 9815 CPU board seems to contain some new instructions which are accessed via I/O select code 7. These are probably documented in some manual, but where? Has anyone seen this manual, or experimented with these new instructions?

Many thanks to all!

Joel Setton

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

A beautiful HP-70

*Message #1 Posted by **Michael de Estrada** on 8 Mar 2011, 10:55 a.m.*

Late last year this complete HP-70 set in mint condition sold on TAS for only $676.66 to a domestic buyer. The seller had restricted shipping to the USA, otherwise I think the final sale price would have been much higher, perhaps over $1K. Previously, a HP-70 w/o accessories and in not nearly as good condition had sold for nearly $1K to a buyer outside the USA, probably Europe. This is the only HP-70 I've seen with the original cardboard box and Demonstration Book. This is truly one of the nicest rare collectable vintage HP calc sets I've ever seen.

Re: A beautiful HP-70

*Message #2 Posted by **Juergen Keller** on 8 Mar 2011, 1:11 p.m.,*
in response to message #1 by Michael de Estrada

Very nice, never seen such a complete HP-70 set. But compared to, e.g., the 29C box, this box looks quite shabby. Why did HP not provide a nice box in the early days?

Re: A beautiful HP-70

*Message #3 Posted by **Michael de Estrada** on 8 Mar 2011, 2:31 p.m.,*
in response to message #2 by Juergen Keller

HP wanted this model to be a much less expensive economy financial calculator that cost a lot less than the HP-80. So they replaced the fancy metal clamshell jewel case with a cardboard box and the nice black soft leather calculator case with a plastic zipper case to lower costs. Another advantage of the cardboard box is that it could also be used for shipping, since in the early days HP calcs were not sold over the counter, except at HP outlets. HP also eliminated the separate Quick Reference Guide, although they improved the Owner's Handbook by making it spiral bound. When HP introduced the HP-80 in 1973 the price was $395, whereas when they introduced the HP-70 in 1974 the price was reduced to $275. The problem is that it was still not cheap, and when the more powerful HP-22 was introduced in 1975 for $165, that sealed its fate, and very few were sold, which is why they are so rare and fetch such a high price today.

Re: A beautiful HP-70

*Message #4 Posted by **gene wright** on 8 Mar 2011, 2:43 p.m.,*
in response to message #3 by Michael de Estrada

HP 70 with all the trimmings

A quick google search brought this up. Very nice looking. Note: I am not associated with this individual, etc.

Re: A beautiful HP-70

*Message #5 Posted by **Michael de Estrada** on 8 Mar 2011, 2:56 p.m.,*
in response to message #4 by gene wright

Very nice, however, I don't see the Owner's Handbook in any of the photos.

Re: A beautiful HP-70

*Message #6 Posted by **gene wright** on 8 Mar 2011, 3:20 p.m.,*
in response to message #5 by Michael de Estrada

Heh! You're right! It's a fake! :-)

Maybe it's under the Real Estate Application book.

I am fortunate enough to have a very nice, working HP 70 and owners handbook. Perhaps my favorite of the bunch.

Re: A beautiful HP-70

*Message #7 Posted by **Xavier A. (Brazil)** on 8 Mar 2011, 7:32 p.m.,*
in response to message #3 by Michael de Estrada

Thank you Michael for this clear explaination.

Edited: 8 Mar 2011, 7:33 p.m.

Re: A beautiful HP-70

*Message #8 Posted by **Juergen Keller** on 9 Mar 2011, 12:02 p.m.,*
in response to message #3 by Michael de Estrada

Thanks, Michael, for the interesting background information, and thanks, Gene, for the interesting link!

BTW, I like the HP-70 case because the zipper goes nearly to the bottom of the case and let's you pull out the calc easily. I use one for my HP-41.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Mardi Gras Basic Trigs (HP-12C)

*Message #1 Posted by **Gerson W. Barbosa** on 8 Mar 2011, 10:00 a.m.*

```
01-   2                  21-   +
02-   /                  22-   2
03- ENTER                23-   /
04- ENTER                24-   -
05-   4                  25-   2
06-  y^x                 26-   +
07-  12/                 27- ENTER
08- ENTER                28-   *
09- ENTER                29-   2
10-   1                  30-   *
11-   4                  31-   1
12-   0                  32-   -
13-   /                  33- ENTER
14-   1                  34- ENTER
15-   +                  35- ENTER
16-   *                  36-   *
17- x<>y                 37-  CHS
18-  e^x                 38-   1
19- ENTER                39-   +
20-  1/x                 40-  SQRT
                         41- GTO 00
```

Usage:

Enter angle in radians (0 <= x <= pi/2)

R/S -> sin(x)

x<>y -> cos(x)

/ -> tan(x)

Examples:

x	sin(x)	cos(x)	tan(x)
1.57	0.999999683	0.000796323	1255.771443
1.50	0.997494987	0.070737199	14.10142048
1.00	0.841470987	0.540302303	1.557407736
0.50	0.479425537	0.877582563	0.546302487
0.00	0.000000000	1.000000000	0.000000000

x	sin(x*pi/180)	cos(x*pi/180)	tan(x*pi/180)
90.0	1.000000000	-0.000000003*	-294117647.1*
89.9	0.999998477	0.001745329	572.9570052
60.0	0.866025403	0.500000001	1.732050803
45.0	0.707106783	0.707106779	1.000000006
30.0	0.500000001	0.866025403	0.577350271

*) wrong sign for cos(90 degrees);
invalid result for tan(90 degrees).

```
     pi/180 = 1.745329252e-02


Warnings: 1) not suitable for geodesic applications, space program, land surveying and other
critical applications.
          2) tan(89.999999) is a bit off: 62,500,000.00 :-)
```

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #2 Posted by **Jim Yohe** on 8 Mar 2011, 12:45 p.m.,*
in response to message #1 by Gerson W. Barbosa

But you said that you enter the angle in radians so an angle of 89.999999 should yield you -1.99520539304 which still isn't close to "your" implied 62,500,000.00. ;-)

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #3 Posted by **Gerson W. Barbosa** on 8 Mar 2011, 3:09 p.m.,*
in response to message #2 by Jim Yohe

I should have written tan(89.999999 degrees), sorry! Angles in degrees have to be converted to radians, like in the second table examples, which have been multiplied by 1.745329252e-02, that is, pi/180. I forgot to mention the running time, less than five seconds (ordinary HP-12C). Also, the program gives at least eight digits of accuracy most of the times.

Regards,

Gerson.

The HP-12c Platinum should give more accurate results, but I don't have one to check this out.

Edited: 8 Mar 2011, 3:33 p.m.

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #4 Posted by **Marcus von Cube, Germany** on 8 Mar 2011, 5:34 p.m.,*
in response to message #3 by Gerson W. Barbosa

Gerson, can you give some background on the formulas used?

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #5 Posted by **Gerson W. Barbosa** on 8 Mar 2011, 6:46 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Hi Marcus,

Sorry for the lack of documentation. I hope the following is clear. Basically, I combined cos(x) and cosh(x) and used my HP-28S to obtain the required Taylor series.

Regards,

Gerson.

```
3:          'COS(X)'
2:               'X'
1:                 8


TAYLR =>  '1-.5*X^2+
4.16666666667E-2*X^4
-1.38888888889E-3*X^
6+2.48015873016E-5*X
^8'



3:         'COSH(X)'
2:               'X'
1:                 8


TAYLR =>  '1+.5*X^2+
4.16666666667E-2*X^4
+1.38888888889E-3*X^
6+2.48015873016E-5*X
^8'


  +   =>  '1-.5*X^2+
4.16666666667E-2*X^4
-1.38888888889E-3*X^
6+2.48015873016E-5*X
^8+
        (1+.5*X^2+
4.16666666667E-2*X^4
+1.38888888889E-3*X^
6+2.48015873016E-5*X
^8)'


COLCT =>  '2+8.33333333334E-2*
X^4+4.96031746032E-5
*X^8'
```

That is,

cos(x) ~ 2 + x^4/12 + x^8/20160 - cosh(x),

which has been rewritten as

cos(x) ~ 2 + x^4/12(1 + x^4/12/140) - (e^x + 1/e^x)/2

This provides 9 digits of accuracy or so for |x|<=pi/4. So, the argument is first divided by 2
then a trigonometric identity is used:

cos(x) = 2*(cos(x/2))^2 -1

Finally, sin(x) is computed as

sin(x) = sqrt(1 - cos(x)^2)

The tables below give an idea of the overall accuracy.

An HP-32S-II has been used to simulate the hp-12c platinum results in the table below, so they may differ a little.

```
hp-12c platinum


   x   |    sin(x)    |    cos(x)    |    tan(x)    |
-------+---------------+--------------+--------------+
 1.57  | 0.999999683   | 0.000796326  | 1255.766602  |
 1.50  | 0.997494987   | 0.070737201  | 14.10142002  |
 1.00  | 0.841470985   | 0.540302306  | 1.557407725  |
 0.50  | 0.479425539   | 0.877582562  | 0.546302490  |
 0.00  | 0.000000000   | 1.000000000  | 0.000000000  |


   x   |sin(x*pi/180)|cos(x*pi/180)|tan(x*pi/180)|
-------+-------------+-------------+-------------+
 90.0  | 1.000000000 |-0.000000001*|-1492537313.*|
 89.9  | 0.999998477 | 0.001745328 | 572.9574320 |
 60.0  | 0.866025404 | 0.500000000 | 1.732050808 |
 45.0  | 0.707106781 | 0.707106781 | 1.000000000 |
 30.0  | 0.500000000 | 0.866025404 | 0.577350269 |


 pi/180 = 1.745329252e-02


HP-15C


x(RAD)|    sin(x)    |    cos(x)    |    tan(x)    |
------+---------------+--------------+--------------+
 1.57  | 0.999999683   | 0.000796327  | 1255.765591  |
 1.50  | 0.997494987   | 0.070737202  | 14.10141995  |
 1.00  | 0.841470985   | 0.540302306  | 1.557407725  |
 0.50  | 0.479425539   | 0.877582562  | 0.546302490  |
 0.00  | 0.000000000   | 1.000000000  | 0.000000000  |


x(DEG)|    sin(x)    |    cos(x)    |    tan(x)    |
------+---------------+--------------+--------------+
 90.0  | 1.000000000   | 0.000000000  | 9.999999 99  |
 89.9  | 0.999998477   | 0.001745328  | 572.9572134  |
 60.0  | 0.866025404   | 0.500000000  | 1.732050808  |
 45.0  | 0.707106781   | 0.707106781  | 1.000000000  |
 30.0  | 0.500000000   | 0.866025404  | 0.577350269  |
```

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #6 Posted by **Marcus von Cube, Germany** on 9 Mar 2011, 2:01 a.m.,*
in response to message #5 by Gerson W. Barbosa

Thanks for the explanation, Gerson. Did you find the idea somewhere? I assume you did, but not in a book or on the Net but in a corner of your brain. ;)

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #7 Posted by **Gerson W. Barbosa** on 9 Mar 2011, 9:02 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Marcus,

I certainly knew the Taylor series for sin(x) and cos(x) are similar to those for sinh(x) and cosh(x), except the former ones are alternating series and the latter ones are not. However, it never had occured to me to combine them to approximate the trigonometric functions... not until yesterday morning when playing with my 28S I added the first few terms of the sin(x) and sinh(x) series together and realized this might work. Then I tried cos(x) and cosh(x) and the resulting series appeared to require less steps on the 12C. Anyway, other than rewriting the series, I haven't tried to optimize the program, so I think there is still room for

improvement. I think the program runs fast even on the older HP-38, I'll try it on Nonpareil later.

Regards,

Gerson.

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #8 Posted by **Stuart Sprott** on 9 Mar 2011, 6:11 a.m.,*
in response to message #5 by Gerson W. Barbosa

I can remember using a sharp 167p (at least I think it was a 167p)back in the early 1970s, before the HP35 took the world by storm.

It had 100 program steps, basic arithmetic functions, square root and 10 memory registers. Note no trig functions.

It was possible to program accurate trig functions. The only problem was that once the function was generated their was little room left for anything else. All the same we managed to write some basic Surveying programs that at time seemed out of this world. Prior to this you had to use trig tables and curta calculators.

We used infinite series for the trig functions. See below.

Sin x = x - x3/3! + x5/5! - x7/7! + ...

where x is in radians and in the above context x3 means x cubed.

I spent hours programming this machine. It was my introduction to programming. I was totally hooked.

The machine was about the size of a present day lap top and about double the thickness. The program was lost the minute you switched off the calculator. However you could store the program on a punch card. The card had to be manually punched as you wrote the program. Editing was an interesting exercise. You seemed to go through a stack of cards before you got it right.

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #9 Posted by **Gerson W. Barbosa** on 9 Mar 2011, 9:47 a.m.,*
in response to message #8 by Stuart Sprott

Stuart,

I know what you mean. Once I knew a retired municipal surveyor who had a small surveying office at home and spent more time there doing calculations than at the field. He had no computer, only one 11C loaded with of couple of simple programs and one sharp scientific calculator to help him. He showed me a printed spread sheet as an example of the calculations he did. I told him it was nonsense to do that kind of work without a computer and advised him to get at least a pocket computer. He purchased a CASIO PB 700 for about 100 dollars (4 kB RAM, later upgraded to whopping 16 kB!) and I wrote him a BASIC program which did in seconds the work it previously took him a whole day or two. He had a small museum of old mechanical and electronic calculators he had purchased during his career. He told me he had used trigonometric tables in the beginning. He showed me a Curta

Type II, shining in its case, complete with manuals and offered me for about 20 dollars... which I refused to buy because I was not interested in mechanical devices. I remember one of the manuals described a procedure to approximate the sine function on it. Those were the (hard) days!

Cheers,

Gerson.

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #10 Posted by **Steve Perkins** on 9 Mar 2011, 7:10 p.m.,*
in response to message #5 by Gerson W. Barbosa

Nice implementation and explanation!

I hadn't realized that the 12C Platinum carried 12 significant digits (while showing up to 10).

I verified your table is correct using my Platinum that I had to dig out.

Re: Mardi Gras Basic Trigs (HP-12C)

*Message #11 Posted by **Gerson W. Barbosa** on 9 Mar 2011, 9:49 p.m.,*
in response to message #10 by Steve Perkins

Hello Steve,

Thanks for taking the time to key that in and verifying the table. I was curious to know about the Platinum results. As I said, no optimization has been tried yet. The program is fast on the ordinary 12C but somewhat long.

Regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Mike Sebastian's Calculator Forensics

*Message #1 Posted by **Joerg Woerner** on 8 Mar 2011, 8:03 a.m.*

Hi Folks,

There is still room for improvement - THIS $15.95 calculator checked out with 18 (!) digits of resolution and reported an unparalleled result of:

9.00000000000072767

Yes, TWELVE ZEROES behind the decimal point.

Cheers,

Joerg

Re: Mike Sebastian's Calculator Forensics

*Message #2 Posted by **John B. Smitherman** on 8 Mar 2011, 9:49 a.m.,*
in response to message #1 by Joerg Woerner

Wow! Does it glow in the dark? ;-)

John

Re: Mike Sebastian's Calculator Forensics

*Message #3 Posted by **Joerg Woerner** on 8 Mar 2011, 10:05 a.m.,*
in response to message #2 by John B. Smitherman

No, but in the US you'll see only this bright lime green. In UK they have wonderful teal and pink versions, too. All made of recycled photocopiers and anti-bacterial keyboards ;-))

Regards, Joerg

It think it's useful

*Message #4 Posted by **Frank Boehm (Germany)** on 8 Mar 2011, 11:31 a.m.,*
in response to message #1 by Joerg Woerner

when doing your time travel calculations and including the expansion of the universe with appropriate accuracy to not miss the bus. Otherwise this might only be useful to calculate the total worldwide debt :) (Btw. the Sanyo ICC-804D had 16 digit precision back in 1971 - but no nifty functions besides 4 basic operations and on/off)

Re: Mike Sebastian's Calculator Forensics

*Message #5 Posted by **Marcus von Cube, Germany** on 8 Mar 2011, 11:39 a.m.,*
in response to message #1 by Joerg Woerner

Hi Jörg,

can you let it calculate tan 89.999999 degrees? There is a recent discussion about trig precision near discontinuities which revealed some astonishing results.

Re: Mike Sebastian's Calculator Forensics

*Message #6 Posted by **Joerg Woerner** on 8 Mar 2011, 12:15 p.m.,*
in response to message #5 by Marcus von Cube, Germany

tan (89.999999) = 57295779.51... like my TI-36X on the desk, too.

Rgeards, Joerg

Re: Mike Sebastian's Calculator Forensics

*Message #7 Posted by **Marcus von Cube, Germany** on 8 Mar 2011, 12:36 p.m.,*
in response to message #6 by Joerg Woerner

Thanks Jörg! What do you get if you subtract the integer part?

Re: Mike Sebastian's Calculator Forensics

*Message #8 Posted by **Joerg Woerner** on 8 Mar 2011, 4:08 p.m.,*
in response to message #7 by Marcus von Cube, Germany

57295779.5130823151 on the Canon and

57295779.5132 on the TI-36X

Joerg

Re: Mike Sebastian's Calculator Forensics

*Message #9 Posted by **Marcus von Cube, Germany** on 8 Mar 2011, 5:32 p.m.,*
in response to message #8 by Joerg Woerner

The Canon is extremely accurate. The result is correctly rounded to the last digit. (The last digit should be a 0 and the following a 5. Taking rounding into account, the result is perfect.)

Re: Mike Sebastian's Calculator Forensics

*Message #10 Posted by **Paul Dale** on 9 Mar 2011, 1:10 a.m.,*
in response to message #1 by Joerg Woerner

The 34s only gets 10 zeros after the decimal:

```
9.000000000029361
```

This is, however, the correctly rounded result for devices with sixteen digits. I.e. each operation correctly rounded its answer.

Pauli

Re: Mike Sebastian's Calculator Forensics

*Message #11 Posted by **Marcus von Cube, Germany** on 9 Mar 2011, 2:03 a.m.,*
in response to message #10 by Paul Dale

Pauli, that's the point. The forensics is not meant to highlight the accuracy of a certain calculator but to identify identical algorithms and/or calculator chips.

Re: Mike Sebastian's Calculator Forensics

*Message #12 Posted by **Walter B** on 9 Mar 2011, 2:56 a.m.,*
in response to message #11 by Marcus von Cube, Germany

> Quote:
>
> The forensics is not meant to highlight the accuracy of a certain calculator but to identify identical algorithms and/or calculator chips.

True for this level of precision we're talking about here. In general, however, the forensics sheds some light on the reliability of calculation results. Think of error propagation in iterative computations ...

Re: Mike Sebastian's Calculator Forensics

*Message #13 Posted by **Gerson W. Barbosa** on 9 Mar 2011, 8:21 a.m.,*
in response to message #10 by Paul Dale

Paul,

The WP-34s displays 9.00000000003, that is, the internal result is rounded to the number of digits of the display. HP used to round the result and truncate it to the number of digits in the display at the end of each operation. Thus, the HP-42S displays 8.99999864267. HP's method makes sense because the results of the operations are coherent to the actual figures of the operands the user has access to (by examining their mantissas, for instance).

I assume the 34s is a 16-digit device, but the calculations are carried out with extra guard digits, otherwise it wouldn't achieve the correct rounded 16-digit result we see. Another reason to get the WP-34s as soon it's available :-)

Correct result for various numbers of digits in this old thread.

Regards,

Gerson.

Re: Mike Sebastian's Calculator Forensics

*Message #14 Posted by **Marcus von Cube, Germany** on 9 Mar 2011, 4:02 p.m.,*
in response to message #13 by Gerson W. Barbosa

Gerson, wp34s *is* on the agenda. :)

Re: Mike Sebastian's Calculator Forensics

*Message #15 Posted by **Paul Dale** on 10 Mar 2011, 1:33 a.m.,*
in response to message #13 by Gerson W. Barbosa

Try subtracting 9 from that result :-)

Yes, the 34s is a 16 digit device. Registers are IEEE 854 64 bit packed decimals. As you guessed, internal calculations are in higher precision using unpacked decimal numbers.

I could round to the display size (12 digits) easily enough. For a variety of reason I didn't.

- Pauli

Edited: 10 Mar 2011, 1:34 a.m.

Re: Mike Sebastian's Calculator Forensics

*Message #16 Posted by **Gerson W. Barbosa** on 10 Mar 2011, 9:06 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> Try subtracting 9 from that result :-)

Not necessary. I just pressed 'F' to see the full stack to 16 digits.

> Quote:
>
> I could round to the display size (12 digits) easily enough. For a variety of reason I didn't.

I'm glad you didn't.

Regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 42s -- "TOP.FCN"

*Message #1 Posted by **Anthony (USA)** on 8 Mar 2011, 3:05 a.m.*

Hi, everyone, I'm doing a school research about several calculators (I chose the HP Pioneer series calculators), and I came across an interesting aspect concerning HP 42s. I don't own one myself, and since I don't have access to a manual, I am not really sure; but my question is what is the purpose of the "TOP.FCN" menu accessed above the zero key? I found out that by activating that menu, one would simply get a menu with items corresponding to the functions on the top row of the calculator: sigma plus, reciprocal, square root, logarithm, natural logarithm, and execute. Isn't it kind of weird? One could just press the physical square root key, for instance, to find the square root of a number; it would be a waste of two keystrokes to access the TOP.FCN menu just to accomplish what could easily be done with one key press. Please help me out, I'm not too knowledgeable (yet) and it's just killing me not knowing the exact purpose of the TOP.FCN menu of the HP 42s, because right now to me, it seems redundant and a waste of menu/function/space. Thank you. :)

Re: HP 42s -- "TOP.FCN"

*Message #2 Posted by **Nigel J Dowrick** on 8 Mar 2011, 3:46 a.m.,*
in response to message #1 by Anthony (USA)

If you have another menu currently in use, and you want to use one of the normal top row functions (e.g., 1/x) the TOP.FCN key temporarily brings up their functionality. Once the button has been pressed, the menu returns to the previously displayed menu.

This is from memory - am I right?

Nigel (UK)

Re: HP 42s -- "TOP.FCN"

*Message #3 Posted by **Stuart Sprott** on 8 Mar 2011, 6:44 a.m.,*
in response to message #2 by Nigel J Dowrick

Nigel,

I have just tried what you mentioned. It does not seem to work.

I used the HP42 regularly back in the early 90s, but I cannot remember ever using TOP.FCN.

The manual clearly backs you up. A possible bug?

Re: HP 42s -- "TOP.FCN"

*Message #4 Posted by **svisvanatha** on 8 Mar 2011, 8:01 a.m.,*
in response to message #3 by Stuart Sprott

I don't have a physical 42s anymore, but I do recall this is the correct use and behaviour of the TOP.FCN key. Also, Free42 on my N900 works like this as well.

Re: HP 42s -- "TOP.FCN"

*Message #5 Posted by **Walter B** on 8 Mar 2011, 9:56 a.m.,*
in response to message #4 by svisvanatha

I concur with Stuart. Neither my 42S nor Free42 returns to the menu displayed before TOP.FCN. For reproducibility tests, what I did is:

```
gold FLAGS    displays the flags menu
gold TOP.FCN  displays the menu of unshifted top functions
SQRT          3rd menu key executes the square root
              and returns to 2-line display of x and y
```

No manual at hand right now.

Re: HP 42s -- "TOP.FCN"

*Message #6 Posted by **Walter B** on 8 Mar 2011, 10:22 a.m.,*
in response to message #5 by Walter B

OK, found it on pp. 22 and 23 of the manual:

*Pressing TOP.FCN (top-row functions) displays a menu containing the functions (shifted and unshifted) on the six top-row keys: ... Use the TOP.FCN menu when you want to use one of these functions without exiting from the current **application** menu.*

Emphasis added. In the 42S, there are two kinds of menus. You have to know by heart which's which, you can't see it on the calc :(

Re: HP 42s -- "TOP.FCN"

*Message #7 Posted by **Glen Sanft** on 8 Mar 2011, 2:43 p.m.,*
in response to message #6 by Walter B

Some of the menus are "passive" and would normally disappear after one of the choices is taken. Even when you temporarily "lock those in" by "double-clutching" into them, they disappear after a completed TOP.FCN.

However, the "active" menus (SOLVER, BASE, etc.) which "stick around" until explicitly "EXITed-out-of" will resume where you left off after a TOP.FCN task.

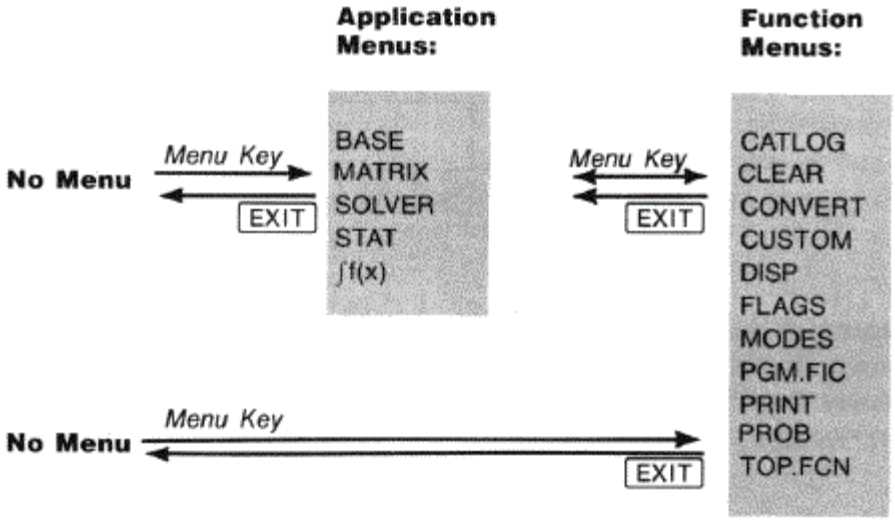
I didn't try anything with a programmed set of menu variables in action, so am not sure which side of the ditch that tree would fall.

Re: HP 42s -- "TOP.FCN"

*Message #8 Posted by **Walter B** on 8 Mar 2011, 4:11 p.m.,*
in response to message #7 by Glen Sanft

Maybe I should have been more precise. For sake of unambiguity, here's what they wrote on top of p.22 about it:

If you select a function menu while in an application, the calculator remembers the application menu and displays it again when you exit the function menu.



Nothing about "active" or "passive" ... but you have to learn the five "application menus" :-(And please don't ask me why it was structured this way - it's the way it is :-/

Edited: 8 Mar 2011, 4:14 p.m.

Re: HP 42s -- "TOP.FCN"

*Message #9 Posted by **Thomas Okken** on 8 Mar 2011, 7:13 p.m.,*
in response to message #8 by Walter B

The general idea is that "application" menus are menus that you'll spend a lot of time with, and will want to return to after using some other menus for some quick calculations.

The application menus on the keyboard are SOLVER, the integrator, MATRIX, STAT, and BASE. The variables menu (VARMENU) also acts like an application menu.

So, you can go to MATRIX and then EDIT or EDITN, and while editing a matrix element, use menus like PROB or PRINT without losing your place in the matrix editor. The TOP.FCN menu lets you access the normal functions on the top row of the keyboard, again without having to back all the way out of the MATRIX menu (the MATRIX "application", per the manual).

The HP-42S menu system is quite clever; it's designed to minimize the number of times you have to deliberately tell it to switch menus. The HP-42S manual explains it all quite well... If only HP had released that manual into the public domain! *sigh*

Re: HP 42s -- "TOP.FCN"

*Message #10 Posted by **Johnny Bjoern Rasmussen** on 8 Mar 2011, 4:21 a.m.,*
in response to message #1 by Anthony (USA)

Hi
I urge you to install the very nice Free42 by Thomas Okken. It is just great.

Free42

Cheers!
Johnny

Re: HP 42s -- "TOP.FCN"

*Message #11 Posted by **Jim Yohe** on 8 Mar 2011, 12:33 p.m.,*
in response to message #10 by Johnny Bjoern Rasmussen

While you're there and since you don't have a manual you can download the "Alternative HP-42S/Free42 Manual", written by José Lauro Strapasson and Russ Jones from Thomas's site as well.

Re: HP 42s -- "TOP.FCN"

*Message #12 Posted by **Anthony (USA)** on 8 Mar 2011, 1:21 p.m.,*
in response to message #10 by Johnny Bjoern Rasmussen

Thank you all for your responses. :) Thank you Mr. Rasmussen for the link to the Free 42s, that is pretty neat! I'll download it later when I get a chance today. And thank you Mr. Walter B. for the manual excerpt, really helps. Though I still wonder because, let's say that we have the CATALOG menu activated, then let's say we want to take the square root of a number. We could do two things: (a) activate the TOP.FCN menu by pressing the SHIFT key then the zero key, for a total of two key presses, or we could (b) just press EXIT, for a total of one key press. And wouldn't one not return back to the CATALOG menu after taking the square root of a number using method (a), hypothetically in our example, but return instead to the regular X-Y display (not back to the screen with the CATALOG menu still activated)? I may be being a little too discerning, but I'm just wondering. :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

12c+ vs 12cp

*Message #1 Posted by **Erturk Kocalar** on 6 Mar 2011, 6:38 p.m.*

Hi all,

Are the guts between 12c+ and 12cp same, if both of them have the wide battery door?

I bought a 12cp recently for repurposing, but I don't see the test points for programming. The holes were covered with a thin plastic tape.

It makes me think either 12cp is different hw design or hp changed 12c plastics to prevent repurposing.

I am thinking of buying the 12c+ , but I want to make sure I can reprogram it.

Thanks,

Re: 12c+ vs 12cp

*Message #2 Posted by **Martin Pinckney** on 6 Mar 2011, 7:52 p.m.,*
in response to message #1 by Erturk Kocalar

They're different. See this thread for more information.

Re: 12c+ vs 12cp

*Message #3 Posted by **Erturk Kocalar** on 6 Mar 2011, 8:32 p.m.,*
in response to message #2 by Martin Pinckney

Thanks. It is clear now.

12cp speed differences (was Re: 12c+ vs 12cp)

*Message #4 Posted by **Cristian Arezzini** on 8 Mar 2011, 12:08 a.m.,*
in response to message #1 by Erturk Kocalar

This may be a bit off-topic, but I'm wondering... I too have one of the new, 2-battery 12Cs. I've read about the loop speed tests, specifically this one:

01 + 02 GTO 01

and I've seen results (after 60 seconds of the loop) of about 30,000 and about 45,000, in this post.

My 12C, after 60 seconds of the same test, shows 76,000. Why all this difference? Is HP constantly changing chips/frequencies??

Cristian

Re: 12cp speed differences (was Re: 12c+ vs 12cp)

*Message #5 Posted by **Katie Wasserman** on 8 Mar 2011, 2:12 a.m.,*
in response to message #4 by Cristian Arezzini

The latest firmware in the 12c+ has more efficient emulator code in it that runs 2.5 times faster than the first version of the firmware. It's 150 times faster than the original 12C.

Read more about this here.

-Katie

Re: 12cp speed differences (was Re: 12c+ vs 12cp)

*Message #6 Posted by **Cristian Arezzini** on 8 Mar 2011, 3:35 a.m.,*
in response to message #5 by Katie Wasserman

Thank you Katie. I wish I was better at finding old posts in the forum... I searched for "12C speed" but I didn't find that post!

Cristian

Re: 12cp speed differences (was Re: 12c+ vs 12cp)

*Message #7 Posted by **Katie Wasserman** on 8 Mar 2011, 9:53 a.m.,*
in response to message #6 by Cristian Arezzini

I don't know how you did your searching but the best way is to use google. In this case something like: "site:hpmuseum.org 12c+ speed" returns a lot about it.

I sometimes remember the person who posted what I'm looking for and add this to my search criteria, this really narrows things down. Of course this requires that you read this forum regularly and are familiar with individual's areas of interest and expertise.

On the other hand.... I don't think that most of the people here at all mind responding to questions that have come up before. It's a very friendly group and we all need help finding information on occasion.

-Katie

Re: 12cp speed differences (was Re: 12c+ vs 12cp)

*Message #8 Posted by **Marcus von Cube, Germany** on 8 Mar 2011, 11:32 a.m.,*
in response to message #7 by Katie Wasserman

Adding "Katie" to the search criteria is always a good idea. :)

"Cyrille" and "Tim" are equally good search candidates...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking for TTF font for HP41 Printer Output

*Message #1 Posted by **Egan Ford** on 5 Mar 2011, 8:06 p.m.*

Title says it all. Got one?

Thanks.

Re: Looking for TTF font for HP41 Printer Output

*Message #2 Posted by **Gerson W. Barbosa** on 5 Mar 2011, 8:29 p.m.,*
in response to message #1 by Egan Ford

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=105416 (See message #7)

HTH

Looks like they don't work on Mac though.

Edited: 5 Mar 2011, 8:32 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New -21 and -25 apps for iPhone

*Message #1 Posted by **Eric Smith** on 5 Mar 2011, 6:53 p.m.*

Maciej Bartosiak has ported my simulation code for the -21 and -25 calculators to iOS, so they may be used on the iPhone, iPod Touch, and iPad. The apps are RPN-21 and RPN-25. I hope no one objects to my posting this announcement; I thought some of the regulars here might be interested in these apps.

Re: New -21 and -25 apps for iPhone

*Message #2 Posted by **Bruce Bergman** on 5 Mar 2011, 8:16 p.m.,*
in response to message #1 by Eric Smith

Really nice looking calculator! Well, at least the 21 version. I'm not paying $2.99 for a iPhone version, sorry. ;-)

thanks! bruce

Re: New -21 and -25 apps for iPhone

*Message #3 Posted by **Eric Smith** on 6 Mar 2011, 2:50 a.m.,*
in response to message #2 by Bruce Bergman

You can credit Maciej for the visual appearance, as that's entirely his doing. I'll take the blame for any bugs in the simulation.

Re: New -21 and -25 apps for iPhone

*Message #4 Posted by **Namir** on 6 Mar 2011, 4:02 a.m.,*
in response to message #1 by Eric Smith

I got them both for my iPad. Finally an HP-25 emulator!!! I am a happy camper!!!

:-)

Namir

Re: New -21 and -25 apps for iPhone

*Message #5 Posted by **Eric Smith** on 6 Mar 2011, 4:15 a.m.,*
in response to message #4 by Namir

Glad you like it! If we're successful with it, more models will likely follow.

Re: New -21 and -25 apps for iPhone

*Message #6 Posted by **gene wright** on 6 Mar 2011, 7:56 a.m.,*
in response to message #5 by Eric Smith

Heh.

An HP 27 and/or HP 29c would be nice. ;-)

Re: New -21 and -25 apps for iPhone

*Message #7 Posted by **Namir** on 6 Mar 2011, 9:11 a.m.,*
in response to message #6 by gene wright

From your lips to the developers' ears!!

I hope Eric is reading this!

:-)

Namir

Edited: 6 Mar 2011, 9:25 a.m.

Re: New -21 and -25 apps for iPhone

*Message #8 Posted by **Namir** on 6 Mar 2011, 9:12 a.m.,*
in response to message #5 by Eric Smith

I don't mind paying a reasonable fees for these emulators.

Re: New -21 and -25 apps for iPhone

*Message #9 Posted by **hpnut** on 6 Mar 2011, 8:29 a.m.,*
in response to message #1 by Eric Smith

Thanks! these are great apps :-)

Re: New -21 and -25 apps for iPhone

*Message #10 Posted by **Walter B** on 6 Mar 2011, 8:46 a.m.,*
in response to message #1 by Eric Smith

Nice looking for sure. BTW, please note all shifted functions are located below of the primary operations :-)

For edition 1.1 I'd suggest an improved exponent format - e.g. sin^-1 looks a bit primitive spelled this way IMHO. And a capital Pi is used ... :-/

Re: New -21 and -25 apps for iPhone

*Message #11 Posted by **Vincent Weber** on 6 Mar 2011, 10:32 a.m.,*
in response to message #10 by Walter B

Great app ! A couple of comments:

1/This is obviously not a HP-25C: killing the app resets memory; on Iphone 4 this is not much of a problem, you can use multitasking to keep the memory state, but still - is there any plan to upgrade it to a HP-25C in future ?

2/I think there is a bug: I never owned a HP-25 but I think it is supposed to display the next instruction to

be excuted if "SST" is held down (and then, to excute the instruction). Here, nothing of this kind. Is this a bug or an intended behaviour ?

Would be awsome to have the 34C (and of course, the 65 and 67, if ever their card reader behaviour is reversed-engineered...).

Cheers,

Vincent

Re: New -21 and -25 apps for iPhone

*Message #12 Posted by **Eric Smith** on 6 Mar 2011, 4:10 p.m.,*
in response to message #11 by Vincent Weber

You're right about SST on the 25. I'll talk to Maciej about that and continuous memory.

Thanks! Eric

Re: New -21 and -25 apps for iPhone

*Message #13 Posted by **Vincent Weber** on 17 Mar 2011, 6:22 a.m.,*
in response to message #12 by Eric Smith

Hi Eric, Thanks, the new version is on the Appstore and corrects the 'SST' bug ! It does not implement continuous memory, though. Could you maybe tell us what is scheduled for Nonpareil for Iphone ? Especially: -If the calculators that are already in Nonpareil, especially the 34C and 33C, could be soon on the Appstore ? would be great ! -If the calculators that are not yet in Nonpareil, but that you have been mentionning in 2008 as almost-ready (especially, the 67 and the 29C) could come soon as well ? -and if other calcls (especially the 65, would be great) could come and when ?

Would love of these beauties on my Iphone :)

Thanks and cheers,

Vincent

Re: New -21 and -25 apps for iPhone

*Message #14 Posted by **John B. Smitherman** on 6 Mar 2011, 12:17 p.m.,*
in response to message #1 by Eric Smith

Great work! Unfortunately, my original iPod Touch is stuck at OS 3.1.3 so I'll have to wait until I upgrade to a newer "i" device.

Regards,

John

Re: New -21 and -25 apps for iPhone

*Message #15 Posted by **Eddie W. Shore** on 12 Mar 2011, 5:39 p.m.,*
in response to message #1 by Eric Smith

I have downloaded the 25 on my iPad. The calculator looks nice. A help file would have helped. However it is

nice to play with an HP calculator in 1970s style.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

[OT] TAS selling fee shock

*Message #1 Posted by **Michael de Estrada** on 5 Mar 2011, 6:14 p.m.*

It's been awhile since I sold anything on TAS, so when I recently got the bill for the sale price on two calc auctions, I was shocked to see that the sale fees have gone up dramatically. They are now a flat 9% of the sale price, regardless of the amount, with a maximum limit of $50. So, unless the final price exceeds $555.56, the sale fee as a percentage of the sale price will be 9%. Add to that the listing fees and PayPal service charge, and the total fees will exceed 12% of the sale price. It makes me wonder if it's even worth the hassle to list items on TAS, unless they will fetch more than $1000, which is not the case with any but the rarest vintage calculators. My first calc did not get much, since I made the mistake of listing it at too high a starting price and having it finish early Friday evening, when people were on their way home from work. The buyer is also a seller, so maybe we'll see it re-listed at a high BIN price! Well, at least it wasn't the infamous Mr. C, who put in a lowball bid on my second auction.

Edited: 5 Mar 2011, 6:16 p.m.

Re: [OT] TAS selling fee shock

*Message #2 Posted by **Keith Midson** on 6 Mar 2011, 1:18 a.m.,*
in response to message #1 by Michael de Estrada

I know the feeling. I downsized a part of my collection just over a month ago and then had to sell another HP to fund the seller fees! I mean at 29C kind of fee! What did you sell? Cheers, Keith

Re: [OT] TAS selling fee shock

*Message #3 Posted by **Michael de Estrada** on 6 Mar 2011, 9:16 a.m.,*
in response to message #2 by Keith Midson

I sold 2 HP-45 complete sets, both in perfect working condition. The first went for a disappointingly low amount, much less than originaly paid, and the second went for about the original cost. In the past I've seen the hard case or AC adapter alone sell for nearly what the first auction fetched. I think part of the problem is that the HP-45 is probably the least rare of HP-45 calcs, so they will never be in such low supply that they will be worth very much. Of course, that's also the reason why I ended up with so many of them, 10 in fact, and am now trying to reduce the number to a saner level.

Re: [OT] TAS selling fee shock

*Message #4 Posted by **Randy** on 6 Mar 2011, 9:34 a.m.,*
in response to message #1 by Michael de Estrada

I think you've given birth to a new eBay-ism: sellers remorse

Re: [OT] TAS selling fee shock

*Message #5 Posted by **Thomas Radtke** on 6 Mar 2011, 10:08 a.m.,*
in response to message #1 by Michael de Estrada

Fees will rise just below a level where (1) different auction sites would have a chance to get any sellers except those using them to sell at fixed prices w/o paying fees and (2) TAS' earnings will decrease due to sellers simply keep their stuff or find completely different distribution ways ;-). That's the nice thing about capitalism: The rules are very easy to understand and everyone with a good idea can join in :-).

But ... you will always find someone blaming the car industry for selling cars getting thirsty when driving 200 Mph.

Re: [OT] TAS selling fee shock

*Message #6 Posted by **robert rozee** on 6 Mar 2011, 3:01 p.m.,*
in response to message #1 by Michael de Estrada

wow, 12% fees - that is just awful! normal bricks-and-mortar auction houses charge but a fraction of that level :-(

perhaps you should start adding a "buyers premium" onto your auctions, where the buyer has to pay an additional 12% on top of the selling price to cover the horrendous fees that the online auction site dares to charge?

cheers, rob

Re: [OT] TAS selling fee shock

*Message #7 Posted by **Wanderley Navarro** on 6 Mar 2011, 11:40 p.m.,*
in response to message #1 by Michael de Estrada

Time to resurrect this?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DeoxIT & Zebras

*Message #1 Posted by **aj04062** on 5 Mar 2011, 4:43 p.m.*

Would anyone recommend using DeoxIT Gold with the zebra contacts on LCDS?

I just fixed a nasty corrosion problem on a 42S and would like it to hold up.

Re: DeoxIT & Zebras

*Message #2 Posted by **Randy** on 5 Mar 2011, 4:54 p.m.,*
in response to message #1 by aj04062

Deoxit was designed for use on metal contacts. IMO, using the stuff on elastomeric materials would be a very bad idea.

Re: DeoxIT & Zebras HP-42S LCD Repair

*Message #3 Posted by **aj04062** on 5 Mar 2011, 8:08 p.m.,*
in response to message #2 by Randy

Update from prior post

I concur on not using DeoxIT. I re-assembled without applying anything. SUCCESS!

After Repair:

Before Repair:

It took a steady hand to repair about 5 traces. I hope the last.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP12C with a "funny" ENTER key

*Message #1 Posted by **Cristian Arezzini** on 5 Mar 2011, 2:10 p.m.*

One of the calculators I bought to replace my stolen ones, is a 12C. It's made in USA, serial no. 2906A05016. It's in near mint condition, when I acquired it it had a leaky battery, but I managed to clean everything before any damage was made. It works very well, the display is clear, and all the keys behave as expected *except* for the ENTER key. This key works, but its "action" is weird. All the other keys, when pressed, move down about 3mm before reaching the bottom; and only after about 2mm of travel you feel the dome collapsing. They feel quite "soft" at first, then they feel "firmer" just before the dome collapses. This ENTER key instead, only goes down about 1mm. It doesn't feel "sloppy", and when at rest it's at the same height than the other keys (or possibly a fraction of mm higher). But it feels "firm" from the beginning of the movement; you need more force to get it moving than the other keys. And as soon as it moves, the dome immediately clicks. It almost feels like the dome is already "almost-collapsed" when at rest. As if there's something wedged between the dome and the pin pushing on it. I tried "wiggling" the key around to try dislodging any extraneous material, but nothing happened.

Now, the question: does this description tell something to anyone? What might have happened? And, what should I do, considering that opening a 12C isn't trivial? Should I keep it as it is, or open it to get it to work as intended (if I can)? I intend to use this machine, do you think that using it as it is now could lead to premature failure of that key (though at that age, it might not be defined "premature" anyway)?

Cristian

Re: HP12C with a "funny" ENTER key

*Message #2 Posted by **Walter B** on 5 Mar 2011, 3:39 p.m.,*
in response to message #1 by Cristian Arezzini

Ciao Christian,

compared to the HP-48G you mentioned earlier, opening an old HP-12C *is* trivial. As easy as unfastening four screws ... d8-)

Re: HP12C with a "funny" ENTER key

*Message #3 Posted by **Cristian Arezzini** on 5 Mar 2011, 5:11 p.m.,*
in response to message #2 by Walter B

> Quote:
>
> compared to the HP-48G you mentioned earlier, opening an old HP-12C *is* trivial. As easy as unfastening four screws ... d8-)

Well, not really... The four screws don't get you to the keyboard mechanism, to get there you also have to remove 40 heat-stakes! :) And what worries me isn't removing them, but finding a way to put everything back together solidly enough...

Cristian

Re: HP12C with a "funny" ENTER key

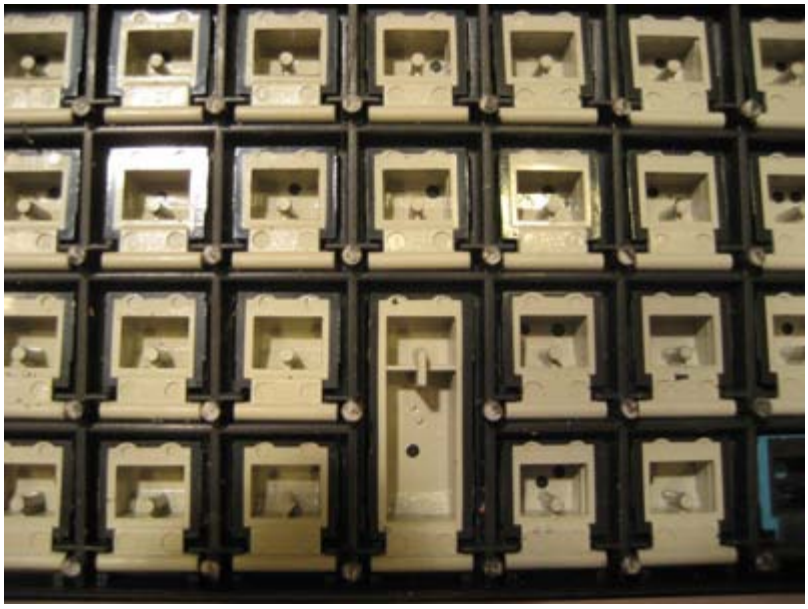
*Message #4 Posted by **Randy** on 5 Mar 2011, 5:18 p.m.,*
in response to message #1 by Cristian Arezzini

Sounds like a perfectly normal Voyager keyboard to me.

The Enter key behavior is different because the dimension from the hinge point to the point of contact is approximately three times longer than all other keys. It will not have the same "feel" and "click" as the others due to it having:

1. A longer lever
2. A larger area of finger contact when pressed
3. A larger contact area under the key that presses on the dome

This photo shows the differences from the back of the keys view:



Edited: 6 Mar 2011, 9:48 a.m. after one or more responses were posted

Re: HP12C with a "funny" ENTER key

*Message #5 Posted by **Cristian Arezzini** on 5 Mar 2011, 5:30 p.m.,*
in response to message #4 by Randy

> Quote:
>
> Sounds like a perfectly normal Voyager keyboard to me.

Randy, I don't know, I also have a new (the VERY fast model) 12C, and it doesn't show this behaviour. Of course you can feel that the ENTER key is a bit different, but it still moves down the same distance as the others when pressed. And the "click" comes after a couple of millimetres of travel, while on the "old" 12C it comes immediately. And you don't get a good tactile feedback at all. Can you confirm that the new and the old 12Cs present a substantially different behaviour? Of course I don't want to open it if that's how it's supposed to be! :)

Re: HP12C with a "funny" ENTER key

*Message #6 Posted by **Randy** on 5 Mar 2011, 5:54 p.m.,*
in response to message #5 by Cristian Arezzini

This is a topic that comes up at least twice a year - that is someone buys an older Voyager and thinks there is something wrong with the Enter key. What you've described is exactly how it should be as there is nothing wrong with the unit.

The later models made in China use different domes and materials between the keys. They might look the same from the outside but that's where the similarities end. Comparisons should be cosmetic only because the only thing in common between the units from a hardware standpoint are physical dimensions.

Edited: 5 Mar 2011, 5:54 p.m.

Re: HP12C with a "funny" ENTER key

*Message #7 Posted by **Cristian Arezzini** on 5 Mar 2011, 6:15 p.m.,*
in response to message #6 by Randy

> Quote:
>
> What you've described is exactly how it should be as there is nothing wrong with the unit.

Well, that's great then... if that's how it's supposed to be, I'll stop worrying! This is my first and only "old" Voyager, so I didn't know a thing like that was to be expected.

On a "side", partly off-topic, track: I seem to have problems with the search function. If I enter some words in the search field, selecting "Last several eons" as time frame, and then click on the "view message index" button at the bottom... it only shows me results from the last few days. I'm surely missing something obvious, but I just can't find a way to make a search including old messages...

Cristian

Re: HP12C with a "funny" ENTER key

*Message #8 Posted by **Mike Morrow** on 5 Mar 2011, 11:55 p.m.,*
in response to message #7 by Cristian Arezzini

Not that Randy's info needs any external support, but all my 1980s vintage Voyagers behave *exactly* as he describes.

Re: HP12C with a "funny" ENTER key

*Message #9 Posted by **bill platt** on 9 Mar 2011, 10:40 a.m.,*
in response to message #7 by Cristian Arezzini

When using the ENTER key, push it near the upper end. It works much better that way.

As Randy described, the geometry makes it feel very different from the other keys, especially if you push it at the bottom.

Edited: 9 Mar 2011, 11:40 a.m.

Re: HP12C with a "funny" ENTER key

*Message #10 Posted by **uhmgawa** on 10 Mar 2011, 12:50 a.m.,*
in response to message #4 by Randy

> Quote:
>
> The Enter key behavior is different because the dimension from the hinge point to the point of contact is approximately three times longer than all other keys.

While there is limited mechanical real estate to balance out the top and bottom actuation force of the voyager enter key, it is somewhat perplexing why the bottom matrix dome couldn't have been used as an identical parallel key. Some fudging of the hinge stabilizer would be needed but the numbness associated with the enter key bottom seems a little strange.

As it is the lower dome position is stuffed with a snap dome and generates its own unique keycode if you can find a way to actuate it. While the upper dome "enter" generates an 8:4, the phantom lower dome is 8:5. Even more interesting is an 8:5 key code maps to an inverse sin operation by at least the 15c firmware.

Re: HP12C with a "funny" ENTER key

*Message #11 Posted by **John B. Smitherman** on 5 Mar 2011, 7:44 p.m.,*
in response to message #1 by Cristian Arezzini

Christian, I've got a "Made in USA" 15c that has an Enter with a feel similar to what you are describing. I'm the original owner and actually sent it to HP after buying it in 1987 and asked them if the Enter key was normal and would they repair or replace it. They replied and basically said that it was within HP's specifications and enjoy your 15c. It has performed flawlessly for 23+ years. I hope that this helps.

Regards,

John

Re: HP12C with a "funny" ENTER key

*Message #12 Posted by **Cristian Arezzini** on 6 Mar 2011, 5:39 a.m.,*
in response to message #1 by Cristian Arezzini

Thanks everybody for the replies. Much appreciated. I feel reassured now and I'm looking at my old 12C with different eyes, knowing that it's behaving as intended! :) Now I won't fear that if I use it I will break something inside...

Cristian

More on Voyager keys

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 8 Mar 2011, 10:17 p.m.,*
in response to message #1 by Cristian Arezzini

I was intrigued by the discussion of the different feel of the ENTER key on the 12C. I have ten Voyagers: three 11C's, six 12C's (all made in the USA), and one 16C, but sadly no 15C. I verified the different feel on all of the devices and that the feel can vary somewhat depending where I press on the key. Then I encountered some really bad news. My 11C S/N 2217A03623 which has the bug also has a problem with the ENTER key

such that pressing the key near the bottom of the keyboard causes the ENTER operation to take place but without any tactile feel.

While I was playing with the keyboards I eventually noticed that the top of the ON key on each unit is somewhat lower than all of the other keys even though the feel is the same. I wondered what that was about, so, following the old adage, I looked in the manuals. I found the following footnote on page 16 of the 12C manual

> Quote:
>
> Note that the ON key is lower than the other keys to help prevent its being pressed inadvertently.

A similar note appears on page 16 of the 16C manual. If there is a similar note in the 11C manual I couldn't find it.

The same feature is on my 10B's,17BII, 32S and 48S. Interesting!

While I am on the subject of the ENTER key I have one question, namely, why is the ENTER key a different size on most HP machines? \

Re: More on Voyager keys

*Message #14 Posted by **Martin Pinckney** on 9 Mar 2011, 12:00 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

> Quote:
>
> ...why is the ENTER key a different size on most HP machines?

It's what HP users had come to expect, ever since the HP-35. Biggest gripe about the otherwise stellar 50g is no big Enter key.

Re: More on Voyager keys

*Message #15 Posted by **Jim Yohe** on 9 Mar 2011, 1:40 a.m.,*
in response to message #14 by Martin Pinckney

At least you don't have to hunt for it with it being the lower right most key though ... I'm kind of use to that being the + key.

Re: More on Voyager keys

*Message #16 Posted by **Mike Morrow** on 9 Mar 2011, 10:28 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

> Quote:
>
> ...why is the ENTER key a different size on most HP machines?

A good reason for ENTER being the largest key is because it is activated for any general set of calculations more any other key, including any of the / * - + keys.

A related question is why the ENTER key is not positioned in the same column of keys as the / * - + keys on most HPs made in the past 30 years, as it always was on pre-Voyager HPs. Also, these keys were

always on the left side of the keyboard.

The Voyager layout required upsetting the classic pattern, with / * - + keys moved to the right, no longer aligned below the ENTER key. For unknown reasons HP has continued placing for most post-Voyager models the / * - + keys on the right, while returning the ENTER to its traditional place on the left. Having the ENTER key on the side opposite the / * - + keys creates the worst possible arrangement, and it surprises me to see it continued on the otherwise excellent recent HP 30b.

Most users are right-handed. A logical arrangement for such users is (1) having the ENTER and / * - + keys all on the *right* side of the keyboard, and (2) having a large ENTER key ABOVE the / * - + keys. The HP 49/50 series violates all of criterion (2), but at least it represents a shift in the right direction. :-)

Edited: 9 Mar 2011, 6:45 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP41 MLDL2000 V2 demo

*Message #1 Posted by **Meindert Kuipers** on 5 Mar 2011, 11:48 a.m.*

For those interested in the MLDL2000 for the HP41, I uploaded a video to youtube with a demonstration of the various possibilities of the MLDL2000V2, using the mbed module for adavnced I/O (networking, USB media etc). The project is currently still in the breadboard phase, but with the basic mbed functions done I can now start on completing the schematics and layout.

Many thanks go to Marcus von Cube for his support with some of the network functionality and creating the Java applet showing the HP41 stack.

Meindert

Re: HP41 MLDL2000 V2 demo

*Message #2 Posted by **Marcus von Cube, Germany** on 5 Mar 2011, 3:28 p.m.,*
in response to message #1 by Meindert Kuipers

Thanks for the credits. The video is well done.

Re: HP41 MLDL2000 V2 demo

*Message #3 Posted by **Ángel Martin** on 7 Mar 2011, 1:28 a.m.,*
in response to message #1 by Meindert Kuipers

Hi Meindert, looks like you're on a roll again - superb advances, I look forward to the MLDL_V2 with all that functionality built-in... there's no end in sight for the 41!

Re: HP41 MLDL2000 V2 demo

*Message #4 Posted by **Marcus von Cube, Germany** on 7 Mar 2011, 1:56 a.m.,*
in response to message #3 by Ángel Martin

There is still some work to do. If the mbed becomes part of the MLDL design, the power consumption will rise significantly. Either, the MLDL becomes a stationary device or it gets big enough to carry its own power source.

Creating something around the low power ARM designs (see HP 20b) might help but the mbed is not just hardware. It lives from the software environment and ease of development.

Re: HP41 MLDL2000 V2 demo

*Message #5 Posted by **Meindert Kuipers** on 7 Mar 2011, 2:08 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Power consumption has always been a concern, and that is the reason why the mbed module is optional. Apart from that, power to the mbed can be switched on or off under HP41 control. Basically I

do not see much mobile use for the HP41 with MLDL2000 (I prefer to use my iPod with i41CX when on the road). I case where low power mass storage is needed, there is the option of using the GHI uALFAT module for micro SD cards. The pinout of the MLDL2000 will allow either module.

The mbed exapnsion was done to show it is possible, and the fact that it allows very easy adaption by the user thanks to its ecosystem and endless possibilities. Please do not regard the MLDL2000 as a finished and closed system. It is intended to be used and modified in ways that I have not thought of ...

Meindert

Re: HP41 MLDL2000 V2 demo

*Message #6 Posted by **Paul Dale** on 7 Mar 2011, 5:10 a.m.,*
in response to message #1 by Meindert Kuipers

Looks like a superb device that really brings the 41 series up to date.

This plus the 41cl CPU.

- Pauli

Re: HP41 MLDL2000 V2 demo

*Message #7 Posted by **Ángel Martin** on 7 Mar 2011, 1:20 p.m.,*
in response to message #6 by Paul Dale

> Quote:
>
> brings the 41 series up to date.

I guess you're technically right Pauli, but for some of us (i.e. old enough) the 41 has always been "up-to-date" :-)

If not, consider:

- MLDL itself
- Clonix, NoVRAM
- PIL-Box..
- and last but not least, all the "new generation" software!

Oh well, as I said before... dream on!

Re: HP41 MLDL2000 V2 demo

*Message #8 Posted by **Paul Dale** on 8 Mar 2011, 1:43 a.m.,*
in response to message #7 by Ángel Martin

I guess I didn't express myself well. I've been using a 41 as my day to day calculator for a while now (replacing a 15c) and it isn't lacking much.

However, for those of us without any peripherals, this will be a godsend. IO and mass storage are what I'm lacking and HP-IL isn't really modern.

Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50G eating batteries

*Message #1 Posted by **Iqbal** on 5 Mar 2011, 11:21 a.m.*

I have an HP50G and I have changed new batteries three times in three weeks. Both set of batteries. It works fine from the USB cable. Not much into electronics, but I know how to open the 50G. I have already had it replaced by HP but they didnt collect the faulty one. SO I can experiment on this. Any ideas?

Re: HP 50G eating batteries

*Message #2 Posted by **Han** on 5 Mar 2011, 11:25 a.m.,*
in response to message #1 by Iqbal

Have you checked to see if your firmware is up to date?

Re: HP 50G eating batteries

*Message #3 Posted by **Crawl** on 5 Mar 2011, 5:10 p.m.,*
in response to message #1 by Iqbal

If you carry around the 50g in a book bag, be careful it's not getting turned on in there by accident. (I put mine in a different case because of that issue)

Re: HP 50G eating batteries

*Message #4 Posted by **Iqbal** on 5 Mar 2011, 10:37 p.m.,*
in response to message #3 by Crawl

Have the latest firmware. I bought 15 of the blue ones from Spain. And the first one I tried eats batteries. Luckily the others are fine. I even did what HP said and leave batteries off for two days and then inserted new ones... same thing, the batteries were dead and even though it was hardly used.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Introducing myself... and a question on a weird 48G

*Message #1 Posted by **Cristian Arezzini** on 5 Mar 2011, 7:04 a.m.*

Hello all, This is my first post after many years of lurking here... I just registered yesterday (it's been quite hard for me to find an email provider that was accepted by the system!). I live in Italy, and of course I have a passion for HP calculators (and some other brands too, but mostly HP). My first HP was a 48G that I bought new in college... It's still working, even though it's REALLY battered - it has seen a LOT of use, and I had to open it many years ago, before I even knew what Internet was, so I had no instructions, and pretty much destroyed the face plate.

Anyway, in the years I built up a small collection (nothing comparable to the pro's!) but a few weeks ago, thieves broke into my office and opened the cabinet where I kept most of my collection (the wife doesn't understand the need to keep "old junk" at home...) so I lost almost everything. They only left a 41CV, maybe because it looked too old to be of value? And they left a 48gii, which is the one I loved (and used) the least. There were also a 12C and my original 48G safe at home.

Anyway, I've started buying some calcs to replace the ones I used most... mainly of the 48 series. And I bought a really nice 48G. It came from England, but I think it's originally from Germany because the manual is in German. It's made in Indonesia, and I was disappointed to find that it has painted keys (I thought all 48's had molded keys). And the font in the logo on the top right of the face plate, is a little different from all the other 48's I've seen. Anyway, it works, great, and it has the "blue on green" display that I love for sentimental reasons.

Now the weird thing... On the box (it came fully boxed) there is a very "official-looking" 512KB sticker; and indeed, the calculator has 512KB of RAM, one in each port from 0 to 3. The calculator shows absolutely no sign of opening; the face plate is like new, and there are no cuts where the rivets are. I don't think it was an "after-sale" mod, because in that case there would be no sticker on the box. I think it was sold already upgraded. But I've never heard of a 48G being sold that way, and my searches yelded no result. Does anybody know anything about this? Who upgraded it, and where (and for how long) was this setup sold?

Thank you in advance, Cristian

Re: Introducing myself... and a question on a weird 48G

*Message #2 Posted by **Raymond Del Tondo** on 5 Mar 2011, 9:07 a.m.,*
in response to message #1 by Cristian Arezzini

Hello and welcome:-)

There were some retailers in Germany (and maybe in other countries, too) who upgraded HP-48G (and other variants of the HP-48) units.
I had an 48G with 2.3MB RAM, and I still have an 48G+ with 1.2MB RAM. On neither unit were visible opening marks.
There ways to open the HP-48 without visible destruction. The articles section of MoHPC should contain some info about this.

HTH

Ray

BTW: Since you use an upgraded 48G, I'd like to suggest to try SpeedUI, the real software turbo for the HP-48G series.

Welcome!... and a question on a weird 48G

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 5 Mar 2011, 9:18 a.m.,*
in response to message #1 by Cristian Arezzini

Hi Cristian!
Germany was the home of speedups and internal memory upgrades for the 48 series, dynatech sold them for years.
I, for one, have a 1280KB HP48G with double speed upgrade. No external sign shows that it was ever opened.

Welcome and greetings from Milan,
Massimo

Re: Introducing myself... and a question on a weird 48G

*Message #4 Posted by **Han** on 5 Mar 2011, 11:24 a.m.,*
in response to message #1 by Cristian Arezzini

Here's one method of opening the HP48 without leaving much of a trace behind:

http://www.math.uiuc.edu/~handuong/hp48/open/

This is not the only way to do it. You could also open it via the faceplate and just stick on a new faceplate afterward. There are members here who have created various backplates on the 12C (?) so it's not too hard to imagine them entering via the faceplate and then affixing a new one later on.

Re: Introducing myself... and a question on a weird 48G

*Message #5 Posted by **Cristian Arezzini** on 5 Mar 2011, 1:56 p.m.,*
in response to message #1 by Cristian Arezzini

Thank you for the replies and for the welcome! :) I didn't know about the method that Han posted... I only knew how to open it from the back (cutting through plastic behind the battery door and the IR screen). I opened several 48s that way before, and they all look OK from the outside, but show obvious opening signs if you look behind those doors. They all also feel a little more "squeaky" when twisted, while this 512K specimen is rock-hard. The faceplate of this modified 48, as I said, is perfect but has some almost unnoticeable differences; first, the "G" in the 48G logo top right, is a different font; then, it all looks a little "shinier", and it looks like it lacks the protective transparent layer that my other 48s have. I don't know if all Indonesian 48s look like that or if it really was opened from the front, and the faceplate was replaced. Anyway... I wonder how many such modifications were made, and how many still exist! And also, I wonder how professionally the job was done - i.e. will it last, or not? :)

Does a 48G with 512KB eat substantially more batteries than a regular one?

I also read somewhere that a 48 with more memory is supposed to be slower than a regular one, due to bank switching; but after some tests, I can say that the 512K one is about 5-10% faster than a 32K one. Did they modify something else, or is it due to individual tolerances in the quartz frequencies?

I'm going to try the SpeedUI... Does it erase the memory or can I keep what I already have in there?

I also have a question on a 12C but I'll write another post for that!

Thanks again, Cristian

Re: Introducing myself... and a question on a weird 48G

*Message #6 Posted by **Marcus von Cube, Germany** on 5 Mar 2011, 2:28 p.m.,*
in response to message #5 by Cristian Arezzini

The speed increase for your memory enhanced 48G may be due to the garbage collection which occurs less often then on a memory constraint system.

Re: Introducing myself... and a question on a weird 48G

*Message #7 Posted by **Raymond Del Tondo** on 5 Mar 2011, 11:19 p.m.,*
in response to message #5 by Cristian Arezzini

SpeedUI is non-destructive, of course;-)
However you'll need to free enough memory in port 0 or 1 to store the main components CF.LIB, UI.LIB, and my special UFL.LIB level F which contains all 4 SpeedUI fonts.

Ray

Re: Introducing myself... and a question on a weird 48G

*Message #8 Posted by **db (martinez, ca.)** on 6 Mar 2011, 12:03 a.m.,*
in response to message #1 by Cristian Arezzini

Cristian; Welcome. Sorry to hear you were ripped off. May the thieves get what i think they deserve. The saddest thing is that the worthless sons-of-bitches probably threw them away when they found they couldn't change the TV channel with them.

Re: the 512KB sticker. That, and the responses were interesting.
Anyway - i put an "Intel Inside" sticker on the back of my 41cx. That really messes with the people who notice.

Re: Introducing myself... and a question on a weird 48G

*Message #9 Posted by **Cristian Arezzini** on 6 Mar 2011, 5:37 a.m.,*
in response to message #8 by db (martinez, ca.)

I know what you mean... We have an idea who might be the thieves (we can't prove anything of course) and they're definitely not the type interested in HP calculators (or math) at all. They probably took all my stuff to some flea market, to cash it quickly, where it will sit until someone buys them for a few Euros and then tosses them when they can't find the = key. That's what makes me saddest - old, rare calculators going like that.

The sticker... it's not on the calculator! It's on the box. The calculator itself looks like a perfectly normal 48G, if you don't check the internal memory. And there was a receipt inside the "messages booklet", written in German, but I can tell it refers to the memory upgrade. It seems to refer to a "Cynox" brand...

Re: Introducing myself... and a question on a weird 48G

*Message #10 Posted by **Han** on 7 Mar 2011, 11:21 a.m.,*
in response to message #9 by Cristian Arezzini

There were several such companies. Cynox also made RAM cards as well as upgraded calculators.

Re: Introducing myself... and a question on a weird 48G

*Message #11 Posted by **Dave Shaffer (Arizona)** on 7 Mar 2011, 1:14 p.m.,*
in response to message #9 by Cristian Arezzini

> Quote:
>
> where it will sit until someone buys them for a few Euros and then tosses them when they can't find the = key

Or reports here their fabulous flea market find!

Do you have serial numbers?

A question: what would be the "right" thing to do if you made a fabulous flea market purchase, and then were informed that you had somebody's hot calcuator (due to a serial number match, say)?

Re: Introducing myself... and a question on a weird 48G

*Message #12 Posted by **Paul Gaster** on 7 Mar 2011, 2:45 p.m.,*
in response to message #11 by Dave Shaffer (Arizona)

I would want to get the calculator, or calculators, back to the rightful owner. I would just feel bad keeping items that really belonged to someone else. If was a great flea market type purchase then I wouldn't be out much money either, so no big loss.

I say watch ebay and craigslist for your calculators. They may show up.

Re: Introducing myself... and a question on a weird 48G

*Message #13 Posted by **Cristian Arezzini** on 7 Mar 2011, 11:51 p.m.,*
in response to message #12 by Paul Gaster

I agree, I would want to give them back. Or, being the original owner, I would be more than willing to pay back what the "new buyer" paid to get them, so that he doesn't loose the money (I would assume he bought in good faith).

Re. Serial numbers: I had them, but they all were on a spreadsheet file... which was on the laptop they stole. I also had a backup on an external hard drive... Guess who has that hard drive, too, now. :(Talk about putting all your eggs in one basket! But I was backing up for possible HD failures, not thefts! Now I have to find a way to backup "off-site" all my photos and other important documents at home, in case someone breaks in and steals my computer AND backups!!!

I will be monitoring eBay, but I really don't think they're the type of people who'd list stuff there. We think they were after the money in the office (there is money here, but they couldn't open the safe), and failing to get the money they blindly ransacked our cabinets.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Introducing myself... and a question on a weird 48G

HP Forum Archive 20

[Return to Index | Top of Index]

Interesting book

*Message #1 Posted by **Don Shepherd** on 5 Mar 2011, 3:35 a.m.*

I was looking at the obituary of John Backus, IBM employee who was the principal inventor of FORTRAN. He died in 2007, and his obituary mentioned the "Selective Sequence Electronic Calculator (SSEC)". I google'd that and came across this scanned interesting book about the IBM Watson Laboratory. It provides a general description of this machine, which was programmed to display "see Thomas" upon a certain condition occurring.

Lots of pictures.

A very interesting look at computing's early years.

Edited: 5 Mar 2011, 4:49 a.m.

Re: Interesting book

*Message #2 Posted by **Bill (Smithville, NJ)** on 5 Mar 2011, 7:04 a.m.,*
in response to message #1 by Don Shepherd

Don,

Great find. I'm always interested in the early computing days. There another book on the same site:

Computer - Bit Slices From a Life by Herbert R. J. Grosch

It's too bad these are only in HTML format and not in one of the mobile e-readers formats. They would get a lot larger audience. I just got a Kindle and have loaded it up with many early computing/personal computing books. Currently reading "What the Dormouse Said: How the Sities Counterculture Shaped the Personal Computer History".

I'll have to spend a little more time on the site to see what other books/articles they have on history of computing.

Thanks,

Bill

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Pioneer series: scratched display

*Message #1 Posted by **Jim Yohe** on 4 Mar 2011, 8:08 p.m.*

I just received my "first" HP-42S from an eBay seller who, as far as I can tell, photoshopped out all of the scratches in the display from the 10 or so photos displayed in the ad. Clearly buyers were purposely deceived from doctored photos. Fortunately she's agreed to the return plus to pay for all shipping charges.

Now my question ... are scratches on the display something I should be overly concerned about ... from a collecting point of view? Since the scratch appears to be in a thin plastic film (maybe?) over glass is it this something that could be repaired? Or perhaps these displays are not covered by an plastic at all and so my scratches are embedded in the glass.

Re: Pioneer series: scratched display

*Message #2 Posted by **Martin Pinckney** on 4 Mar 2011, 8:36 p.m.,*
in response to message #1 by Jim Yohe

I don't think any Pioneers had glass. AFAIK the early mid- and high-end models had a separate plastic cover with a small gap in between it and the plastic LCD screen, while the low-end and later high-end models had the LCD screen directly exposed to touch.

Edited: 5 Mar 2011, 10:23 a.m. after one or more responses were posted

Re: Pioneer series: scratched display

*Message #3 Posted by **designnut** on 4 Mar 2011, 9:37 p.m.,*
in response to message #2 by Martin Pinckney

That auct5ion site taAkes very seriously any deceit. It isn't rare or valuable, demand a refund. Sam

Re: Pioneer series: scratched display

*Message #4 Posted by **Allen** on 4 Mar 2011, 11:17 p.m.,*
in response to message #1 by Jim Yohe

I can clearly see the scratches in photo 8 and a little in photo 5. Since that 42S model is anti-reflective, it's likely that the other perspectives do not show it clearly. (The aluminum bezel scratches are a good guide for where to look on the display.) I agree the seller could have added a few words about the screen scratches, but I see no evidence to suggest the seller photoshoped or culled photos to hide the scratches.

The lower price you paid relative to other 42S from the same seller recently suggest she had already accounted for either the bezel damage/screen damage or both.

I (Ebay ID: hudendai) have no connection the completed sale discussed above or the seller thereof.

Re: Pioneer series: scratched display

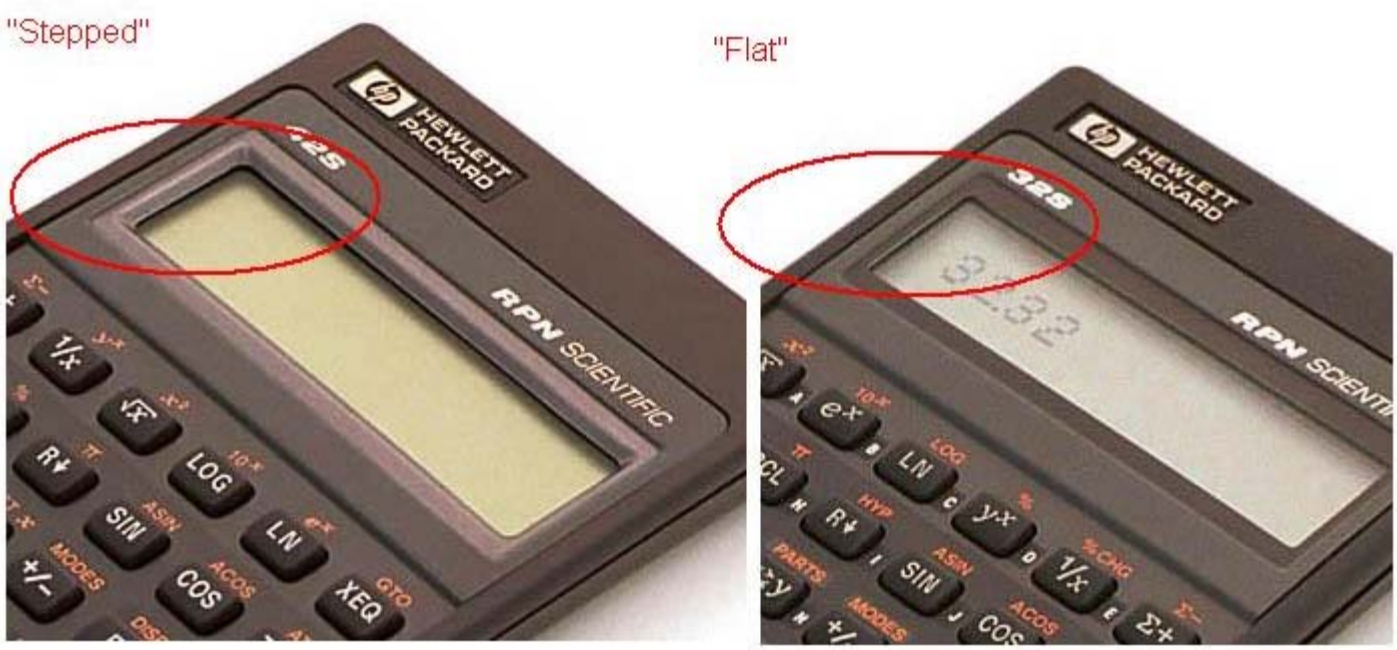
*Message #5 Posted by **Randy** on 6 Mar 2011, 10:39 a.m.,*
in response to message #1 by Jim Yohe

FWIW from a what can be done standpoint - it depends on the version of Pioneer.

The original "flat" bezel (my terminology) has a window in front of the LCD and is the same arrangement as the Voyagers that preceded them. The window has a metalized coating, again, same as the Voyagers. The LCD is a glossy, reflective finish. Scratches would obviously be in the outer window only and there is little you could do without damaging the metalization. Replacement of the window is from the back of the faceplate so it would require that the keyboard backing plate be removed which requires removal of all the heat stakes or that the faceplate is peeled off from the front. IMO, I consider neither a viable option so scratches on a flat bezel unit are there for life.

The later "stepped" bezel design exposes the LCD to the user. Any scratches here are on the LCD polarizer directly. These LCD's can swapped out to be rid of the scratches.

FWIW, early 1990 date code Pioneers, soon after the change in mechanical design, had glossy polarizers, I guess they were using up existing stock. Some time in 1990 or 91, they changed to a matte finish LCD to reduce glare. While in theory, you could polish scratches out of a matte LCD, you'll end up with a glossy polarizer. Overall, I've had minimal luck in polishing out scratches in LCD's so in general, while expensive, I recommend outright replacement of the LCD.



[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Finally an HP-02?

*Message #1 Posted by **Eric Smith** on 4 Mar 2011, 1:53 p.m.*

http://www.engadget.com/2011/03/04/hp-shows-off-metal-watch-concept-video/

Re: Finally an HP-02?

*Message #2 Posted by **Jim Horn** on 4 Mar 2011, 7:12 p.m.,*
in response to message #1 by Eric Smith

Actually, Cricket (the HP-01) had two successors which were the HP-02 and HP-03. The HP-02 had more functions; the HP-03 had a liquid crystal display. Unfortunately, the lack of success of the HP-01 caused the cancellation of the other two before they reached production. Sigh.

Now if only I could remember the latter two code names! Firefly comes to mind for the '03 but I could be very wrong there.

Jim (Still enjoy my '01)

Re: Finally an HP-02?

*Message #3 Posted by **Walter B** on 5 Mar 2011, 5:22 a.m.,*
in response to message #1 by Eric Smith

Well, this guy showed a watch. I didn't see anything special. Pure marketing IMHO :-(unless I missed something important.

Re: Finally an HP-02?

*Message #4 Posted by **BruceH** on 5 Mar 2011, 3:37 p.m.,*
in response to message #1 by Eric Smith

> Quote:
>
> http://www.engadget.com/2011/03/04/hp-shows-off-metal-watch-concept-video/

Apparently it is called *meta*-watch.

Re: Finally an HP-02?

*Message #5 Posted by **Howard Owen** on 6 Mar 2011, 10:52 a.m.,*
in response to message #4 by BruceH

I think this is dubious. They want the "integration point" of all your gadgets to live on your wrist. Naturally they are dreaming of displacing smart phones or pads in that role. But the "integration point" is the cloud. All your data is aggregated there, accessible from any device you choose to employ. If Google and others

have their way, that's where apps will live too. The point is, a wristwatch is a horrible platform for running apps, whether web based or local. the display is too small for even something as simple as a phone book, let alone a web browser or a game.

Re: Finally an HP-02?

*Message #6 Posted by **Eric Smith** on 6 Mar 2011, 4:37 p.m.,*
in response to message #5 by Howard Owen

The watch is definitely not suitable for normal apps, but there are some specialized ones I'd like to run on a watch. There have been a few choices for that:

- Seiko RC-20 etc.
- Timex Datalink
- Fossil/Abacus WristPDA (runs PalmOS)
- PCOnHand
- uWatch
- inPulse

I have a 6th gen iPod Nano (multitouch) in a LunaTik watchband, and this would be a great platform for small apps, but Apple doesn't offer an SDK for it. :-(

The inPulse comes closest to what I want, though the display size and resolution are not anywhere near as close to the iPod Nano.

However, I suspect that what HP is trying to push here isn't so much running apps on the watch, as storing data in it for use with all of your other computing devices, as opposed to storing data in the cloud, or on memory cards/sticks. If you wear your watch all the time, it seems like that would be very convenient.

Re: Finally an HP-02?

*Message #7 Posted by **Dave Shaffer (Arizona)** on 7 Mar 2011, 1:17 p.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> If you wear your watch all the time, it seems like that would be very convenient.

I get the impression that the younger generation no longer wears watches - they've already switched to their cell phone for the time.

Re: Finally an HP-02?

*Message #8 Posted by **Ren** on 16 Mar 2011, 1:50 p.m.,*
in response to message #6 by Eric Smith

I have a Timex Ironman Datalink, I put it in the drawer after 8 or more years, the main plastic button has broken off along with most of the plastic bezel. It was less accurate than my previous Timex and probably my "current" Timex (Expedition w/flux gate compass) as well. The Datalink might only work with CRT's I never tried it with an LCD screen. The data space on the Datalink was under whelming.

Ren

dona nobis pacem

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Which Calculators Should I Keep?

*Message #1 Posted by **Dave Shaffer (Arizona)** on 3 Mar 2011, 11:16 p.m.*

I recently visited my parents - my Dad is 92 and my Mom will be 90 tomorrow.

We had a nice visit, but I come away appalled at the amount of "stuff" they have, nearly filling their house. There is scarcely room to sit on their couch, the dining room table is unusable, the floor is covered with books and magazines, and the "guest bedroom" is overwhelmed with my Dad's art equipment and materials. There are even some HP calculators in there, too: at least a 32S and a 97S in pretty good condition, and maybe even an original 35 somewhere. (My Dad is a retired mechanical engineer, which explains the calculators.)

Now that I am home, amidst my own stuff, I am verging on being appalled at how much of it I have, too. Therefore, I am contemplating a de-acquisitioning mode.

This brings up the question of which HP calculators I should keep. Although getting rid of a few would not really help the volume-of-junk problem, they would be among the easiest and most lucrative items to auction off. I could use the money gained thereby to buy another camera lens or two (hmmm, this may not be converging!).

What do I have? Well, the list includes a 35, an 11C, a 41C and a 41CX, a 32S, a 42S, a 48GX, a 33S, and a 35s. The 35, 11C, and 41CX have to stay for sentimental reasons. The 33S sits by the bed, for those last-minute-of-the-day brainstorms, and the 35s is my current everyday calc and lives on my desktop. I don't really have any need for the 32S, the 42S, or the 48GX (and, I can borrow a 32S from my wife if necessary). All are in very good condition, except the 35 and 11C, which work fine, but show signs of lots of use.

What are your thoughts on getting rid of some of these? Will I regret it later? I doubt it. I am retired and unlikely to ever need them for any kind of work. Unlike some here, I don’t feel any particular compulsion to have one of every calc that HP has ever made.

I know there are many here who would like to have some of these, so you may soon get your chance.

Re: Which Calculators Should I Keep?

*Message #2 Posted by **Namir** on 3 Mar 2011, 11:21 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Dave,

My son Joey whom you met will be in Flagstaff next week for a visit. Maybe he should stop by and you can give him the machines that you think you can live without. Hang on to the 41CX because this model is a beauty. The rest ... give it to Joey!

:-)

Namir

PS: Things happen for a reason ... and Joey's visit to Flagstaff has a reason too! <grin>

Re: Which Calculators Should I Keep?

*Message #3 Posted by **Michael de Estrada** on 4 Mar 2011, 12:21 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Well, obviously you are not a collector, just a practical user. I too am a retired engineer, however, I am also a collector of some of the older more vintage HP models as well as many non-HP calcs, so I don't have a desire to de-acquire, except in certain cases of excessive redundancy. I recently sold two of my HP-45 sets, but still have 8, including 7 complete sets, so I can't say that I've really de-acquired that much. I am also a pack rat like your parents, but I don't regard that as any great sin. One of my spare bedrooms is called the DOS Room, because it's home to 6 bulky DOS PC's that have no practical purpose, and I usually fire up periodically to play old DOS based games. I guess if I were in your position I'd get rid of some of the newer models like the HP-33s, which is functionally identical to the HP-35s. Also, and HP-41C is redundant if you have an HP-41CX, which is far more capable. As far as regretting it later, well, I think you'll always be able to re-acquire, buy maybe the cost will be higher.

Re: Which Calculators Should I Keep?

*Message #4 Posted by **John Robinson** on 4 Mar 2011, 1:32 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Dave,

I think you have answered your own question :-) Keep the 35, 11C, 41CX for sentimental/collector reasons, and the 33s/35s for daily use. Ditch the rest I say !!

I had a cull a couple of years ago, I ditched all non-cardreader LED calcs, all 71b stuff I had, and even most of the HP-IL peripherals (a PIL box is a good replacement). I certainly have not regretted any of that !!

What that left me with are several 65/67 units (just for fun), numerous 41c/cv/cx units (for sentimental reasons and daily use, and cool new stuff like PIL box and Clonix) and voyagers 11, 15, 16 and even the 12 (because they are just so darn rugged), although being an engineer, I am not sure why I have the 12 as well. I do still have a 32s and a 42s, but I have no idea why !! And lastly, a 35s, which I keep at work, just in case it gets stolen, I'd rather that get stolen than a 41 or a voyager.

Cheers, John

Edited: 4 Mar 2011, 1:33 a.m.

Re: Which Calculators Should I Keep?

*Message #5 Posted by **Walter B** on 4 Mar 2011, 4:33 a.m.,*
in response to message #4 by John Robinson

Dave,

> Quote:
>
> I think you have answered your own question :-) Keep the 35, 11C, 41CX for sentimental/collector reasons, and the 33s/35s for daily use. Ditch the rest I say !

I concur, though that won't be my personal selection (I'd ditch the 33s and 35s and keep the 32S and 42s - but its your choice). And - as you mentioned yourself - it isn't really a big step towards a clean home if balanced by some additional lenses ;-)

Re: Which Calculators Should I Keep?

*Message #6 Posted by **Martin Pinckney** on 4 Mar 2011, 10:44 a.m.,*
in response to message #5 by Walter B

> Quote:
>
> I'd ditch the 33s and 35s and keep the 32S and 42s -

Second the motion.

Re: Which Calculators Should I Keep?

*Message #7 Posted by **Xavier A. (Brazil)** on 4 Mar 2011, 7:56 p.m.,*
in response to message #6 by Martin Pinckney

I do agree.

Re: Which Calculators Should I Keep?

*Message #8 Posted by **Bram** on 4 Mar 2011, 3:52 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

If you haven't already done so, I'd suggest to let your father tell the stories that accompany these particularly calculators. I guess you'll get the answer you're looking for (at the risk of keeping them all, I have to add)

Re: Which Calculators Should I Keep?

*Message #9 Posted by **Maximilian Hohmann** on 4 Mar 2011, 4:59 a.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Hello!

If ever I am faced with this kind of decision (it will come one day...) I will get rid of everything with an LCD and most non-HP calculators with very few exceptions. In your place, I would only keep the 35.

Regards, max

Re: Which Calculators Should I Keep?

*Message #10 Posted by **bill platt** on 4 Mar 2011, 12:47 p.m.,*

in response to message #1 by Dave Shaffer (Arizona)

Hi Dave,

I think you answered your own question.

32S, the 42S, or the 48GX . I am starting to think that I was stupid not to ditch my 48 series machines back in the 49G+ days, when the 48gx was worth a lot more...now that the 50G exists, the value has fallen a lot on all except the survey cards (which are worth far more than the calculator).

Conservatively, that is $70, $175, $90. Of course the 42S might fetch a lot more given the right accessories (box etc) description and timing.

Clutter is our natural state of being. Our ancestors figured out long ago that barring circumstances requiring movement (e.g. Toureg)we hunted and gathered....

Best regards,

Bill

Re: Which Calculators Should I Keep?

*Message #11 Posted by **Egan Ford** on 4 Mar 2011, 3:39 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

> Quote:
>
> Now that I am home, amidst my own stuff, I am verging on being appalled at how much of it I have, too. Therefore, I am contemplating a de-acquisitioning mode.

I share your thinking. I'm only 43, my wife and I (and kid off to college) share a large home with large rooms more optimized for stuff than people; and we have a lot of stuff. Too much stuff. Fortunately, it is mostly organized and it doesn't appear that we have a lot of stuff. But at our young age, we could double our stuff.

We started downsizing last summer. It's a slow, ongoing process, to reduce.

I've started asking myself if I have extracted enough joy out of my calculator collection. And I think I have. I do not program them anymore for fun, or write much about them. It is a lot of work and I have other interests too. And it does take up space. If I lost them all to fire or theft, would I replace them? No, except one, a 15C. My original 15C is still going strong. It would be the one that I could not part with. With some fresh batteries and a few good textbooks I can rebuild civilization after it collapses at the end of 2012. :-)

Re: Which Calculators Should I Keep?

*Message #12 Posted by **John B. Smitherman** on 4 Mar 2011, 7:30 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Dave, interesting post that's got me thinking about my own situation.

If you decide to keep the 33s or 35s then you keep either the 32s or 42s so that you can use the latter to check the results of the former. :-(

Good luck,

John

Re: Which Calculators Should I Keep?

*Message #13 Posted by **Gerson W. Barbosa** on 4 Mar 2011, 9:03 p.m.,*
in response to message #12 by John B. Smitherman

> Quote:
>
> If you decide to keep the 33s or 35s then you keep either the 32s or 42s so that you can use the latter to check the results of the former. :-(

Sad, but true. Some years ago, when checking the HP-12C Platinum with my trigonometric functions program upon the 33s, I found discrepancies in the tangent function near 90 degrees. I thought my program was flawed... until I decided to test it against the good old HP-32SII...

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103065#103065 (messages #8 through #28)

Later Karl Schneider made an analysis of this bug and presented other findings:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103989

Sadly the HP-35s has inherited the bugs and they are still there after all these years.

Regards,

Gerson.

Re: Which Calculators Should I Keep?

*Message #14 Posted by **Michael de Estrada** on 4 Mar 2011, 10:37 p.m.,*
in response to message #13 by Gerson W. Barbosa

I calculated Tan (89.999999999) on both my HP 35s and HP 32SII and got the same result of 57,295,779,513.1 even though they do differ with fewer decimal digits. For example Tan (89.999999):

HP 35s = 57,295,787.7856

HP 32SII = 57,295,779.5131

HP 15C = 57,295,779.51

HP 41CV = 57,295,779.51

HP 50g = 57,295,779.5131

HP 32E = 57,295,779.51

Curious.

Edited: 4 Mar 2011, 10:50 p.m.

89,999999 TAN

*Message #15 Posted by **Walter B** on 5 Mar 2011, 5:50 a.m.,*
in response to message #14 by Michael de Estrada

And the HP 42S and 20b return 57.295.779,5131 as well.

Edited: 5 Mar 2011, 5:52 a.m.

Re: 89,999999 TAN

*Message #16 Posted by **Gerson W. Barbosa** on 5 Mar 2011, 9:07 a.m.,*
in response to message #15 by Walter B

So does WP-34s :-)

```
57,295,787.7856                                                    [hp 33s]
57,295,779.5131                                                    [HP-42S]
57,295,779.51308232          (57,295,779.5131 on the display)  [WP-34s]
57,295,779.513082315299140 91  (57,295,779.5131 on the display)  [Free42 Decimal 1.4.62]
57,295,779.513082315059033981499673                                [Windows calculator]
57,295,779.513082315059033981499673129107282150664783050 6       [WolframAlpha, input line: tan(89.999999
degrees)]
```

Re: 89,999999 TAN

*Message #17 Posted by **Michael de Estrada** on 5 Mar 2011, 12:00 p.m.,*
in response to message #16 by Gerson W. Barbosa

Also:

HP 27 - Tan(89.999999) = 57,295,779.51

HP 29C - Tan(89.999999) = 57,295,779.51

However:

HP 25 - Tan(89.999999) = 58,363,500.16

HP 21 - Tan(89.999999) = 58,363,500.16

So the Woodstocks used different algorithms in different models.

Then:

HP 67 - Tan(89.999999) = 57,295,779.51

HP 91 - Tan(89.999999) = 57,295,779.51

So fairly early on HP had proper algorithms.

Re: 89,999999 TAN

*Message #18 Posted by **Eric Smith** on 5 Mar 2011, 3:13 p.m.,*
in response to message #17 by Michael de Estrada

HP-21/22/25/25C used algorithms closer to the classic series. HP-27/19C/29C/67/97 used improved algorithms; part of that was carrying intermediate results to 13 digits. See the HP Journal article "The New Accuracy: Making 2^3=8" by Dennis Harms, November 1976.

Re: 89,999999 TAN

*Message #19 Posted by **Michael de Estrada** on 5 Mar 2011, 5:48 p.m.,*
in response to message #18 by Eric Smith

Well, the HP-22 does not have trig functions, but I assume you are referring to other functions such as logarithms. Anyways, the problem here is not so much with the digits used, but with the algorithm used when a function approaches a discontinuity.

Re: 89,999999 TAN

*Message #20 Posted by **Eric Smith** on 5 Mar 2011, 6:55 p.m.,*
in response to message #19 by Michael de Estrada

I'm pretty sure the problem here **IS** a result of not enough digits used in the intermediate calculations; that's exactly what you need more of as you approach the discontinuity.

Re: 89,999999 TAN

*Message #21 Posted by **Ronald Williams** on 9 Mar 2011, 5:52 p.m.,*
in response to message #17 by Michael de Estrada

Also a 1973 HP35 tan(89.999999) = 58,363,500.16 tan(89.99999) = 57,3015.3057 tan(89.9999) = 5,708,970.39 tan(89.999) = 57,296.55162 tan(89.99) = 5,729.565869 tan(89.9) = 572.9572655

Re: 89,999999 TAN

*Message #22 Posted by **Marcus von Cube, Germany** on 10 Mar 2011, 8:59 a.m.,*
in response to message #21 by Ronald Williams

Such a table looks better surrounded by [pre] tags.

```
Also a 1973 HP35


tan(89.999999) = 58,363,500.16
tan(89.99999)  = 57,3015.3057
tan(89.9999)   = 5,708,970.39
tan(89.999)    = 57,296.55162
tan(89.99)     = 5,729.565869
tan(89.9)      = 572.9572655
```

Re: 89,999999 TAN

*Message #23 Posted by **Marcus von Cube, Germany** on 5 Mar 2011, 12:22 p.m.,*
in response to message #16 by Gerson W. Barbosa

The best I could get so far is Derive. I can't tell if the digits are all correct but they agree to what Alpha has returned:

If I set the precision to 100 digits and enter tan(89.999999°) I get:

5.729577951308231505903398149967312910728215066478305068762520082189827157958993840731226709890277654·10^7

(Underlining by me. In fact I have to use the "approximate" button, otherwise, just the expression is returned.)

As a comparison, Alpha returns: 57,295,779.513082315059033981499673129107282150664783050 6

Quite good are the double precision Sharp BASIC computers. My PC-1280 returns 12 significant digits after the decimal point which are all correct:

57295779.513082315059

Most of my Casios and TIs return 4 to 5 correct digits after the decimal point. The worst I could find is the ClassPad 300 with OS 3: 57295754.96 is way off (even the integer part has only 6 correct digits!)

Edited: 5 Mar 2011, 12:52 p.m.

Re: 89,999999 TAN

*Message #24 Posted by **Gerson W. Barbosa** on 5 Mar 2011, 1:05 p.m.,*
in response to message #23 by Marcus von Cube, Germany

Ask WolframAlpha for more digits twice to get

```
5.729577951308231505903398149967312910728215066478305068762520082189827157958993840731226709890277654711972391762398275578625656376921104805563273741214034175570805889095630942752778232728701844110860750074115361494293916630014... × 10^7
```

The underlined digits agree with what you got with Derive. I think I'll stop here lest WolframAlpha crashes :-)

The HP-35 result matches the ones reported by Michael for the HP-21 and HP-25.

Re: 89,999999 TAN

*Message #25 Posted by **Paul Berger (Canada)** on 5 Mar 2011, 1:26 p.m.,*
in response to message #23 by Marcus von Cube, Germany

Worst I got was my TI59 57290501.51 200LX gives 57295779.51308232

Re: 89,999999 TAN

*Message #26 Posted by **Maximilian Hohmann** on 5 Mar 2011, 1:31 p.m.,*
in response to message #25 by Paul Berger (Canada)

Hello!

> Quote:
>
> Worst I got was my TI59 57290501.51

Hard to believe that a Ti59 helped me all the way through school, university, doctorate and flying training. And I'm still alive :-)

Honestly, I never understood what this hunt for obscure „bugs“ (who ever needed the tangent of 89,999999 in real life anyway?) was all about. If I wanted to send out a space probe to rendez-vous with a comet 6 or 7 years after launch, I would hardly use a pocket calculator to do the maths, would I? And this is really the only application I can imagine where this kind of precisuion is required.

Regards, max

Re: 89,999999 TAN

*Message #27 Posted by **Paul Berger (Canada)** on 5 Mar 2011, 2:38 p.m.,*
in response to message #26 by Maximilian Hohmann

I used a Commodore PR100 in school, I still have it 30+ years later but sadly it appears to be deceased, I have managed to bring it back to life a few time but now it resists my efforts.

Re: 89,999999 TAN

*Message #28 Posted by **Thomas Radtke** on 6 Mar 2011, 2:28 p.m.,*
in response to message #27 by Paul Berger (Canada)

PR100 => 4.88 * 10^7 SR4190R => 57259375,1

Re: 89,999999 TAN

*Message #29 Posted by **Gerson W. Barbosa** on 5 Mar 2011, 2:56 p.m.,*
in response to message #26 by Maximilian Hohmann

> Quote:
>
> Honestly, I never understood what this hunt for obscure „bugs“ (who ever needed the tangent of 89,999999 in real life anyway?) was all about.

Actually, this bug was never hunted for. It simply popped out, not in a lifelike situation, I recognize, but when using the 33s to test a program.

> Quote:
>
> If I wanted to send out a space probe to rendez-vous with a comet 6 or 7 years after launch, I would hardly use a pocket calculator to do the maths, would I?

C++ won't do any better, at least the version I've been using:

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>


int main(int argc, char *argv[])
{
  double x;
  x = tan(89.999999*M_PI/180);
  printf(" x =  %.9f\n\n",x);
  system("PAUSE");
  return 0;
}
```

returns

```
 x =  57295779.814456776

Pressione qualquer tecla para continuar. . .
```

Also, Excel 2007 [=TAN(89.999999*PI()/180)] returns 57295779.8143678. Perhaps because 89.999999 has not an exact representation in binary float point. If greater accuracy is important, I would suggest TurboBCD and these functions, which give 17-digit accuracy (57295779.5130823149 for this example).

Regards,

Gerson.

Re: 89,999999 TAN

*Message #30 Posted by **Eric Smith** on 5 Mar 2011, 3:19 p.m.,*
in response to message #26 by Maximilian Hohmann

If a transcendental function on a calculator only gives five significant digits correct for some arguments, what confidence will you have that it gives any better results for other arguments?

What this shows is that the TI-59 didn't use a good algorithm for range reduction on trig functions. In particular, they apparently used a poor approximation of pi.

Range reduction is very tricky to do well. There's an entire chapter of Muller's "Elementary Functions: Algorithms and Implementation" devoted to an overview of range reduction algorithms.

There is a strong case to be made that when it is known that the range reduction cannot be done accurately for arguments outside a particular range, the function should return an error instead of a value with few or no significant digits. This is obviously appropriate for sin/cos/tan for arguments of magnitude >10^10 on a ten-digit calculator, because you effectively have no significant digits. It is less obvious where the cutoff should be for tangents of angles near 90 degrees.

Re: 89,999999 TAN

*Message #31 Posted by **Dave Shaffer (Arizona)** on 6 Mar 2011, 11:58 p.m.,*
in response to message #26 by Maximilian Hohmann

> Quote:
>
> And this is really the only application I can imagine where this kind of precisuion is required.

The NASA program I used to help support is now shooting for sub-mm accuracy for whole Earth geodesy. For an Earth radius of around 6370 km, that requires better than parts in 1e10 accuracy and precision. I don't know what computers or compilers they use now, but in the "olden" days (i.e. 15 years ago), it was all quadruple-precision Fortran (on HP minicomputers!). There are oodles of trig calculations involved, so once in a while one might wind up needing a tangent in the vicinity of 89.99999.... (although, of course, it's all done in radians).

PS - thanks to all for the various suggestions on which calcs to use/keep/sell. I am firmer in my intent to unload my

42S and 48GX. I will play with the 32S (it's actually a 32SII) for a while, to see how it compares with the 33S and 35s. I know, that may be blasphemy to imply that the two newer ones are better, but I certainly am more used to them.

Re: 89,999999 TAN

*Message #32 Posted by **Michael de Estrada** on 7 Mar 2011, 12:46 a.m.,*
in response to message #31 by Dave Shaffer (Arizona)

Once you start using your HP-32SII, you'll get rid of the HP-33s and HP-35s. It's much more solid with much better keys and display. It has basically the same capabilities, except for the 1-line display, which I actually prefer. The number digits are much bigger and bolder, and I really don't need to see the y-stack value all the time when I can just hit x<>y as needed to view two-variable results. And its not buggy to boot.

Re: 89,999999 TAN

*Message #33 Posted by **Martin Pinckney** on 7 Mar 2011, 10:08 a.m.,*
in response to message #32 by Michael de Estrada

> Quote:
>
> The number digits are much bigger and bolder...

This is why I hang on to my 32sii, 22s, and 14b. Because someday my eyes will be too weak for my 42s, 27s, 17b.

Most of the modern HP scientific calcs are lousy

*Message #34 Posted by **Michael de Estrada** on 7 Mar 2011, 10:59 a.m.,*
in response to message #33 by Martin Pinckney

The current line of HP scientific calcs is very unimpressive in comparison with the older now discontinued models. In fact, the only current model that I use with regularity is my HP-50g, which has very good keys and display and is very solid feeling. Also, it is based on the old RPL line of calcs that were designed by HP. Sure, the HP-48gII is also a good calc, but it is obsoleted by the HP-50g, so I'd keep it if I already owned one, but wouldn't buy one today. Otherwise, I would not keep or purchase any of the other models currently offered. In fact, I have removed the batteries from my HP-33s and will stop using my HP-35s when its batteries expire, although I hardly ever use it anyways, preferring my HP-15c and HP-32SII instead. Being an RPNer, I have no interest in the algebraic entry models anyway, which comprise half of the current scientific line.

Edited: 7 Mar 2011, 11:00 a.m.

Re: 89,999999 TAN

*Message #35 Posted by **Walter B** on 7 Mar 2011, 11:11 a.m.,*
in response to message #33 by Martin Pinckney

Martin,

> Quote:
>
> > Quote:
> >
> > The number digits are much bigger and bolder...
> >
> > This is why I hang on to my 32sii, 22s, and 14b. Because someday my eyes will be too weak for my 42s, 27s, 17b.

Because someday your fingers will be too vibrant for any of your today's favourites, don't hesitate to put an HP-91 in your stock d;-)

Re: 89,999999 TAN

*Message #36 Posted by **Marcus von Cube, Germany** on 7 Mar 2011, 1:48 a.m.,*
in response to message #31 by Dave Shaffer (Arizona)

Dave, having read about eBay fees recently and taking into account the fellowship of the 42s here, I'd suggest you offer your surplus HP stuff to the forum members first (in the classified section.)

Re: 89,999999 TAN (Sub Millimeter?)
*Message #37 Posted by **Stuart Sprott** on 7 Mar 2011, 5:32 a.m.,*
in response to message #31 by Dave Shaffer (Arizona)

Dave,

Are sure about the sub millimeter precision for Earth Geodesy?

I am a Surveyor and I find that hard to believe. With contential drift and earth tides involved it is hard to see the accuracy getting much better than +- 10 cm.

Re: 89,999999 TAN (Sub Millimeter?)
*Message #38 Posted by **robert rozee** on 7 Mar 2011, 6:49 a.m.,*
in response to message #37 by Stuart Sprott

when i worked for trimble navigation, our "holy grail" was sub-centimetre accuracy, which is only an order of 10 different. achieving sub-millimetre would certainly throw up an interesting set of new issues - you might end up having to factor in current moon location and a load of continental drift data into the mapping info!

Re: 89,999999 TAN (Sub Millimeter?)
*Message #39 Posted by **Dave Shaffer (Arizona)** on 7 Mar 2011, 1:06 p.m.,*
in response to message #37 by Stuart Sprott

Stuart,

Oh Yes, I am serious!

See this . Look at Bill's first bullet.

Station positions are now routinely measured at sub-cm levels in single 24-hours experiments, and continental drift (properly called "plate tectonics") is measured for all of our geodetic sites, at levels better than 0.1mm/year for data series with 10 years or more.

This kind if accuracy requires and takes into account all sorts of things that you don't normally think about:

plate tectonics - actually, measuring this is one of the goals

earth orientation (the earth wobbles badly as it rotates, partially due to excitation from earthquakes),

changes in the rotation rate of the earth (the earth slows down and speeds up at the microsecond level every day; we can sometimes tell ahead of time that an El Nino is coming: the warming Paficic Ocean waters expand, changing the moment of inertia of the earth and therefore, due to conservation of angular momemtum, the rotation rate of the earth - just like a figure skater changes her spin rate when she pulls in her arms) There is also a seasonal rate effect: there is more land mass in the northern hemisphere - when it snows in the northern winter, the snow accumulates, changing the net distibution of water (moment of inertia), and the rotation rate changes systematically,

ocean loading - when the tide comes in, the weight of the water depresses the land for sites "near" (100s of km!) the ocean,

tidal motion - there are solid earth tides (as you note), just like the water tides. These are, I think, on the order of tens of centimeters, twice a day. By measuring them, you get some idea of the bulk response of the earth to gravity (of the Sun and Moon) - the Love coefficients.

There are all sorts of results that you get, too, besides the obvious ones (like tectonic rates): we are measuring the rebound of the earth in Scandinavia after the last Ice Age - the weight of the ice depressed the underlying rock, which is now slowly (! 1 mm per year-ish) springing back to its original shape. We get a fairly good handle (from the earth orientation effects) on the shape and differential rotation of the earth's inner core (it is NOT spinning at the same rate as the outer earth!).

Do a google/yahoo search on "VLBI (or satellite or GPS) geodesy" for more. (VLBI = Very Long Baseline (radio) Interferometry, which is done with hydrogen maser time standards, whose mid-term (a few minutes) time stability is good to parts in 1e14. The relative time of arrival of radio signals at multiple radio telescopes spread out all over the earth is easily determined at the picosecond level. Light (and radio waves) travel 0.3 mm in one picosecond.

Re: 89,999999 TAN (Sub Millimeter?)

*Message #40 Posted by **Stuart Sprott** on 8 Mar 2011, 6:19 a.m.,*
in response to message #39 by Dave Shaffer (Arizona)

Dave,

All I can say is that is astounding. Thanks for the info.

Re: 89,999999 TAN

*Message #41 Posted by **Mike Morrow** on 7 Mar 2011, 12:06 p.m.,*
in response to message #31 by Dave Shaffer (Arizona)

> Quote:
>
> ...I am firmer in my intent to unload my 42S and 48GX. I will play with the 32S (it's actually a 32SII)...

Keep in mind that the 42S and 48GX in your list of potential disposables have built-in IR printer output and BEEP/TONE functions. I find that a calculator's ability to make noise (audio or printer feed) can be a very useful user input prompt that I really miss when running a program on grossly less capable machines like the HP-11C, 32SII, 33S, or 35S. The 23-year-old HP 42S is almost universally acknowledged as still the best RPN calculator that has ever been made by anyone, anywhere, anytime.

If you had in fact owned a HP 32S, rather than the very common HP 32SII, that would have been valuable to collectors as a somewhat hard-to-find machine.

Re: 89,999999 TAN

*Message #42 Posted by **Thomas Okken** on 5 Mar 2011, 5:06 p.m.,*
in response to message #16 by Gerson W. Barbosa

Hmm, poor accuracy from Free42 there. It looks like it loses precision in COS close to 90°. I'll have to look into that.

Re: 89,999999 TAN

*Message #43 Posted by **Gerson W. Barbosa** on 5 Mar 2011, 6:05 p.m.,*
in response to message #42 by Thomas Okken

It was not my intention to point this out. IMHO, five correct digits beyond what the display can show are more than enough.

Regards,

Gerson.

Re: 89,999999 TAN

*Message #44 Posted by **Thomas Okken** on 6 Mar 2011, 5:49 p.m.,*
in response to message #43 by Gerson W. Barbosa

Gerson, I appreciate that, but it looks like a design oversight in the BCD20 COS routine; the trigs and logs in that code works using Taylor series approximations with fixed maximum numbers of terms, but in the case of COS approaching zero, that maximum number of terms is insufficient. The code should either calculate additional terms, or, preferably, use trigonometric equalities to stay away from those difficult arguments.

- Thomas

Re: 89,999999 TAN

*Message #45 Posted by **Gerson W. Barbosa** on 6 Mar 2011, 6:40 p.m.,*
in response to message #44 by Thomas Okken

> Quote:
>
> The code should either calculate additional terms, or, preferably, use trigonometric equalities to stay away from those difficult arguments.

You're right, the latter might be a better option. Once I had a problem with acos(x). I was advised to use another trigonometric identity, which eventually fixed the problem:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103573

Regards,

Gerson.

Re: 89,999999 TAN

*Message #46 Posted by **Paul Dale** on 5 Mar 2011, 6:23 p.m.,*
in response to message #42 by Thomas Okken

> Quote:
>
> Hmm, poor accuracy from Free42 there. It looks like it loses precision in COS close to 90°. I'll have to look into that.

Just pull in the decNumber based code from wp34s :-)

- Pauli

Re: 89,999999 TAN

*Message #47 Posted by **Thomas Okken** on 6 Mar 2011, 5:42 p.m.,*
in response to message #46 by Paul Dale

Hi Pauli,

Re: decNumber: where can I find that?
I'm not in a rush to replace the BCD20 code (it performs well and seems pretty mature by now; fixing COS would probably be a lot less work than ripping all the floating point code out of Free42 and replacing it) but still, I would like to take a look at it. Are you distributing it under a GPLv2-compatible license?

Thanks,

- Thomas

Re: 89,999999 TAN

*Message #48 Posted by **Paul Dale** on 7 Mar 2011, 1:18 a.m.,*
in response to message #47 by Thomas Okken

The decNumber library is available from Mike Cowlishaw's page. This only includes basic arithmetic and a few important transcendental functions.

My additional code is on the WP34s Sourceforge page -- in the subversion repository. Look at decn.{c,h} and complex.{c,h} initially.

There are C++ bindings I believe but I've used only the C ones. Also, gcc is starting to support decimal floating point types natively.

- Pauli

Re: Which Calculators Should I Keep?

*Message #49 Posted by **Martin Pinckney** on 5 Mar 2011, 10:27 a.m.,*
in response to message #14 by Michael de Estrada

> Quote:
>
> Curious.

Perhaps Chinese calculators are infected with Radon.

Re: Which Calculators Should I Keep?

*Message #50 Posted by **Michael de Estrada** on 5 Mar 2011, 11:34 a.m.,*
in response to message #49 by Martin Pinckney

Only expensive ones made for HP:

Sharp EL-531W - Tan (89.999999) = 57,295,779.51

Re: Which Calculators Should I Keep?

*Message #51 Posted by **Ren** on 8 Mar 2011, 10:16 p.m.,*
in response to message #1 by Dave Shaffer (Arizona)

Your dad may have a slide rule or two as well.

Find them a good home...

Ren

dona nobis pacem

(soft spot in his heart [head?] for a device he never had to use)

Re: Which Calculators Should I Keep?

*Message #52 Posted by **Dave Shaffer (Arizona)** on 8 Mar 2011, 10:52 p.m.,*
in response to message #51 by Ren

I still have a (very nice!) slide rule: K&E deci-log-trig or something like that. When I was an undergraduate (1964-1968), slide rules were all there was!

Re: Which Calculators Should I Keep?

*Message #53 Posted by **Martin Pinckney** on 8 Mar 2011, 11:47 p.m.,*
in response to message #52 by Dave Shaffer (Arizona)

> Quote:
>
> ...slide rules were all there was!

Pencil and paper...

Re: Which Calculators Should I Keep?

*Message #54 Posted by **Walter B** on 9 Mar 2011, 1:46 a.m.,*
in response to message #53 by Martin Pinckney

... and tables.

Re: Which Calculators Should I Keep?

*Message #55 Posted by **Martin Pinckney** on 9 Mar 2011, 2:47 p.m.,*
in response to message #54 by Walter B

Of course! An integral part of doing any scientific or business calculations that involved almost anything other than unary functions.

Re: Which Calculators Should I Keep?

*Message #56 Posted by **Palmer O. Hanson, Jr.** on 9 Mar 2011, 9:33 p.m.,*
in response to message #52 by Dave Shaffer (Arizona)

> Quote:
>
> Slide rules were all there was!

As an undergraduate in the late 1940's we used slide rules if two to three digits were enough. We used books of log tables if we wanted five or six digits.

As a graduate student in 1959-1960 I had access to Fridens, and if I could justify it (unlikely for a lowly graduate student) to a RemRand 1103.

When I started working on inertial navigation systems in 1960 we did much of our work with Fridens. For transcendental functions we used tables or series expansions.

In 1968 I learned how to use the Honeywell Computer Network (HCN, a timeshare network) based on a sixteen bit DDP-516 which offered double precision for everything if I wanted it. Input and output was with a teletype. My slide rule and my log tables went into my desk drawer and I rarely used a Friden anymore.

By 1970 or so I had access to a Sigma 5 but rarely used it as I could only used batch processing with IBM card input.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 15C Water Damage?

*Message #1 Posted by **BDee** on 3 Mar 2011, 5:35 a.m.*

Hi all, I was careless and spilled some water that I was drinking onto my calculator keyboard. I didn't think anything actually got in, until I noticed that the buttons weren't responding quite right and the calculator took multiple presses to register values and power off. At this point, I removed the batteries from the back and let my machine sit for awhile.

After three days I placed the batteries back in. With batts in, the calculator powered itself on and attempted to display all of the symbols on the screen (like the self-test). However it wasn't able to display an entire "8" and the calculator did not function.

I have since removed the batteries, and I'm letting it sit for awhile more. Is my calculator junked? How should I go about fixing it?

Re: HP 15C Water Damage?

*Message #2 Posted by **aj04062** on 3 Mar 2011, 6:57 a.m.,*
in response to message #1 by BDee

I'd suggest taking the back off to allow complete drying in the sun or in front of a fan.

It's pretty simple and instructions are readily available on the web.

Re: HP 15C Water Damage?

*Message #3 Posted by **Artur-Brazil** on 3 Mar 2011, 7:04 a.m.,*
in response to message #2 by aj04062

Yes, you must open the calculator and put it in Sun light, but take care do not expose for a long time and take care of LCD display!!!

Re: HP 15C Water Damage?

*Message #4 Posted by **db (martinez, ca.)** on 3 Mar 2011, 10:36 a.m.,*
in response to message #1 by BDee

As i am sure you know: water does not damage calculator electronics. It is the conductive impurities, dust and whatnot that will bridge gaps etc. That was good instinct when you removed the batteries. Do what aj and Artur said. If there is still a problem after it is completely dry, you might disassemble it again and soak/flush/rinse it several times with distilled water. Then completely dry it again. Alcohol is a bad idea in this case because it can etch the screen.

Then try putting the calc in a container of uncooked rice to dry it out.

*Message #5 Posted by **tim m.** on 6 Mar 2011, 12:29 a.m.,*
in response to message #4 by db (martinez, ca.)

Should do the trick.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Very impressive aucton on TAS

*Message #1 Posted by **Namir** on 2 Mar 2011, 9:45 a.m.*

The auction 260746120739 on TAS is for an HP19BII with a spiral-bound manual. The Australian seller has an impressive video (includes background music) video that shows the machine. The video is not short and has some professional video effects. I was very impressed by that auction.

Nami

Re: Very impressive aucton on TAS

*Message #2 Posted by **Don Shepherd** on 2 Mar 2011, 10:00 a.m.,*
in response to message #1 by Namir

Wow, that is pretty cool. Seems there is a lot to like about that model. Does it have a "demo mode" that he used in showing its capabilities, and is it preset by HP or can you make your own "demo"?

Isn't this the series with the faulty battery door?

Re: Very impressive aucton on TAS

*Message #3 Posted by **Mike Morrow** on 2 Mar 2011, 10:41 a.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> Isn't this the series with the faulty battery door?

Yes, indeed. The example shown in the auction video has the characteristic damaged battery port. You can see something wrong throughout the video, then around minute 5:00 as the calculator is rotated, the damaged corners of the battery port become very obvious. My 2830Axxxxx HP 28S has identical damage, while my (much lesser used) 2707Axxxxx HP 28C is still OK. Great HP so-called "good old days" design again!

The HP 19BII wasn't all that great as a financial calculator either, IMO. But I agree with Namir...this is the best auction presentation that I've seen in almost 15 years of ebay tracking.

HP Clamshells...hate 'em!

Edited: 2 Mar 2011, 11:27 a.m.

Re: Very impressive aucton on TAS

*Message #4 Posted by **Katie Wasserman** on 2 Mar 2011, 10:42 a.m.,*
in response to message #1 by Namir

That's quite a lot of time and effort just to sell one calculator. The seller has a similar video for an 18C.

Therein lies an idea for an HP calculator collector's website, video demos of all the models.

Edited: 2 Mar 2011, 10:42 a.m.

Re: Very impressive aucton on TAS

*Message #5 Posted by **Ren** on 2 Mar 2011, 1:09 p.m.,*
in response to message #4 by Katie Wasserman

> Quote:
>
> Therein lies an idea for an HP calculator collector's website, video demos of all the models.

Maybe if someone asks him in a nice way, he'll let MoHPC have the videos.

And then other sellers can steal them from us!

B^)

Edited: 2 Mar 2011, 1:15 p.m.

Re: Very impressive aucton on TAS

*Message #6 Posted by **Juergen Keller** on 2 Mar 2011, 5:28 p.m.,*
in response to message #4 by Katie Wasserman

I did similar videos, too, but as you say it's a lot of work. But if time allows I will do some more. If you have some ideas, preferences about models, etc. let me know :-) Planned since a long time is a video about the 9100A/B, a talking HP-41, ...

HP-41 draws sine curve

HP-200LX Self-Test

Casio TA-1000

Re: Very impressive aucton on TAS

*Message #7 Posted by **Thomas Okken** on 2 Mar 2011, 12:47 p.m.,*
in response to message #1 by Namir

> Quote:
>
> seller has an impressive video **(includes background music)**

Meh. The background music is so loud it's hard to understand the guy talking through it. Or maybe I'm just having trouble with the Aussie accent?
Background music in any form of documentary is an abomination anyway IMHO (yes, I'm old) but this is more like a cheap U.S. infomercial. :-D

Re: Very impressive aucton on TAS

*Message #8 Posted by **db (martinez, ca.)** on 2 Mar 2011, 1:14 p.m.,*

in response to message #7 by Thomas Okken

Thomas;
Point taken, but: i kind of liked the last two minutes of soundtrack which featured an obscure Led Zeppelin instrumental. When someone gets around to implementing Katie's idea of a video for each calculator; i'd nominate the sunrise sequence of Strauss' Also Sprach Zarathustra to begin the 9100's demo. - db

Re: Very impressive aucton on TAS

*Message #9 Posted by **Mike Morrow** on 2 Mar 2011, 1:27 p.m.,*
in response to message #8 by db (martinez, ca.)

> Quote:
>
> When someone gets around to implementing Katie's idea of a video for each calculator; i'd nominate the sunrise sequence of Strauss' Also Sprach Zarathustra to begin the 9100's demo.

One only hopes that there's still time before it becomes appropriate to play Wagner's "Götterdämmerung" for HP's calculator line.

Re: Very impressive aucton on TAS

*Message #10 Posted by **Diego Diaz** on 2 Mar 2011, 2:54 p.m.,*
in response to message #9 by Mike Morrow

May I suggest "The ride of the Walkiries" and "Carmina Burana" for HP-41 & HP-42... ;-))

Just for the introduction... I certainly agree that background music while documentary speech is annoying.

Best from Spain.

Diego.

Re: Very impressive aucton on TAS

*Message #11 Posted by **Juergen Keller** on 2 Mar 2011, 5:35 p.m.,*
in response to message #10 by Diego Diaz

'The Ride Of The Valkyries' is already taken by 'Apocalypse Now' ;-), see (and listen):

Apocalypse Now - The Ride Of The Valkyries

What about 'Thus spoke Zarathustra' as in '2001 A Space Odyssey'? I think the HP-41 is a milestone that needs such an elevated soundtrack ...

Re: Very impressive aucton on TAS

*Message #12 Posted by **Walter B** on 3 Mar 2011, 3:42 a.m.,*
in response to message #11 by Juergen Keller

> Quote:
>
> 'The Ride Of The Valkyries' is already taken by 'Apocalypse Now'

Oh yeah, heroic warfare! ;-)

> Quote:
>
> What about 'Thus spoke Zarathustra' as in '2001 A Space Odyssey'? I think the HP-41 is a milestone that needs such an elevated soundtrack ...

IIRC that's the original music of "Also sprach Zarathustra", Kubrik just stopped the take before the drums start. And IMHO the 35A is the only one deserving this intro :-)

Re: Very impressive aucton on TAS

*Message #13 Posted by **Xavier A. (Brazil)** on 4 Mar 2011, 8:16 p.m.,*
in response to message #12 by Walter B

Nothing, nada, rien. I'd like just one video of each calc, and eventual explainations on page, text only, no effects. Former sound engineer speaking. BTW, I have ever been impressed by handheld calculators silence (if available :).

Re: Very impressive aucton on TAS

*Message #14 Posted by **Keith Midson** on 2 Mar 2011, 3:54 p.m.,*
in response to message #1 by Namir

Hi Namir,
The 18c from this seller has been relisted from $100 with no bids. He also had a 19B, which i won for $25 - not working but mint condition. A great and cheap battery door donor!
Cheers, Keith

Re: Very impressive aucton on TAS

*Message #15 Posted by **Mike Morrow** on 2 Mar 2011, 4:12 p.m.,*
in response to message #14 by Keith Midson

> Quote:
>
> A great and cheap battery door donor!

Warning: Replacing a missing door on a Clamshell model doesn't solve the problem of the battery port opening itself breaking, especially at the upper corners. When that happens, the probability increases that the replacement door will soon go missing. Plus, the calculator itself is then permanently disfigured.

The whole design of the Clamshell battery holder system is very marginal. My HP 28S broke not during the act of replacing batteries, but due simply to the static pressure of the installed N-cells on the door and thus on the door retaining structure of the battery port. I looked at my 28S one day after a few months of non-use, and found the damage had taken place while the 28S was just sitting in a drawer.

Lesson learned: Never store an intact Clamshell with batteries installed.

Re: Very impressive aucton on TAS

*Message #16 Posted by **Keith Midson** on 2 Mar 2011, 8:39 p.m.,*
in response to message #15 by Mike Morrow

Yes the wonderful clamshell door design. I have a few 28S's, 28C's, 18C's, 19B's and 19Bii's in my collection. The battery door is the biggest downside to the calculator. I do have one 19Bii with the newer back door version - it's a pity they never implemented this on the 28S, which is personally one of my favourites.
I have a few interesting 28S's in my collection - a clear cased 28S (which I will post photos of sometime), a 100th anniversary edition, and one made in Indonesia in 1997 (well after the production run had finished). Fortunately I have a few that I don't put batteries in that are in 'like new' condition.
Cheers, Keith

Re: Very impressive aucton on TAS

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 2 Mar 2011, 10:28 p.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> Lesson learned: Never store an intact Clamshell with batteries installed.

I obtained my HP-28S 100th Aniversary Model S/N 2801A04702 for two dolllars at a garage sale back in 2001. It had the damage to the case near the battery door. I have not experienced the problem you describe with this unit. The previous owner had told me of the possibility of losing memory if I fumbled a bit during battery replacement. I practiced replacing the cells and convinced myself that I could always buy some time before losing memory by touching the contacts on the battery door to the installed cells. But, when I needed to change the cells one of them became stuck partway out of the unit. No hope of touching the contacts on the door to the cells, and a complete loss of memory resulted.

I obtained my HP-19BII S/N 74300778 for five dollars at a church rummage sale in early 2010. It came with a mint condition manual, but not spiral bound. There is no damage near the battery door. I have not experienced the problem you describe with this unit either.

Re: Very impressive aucton on TAS

*Message #18 Posted by **Mike Morrow** on 3 Mar 2011, 3:22 a.m.,*
in response to message #17 by Palmer O. Hanson, Jr.

> Quote:
>
> It had the damage to the case near the battery door. I have not experienced the problem you describe with this unit.

These statements are contradictory. If it has the damage to the case, that *IS* the problem that I described.

Edited: 3 Mar 2011, 3:23 a.m.

Re: Very impressive aucton on TAS

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 3 Mar 2011, 9:27 p.m.,*
in response to message #18 by Mike Morrow

> Quote:
>
> These statements are contradictory. If it has the damage to the case, that *IS* the problem that I described.

I am not sure how much damage we are talking about. The amount I have on my 28S doesn't seem to make cell replacement any more difficult than it is with my undamaged 19BII. But, the Rube Goldberg mechanization is difficult to work with in any case, broken case or not.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp 50g multi-page INFORM

*Message #1 Posted by **Erturk Kocalar** on 1 Mar 2011, 9:43 p.m.*

Hi,

I'm new to hp 50g user rpl programming.

I'm trying to make a multi-page input form similar to the mode page on 50g; ie it has other pages for cas and display settings. I want to combine all the results into one list afterwards.

Any pointers/help would be appreciated.

Thanks, Erturk

Re: Hp 50g multi-page INFORM

*Message #2 Posted by **Tim Wessman** on 1 Mar 2011, 10:23 p.m.,*
in response to message #1 by Erturk Kocalar

Those are actually separate informs. When you press the menu key, it builds a new page. When you return, it saves any changes.

You really can only do this with sysRPL and it isn't a trivial task.

TW

Re: Hp 50g multi-page INFORM

*Message #3 Posted by **Erturk Kocalar** on 2 Mar 2011, 9:58 p.m.,*
in response to message #2 by Tim Wessman

Thanks Tim.

the other limitation was the max 4 rows.

so, if I want to go with the 'mode' way, how do I build those menu items? do i build a custom menu and display it, then call inform?

Re: Hp 50g multi-page INFORM

*Message #4 Posted by **Tim Wessman** on 2 Mar 2011, 10:37 p.m.,*
in response to message #3 by Erturk Kocalar

http://www.hpcalc.org/details.php?id=3258

That program will allow easy creation of inform boxes (source code needing to be compiled) on the unit itself.

To actually do the compiling, you will need to learn a lot more regarding sysRPL. The "bible" for that is here: http://www.hpcalc.org/details.php?id=5144

Chapter 35 is all about input forms.

Honestly though, if you are just starting with userRPL, I'd rethink your interface a bit to work with the tools presented there. Once you have it working, you can move into sysRPL and make more advanced interfaces if desired.

TW

Re: Hp 50g multi-page INFORM

*Message #5 Posted by **Erturk Kocalar** on 3 Mar 2011, 12:24 a.m.,*
in response to message #4 by Tim Wessman

Hi Tim,

I meant if it is possible to implement what the 'mode' page does using user RPL.

I agree, learning system RPL is not the right step for now.

thanks, erturk

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New Crash Recovery Function for NoV-64.

*Message #1 Posted by **Diego Diaz** on 1 Mar 2011, 2:24 a.m.*

Hi all,

Notes on NoV-64 Crash Recovery Function (CRF)

Introduction:

One of the most annoying situations any user has to face when working with HP-41 systems is a crash.

Namely the calculator becomes irresposive to keystrokes and, quite often, it cannot be set back into normal operating condition by merely power cycling.

If the crash involves some "ill" M-code, and if such "illness" afects the polling points area, then the situation can be called a "severe crash".

Up to now, when the above scenario arises, user must wipe his/her memory contents to regain control of the HP-41. With subsequent loss of work and time.

Real HEPAX erases its memory as soon as it was unplugged. NoV's, due to its non-volatile memory, keep their data even when disconnected. To help erasing the whole memory contents, some specific programs were built in order to help in case of "severe crash". The programs are called CLR_RAMx.HEX; being x: 1, 2 or 4 depending on the device they're intended for: 1 for NoVRAM, 2 for NoV-32 and 4 for NoV-64.

A compromise "solution", certainly effective but not very elegant. And it requires reprogramming the NoV module twice.

New CRF for NoV-64:

Considering the amount of time required to write a 4K ROM, the idea of developing a method to recover from a severe crash without the need of erasing the whole memory was certainly quite appealing.

The CRF method takes advantage of the "Reset" feature of the HP-41.

With calculator OFF and NoV-64 inserted, hold down ENTER key while pressing ON twice in quick sucession.

Your calculator will turn ON, HEPAX will be re-allocated into page #C temporarily. All HEPAX functions will be accessible. RAM will be read-disabled, (thus avoiding any polling-point conflicts), but write-enabled, so you can HEXEDIT, and erase any/all xFF4-xFFA contents, while keeping the rest of your work safe.

Note that the control word at H'4100 allows you to select the RAM chip you're gonna work with. Just keep in mind that since HEPAX is temporarily allocated into page #C, you should only select control words H'000, H'001, H'002 and H'003.

Once you've cleaned the offending areas, you can power cycle your HP-41 normally, the system will get back to life and you can get back to work on your favourite program(s).

The link to download the new code for NoV-64 including the CRF functionality is here.

Replace the NoV-64-H.asm file in your working directory. (Keep the previous file in a safe place since this utility should be considered preliminary)

RAM shadowing feature:

Along with the CRF, this new release of NoV-64-H.asm includes the RAM shadowing in a CY-fashion. So when you plug a physical module into your HP-41, RAM pages (if any) at the module's addressing space will become hidden until the module is removed.

Note that the RAM contents will be preserved but, as usual, HEPAX file system may be affected (broken chain) if the module is inserted without removing its addresses from the HEPAX file system's chain.

Enjoy your HP-41's

Best wishes from the Canary Islands.

Diego.

PS. Regarding the RAM shadowing, I've tested almost every single module without any problem, except for the PLOTTER, which seems to also attempts to shadow itself, therefore creating a conflict. Will someone please confirm PLOTTER module behavior on a real HP-41CY?.

Edited: 1 Mar 2011, 9:14 a.m. after one or more responses were posted

Re: New Crash Recovery Function for NoV-64.

*Message #2 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 4:28 a.m.,*
in response to message #1 by Diego Diaz

> Quote:
>
> Up to now, when the above scenario arises, user must **wipe his/her memory contents** to regain control of the HP-41.

Hopfully not. ;)

Re: New Crash Recovery Function for NoV-64.

*Message #3 Posted by **Walter B** on 1 Mar 2011, 5:19 a.m.,*
in response to message #2 by Marcus von Cube, Germany

d:-D

Re: New Crash Recovery Function for NoV-64.

*Message #4 Posted by **Diego Diaz** on 1 Mar 2011, 9:12 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Hopfully not. ;)

I'd love to hear other alternatives from you!!

Or was it just to say:

"...the user must wipe his/her **NoV-64 RAM memory** contents..." ;-))

Cheers from Spain

Diego.

Edited: 1 Mar 2011, 9:20 a.m.

Re: New Crash Recovery Function for NoV-64.

*Message #5 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 10:23 a.m.,*
in response to message #4 by Diego Diaz

That sounds better. ;)

Re: New Crash Recovery Function for NoV-64.

*Message #6 Posted by **Ángel Martin** on 2 Mar 2011, 8:57 a.m.,*
in response to message #1 by Diego Diaz

Hola Diego,

This is good news indeed, thanks for making all this possible.

I was wondering whether the "RAM shadowing" functionality will be available for other modules besides the NoV64. Is there any technical reason that stops it from working on, say a NoVRAM?

Saludos, Ángel

Re: New Crash Recovery Function for NoV-64.

*Message #7 Posted by **Diego Diaz** on 2 Mar 2011, 12:43 p.m.,*
in response to message #6 by Ángel Martin

Hi Ángel,

And thanks for your kind words.

To your question, I'm working to add these new features (CRF and RAM shadow) to the NoVRAM and NoV-32 code.

It will take a while though, because the ROM available area for internal code in these previous modules is just one half of the available space in NoV-64.

This is the "technical reason" why it has been 'easier' to implement in the NoV-64.

Will post here as soon as the updates become available.

Best from Spain.

Diego.

New Crash Recovery Function for NoV-64.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41CV Display

*Message #1 Posted by **aj04062** on 28 Feb 2011, 10:41 p.m.*

I just got a CV that seems to be acting funny.

When I first put the batteries in, it didn't seem to come on unless I would reset [on] <=.

Then after repeatedly pressing on it now seems to be alive.

What would cause the display to light up 1/2 a second after pressing on? Is this normal? The CX I have doesn't seem to have this lag.

Also, as I ever so slightly press the on-user-prgm-alpha buttons, the LCD will fade in and out.

Re: HP-41CV Display

*Message #2 Posted by **Diego Diaz** on 1 Mar 2011, 9:29 a.m.,*
in response to message #1 by aj04062

Hi there,

I'll assume this is a Coconut, as the symptoms are quite likely to come from a bad CPU to keyboard connection: contact strip failure or broken post are common sources for this sort of (somehow) weird behaviors.

Hope this helps.

Diego.

Edited: 2 Mar 2011, 2:41 a.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Line is Getting Kind of Stale

*Message #1 Posted by **Jeff** on 28 Feb 2011, 1:07 p.m.*

It was couple of years ago that HP announced a new financial calculator and some ugly home office units.

Not much has happened since.

Doesn't anyone know if they plan of releasing some new products soon? I'd say it's about time.

Re: HP Line is Getting Kind of Stale

*Message #2 Posted by **Thomas Radtke** on 28 Feb 2011, 1:51 p.m.,*
in response to message #1 by Jeff

> Quote:
>
> Doesn't anyone know if they plan of releasing some new products soon?

A 35s w/o the known bugs? Or are you talking about a new calcuator with new bugs, erm, sorry ... easter eggs? Yeah, it's abut time for this one ;-).

Re: HP Line is Getting Kind of Stale

*Message #3 Posted by **Walter B** on 28 Feb 2011, 2:50 p.m.,*
in response to message #2 by Thomas Radtke

Let's see: HP has 4 types of small housings: 12C, 17bii+ Silver, 30b, and 35s. It's up to them to put something reasonable in :-) ... no, not another financial calculator :-(

Ceterum censeo: HP, launch a 43S!

Re: HP Line is Getting Kind of Stale

*Message #4 Posted by **Jim Yohe** on 28 Feb 2011, 4:04 p.m.,*
in response to message #3 by Walter B

Amen!

Re: HP Line is Getting Kind of Stale

*Message #5 Posted by **Eric Smith** on 28 Feb 2011, 2:36 p.m.,*
in response to message #1 by Jeff

This topic comes up frequently, and the answer is always the same.

Those who know don't speak, and those who speak don't know. -- Lao Tzu, Tao Te Ching

Re: HP Line is Getting Kind of Stale

*Message #6 Posted by **Martin Pinckney** on 28 Feb 2011, 2:54 p.m.,*
in response to message #5 by Eric Smith

> Quote:
>
> Those who know don't speak [TW], and those who speak don't know [et al.]

Edited: 28 Feb 2011, 5:59 p.m. after one or more responses were posted

Re: HP Line is Getting Kind of Stale

*Message #7 Posted by **Eric Smith** on 28 Feb 2011, 3:01 p.m.,*
in response to message #6 by Martin Pinckney

There are probably more than a dozen people in the "those who know don't speak" category, but I'm not one of them.

It's a shame that we don't have the HHC conference twice a year. I'm just about ready to attend another one. :-)

Re: HP Line is Getting Kind of Stale

*Message #8 Posted by **gene wright** on 28 Feb 2011, 4:51 p.m.,*
in response to message #7 by Eric Smith

HHC 2011 is just around the corner.

Personally, I'm hoping for quite a bit of activity around the 41CL between its release (soon?) and HHC 2011. :-)

Re: HP Line is Getting Kind of Stale

*Message #9 Posted by **BruceH** on 28 Feb 2011, 4:59 p.m.,*
in response to message #8 by gene wright

> Quote:
>
> HHC 2011 is just around the corner.

Yes.

Especially as it is going to be held in school holiday season so the education folks can attend. :-p

Edited: 28 Feb 2011, 5:00 p.m.

Re: HP Line is Getting Kind of Stale

*Message #10 Posted by **Eric Smith** on 28 Feb 2011, 8:56 p.m.,*
in response to message #9 by BruceH

It's not in mid-September this year?

Re: HP Line is Getting Kind of Stale

*Message #11 Posted by **Jake Schwartz** on 1 Mar 2011, 5:02 p.m.,*
in response to message #10 by Eric Smith

> Quote:
>
> It's not in mid-September this year?

It is at HP in San Diego on 24-25 September.

Jake

Re: HP Line is Getting Kind of Stale

*Message #12 Posted by **Eric Smith** on 1 Mar 2011, 9:14 p.m.,*
in response to message #11 by Jake Schwartz

Hmmm. That doesn't sound like "school holiday season" to me. Does school start in October in the UK?

Re: HP Line is Getting Kind of Stale

*Message #13 Posted by **Namir** on 2 Mar 2011, 3:39 a.m.,*
in response to message #11 by Jake Schwartz

Jake,

Are these dates and the location solid???

Namir

Re: HP Line is Getting Kind of Stale

*Message #14 Posted by **gene wright** on 2 Mar 2011, 7:31 a.m.,*
in response to message #13 by Namir

They will be soon. Final details are being locked down.

Re: HP Line is Getting Kind of Stale

*Message #15 Posted by **Katie Wasserman** on 2 Mar 2011, 10:47 a.m.,*
in response to message #14 by gene wright

Gene,

What happened to your hometown as an HHC venue?

From the November 2010 HP Solve:

> Quote:
>
> The most popular proposed location for HHC 2011 is Nashville Tennessee

-Katie

Re: HP Line is Getting Kind of Stale

*Message #16 Posted by **Namir** on 2 Mar 2011, 2:00 p.m.,*
in response to message #15 by Katie Wasserman

Gene,

I second Katie's request. Nashville is fine by me!

Namir

Re: HP Line is Getting Kind of Stale

*Message #17 Posted by **gene wright** on 2 Mar 2011, 2:10 p.m.,*
in response to message #16 by Namir

Nashville it won't be. We looked into it but the HHC committee settled on San Diego.

Of course, anyone passing through Nashville should give me a shout. :-)

Re: HP Line is Getting Kind of Stale

*Message #18 Posted by **Namir** on 2 Mar 2011, 4:46 p.m.,*
in response to message #17 by gene wright

Gene,

I can do San Diego. I may spend a few days in the Phoenix area before or after the conference to visit my sister and maybe my son if he is accepted at AZ State University for a PhD program.

I remember the last time we did San Diego, I only did Saturday (I stayed a few days in AZ before the conference), flew back Saturday night on a red eye to attend the wedding of one of my step sons. My wife thought I was not coming at all, but she underestimated geek fellowship. Our brotherhood is special!! yes sir!!

Namir

Re: HP Line is Getting Kind of Stale - HHC 2011

*Message #19 Posted by **Andrés C. Rodríguez (Argentina)** on 2 Mar 2011, 3:43 p.m.,*
in response to message #14 by gene wright

The choice of San Diego doubles my chance of attending, from 5% to 10%... :-) Let's dream for a while; season is as good (or bad) as others. No holidays in september here, but it's just a couple of days!

Re: HP Line is Getting Kind of Stale - HHC 2011

*Message #20 Posted by **Marcus von Cube, Germany** on 3 Mar 2011, 6:44 a.m.,*
in response to message #19 by Andrés C. Rodríguez (Argentina)

Anywhere in the U.S. is (too?) far away from my point of view.

Re: HP Line is Getting Kind of Stale

*Message #21 Posted by **Walter B** on 28 Feb 2011, 3:03 p.m.,*
in response to message #6 by Martin Pinckney

> Quote:
>
> Those who know don't speak [TW], and those who speak don't know [et. al.]

I'm a bit confused about your second bracket. FYI, "et al." (only one dot!) means "et alii" = "also others" in Latin. So what do you want to tell us with that??

Re: HP Line is Getting Kind of Stale

*Message #22 Posted by **Martin Pinckney** on 28 Feb 2011, 10:20 p.m.,*
in response to message #21 by Walter B

Walter,

> Quote:
>
> So what do you want to tell us with that?

Only one knows "and [the] others" do not. OK, so I took a little license with the Latin. But not much.

Re: HP Line is Getting Kind of Stale

*Message #23 Posted by **Walter B** on 1 Mar 2011, 1:02 a.m.,*
in response to message #22 by Martin Pinckney

Martin,

obviously you've attended more Creative Writing classes than Grammar. But be assured you're not alone :-/

Re: HP Line is Getting Kind of Stale

*Message #24 Posted by **Martin Pinckney** on 1 Mar 2011, 11:01 a.m.,*
in response to message #23 by Walter B

No, the creativeness is my own. {:-)

Re: HP Line is Getting Kind of Stale

*Message #25 Posted by **Ángel Martin** on 1 Mar 2011, 5:12 p.m.,*
in response to message #24 by Martin Pinckney

> Quote:

> the creativeness is my own

wasn't that creativity?

I love english, such a versatile tongue :)!!

Re: HP Line is Getting Kind of Stale

*Message #26 Posted by **Mike Morrow** on 2 Mar 2011, 11:22 a.m.,*
in response to message #1 by Jeff

> Quote:
>
> It was couple of years ago that HP announced a new financial calculator and some ugly home office units.
>
> Not much has happened since.

Are you familiar with the HP 30b?

Last year's 30b is, IMO, one of the most exciting HP calculators to appear in a very long time. Sure, it's a "financial" calculator, but it has more scientific functions than earlier HP financial calculators and is ten times faster than the HP 50G. It has the best mechanical presentation (again, IMO) for a handheld unit since the Woodstocks. I have little use for financial functions, but the 30b is worth carrying even for purely scientific or engineering use.

I do agree that HP seems to have over-played the financial calculator market sphere. Many here agree that a good "scientific" programable that breaks out of the 32SII/33S/35S paradigm of pure mediocrity would be most welcome.

Re: HP Line is Getting Kind of Stale

*Message #27 Posted by **Marcus von Cube, Germany** on 2 Mar 2011, 11:46 a.m.,*
in response to message #26 by Mike Morrow

You know there is some work on it going on? Not directly by HP but since the 20b/30b are open platforms, it's mostly a matter of software.

Re: HP Line is Getting Kind of Stale

*Message #28 Posted by **Mike Morrow** on 2 Mar 2011, 1:39 p.m.,*
in response to message #27 by Marcus von Cube, Germany

I praise the intellectual and technical challenge of "re-firmwaring" items like the 30b, but the hardware limitations of the associated ARM, especially its RAM and display control, make it impossible to make a very capable scientific programmable calculator from the 30b. Plus, maybe it's just me, but I would not want a scientific calculator whose keys are all labeled for financial functions.

Re: HP Line is Getting Kind of Stale

*Message #29 Posted by **Martin Pinckney** on 2 Mar 2011, 4:13 p.m.,*
in response to message #28 by Mike Morrow

Agreed, key labeling would be an issue for me.

Re: HP Line is Getting Kind of Stale

*Message #30 Posted by **Walter B** on 2 Mar 2011, 4:52 p.m.,*
in response to message #28 by Mike Morrow

Mike,

> Quote:
>
> I praise the intellectual and technical challenge of "re-firmwaring" items like the 30b, but the hardware limitations of the associated ARM, especially its RAM and display control, make it impossible to make a **very** capable scientific programmable calculator from the 30b.

We all know - and it was discussed here at length - the display of the 20/30b being far from what we'd wish, but that's the hardware we've got. Though I agree on your statement, we are working on making at least a capable scientific programmable RPN calculator from the 30b. If and when we succeed doing so, I'll lean back for some hours and will watch what else will come d:-)

> Quote:
>
> ... I would not want a scientific calculator whose keys are all labeled for financial functions.

Nor do I - and we'll find a solution.

34s challenge...

*Message #31 Posted by **gene wright** on 2 Mar 2011, 5:42 p.m.,*
in response to message #30 by Walter B

Walter, et al.

How about setting a challenge date of the HHC 2011 conference in late september to get this running on real hardware?

Be a great push and celebration to go along with many other great things happening this year... the 41CL, the update to the MLDL, etc.

I could try to come up with a prize to the member of the 34s team who makes it happen who happens to be at HHC 2011!

Re: 34s challenge...

*Message #32 Posted by **Walter B** on 3 Mar 2011, 9:22 a.m.,*
in response to message #31 by gene wright

Gene,

very nice idea :-) but IMHO you did neglect two points:

1. The progress in this matter is not determined by a lack of motivation but by the lack

of appropriate resources. This crucial point was mentioned here and on last HHC more than once.
2. Almost any prize I can imagine will not cover the travel expenses one of us will need going to San Diego (very nice city, BTW) just for the HHC.

Please remember also this is a project we pursue in our spare time.

All this is well known (or could be at least by mere reading and a tiny bit of thinking). Seems, however, there's a big gap between wishing good luck and doing something helpful in a sustainable way. Luckily, we have succeeded gaining another temporary freelancer (increasing our headcount by 50%) recently, willing to help and contributing the necessary expertise. There's a good chance for progress in this matter now - may there be a prize or not.

As soon as we have a wp34s prototype and we may need some marketing support, we'll most probably turn to the international experts in this matter - we know where the best marketeers live ;-)

Disclaimer (necessary as I know the audience): The above is just my humble opinion based on my individual experience so far. No personal offense intended. And of course only the German original text is binding ;-)

Re: 34s challenge...

*Message #33 Posted by **Scott Newell** on 3 Mar 2011, 11:31 a.m.,*
in response to message #32 by Walter B

> Quote:
>
> Gene,
>
> very nice idea :-) but IMHO you did neglect two points:
>
> 1. The progress in this matter is not determined by a lack of motivation but by the lack of appropriate resources. This crucial point was mentioned here and on last HHC more than once.

My lack of progress on the 20B and 12C hacking is not due to toolchain and/or hardware issues. It's more a matter of being lazy. (Well, newlib's monster sprintf() isn't encouraging, either...)

Re: 34s challenge...

*Message #34 Posted by **Paul Dale** on 4 Mar 2011, 1:05 a.m.,*
in response to message #33 by Scott Newell

> Quote:
>
> Well, newlib's monster sprintf() isn't encouraging, either...

There are smaller options available. Grab uClibc, it has a fairly complete but small implementation. uClinux includes an even small version in lib/libc from memory. There are others....

- Pauli

Edited: 4 Mar 2011, 1:06 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41c repair

*Message #1 Posted by **Paul Dale** on 27 Feb 2011, 1:45 a.m.*

I've got a 41C (2051 serial) which doesn't operate if the battery pack is fully inserted but seems to work fine if it is only half inserted. Does anyone here have any idea what the cause of this will likely be? I'm guessing the battery contact/port block isn't making good contact with the board below and the added pressure of full insertion is causing problems but I'd prefer to confirm before I open it up.

- Pauli

Re: 41c repair

*Message #2 Posted by **aj04062** on 27 Feb 2011, 8:38 a.m.,*
in response to message #1 by Paul Dale

Is there a piece of corrosion right on the forward, leading edge?

Your analysis seems plausible to me.

Re: 41c repair

*Message #3 Posted by **Allen** on 27 Feb 2011, 9:46 a.m.,*
in response to message #1 by Paul Dale

you might be able to confirm this by placing the calculator on a table and gently pressing the front face (on the top left- and right corners) while trying to turn on the calculator. It sounds like it may be a broken post to me, though.

Re: 41c repair

*Message #4 Posted by **Randy** on 27 Feb 2011, 2:30 p.m.,*
in response to message #1 by Paul Dale

My guess would be that the front pair of the four port block locating pins are sheared off along with damage to the bosses for the long case screws.

Edited: 27 Feb 2011, 2:33 p.m.

Re: 41c repair

*Message #5 Posted by **John Robinson** on 27 Feb 2011, 5:49 p.m.,*
in response to message #1 by Paul Dale

Hi Pauli, if you need help with it, remember I'm just 80 klms south of you.

Cheers, John

Re: 41c repair

*Message #6 Posted by **Paul Dale** on 28 Feb 2011, 1:13 a.m.,*
in response to message #5 by John Robinson

John,

Thanks for the offer. Will see how I get along.

- Pauli

Re: 41c repair

*Message #7 Posted by **Paul Dale** on 28 Feb 2011, 1:12 a.m.,*
in response to message #1 by Paul Dale

Thanks for the idea. I feared a broken post, I'll know for sure when I disassemble. Sad really, the calculator is in great cosmetic condition.

- Pauli

Re: 41c repair

*Message #8 Posted by **Paul Dale** on 28 Feb 2011, 4:25 a.m.,*
in response to message #7 by Paul Dale

No split or broken posts!

The two posts holding the CPU board in place have nuts on them to hold the PCB onto the connector.

- Pauli

Re: 41c repair

*Message #9 Posted by **Paul Dale** on 28 Feb 2011, 5:30 a.m.,*
in response to message #1 by Paul Dale

I think I've figured this out. The battery / module connector had slightly flattened foam/felt which is stopping the electrical connection.

I took the connector out and put it into my 41cv and the problem appeared on that calculator. Swap back its original connector and it comes good. At this stage I've not tried swapping the cv's connector into the 41c.

My question now is what is the best way to fix this? The padding is only very slightly squashed.

- Pauli

Re: 41c repair

*Message #10 Posted by **Ignazio Cara (Italy)** on 28 Feb 2011, 7:14 a.m.,*
in response to message #9 by Paul Dale

Hello Pauli, You can add a strip of similar material to recover what is missing.

Ignazio

Re: 41c repair

*Message #11 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Feb 2011, 7:41 a.m.,*
in response to message #9 by Paul Dale

This worked for me many years ago, but is up to you to see if it fits your case: Take a piece of thin two-conductor cable (the kind used for small headphones, or two lines of flat ribbon cable), and slip it from one side of the connecting block, setting it between the foam and the flexible circuit film. When in place, looking from a side, you would find (bottom to top): the main circuit board, the flex circuit film, the cable, the foam and the plastic block. The extra thickness will ensure good contact between the main circuit and the flex circuit. Of course, the cable serves no electrical function, and care should be taken to avoid any conductive thread protruding at the ends.

Re: 41c repair

*Message #12 Posted by **John Robinson** on 28 Feb 2011, 6:54 p.m.,*
in response to message #9 by Paul Dale

Hi Pauli,

Good find. Unfortunately it's virtually impossible to replace the foam piece without wrecking the flex circuit. Newer 41 calcs had that packing made of silicon type rubber instead of foam. I'd try something along the lines of the others are suggesting and slip something non-conductive between the foam and the flex PCB.

Good luck John

Re: 41c repair

*Message #13 Posted by **Jerry Raia** on 28 Feb 2011, 11:42 p.m.,*
in response to message #12 by John Robinson

I slipped a toothpick in it. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

[OT]TI-Nspire CX

*Message #1 Posted by **Manolo Sobrino** on 26 Feb 2011, 3:00 p.m.*

After quite a bit of speculation it is official now

http://education.ti.com/educationportal/sites/US/productDetail/us_nspire_cx_cas.html

Shall we wait for a HP answer to this?

Re: [OT]TI-Nspire CX

*Message #2 Posted by **Namir** on 26 Feb 2011, 3:22 p.m.,*
in response to message #1 by Manolo Sobrino

Looks nice ... but where is the WiFi feature???? Did I miss something?

Namir

Edited: 26 Feb 2011, 3:24 p.m.

Re: [OT]TI-Nspire CX

*Message #3 Posted by **Don Shepherd** on 26 Feb 2011, 3:32 p.m.,*
in response to message #2 by Namir

Apparently that is coming later, probably not developed in time for this release. Just my thoughts. I'm going to see if I can trade my touchpad CAS in on a color one, as a teacher.

Re: [OT]TI-Nspire CX

*Message #4 Posted by **Katie Wasserman** on 26 Feb 2011, 5:16 p.m.,*
in response to message #3 by Don Shepherd

I'm sure that WiFi will be available soon based on this.

What really caught my eye was that it will have 64Mbytes of operating RAM (twice what the previous version had), 1000 times what the Casio 9860 series (and Prizm) have and many times more than any other calculator available. This is going to allow for some pretty powerful applications, serious programming environments and/or alternative operating systems.

Re: [OT]TI-Nspire CX

*Message #5 Posted by **Tim Wessman** on 26 Feb 2011, 9:55 p.m.,*
in response to message #4 by Katie Wasserman

Except is is 120% locked down. The entire OS is encrypted to prevent "tampering".

TW

Re: [OT]TI-Nspire CX

*Message #6 Posted by **Glen Sanft** on 26 Feb 2011, 10:20 p.m.,*
in response to message #5 by Tim Wessman

That ought to put it squarely under Federal DMCA protection...

Re: [OT]TI-Nspire CX

*Message #7 Posted by **Eric Smith** on 26 Feb 2011, 11:01 p.m.,*
in response to message #5 by Tim Wessman

A big thank you to you folks at HP for *NOT* doing that with your calculators!!!!

Re: [OT]TI-Nspire CX

*Message #8 Posted by **Namir** on 26 Feb 2011, 11:31 p.m.,*
in response to message #5 by Tim Wessman

120% locked down??? So it will take Cyril and yourself an extra 15 minutes to crack down the OS??????

:-)

Namir

Re: [OT]TI-Nspire CX

*Message #9 Posted by **Eric Smith** on 27 Feb 2011, 6:40 p.m.,*
in response to message #8 by Namir

I don't know whether they've done it, but if TI has responded to the brute-force cracking of the 512-bit signing keys used in their older calculators by going to larger keys such as 2048-bit or more, then it will take people a lot more than an extra 15 minutes. Barring the availability of quantum computing or breakthroughs in factoring, a brute force attack against a 2048-bit RSA key is not expected to be computationally feasible until 2030.

The downside to using long keys is that it takes much longer for the calculator to verify the signature. This is particularly a problem on calculators with relatively slow processors.

Re: [OT]TI-Nspire CX

*Message #10 Posted by **Katie Wasserman** on 27 Feb 2011, 12:14 a.m.,*
in response to message #5 by Tim Wessman

Is this Nspire CX more encrypted than the older ones? There's plenty of stuff out there on how to hack an Nspire.

Re: [OT]TI-Nspire CX

*Message #11 Posted by **Eric Smith** on 27 Feb 2011, 6:44 p.m.,*
in response to message #10 by Katie Wasserman

Quote:

> There's plenty of stuff out there on how to hack an Nspire.

AFAICT, not to the extent of installing a modified or non-TI operating system on it. They're just injecting code via bugs they've found in the TI code, which may be fixed in later firmware releases.

Re: [OT]TI-Nspire CX

*Message #12 Posted by **Walter B** on 26 Feb 2011, 3:30 p.m.,*
in response to message #1 by Manolo Sobrino

Now even TI features a big ENTER ;)

Don't hold your breath for HP's answer - I guess it will take some time if they'll answer at all. IMHO, the new TI is a great toy but I doubt it will be a great tool for the advancement of science or engineering. Just my personal view, of course.

Re: [OT]TI-Nspire CX

*Message #13 Posted by **John B. Smitherman** on 26 Feb 2011, 3:43 p.m.,*
in response to message #1 by Manolo Sobrino

I'll bet the HP calculator marketing department has been sweating this and therefore has been working overtime to develop new products.

One possibility is to sell a retro 30bii Heathkit style where the buyer has to assemble the pieces and then program the calculator. The new product will open up another 256 bytes of RAM and sells for only 10% more than a standard 30b. :-(

John

Re: [OT]TI-Nspire CX

*Message #14 Posted by **BruceH** on 26 Feb 2011, 3:59 p.m.,*
in response to message #1 by Manolo Sobrino

I can't possibly take that seriously - it doesn't have [hyp] [sin] [cos] [tan] keys!!

Re: [OT]TI-Nspire CX

*Message #15 Posted by **Don Shepherd** on 26 Feb 2011, 4:10 p.m.,*
in response to message #14 by BruceH

Bruce, I'm not an engineer so I'm unfamiliar with HYP functions, but a press of the TRIG key brings up: sin, cos, tan, csc, sec, cot, $\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$, $\csc^{-1}$, $\sec^{-1}$, and $\cot^{-1}$.

The NSpire is not a scientist or engineer's calculator, it is for students only.

Re: [OT]TI-Nspire CX

*Message #16 Posted by **BruceH** on 27 Feb 2011, 1:51 p.m.,*
in response to message #15 by Don Shepherd

Sorry Don - just me being silly. So many calcs for so many years have had [hyp][sin][cos][tan] on

prominent, dedicated keys that it has become a joke that you can't sell a calculator without them any more.

Re: [OT]TI-Nspire CX

*Message #17 Posted by **Don Shepherd** on 27 Feb 2011, 3:41 p.m.,*
in response to message #16 by BruceH

Thanks Bruce. I think that sin/cos/tan had their own keys on the first NSpires, but TI decided to add a trig key to free up space for gosh-knows-what.

I'll probably eventually get one of these because, from the beginning, the worst characteristic of the NSpire was it's unreadable screen, especially in low-light situations. I would imagine this screen will be excellent, if it is anything like the Prizm's.

The release notes don't mention anything about additional program commands (in BASIC) to take advantage of this new color screen (the Prizm's programming language did include new commands).

Frankly, I rarely use my NSpire in teaching.

Don

Re: [OT]TI-Nspire CX

*Message #18 Posted by **Hal Bitton in Boise** on 26 Feb 2011, 4:26 p.m.,*
in response to message #1 by Manolo Sobrino

Looks as though it's still shackled with the lumbering AOS, as evidenced by the prominent placement of the beloved parenthesis keys. Hopefully, expressions will assemble in "pretty print" while they are being entered. Maybe the current N-spires do this already...I know the 89 only gives you "pretty print in hindsight".

Re: [OT]TI-Nspire CX

*Message #19 Posted by **Marcus von Cube, Germany** on 26 Feb 2011, 4:44 p.m.,*
in response to message #18 by Hal Bitton in Boise

Math input is standard for all Nspires. There are templates for common constructs like integrals. Hyperbolics seem to be missing but they can be easily implemented as user functions.

Re: [OT]TI-Nspire CX

*Message #20 Posted by **Mauritz Blomqvist** on 27 Feb 2011, 4:26 p.m.,*
in response to message #19 by Marcus von Cube, Germany

The Hyp-functions are there. All available functions are under the key with the open book symbol. Both alphabetically and under categories, like trig, hyp, list, string etc.

Re: [OT]TI-Nspire CX

*Message #21 Posted by **Marcus von Cube, Germany** on 28 Feb 2011, 2:56 a.m.,*
in response to message #20 by Mauritz Blomqvist

I stand corrected. I was searching under the letter "h" looking for something like "hypsin" but it's "sinh" instead. My fault.

Re: [OT]TI-Nspire CX

*Message #22 Posted by **Bart (UK)** on 26 Feb 2011, 4:56 p.m.,*
in response to message #1 by Manolo Sobrino

Beautiful, but is it still a calculator? A computer with mathematical programs could probably do more and do it better. I tend to agree with "Bring back the 15C".

Re: Is it still a calculator?

*Message #23 Posted by **Joerg Woerner** on 26 Feb 2011, 5:07 p.m.,*
in response to message #22 by Bart (UK)

Good question - and with a Memory of 100 MBytes for programs and 64 MBytes for the Operating System....

YES! It is still a calculator. The best one you can buy in 2011!

Regards, Joerg

Re: Is it still a calculator?

*Message #24 Posted by **Tim Wessman** on 26 Feb 2011, 9:57 p.m.,*
in response to message #23 by Joerg Woerner

Is it a calculator or a "math learning tool". Unless they've made radical changes, you are stuck with whatever TI feels is ideal and if you disagree. . . SOL.

TW

Re: Is it still a calculator?

*Message #25 Posted by **Martin Pinckney** on 26 Feb 2011, 11:07 p.m.,*
in response to message #24 by Tim Wessman

> Quote:
>
> Unless they've made radical changes, you are stuck with whatever TI feels is ideal and if you disagree. . . SOL.

What do you mean by this, Tim? It is programmable.

Re: Is it still a calculator?

*Message #26 Posted by **George Litauszky** on 27 Feb 2011, 9:17 a.m.,*
in response to message #25 by Martin Pinckney

> Quote:
>
> It is programmable.

The previous Nspire's programming commands are less than the TI-89. The TI-89 was too difficult for the students. :(

Re: Is it still a calculator?

*Message #27 Posted by **Mauritz Blomqvist** on 27 Feb 2011, 4:30 p.m.,*
in response to message #26 by George Litauszky

I have written quite many "programs" using the possibility to link variables and graphical objects, like the differential equation plotter in the previous Nspire, where the plotting is done by creating tables in a spreadsheet, and then doing a scatter plot of that. The same with drawing 3D graphs.

Re: Is it still a calculator?

*Message #28 Posted by **Marcus von Cube, Germany** on 28 Feb 2011, 2:59 a.m.,*
in response to message #27 by Mauritz Blomqvist

It's a pity that you cannot draw pixel exact graphics from the programming language on the current models.

Re: [OT]TI-Nspire CX

*Message #29 Posted by **Ren** on 2 Mar 2011, 1:13 p.m.,*
in response to message #22 by Bart (UK)

> Quote:
>
> Beautiful, but is it still a calculator?

Yes, it has dedicated numeric buttons in a keypad layout.

Ren

dona nobis pacem

Re: [OT]TI-Nspire CX

*Message #30 Posted by **Thomas Chrapkiewicz** on 26 Feb 2011, 6:57 p.m.,*
in response to message #1 by Manolo Sobrino

Is that an SD card slot in the top edge opposite the miniUSB port?

Re: [OT]TI-Nspire CX

*Message #31 Posted by **Marcus von Cube, Germany** on 27 Feb 2011, 8:51 a.m.,*
in response to message #30 by Thomas Chrapkiewicz

In my opinion, it seems to be a connector for the WLAN module.

Re: [OT]TI-Nspire CX

*Message #32 Posted by **Xavier A. (Brazil)** on 26 Feb 2011, 7:03 p.m.,*
in response to message #1 by Manolo Sobrino

Price, please?

Re: [OT]TI-Nspire CX

*Message #33 Posted by **Katie Wasserman** on 26 Feb 2011, 7:16 p.m.,*
in response to message #32 by Xavier A. (Brazil)

$165 according to this site.. I don't know if that's the full retail price or what the expected street price will be.

Re: [OT]TI-Nspire CX

*Message #34 Posted by **Xavier A. (Brazil)** on 27 Feb 2011, 4:04 p.m.,*
in response to message #33 by Katie Wasserman

Thank you, Katie.

Re: [OT]TI-Nspire CX

*Message #35 Posted by **Martin Pinckney** on 26 Feb 2011, 11:09 p.m.,*
in response to message #1 by Manolo Sobrino

Another noteworthy feature - it uses rechargeables. Throwback to the 1970s.

Re: [OT]TI-Nspire CX

*Message #36 Posted by **Eric Smith** on 27 Feb 2011, 6:33 p.m.,*
in response to message #35 by Martin Pinckney

> Quote:
>
> it uses rechargeables. Throwback to the 1970s.

High-quality color displays are generally either backlit TFT, or OLED. Either uses substantially more power than monochrome transflective LCDs, and battery life is substantially reduced. Passive color displays with no backlight look very washed out and are difficult to read except when there is bright external illumination.

Unless you don't mind buying a lot of disposable batteries, for a calculator with a high-quality color display you're really going to want to use rechargeable ones.

There are also no commonly available disposable batteries that have high capacity and are thin enough for a slim calculator. (An *actual* slim calculator, not the Casio "Slim" which is anything but.) Lithium-polymer cells are just about the only option when you want both a high-power display and a slim package.

In the 1990s it seemed like few people wanted devices (including calculators) that needed to be recharged frequently. Cell phones have changed that; now most people are accustomed to recharging consumer electronic devices frequently.

There will likely be a market for calculators with monochrome displays and long battery life for the forseeable future, but I expect that many future high-end calculators will use rechargeable lithium polymer cells.

Re: [OT]TI-Nspire CX

*Message #37 Posted by **robert rozee** on 27 Feb 2011, 9:13 p.m.,*
in response to message #36 by Eric Smith

if the probability of the batteries in a schoolkids rechargable-battery-powered calculator going flat in

any 1-hour long class is 3%, and the average class size is 30 pupils, then the overall probability of no calculators suffering flat batteries during said class is (0.97)^30, which equals 40%. the chances of no flat batteries will diminish rapidly after the first 2 years of service, as the LiIon (or similar) batteries start to reach the end of their relatively short service life.

this will mean that a mathematics teacher, teaching say four 1-hour classes each day, will almost certainly have to face the prospect of at least one student each day unable to complete the lessons. back in the 1970's this issue didn't arise, as calculators were not an _essential_ part of the teaching/learning process. students could use slide rules, tables, or even (god forbid) their brains as backup.

this is why both laptops AND rechargeable high-end calculators will present a major disruptive force within schools. the ONLY workable solution is if the tools (both computers and rechargeable-battery-powered calculators) are provided by the school within the classroom - either as class sets, or as a computer bolted down to each student's desk.

it is my view that more powerful calculators DO NOT result in smarter, more capable students. all they do is result in RICHER calculator manufacturers.

Re: [OT]TI-Nspire CX

*Message #38 Posted by **Walter B** on 28 Feb 2011, 1:36 a.m.,*
in response to message #37 by robert rozee

> Quote:
>
> students could use ... even (god forbid) their brains as backup.

LOL So true!

Re: [OT]TI-Nspire CX

*Message #39 Posted by **Eric Smith** on 28 Feb 2011, 3:10 a.m.,*
in response to message #37 by robert rozee

This also happens with graphing calculators using disposable batteries. I've seen it in classes. I carry a set of spare alkalines for my HP 50g.

The college classes I've taken between 2006 and the present that required calculators have been:

General Chemistry I: basic scientific, not allowed to be programmable - I used an HP-32E

Linear Algebra: TI 85 or 86 required (though not allowed on tests) - I used an HP-49G instead

Engineering (Calculus-based) Physics I, II, III: basic scientific required - I used an HP-50g

In Chemistry and Physics, the calculator is mainly needed for logs, exponentials, and trig functions; the rest can be done by hand. All of it could be done with a good slide rule.

In Linear Algebra, we were expected to use the calculator to do Gaussian Elimination and find determinants, only after we had learned to do those by hand.

Although the Discrete Math class I took did not require a calculator, I found the HP-49G to be useful.

Re: [OT]TI-Nspire CX

*Message #40 Posted by **robert rozee** on 28 Feb 2011, 6:31 a.m.,*
in response to message #39 by Eric Smith

> Quote:
>
> I've seen it in classes. I carry a set of spare alkalines for my HP 50g.

and those batteries are good for, what, 50 or so hours of operation?

out of curiosity (remembering, i left school 1/4 of a century ago) do schools have stationary shops on-campus where students can pop between classes to buy pencils, paper, and BATTERIES? when i was at school we had said shops, where you mostly went to buy ink for your fountain pen!

with a rechargeable calculator and laptop computer the student will need to carry two chargers in their bag - when the batteries go flat they will just plug said charger(s) into the mains outlet(s) that every student desk has... hmmm, i can see a problem...

Re: [OT]TI-Nspire CX

*Message #41 Posted by **Eric Smith** on 28 Feb 2011, 1:44 p.m.,*
in response to message #40 by robert rozee

Somehow those students always manage to have a charged phone.

If students can't be bothered to charge their calculator, it's a safe bet that there are bigger problems at hand.

There is a bookstore on campus, which does sell batteries, but which is closed at most time when I would need it, such as right before my early morning class and right before my evening class.

Edited: 28 Feb 2011, 1:47 p.m.

Re: [OT]TI-Nspire CX

*Message #42 Posted by **Dave Shaffer (Arizona)** on 28 Feb 2011, 2:34 p.m.,*
in response to message #40 by robert rozee

> Quote:
>
> when the batteries go flat they will just plug said charger(s) into the mains outlet(s) that every student desk has... hmmm, i can see a problem...

Actually, in many newly-constructed (USA; college) classrooms - at least those that I have seen, there ARE power sockets readily available for each seat.

Re: [OT]TI-Nspire CX

*Message #43 Posted by **Eric Smith** on 28 Feb 2011, 2:40 p.m.,*
in response to message #40 by robert rozee

TI claims about 100 hours of operation per charge for the Nspire-CX.

Re: [OT]TI-Nspire CX

*Message #44 Posted by **Martin Pinckney** on 28 Feb 2011, 6:12 a.m.,*
in response to message #37 by robert rozee

> Quote:
>
> this is why both laptops AND rechargeable high-end calculators will present a major disruptive force within schools.

Ha! You are very fortunate. My wife teaches high school English. The major disruptive forces are discipline problems, lack of motivation, lack of sleep, failure to do assigned work, disrespect, no parental involvement, texting or worse with those rechargeable cell phones that are supposed to be put away, etc.

Re: [OT]TI-Nspire CX

*Message #45 Posted by **Eric Smith** on 28 Feb 2011, 1:55 p.m.,*
in response to message #44 by Martin Pinckney

One of my instructors has written on the course syllabus (which is legally binding) that she reserves the right to answer any cell phone that rings during class. I haven't yet seen it occur.

I was mortified a few weeks ago when my iPhone started making noise in Physics class, despite the switch being set to vibrate. It turns out that if you set an alarm, it will make noise even in silent mode. Somehow I had accidentally set an alarm for 10 AM. I apologized to the instructor after class, and he said it was OK since I turned it off quickly. I guess now I can't take the moral high ground and complain about other student's phones.

Re: [OT]TI-Nspire CX

*Message #46 Posted by **Oliver Unter Ecker** on 28 Feb 2011, 4:57 a.m.,*
in response to message #36 by Eric Smith

There's one more display technology, which I think is just perfect for a calculator: electronic ink. Easy to read and sipping power, enabling the device to need a recharge only about once a month.

The principal disadvantage of these displays, slow update speed, doesn't really hurt for calculator use.

A typical e-book reader has a great resolution for an ultimate graphing calculator. And it's lighter and thinner than any of the TI or HP graphing calcs.

Re: [OT]TI-Nspire CX

*Message #47 Posted by **Tim Wessman** on 28 Feb 2011, 9:34 a.m.,*
in response to message #46 by Oliver Unter Ecker

At first glance, it does appear that way.

However, have you actually used any e-ink readers? There is 1 fairly important issue that immediately is noticeable - the update the entire display any time you make a change.

Imagine trying to enter a number, with or without a cursor, and the entire screen fades and reappears every button you press. We're not talking about a Voyager like flicker, but a fairly long

delay. I don't know about you, but this would drive me nuts!

TW

Re: [OT]TI-Nspire CX

*Message #48 Posted by **Oliver Unter Ecker** on 28 Feb 2011, 7:07 p.m.,*
in response to message #47 by Tim Wessman

Tim, look at them again. The current generation allows updates of any rectangular sub-region without affecting the rest of the display. Typing text is just fine and there's no flicker. There's even a blinking cursor these days.

I bought my Kindle 3 after my iPad. I develop calculator apps for both. They'll be used in different ways, and both devices have their strengths. A tablet is "loud" and great for interactive exploration. An e-reader is "silent". Ideal to be clutched in your hand while pacing the room and staring at your math, code, words, etc., while the device is, essentially, off!

My calc on the Kindle has a huge stack. When it changes there is a sub-second refresh of the changed area. Not everyone will see it this way, but, to me, it works very nicely, and I really have no issue with the present-generation lag. For a calculator application, that is. (I do not enjoy web-browsing on this device.)

E-ink displays are very rugged and need no glass for protection. This allows for a low weight of the overall device. (Light enough to be held effortlessly in one hand over an extended period. About as heavy as my iPhone.)

In the education context, the energy savings aspect alone should make this technology appealing. I'd say the "silent" aspect helps, too. (Giving every student an iPad, conversely, may not be a good idea...)

Re: [OT]TI-Nspire CX

*Message #49 Posted by **Tim Wessman** on 28 Feb 2011, 8:49 p.m.,*
in response to message #48 by Oliver Unter Ecker

Good to know that issue is finally resolved. :-)

TW

Re: [OT]TI-Nspire CX

*Message #50 Posted by **Eric Smith** on 28 Feb 2011, 1:39 p.m.,*
in response to message #46 by Oliver Unter Ecker

E-ink displays are great for reading in bright sunlight, unlike most graphic displays. Unfortunately they suck for reading in other situations, as they are *not* black on whie, but rather dark grey on medium grey. The contrast ratio is abysmal. People claim it is just like reading an actual book, but it's like reading a very badly printed book. If you compare it side by side with a cheap paperback, you'll be amazed at how much better the cheap paperback looks.

Amazon brags about how their latest Kindle has "50% better contrast ratio" compared to the earlier model. That's not much to be proud of, as it means they are now at 10:1. The worst TFT LCD displays have 300:1 contrast, and most have 1000:1 or better.

The technology is slowly improving, but between the contrast ratio, and the slow update rate Tim points out, I wouldn't want it in a calculator.

I'm writing this post on a tablet with a backlit TFT display, and it is much easier on the eyes than E-ink.

Re: [OT]TI-Nspire CX

*Message #51 Posted by **Oliver Unter Ecker** on 28 Feb 2011, 7:32 p.m.,*
in response to message #50 by Eric Smith

I did not intend to become an ambassador for e-ink on this forum, but I do feel a little counter-balance to your post is needed:

There're many metrics under which to quantify a display's performance.

I'm writing this on a top-of-the-line MacBook Pro and if I move my head a fraction of an inch sideways, I see the brightness of the entire screen change with me, as the angle-dependency on this notebook screen, and all others, sucks.

Do you know that sunlight is a million times lighter than indoors illumination? Do you condemn indoor illumination for being "too dark"? The low e-ink contrast ratio is being made up in large parts by your amazing human visual system.

I enjoy tremendously to look at a reflective screen. I find it unoffensive and very pleasing. It works great for me indoors and I would not (and did not) consider curling up with son at night for a goodnight story with a tablet. Too much spewing of light and bulk.

Re: [OT]TI-Nspire CX

*Message #52 Posted by **Martin Pinckney** on 28 Feb 2011, 10:30 p.m.,*
in response to message #50 by Eric Smith

> Quote:
>
> E-ink displays are great for reading in bright sunlight, unlike most graphic displays. Unfortunately they suck for reading in other situations, as they are *not* black on white, but rather dark grey on medium grey. The contrast ratio is abysmal.

Surely the contrast ratio is better than the typical LCD calculator?

Re: [OT]TI-Nspire CX

*Message #53 Posted by **Eric Smith** on 1 Mar 2011, 9:46 a.m.,*
in response to message #52 by Martin Pinckney

No, the e-ink contrast is far worse than most monochrome LCDs. E-Ink is only around 10:1, while typical passive matrix LCDs are at least 50:1 (usually much more), and segmented LCDs are at least 500:1 (usually much more).

Re: [OT]TI-Nspire CX

*Message #54 Posted by **Marcus von Cube, Germany** on 28 Feb 2011, 3:16 a.m.,*
in response to message #1 by Manolo Sobrino

Here is another article: http://www.techpoweredmath.com/texas-instruments-announces-color-ti-nspire-cx/

Re: [OT]TI-Nspire CX

*Message #55 Posted by **Han** on 28 Feb 2011, 11:01 a.m.,*
in response to message #1 by Manolo Sobrino

I don't know if TI will ever get the message, but many teachers (at the moment) simply DO NOT CARE for the Inspire. As powerful and feature rich as it may be, its increasing resemblance to a computer equipped with a computer algebra system makes it more of a hassle and LESS appealing as a tool that would be useful in the class. All our faculty members have one, and they are simply collecting dust in our desks. The best use of the Inspire would be for teaching, and not so much for students who want to do calculations. Yet, TI is a long way from creating an easy method for teachers to actually use their Inspire in the classroom.

For those not familiar with the Inspire, it is quite cumbersome to create a "project" on the Inspire. If you want to actually create something to be used in class, you are better off using their software (on the PC), and then downloading it onto the calculator. And the software requires registration as opposed to just being freely available with the unit itself.

Now, if I am already going to have to use a PC to create a project, I would rather just use whatever I already have and am familiar with as opposed to having to learn about yet another piece of software. Secondly, the software TI provides is essentially an emulator -- which raises the question: If I can just show my students what their calculator will do with the software TI has provided, why bother using the calculator? Secondly, every student would need to have such a calculator to see the project; otherwise you would need an additional projection unit should you not want to show them the emulation. It is much more likely that classrooms today are equipped with computers. Not too many classrooms have sets of calculators -- they just are not worth the money.

And the switch to "documents" is actually a pain in the rear. It makes programming the Inspire also a pain (and last I checked, their "language" is rather limited as far as input/output is concerned).

Both TI and HP are so out of touch with the educational sector -- and the funny thing is that TI already invests quite a bit into their calculator line in terms of support (eg conferences and workshops for teachers). Yet most people I talk to in academia have simply tossed the Inspire aside. Too complicated to be a calculator, and yet not powerful enough to be a computer. No one cares for these hybrid units when you have smartphones that are much more powerful.

Edited: 28 Feb 2011, 11:02 a.m.

Re: [OT]TI-Nspire CX

*Message #56 Posted by **Don Shepherd** on 28 Feb 2011, 2:59 p.m.,*
in response to message #55 by Han

> Quote:
>
> It makes programming the Inspire also a pain (and last I checked, their "language" is rather limited as far as input/output is concerned).

The BASIC-like programming language of the NSpire started out severely crippled; there were no input commands to get data once the program began, and the only output command was the simple "Disp" to display things on a calculator page. A year or so ago TI answered that complaint with commands to input numbers or strings, and a "msgbox" type command to display data in a text box. Those commands should have been there on day one, but at least TI responded to user complaints.

Like many handheld devices, programming on the device itself is generally a pain. The teacher PC software (or student software) lets you write code on the PC, test it, and download it to the handheld without too much trouble. One of the better features was the introduction of "libraries" which lets you define functions or programs and store them in a library where they are accessible to any NSpire app, including the spreadsheet. So you could write a function to return the nth prime number and include it in a spreadsheet cell as =nprime(155), for example. So there are some good things about the NSpire programming language, but it is not as powerful and robust as many other programming languages.

There are some high schools in the US that have embraced the NSPire, but very few I think.

Re: [OT]TI-Nspire CX

*Message #57 Posted by **Thomas Klemm** on 28 Feb 2011, 6:10 p.m.,*
in response to message #56 by Don Shepherd

The question of course is: can the NSpire solve the N-Queens problem?

Cheers
Thomas

Re: [OT]TI-Nspire CX

*Message #58 Posted by **Don Shepherd** on 28 Feb 2011, 6:56 p.m.,*
in response to message #57 by Thomas Klemm

Of course it can! I'll pull up the benchmark BASIC version tonight and give it a run. I currently have the touchpad CAS; it will be interesting to compare the timing of this versus the new color CAS to see if the new OS is faster or slower (the Prizm executed programs significantly slower than the 9860-g slim, and Katie thinks that is due to the new OS).

Don

Re: [OT]TI-Nspire CX

*Message #59 Posted by **Don Shepherd** on 28 Feb 2011, 7:19 p.m.,*
in response to message #57 by Thomas Klemm

The current benchmark file contains NSpire CAS timings for OS version 1.2 (8.3 seconds) and 1.3 (4 seconds). OS version 2.0, which came out about a year ago, runs it in about 4 seconds too.

If I get OS 3 (coming with the new color one) and/or the new color one, it will be interesting to see if it is at least that fast.

Re: [OT]TI-Nspire CX

*Message #60 Posted by **Jake Schwartz** on 2 Mar 2011, 3:50 p.m.,*
in response to message #59 by Don Shepherd

Hey,

Can they really call this a "CX" it if doesn't have the 4 built-in RAM modules, Time and Extended Functions modules as well as the lower portion of extended memory?

:-) :-)

Jake

Re: [OT]TI-Nspire CX

*Message #61 Posted by **Don Shepherd** on 2 Mar 2011, 4:35 p.m.,*
in response to message #60 by Jake Schwartz

Hi Jake! I guess you are alluding to the 41CX? Unless HP has "CX" copyrighted, I guess TI is free to use it.

TI is not allowing teachers to trade-in their old NSpires on this new color unit, which they have done previously. They are offering a $50 discount coupon, but you can only get one by attending one of the education trade shows coming up this year, which I never attend.

I don't want one bad enough to spend $130.

Re: [OT]TI-Nspire CX

*Message #62 Posted by **Jake Schwartz** on 2 Mar 2011, 5:02 p.m.,*
in response to message #61 by Don Shepherd

> Quote:
>
> Hi Jake! I guess you are alluding to the 41CX? Unless HP has "CX" copyrighted, I guess TI is free to use it.

Yeah, I was just clowning around :-)

But it will be REALLY interesting to see if TI comes out with a Halfnut version of the CX :-)

<more clowning>

Re: [OT]TI-Nspire CX

*Message #63 Posted by **Marcus von Cube, Germany** on 3 Mar 2011, 6:47 a.m.,*
in response to message #62 by Jake Schwartz

With round corners around the display? And lower case letters, even adjustable contrast? What an achievement! ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repairing an HP33E with springs

*Message #1 Posted by **Alberto Fenini** on 26 Feb 2011, 9:44 a.m.*

Dear all,
I have had this 33E in a drawer for a while, with the usual corrosion problem.
It also had some keyboard problems, and it was purchased mainly to use the battery cover.
However, I wanted to give a try to an old idea.
I'll not write too much text, but I'm posting the sequence of images that led me to be able to use a battery pack again.
I hope is going to be of help for anyone that has a similar problem.
Any suggestion, any comment,always welcomed !!
Enjoy the weekend, Alberto

Picture 1 - insertion of the springs, after the corroded parts have been removed

Picture 2 - view from behind, also a trace is missing, so that the cable will be soldered very close to the point where the external power supply goes

Picture 3 - springs soldered, and cutted on the back side

Picture 4 and 5 - pcb in place from diffeten views

Picture 6 - it works, in reality not all the keys are working, and since the power pcb is a slightly different version, there is no way to turn the unit off

Picture 7 and 8 - unit closed, it looks nice

et voila, with the battery in place
Credits must be given to a on old post that was showing how to connect the power supply pcb to the pcb holding the battery terminals.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

it's nice, it works, but what it is ?

*Message #1 Posted by **Alberto Fenini** on 25 Feb 2011, 3:52 p.m.*

Dear all,
just received today, it works and it looks like just any HP75C
however it has a nice keypad overlay and an additional memory module,
has anyone ever seen it before and knows how it works ??

any hint, will be appreciated as always,
enjoy the weekend, Alberto

Re: it's nice, it works, but what it is ?

*Message #2 Posted by **Martin Pinckney** on 25 Feb 2011, 5:05 p.m.,*
in response to message #1 by Alberto Fenini

I don't *know*, but based on the evidence, I can hazard a *guess*.

In it's day, the 75 was considered a portable computer, rather than a calculator. The overlay bears the word "terminal," so it was probably used as such on a LAN. The labels on the overlay suggest some sort of database. I know from experience that before the internet there were lots of proprietary database systems used with "in house" LANs for various municipal departments. "Fireman" suggests it might have been used as a terminal for some sort of database in a large city fire department, possibly connected to a CRT. No clue about "CE," but I don't think it means Windows.

Edited: 25 Feb 2011, 5:07 p.m.

Re: it's nice, it works, but what it is ?

*Message #3 Posted by **Paul Gaster** on 25 Feb 2011, 8:16 p.m.,*
in response to message #2 by Martin Pinckney

Google found this HP page: http://h20338.www2.hp.com/PublicSector/cache/96688-0-0-75-135.html

HP teamed with ESRI to provide a sophisticated solution for Wilson's "Fire Department of the Future" GIS initiative. The project relies on HP business-critical servers, high-performance workstations and networking equipment. HP technology provides a powerful, reliable infrastructure for running ESRI's advanced GIS mapping applications.

Looks like HP has a history of working with fire departments.

Re: it's nice, it works, but what it is ?

*Message #4 Posted by **BruceH** on 26 Feb 2011, 4:30 p.m.,*
in response to message #2 by Martin Pinckney

In those days, 'CE' probably meant 'Computerised Entry' and *everybody* was suitably impressed.

I'd go along with your guess except for the LAN bit - too early for that. I would say this was carried along in the fire truck and a database record filled in at the scene of the fire - a straight replacement for a paper form on a clipboard. Back at the fire house it would be connected by serial port to a modem and thence to a mini-computer located centrally, to upload the details of the call outs for that day.

The overlay labels are quite interesting from a historic computing point of view: it was seen as quite natural at the time to press a button labelled with the data item that you wanted to enter and then type the value. Imagine producing an equivalent iPhone app today, with multiple buttons on the first screen corresponding to the labels on this overlay? Somehow, I can't see it wowing the client.

Anyway, a good find from the OP. I wonder how many other custom versions like this are out there waiting to be unearthed and how many have been lost forever?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Box for HP 82143A printer

*Message #1 Posted by **dinamarco** on 24 Feb 2011, 10:27 p.m.*

How about idea: have the original box for HP-82143A sold on TAS for HP collector who don't have it?

Re: Box for HP 82143A printer

*Message #2 Posted by **Thomas Chrapkiewicz** on 26 Feb 2011, 6:59 p.m.,*
in response to message #1 by dinamarco

Do you have one to sell or require one?

Re: Box for HP 82143A printer

*Message #3 Posted by **dinamarco** on 28 Feb 2011, 8:46 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

I'm trying to make replicas, like the original, I thnik I'll be able to do at U$ 100,00, but I repeat REPLICA LIKE ORIGINAL. At these mometn, I think I'll be able to do replica of the boxes: HP 82143A, 82162A, CASSETTE DIRVE, HP 41CX, HP 41CV. If you're interested, please just answer me in these forum. Regards...

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

IR communication between HP-39gs and HP-39G

*Message #1 Posted by **Marcus von Cube, Germany** on 24 Feb 2011, 12:52 p.m.*

The 39gs manual states that it is possible to transfer aplets between an old style IR port (HP-39G) and the HP-39gs. The problem is that the menu item "HP39G" (without "(IrDA)") is missing from the receive menu in the aplet view. Am I missing something?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Free42 extended "SHOW" fun

*Message #1 Posted by **Glen Sanft** on 24 Feb 2011, 12:27 a.m.*

I recently picked up a copy of Free42 and it made me dig out the real thing to play with again. I'd forgotten many of the joys of using it, as well as the painful aspects, but they're all fresh in my mind again now. :)

At any rate, this program evolved over time, as they all do, and I guess it might be useful in some way to some of you, so I offer it for your consideration.

There might be enough comments within the listing. If not, ask. I normally wouldn't use "@" for comments, but I seem to recall that was the convention for this sort of stuff.

Also, I don't presently have access to a web server to put a 39KB zip file on, so cannot include the .raw file and several formatted versions of the text listing. Sorry. I'll see what I can do if there's any interest.

Here it is:

```
00 { 388-Byte (Free42) Prgm }   @@ pretty much pointless on native hardware @@
01>LBL "FWIW"   @"For What It's Worth"; "show" all digits of stack X value
02 GTO 01
03>LBL 00       @two options placed early for ease of manipulation:
04 3            @<- maximum quantity of digits pre-radix / min. "E" multiplier
05 STO ".M."    @@ "1" = "SCI"; "3" = "ENG"; but others seem to work as well...
06 3            @<- digits "grouping" size post-radix; practical range begins
07 STO ".G."    @@ at "3" and ends at "24" (see declaration of ".J." below)
08 RTN
09>LBL 01
10 REAL?        @we'll be using "LOG" which won't work well otherwise
11 GTO 02
12 GTO 11       @so abort; it's "otherwise"
13>LBL 02
14 X=0?         @if nothing's in the register this whole thing's (even more?)
15 GTO 11       @@ pointless, so just skip to the end
16 STO ".X."    @place copies of the stack aside for later restoration:
17 Rv           @ @ excepting the ALPHA register, this program leaves the
18 STO ".Y."    @ @ machine completely in it's same prior state when done
19 Rv           @ @ unless named variables herein had pre-existed (see list
20 STO ".Z."    @ @ of "CLV"s at the end); no user flags or REGs get molested
21 Rv
22 STO ".T."
23 LASTX
24 STO ".L."
25 CLA
26 XEQ 00
27 STO ".I."
28 24           @<- this variable is only necessary in Free42bin, where a
29 STO ".J."    @@ smaller value would really be more appropriate anyway since
30 RCL ".X."    @@ "noise" starts earlier, and keeps rising like so much radon
31 SIGN         @@ from the cellar in that version
32 STO ".S."    @<- keep track of the sign for display purposes
33 LASTX
34 ABS          @LOG likes positive values for "real" results
35 ENTER
36 LOG          @this section would be as easy to step through and watch as
37 ENTER        @to read a description of it; at least easier than writing it...
38 X>=0?
39 GTO 03
40 FP
41 X=0?
42 GTO 03
43 Rv
```

```
44 IP
45 1
46 -
47 ENTER
48>LBL 03
49 Rv
50 IP
51 STO ".E."
52 RCL ".M."
53 MOD
54 STO- ".E."
55 Rv
56 RCL ".E."
57 10^X
58 X=0?         @<- depending on ".M." (if >1) plus proximity to limits of
59 GTO 09       @@ "-E" values (where things can get "dicey" anyway for this in
60 ÷            @@ Free42bin), trouble can ensue here; this allows restoration
61 RCL× ".S."   @@ of state in that unfortunate event, accompanied by a cryptic
62 AIP          @@ statement at (failed) program exit (see below)
63 RCL× ".S."
64 FS? 28       @here we follow current radix display convention
65 |-"."
66 FC? 28
67 |-","
68 FP
69>LBL 04       @start appending post-radix digits
70 10
71 ×
72 AIP
73 FP
74 DSE ".J."    @<- in Free42dec this isn't even necessary but in *bin it is;
75 X=0?         @<- *dec's digits run out and break loop all on their own
76 GTO 07
77 DSE ".I."    @restart in-group loop or add (linefeed/)separator to ALPHA
78 GTO 04
79 RCL ".G."
80 STO ".I."    @re-use variable here to count back "group-size" digits from
81 Rv           @@ end of first ALPHA line-width, to ensure entire
82 ALENG        @@ un-"wrap-broke" groupings
83 22
84 X<=Y?
85 GTO 06
86 1
87 -
88>LBL 05       @add a linefeed within any appropriate group separator
89 X=Y?
90 |-"\LF"
91 DSE ST X
92 DSE ".I."
93 GTO 05
94 RCL ".G."
95 STO ".I."    @re-reset counter for adding another "group" of digits to ALPHA
96 Rv
97>LBL 06
98 |-" "        @at least this'll happen whenever we get into this loop
99 RCL ST Z
100 GTO 04      @back for (possibly) more digits above...
101>LBL 07      @no more digits to add at this point
102 ALENG
103 22
104 X<=Y?       @add a linefeed if needed to prevent exponent component from
105 GTO 08      @@ getting "wrap-broke"
106 10          @@ as a result of "rudimentaryness" it'll always appear on the
107 POSA        @@ second line of the display, even with a very short mantissa
108 X<0?
109 |-"\LF"
110>LBL 08      @and here it comes...
111 |-" E"      @this is the "exponent" (little big) "E"
112 RCL ".E."
113 AIP
114 GTO 10
115>LBL 09      @this is the cryptic "we'd 'divode' by zero" message, if needed,
116 "Went out of"       @ it can (probably?) be avoided by using a "1" for ".M."
117 |-" range!  :("
118>LBL 10
119 AVIEW       @show result
120 CLA         @wipe the slate
121 RCL ".L."   @restore all program-changed state
122 STO ST L
123 RCL ".T."
124 RCL ".Z."
```

```
125 RCL ".Y."
126 RCL ".X."
127 CLV ".M."   @the unsorted list of variables created(?)/destroyed ensues
128 CLV ".G."
129 CLV ".I."
130 CLV ".J."
131 CLV ".S."
132 CLV ".E."
133 CLV ".L."
134 CLV ".T."
135 CLV ".Z."
136 CLV ".Y."
137 CLV ".X."
138>LBL 11
139 END
        @I believe I've culled all code which would never get called...
        @ © GMS 21 Feb 2011, for what it's worth :)
```

EDIT: Here's the FWIW.raw file uuencoded (base64):

```
begin-base64 644 FWIW.raw
wAD1AEZXSVeyAAETAPSBLk0uEwD0gS5HLoUComWzALwAA2e8APSBLlgudfSB
LlkudfSBLloudfSBLlQudvSBLkwuh+AAAPSBLkkuEhQA9IEuSi70kS5YLnr0
gS5TLnZhg1aDol+0AGlntAB1aBEAQYMEdWj0gS5FLvSRLk0uS/SDLkUudfSR
LkUuV2e6AEP0lC5TLqYx9JQuUy6sHPJ/Lq0c8n8saQUREABCpjFp9JcuSi5n
uAD0ly5JLrUA9JEuRy70gS5JLnWmQRISAEa3ABEAQQZ48n8Kl3P0ly5JLrYA
9JEuRy70gS5JLnUH8n8gkHG1AAimQRISAEa5ABEQAKZcZvJ/CgnzfyAY9JEu
RS6mMbsACvtXZW50IG91dCBvZvx/IHJhbmdlISAgOigLfof0kS5MLpF09JEu
VC70kS5aLvSRLlku9JEuWC70sC5NLvSwLkcu9LAuSS70sC5KLvSwLlMu9LAu
RS70sC5MLvSwLlQu9LAuWi70sC5ZLvSwLlguDMAADQ==
====
```

Edited: 24 Feb 2011, 12:46 a.m.

Re: Free42 extended "SHOW" fun

*Message #2 Posted by **Dwight Sturrock** on 24 Feb 2011, 1:33 a.m.,*
in response to message #1 by Glen Sanft

Glen,

What does it do?

Dwight

Re: Free42 extended "SHOW" fun

*Message #3 Posted by **Glen Sanft** on 24 Feb 2011, 5:09 p.m.,*
in response to message #2 by Dwight Sturrock

Perhaps familiarity with it has clouded my judgement. I'd guessed there was enough information in the thread title, what little I'd posted about it, and the notes in the code listing itself.

The Free42 program comes in two versions (.bin and .dec) using different math libraries. One is faster, one is more accurate. I'm pretty sure all that's in the program's documentation. In either case, there are more digits in use than just the (up to) 12 shown in the display.

I was curious about those digits and wished to compare them to results from other "calculator" programs I have at my disposal.

What I put together will (should) non-destructively (except for the ALPHA register) "SHOW" the full numerical value in the X register. It does so according to a couple formatting variables you can set to taste very early in the program, as indicated by the notes in my listing above.

Re: Free42 extended "SHOW" fun

*Message #4 Posted by **Jim Yohe** on 24 Feb 2011, 3:07 p.m.,*
in response to message #1 by Glen Sanft

What editor did you write this in so you could save it off in a .raw format for importing into Free42? (Sorry if this sounds like a dumb question.)

Re: Free42 extended "SHOW" fun

*Message #5 Posted by **Jim Yohe** on 24 Feb 2011, 3:31 p.m.,*
in response to message #4 by Jim Yohe

Never mind. I just received this link of a translator from Thomas Okken that will do the trick: http://thomasokken.com/free42/txt2raw/txt2raw.html

Re: Free42 extended "SHOW" fun

*Message #6 Posted by **Glen Sanft** on 24 Feb 2011, 4:54 p.m.,*
in response to message #5 by Jim Yohe

I just tried that, and it didn't work too well for me, even after editing out my comments &c.

Go to http://www.webutils.pl/UUencode and paste *this* uuencoded version into the textarea, then click "Decode". It'll decode into the binary format and prompt you to save the file. It didn't know what to do with my previous "base64" version, but the following works perfectly there. Cut/paste everything below from "begin" to "end", *inclusive*, into that web page's textarea.

```
begin 644 FWIW.raw
MP`#U`$9725>R``$3`/2!+DTN$P#T@2Y'+H4"HF6S`+P``V>\`/2!+E@N=?2!
M+EDN=?2!+EHN=?2!+E0N=O2!+DPNA^```/2!+DDN$A0`](N2B[TD2Y8+GKT
M@2Y3+G9A@U:#HE^T`&EGM`!U:!$`08,$=6CT@2Y%+O21+DTN2_2#+D4N=?21
M+D4N5V>Z`$/TE"Y3+J8Q])0N4RZL'/)_+JT<\G\L:041$`!"IC%I])<N2BYG
MN`#TERY)+K4`])$N1R[T@2Y)+G6F01(2`$:W`!$`009X\G\*EW/TERY)+K8`
M])$N1R[T@2Y)+G4'\G\@D'&U``BF01(2`$:Y`!$0`*9<9O)_"@GS?R`8])$N
M12ZF,;L`"OM796YT(&]U="!O9OQ_(')A;F=E(2`@.B@+?H?TD2Y,+I%T])$N
M5"[TD2Y:+O21+EDN])$N6"[TL"Y-+O2P+D<N]+`N22[TL"Y*+O2P+E,N]+`N
?12[TL"Y,+O2P+E0N]+`N6B[TL"Y9+O2P+E@N#,``#0``
`
end
```

Otherwise, you could just take the time to key in the program, hahaha!

(Note: I just performed the operation outlined above using the link and text from the preview version of this post to obtain a bit-for-bit version of FWIW.raw)

Re: Free42 extended "SHOW" fun

*Message #7 Posted by **Mike Morrow** on 24 Feb 2011, 8:34 p.m.,*
in response to message #6 by Glen Sanft

So...I'll repeat Dwight's question: What does it do? Why should someone wade through comments in a long listing to determine a program's purpose?

Re: Free42 extended "SHOW" fun

*Message #8 Posted by **Martin Pinckney** on 24 Feb 2011, 8:47 p.m.,*
in response to message #7 by Mike Morrow

I only had to read the comment on the first program line... {:-)

Re: Free42 extended "SHOW" fun

*Message #9 Posted by **Glen Sanft** on 24 Feb 2011, 8:52 p.m.,*
in response to message #7 by Mike Morrow

How about the first two lines of the listing?

> Quote:
>
> ```
> 00 { 388-Byte (Free42) Prgm }   @@ pretty much pointless on native
> hardware @@
> 01>LBL "FWIW"   @"For What It's Worth"; "show" all digits of stack X
> value
> ```

Or my post above in response to his question?

Re: Free42 extended "SHOW" fun

*Message #10 Posted by **Thomas Okken** on 25 Feb 2011, 8:10 p.m.,*
in response to message #6 by Glen Sanft

Hi Glen,

txt2raw.pl will convert your listing as shown in your initial post; you just have to delete all the non-program lines (including line 00; I think txt2raw.pl may not like how you edited that line but I admit I haven't checked that), and get rid of all the comments (for vi users, **:%s/^\([^@]*\)@.*/\1/** does the job; everyone else, do whatever you have to do to get rid of any '@' signs and whatever follows them on the same line).

Having cleaned up the listing like that, txt2raw.pl converts it to a *.raw file that is identical to your uuencoded version, except for one byte, namely, offset 0x10a, which is a regular 'E' in the listing and an HP-42S small-caps exponent 'E' in the uuencoded raw file -- a cosmetic issue only since this is in a text string.

I like this program and I'll add it to my collection. :-) Being able to see the full precision is useful sometimes, and it's something that the Free42 implementation of SHOW doesn't do, because it tries to mimic the HP-42S by displaying no more than 12 digits.

For Free42 Binary, you could improve the code a bit by having it display 16 digits instead of 25 -- given the 53-bit mantissa of IEEE-754, those last 9 digits are basically just noise.

- Thomas

Re: Free42 extended "SHOW" fun

*Message #11 Posted by **Glen Sanft** on 26 Feb 2011, 10:26 a.m.,*
in response to message #10 by Thomas Okken

Hi Thomas.

Pleased to meet you and thank you very much for Free42! (I swear that with the realistic "skin" I can almost feel the keypad button move with just the right sensation under my finger when I click the mouse)

I'd tried the txt2raw script a couple times before posting earlier about it. The first time I ended

up with only the "E" difference but I recall that when I reverted

```
 >LBL 08      @and here it comes...
- |-" "
- 24
- XTOA
+ |-" E"      @this is the "exponent" (little big) "E"
  RCL ".E."
```

then my luck wasn't so good. Probably I'd just mis-compared something the second time.

I had to add the ".J." stuff to use this with free42bin. Note my notes at lines 28ff and 74f.

Don't forget to play around with the two values at lines 4 and 6. I put their declarations up as near the top as I could so they can be altered with little fuss. It's quite easy to then just up-arrow a few times before exiting the program-entry mode and be ready for an immediate R/S.

I'd placed tabs before the @s (they should still be there even after a cut-paste from this thread) so what I'd do in vi is

```
:%s,\t.*,,
ggdd
```

or probably just

```
sed 's,\t.*,,; 1d' | ./txt2raw.pl -
```

I threw the (Free42) into the program header line hoping to help prevent some poor soul going to all the trouble of entering the program into their native hardware. However, if one has the notion to do so, throw an AVIEW in after line 72 (AIP) which will make it funner to watch while waiting, and waiting.

Feel free to freely include this with your Free42 website stuff if you have half a notion.

Re: Free42 extended "SHOW" fun

*Message #12 Posted by **Glen Sanft** on 10 Mar 2011, 6:00 p.m.,*
in response to message #10 by Thomas Okken

Even though I'd considered it a finished product when originally posted here, I went ahead and made a few changes:

- All three "user options" are now available near the head of the program for ease of manipulation and are each preceded by a line of reference text.

- The routine which determines whether a linefeed should be inserted was changed from a loop scheme to (up to) three simple X--Y tests.

- A couple of variables were replaced with judicious stack use.

Here are some performance numbers obtained by looping 10 iterations "showing" PI on native hardware, timed manually using X48:

as originally posted = 50.95 seconds (running the program singly the "busy" annunciator flashes a very brief 6th time)

with un-looped "line-feeder" = 44.08 seconds (running singly the "busy" annunciator flashes a 5th time seemingly about half its normal duration)

fully(?) optimized (current version) = 37.47 seconds (running singly the "busy" annunciator flashes a 4th time for what "feels" like an almost-full duty cycle)

There is a 13kB zip file containing the .raw file, a .gif image of the program listing "printout", and some text files at http://www.box.net/shared/20plsp89n1.

Enjoy!

Re: Free42 extended "SHOW" fun

*Message #13 Posted by **Lyuka** on 24 Feb 2011, 11:22 p.m.,*
in response to message #1 by Glen Sanft

Hi Glen,

Thanks for your contribution, I found it's very useful.

Lyuka

Re: Free42 extended "SHOW" fun

*Message #14 Posted by **Dwight Sturrock** on 24 Feb 2011, 11:30 p.m.,*
in response to message #13 by Lyuka

I get it. I use the real 42S most of the time. What you are saying is that the program will show the extra digits of precision that the Free42 maintains internally.

Re: Free42 extended "SHOW" fun

*Message #15 Posted by **Gerson W. Barbosa** on 25 Feb 2011, 7:34 a.m.,*
in response to message #13 by Lyuka

Hi Lyuka,

> Quote:
>
> I found it's very useful.

So did I. Glen's program is a keeper!

```
9 SIN COS TAN Shft ATAN Shft ACOS Shft ASIN FWIW
```

returns

```
8.999 999 999 999 999
 999 931 316 E0
```

Instead of FWIW above, previously I had done

```
9 - E 24 * E 5 +
```

and gotten

```
31,316
```

(Free42 Decimal 1.4.62)

Regards,

Gerson.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hp-42s display problem

*Message #1 Posted by **aj04062** on 23 Feb 2011, 10:29 p.m.*

I'm looking for confirmation on the root cause on a display failure on a 42 I just acquired.

Half of pixels in one ROW are out. Does it make sense that this would be a bad Zebra connection? Unless more drop out I think it might be foolish to open this up to repair.

Agree?

Thanks for the feedback!

Re: Hp-42s display problem

*Message #2 Posted by **Randy** on 24 Feb 2011, 12:30 p.m.,*
in response to message #1 by aj04062

Twisting the case slightly should prove/disprove the theory.

I have seen cracked LCD's along one corner, typically the top left or right that exhibit that behavior. The crack is not visible from the front, only from the back when the zebra is removed.

The missing row - which side and which row? From that I can figure out where that element terminates on the LCD.

Re: Hp-42s display problem

*Message #3 Posted by **aj04062** on 24 Feb 2011, 9:34 p.m.,*
in response to message #2 by Randy

Here is a picture

Re: Hp-42s display problem

*Message #4 Posted by **Marcus von Cube, Germany** on 25 Feb 2011, 2:20 a.m.,*
in response to message #3 by aj04062

That's probably a failed driver IC.

Re: Hp-42s display problem

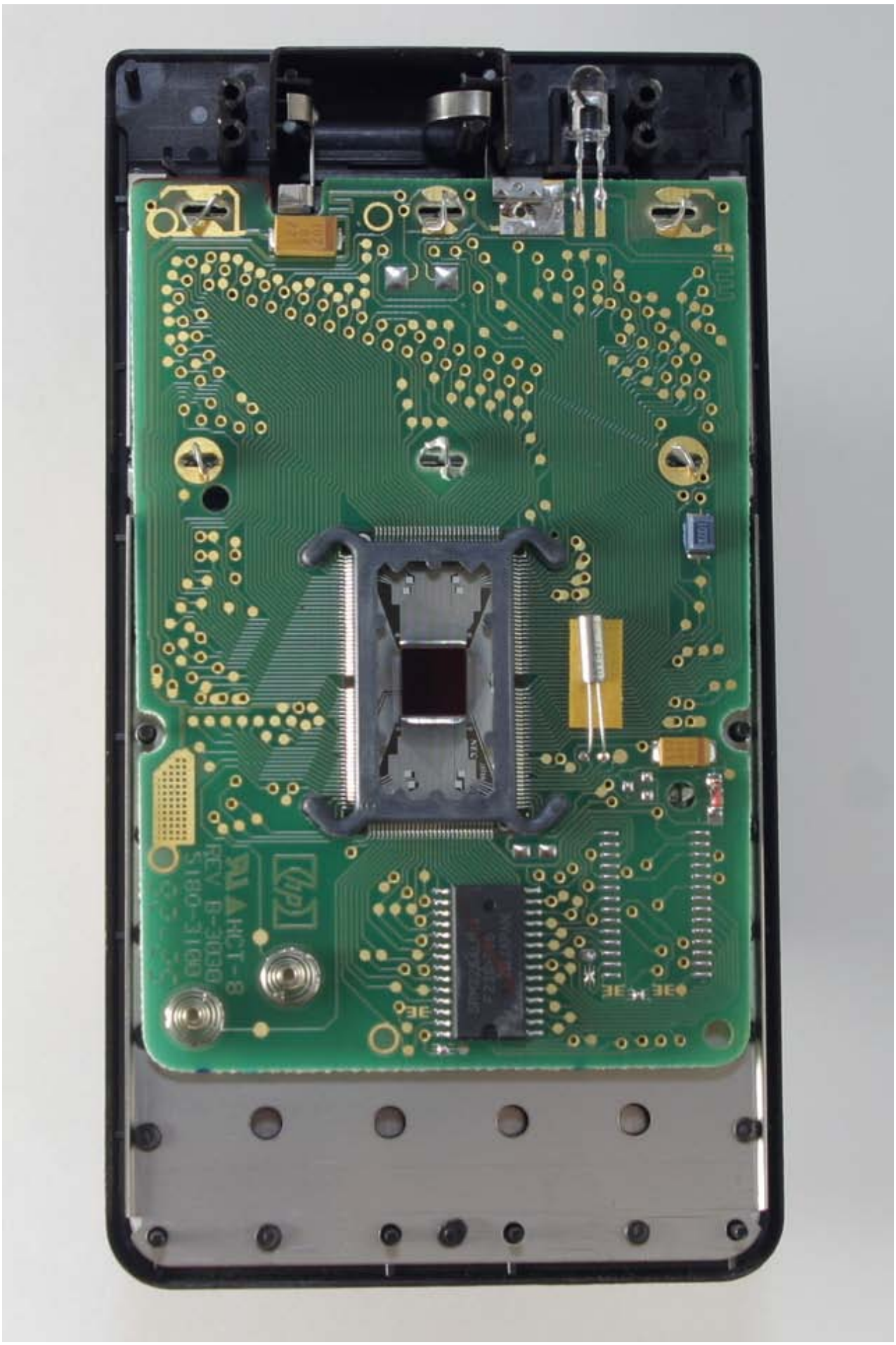
*Message #5 Posted by **aj04062** on 25 Feb 2011, 7:01 a.m.,*
in response to message #4 by Marcus von Cube, Germany

If that's the case, is a replacement only available from another 42 or is the 17BII have the same IC?

Re: Hp-42s display problem

*Message #6 Posted by **Walter B** on 25 Feb 2011, 8:36 a.m.,*
in response to message #5 by aj04062

Please look at this:



IMHO there's not much on the pcb you can swap.

Re: Hp-42s display problem

*Message #7 Posted by **Randy** on 25 Feb 2011, 11:42 a.m.,*
in response to message #3 by aj04062

All 16 rows on the left side terminate along the top left edge of the LCD. The row in question would be right below the top right twist tab as seen from the back.

If it isn't a contact issue, it is either a failed driver row on the IC or a failed lead frame bond on the die. FWIW, I've found that mechanical failures of the lead frame out-number electrical die failures about ten to one. That said, that element lands pretty much dead center on the right edge of the die so I'd be inclined to think it is electrical, not mechanical.

Re: Hp-42s display problem

*Message #8 Posted by **aj04062** on 26 Feb 2011, 10:03 p.m.,*
in response to message #7 by Randy

Well, I pulled the calculator apart because as I twisted, another half row blinked on and off. I deduced, it was probably a bad connection in need of repair.

Well, I do believe it is. When I got it apart I immediately noticed green corrosion in areas near the zebra.

Well I cleaned as delicate as I could with warm water, vinegar and a q-tip. I think there are 2-3 traces that need repair. YES the corrosion is this bad, It reminds me of a 65 I repaired that had a completely exploded battery.

Anyone have a good source of VERY FINE trace repair? I think the conductive trace pen is the only way to go here, agreed?

Re: Hp-42s display problem

*Message #9 Posted by **Wanderley Navarro** on 27 Feb 2011, 12:06 a.m.,*
in response to message #8 by aj04062

Maybe this will solve.

But an advise from Randy would be highly appreciated.

Re: Hp-42s display problem

*Message #10 Posted by **aj04062** on 27 Feb 2011, 8:36 a.m.,*
in response to message #9 by Wanderley Navarro

I Purchased a Micro Tip Silver Trace Pen last night from Cicuitworks. My only concern is that the tip may be too large to work with (.8mm)

The traces are about half that width I think.

I'll give it a try. I want to use it on the 65 with the exploded battery anyways.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

LIF Utilities for linux

*Message #1 Posted by **Christoph Giesselink** on 23 Feb 2011, 6:18 p.m.*

Does anyboby managed it to port the programs inside the "LIF Utilities for linux" sources mentioned in Tony Duell's article liffile - HP9114 LIF disk image file into a Windows console program?

I tried to compile them with MinGW and with Cygwin, but in both packages the include files /Linux/fd.h and /Linux/fdreg.h are missing. Maybe that there are some more files missing.

Christoph

Re: LIF Utilities for linux

*Message #2 Posted by **Egan Ford** on 23 Feb 2011, 7:02 p.m.,*
in response to message #1 by Christoph Giesselink

I tried as well a long time ago. I think it's more than just missing files, but its really a different way of accessing the floppy. I think you are going to have to breakdown and figure out how to write a Windows driver for this.

I am trying to remember if I had any luck with using lif images. The utilities can operate on /dev/fd0 as well as lif images. I think I got that to work, but I do not recall. However, JFG's tools for lif image manipulation to support the PIL-Box would be a better source to start with.

I just check my backups and I cannot find my build directory for the lif utils under Windows. I abandon Windows 3 years ago, I just couldn't take it any longer.

Re: LIF Utilities for linux

*Message #3 Posted by **Christoph Giesselink** on 24 Feb 2011, 3:19 p.m.,*
in response to message #2 by Egan Ford

Hi Egan,

> Quote:
>
> However, JFG's tools for lif image manipulation to support the PIL-Box would be a better source to start with.

Sorry, which tools do you mean? I only know VLif.exe from JFG's Emu71 package.

Christoph

Re: LIF Utilities for linux

*Message #4 Posted by **Egan Ford** on 24 Feb 2011, 4:12 p.m.,*
in response to message #3 by Christoph Giesselink

ILPer from http://www.jeffcalc.hp41.eu/hpil/index.html.

It can read/write lif images but not lif disks in A:.

Re: LIF Utilities for linux

*Message #5 Posted by **Glen Sanft** on 23 Feb 2011, 8:27 p.m.,*
in response to message #1 by Christoph Giesselink

The tarball for those utilities is currently located at http://www.hpcc.org/datafile/hpil/lifutils.tar.gz (the link in your linked-to page above is not valid anymore)

The "Readme" file in the archive file says:

> Quote:
>
> These programs should build on a standard linux system by simply unpacking the archive and typing 'make'. Porting to other unix-like OSes will be difficult owing to the direct access to the floppy disk controller. At least lif_phy.c will need major changes.

I'd venture to guess that the code in the current Linux sources might be different-enough to require some patching to get this stuff to work. It certainly wouldn't work under Windows, at least directly, even if you fetched pertinent linux headers to make the compiler happy.

Maybe fetch an historic version of Slackware from back when this package was put together, and install it into a virtual machine (i.e. VirtualBox) under your Windows. "Boot" the machine, compile the code, and run it from the command-line in a terminal window. Maybe?

Whenever I have to use Windows I get done what I need in a virtual machine under GNU/Linux. Then go take a shower...

No matter how you tackle this you'll have to roll up your sleeves a bit.

Re: LIF Utilities for linux

*Message #6 Posted by **Marcus von Cube, Germany** on 24 Feb 2011, 2:52 a.m.,*
in response to message #1 by Christoph Giesselink

Christoph, my CASsette I/O Utilities contain a module to access a Casio MD-100 floppy directly from windows. I'm using the windows package LibDisk by John Elliot. Here is my win32/readme.txt file with some links and explanations:

> Quote:
>
> The program md100 in this package makes use of LibDsk by John Eliott.
>
> Please visit his site at http://www.seasip.demon.co.uk/Unix/LibDsk
>
> For Windows NT and above, an auxiliary driver, written by Simon Owen, is needed by LibDsk:
>
> http://simonowen.com/fdrawcmd/
>
> The install subdirectory of this folder contains the driver. Install it by starting FdInstall.exe

> On Windows 9x/ME, you should start the program LDSERVER.EXE before you access the disk. This server is a 16 bit program which can do some tricks with the floppy controller that a 32 bit program can't. The program and its dll can be found in the win95 subdirectory of this folder.
>
> Marcus von Cube

You should be able to adapt the respective module in my project (libdisk.c) for LIF disk access under Windows.

Re: LIF Utilities for linux

*Message #7 Posted by **Christoph Giesselink** on 24 Feb 2011, 3:21 p.m.,*
in response to message #1 by Christoph Giesselink

Sorry, I should be more precise next time.

I'm especially looking for a tool to manipulate files in the "HP9114 LIF disk image file format". In my main focus are HP-71B related files inside LIF images handled by ILPer.

Interesting features would be:

```
dir     : print a directory of a LIF image
create  : create an empty LIF image
put     : put a file to a LIF image
get     : extract a file from a LIF image
purge   : purge a file in a LIF image
```

So I thought that the "LIF Utilities for linux" would be a good entry.

Christoph

Re: LIF Utilities for linux

*Message #8 Posted by **Juergen Keller** on 24 Feb 2011, 3:46 p.m.,*
in response to message #7 by Christoph Giesselink

Perhaps these two articles are helpful (if you not already read them):

HP-IL Files: Where, What, Why, How, etc.

liffile - HP9114 LIF disk image file

The LIF utilities ARE a good starting point. You may also be interested in the HPDir tool from hp9845.net, there is some documentation about LIF file format, too:

Background: The LIF File System

Hope this helps,
Juergen

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

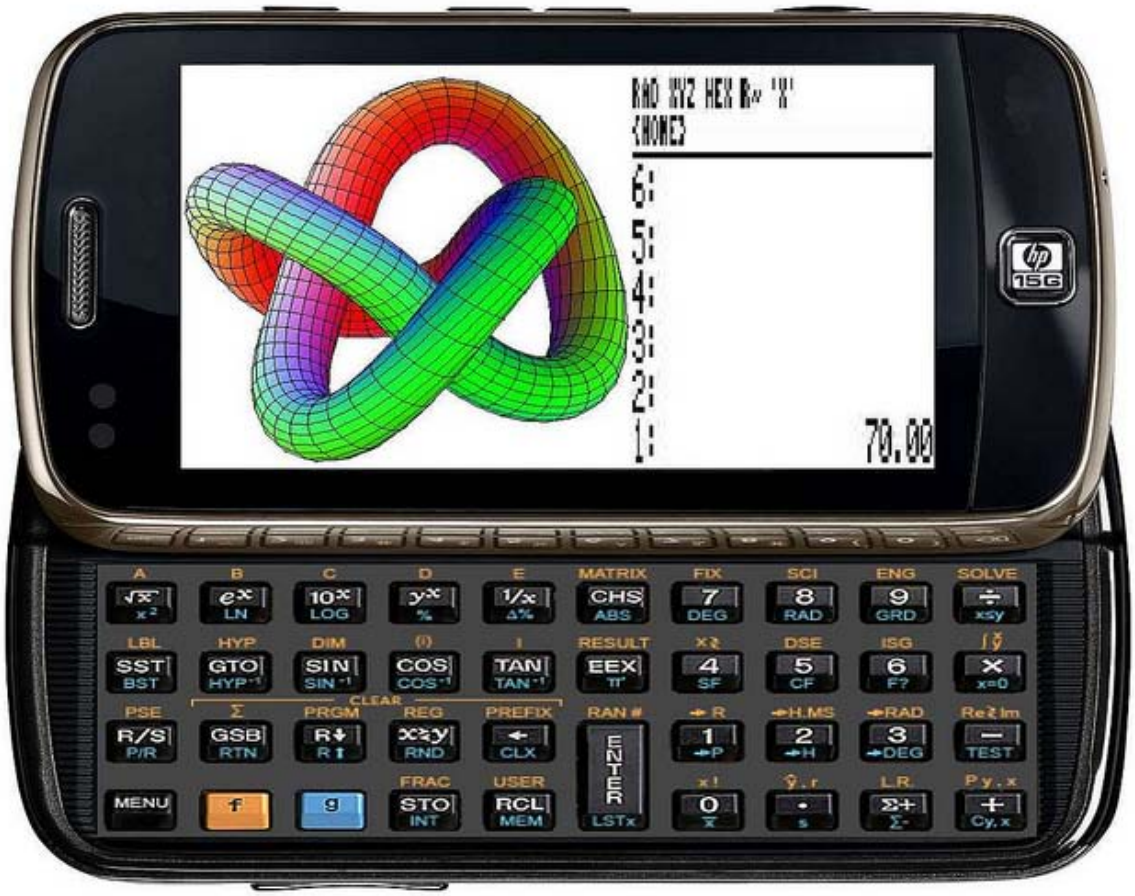
[Return to Index | Top of Index]

Voyager Platform for the 21st Century

*Message #1 Posted by **Norman Dziedzic** on 23 Feb 2011, 6:03 p.m.*

I realized that some of the slider phones have the same number of keys as a the voyager calculators. So, this type of hardware exists with keyboard and graphical touch screen (and camera and data storage/transfer) already!

Perhaps this is possible :-)



Edited: 24 Feb 2011, 8:19 a.m.

Re: Voyager Platform for the 21st Century

*Message #2 Posted by **Eric Smith** on 24 Feb 2011, 10:51 a.m.,*
in response to message #1 by Norman Dziedzic

When you buy a smartphone for $200, you're really paying $600, of which $400 comes from your 2 year service commitment. Given that when you buy a calculator, you're not commmitting to a monthly service, are you going to be willing to pay $500 for a calculator?

In the 1970s, programmable calculators sold for more than the equivalent of $500 in 2011 dollars, but I think few people would be willing to do that now.

Re: Voyager Platform for the 21st Century

*Message #3 Posted by **Norman Dziedzic** on 24 Feb 2011, 12:41 p.m.,*
in response to message #2 by Eric Smith

On TAS you can get a Samsung SPH Exclaim M550 for under $30.00 I just don't know how to develop for these things or I'd give it a try.

Re: Voyager Platform for the 21st Century

*Message #4 Posted by **svisvanatha** on 24 Feb 2011, 12:54 p.m.,*
in response to message #2 by Eric Smith

Eric, agreed! Besides Free42 on my Nokia N900 is fairly usable! ;)

A 21st Century Voyager, IMHO, is if the 15C functionality can be packaged intp the HP12C Arm variant.

https://picasaweb.google.com/lh/photo/34NlOdKEPtDb9CtaSUqTeQ?feat=directlink

Re: Voyager Platform for the 21st Century

*Message #5 Posted by **Norman Dziedzic** on 24 Feb 2011, 3:49 p.m.,*
in response to message #4 by svisvanatha

I use Free42 and i41CX+ and M48 and i48 and HP15C on my iPhone but without real keys they all fall short for me.

I just thought with the 15C seeming to be the most requested bring back and all the other requests for I/O connectivity and color and storage and real keys that hacking a slider phone could be a very neat way to realize many of the wants / desires expressed online.

Seeing as how kids are so into phones, it might also pique some interest amongst the youngin's to have the "cool calculator" instead of the big TI brick.

Hey, doesn't HP own a smart phone company????? Can you say synnergy (apparently I can say it but I can't spell it)

Re: Voyager Platform for the 21st Century

*Message #6 Posted by **Marcus von Cube, Germany** on 24 Feb 2011, 6:17 p.m.,*
in response to message #5 by Norman Dziedzic

> Quote:
>
> Hey, doesn't HP own a smart phone company?????

Yes, they have acquired Palm.

Re: Voyager Platform for the 21st Century

*Message #7 Posted by **Mike Morrow** on 24 Feb 2011, 9:12 p.m.,*
in response to message #5 by Norman Dziedzic

> Quote:
>
> I just thought with the 15C seeming to be the most requested bring back...

Among most of those familiar with both the HP 42S and the HP-15C, it is likely that the 42S is the most desired for resurrection, especially in view of HP's decision to never again produce such a capable model for fear that it would adversely impact their top-scale calculator sales.

The 42S doesn't require as many keys either.

But both the 42S and the 15C grossly fail the logical requirement that the ENTER key be in the same column as the /*-+ keys (preferably above them). The Voyager is the HP model that first broke this rule. In some arbitrary exercise of style over substance, without any technical justification, all subsequent HPs except the 49/50 series continue to violate it thirty years later. (Sadly, the 49/50 series puts it below the /*-+ keys).

The Voyager model is really a very poor design for the "21st Century". Let it sleep, except amongst non-technical finance types who can't be educated that HP has an excellent product (HP 30b) for much less money that has tremendously more advanced capabilities.

Edited: 24 Feb 2011, 9:18 p.m.

Re: Voyager Platform for the 21st Century

*Message #8 Posted by **Norman Dziedzic** on 24 Feb 2011, 10:11 p.m.,*
in response to message #7 by Mike Morrow

I figured that 15c comment would open up a can of worms (or at least your can ;/\})

I would never want just a 15C ported to a graphical color device. I would like to have a regular 15C because now I collect but I don't think I could ever use it for everyday work. I'll spend my money on a 41CX before I'll spend it on a 15C.

My point is that there are many many possibilities with modern hardware that bear looking at for the people that think about new calculator designs. And there are platforms where these things could be prototyped and tested available today.

Would it be useful/useable? I don't know but I'd like to give something like that a spin for a few weeks.

Re: Voyager Platform for the 21st Century

*Message #9 Posted by **sylvandb** on 27 Feb 2011, 2:10 a.m.,*
in response to message #7 by Mike Morrow

> Quote:
>
> Among most of those familiar with both the HP 42S and the HP-15C, it is likely that the 42S is the most desired for resurrection,

why? Neither one had I/O to store and load programs or data. That's why I didn't buy a 42s then and probably wouldn't buy a new issue. (I bought my 15c in 1982.) Today the capabilities of both the 42s could easily be implemented along with those of the 15c in a single new calculator in either portrait or landscape, and personally I'd strongly prefer more keys, and slightly prefer landscape.

> Quote:
>
> The Voyager model is really a very poor design for the "21st Century".

Because of the layout? Or because the ancient display or custom processor is so limited?

The 7segment display was the only problem I ever had with my 15c. I'd accept a speedup like the new 12c even at the cost of battery life, but faster isn't important to me. I would insist on a more capable display, and that is the _only_ reason I'd rather have a 42s.

If for the layout, I very much disagree. Further, the limited keys on the 42s is a problem. The only reason I'd give up keys is to get more area for a display. The horizontal form factor works great with the centered ENTER, and it enables a wider display for longer-length lines than would be practical in a portrait layout. Longer lines aren't needed for numbers, but they are really handy for text!

And the final criteria is price. A new 15c functionally equivalent to the old one should sell for a 20b-like price, or less. At that price I'd buy at least 3, probably 6+, and have them everywhere. (I'm not going to carry a calculator.)

Slightly more expensive to get a better display might enable much sophisticated software. But much more expensive, even with more features, I wouldn't buy as many... Would more features and/or a different layout appeal to enough more people to make more sales overall? Don't know. And it appears at least thus far, HP doesn't believe it would be sufficient.

Re: Voyager Platform for the 21st Century

*Message #10 Posted by **Martin Pinckney** on 24 Feb 2011, 1:00 p.m.,*
in response to message #2 by Eric Smith

I think Norman means developing an app for a used phone.

Re: Voyager Platform for the 21st Century

*Message #11 Posted by **Garth Wilson** on 24 Feb 2011, 7:34 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> In the 1970s, programmable calculators sold for more than the equivalent of $500 in 2011 dollars, but I think few people would be willing to do that now.

They would work for decades too. My son's smart phone has serious problems after less than two years.

Re: Voyager Platform for the 21st Century

*Message #12 Posted by **bill platt** on 25 Feb 2011, 9:13 a.m.,*
in response to message #11 by Garth Wilson

RohHS makes these modern devices junk. The solder joints contain no lead. They will fail.

Everything new is junk.

Re: Voyager Platform for the 21st Century

*Message #13 Posted by **Walter B** on 25 Feb 2011, 9:26 a.m.,*
in response to message #12 by bill platt

Bill,

> Quote:
>
> RohHS makes these modern devices junk.

Assume you meant RoHS. OTOH, however, IoHS makes our grandchildren junk :-(It's (y)our choice.

Re: Voyager Platform for the 21st Century

*Message #14 Posted by **bill platt** on 25 Feb 2011, 9:36 a.m.,*
in response to message #13 by Walter B

what is IoHS?

Re: Voyager Platform for the 21st Century

*Message #15 Posted by **Walter B** on 25 Feb 2011, 10:07 a.m.,*
in response to message #14 by bill platt

Hmmmh, if RoHS means Reduction of Hazardous Substances, then IoHS could mean Increase ... , couldn't it?

Some fantasy is requested sometimes even from people spreading abbreviations. Please note such strange stuff is hard to decode for readers not familiar with the specific topic or the language or both. It's even worse if mistyped. So I strived for beating you at your own game. But I made it really easy for you employing your language and spelling correctly d8-)

Edited to correct a typo in a foreign language.

Edited: 25 Feb 2011, 10:17 a.m.

Re: Voyager Platform for the 21st Century

*Message #16 Posted by **Garth Wilson** on 25 Feb 2011, 12:12 p.m.,*
in response to message #13 by Walter B

> Quote:
>
> Assume you meant RoHS. OTOH, however, IoHS makes our grandchildren junk :-(It's (y)our choice.

Is IoHS "inclusion of hazardous substances"? We live just a few miles from a dump that's nearly full. It has many decades of electronics waste in it. We also get the ground water report every year, and the lead content is around an eighth of the action level, and yet the dump is not one of the suspected sources, but errosion of natural deposits *is*. Even before RoHS, the electronics industry used very little lead compared to the vehicle-battery industry, yet the latter is RoHS-exempt. Politics as usual, not helping anyone except those who've found a way to make a lot of money pushing through a new law. Our company is still using lead in our soldering. We say the European market isn't worth converting.

Edited: 25 Feb 2011, 12:14 p.m.

Re: Voyager Platform for the 21st Century

*Message #17 Posted by **Walter B** on 25 Feb 2011, 12:50 p.m.,*
in response to message #16 by Garth Wilson

> Quote:
>
> Is IoHS "inclusion of hazardous substances"?

No, Sir. Please read what was written earlier.

> Quote:
>
> Even before RoHS, the electronics industry used very little lead compared to the vehicle-battery industry, yet the latter is RoHS-exempt. Politics as usual, not helping anyone except those who've found a way to make a lot of money pushing through a new law.

In democracies, the respective "démos" usually gets the legislation it earns d;-)

> Quote:
>
> Our company is still using lead in our soldering. We say the European market isn't worth converting.

Thanks. Helps promoting our business d8-)

Edited: 25 Feb 2011, 12:53 p.m.

Re: Voyager Platform for the 21st Century

*Message #18 Posted by **Garth Wilson** on 28 Feb 2011, 4:16 p.m.,*
in response to message #16 by Garth Wilson

I should have added that I grew up in another country where we drank water from lead pipes, and yet of the kids that went to the same boarding school with me, an unusually high percentage became doctors, engineers, and scientists. Brain damaged from lead? I don't think so.

Re: Voyager Platform for the 21st Century

*Message #19 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 4:17 a.m.,*
in response to message #18 by Garth Wilson

Garth, it depends on whether the lead goes into the water or not. If the interior of the pipes is covered with limescale, the lead is sealed and stays in the pipe. If you have acidic water, things are different.

Hazardous substances in consumer goods tend do end up in a land fill, despite all recycling efforts. Many people either don't care or don't know. Many dumpsites aren't properly sealed against the ground and thus, over the years, a significant amount of these substances end up in the air or in rivers, lakes or ground water. If this can be avoided, it should be avoided.

I agree that it's not a good idea to design consumer goods in a way that they fail or become obsolete only after a few years of service just to avoid saturating the market. This results in more questionable waste being produced over time as if the devices were to stay alive much longer. So a device working for decades and being properly recycled thereafter is advantageous, even if it contains heavy metal in its solder or toxic but durable plastic in the housing.

Re: Voyager Platform for the 21st Century

*Message #20 Posted by **Martin Pinckney** on 24 Feb 2011, 9:50 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> In the 1970s, programmable calculators sold for more than the equivalent of $500 in 2011 dollars, but I think few people would be willing to do that now.

No, actually they sold for the equivalent of $500 in *1970s* dollars! (HP-65/67).

Re: Voyager Platform for the 21st Century

*Message #21 Posted by **Crawl** on 24 Feb 2011, 2:20 p.m.,*
in response to message #1 by Norman Dziedzic

Pretty weird how the actual keys are calculator keys, but the reflection in the case is of the top row of a QWERTY keyboard =P

Re: Voyager Platform for the 21st Century

*Message #22 Posted by **Walter B** on 24 Feb 2011, 3:03 p.m.,*
in response to message #21 by Crawl

Those are the limits of photoshop ;)

Re: Voyager Platform for the 21st Century

*Message #23 Posted by **Norman Dziedzic** on 24 Feb 2011, 3:43 p.m.,*
in response to message #22 by Walter B

Actually I used Paint.net but same idea. This was a 5 minute job and not made for the cover of BYTE magazine... %^)

Re: Voyager Platform for the 21st Century

*Message #24 Posted by **robert rozee** on 25 Feb 2011, 9:42 p.m.,*
in response to message #1 by Norman Dziedzic

here is one option for your hardware:

link to Ben NanoNote website

i believe these units cost something like us$99, and run linux with a 300mhz or thereabouts processor. more than enough for free42, which could then be extended as folks desired to include '48 style functionality in future. and i am quite sure that a customized set of keyboard labelling could be provided for.

i agree with other posters in that lead-free (RoHS) compliant construction dooms any modern electronics items to an early demise. i work in the R&D field, and can confirm it is an absolute nightmare for anything other than consumer-level products that a manufacturer WANTS to fail after a few years. however, there is no reason why silver-based solder should not be considered as an option.

Re: Voyager Platform for the 21st Century

*Message #25 Posted by **Marcus von Cube, Germany** on 3 Mar 2011, 12:34 p.m.,*

in response to message #24 by robert rozee

I've got one of these, thanks to Christoph Pulster!

After an update of the firmware (OpenWrt, a special Linux distro) and some tweaking of the setup, the NanoNote runs. But it is of limited use, yet: No wireless ports, only a device USB port. No touchscreen or other pointing device. I couldn't find a suspend mode, the power button seems to turn the device off. Power on causes a cold boot. The application software features kind of a PDA (all in beta). OTOH, it's not meant as a ready to use consumer device, it's an open development platform with complete "copyleft".

With 32MB of RAM and 2 GB NAND flash, the unit has enough horsepower for interesting applications. A powerful calculator might be one. But there is a caveat: The keyboard is a little "special": It's fully alphabetic but uses several shift keys to access special characters and digits. For a calc, the keyboard has to be redesigned not only concerning the legends, but probably mechanically, too, as it is relatively stiff and keys are very narrowly spaced. Without a touchscreen, free42 is not an option, either.

Despite all odds, it's fun to play around with the little beast. Connected to my Mac, it acts like a network device. SSH works out of the box. Editing config files from my mac keyboard is a real timesaver, compared to the tiny local keyboard. I'll investigate further.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking for Luiz Vieira!

*Message #1 Posted by **gene wright** on 23 Feb 2011, 10:04 a.m.*

Hey Luiz, email me.

Sorry to spam the forum.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

In Homage to Peter Henrici

*Message #1 Posted by **Namir** on 22 Feb 2011, 5:39 p.m.*

Hi All,

A few months ago I started reading Peter Henrici's book "Computational Analysis with the HP-25 Pocket Calculator". The book contains very interesting programs that implement interesting algorithms. I am impressed how, the late Swiss mathematician, Henrici was able to push the HP-25 to the very limit. I have been translating some of his programs to HP-67 and HP-41C, allowing me more breathing space and the ability to generalize Henrici's program. The code does a lot and without the advantage of using subroutines. I guess Henrici wanted to target the lower-cost HP-25 calculator--perhaps barely affordable to students. I wish he did a version for the more expensive (especially for students) HP-67 or HP-41C--a project that needed much selling to the conservative publishers.

Henrici's wife has also written a similar book for the HP-33C (which I also have) and this book is a companion of "Essentials of Numerical Analysis", also by Henrici. The HP-33C version uses subroutines and is able to explore more interesting algorithms.

Among the books written for programmable calculators, Henrici's books for the HP-25 and HP-33C stand tall. If you have spare time to fiddle with old code (and even run it on the HP-25 emulator available on this site) then I encourage you to do so. It is also an interesting journey into cool computational algorithms.

Namir

Re: In Homage to Peter Henrici

*Message #2 Posted by **Martin Pinckney** on 22 Feb 2011, 7:57 p.m.,*
in response to message #1 by Namir

It must be quite rare for a husband and wife to share such a narrowly-focused esoteric interest. Perhaps they met because of similar interests.

Re: In Homage to Peter Henrici

*Message #3 Posted by **Namir** on 22 Feb 2011, 8:22 p.m.,*
in response to message #2 by Martin Pinckney

Good point ... and it makes me wonder who among them was the smart calculator coder! Perhaps Mrs Henrici??? Whoever it was, he or she sure pushed coding to the limit on the 25 and the 33C.

Re: In Homage to Peter Henrici

*Message #4 Posted by **David Hayden** on 24 Feb 2011, 3:22 p.m.,*
in response to message #1 by Namir

I got a copy of this book as a door prize at HHC 2010 and translated a few of the programs to run on a 15C. It was fun to play with these little gems.

Dave

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Sandmath Mod Question

*Message #1 Posted by **mbrethen** on 22 Feb 2011, 2:14 p.m.*

This is directed toward Angel Martin:

I'm trying to use the Sandmath Module on i41CX and the EV3X3 function in particular. I input "XEQ ALPHA EV3X3 ALPHA" with the output "Nonexistent". Not sure why the function can't be found.

Note: the Advantage and I41CX-MATH modules are installed as well.

Re: Sandmath Mod Question

*Message #2 Posted by **mbrethen** on 22 Feb 2011, 2:25 p.m.,*
in response to message #1 by mbrethen

If this helps:

Port1 = I41CX-MATH Port2 = Advantage Port3 = Sandmath Port4 = No Module

Re: Sandmath Mod Question

*Message #3 Posted by **Ángel Martin** on 22 Feb 2011, 4:48 p.m.,*
in response to message #2 by mbrethen

The only dependency is for the Advantage module, and a SIZE large enough to hold the matrix data if not in XMEM.

Also make sure you have FLAG 6 CLEAR in order to use a new matrix.

Re: Sandmath Mod Question

*Message #4 Posted by **mbrethen** on 22 Feb 2011, 7:35 p.m.,*
in response to message #3 by Ángel Martin

I'm not sure what size is required to run (didn't find this info in the docs) but I set it to 28. Also checked flag 6 was clear. Still no luck.

Re: Sandmath Mod Question

*Message #5 Posted by **mbrethen** on 22 Feb 2011, 9:55 p.m.,*
in response to message #4 by mbrethen

I looked at the Matrix ROM in Sandmath 7A 3.pdf, and although the header is EV3X3, the function name is VP3X3. I tried executing that and it works.

One observation: It doesn't appear to print the results in normal or trace mode.

Re: Sandmath Mod Question

*Message #6 Posted by **Ángel Martin** on 23 Feb 2011, 1:18 a.m.,*
in response to message #5 by mbrethen

VP3X3 was the previous name for that program, so it's likely you're running a rather old version of the Module. The current one is version 8.

I'm not sure how often they get updated at TOS for download on i41CX though. I checked on my i41CX and it already has version 7, which has the new name so you could also update it.

Edited: 23 Feb 2011, 1:18 a.m.

Re: Sandmath Mod Question

*Message #7 Posted by **mbrethen** on 23 Feb 2011, 10:03 a.m.,*
in response to message #6 by Ángel Martin

i41CX only came with the i41CX-Math module, and I had to download Sandmath from TOS. There are 3 different modules; can you explain the differences?

Sandmath (currently loaded in Port 3) Older version?

Sandmath 8k

Sandmath 12k

Re: Sandmath Mod Question

*Message #8 Posted by **Ángel Martin** on 24 Feb 2011, 1:37 a.m.,*
in response to message #7 by mbrethen

This is probably what caused the issue. The "sandmath" rom is an older version, for all that matter you can delete it as it has old revisions of the programs, superceded by the "SandMath_8k" , or the "SandMath_12k" - which is a superset of the 8k version, plus another 4k containing the "Algebra" section (i.e. matrix, vectors and polynomial programs).

In summary:

Sandmath - old and superceded.

SandMath_8k = Main Module, does not need Advantage
SandMath_12k = SandMath_8k + Algebra ROM.

Only the programs in the Algebra part require the Advantage ROM.

Hope this clarifies.

Re: Sandmath Mod Question

*Message #9 Posted by **mbrethen** on 24 Feb 2011, 9:27 a.m.,*
in response to message #8 by Ángel Martin

Yes it does, Thanks.

Is it my imagination, or does there seem to be a (calculation) speed gain in the newer module?

Edited: 24 Feb 2011, 9:49 a.m.

Re: Sandmath Mod Question

*Message #10 Posted by **Ángel Martin** on 24 Feb 2011, 3:59 p.m.,*
in response to message #9 by mbrethen

> Quote:
>
> Is it my imagination, or does there seem to be a (calculation) speed gain in the newer module?

Well, yes! I optimized things a bit between both revisions, like I wrote a couple of functions to simplify the code and expedite things - so that may be what you're noticing.

It really is a much improved version - not perfect quite yet but I'm working on it :-)

Re: Sandmath Mod Question

*Message #11 Posted by **mbrethen** on 25 Feb 2011, 11:02 a.m.,*
in response to message #10 by Ángel Martin

Can the output be sent to the printer? I haven't found a way to do that.

Edited: 25 Feb 2011, 11:35 a.m.

Re: Sandmath Mod Question

*Message #12 Posted by **Ángel Martin** on 25 Feb 2011, 3:24 p.m.,*
in response to message #11 by mbrethen

Have you tried setting the printer in NORM mode?

Re: Sandmath Mod Question

*Message #13 Posted by **mbrethen** on 25 Feb 2011, 11:39 p.m.,*
in response to message #12 by Ángel Martin

I tried both trace and norm. The matrix inputs are printed, and after that a series of "RUN" statements, and a single "RUNNING..." statement. However, output results are not printed for some reason.

Edited: 25 Feb 2011, 11:40 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Another non-HP RPN calculator in my collection

*Message #1 Posted by **Michael de Estrada** on 22 Feb 2011, 12:38 p.m.*

I just won a TAS auction for an apparently NOS Garrett 2002 There was one other serious bidder, perhaps someone who frequents this forum? The listing made no mention of RPN, otherwise there might have been more bidders. This is the second Garrett I've found, the first being a model 2000, which differs only in that it lacks the alarm clock & timer functions. I find it interesting that the instructions for the Garrett 2000 make no mention of RPN, even though the calc has an Enter key and clearly uses RPN data entry. Anyways, lately my collecting has been focused on non-HP RPN calcs.

Re: Another non-HP RPN calculator in my collection

*Message #2 Posted by **Keith Midson** on 22 Feb 2011, 9:48 p.m.,*
in response to message #1 by Michael de Estrada

Interesting - I didn't bid on this item, but the first (non-serious) bidder for your Garrett is currently going hard on an auction that i'm trying to win (and it's not an HP, which is unusual for me). Cheers, Keith

Re: Another non-HP RPN calculator in my collection

*Message #3 Posted by **Michael de Estrada** on 22 Feb 2011, 10:09 p.m.,*
in response to message #2 by Keith Midson

Were you aware that the Garrett uses RPN ? Is the calc you are currently bidding on RPN ? My focus is mainly RPN, although I do own non-RPN calcs as well, about 25% of the total. The majority of all my calcs, about 60%, are HP.

Anyways, good luck on the auction, and let us know what it is after it's over.

Michael

Edited: 23 Feb 2011, 12:32 a.m. after one or more responses were posted

Re: Another non-HP RPN calculator in my collection

*Message #4 Posted by **Keith Midson** on 22 Feb 2011, 11:56 p.m.,*
in response to message #3 by Michael de Estrada

No it's an obscure 1970's non-RPN scientific calculator - I have an interest in the particular brand of this one, but for no rational reason (other than my 5 year old son shares the same name and he now has one in 'his' collection - scary what i've started!!).
I hadn't heard of Garrett before this post. There aren't too many non-HP RPN calcs out there.
I think 75% of my collection is HP, 15% would be Sharp pocket computers and the balance are other 'obscure' general interest calculators (like a TI SR-10, Casio FX-702P with ABCDEF keyboard layout, etc). I actually don't have any RPN calculators that aren't HP. Cheers, Keith

Edited: 23 Feb 2011, 12:04 a.m.

Re: Another non-HP RPN calculator in my collection

*Message #5 Posted by **Michael de Estrada** on 23 Feb 2011, 12:31 a.m.,*
in response to message #4 by Keith Midson

> Quote:
>
> There aren't too many non-HP RPN calcs out there.

Actually, there are quite a few, although most are no longer made.

non-HP RPN calculators

Re: Another non-HP RPN calculator in my collection

*Message #6 Posted by **Keith Midson** on 23 Feb 2011, 5:17 a.m.,*
in response to message #5 by Michael de Estrada

Haha - maybe I should have said "There aren't too many non-HP RPN calcs out there that I know of". That's quite an impressive collection. Mind you, does anything else RPN quite compare to a HP? Keith

Re: Another non-HP RPN calculator in my collection

*Message #7 Posted by **Michael de Estrada** on 23 Feb 2011, 9:20 a.m.,*
in response to message #6 by Keith Midson

I hope I didn't give the impression that the collection is mine; I could only dream that it were. It belongs to db (his initials), who is a frequent contributor to this forum, and very much a calculator insider. Indeed, were it not for db, I would not be aware of many of these non-HP calculators, which are largely original designs. As to your question regarding HP .vs. others in regards to RPN, mostly HP is king, but there are others that compare favorably or even surpass HP at the time they were produced. For example, the Corvus 500 introduced hyperbolic functions in the late 1970's before the HP-32E, and the quality was much higher than the HP Spice series.

Re: Another non-HP RPN calculator in my collection

*Message #8 Posted by **Mike Morrow** on 23 Feb 2011, 6:40 p.m.,*
in response to message #7 by Michael de Estrada

> Quote:
>
> ...the Corvus 500 introduced hyperbolic functions in the late 1970's before the HP-32E...

Is that a milestone for RPN calcs only? The TI SR-51 has hyperbolic functions, and it came out in very early 1975.

speaking of the Corvus

*Message #9 Posted by **db (martinez, ca.)** on 24 Feb 2011, 9:24 p.m.,*
in response to message #8 by Mike Morrow

There's a Corvus 500 for sale at the evil auction site right now. - Not by me! I have nothing to do with it.
It's a BIN with a high price but the seller is honest and the cost is what i paid for mine with shipping from England in 2003.
It's one of my three or four favorite non-hp RPNs, really well implemented.

Re: speaking of the Corvus

*Message #10 Posted by **Michael de Estrada** on 24 Feb 2011, 9:59 p.m.,*
in response to message #9 by db (martinez, ca.)

The BIN was lowered from a higher price. It's now a bit lower than I paid for mine, however, mine is in mint condition, whereas the one in the auction has a lot of wear of the gold printed legends above the keys, and several are missing completely. If anyone on this forum buys it, I can send you a pdf of the owner's manual. There was also an APF mark 55, but I don't see it anymore.

Re: Another non-HP RPN calculator in my collection

*Message #11 Posted by **Katie Wasserman** on 23 Feb 2011, 9:11 a.m.,*
in response to message #5 by Michael de Estrada

> Quote:
>
> Actually, there are quite a few, although most are no longer made.

Aside from the 12C clones, I can't think of any non-HP RPN calculators still in production. Do you know of any?

Re: Another non-HP RPN calculator in my collection

*Message #12 Posted by **Michael de Estrada** on 23 Feb 2011, 9:28 a.m.,*
in response to message #11 by Katie Wasserman

I'm only aware of the Victor V12, which is an HP-12C Platinum clone. I think the last original non-HP RPN calcs were the Elektronikas, which were made until about 1993 in Ukraine as Soviet branded models.

Re: Another non-HP RPN calculator in my collection

*Message #13 Posted by **Mark Harman** on 23 Feb 2011, 3:38 p.m.,*
in response to message #12 by Michael de Estrada

Semico in Novosibirsk, Russia, still makes the Elektronika line. The most recent additions are the MK 152 and the MK 161.

They even have a website: www.semico.ru

You might need to run it through Google translate since they don't have an English version (assuming you don't speak or read Russian).

Regards,

Mark

Re: Another non-HP RPN calculator in my collection

*Message #14 Posted by **Michael de Estrada** on 23 Feb 2011, 4:24 p.m.,*
in response to message #13 by Mark Harman

Thanks!

MK-161 - 4700 rubles

MK-152 - 3800 rubles

I have a MK-61 , which is very similar

Edited: 23 Feb 2011, 4:30 p.m.

Re: Another non-HP RPN calculator in my collection

*Message #15 Posted by **Keith Midson** on 24 Feb 2011, 8:37 p.m.,*
in response to message #3 by Michael de Estrada

> Quote:
>
> Anyways, good luck on the auction, and let us know what it is after it's over

Hi Michael, it was a Lloyd's Accumatic 321. I have a few Lloyd's in my collection now - nice quality. Cheers, Keith

Re: Another non-HP RPN calculator in my collection

*Message #16 Posted by **DavidShenk** on 24 Feb 2011, 11:40 a.m.,*
in response to message #1 by Michael de Estrada

I believe my dad had a Garrett 2000 when I was growing up. On the back, does it have a sticker that says something to the effect of:

"This calculator will take you to the year 2000 and beyond"?

Dave

Re: Another non-HP RPN calculator in my collection

*Message #17 Posted by **Michael de Estrada** on 24 Feb 2011, 12:15 p.m.,*
in response to message #16 by DavidShenk

There are several stickers on the back, but none with such a statement. The instruction pamphlet states "THE CLASSIC 2000....A Calculator for the year 2000....available in the 1970's." It then promotes the advantages of RPN entry, without ever actually using the word RPN, "The CLASSIC 2000 is easier to operate than any other calculator. Once the original figure is entered, all further additions, substractions, multiplications or divisions can be performed with *one* key depression for each step; this process can continue indefinitely."

Re: Another non-HP RPN calculator in my collection

*Message #18 Posted by **Allen** on 24 Feb 2011, 7:50 p.m.,*
in response to message #17 by Michael de Estrada

Wonder how they did it with an infinite stack in 1970??

Re: Another non-HP RPN calculator in my collection

*Message #19 Posted by **Michael de Estrada** on 24 Feb 2011, 8:16 p.m.,*
in response to message #18 by Allen

Well, I'm sure you are being facetious, but it's just a 2-level stack that cannot be pushed up past the second level, since only the initial depression of the Enter key raises the stack. After that it acts as the + operator. Repeated consecutive operations without further number entry has no effect. Also the - key acts as Enter initially, only it enters the number as a negative value, which is equivalent to Enter and Chs (+/-). Still, they are correct that a calculation such as (3+5)*4 will require fewer keystrokes than on an algebraic entry calculator.

Re: Another non-HP RPN calculator in my collection

*Message #20 Posted by **db (martinez, ca.)** on 24 Feb 2011, 9:06 p.m.,*
in response to message #19 by Michael de Estrada

The top ten coolest things about the Garrett 2000 series:
10)Real Hardwood
9)Finest keys ever put into a calculator
8)Made in the United States of America
7)RPN
6)RPN
5)RPN
4)RPN
3)RPN
2)RPN
1)RPN

Re: Another non-HP RPN calculator in my collection

*Message #21 Posted by **Wanderley Navarro** on 25 Feb 2011, 10:43 p.m.,*
in response to message #20 by db (martinez, ca.)

i did not quite understood the "cool thing" number 8. could you explain?

Re: Another non-HP RPN calculator in my collection

*Message #22 Posted by **Walter B** on 26 Feb 2011, 1:52 a.m.,*
in response to message #21 by Wanderley Navarro

Olá Navarro,

comprendo que não comprendes. Estam estados um poquinho especiais ... vocês deviam comparar "Made in Great Britain" em 1910 ;-)

Cumprimentos,
Walter

(For our unilingual readers: Answered Navarro's question with an historic example.)

Edited: 26 Feb 2011, 2:03 a.m.

Re: Another non-HP RPN calculator in my collection

*Message #23 Posted by **Wanderley Navarro** on 26 Feb 2011, 11:54 p.m.,*
in response to message #22 by Walter B

Hello Walter,

Could you please repeat in English?

Regards.

Re: Another non-HP RPN calculator in my collection

*Message #24 Posted by **Martin Pinckney** on 27 Feb 2011, 11:43 a.m.,*
in response to message #21 by Wanderley Navarro

Wanderley,

Many people take pride in things made in their native land. Americans (which is how residents of the USA refer to themselves, w/o intending any offense to Canadians, Mexicans Central or S. Americans) in particular are proud of our manufacturing heritage. At one time, we made the best of everything (or so we thought).

That is, except for cars (Germany), cameras (once Germany, then Japan), fine china (England), consumer electronics (Japan), fine leather goods (Italy), fine wines (France), ...

Anyway, having lost most manufacturing to Japan, Korea, Mexico, and China, Americans nowadays particularity appreciate stuff "Made in USA."

Re: Another non-HP RPN calculator in my collection

*Message #25 Posted by **Walter B** on 27 Feb 2011, 1:01 p.m.,*
in response to message #24 by Martin Pinckney

... which has an historic parallel in the British Empire some 100 years ago. Great Britain, having been the mother of industrialisation in the 19th century, introduced the "Made in ..." tag (with the intention of highlighting other country's producers making lower quality, so proud British won't buy from them) at the very time it was losing its leadership in the industrial world.

Lesson learned: The value of "Made in X" is based on the quality produced in a particular industry in this country X at a particular time, not vice versa. Note this statement is time and industry dependent.

Corrolary 1: The absolute, constant pride in "Made in X" for an arbitrary country X, without checking the necessary boundary conditions (was quality really as good in this industry there at that time, and is it still?), is just hollow words.

Corrolary 2: The disqualification of particular countries as producers of "cheap ... crap" was often nothing more than the sound going along with the rise of these countries (think of Japan, Taiwan some years ago, maybe China now).

HTH

Re: Another non-HP RPN calculator in my collection

*Message #26 Posted by **Martin Pinckney** on 27 Feb 2011, 5:37 p.m.,*
in response to message #25 by Walter B

> Quote:
>
> Corrolary 2: The disqualification of particular countries as producers of "cheap ... crap" was often nothing more than the sound going along with the rise of these countries (think of Japan, Taiwan some years ago, maybe China now).

Quite true. Although, there was, as in most cases of bias such as you have described, a kernel of truth.

For instance, the "cheap crap from Japan" moniker came about in the 1950s at a time when Japan was indeed exporting huge quantities of cheap consumer products to the U.S., as a conscious decision. This was considered the best way to crack into the U.S. market, given post-war bias. All the while, Japan was producing cameras and electronics of unsurpassed quality, known only to the lucky few.

The same has been true of China, only in a different time period and with a slightly different story. Aside from the early years of copying German cameras, Japan has been an innovator. China, OTOH, typically still produces under western specifications, IMO.

Re: Another non-HP RPN calculator in my collection

*Message #27 Posted by **db (martinez, ca.)** on 27 Feb 2011, 5:50 p.m.,*
in response to message #21 by Wanderley Navarro

> Quote:
>
> i did not quite understood the "cool thing" number 8. could you explain?

A bit of nationalism. I think it was justifiable in this case. While there have been some truly great RPN calculators made in Russia, Germany, Argentina, Great Britain & Hong Kong --- HP, Garrett, Friden and Heathkit made their stuff here on the left coast of the U.S.

Would it have been been more palatable if i had said "8) Made in California"? That actually sounds more cool to me, but the east coast contingent here may not agree. -yea i'm takin a you Katie!

Re: Another non-HP RPN calculator in my collection

*Message #28 Posted by **Wanderley Navarro** on 27 Feb 2011, 9:42 p.m.,*
in response to message #27 by db (martinez, ca.)

Great!!

I was perfectly aware of everything was said and my goal was to provoque the

debate.

I'm pretty sure db didn't had the "intention" to disqualify any country but since this is an international place of excellent & high level discussions and exchange of ideas with lots of comradeship between members, one should keep in mind that his distracted words can hurt someone proud even without having the intention.

Is not my case however... I know Brazil is not THAT tech country (but we made very good HP-97s, 41CVs and Voyagers among others here at the time).

I'm a quality lover so personally like almost everything made in the USA, Germany or Japan.

Thanks all.

Re: Another non-HP RPN calculator in my collection

*Message #29 Posted by **Martin Pinckney** on 27 Feb 2011, 10:05 p.m.,*
in response to message #28 by Wanderley Navarro

> Quote:
>
> i did not quite understood the "cool thing" number 8. could you explain?
>
> I was perfectly aware of everything was said and my goal was to provoque the debate.

I suspected as much, but decided to take you literally and explain, not what db meant, but what I take the appeal of "Made in USA" to be.

> Quote:
>
> I'm pretty sure db didn't had the "intention" to disqualify any country... one should keep in mind that his distracted words can hurt someone proud even without having the intention.

I fail to see how any such expression is hurtful. I would not take offense at a Brazilian being proud of something excellent made there.

Women, for instance. {:-)

Re: Another non-HP RPN calculator in my collection

*Message #30 Posted by **Wanderley Navarro** on 28 Feb 2011, 9:45 a.m.,*
in response to message #29 by Martin Pinckney

> Quote:
>
> I fail to see how any such expression is hurtful.

May be a bit tricky to see indeed...

Although I do not have the intention to polemize too much, perhaps the point

becomes clearer when one realizes the difference between proud and vainglorious (boastful) about his country's excellence.

There is on the later a proactive attitude that makes the talker discourteous (inelegant) and unsympathetic (obnoxious) when addressing to an international audience.

Unless of course the audience is from buddies and the statement intentionally said for fun... but in this case the intention must be perfectly clear...

Re: Another non-HP RPN calculator in my collection

*Message #31 Posted by **Martin Pinckney** on 28 Feb 2011, 2:51 p.m.,*
in response to message #30 by Wanderley Navarro

> Quote:
>
> Could you please repeat in English?

Re: Another non-HP RPN calculator in my collection

*Message #32 Posted by **Walter B** on 28 Feb 2011, 3:12 p.m.,*
in response to message #31 by Martin Pinckney

Please see above. Or with an old saying here: "Don't throw stones while sitting in a greenhouse!"

Re: Another non-HP RPN calculator in my collection

*Message #33 Posted by **Walter B** on 28 Feb 2011, 2:10 a.m.,*
in response to message #28 by Wanderley Navarro

> Quote:
>
> i did not quite understood the "cool thing" number 8. could you explain?
> vs.
> I was perfectly aware of everything was said and my goal was to provoque the debate.

I suspected you wanted to provoke, especially after you asked for an English translation d;-) Since the story of the British inventing "Made in Germany" may not be common knowledge, however, I decided to explain this once more. Everything else in this matter is written above already.

Anyway, the majority of forumers come from one country inhabited by many people with unbroken self-confidence (or call it nationalism), so challenges like this are fun sometimes.

I close concurring with Martin: Enjoy the quality of Brazilian products! d:-)

Re: Another non-HP RPN calculator in my collection

*Message #34 Posted by **Julián Miranda (Spain)** on 28 Feb 2011, 1:01 p.m.,*
in response to message #28 by Wanderley Navarro

Some years ago I dedided to bought an HP-12C to celebrate the 20th anniversaire. I found on TAS a buyer from Corvallis selling a NOS. I thought it was the right one. When it arrived I confirmed it was perfect. But even coming from Corvallis it was Made in Brazil.

Got the Garrett 2002, but it doesn't work :<(

*Message #35 Posted by **Michael de Estrada** on 27 Feb 2011, 12:34 a.m.,*
in response to message #1 by Michael de Estrada

Well, I got the Garrett 2002 that I won in the TAS auction today and it's doa. It was working before it shipped, and there's no evidence of shipping damage, but it's totally dead now. No display whatsoever when I switch it on, but power is getting to the circuit board, because I read 120 vac where the wall cord connects to the circuit board and there's this big transformer that gets hot. I don't see any evidence of fried components, circuit traces all look good, soldered connections look good, etc. Maybe a capacitor is bad? Well, anyways, hopefully it's something that can be fixed, otherwise it's just a large paperweight. Bummer!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

adding time segmetns (HMS+)?? with 41CX?

*Message #1 Posted by **Sam Samaha** on 22 Feb 2011, 9:10 a.m.*

Hi members, sorry if this has been addressed before, I did a search and was unable to find it. I came into possession of a rather nice HP41CX that I am told can do time computations. My question is.. is there a simply way to add time segments together maintaining the HH:MM or HH:MM:SS format? For example, I'd like to be able to add :23 min to :50 min and get an answer in the format 1:13 etc... thanks all..

Sam

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Feb 2011, 9:30 a.m.,*
in response to message #1 by Sam Samaha

```
Type the first value (0.50) and press ENTER
Type the second value (0.23) and press XEQ [Alpha] HMS+ [Alpha]
That's it


The HMS+ function works as follows (internal steps):


Take value #1
Convert to HOURS format (same as HR function)
Take value #2
Convert to HOURS format (same as HR function)
Add both values
Convert the result to HH.MMSS (same as HMS function)


On older calculators which had no HMS+ function, you needed to go step by step. But the
HP41 does.
```

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #3 Posted by **Sam Samaha** on 22 Feb 2011, 9:45 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

Thanks, and just to be clear on that.... if the two segments were 1min23sec and 2min50sec then it would be 1.23 <enter> and 2.50 <enter> ?

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #4 Posted by **Garth Wilson** on 22 Feb 2011, 10:41 p.m.,*
in response to message #3 by Sam Samaha

> Quote:
>
> and just to be clear on that.... if the two segments were 1min23sec and 2min50sec then it would be 1.23 <enter> and 2.50 <enter> ?

No, the hour has the integer part, so 1min23 sec is .0123.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #5 Posted by **Marcus von Cube, Germany** on 23 Feb 2011, 2:14 a.m.,*
in response to message #4 by Garth Wilson

Sam's version should still work (except that the second <enter> has to be replaced by HMS+ in any case). It doesn't matter whether you add minutes or seconds. Both units overflow at 60. It's just a matter of interpreting the results correctly.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #6 Posted by **Sam Samaha** on 24 Feb 2011, 5:55 p.m.,*
in response to message #5 by Marcus von Cube, Germany

> Quote:
>
> Sam's version should still work (except that the second <enter> has to be replaced by HMS+ in any case). It doesn't matter whether you add minutes or seconds. Both units overflow at 60. It's just a matter of interpreting the results correctly.

that makes sense... This will be an invaluable tool for flying internationally ... we have to add up (sometimes) 100+ segments on our flight plan, and if you make one mistake, it usually means starting all over..

again, thanks for the help all.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #7 Posted by **Garth Wilson** on 24 Feb 2011, 7:31 p.m.,*
in response to message #5 by Marcus von Cube, Germany

If you have fractions of seconds you'll get wrong answers though.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #8 Posted by **Marcus von Cube, Germany** on 25 Feb 2011, 2:15 a.m.,*
in response to message #7 by Garth Wilson

I agree, if you are talking about 100th of seconds. Has anybody ever seen 60th of seconds as a measure?

Re: adding time segments (HMS+)?? with 41CX?

*Message #9 Posted by **Walter B** on 25 Feb 2011, 4:36 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> Has anybody ever seen 60th of seconds as a measure?

I didn't. Smaller time intervals were beyond scope in the times the second (hora minuta secunda) was invented. And many years later, when fractions of seconds became

measurable, people attacked this problem in a handier way, inventing the millisecond.

Re: adding time segments (HMS+)?? with 41CX?

*Message #10 Posted by **db (martinez, ca.)** on 25 Feb 2011, 11:06 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> Has anybody ever seen 60th of seconds as a measure?

I haven't either. Whole seconds have been good enough for most uses, for most of human history. After all: there are 1.3 million of them in a circle! And as Walter said, when the need and ability to measure smaller divisions came up then there were decimal computers to calculate them. When it's railroading time, you get railroads.

Still; time and angle sexicecimal measurements are beautiful pieces of tradition, and if they weren't more useful than decimal for their purposes they would have disappeared into history.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #11 Posted by **Frido Bohn** on 22 Feb 2011, 9:49 a.m.,*
in response to message #1 by Sam Samaha

Hi Sam!
in addition to the response of Andrés who was a few minutes ahead of me, consider that the time format is HH.MMSSss with ss being 10th and 100th of a second. Thus, choose FIX 6 to display the entire value.
HMS- substracts the time value in the x-register from the value in the y-register. So, you may be able now to calculate how much time Andrés was actually faster than me :-)
(DATE+ and DDAYS do the respective with dates).
HR serves to convert the "classical" time format into a decimal format with fractions of an hour. HMS does the reverse.
For reference see Section 6 (p. 65) of Volume I of the HP-41 CX Owner's Manual or Section 6 (p. 90) of the HP-41C/CV Owner's Handbook and Programming Guide.
Both, if not at hand, available at this wonderful site.

Frido

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #12 Posted by **db (martinez, ca.)** on 22 Feb 2011, 11:27 a.m.,*
in response to message #1 by Sam Samaha

Most surveyors assigned the HMS+ to the shifted + key, the HMS- to the shifted - key, and the HMS & HR to the shifted x & / keys. I met one guy that spun a lot of repeated angles. He wrote tiny "HMS times" and "HMS divided by" functions and assigned them to the respective shifted spots.
That is easier nowadays of course. The robotic gun turns the angles automatically, the pre-programmed windows CE data collector calculates the mean, and the nephew or drinking buddy of the boss drives the info back to the office to be downloaded by an office tech.
That the old manual sighting/calculate on the 41 method gives from five to 25 times the precision - and discovers any error in the field - is lost on todays middle managers.

In case you don't have the manuals for your new treasure; they are available here from Dave at the museum.

The DVD comes with not only the 41CX manual but the 41C manual too, which is easier to get into for a beginner. It also contains lots of info on the various 41 systems and more than you will ever want to know about all things RPN.

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #13 Posted by **Thomas Klemm** on 22 Feb 2011, 1:58 p.m.,*
in response to message #12 by db (martinez, ca.)

OWNER'S HANDBOOK AND
PROGRAMMING GUIDE
HP-41C
Hours, minutes, seconds addition (page 90).

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #14 Posted by **Walter B** on 22 Feb 2011, 3:09 p.m.,*
in response to message #13 by Thomas Klemm

Thanks for recalling this great work d:-)

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #15 Posted by **Sam Samaha** on 22 Feb 2011, 9:43 p.m.,*
in response to message #14 by Walter B

Thanks again all for the great help!

Re: adding time segmetns (HMS+)?? with 41CX?

*Message #16 Posted by **Ángel Martin** on 23 Feb 2011, 1:22 a.m.,*
in response to message #12 by db (martinez, ca.)

Both HMS* and HMS/ are in the SandMath, as a carryover from the TOMSROM :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Windows 7 and HP 48GX

*Message #1 Posted by **Nico Tak** on 21 Feb 2011, 4:53 p.m.*

Hi i try to connect the HP48GX to the connetivity kit HP48g,49g,50g series. But my computer give the message "calculator not connected, check cable" i installed the USB-seriell Adaptor driver. No results. Maybe somebody knows how to solve this problem..

Kind regards Nico.

Re: Windows 7 and HP 48GX

*Message #2 Posted by **Xavier A. (Brazil)** on 23 Feb 2011, 3:44 p.m.,*
in response to message #1 by Nico Tak

Hello. Even with XP it seems not possible to link an HP-48 to a PC. But it might work with W2000 or 98 (nevertheless I never tried). Good luck!

Re: Windows 7 and HP 48GX

*Message #3 Posted by **bill platt** on 23 Feb 2011, 3:55 p.m.,*
in response to message #2 by Xavier A. (Brazil)

XP is no problem at all.

I wonder if running the Win7 in XP mode will work?

Re: Windows 7 and HP 48GX

*Message #4 Posted by **Nico Tak** on 23 Feb 2011, 5:21 p.m.,*
in response to message #3 by bill platt

Hi, Thanks for answering my question. I will try to start my pc in XP, First i will find out how i have to do that. ;-) If it works i let you know, otherwis i will install win98.

Thanks

Re: Windows 7 and HP 48GX

*Message #5 Posted by **Raymond Del Tondo** on 23 Feb 2011, 5:37 p.m.,*
in response to message #3 by bill platt

Even in Vista it's no problem to connect an HP-48GX using an USB-Serial converter, like the Sitecom CN-116 , so it should also work with 7.

HTH

Ray

Re: Windows 7 and HP 48GX

*Message #6 Posted by **Timo** on 24 Feb 2011, 2:07 p.m.,*
in response to message #3 by bill platt

Though I solely use XP I'd nevertheless like to share my experience.

I use a Digitus USB-To-Serial Adapter plugged into one of my USB ports and Conn4X as interface software. Works like a charm for me...

Regards, Timo

Re: Windows 7 and HP 48GX

*Message #7 Posted by **Nico Tak** on 25 Feb 2011, 2:22 p.m.,*
in response to message #6 by Timo

Thanks for the tips and tricks.

Kind regards,

Nico

Edited: 25 Feb 2011, 2:23 p.m.

Re: Windows 7 and HP 48GX

*Message #8 Posted by **Xavier A. (Brazil)** on 25 Feb 2011, 7:22 p.m.,*
in response to message #7 by Nico Tak

Just to tell you XP never worked with my 48S.

Because it's a French XP?

Re: Windows 7 and HP 48GX

*Message #9 Posted by **Nico Tak** on 27 Feb 2011, 5:39 a.m.,*
in response to message #8 by Xavier A. (Brazil)

Very good posibele, i had the same problems with a printer once. I changed the language and it was fixed.

Edited: 27 Feb 2011, 5:45 a.m.

Re: Windows 7 and HP 48GX

*Message #10 Posted by **Ed Look** on 28 Feb 2011, 4:59 p.m.,*
in response to message #3 by bill platt

Bill, my 48G and 48G+ both used to be able to communicate to my PC, the same PC. That was over a year or so ago. A couple of days ago, I wanted to transfer some files to both of these calcs and no connectivity program seems to recognize either 48G. I do not believe anything in the PC has radically changed, but hp48 Explorer, which did work then did not work a couple of days ago.

I wonder if the incessant MS updating of Windows has changed it beyond being able to detect the old 48 series calcs.

Re: Windows 7 and HP 48GX

*Message #11 Posted by **Thomas Okken** on 28 Feb 2011, 7:09 p.m.,*
in response to message #10 by Ed Look

For what it's worth: Just yesterday I wanted to transfer some stuff between my PC and my HP-48G. The PC in question is a laptop I got a couple of years ago and installed Windows XP on, and which I keep up to date religiously, but never used with my 48G yet.

I downloaded HPComm 3.04 from hpcalc.org, and downloaded the latest driver for my Sitecom USB/Serial interface. Everything worked like a charm.

If you're using Windows 7 (or Vista), and if you're using the Sitecom USB/Serial interface, you'll probably have to get the latest driver from Sitecom. They do have one specifically for Vista; it's a beta, apparently, but it may work where the older driver did not.

Re: Windows 7 and HP 48GX

*Message #12 Posted by **Ed Look** on 28 Feb 2011, 11:03 p.m.,*
in response to message #11 by Thomas Okken

Thomas, no, I'm still on WinXP. And I am using a serial-to-USB interface, but it's, I believe, a "no-name" brand cable, which I do not believe came with any software.

What is different about the Sitecom interface?

Re: Windows 7 and HP 48GX

*Message #13 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 4:02 a.m.,*
in response to message #12 by Ed Look

Ed, Device Manager will tell you about the USB ids (manufacturer and device) of your USB/RS232 converter. From that ID you can start a Google search for the manufacturer and look for an updated driver.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

TI-NSPIRE calculator plays DOOM

*Message #1 Posted by **gene wright** on 21 Feb 2011, 7:41 a.m.*

Engagdet link

Not often a calculator of any sort gets mentioned on engagdet.

Re: TI-NSPIRE calculator plays DOOM

*Message #2 Posted by **Namir** on 21 Feb 2011, 9:04 a.m.,*
in response to message #1 by gene wright

Very impressive!!!

Re: TI-NSPIRE calculator plays DOOM

*Message #3 Posted by **Maximilian Hohmann** on 21 Feb 2011, 10:19 a.m.,*
in response to message #2 by Namir

> Quote:
>
> Very impressive!!!

In terms of processing speed maybe, but some things really don't work in black and white (or rather grey in grey). Doom without blood is like an HP calculator without an Enter key ;-)

NB: Out 11 year oold son is just getting his nSpire now (a little early I think, but obviosly the way it is handled by his school) so I hope he dosen't find out about this doom thing...

Edited: 21 Feb 2011, 10:27 a.m.

Re: TI-NSPIRE calculator plays DOOM

*Message #4 Posted by **Marcus von Cube, Germany** on 21 Feb 2011, 10:48 a.m.,*
in response to message #3 by Maximilian Hohmann

Rumors are that TI is presenting a color version of the Nspire soon: TI Nspire CAS CX (source). If only the Hackspire folks crack this system as they did with the current version, we'll see Doom in color. ;)

Re: TI-NSPIRE calculator plays DOOM

*Message #5 Posted by **Katie Wasserman** on 22 Feb 2011, 10:15 a.m.,*
in response to message #4 by Marcus von Cube, Germany

... with a backlight and WiFi as an option.

Re: TI-NSPIRE calculator plays DOOM

*Message #6 Posted by **Namir** on 22 Feb 2011, 5:17 p.m.,*
in response to message #5 by Katie Wasserman

Any URL for more info about the colored TI Nspire?

Re: TI-NSPIRE calculator plays DOOM

*Message #7 Posted by **Don Shepherd** on 22 Feb 2011, 5:28 p.m.,*
in response to message #6 by Namir

Just some pictures comparing the existing NSpires with the new one. Probably won't know any details until they announce it.

Re: TI-NSPIRE calculator plays DOOM

*Message #8 Posted by **John B. Smitherman** on 21 Feb 2011, 10:43 a.m.,*
in response to message #1 by gene wright

Now, Gerson has been challenged. I'm sure he'll have Doom running on a 12c+ within a week! ;-)

John

Re: TI-NSPIRE calculator plays DOOM

*Message #9 Posted by **Gerson W. Barbosa** on 21 Feb 2011, 11:33 a.m.,*
in response to message #8 by John B. Smitherman

Hi John,

Didn't you mean Gene?

I woudn't be able to have Tic-Tac-Toe running on a 15C even within a month...

By the way, there are some Doom versions for the HP-48/49G at hpcalc.org:

http://www.hpcalc.org/search.php?query=Doom

I guess they don't compare to the nSpire version, though.

Regards,

Gerson.

Re: TI-NSPIRE calculator plays DOOM

*Message #10 Posted by **Walter B** on 21 Feb 2011, 1:48 p.m.,*
in response to message #9 by Gerson W. Barbosa

So now we know what graphic calcs are needed for - finally ;)

For those who don't need playing DOOM on mobile, instant on devices the screen may be considerably smaller. And weight and power consumption, too. When I need a wrench I need a good, solid wrench and don't care about bells and whistles ... YMMV

Re: TI-NSPIRE calculator plays DOOM, and other TI hacks...

*Message #11 Posted by **Egan Ford** on 22 Feb 2011, 10:26 a.m.,*
in response to message #1 by gene wright

83/84 to not only get online, but play multiplayer games: http://www.cemetech.net/forum/viewtopic.php?t=5754

Old news, but an 84 was used to jailbreak a PS3: http://www.engadget.com/2010/09/11/ps3-jailbroken-with-a-ti-84-plus-calculator/

While I think playing Doom, multiplayer calc games, and other clever TI hacks are useless, I still have to admire the hacks and applaud them. Especially, when they involving connecting things.

My useless HP hacks that involve connecting things:

41CX home automation: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=763

71B navigation: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=746

50g serial keys: http://sense.net/~egan/skb/

I think I'll find a way to control my TV with my 41CX next. :-)

Re: TI-NSPIRE calculator plays DOOM

*Message #12 Posted by **Ángel Martin** on 22 Feb 2011, 5:36 p.m.,*
in response to message #1 by gene wright

The DOOM module for the 41 will shortly be available, stay tuned !:)

Re: TI-NSPIRE calculator plays DOOM

*Message #13 Posted by **gene wright** on 22 Feb 2011, 5:58 p.m.,*
in response to message #12 by Ángel Martin

The "Dungeon of Doom" module? ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Photos of some of my calculators

*Message #1 Posted by **bbeamer** on 20 Feb 2011, 11:36 p.m.*

I posted some photos so my students could see the calculators I'm always bragging about. They have not been impressed so far.

http://sites.google.com/site/mrbeamersmathsite/Home/calculators

Brian

Re: Photos of some of my calculators

*Message #2 Posted by **Johnny Bjoern Rasmussen** on 21 Feb 2011, 3:52 a.m.,*
in response to message #1 by bbeamer

He he, sounds as I have had your students too ;-D
Cheers!
Johnny

Re: Photos of some of my calculators

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 23 Feb 2011, 3:17 p.m.,*
in response to message #2 by Johnny Bjoern Rasmussen

What's that green buttoned calculator? Is it lab-tubes on the top? And don't worry - I can see it's not's not a HP ;-)

Re: Photos of some of my calculators

*Message #4 Posted by **Maximilian Hohmann** on 23 Feb 2011, 3:39 p.m.,*
in response to message #3 by Johnny Bjoern Rasmussen

> Quote:
>
> What's that green buttoned calculator?

That's one of those "water powerered calculators" that are not really powered by water:
http://www.geeky-gadgets.com/water-powered-calculator-01-06-2010/

Re: Photos of some of my calculators

*Message #5 Posted by **bbeamer** on 23 Feb 2011, 9:12 p.m.,*
in response to message #4 by Maximilian Hohmann

It is one of the "water powered" calculators. It's the only one that the kids seen to think is cool. I think so too. :-) Filling the little tubes with water and seeing the calculator work is just plain fun.

Brian

Re: Photos of some of my calculators

*Message #6 Posted by **Johnny Bjoern Rasmussen** on 24 Feb 2011, 4:54 a.m.,*
in response to message #5 by bbeamer

Okay, cool 8-)
If you want to you can join my FB group for collectors of old handheld computers and calculators. The group needs a little action...

Cheers from Johnny
Denmark

Edited: 24 Feb 2011, 4:56 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why?

*Message #1 Posted by **Michael de Estrada** on 20 Feb 2011, 9:01 p.m.*

$42, Why?

Why not?

*Message #2 Posted by **Allen** on 20 Feb 2011, 9:49 p.m.,*
in response to message #1 by Michael de Estrada

Oh my, here's another auction!! What does he think this is, ebay or something!? - hudendai

Re: Why not?

*Message #3 Posted by **Michael de Estrada** on 20 Feb 2011, 9:54 p.m.,*
in response to message #2 by Allen

Wow! I guess my example was a bargain, well, for Europeans anyway.

Edited: 20 Feb 2011, 9:56 p.m.

Re: Why not?

*Message #4 Posted by **Allen** on 20 Feb 2011, 10:22 p.m.,*
in response to message #3 by Michael de Estrada

It's all relative. A calculator fan who buys a $42 a case for his collection might think $116 for a bicycle handle bar is too much, right?

Re: Why not?

*Message #5 Posted by **Michael de Estrada** on 20 Feb 2011, 10:43 p.m.,*
in response to message #4 by Allen

Haha. You are comparing a cheap plastic zipper case to a carbon fibre handlebar? Now, if it were an alligator case with a mink lining, I might agree.

Re: Why not?

*Message #6 Posted by **Garth Wilson** on 20 Feb 2011, 11:55 p.m.,*
in response to message #5 by Michael de Estrada

Yep. A carbon-fiber time-trial bike aerobar set can retail for up to about a thousand dollars. My own aluminum clamp-on aerobars are about $130.

Re: Why not? [OT]

*Message #7 Posted by **Mike T.** on 22 Feb 2011, 8:12 a.m.,*
in response to message #4 by Allen

How about $110 CDN - just for the handle bar tape to wrap around your new handle bars. That was the price I was given for Brooks handle bar tape in Vancouver last September.

I actually managed to buy the same thing for £42 in Woking (Evans Cycles) on my way home from the airport, which just goes to show that the increase in price that occurs when something crosses the Atlantic isn't just one way.

Mike T.

PS - Yes it was worth it They were a complete nightmare to fit as the leather doesn't stretch easily but they are very grippy and look fantastic...

Edited: 22 Feb 2011, 2:59 p.m. after one or more responses were posted

Re: Why not? [OT]

*Message #8 Posted by **Michael de Estrada** on 22 Feb 2011, 9:04 a.m.,*
in response to message #7 by Mike T.

Yes, Brooks is pricey, but it'll last a lifetime. I have two Brooks Team Pro saddles, and one of them will be 32 years old in a couple of weeks. It has seen many long camp touring rides, and there is nothing more comfortable once it is broken in. Where comfort is involved, you can't pay too much.

Re: Why not? [OT]

*Message #9 Posted by **bill platt** on 22 Feb 2011, 11:24 a.m.,*
in response to message #8 by Michael de Estrada

I wore out my Brooks in less than 4 years back when I was a teenager. I rode, and rode, and rode, and rode some more, in the rain, the snow, etc. It got so soft and swaybacked that it was useless. My concor lasted longer...

Re: Why not? [OT]

*Message #10 Posted by **Thomas Okken** on 23 Feb 2011, 2:36 p.m.,*
in response to message #9 by bill platt

I have a Brooks that I've had for about 25 years now. I never gave it any care, other than putting a plastic bag over it when the bike was parked outside and I expected rain. The leather feels hard and after I ride for the first time after a long absence, I feel like I've been kicked in the butt repeatedly, but once I'm broken in again (takes a couple of days), it's the greatest thing. I can ride on it all day till I collapse from fatigue, and no gluteal discomfort whatsoever.

Re: Why not? [OT]

*Message #11 Posted by **Mike T.** on 22 Feb 2011, 3:02 p.m.,*
in response to message #8 by Michael de Estrada

I'm still using my 'original' B21 on my touring bike (Dave Russell - 1985)

Why?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Repairing a 82022B charger (with P.S. to Geoff Quickfall)

*Message #1 Posted by **Karl-Ludwig Butte** on 20 Feb 2011, 3:45 p.m.*

Dear all,

one of my 82022B chargers broke some days ago. A first investigation showed that the fuse was melted. But after replacing it, the same thing happened again immedeately. A further search for the root cause showed that transistor Q3 shortcircuited. It's a NPN power type with a "M726" printed on it. Alas I couldn't find any datasheet at the Internet. Does anyone know with which transistor available today I can replace it ?

Any hint will be very much appreciated - thank you very much in advance.

Kind regards

Karl

P.S.: By the way, Geoff, if you're reading this, may I ask how about your book ? Will it be ready for ordering soon ?

Re: Repairing a 82022B charger (with P.S. to Geoff Quickfall)

*Message #2 Posted by **Ignazio Cara (Italy)** on 21 Feb 2011, 2:43 a.m.,*
in response to message #1 by Karl-Ludwig Butte

Hello Karl, take a look at this fantastic job of Jacques Laporte about the HP-35 and more old HP calculators:

http://www.jacques-laporte.org/HP35%20power%20unit.htm

Take care and regards.

Ignazio

Re: Repairing a 82022B charger (with P.S. to Geoff Quickfall)

*Message #3 Posted by **Karl-Ludwig Butte** on 22 Feb 2011, 3:22 p.m.,*
in response to message #2 by Ignazio Cara (Italy)

Hello Ignazio,

thanks a lot for your answer - I'll try my luck.

Best wishes and kind regards

Karl

Re: Repairing a 82022B charger (with P.S. to Geoff Quickfall)

*Message #4 Posted by **Karl-Ludwig Butte** on 23 Feb 2011, 11:44 a.m.,*
in response to message #1 by Karl-Ludwig Butte

Dear All,

thanks again for the link Ignazio and thanks Jacques for the excellent technical content.

I succeded to repair the charger by replacing the defective Q3 with a BD128 which should be available at any electronic shop. A bit more difficult was to find a supplier for the fuse, a so called pico-fuse, which also was defect. For people living in Germany I found it at Reichelt Elektronik.

Best wishes and kind regards

Karl

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

restoring an HP71 (old post)

*Message #1 Posted by **Alberto Fenini** on 20 Feb 2011, 1:11 p.m.*

ciao a tutti,
someone may remember that I was trying to restore an HP71,
it was basically in nice condition, but the display had some problems.
It came out that was a bad driver, and desoldering/resoldering an SMD component it is not in my DNA.
However, I had a chance to buy a working unit in very bad cosmetic conditions
although working and of the same revision (2CDCC).
Cleaning (which was my first idea) was almost impossible,
I don't know what may have been spilled on the unit, but I was not able to remove it with whatsover solvent or soap.
As you can see from the END/LINE key, I have gone pretty far in trying to clean.
The idea was then to swap the keyboard faceplates.
I'm posting this, because I have developed a technique of soldering the keyboard that may be of interest.
Using a dremel, I have "consumed" all the plastic rivets trying not to go too deep and set free the keyboard/pcb.

Then, using a plastic glue (I don't want to make any advertising, nor I'm related to this company but I use Five star adhesive medium gap filling from the UK)
and a soft cotton tip, I have let a drop of glue fall in any hole.

The keyboard and the keyboard pcb are kept together by some paper clips
You can see how it looks when it dries here :

and then this is the final result :

Of course, while the keyboard pcb is removed you can clean and polish everything.
Hope is going to be of help for someone,
take care Alberto

Re: restoring an HP71 (old post)

*Message #2 Posted by **Michael Meyer** on 20 Feb 2011, 3:05 p.m.,*
in response to message #1 by Alberto Fenini

Beautiful! When I was in medical school, I lived on $4000 USD per year- food, clothing, shelter, etc. Buying a 71B was a huge stretch. But when I turned it on for the first time and saw the blinking cursor and realized the power I had, even in the command line, it was worth every penny. I can't quite describe that awesome feeling, and have never had that feeling again, even with all the new gadgets on the market.

Enjoy!!

Re: restoring an HP71 (old post)

*Message #3 Posted by **bill platt** on 20 Feb 2011, 3:08 p.m.,*

in response to message #2 by Michael Meyer

It is like that when you have to really really value something...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C, an interesting question

*Message #1 Posted by **robert rozee** on 20 Feb 2011, 9:19 a.m.*

without encouraging all the naysayers to jump in, has anyone out there ever tried taking a "parts-only" 15C apart and extracting the code from the ROMs? assuming here that one of the three chips contains all (or most of) the ROM code, and that there is some information available about the pin-outs.

cheers, rob :-)

Re: HP-15C, an interesting question

*Message #2 Posted by **Katie Wasserman** on 20 Feb 2011, 9:29 a.m.,*
in response to message #1 by robert rozee

See Eric Smith's work. The ROM dump of the original 12C is what's running inside the 12C+ using an ARM-based Voyager emulator. This is also the basis for all the speculation discussed here on a potential 15C+.

Re: HP-15C, an interesting question

*Message #3 Posted by **robert rozee** on 20 Feb 2011, 9:47 a.m.,*
in response to message #2 by Katie Wasserman

yes, just after writing the first post i found eric's work! but nowhere to download a rom image of a 15C :-(i'm thinking around the cunning idea of an emulator running on an arduino board to re-implement the 15C, perhaps even with the extra ram discussed many years back.

Re: HP-15C, an interesting question

*Message #4 Posted by **Marcus von Cube, Germany** on 20 Feb 2011, 10:24 a.m.,*
in response to message #3 by robert rozee

As far as I know, HP has claimed copyright on the Voyager ROM images so they are no longer part of Eric's distribution.

Re: HP-15C, an interesting question

*Message #5 Posted by **Martin Pinckney** on 20 Feb 2011, 8:26 p.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> As far as I know, HP has claimed copyright on the Voyager ROM images so they are no longer part of Eric's distribution.

Implying that they once were?

So let me get this straight:

1. HP at one time released the 15c ROM images, or at least allowed someone (Eric?) to extract them.

2. HP later enforced the copyright claim so the ROM images were withdrawn from Eric's site.

3. Now HP (through Tim) says they no longer have the 15c ROM images, and would like to get them from anyone who might have them.~5th msg.

4. Meantime, Tim states that the ROM images don't contain a copyright message, implying that the copyright is unenforceable.~45th msg.

Obviously I am missing something.

Re: HP-15C, an interesting question

*Message #6 Posted by **Tim Wessman** on 20 Feb 2011, 9:16 p.m.,*
in response to message #5 by Martin Pinckney

I was wanting the source, not the binaries. I've got those a plenty. :-)

As for the rest, I speak for myself and my own opinions when here. Also, IANAL.

TW

Re: HP-15C, an interesting question

*Message #7 Posted by **Martin Pinckney** on 20 Feb 2011, 9:26 p.m.,*
in response to message #6 by Tim Wessman

> Quote:
>
> I was wanting the source, not the binaries. I've got those a plenty. :-)

Well, here again I don't know the terminology. Source, code, ROM image, binaries, it's all Greek to me.

Re: HP-15C, an interesting question

*Message #8 Posted by **Gerson W. Barbosa** on 20 Feb 2011, 9:57 p.m.,*
in response to message #7 by Martin Pinckney

> Quote:
>
> ROM image,

ROM image, literally:

http://www.pmonta.com/calculators/hp-35/

Re: HP-15C, an interesting question

*Message #9 Posted by **Michael de Estrada** on 20 Feb 2011, 9:51 p.m.,*
in response to message #6 by Tim Wessman

Tim,

Is the source code written in assembly language for the processor? Would it have to be re-compiled for a different processor? I'm just asking out of idle curiosity, as my only computer programming experience is with main frames and pc's.

Michael

Re: HP-15C, an interesting question

*Message #10 Posted by **Tim Wessman** on 20 Feb 2011, 10:49 p.m.,*
in response to message #9 by Michael de Estrada

Yes, it would definitely need to be essentially rewritten, but the difference is that you are no longer guessing about the logic and algorithms so it is much easier to make something that is very similar. The 12cp was an attempt to "recreate" the 12c, but they essentially had to guess at how it worked. We all know how perfectly *that* worked out for the first few versions. . .

As an example (if I am remembering everything correctly), the 10bII had the math library from the 17bII and 48 converted into C (essentially a assembly->C converter program). This gave you C code, but really it was just assembly with tons of goto and so on like you'd use in assembly. As you can guess, that isn't very easy to edit/modify.

Thus later cyrille spent a long time remaking the math libraries in platform independent C by going back to the original assembly, using the documentation and source to redo it it, and that math library has now been used in several software versions (like the 12cp on iphone and the calcpad PC software), in the 20/30b and will be in future calculators/software.

The 15c source definitely wouldn't allow a simple recompile or anything, but it would make it possible to much more easily make a version of the 15c that could be easily expanded to allow more memory, operations, connectivity or whatever.

TW

Edited: 20 Feb 2011, 10:50 p.m.

Re: HP-15C, an interesting question

*Message #11 Posted by **Martin Pinckney** on 21 Feb 2011, 12:10 p.m.,*
in response to message #10 by Tim Wessman

So then is "source code" for HP calculators usually a high-level language, or assembly language?

Just trying to understand.

Re: HP-15C, an interesting question

*Message #12 Posted by **bill platt** on 21 Feb 2011, 12:35 p.m.,*
in response to message #11 by Martin Pinckney

We know who designed the space program and the engineers who designed the Apollo. We know who developed the 48 series (Wickes). Do we know who

designed the 15c?

Re: HP-15C, an interesting question

*Message #13 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Feb 2011, 4:37 p.m.,*
in response to message #11 by Martin Pinckney

From partial (very short) listings appearing in HP Journal, I would assume that Assembly was certainly used in the first models, and possibly up to HP41 or Voyagers (Nut processors, around 1980). That would also be consistent with the need to optimize ROM space, and with statements about usage of ROM capacity at that time. When Saturn-family processors appeared in Pioneers (1987), some more evolved software development tools were possibly in use. Please take these ideas as "educated guesses", as I have no documentation to confirm them, apart from the HP Journal articles.

Re: HP-15C, an interesting question

*Message #14 Posted by **Tim Wessman** on 21 Feb 2011, 7:32 p.m.,*
in response to message #11 by Martin Pinckney

Depends.

The 20/30b are platform independent C. There are some ARM ASM routines for some of the low level addition/subtraction type things, but there are also platform independent C routines of the same thing.

The 12cp is C, but has a lot of specific thing to the processor that made moving it to the iphone more difficult.

The 48s were developed in Saturn Assembly, and sysRPL. Then the later models had C for the OS that emulates the old saturn processor.

I have no clue what things like the 300s are developed with, but I'd guess C.

TW

Re: HP-15C, an interesting question

*Message #15 Posted by **Marcus von Cube, Germany** on 22 Feb 2011, 7:14 a.m.,*
in response to message #14 by Tim Wessman

Tim, when you're talking "C" is it pure C or C++? I assume that dynamic memory management - almost inevitable with C++ - poses problems with memory constrained devices like the 20b/30b.

Re: HP-15C, an interesting question

*Message #16 Posted by **Tim Wessman** on 22 Feb 2011, 10:03 a.m.,*
in response to message #15 by Marcus von Cube, Germany

The math library is pure C, as are the 20/30b.

You are correct that C++ does tend to need more memory and be less memory efficient and is thus not as good for very low memory devices.

TW

Re: HP-15C, an interesting question

*Message #17 Posted by **Andrés C. Rodríguez (Argentina)** on 21 Feb 2011, 8:58 a.m.,*
in response to message #5 by Martin Pinckney

Of course, Eric can comment on his own work as his convenience, but I would like just to mention that, as far as I know, HP didn't released the HP-15 (or other calculator) ROM images at any time. However, with lots of work and some specific data-capture hardware he developed, Eric was able to recover the binary ROM content of many old calculators. Older models had no copyright claims, so he was able to publish such contents; and he took care not to publish images of newer, copyrighted models. However, after such research, it seems that HP claimed copyright of some of the older models, which caused Eric to remove those images from his Nonpareil site.

Re: HP-15C, an interesting question

*Message #18 Posted by **Thomas Klemm** on 20 Feb 2011, 11:19 a.m.,*
in response to message #3 by robert rozee

> Quote:
>
> but nowhere to download a rom image of a 15C :-(

Just search for Nonpareil 0.78. Once published the internet doesn't forget so easily.

HTH
Thomas

Re: HP-15C, an interesting question

*Message #19 Posted by **Walter B** on 20 Feb 2011, 1:24 p.m.,*
in response to message #2 by Katie Wasserman

This may be asked before already, but I don't find an answer:

Regarding Nonpareil, the website tells: *The Windows version does not yet have an installer. It is supplied as a ZIP file. Unzip it to a directory of your choice. Run nonpareil.exe, ...*

I did exactly that: downloaded the package, unzipped it, but I can't find anything named nonpareil.exe therein. Anyone knowing what may have gone wrong? TIA

Re: HP-15C, an interesting question

*Message #20 Posted by **NateB** on 20 Feb 2011, 2:04 p.m.,*
in response to message #19 by Walter B

from the site

> Quote:

Windows executable:

The Nonpareil executable is temporarily unavailable while a licensing issue is being resolved.

Re: HP-15C, an interesting question

*Message #21 Posted by **Ernst Fueloep** on 20 Feb 2011, 4:05 p.m.,*
in response to message #20 by NateB

Unfortunately "temporarily" seems to be more permanently. The Nonpareil site has been last updated in 2008. This is more than two years ago. A long time for "temporarily".

Re: HP-15C, an interesting question

*Message #22 Posted by **Walter B** on 20 Feb 2011, 4:11 p.m.,*
in response to message #20 by NateB

Thank you - I obviously didn't process this line |-(If the update notice is true, then Nonpareil for Windows is unavailable since August 2008. A bit long for "a licensing issue" IMHO - the Voyager versions were removed anyway already, so what else yet?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Searching within forum archives

*Message #1 Posted by **Jim Yohe** on 19 Feb 2011, 10:39 p.m.*

Let me start out asking whether what I'm asking below has been asked before and if so where? So, I'm sorry to ask this but ...

1) Is it possible to search across more than one archive at a time?

[I don't see an obvious way to do this so I've been entering each archive and repeating my search.]

2) Is it possible to search for a phrase surrounded by quotations or perhaps another character?

[When I've tried this using quotations it will return the words I've used within my phrase but they are each word is separated by comma under the heading, "Containing Any of the Keywords:". Should I use "All" instead of "Any" within the option, "Only messages containing * of the following keywords:", if often won't return any results.]

3) Can I perform a search using boolean expressions?

[I'm probably pushing my luck even asking this. ;-)]

Re: Searching within forum archives

*Message #2 Posted by **NateB** on 19 Feb 2011, 11:07 p.m.,*
in response to message #1 by Jim Yohe

You can use Google's advanced search feature. Enter "hpmuseum.org" in the "Search within a site or domain" box.

Re: Searching within forum archives

*Message #3 Posted by **Jim Yohe** on 20 Feb 2011, 3:37 a.m.,*
in response to message #2 by NateB

Good idea. Thanks.

Re: Searching within forum archives

*Message #4 Posted by **Dieter** on 20 Feb 2011, 1:30 p.m.,*
in response to message #3 by Jim Yohe

The idea gets even better since it does not require Google's "Advanced Search" page. All you need is an additional "site:hpmuseum.org" in the usual search window. This limits the search to the specified site. So, searching for HP67-related topcis is as simple as entering **HP-67 site:hpmuseum org**. Try it by clicking here

There are lots of other useful options like this. Some of them can be found at the Google support site and much even more interesting stuff at the Google helpcenter.

Dieter

Re: Searching within forum archives

*Message #5 Posted by **Raymond Del Tondo** on 19 Feb 2011, 11:41 p.m.,*
in response to message #1 by Jim Yohe

IIRC correctly this topic comes up sometimes;-)
The search function is somewhat limited, but you could try google,
which also finds archived articles.

HTH

Ray

Re: Searching within forum archives

*Message #6 Posted by **Allen** on 20 Feb 2011, 12:54 a.m.,*
in response to message #1 by Jim Yohe

My favorite: Buy a copy of the Museum DVD , copy it to your computer's hard drive and use Google Desktop to search the archives.

Since many of the PDF files are (thankfully) OCR'd now, you will get both the Archives and Manual hits in the search returns.

For a nominal cost There are three benefits to this approach: 1) You get the manuals on PDF (thousands of dollars of printed manuals) 2) You support this site 3) You can search other files on your machine in parallel.

Re: Searching within forum archives

*Message #7 Posted by **Jim Yohe** on 20 Feb 2011, 3:35 a.m.,*
in response to message #6 by Allen

Very good idea. Been thinking of doing that anyways.

Re: Searching within forum archives

*Message #8 Posted by **Walter B** on 20 Feb 2011, 4:54 a.m.,*
in response to message #7 by Jim Yohe

The DVD is worth the $$ for sure. If you're thinking of installing Google Desktop, read their data privacy statements first. They may change your mind ...

Re: Searching within forum archives

*Message #9 Posted by **Jim Yohe** on 20 Feb 2011, 1:00 p.m.,*
in response to message #8 by Walter B

Thanks for the advise. I would never install that desktop nor any other desktop utility. No, I just meant about meaning to purchase the DVD set. ;-)

Re: Searching within forum archives

*Message #10 Posted by **dinamarco** on 21 Feb 2011, 9:43 a.m.,*

in response to message #1 by Jim Yohe

type:

www.google.com into a blank space type again: site:www.hpmuseum.org YOUR SEARCH example: www.hpmuseum.org HP-41CY

these is the way i learned Regards... Nelson Dinamarco

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35S hung in "Memory Clear" loop?

*Message #1 Posted by **Scott Newell** on 18 Feb 2011, 11:04 a.m.*

Using my 35S this morning, it missed a keystroke, then started flashing "MEMORY CLEAR". I've yanked the coin cells (which measure about 2.8V each) and left them out 30 minutes or so: no help. I tried some self test key combinations: no help. I've shorted out the coin cell terminals: no help.

Is there anything else I can try?

Re: HP-35S hung in "Memory Clear" loop?

*Message #2 Posted by **Paul Gaster** on 18 Feb 2011, 11:56 a.m.,*
in response to message #1 by Scott Newell

I think you have to use a paper clip to hit the reset button on the back of the calculator. You will lose all programs and equations you entered, but you really don't have much of a choice.

Re: HP-35S hung in "Memory Clear" loop?

*Message #3 Posted by **Scott Newell** on 18 Feb 2011, 12:34 p.m.,*
in response to message #2 by Paul Gaster

> Quote:
>
> I think you have to use a paper clip to hit the reset button on the back of the calculator.

Thanks, that worked.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Classic Models Battery Pack Rebuild

*Message #1 Posted by **ben ong** on 18 Feb 2011, 9:07 a.m.*

I hope someone will have the knowledge and experience to assist me regarding HP-35/45/55/65/67/70/80 rebuid battery pack:- (1) I used the recovered battery pack holder and metal strips and rebuid 2 battery packs using the same type of batteries (NiMh). (2) After the rebuit, I tested both with digital multimeter and confirm that current are in fact flowing through each pack's metal strips because each pack registered approximate 4.0 volt (freshly charged). (3) However, and this is the strange thing, one of the pack is working perfectly when I put it into the calculator and the other just failed to light-up the display of the same calculator. I've checked many times and confirm that the metal strips are in fact touching the calculator's contacts, but yet nothing happen! 4) Can someone throw me some light as to how to go about diagnose this? Your valuable comment is very much appreciated.

Re: HP Classic Models Battery Pack Rebuild

*Message #2 Posted by **Kees van der Sanden** on 18 Feb 2011, 12:38 p.m.,*
in response to message #1 by ben ong

I assume the failing battery pack contains a bad cell. Please measure the voltage across both battery packs unloaded and loaded with a resistor of about 100 Ohm. If one or more cells are broken, the voltage will drop significant compared to the unloaded value.

Re: HP Classic Models Battery Pack Rebuild

*Message #3 Posted by **Ignazio Cara (Italy)** on 18 Feb 2011, 12:42 p.m.,*
in response to message #1 by ben ong

Clear very well the metal strips on the battery packs.

Edited: 18 Feb 2011, 12:42 p.m.

Re: HP Classic Models Battery Pack Rebuild

*Message #4 Posted by **Jim Horn** on 18 Feb 2011, 12:57 p.m.,*
in response to message #3 by Ignazio Cara (Italy)

A couple of unlikely possibilities:

When you probe the battery pack, could the pressure of the probes be making the metal strips contact the cells in a way that isn't the case when the pack is tried in a calculator?

Are the cells installed with the right polarity?

Re: HP Classic Models Battery Pack Rebuild

*Message #5 Posted by **designnut** on 18 Feb 2011, 1:56 p.m.,*
in response to message #4 by Jim Horn

I recently rebatteried my cell phone. I use eneloop ells which are the best at charge retention. I have put my old Nimh cells ready for proper recycle as provided by San Diego city. Sam

Re: HP Classic Models Battery Pack Rebuild

*Message #6 Posted by **dinamarco** on 19 Feb 2011, 10:27 p.m.,*
in response to message #1 by ben ong

Are you sure your system is charging the batteries?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.02 released

*Message #1 Posted by **Raymond Del Tondo** on 17 Feb 2011, 7:12 p.m.*

Hello all,

the new version 11.03 includes a minor display bug fix, and switches from the original VV GROB viewer to the fast GROB scroller from Java. This saves nearly half a kilobyte;-)

Please see SpeedUI.pdf for details on how to invoke and use the fast GROB scroller.

Additionally, the documentation is in a process of getting streamlined, and moving from txt to PDF.

The new version is available here:
Walkthrough PDF

SpeedUI 11.03 zip archive
but _not_ on www.hpcalc.org (since the site has not been updated for 3 months now)

Have fun:-)

Raymond

[Edit: Link and text updated to 11.03]

Edited: 21 Feb 2011, 5:14 p.m. after one or more responses were posted

Re: SpeedUI 11.02 released

*Message #2 Posted by **Timo** on 21 Feb 2011, 11:44 a.m.,*
in response to message #1 by Raymond Del Tondo

Hi Raymond!

Thanks for your continued contribution to the HP-48G/GX software inventory. I actually have a question concerning the update from release 11.01 to 11.02. I've read the available documentation but I wasn't able to retrieve an answer from it.

I use a HP-48GX with SpeedUI 11.01 installed. I have all of the 11.01 libraries installed except the Input Form Builder.

My question is: Which specific libraries do I have to replace on my HP-48 and what would be the sequence to do it?

Thanks for your help in advance and best regrards, Timo

Re: SpeedUI 11.02 released

*Message #3 Posted by **Raymond Del Tondo** on 21 Feb 2011, 5:11 p.m.,*
in response to message #2 by Timo

Hi Timo,

generally I'd suggest to update all libraries to the newest revision.

However, I have just uploaded the SpeedUI 11.03 archive.

In this case only the files CF.LIB and UI.LIB have been changed, so these are the mandatory files to update.
I strongly suggest this important update, since the old 11.01 and first batch 11.02 contained a serious bug, which is fixed in 11.03 .

http://www.hpmuseum.org/guest/deltondo/sui_1103.zip

I have added a StartHere.pdf to the archive, which also contains an uninstallation paragraph.

Best Regards

Raymond

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP IL video interface

*Message #1 Posted by **dinamarco** on 17 Feb 2011, 11:03 a.m.*

I'm looking for a HP IL video interface to buy, but in a honest price, TURNING ON... If any one has to sell... Regards.

Re: HP IL video interface

*Message #2 Posted by **Geir Isene** on 17 Feb 2011, 2:12 p.m.,*
in response to message #1 by dinamarco

Me too :)

Re: HP IL video interface

*Message #3 Posted by **dinamarco** on 17 Feb 2011, 3:15 p.m.,*
in response to message #2 by Geir Isene

I bought one a few days ago.... and I sent i back to the seller, 'cause it was misfunction. It turned on bu no image on the screen. Regards

Re: HP IL video interface

*Message #4 Posted by **dinamarco** on 24 Feb 2011, 10:26 p.m.,*
in response to message #2 by Geir Isene

I found one... If it's turn on I'll send you a picture. I never saw these one running... regards...

Re: HP IL video interface

*Message #5 Posted by **Dan Grelinger** on 6 Mar 2011, 11:21 a.m.,*
in response to message #4 by dinamarco

When you have it hooked up, with the cursor flashing, execute PRX on the HP-41.

Re: HP IL video interface

*Message #6 Posted by **bill platt** on 17 Feb 2011, 10:47 p.m.,*
in response to message #1 by dinamarco

Is this the "monitor" that you can drive with the 41CX?

Re: HP IL video interface

*Message #7 Posted by **Garth Wilson** on 17 Feb 2011, 11:08 p.m.,*
in response to message #6 by bill platt

There were a couple of HPIL video interfaces which put text out on a composite video signal. A separate modulator was required if you wanted to use them with a TV. I have the 80-column 24-line HP92198 made by Mountain Computer for HP. There was a smaller 40-column one that was in the same case as the HP 82169A HPIL-to-HPIB interface converter, 82164A HPIL-to-RS232, and 82165A HPIL-to-parallel. I don't know the model number but I saw one on eBay several months back.

The monitor is nice especially for seeing a program listing as you develop the program, without having to keep printing and printing. With the 41's ACA function, you can make lines as long as you want though, not being limited to 24 characters, so there's lots more you can do with it-- just not graphics.

Edited: 17 Feb 2011, 11:10 p.m.

Re: HP IL video interface

*Message #8 Posted by **dinamarco** on 19 Feb 2011, 10:36 p.m.,*
in response to message #7 by Garth Wilson

The system I bought on these site was the HP 82163A. And only flashing blank blocks.... nothing more... I have the HP 82164A (RS 232) Is it possible to turn into a monitor????????????? sorry about the question. Regards.

Re: HP IL video interface

*Message #9 Posted by **Garth Wilson** on 20 Feb 2011, 12:25 a.m.,*
in response to message #8 by dinamarco

The flashing blank block sounds like the cursor waiting for data. Did you select the device and send it data?

The 164 shares only the case type. It cannot be turned directly into a video interface, but it could be connected to an RS-232 terminal.

Re: HP IL video interface

*Message #10 Posted by **dinamarco** on 19 Feb 2011, 10:30 p.m.,*
in response to message #6 by bill platt

The system, when turned into a monitor, flashs a blank block, If turned on or off the calculator, no difference could be seen. I changed the calc for another, and changed the HP82160A for a new one... No difference.

Re: HP IL video interface

*Message #11 Posted by **J-F Garnier** on 20 Feb 2011, 8:57 a.m.,*
in response to message #10 by dinamarco

... I changed the calc for another, and changed the HP82160A for a new one

So I assume you tried to use it with a HP-41. The video interface needs explicit commands from the HP-41 to display something. Maybe your interface was working correctly, but you didn't know how to use it. Should you have ask to this forum before sending it back to the seller?

Re: HP IL video interface

*Message #12 Posted by **Dan Grelinger** on 6 Mar 2011, 10:45 a.m.,*

in response to message #11 by J-F Garnier

I see the negative feedback logged for coburlin. I wouldn't feel bad about returning it at all. At the Fixed Prices that he sells things at, you should be able to expect some service with the sale. From comments when coburlin relisted it, it appears he doesn't have any clue about what he is selling either.

I own and have used an HP-IL video interface. It works just like an HP-IL printer. When you connect a printer to the HP-IL loop, it does not do anything until you send it print commands. Same thing with this video interface. A blinking block cursor is its way of telling you it is ready to receive data from the controller on the loop (HP-41).

Re: HP IL video interface

*Message #13 Posted by **Raymond Del Tondo** on 6 Mar 2011, 11:23 a.m.,*
in response to message #12 by Dan Grelinger

> Quote:
>
> [..]At the Fixed Prices that he sells things at, you should be able to expect some service with the sale.

Yes, of course. But at the high price the buyer paid for this item, one could also expect that the buyer knew what he bought. Obviously he didn't know. However the buyer could have asked the seller about the functionality issue before sending the obviously functional unit back, so that seems to have been a communication problem;-)

About ten years ago I sold a NOS HP-21S for a fixed price (100 bucks), and after receiving the calc the buyer complained about the calc beeing ten years old! Pfffff...I mean, someone paying that much for a relatively simple yet rare calc should know beforehand what he's doing.

Re: HP IL video interface

*Message #14 Posted by **dinamarco** on 9 Mar 2011, 12:23 a.m.,*
in response to message #13 by Raymond Del Tondo

Dear partner I asked to the seller about the item. I received a positive answer about the item He told me it was all ok. I was sad vexames I sent it back And the seller try to delay to reguem the money to My paypal account. I am a honest buyer.

Re: HP IL video interface

*Message #15 Posted by **dinamarco** on 9 Mar 2011, 12:27 a.m.,*
in response to message #12 by Dan Grelinger

I followed all instructions described in the hp 82163a manual If the product was ok, I could use it without problems. Regards

Re: HP IL video interface

*Message #16 Posted by **Raymond Del Tondo** on 9 Mar 2011, 3:58 a.m.,*
in response to message #15 by dinamarco

After rereading the 82163 manual I have to admit that the 82163A manual is not really suited for the end user. It describes how to connect the devices, but it implies that the user

knows how to get data sent to the interface. The "Operation" section mentions in one sentence that the interface responds to many printer commands sent to it. Unfortunately there are no examples given. Section "Controlling the Video Interface" mentions that at startup the interface is in an inactive mode, w/o telling what that means. Appendix C mentions the HP-41 as controller, and that's the only section where the user can get an idea to use OUTA, or printer commands to actually get some reaction from the interface.

So, sorry for my harsh words and ingnorance. Actually it wasn't your fault. Instead, it's the fault of the lousy manual.

Re: HP IL video interface

*Message #17 Posted by **dinamarco** on 9 Mar 2011, 10:51 p.m.,*
in response to message #16 by Raymond Del Tondo

No problems. I'd like to explain what happened. But now I noivei amornes and abem it arrives I'd like to test and use it. Are you able to teach me? As os you can help every one. Like you adote the manual does not help. Regards.

Re: HP IL video interface

*Message #18 Posted by **Thomas Okken** on 9 Mar 2011, 11:59 p.m.,*
in response to message #17 by dinamarco

> Quote:
>
> But now I noivei amornes and abem it arrives

?????????

Re: HP IL video interface

*Message #19 Posted by **Allen** on 10 Mar 2011, 1:19 a.m.,*
in response to message #18 by Thomas Okken

Perhaps used refund to buy vodka?

Re: HP IL video interface

*Message #20 Posted by **dinamarco** on 10 Mar 2011, 7:10 a.m.,*
in response to message #19 by Allen

no caipirinha in Brazil... it's cheaper... regards...

Re: HP IL video interface

*Message #21 Posted by **Martin Pinckney** on 10 Mar 2011, 11:37 a.m.,*
in response to message #20 by dinamarco

Curious, I checked out Wikipedia

> Quote:
>
> Caipirinha ... is Brazil's national cocktail, made with cachaça ... sugar and lime[1]. Cachaça is Brazil's most common

> distilled alcoholic beverage. While both rum and cachaça are made from sugarcane-derived products, most rum is made from molasses. Specifically with cachaça, the alcohol results from the fermentation of sugarcane juice that is afterwards distilled.

I would like to try this cachaça. I wonder if it's available at Walgreens...

Re: HP IL video interface

*Message #22 Posted by **Gerson W. Barbosa** on 10 Mar 2011, 2:15 p.m.,*
in response to message #21 by Martin Pinckney

http://www.wine-searcher.com/find/velho+barreiro+cachaca+brazil

Here that brand costs less than US$ 4.00 a bottle. I don't drink though.

"WARNING: Alcohol and algebra don't mix. Don't drink and derive." :-)

Re: HP IL video interface

*Message #23 Posted by **dinamarco** on 10 Mar 2011, 9:38 p.m.,*
in response to message #22 by Gerson W. Barbosa

$4 a bottle is not a very Good cachaça. Here in My region se have vertera like itagiba. Regards e abraços

Re: HP IL video interface

*Message #24 Posted by **Raymond Del Tondo** on 11 Mar 2011, 10:57 p.m.,*
in response to message #22 by Gerson W. Barbosa

> Quote:
>
> "WARNING: Alcohol and algebra don't mix. Don't drink and derive." :-)

YMMD:-)

Re: HP IL video interface

*Message #25 Posted by **dinamarco** on 10 Mar 2011, 9:35 p.m.,*
in response to message #21 by Martin Pinckney

I will go to Florida on June 20. If you want I can send you a bottle when I arrobe in Miami. Just send me an answer. Regards.

Re: HP IL video interface

*Message #26 Posted by **dinamarco** on 10 Mar 2011, 7:07 a.m.,*
in response to message #18 by Thomas Okken

sorry, my Iphone correct the language automatic to portuguese. Really sorry for it.

Re: HP IL video interface

*Message #27 Posted by **Eric Smith** on 10 Mar 2011, 9:31 a.m.,*
in response to message #16 by Raymond Del Tondo

The reason the 82163A manual doesn't explain how to print to it is that it may be used with many different controllers, and it is assumed that the manual for the HP-IL interface for the controller will describe how to select a device and send output to it. In the case of the HP-41, that would be the 82160A manual.

Other controllers that can talk to the 82163A include

- HP-71B with HP 82401A,
- HP-75C/D
- Series 80 or HP 9915A with HP 82938A
- HP-110 or Portable Plus
- HP 150 with HP 45643A
- HP-1630/1631 series logic analyzers (depending on firmware version)
- HP 9807A (Integral) with HP 82924A
- PC compatibles with HP 82973A
- a small number of third-party controllers.

All of these have substantial differences in how one talks to HP-IL devices. It would not have been practical for the 82163A manual to explain printing from each of them; that would have been like expecting the manual for a printer with a Centronics interface to have had instructions for how to print from a wide variety of different computers. (Back then the PC and Windows had not yet cornered the market.)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

I/O subsystem not working on HP-41CV?

*Message #1 Posted by **Philippe Lasnier** on 17 Feb 2011, 9:17 a.m.*

Hi all,

I've just received a very good looking HP-41CV from 1983 (Singapore). I have been told it was well looked after, and it looks it, but unfortunately it doesn't work very well.

My diagnosis (possibly flawed) is that the I/O subsystem is faulty. I deduced that from the following observations:

- Start from fresh. Batteries have been in for a while, but the calculator hasn't been turned on for hours.

- Turn on. The calc on its own (no module, no card reader, nothing inserted in the ports) works fine. I haven't found any problem with it.

- Plug in a card reader (81104A), and a CAT 2 doesn't report anything. Nothing happens if you try to insert a card in the reader (the reader works fine in any of my other HP-41's).

- Plug in a TIME module (with or without the card reader still plugged in), and the calculator goes mad, with random characters (including lots of "@" for some reason) flashing on an off, and no real keyboard control. The calculator usually cannot be turned off except by taking the batteries out.

- After a while of on/off/batteries out and messing around with the keyboard, the calc slowly "stabilises", and eventually things start to work. A CAT 2 correctly reports the TIME module and the card reader. Things look peachy. The stopwatch works, and the card reader reads cards properly.

- Turn off the calculator (and go to bed in my case).

- Turn on the calculator some time later (as short as 1/2 hour) - mayhem again...

A layman's speculation is that something needs to "warm up". I thought maybe a faulty capacitor would be the cause?

In the absence of Geoff's repair book (I'm signed up for when it comes out), I am reduced to asking for your help (and Geoff's, if he is reading this).

Any precise idea what this could be? Is that repairable?

Of course, if it's not repairable I could just "sacrifice" it to become the shell of a HP-41CL :-)

Regards,

Philippe

Re: I/O subsystem not working on HP-41CV?

*Message #2 Posted by **John Robinson** on 18 Feb 2011, 2:40 a.m.,*

in response to message #1 by Philippe Lasnier

Hi Philippe,

From the date, 1983 I am pretty sure you have a "fullnut" type of CV. It sounds like the contact between the I/O block flex circuit board and the display/keyboard is not good. This could be due to one of two problems. The contact is just dirty, or even slightly corroded, or that one or both of the top two screw posts is cracked or broken. When this happens, the screws are not tight enough to make good contact.

You will need to disassemble the calculator regardless. Hopefully it's just dirty contact, and not broken screw posts. If the screw posts are not cracked or broken, clean the I/O block flex circuit board connector and the contacts on the display keyboard, and hopefully all will be good. If the screw posts are broken, there are one or two forums postings/articles on this documenting repairs, or contact me offline about repairing it.

Cheers, John

Re: I/O subsystem not working on HP-41CV?

*Message #3 Posted by **Philippe Lasnier** on 18 Feb 2011, 8:41 a.m.,*
in response to message #2 by John Robinson

Hi John,

Thanks for your reply and help.

Yes, the HP-41CV is a fullnut, and I am familiar with the flex connector, and posts, problem. I should have mentioned that I had thought about that. I didn't think it was a possible cause because the calc is tight all around, and there is no indication of any weakness in that area (no squeek, no play). There is no indication either that the calculator had even been dismantled (if it had, it would have been a professional job). I even put pressure at various points while testing just in case, but that didn't change anything.

Ultimately what convinced me that it probably wasn't a contact problem was the fact that *after a while* the calculator starts to behave properly. Since it's sitting on a desk the whole time, it didn't look like an environment issue (e.g. change of temperature forcing the connector to make a better contact); so I was left with the possibility of an electronic problem. I will probably open up the calculator anyway, to check.

I vaguely remember that there are two "large" electrolytic capacitors on the main board that can go bad, but I thought that these were part of the power supply control. If that were affecting the power enough to bother the card reader, I wouldn't however have thought that it would affect the TIME module.

Thanks again,

Philippe

Re: I/O subsystem not working on HP-41CV?

*Message #4 Posted by **John Robinson** on 20 Feb 2011, 6:24 a.m.,*
in response to message #3 by Philippe Lasnier

Hi Philippe,

You can't really tell if a 41 has been opened or not, as the screws are under the four rubber feet. The feet can certainly be reused after re-assembly.

You could well be right about the 41 logic board and even the capacitors, but I still think a good clean of the connectors, both the I/O flex board connection and the connectors between the logic board and

keyboard etc. It's worth a shot.

You may need to test the logic board in another calc. I could help you with that if need be, and I may even have a spare CV board to match yours.

Cheers, John

Re: I/O subsystem not working on HP-41CV?

*Message #5 Posted by **Philippe Lasnier** on 20 Feb 2011, 12:43 p.m.,*
in response to message #4 by John Robinson

Hi John,

> Quote:
>
> You can't really tell if a 41 has been opened or not, as the screws are under the four rubber feet. The feet can certainly be reused after re-assembly.

Yes, I know. I have opened 41s before, and carefully saved the feet myself.

> Quote:
>
> You could well be right about the 41 logic board and even the capacitors, but I still think a good clean of the connectors, both the I/O flex board connection and the connectors between the logic board and keyboard etc. It's worth a shot.

Indeed, so I took the plunge this afternoon and took the calculator apart.

The first thing I noticed is that it had *quite possibly* already been opened before. That's because one of the four feet has its backing adhesive tape missing (probable indication that the foot had been removed). Also, two of the four feet recesses had a slight but unmistakable notch; the type you could get by trying to pry up the foot using a small screwdriver. Of course, removal of the feet is no proof that the screws were taken out and the calculator opened...

All four posts were intact and solid. A minor amount of gunk was around the two halves and the spacer "U" strip - cleaned that. Some dust under the display glass - flushed it with compressed air.

The I/O block was in good condition overall. However, the narrow and long foam block that forces the connector stripe onto the PCB looked out of shape; that's not surprising really (29 years). The contact areas for that locked a bit lacklustred, especially on the I/O block. The 4 connectors to the modules looked good, but you could easily see where contact springs from modules had been - all that could go with a good clean.

I unfortunately don't have a good contact cleaner (for now), so I simply used a solvent and cotton buds and cleaned the PCB and I/O block connection areas as best I could.

I then reassembled the 41CV temporarily.

That brought **some** measure of success: the calculator immediately recognised the card reader this time, and I was able to feed a card; so it's working.

The TIME module also worked, but only in position #4 (that of the card reader). In position #2 it appears to work (CAT 2 is fine), but execute CLOCK and the calculator turns off. In position #3 the

calculator goes mental (crazy display and piezo whining). In position #1 it "works" but you can hear a faint whine from the piezo.

In summary, I think this confirms that you were perfectly correct: it's the I/O block (contacts and connectors) that appears to be the culprit.

Once I get a proper contact cleaner (I was thinking DeoxIT D100S-2 - any comment?) I should be able to fix it properly.

NB: I left the contact strip between the keyboard PCB and the CPU PCB well alone; that worked, no need to rock the boat.

> Quote:
>
> You may need to test the logic board in another calc. I could help you with that if need be, and I may even have a spare CV board to match yours.

Thanks for the offer :-) I guess that could come in handy if a full and proper clean doesn't fix the problem entirely.

Thanks again.

Regards,

Philippe

Re: I/O subsystem not working on HP-41CV?

*Message #6 Posted by **John Robinson** on 20 Feb 2011, 7:06 p.m.,*
in response to message #5 by Philippe Lasnier

Hi Philippe,

I am glad to hear you have had some success with the CV. I think you're correct about leaving the log board/keyboard connector strips alone, they are easy to damage.

As for the cleaner, the products available to me in Australia are probably different to what's available to you, but in general I use Electrolube (U.K. made) products.

You could just use to isopropanol, often available from supermarkets, the purer the better. The one I use is 70% isopropanol, which is sold as "rubbing alcohol".

Good luck

Cheers, John

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

1st Gen HP-35

*Message #1 Posted by **aj04062** on 16 Feb 2011, 11:34 p.m.*

Can anyone enlighten me on the following?

I just picked up a S/N 1143 calculator. Thought it might have "the bug", but it doesn't. I have a S/N 1249 calculator with the bug.

Both have raised dot on the 5.

The back label on the earlier calculator matches one I have starting at 1302. These labels state on the top HEWLETT-PACKARD HP-35 INSTRUCTIONS whereas the '72 unit only has HP-35 INSTRUCTIONS. Does this indicate the unit was sent back for repairs and the different label was applied?

I do notice the battery compartment is two piece and can see the board through the slight crack.

Re: 1st Gen HP-35

*Message #2 Posted by **Michael de Estrada** on 17 Feb 2011, 12:53 a.m.,*
in response to message #1 by aj04062

Hard to say. I have a s/n 1249 version 2 with the bug and the label has HEWLETT-PACKARD.... on the top. So, I'm not sure if a s/n 1143 version 2 should not have this version of the label as well. I've also seen labels w/o the Hewlett-Packard name on other HP models of various vintages, so it is inconclusive. Maybe it was returned to HP for repair or maybe someone mixed parts. It's also possible that it never had the bug in the first place. As to the battery compartment; I believe thay are all two piece, but some have a noticeable gap, whereas others are flush so you can hardly see it.

Re: 1st Gen HP-35

*Message #3 Posted by **Frank Boehm (Germany)** on 17 Feb 2011, 4:28 p.m.,*
in response to message #1 by aj04062

Very likely (like in close to 100%) this one has been sent to HP to replace the bugged ROMs - the "old" backlabels probably were no longer in stock, so they just stickerd current ones onto the calculator.

Re: 1st Gen HP-35

*Message #4 Posted by **Michael de Estrada** on 17 Feb 2011, 11:08 p.m.,*
in response to message #3 by Frank Boehm (Germany)

See this current TAS auction and look at the photos. This is a s/n 1143 HP-35 version 2 calc with the bug and a rear label with "HEWLETT-PACKARD MODEL 35 INSTRUCTIONS" on it. Notice that the serial number is inside the battery compartment and not outside as on some earlier production. So, like I said, the type of label is inconsequential. Yes, the calc was probably sent to HP for replacement of the ROM, but the label is not the determining indicator of this. The only way to know for sure is to open the calc and look for stickers on the pcb and ROM numbers.

Edited: 17 Feb 2011, 11:09 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-30B Fun (HP-45 Simulator...)

*Message #1 Posted by **svisvanatha** on 16 Feb 2011, 10:33 p.m.*

Cool ! With the cable that Tim sent, I was able to flash the HP-30B with the HP-45 simulator.

Video of HP-30B running HP-45 Simulator

HP-45 Software Demo

Re: HP-30B Fun (HP-45 Simulator...)

*Message #2 Posted by **Walter B** on 17 Feb 2011, 3:09 a.m.,*
in response to message #1 by svisvanatha

Very nice! Now take the next step ...

Re: HP-30B Fun (HP-45 Simulator...)

*Message #3 Posted by **svisvanatha** on 17 Feb 2011, 9:39 a.m.,*
in response to message #1 by svisvanatha

My next step will be to locally compile my own binary of the HP-45, and successfully load that.
The demo I showed was with the pre-built binary from the 20B wiki.
Once that is done, then I will take the leap with the wp-34s.
I saw in another post it was mentioned that it was not ready for deploying to the hardware - is that still the case?

Edited: 17 Feb 2011, 10:15 a.m.

Re: HP-30B Fun (HP-45 Simulator...)

*Message #4 Posted by **svisvanatha** on 20 Feb 2011, 11:25 a.m.,*
in response to message #3 by svisvanatha

Have spent some time trying to build the hp-45 demo in Ubuntu. I can successfully compile the binary with CodeSourcery, but it does not flash into the device with sam-ba (from WinXP).

Incidentally, I cannot get one environment to work with both CodeSourcery and Sam-ba. In Ubuntu, I cannot get sam-ba to show the dialog that you use to select the BIN image. And in WinXP, Sam-ba works fine, but I am not sure how to compile with CodeSourcery!

I should perhaps stick to Aircraft Engineering ! Any tips on either getting sam-ba to work in Ubuntu, or what to do with CodeSourcery in WinXP? Many thanks.

Re: HP-30B Fun (HP-45 Simulator...)

*Message #5 Posted by **Scott Newell** on 20 Feb 2011, 11:58 a.m.,*

in response to message #4 by svisvanatha

> Quote:
>
> And in WinXP, Sam-ba works fine, but I am not sure how to compile with CodeSourcery!

I did most of the dev work with the CS (or was it the RTEMS?) tools under win2k. I did check the build with a scratch built gcc cross compiler under openbsd/sparc64, so it should be fairly portable. I've got a x86 VPS running Debian, which should be close enough to your Ubuntu--I'll try and test it out today if I get a chance.

Re: HP-30B Fun (HP-45 Simulator...)

*Message #6 Posted by **svisvanatha** on 21 Feb 2011, 2:08 a.m.,*
in response to message #4 by svisvanatha

Thank you for the reply. Some further information.

I have now managed to use both CodeSourcery and Sam-ba from within WinXP. I was missing the fact you had to use 'cs-make' to make the project.

1. I compiled demo_45 from source using cs-make from within WinXP. This gives a bin file of size 16772 bytes.
That does not match the size of the bin file (i.e. 16896 bytes) from the demo_45 tar.gz archive .
2. There was one warning in the compile process, in line 533.
3. The 30B does not turn on after following the usual flashing procedure with this bin file.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41CL

*Message #1 Posted by **Monte Dalrymple** on 16 Feb 2011, 2:23 p.m.*

If the following people are still interested in a 41CL,
could they send me an email so that I can contact them
directly?

Diego Diaz
Paul Dale
Bill Zimmerly
"db"
Luiz Vieira
Massimo Gerucci
Raymond Del Tondo

If you're not interested, please let me know so that I can
offer one to somebody else?

email me at monted@systemyde.com

You can check the status at 41CL page

Thanks, Monte

Edited: 16 Feb 2011, 2:25 p.m.

Re: 41CL

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 16 Feb 2011, 2:42 p.m.,*
in response to message #1 by Monte Dalrymple

PM on the way...

Ah, and it's G**n**erucci, BTW... :-)

Greetings,
Massimo

Re: 41CL

*Message #3 Posted by **Monte Dalrymple** on 16 Feb 2011, 3:01 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Sorry Massimo, it's written correctly on my list, but my typing sucks.

Re: 41CL

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 16 Feb 2011, 5:39 p.m.,*
in response to message #3 by Monte Dalrymple

No, no Monte... it's my last name that sucks :)

Re: 41CL

*Message #5 Posted by **Raymond Del Tondo** on 16 Feb 2011, 3:22 p.m.,*
in response to message #1 by Monte Dalrymple

You have mail:-)

Regards

Raymond

Re: 41CL

*Message #6 Posted by **Ángel Martin** on 16 Feb 2011, 3:51 p.m.,*
in response to message #1 by Monte Dalrymple

Hi Monte, is your list showing just the "unknowns" or it's supposed to be the comprehensive one for all orders? I guess the former, but just in case... I'm on it! BTW, where's the "registration" official method?

Cheers, 'AM

Re: 41CL

*Message #7 Posted by **Geir Isene** on 16 Feb 2011, 4:56 p.m.,*
in response to message #1 by Monte Dalrymple

Please, pretty please with cherry on top.

I really, truly awfully much want one.

Re: 41CL

*Message #8 Posted by **Giovanni Jimenez** on 16 Feb 2011, 5:10 p.m.,*
in response to message #1 by Monte Dalrymple

Monte

Any chance to get into that privileged list ?

thanks !

Re: 41CL

*Message #9 Posted by **Paul Dale** on 17 Feb 2011, 2:05 a.m.,*
in response to message #1 by Monte Dalrymple

Mail from me too :)

- Pauli

Re: 41CL

*Message #10 Posted by **Diego Diaz** on 18 Feb 2011, 4:32 p.m.,*
in response to message #1 by Monte Dalrymple

Hi,

Guess you've got a lot of mail lately... ;-)

Mine among them...

Cheers from the Canary Islands.

Diego.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP policy on source files

*Message #1 Posted by **Raymund Heuvel** on 15 Feb 2011, 7:54 p.m.*

Does HP release the source and/or documentation files in electronic format of "ancient" calculators like HP41, HP71, HP71 and so on?

Best regards

Ray

Re: HP policy on source files

*Message #2 Posted by **bill platt** on 15 Feb 2011, 8:43 p.m.,*
in response to message #1 by Raymund Heuvel

In general, no, but the museum has special permission. You canc getv it on the museum DVDs here:

http://www.hpmuseum.org/cd/cddesc.htm

Re: HP policy on source files

*Message #3 Posted by **Joel Setton (France)** on 16 Feb 2011, 7:33 a.m.,*
in response to message #2 by bill platt

Is there an official "permission statement" from HP, somewhere on the CDs? Where would it be?

Joel

Re: HP policy on source files

*Message #4 Posted by **Raymund Heuvel** on 16 Feb 2011, 9:06 a.m.,*
in response to message #3 by Joel Setton (France)

Maybe Richard can help ...

Re: HP policy on source files

*Message #5 Posted by **Tim Wessman** on 15 Feb 2011, 9:28 p.m.,*
in response to message #1 by Raymund Heuvel

If you have the source files, we'd be interested in them! :-)

TW

Re: HP policy on source files

*Message #6 Posted by **Martin Pinckney** on 15 Feb 2011, 9:30 p.m.,*

in response to message #5 by Tim Wessman

So this is why we have not seen a 15c+ yet.

Re: HP policy on source files

*Message #7 Posted by **Namir** on 15 Feb 2011, 11:25 p.m.,*
in response to message #6 by Martin Pinckney

Same reason you will not see the 15D, 15E, 15F an so on ... because HP will not make these models. Same reason you will not see a TI59+ from TI. With limited resources, HP is most likely focusing on combining new (reads hip and exciting) and practical (that is stuff that sells well) technology. If HP will revive any vintage machine, I'd say it's the HP41CX because the 41C/CV/CX sold very well (check the number of these auctions in TAS).

As for me, I want my HP41C+ .. and I want it now ... with at least one or two USB ports to support USB printers and USB external drives!!! I hope Tim is listening!

Namir

Edited: 15 Feb 2011, 11:26 p.m.

Re: HP policy on source files

*Message #8 Posted by **Tim Wessman** on 15 Feb 2011, 11:42 p.m.,*
in response to message #7 by Namir

> Quote:
>
> As for me, I want my HP41C+ .. and I want it now ... with at least one or two USB ports to support USB printers and USB external drives!!! I hope Tim is listening!

Yeah. . . I'll get right on that. . .

Give a few days and I'll get that to you on the back of my flying unicorn.

TW

Edited: 15 Feb 2011, 11:47 p.m.

Re: HP policy on source files

*Message #9 Posted by **Patrice** on 16 Feb 2011, 2:39 p.m.,*
in response to message #8 by Tim Wessman

Hi Tim,

Can you ask Scotty to beam me a HP41C+ too ?

Since I live over sea, I fear your unicorm will not do it.

Patrice

Re: HP policy on source files

*Message #10 Posted by **Tim Wessman** on 16 Feb 2011, 4:45 p.m.,*

in response to message #9 by Patrice

It is a robust unicorn. I think it will make it. . .

TW

Re: HP policy on source files

*Message #11 Posted by **John B. Smitherman** on 18 Feb 2011, 12:33 a.m.,*
in response to message #8 by Tim Wessman

There are 7 billion people on Earth and HP has only 1 calculator programmer. :-(

John

Re: HP policy on source files

*Message #12 Posted by **Eric Smith** on 18 Feb 2011, 1:23 p.m.,*
in response to message #11 by John B. Smitherman

It's not as bad as that! Unless something changed very recently, they have TWO programmers, Tim and Cyrille.

Re: HP policy on source files

*Message #13 Posted by **Walter B** on 18 Feb 2011, 2:59 p.m.,*
in response to message #12 by Eric Smith

... and by clearly stating there are 7e9 people on this planet you may even improve the relation by a factor of 1000 (pun intended ;)

Re: HP policy on source files

*Message #14 Posted by **Mike Morrow** on 18 Feb 2011, 2:46 p.m.,*
in response to message #12 by Eric Smith

Who wrote the firmware for the HP 30b? That's a very nicely done recent product that does *not* rely on an ARM emulating HP firmware from some ancient HP of two or three decades earlier.

My dream would be a small "scientific" machine with completely original new firmware native to some version of an ARM with good LCD controller capability and the ability to use lots of RAM. The implementation of HP 42S capabilities in an HP 30b-sized and -styled package would be an exciting product, especially if the firmware were optimized to the new machine's processor. The HP 30b is 100 times faster than the HP 42S for the types of non-finance problems that are not limited by the 30b's characterisitcs, and ten times faster for the same problems done on the ARM-based but Saturn-emulated HP 50g. Native code makes a big difference.

So...for new calculator development, the existence of legacy firmware from an old project should be of only historical (not production) value, IMO.

Edited: 18 Feb 2011, 3:02 p.m.

Re: HP policy on source files

*Message #15 Posted by **Marcus von Cube, Germany** on 18 Feb 2011, 4:19 p.m.,*
in response to message #14 by Mike Morrow

> Quote:
>
> Who wrote the firmware for the HP 30b?

Most SDK files bare Cyrille's name.

Re: HP policy on source files

*Message #16 Posted by **Martin Pinckney** on 18 Feb 2011, 7:06 p.m.,*
in response to message #14 by Mike Morrow

> Quote:
>
> My dream would be a small "scientific" machine with completely original new firmware native to some version of an ARM with good LCD controller capability and the ability to use lots of RAM. The implementation of HP 42S capabilities in an HP 30b-sized and -styled package would be an exciting product, especially if the firmware were optimized to the new machine's processor.

Mike, you nailed it there.

> Quote:
>
> So...for new calculator development, the existence of legacy firmware from an old project should be of only historical (not production) value, IMO.

In theory, yes. However, as we have seen in the case of the 33s and 35s, for whatever reason HP did not start from scratch, but apparently used the 32sii firmware as a starting point. Ideally, write new firmware implementing the functionality of both 42s and 27s, but if that is not possible, then start with 42s code and modify it.

Re: HP policy on source files

*Message #17 Posted by **bill platt** on 18 Feb 2011, 11:15 p.m.,*
in response to message #16 by Martin Pinckney

The 33s / 35s used the 32sii starting point for some obvious reasons.

Top of the list was the pretty solid market for the PE exams. Along that same list was to match the functionality of the 32sii which is probably the most popular model ever made.

I(can't fault them for that approach. Too bad they didn't put more rigor into testing or being involved more directly or something so as to avoid the bug problems that had to be sorted, and the hardware (keyboard) issues that cropped up. They sorted it but got some bruises around the eyes.

Re: HP policy on source files

*Message #18 Posted by **Eric Smith** on 19 Feb 2011, 3:37 a.m.,*
in response to message #16 by Martin Pinckney

> Quote:
>
> in the case of the 33s and 35s, for whatever reason HP did not start from scratch, but apparently used the 32sii firmware as a starting point

I wasn't involved, but I don't think the 33s and 35s used ANY of the 32SII code. The 33s code appears to have been a from-scratch effort, most likely written in C, and intended to have functionality similar to the 32SII. Why? Because it sells!

> Quote:
>
> implementing the functionality of both 42s and 27s

Obviously a bunch of us here in the forum would buy that, but it's far from clear that the world at large would. HP has to invest their resources into designing what they think the market will actually buy.

> Quote:
>
> then start with 42s code and modify it.

I very much doubt that you'll see any calculators with code derived from any Pioneer series models, as those were all written in Saturn assembly and/or RPL. Any new models (other than 38/39/40/48/49/50 series) are likely to be derived from 20b/30b code base.

I don't work at HP, so this is all just my opinion.

Re: HP policy on source files

*Message #19 Posted by **Martin Pinckney** on 19 Feb 2011, 12:46 p.m.,*
in response to message #18 by Eric Smith

> Quote:
>
> I wasn't involved, but I don't think the 33s and 35s used ANY of the 32SII code. The 33s code appears to have been a from-scratch effort, most likely written in C, and intended to have functionality similar to the 32SII.

Not being a software guy, I did not use the correct terminology. Obviously, "code" was the wrong word. What is the proper term, a flow chart? What I'm trying to say, is HP, or whoever they source it to, used the 32sii functionality as a starting point.

> Quote:
>
> Why? Because it sells!

It sold because that's all HP offered at the time! It has been demonstrated here that the 42s was far superior as an RPN machine, and the 27s has a far superior Solver than any other pocketable calculator.

But even given that 42s sales faltered before it was canned, nonetheless if indeed written from scratch, the 33s/35s functionality could have been vastly improved over the 32sii.

Rather, I think Bill Platt hit on the real reason, passing muster with the NCEES folks with the least amount of effort.

Re: HP policy on source files

*Message #20 Posted by **Eric Smith** on 19 Feb 2011, 6:57 p.m.,*
in response to message #19 by Martin Pinckney

> Quote:
>
> What is the proper term, a flow chart?

I doubt that they even had a flow chart to work from. I suspect that the 33s code was developed entirely from scratch. (Well, probably with some code from the 10bii or something.)

> Quote:
>
> It [32SII] sold because that's all HP offered at the time!

No, that's not the reason. The 32SII sold far better than the 42S even when both were available.

> Quote:
>
> the 42s was far superior as an RPN machine, and the 27s has a far superior Solver than any other pocketable calculator.

That has nothing to do with it. Adding more features to a product does NOT necessarily make it sell better.

Re: HP policy on source files

*Message #21 Posted by **Martin Pinckney** on 19 Feb 2011, 8:06 p.m.,*
in response to message #20 by Eric Smith

> Quote:
>
> That has nothing to do with it. Adding more features to a product does NOT necessarily make it sell better.

Not *more*, a *better* feature set. Both 33s and 35s have received mixed reviews, even on consumer websites, let alone this one. I don't think

you mean what customers say has no bearing on sales.

Re: HP policy on source files

*Message #22 Posted by **Mike Morrow** on 19 Feb 2011, 9:05 p.m.,*
in response to message #20 by Eric Smith

> Quote:
>
> That has nothing to do with it. Adding more features to a product does NOT necessarily make it sell better.

In any event, not when the marketing is so incompetently prosecuted or purposefully self-defeating as it was with the HP 42S.

I'd used my favorite, an HP-15C, for three years before and eight years after the HP 42S appeared. Had I known the tremendous advance that the HP 42S represented over the HP-15C, I'd have purchased a 42S many years earlier.

When I finally retired my HP-15C, the HP 32SII was the only thing still in the RPN product line that seemed to offer similar capability. I found out after buying a 32SII that it wasn't even *remotely* as capable. Other than having the advantageous portrait layout, a limited alpha capability, and Saturn processor (for greater speed and accuracy), it was incredibly inferior to the old HP-15C. I tossed it in the clunker box (with other junk like the 28C and 38G) and found a source for the HP 42S. (In retrospective fairness, the 32SII is not a bad machine...unless one is comparing it to a 15C or 42S.)

Those of us who had used HP machines for decades made the mistake of assuming that the best models of one year would be replaced by even better models in later years. Sadly, HP broke this tradition in 1995. We're still waiting for a worthy 42S successor today, 23 years after introduction and 16 years after discontinuance.

The reason that the HP 42S did not sell as well as it might have is HP's piss-poor, shoddy, self-defeating marketing. I saw many HP advertisements in US engineering trade magazines such as the IEEE Spectrum for the HP 48SX. I recall none for the HP 42S, even though it is an electrical engineer's dream machine (and still is, even in 2011).

The reasons that the HP 32S/32SII sold adequately before the HP 42S was discontinued was penny-wise-dollar-foolish buyer attitudes (the 42S was 70 percent higher in cost than the 32SII), ignorance of 42S capabilities (due to HP's poor marketing of the 42S), and lack of buyer sophistication (who could imagine no value to 42S capabilities). After the discontinuance of the 42S in 1995, the 32sii sold well simply because it was the *only* small RPN machine available, as Martin points out. This was aggravated by the prices of yet available HP 42S stock rising very sharply after 1995 as HP's strategy was recognized: HP deliberately killed the grossly superior (to 32SII) 42S in order to kill competition to 48-series machines. There would be no successor.

Ever.

Edited: 19 Feb 2011, 11:24 p.m.

Re: HP policy on source files

*Message #23 Posted by **Walter B** on 20 Feb 2011, 12:27 a.m.,*
in response to message #22 by Mike Morrow

I concur with almost everything you wrote. The habitat of the 42S was given up deliberately to promote the more powerful but clunky RPL machines. Their margin must have been significantly better.

Now we have the toys at the low end (up to the 300s), the 35s for US tests (and as a basic scientific calculator with some well known shortcomings), and the 50g for the nerds at the universities etc. That's it. A powerful compact RPN tool is missing since 1995.

One more reason for pushing community projects ... d8-)

Re: HP policy on source files

*Message #24 Posted by **John B. Smitherman** on 20 Feb 2011, 9:45 a.m.,*
in response to message #23 by Walter B

It would be interesting to know the number of downloads for Free42 and other 42s implementations to be able to judge the interest in such a product.

John

Re: HP policy on source files

*Message #25 Posted by **Eric Smith** on 20 Feb 2011, 4:27 p.m.,*
in response to message #24 by John B. Smitherman

While the number of downloads of Free42 would certainly be interesting, it would tell almost nothing about how a physical calculator would sell.

Re: HP policy on source files

*Message #26 Posted by **John B. Smitherman** on 20 Feb 2011, 5:36 p.m.,*
in response to message #25 by Eric Smith

Eric, I don't follow your logic. Let's say that Free42 and 42s have less than 100 downloads from iTunes then I wouldn't be interested in further investigation. However, if those products have had 10,000 or more downloads then I would be interested in looking into the potential for a market for a hardware calculator.

It really doesn't matter. HP is going to continue to build financial calculators and do very little with scientific / graphing calculators. With only 2E0 programmers on a planet with 7E9 people it's my opinion that they aren't interested any more.

Regards,

John

Re: HP policy on source files

*Message #27 Posted by **Eric Smith** on 20 Feb 2011, 8:20 p.m.,*
in response to message #26 by John B. Smitherman

What I'm saying is that if Free42 has 10,000 downloads, that does NOT mean that a large number of people would buy a physical calculator, and conversely, that if Free42 has 100 downloads, it doesn't mean that a physical calculator would sell poorly. The markets for samrtphone calculator apps and physical calculators are MUCH different. It's certainly true that there is a non-zero intersection, but the size of one set tells you almost nothing about the size of the other.

I don't have numbers for Free42 downloads, but it is definitely the case that far more than 10,000 people have purchased various scientific calculator apps for the iPhone. If that makes you "interested in looking into the potential for a market for a hardware calculator", more power to you, as I'm all in favor of that and would love to see it happen. Heck, I've been working on that myself for years, as anyone who has attended HHC conferences is undoubtedly aware.

Re: HP policy on source files

*Message #28 Posted by **John B. Smitherman** on 21 Feb 2011, 9:16 a.m.,*
in response to message #27 by Eric Smith

I'm guessing here but I believe that Free42 users are either 42s owners or are those that are RPN calculator users that want to be 42s owners. There should be significant overlap between the two sets.

John

Re: HP policy on source files

*Message #29 Posted by **Ángel Martin** on 16 Feb 2011, 2:20 a.m.,*

in response to message #7 by Namir

As much as I too want the same dream-machine Namir refers to, I'm not such an ambitious dreamer... but what about the 42S++??

Or was this the machine that allegedly got its source code trashed whilst still being in production, and therefore LOST-FOR-EVER?

Oh well, the 41CL is around the corner (fingers crossed), rejoice!

Re: HP policy on source files

*Message #30 Posted by **Paul Dale** on 16 Feb 2011, 2:26 a.m.,*
in response to message #29 by Ángel Martin

> Quote:
>
> As much as I too want the same dream-machine Namir refers to, I'm not such an ambitious dreamer... but what about the 42S++??

What about the 34s??? A bit light on RAM but otherwise very well featured.

We've got the option to take out many inbuilt functions and replace them with user code alternatives. Less accurate but way smaller leaving plenty of space for other things. I've toyed with a matrix library in the xrom space :-) Likewise, I'm considering TVM support.

Then again, a 32k RAM upgrade for the 42s makes it extremely impressive.

> Quote:
>
> Oh well, the 41CL is around the corner (fingers crossed), rejoice!

Most definitely! I've got a pair of broken 41c's to make whole and convert into a CL. Failing that, I'll happily sacrifice a 41cv for the same purpose.

- Pauli

Re: HP policy on source files

*Message #31 Posted by **Walter B** on 16 Feb 2011, 4:50 a.m.,*
in response to message #30 by Paul Dale

> Quote:
>
> Then again, a 32k RAM upgrade for the 42s makes it extremely impressive.

... if some way of reliable I/O will be supported for this - else it will be impressively outdated.

Ceterum censeo: HP, launch a 43S (read the archives to collect the features necessary)!

Walter

Re: HP policy on source files

*Message #32 Posted by **Namir** on 16 Feb 2011, 7:33 a.m.,*
in response to message #29 by Ángel Martin

Angel,

Yes you can add an HP-43S++ .. I am with you.

I do have fun with emulators on Windows and the Apple iPad/iPod. I have iPad emulators for the 21, 35, 45, 55, 41, 42S, 48GX, 11C, and 15C. I enjoy the convenience of these machine. On the PC, I enjoy the HP-15C, HP-41CX, and Tom Okken's Free 42s (I run it with an HP41 skin!!!). Using custom skins is an awesome part of customizing the appearance, as well as the keyboard color and orientation of these emulators.

Namir

Re: HP policy on source files

*Message #33 Posted by **Håkan Thörngren** on 16 Feb 2011, 4:24 a.m.,*
in response to message #7 by Namir

That would be nice. I would also be happy with a Voyager with USB and HP41 style LCD.

> Quote:
>
> As for me, I want my HP41C+ .. and I want it now ... with at least one or two USB ports to support USB printers and USB external drives!!! I hope Tim is listening!
>
> Namir

Re: HP policy on source files

*Message #34 Posted by **Meindert Kuipers** on 16 Feb 2011, 2:33 p.m.,*
in response to message #7 by Namir

I am listening (but I am not Tim). I do have a breadboard with the new MLDL2000 V2 running, and it will save and retrieve data on a USB stick (and provide ethernet connectivity as well) .... plus much more

Meindert

Re: HP policy on source files

*Message #35 Posted by **Ángel Martin** on 17 Feb 2011, 1:45 a.m.,*
in response to message #34 by Meindert Kuipers

jaw-dropping and eye popping don't come close to accurately reflect my feelings :)

Edited: 17 Feb 2011, 1:45 a.m.

Re: HP policy on source files

*Message #36 Posted by **Patrice** on 16 Feb 2011, 3:21 p.m.,*
in response to message #6 by Martin Pinckney

Here is a recipe to get your favourite Series 10 model with a + on tail.

Since all the Series 10 models are based on the same hardware, and the HP12C+ is a Series 10 hardware emulator

Then :

```
1) put your hand on an HP12C+.
2) find an image of the HP16C ROM (my choice)
3) go to Fort Collins, break into Tim's office and thief the tools and the ROM image
of the actual 12C+ (since this image is not publicly available, as far as I know)
4) swap the 16C image with the one of the 12C inside the 12C+ image
5) load the new image the the 12C+
6) do some painting
```

and tada... you have a magnificent HP16C+ on your desk.

Just a dream :(

Patrice

Re: HP policy on source files

*Message #37 Posted by **David Hayden** on 16 Feb 2011, 9:06 p.m.,*
in response to message #5 by Tim Wessman

In my experience, many computer programmers "accidentally" leave copies of their work on paper tape, mag tape, floppy drive, CD ROM, DVD or thumb drive (depending on the era) at home. These copies have a curious way of remaining intact.

So the best way to find lost source code is to track down the original developers. For the cost of a release of liability and maybe a free plane ticket, you might get the lost source code.

Dave

Re: HP policy on source files

*Message #38 Posted by **Eric Smith** on 16 Feb 2011, 12:41 a.m.,*
in response to message #1 by Raymund Heuvel

HP published the source code for the HP-71B mainframe ROM and the ROM of the related HP 82401A HP-IL interface as volumes of the Internal Design Specifications which were available for purchase by customers. These were the first Corvallis Division products for which internals documentation was made officially publicly available.

I would guess that this official relese of HP-71 internals documentation was done at least partly in response to the amazing amount of third-party development of microcoded ROM code and peripheral hardware for the HP-41 family. That third-party support came about as a result partially of informal release of technical information on HP-41 internals to the user community via the PPC club, and partially of a great deal of reverse-engineering effort by members of the user community. HP likely believed based on the experience with the HP-41 that providing formal support to third parties would result in even more community and commercial support for the HP-71B.

It seems evident that there was a significant expense incurred by HP in preparing the 71 IDS documents for public release. While HP normally did prepare internal documentation for computing platforms, the HP-71B IDS appears to have been prepared in a much more formal and comprehensive manner.

It would be interesting to hear from the individuals involved in the HP-71 IDS as to how successful the program was perceived to be.

In the case of the HP-41, the "VASM" source listings of the mainframe ROM and several plug-in ROMS were made available to the PPC club to be distributed to it's members as Non-Manufacturer Supported ("NOMAS"). I have heard an interesting story about how that came to pass, but not having been party to it, I'll leave it up to others to tell the story or not.

The HP-75 mainframe ROM listing was also provided as NOMAS.

In some cases HP provided other source code and internal documentation to third parties, but under NDA and thus those documents are not publicly available.

Unfortunately, in the handoffs of responsibility for calculator products to a series of other HP divisions after Corvallis Division, much (perhaps most) of the engineering data and documentation for many calculator models was destroyed. This actually included the source code for at least one product still in production at the time! While this sounds inconceivable to people who have not been involved in engineering departments at large companies, I can state from personal experiences at multiple companies (other than HP) that this is actually not uncommon.

Re: HP policy on source files

*Message #39 Posted by **Raymund Heuvel** on 16 Feb 2011, 6:37 a.m.,*
in response to message #38 by Eric Smith

Source files (I mean not scanned pdf's but the real sources) on a stick would be a very nice goodie from HP at the next HHC .....

Re: HP policy on source files

*Message #40 Posted by **Martin Pinckney** on 16 Feb 2011, 9:09 a.m.,*
in response to message #39 by Raymund Heuvel

> Quote:
>
> Source files ... would be a very nice goodie from HP at the next HHC .....

But Tim has already implied that HP doesn't have them.

Re: HP policy on source files

*Message #41 Posted by **Raymund Heuvel** on 16 Feb 2011, 11:37 a.m.,*
in response to message #40 by Martin Pinckney

I should have put the FROM HP in the foreground.
Creating source files should not be such a problem (reverse engineering, OCR scanning of IDS docs and so on).
With the "FROM HP", I mean: usage without any limitation ....

The HP71B IDS docs have clear (c) marks on it,
prohibiting above techniques to convert them into "legal" copies of source files, ROM images and so on.
A lot of countries have a copyright by default even when nothing is claimed by the author and in these countries an explicit waiver is required.

A (legally binding) statement from HP concerning "ancient" calculator engineering work, e.g. putting it under GPL, would be of great help.

Re: HP policy on source files

*Message #42 Posted by **Joel Setton (France)** on 16 Feb 2011, 11:57 a.m.,*
in response to message #41 by Raymund Heuvel

Did HP put any source-code listing in their handheld calculator patents?

From my limited knowledge of legal matters, I understand that anything that is written in a patent automatically moves to the public domain when the patent expires. Thus, any source code which was patented before, say, 1990 is no longer protected.

Could anyone in this forum confirm -- or not?

Joel

Re: HP policy on source files

*Message #43 Posted by **Raymund Heuvel** on 16 Feb 2011, 12:46 p.m.,*
in response to message #42 by Joel Setton (France)

AFAIK
(I am NOT a legal advisor!!)
US: roughly for work created since 1978 the copyright protection is based on the lifetime of the author+ x? years, with multiple authors the longest living author with a maximum of 120 years

Germany / Netherlands (Europe ??)
Like US up to 70 years after death (inheritable).

Rights on Patents is something completely different!

Since most employers write in the contracts with their employees something like: "all rights concerning inventions, patents, copyrights and so on shall be deemed to be transferred to the employer at the time of creation of it", I assume that HP holds all the rights.
HP can check this and act if they want ... :)

Re: HP policy on source files

*Message #44 Posted by **Tim Wessman** on 16 Feb 2011, 4:48 p.m.,*
in response to message #43 by Raymund Heuvel

Berne convention.

US was not a signatory back then, so anything prior to that in the US had to include "copywrite" somewhere within that or it is not protected. Thus there are plenty of 12c software versions around that HP can't do anything about. The ROM didn't include any sort of copywrite notice within it.

TW

Re: HP policy on source files

*Message #45 Posted by **Martin Pinckney** on 16 Feb 2011, 9:15 p.m.,*
in response to message #44 by Tim Wessman

What about the copyright notice molded on the back of the calculator itself?

Re: HP policy on source files

*Message #46 Posted by **Tim Wessman** on 17 Feb 2011, 12:21 a.m.,*
in response to message #45 by Martin Pinckney

Once the firmware is extracted, there is no notice. . .

TW

Re: HP policy on source files

*Message #47 Posted by **Raymund Heuvel** on 17 Feb 2011, 5:19 a.m.,*
in response to message #46 by Tim Wessman

TMO copyright issues have nothing to do with the visibility of a notice on a part of the product.

I would like to hire your care for a while. For sure, you get your chassis-identification plate back (but thats all!)

:)

PS: I Hope you have a at least a 540i ....

Re: HP policy on source files

*Message #48 Posted by **Martin Pinckney** on 17 Feb 2011, 10:26 a.m.,*
in response to message #46 by Tim Wessman

> Quote:
>
> Once the firmware is extracted, there is no notice. . .

So to use this logic, I could "extract" the pages from a book (the physical kind), leaving copyright pages in the cover, then proceed to do what I want with the "extracted" portion? I certainly don't claim any special knowledge of copyright law, but this makes no sense. Then what was the purpose of molding the copyright notice on the back of the device to begin with?

Edited: 17 Feb 2011, 10:27 a.m.

Re: HP policy on source files

*Message #49 Posted by **David Hayden** on 17 Feb 2011, 11:26 a.m.,*
in response to message #41 by Raymund Heuvel

> Quote:
>
> Creating source files should not be such a problem (reverse engineering, OCR scanning of IDS docs and so on)

Creating useful source code by reverse engineering is surprisingly difficult.

- You can't just disassemble the entire ROM because some bytes are code and some bytes are data. Figuring out which is which requires finding and analyzing the code.
- Even if you manage to get a disassembly, the lack of labels or comemnts means that it's hard to figure out what is doing what.
- Within the disassembly, you'll find numbers being used, but what do the numbers represent? Addresses? Offsets from addresses? Binary numbers? The distance between two addresses?

Dave

Re: HP policy on source files

*Message #50 Posted by **Håkan Thörngren** on 16 Feb 2011, 10:51 a.m.,*
in response to message #38 by Eric Smith

I believe it is common. There is no money to be earned from keeping obsolete data. Eventually it needs to be migrated to another computer system or department, and then it just vanishes.

> Quote:
>
> Unfortunately, in the handoffs of responsibility for calculator products to a series of other HP divisions after Corvallis Division, much (perhaps most) of the engineering data and documentation for many calculator models was destroyed. This actually included the source code for at least one product still in production at the time! While this sounds inconceivable to people who have not been involved in engineering departments at large companies, I can state from personal experiences at multiple companies (other than HP) that this is actually not uncommon.

Re: HP policy on source files

*Message #51 Posted by **Jim Horn** on 17 Feb 2011, 12:20 p.m.,*
in response to message #50 by Håkan Thörngren

About 1985 HP made a pile of used HP-110 Portable computers from their sales force available to employees at an auction for $250 each. Sam Chau, a young HP PPC / CHHU / etc. enthusiast and I bought one each. Sam then figured out how and modified his to have 512k of RAM instead of the stock 288k. The natural next step was to modify the firmware ("PAM", the Personal Application Manager) to allow use of the added 224k.

Being HP employees, we contacted Corvallis and asked if the source was available NOMAS (No Manufacture Support - i.e. once we get it we wouldn't bother them with questions) and sent them the details of how it was done. They enthusiastically agreed to provide us the source as many there had Portables and wanted the same capability for theirs.

A month later we were called back. An extensive search in Corvallis had revealed that the source hadn't been backed up and the 8 inch floppies with it had been accidentally reused for the Portable Plus. So

they were shipping computers without having the source code for what they were shipping.

Disassembling PAM revealed that the RAM size was hard coded into it in many places. Sam finally just wrote a driver to treat the extra 224k as a second RAM disk. Still works fine...

The one benefit of this is that Corvallis promptly backed up what they had then and put it away. Whether those backups survived to this day is altogether another story!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Facebook Gallery of some of my collection

*Message #1 Posted by **Les Wright** on 15 Feb 2011, 3:56 p.m.*

The extent and condition isn't as impressive as the that of many around here, but I thought folks would like to take a look anyway. Some comments of friends and family are intriguing and humourous. This is also a pretty slap-dash effort at off-camera lighting in product photography. I am still experimenting and learning, but at least I attained some natural shadows in some images. But, as you can see, in my house there is dust and cat hair everywhere, and since these are almost all machines I use crap gets in and on them:

My Facebook Calc Gallery

Les

Re: Facebook Gallery of some of my collection

*Message #2 Posted by **Michael Meyer** on 15 Feb 2011, 8:20 p.m.,*
in response to message #1 by Les Wright

Like.

Re: Facebook Gallery of some of my collection

*Message #3 Posted by **Mike T.** on 16 Feb 2011, 3:57 p.m.,*
in response to message #1 by Les Wright

I am so jealous - your 97 looks in great shape.

Mike T.

Re: Facebook Gallery of some of my collection

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 17 Feb 2011, 3:09 a.m.,*
in response to message #3 by Mike T.

I have made a (primary danish language) FB group for collectors of old calculators and computers. You're welcome to look or join if you want to.
Link

Regards!
Johnny

[Return to Index | Top of Index]

Go back to the main exhibit hall

Facebook Gallery of some of my collection

HP Forum Archive 20

[Return to Index | Top of Index]

WP34s

*Message #1 Posted by **Paul Dale** on 15 Feb 2011, 1:53 a.m.*

Just to let folks here know, the next revision (1.13) of the documentation is available from the sourceforge site. The sources are available via subversion, although not working on the physical hardware still.

- Pauli

Re: WP34s

*Message #2 Posted by **Paul Dale** on 15 Feb 2011, 6:16 a.m.,*
in response to message #1 by Paul Dale

I've also uploaded a current Mac OS/X Intel binary and a recent Windows binary. I've no idea if they will work for other people or not...

- Pauli

Re: WP34s

*Message #3 Posted by **Marcus von Cube, Germany** on 15 Feb 2011, 8:50 a.m.,*
in response to message #2 by Paul Dale

Paul, on which platform is your Windows port based? I'm currently working on the HP20b SDK and I'm willing to port WP34s to Cyrille's emulator. I still have to check, if the application follows the same rules as the emulator (or SDK) force, like having an application.cpp file as the central point for the user interface.

Edit: I just had a short look at your sources. I'm not yet sure where to snap in Cyrille's code. I think, a graphical emulation would be very helpful. BTW, it compiles fine under VC++ Express 2010.

Edited: 15 Feb 2011, 9:35 a.m.

Re: WP34s

*Message #4 Posted by **Marcus von Cube, Germany** on 15 Feb 2011, 3:43 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I've spent some more time with the sources. A standard main() in keys.c which is acting as a key press dispatcher works fine in a single thread environment, but this is not the proper way to interface to an event driven platform. Both the base code in the SDK for the platform and the Windows MFC emulation need callback functions for the handling of events.

Re: WP34s

*Message #5 Posted by **hugh steers** on 15 Feb 2011, 6:14 p.m.,*
in response to message #4 by Marcus von Cube, Germany

for a windows GUI, you'll need to write a new "main" replacing the main loop in keys.c

you'll need to translate any visual buttons into wp34s key events (along with real keys) and call process_keycode. after that signal a display repaint. all other windows events dispatched as normal.

again the display code will need reworking if you plan to render this graphically.

Re: WP34s

*Message #6 Posted by **Paul Dale** on 16 Feb 2011, 1:17 a.m.,*
in response to message #4 by Marcus von Cube, Germany

I don't know the version of Windows used to compile this sorry.

Yes, my main() in keys.c is a keystroke dispatcher. To do an event driving GUI interface, just call the guts of my main() on a key press.

There is no way, you'd want to go multi-threaded on the 30b hardware. Single thread take a key press and dispatch is definitely the way to go. HP's code does it this way as does mine.

- Pauli

Re: WP34s

*Message #7 Posted by **Marcus von Cube, Germany** on 16 Feb 2011, 2:30 a.m.,*
in response to message #6 by Paul Dale

At least the Windows version in the SDK **is** multithreaded. On the real hardware, there must be some background processing and interrupt driven actions, too. Think of automatic power down, processor off/on while the display is visible, and the like. I'll check the sources in the SDK to be sure.

For the rest of February, Meindert's Project has priority. So wp34s is on hold from my side.

Re: WP34s

*Message #8 Posted by **Paul Dale** on 16 Feb 2011, 2:44 a.m.,*
in response to message #7 by Marcus von Cube, Germany

HP's 30b development firmware is pretty much single threaded. There are interrupt handlers and timers of course but in reality they really don't do much of anything. Everything hinges around the key press.

- Pauli

PS: What's Meindert's Project???

Re: WP34s

*Message #9 Posted by **Marcus von Cube, Germany** on 16 Feb 2011, 11:15 a.m.,*
in response to message #8 by Paul Dale

Meindert is working on the MLDL again. He has added an mbed controller and now needs some demo software for networking.

Re: WP34s

*Message #10 Posted by **Paul Dale** on 16 Feb 2011, 1:19 a.m.,*
in response to message #3 by Marcus von Cube, Germany

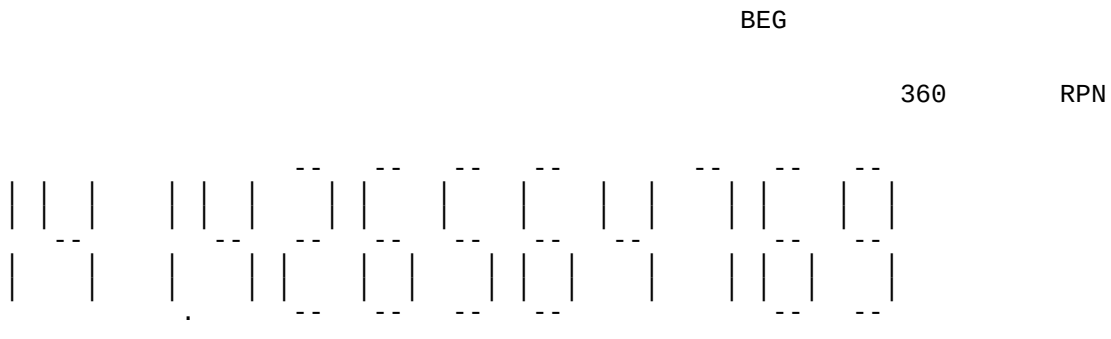
My code isn't immediately compatible with HP's SDK. I started merging the two but never finished. The source as distributed includes this partial merge. I'd figured I was going about it incorrectly and what I had done needed to be removed and my code modified to integrate with HP's to take direct advantage of their low level support. Then life got in the way, not to mention having no access to the development environment HP's sources require.

- Pauli

Re: WP34s

*Message #11 Posted by **Gerson W. Barbosa** on 15 Feb 2011, 2:40 p.m.,*
in response to message #2 by Paul Dale

It works on Vista:



Cheers,

Gerson.

Re: WP34s

*Message #12 Posted by **Walter B** on 15 Feb 2011, 3:38 p.m.,*
in response to message #11 by Gerson W. Barbosa

Olá Gerson, this fake is detected most easily - we don't employ BEG d;-D

Re: WP34s

*Message #13 Posted by **Gerson W. Barbosa** on 15 Feb 2011, 3:44 p.m.,*
in response to message #12 by Walter B

Hallo Walter,

I wonder why the "BEG" annunciator is lit. Anyway, that's what I got when running WP34s.exe from the command prompt and after doing some calculations. Perhaps I pressed a wrong key...

Regards,

Gerson.

Re: WP34s

*Message #14 Posted by **John B. Smitherman** on 15 Feb 2011, 4:22 p.m.,*
in response to message #13 by Gerson W. Barbosa

Bug #1. ;-)

Regards,

John

Re: WP34s

*Message #15 Posted by **Paul Dale** on 16 Feb 2011, 1:13 a.m.,*
in response to message #14 by John B. Smitherman

Nope, not a bug. It is meant to do this.

- Pauli

Re: WP34s

*Message #16 Posted by **Thomas Klemm** on 15 Feb 2011, 10:58 p.m.,*
in response to message #12 by Walter B

> Quote:
>
> It isn't respectable to beg

-- White King

Re: WP34s

*Message #17 Posted by **Paul Dale** on 16 Feb 2011, 1:12 a.m.,*
in response to message #12 by Walter B

We do display BEG when the program is at the first step. So this display looks legitimate to me.

- Pauli

Re: WP34s

*Message #18 Posted by **Walter B** on 16 Feb 2011, 2:45 a.m.,*
in response to message #17 by Paul Dale

That's one of the unsurpassed advantages of real life: it unveils undocumented features. But now it's documented (it will be in v1.14 at least) d;-)

Re: WP34s

*Message #19 Posted by **Paul Dale** on 16 Feb 2011, 2:52 a.m.,*
in response to message #18 by Walter B

I mentioned this *feature* well over a year ago ;-) When the program counter is at step 000, BEG lights.

It really is kind of useful.

- Pauli

First WP 34S mini-challenge (Was: Re: WP34s)

*Message #20 Posted by **Gerson W. Barbosa** on 16 Feb 2011, 3:17 p.m.,*
in response to message #17 by Paul Dale

Hello Paul,

> Quote:
>
> So this display looks legitimate to me.

It IS legitimate. Here is a link to an UNEDITED copy of my HP notebook screen, as of yesterday:

link

Now, to the mini-challenge. In order to get the number on the wp34s screen, trivially 13 keystrokes are required:

```
1 4 1 . 4 2 6 5 6 4 7 6 9
```

The challenge is to get this done using at most 11 keystrokes (not programming steps). My 11-keystroke solution will not work on the HP-42s because it will give an answer in excess of 1 ulp.

Likewise on 10-digit calculators it will be needed no more than 11 keystrokes to get 141.4265648. So far I have been able do it using only 10 keystrokes on the HP-35 (1972), but not on the HP-15C (I think this gives a hint to at least one keystroke). If it can be of any help, the 16-digit result is 141.4265647689814 (The meaning of this is part of the challenge, otherwise the WP 34S solution would be somewhat easier :-)

Cheers,

Gerson.

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #21 Posted by **Paul Dale** on 17 Feb 2011, 12:35 a.m.,*
in response to message #20 by Gerson W. Barbosa

Not a solution to the specified problem, but I stumbled upon this which qualifies as an elegant near miss I feel:

```
  command      34s keys              15c keys
    9          9                     9
    e^x        f XEQ                 e^x
    ->HR       -> f RCL              g 2
    ->RAD      -> RCL                f 3


answer:        141.4265468089978     141.4265468
keystrokes:    8                     6
```

- Pauli

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #22 Posted by **Gerson W. Barbosa** on 17 Feb 2011, 2:19 p.m.,*
in response to message #21 by Paul Dale

Paul,

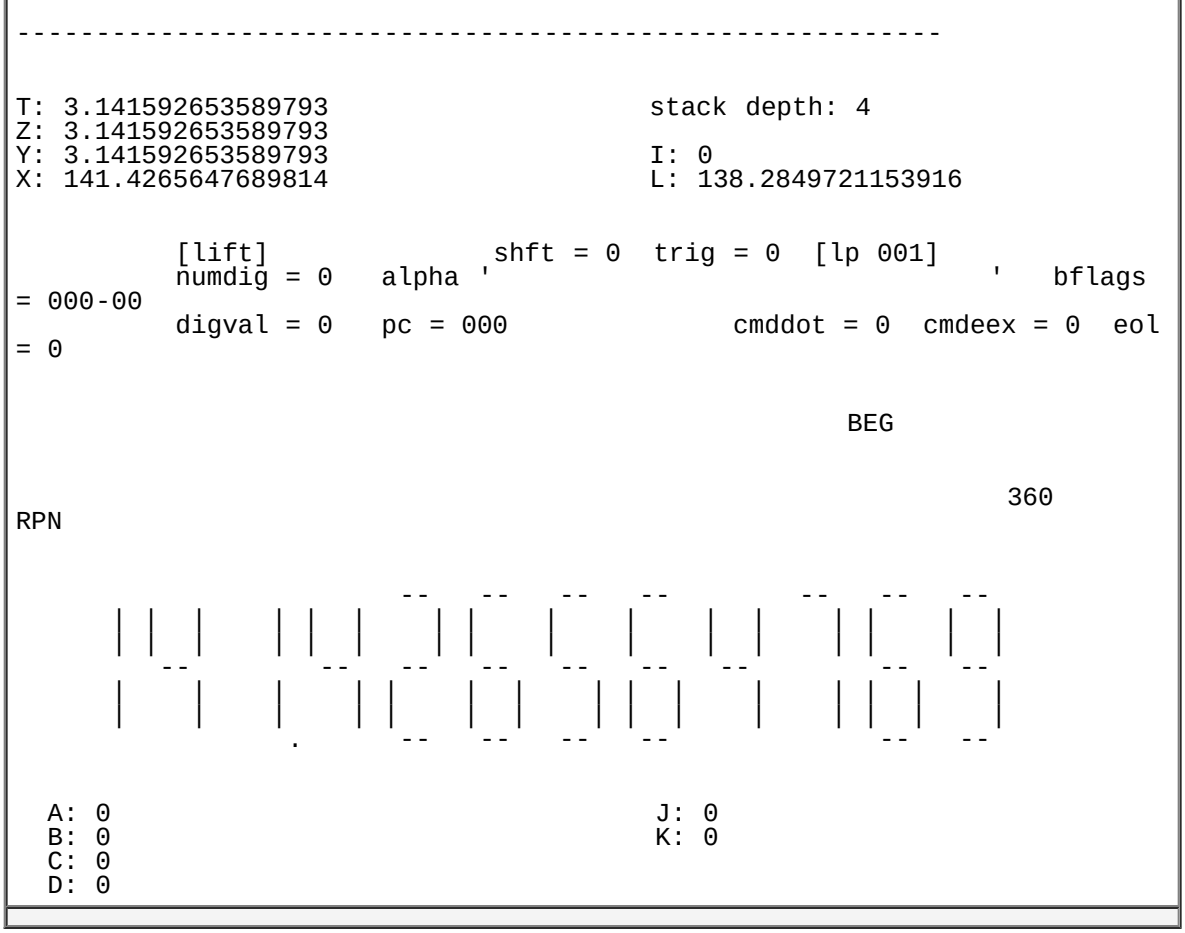
That's only four programming steps for eight correct digits which would be great in calculators with reduced number of steps (if such a number is ever needed in a program).

I submitted 141.4265647689814 to WoframAlpha but it wasn't able to find the correct closed form, neither did other inverse calculators I tried. So, there's at least one thing I know WolframAlpha does not :)

A tip to the 10-keystroke HP-35 solution: Divide 141.4265648 squared by pi then multiply the result by 3. Though this looks like an integer on the HP-35, it's actually an almost integer. The backwards operations yield an approximation to the real closed form solution, which I hope the WP 34S screen below is a hint to.

Regards,

Gerson.



Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #23 Posted by **Gerson W. Barbosa** on 18 Feb 2011, 10:36 a.m.,*
in response to message #22 by Gerson W. Barbosa

Ok, here it is:

```
 141.4265647689814.. = pi + pi^2 + pi^3 + pi^4

                     ~ sqrt(19100*pi/3)
```

Alternative closed forms:

```
(pi^5 - 1)/(pi - 1) - 1

 pi*(pi + 1)*(pi^2 + 1)
```

WP 34S keystrokes:

```
h 3 ENTER ENTER ENTER * + * + * +
```

HP-35 keystrokes:

```
1 9 1 0 0 pi * 3 / sqrt
```

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #24 Posted by **Walter B** on 18 Feb 2011, 2:40 p.m.,*
in response to message #23 by Gerson W. Barbosa

Olá Gerson,

you could have saved one stroke by using FILL on the wp34:

h 3 g ENTER * + * + * +

while on the hp-35 you have to repeat ENTER:

pi ENTER ENTER ENTER * + * + * +

The approximate HP-35 solution you posted deviates from the truth by 1.9e-8.

Cumprimentos,
Walter

Edited: 18 Feb 2011, 2:53 p.m.

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #25 Posted by **Paul Dale** on 18 Feb 2011, 5:47 p.m.,*
in response to message #24 by Walter B

> Quote:
>
> you could have saved one stroke by using FILL on the wp34:
>
> h 3 g ENTER * + * + * +

And this works with the stack size set to 8 not 4 :-)

- Pauli

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #26 Posted by **Walter B** on 19 Feb 2011, 12:29 a.m.,*
in response to message #25 by Paul Dale

> Quote:
>
> > Quote:
> >
> > h 3 g ENTER * + * + * +
> >
> > And this works with the stack size set to 8 ...
>
> ... as well as with 4 levels :)

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #27 Posted by **Paul Dale** on 18 Feb 2011, 6:29 p.m.,*
in response to message #23 by Gerson W. Barbosa

And if you program it, a further step can be saved when using the 8 level stack:

```
PI
FILL
LBL 00
*
+
DSZ D
GTO 00
```

and one more if the internal BACK is used instead of LBL/GTO but that can't be done from the keyboard.

- Pauli

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #28 Posted by **Gerson W. Barbosa** on 18 Feb 2011, 9:30 p.m.,*
in response to message #27 by Paul Dale

Paul & Walter,

looks like I should have read the manual :-)

What I think it is interesting in the sum of these powers of pi is

```
pi + pi^2 + pi^3 + pi^4 ~ 100*sqrt(2) + 1/(2^6 + 2^7) (off by
~2e-7
```

Also interesting is pi^17 (the first five significant digits match those of sqrt(8)).

Combining these and adding a term involving sqrt(2) yields a round near integer:

```
pi^16/((pi + 1)*(pi^2 + 1)) + 2*sqrt(2)*(20 + sqrt(2)) =
2000000.000349779
```

Notice the equivalent RPN expression involves mostly 2, sqrt(2) and pi:

```
pi x² x² x² x² pi 1 + / pi x² 1 + / 2 sqrt(2) 2 * 2 sqrt(x) 20 +
* +
```

Or, in terms of WP 34S keystrokes:

```
h 3
g * g * g * g *
h 3 1 + /
h 3 g * 1 + /
2 f * 2 *
2 f * 20 +
* +
```

Regards,

Gerson.

Re: First WP 34S mini-challenge (Was: Re: WP34s)

*Message #29 Posted by **Walter B** on 19 Feb 2011, 12:24 a.m.,*
in response to message #28 by Gerson W. Barbosa

> Quote:
>
> looks like I should have read the manual :-)

This is a common phenomenon :-)

Re: WP34s

*Message #30 Posted by **Paul Dale** on 16 Feb 2011, 1:21 a.m.,*
in response to message #11 by Gerson W. Barbosa

For more exciting information, make the window a bit higher and press 'F' to show lots of internal state (including the full stack). Pressing 'T' goes into a trace mode and 'Q' quits. None of this will be in the final firmware of course but these commands are great for debugging.

- Pauli

Re: WP34s

*Message #31 Posted by **Paul Dale** on 16 Feb 2011, 2:39 a.m.,*
in response to message #1 by Paul Dale

I've just now uploaded a Ubuntu Karmic binary.

Since it is statically linked, it ought to run on most versions of linux as is. It requires a terminal window, just like all the other versions.

- Pauli

Re: WP34s

*Message #32 Posted by **Namir** on 16 Feb 2011, 11:14 a.m.,*
in response to message #1 by Paul Dale

Cool stuff!! A Window GUI will be very very nice though. Working the DOS-box emulator is a bit like a juggling act.

:-)

Namir

Re: WP34s

*Message #33 Posted by **Marcus von Cube, Germany** on 16 Feb 2011, 11:18 a.m.,*
in response to message #32 by Namir

Namir, I'll take care of that. Be patient.

Re: WP34s

*Message #34 Posted by **Namir** on 16 Feb 2011, 11:42 a.m.,*
in response to message #33 by Marcus von Cube, Germany

Thank you!!!! Looking forward to seeing the GUI version.

Re: WP34s

*Message #35 Posted by **Marcus von Cube, Germany** on 16 Feb 2011, 11:51 a.m.,*
in response to message #34 by Namir

Meindert comes first, his project has a time limit. But thereafter...

Re: WP34s

*Message #36 Posted by **Walter B** on 16 Feb 2011, 12:54 p.m.,*
in response to message #35 by Marcus von Cube, Germany

Oh - it's our fault we haven't set a time limit? That can be corrected most easily d8-)

Re: WP34s

*Message #37 Posted by **Marcus von Cube, Germany** on 28 Feb 2011, 6:09 a.m.,*
in response to message #35 by Marcus von Cube, Germany

After having helped Meindert out, I'm back on the wp34s track.

Here is my (clumsy) artwork: http://www.mvcsys.de/temp/wp34s/wp34s_skins.zip

You can unpack the file in the emulator Debug/Release directories and get the modified skins on Cyrille's original number guessing game.

Some work still ahead...

Re: WP34s

*Message #38 Posted by **robert rozee** on 28 Feb 2011, 6:43 a.m.,*
in response to message #37 by Marcus von Cube, Germany

a couple of silly questions:

why are 'fix', 'sci', and 'eng' brought out on their own key labels? most folks would surely tend to set the display format to their own personal preference and hardly ever touch it again. that is certainly what i do, in which case these could be put down in a menu.

what are the 'B', 'C', and 'D' keys for? given that these three labels exist exactly the same below the keys. the white functions above (1/x, etc), it would seem, would be better placed on the keys themselves.

cheers, rob :-)

Edited: 28 Feb 2011, 6:48 a.m.

Re: WP34s

*Message #39 Posted by **Walter B** on 28 Feb 2011, 7:38 a.m.,*
in response to message #38 by robert rozee

Hi Robert,

there are no silly questions - only silly answers, though I hope getting around them ;)

> Quote:
>
> what are the 'B', 'C', and 'D' keys for? given that these three labels exist exactly the same below the keys. the white functions above (1/x, etc), it would seem, would be better placed on the keys themselves.

These are three programmable hotkeys. Compare HP-65, 67, 34C etc. For full information, please take a look to the documentation published (v1.13).

> Quote:
>
> why are 'fix', 'sci', and 'eng' brought out on their own key labels? most folks would surely tend to set the display format to their own personal preference and hardly ever touch it again. that is certainly what i do, in which case these could be put down in a menu.

I concur. One could put the command DISP (this is not a menu, see v1.13) on one shifted location there and gain two shifted locations for whatever you like being placed there - feel free to propose something. Nevertheless there are dissenting votes, too, and in this case I had no better offer than what you see so far.

Added: Personally, I switch between FIX and ENG modes quite a lot, sometimes use SCI instead and hardly ever use ALL. YMMV.

Don't hesitate to ask more.

Edited: 1 Mar 2011, 2:15 a.m.

Re: WP34s

*Message #40 Posted by **Paul Dale** on 1 Mar 2011, 1:33 a.m.,*
in response to message #38 by robert rozee

Nice work Marcus. I toyed with the idea of doing a graphical version using SDL but it

never progressed for similar reasons to the real hardware port :-(

We did have FIX, SCI and ENG in a catalogue for a while with DISP on the keyboard but, as Walter pointed out, there really wasn't anything else worthy of and suited to be in those keyboard locations.

Personally, I switch between FIX and ALL modes quite a lot, occasionally use SCI and pretty much never use ENG. Of course, everyone is different.

- Pauli

Re: WP34s

*Message #41 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 10:22 a.m.,*
in response to message #40 by Paul Dale

Paul, Walter, you've mail on your sourcefourge mail addresses.

I've just opened my 20b in order to fit a JTAG connector (the USB/JTAG hardware has been ordered.) I plan to start more or less from scratch, using the SDK modules when it seems useful (keyboard, display) but having more control over what the hardware does. This is partly motivated by pure curiosity. On the other hand, it will ease in fitting in the wp34s software.

Re: WP34s

*Message #42 Posted by **Walter B** on 1 Mar 2011, 11:10 a.m.,*
in response to message #41 by Marcus von Cube, Germany

Hallo Marcus,

> Quote:
>
> you've mail on your sourcefourge mail addresses.

Nothing arrived yet. I've just opened the respective channel at SourceForge, so feel free to try again or contact me via the forum mail function.

Re: WP34s

*Message #43 Posted by **Marcus von Cube, Germany** on 1 Mar 2011, 2:02 p.m.,*
in response to message #42 by Walter B

Forum mail doesn't work for "Walter B", at least not when I click on your name in the previous post. :(

So here you go:

> Quote:
>
> Hi Pauli & Walter,
>
> if life doesn't get in the way, I'm willing to aid in porting wp34s
> to Windows and the real thing. (Life *will* get in the way, but...)

First of all, I'd like to know your "normal" e-mail addresses for easy collaboration. As an alternative, we can move the discussion to the sourcefourge infrastructure (blog, forum, what is available?). Can you add me as a developer? Talking about technical details in the museum forum might not be the right place.

I have a first point to discuss: memory.

As you should be aware of, the RAM is divided in a battery backed part of 2 KB at address 0x300000 and a volatile part of 4KB @ 0x200000. I don't know yet at which point the volatile memory looses its contents but it should only be used for scratch memory (processor stack, scratch registers for internal processing) while the persistent RAM should be used for all user data.

Your code simply defines global variables while Cyrille's implementation assumes a structure MyApplication which is manually allocated to the correct address (0x300000). From my past experience with embedded systems, the linker should be capable of putting variable data in designated segments at designated lcations. This would make us dependent on the tools but that's more or less always the case. It's just necessary to identify which data goes where and mark it in the code with the proper qualifiers. I'll have to check how to do it in IAR and/or GCC.

The Windows emulation can be done without but for state saving, some seperation is nonetheless necessary. Putting everything in MyApplication might be the straightest path to success.

Re: WP34s

*Message #44 Posted by **Walter B** on 1 Mar 2011, 3:30 p.m.,*
in response to message #43 by Marcus von Cube, Germany

Hallo Marcus, you've got mail d8-)

Re: WP34s

*Message #45 Posted by **gene wright** on 28 Feb 2011, 5:11 p.m.,*
in response to message #37 by Marcus von Cube, Germany

Thanks Marcus.

I know I would be much more likely to play with the 34s emulator if it had a skin rather than a text window.

Can't wait until it is really working just to play with!

Re: WP34s

*Message #46 Posted by **Marcus von Cube, Germany** on 12 Mar 2011, 9:25 a.m.,*
in response to message #45 by gene wright

The wait is going to be over, soon! I've just compiled a first version which seems to act more like a calculator then a number guessing game. ;)

Hopefully we'll release something shortly for the forum members to toy with.

Re: WP34s

*Message #47 Posted by **Raymund Heuvel** on 16 Feb 2011, 1:16 p.m.,*
in response to message #33 by Marcus von Cube, Germany

```
Hi Marcus

I created a "first shot HP71B keyboard UI" in QT.

Can I help with the 34S?

BR
Ray
```

Re: WP34s

*Message #48 Posted by **Marcus von Cube, Germany** on 16 Feb 2011, 5:56 p.m.,*
in response to message #47 by Raymund Heuvel

It will not be QT, it is just the (MFC based) framework that Cyrille and Tim have already created. I've done the (clumsy) artwork already. It's just a problem of me existing only once.

Re: WP34s

*Message #49 Posted by **Raymund Heuvel** on 17 Feb 2011, 5:24 a.m.,*
in response to message #48 by Marcus von Cube, Germany

OK, I am not familiar with MFC, but .NET/CLR.

Grüße aus dem Allgäu

Ray

Re: WP34s

*Message #50 Posted by **Norman Dziedzic** on 17 Feb 2011, 7:03 a.m.,*
in response to message #48 by Marcus von Cube, Germany

> Quote:
>
> It's just a problem of me existing only once.

I'm going to use that one!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

32SII-FAIL 8

*Message #1 Posted by **Jim Yohe** on 14 Feb 2011, 2:59 p.m.*

I seem to be generating a FAIL 8 message in the self test if I don't do the key press sequence in the correct order. Is this the standard message for "only" that situation or does it show up for other conditions? Are there other messages that can show up when a failure mode exists? Where are these failure mode messages documented?

Re: 32SII-FAIL 8

*Message #2 Posted by **Don Shepherd** on 14 Feb 2011, 7:18 p.m.,*
in response to message #1 by Jim Yohe

Jim, I think that you have to press the keys in the correct order to avoid the fail message. If you did press them in the right order and still got the fail message, then I think you have a problem, otherwise you don't.

Re: 32SII-FAIL 8

*Message #3 Posted by **Jim Yohe** on 14 Feb 2011, 7:55 p.m.,*
in response to message #2 by Don Shepherd

True. When I press the keys in the correct order I have no problem. This wasn't a situation of me trying analyze what real failure was going on with my HP 32sii but more trying to find out if there are failure messages and what their meanings might be.

The manual says, "The calculator displays 32SII-FAIL followed by a one-digit number, if it failed the self-test", which to me suggests that there may be a series of numbers that might be displayed other than "8" to represent different failures modes.

Re: 32SII-FAIL 8

*Message #4 Posted by **Don Shepherd** on 14 Feb 2011, 8:39 p.m.,*
in response to message #3 by Jim Yohe

You're probably right, but since the codes are not listed in the manual I guess they don't want you to know them. The question would become, I suppose, if you had a real problem and called HP customer support would THEY know what the code numbers mean?

Re: 32SII-FAIL 8

*Message #5 Posted by **Thomas Radtke** on 15 Feb 2011, 3:04 a.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> The question would become, I suppose, if you had a real problem and called HP customer support would THEY know what the code numbers mean?

Of course. Since the 32SII isn't serviceable, any code means the same: Exchange the calculator ;-).

Re: 32SII-FAIL 8

*Message #6 Posted by **Don Shepherd** on 15 Feb 2011, 6:49 a.m.,*
in response to message #5 by Thomas Radtke

Yeah, I thought about that after I responded. Good point.

Re: 32SII-FAIL 8

*Message #7 Posted by **designnut** on 15 Feb 2011, 12:49 p.m.,*
in response to message #6 by Don Shepherd

The statement that a 32SII is nor serviceable surprised me. May I have an explanation? Sam

Re: 32SII-FAIL 8

*Message #8 Posted by **Jeff O.** on 15 Feb 2011, 1:08 p.m.,*
in response to message #7 by designnut

Sam,
These two articles by Paul Brogger describe the procedure required to open any of the Pioneer series. Although Paul states that he "found the Pioneers relatively easy to open, repair, and put back together", my impression upon reading his articles is that one must conclude that they were not meant to be disassembled and repaired. Especially take note of what it takes to get at the keyboard "contacts", which are really just patches of carbon on the underside of plastic domes. Even if doable, it was certainly not worth the time and effort to hire, train and maintain a staff of technicians to repair a <$100 calculator.

...

Re: 32SII-FAIL 8

*Message #9 Posted by **Walter B** on 15 Feb 2011, 1:09 p.m.,*
in response to message #7 by designnut

Sam, no Pioneer has any provisions to be easily opened for service. Compare with the Classics etc. up to the Voyagers all being closed by screws. This does not mean a Pioneer can't be opened - you can open almost everything ;) but it's a brute force attack and will require some repair thereafter. Hope this explains what was meant by "not serviceable" - ummh, what I guess what the author meant ;-)

Re: 32SII-FAIL 8

*Message #10 Posted by **Thomas Radtke** on 15 Feb 2011, 1:26 p.m.,*
in response to message #9 by Walter B

You hit the nail on the head, Walter ;-).

Re: 32SII-FAIL 8

*Message #11 Posted by **bill platt** on 15 Feb 2011, 2:41 p.m.,*
in response to message #9 by Walter B

It is a funny thing, that. HP kept up the appearance, during the voyagers as well as pioneers, of being serviceable. Test codes etc were followed up by sending in the machine for "service." I did this twice with my 11c. Once, it came back having had "logic and LCD replaced." But it felt brand-new to me...

Re: 32SII-FAIL 8

*Message #12 Posted by **Randy** on 15 Feb 2011, 5:21 p.m.,*
in response to message #11 by bill platt

What I think HP did with calculators, based on evidence I've collected:

- Classic: repair
- Woodstock: repair
- Spice: repair and later replace internals once the keyboard was redesigned
- 41 fullnut: repair, until the early to mid-nineties when they replaced the top half with halfnuts
- 41 halfnut: replace
- Voyager 2 piece: repair or replace, depending upon problem
- Voyager 1 piece: replace
- Pioneer: replace
- 48 series: replace

Edited: 15 Feb 2011, 5:35 p.m.

Re: 32SII-FAIL 8

*Message #13 Posted by **Martin Pinckney** on 15 Feb 2011, 9:24 p.m.,*
in response to message #12 by Randy

What stands out is the transition from repair to replace more or less parallels the downward selling price of the calculators.

Re: 32SII-FAIL 8

*Message #14 Posted by **Walter B** on 16 Feb 2011, 3:34 a.m.,*
in response to message #13 by Martin Pinckney

... which doesn't come unexpected, does it? Think!

Re: 32SII-FAIL 8

*Message #15 Posted by **Martin Pinckney** on 16 Feb 2011, 9:35 a.m.,*
in response to message #14 by Walter B

> Quote:
>
> Think!

Well, if I had your brains, Walter, I would have thought that I needed to specify that it was not unexpected.

However, straining my brain a bit, I can surmise that the trend to lower prices was driven by several factors, including lower cost of

IC's, expansion of market, greater production numbers, etc., Seen this way, the switch to less repairable design may have been a conscious decision made to complement the other trends, not necessarily the reason for them.

Re: 32SII-FAIL 8

*Message #16 Posted by **Paul Dale** on 16 Feb 2011, 3:52 a.m.,*
in response to message #12 by Randy

Doesn't quite match my experience with my unsoldered 34c. Several years of returning it for service due to display elements not lighting up properly didn't result in a soldered replacement :-(

I gave up trying in the end which is surprising given the effort and hardship I put into buying it in the first place....

- Pauli

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Are calculators held in the hand?

*Message #1 Posted by **designnut** on 14 Feb 2011, 1:04 p.m.*

I see many write about how a calculator feels in the hand, the straight sided one less favored than the contour shaped ones. The 33S even puts rubber grips on the sides. So I pose the question, do users hold the calculator or place it on a surface? I always used mine on a desk. Comments requested. Sam

Re: Are calculators held in the hand?

*Message #2 Posted by **Walter B** on 14 Feb 2011, 1:24 p.m.,*
in response to message #1 by designnut

Sam, usually I hold mine in my left hand when calculating. So a compact, smooth shape is appreciated. That's what I loved at my 25C d:-)

Re: Are calculators held in the hand?

*Message #3 Posted by **Jim Yohe** on 14 Feb 2011, 3:11 p.m.,*
in response to message #1 by designnut

About half the time I use mine in my hand (or even both hands).

Re: Are calculators held in the hand?

*Message #4 Posted by **Bill Wiese** on 14 Feb 2011, 3:38 p.m.,*
in response to message #1 by designnut

I generally use mine in my hand)s).

I often hold (or rather, rest) an HP25 to Hp41-sized calc in my fingers and I then run the keyboard with my two thumbs - sounds klutzy, works well.

Bill Wiese San Jose CA

Re: Are calculators held in the hand?

*Message #5 Posted by **Martin Pinckney** on 14 Feb 2011, 3:37 p.m.,*
in response to message #1 by designnut

Most of the time my 27s or 48sx flat on the desk. Some exceptions:

1. I'm leaning back in my chair musing on some numbers with a 17b.

2. I'm using my 20s in my truck.

3. I'm sitting next to an employee's desk answering her question and I borrow her 32sii.

Edited: 14 Feb 2011, 5:10 p.m.

Re: Are calculators held in the hand?

*Message #6 Posted by **Michael de Estrada** on 14 Feb 2011, 4:06 p.m.,*
in response to message #1 by designnut

Prior to my retirement 2 years ago, I worked as an engineer at a company that did a lot of equipment testing, and spent much of my time in test areas where there was no place to set my calculator down. My favorite hand held calculator was my trusty HP-25, which had a rebuilt battery pack with 2500mAh NiMH battery cells that could easily last a full work week. I have very small hands, but could still both hold and operate this calc with my left hand, whilst using my right for other important tasks, such as giving a technician the cutoff signal.

Re: Are calculators held in the hand?

*Message #7 Posted by **bill platt** on 14 Feb 2011, 4:33 p.m.,*
in response to message #1 by designnut

I held my 15c in my hand today and I must report that rumors of its uselessness in the hand are greatly exaggerated.

Re: Are calculators held in the hand?

*Message #8 Posted by **Kiyoshi Akima** on 14 Feb 2011, 5:37 p.m.,*
in response to message #1 by designnut

Given the way displays are not angled on most small calculators, I end up holding one in my hand. Though I will admit there are times when I'm holding two, one in each hand.

Re: Are calculators held in the hand?

*Message #9 Posted by **Egan Ford** on 15 Feb 2011, 2:07 p.m.,*
in response to message #8 by Kiyoshi Akima

> Quote:
>
> Given the way displays are not angled on most small calculators, I end up holding one in my hand.

Same here. I always use on a desk, and have been since I got my 15C in the early '80s. However, I often pickup to get a better read of the display because of the angle. The angle varies based on the desk, chair, and position of the calculator on the desk (and that depends on the volume and placement of clutter). If an eye tracking calculator with auto-positional LCD existed, then it'd be 100% desk.

BTW, this is not a problem with LED or backlit LCD (e.g. emulators on phones). The angle does not matter (unless glare is a factor--rare).

Re: Are calculators held in the hand?

*Message #10 Posted by **Garth Wilson** on 15 Feb 2011, 4:44 p.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> BTW, this is not a problem with LED or backlit LCD (e.g. emulators on phones). The

> angle does not matter (unless glare is a factor--rare).

LEDs in calculators normally had little magnifiers over the LEDs, making the viewing angle very narrow. You couldn't read them unless you were at just the right angle. Non-multiplexed LCDs have a pretty wide viewing angle. Just looking at my 41 right now, I can read it from a very wide range of angles. That changes with LCDs with a low duty cycle, typically dot-matrix ones with lots of lines.

I use mine in two ways, on the desk or workbench, and holding in the left hand while pressing keys with the right. I never hold my 71 in my hand though. It always sits on a surface and I touch-type on it.

Re: Are calculators held in the hand?

*Message #11 Posted by **Martin Pinckney** on 15 Feb 2011, 9:18 p.m.,*
in response to message #9 by Egan Ford

> Quote:
>
> ... I often pickup to get a better read of the display because of the angle.

I use Pioneers, mostly. I find that the optimum viewing angle, and the behavior of the display when it is not held at this angle, varies from model to model, but in no case is it 90º. Seems to be intentional design, because normally in use you would not be positioned 90º above the keyboard.

Right now, I have a 21s, 22s, and 17b in front of me, a pretty good sampling of the various Pioneer displays.

Surprise! The low end one has the display with the best response. I get the widest viewing angle with the 21s, with nearly zero ghosting of inactive segments or annunciators.

The 22s (mid-range) has a narrow viewing angle, and when tilted out of its optimum angle, shows a lot of ghosting of annunciators.

The 17b (high end) also has a narrow viewing angle, and when tilted out of its optimum angle, shows no of ghosting of annunciators, but then the screen becomes all black.

Re: Are calculators held in the hand?

*Message #12 Posted by **MikeT** on 14 Feb 2011, 5:46 p.m.,*
in response to message #1 by designnut

Nearly always on my (or someone else's) desk

Re: Are calculators held in the hand?

*Message #13 Posted by **Thomas Okken** on 14 Feb 2011, 10:14 p.m.,*
in response to message #1 by designnut

It varies...

Back when working meant using pen and paper, I'd usually have the calculator sitting on my desk and operate it with one hand while holding my pen in the other. (Back then it used to be a huge annoyance to me that the otherwise wonderful HP-25, HP-19C, and HP-41C often weren't perfectly straight so that not all four of their feet would rest on the desktop. !@#$%^)

Nowadays, working usually means using a computer, and I use Free42, not a physical calculator. The simulator lets me copy and paste numbers between the calculator and whatever I may be working on, and that's a big plus.

Using a calculator when I'm not working at a desk or computer, I hold the calculator in one hand and use the thumb on that same hand to push the keys. If I had to use an actual calculator, I'd prefer the portrait layout because it enables this one-handed operation, and since my hands aren't very large, I prefer the Woodstocks and the HP-41 over the Pioneers and HP-48/49/50 series, in terms of ergonomics... But honestly, that's all moot since I just use Free42 on my iPod touch nowadays. I still prefer the feel of a real calculator, but since I use the iPod's PDA functionality every day, also running a calculator emulator on it means one less device to carry around. I do miss the plastic calculator bodies; the iPod's slick metal back is too slippery for my taste, and the textured plastic used on the old HPs felt much more secure in my hand. Whether the cases' edges are straight or slightly curved doesn't matter, in my experience.

Re: Are calculators held in the hand?

*Message #14 Posted by **Dwight Sturrock** on 15 Feb 2011, 1:11 a.m.,*
in response to message #1 by designnut

HP34C- always on my desk or drafting table. HP42S- Left hand while programming, desk while calculating or running programs. HP71B- Always in my left hand, programming or running.

Re: Are calculators held in the hand?

*Message #15 Posted by **Maximilian Hohmann** on 15 Feb 2011, 2:22 a.m.,*
in response to message #1 by designnut

Good morning!

99 percent on the desk or a kneeboard.

Re: Are calculators held in the hand?

*Message #16 Posted by **Timo** on 15 Feb 2011, 4:48 a.m.,*
in response to message #1 by designnut

Same here,

my calcs almost exclusively rest on my desk when used. Except for some very quick and dirty math...

Re: Are calculators held in the hand?

*Message #17 Posted by **Stuart Sprott** on 15 Feb 2011, 5:45 a.m.,*
in response to message #16 by Timo

I am a Surveyor and when I am in the field the calculator is hand held. In the office it stays on the desk. I am also finding that I use Excell or freeHP42 most of the time in the office.

Sad to but I think that the days of the hand held calculator are numbered. I have been using HP calcs since the early HP35, back in the 1970s

Re: Are calculators held in the hand?

*Message #18 Posted by **David Hayden** on 15 Feb 2011, 1:50 p.m.,*
in response to message #1 by designnut

About half-and half between the desktop and the hand. I haven't paid attention to whether I favor one over the other based on the model I'm using - I'll try to pay attention to that.

Re: Are calculators held in the hand?

*Message #19 Posted by **Raymond Del Tondo** on 15 Feb 2011, 6:00 p.m.,*
in response to message #1 by designnut

When using my HP-48GX, I usually hold it in my right hand, or let it sit on the table.
I always use the left hand for typing in numbers, although I'm right-handed (or more precisely both-handed)

Re: Are calculators held in the hand?

*Message #20 Posted by **bill platt** on 15 Feb 2011, 6:42 p.m.,*
in response to message #19 by Raymond Del Tondo

come to think of it, I might use the right hand more, even though I am a leftie. Maybe because the pencil and paper are to the left. Or because the extended keyboard is to the right (on a PC XT) or maybe because of using the telephone with receiver in left hand (my tendency from very young)....

Funny, makes me think of handedness and the arbitrary nature of some of it. Like whether you play hockey or baseball first determining which way you will swing a golf club (that is one of my pet theories)

Re: Are calculators held in the hand?

*Message #21 Posted by **Julián Miranda (Spain)** on 16 Feb 2011, 12:52 p.m.,*
in response to message #1 by designnut

I will be 50-50 for me. It depends more on the kind of calculation. If I'm entering numbers from a paper it's on the desk. If I'm trying to solve something or tuning an already done calculation, usually handheld.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-48GX RAM Cards - Better with or without built-in battery?

*Message #1 Posted by **Timo** on 13 Feb 2011, 9:51 a.m.*

Dear Forum members,

I've only recently installed Raymonds Speed UI on my HP-48GX (brilliant piece(s) of software by the way, Raymond!). However, since it blocks my 128k RAM card in Port 1 almost completely, I'm considering to go looking for a new RAM card maybe with 512k or even 1MB.

Apart from the fact that they are quite expensive I'm a bit cautios about the TDS and SMI cards with the built in battery, especially when they were stored for longer periods without power supply (as will mostly be the case for the cards sold on TAS I guess). I fear tht the NiCd battery in the cards might be at the end of its useful life after a long time without a single charge.

What is, in your opinion, the better choice: 1.) Buy a TDS/SMI card with built in battery and "risking" it dies early or,

2.) buy a smaller (and somewhat slightly cheaper) 128k card with exchangeble battery?

I'd really appreciate your feedback on this.

Thanks a lot in advance and best regards, Timo

Edited: 13 Feb 2011, 9:52 a.m.

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #2 Posted by **Raymond Del Tondo** on 13 Feb 2011, 11:29 a.m.,*
in response to message #1 by Timo

You have mail:-)

Best Regards

Raymond

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #3 Posted by **Dave Britten** on 13 Feb 2011, 10:17 p.m.,*
in response to message #1 by Timo

I'd definitely go with one that has a replaceable battery. There's no telling what kind of shape those old rechargeable ones would be in, and replacing the cells probably isn't easy.

I'm pretty sure you can find cards larger than 128KB that use replaceable coin cells. Of course, like any large

cards, you won't be able to MERGE them, and the cost of obtaining them will be about equivalent to several arms and legs.

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #4 Posted by **Nicholas Winterer** on 14 Feb 2011, 1:03 a.m.,*
in response to message #1 by Timo

I have a related question. Is there a spec available for the RAM slots on the 48GX? Would it be possible to build myself a RAM card?

I'm looking to put to a CAS on my 48GX but the 128kb of internal RAM doesn't leave me with enough free space for other purposes. I'm not willing to pay $300 for that though (I could buy 3 50G's for that price -- two to replace the others when the keys start sticking).

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #5 Posted by **aj04062** on 14 Feb 2011, 7:43 a.m.,*
in response to message #4 by Nicholas Winterer

I've wondered this as well. Has anyone ever researched if a SRAM card could be modified to fit in the slot of the HP48?

I think you would need the earlier (type 1 or 2) card.

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #6 Posted by **robert rozee** on 14 Feb 2011, 8:24 a.m.,*
in response to message #5 by aj04062

way back people were using memory cards for smith-carona typewriters. however, it was marginal if a given card would work or not - as far as i can recall the smith-corona cards were designed to operate at a slightly higher voltage than the HP ones, and could latch up due to input protection circuitry.

my recollection is that the cards are essentially just an sram chip (62256 or similar) with some glue logic. these days (with surface mount device readily available) it should be quite simple to produce a card with one _large_ sram chip, no glue logic needed, and a switch on the top edge of the card to select from a number of banks. alternative, a cpld could be used to implement calculator-controlled bank switching.

the input protection on the original cards is largely superfluous, especially if a large card is left permanently in the calculator.

addendum: CY62177EV30LL-55ZXI-ND from digikey, us$36.00 in quantities of one. "TSOP I Configurable as 2M x 16 or as 4M x 8 SRAM". this is a package that is hand-solderable, about 2mm high profile, with all the needed address and data lines brought out. 2.2-3.7v operation. with a bit of luck just this device, a soldered battery, 2 diodes and a suitable connector would do the trick, all assembled onto a small pcb. battery drain in standby is 3uA - technology has come a _long_ way in 20 years since the 48 was designed!!

cheers, rob :-)

Edited: 14 Feb 2011, 8:44 a.m.

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #7 Posted by **Jorge Castellanos** on 18 Feb 2011, 1:45 p.m.,*
in response to message #6 by robert rozee

Hello everyone, I actually bought in Germany a handmade RAM card from an undergraduate student of electronics 10 years ago. I don't want to write one of those emails I really hate to read but... here we go. I have to look for the card (I pretty much know where it is) in my parent's house so I can get it in two weeks. If anybody is interested, I can make pictures of the PCB, write down the component's part number and from there make your own RAM card. I used the card for many years on my HP48GX until I placed in a drawer on my parent's house. So it should be there. Please advice if you are interested on it, it is a double sided PCB with batery backup. Regards

Jorge

I found a web page to build 128kb RAM CARD. I think the one I have is the same. The link is below:

Home made 128k Ram Card

Edited: 18 Feb 2011, 4:06 p.m.

Re: HP-48GX RAM Cards - Better with or without built-in battery?

*Message #8 Posted by **Steve Medina** on 20 Feb 2011, 12:11 a.m.,*
in response to message #7 by Jorge Castellanos

Hello,

Yes, please can you post images of the custom made RAM CARD that you used for years. HD images will provide a look at how the RAM CARD was built.

Let us know if you find it.

Thank you, -Steve

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

another old stuff museum site

*Message #1 Posted by **db (martinez, ca.)** on 12 Feb 2011, 11:29 p.m.*

someone here might find this site interesting. it's mostly apple and xerox with pre evil-empire microsoft, altair and others thrown in.
DigiBarn

Re: another old stuff museum site

*Message #2 Posted by **Thomas Chrapkiewicz** on 13 Feb 2011, 8:44 a.m.,*
in response to message #1 by db (martinez, ca.)

Very nice. Another one (HP, but NOt calculators) that is very helpful for old HP instruments:

http://hpmuseum.net/

TomC

Re: another old stuff museum site

*Message #3 Posted by **Paul Berger (Canada)** on 13 Feb 2011, 9:14 a.m.,*
in response to message #2 by Thomas Chrapkiewicz

While not about calculators if you look around you there is information about the 71B 75C/D and the HPIL peripherals.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Backing up several HP48G/G+/GX via HP50

*Message #1 Posted by **Thomas Chrapkiewicz** on 12 Feb 2011, 4:27 p.m.*

I have a number of HP48 family machines that I need to backup to a PC/text files. All of the code is user RPL.

Connecting each of these HP48s to a PC and running Connectivity software has proven to be very tedious, error prone and downloading the xserver to each 48 (again) is tedious and timeconsuming.

I was thinking of using my HP50G to capture the IR output of each of the HP48 machines and storing it in a unique dir/folder on the SD card on the HP50. This would then allow the folders to be easily copied to a PC.

Any comments? Is this practical/possible? I have little experience with the IR on the HP50. Has anyone experience with something like this?

Thanks in advance, TomC

Re: Backing up several HP48G/G+/GX via HP50

*Message #2 Posted by **Tim Wessman** on 12 Feb 2011, 4:29 p.m.,*
in response to message #1 by Thomas Chrapkiewicz

IR is not IrDA. You have to go through the PC using a serial.

TW

Re: Backing up several HP48G/G+/GX via HP50

*Message #3 Posted by **Thomas Chrapkiewicz** on 12 Feb 2011, 4:34 p.m.,*
in response to message #2 by Tim Wessman

Tim:

Thanks! (that was quick!)

(I was thinking/hoping that as the 50G can 'drive' a 82240 printer that it could receive HP SIR.)

Darn!

TomC

Re: Backing up several HP48G/G+/GX via HP50

*Message #4 Posted by **Matti Övermark** on 14 Feb 2011, 7:19 a.m.,*
in response to message #3 by Thomas Chrapkiewicz

You could of course use a standard 48-serial cable (4 to 9 pin) and then purchase the rs 232 cable for the 50g (Eric Rehlin at hpcalc.org -> his commerce site). Connect the two calculators,transfer and save

it to the SD card.

I do not remember all the details, but I was able to do all of above in december 2009.

HTH Matti

Re: Backing up several HP48G/G+/GX via HP50

*Message #5 Posted by **Tim Wessman** on 14 Feb 2011, 11:39 a.m.,*
in response to message #4 by Matti Övermark

You don't actually need to use serial to go to the 50g. The standard USB works fine.

Bascially, once you get the useRPL programs onto the PC in ASC format, it is pretty easy to get to the 50 at that point.

TW

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-33S

*Message #1 Posted by **Michael Mulé** on 11 Feb 2011, 8:56 p.m.*

Hi All:

I just inherited an HP-33S at work. I don't see any references to the 33S on the site. Does anyone know anything about it? It is older than my 32sII but very similar in the key layout. It has a 2-line display,and its styling is kind of art-deco: angled, satin chrome. Has a contoured shape like my old 25 but larger, which I like better than my 32sII which is very straight-sided.

Cheers, Michael

Re: HP-33S

*Message #2 Posted by **Eric Smith** on 11 Feb 2011, 9:34 p.m.,*
in response to message #1 by Michael Mulé

The 33s is **newer** than the 32SII.

Re: HP-33S

*Message #3 Posted by **Martin Pinckney** on 11 Feb 2011, 10:44 p.m.,*
in response to message #1 by Michael Mulé

The reason you did not see any references to the 33S on main pages of the site is because it's buried. There is a small mention of it under "Some Interesting Later Models (1986)", then "Other Hewlett Packard Calculators and computers."

Maybe the curator eventually got tired and stopped updating the site with complete descriptions of later models. Or maybe he just doesn't think the later models are that worthy of note in a "museum."

But if you search the Forum archives, you will find **lots** about the 33s.

Is it really brushed chrome, or just silver-colored plastic?

Re: HP-33S

*Message #4 Posted by **Crawl** on 11 Feb 2011, 11:05 p.m.,*
in response to message #3 by Martin Pinckney

It's really metal, not plastic, but I thought (guessed) it was aluminum.

Re: HP-33S

*Message #5 Posted by **Walter B** on 12 Feb 2011, 1:29 a.m.,*
in response to message #4 by Crawl

I doubt it.

Re: HP-33S

*Message #6 Posted by **bill platt** on 12 Feb 2011, 3:48 p.m.,*
in response to message #5 by Walter B

What do you doubt, Walter? That it is metal? That it is aluminum? Well, it is. I have three of them.

Re: HP-33S

*Message #7 Posted by **Walter B** on 12 Feb 2011, 4:09 p.m.,*
in response to message #6 by bill platt

You're right, Bill. Just found mine again :)

Re: HP-33S

*Message #8 Posted by **Gerson W. Barbosa** on 12 Feb 2011, 4:22 p.m.,*
in response to message #6 by bill platt

The bezel and faceplace feel like brushed aluminum to me. I have two of them, both with at least one bad key, but still working. Have they become rare? I'd like to get a replacement but I couldn't find anything under $50 neither at TAS nor anywhere else.

Re: HP-33S

*Message #9 Posted by **John B. Smitherman** on 12 Feb 2011, 6:38 p.m.,*
in response to message #8 by Gerson W. Barbosa

Hi Gerson. The 33s is still for sale in the US at HP's web site for $40 at 33s

Regards,

John

Re: HP-33S

*Message #10 Posted by **bill platt** on 12 Feb 2011, 7:23 p.m.,*
in response to message #9 by John B. Smitherman

...and it comes with the printed manual. At least the two I just bought did.

Re: HP-33S

*Message #11 Posted by **Gerson W. Barbosa** on 12 Feb 2011, 7:28 p.m.,*
in response to message #9 by John B. Smitherman

Thanks, John! I guess they won't deliver to non-US addresses, but it's good to know they're still available.

Regards,

Gerson.

Re: HP-33S

*Message #12 Posted by **Walter B** on 12 Feb 2011, 1:27 a.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> Maybe the curator eventually got tired and stopped updating the site with complete descriptions of later models.

I concur. I wrote him twice in the last 5 years asking for a museum update (which will be supported by us for sure) but got no response. Assume he's busy.

Re: HP-33S

*Message #13 Posted by **bill platt** on 12 Feb 2011, 7:26 p.m.,*
in response to message #12 by Walter B

Dave's museum is one of the greatest things ever written to be read as HTML and it is a *museum*. I leave it at that and defer to whatever he wants:-)

Re: HP-33S

*Message #14 Posted by **Thomas Klemm** on 13 Feb 2011, 7:54 a.m.,*
in response to message #13 by bill platt

> Quote:
>
> Dave's museum is one of the greatest things ever written to be read as HTML

I agree with you completely but it could be *valid* HTML. It's easy to validate this page. Just for the demonstration I made a valid copy.

What are the necessary changes?

1. Add **DOCTYPE** and **content-type**:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
   "http://www.w3.org/TR/html4/loose.dtd">
<HTML><HEAD>
<meta http-equiv="content-type" content="text/html; charset=ISO-8859-1">
```

2. Use **alt**-tag for images:

```
<img src="http://www.hpmuseum.org/mohpc.gif" alt="MoHPC" border="0"
width="136" height="16">
```

3. end tag for element "P" which is not open

```
</EM></P>
```

   Removed end tag for element "P":

```
</EM>
```

Then what's the benefit because both are displayed identically? With a declared *charset* it's not up to the settings of your browser how to display special characters. This may lead to funny characters in names for instance.

I suggest to go one step further and allow the use of *html*-tags for special characters. A simple solution would be to support something like [«] or [√] in posts.

With the hope Victor is not offended I morphed a part of his HP-48G page into a museum post.

Posting this program would then be possible:

```
[pre]
[&laquo;]
  -> fX x x0
  [&laquo;]
    fX x [&part;] DUP -> dfX
    [&laquo;]
      dfX x [&part;]
    [&raquo;]
    SWAP 2 ^ 1 + 3 ^ [&radic;] SWAP / -> fR
    [&laquo;]
      fR x x0 2 ->LIST |
    [&raquo;]
  [&raquo;]
[&raquo;]
[/pre]
```

My guess is that these changes shouldn't generate too much effort to implement but they would be a great benefit.

Best regards
Thomas

Re: HP-33S - Why I couldn't use it

*Message #15 Posted by **Gerardo Rincon** on 13 Feb 2011, 9:32 a.m.,*
in response to message #1 by Michael Mulé

Eventhough 33S had all the functions I needed, the keyboard layout was just so hard for me to get used to it. The Keys in and a V angle layout made the shift functions hard to find. The location and size of the <enter> key was also hard for me to get used to. I just disliked the layout so much. The size and grip feel was good. The 35S was such a positive comeback to what an HP calculator layout should be. Now we just need a smaller Scientific Calculator and without menus :)

Edited: 13 Feb 2011, 9:35 a.m.

Re: HP-33S - Why I couldn't use it

*Message #16 Posted by **Martin Pinckney** on 13 Feb 2011, 7:03 p.m.,*
in response to message #15 by Gerardo Rincon

> Quote:
>
> Now we just need a smaller Scientific Calculator and without menus :)

15c+

Re: HP-33S - Why I couldn't use it

*Message #17 Posted by **Jim Yohe** on 14 Feb 2011, 1:17 a.m.,*
in response to message #16 by Martin Pinckney

15c+ ? I bet this had been discussed in a forum archive someplace at one or more times.

Re: HP-33S - Why I couldn't use it

*Message #18 Posted by **Walter B** on 14 Feb 2011, 6:36 a.m.,*
in response to message #17 by Jim Yohe

Many times!

Re: HP-33S - Why I couldn't use it

*Message #19 Posted by **Martin Pinckney** on 14 Feb 2011, 9:12 a.m.,*
in response to message #17 by Jim Yohe

> Quote:
>
> Many times!

Jim, to save you time, I can summarize the previous discussions for you with two points:

1a. HP could produce an emulated 15c on the existing 12c+ platform at low development/tooling costs.

1b. HP could not produce an emulated 15c on the existing 12c+ platform at costs low enough to justify it.

2a. HP will do it because the market for either the utility of it or the retro appeal of it is huge.

2b. HP won't do it because the market for it is too small.

Choose a or b.

Edited: 14 Feb 2011, 9:14 a.m.

Re: HP-33S - Why I couldn't use it

*Message #20 Posted by **robert rozee** on 14 Feb 2011, 8:52 a.m.,*
in response to message #15 by Gerardo Rincon

here's an interesting question:

if HP took the internals of an hp-33s (without change) and placed it into the case of an hp-42 (ok, allowing for the extra keys), how good a calculator would this be? how many people would be happy?

i ask this as someone who has never used and knows next to nothing about the 33s.

cheers, rob :-)

Re: HP-33S - Why I couldn't use it

*Message #21 Posted by **bill platt** on 14 Feb 2011, 8:59 a.m.,*
in response to message #20 by robert rozee

It wouldn't be a 42s. IT would be a 32ii with some enhancements and more memory.

Re: HP-33S - Why I couldn't use it

*Message #22 Posted by **robert rozee** on 14 Feb 2011, 9:14 a.m.,*

in response to message #21 by bill platt

oh yes, i didn't mean to suggest it as a 42 replacement, i mentioned the 42 case merely because of the 2-line display.

i was wondering if people would see it as a worthy 32s/15c substitute if the 'cylon' style case was eliminated from the equation.

cheers, rob :-)

Re: HP-33S - Why I couldn't use it

*Message #23 Posted by **Martin Pinckney** on 14 Feb 2011, 9:41 a.m.,*
in response to message #22 by robert rozee

> Quote:
>
> I was wondering if people would see it as a worthy 32s/15c substitute if the 'cylon' style case was eliminated from the equation.

Wouldn't that basically be a 35s? (OK, I know, there are some other differences, which Bill Platt summarizes below).

Edited: 14 Feb 2011, 9:44 a.m.

Re: HP-33S - Why I couldn't use it

*Message #24 Posted by **Eric Smith** on 14 Feb 2011, 1:53 p.m.,*
in response to message #22 by robert rozee

> Quote:
>
> i mentioned the 42 case merely because of the 2-line display.

Using a 42S-style two-line display requires a HUGE internal change, not "took the internals of an hp-33s (without change)" as you stated before.

AFAICT, the reason that HP isn't introducing newly designed models with a two-line dot matrix display is that the chip they have chosen for new midrange designs, the Atmel AT91SAM7L128, only can drive 400 segments. That isn't enough for a full dot matrix graphics display; the 17B/17BII/27S/42S display is 131x16, which is five times as many display elements as the SAM7L can drive. They would have to use a separate display controller, which drives up the cost.

There are starting to be some other ARM microcontrollers with similar power dissipation to the SAM7L, such as the Gecko families from Energy Micro. ST has announced an STM32L low-power family, but I haven't studied the specs yet. However, there don't seem to yet be any with more LCD drive capability than the SAM7L.

Re: HP-33S - Why I couldn't use it

*Message #25 Posted by **robert rozee** on 14 Feb 2011, 8:38 p.m.,*
in response to message #24 by Eric Smith

but the 33s already has a 2-line display - what processor does it use?

14 characters * 2 lines * 7x5 = 980

Re: HP-33S - Why I couldn't use it

*Message #26 Posted by **Martin Pinckney** on 14 Feb 2011, 8:55 p.m.,*
in response to message #25 by robert rozee

> Quote:
>
> ...the 33s - what processor does it use?
>
> 14 characters * 2 lines * 7x5 = 980

Also the 35s. I think Eric was referring to the 20b/30b. Anyway, the 42s has fully-addressable graphics, which 33s/35s don't.

Re: HP-33S - Why I couldn't use it

*Message #27 Posted by **Eric Smith** on 15 Feb 2011, 1:31 a.m.,*
in response to message #26 by Martin Pinckney

You're right, I was confused about the 33s/35s display. Still, it's not very comparable to the 42S display.

It is my understanding that the 33s and 35s use a part from GeneralPlus (formerly SunPlus) with a 6502-compatible core and masked ROM. I'm guessing that it's most likely a part from the GPLB3X series or GLP12/19 series.

Re: HP-33S - Why I couldn't use it

*Message #28 Posted by **bill platt** on 14 Feb 2011, 9:04 a.m.,*
in response to message #15 by Gerardo Rincon

The angled keys are strange. But they are no more difficult to get used to than a change in button configuration (which you get used to every time you get a new model). That's my experience.

While the 35S looks nicer, I find that its direct functions and built-in functions are inferior to the 33s. The only advantage I see is in the solver, where it allows editing rather than overtype. However, the solver works differently enough from the legacy machines that it can get you in trouble. The 33s has some of these differences, too (perhaps the worst case of this is the 17bii+ which has a solver totally incapable of running some of the great stuff that was written for the originally 17b/17bii and unfortunately I don't think the new version is documented well enough to get to the same level of utility).

The 33s had some really stupid bugs in its first release--these have been repaired. However the 35s has some not good design ideas--specifically the BASE function is almost useless and it doesn't have the classic rectangular to polar conversion.

The ideas in the 35S include some interesting ones, but it feels like a product which was never completed. Unlike the 48G, where that lack of completion was only at the final UI level (but robust internally, allowing further development) the 35S is a "closed" system and you get what you got.

Edited: 14 Feb 2011, 9:06 a.m.

Re: HP-33S - Why I couldn't use it

*Message #29 Posted by **Don Shepherd** on 14 Feb 2011, 9:52 a.m.,*
in response to message #28 by bill platt

> Quote:
>
> perhaps the worst case of this is the 17bii+ which has a solver totally incapable of running some of the great stuff that was written for the originally 17b/17bii

Yes, incapable of running some original solver equations unless the user makes changes to them. A few years ago I identified changes required to make the prime factor and lcm/gcd equations (listed in the Technical Applications Manual for the HP-27s and 19b) work on the 17bii+.

> Quote:
>
> unfortunately I don't think the new version (the 17bii+ solver) is documented well enough to get to the same level of utility

I agree. The 17bii+ solver works differently than the original 17b and 17bii solver. It does an extra "pre-evaluation" pass to identify things that can be pre-calculated and, unfortunately, this extra pass executes equations twice which sometimes results in variables having unintended values. The new solver always uses the iterative solver for the sigma function, never the direct solver. The new solver is significantly slower than the original solver. And the new solver works in ways that current HP personnel cannot adequately explain. None of these facts are documented in the 17bii+ manual.

Re: HP-33S - Why I couldn't use it

*Message #30 Posted by **bill platt** on 14 Feb 2011, 10:59 a.m.,*
in response to message #29 by Don Shepherd

> Quote:
>
> And the new solver works in ways that current HP personnel cannot adequately explain. None of these facts are documented in the 17bii+ manual.

That is the deal-killer for me. That is what keeps me squarely away from using the 35s, 17bii+, or even the 33s solvers for anything important. I just don't trust them.

I would rather use my 27s--especially on computer since I have the original physical machine, I can run an emulator--and that way, I have the original well-documented hp solver, and I can back it up so that it doesn't go "memory lost" on me! For ad-hoc, the real machine is great. (Or I use the 48G. It is sort of a toss-up--both are on my desktop.)

This is the biggest problem with HP's current (meaning new products, rather than the 50G which is just a new HW for the 48G). They don't have the rigorous professional standing support veracity documentation that we demand as professional users.

I wonder what financial types think of with the 17bii+ Do they trust it?

What about the 20b and 30b? Has HP put in the real work to make rigorous, thoroughly documented products? (I haven't even bought one yet let alone had one in my hand).

Edited: 14 Feb 2011, 11:03 a.m.

Re: HP-33S - Why I couldn't use it

*Message #31 Posted by **Tim Wessman** on 14 Feb 2011, 12:15 p.m.,*
in response to message #30 by bill platt

The solver in the 20/30 (I say 20 because this is used to solve for one of the finance calculations) is essentially identical to the 48 solver, just in C. The results between them are identical.

TW

Re: HP-33S - Why I couldn't use it

*Message #32 Posted by **bill platt** on 14 Feb 2011, 12:45 p.m.,*
in response to message #31 by Tim Wessman

That is great!

Re: HP-33S - Why I couldn't use it

*Message #33 Posted by **Martin Pinckney** on 14 Feb 2011, 11:48 a.m.,*
in response to message #29 by Don Shepherd

> Quote:
>
> And the new solver works in ways that current HP personnel cannot adequately explain.

Don, this statement puzzles me. Do you mean the help desk folks don't understand the Solver? Or the R&D guys (Tim and Cyrille?) don't know why it works as it does? Makes one wonder, who programmed it, are they still around, did they not pass knowledge down through the corporate structure?

Re: HP-33S - Why I couldn't use it

*Message #34 Posted by **Don Shepherd** on 14 Feb 2011, 12:30 p.m.,*
in response to message #33 by Martin Pinckney

No, not the Help Desk people, I wouldn't expect them to know the technical details of how the solver works in certain situations. A few years ago I was puzzled by the solver's behavior and I asked Cyrille if he could tell me why it behaved the way it did, and he couldn't. He said he did not have a debugger for the 17bii+ (like he had for the 50g) so he couldn't answer my questions. That's what I was referring to, and I still have all the emails we exchanged during that time. And the HP support staff in San Diego also did not understand how it worked; they are the ones who referred to one of my valid equations as "meaningless".

I understand Cyrille has returned to France. I don't know if he is the person who actually implemented the 17bii+ solver or not (I got the impression he was from some emails he sent me), but since he is no longer around I wouldn't even know who to ask these days. I don't think there is anyone.

I will point out that the 17bii+ solver handles simple equations fine, so a typical user would proabably not run into the difficulties I experienced. Nonetheless, certain equations that worked fine on the original 17b and 17bii won't work on the 17bii+ solver without some modifications.

Re: HP-33S - Why I couldn't use it

*Message #35 Posted by **Tim Wessman** on 14 Feb 2011, 1:31 p.m.,*
in response to message #34 by Don Shepherd

Cyrille is now back living in France, but he still works on calculators. Nothing really changed since he was remotely working previously as well. HP just gets a larger phone bill. :-)

I believe all of the 17bII+ was implemented by Kinpo's software team. That probably explains why cyrille didn't know exactly what was going on in there.

TW

Re: HP-33S - Why I couldn't use it

*Message #36 Posted by **Walter B** on 14 Feb 2011, 1:52 p.m.,*
in response to message #35 by Tim Wessman

> Quote:
>
> I believe all of the 17bII+ was implemented by Kinpo's software team. That probably explains why Cyrille didn't know exactly what was going on in there.

You may outsorce whatever you like. But you (HP) must keep control.

Re: HP-33S - Why I couldn't use it

*Message #37 Posted by **Eric Smith** on 14 Feb 2011, 1:56 p.m.,*
in response to message #36 by Walter B

When the HP shareholders vote you in as the new president and CEO of HP, then your imperative that HP "must keep control" might actually accomplish something. :-)

Re: HP-33S - Why I couldn't use it

*Message #38 Posted by **Jake Schwartz** on 14 Feb 2011, 2:42 p.m.,*
in response to message #37 by Eric Smith

> Quote:
>
> When the HP shareholders vote you in as the new president and CEO of HP, then your imperative that HP "must keep control" might actually accomplish something. :-)

It is "funny", because when calcs were in Corvallis and they did it all by themselves, they obviously experienced all the slings and arrows of getting keyboards to work consistently, and to engineer a good user interface, etc. etc. When a new model would be started, and those same people worked on it, all the features "baked into" HP machines were already understood and probably didn't even have to be committed to paper. As soon as the decision was made to have

others create the hardware and/or firmware, the only way to assure that the outcome would be "HP like", would be to first physically itemize all that gives their calcs "HP-ness" and then communicate that to the other company. Since the outsourcing began well after the Corvallis people were no longer in the picture, I'd bet that the complete picture of "HP-ness" was lost and couldn't even have been communcated if it had been tried. This would obviously be before Tim's time at HP, but I just wonder if just after Fred Valdez took over (in 2002?) and jump-started the current HP-calc activity, whether a serious effort was made to itemize exactly what it takes to make a handheld box into an HP machine. Boy, have we tried to characterize that list as "outsiders/enthusiasts" at HP conferences for several years now, and it is difficult. It would be cool if somehow HP could engage users by soliciting (via the HP Solve Newsletter, perhaps?) inputs like this and publish them all back to the readers as the list grew. "What gives a calculator HP-ness?"

Jake

Re: HP-33S - Why I couldn't use it

*Message #39 Posted by **Martin Pinckney** on 14 Feb 2011, 3:27 p.m.,*
in response to message #37 by Eric Smith

> Quote:
>
> When the HP shareholders vote you in as the new president and CEO of HP...

Nevertheless, Walter's comment gets to the core of the problems we all lament.

Edited: 14 Feb 2011, 3:42 p.m.

Re: HP-33S - Why I couldn't use it

*Message #40 Posted by **Don Shepherd** on 14 Feb 2011, 2:27 p.m.,*
in response to message #35 by Tim Wessman

Thanks Tim. I agree. Don

Re: HP-33S - Why I couldn't use it

*Message #41 Posted by **John B. Smitherman** on 14 Feb 2011, 2:57 p.m.,*
in response to message #35 by Tim Wessman

I just noticed the 33s and 17bii+ are listed as products on Kinpo's web site: Kinpo

Re: HP-33S - Why I couldn't use it

*Message #42 Posted by **Jim Yohe** on 14 Feb 2011, 3:21 p.m.,*
in response to message #41 by John B. Smitherman

I just assumed now-a-days that Kinpo designed/manufactured "all" of HPs calculators yet if that list is complete then they don't.

Re: HP-33S - Why I couldn't use it

*Message #43 Posted by **Walter B** on 14 Feb 2011, 3:24 p.m.,*
in response to message #42 by Jim Yohe

AFAIK that site is just showing some examples for Kinpo's expertise. IIRC, those two models made for HP are on display there for some years already.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

What is the CCD Plus module?

*Message #1 Posted by **gene wright** on 11 Feb 2011, 3:08 p.m.*

I know about the CCD/OSX and the CCD module 1B image, but I have seen references to the CCD Plus rom for the HP 41.

Anyone have any details of what's in it? What makes it a "plus" ?

Re: What is the CCD Plus module?

*Message #2 Posted by **Raymond Del Tondo** on 11 Feb 2011, 10:39 p.m.,*
in response to message #1 by gene wright

It's a modified CCD module from Angel. The "Plus" is somewhat irritating, as it's a CCD 8K image with matrix functions removed, or replaced by alpha register functions, IIRC. Maybe overlapping with the Alpha ROM?

Angel could better comment on this.

Re: What is the CCD Plus module?

*Message #3 Posted by **Ángel Martin** on 13 Feb 2011, 3:35 p.m.,*
in response to message #1 by gene wright

The CCD module was a superb achievement, possibly the better of the custom modules of its time. Yet the Advantage ROM implemented a superior version of the Matrix functions (I think HP purchased them from W&W, which speaks of their quality!) - making the CCD Array FNS set somewhat superfluous.

Which lead to the question: would it be possible to remove them from the CCD, replacing them (i.e. use the available space) with something else?

That's a PLUS in my opinion. Of course everyone would choose a different set, back then I chose ALPHA and Buffer/KA. Just one of many.

Cheers, 'AM

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Woodstock HP-22 calculators for repair

*Message #1 Posted by **Xavier A. (Brazil)** on 11 Feb 2011, 12:59 p.m.*

Hello everybody,

I just acquired 2 Woodstock financial HP-22 calcs.

The oldest one, most probably because of an heavy corroded circuitry, did not work very well even after a 50/50 alcohol vinagre/water bath of a few hours and a good brushing job. Probably due to the PCB itself, corroded inside, it will be very difficult to make this one alive again, unless I open the PCB itself, which seems hazardous.

Before having washed the other one (a most recent model whom components are quite different, corroded as well, or so), I had tested the first one with this other and recent PCB.

In this case, everything is working on the older calc, unless the registers R0 to R9 (and associated functions like 'FV', 'SIGMA+', etc. that require the use of the registers 5 to 9, and that return '0.00'). Number entry "seems" correct since '123' is returned as '123.00', but there is no mean to recall (RCL) another number than '0.00'.

I shall post some pictures next week end.

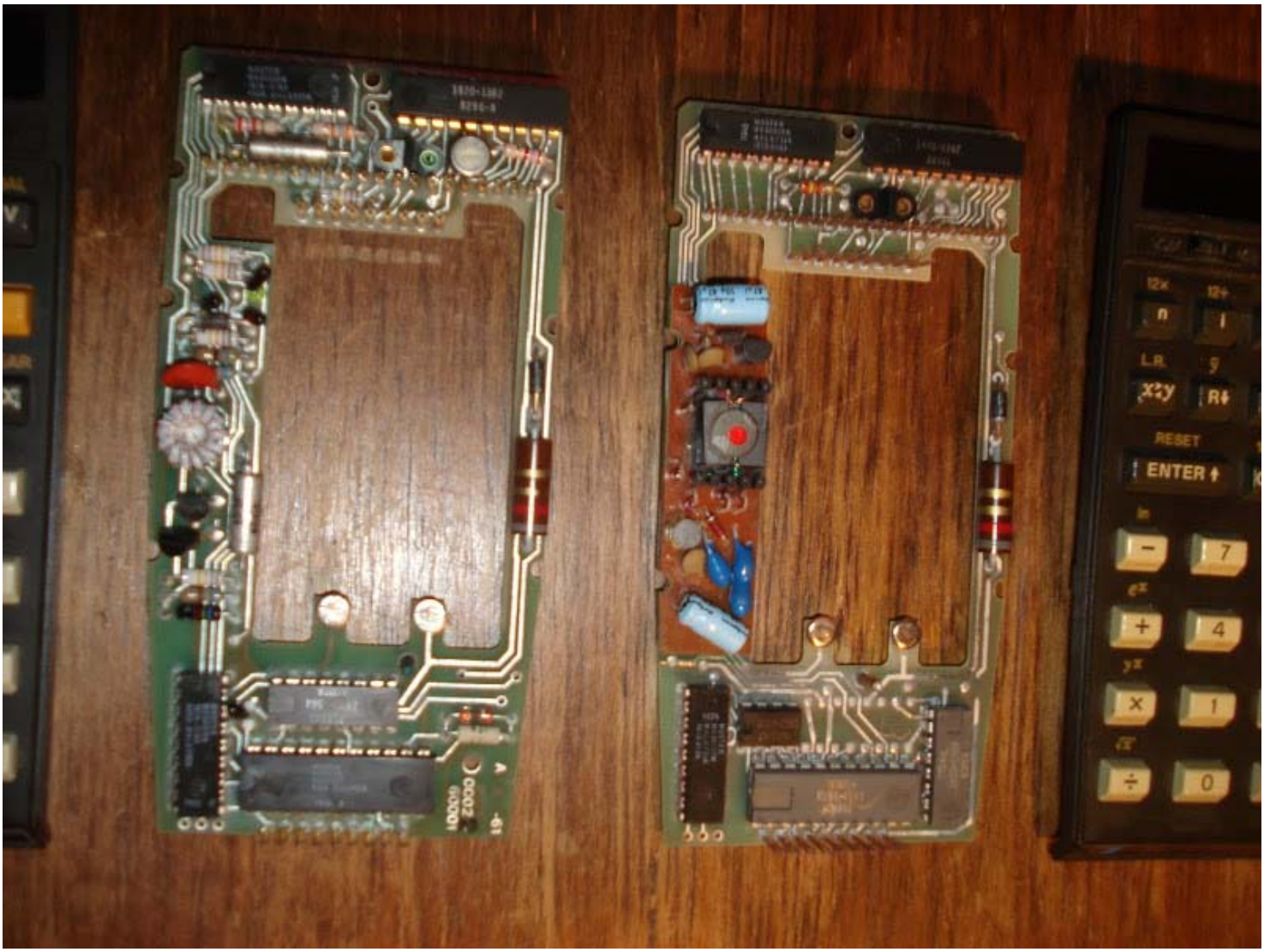
Does anyone know which component failed? Is there a way to fix this?

Many thanks in advance!

Edited: 11 Feb 2011, 1:12 p.m.

Re: Woodstock HP-22 calculators for repair

*Message #2 Posted by **Xavier A. (Brazil)** on 13 Feb 2011, 8:35 a.m.,*
in response to message #1 by Xavier A. (Brazil)



Two HP-22 calcs; the older one is at left. One can see that not only components are differents, but boards too.

I just tested the recent one after having brushed it yesterday, it works perfectly. IMO it would be a shame to dismantle it.

So I am only searching for another old HP-22 to make some replacement on the older one. But which one?

Regards

(sorry for picture's quality: flash on my camera behaves curiously, not really at the same time than the snapshot itself).

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Capture the flag - HP-12C programming contest

*Message #1 Posted by **x34** on 11 Feb 2011, 12:01 p.m.*

There are at least two flags on HP-12C: BEG/END and D.MY/M.DY. What the fastest ways to get these flags values? (and shortest also).

Re: Capture the flag - HP-12C programming contest

*Message #2 Posted by **gene wright** on 11 Feb 2011, 12:59 p.m.,*
in response to message #1 by x34

1)

10 second idea. Destroys values in financial registers.

0 FV 1 N 1 i 1 PV PMT 1 + X=0?

If condition true then it was in BEG mode, otherwise END mode.

2)

1.022 ENTER 1 CHS DATE INT 1 - x=0

will be true if mode was M.DY and will not if D.MY

I make no claims that these are anywhere near optimal, but they work.

Re: Capture the flag - HP-12C programming contest

*Message #3 Posted by **x34** on 11 Feb 2011, 3:06 p.m.,*
in response to message #2 by gene wright

1) Being not acquainted with finance, is N "n" or "Nj"? 2) 14 steps, <5s in both modes. Wonderful! And unexpected (for me) VIEW/PSE effect.

Re: Capture the flag - HP-12C programming contest

*Message #4 Posted by **gene wright** on 11 Feb 2011, 3:09 p.m.,*
in response to message #3 by x34

Oops. N should be lowercase n.

and an edit to the second set of instructions. Saves a step:

1.022 ENTER 1 CHS DATE LSTx - x=0

Edited: 11 Feb 2011, 3:11 p.m.

Re: Capture the flag - HP-12C programming contest

*Message #5 Posted by **x34** on 11 Feb 2011, 3:17 p.m.,*
in response to message #4 by gene wright

1) 11 steps. Less then 4 seconds!!! Das ist Fantastisch! My best was 15s with finance and three times in length (while destroying finance regs too). If finance regs (i use them only for polynomials) are destroyed, it could be used in the finishing part of any program to select output.

Re: Capture the flag - HP-12C programming contest

*Message #6 Posted by **gene wright** on 11 Feb 2011, 3:20 p.m.,*
in response to message #5 by x34

1) May not be faster, but shorter:

0 FV 1 n 1 i 1 PV PMT FRC X=0?

Re: Capture the flag - HP-12C programming contest

*Message #7 Posted by **x34** on 11 Feb 2011, 3:34 p.m.,*
in response to message #6 by gene wright

Gene, my HP12C says new program is actually a bit FASTER too :) Having read your articles on HP calcs for many years, I understand you are very experienced in programming them. Please, tell me if there are any more flags in HP-12C which could be used?

Re: Capture the flag - HP-12C programming contest

*Message #8 Posted by **Gerson W. Barbosa** on 11 Feb 2011, 9:45 p.m.,*
in response to message #4 by gene wright

> Quote:
>
> 1.022 ENTER 1 CHS DATE LSTx - x=0

Have I misunderstood something here? This returns 2.012 in M.DY mode and 32.012 in D.MY mode. That is, false for both modes.

1.012 ENTER 1 DATE INTG 1 - x=0 will return 0 and 1, respectively. Same number of steps though.

Re: Capture the flag - HP-12C programming contest

*Message #9 Posted by **gene wright** on 12 Feb 2011, 1:14 p.m.,*
in response to message #8 by Gerson W. Barbosa

Oops. Shoudl have been:

1.022 ENTER 1 CHS DATE LSTx + x=0

Fewer steps

*Message #10 Posted by **gene wright** on 13 Feb 2011, 5:36 p.m.,*
in response to message #9 by gene wright

0 FV 1 STO n STO i STO PV PMT 1 + X=0?

Re: Fewer steps

*Message #11 Posted by **Allen** on 13 Feb 2011, 6:59 p.m.,*
in response to message #10 by gene wright

A very concise test! Well done, sir!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-12C erase program steps

*Message #1 Posted by **x34** on 11 Feb 2011, 1:20 a.m.*

Is there any way to erase program steps in HP-12C to free memory besides CLEAR PRGM?

Could not find info in the manual.

Re: HP-12C erase program steps

*Message #2 Posted by **Katie Wasserman** on 11 Feb 2011, 1:34 a.m.,*
in response to message #1 by x34

No. You overwrite program steps when editing programs on the 12C. If you're looking to free up only some memory that was used in a program so that you can have more cash flow registers, you're out of luck. You have to erase all program steps.

Re: HP-12C erase program steps

*Message #3 Posted by **x34** on 11 Feb 2011, 8:08 a.m.,*
in response to message #2 by Katie Wasserman

It's a pity. Katie, do you know simple way to read HP-12C flags programmatically (i mean BEGIN/END and DAY format).

Re: HP-12C erase program steps

*Message #4 Posted by **Michael de Estrada** on 11 Feb 2011, 9:18 a.m.,*
in response to message #2 by Katie Wasserman

Wow. That's a major deficiency in this calc's programming capabilities. I've never given it any thought, since I've never programmed my HP-12C. I simply assumed it worked the same as my HP-15C, which I programmed a lot, but now I can see the difference, since the HP-12C lacks the back arrow (<--) keys that the HP-15C uses to delete displayed entries. It also means that if you make a mistake when keying in an entry, you cannot backspace over the incorrect digit to correct it, and must clear the entire entry and enter the entire line again.

Re: HP-12C erase program steps

*Message #5 Posted by **x34** on 11 Feb 2011, 10:17 a.m.,*
in response to message #4 by Michael de Estrada

> Quote:
>
> It also means that if you make a mistake when keying in an entry, you cannot backspace over the incorrect digit to correct it, and must clear the entire entry and enter the entire line again.

Michael, it s much worse. You can't clear entry. Only overwrite it. If you skipped one program line during programming, you should start with the line and enter all lines following. I think it is the last RPN HP calculator (may be shares this feature with HP-10C) without insertion/deletion. HP-20S and HP-21S have this annoying feature too, but they are not RPN.

Re: HP-12C erase program steps

*Message #6 Posted by **Katie Wasserman** on 11 Feb 2011, 11:32 a.m.,*
in response to message #5 by x34

The 20s and 21s have insert/delete editing I think.

I've concluded that the reason why the 12C (10C, 25, 38e/c, others?) don't have insert/delete editing is becasue there are no labels. You can branch to any program line number. To make for a easy to use programming environment insert/delete would have to re-assign all the goto/gosub targets each time you deleted or inserted a step. This would likely create an unacceptable delay on the original 12C (and the others) and it also would require the programmer to keep looking around for the new target location if it were needed for further entries/edits.

Personally, I think that they should have allowed insert/delete editing and let the user reassign branches as needed. That's not more difficult than the suggested method of adding branches out of the code stream then back in, when you want to insert additional code.

-Katie

Re: HP-12C erase program steps

*Message #7 Posted by **x34** on 11 Feb 2011, 11:49 a.m.,*
in response to message #6 by Katie Wasserman

> Quote:
>
> The 20s and 21s have insert/delete editing I think.

May be. I do not have it at hand. So, i'm wrong.

Edited: 11 Feb 2011, 12:03 p.m.

Re: HP-12C erase program steps

*Message #8 Posted by **Bart (UK)** on 13 Feb 2011, 3:52 p.m.,*
in response to message #7 by x34

For interest:

Now that I have had opportunity to take out my 20S, it has Label and line Insert/Delete (with auto renumber) functionality. Unlike the Voyager calculators, the 20S has fixed 99 line (merged keystroke) program memory that is not shared with its 10 registers.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP-12C erase program steps

HP Forum Archive 20

[Return to Index | Top of Index]

HP-25

*Message #1 Posted by **aj04062** on 10 Feb 2011, 9:12 p.m.*

Does anyone have a picture of how the interior of the box was packed?

I just got one with two interior inserts and I'm trying to figure out if I have all the pieces.

Re: HP-25

*Message #2 Posted by **Michael de Estrada** on 10 Feb 2011, 10:52 p.m.,*
in response to message #1 by aj04062

I have an HP-25C box, which I assume is physically the same as an HP-25, and it only has one insert that fills the entire box, with two cutouts; one for the calculator inside its soft case and one for the AC adapter.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-22

*Message #1 Posted by **brummybird** on 10 Feb 2011, 2:40 p.m.*

Hi to everyone, i've recently been given a HP-22 (which i'd like to sell) but i don't know if it's working ok. Could anyone tell me if there's a self test for this model? So far i've only found one for the HP-22S and i can't see it in the "notes" as mentioned on this website.

Re: HP-22

*Message #2 Posted by **Nigel J Dowrick** on 10 Feb 2011, 3:27 p.m.,*
in response to message #1 by brummybird

Before it's too late: if you have the mains adapter, **don't use it!** You will almost certainly destroy the calculator if the battery pack is not present, not well connected, or no longer functioning.

Sorry: I have no more specific advice to give. So far as I am aware machines in this series don't have a built-in self test. To see if it's working you'll have to power it on or sell it as untested.

What sort of state is the battery pack in?

Nigel (UK)

Re: HP-22

*Message #3 Posted by **brummybird** on 13 Feb 2011, 1:41 p.m.,*
in response to message #2 by Nigel J Dowrick

Hi,

The batteries are slightly corroded but everything seems to work fine. My only problem is i can't find the equivalent to = and "enter" didn't seem to work. Thanks, Sue

Re: HP-22

*Message #4 Posted by **Walter B** on 13 Feb 2011, 3:55 p.m.,*
in response to message #3 by brummybird

Hi Sue,

> Quote:
>
> My only problem is I can't find the equivalent to = and "enter" didn't seem to work.

Please look here.

Re: HP-22

*Message #5 Posted by **bill platt** on 10 Feb 2011, 3:31 p.m.,*
in response to message #1 by brummybird

The best thing to do to test it is to get one of those little battery holders from Radio Smack, load it with the appropriate number of batteries to reach the design voltage, and then connect to the battery terminals. This is the safest way to test it.

Testing with the original battery is not safe enough, because it could be shorted out at this point.

Re: HP-22

*Message #6 Posted by **Mike Morrow** on 10 Feb 2011, 4:14 p.m.,*
in response to message #5 by bill platt

A shorted pack would be good (THAT at least would protect the calculator electronics). But typically, old battery packs act essentially like an open circuit, which equates to operation on the charger without a pack installed.

HP, mythical champion of "quality" design, surely did have many examples of poor design in its calculator products history.

Re: HP-22

*Message #7 Posted by **Walter B** on 10 Feb 2011, 3:34 p.m.,*
in response to message #1 by brummybird

There's definitively no self-test for this model. I just checked the manual.

Re: HP-22

*Message #8 Posted by **Mike Morrow** on 10 Feb 2011, 4:09 p.m.,*
in response to message #7 by Walter B

IIRC, the Spice models (like HP-34C) were the first HPs with built-in self test. I always thought of that as a defect in the HP-41C-series design. Few had the test modules.

Re: HP-22

*Message #9 Posted by **brummybird** on 11 Feb 2011, 1:10 p.m.,*
in response to message #7 by Walter B

Hi, Many thanks for a definitive answer to that, i've already spent an evening searching the net for it. I was seriously surprised at the huge amount of information about calculators out there and found out this was made in august 1978. I think that was the year i first saw one in my maths class; i think i miss the red displays! Sue

Re: HP-22

*Message #10 Posted by **db (martinez, ca.)** on 10 Feb 2011, 10:07 p.m.,*
in response to message #1 by brummybird

Everything they told you is right.
Now: the calculator really wants about 2.5 volts, as in 2 rechargeable AA cells. It can usually take 3 volts (2 alkaline AA cells) but it's safer to use the nicads or NIMHs ---- or test it with some used, not new, AA alkalines.

I didn't notice anyone telling you about the polarity. Hold the calc like you are going to use it. Turn it over. The contact that is on your right is positive, the left is neg. Or you can look at it as: they are off-center so the contact that is closest to the edge is the neg one and the one nearest the middle is positive.

Don't screw this up.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

POLL: Who killed the beast?

*Message #1 Posted by **Joerg Woerner** on 10 Feb 2011, 1:19 p.m.*

While scanning the PPX newsletters for my DARKSIDE CALCULATOR MUSEUM I stumbeled over this document dated May 1982:

LINK TO THE BEAST

Who killed the beast?

1) ESD (Engineers)?

2) HP-41C (Management)?

Your opinion?

Thanks and Regards, Joerg

Re: POLL: Who killed the beast?

*Message #2 Posted by **Namir** on 10 Feb 2011, 2:25 p.m.,*
in response to message #1 by Joerg Woerner

I'd say the HP-41C AND the HP-28C (ushering RPL) killed the TI-88. It's a shame since the TI-88 is very good machine.

Namir

Re: POLL: Who killed the beast?

*Message #3 Posted by **Martin Pinckney** on 10 Feb 2011, 4:23 p.m.,*
in response to message #2 by Namir

A pretty good answer is given on Viktor Toth's T-88 page. Perhaps by the time the 88 was canceled, TI had already decided to cede the professional market to HP and the 41, because they were already in R&D and market research for the educational graphing models. Which turned out to be much more lucrative.

Re: POLL: Who killed the beast?

*Message #4 Posted by **bill platt** on 10 Feb 2011, 4:25 p.m.,*
in response to message #2 by Namir

The hardware sucked. Ti-itis.

Re: POLL: Who killed the beast?

*Message #5 Posted by **x34** on 10 Feb 2011, 2:41 p.m.,*

in response to message #1 by Joerg Woerner

3) TI (Management)

Like many other interesting projects of yesterday, today and tomorrow (mis)management is the primary problem. Number of MBAs and D.M.s skyrocketed in the past 20-30 years, but quality of management dropped. http://nces.ed.gov/programs/digest/

IF TI88 has been canceled in 1982, then HP-28 could not be the reason.

Re: POLL: Who killed the beast?

*Message #6 Posted by **Nigel J Dowrick** on 10 Feb 2011, 3:08 p.m.,*
in response to message #1 by Joerg Woerner

I wonder what its intended price was? Here in the UK at that time the wonderful Casio FX-602P was available (I had one!). Although not as powerful as this TI machine it was affordable, well-built, and very usable. It could also interface to a cassette recorder.

Although I'd love to have a TI-88 now, at the time I would have gone for the Casio unless the TI was going to be cheaper. The extra power of the TI wouldn't have been useful to me (and HP was way out of any price range I could have considered.)

I would imagine that TI felt it had spent too much on development to recover on expected sales. At a price that would return a profit, they judged that the machine wouldn't sell - high-end users would go for a HP, and low-end users would get excellent machines like the Casio for less money.

So the beast might have been slain by too much time spent in development? By the time it was ready it was too late! I don't know whose fault that would have been.

Nigel (UK)

Re: POLL: Who killed the beast?

*Message #7 Posted by **Joerg Woerner** on 10 Feb 2011, 5:00 p.m.,*
in response to message #6 by Nigel J Dowrick

MSRP was $350 in the US.

Regards, Joerg

Re: POLL: Who killed the beast?

*Message #8 Posted by **Jake Schwartz** on 10 Feb 2011, 10:21 p.m.,*
in response to message #7 by Joerg Woerner

That year (1982) at the Summer CES show in McCormick Place in Chicago, Richard Nelson and I fondly remember playing with the TI-88s at the Texas Instruments booth all four days of the show. It looked like interesting HP41 competition and we were surprised when the thing never actually saw the light of day. For the HHC2007 conference, Gene Wright and I posted a bunch of "vintage" HP and TI calc brochures on the conference website, including that of the TI88 which I had obtained at that CES show. It's still there at http://holyjoe.net/hhc2007/TI_brochures.html . I think Richard has a more extensive version of the promotional material in his collection.

Jake Schwartz

To: Jake and Richard

*Message #9 Posted by **Joerg Woerner** on 11 Feb 2011, 8:11 p.m.,*
in response to message #8 by Jake Schwartz

Would you mind to borrow me the TI brochures and promotional material for a few weeks?

I started to scan, photoshop and PDF them for free download on my darkside.org Museum.

Get an impression here:

Link to TI Brochures and Sales Catalogs

Regards, Joerg

(joerg-at-datamath-dot-org)

Re: To: Jake and Richard

*Message #10 Posted by **Jake Schwartz** on 13 Feb 2011, 8:15 p.m.,*
in response to message #9 by Joerg Woerner

Hi,

The vast majority of that TI material belongs to Gene Wright, who originally scanned it to pdf and I hosted it on my site in time for HHC2007. The TI-88 brochure was mine, however. I have the whole "press kit" for the TI-88; now I just have to find it again. It's been a while since I looked at it. If I find the thing, I would be glad to lend it to you. I'll let you know when I locate it.

Jake

Re: POLL: Who killed the beast?

*Message #11 Posted by **Mike Morrow** on 10 Feb 2011, 4:28 p.m.,*
in response to message #1 by Joerg Woerner

Possibly, the effort by TI to push the TI-99/4A personal computer had some adverse effect on the TI-88. The TI-99/4 had come out and failed in the late 1970s, but the TI-99/4A system was a considerable improvement. It has a very interesting, almost bizarre, architecture. It was one of the first personal computers with a 16-bit processor (TMS-9900, with hardware multiply and divide). But...also a failure by 1983.

OT: TI99/4A Re: POLL: Who killed the beast?

*Message #12 Posted by **Norman Dziedzic** on 10 Feb 2011, 4:38 p.m.,*
in response to message #11 by Mike Morrow

Whoa what memories! I had a TI99/4A. That's where I learned my first programming language. About the coolest thing I did with it was to create a title sequence for play the neighborhood kids put on.

My friend across the street had a father that had the first video camera in the area. He was into theater and got the neighborhood to put on a production of "The Odd Couple". Since the monitor for the TI99/4A was the TV we were able to send the output of that to his video recorder and make custom titles including bitmap animations of cigar smoke and falling ashes.

Thanks for triggering an impromptu stroll down memory lane !!

Re: POLL: Who killed the beast?

*Message #13 Posted by **Martin Pinckney** on 10 Feb 2011, 5:35 p.m.,*
in response to message #11 by Mike Morrow

> Quote:
>
> It has a very interesting, almost bizarre, architecture.

Can anyone say PCjr? I loved that thing, eventually had four, one for me and one for each child. Mine sported a total of five or six "sidecars."

The architecture allowed plug-in cartridges to modify or even totally change the character of the machine. As in replace the on-board BIOS completely.

It developed an almost cult following for years after IBM abruptly discontinued it, with companies and individuals creating all sorts of new peripherals.

Hmmm... Sound like a calculator we all know?

Re: POLL: Who killed the beast?

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 10 Feb 2011, 7:58 p.m.,*
in response to message #1 by Joerg Woerner

My undestanding has been that it was keyboard problems that killed the beast. I have never had one in hand but I was told that the keyboard mechannism was the same at that used in the TI-55II, TI-57LCD and BA-55. I had all three of those and each had the problem where a single keystroke would yield multiple entries into the display register. The TI-55II was so bad that TI eventually allowed an owner to simply send one in and get a TI-55III in return. The TI-55III had a much better keyboard.

Re: POLL: Who killed the beast?

*Message #15 Posted by **bill platt** on 10 Feb 2011, 9:12 p.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

That's what is known as Ti-itis.

Re: POLL: Who killed the beast?

*Message #16 Posted by **Tom Mathes** on 11 Feb 2011, 11:29 a.m.,*
in response to message #15 by bill platt

TI-itis is what got me to switch to HP when a freshman in college (1980). I'd gotten one too many 8th roots or triple zero/triple 2 entries when punching a button one time with my TI calc. I got a my parents to buy me a HP-41C (they choked at first when they saw the price) but it was well worth the money and was a trusty companion until 1998. I dropped it one too many times and the posts holding the case together broke.

A guy on my dorm room floor got so frustrated with his TI calc he said he "introduced it to the wall at Mach 2" (he was an aerospace eng. major :-)).

Re: POLL: Who killed the beast?

*Message #17 Posted by **Thomas Okken** on 12 Feb 2011, 1:21 p.m.,*
in response to message #16 by Tom Mathes

TI-itis was a big factor in making me prefer the HP calculators back in the '70s and early '80s, even though the TI calculators offered a lot more functionality for the price (e.g. TI-59 vs. HP-67, no contest).

With the HP-41C, HP reached the point where its flagship calculator could beat the flagship TI not just on quality, but also on functionality... but that was also about the time when computers started to become affordable.

Look at the calculator marketplace today: it's dominated by financial calculators. Scientific calculators are targeted at the educational market, and at the smallish market of people who specifically need something portable/small/lightweight to use in the field. Everyone else uses computers now... What really killed the scientific calculator was cheap computers, not calculator quality issues.

Re: POLL: Who killed the beast?

*Message #18 Posted by **Martin Pinckney** on 12 Feb 2011, 3:30 p.m.,*
in response to message #17 by Thomas Okken

Thomas,

Your analysis is basically sound. The size of the market for scientifics was permanently reduced by the advent of relatively cheap computers. I know in my case, when I got my first PC, engineering software was either very expensive, or just was not available for the specific problems I had to solve. So I wrote my own. Why continue to program a calculator when you were spending time writing programs for a more powerful platform? Now, of course, engineering software proliferates.

But decades later, there still exists a continuing demand, although much smaller, for quality scientific calculators.

HP has only partly met that demand since the end of the Pioneer and 48gx era. After floundering with the 49's, they seem to have got a winner in the 50g. But for a smaller form factor, they've not yet got it right. The 33s was not well received. Great hopes were placed in the 35s, only to become a disappointment when they actually were in hand.

HP seems to be serving the business/financial market well with the 12c+, 17bii+ silver and 30b; why can't they do the same for the scientific/engineering market? I still think they will soon.

Re: POLL: Who killed the beast?

*Message #19 Posted by **bill platt** on 12 Feb 2011, 3:54 p.m.,*
in response to message #18 by Martin Pinckney

This will only hap[pen if HP comes to realize or proves that a large segment of potential buyers of the "43s" scientific small form I/O machine would not/do not buy or have any interest in buying a 50G.

I think the basic position now, inferring from marketed products is, "If they want the full power, they buy the 50g. If they want portability, they are happy with the 35s."

Re: POLL: Who killed the beast?

*Message #20 Posted by **Garth Wilson** on 12 Feb 2011, 6:27 p.m.,*
in response to message #18 by Martin Pinckney

> Quote:
>
> Why continue to program a calculator when you were spending time writing programs for a more powerful platform?

Because the small programs are easier to write for the calculator, and, if you have them assigned to keys, definitely easier to access. The calculator is instant-on and more stable too. I have had some programs I commonly use in my 41cx for *decades* without having to reload, re-write, or transfer.

Re: POLL: Who killed the beast?

*Message #21 Posted by **Martin Pinckney** on 12 Feb 2011, 8:41 p.m.,*
in response to message #20 by Garth Wilson

Garth, I agree completely. I write new Solver "programs" almost weekly for my 27s or 17b.

But in the line you quoted, I was referring to an historical point (mid-1980's) when I had to choose between spending time programming my TI-59, or my IBM PC-XT.

Is there an HP-itis?

*Message #22 Posted by **Palmer O. Hanson, Jr.** on 14 Feb 2011, 9:06 p.m.,*
in response to message #15 by bill platt

> Quote:
>
> That's what is known as Ti-itis.

Is there such a thing as HP-itis? I would say yes -- the nearly unbroken line of power supply problems from the very beginning to the present. I am not sure why that should be. Could it be because design at HP has historically been dominated by the twidgets?

Re: Is there an HP-itis?

*Message #23 Posted by **Walter B** on 15 Feb 2011, 2:27 a.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

Hi Palmer,

> Quote:
>
> Could it be because design at HP has historically been dominated by the twidgets?

I had to google and found: a) *A twidget was anybody who wasn't an engineer, and therefore, according to the snipes, not a real man.* At the time HP's worst charging circuit design was launched, those folks didn't play a major role there yet. So we can't blame them for this - a pity, I

admit d;-)

OTOH, b) *twidget n. a soldier or other military individual whose job primarily involves using or maintaining electronics.* But why should electronic people make such design flaws?

So it boils down to the question: What did you want to tell us? Language should be a tool for transmitting clear messages, the less ambiguous the better (most times).

Edited: 15 Feb 2011, 2:41 a.m.

Re: Is there an HP-itis?

*Message #24 Posted by **Palmer O. Hanson, Jr.** on 15 Feb 2011, 10:19 p.m.,*
in response to message #23 by Walter B

> Quote:
>
> twidget n. a soldier or other military individual whose job primarily involves using or maintaining electronics.

That is the probably the basis for my use of the word. I think that I picked it up from veterans at the University of Minnesota in the late 1940's. Engineering students who weren't in the EE program tended to use EE and "twidget" interchangeably. We (I was in AeroE) really believed that the EE's were a different breed of cat. I later used the term "twidget" as a shorthand for "digital designer" in the 1970's and 1980's.

> Quote:
>
> But why should electronic people make such design flaws?

In the 1970's and 1980's I saw that there was a tendency for "twidgets" to see analog design and power supply design as less demanding than digital design. That typically translated into limitations on funding for power supply design during a development because power supply design just wasn't considered to be very difficult. I made a leap from that observation to the idea that the same sort of thing may have been at the core of the power supply problems in the HP calculator product line.

Re: Is there an HP-itis?

*Message #25 Posted by **bill platt** on 15 Feb 2011, 6:38 p.m.,*
in response to message #22 by Palmer O. Hanson, Jr.

I ain't never heard of a twidget. What I do know is that the power supply problem was not as big a problem as the key-wear problem. You could always buy a new battery, and HP users all read their manual and so even though the power supply/battery issue was stupid, it was nevertheless manageable---but the keyboard thing on Ti was totally unacceptable.

My first exposure to calculators was on two different SR series Tis--my father's. Both developed Ti-itis. That is the reason he bought me an HP when it came time for me to have my own machine...

By the way, it was my mentor in school who coined the term "Ti-itis." He had a little Sharp if I remember correctly. His comment when he saw me, the young whipper-snapper, with an HP was to the effect, "expensive, but the buttons are good. None of that Ti-itis." Off topic, he wrote a lot of

good programs in BASIC which ran on everything from Timex Sinclairs to TRS 80 and Commodores etc. I still have some of them--printed out with a Daisy wheel printer...

Re: POLL: Who killed the beast?

*Message #26 Posted by **db (martinez, ca.)** on 10 Feb 2011, 10:32 p.m.,*
in response to message #1 by Joerg Woerner

or:
3) lack of RPN. (and TI's knowledge that a dodgey keyboard was not going to bring in many $350 sales receipts.....if that oft repeated story was true.)

This is the TI that i would have wanted. If priced like a TI it woulda knocked a BIG hole in hp's market share.

Re: POLL: Who killed the beast?

*Message #27 Posted by **Dwight Sturrock** on 11 Feb 2011, 11:27 p.m.,*
in response to message #26 by db (martinez, ca.)

I thought Robert Noyce (Fairchild/Intel) invented the integrated circuit. U.S. pat #2,981,877.

TI's Kilby patent is later: 3,138,743 for miniaturized circuitry.

After the death of the TI-88

*Message #28 Posted by **Palmer O. Hanson, Jr.** on 12 Feb 2011, 9:34 p.m.,*
in response to message #1 by Joerg Woerner

The advance marketing effort for the TI-88 included a picture of the device with the question "MAY I HELP YOU?" in the display. An example appears on page 5 of *The Portable Computer and Calculator Catalog 1982/1983.* Among other things that was intended to demonstrate that the device had an alphanumeric capability in the display, a capability that was a selliing point for the existing HP-41.

Shortly after the demise of the TI-88 was announced in late 1982 one disgruntled potential buyer circulated a picture of the TI-88 with the "MAY I HELP YOU" message replaced with "I DO NOT EXIST."

On the front page of the V7yN10 issue of *TI PPC Notes"* editor Maurice Swinnen wrote:

> Quote:
>
> *Electronic News*, September 27, 1982, page 57, carries an article with the title "TI Portable CPU Line May Dump Top Calculator". Then it goes on saying "Texas Instruments has decided to withhold its top of the line TI-88 hand-held keystroke programmable calculator, and will scrap it altogether as it shifts priorities to a fammily of hand-held computers it will unveil shortly." The article is far too long to be reproduced here in its entirety. But I learned from it that TI has opened up eight new facilities for the production of the TI-99/4A home computer or for making its components and their total output is now 30,000 units per week.

In early 1983 I received an engineering model of the TI CC-40. The device became available at retailers in mid 1983. Its internal mechanization was simiklar to that of the TI-99/4A with base 100 arithmetic.

The LIMA 99/4A Users Group's newsletter *Bits, Bytes and Pixels* provided support for users of the TI-994A and some support for the CC-40 as late as April 1996.

Edited: 12 Feb 2011, 10:04 p.m.

Re: After the death of the TI-88

*Message #29 Posted by **Mike Morrow** on 12 Feb 2011, 11:41 p.m.,*
in response to message #28 by Palmer O. Hanson, Jr.

That makes it sound as if, indeed, the TI-99/4A project did adversely affect the TI-88 project.

Re: After the death of the TI-88

*Message #30 Posted by **Garth Wilson** on 13 Feb 2011, 1:44 a.m.,*
in response to message #28 by Palmer O. Hanson, Jr.

> Quote:
>
> The advance marketing effort for the TI-88 included a picture of the device with the question "MAY I HELP YOU?" in the display.

Yeah, that sort of bugged me when I first saw it. My 41cx is set such that upon turn-on it immediately tells me if there's something I'm supposed to be reminded of that day (like a daytimer, with the info coming from a DAYTMR file), and if there's nothing there it tells how long until the next alarm comes due, and if there are none, it displays the current time and date. (The usual case is the latter.) For it to say, MAY I HELP YOU?" would be a step down.

Edited: 13 Feb 2011, 1:45 a.m.

Re: After the death of the TI-88

*Message #31 Posted by **Palmer O. Hanson, Jr.** on 13 Feb 2011, 11:47 a.m.,*
in response to message #30 by Garth Wilson

> Quote:
>
> Yeah, that sort of bugged me when I first saw it. My 41cx is set such that upon turn-on it immediately tells me if there's something I'm supposed to be reminded of that day (like a daytimer, with the info coming from a DAYTMR file), and if there's nothing there it tells how long until the next alarm comes due, and if there are none, it displays the current time and date. (The usual case is the latter.) For it to say, MAY I HELP YOU?" would be a step down.

My HP-41CX doesn't do any of those things, at least so far as I know. Is that because I don't know how to use it as it came from the box, because I haven't studied the manual, or because I haven't programmed it to do those things?

I never had a TI-88. I did have some of the pre-release documentation. But what I sort of recall is that the user could program in any turn-on response that he wanted to. Many years ago I sent most of my pre-release documentation to Gene Wright. Maybe he can help.

Re: After the death of the TI-88

*Message #32 Posted by **Garth Wilson** on 13 Feb 2011, 9:43 p.m.,*
in response to message #31 by Palmer O. Hanson, Jr.

> Quote:

> My HP-41CX doesn't do any of those things, at least so far as I know. Is that because I don't know how to use it as it came from the box, because I haven't studied the manual, or because I haven't programmed it to do those things?

It can do them. Flag 11 has to be set when you turn it off. I have program label TOFF assigned to the summation key, and I use that to turn it off, not the ON key. TOFF just sets flag 11 and does some super-short synthetic-programming beeps and then has the OFF instruction. When you turn it on with the ON key (as opposed to an alarm coming due), program execution picks up there and goes into the portion that checks the DAYTMR file and the alarm catalog and finally displays time and date if there's nothing else that needs displaying. It takes two seconds to be ready for keystrokes. It also sets the continuous-on flag to prevent timing out and turning off at the worst times. Since it only goes off when I've told it to (either with the summation key or in a program), it always begins executing something upon turn-on. My program is not in the manuals, but all the how-to is there.

Re: After the death of the TI-88

*Message #33 Posted by **Palmer O. Hanson, Jr.** on 14 Feb 2011, 8:59 p.m.,*
in response to message #32 by Garth Wilson

> Quote:
>
> > My HP-41CX doesn't do any of those things, at least so far as I know. Is that because I don't know how to use it as it came from the box, because I haven't studied the manual, or because I haven't programmed it to do those things?
> >
> > It can do them. Flag 11 has to be set when you turn it off. I have program label TOFF assigned to the summation key, and I use that to turn it off, not the ON key. TOFF just sets flag 11 and does some super-short synthetic-programming beeps and then has the OFF instruction. When you turn it on with the ON key (as opposed to an alarm coming due), program execution picks up there and goes into the portion that checks the DAYTMR file and the alarm catalog and finally displays time and date if there's nothing else that needs displaying. It takes two seconds to be ready for keystrokes. It also sets the continuous-on flag to prevent timing out and turning off at the worst times. Since it only goes off when I've told it to (either with the summation key or in a program), it always begins executing something upon turn-on. My program is not in the manuals, but all the how-to is there.

Thank you for the response. I have to admit that I probably won't implement that feature as I rarely use my cadre of HP-41's.

I found some more TI-88 material. The insert which was delivered with the Volume 6 Number 3 (May/June 1982) issue of *PPX Exchange* said in part

> Quote:
>
> > ... By selecting the system prompting option, the TI-88 can greet you with the message "MAY I HELP YOU?" Responding by pressing the [YES] key leads to a series of alphanumeric prompts designed to assist you in running *Solid State Software* programs and in setting the calculator's time, date and alarm options. ...

That sounds a little like some of the stuff you do at turn-on with the HP-41CX.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

cute little challenge

*Message #1 Posted by **Don Shepherd** on 10 Feb 2011, 7:43 a.m.*

I wonder if there is a 4-digit number ABCD such that A^B x C^D = ABCD?

Re: cute little challenge

*Message #2 Posted by **Namir** on 10 Feb 2011, 8:48 a.m.,*
in response to message #1 by Don Shepherd

I found one solution for:

```
A = 2
B = 5
C = 9
D = 2
```

Using four nested loops in a VBA program.

Namir

Edited: 10 Feb 2011, 8:48 a.m.

Re: cute little challenge

*Message #3 Posted by **Don Shepherd** on 10 Feb 2011, 9:34 a.m.,*
in response to message #2 by Namir

Yep!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

j operators

*Message #1 Posted by **Dwight Sturrock** on 10 Feb 2011, 5:02 a.m.*

TI's littered the classroom (Advanced Math Methods in EET) as the professor droned on about imaginary numbers. HP42S in hand, I wondered why he had to make the subject so laborious. Later at home, I tried SQRT -1 on my Purdue recommended TI-83. In anguish, I wondered what will happen to me if my HP42s gives up the ghost...

Re: j operators

*Message #2 Posted by **Don Shepherd** on 10 Feb 2011, 6:27 a.m.,*
in response to message #1 by Dwight Sturrock

> Quote:
>
> I wondered what will happen to me if my HP42s gives up the ghost...

... and then I remembered what the prof told us about putting the 83 in a+bi mode...problem solved.

:)

Re: j operators

*Message #3 Posted by **Dwight Sturrock** on 10 Feb 2011, 5:17 p.m.,*
in response to message #2 by Don Shepherd

For some reason he didn't mention that. I'll have to check that function on the TI. Thanks for the heads up :]

Re: j operators

*Message #4 Posted by **Bart (UK)** on 11 Feb 2011, 12:15 p.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> ....putting the 83 in a+bi ***mode***...

Modes, modes. Why does it have to be modes? This "modes" thing is what got me to get rid of my fx-850p 25 years ago (I had a 28C before that and a 28S after). I don't change modes when I need to work in complex, why should the calculator? When complex is required, it must just do it. I know when I am expecting complex answers and when not. I know to "rephrase the question" if the calculator gives a real answer when I'm looking for a complex one & vice versa. Although I am more into RPL machines, I respect the 42S and for the life of me can't understand why HP didn't continue that line of calculator (instead of the 33s & 35s which are based on the 32s).

Just my 2 pence worth. :)

Re: j operators

*Message #5 Posted by **Don Shepherd** on 11 Feb 2011, 1:05 p.m.,*
in response to message #4 by Bart (UK)

> Quote:
>
> Why does it have to be modes?

Bart, I don't know, I guess that's the way the designers designed them. I think most TI's work that way, including the NSpire. I guess it's easier to design them that way than the way you suggest.

Don

Re: j operators

*Message #6 Posted by **Marcus von Cube, Germany** on 11 Feb 2011, 2:28 p.m.,*
in response to message #5 by Don Shepherd

If you look at the many RPL system flags you know that there are modes, too.

Casio has made significant changes to their graphing calculators concerning modes. In the early days (I own a fx-8000G) it was modes everywhere. The main key for influencing the behavior of the calculator or selecting an application (editor, base-n, stats) is even labeled "mode". With some later models (fx-7700GE to CFX-9800G), they switched to an icon menu and relabeled the mode key "menu". Internally, it was not too much of a difference but at least switching from degrees to radians became a menu selection. OK, the setup screen is now shift+menu which is not really far from its former "mode" selection. With the most recent line (including the Prizm) the menu selections behave much more like seperate applications and all internal behavior switching has been delegated to menu selections.

Back to complex numbers: The cube root of a negative value returns different results on RPL machines depending on complex mode or real mode. I just tried on my Nspire and got a similar result. You need a way to tell the function which result you desire (cube root has three). So to avoid modes, you need to supply additional functions or parameters. Modes act like global variables with all their pros and cons.

Re: j operators

*Message #7 Posted by **Martin Pinckney** on 11 Feb 2011, 2:08 p.m.,*
in response to message #4 by Bart (UK)

> Quote:
>
> ...I respect the 42S and for the life of me can't understand why HP didn't continue that line of calculator (instead of the 33s & 35s which are based on the 32s).

Apparently most of the engineers on here can't understand that.

The business types say, it's simple: The 42s quit selling. And the 48 series was selling, and has continued to in the later incarnations, including today's flagship, 50g.

Re: j operators

*Message #8 Posted by **Dwight Sturrock** on 11 Feb 2011, 11:30 p.m.,*
in response to message #7 by Martin Pinckney

As long as my 42S gets me through the next 2 semesters, I'll be happy. Then I can get a 50G and figure out how that works. Hate to change midstream.

Modes (complex-number and otherwise)

*Message #9 Posted by **Karl Schneider** on 12 Feb 2011, 2:50 a.m.,*
in response to message #4 by Bart (UK)

> Quote:
>
> Modes, modes. Why does it have to be modes? This "modes" thing is what got me to get rid of my fx-850p 25 years ago...

Good point, Bart. Indeed, Casio has long been enamored of operating modes, and still makes extensive use of them in the cheap but capable fx-115 series.

Flag 8 on the HP-15C and CRES/RRES on the HP-42S are "modes" of a sort, as are many of the flags on the HP-41, HP-42S, and HP-48,-49,-50 models. The real issue is whether functionality is cohesive and complementary.

On Casio models, this is often not the case. To use one kind of functionality requires that a particular mode to be entered, which then disables the functionality that is accessed by another mode. It is as though the calc is intended to be used to help the user learn the scholastic *'topic du jour'*.

By contrast, on the HP-15C -- to use one example -- all functionality is always available, as long as sufficient memory is allocated. Statistical functions, integration, rootfinding, complex-number calculations, and matrix calculations can all be programmed and used cohesively.

-- Karl

Edited: 12 Feb 2011, 3:01 a.m.

Re: Modes (complex-number and otherwise)

*Message #10 Posted by **Bart (UK)** on 12 Feb 2011, 11:25 a.m.,*
in response to message #9 by Karl Schneider

> Quote:
>
> The real issue is whether functionality is cohesive and complementary.

Karl, you have hit the nail on the head there. That was basically my issue. I found that the HPs of the time did it the best.

[Return to Index | Top of Index]

Go back to the main exhibit hall

j operators

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP82164A HP-IL/RS-232C interface

*Message #1 Posted by **dinamarco** on 9 Feb 2011, 8:22 p.m.*

I'm trying to connect a printer like EPSON LX80 or FX80 on my HP-41CX using these PAC, is possible? How about the cable?

Re: HP82164A HP-IL/RS-232C interface

*Message #2 Posted by **Eric Smith** on 9 Feb 2011, 8:55 p.m.,*
in response to message #1 by dinamarco

If you have the serial version of the printer (relatively uncommon), that should work. You'll also need the HP 82160A HP-IL interface for the 41, two HP-IL cables, and a serial cable.

Most LX80 and FX80 printers have a Centronics-style parallel interface using a 36-pin connector.

41C programs expecting to work with an 82143A or 82162A printer may not work correctly with the FX80 or LX80, depending on what printer features they use.

Re: HP82164A HP-IL/RS-232C interface

*Message #3 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Feb 2011, 7:57 a.m.,*
in response to message #2 by Eric Smith

IIRC, Epson used to sell a (rather expensive) "serial interface board" as an user installable option. It presented a DB-25 RS-232 connector to the outside, and plugged as a daughterboard in the printer's logic board. The funny thing was that the board did little more than translation of the +/-12 V signals from the RS-232 interface into 0-5V TTL-compatible levels. The serial functionality was already on the logic board of every printer!

In 1986, I managed a project related to this feature, and we developed a very simple interface (using TTL levels) to connect such printers to a 8088-controlled graphics terminal (NAPLPS). The hardware was little more than connectors and pull-up resistors; the fun went into developing the graphics screen-dump software!

[I apologize in advance for idiomatic mistakes and possible minutia, since this comment is based just in my memories of that time, without any documentation at hand to check for details.]

Re: HP82164A HP-IL/RS-232C interface

*Message #4 Posted by **dinamarco** on 10 Feb 2011, 8:13 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

ok... if you like to help me... No problems if you want to write me in spanish. Best Regards... Saludos!

Re: HP82164A HP-IL/RS-232C interface

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Feb 2011, 11:53 a.m.,*
in response to message #4 by dinamarco

My little contribution is just to suggest that, even if you have the typical, paralell-interface model; explore on the inside to see if serial functionality is there, almost for free. If you need to translate RS-232 levels, a Maxim integrated circuit does it easily in current times, avoiding the 1488/1489 or 75150/75154 old-time buffers (old and also failure prone). I cannot help on the HP-IL side, I have no experience with it. Best regards.

Re: HP82164A HP-IL/RS-232C interface

*Message #6 Posted by **Tony Duell** on 11 Feb 2011, 4:29 a.m.,*
in response to message #3 by Andrés C. Rodríguez (Argentina)

From what I remember, Epson made at least 3 diffferent RS232 interfaces for the MX/RX/etc printers. As you said, the standard printer firmware included a (bit-banged, IIRC) serial interface, and the simplest RS232 board enabled this (IIRC by grounding a pin on the conenctor for the interface PCB) and converted between RS232 levels and TTL. Configuration (baud rate, etc) was done by DIP switches on the board, read via the (redundant) parallel input port.

The other 2 RS232 boards had microcontrollers and buffer RAM on them and did a full serial-parallel conversion. The printer was left as a normal parallel device.

Epson also made an HPIB/GPIB/IEEE488 interface. It does the address comparison, handshake, etc and just feeds the data to the printer as a parallel device.

Those are not easy to find, but much harder to find still is the HP HPIL interface board. It was part of the HP82905 printer, but it will work in many older Epsons. IIRC, it's a microcontroller and a 1LB3, basically.

Re: HP82164A HP-IL/RS-232C interface

*Message #7 Posted by **dinamarco** on 10 Feb 2011, 8:12 a.m.,*
in response to message #2 by Eric Smith

ok... I'll try to find these other module. Regards... andThank you for help-me.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

GolfScript versus RPL

*Message #1 Posted by **Allen** on 9 Feb 2011, 8:00 p.m.*

I've been reading up on a fairly new programming language called Golf Script Since it's stack based, it reads very much like RPL.

Curious if anyone here has experience in this language??

For example, the coercion behaviors from the tutorial are nearly identical to the way the HP48/49/50 treat similar inputs.

```
GOLFSCRIPT
 1[2]+ -> [1 2]
 1'2'+ -> "12"
 1{2}+ -> {1 2}
```

And the first example in the tutorial, is notably post-fix

```
Example:


1 1+


Has 3 items, "1", "1", "+". The ones push the number 1 onto the
 stack. The + is a built-in block defined to take the top two stack
 items, add them together, and push the result on the stack.
```

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Still a few good deals...

*Message #1 Posted by **Michael Meyer** on 9 Feb 2011, 2:08 p.m.*

Nice deal from TAS....

Auction

Yes, that's an HP-15C in the corner. Turned out to be nearly flawless and perfectly functioning!

Re: Still a few good deals...

*Message #2 Posted by **Bill (Smithville, NJ)** on 9 Feb 2011, 2:15 p.m.,*
in response to message #1 by Michael Meyer

Michael,

Nice catch. Congraduations.

A couple of years ago, I bought a package of HP calculators for a fixed price. The person found one more calculator right before he mailed the package, so he just threw it into the shipping box. Turned out to be a very good condition HP-15C.

Bill

Re: Still a few good deals...

*Message #3 Posted by **Michael de Estrada** on 9 Feb 2011, 3:01 p.m.,*
in response to message #1 by Michael Meyer

I congratulate you on your TAS search skills. Clearly a case of a poorly worded listing, which worked to your advantage. Only 2 other bidders and a 3 day auction, which was seen by few bidders.

Edited: 9 Feb 2011, 3:02 p.m.

Re: Still a few good deals...

*Message #4 Posted by **Malcolm** on 9 Feb 2011, 3:27 p.m.,*
in response to message #1 by Michael Meyer

I officially hate you.

Congratulations on your purchase. If you happen to find another one at that price, PM me.

Malcolm

Re: Still a few good deals...

*Message #5 Posted by **John B. Smitherman** on 9 Feb 2011, 3:39 p.m.,*
in response to message #1 by Michael Meyer

The seller probably wasn't familiar with RPN and thought the 15c was broken. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41 internal construction

*Message #1 Posted by **Monte Dalrymple** on 9 Feb 2011, 1:23 p.m.*

Can anyone give me some pointers on how to determine what type of logic connector was used, perhaps based on serial number? I understand that early models used a connector material is difficult to reuse, and I don't want to pull apart a calculator that I can't re-assemble.

Monte

Re: HP-41 internal construction

*Message #2 Posted by **Randy** on 9 Feb 2011, 5:01 p.m.,*
in response to message #1 by Monte Dalrymple

The problem connectors where typically on early CV's only. Rather than trying to identify by serial, it is much easier to identify by sight.

Remove the case bottom and look between the logic board and keyboard at the bottom edge. Problem connectors have flat edges and are pink in color. They are elastomeric material only. With the pink parts, the logic board will be firmly stuck to the keyboard and it will require a bit of force to pop it off.

Good parts are gold in color and use small wires rather than carbon to make the interconnects. Gold connectors may be one or two pieces, depending upon the age.

FWIW: If there are any white labels inside the calculator with coded numbers and a date, it was serviced by HP and the problem connectors would have been replaced with reusable parts.

Re: HP-41 internal construction

*Message #3 Posted by **Monte Dalrymple** on 9 Feb 2011, 6:42 p.m.,*
in response to message #2 by Randy

Randy, exactly the information I needed. Thank you.

Monte

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-12C ARM Repurposing Project - Status?

*Message #1 Posted by **Malcolm** on 9 Feb 2011, 10:10 a.m.*

I have heard rumors and musing about the possibility of repurposing the HP-12C ARM calculator.

I have seen leaps and bounds with the HP20B/30B project and the wiki for it has a 12C section

(http://www.wiki4hp.com/doku.php?id=12c:repurposing_project)

But I haven't seen any updates in the last year and a half. Is anyone working on a 10C/11C/15C/16C port? I know the SDK comes with a 4 function integer calculator, but is it possible to use this calc to run the firmware of one of the other Voyager Series calculators that is not in production?

If someone is working on something to this effect I would love to help.

Malcolm

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Hands on the 20b SDK

*Message #1 Posted by **Marcus von Cube, Germany** on 9 Feb 2011, 10:06 a.m.*

I'm willing to help bring forward the 20b/30b repurposing efforts and am taking the first few steps in this direction.

Firstly, my cable has arrived and works fine. (I have a spare, which I can offer to someone here in Germany for free.) After downloading SAM-BA from atmel.com, I was able to erase the flash of my 20b and reprogram it with the image provided in the SDK. The little machine is up and running its original software again. So technically, I'm able to put any software on it.

The following step was getting the sample application in the simulator to compile and run. My old MSC compiler does not support the *long long* data type (it's there but differently named). Some changes to the sources helped me out. One function is missing from the MFC libraries coming with my compiler. I've got the software running but without support for multiple skins.

To overcome these problems, I decided to upgrade to Visual Studio C++ Express which you can download from Microsoft for free. You'll need some spare space on your hard disk though. The install has just finished. I'll report back, if the SDK example application will compile with this version.

The next step would be to compile WP-34s for the simulator. If I can get this to work, a big step is taken towards a "real" port. On SourceFourge.net I can only find the documentation for download. What do I need to get to the sources? I guess an SVN client is necessary.

I had asked IAR for a price quote for the full development environment from them. In short, I'm **not** willing to pay over 2000 € for a hobbyist project. I'll be getting the kickstart edition to play around with the SDK but I plan to make GCC an alternative. OK, no debugging in the foreseeable future...

EDIT: The IAR compiler was able to create a **working** flash image of the number guessing game. I did some code changes to get rid of any compiler warnings and I had to change the project settings: The kickstart version does not allow assembly listings being generated from C/C++ code and the library options were set to "none" which lead to linker errors (missing symbols.)

Edited: 9 Feb 2011, 12:45 p.m. after one or more responses were posted

Re: Hands on the 20b SDK

*Message #2 Posted by **Walter B** on 9 Feb 2011, 11:09 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Hallo Marcus,

you'll get the necessary most recent files (or access to them) from Pauli, plus optimum advice what to do with them. Please note the layout has changed a bit compared with v1.12. I'm working on v1.13 but it's not ready to be published yet.

Walter

Re: Hands on the 20b SDK

*Message #3 Posted by **Marcus von Cube, Germany** on 9 Feb 2011, 11:30 a.m.,*
in response to message #2 by Walter B

Thanks Walter!

I'll have to streamline the SDK files a bit first before I want to do work on the simulator or GCC.

I had some sucess with the IAR compiler (see first posting). :)

Edited: 9 Feb 2011, 12:46 p.m.

Re: Hands on the 20b SDK

*Message #4 Posted by **Erturk Kocalar** on 9 Feb 2011, 1:06 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Hi Marcus,

I'm willing to help with compiling SDK.

I got my cables yesterday and tried to compile the SDK emulator on my PC, but had issues. I tested Visual C++ 2003. It is compiling about some missing files, but Tim recommended we can take them out. so I'm going to try again.

Does Visual C++ Express have the MFC libraries?

Thanks, erturk

Re: Hands on the 20b SDK

*Message #5 Posted by **Marcus von Cube, Germany** on 9 Feb 2011, 1:18 p.m.,*
in response to message #4 by Erturk Kocalar

I have yet to check the latter. Be patient.

Re: Hands on the 20b SDK

*Message #6 Posted by **Marcus von Cube, Germany** on 10 Feb 2011, 11:40 a.m.,*
in response to message #4 by Erturk Kocalar

> Quote:
>
> Does Visual C++ Express have the MFC libraries?

I fear not. :(

I will have to hunt for a replacement. My VC6 setup is just lacking a single function...

Edit: I'm just downloading the Professional Edition of Visual Studio 10.0.

Edited: 10 Feb 2011, 12:50 p.m.

Re: Hands on the 20b SDK

*Message #7 Posted by **Paul Dale** on 10 Feb 2011, 1:22 a.m.,*
in response to message #1 by Marcus von Cube, Germany

The sources and latest documentation are available via subversion from the site. The command is mentioned on the sourceforge page but it is buried a bit:

```
svn co https://wp34s.svn.sourceforge.net/svnroot/wp34s wp34s
```

- Pauli

Re: Hands on the 20b SDK

*Message #8 Posted by **Marcus von Cube, Germany** on 10 Feb 2011, 7:15 a.m.,*
in response to message #7 by Paul Dale

Thanks Pauli,

I'm going to do some work on the SDK before I turn to your sources. It will take its time.

I need a recent version of the keyboard, in case it is different from what is outlined in the PDF, in order to create an emulator skin. The result should be a working executable for windows with your software in it.

Re: Hands on the 20b SDK

*Message #9 Posted by **Walter B** on 10 Feb 2011, 4:02 p.m.,*
in response to message #8 by Marcus von Cube, Germany

The most recent version of the keyboard looks like this:

I'm pretty confident that's it now, but I've been so several times before d:-)

Re: Hands on the 20b SDK

*Message #10 Posted by **Dieter** on 11 Feb 2011, 7:13 a.m.,*
in response to message #9 by Walter B

Looks very nice and useable to me.
However, here are some ideas that might even improve it.

Here's a quote from the WP-34s manual:

> Quote:
>
> We baptized it 34S in honour of one of the most powerful LED pocket calculators, the HP-34C

The 34C was my first HP back in 1980. One of the features I liked most was the MANT function, displaying the full 10-digit mantissa. On today's calculators this function is called SHOW, and it's

also present on the 34s. But where did you hide it? In the lower left corner! Walter! Remember the 34C! This function MUST be placed on the big ENTER key! That's where it belongs. Even the 35S designers knew that! ;-)

Second, wouldn't it be nice if if VIEW was not on Shift-STO but Shift-RCL?

Finally, here are two suggestions for the function set:

1. I really like the idea of four different logarithms, including a base-2 log (although I would have chosen ld instead of lb) and a general log function with variable base. Currently this function is implemented as base-y log of x. I would definitely prefer it the other way round, i.e. the base-x log of y. It's simply more intuitive and faster to use: In real life you usually first calculate a value and then you take the base-x log of it, where x often is a constant. For a base-8 log you'd simply type [8] [$\log_x$Y].

   For the same reason other calculators have a function for the x-th root of y, and not the other way round.

2. I also like a suggestion in the last HP Solve issue concerning the delta-% function. What if it returned not just one, but two results? In other words: both delta%(x,y) and delta%(y,x), so that the user can see both results with a simple X<>Y.

Dieter

Re: Hands on the 20b SDK

*Message #11 Posted by **x34** on 11 Feb 2011, 8:02 a.m.,*
in response to message #10 by Dieter

LBL & RTN would be better bound to XEQ. I think binary logarithm/antilog could go to menu, if calc runs in BCD mode.

Re: Hands on the 20b SDK

*Message #12 Posted by **Walter B** on 11 Feb 2011, 3:29 p.m.,*
in response to message #11 by x34

> Quote:
>
> LBL & RTN would be better bound to XEQ.

Sorry, I disagree. Neither LBL nor RTN have anything to do with XEQ. LBL is used exclusively in programming, where's the habitat of RTN as well. This was the reason for placing them next to other commands for this mode.

Though used in programming as well, XEQ is mainly employed for calling routines from the keyboard or for picking items from the catalogs. Thus, XEQ, arrow up and down, and EXIT are placed in one column next to each other.

Please see the doc file.

Re: Hands on the 20b SDK

*Message #13 Posted by **Walter B** on 11 Feb 2011, 4:41 p.m.,*
in response to message #10 by Dieter

Hallo Dieter,

> Quote:
>
> The 34C was my first HP back in 1980. One of the features I liked most was the MANT function, displaying the full 10-digit mantissa. On today's calculators this function is called SHOW, and it's also present on the 34s. But where did you hide it? In the lower left corner! Walter! Remember the 34C! This function MUST be placed on the big ENTER key! That's where it belongs. Even the 35S designers knew that! ;-)

I admit I was influenced by the layout of the 42S, where SHOW lives in bottom row. And CONST needs more space than SHOW. And you can ENTER a CONSTant and EXIT a SHOW, but not the other way d;-)

> Quote:
>
> Second, wouldn't it be nice if if VIEW was not on Shift-STO but Shift-RCL?

Sure. But STO TIME would have been misleading. Since most people know what VIEW does, I decided to give the place below of RCL to TIME. YMMV.

> Quote:
>
> Currently this function is implemented as base-y log of x. I would definitely prefer it the other way round, i.e. the base-x log of y.

The inverse of y^x is log[base y](x). And the x'th root of y is another cup of tea - it's simply y^(1/x).

About Delta%: I tried to keep existing calculator commands as they are known, for sake of consistency. We have a small number of deviations from this principle. You find them highlighted in the documentation. 90% of these deviations are due to a more flexible addressing paradigm. Please see the documentation.

Re: Hands on the 20b SDK

*Message #14 Posted by **Marcus von Cube, Germany** on 10 Feb 2011, 9:00 a.m.,*
in response to message #7 by Paul Dale

Your svn command has worked perfectly. Do you think, I can compile it on Mac OS?

Edited: 10 Feb 2011, 12:58 p.m.

Re: Hands on the 20b SDK

*Message #15 Posted by **Paul Dale** on 11 Feb 2011, 1:15 a.m.,*
in response to message #14 by Marcus von Cube, Germany

I've been building on MacOS X for ages. You'll need to do it in a terminal window and you'll have to have the ncurses library installed too.

- Pauli

Re: Hands on the 20b SDK

*Message #16 Posted by **Marcus von Cube, Germany** on 11 Feb 2011, 2:42 a.m.,*
in response to message #15 by Paul Dale

OK, now I've several options:

Setup Visual Studio C++ Professional and build a windows emulator version.

Build the terminal (ncurses) version on my Mac.

Port it to gcc-arm...

My next step will be the VC++ way because I've just shelled out a few hundred bucks for the compiler. :)

For those who are not willing to pay for the Professional VC++ (because of the MFC libraries), I'm planning to put the GUI part in a separate precompiled module that may be added to a VC++ Express project.

Please stand by...

Re: Hands on the 20b SDK

*Message #17 Posted by **Marcus von Cube, Germany** on 15 Feb 2011, 8:42 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I've had some success with compiling the emulator with VC++ Express. :)

You'll find an updated copy of the SDK files here. I've split the application in a Windows/MFC part which I've put in a library together with all its dependencies, and an application part which does not include any Windows specific stuff that might miss from VC++ Express. Use HP20b_Express.sln or HP20b_Full.sln as your starting point, depending on the compiler you're using. You can even debug with Express but you need to set a breakpoint in application.cpp in advance. Don't mind the linker warnings about missing PDB symbol files for the library, they need to be ignored.

Happy emulating.

I'll probably start porting wp34s to the emulator soon.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT: new emulator

*Message #1 Posted by **Olivier De Smet** on 9 Feb 2011, 9:34 a.m.*

Not really off topics : it's about old HP 'computers'

I just made a first public release of an emulator for HP 9816 and 9836A (9000 serie 200)

With help from Tony Duel (schematics) and Jon Johnston (rom dump and docs) I managed to have a somewhat usable system, try it if you miss the good old RMB

Web site

Olivier

Re: OT: new emulator

*Message #2 Posted by **Jerry Raia** on 9 Feb 2011, 12:02 p.m.,*
in response to message #1 by Olivier De Smet

This is fantastic! Thank you!

Re: OT: new emulator

*Message #3 Posted by **Israel Otero** on 9 Feb 2011, 2:47 p.m.,*
in response to message #1 by Olivier De Smet

Hi folks,

Recently I was wondering if there is a such thing as a HP9100 emulator. After searching for a while, the result was a pleasant surprise because I did find it and able to install it on my Linux machine.

Quite a nice implementation.

It is made for Debian Linux and was tailor made for me.

The link:

http://hp9100a.sourceforge.net/

Have a nice evening to all of you.

Re: OT: new emulator

*Message #4 Posted by **Jerry Raia** on 10 Feb 2011, 1:16 p.m.,*
in response to message #1 by Olivier De Smet

There are some issues with this but it is a great start.

Re: OT: new emulator

*Message #5 Posted by **Olivier De Smet** on 10 Feb 2011, 3:17 p.m.,*
in response to message #4 by Jerry Raia

Could you give some details about the issues ?

Btw I put a new version today ...

Olivier

Re: OT: new emulator

*Message #6 Posted by **Steve Perkins** on 10 Feb 2011, 3:58 p.m.,*
in response to message #5 by Olivier De Smet

This looks like an exciting product!

The update was helpful. I need a bit more time to explore the possibilities. I'm not familiar with the system emulated (yet).

You've done a great job as far as I can tell.

One suggestion would be to include an example of what disk images to use with what disk type to get started with something.

It's great to have so many powerful options, but it can be a bit confusing to have so many choices for the beginner like me.

Thanks for sharing this great work with us!

Re: OT: new emulator

*Message #7 Posted by **Jerry Raia** on 10 Feb 2011, 5:12 p.m.,*
in response to message #5 by Olivier De Smet

Happy to :)

I did get the new version. So far the main thing is the save function. If I do a save to .E98x6 file nothing is really saved. For example the processor speed reverts to slow and the emulator boots looking for a system even though I have saved it with a system and the MAX processor speed.

Then if I delete the .E98x6 file everytime I restart the emulator I get an error that the file is missing. So now it wont start in its original clean state without an error. I cannot find a way to clear that error.

I'm running the emulator on Windows 7.

Re: OT: new emulator

*Message #8 Posted by **Olivier De Smet** on 11 Feb 2011, 3:38 a.m.,*
in response to message #7 by Jerry Raia

My fault,

Only save for disc is working. I'll try for the system soon.

To revert to a clean install you need to delete all registry entry under

\HKEY_CURRENT_USER\Software\HP98x6

with regedit

I don't activate system save (& load) because each time I change some stuff in the code, it can lead to change of the save system format, sorry

Olivier

Re: OT: new emulator

*Message #9 Posted by **Jerry Raia** on 11 Feb 2011, 12:56 p.m.,*
in response to message #8 by Olivier De Smet

Thanks for the info :)

Your work has brought a great old machine back to life on my desktop. Keep us updated on your progress :)

Re: OT: new emulator

*Message #10 Posted by **Olivier De Smet** on 12 Feb 2011, 5:32 p.m.,*
in response to message #9 by Jerry Raia

New release with more robust internal and amigo disc. Save and load of system now activated

happy rmb and pascal ...

Olivier

Re: OT: new emulator

*Message #11 Posted by **Jerry Raia** on 12 Feb 2011, 7:01 p.m.,*
in response to message #10 by Olivier De Smet

Just got the latest. Keep it up!

The save does work now but for some reason the debug window starts up even though I deselected the the check box in settings, as if that is not being saved.

Nice work though :)

Re: OT: new emulator

*Message #12 Posted by **Steve Perkins** on 14 Feb 2011, 6:55 p.m.,*
in response to message #10 by Olivier De Smet

I've had a bit more time to try this. It's really cool!

I choose a memory size of 1024k and a KML file. I used the 9122 disk type on 700.0.x, then after starting I loaded the bas5boot.bin file in the 700,0 drive. Like magic the system booted to basic.

It's been fun experimenting with simple programs.

Thanks for all your had work. You've done (and are doing) a great job!

Re: OT: new emulator

*Message #13 Posted by **Olivier De Smet** on 24 Feb 2011, 5:56 a.m.,*
in response to message #4 by Jerry Raia

New release today with working 9816A, 9836A, 9836C and 9837H models

Happy rmb and pascal :)

Re: OT: new emulator

*Message #14 Posted by **Jerry Raia** on 24 Feb 2011, 11:30 a.m.,*
in response to message #13 by Olivier De Smet

Excellent!

Re: OT: new emulator

*Message #15 Posted by **Steve Perkins** on 25 Feb 2011, 4:09 p.m.,*
in response to message #13 by Olivier De Smet

Very nice.

I appreciate your work on this a lot!

Re: OT: new emulator

*Message #16 Posted by **Torsten** on 27 Feb 2011, 3:46 a.m.,*
in response to message #13 by Olivier De Smet

The new version still uses 100% of my (single core) CPU. On a multi-core system at work it runs at full usage (100%) of one (virtual) core.

Re: OT: new emulator

*Message #17 Posted by **Olivier De Smet** on 27 Feb 2011, 1:56 p.m.,*
in response to message #16 by Torsten

It uses 100% of one core only at max speed. At x1, it uses around 5% for a 2.4 GHz core 2 Duo. At max, it takes 100% and is equivalent as a x7 speed up.

Edited: 27 Feb 2011, 1:56 p.m.

Re: OT: new emulator

*Message #18 Posted by **Jerry Raia** on 4 Mar 2011, 8:18 p.m.,*
in response to message #13 by Olivier De Smet

This last update on the 27th really fixed that "save" function! Thanks! :)

Re: OT: new emulator

*Message #19 Posted by **Olivier De Smet** on 5 Mar 2011, 11:18 a.m.,*
in response to message #18 by Jerry Raia

Btw, I just put a zip with source at my site.

Olivier

Re: OT: new emulator

*Message #20 Posted by **Jerry Raia** on 6 Mar 2011, 12:11 p.m.,*
in response to message #19 by Olivier De Smet

Just grabbed it! Thanks :)

Re: OT: new emulator

*Message #21 Posted by **Torsten** on 17 Feb 2011, 4:10 p.m.,*
in response to message #1 by Olivier De Smet

In 1987 and 1988 I worked for Osram in Munich as a student trainee and used an 9836 to automate a test stand. Working with this machine was a pure joy and I never forgot it. The emulator brings back the memories. Thank's a lot for this!

Does anyone have manuals for the machine or the software? Without them it is really dificult to explore the emulator.

Re: OT: new emulator

*Message #22 Posted by **Olivier De Smet** on 18 Feb 2011, 2:48 p.m.,*
in response to message #21 by Torsten

You can find many manuals and softwares at www.hpmuseum.net Be carefull to use a software on a supported hardware.

Use '200Series_PeripheralsSupportMatrix_16pages_Dec89' pdf for that.

Olivier

Re: OT: new emulator

*Message #23 Posted by **Torsten** on 24 Feb 2011, 12:50 p.m.,*
in response to message #22 by Olivier De Smet

The HP98x6 series emulator eats up my (single core) CPU. On a multi-core system at work it runs at full capacity (100%) of one (virtual) core.

What can I do?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why not repurpose HP-50G?

*Message #1 Posted by **x34** on 9 Feb 2011, 9:33 a.m.*

It's heavy and big, and lacks normal ENTRY key. But

It is rather cheap and easy to find. It is fast. easily upgradeable. easy to restore default OS. It has lot of RAM and FLASH, it has USB and SD card. Many of us prefer RPN over RPL. So, why not?

Re: Why not repurpose HP-50G?

*Message #2 Posted by **Malcolm** on 9 Feb 2011, 10:01 a.m.,*
in response to message #1 by x34

For me, the reason I wouldn't put work into it would be the keys.

Malcolm

Re: Why not repurpose HP-50G?

*Message #3 Posted by **x34** on 9 Feb 2011, 10:46 a.m.,*
in response to message #2 by Malcolm

Why not leave the keys? Overlay could be enough.

Re: Why not repurpose HP-50G?

*Message #4 Posted by **Malcolm** on 9 Feb 2011, 11:33 a.m.,*
in response to message #3 by x34

Should have been more clear, I meant the lack of the "feel" with the keys. I am too used to my Voyager series keys.

Re: Why not repurpose HP-50G?

*Message #5 Posted by **Norman Dziedzic** on 9 Feb 2011, 12:41 p.m.,*
in response to message #1 by x34

I've often thought it would be good to have a 42s mode on my 48gii. The font would change to something **huge** with just the 4 lines of stack showing on the screen, big and useful for my aging eyes.

Re: Why not repurpose HP-50G?

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Feb 2011, 8:05 a.m.,*
in response to message #5 by Norman Dziedzic

Look at emulators from HrastProgrammer, there you will find a 42S emulator that runs on a 48GX. I'm not sure about 48GII or newer models, but you may research the available options.

(BTW, these emulators are not for free)

Re: Why not repurpose HP-50G?

*Message #7 Posted by **x34** on 10 Feb 2011, 8:32 a.m.,*
in response to message #6 by Andrés C. Rodríguez (Argentina)

HP-42S emulator by HrastProgrammer, while being a splendid work, has inherent drawbacks:

```
a) Not Open-Source
b) Is HP-48 program utilizing POL, so base OS is needed
c) Is not easy to use (uneven keys mapping) and uses Saturn code instead of ARM
d) Does not add any functionality to HP-42S besides memory
e) There are much better open-source projects more well-suited for the task, as HP-
34S for HP-30B repurposing.
```

I think clone of Paul and Walter HP-34S, adding graphics and I/O, would be ideal.

Re: Why not repurpose HP-50G?

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 11 Feb 2011, 9:53 a.m.,*
in response to message #7 by x34

I fully agree. Even more, I don't like the HP-48/49/50 physical format nor RPL native modes. That's why I use Free42 on my iPod Touch as my main calculator (also testing Free42 beta on my Android phone), and I'm also very interested about 34S effort. My real HP42S rests at home in pristine condition.

Re: Why not repurpose HP-50G?

*Message #9 Posted by **Håkan Thörngren** on 9 Feb 2011, 4:16 p.m.,*
in response to message #1 by x34

Funny, I was thinking the same earlier today. The SD, USB, proper alpha screen and alpha keys makes it appealing.

While I do not own one, I have hold it in my hands and my impression was not positive. Big, fat, ugly and plastic in the negative sense.

Size is the worst I think. I hold my hopes for something less bulky, with proper alpha keys and LCD. A real time clock and USB would be nice as well. A voyager style or HP-41 sized calculator would be nice.

Having said that, I would prefer the hp50g over the other existing alternatives thanks to the alpha capability.

Are there any available hardware programming documentation of the hp50g in case you want to throw that RPL thing out of it?

> Quote:
>
> It's heavy and big, and lacks normal ENTRY key. But
>
> It is rather cheap and easy to find. It is fast. easily upgradeable. easy to restore default OS. It has lot of RAM and FLASH, it has USB and SD card. Many of us prefer RPN over RPL. So, why not?

Re: Why not repurpose HP-50G?

*Message #10 Posted by **x34** on 10 Feb 2011, 5:01 a.m.,*
in response to message #9 by Håkan Thörngren

> Quote:
>
> Are there any available hardware programming documentation of the hp50g in case you want to throw that RPL thing out of it?

Hekan, i don't know about hardware docs, but emulator sources are available. The only emulator supporting ARM (AFAIK) is x49gp by Eddie C. Dost and Egan Ford (datajerk):

http://sourceforge.net/projects/x49gp/develop

The last SVN version runs on Linux VERY fast, beating EMU48 ten times at least at my laptop.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 48GX Squeaky

*Message #1 Posted by **Anthony (USA)** on 8 Feb 2011, 11:16 p.m.*

Hi, my HP 48GX is somewhat loose and squeaky at the left-side seam between the top and bottom halves. I'm wondering where the screws are located so I could tighten them. My guts tell me that the screws are located under the metal plate with all the characters printed on it. If that's the case, then I probably won't be able to access the screws and fix the problem. :'(What do y'all think?

Re: HP 48GX Squeaky

*Message #2 Posted by **Jeff O.** on 9 Feb 2011, 7:50 a.m.,*
in response to message #1 by Anthony (USA)

There are no screws. The HP48 is held together with plastic latches and heat rivets. Han Duong prepared a really nice set of instructions on how to open, but I cannot find them or a link at the moment. Try this as a start.

edit - found link: http://www.math.uiuc.edu/~handuong/hp48/open/

Edited: 9 Feb 2011, 8:30 a.m.

Re: HP 48GX Squeaky

*Message #3 Posted by **Randy** on 9 Feb 2011, 8:52 a.m.,*
in response to message #1 by Anthony (USA)

Very common on older made in Singapore units. It has to do with the plate under the keyboard. Unless you disassemble it and then glue it back together with LOTS of glue in the outside edge seams, you'll accomplish nothing. Honestly, it is one 48 attribute that is best left as-is.

Re: HP 48GX Squeaky

*Message #4 Posted by **Anthony (USA)** on 9 Feb 2011, 1:15 p.m.,*
in response to message #1 by Anthony (USA)

Oh my, those are some disturbing images, shivers literally went down my spine. Thank you, Jeff O., for the link, I appreciate it, that's really helpful and eye-opening. And I agree with you, Randy, I think I'll just leave my calculator as it is; I love it too much to commit anything that would scratch or indent it in any way. Thank y'all for the responses.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Reading this makes me weep.

*Message #1 Posted by **Michael de Estrada** on 8 Feb 2011, 8:15 p.m.*

I read this TAS listing and it saddens me greatly that this sort of buffoonery happens so often with ignorant sellers.

TAS listing

Read the Q&A at the end.

Edited: 8 Feb 2011, 8:17 p.m.

Re: Reading this makes me weep.

*Message #2 Posted by **bill platt** on 8 Feb 2011, 8:34 p.m.,*
in response to message #1 by Michael de Estrada

As dumb as these people are, HP was "dumb" to design a piece of equipment this way.

Re: Reading this makes me weep.

*Message #3 Posted by **Eric Smith** on 8 Feb 2011, 8:36 p.m.,*
in response to message #1 by Michael de Estrada

Well, the "buffoonery" it's really HP's fault for doing such a shoddy power supply design. It would have only taken two additional components (under $0.15 cost in volume production) to have a better power supply that wouldn't fry the electronics if the battery was dead or missing.

Fortunately HP didn't design any more calculators or accessories with that kind of power supply after 1979, but it definitely is sad that probably a lot of the old ones get destroyed by people who are unaware of the problem.

Re: Reading this makes me weep.

*Message #4 Posted by **Randy** on 8 Feb 2011, 9:20 p.m.,*
in response to message #3 by Eric Smith

Eric, I agree the design is poor at best. But, given the constraint of keeping electronics out of the wall wort, what are the two fifteen cent parts that would protect the calculator from over-voltage?

I'm asking because even if it costs several dollars at today's prices, I'd install them in all my Woodstocks and any that I repaired.

Re: Reading this makes me weep.

*Message #5 Posted by **Eric Smith** on 8 Feb 2011, 10:11 p.m.,*
in response to message #4 by Randy

A zener diode and a series resistor. The only trick is getting the right zener voltage such that it protects

the circuitry while not interfering with charging. The required zener voltage is not a common one; the minimum order quantity to get it is more than 5000 pieces. This would have been no problem for HP, but makes it less likely for us to install it ourselves.

Without using the uncommon-valued zener, it can be done with more circuitry using commonly available components. Then it becomes more difficult to pack the added circuitry into the calculator.

Re: Reading this makes me weep.

*Message #6 Posted by **robert rozee** on 9 Feb 2011, 7:53 a.m.,*
in response to message #5 by Eric Smith

given (i assume) the calculator runs on a pair of AA ni-cads assembled into a battery pack, the solution is a chunky 3.3 volt zener diode connected directly across the battery contacts. a 1 watt suitable component is the 1N4728A, listed from farnell (their p/n 1467572) for the princely sum of 20.4 cents(nz) each in quantities of 1. no additional series resistor is needed - see below.

now, the ni-cad cells would have had a capacity of perhaps 700mA/h back then, and the charging technology of the day would dictate a maximum safe charging current of 1/10th of that for a 10 hour rate, or 70mA. 70mA x 3.3 volts = 0.23 watts dissipation by the zener (worst case), well within the power rating. even charging at a 3 hour rate, it is still only 230mA x 3.3 volts = 0.76 watts.

note that the zener would ONLY have any effect if the batteries were NOT plugged in. with a battery pack present it would dissipate nothing, with the maximum voltage across a pair of fully charged ni-cads falling well below the 3.3 volt clipping voltage (ni-cads top out at about 1.5 volts at the peak of their charge cycle).

cheers, rob :-)

Edited: 9 Feb 2011, 8:07 a.m.

Re: Reading this makes me weep.

*Message #7 Posted by **Walter B** on 9 Feb 2011, 8:08 a.m.,*
in response to message #6 by robert rozee

Hi Rob, looks like a nice and cost-effective solution.

> Quote:
>
> now, the ni-cad cells would have had a capacity of perhaps 700mA/h back then,

For sake of not confusing our friends, such capacities are measured in mAh (or mA*h if you like).

Re: Reading this makes me weep.

*Message #8 Posted by **Mike Morrow** on 9 Feb 2011, 10:48 a.m.,*
in response to message #7 by Walter B

> Quote:
>
> ...such capacities are measured in mAh (or mA*h if you like).

That depends on if one is talking about battery capacity (milliAmpere-hour) or nonsense capacity (milliAmp per hour). :-)

Re: Reading this makes me weep.

*Message #9 Posted by **Walter B** on 9 Feb 2011, 10:56 a.m.,*
in response to message #8 by Mike Morrow

> Quote:
>
> That depends on if one is talking about battery capacity (milliAmpere-hour) or nonsense capacity (milliAmp per hour). :-)

d:-D Oh yes! Please see below ...

Re: Reading this makes me weep.

*Message #10 Posted by **Randy** on 9 Feb 2011, 8:47 a.m.,*
in response to message #6 by robert rozee

> Quote:
>
> note that the zener would ONLY have any effect if the batteries were NOT plugged in. with a battery pack present it would dissipate nothing

That's the theory but it's not reality.

With a 3.3 volt part, you'll have at least 5 ma of leakage at 2.8 to 2.9 volts, the point at which the cells are at full charge. So, you end up with a fair amount of self-discharge making the scheme impracticable. Been there, tried that.

Re: Reading this makes me weep.

*Message #11 Posted by **robert rozee** on 9 Feb 2011, 10:14 a.m.,*
in response to message #10 by Randy

and at 2.6 volts? this would be close enough to full charge as to not matter for the loss.

if leakage were a problem, there are two solutions that come to mind immediately: 1. place the zener the other side of the power switch, or, 2. put an NPN transistor in series with the zener (at the ground end), with the base tied (via a 10k resistor) to the calculator's Vcc line. the transistor could be quite small.

addendum - a quick check reveals: 3.3 volt zener (BZX79C3v3), two ni-mh batteries freshly charged giving 2.7 volts, produces a measured leakage current of 800uA. this would (assuming the voltage didn't drop) give a battery life of 36 days. i believe practice would be much better, well exceeding the self-discharge of 1970's technology ni-cads.

Edited: 9 Feb 2011, 10:28 a.m.

Re: Reading this makes me weep.

*Message #12 Posted by **Mike Morrow** on 9 Feb 2011, 10:39 a.m.,*
in response to message #6 by robert rozee

AA-size NiCd cells had *at best* about 450 mA-hr capacity in the mid-1970s when the Woodstocks were in production.

Re: Reading this makes me weep.

*Message #13 Posted by **Walter B** on 9 Feb 2011, 10:48 a.m.,*
in response to message #12 by Mike Morrow

Mike,

> Quote:
>
> AA-size NiCd cells had *at best* about 450 mA-hr capacity ...

You can't subtract apples from pears, as people say here, so your "unit" doesn't work. Two, and counting d;-)

Re: Reading this makes me weep.

*Message #14 Posted by **Mike Morrow** on 9 Feb 2011, 11:12 a.m.,*
in response to message #13 by Walter B

I know. I once operated nuclear submarine batteries for a living.

The traditional term for battery capacity in many English texts has been "Ampere-hour" rather than the awkard scanning "Amperehour". The "-" is there as a delineation between the two words in the compound term, and not as a mathematical function. It causes no ambiguity in unit world because there are no additive or subtractive unit combinations that make sense.

But you are correct...the best unit would be "Ah". I should have used that. :-)

Edited: 9 Feb 2011, 11:17 a.m.

Re: Reading this makes me weep.

*Message #15 Posted by **Walter B** on 9 Feb 2011, 12:01 p.m.,*
in response to message #14 by Mike Morrow

Mike, I didn't complain about the Ampere-hours in the plain text of your posting above (we have them in one word here: Amperestunden). But as you've acknowledged, as soon as you abbreviate them, universal math rules apply. Science and engineering have some easy sides, too 8)

Orthodox writing of units

*Message #16 Posted by **Karl Schneider** on 9 Feb 2011, 11:50 p.m.,*
in response to message #15 by Walter B

> Quote:
>
> Mike, I didn't complain about the Ampere-hours in the plain text of your posting above...

Ah, *(pun intended)* but you could have: When written out, the first letter of the unit should not be capitalized, except for other reasons (e.g., beginning a sentence, or if in all caps). I was mildly chastised for such a mistake years ago.

I don't know if accepted practice differs around the world, but that's ours.

-- Karl

Edited: 9 Feb 2011, 11:51 p.m.

Re: Orthodox writing of units

*Message #17 Posted by **x34** on 10 Feb 2011, 4:00 a.m.,*
in response to message #16 by Karl Schneider

SI rules says some units (derived from names) should be ALWAYS capitalized in short form, including Ampere and Kelvin. So, "Ah" is correct, while "ah" is not.

http://physics.nist.gov/cuu/Units/units.html

In countries using different standard and numerical systems there could be another rules :)

SI prefixes should be always properly used either in capitalized or string form.

There are some crazy units, like Siemens, which denoted resistance until WWII and conductivity after it. If you read some books from the first half of XX and see "Siemens", sometimes it is hard to understand either it is resistance or inverse.

http://en.wikipedia.org/wiki/Siemens_%28unit%29

Re: Reading this makes me weep.

*Message #18 Posted by **Ernst Fueloep** on 9 Feb 2011, 9:38 a.m.,*
in response to message #1 by Michael de Estrada

Is this HP-29C repairable? I mean would it work with a good battery pack installed?

Or have the actions from the seller destroyed it beyond hope?

Re: Reading this makes me weep.

*Message #19 Posted by **Walter B** on 9 Feb 2011, 10:37 a.m.,*
in response to message #18 by Ernst Fueloep

Usually the famous ACT-Chip has been fried. It can only be repaired by finding another one in another 29C (maybe also 25C) - but you won't disassemble a (usually working) donor for repairing a nonworking patient, will you? BTW, this topic was covered in this forum extensively several times, so you'll certainly find more about it in the archives.

Edited: 9 Feb 2011, 10:38 a.m.

Re: Reading this makes me weep.

*Message #20 Posted by **Dave Shaffer (Arizona)** on 9 Feb 2011, 11:49 a.m.,*
in response to message #1 by Michael de Estrada

> Quote:
>
> buffoonery happens so often with ignorant sellers.

I don't know who the seller is, but unless he frequents this forum, I don't think it is fair to call him "ignorant."

Most modern electronics with batteries operate just fine with a charger, with or without the batteries - my most recent knowledge concerns my digital cameras. If his knowledge base is similar, he was doing what he is used to doing.

I consider myself fairly intelligent, and if I didn't know anything about this particular series of calculators and the likely problems that result if the charger is plugged in without the batteries (making good contact; another point one may not be used to thinking about), I would happily plug it in.

Re: Reading this makes me weep.

*Message #21 Posted by **Walter B** on 9 Feb 2011, 12:09 p.m.,*
in response to message #20 by Dave Shaffer (Arizona)

"ignorant" comes from Latin "ignorare" = "not (to) know". So an ignorant seller is a seller who doesn't know (here: the bad design of the charging circuit of HP's Woodstocks). Since I've fried a 25C the same way once, I'd call me ignorant as well until then. No problem with that word.

Re: Reading this makes me weep.

*Message #22 Posted by **Mark Harman** on 9 Feb 2011, 12:52 p.m.,*
in response to message #21 by Walter B

I understand what you are saying. However, in the U.S. the usage of the word "ignorant" has an extremely negative connotation and is usually considered to be an insult. It means to have a lack of knowledge in general - being uneducated, unsophisticated, and/or foolish.

Better words to use might be uninformed or unaware.

Regards,

Mark

Edited: 9 Feb 2011, 12:55 p.m.

Re: Reading this makes me weep.

*Message #23 Posted by **Martin Pinckney** on 9 Feb 2011, 1:02 p.m.,*
in response to message #22 by Mark Harman

> Quote:
>
> I understand what you are saying. However, in the U.S. the usage of the word "ignorant" has an extremely negative connotation and is usually considered to be an insult. It means to have a lack of knowledge in general - being uneducated, unsophisticated, and/or foolish.

Perhaps Walter was ignorant of this. {;-)

Re: Reading this makes me weep.

*Message #24 Posted by **Walter B** on 9 Feb 2011, 1:46 p.m.,*
in response to message #23 by Martin Pinckney

OK, Martin, 1 for you :-)

BTW, the word has a very negative connotation in German as well, translating to "wilfully ignorant" in English. Writers with Roman language background, however, may think closer to the original meaning.

Re: Reading this makes me weep.

*Message #25 Posted by **Massimo Gnerucci (Italy)** on 9 Feb 2011, 4:43 p.m.,*
in response to message #24 by Walter B

> Quote:
>
> Writers with Roman language background, however, may think closer to the original meaning.

So stop stealing our words and give them a (somewhat) different meaning! :-)

Today "ignorante" has a pejorative acception here too, but the true meaning is the one Walter reported.

Greetings,
Maximus

Re: Reading this makes me weep.

*Message #26 Posted by **Gerson W. Barbosa** on 9 Feb 2011, 5:12 p.m.,*
in response to message #25 by Massimo Gnerucci (Italy)

> Quote:
>
> Today "ignorante" has a pejorative acception here too, but the true meaning is the one Walter reported.

Agreed. In Portuguese the word has acquired a very negative connotation, indeed a very offensive word, despite the original milder meaning. I guess the same applies to Spanish as well.

Cheers,

Gerson.

Regarding 'situational ignorance'...

*Message #27 Posted by **Karl Schneider** on 9 Feb 2011, 11:28 p.m.,*
in response to message #22 by Mark Harman

Excerpt from the original poster:

> Quote:
>
> ...this sort of buffoonery happens so often with ignorant sellers

From Mark:

> Quote:
>
> Better words to use might be uninformed or unaware...

And (slightly corrected) from Thomas Okken:

> Quote:
>
> ...what you really mean to convey is "unknowing"...

Y'all missed the ideal word in English:

"unwitting"

Even "oblivious" is a better choice.

-- Karl

Edited: 9 Feb 2011, 11:34 p.m.

The root cause

*Message #28 Posted by **Walter B** on 10 Feb 2011, 1:52 a.m.,*
in response to message #27 by Karl Schneider

Quoting the musical My Fair Lady:

"Why can't the English, oh why can't the English learn to speak?!" d;-)

Edited: 10 Feb 2011, 1:56 a.m.

Re: Reading this makes me weep.

*Message #29 Posted by **Michael de Estrada** on 9 Feb 2011, 1:02 p.m.,*
in response to message #21 by Walter B

Walter, thanks for clarifying my comment. I was not criticizing the seller for his unfortunate actions that were the result of his ignorance, but simply lamenting the sad fact that so many Woodstocks are being destroyed this way. I too am guilty of ignorant acts, although fortunately none have not resulted in the destruction of a vintage calculator. When I acquired my first HP 65 it did not have a battery or Owner's Handbook, and I was unaware of the unique circuitry in this Classic model, which requires the presence of a battery to prevent damage to the card reader components. In fact, at the bottom of page 87 of the HP 65 Owner's Handbook there is a cautionary note that damage may occur if the calculator is operated from the AC adapter without the presence of a battery pack. I briefly operated the calc from the AC line before obtaining a battery, and fortunately no damage was done. As to my collection of Woodstocks, I now charge all the NiCad battery packs externally, and never connect the AC adapter to

any of them.

Re: Reading this makes me weep.

*Message #30 Posted by **Thomas Okken** on 9 Feb 2011, 5:09 p.m.,*
in response to message #21 by Walter B

I believe "ignorare" means "to ignore". "Not to know" would be "nescire". Looked at it that way, the original meaning of "ignorant" translates to something more like "wilfully ingorant" in modern usage, and that is just a euphemism for "dumb", which is pejorative. In other words, never a good choice of words if what you really mean to convey is "unknowning". :-)

Re: Reading this makes me weep.

*Message #31 Posted by **Massimo Gnerucci (Italy)** on 9 Feb 2011, 5:23 p.m.,*
in response to message #30 by Thomas Okken

etymology 1
etymology 2

Greetings,
Massimo

Re: Reading this makes me weep.

*Message #32 Posted by **Thomas Okken** on 9 Feb 2011, 7:33 p.m.,*
in response to message #31 by Massimo Gnerucci (Italy)

Thanks for setting me straight! I was unaware that "ignorare" had multiple meanings even before the word was absorbed into English.

Re: Reading this makes me weep (going a bit OT)

*Message #33 Posted by **Walter B** on 9 Feb 2011, 5:25 p.m.,*
in response to message #30 by Thomas Okken

Please see e.g. here. "To ignore" is "neglegere" in Latin -C[:-)

To bring it back on topic: CETERVM CENSEO: HP, COMPARA VNVM XLIII :-)

Edited: 9 Feb 2011, 5:29 p.m.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Just found another HP durability story

*Message #1 Posted by **Paul Gaster** on 8 Feb 2011, 4:04 p.m.*

I just ran across another story about HP durability.

http://ask.slashdot.org/story/07/01/25/0611218/The-Best-Graphing-Calculator-on-the-Market

Re:HP (Score:5, Interesting) by brarrr (99867) on Thursday January 25 2007, @08:14PM (#17761790) Journal My friend's father's HP48 was in a briefcase which was left behind during evacuation of the world trade center, somewhere around the 70th floor. 6 months after 9/11, FBI called him up (the evacuated father who made it out) and said "we need you to come down and identify a few items" briefcase made it through with lots of things trashed inside, mostly crushed... but the HP was still working just fine.

strong statement as to their durability.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 17B ==> 17BII

*Message #1 Posted by **Martin Pinckney** on 7 Feb 2011, 4:11 p.m.*

Too bad HP didn't make the INPUT key double as ENTER, instead of the = key. Then the 17BII would be interface-compatible with the other Pioneer RPN calculators.

I guess I am a few years late on this comment.

Re: HP 17B ==> 17BII

*Message #2 Posted by **Mark Harman** on 7 Feb 2011, 4:18 p.m.,*
in response to message #1 by Martin Pinckney

Are you sure? I know that on the 17bII+, the input key does act as an enter key. It won't do it in certain menus and functions, however... In those particular cases - yes, you do have to use the = key.

Mark

Re: HP 17B ==> 17BII

*Message #3 Posted by **bill platt** on 7 Feb 2011, 4:21 p.m.,*
in response to message #2 by Mark Harman

From my understanding and experience, when you are in menus and functions, there is no difference between modes.

Re: HP 17B ==> 17BII

*Message #4 Posted by **Mark Harman** on 7 Feb 2011, 4:27 p.m.,*
in response to message #3 by bill platt

Yeah, there are a few cases, like when inputting numbers into lists that you need to use the = key as a substitute for Enter to do calculations. In the list mode, the input key actually inputs the number into the list. The 30b works the same exact way.

Mark

Re: HP 17B ==> 17BII

*Message #5 Posted by **Martin Pinckney** on 7 Feb 2011, 4:22 p.m.,*
in response to message #2 by Mark Harman

I don't have a 17bii. I just surmised by looking at the photo which shows Enter under =. I would love to be told that the Input key will work exactly like an Enter key.

Re: HP 17B ==> 17BII

*Message #6 Posted by **Mark Harman** on 7 Feb 2011, 4:29 p.m.,*
in response to message #5 by Martin Pinckney

The Input key will work exactly like an Enter key.

Mark

Re: HP 17B ==> 17BII

*Message #7 Posted by **bill platt** on 7 Feb 2011, 4:19 p.m.,*
in response to message #1 by Martin Pinckney

INPUT = ENTER in RPN mode on the 17bii.

Re: HP 17B ==> 17BII

*Message #8 Posted by **Martin Pinckney** on 7 Feb 2011, 4:59 p.m.,*
in response to message #1 by Martin Pinckney

OK, I found an online copy of the manual, and it states (on pg. 252):

> Quote:
>
> *Except in CFLO and SUM lists,* the [INPUT] key also performs the [ENTER] function ...

Sorry for the interruption of your thoughts.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Looking for Geoff Quickfall

*Message #1 Posted by **Jeff Davis** on 6 Feb 2011, 12:26 p.m.*

Looking for Geoff Quickfall. I have the 32K Ram and 1 blank overlay for the HP-71. Please contact me.

Re: Looking for ...

*Message #2 Posted by **Geoff Quickfall** on 7 Feb 2011, 1:04 p.m.,*
in response to message #1 by Jeff Davis

Hello Jeff

I am still interested and thanks for the response. Email me at geoffqf@nospamtelus.net. Remove the nospam part :-)

Off to London so no reply until tomorrow.

Thanks and cheers, Geoff

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #1 Posted by **Allen** on 5 Feb 2011, 10:48 p.m.*

I was doodling yesterday in meeting, and found a closed-form solution to the 2008 Ulam Spiral mini-challenge that has been haunting me for three years from: this thread.

Usage: Enter a Number (N) and execute the program. It will return the non-trivial solutions for adjacent numbers in Ulam's spiral. For example:

```
         17 yields 36, 38
         16 yields 05, 35
         14 yields 03, 33
         13 yields 30, 32


example spiral:


         37 36 35 34 33 32 31
         38 17 16 15 14 13 30
          . 18 05 04 03 12 29
          . 19 06 01 02 11 28
          . 20 07 08 09 10 27
          . 21 22 23 24 25 26
          .  .  .  .  . etc..
```

If you're interested, I've made a Stack Diagram describing how the STAT registers and careful stack discipline can be combined to accumulate terms without local variables, and only using two numbers in the program. (integers 3 and 5)

This program has a very concise check to see if $2\lfloor\sqrt{4N-6}\rfloor < 2\lfloor\sqrt{4N-2}\rfloor$. It returns $N+2\lfloor\sqrt{4N-2}\rfloor+3$ and $N+2\lfloor\sqrt{4N-2}\rfloor+5$ for corner numbers such as 31,37,43.

Otherwise it returns $N-2\lfloor\sqrt{4N-2}\rfloor+3$ and $N+2\lfloor\sqrt{4N-2}\rfloor+5$

This closed form approach allows a 30% reduction in program space, AND an order of magnitude reduction in runtime. The new program is O(1) constant runtime, 37 bytes (28 steps max for all values with no looping)- The previous version from 2008 was O(N) and 54 bytes and 43 program lines with some considerable sized loops.

```
' 37-byte HP 42S ULAM spiral solution Allen T. 2/5/2011
00 { 37-Byte Prgm }
01 LBL 00
02 CL\Sigma    @ Clear Stat registers
03 ENTER
04 ENTER       @ Fill the stack up with input
05 3
06 5
07 \Sigma+     @ add 3 and 5 to Stat regs
08 +           @ add the 3 and 1 to get four
09 STO× ST T   @ Put 4*N on level T
10 Rv          @ ROLLDN
11 \Sigma+     @ Add N to each of the Stat regs
12 STO- ST Z   @ Put 4N-2 on Stack level Z
13 R^          @ ROLLUP
14 +/-         @ NEG
15 RCL+ ST T   @ Put 4N-6 on Stack Level T
```

```
16 SQRT
17 IP
18 STO+ ST X   @ find 2*floor(sqrt(4N-2))  < doubles the number in X without loosing STACK(T) 3
bytes same cost as "2 *"
19 R^
20 SQRT
21 IP
22 STO+ ST X   @ find 2*floor(sqrt(4N-6))
23 X=Y?        @ if the numbers are the same, then it's a SIDE
24 +/-         @ Need to subtract 2* the Side number
25 ENTER
26 ABS
27 \Sigma+     @ Otherwise add 2*Side number to both stat regs
28 RCL 13      @ Recall SUM(Y) register
29 RCL 11      @ Recall SUM(X) Register
30 .END.
```

Thanks to Thomas for his tutorial on using formulas. I did not follow the teacher exactly, but managed to get the formulas here anyway.

* NOTE - I do not believe this program is compatible with the HP41C due to the specific use of the linear stat register and the STO/RCL arithmetic (line 15). Caveat Emptor.

Five Reasons I think this is a nice demonstration program for the 42S and RPN flexibility:

```
1) Lines 04 and 09 allow use of STACK(T) copies as the lower stack items are consumed in
operations
2) It's one of the very few RPN programs I've seen use both ROLLUP and ROLLDN
3) Byte-saving tricks like "STO+ ST X" to double a number without disturbing the stack. (Is
there a better RPN way?)
4) Uses 3 stat registers rather than local variables
5) Wherever possible uses output from the STAT accumulator instead of entering numbers (byte
conservation)
```

Edited: 5 Feb 2011, 11:11 p.m.

Re: ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #2 Posted by **Don Shepherd** on 6 Feb 2011, 3:06 a.m.,*
in response to message #1 by Allen

Amazing work, Allen, congratulations.

I was thinking about entering this code on my 32sii but I notice several references to things like STO * STO T and STO - STO Z. I assume these are 42s commands to put values directly on the stack, correct? And I don't believe these commands exist on the 32sii, is that correct?

Many thanks for this great work in algorithm development.

Re: ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #3 Posted by **Dieter** on 6 Feb 2011, 7:21 a.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> I was thinking about entering this code on my 32sii but I notice several references to things like STO * STO T and STO - STO Z.

The HP41-series offers direct access to the stack registers - they can be used in the same way as the usual numbered registers. So STO Z directly stores X in stack register Z, or ST+ T adds X to register T. This allows very effective programming and elegant solutions like ST+ X for doubling a number (even without affecting LastX).

The 42s adds two more features: Since it can also use named storage registers a simple "STO T" might be confusing because it may refer to stack register T as well as a variable named T. That's why there's an additional "ST" for "stack" in commands referring to stack registers: STO T stores a value in variable T, while STO ST T stores it in the top stack tegister T. On the other hand, the 42s can also do all this with recall-arithmetics as well: RC+ ST Z adds the content of stack register Z to the value in X without affecting the stack otherwise.

No, all this can't be done on the 32s and similar calculators.

Dieter

Re: ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #4 Posted by **Thomas Klemm** on 6 Feb 2011, 5:00 a.m.,*
in response to message #1 by Allen

Hi Allen

You could reverse clearing the statistic registers and filling the stack thus saving one precious byte:

```
02 ENTER       @ Fill the stack up with input
03 CL\Sigma    @ Clear Stat registers
```

Clearing the statistic registers enables the stack lift. Since 3 and 5 follow only one **ENTER** is needed. Furthermore you could replace the two last statements with **SUM**. This instruction uses two bytes as well, so no gain with that change, but this makes the program independent of the setting of **\GSREG**. However this instruction is missing in the HP-41C.

> Quote:
>
> Thanks to Thomas for his tutorial on using formulas. I did not follow the teacher exactly, but managed to get the formulas here anyway.

Did you just save the images or did you find another ingenious way? In the latter case I could add it to the article. Which reminds me to add Egan's method he once posted as well.

It's a clever idea to use the statistic functions for some kind of parallel processing.

Kind regards
Thomas

Edited: 6 Feb 2011, 5:13 a.m.

Re: ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #5 Posted by **Allen** on 6 Feb 2011, 8:25 a.m.,*
in response to message #4 by Thomas Klemm

Thomas, This is fantastic, Thanks! I made the change- yes even to save 1 byte. I also did not realize about the SUM function- I've always been concerned until now about making it independent of the REG settings- now I know how!!

Don noted ULAM shows a correlation between meeting doodles and math.. perhaps I should go to more meetings!

Re: ULAM Bizarre #2 - The power of HP 42S STO/RCL arithmetic

*Message #6 Posted by **Mark Storkamp** on 6 Feb 2011, 1:22 p.m.,*
in response to message #1 by Allen

I made it work with the 41C by changing line 15 from

```
15 RCL+ ST T
```

to

```
15 R^
16 STO+ ST Y
17 Rv
```

Re: ULAM Bizarre #2 - down to 32 bytes

*Message #7 Posted by **Allen** on 7 Feb 2011, 12:26 a.m.,*
in response to message #6 by Mark Storkamp

Mark, Thanks for your 41C Fix!! I made the output from FREE42 and used HP41UC to create a 41C barcode, then scanned it in using my wand- sure it may have been faster just to type the thing in, but I'm not sure how to type R^ in the 41c.

Thomas, I incorporated your Stack lift saving 1 byte and SUM features, I also found a way to save 4 more bytes by getting rid of some of the 2-Byte STO+ instructions from above. Now it's down to 32 Bytes- Not sure I can do much better than that.

```
00 { 32-Byte Prgm }
01▶LBL 00
02 ENTER
03 CLΣ
04 3
05 5
06 Σ+
07 +
08 R↓
09 Σ+
10 1/X
11 -
12 R↑
13 ×
14 ENTER
15 R↑
16 -
17 SQRT
18 IP
19 X<>Y
20 SQRT
21 IP
22 X=Y?
23 +/-
24 STO+ ST X
25 ENTER
26 ABS
27 Σ+
28 SUM
29 .END.
```

Re: ULAM Bizarre #2 - down to 32 bytes

*Message #8 Posted by **Thomas Klemm** on 7 Feb 2011, 8:03 a.m.,*
in response to message #7 by Allen

> Quote:
>
> but I'm not sure how to type R^ in the 41c

Special characters are listed on the back of the calculator:

So the keystrokes would be:

- XEQ
- ALPHA
- 7
- Shift
- ENTER^
- ALPHA

HTH
Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-15C Sticky Keys

*Message #1 Posted by **aj04062** on 5 Feb 2011, 10:12 p.m.*

I tried the alcohol drop with homemade brush technique to clean up about 7-8 stick keys. Technique While the alcohol was liquid, the keys didn't stick. When it evaporated, they started again.

I do not have access to an ultrasonic cleaner. Would anyone suggest soaking the calculator in heated (not boiling) deionized water below the LCD? I could then heat/dry with a hair drier.

Other suggestions?

Hmm, maybe my dentist would let me borrow his water pick :)

Re: HP-15C Sticky Keys

*Message #2 Posted by **Ernst Fueloep** on 6 Feb 2011, 9:23 a.m.,*
in response to message #1 by aj04062

I have no idea to solve your problem except maybe opening the HP-15C and cleaning the key contacts.

But I would like to know if the idea to use an ultrasonic cleaner would be appropriate to clean the keyboard of a woodstock calculator? Of course, only the keyboard not the entire machine. I would open my woodstock which has some keys which needs to be pressed very strong to be recognized and put only the keyboard into the ultrasonic cleaner. Would this work? Is there no danger in damaging the keyboard?

Thanks.

Regards, Ernst

Re: HP-15C Sticky Keys

*Message #3 Posted by **Etienne Victoria** on 6 Feb 2011, 9:49 a.m.,*
in response to message #2 by Ernst Fueloep

Do NOT use a ultrasonic cleaner on a Woodstock keyboard as this will fragilize/erase the keyboard markings.

A procedure that works (I use isopropyl alcohol) can be found here.

Etienne

Edited: 6 Feb 2011, 9:49 a.m.

Re: HP-15C Sticky Keys

*Message #4 Posted by **Etienne Victoria** on 6 Feb 2011, 10:06 a.m.,*
in response to message #1 by aj04062

Adam,

To disassemble a Voyager: I use the excellent procedure from Luiz: here.

To clean the keyboard: I use Randy's steps: here.

Etienne

Re: HP-15C Sticky Keys

*Message #5 Posted by **aj04062** on 6 Feb 2011, 10:23 a.m.,*
in response to message #4 by Etienne Victoria

Thanks Etienne,

I guess I will "dive in" to the distilled water solution. I don't know what foreign substance is causing the stick. (I just purchased the unit). Hopefully it is water soluble.

Re: HP-15C Sticky Keys

*Message #6 Posted by **Mike Morrow** on 6 Feb 2011, 11:48 a.m.,*
in response to message #4 by Etienne Victoria

The disassembly procedure in the thread referenced just above applies to the early models of the Voyagers in which the logic and LCD assemblies may be separated from the keyboard assembly.

The later models (after 1984???) utilize a much less complex configuration in which the logic and display and keyboard are all constructed on one large PCB.

This difference makes some display or keyboard repairs that are possible on one version impossible or very challenging on the other.

Most descriptions of Voyager disassembly assume that the early internal configuration is what will be found. Even this site's museum shows, AFAIK, no photos of what is likely the more common later internal configuration.

Randy's (of Fix That Calc) recommendations would carry the most authority and promise for success.

Edited: 6 Feb 2011, 11:50 a.m.

Re: HP-15C Sticky Keys

*Message #7 Posted by **aj04062** on 7 Feb 2011, 6:48 a.m.,*
in response to message #6 by Mike Morrow

I've done the distilled water cleaning and alcohol dropped into problem keys. No success. Is the cause of sticky keys ALWAYS caused by some foreign substance or do they start to get this way with age?

I'll do it again if consensus is substance as they are somewhat annoying (but work fine)

Thanks

Re: HP-15C Sticky Keys

*Message #8 Posted by **Artur-Brazil** on 7 Feb 2011, 7:15 a.m.,*
in response to message #1 by aj04062

Hi, For openning your calculator, you must cut off all the plastic seals on the main print circuit board. Use a good knife for this and let the plastic pins behing them intacts. So, remove the rubber sheet and proceed with a good cleaning, using alchool. To put back the pcb, you will need to make a support with many plastic plastic pins that goes bethween keys and use some fast Epoxi (10min cure) and some very heavy pieces to keep all togheter. It's is not so difficult and I have done this for a number of calculators, including 41C? models. Artur

Re: HP-15C Sticky Keys

*Message #9 Posted by **aj04062** on 7 Feb 2011, 9:14 p.m.,*
in response to message #8 by Artur-Brazil

Perhaps I am not describing the issue well.

It seems that the keypad membrane snaps or clicks after depressing. the feel correct, but there is snap just as the key returns. There is no sticking of contact (as in multiple digits)

Would this still be foreign matter?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

SpeedUI 11.01 released

*Message #1 Posted by **Raymond Del Tondo** on 5 Feb 2011, 8:45 p.m.*

Hello all,

the new version 11.01 includes, amongst other nice things, a four way stack font size switcher.
So it should be suitable for the eagle-eyed and the nearly blind;-)

This is a major upgrade from the version 9.12 , so please uninstall all older components before installing SpeedUI 11.01 .

The new version is available here:

SpeedUI Walkthrough

SpeedUI zip archive

and on www.hpcalc.org (once the site is updated)

Have fun:-)

Raymond

Edited: 5 Feb 2011, 8:49 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-41C/CV/CX Eigenvalues/Vectors help

*Message #1 Posted by **mbrethen** on 5 Feb 2011, 7:55 a.m.*

I'm trying to use the "Eigenvalues/Vectors of 3rd-Order for the HP-41C/CV/CX" program but get a "divide by zero" error. It looks like the program called “A” sets up matrix "A" so I enter each element, followed with R/S. How is vector "V" entered? Anyone have experience using this program?

Thanks.

Re: HP-41C/CV/CX Eigenvalues/Vectors help

*Message #2 Posted by **mbrethen** on 5 Feb 2011, 4:52 p.m.,*
in response to message #1 by mbrethen

Tony Duell sent me this explanation via mail:

> Quote:
>
> It's actually a translation (by HP) of an HP67 program in that machine's High Level Math Solution Book. And that explains a few things...
>
> You start by storing the 9 values of the matrix in column order in register 01 to 09. You do this by hand, the program doesn't store them. When I say 'column order; I mean that registers 01-03 are the first column of the matrix, 04-06 are the second column, and 07-09 are the third column.
>
> Executing from label A (which can be done by pressing the Sigma+ key in USER mode if you have nothing else assigned there, of course) will display the 9 values in the matrix so you can check they are correct.
>
> You then store you initial guess for the eigenvector in registers 20-22. You may wonder why those. Well, on the HP67, those are called A-C. Again, you have to do this by hand.
>
> Then XEQ "EVV". The program should then display the first eigenvalue followed by the first eigenvector, then the second eigenvalue, second eigenvector, third eigenvalue, thrid eigenvector, a total of 12 numbers. Since it came from the (numeric-only) HP67, there's no labelling of these values....

Re: HP-41C/CV/CX Eigenvalues/Vectors help

*Message #3 Posted by **Ángel Martin** on 6 Feb 2011, 2:41 a.m.,*
in response to message #1 by mbrethen

Alternatives to that program are available in the SandMath Module:

EV3X3 - for 3x3 matrices, and

CHRPOL - for nxn case, and
EIGEN - using the Advantage's SOLVE

Data entry is assisted by the program, no issues there.

See also the articles section of this museum site if you're interested.

Edited: 6 Feb 2011, 2:42 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP97 troubleshooting

*Message #1 Posted by **Prabhu Bhooplapur** on 5 Feb 2011, 2:39 a.m.*

Hi, My HP97 is having problems. It turns on with the correct display '0.00'. After this if I try to use the keyboard then say press the key '1' then the display changes to'-1000000000. 00' (the last two zeros are in the exponent position). This is same with any of the numeric keys except that the first digit is the key pressed. If I press say key '1' the display will be '-1000000000. 00', press ENTER, if I then press say key '2' the display will be '-2000000000. 00' and press '+' the answer is displayed correctly '3.00'. If I perform operations like X2 or SQRT X the result is computed correctly.

I tried using the HP97 diagnostic card. I read in both the sides of the card and the display changes to '0. 00'. On pressing key A to run the diagnostic program results first in the display showing '5. -07'(instead of the usual 57 on the display) followed by '-8. 00'.

Any clues to what could be the problem and any suggestions to solve the problem? Thanks, Prabhu Bhooplapur

Re: HP97 troubleshooting

*Message #2 Posted by **Randy** on 5 Feb 2011, 9:04 a.m.,*
in response to message #1 by Prabhu Bhooplapur

Realistically, you'll need good 97 to troubleshoot, first at the board level and then down to the component as the problem is most likely a bad ROM 6 (1818-0230). You can troubleshoot using the instructions in the 97 service manual on page 4-2.

Note: The service manual only shows the component locations for first generation logic board layout, the second one, done for the 97S, is not documented. Further, the rom locations shown in figure 4-9 are not correct. The order from left to right is ROM 1,2,6,5 and 3 and not 1,2,3,4,5 as shown.

HTH...

Re: HP97 troubleshooting

*Message #3 Posted by **Prabhu Bhooplapur** on 6 Feb 2011, 8:26 a.m.,*
in response to message #2 by Randy

Thanks Randy.

I will try and come back to this forum. Prabhu

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 12C Platinum Screen

*Message #1 Posted by **Anthony (USA)** on 4 Feb 2011, 8:37 p.m.*

Hi everyone,

I just bought an HP 12c Platinum and I notice that whenever I touch the screen (even with a slight pressure) that lines and clumps of pixels appear. Whether the calculator is on or off, when I touch the screen clumps of pixels appear. They disappear after a while, but I'm wondering about what's wrong with this. I have other HP scientific and graphing calculators and this sort of thing seem to only happen to the HP 12c Platinum. My fingers aren't magnetic, I don't think. What's causing this? I mean, I sure I'm not the only one who finds this somewhat disconcerting...

Re: HP 12C Platinum Screen

*Message #2 Posted by **Martin Pinckney** on 4 Feb 2011, 10:22 p.m.,*
in response to message #1 by Anthony (USA)

I've never seen an LCD that *did not* exhibit similar behavior. Even my color wide-screen display that I am looking at right now will show distortion if I touch it.

Re: HP 12C Platinum Screen

*Message #3 Posted by **Mike Morrow** on 5 Feb 2011, 12:37 a.m.,*
in response to message #1 by Anthony (USA)

> Quote:
>
> My fingers aren't magnetic, I don't think. What's causing this?

LCDs are not magnetic. They function on electric field changes. Your touch is disturbing or inducing electric fields through the crystals.

This should not disturb you. It's common in all LCDs if the protective window over the LCD allows fingers to get too close to the display surface.

Edited: 5 Feb 2011, 12:55 a.m.

Re: HP 12C Platinum Screen

*Message #4 Posted by **Anthony (USA)** on 5 Feb 2011, 12:19 p.m.,*
in response to message #3 by Mike Morrow

Oh, okay, I understand. Thank y'all for the responses. (:

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is the HP-50g bug free now?

*Message #1 Posted by **Jim Yohe** on 4 Feb 2011, 2:47 p.m.*

Did the release of ROM update version 2.15 eliminate all of the bugs in the HP-50g's bugs?

Re: Is the HP-50g bug free now?

*Message #2 Posted by **Crawl** on 4 Feb 2011, 3:02 p.m.,*
in response to message #1 by Jim Yohe

What do you mean? I haven't had problems with 50g bugs for as far back as I can remember.

Re: Is the HP-50g bug free now?

*Message #3 Posted by **Jim Yohe** on 4 Feb 2011, 3:43 p.m.,*
in response to message #2 by Crawl

I assume that the "bugs" found in the initial release of the HP-50g must have necessitated the firmware release to correct them otherwise there'd be no need to issue that release.

I'm sorry but I don't own this calculator so wasn't making claims about its failings but was curious and wanted to ask ... just in case I ever do purchase one. I know that there were discussions in the forum archives about "bugs" along with a couple different firmware update releases.

Re: Is the HP-50g bug free now?

*Message #4 Posted by **Crawl** on 4 Feb 2011, 4:41 p.m.,*
in response to message #3 by Jim Yohe

> Quote:
>
> otherwise there'd be no need to issue that release.

That's a faulty assumption. One ROM upgraded added an equation library, another added a periodic table function. It's not all about fixing bugs.

Re: Is the HP-50g bug free now?

*Message #5 Posted by **Tim Wessman** on 4 Feb 2011, 5:42 p.m.,*
in response to message #3 by Jim Yohe

In a system as convoluted and complicated as that, there will always be bugs. However, the vast majority of issues that have ever been known have been long fixed.

2.15 added support for the streamsmart 400. That is its main "feature".

TW

Re: Is the HP-50g bug free now?

*Message #6 Posted by **Glenn Shields** on 4 Feb 2011, 10:19 p.m.,*
in response to message #3 by Jim Yohe

I just got a new one, since the one from about a year ago had a faulty up-arrow key, requiring a hard press to get it to work.The new one has a great feel and display. And with ver 2.15 LINSOLVE actually works, and is fun to use. But the real bug I wanted to test is the alarm bug, and alas, it is still there. It seems that the alarm gets fouled up after the time passes midnight, then it will not wake up the calculator. I even tried to set an alarm for the early am which sets a NEW alarm later in the morning, but that one didn't go off either. Is the alarm such a "lowly" function in such a machine as the 50g that we are expected to just live with it?? cheers, Glenn

Re: Is the HP-50g bug free now?

*Message #7 Posted by **Paul Gaster** on 4 Feb 2011, 11:28 p.m.,*
in response to message #6 by Glenn Shields

No, one should not just live with it. The HP-41 series were programmed and used as alarms on the shuttle decades ago to remind astronauts to do certain tasks at certain times. How have calculators regressed so much since then?

Re: Is the HP-50g bug free now?

*Message #8 Posted by **Mike Morrow** on 5 Feb 2011, 12:49 a.m.,*
in response to message #6 by Glenn Shields

I use the following program in an ALARM to automatically add a few seconds each day to the slow clock on my HP 50G, version 2.15:

<24300 CLKADJ DROP>

It works, so it can't be said that the ARM-based 49g+ and 50G machines have inoperable alarm functions. But...they are quirky and not as consistent in behavior as the same functions on the HP 48 series.

It's definitely a bug, but it's been reported to be in the Saturn-to-ARM emulation.

Re: Is the HP-50g bug free now?

*Message #9 Posted by **Nicholas Winterer** on 5 Feb 2011, 8:38 p.m.,*
in response to message #1 by Jim Yohe

How about the keyboard? Mine has a couple of keys that have lost their spring (they just stick down).

Has anyone else had this problem? I am considering buying a new one because symbolic matrix operations would be handy for my linear algebra class, but if the keys are just going to break in two more years I might just try to put a CAS on my 48gx.

Re: Is the HP-50g bug free now?

*Message #10 Posted by **Jim Yohe** on 6 Feb 2011, 4:03 p.m.,*
in response to message #9 by Nicholas Winterer

> You're right. A ROM update won't fix a "sticky" or "stuck" keyboard problem.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Self tests in the HP12C Platinum+

*Message #1 Posted by **jose ernesto** on 4 Feb 2011, 11:16 a.m.*

I've been exploring my new HP12C Platinum +, the one with 2 batteries and found that the self test menu that we reach when we press <ON> + <g> + <ENTER> now display 4 alternatives. I'm trying to include the photos here but I was unable so far.

The alternative 1 turns all elements in disply on; any will make the calculator return to the 4 alternatives menu. Number 2 will start the self test that runs for some 10 seconds and then display "ChE--564Ah" string. Apparently there is no way out of this and I had to turn the device off. Alternative 3 will turn everything on again, but will require that we press all keys in column sequence to turn everything off. Any other key wiil bring tha calculator back to test menu. Number 4 will display "4059760 h2".

Other other selftests are documented in the User guide: <ON> + </>, <ON> + <x>, <on> + <-> and <ON> + <+>. The test for the HP12C+ <ON> + <g> will n ot operate with new machine.

There is not a sign of a connector near the bottom of the batteries as we had in the new HP12c+.

I will try to include the images I made as soon as I learn how to do it.

José

Re: Self tests in the HP12C Platinum+

*Message #2 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 11:58 a.m.,*
in response to message #1 by jose ernesto

José, you need to put your images somewhere on the net (google for "image hoster"). Than you can include an [image] tag to display them here.

Including photos in Forum posts

*Message #3 Posted by **Karl Schneider** on 5 Feb 2011, 3:57 a.m.,*
in response to message #1 by jose ernesto

José --

Detailed formatting guidance is found by clicking the hypertext "more" found below the box in which a post is composed. Another host must be used for the images, as Marcus stated.

I'd like to ask that you provide links to your images (which are presumably large and high-resolution), rather than simply using the "img" code, which I believe is intended for small graphics. Otherwise, the images are automatically downloaded when readers click on the thread containing your post. This annoys readers who did not want large images to displace text in the thread, or who might be experiencing slow download speeds. The extra downloads also might incur added costs to you.

-- Karl

Edited: 5 Feb 2011, 8:46 p.m.

Re: Self tests in the HP12C Platinum+

*Message #4 Posted by **Lyuka** on 8 Feb 2011, 2:31 p.m.,*
in response to message #1 by jose ernesto

Like this ?

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Trying to contact Luiz C. Vieira

*Message #1 Posted by **Iqbal** on 4 Feb 2011, 10:46 a.m.*

Anyone has a new email for Luiz?

Re: Trying to contact Luiz C. Vieira

*Message #2 Posted by **jose ernesto** on 4 Feb 2011, 11:42 a.m.,*
in response to message #1 by Iqbal

Try linux_lcv@yahoo.com.br I've been talking to him yesterday on the telephone.

Jose

To jose

*Message #3 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 11:54 a.m.,*
in response to message #2 by jose ernesto

Jose, can you please edit your post so the the address cannot be easily picked up by a spam bot? It's bad practice to make other people's e-mail publicly visible.

Re: To jose

*Message #4 Posted by **Iqbal** on 4 Feb 2011, 2:21 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Thanks Jose. I guess you can probably delete the email now. I got it.

Re: To jose

*Message #5 Posted by **Eric Rechlin** on 5 Feb 2011, 11:28 a.m.,*
in response to message #3 by Marcus von Cube, Germany

That's not really true anymore. I get as much spam on my email addresses that have never been posted publicly as I get on ones that have been posted publicly many times.

It seems to me that the biggest source of email addresses for spammers is viruses. All you have to do is email somebody, and if they have a virus, that virus captures your email address from their inbox and sends it to spammers.

There's really little point in protecting email addresses now, because the spammers have gotten so good. Just find a good spam filter (Gmail works great for me).

Re: To jose

*Message #6 Posted by **Iqbal** on 5 Feb 2011, 4:22 p.m.,*

in response to message #5 by Eric Rechlin

That's very correct Eric. My Provider has also partnered with Gmail, and I hardly ever see any spam in my inbox.

Re: To jose

*Message #7 Posted by **Alejandro Paz (Germany)** on 6 Feb 2011, 3:26 a.m.,*
in response to message #5 by Eric Rechlin

Because people keeps on using Outlook :(

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HPIL-Devel BUFFER Question

*Message #1 Posted by **Ángel Martin** on 4 Feb 2011, 5:14 a.m.*

While doing some reseach on the BUFFER types I wanted to look at the one created by the HPIL Develoment module (id#=12).

This is quite an interesting buffer in a few ways, with a pointer structure - so it's quite close to a data file in XM, but of course without the "normalization" issue.

Anyway the issue I'm having is that the module image would not work on V41 - it freezes until you unload the rom image.

Furthermore, I loaded the said image on my MLDL and if works ok, albeit on startup it throws the criptic message "RD? 0 IND".

Linked to the MONITOR mode perhaps? I guess not, since such is disabled everytime the calculator is swithed off. Needless to say that the behavior is completele normal when using the REAL module on the same machine.

Any ideas as to what's that and how can it be disabled?

Re: HPIL-Devel BUFFER Question

*Message #2 Posted by **Meindert Kuipers** on 5 Feb 2011, 12:47 p.m.,*
in response to message #1 by Ángel Martin

Ángel,

Loaded the said module in my MLDL, had no problems with lockups or statup with starte messages. XROM number is 22 though. I did not ry any of the functions though ...

Meindert

Re: HPIL-Devel BUFFER Question

*Message #3 Posted by **Ángel Martin** on 7 Feb 2011, 6:55 a.m.,*
in response to message #2 by Meindert Kuipers

Thanks Meindert for looking into this - your assistance is always helpul.

Somehow the issue has gone away as it now works fine on the M2k. I have no idea why, no master clear or anything.

BTW I modified my BFCAT function to make it compatible with the AIP/MIP marker on the buffer header (stored in the XS digit). The BFCAT execution allows for forward and backward listing of the buffers. While the forwards way is easy using the buffer size info stored in the header, the backards run isn't possible unless the size of the "previous" buffer is known - similar to the FOCAL CHAIN in main memory.

Cheers, ÁM

Edited: 7 Feb 2011, 11:32 a.m.

BUFFERLAND Function Listing

*Message #4 Posted by **Ángel Martin** on 8 Feb 2011, 7:51 a.m.,*
in response to message #3 by Ángel Martin

In case you're interested, here's the Function Table for the BUFFERLAND Module:-

F. Name	Description	Input
-BUFFERLAND	section header	none
AIPT	Auto Increment Pointer	id# in X
ASTOBF _ _	Alpha to Buffer	buf# in prompt
ARCLBF _ _	Buffer to Alpha	buf# in prompt
B?	Buffer existence	id in X
BF>RGX _ _	Buffer to Registers	bbb,eee in X, buf# in prompt
BF>ST _ _	Buffer to Stack	buf# in prompt
BFCAT	Buffer Catalog	none; SST,SHIFT, D, H, R/S
BFHEAD	Buffer Header	id# in X
BFLNG	Buffer Length (Size)	id# in X
BFRCL _ _	Restore Buffer from RG	id# in X; RCL in prompt
BFSTO _ _	Store Buffer to RG	id# in X; RCL in prompt
BFVIEW	Buffer View	id# in X
BLIST	List Buffers	none
BUF?	Buffer existence	id# in X
BUFHD	Buffer Head address	id# in X
CLB	Clear Buffer	id# in X
CLRBF	Clear Buffer Contents	id# in X
CRBUF	Create Buffer	ID,00(SZ) in X
DELBUF	Delete Buffer	id# in X
GETB	Get buffer from XM	File Name in Alpha
GETBUF	Get buffer from XM	File Name in Alpha
GETPT _ _	Get Pointer value	buf# in prompt
MIPT	Manual Increment PT	id# in X
REIDBF	Re-id# buffer	old,new id#'s in X
RESZBF	Re-size buffer	ID,00(SZ) in X
RGX>BF _ _	Registers to buffer	RG in X, buf# in prompt
SAVEB	Save Buffer in XM	id# in X, File Name in Alpha
SAVEBUF	Save Buffer in XM	id# in X, File Name in Alpha
SETPT _ _	Set Pointer Value	pt# in X, buf# in prompt
ST>BF _ _	Stack to Buffer	buf# in prompt
-KA UTILS	Section Header	none
DCD	Decode	NNN in X
GETK	Get Keys from XM	File Name in Alpha
KACLR	Clear KA	"OK' / "OKALL" in Alpha
KALNG?	KA Length	none
KAPCK	Pack KA	none
LKOFF	De-activate Local KA	none
LKON	Re-activate Local KA	none
MRGK	Merge Keys from XM	File Name in Alpha
SAVEK	Save Keys in XM	File Name in Alpha
-ZBUFFER	Checks for 41Z ROM	none
CLZB	Clears Z buffer	None
L1=XY?	is L1 equal to XY?	None
L1<>L	Swap L1 & Level	Level# as suffix
L1<>L2	Swap L1 & L2	None
L1<>L3	Swap L1 & L3	None
L1<>L4	Swap L1 & L4	None
L1<>LX	Swap L1 & Level	level in X
L2=ZT?	is L2 equal to ZT?	None
L2>ZT	Copies L2 into ZT	None
LVIEW	View Level	Level# as suffix
LVIEWX	View level by X	level in X
RG>ZB	Restores Buffer from RG	Reg# as suffix
ST>ZB	Copies stack to L1&L2	None
XY>L	Copies XY into Level	Level# as suffix
XY>L0	Copies XY into L0	Re(z) in X; Im(z) in Y
XY>L1	Copies XY into L1	Re(z) in X; Im(z) in Y
ZB>RG	copies buffer to reg	Reg# as suffix
ZB>ST	Copies L1&L2 to stack	None
ZBDROP	Drops Z buffer	None
ZBLIFT	Zbuffer Header info	None
ZBHEAD	Lifts Z buffer	None
ZBVIEW	Shows Z Buffer	None

Edited: 8 Feb 2011, 7:55 a.m.

Re: HPIL-Devel BUFFER Question

*Message #5 Posted by **Mike (Stgt)** on 7 Feb 2011, 4:21 a.m.,*
in response to message #1 by Ángel Martin

V41 loops (but BTW how do you predetermine the port number?). With my NutEm no problem so far, alas I do not simulate HPIL traffic yet. Did you try the trace JFG's Emu41 offers?

Ciao.....Mike

Re: HPIL-Devel BUFFER Question

*Message #6 Posted by **Ángel Martin** on 7 Feb 2011, 6:58 a.m.,*
in response to message #5 by Mike (Stgt)

V41 has a "Console" that allows you to see the MCODE steps as they're being run. It hangs in the same instruction, and there's nothing I can do to get it passed - looks like a real problem with this ROM image.

Re: HPIL-Devel BUFFER Question

*Message #7 Posted by **Mike (Stgt)** on 8 Feb 2011, 11:42 a.m.,*
in response to message #6 by Ángel Martin

Up to now I regarded Emu41 from JF Garnier as reference eumulating the Nut CPU. Tonite I'll have a look if I can compare the trace output of V41 and Emu41 (and NutEm if neccesary). BTW, if you assume a problem with the ROM image, did you CHKSM it?

Ciao.....Mike

Re: HPIL-Devel BUFFER Question

*Message #8 Posted by **Mike (Stgt)** on 9 Feb 2011, 4:35 a.m.,*
in response to message #6 by Ángel Martin

Just a short excerpt of the trace log, first from my NutEm:

```
27FB: 1E0 GOTOC
EFF8: 32B JNC    -1B EFDD
EFDD: 22B JNC    -3B EFA2
EFA2: 070 N=C
EFA3: 130 LDI
EFA4: 030 CON      48
EFA5: 106 A=C    X
EFA6: 024 PERTCT 1
EFA7: 03A RPREG 1
EFA8: 003 ?XF   1
```

And here from V41 (I left out all but the first output of CPU registers):

```
  A=000000000F0408 B=F00018AC029000 C=000018ADFF832B Stack=00F0 0000 0000 0000
  M=00000080000000 N=000018ACFF8070 Cr=0 >P=6  Q=D G=07 F0=00 ST=001010 00000000
  CLK_A=00000000000000 ALM_A=00000000000000 SCR_A=00000000000000
  CLK_B=00000000000000 ALM_B=09999999999000 SCR_B=00000000000000
  INT_A=00000  INT_B=00000 TMR_S=0040 ACC_F=0000 Timer=B FI=00000000000000
  RAM Addr=00E  Perph Addr=00  Base=16
27FB  1E0                      GOTOC
DFF8  32B                      GONC    -27     DFDD
DFDD  22B                      GONC    -59     DFA2
DFA2  070                      N=C
```

```
DFA3  130030                    LDI     030
DFA5  106                       A=C     X
DFA6  024                       SELPF   0
DFA7  03A                       B=0     M
DFA8  003                       GONC    +0      DFA8
DFA8  003                       GONC    +0      DFA8
DFA8  003                       GONC    +0      DFA8
```

And there it loops. Reminds me the test of a multitasking system, it was tanked by such a GO +0 instruction.

Hope this helps. Ciao.....Mike

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 41CX

*Message #1 Posted by **Forrest Butler** on 3 Feb 2011, 3:54 p.m.*

I've had the referenced HP since 1980 (or so) and still use it daily in my work - RPN is far more efficient in my view. Recently, my HP replaced the decimal point with a comma, and no longer utilizes commas to separate thousands. I removed the battery for four hours hoping it would reboot to the original default position, but that hasn't helped. Does anyone on this forum have an idea how to correct this "problem"?

Re: HP 41CX

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Feb 2011, 4:07 p.m.,*
in response to message #1 by Forrest Butler

The "radix mark" (comma or dot) is the symbol which separates integer and fraction part of numbers. The selection of radix mark and enabling or disabling the digits-grouping (separating thousands groups using dot or comma) are controlled by flags 28 and 29. You use the SET FLAG (SF) and CLEAR FLAG (CF) functions to set these features to suit your preferences.

To SET FLAG use the yellow SHIFT key and the "7" key, to CLEAR FLAG, use the yellow SHIFT key and the "8" key.

For instance, to use a dot as radix mark, and to enable the digits grouping feature, you should SF 28 and SF 29.

HTH

Re: HP 41CX

*Message #3 Posted by **Gerson W. Barbosa** on 3 Feb 2011, 4:10 p.m.,*
in response to message #1 by Forrest Butler

> Quote:
>
> Recently, my HP replaced the decimal point with a comma, and no longer utilizes commas to separate thousands.

Like this? I would leave it this way :-)

Now seriously, from the HP-41CX Quick Reference Guide:

```
 Flag        Flag Name               Status at Reset,
Number                                  Turn ON


28           Radix Mark                    1
29           Digit Separator Mark          1
```

So, try SF 28 and SF 29.

Regards,

Gerson.

Edited per Andrés's correction below.

Edited: 3 Feb 2011, 4:53 p.m. after one or more responses were posted

Re: HP 41CX

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Feb 2011, 4:40 p.m.,*
in response to message #3 by Gerson W. Barbosa

Well, these functions are not postfix (perhaps on RPL machines they are so). On the HP 41 you do SF (or CF) and then type the appropriate flag number as prompted on the display.

So it is SF xx or CF xx.

Regards,

Re: HP 41CX

*Message #5 Posted by **Gerson W. Barbosa** on 3 Feb 2011, 4:50 p.m.,*
in response to message #4 by Andrés C. Rodríguez (Argentina)

¡Gracias, Andrés!

Gerson.

Re: HP 41CX

*Message #6 Posted by **Karl-Ludwig Butte** on 3 Feb 2011, 4:16 p.m.,*
in response to message #1 by Forrest Butler

Hello Forrest,

there are two display control flags in the HP-41: - Decimal Point Flag = Flag 28 - Digit Grouping Flag = Flag 29

If flag 28 is set, the decimal point is the radix and the comma is the seperator. If flag 28 is cleared, the comma is the radix and the decimal point is the seperator.

If flag 29 is set, seperators will be displayed.

Hope this helps.

Regards

Karl

Re: HP 41CX

*Message #7 Posted by **Martin Pinckney** on 3 Feb 2011, 4:27 p.m.,*
in response to message #6 by Karl-Ludwig Butte

Same answer, three different ways. Such service. [;-)

Re: HP 41CX

*Message #8 Posted by **Forrest Butler** on 3 Feb 2011, 5:23 p.m.,*
in response to message #7 by Martin Pinckney

Beautiful - thank you very much for your quick (and overwhelming) response. Once upon a time I frequently utilized my HP in the engineering field and recognized its power directly or through my Owner's Manual - but now, not so much. Still a great calculator and equally so, those on this forum that love it as I have. Thanks again for your assistance.

Re: HP 41CX

*Message #9 Posted by **Mike Morrow** on 3 Feb 2011, 8:55 p.m.,*
in response to message #1 by Forrest Butler

> Quote:
>
> I've had the referenced HP since 1980 (or so)...

I believe the "or so" part. The HP41-CX didn't hit the street until about four years later.

Re: HP 41CX

*Message #10 Posted by **Forrest Butler** on 6 Feb 2011, 11:48 a.m.,*
in response to message #9 by Mike Morrow

Could have been 1984 - I don't remember. Had a HP 25 before that and after grad school (1975) worked with a large (2' X 3') HP with similar RPN logic and programmable capabilities at Houston Lighting & Power (HL&P) - thus, my introduction into the HP world. Fine machine and way before its time considering a mere five years earlier all we had was COBOL...

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

82240B IR Printer Runs Sluggishly, then Doesn't

*Message #1 Posted by **Les Wright** on 2 Feb 2011, 11:48 p.m.*

Hi all, I haven't been around for awhile as I got enticed for a bit by shinier handheld things.

Anyhow, I recently fired up my previously flawlessly working IR printer after I don't know how long. At first, even with adequate power (from AC Adapter or fresh batteries) the printing operation was "sticky". The printer seemed to work haltingly at light print intensities, and usually would abort printing and become stuck if I set the intensity slider above the half way point.

Well, after running I don't know how many metres of paper through the thing by repeated runnings of the self-test or long jobs such as long program listings, it looks like things are back to normal. The only bit of maintenance I dared was to brush the tiniest bit of oil onto the twisty little bar that scoots the head back and forth, and to use a photographer's bulb to blow some air inside in the belief that dust and debris was bunging up some little drive belt or gear. However, these interventions didn't seem to help at first--only running the thing for some time seemed to "unstuck" the operation.

I admit to storing the thing in a room cursed with dust and cats, so that is the only culprit I can think of. But I have read here of people using these printers in very unclean environments, like carpentry shops, without difficulty.

Any thoughts? Is this basically debris and dust that had to dislodge in time, or am I facing something worse?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Heating, Ventilating and Air Conditioning Users Solutions

*Message #1 Posted by **Jeff Davis** on 2 Feb 2011, 6:42 p.m.*

Does anyone have the pdf for this users manual?

Re: Heating, Ventilating and Air Conditioning Users Solutions

*Message #2 Posted by **David Hayden** on 2 Feb 2011, 9:38 p.m.,*
in response to message #1 by Jeff Davis

Jeff, can you give some more details about this? Which calculator is it for? When was it written? By whom?

Re: Heating, Ventilating and Air Conditioning Users Solutions

*Message #3 Posted by **Les Wright** on 3 Feb 2011, 12:00 a.m.,*
in response to message #2 by David Hayden

It is in the series of HP41 User Solutions manuals.

Re: Heating, Ventilating and Air Conditioning Users Solutions

*Message #4 Posted by **Les Wright** on 2 Feb 2011, 11:59 p.m.,*
in response to message #1 by Jeff Davis

I am right now looking at the menu of the 80 individual pages at TOS. I won't post the link as I believe there are still some issues regarding that site and this upon which I care not to encroach.

The format is very inconvenient, but the manual seems to be all there.

Unfortunately, according to the listing of contents of the most recent MoHPC DVD set, the manual you seek doesn't seem to be there.

Les

Re: Heating, Ventilating and Air Conditioning Users Solutions

*Message #5 Posted by **Bill (Smithville, NJ)** on 3 Feb 2011, 5:28 p.m.,*
in response to message #4 by Les Wright

I have the book. I thought I had already scanned it and sent it to Dave, but I guess I didn't. I'll scan it and send to Dave so he can put it on the next DVD. And no, I won't send copies of the scan to others since I don't have the rights to do that.

Bill

Edited: 3 Feb 2011, 5:28 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

35s Quadratic Regression

*Message #1 Posted by **J Noël** on 2 Feb 2011, 11:32 a.m.*

I am new to HP programming and recently acquired a 35s. I was surprised to see it cannot do Quadratic Regression, so I wrote a basic program that will develop the twelve inputs necessary to use the built in 3*3 lin. solve equation.

Q001 LBL Q

Q002 CLVARS

Q003 CLSTK

Q004 SF 10

Q005 (eqn) QUADREG

Q006 (eqn) TOTAL SETS

Q007 PSE

Q008 INPUT N

Q009 STO N

Q010 1

Q011 STO M

Q012 (eqn) X

Q013 PSE

Q014 INPUT X

Q015 STO X

Q016 (eqn) Y

Q017 PSE

Q018 INPUT Y

Q019 STO Y

Q020 STO +D

Q021 RCL X

Q022 *

Q023 STO +H

Q024 RCL Y

Q025 RCL X

Q026 (X SQUARED)

Q027 *

Q028 STO +L

Q029 RCL X

Q030 STO +B

Q031 STO +E

Q032 (X SQUARED)

Q033 STO +C

Q034 STO +F

Q035 STO +I

Q036 RCL X

Q037 3

Q038 (Y to the X)

Q039 STO +G

Q040 STO +J

Q041 RCL X

Q042 4

Q043 (Y to the X)

Q044 STO +K

Q045 RCL M

Q046 STO +A

Q047 RCL N

Q048 RCL A

Q049 X<Y

Q050 GTO Q012

Q051 RTN

When it is finished, there will be values stored in memory locations A through L. Launch and Solve the 3*3 lin. solve built-in EQN and R/S your way through the already-saved values. It will return the X, Y, and Z results of the Quadratically Regressed X,Y inputs from the program.

If anyone knows a better way to do this, please share!

JN

```
REPLACE THIS TEXT WITH YOUR LISTING
```

Re: 35s Quadratic Regression

*Message #2 Posted by **Namir** on 2 Feb 2011, 12:05 p.m.,*
in response to message #1 by J Noël

You can download my free HP-35S Stat Pac from here (the download link is near the bottom of that web page), and look for program NCS_POLY1. This program performs quadratic fitting.

Namir

Edited: 2 Feb 2011, 12:06 p.m.

Re: 35s Quadratic Regression

*Message #3 Posted by **J Noël** on 2 Feb 2011, 12:47 p.m.,*
in response to message #2 by Namir

So if I may ask a newbie question, how do I use the solver to solve for various values of Y (or x) in the equation y=ax^2+bx+c?

Re: 35s Quadratic Regression

*Message #4 Posted by **Chris Randle (UK)** on 2 Feb 2011, 3:39 p.m.,*
in response to message #3 by J Noël

Press [EQN]
Type "Y=A*X^2+B*X+C" [ENTER], pressing [RCL] before each letter.
Press (right-shift) [SOLVE]
Type the letter of the unknown - no [RCL] needed this time
Provide a value for each prompted unknown followed by [R/S]
After the final [R/S] the value of the unknown will be calculated and displayed.

This is covered in the user's guide, chapter 7. Pay special attention to the bit about initial guesses in 7-8 as that is of particular importance with a quadratic.

Re: 35s Quadratic Regression

*Message #5 Posted by **J Noël** on 2 Feb 2011, 4:55 p.m.,*
in response to message #4 by Chris Randle (UK)

Boy, I feel dumb. I did not put the * symbols between the A and X.

Thank you for the help!

Re: 35s Quadratic Regression

*Message #6 Posted by **Csaba Tizedes (Hungary)** on 2 Feb 2011, 4:39 p.m.,*
in response to message #1 by J Noël

Years before I wrote this - It wasn't too popular (I dunno whi... :P ;))

Cs.

Re: 35s Quadratic Regression

*Message #7 Posted by **Norman Dziedzic** on 3 Feb 2011, 2:55 p.m.,*
in response to message #6 by Csaba Tizedes (Hungary)

I just noticed the 30b has this built in. Another + for the 30b.

From the linked post:

```
   Excel       HP32SII
A  -2.133E-3   -2.139E-3
B  +6.956E-2   +7.017E-2
C  +9.000E+1   +9.000E+1
```

for the 30b

```
A -2.1329E-3
B +6.9560E-2
C +9.0000E+1
```

Re: 35s Quadratic Regression

*Message #8 Posted by **Katie Wasserman** on 3 Feb 2011, 3:58 p.m.,*
in response to message #7 by Norman Dziedzic

The 20b has this as well.

Re: 35s Quadratic Regression

*Message #9 Posted by **Mark Harman** on 3 Feb 2011, 5:22 p.m.,*
in response to message #8 by Katie Wasserman

I thought that quadratic regressions were only limited to the 30b. The manual confirms this.

Mark

Edited: 3 Feb 2011, 5:30 p.m.

Re: 35s Quadratic Regression

*Message #10 Posted by **Katie Wasserman** on 4 Feb 2011, 10:14 a.m.,*
in response to message #9 by Mark Harman

Mark,

You're right, I stand corrected. I misread the statistics section in the combined 20b/30b manual on this.

Thanks! -Katie

Re: 35s Quadratic Regression

*Message #11 Posted by **Csaba Tizedes (Hungary)** on 4 Feb 2011, 3:29 a.m.,*
in response to message #7 by Norman Dziedzic

I hope, you're realized that, my program uses just LINEAR regression to fit quadratic function.

Re: 35s Quadratic Regression

*Message #12 Posted by **Dieter** on 4 Feb 2011, 8:19 a.m.,*
in response to message #11 by Csaba Tizedes (Hungary)

> Quote:
>
> I hope, you're realized that, my program uses just LINEAR regression to fit quadratic function.

Yes, that's a quite clever approach - though not exactly a strict least-square regression. ;-)

Hmm... since some calculators seem to offer a preprogrammed quadratic regression your idea might be used to fit a cubic function on these models...?

Dieter

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

48sx repair help

*Message #1 Posted by **svisvanatha** on 2 Feb 2011, 7:02 a.m.*

Hello,

I used the instructions created by Han to open the 48sx so that I could fix a non-working keyboard row.

I used a thin piece of rubber between the existing keyboard rubber strip and the keyboard connector as a shim.
My thoughts were that this would help provide the missing contact for the keyboard row.

I accidently disturbed the lower rubber 'zebra strip?' that provides contact for the LCD.
The unit is back together (right side does not snap back well enough).
It does not power on unless I press down on the right side of the bezel below the LCD.
And even then, the LCD is missing many columns after powering on.

Q's:

1. What is the proper way to clean and reinsert the rubber strip for the LCD.

2. Is there a better way to provide 'gap reduction' for the keyboard contact than what I did?
A whole new rubber piece, or can it be shimmed in the manner in which I attempted.

3. What is causing the power-on problem?

4. What would cause the right side to not snap back together as well as the left?
I know this side was more difficult to pry apart.

Obviously, I am open to suggestions and criticism. The unit was working fine except the keyboard row not working prior to my repair attempt. The unit is at home at the moment.

Edited: 2 Feb 2011, 7:21 a.m.

Re: 48sx repair help

*Message #2 Posted by **aj04062** on 2 Feb 2011, 1:38 p.m.,*
in response to message #1 by svisvanatha

I have used trimmed foam from a Dr Scholls insole to replace the old foam and repair the contact.

I have wiped down the zebra strips with alcohol and been very careful to not contaminate when re-assembling. Dust from the PCB can interfere with the contact. I have had the same problem with dropped lines too and found that keeping the zebras clean and making sure you apply enough pressure on the board before you twist the metal tabs are key to a successful repair.

Re: 48sx repair help

*Message #3 Posted by **Han** on 2 Feb 2011, 2:07 p.m.,*

in response to message #2 by aj04062

> Quote:
>
> I have used trimmed foam from a Dr Scholls insole to replace the old foam and repair the contact.
>
> I have wiped down the zebra strips with alcohol and been very careful to not contaminate when re-assembling. Dust from the PCB can interfere with the contact. **I have had the same problem with dropped lines too and found that keeping the zebras clean and making sure you apply enough pressure on the board before you twist the metal tabs are key to a successful repair.**

I just wanted to add so emphasis to this response. Keep in mind that your problems are usually because of a loose connection between the printed circuit board and the connectors themselves. So your problems even after your attempted fix is either:

1) the insert you added was too thick or unevenly inserted so that part of the contacts touch the circuit board and other parts do not (and this would also cause gaps between the LCD connector and the circuit board)

2) you did not fasten the circuit board tight enough.

When I fasten the board back on, I make sure to apply lots of (even) pressure to ensure that the connection is tight, and then fasten the twist tabs.

Re: 48sx repair help

*Message #4 Posted by **svisvanatha** on 3 Feb 2011, 8:14 a.m.,*
in response to message #1 by svisvanatha

Thank you for the responses. I opened it back up last night, and used a foam piece from a mouse pad to replace the keyboard foam strip.
This seems to have fixed the keyboard contact issue. However, the LCD dropped rows/columns still exists.
I did clean the zebra strips using alcohol, and it is better than before. I would estimate that 50% of the LCD does not light up.
When pressure is applied above the A and F keys, the entire LCD does light up.
I did apply pressure to the PCB before turning the tabs, but fear that my initial tightening was not the greatest and has caused the connection to loosen.
Are replacement zebra strips available with larger thickness? That would certainly help in this case. Many thanks!

Re: 48sx repair help

*Message #5 Posted by **Han** on 3 Feb 2011, 9:43 a.m.,*
in response to message #4 by svisvanatha

> Quote:
>
> Thank you for the responses. I opened it back up last night, and used a foam piece from a mouse pad to replace the keyboard foam strip.
> This seems to have fixed the keyboard contact issue. However, the LCD dropped rows/columns still exists.
> I did clean the zebra strips using alcohol, and it is better than before. I would estimate that

> 50% of the LCD does not light up.
> When pressure is applied above the A and F keys, the entire LCD does light up.
> I did apply pressure to the PCB before turning the tabs, but fear that my initial tightening was not the greatest and has caused the connection to loosen.
> Are replacement zebra strips available with larger thickness? That would certainly help in this case. Many thanks!

My only suggestion is to apply more pressure to the points of contact as twist the 6 tabs. The other thing that I do is prior to affixing the circuit board, I straighten out the tabs so that their prongs. Lastly, keep the number of times you twist these tabs to a minimum -- they will break if you are overzealous.

Also, you may want to look from the side to see if there is a lack of contact. Using just your fingers to press the circuit board back into place, can you notice any air gap near where the LCD connectors are? It sounds to me that your foam may be a bit too thick and not as spongy as is needed to allow for enough compression so that the LCD connectors make contact with the circuit board.

Re: 48sx repair help

*Message #6 Posted by **svisvanatha** on 3 Feb 2011, 6:58 p.m.,*
in response to message #5 by Han

Yes, there is a gap at the same location that I disturbed the zebra strip.
It is on the right side of the LCD (when looking at the assembled unit).
The other parts of the PCB do not show a gap. The tabs are still twisted at the moment.
I tried yesterday to reinsert that side of the zebra strip, but it does not seat fully in its track.
Is there a trick to get it in there? Also, I also noticed the metal frame is bent so that the keyboard side is bent up slightly.
I will fix that once I disassemble again. But before I untwist the tabs, I wuuld like to get your experience on seating the zebra strip.
Many thanks!

Re: 48sx repair help

*Message #7 Posted by **svisvanatha** on 3 Feb 2011, 11:32 p.m.,*
in response to message #6 by svisvanatha

> Quote:
>
> Also, I also noticed the metal frame is bent so that the keyboard side is bent up slightly.

Success!! The metal frame was bent at the 'F' key location. This caused 2 things: the zebra strip had some wiggle room between the lcd and the frame, and since the frame was bent upwards, the zebra was not making proper contact with the lcd and pcb. My keys are restored, and the lcd is working 100%. The case is not as tight as before, but I am an amateur ;)

Some Pictures

Re: 48sx repair help

*Message #8 Posted by **Han** on 4 Feb 2011, 9:16 a.m.,*
in response to message #7 by svisvanatha

Congrats! That it works is more than good enough for a first attempt at fixing your own calculator.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Storage and recall arithmetic with the HP35s

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 2 Feb 2011, 4:02 a.m.*

How do I do it in algebraic mode?

Re: Storage and recall arithmetic with the HP35s

*Message #2 Posted by **x34** on 2 Feb 2011, 4:53 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hmm. RCL A + RCL B STO B, is displayed A+B>B

Re: Storage and recall arithmetic with the HP35s

*Message #3 Posted by **David Hayden** on 2 Feb 2011, 6:55 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

See page 3-6 of the user's manual. STO + A will add the value in X to A. RCL + A will add the value in A to X.

Re: Storage and recall arithmetic with the HP35s

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 2 Feb 2011, 4:39 p.m.,*
in response to message #3 by David Hayden

> Quote:
>
> See page 3-6 of the user's manual. STO + A will add the value in X to A. RCL + A will add the value in A to X.

But, not in ALG mode.

Using the procedures on pages 3-6 through 3-8 of the HP35s User's Guide and operating from the keyboard:

In RPN Mode the sequence:

2 STO A 3 STO+ A RCL A

yields 5 in the display.

In ALG Mode the sequence

2 STO A ENTER 3 STO+ A ENTER RCL A ENTER

yields 3 in the display and, looking at what happens as the sequence is keyed in, nothing happens in response to the entry of the + after the second STO of the sequence.

However, *there are blue check marks* by each section heading on pages 3-6 and 3-7, and if one has read the manual from the beginning one will know from page 1-1 of the manual that a blue check mark "... identifies examples or keystrokes that are shown in RPN mode and must be performed differently in ALG mode."

Is it that "storage arithmetic" and "recall arithmetic" are not available in ALG mode, or is it simply that I don't know how to do it? I do understand that one can recall the contents of a register, add something to it and return the result to the original register, but that is not what is commonly known as "Arithmetic with Stored Variables".

The HP33s provides "Arithmetic with Stored Variables" in both RPN and ALG modes. The text and examples on pages 3-4 to 3-6 of the HP33s User's Guide are nearly identical to that on pages 3-6 to 3-8 of the HP35s User's Guide, but there are no blue check marks on those pages of the HP33s User's Guide.

Re: Storage and recall arithmetic with the HP35s

*Message #5 Posted by **bill platt** on 3 Feb 2011, 12:30 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

I actually like the 33s way way better than the 35s. At least now.

Re: Storage and recall arithmetic with the HP35s

*Message #6 Posted by **Marcus von Cube, Germany** on 3 Feb 2011, 7:53 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

The Alg mode of the 33s and 35s are quite different in that the 33s executes all operations when it can, according to their priority. The 35s evaluates the expression as a whole. This can have side effects if you do storage arithmetic and recall the same variable in the same expression because the final result depends on the order of evaluation which is not necessarily left to right:

2 STO A
(1+1 STO+ A)*A

The result depends on when the second A is fetched, before or after the STO+ operation. On the 33s, the closing parenthesis will execute the addition before you can even type in the multiplication sign, but on the 35s you cannot be sure.

Re: Storage and recall arithmetic with the HP35s

*Message #7 Posted by **Silvio A. Bensi** on 3 Feb 2011, 7:13 p.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

You can program the sequence STO + A in RPN. The program will run in algebraic. It is not the best, but it is a solution.

Re: Storage and recall arithmetic with the HP35s

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 6 Feb 2011, 3:22 p.m.,*
in response to message #7 by Silvio A. Bensi

> Quote:
>
> You can program the sequence STO + A in RPN. The program will run in algebraic. It is not the best, but it is a solution.

The "Selecting a Mode " section on page 12-3 of the HP33s User's Guide states "Programs created and saved in RPN mode *can only* be edited and executed in RPN mode, and programs created and saved in ALG mode *can only* be edited and executed in ALG mode. You can ensure that your program executes in the correct mode by making RPN or ALG the first instruction on the program "

The "Selecting a Mode" section on page 13-3 of the HP35s User's Guide states "Programs created and saved in RPN mode *should be* edited and executed in RPN mode, and programs or steps created and saved in ALG mode *should be* edited and executed in ALG mode. If not, the result may be incorrect."

I added the italics in the quotes to emphasize the change from "... can only ..." in the HP33s User's Guide to "... should be ..." in the HP35s User's Guide, whatever that implies, if anything.

My experience is that if I restrict my program to doing arithmetic with storage and recall arithmetic then a program written in RPN will run satisfactorily in ALG.

I am working with a little program where I was intending to follow those rules but inadvertently used a plain old divide in an RPN orogram and it still ran satisfactorily in ALG on an HP35s, but would not run satisfactorily in ALG on an HP33s. I will publish something on this when I figure it out, OR maybe when I give up on figuring it out and ask for help.

And what ought to have been written for the HP-33s...

*Message #9 Posted by **Karl Schneider** on 6 Feb 2011, 8:48 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

> Quote:
>
> *The "Selecting a Mode" section on page 12-3 of the HP33s User's Guide states, 'Programs created and saved in RPN mode can only be edited and executed in RPN mode, and programs created and saved in ALG mode can only be edited and executed in ALG mode.'*

So the opposite mode must be selected before the program can be deleted? I suspect that this verbiage for the HP-33s ought to have read as follows:

'Programs created and saved in RPN mode can be edited or *executed* only *in RPN mode, and programs created and saved in ALG mode can be edited* or *executed* only *in ALG mode.'*

Correct placement of "only" is one of the most-common errors of usage in English -- one which would be far less likely to appear in the great HP manuals of the 1980's.

Also, "or" is more correct than "and".

-- Karl

Edited: 7 Feb 2011, 11:27 p.m. after one or more responses were posted

Re: And what ought to have been written for the HP-33s...

*Message #10 Posted by **Martin Pinckney** on 7 Feb 2011, 11:27 a.m.,*
in response to message #9 by Karl Schneider

Quote:

This is one of the most-common errors of usage in English --

Karl,

There must be a generic name for this class of usage errors. I have to be on the watch for them in technical documents that our company produces, even when I am the author!

For instance:

"Responsibility for XXXX is the sole responsibility of the Contractor" should read "Responsibility for XXXX is solely the responsibility of the Contractor."

An obvious example, perhaps, but this kind of error appears all too often.

Re: Storage and recall arithmetic with the HP35s

*Message #11 Posted by **Marcus von Cube, Germany** on 7 Feb 2011, 1:44 a.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

You can resort to equations on both machines to be mode independent.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Who passed away?

*Message #1 Posted by **Paul Gaster** on 1 Feb 2011, 6:51 p.m.*

Whoever it was, RIP

See item 370480237349 on TAS (No, I am not the seller.)

Re: Who passed away?

*Message #2 Posted by **Michael de Estrada** on 1 Feb 2011, 7:37 p.m.,*
in response to message #1 by Paul Gaster

Last time I checked, I was still alive. Anyways, at first it looks like an extensive collection until you realize that only 2 of the items are actually calculators, an HP-41C and an HP-19BII.

Re: Who passed away?

*Message #3 Posted by **Martin Pinckney** on 1 Feb 2011, 8:53 p.m.,*
in response to message #1 by Paul Gaster

Does the cat come with it?

Re: Who passed away?

*Message #4 Posted by **Michael de Estrada** on 1 Feb 2011, 9:03 p.m.,*
in response to message #3 by Martin Pinckney

lol

Re: Who passed away?

*Message #5 Posted by **Eric Smith** on 1 Feb 2011, 9:54 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> Does the cat come with it?

http://www.youtube.com/watch?v=xW8j3x3GzxY

Re: Who passed away?

*Message #6 Posted by **Raymund Heuvel** on 2 Feb 2011, 9:07 p.m.,*
in response to message #3 by Martin Pinckney

It seems HP offers CAT Management via EDS. LOTS of CATS !!
Youtube: HP EDS Cats

:) Ray

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

DVDs

*Message #1 Posted by **Fred Lusk** on 1 Feb 2011, 1:50 a.m.*

My Museum of HP Calculators DVD set arrived today. Thanks, Dave. This will be so much more fun than doing my income taxes.

Re: DVDs

*Message #2 Posted by **Paul Dale** on 1 Feb 2011, 2:25 a.m.,*
in response to message #1 by Fred Lusk

My second favourite set of DVDs.

I'm biased since I mastered my favourites :-)

- Pauli

Re: DVDs

*Message #3 Posted by **David Hayden** on 1 Feb 2011, 6:48 a.m.,*
in response to message #1 by Fred Lusk

I agree with Fred and Paul. I bought the DVDs several weeks ago and they're just wonderful. If you don't have them, consider buying them, both for the information and to support this site.

Re: DVDs

*Message #4 Posted by **Namir** on 1 Feb 2011, 2:19 p.m.,*
in response to message #1 by Fred Lusk

You are all talking about the DVDs that came out in 2009?

Namir

Re: DVDs

*Message #5 Posted by **Fred Lusk** on 3 Feb 2011, 12:30 a.m.,*
in response to message #4 by Namir

Yes, the 2009 set (Version 7.00)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

DVDs

HP Forum Archive 20

[Return to Index | Top of Index]

A little help from my friends ...

*Message #1 Posted by **Meindert Kuipers** on 31 Jan 2011, 3:29 p.m.*

I am looking for a little bit of help for a small HP41 experiment from someone on the forum who is a bit experienced with web programming (java?).

As you may know I have been working on the MLDL2000 for some time, and late last year I became aware of a design challenge (see here). I wanted to add an external SD controller module to the new MLDL2000, instead I have decided to use the MBED module for that purpose. I have been working hard to get a breadboard prototype up and running, and it now works quite well. The HP41 can now access files on an SD card and a USB stick, and I can load and save ROM images and user code programs (.RAW files).

One of the last items remaining to be implemented is networking functionality. I have done some tests with the MBED module on a network, and I can easily download a file (of course that will be a ROM image or focal program in .RAW format soon). For demonstration of some of the other networking capabilities I kindly ask some help.

I can program a bit in C/C++, Delphi, VHDL, Focal and mcode, but I have never done anything with web-based applications. I therefore would like to get in touch with someone who can create a web-based application to send and receive data to my network enabled HP41. For example to display on a webpage an HP41 display that I can send data to, and a few buttons or sliders that I can read data from.

The MBED libraries support an HTTP client and server (see here) and many other features. I have successfully used the HTTP Client to stream the contents of a ROM image to the MBED module but I want to demonstrate something else as well.

Honestly, I have no idea even where to start with building a web application or script for these. The Twitter example on the MBED website is nice, but I want something new for this.

Please contact me by email if you have a bit of time to help me here or want some more info.

See here for a picture of my breadboard setup

Thanks,

Meindert

Re: A little help from my friends ...

*Message #2 Posted by **Håkan Thörngren** on 31 Jan 2011, 5:29 p.m.,*
in response to message #1 by Meindert Kuipers

I am not sure I follow, but maybe you could try something simpler?

There are many tcp/udp services that may already be running on a computer. Though these days many may be default off for security reasons.

Default tcp ports (see /etc/services) contains some stuff that might be helpful, like echo (port 7) and daytime (port 13). Daytime will send current time (see RFC 867), it could be used for an RPN program to set the time of the time module?

Sending a mail using smtp may also be an idea.

Re: A little help from my friends ...

*Message #3 Posted by **Marcus von Cube, Germany** on 2 Feb 2011, 3:31 a.m.,*
in response to message #1 by Meindert Kuipers

Meindert, I'm an experienced Java programmer who has already implemented some web code. If I can be of any help, I would be glad to support you (even if my MLDL sits in a drawer for some time now.) Spare time isn't a problem right now.

Marcus

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Do the Ebay sellers check the merchandise?

*Message #1 Posted by **Gonzalo Fernandez** on 31 Jan 2011, 7:14 a.m.*

Our beloved friend cobubba has neg feedback

Re: Do the Ebay sellers check the merchandise?

*Message #2 Posted by **Martin Pinckney** on 31 Jan 2011, 9:18 a.m.,*
in response to message #1 by Gonzalo Fernandez

> Quote:
>
> Do the Ebay sellers check the merchandise?

"I have no way to test it" = It doesn't work.

Re: Do the Ebay sellers check the merchandise?

*Message #3 Posted by **Namir** on 31 Jan 2011, 4:26 p.m.,*
in response to message #2 by Martin Pinckney

Indeed .... sellers try to hide behind clever wording. The most common is .. I don't have a way to power it up so I did not test it. In many case it is not hard to put batteries and see what happens. The ones that really make me shake my head is the seller HAS A POWER SUPPLY .. but will not bother to use it!!!

I had a case or two like that. I left the seller a negative feedback and refused to alter it when TAS asked me to.

Namir

Re: Do the Ebay sellers check the merchandise?

*Message #4 Posted by **bill platt** on 3 Feb 2011, 4:53 p.m.,*
in response to message #3 by Namir

Are you saying that Ebay itself approached you regarding feedback, and requested that you rescind it?!

Re: Do the Ebay sellers check the merchandise?

*Message #5 Posted by **Jeff Kearns** on 31 Jan 2011, 4:59 p.m.,*
in response to message #1 by Gonzalo Fernandez

PLUS... he guaranteed the unit to be in working condition. Buyer claims he/she sent it back but did not get a refund. Negative feedback on TAS is not something to be envied. If you're gonna play the game you gotta learn to play it right.

I have tried unsuccessfully to purchase a few choice models of late (HP 45, HP 67, HP 25C) only to be outbid

- by an unknown bidder - in the last 3 seconds of the auction. The prices paid for some of these units are, in my opinion, exhorbitant and I am increasingly disillusioned by TAS.

Jeff Kearns

Re: Do the Ebay sellers check the merchandise?

*Message #6 Posted by **Jim Yohe** on 31 Jan 2011, 5:37 p.m.,*
in response to message #5 by Jeff Kearns

You said, "The prices paid for some of these units are, in my opinion, exhorbitant and I am increasingly disillusioned by TAS", and I have to wholeheartedly agree!

Re: Do the Ebay sellers check the merchandise?

*Message #7 Posted by **David Hayden** on 2 Feb 2011, 7:05 a.m.,*
in response to message #5 by Jeff Kearns

The prices paid may be bad for the buyer, but I'm sure they make the sellers very happy. :)

I don't understand why ebay keeps a hard deadline on the end of an auction. If it was up to me, I'd extend the end time by perhaps 3-5 minutes after a last-minute bid to give other bidders a chance to counter. New bids would continue to extend the end-time. It would get rid of snipers, give buys a chance to get items they really want, and increase the sale price for sells. Since the minimum bid increment goes up geometrically, it wouldn't be possible to extend the bidding forever without going broke.

Re: Do the Ebay sellers check the merchandise?

*Message #8 Posted by **Allen** on 2 Feb 2011, 10:35 p.m.,*
in response to message #7 by David Hayden

> Quote:
>
> ... It would get rid of snipers...

Not really, it would just change how the sniping services operate.

For buyers who wanted to win without staying up until 2AM Friday morning, could still put a loop in the snipe program like this:

```
Initial Bid: $100
Bid Increment: $5
Max price: $125
```

The above settings would not extend the auction more than 5 times or past $125, which ever came first. It still gives an advantage over the human buyer who must carefully time a page reload, and be on a computer through the end of an auction. I suggest it would arguably not change the ending dynamics or the trading price in the long run, since the MAX Price will likely stay around "Fair Market Value", while snipers lower the initial bid, hoping for a deal. More bids does not always equal higher price.

Not that I have much experience buying or selling online or keep track of tens of thousands of historic HP calculator prices. ;-)

Re: Do the Ebay sellers check the merchandise?

*Message #9 Posted by **Jim Yohe** on 2 Feb 2011, 11:21 p.m.,*

in response to message #8 by Allen

FYI, from eBay's online customer support site (http://contact.ebay.com/ws/eBayISAPI.dll?CustomerSupport) I get from a search for "I want information about the automatic bidding system":

When you place a bid, enter the maximum amount you're willing to pay for the item. No one will see this amount. We'll place a bid that is just high enough to make you the high bidder or meet the reserve price if there is one. This means you could win the item for less than your maximum bid amount.

We'll continue to bid on your behalf to keep you the high bidder until the bidding reaches your maximum amount, and we'll send you an email each time we bid. If you're outbid, we'll send you an email so you can bid again if you want. The winner of the item is the one with the highest bid.

Re: Do the Ebay sellers check the merchandise?

*Message #10 Posted by **Martin Pinckney** on 2 Feb 2011, 11:50 p.m.,*
in response to message #9 by Jim Yohe

Jim,

Not sure if you realize Allen was talking about *external* bidding services that submit bids electronically for you.

Re: Do the Ebay sellers check the merchandise?

*Message #11 Posted by **Jim Yohe** on 3 Feb 2011, 12:21 a.m.,*
in response to message #10 by Martin Pinckney

I'm aware of it. I was just trying to point out that there is a means to use eBay to help automatically bid for you under certain conditions without the use of external proxy services or sniper programs.

Re: Do the Ebay sellers check the merchandise?

*Message #12 Posted by **Martin Pinckney** on 2 Feb 2011, 11:47 p.m.,*
in response to message #8 by Allen

> Quote:
>
> ... It would get rid of snipers...
>
> Not really, it would just change how the sniping services operate.

I agree it would not get rid of snipers, but it would prevent the sniper from winning the auction strictly on the basis of timing (which is the goal of sniping).

In other words, if the incremental bidder is not paying attention to the auction near closing time, the sniper still wins. But if he is paying attention, then he has another chance to submit an incremental bid. The same would hold true for additional snipes near the end of each time extension. If you really want to foil snipers, then have the duration of time extension vary randomly. The time extension would be posted on the auction page, but the ending time would not be made available electronically to the sniping service.

As an aside, I can't see why some people are so opposed to sniping. Some say it's "unfair." I disagree. If all bids were required to be submitted as a snipe, then it would be analogous to sealed bids. Everyone gives it their best shot, and the high bidder wins. What could be fairer than that?

But the auction sites like incremental bidding, because it keeps bidders coming back and looking, so they might see something else to bid on.

Re: Do the Ebay sellers check the merchandise?

*Message #13 Posted by **Allen** on 3 Feb 2011, 12:12 a.m.,*
in response to message #12 by Martin Pinckney

> Quote:
>
> I agree it would not get rid of snipers, but it would prevent the sniper from winning the auction strictly on the basis of timing (which is the goal of sniping).... if you really want to foil snipers, then have the duration of time extension vary randomly.

You can easily prove that sniping is NOT about timing by placing a higher bid at any time. If you are willing to pay a dollar or a cent more than everyone else is (subject to minimum bid increments), you win- it does not matter when the bid was placed.

On any given auction, you have no way of knowing how many snipe bids were placed for that item and later annulled because the bidding passed the snipers max threshold- independent of time.

I agree with you that universal sniping would be as close as possible to the unbiased, sealed bid.

Re: Do the Ebay sellers check the merchandise?

*Message #14 Posted by **Martin Pinckney** on 3 Feb 2011, 9:06 a.m.,*
in response to message #13 by Allen

> Quote:
>
> You can easily prove that sniping is NOT about timing by placing a higher bid at any time. If you are willing to pay a dollar or a cent more than everyone else is (subject to minimum bid increments), you win- it does not matter when the bid was placed.

True about higher amounts winning, but what I meant is that the goal of sniping is to get a bid in at the next allowable increase level before the incremental bidder has time to react before the auction closes. That *is* about timing.

By "incremental bidder," I mean the guy who sits at his computer watching the bids rise, then each time he gets outbid, offering another slightly higher bid of his own. In the end he is beat by a sniper because he does not have time to get in one more bid.

Re: Do the Ebay sellers check the merchandise?

*Message #15 Posted by **Don Shepherd** on 3 Feb 2011, 9:40 a.m.,*
in response to message #14 by Martin Pinckney

My strategy is to enter the absolute top amount I am willing to pay and then not worry about it. If I lose, it means somebody was willing to pay more. Easy peasy lemon squeezy.

Re: Do the Ebay sellers check the merchandise?

*Message #16 Posted by **Ernst Fueloep** on 3 Feb 2011, 12:51 p.m.,*
in response to message #14 by Martin Pinckney

> Quote:
>
> ... By "incremental bidder," I mean the guy who sits at his computer watching the bids rise, then each time he gets outbid, offering another slightly higher bid of his own. In the end he is beat by a sniper because he does not have time to get in one more bid.

I don't feel sorry for this "incremental bidder". If he wants to pay more anyway then why does he not bid a larger amount at once?

It is really strange because of such "incremental bidders" I usually bid only during the last seconds of an auction. If I would bid earlier such an "incremental bidder" ruins the price bidding a little bit more and more until he reaches my maximum price. If he wants to buy the item why does he not bid the amount he is willing to pay at once?

Re: Do the Ebay sellers check the merchandise?

*Message #17 Posted by **David Hayden** on 3 Feb 2011, 3:25 p.m.,*
in response to message #16 by Ernst Fueloep

> Quote:
>
> I don't feel sorry for this "incremental bidder". If he wants to pay more anyway then why does he not bid a larger amount at once?

Because he is already be the high bidder. There's nothing worse than being the high bidder, having a maximum bid that is higher than your current bid, and then being outbid in the last 3 seconds of the auction.

The whole "bid the maximum that you're willing to pay" concept assumes that you know ahead of time what that maximum is. This is funny since one of the purposes of a live auction is to get people caught up in the bidding - fundamentally to get them to change their mind about what they're willing to pay for an item.

Re: Do the Ebay sellers check the merchandise?

*Message #18 Posted by **Ernst Fueloep** on 3 Feb 2011, 3:51 p.m.,*
in response to message #17 by David Hayden

> Quote:
>
> ... The whole "bid the maximum that you're willing to pay" concept assumes that you know ahead of time what that maximum is. ...

Yes, normally you don't know what the maximum is. But you should know what the maximum is you are willing to pay for the item. If you have bid less and somebody bids in the last 3 seconds a higher price but still lower than what you would have been willing to pay than why do you blame the last second bidder? You could have bidden the maximum you were willing to pay and the last second bidder would probably not have outbid you.

Re: Do the Ebay sellers check the merchandise?

*Message #19 Posted by **Walter B** on 3 Feb 2011, 4:41 p.m.,*
in response to message #18 by Ernst Fueloep

That's the rational way of bidding. And the other is the emotional way. The latter is more fun for the participants, but you've to take care not paying more than you (later) want having paid. So it's the classical conflict between ratio and emotion, known for millenia.

Re: Do the Ebay sellers check the merchandise?

*Message #20 Posted by **bill platt** on 3 Feb 2011, 4:51 p.m.,*
in response to message #19 by Walter B

...and that is why good deals are very rare on ebay. Good deals for the buyer, that is!

Re: Do the Ebay sellers check the merchandise?

*Message #21 Posted by **BruceH** on 3 Feb 2011, 6:12 p.m.,*
in response to message #20 by bill platt

Irrespective of the pros and cons of sniping and time limited auctions I find it a total mystery that eBay has not at least experimented with traditional auctions i.e. ones that end only when there have been no more bids within a defined time limit.

I can't believe that it would cost eBay any more to hosts such auctions and it would surely bring in more revenue as sniped bargains would be a thing of the past?

Re: Do the Ebay sellers check the merchandise?

*Message #22 Posted by **bill platt** on 3 Feb 2011, 6:31 p.m.,*
in response to message #21 by BruceH

Maybe the logistics is against their model?

If you are going to have an auction--say, 10 minutes between bids = final bid, then you have to first publicize the auction, then run the auction. Ebay would have to have a "future auctions" page where each one would have a scheduled start time. Separately, you could go to the "active" auctions page to participate with ongoings, and a "closed" auctions page.

I suppose the seller would pay premiums for "prime" auction times and get a "discount" for auctions in the "middle of the

night" (that depends on market, doesn't it!)

It is an interesting idea!

Re: Do the Ebay sellers check the merchandise?

*Message #23 Posted by **robert rozee** on 4 Feb 2011, 6:57 a.m.,*
in response to message #21 by BruceH

here in new zealand we have TradeMe, www.trademe.co.nz which is the local equivalent of ebay. if a bid is placed within the last 2 minutes of an auction, the ending time is extended to be two minutes beyond the time of that bid - so an auction will only end after there has been no further bidding activity for 2 clear minutes.

incidentally, we also almost universally make payment for TradeMe by direct credit; you send the winning bidder your bank account number and name, and they deposit payment online by direct credit from their bank account into yours. all our banks in new zealand talk to each other (electronically) across a system that is transparent to the customer.

oh, and we have eftpos (electronic funds transfer at point of sale), whereby you can use an eftpos card issued by any bank to purchase goods at almost any retailer. a bit like a visa debit card, only not involving visa and usable by even children.

and we have a ban on nuclear weapons!!

cheers, rob ;-)

Re: Do the Ebay sellers check the merchandise?

*Message #24 Posted by **Paul Gaster** on 4 Feb 2011, 9:02 a.m.,*
in response to message #23 by robert rozee

Wow, great systems you have in place there, plus it's a beautiful country. Maybe I need to start packing.

Re: Do the Ebay sellers check the merchandise?

*Message #25 Posted by **Martin Pinckney** on 4 Feb 2011, 11:42 a.m.,*
in response to message #23 by robert rozee

> Quote:
>
> and we have a ban on nuclear weapons!!

Here's hoping that your potential enemies also have such a ban.

Re: Do the Ebay sellers check the

merchandise?

*Message #26 Posted by **bill platt** on 5 Feb 2011, 11:22 a.m.,*
in response to message #25 by Martin Pinckney

As long as NZ is an ally of the US, it is a moot point.

The one potential enemy of recent decades most definitely does not have a ban. That would be France.

Re: Do the Ebay sellers check the merchandise?

*Message #27 Posted by **Xavier A. (Brazil)** on 5 Feb 2011, 11:47 a.m.,*
in response to message #26 by bill platt

> Quote:
>
> The one potential enemy of recent decades most definitely does not have a ban. That would be France.

Hum.

(One of those frogs diplomatically said.)

By the way, entrance in NZ is very difficult due to very strict ecologic protective laws. If you ran a jogging in your country in the morning and packed in your shoes without having washed them, your arrival in this country would be more than complicated.

Nevertheless I do agree: it's a beautiful one.

Re: Do the Ebay sellers check the merchandise?

*Message #28 Posted by **bill platt** on 5 Feb 2011, 5:17 p.m.,*
in response to message #27 by Xavier A. (Brazil)

Hi Xavier,

Of course I am rather snarkily jesting. The friction between NZ an FR relates to two issues: 1, Underwater nuclear testing in the pacific, which France continued to carry out until shockingly recently and 2. The sinking of the Greenpeace RAINBOW WARRIOR including the murder of two crewmembers.

Obviously the countries are linked by a web of alliances anyway...and France would never threaten

NZ in our lifetimes...

Re: Do the Ebay sellers check the merchandise?

*Message #29 Posted by **Xavier A. (Brazil)** on 5 Feb 2011, 7:21 p.m.,*
in response to message #28 by bill platt

I did understand that, and I'm not particularly proud of these events. Never mind, Bill, in general every country is constitued of human beings who, 'pour étrange que cela puisse paraître', never decided to born there but love their home.

OT: Do the Ebay sellers check the merchandise?

*Message #30 Posted by **Martin Pinckney** on 5 Feb 2011, 4:04 p.m.,*
in response to message #26 by bill platt

> Quote:
>
> As long as NZ is an ally of the US, it is a moot point.

So the ban is a practical one, not philosophical. I.e., as long as we have Uncle Sam to provide *his* nuclear umbrella, we need not bother with the costs/risks of having our own.

Re: OT: Do the Ebay sellers check the merchandise?

*Message #31 Posted by **bill platt** on 5 Feb 2011, 5:14 p.m.,*
in response to message #30 by Martin Pinckney

I don't know whether that is the position. But of course we all make those sorts of compromises. No country lives in a vacuum.

Re: OT: Do the Ebay sellers check the merchandise?

*Message #32 Posted by **Massimo Gnerucci (Italy)** on 5 Feb 2011, 5:54 p.m.,*
in response to message #31 by bill platt

> Quote:

> No country lives in a vacuum.

We do. It's about nineteen years by now... :(

Re: OT: Do the Ebay sellers check the merchandise?

*Message #33 Posted by **bill platt** on 6 Feb 2011, 9:00 a.m.,*
in response to message #32 by Massimo Gnerucci (Italy)

Haha, as in "that giant sucking sound"?

Re: OT: Do the Ebay sellers check the merchandise?

*Message #34 Posted by **Massimo Gnerucci (Italy)** on 6 Feb 2011, 12:23 p.m.,*
in response to message #33 by bill platt

If the reference is the same as that given by Wikipedia... well, yes, but not only that.

We are the hollow men
We are the stuffed men
Leaning together
Headpiece filled with straw.
Alas!

Greetings,
Massimo

Re: OT: Do the Ebay sellers check the merchandise?

*Message #35 Posted by **Walter B** on 5 Feb 2011, 6:47 p.m.,*
in response to message #30 by Martin Pinckney

Hmmmh, it makes little difference in warfare whether you die in "friendly fire", "collateral damages" or by the enemy's bombs. AFAIK, the same holds in nuclear warfare, but for a larger area :(

Re: Do the Ebay sellers check the merchandise?

*Message #36 Posted by **Michael de Estrada** on 5 Feb 2011, 1:21 p.m.,*
in response to message #5 by Jeff Kearns

> Quote:

> PLUS... he guaranteed the unit to be in working condition. Buyer claims he/she sent it back but did not get a refund. Negative feedback on TAS is not something to be envied. If you're gonna play the game you gotta learn to play it right.

There's an old saying, "There's three sides to every story, yours, mine and the truth." We've just heard the buyer's side, and cannot take it to necessarily be the unvarnished truth. The seller claims that the item was in perfect working condition when shipped and also stated clearly that there are "no returns." So, any guarantee is essentially worthless, given that it can't be enforced. Can we say for sure that the item was not damaged in shipping? After all, it was shipped to Brazil, and possibly opened at customs. Can we say for sure that the buyer did not damage it through accident, abuse or misuse? Did the buyer contact the seller to request return of the item? Did the buyer even return the item? We only have the buyer's word on this. I'm not siding with the seller here, and would never be stupid enough to buy anything from him, given his attitude and absurd pricing. However, I have little sympathy for people who deal with people like this and then complain when they get burned.

[Return to Index | Top of Index]

Go back to the main exhibit hall

N-queens benchmark and the HP-17BII

*Message #1 Posted by **Thomas Klemm** on 31 Jan 2011, 3:23 a.m.*

We're not obliged to use a backtracking algorithm. We can use brute force and cycle through all the combinations. Let's assume we have variables *a, b, c, d ...* representing the position of the queens then the condition to come true would be something like:

```
a#b & a#c & a#d & ...
      b#c & b#d & ...
            c#d & ...
...
|a-b|#1 & |a-c|#2 & |a-d|#3 & ...
         |b-c|#1 & |b-d|#2 & ...
                   |c-d|#1 & ...
...
```

There are several ways to cycle through all the possible positions. One would be to have a counter *i* from where the positions *a, b, c, d ...* can be calculated. This is basically representing the counter *i* in base *N*.

Given the limitation of ~2,400 cycles I'm afraid we can only solve $N = 4$ as $4^4 = 256$ and $5^5 = 3{,}125$. But maybe this idea can be improved.

I'm sure Katie had a reason to use INV(A) on both sides of the equation. My guess is it tricks the solver into solving the equation numerically. The disadvantage is that we need the same conditional on both sides. So finding another equation that can't be solved algebraically by the solver would refrain us from typing the same stuff twice.

Of course using an error condition to stop the program would be another solution.

Cheers
Thomas

Edited: 31 Jan 2011, 3:53 a.m.

Re: N-queens benchmark and the HP-17BII

*Message #2 Posted by **Mike (Stgt)** on 31 Jan 2011, 8:15 a.m.,*
in response to message #1 by Thomas Klemm

Since few days I have an HP17B2+ (instead of an emulated HP-35S). Seems it will take me some more weekends to understand your N-queens problem - or solution. Where should I start?

Best.....Mike

Re: N-queens benchmark and the HP-17BII

*Message #3 Posted by **Thomas Klemm** on 1 Feb 2011, 10:28 p.m.,*
in response to message #2 by Mike (Stgt)

Quote:

> Where should I start?

For the N-queens problem I'd recommend Google or Wikipedia. This is a quiet well known problem. For the solver see Don's message #38 below:

> Quote:
>
> This manual is on the museum DVD set (2719tech.pdf).

HTH
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #4 Posted by **Thomas Klemm** on 31 Jan 2011, 8:56 a.m.,*
in response to message #1 by Thomas Klemm

Here's the solution for the 4-queens problem:

```
QUEENS:
Z=P+Q+R+S+
\GS(A:1:4:1:
\GS(B:1:4:1:
IF(A<>B:
IF(SQ(A-B)<>1:
\GS(C:1:4:1:
IF(A<>C:
IF(SQ(A-C)<>4:
IF(B<>C:
IF(SQ(B-C)<>1:
\GS(D:1:4:1:
IF(A<>D:
IF(SQ(A-D)<>9:
IF(B<>D:
IF(SQ(B-D)<>4:
IF(C<>D:
IF(SQ(C-D)<>1:
L(P:A)xL(Q:B)xL(R:C)xL(S:D)/0
:0):0):0):0):0):0))
:0):0):0):0))
:0):0)))
```

After entering the equation which is quiet a pain you get the following menu:

```
[  Z  ][  P  ][  Q  ][  R  ][  S  ]
```

Enter 0 to P, Q, R and S and solve for Z. After a while you get an error message:

```
SOLUTION NOT FOUND
```

Now you can recall the solution:

```
P = 2
Q = 4
R = 1
S = 3
```

This corresponds to the following configuration:

```
┌     ┐┌     ┐┌  #  ┐┌     ┐
│  #  ┘└     ┘└     ┘└     ┘
└     ┐┌     ┐┌     ┐┌  #  ┐
┌     ┘└  #  ┘└     ┘└     ┘
```

Please don't make me type this for the 8-queens problem. I had to type this on an iPhone.

Cheers
Thomas

Edited: 31 Jan 2011, 9:02 a.m.

Re: N-queens benchmark and the HP-17BII

*Message #5 Posted by **Don Shepherd** on 31 Jan 2011, 12:36 p.m.,*
in response to message #4 by Thomas Klemm

Congratulations Thomas. There are more IF's and sigma's in there than you can shake a stick at!

I'm not familiar enough with this problem to know whether your work can be enhanced to do the 8-queens problem. Can it?

Don

Re: N-queens benchmark and the HP-17BII

*Message #6 Posted by **Thomas Klemm** on 31 Jan 2011, 1:44 p.m.,*
in response to message #5 by Don Shepherd

> Quote:
>
> I'm not familiar enough with this problem to know whether your work can be enhanced to do the 8-queens problem. Can it?

I assume so. Just counted the amount of characters and got something very close to 1,000. So the memory shouldn't be an issue. But who wants to enter all these? I've expanded the equation to solve the 5-queens problem and I got {1, 3, 5, 2, 4}.

The algorithm isn't very complicated. It's basically what you would do on a physical board: put the 1st queen at the first possible position, then the 2nd to the next possible position and so on. Whenever you can't proceed go one step backwards and try the next possible position. So we have 4 (or 8) nested for-loops but since some are enclosed within if-statements we don't really execute them all. I'd say it's pretty much the same algorithm as used in the other programs. When a legal position is reached the program stops due to an error condition (division by zero). It turned out to be much easier than using Katie's trick.

How do we you want to proceed? Any volunteers to enter that beast into a HP-17BII? I could provide the listing but not before the end of the week. But I think it should be possible to extrapolate the listing for the case of 8-queens.

As I'm not very familiar with the solver I still have the following question: Am I right that the variable of a summation is only visible within this scope? I circumvented this by assigning this value to a global variable. Are there better ways to do it?

Cheers
Thomas

Edited: 31 Jan 2011, 2:43 p.m. after one or more responses were posted

Re: N-queens benchmark and the HP-17BII

*Message #7 Posted by **Martin Pinckney** on 31 Jan 2011, 2:14 p.m.,*

in response to message #6 by Thomas Klemm

> Quote:
>
> Am I right that the variable of a summation is only visible within this scope?

Thomas, can you explain what you mean here? Thanks.

Re: N-queens benchmark and the HP-17BII

*Message #8 Posted by **Thomas Klemm** on 31 Jan 2011, 3:02 p.m.,*
in response to message #7 by Martin Pinckney

Let's assume we have a simple equation:

```
A=B+C
```

Now all of these three variables will be displayed in the solver menu. Compare that to a summation:

```
A=\GS(I:1:4:1:SQ(I))
```

Now only the variable *A* is displayed in the menu which makes perfectly sense: the variable *I* is a local variable to the summation. But I need to get exactly that value out and all I could think of was to use another global variable *P* and copy the local variable *I* to it. So my question was whether there's a better solution to that problem.

Thanks in advance
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #9 Posted by **Don Shepherd** on 31 Jan 2011, 2:52 p.m.,*
in response to message #6 by Thomas Klemm

> Quote:
>
> Am I right that the variable of a summation is only visible within this scope? I circumvented this by assigning this value to a global variable. Are there better ways to do it?

It seems the solver knows that the index to a sigma function is probably something that the user does not want to see in the menu, because your menu does not include your loop indexes A, B, C, and D. So, yeah, the way you did it is probably the best way.

That's great work, Thomas, as is usual for you. I don't think I have the patience to extend it to the 8-queens myself, but I am curious as to how long that execution would take. Perhaps Mark will pickup the ball and try his hand at "extreme HP17bii+ programming"!

Don

Re: N-queens benchmark and the HP-17BII

*Message #10 Posted by **Mark Harman** on 31 Jan 2011, 4:51 p.m.,*
in response to message #9 by Don Shepherd

LOL...

Perhaps if I pick up a 17bII+ first... I've used them before; however, I've never owned one. :^)

Mark

Re: N-queens benchmark and the HP-17BII

*Message #11 Posted by **Thomas Klemm** on 1 Feb 2011, 4:57 a.m.,*
in response to message #5 by Don Shepherd

It took 6'24.1" to solve the 8-queens problem with my HP-17BII. Don't ask me how long it took me to enter the equation. Here's the solution:

```
{ 1, 5, 8, 6, 3, 7, 2, 4 }
```

Cheers
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #12 Posted by **Don Shepherd** on 1 Feb 2011, 7:35 a.m.,*
in response to message #11 by Thomas Klemm

Is that 6 hours and 24 minutes or 6 minutes and 24 seconds? I'm guessing the former.

don

Re: N-queens benchmark and the HP-17BII

*Message #13 Posted by **Martin Pinckney** on 1 Feb 2011, 8:34 a.m.,*
in response to message #12 by Don Shepherd

Standard notation indicates 6 minutes 24.1 seconds.

Re: N-queens benchmark and the HP-17BII

*Message #14 Posted by **Don Shepherd** on 1 Feb 2011, 8:12 a.m.,*
in response to message #11 by Thomas Klemm

Thomas, many thanks for your supreme effort here in proving that the 17bii is truly a "programmable" calculator. It may not be fast, certainly not like the 30b is fast, and it may be cumbersome to write programs in the solver, but you have proven that it does have the basic functions to support programming.

Did you contact Xerxes to add this to the n-queens benchmark timing list?

Mark, now you can see that the 17bii+ can support programmable functions like this. Personally, I like the challenge of seeing how much all of these programmable calculators can do. My favorite in this regards is probably the HP-65 I got a few years ago, with its limited registers and programming space and conditionals and no indirect addressing. But I am amazed at what it can do sometimes, with crafty programming. Same with the 12c. Same with the 17bii.

Don

Re: N-queens benchmark and the HP-17BII

*Message #15 Posted by **Mark Harman** on 1 Feb 2011, 12:34 p.m.,*
in response to message #14 by Don Shepherd

Yes, indeed I can. Quite honestly, I wanted the 17bII+ to be able to do this, too. I think it is absolutely fantastic that Thomas pulled it off.

Mark

Re: N-queens benchmark and the HP-17BII

*Message #16 Posted by **Xerxes** on 1 Feb 2011, 8:17 a.m.,*
in response to message #11 by Thomas Klemm

Thank you Thomas, I'm really impressed. I see that I've underestimated the capabilities of the solver. I've updated the benchmark list with your result and the 4-queens-equation as example.

Re: N-queens benchmark and the HP-17BII

*Message #17 Posted by **Thomas Klemm** on 1 Feb 2011, 2:33 p.m.,*
in response to message #16 by Xerxes

Equation for the 8-queens problem

```
QUEENS:
Z=A+B+C+D+E+F+G+H+
\GS(I:1:8:1:
\GS(J:1:8:1:
IF(I<>J:IF(SQ(I-J)<>1:
\GS(K:1:8:1:
IF(I<>K:IF(SQ(I-K)<>4:
IF(J<>K:IF(SQ(J-K)<>1:
\GS(L:1:8:1:
IF(I<>L:IF(SQ(I-L)<>9:
IF(J<>L:IF(SQ(J-L)<>4:
IF(K<>L:IF(SQ(K-L)<>1:
\GS(M:1:8:1:
IF(I<>M:IF(SQ(I-M)<>16:
IF(J<>M:IF(SQ(J-M)<>9:
IF(K<>M:IF(SQ(K-M)<>4:
IF(L<>M:IF(SQ(L-M)<>1:
\GS(N:1:8:1:
IF(I<>N:IF(SQ(I-N)<>25:
IF(J<>N:IF(SQ(J-N)<>16:
IF(K<>N:IF(SQ(K-N)<>9:
IF(L<>N:IF(SQ(L-N)<>4:
IF(M<>N:IF(SQ(M-N)<>1:
\GS(O:1:8:1:
IF(I<>O:IF(SQ(I-O)<>36:
IF(J<>O:IF(SQ(J-O)<>25:
IF(K<>O:IF(SQ(K-O)<>16:
IF(L<>O:IF(SQ(L-O)<>9:
IF(M<>O:IF(SQ(M-O)<>4:
IF(N<>O:IF(SQ(N-O)<>1:
\GS(P:1:8:1:
IF(I<>P:IF(SQ(I-P)<>49:
IF(J<>P:IF(SQ(J-P)<>36:
IF(K<>P:IF(SQ(K-P)<>25:
IF(L<>P:IF(SQ(L-P)<>16:
IF(M<>P:IF(SQ(M-P)<>9:
IF(N<>P:IF(SQ(N-P)<>4:
IF(O<>P:IF(SQ(O-P)<>1:
L(A:I)xL(B:J)xL(C:K)xL(D:L)xL(E:M)xL(F:N)xL(G:O)xL(H:P)/0
:0):0):0):0):0):0):0):0):0):0):0):0):0))
:0):0):0):0):0):0):0):0):0):0):0):0):0))
:0):0):0):0):0):0):0):0):0):0):0))
:0):0):0):0):0):0):0):0))
:0):0):0):0):0):0))
```

```
:0):0):0):0))
:0):0)))
```

The names of the variables have been changed: now you get the result in *A*-*H* whereas the local variables *I*-*P* are used in the summations. The result *{ 1, 5, 8, 6, 3, 7, 2, 4 }* corresponds to the following configuration:

```
    A   B   C   D   E   F   G   H
  +---+---+---+---+---+---+---+---+
1 | # |   |   |   |   |   |   |   |
  +---+---+---+---+---+---+---+---+
2 |   |   |   |   |   |   | # |   |
  +---+---+---+---+---+---+---+---+
3 |   |   |   |   | # |   |   |   |
  +---+---+---+---+---+---+---+---+
4 |   |   |   |   |   |   |   | # |
  +---+---+---+---+---+---+---+---+
5 |   | # |   |   |   |   |   |   |
  +---+---+---+---+---+---+---+---+
6 |   |   |   | # |   |   |   |   |
  +---+---+---+---+---+---+---+---+
7 |   |   |   |   |   | # |   |   |
  +---+---+---+---+---+---+---+---+
8 |   |   | # |   |   |   |   |   |
  +---+---+---+---+---+---+---+---+
```

I think this example shows both the capabilities and limitations of this nice calculator. Of course you'd prefer decent subroutines to what is named "call by editor". On the other hand you're able to solve some hard problems.

Using the solver is a little like using Excel and that's probably something business people are more familiar with than procedural programming. On the other hand it reminds me also of a functional programming language like Haskell.

As for the handling of such a huge equation I was surprised of the good support. The characters I needed most (:<>) were easy to access. Of course I made some typos but these could easily be fixed as the "debugger" just stopped at the right position. It took nearly 2 minutes for VERIFYING the EQUATION though. But I think the speed of the solver is quiet okay considering what we really do here. I was afraid to fry the batteries running the calculator for hours.

As for the timing: **00:06:23.5** is my 2nd measurement. I suppose my reaction was a little better as I expected the solver to finish at that time.

Kind regards and thanks for the interesting challenge
Thomas

Edited: 1 Feb 2011, 10:02 p.m. after one or more responses were posted

Re: N-queens benchmark and the HP-17BII

*Message #18 Posted by **Xerxes** on 1 Feb 2011, 8:03 p.m.,*
in response to message #17 by Thomas Klemm

Thank you very much for your effort and the additional informations.

Schönen Gruß, Pascal

Re: N-queens benchmark and the HP-17BII

*Message #19 Posted by **Thomas Klemm** on 1 Feb 2011, 10:11 p.m.,*

in response to message #18 by Xerxes

There was a closing parenthese missing in the last line of my listing above. Could you please correct that in your list as well?

Sorry for that lapsus
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #20 Posted by **Thomas Klemm** on 2 Feb 2011, 4:19 p.m.,*
in response to message #17 by Thomas Klemm

Today I realized that I could use AND instead of nested IF-statements. With this change it takes only **00:03:28.8** to solve the 8-queens problem. The listing is here:

```
QUEENS:
Z=A+B+C+D+E+F+G+H+
\GS(I:1:8:1:
\GS(J:1:8:1:
IF(I<>J AND SQ(I-J)<>1:
\GS(K:1:8:1:
IF(I<>K AND SQ(I-K)<>4
AND J<>K AND SQ(J-K)<>1:
\GS(L:1:8:1:
IF(I<>L AND SQ(I-L)<>9
AND J<>L AND SQ(J-L)<>4
AND K<>L AND SQ(K-L)<>1:
\GS(M:1:8:1:
IF(I<>M AND SQ(I-M)<>16
AND J<>M AND SQ(J-M)<>9
AND K<>M AND SQ(K-M)<>4
AND L<>M AND SQ(L-M)<>1:
\GS(N:1:8:1:
IF(I<>N AND SQ(I-N)<>25
AND J<>N AND SQ(J-N)<>16
AND K<>N AND SQ(K-N)<>9
AND L<>N AND SQ(L-N)<>4
AND M<>N AND SQ(M-N)<>1:
\GS(O:1:8:1:
IF(I<>O AND SQ(I-O)<>36
AND J<>O AND SQ(J-O)<>25
AND K<>O AND SQ(K-O)<>16
AND L<>O AND SQ(L-O)<>9
AND M<>O AND SQ(M-O)<>4
AND N<>O AND SQ(N-O)<>1:
\GS(P:1:8:1:
IF(I<>P AND SQ(I-P)<>49
AND J<>P AND SQ(J-P)<>36
AND K<>P AND SQ(K-P)<>25
AND L<>P AND SQ(L-P)<>16
AND M<>P AND SQ(M-P)<>9
AND N<>P AND SQ(N-P)<>4
AND O<>P AND SQ(O-P)<>1:
L(A:I)xL(B:J)xL(C:K)xL(D:L)xL(E:M)xL(F:N)xL(G:O)xL(H:P)/0
:0)):0)):0)):0)):0)):0)):0)))
```

Cheers
Thomas

Removed typo (empty if-statement) detected by Don Shepherd (cf. message # 32)

Edited: 4 Feb 2011, 5:33 a.m. after one or more responses were posted

Re: N-queens benchmark and the HP-17BII

*Message #21 Posted by **Don Shepherd** on 2 Feb 2011, 4:52 p.m.,*
in response to message #20 by Thomas Klemm

Wow, lots fewer IF's and, therefore, parentheses. Looks much nicer Thomas. You're not still keying that in on your iphone are you? :) I see a case of carpal tunnel coming...

Don

Re: N-queens benchmark and the HP-17BII

*Message #22 Posted by **Thomas Klemm** on 3 Feb 2011, 3:20 a.m.,*
in response to message #21 by Don Shepherd

> Quote:
>
> You're not still keying that in on your iphone are you?

Nay, meanwhile I had access to a decent computer. Both listings for the 8-queens were generated to avoid typos. Well there still might be but now at least at similar places. Nevertheless a mobile version of this forum would be nice.

> Quote:
>
> I see a case of *carpal tunnel* coming...

A lot of new words I learn in this forum.

Thanks
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #23 Posted by **Katie Wasserman** on 3 Feb 2011, 4:21 a.m.,*
in response to message #22 by Thomas Klemm

> Quote:
>
> Nevertheless a mobile version of this forum would be nice.

I'll second that. Dave, how about it? Something new for you to develop.

Thomas, Very nice work on this solver solution!

-Katie

Re: N-queens benchmark and the HP-17BII

*Message #24 Posted by **Thomas Klemm** on 3 Feb 2011, 11:22 a.m.,*
in response to message #23 by Katie Wasserman

Katie, guess who inspired us in doing this?

Cheers
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #25 Posted by **Thomas Klemm** on 3 Feb 2011, 11:17 a.m.,*
in response to message #21 by Don Shepherd

> Quote:
>
> Wow, lots fewer IF's and, therefore, parentheses.

I was quiet surprised that this change reduced the time so much. It seems that jumps are expensive in the solver. Does anybody know the internal operating principles of this solver? What's happening during VERIFYING EQUATION... ? My speculation is that the equation is translated into some byte code. Or is it also RPL as in the HP-48? Christoph Gießelink might have an emulator and thus the ROM of this calculator. I remember a screen-shot of his desktop with pretty much every pioneer. So he could know. Or maybe someone at HP? Tim or Cyrill?

Just curious
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #26 Posted by **Don Shepherd** on 3 Feb 2011, 12:44 p.m.,*
in response to message #25 by Thomas Klemm

Thomas, I suspect you are right about what happens during Verifying Equation. Something interesting I found was the difference between the original 17b and 17bii and the plusses regarding this behavior. The 17b (and bii) take much longer during the "verifying equation" phase, but are much quicker to actually solve the same equation than the plusses. Personally, I'd rather have the fast response during the execution phase rather than the "compile" phase, so I prefer the originals.

Don

Re: N-queens benchmark and the HP-17BII

*Message #27 Posted by **Martin Pinckney** on 3 Feb 2011, 1:46 p.m.,*
in response to message #26 by Don Shepherd

Don,

I own only the original 17b. Besides the RPN option (and different color scheme), are there other significant difference in the 17bii? (Not +).

As an aside, too bad HP never made a 27sii (with RPN option). Might have made even 42s fans take a look.

Which is why I advocate a new scientific that incorporates the best features of both 42s and 27s.

Re: N-queens benchmark and the HP-17BII

*Message #28 Posted by **Don Shepherd** on 3 Feb 2011, 1:51 p.m.,*
in response to message #27 by Martin Pinckney

> Quote:

> Besides the RPN option (and different color scheme), are there other significant difference in the 17bii?

I think that's the only difference, Martin. I'm pretty sure they have the same amount of memory, and I know the solvers are the same.

Re: N-queens benchmark and the HP-17BII

*Message #29 Posted by **Martin Pinckney** on 3 Feb 2011, 1:59 p.m.,*
in response to message #28 by Don Shepherd

Thanks.

Re: N-queens benchmark and the HP-17BII

*Message #30 Posted by **Mark Harman** on 2 Feb 2011, 4:55 p.m.,*
in response to message #20 by Thomas Klemm

Thomas,

Awesome optimizing, there. It looks like Xerxes is going to have to update the benchmark table again. I want to reiterate how impressed I am with this and the fact that you took this task on. Good job!

Regards,

Mark

Re: N-queens benchmark and the HP-17BII

*Message #31 Posted by **Xerxes** on 2 Feb 2011, 5:47 p.m.,*
in response to message #20 by Thomas Klemm

What a nice optimization. Your work demonstrates the power of the solver in a very interesting way.

Re: N-queens benchmark and the HP-17BII

*Message #32 Posted by **Don Shepherd** on 3 Feb 2011, 1:28 p.m.,*
in response to message #20 by Thomas Klemm

Thomas, was it your intention to have an IF with no condition (line 4)? I've started to enter this on my 17bii+ and this seemed weird.

Don

Re: N-queens benchmark and the HP-17BII

*Message #33 Posted by **Don Shepherd** on 4 Feb 2011, 4:51 a.m.,*
in response to message #32 by Don Shepherd

OK, I entered this one on my brown/rubbery 17bii+ from 2007, and it gets the correct answer in 6 minutes 25 seconds, quite a bit slower than the original 17bii which does not surprize me. But the fact that it can be done at all is still amazing for

an officially "non-programmable" calculator.

Thomas, very nice work and I am in awe of what you have done.

Don

Edited: 4 Feb 2011, 6:06 a.m.

Re: N-queens benchmark and the HP-17BII

*Message #34 Posted by **Thomas Klemm** on 4 Feb 2011, 6:06 a.m.,*
in response to message #33 by Don Shepherd

Don, it was a typo. I removed the superfluous line. Thanks for pointing that out and for taking the time to enter that equation into your calculator. Based on your measurement it should rather be called HP-17bii-. Or what is considered to be the improvement?

Did you notice that the HP-17BII is right between the HP-42S with ROM versions A and C (using Turbo + Fast mode) in Xerxes' Calculator Benchmark list? Not bad, I'd say.

Best regards
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #35 Posted by **Don Shepherd** on 4 Feb 2011, 6:11 a.m.,*
in response to message #34 by Thomas Klemm

> Quote:
>
> Or what is considered to be the improvement?

I guess the only real improvement is increased storage space, which is good if you're going to use lots of equations. I do wish they would have left the solver alone, however.

Re: N-queens benchmark and the HP-17BII

*Message #36 Posted by **Xerxes** on 5 Feb 2011, 6:05 a.m.,*
in response to message #33 by Don Shepherd

Thank you for testing the HP-17BII+. I've updated the list with your result and the corrected equation.

Re: N-queens benchmark and the HP-17BII

*Message #37 Posted by **Mark Harman** on 1 Feb 2011, 12:35 p.m.,*
in response to message #11 by Thomas Klemm

Thomas,

I am extremely impressed by this accomplishment. Kudos to you.

Regards,

Mark

Re: N-queens benchmark and the HP-17BII

*Message #38 Posted by **Martin Pinckney** on 31 Jan 2011, 1:36 p.m.,*
in response to message #4 by Thomas Klemm

Now I want to know: does this mean the 17bii is programmable?

Re: N-queens benchmark and the HP-17BII

*Message #39 Posted by **Raymond Del Tondo** on 31 Jan 2011, 5:13 p.m.,*
in response to message #38 by Martin Pinckney

Yes, of course. Not in a sense like the HP-41, but you can enter and evaluate expressions, which themselves can call and include other expressions;-)

Re: N-queens benchmark and the HP-17BII

*Message #40 Posted by **Martin Pinckney** on 31 Jan 2011, 9:44 p.m.,*
in response to message #39 by Raymond Del Tondo

Raymond,

My question was somewhat tongue-in-cheek because of an earlier discussion in another thread. Not sure if you saw that one. It included the following comment by Mark Harman:

> Quote:
>
> I remain unconvinced of the extent of programmability of the 17b series. They're great calculators and the menu-based Solve is awesome, but I think by its nature it is more limited than other programmable machines. Perhaps this is where creativity comes in and a good programmer can really shine in this regard.
>
> Still, if you want to really impress me and, at the same time, make me a true believer of the 17's programming capability, write a version of the N-queens benchmark program for the 17bII+, execute it, and submit the time. ;^) As of yet, nobody has done this. Personally, I think this is a golden opportunity to prove all the naysayers wrong - if possible.

I have always maintained that the "Solver only" HP's are indeed programmable.

Re: N-queens benchmark and the HP-17BII

*Message #41 Posted by **x34** on 1 Feb 2011, 10:28 a.m.,*
in response to message #38 by Martin Pinckney

Yes. Any calculator which is Turing-complete is 100% programmable one. And solver of HP-17BII is definetely Turing complete.

I'm trying now to prove turing-completeness of HP-35S' solver.

However, not EVERY HP Solver is Turing complete. e.g. solvers of HP-32SII and HP-33S are NOT

Turing complete. There is no known way to alter registers in Solver of these calcs. (Calcs themselves are complete, only Solver is not).

Re: N-queens benchmark and the HP-17BII

*Message #42 Posted by **Martin Pinckney** on 1 Feb 2011, 11:11 a.m.,*
in response to message #41 by x34

Well, I guess that settles it. So it was not necessary after all to develop a N-Queens routine to prove programmability.

Re: N-queens benchmark and the HP-17BII

*Message #43 Posted by **x34** on 1 Feb 2011, 12:11 p.m.,*
in response to message #42 by Martin Pinckney

I think the purpose of solving N-queen problem was different.

a. To measure the speed, so HP-17B could be added to famous Xerxes' list-o-fame.

b. The main one, i guess. To prove thyself thou CAN do it, and thou DID it. It's the most amazing thing with calcs to do - they are just means, not purpose - to make amazing things.

And. there is one more. If computer is not Turing-complete, it does not imply it could solve no problems. It just says it could solve not ALL problems, the other are capable of.

But, of course, if you have a problem and you know the computer is turing-complete, it gives you idea it could be solved.

Re: N-queens benchmark and the HP-17BII

*Message #44 Posted by **Mark Harman** on 1 Feb 2011, 12:50 p.m.,*
in response to message #42 by Martin Pinckney

I was actually already convinced of programmability after given a good definition of what being programmable meant and being told that it could run a prime factor solver. At the point I asked about the N-queens benchmark, I just wanted to know to what it extent the machine was programmable. I thought that it would be limited since the n-queens problem, I feel, tests very well the robustness of a computer's level of programmability. With Thomas's feat, I am now convinced that creativity and patience can allow for a lot of complexity and variety in 17b series Solver programs.

It may not be a speed demon, but the fact that it can do N-queens is a heck of a lot more than what many calculators out there can do. I think it is awesome that it can be done. I will probably still not buy one of these machines, but I have a lot more respect for what its Solver can do now.

Also, I wasn't aware that the 17b series Solver was Turing Complete. Knowing this now helps me see better why Thomas was able to accomplish such an impressive display of programming.

Regards,

Mark

Edited: 1 Feb 2011, 12:52 p.m.

Re: N-queens benchmark and the HP-17BII

*Message #45 Posted by **Don Shepherd** on 1 Feb 2011, 1:48 p.m.,*
in response to message #44 by Mark Harman

This was all documented years ago on this forum, and I learned it through a painful experience, but there are differences between the solver in the 17b and 17bii and the solver in the 17bii+ (both brown and silver). Essentially, the solver in the 17b and bii operates like a programmer thinks it would; the solver in the plusses does not always do that.

This can be illustrated by a simple equation to get the sum of digits from input N:

```
a=sigma(i:0:log(n):1:mod(n:10)+0*l(n:idiv(n:10)))
```

Solve for A. Works like a trooper on the 17b and 17bii, but on the 17bii+ it results in "solution not found" because the solver on the plusses does a pre-evaluation pass of the equation to calculate items that can be precalculated (per Cyrille), but to do this it actually executes the equation twice, and the first pass (which the 17b does not do) reduces n to 0 so when you try to do log(n) when n is 0 in the second pass you get the error message. Now, there are workarounds, but anyone who intends to write "programs" for the plusses needs to be aware of this. When I got my 17bii+ years ago and tried that equation and it didn't work, I wrote HP and they told me the equation was "meaningless." That offended me greatly.

Don

Re: N-queens benchmark and the HP-17BII

*Message #46 Posted by **bill platt** on 3 Feb 2011, 4:57 p.m.,*
in response to message #45 by Don Shepherd

> Quote:
>
> When I got my 17bii+ years ago and tried that equation and it didn't work, I wrote HP and they told me the equation was "meaningless."

That would offend me, too!

Re: N-queens benchmark and the HP-17BII

*Message #47 Posted by **Martin Pinckney** on 1 Feb 2011, 1:00 p.m.,*
in response to message #41 by x34

> Quote:
>
> There is no known way to alter registers in Solver of these calcs.

Would you elaborate? What exactly do you mean by "alter registers"?

Re: N-queens benchmark and the HP-17BII

*Message #48 Posted by **x34** on 1 Feb 2011, 2:49 p.m.,*
in response to message #47 by Martin Pinckney

I mean 33S and 32sII lack "STO: (or L() in 17B terms) in solver, while solver of 35s has it.

Re: N-queens benchmark and the HP-17BII

*Message #49 Posted by **Thomas Klemm** on 1 Feb 2011, 2:41 p.m.,*
in response to message #41 by x34

> Quote:
>
> And solver of HP-17BII is definetely Turing complete.
>
> I'm trying now to prove turing-completeness of HP-35S' solver.

I'd be interested in both proofs.

Cheers
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #50 Posted by **x34** on 1 Feb 2011, 3:02 p.m.,*
in response to message #49 by Thomas Klemm

Thomas, my proof attempt is vulgar, and so we should settle on rules first.

```
1. Ability to read/write memory register.
2. Ability to change value before writing. i.e. read A, store A+1
3. Ability to execute conditional statement (IF A THEN B), a-la
   X<=Y?:STO+3 B
4. Ability to make conditional jump (X>Y?: GOTO A)- this is a hard nut on HP-
35S.
```

Something not mentioned here? These are all from my memory.

Re: N-queens benchmark and the HP-17BII

*Message #51 Posted by **Thomas Klemm** on 1 Feb 2011, 3:55 p.m.,*
in response to message #50 by x34

> Quote:
>
> 4. Ability to make conditional jump (X>Y?: GOTO A)- this is a hard nut on HP-35S.

This is the point where I have my doubts concerning the HP-17BII. My equation uses an error to exit the nested loop but that terminates the program as well. Big problem when you need to continue the calculation because this is only an intermediate result. The same problem arisies with Katie's trick. We can start the solver only once. So I can imagine that there might be relatively easy problems that can't be solved with this calculator.

But I must confess that I dont understand yet what "Turing complete" exactly means.

Kind regards
Thomas

Re: N-queens benchmark and the HP-17BII

*Message #52 Posted by **x34** on 1 Feb 2011, 4:14 p.m.,*

in response to message #51 by Thomas Klemm

Wiki says http://en.wikipedia.org/wiki/Turing_complete

"This requires, at a minimum, conditional branching (an "if" and "goto" statement) and the ability to change arbitrary memory locations."

Basicaly, i remember the same.

more can be find here:

http://en.wikipedia.org/wiki/Turing_machine_equivalents#Register_machine_models

So, we need only JUMP IF EQUAL (e.g. simulate jump) to meet conditions.

Considering HP-17 - am i correct that you can:

```
a) Use multiple sigmas in one equation?
b) Change ending value of Sigma in it's expression?
c) Store values inside Sigma'e expression? (Is it possible to write
smth like (A+X^I>B) in expression? It is not clear in the manual.
```

Edited: 1 Feb 2011, 4:22 p.m.

Re: N-queens benchmark and the HP-17BII

*Message #53 Posted by **Don Shepherd** on 1 Feb 2011, 6:06 p.m.,*
in response to message #52 by x34

```
a) absolutely
b) not allowed, I'm pretty sure, because that would let you end a
loop early which is not allowed
c) yes, via L()
```

Re: N-queens benchmark and the HP-17BII

*Message #54 Posted by **x34** on 1 Feb 2011, 6:18 p.m.,*
in response to message #53 by Don Shepherd

Don, is it possible to use IF inside Sigma's algebraic expression? b) So, only RCL of loop parameter allowed inside it.

And by A+X^I>B i mean A+X^I STO B to be precise

Edited: 1 Feb 2011, 6:22 p.m.

Re: N-queens benchmark and the HP-17BII

*Message #55 Posted by **Don Shepherd** on 1 Feb 2011, 7:19 p.m.,*
in response to message #54 by x34

> Quote:
>
> possible to use IF inside Sigma's algebraic expression?

Sure, look at Thomas' program above, IF's are all over the place inside the sigmas. That's fine.

> Quote:
>
> only RCL of loop parameter allowed inside it.

Not sure what you mean by this. RCL is not something that can be in an equation, but you can use the loop index however you want, you just can't change it.

> Quote:
>
> by A+X^I>B i mean A+X^I STO B to be precise

No, you can't use STO inside an equation either, which means you can't use the registers R0-R9 in an equation, but you can use variables, so this is not a huge limitation, IMO.

HTH

Re: N-queens benchmark and the HP-17BII

*Message #56 Posted by **Martin Pinckney** on 1 Feb 2011, 8:40 p.m.,*
in response to message #55 by Don Shepherd

> Quote:
>
> No, you can't use STO inside an equation either, which means you can't use the registers R0-R9 in an equation, but you can use variables, so this is not a huge limitation, IMO.

Exactly! This is one of the great features in the 17b - 27s Solvers. Not only can you have an "unlimited" number of variables, but they can have descriptive names. You can even STO and RCL them (from the keyboard), at least while the equation in which they occur is active.

It was a huge blunder for HP to use the antiquated 32sii Solver in the 35s instead. Or at least a missed opportunity.

Re: N-queens benchmark and the HP-17BII

*Message #57 Posted by **Don Shepherd** on 1 Feb 2011, 8:30 p.m.,*
in response to message #54 by x34

The absolute best resource regarding the solver in the 17bii is the Technical Applications Manual for the HP-27S and HP-19B. It has whole sections on Get(), Let(), intermediate variables, multiplication by 0 method, using the sigma function, and simulating an indefinite loop (which essentially "does nothing" after a certain point in the loop is reached, but it doesn't really exit the loop so it will still do all of the iterations you originally told it to do), and the manual lists about 9 solver routines to accomplish various tasks, including finding prime factors and determining the GCD and LCM.

This manual is on the museum DVD set (2719tech.pdf).

Re: N-queens benchmark and the HP-17BII

*Message #58 Posted by **x34** on 2 Feb 2011, 5:49 a.m.,*
in response to message #53 by Don Shepherd

http://www.palmtoppaper.com/ptphtml/7/ptp7005c.htm

It describes HP-95LX Solver. May be it is equivalent to HP-17BII?

@The expression "0*L(initial:initial+10)" adds nothing to the value of "initial^2" because it is multiplied by zero. However, it does increase the value of initial by 10 each time you solve for "answer." @

So, it says *you can* change some of the FOR LOOP parameters. Is it true? If so, it makes pure BREAK possible.

Re: N-queens benchmark and the HP-17BII

*Message #59 Posted by **Don Shepherd** on 2 Feb 2011, 8:46 a.m.,*
in response to message #58 by x34

I'm not sure if the solvers in these two machines are the same, but the Applications Manual I referenced above (for the 27s and 19b and I believe the 17b) says:

> Quote:
>
> When the sigma function is first encountered in an equation, the solver stores the step size s and the counter variable's initial and final values c1 and c2 in a special location in memory not accessible to the user. Any attempt to alter the values of s, cv, c1, or c2 using the LET function causes the solver to create separate variables of the same name. Since the value of these variables (referring to the original s, cv, c1, and c2 I believe) cannot be changed, a loop cannot be prematurely exited. This is precisely what makes construction of a true indefinite loop impossible.

So once you start a loop, it will complete all its specified iterations. About the only thing you can do to terminate a loop early, and what Thomas did, is do an illegal instruction (divide by 0 always works nicely, as does log(0)) within the loop when a certain condition occurs and after storing a value of interest in a global variable. This stops the loop--and unfortunately stops evaluation of the equation--but you can RCL the variable where you stored something of interest to see it.

Edited: 2 Feb 2011, 9:32 a.m.

Re: N-queens benchmark and the HP-17BII

*Message #60 Posted by **x34** on 2 Feb 2011, 5:34 a.m.,*
in response to message #52 by x34

Since my understanding of HP-17BII Solver is adequate now (with the big help of forum members), here is vulgar proof of it's Turing completeness. Our goal is SUFFICIENT completeness, with finite number of steps and memory locations.

```
a) Solver can read/write/modify variables. (Proved by forum)
b) Solver has conditional statement (IF). (Proved by manual and forum)
c) You can use multiple assignments and IFs inside Sigma loop


We need to prove we can use jumps (branches)



Sigma is essentialy equivalent to FOR LOOP.



BREAK could be emulated easily using IF inside FOR (with finite N):


FOR I IN [1..N] DO
  IF (X>0) THEN BREAK; END IF;
  EXPRESSION LIST;
END FOR;


is equivalent to


FOR I IN [1..N] DO
IF (X<=0) THEN
   EXPRESSION LIST;
END IF;
END FOR;


Sure, there would be empty cycles, but it would do the same


Any BREAK position inside FOR could be rewritten using IF.


(We could emulate any loop iterator with FOR)


Having FOR with BREAK is equivalent to GOTO.


backward label:


LBL L:
    EXPR1;
    EXPR2;
    IF A>B THEN GOTO L; END IF


is equivalent to


L:=TRUE;
FOR I IN [1..N] DO
    IF L THEN
      EXPR1;
      EXPR2;
    END IF;
    L:=(A>B);
END FOR;


Forward label is trivial:


   EXPR1;
   IF A>B THEN GOTO L; END IF;
   EXPR2;
LBL L:   EXPR3;



   EXPR1;
   IF A<=B THEN
     EXPR2;
```

```
   END IF;
   EXPR3;


Nested IFs (if they are not supported bu HP-17) could be
unrolled, e.g.


IF A>B THEN
  IF C<D THEN
     EXPR1;
  END IF;
  EXPR2;
END IF;


IF (A>B) AND (C<D) THEN EXPR1; END IF;
IF (A>B) THEN EXPR2; END IF;
```

So, we have all turing critera met. Please, tell me where i am wrong.

Regards, x34

Re: N-queens benchmark and the HP-17BII

*Message #61 Posted by **Thomas Klemm** on 2 Feb 2011, 9:43 a.m.,*
in response to message #60 by x34

> Quote:
>
> ```
> FOR I IN [1..N] DO
>   IF (X>0) THEN BREAK; END IF;
>   EXPRESSION LIST;
> END FOR;
> ```
>
> is equivalent to
>
> ```
> FOR I IN [1..N] DO
> IF (X<=0) THEN
>    EXPRESSION LIST;
> END IF;
> END FOR;
> ```

What happens if the EXPRESSION LIST has side effects? Let's assume it just increments a counter. In the upper FOR-loop it counts the passes until the break-condition is met for the 1st time while in the lower it counts how many passes don't meet the break condition which is not the same.

However this can be fixed with an additional variable DONE. What we really want to have are expressions before and after the break:

```
FOR I IN [1..N] DO
  EXPRESSION LIST A;
  IF (X>0) THEN BREAK; END IF;
  EXPRESSION LIST B;
END FOR;
```

This is equivalent to:

```
DONE=0
FOR I IN [1..N] DO
  IF (DONE==0) THEN
    EXPRESSION LIST A;
    IF (X>0) THEN
```

```
      DONE=1
    ELSE
      EXPRESSION LIST B;
    END IF;
  END IF;
END FOR;
```

I'm still not 100% convinced that an endless-loop and a for-loop are equivalent. But you might say that there isn't something as an endless-loop in a finite machine. Or how would you argue?

Best regards and thanks for your interesting contribution
Thomas

Edited: 2 Feb 2011, 11:36 a.m.

Re: N-queens benchmark and the HP-17BII

*Message #62 Posted by **x34** on 2 Feb 2011, 11:53 a.m.,*
in response to message #61 by Thomas Klemm

Quote:

> Quote:
>
> What happens if the EXPRESSION LIST has side effects? Let's assume it just increments a counter. In the upper FOR-loop it counts the passes until the break-condition is met for the 1st time while in the lower it counts how many passes don't meet the break condition which is not the same.

This could be rewritten to avoid side effects, as you illustrate:

> Quote:
>
> However this can be fixed with an additional variable DONE. What we really want to have are expressions before and after the break:
>
> ```
> FOR I IN [1..N] DO
>   EXPRESSION LIST A;
>   IF (X>0) THEN BREAK; END IF;
>   EXPRESSION LIST B;
> END FOR;
> ```
>
> This is equivalent to:
>
> ```
> DONE=0
> FOR I IN [1..N] DO
>   IF (DONE==0) THEN
>     EXPRESSION LIST A;
>     IF (X>0) THEN
>       DONE=1
>     ELSE
>       EXPRESSION LIST B;
>     END IF;
>   END IF;
> END FOR;
> ```

Absolutely!

> [quote[I'm still not 100% convinced that an endless-loop and a for-loop are equivalent. But you might say that there isn't something as an endless-loop in a finite machine. Or how would you argue?

No. i will not argue. You are right, they are not equivalent in general. But I think it simply does not matter here, because Endloss loop is not a request for Turing-Completeness,so i don't count it as an objection.

BTW, finite machine CAN have an endloss-loop if it is one of the states. Many of them actually have, like a telephone answering machine.

In our case (calculator) if you can make a 1E12 iterations cycle, it would be practically infinite. But actually TWO types of loops should be used - the one with simulated BREAKs would be impractical if near infinite. "Cray is so fast, it can do infinite loop in two seconds!" - it was popular saying in the 80's :)

And your solution of Queens is much faster than could be done with "emulated" constructions.

> Quote:
>
> Best regards and thanks for your interesting contribition
> Thomas

Thanks to you! [pre] Actually, i have a problem with HP-35S Solver.

What we have on HP-35S is:

a) One external loop, designed by Katie b) Unlimited IFs

IFs are emulated with 0*((BOOLEAN RESULT) EXPRESSION).

X=0? is equivalent to 1-SGN(ABS(X)) or NOT(SGN(X))

X<Y?==NOT(SGN(Y-X)-1)

X>=Y?==NOT(SGN(X-Y)-1)+NOT(SGN(ABS(X-Y))

and so on.

I could not yet understand, if a lot of "IFs" within eternal loop could be considered equivalent to GOTO and/or recursion.

I personaly think they are NOT equivalent, however could be used for small tasks.

In any case, there would be EXTREMELY difficult to write 8 queens in the HP-35S Solver, however possible, even if it is not turing-complete. I will try to write simple compiler or macros to do it, but not soon.

May be someone will find a way to make any kind of iteration (loop) besides

the outer one in HP-35S Solver? I hope so. [pre/]

Re: N-queens benchmark and the HP-17BII

*Message #63 Posted by **Thomas Klemm** on 7 Feb 2011, 5:58 a.m.,*
in response to message #1 by Thomas Klemm

A summary of this thread can be found in the HP Articles Forum: N-queens benchmark and the HP-17BII

Cheers
Thomas

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 50g stack depth

*Message #1 Posted by **Jim Yohe** on 30 Jan 2011, 5:42 p.m.*

What is the stack depth of the HP 50g?

Re: HP 50g stack depth

*Message #2 Posted by **Tim Wessman** on 30 Jan 2011, 5:53 p.m.,*
in response to message #1 by Jim Yohe

Unlimited (within avail memory).

TW

Re: HP 50g stack depth

*Message #3 Posted by **BruceH** on 1 Feb 2011, 4:04 p.m.,*
in response to message #1 by Jim Yohe

> Quote:
>
> What is the stack depth of the HP 50g?

I reckon about 7 or 8.

That is, about 7 or 8 on top of one another before the pile becomes too unstable. ;-)
(A challenge for HHC2011 methinks?)

Re: HP 50g stack depth

*Message #4 Posted by **Walter B** on 1 Feb 2011, 4:28 p.m.,*
in response to message #3 by BruceH

Bruce, you're talking about stack hight. HP did know why they baptized it "stack depth". Way back, in early IT, people here used to translate this stack as "Kellerspeicher". Avoiding instability as well d;-)

Re: HP 50g stack depth

*Message #5 Posted by **Gerry Schultz** on 1 Feb 2011, 9:30 p.m.,*
in response to message #4 by Walter B

I just have to comment on this thread. When I first read it, I thought Jim was referring to return from subroutine stack depth, not data stack depth. It makes me wonder how my brain work.

Gerry

Re: HP 50g stack depth

*Message #6 Posted by **Martin Pinckney** on 1 Feb 2011, 10:09 p.m.,*
in response to message #5 by Gerry Schultz

Your brain work in stacks. (On different levels).

Re: HP 50g stack depth

*Message #7 Posted by **Jim Yohe** on 1 Feb 2011, 10:53 p.m.,*
in response to message #5 by Gerry Schultz

Sorry for the confusion. Perhaps I should have mentioned some numbers like a stack of 4 (X, Y, Z, T), or 8 (X, Y, Z, T, A, B, C, D) in the "34S" ;-), or more instead of being too general with my question.

Re: HP 50g stack depth

*Message #8 Posted by **Tim Wessman** on 2 Feb 2011, 1:21 a.m.,*
in response to message #5 by Gerry Schultz

Will it blow your mind to hear that you can also have an essentially unlimited "stack" of stacks? :-P

This is what allows you to do things like evaluate expressions and programs for inputs in inform boxes. You couldn't do that on the 48. Essentially, these virtual stacks allow you to save the entire content of a stack very quickly and easily, allow anything to go on in the new stack, and then restore it just as easily.

TW

Re: HP 50g stack depth

*Message #9 Posted by **Walter B** on 2 Feb 2011, 2:27 a.m.,*
in response to message #8 by Tim Wessman

> Quote:
>
> ... these virtual stacks allow you to save the entire content of a stack very quickly and easily, allow anything to go on in the new stack, and then restore it just as easily.

FYI, there are two commands included in v1.13 of wp34s for this purpose already.

Ceterum censeo: ...

Walter

Re: HP 50g stack depth

*Message #10 Posted by **Paul Dale** on 2 Feb 2011, 2:33 a.m.,*
in response to message #9 by Walter B

> Quote:
>
> FYI, there are two commands included in v1.13 of wp34s for this purpose already.

They've been there longer, just not documented :-)

- Pauli

Re: HP 50g stack depth

*Message #11 Posted by **Walter B** on 2 Feb 2011, 6:04 a.m.,*
in response to message #10 by Paul Dale

d:-)

Re: HP 50g stack depth

*Message #12 Posted by **Gerry Schultz** on 2 Feb 2011, 1:20 p.m.,*
in response to message #8 by Tim Wessman

Tim:

So that means my 49g, 49g+ and 50g are well-stacked machines? I know, that's pretty bad. What's really sad is that my boss here and a coworker do these groaners all day and I've heard them so many times, I know the scripts. Just kill me now...

Gerry

Edited: 2 Feb 2011, 1:37 p.m.

Re: HP 50g stack depth

*Message #13 Posted by **David Hayden** on 2 Feb 2011, 7:16 a.m.,*
in response to message #5 by Gerry Schultz

It looks like the original post was indeed referring to the data stack, but for any readers who are curious, the subroutine stack (also known as the "return stack") depth is also infinite on the 50g - which really means it's limited by memory.

If I recall correctly, objects are stored on one side of a memory pool, and the data stack is stored at the other. They grow towards the center, where the return stack is stored. If the data stack or object store bumps into the return stack, then the return stack is re-centered. This can result in a significant slowdown in processing if you have a VERY deep return stack but in practice, I think that's very rare.

Dave

Re: HP 50g stack depth

*Message #14 Posted by **Jim Yohe** on 2 Feb 2011, 12:51 p.m.,*
in response to message #13 by David Hayden

That's very interesting, to me at least. I hadn't thought about two different stacks with the one I was asking about being the data stack. Thank you for clarifying it.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35S ROM ?

*Message #1 Posted by **x34** on 30 Jan 2011, 5:19 p.m.*

I wonder if file 35s.sml, which is a part of freely downloadable (but not free - license required to run) HP-35s emulator is a HP-35s ROM?

http://www.hp.com/sbso/product/calculators-emulators/graphic-calculator-emulators.html

http://www.hp.com/sbso/product/calculators-emulators/scientific-calculator-emulator.html

http://www.hp.com/sbso/product/calculators-emulators/finance-calculator-emulators.html

It happens to contain all HP-35S commands, plus a mysterious X1 X2 X3 X4, CB, YZZY and CBRT entries.

CB and CBRT i am sure are Cube and Cube root. But i failed to execute them on real calc (tried both EQN and ALG).

Edited: 30 Jan 2011, 6:03 p.m. after one or more responses were posted

Re: HP-35S ROM ?

*Message #2 Posted by **Tim Wessman** on 30 Jan 2011, 5:59 p.m.,*
in response to message #1 by x34

I am not certain if that is the exact file that is uploaded to the calculator, but yes that does contain ROM code of some variant or another.

TW

Re: HP-35S ROM ?

*Message #3 Posted by **Glenn Shields** on 2 Feb 2011, 7:40 p.m.,*
in response to message #1 by x34

I did try them, and they don't work. Finding undocumented code for the 35s is like finding the Holy Grail. It has been mentioned here before that there isn't any such thing, but it sure would be fun to find something. Those codes (CB, CBRT, YZZY) yield "syntax error", along with ver or version. Is there really nothing?? :-(Glenn

Re: HP-35S ROM ?

*Message #4 Posted by **bill platt** on 3 Feb 2011, 12:36 a.m.,*
in response to message #1 by x34

I wonder if the x1 x2 x3 x4 you see are the algebraic stack variables? If you switch from RPN to Alg, you will see them.

Re: HP-35S ROM ?

*Message #5 Posted by **Gerson W. Barbosa** on 3 Feb 2011, 2:22 p.m.,*
in response to message #1 by x34

> Quote:
>
> CB and CBRT i am sure are Cube and Cube root. But i failed to execute them on real calc (tried both EQN and ALG).

These hp-33s functions are missing in the hp-35s.

Has anyone purchased the emulator? $29.99 USD looks too expensive to me.

Gerson.

Re: HP-35S ROM ?

*Message #6 Posted by **Bart (UK)** on 4 Feb 2011, 6:01 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> Has anyone purchased the emulator? $29.99 USD looks too expensive to me.

I have. CB and CBRT give Syntax Error.

I think the emulator has the same ROM image as the actual calculator, as it even has all the bugs.

CB and CBRT appear only once in the .sml file, other functions at least twice. Perhaps they are just left over tags from functions not implemented or from the 33s that the ROM was based on?

To HP: even if it couldn't fit on the keyboard, it would have been nice if it had been left in for programming.

Re: HP-35S ROM ?

*Message #7 Posted by **Gerson W. Barbosa** on 4 Feb 2011, 9:07 p.m.,*
in response to message #6 by Bart (UK)

> Quote:
>
> I have.

While I'd surely purchase an emulator that would run on a portable device I fail to understand why one running only on Windows costs that much. Is there an advantage in using this on the computer? TIA.

> Quote:
>
> Perhaps they are just left over tags from functions not implemented or from the 33s that the ROM was based on?

Most likely the latter.

Quote:

To HP: even if it couldn't fit on the keyboard, it would have been nice if it had been left in for programming.

Or inside a menu.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

42S reincarnation is possible?

*Message #1 Posted by **Csaba Tizedes (Hungary)** on 30 Jan 2011, 3:07 p.m.*

I'm just wondering: is it possible to uploading 42S ROM into a HP17BII? Or 17BII ROM is replacable with 42S ROM if we changing their ROM-chip or uses a burned EPROM?

Edited: 31 Jan 2011, 9:22 a.m. after one or more responses were posted

Re: 42S reincarnation is possible?

*Message #2 Posted by **Mark Harman** on 30 Jan 2011, 4:26 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

It is not possible. The 17bII and 17bII+ do not have a flashable ROM or even a means of transferring data electronically into the unit. There is no I/O except for an infrared transmitter that only transmits data to an HP 82240B Printer.

Regards,

Mark

Edited: 30 Jan 2011, 4:26 p.m.

Re: 42S reincarnation is possible?

*Message #3 Posted by **Tim Wessman** on 30 Jan 2011, 5:56 p.m.,*
in response to message #2 by Mark Harman

The hardware/cpu in the 17bII+ is completely different. Wouldn't run even if you got it in there.

TW

Re: 42S reincarnation is possible?

*Message #4 Posted by **Mark Harman** on 30 Jan 2011, 8:24 p.m.,*
in response to message #3 by Tim Wessman

Yes. This too...

Re: 42S reincarnation is possible?

*Message #5 Posted by **Csaba Tizedes (Hungary)** on 31 Jan 2011, 4:09 a.m.,*
in response to message #3 by Tim Wessman

I have no data about types of CPU in the two unit, but on the finseth data base the two model seems to me same, with different ROM (the LCD, CPU (Lewis chip), memory, ... same).

I found an article here about the 42S:

I never opened a HP-42S, but from was I read in some posts, I think that there is a place for a second ROM. ***It's true for the HP17BII which have the same hardware****, and it is how HP managed the two HP17BII versions (english and international with multiple languages): one common ROM and a second optionnal ROM.*

I'm not a guru, but it's seems to me possible...

Re: 42S reincarnation is possible?

Message #6 Posted by ***Nacho*** *on 31 Jan 2011, 4:34 a.m.,*
in response to message #5 by Csaba Tizedes (Hungary)

Dear,

You are confused with two hardware types.

HP 17BII (Pioneer) = HP42S and ROM's can be swaped physically.

HP 17BII+ the golden or grey new series have nothing to do with the HP 42S as hardware is different and significantly worst.

HTH

Re: 42S reincarnation is possible?

Message #7 Posted by ***Csaba Tizedes (Hungary)*** *on 31 Jan 2011, 6:33 a.m.,*
in response to message #6 by Nacho

I'm talking about HP42S and HP17BII.

About this:

And this:

Re: 42S reincarnation is possible?

Message #8 Posted by ***Csaba Tizedes (Hungary)*** *on 31 Jan 2011, 6:40 a.m.,*
in response to message #6 by Nacho

...but, you're said, this is possible? Anothers said this is not possible! I *feel*, because this two machine is SO similar.

```
1.) 42S ROM is available (many emulators uses this files)
2.) Which type of ROM in this machines?
3.) Burn an EPROM
4.) Solder that EPROM
5.) Enjoy your 42S with 17BII skin
```

Life is simple :) :P - as I think... :P

Edited: 31 Jan 2011, 9:18 a.m.

Re: 42S reincarnation is possible?

*Message #9 Posted by **Martin Pinckney** on 31 Jan 2011, 8:58 a.m.,*
in response to message #6 by Nacho

It's not Csaba that's confused. He stated from the beginning that he is talking about the 17bii. Others have assumed he meant 17bii+. However, he unfortunately used the word *uploading*, which caused some confusion on what he meant, I think. Now it seems clear he meant physically installing a new ROM chip after burning the 42s ROM onto it.

Re: 42S reincarnation is possible?

*Message #10 Posted by **Csaba Tizedes (Hungary)** on 31 Jan 2011, 9:31 a.m.,*
in response to message #9 by Martin Pinckney

Yes, I'm usually in trouble with English...

Re: 42S reincarnation is possible?

*Message #11 Posted by **Martin Pinckney** on 31 Jan 2011, 10:38 a.m.,*
in response to message #10 by Csaba Tizedes (Hungary)

Your English is fine. But your original question remains: can it be done?

Re: 42S reincarnation is possible?

*Message #12 Posted by **Walter B** on 31 Jan 2011, 11:55 a.m.,*
in response to message #10 by Csaba Tizedes (Hungary)

Never forget: Your English is orders of magnitude better than our Hungarian! Anyway, I'm curious as well what will be the answer to your question.

Re: 42S reincarnation is possible?

*Message #13 Posted by **Mark Harman** on 31 Jan 2011, 1:12 p.m.,*
in response to message #9 by Martin Pinckney

I never assumed he was talking about the 17bII+. I just mentioned both so I could cover both bases.

Using a the traditional method of flashing the ROM via any method is not possible. The ROM is hard coded. This is the only situation my answer covered. I really didn't know that a replacement ROM could be installed in the 17BII. If it can, then a change is within the realm of possibility.

Unfortunately, you will have to either find a a 42S ROM laying around or you have to manufacture one. I don't know any individual who is capable of manufacturing ROMs. I am under the impression that it requires a lot of resources, which would be within the realm of a chip manufacturer.

Regards,

Mark

Edited: 31 Jan 2011, 1:21 p.m.

Re: 42S reincarnation is possible?

*Message #14 Posted by **Martin Pinckney** on 31 Jan 2011, 1:46 p.m.,*
in response to message #13 by Mark Harman

I am out of school here, but nevertheless I am sure Csaba was talking about using an E(rasable)P(rogrammable)ROM, which is supposed to be DIY with a simple kit. So it would seem one would only need an EPROM of the right form factor, compatible energy demands, speed, etc., plus the 42s ROM code. Is this what you meant, Csaba?

Re: 42S reincarnation is possible?

*Message #15 Posted by **Mark Harman** on 31 Jan 2011, 1:51 p.m.,*
in response to message #14 by Martin Pinckney

Ahhh... That makes sense. I didn't even consider that possibility. That would be really cool if it can be done and works.

Mark

Re: 42S reincarnation is possible?

*Message #16 Posted by **Randy** on 31 Jan 2011, 3:18 p.m.,*
in response to message #15 by Mark Harman

1. The 42S operating system code is part of the processor die in the form of masked ROM.
2. 42S OS ROM is 64 kb in size.
3. The external ROM port is 8kb in size.
4. The external rom is in a different address space than the OS.

If you need more reasons why it will not work, I might be able to think of some...

Re: 42S reincarnation is possible?

*Message #17 Posted by **Marcus von Cube, Germany** on 2 Feb 2011, 3:45 a.m.,*
in response to message #16 by Randy

Looks like swapping boards is the easier way to go. Or just redesign a board from scratch. Kind of hardware Free42. ;)

Edited: 2 Feb 2011, 3:46 a.m.

Re: 42S reincarnation is possible?

*Message #18 Posted by **Thomas Radtke** on 2 Feb 2011, 7:07 a.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

However, it certainly wouldn't be too difficult to build some hardware around Thomas' Free42 and pay him some licence fee.

Anyway, it wouldn't sell well. For the educational market, HP is better off with the 35s, unfortunately.

Re: 42S reincarnation is possible?

*Message #19 Posted by **Walter B** on 2 Feb 2011, 7:45 a.m.,*
in response to message #18 by Thomas Radtke

May I remind you we did experience the fate of OpenRPN? Seems to be far easier to put some SW into existing HW than building some calculator HW for existing SW, at least that's what I have learned. And even the first isn't trivial.

Re: 42S reincarnation is possible?

*Message #20 Posted by **Thomas Radtke** on 3 Feb 2011, 4:29 a.m.,*
in response to message #19 by Walter B

Sure you're right, Walter. I was more thinking of HP to licence Free42, so I was offtopic in this thread :-(.

Re: 42S reincarnation is possible?

*Message #21 Posted by **Hugh Evans** on 4 Feb 2011, 3:21 a.m.,*
in response to message #19 by Walter B

Speaking of the devil, I'm preparing to resurrect OpenRPN. I believe I finally have the necessary facilities to bring the project to fruition. However, this time I'm planning to take baby steps that lead to some dream calculators.

Re: 42S reincarnation is possible?

*Message #22 Posted by **robert rozee** on 4 Feb 2011, 11:43 a.m.,*
in response to message #21 by Hugh Evans

please do start a new thread outlining your plans?

i'd be keen to see an atmel ATMEGA1284P processor used: 128k flash, 16k ram, 4k eeprom, four 8-bit i/o ports. oh, and in a DIP package, meaning 0.1" pin spacing solderable onto veroboard by just about anyone.

quite literally, a complete hardware solution could be built onto veroboard, requiring just the 1284, a matrix of switches, a 16x2 off-the-shelf LCD module and a battery pack.

Re: 42S reincarnation is possible?

*Message #23 Posted by **Hugh Evans** on 4 Feb 2011, 1:03 p.m.,*
in response to message #22 by robert rozee

Walter is already on the right track. My current concept is to use existing hardware, such as the 35s, and replace the PCB. At the very least we end up with complete control and customization with the lowest possible overhead costs.

Re: 42S reincarnation is possible?

*Message #24 Posted by **Thomas Radtke** on 4 Feb 2011, 1:20 p.m.,*
in response to message #23 by Hugh Evans

> Quote:
>
> My current concept is to use existing hardware, such as the 35s, and replace the PCB.

Last time it was about taking a given PCB and put it into a new case, right? ;-)

However, if you manage to write a bugfree 35s-like firmware, you'd probably have some customers. If it's about changing keyboard lables, I personally would stay away from it. That's probably more difficult than just to have some cases produced in China - inluding paint job.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-35S solver questions - extremum

*Message #1 Posted by **x34** on 30 Jan 2011, 11:23 a.m.*

HP-35S Solver differs from the one of HP-33S at least in two aspects:

a) It permits user to STOre the values in registers.

b) It is much prone not to find/show extremums of function solved. (if HP-33s while failed to find a root. usually makes it possible to see closest values, HP-35S does not show them, i dunno why).

Regarding STOrage: if you store subexpression (like X>C*Y+3, where ">" designates "STO") or whole expression (X*Y+3>C), it's ok but of little use (sometimes you can get argument and/or function estimates after NO ROOT FND). But if you RCL it, solve would ask for it's value, effectively blocking usage of it for temporary data storage.

May be, the creators of HP-35s wanted to make Solver more advanced (hence the ability to use STO in EQN), but had no resources to implement reasonable additional functionality.

Well, the EQN and STO are very interesting, and should be examined more closely. Especially, using indirect registers, there may be possibility to break into calc internals here (i hope so).

Interesting thing, that usage of X>X is allowed in the EQN. I do not understand the logic yet, however.

I am now trying to write some kind of equation permitting to use Solver for extremum search. The simplest way seems to compute derivative function and find it's roots.

Re: HP-35S solver questions - extremum

*Message #2 Posted by **Glenn Shields** on 30 Jan 2011, 2:24 p.m.,*
in response to message #1 by x34

You may be interested in a previous thread by Katie (IIRC, which is not that often) in which she wrote a function for solver which counts iterations, like a loop. This thread has been very, very difficult for me to find, can anyone help with this? It does provide a way of "probing" into the workings of the solver. Cheers, Glenn

Re: HP-35S solver questions - extremum

*Message #3 Posted by **x34** on 30 Jan 2011, 3:56 p.m.,*
in response to message #2 by Glenn Shields

Thanks Glenn! I suppose you speak about http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=121288

Found it in Google.

Very interesting!

While continuing to learn solver, I've found one new interesting thing: when you solve for indirect, (I) or

{J), and modify I or J, solver "precompiles" (I) or (J) used in eqn. May be it is too clumsy, so here is the sample:

```
EQN: (I)>I*2+3
-26
STO I
EQN
SOLVE (I)
```

Solver would solve for Z (-26), not for (I) with changing value of I.

Re: HP-35S solver questions - extremum

*Message #4 Posted by **Thomas Klemm** on 30 Jan 2011, 7:19 p.m.,*
in response to message #3 by x34

From the same thread (Message #13):

> Quote:
>
> It seems that when recalling an indirect register from within an equation the index isn't updated for each iteration. Instead (I) refers always to the same register.

Welcome to the club.

Best regards
Thomas

PS: Reading this thread again I suddenly realized that Katie's trick could be used with the HP-17BII to solve the N-queens problem.

Re: HP-35S solver questions - extremum

*Message #5 Posted by **Don Shepherd** on 30 Jan 2011, 7:47 p.m.,*
in response to message #4 by Thomas Klemm

> Quote:
>
> Reading this thread again I suddenly realized that Katie's trick could be used with the HP-17BII to solve the N-queens problem.

Thomas, please elaborate on this. I looked at the sample programs for the n-queens benchmark recently and came to the conclusion that, since there seemed to be one or two indefinite loops in that algorithm, the 17bii solver would not be able to handle that since it does not support indefinite loops. I'm curious, what did you have in mind?

thx, Don

Re: HP-35S solver questions - extremum

*Message #6 Posted by **Thomas Klemm** on 30 Jan 2011, 11:58 p.m.,*
in response to message #5 by Don Shepherd

From message #3 Posted by Katie Wasserman on 13 Aug 2007, 10:45 a.m., in response to message #2 by Don Shepherd

> Quote:
>
> If you tell it to solve: INV(A) = -INV(A)+ 0x(I+1 STO I), solve for A and give it a starting value of I=0 and A=1, it will run for about 2400 iterations on the 35s. after that point the solver will end up solving the equation by coming up with A ~= 1E499. 2400 is pretty much all the iterations you'd ever want to do on this calculator -- it ain't that fast -- I'll call it a near-infinite number of iterations for our purpose.

(...)

> Quote:
>
> I don't have a 17BII+ but on the 17BII you can do the same thing in the solver: INV(A)=-INV(A)+0xL(I:I+1). Start with I=0 and A=1, solver for A and RCL I when it finishes and you'll find that I has a value of about 2400, showing that this many iterations have been done. Unfortunately you can't 'STO (I)' on the 17BII because it has no way to write to an array (although you can read the items in a list from within the solver). Of course you would never really do this on the 17BII you'd use: X=Sigma(I:1:N:1,whatever you want to do). Note that 'Sigma' is the summation sign and 'whatever you want to do' will be evaluated N times and the results will be summed and returned in X.

Of course we really want to do this because we need a means to exit a loop on a specific condition. I'm not sure at all whether all this would work to write a solver program for the N-queens problem. But at least it seems the solver isn't limited to a for-loop.

From message #6 Posted by Katie Wasserman on 15 Aug 2007, 3:40 a.m., in response to message #5 by Thomas Klemm

> Quote:
>
> It's possible to simulate nested loops in the solver by doing something like:
>
> ```
> (1-IDIV(C,N^2))*INV(A)=(IDIV(C,N^2)-1)*INV(A)
> + 0*
> (C+1 STO C +
> IDIV(C,N) STO I +
> RMDR(C,N) STO J +
> ....
> ```

HTH
Thomas

Edited: 31 Jan 2011, 12:09 a.m.

Re: HP-35S solver questions - extremum

*Message #7 Posted by **Don Shepherd** on 31 Jan 2011, 2:45 a.m.,*
in response to message #6 by Thomas Klemm

Thanks Thomas, I remember that thread from 2007 and Katies work then. Fascinating stuff.

When I looked at the BASIC program (thinking it would be easier to understand than the RPN and RPL solutions) for the n-queens problem here, there seemed to be about 4

overlapping indefinite loops: lines 40-100, 70-150, 90-130, and 140-170. I didn't know exactly what these loops were doing, but since they weren't definite loops I didn't think the 17bii solver could handle them.

I did learn of a way to actually exit a loop early on the 17bii solver from user Mike Ingle about 4 years ago, but you exited early by halting the program with a programmed divide by 0 after you stored some value of interest in one of the menu variables, which you could RCL after the program stopped. That might work for one indefinite loop, but not 4!

I would present a "steely-eyed missle man" award to the person who could implement the n-queens problem on the 17bii solver.

Don

Re: HP-35S solver questions - extremum

*Message #8 Posted by **Thomas Klemm** on 31 Jan 2011, 3:29 a.m.,*
in response to message #7 by Don Shepherd

Don, I've started a new thread concerning this problem.

Best regards
Thomas

Re: HP-35S solver questions - extremum

*Message #9 Posted by **x34** on 1 Feb 2011, 3:38 p.m.,*
in response to message #3 by x34

I wrote: "But if you RCL it, solve would ask for it's value, effectively blocking usage of it for temporary data storage."

Katie wrote (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=121288):

"The get, G(), function I was referring to is a special function in the 17bii solver (and several other HP calculators going back to the 27S) that recalls the value of a variable each time it's encountered. When used in combination with the let, L(), function it allows for side-effects in the solver. The 35s solver apparently has the L() function (in the form of STO) but not the G() function, or so it seems."

I think it is wrong. G() (RCL) works. The only problem is you should enter first value of it (seed) at the launch of solver.

Strangely, Katie make use of it in her examples. Something i do not understand. Or G() is not equivalent to RCL?

More: solver uses local (to it) copy of variable solved.

so it is possible to use it in expression.

0 STO A A/A+0x(777>A) SOLVE RCL A 777

Edited: 1 Feb 2011, 5:19 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

min(a,b) and max(a,b) equation for HP-33S/HP-35S

*Message #1 Posted by **x34** on 30 Jan 2011, 10:48 a.m.*

HP-33s and HP-35s lack min and max functions. Yes, they could be easily programmed, but.. a) Label would be consumed on HP-33S (not a problem for HP-35S, thou) b) You can't use conditionals in the Equation Writer

So, here is simple (but awkward) brute force implementation of MIN & MAX using Signum function, present on these calculators.

MIN(a,b)=((b-a)*SGN(a-b)+b+a)/2

MAX(a,b)=((a-b)*SGN(a-b)+b+a)/2

If used in program, they could be simplified by isolating (a-b).

Re: min(a,b) and max(a,b) equation for HP-33S/HP-35S

*Message #2 Posted by **Dieter** on 30 Jan 2011, 12:10 p.m.,*
in response to message #1 by x34

If I need a min() or max() function in a program I simply do it this way - without any labels and with minimal memory usage:

```
MIN-function:          MAX-function:
   X>Y?                   X<Y?
   x<>y                   x<>y
```

Okay, this doesn't work for the solver. :-)

Looking at your equations for a while I found a somewhat simplified version. Since (a-b)*sign(a-b) is simply abs(a-b) the two equations may be written even shorter this way:

```
MIN(a,b) = (a+b-ABS(a-b))/2
MAX(a,b) = (a+b+ABS(a-b))/2
```

By the way thanks for your suggestion - it's always nice to re-think some basics and find solutions one would otherwise not have thought of. :-)

Dieter

Edited: 30 Jan 2011, 12:47 p.m.

Re: min(a,b) and max(a,b) equation for HP-33S/HP-35S

*Message #3 Posted by **x34** on 30 Jan 2011, 5:26 p.m.,*
in response to message #2 by Dieter

Dieter, thanks for your simplification! I was just solving another problem involving signum function, and suddenly realized that it could be used to emulate MAX/MIN in solver. I wrote the same ABS solution 15

minutes before reading your post :) Your solution is better!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 21 calculator

*Message #1 Posted by **Chris Stam** on 30 Jan 2011, 7:58 a.m.*

Hi

I've brought back my HP 21 with a new battery pack to life.

Only problen is that the button "5" doesn't give any response (on the display).

I suppose this is an contact problem, however I cleaned the whole calculator's contacts allready with spray.

Any suggestions?

Chris

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

My New Geeksite (including Bowmar)

*Message #1 Posted by **ClausB** on 29 Jan 2011, 2:43 p.m.*

A little history of my involvement with 70's calculators and computers.

I just got a Bowmar MX140 like I had in high school. Cleaned it up today but haven't powered it yet. Posted on the above site.

Any other Bowmar collectors here?

Re: My New Geeksite (including Bowmar)

*Message #2 Posted by **Don Shepherd** on 29 Jan 2011, 3:53 p.m.,*
in response to message #1 by ClausB

Nice collection Claus. Do you actually have that teletype in the picture?

Re: My New Geeksite (including Bowmar)

*Message #3 Posted by **ClausB** on 29 Jan 2011, 4:02 p.m.,*
in response to message #2 by Don Shepherd

Thanks. No, I only own the stuff listed on the Collections page. The other pictures I found via Google Images. I do still have some paper tape and listings of my BASIC programs from that teletype!

Re: My New Geeksite (including Bowmar)

*Message #4 Posted by **Allen** on 29 Jan 2011, 5:02 p.m.,*
in response to message #3 by ClausB

> Quote:
>
> The other pictures I found via Google Images.

Very nice site!!

May I politely recommend against using pictures from Google images? Several of those photos are copyrighted by http://www.datamath.org/ among others- I'm not sure it's polite to re-host them without the owner's permission.

Others may disagree, but I feel that building a website from Google image searches is like building a house by sealing your neighbor's nails and wood.

Re: My New Geeksite (including Bowmar)

*Message #5 Posted by **ClausB** on 29 Jan 2011, 7:14 p.m.,*
in response to message #4 by Allen

Quote:

> May I politely recommend against using pictures from Google images? Several of those photos are copyrighted by http://www.datamath.org/ among others- I'm not sure it's polite to re-host them without the owner's permission.

You are right, and I did get Joerg's permission for the TI images. The others, well, not so much. They are placeholders for photos I plan to take of my collection.

Re: Images from the Datamath Calculator Museum

*Message #6 Posted by **Joerg Woerner** on 29 Jan 2011, 9:44 p.m.,*
in response to message #5 by ClausB

I just want to confirm that Claus contacted me BEFORE using my images.

Unfortunately do I find my "blue backgrounded" Datamath Calculator Museum images pretty often on eBay auctions from other sellers - while I use for my own auctions usually a yellow'ish background.

I prefer as a bidder to see on eBay what I really buy - not how nice a well cleaned calculator could look in a calculator Museum ;-))

Regards, Joerg

Re: Images from the Datamath Calculator Museum

*Message #7 Posted by **Allen** on 29 Jan 2011, 10:36 p.m.,*
in response to message #6 by Joerg Woerner

Outstanding! The datamath museum photos are outstanding and a good choice for the site. It might make sense to add something to the pages like:

"Photos used with permission of datamath.. "

That way there is no assumptions.

Re: My New Geeksite (including Bowmar)

*Message #8 Posted by **Gerardo Rincon** on 29 Jan 2011, 4:04 p.m.,*
in response to message #1 by ClausB

Great website! I really like the stories on each link.

Nicely done!

Re: My New Geeksite (including Bowmar)

*Message #9 Posted by **ClausB** on 29 Jan 2011, 4:05 p.m.,*
in response to message #1 by ClausB

Quote:

> Any other Bowmar collectors here?

I see Katie's name all over the Google search for Bowmar MX140. Katie, do you still have one?

Re: My New Geeksite (including Bowmar)

*Message #10 Posted by **Katie Wasserman** on 29 Jan 2011, 5:14 p.m.,*
in response to message #9 by ClausB

> Quote:
>
> Katie, do you still have one?

I sure do. It's quite a nice scientific calculator for the time. I especially like the 2-digit raised exponent on the LED display.

Nice site! Do you still have a working ZX81, that was a fun machine to play with.

Edited: 29 Jan 2011, 5:18 p.m.

Re: My New Geeksite (including Bowmar)

*Message #11 Posted by **ClausB** on 29 Jan 2011, 7:17 p.m.,*
in response to message #10 by Katie Wasserman

> Quote:
>
> Nice site! Do you still have a working ZX81, that was a fun machine to play with.

Thanks! The ZX81 PCB on the site is mine. Last time I opened it the keyboard flex cable broke, so it's inop right now. I recently got a Sinclair Cambridge Programmable calculator. As with the ZX81, they cleverly squeezed a lot of functionality into a small package. Perhaps they squeezed too hard, as accuracy does suffer.

And thank you for scanning and posting the Bowmar manual. Mine did not come with one.

Edited: 30 Jan 2011, 8:51 a.m.

Re: My New Geeksite (including HP)

*Message #12 Posted by **ClausB** on 30 Jan 2011, 8:54 a.m.,*
in response to message #1 by ClausB

I added a bit on the HP 65.

Re: My New Geeksite (including Bowmar)

*Message #13 Posted by **Mike Morrow** on 30 Jan 2011, 11:48 a.m.,*
in response to message #1 by ClausB

> Quote:
>
> Any other Bowmar collectors here?

I'm not a Bomar collector, but my first calculator was a Bomar 901B (four-function) purchased new in October

1972 for a 2010 equivalent of about $750. I've still got it.

Re: My New Geeksite (including Bowmar)

*Message #14 Posted by **ClausB** on 30 Jan 2011, 11:50 a.m.,*
in response to message #1 by ClausB

> Quote:
>
> I just got a Bowmar MX140 like I had in high school.

Powered it up today, got good news and bad news. Keyboard and logic work, some LED segments do not. High power inspection revealed crystal growth inside the LED stick. Lot more work ahead to restore this one.

Re: My New Geeksite (including Bowmar)

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 30 Jan 2011, 11:14 p.m.,*
in response to message #1 by ClausB

> Quote:
>
> Any other Bowmar collectors here?

I have seven: An MX-25, two MX-50's, two MX-55's, and two MX75's.

[Return to Index | Top of Index]

Go back to the main exhibit hall

Decimal point before an operation

*Message #1 Posted by **Jim Yohe** on 29 Jan 2011, 2:10 p.m.*

Looking at the HP 50g User's Guide on page 1-14 it shows that you can input an expression directly without using the equation writer. While in the algebraic operating mode, with every entry of a whole number they also show a key-press of a decimal point before an operation (ie, "x" "+" etc..). When in the equation writer they didn't do this and so it's foreign to me, as I've never had to do that with other HP and TI calculators I've owned.

Why was it necessary to add a decimal point before an operation?

Re: Decimal point before an operation

*Message #2 Posted by **Chris Randle (UK)** on 29 Jan 2011, 3:49 p.m.,*
in response to message #1 by Jim Yohe

Hi Jim,

It's not a decimal point before the operator, it's a decimal point *after* the number. It's a way of overriding the current exact/approximate mode and explicitly stating that you want an approximate result (a numeric answer) rather than an exact result with integers.

You can toggle implicit exact/approximate mode by holding down right-shift and pressing enter.

If you're in algebraic mode (ALG displayed in the header) and in exact mode (= displayed in the header), try these:

```
1 / 2 [ENTER] -> '1/2'
1. / 2. [ENTER] -> '.5'
```

In the last example, you could have left the decimal point off either the 1 or the 2 and you'd have got the same result.

If you had tried the example from page 1-14 without the trailing decimal points, the calculator would have produced a non-approximate result, but the EXP() function must produce an approximate result, so the calculate instead asks you to confirm a switch to approximate mode.

If the calculator is in exact mode and you want an approximate answer, you can use (right-shift) ->NUM

```
1 / 3 [ENTER] -> '1/3' [->NUM] -> '.333333333333'
```

Edited: 29 Jan 2011, 3:51 p.m.

Re: Decimal point before an operation

*Message #3 Posted by **Jim Yohe** on 29 Jan 2011, 4:09 p.m.,*
in response to message #2 by Chris Randle (UK)

Thank you Chris. I am just reading the PDF of the manual and wasn't aware of approximate vs. exact modes. At least not yet. Still it's a bit confusing since this is a new concept to me with respect to how this calculator has been programmed to work.

Re: Decimal point before an operation

*Message #4 Posted by **Chris Randle (UK)** on 29 Jan 2011, 5:33 p.m.,*
in response to message #3 by Jim Yohe

It's a great feature of the calculator, and well-implemented, IMO. In case you're not familiar with HP tri-glyphs, "\v/" represents the square root symbol, "\->" a right-arrow, and "\pi" the symbol for pi.

In exact mode,

```
\v/4 -> 2
```

because there's an exact decimal representation of the square root of four. But, because the square roots of two and 20 are irrational,

```
\v/2 -> \v/2
\v/20 -> 2*\v/5
```

Keeping the square roots there in case a later squaring operation is used. If you knew in advance that you wanted an approximate decimal fraction for the square root of two, you could type:

```
\v/2. -> 1.41421356237
```

to convert back,

```
\->Q\pi(ANS(1)) -> \v/2
```

\->Q\pi is available from the catalog menu (CAT)

The example on page 1-14 and the examples I've used assume the calculator is in algebraic mode. I prefer RPN mode, and Tim Wessman has produced an additional guide: "HP 50g Graphic Calculator Quick Start Guide" with all examples in RPN mode. If you haven't seen it, you can download a copy here:

HP 50g Graphing Calculator Quick Start Guide

Also, if you haven't seen a copy of the Advanced User's Reference Manual, which is definitely worth a look, you can get yourself a copy from here:

HP 50g/49g+/48gII graphing calculator advanced user's reference manual

Re: Decimal point before an operation

*Message #5 Posted by **Jim Yohe** on 29 Jan 2011, 7:36 p.m.,*
in response to message #4 by Chris Randle (UK)

Thanks again. I wanted to point out that the second link is broken with a message of, "The page you requested can not be found".

Does this happen to now be the "Advanced_Users_Ref_Manual.zip" file you can download from here?:

http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?lang=en&cc=us&contentType=SupportManual&docIndexId=64255&prodTypeId=215348&prodSeriesId=3235173&lang=en&cc=us

Edited: 29 Jan 2011, 8:14 p.m.

Re: Decimal point before an operation

*Message #6 Posted by **Chris Randle (UK)** on 30 Jan 2011, 6:32 a.m.,*
in response to message #5 by Jim Yohe

Sorry about the broken link. Could have sworn it worked when I tried it. But yes, that zip file is the one I meant. The AUM's a great work.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Why was the HP-15C dicontinued and not the HP-12C

*Message #1 Posted by **Gerardo Rincon** on 29 Jan 2011, 11:08 a.m.*

I have always wondered the reason why HP discontinued the HP-15C and decided to keep in production the HP-12C? Both the HP-12C and HP-15C calculators are what I would consider near perfect in calculator design and functionality.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #2 Posted by **Michael de Estrada** on 29 Jan 2011, 11:44 a.m.,*
in response to message #1 by Gerardo Rincon

Totally different markets. The Hp-15c, as well as the HP-10c and HP-11c appealed to scientists and engineers who wanted to do programming, whereas the HP-12c was used by business and financial types who for the most part do not write programs. The programming capabilities if the HP-15c were severely limited and subsequent models with better programming capacity and features replaced it.

Edited: 29 Jan 2011, 1:23 p.m.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #3 Posted by **bill platt** on 29 Jan 2011, 1:13 p.m.,*
in response to message #1 by Gerardo Rincon

42s

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #4 Posted by **Mike Morrow** on 29 Jan 2011, 1:39 p.m.,*
in response to message #1 by Gerardo Rincon

Bill beat me to the answer...the HP 42S. But I'll add some detail. The HP 42S is very marginally longer than the 15C but is otherwise the same size. It has an order of magnitude more functionality which due to great alphanumeric support is much easier to use. It's five times faster and has much greater accuracy and precision in its numerical results. It has tone and beep audio output and IR printer output. It has about 16 times more RAM.

I can't help but remark once again that the HP-15C's awkward and pointless landscape layout (for which no one cites an advantage other than attributes best summed up by "cuteness") alone is valid reason for HP not preserving that mistake in subsequent products other than endless primitive HP-12C re-treads.

The HP-15C does, however, get consolation prize as the second best RPN calculator ever made. And, its color style is more attractive. (IMHO)

The real question that should be asked is: "Why has a replacement as or more capable in the same size package as the HP 42S *not* been produced in the 23 years since the HP 42S was first introduced?"

Edited: 29 Jan 2011, 2:05 p.m.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #5 Posted by **Gerardo Rincon** on 29 Jan 2011, 2:31 p.m.,*
in response to message #4 by Mike Morrow

Mike you are so correct in your statement: "The real question that should be asked is: "Why has a replacement as or more capable in the same size package as the HP 42S *not* been produced in the 23 years since the HP 42S was first introduced?"

Also, Size does matter, and I don't like menus. One of the things I really like about the HP-15C is the size/portability and access to so many functions direct from the keyboard, without having to use Menus.

Menus is the single reason I don't use my HP-30b at work (so many key strokes are needed just to execute a % change burried somewhere in a menu is an example).

If the HP-35S were smaller, pocket size, it would be a wonderful calculator to use around the office.

Edited: 29 Jan 2011, 2:52 p.m. after one or more responses were posted

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #6 Posted by **Jim Yohe** on 29 Jan 2011, 2:52 p.m.,*
in response to message #5 by Gerardo Rincon

I'm beginning to dislike my 30b for that same reason of having to enter too many key strokes to get to functions deep down in menus.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #7 Posted by **Don Shepherd** on 29 Jan 2011, 3:58 p.m.,*
in response to message #6 by Jim Yohe

Guys, remember the 30b can bring any embedded function to a key of your choice with a simple program. If you are of a scientific-bent, immediately assign 6 desired functions to the TVM keys and AMORT on the top line and put a thin little sticky above them to note how you redefined them.

Gene suggested this many times and it's a great idea.

Don

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #8 Posted by **Mark Harman** on 29 Jan 2011, 4:39 p.m.,*
in response to message #7 by Don Shepherd

Since I don't like the primary and shifted functions to be replaced, I will assign the nested and new functions as Shift-Hold functions. Thereby, acting as a second shift. I have a number of custom programs that I created that are assigned as shift-hold functions.

For example, I have a program that will calculate combinations with repeating. Where did I put it? The logical spot - as a shift-hold function on the decimal key, thereby sharing the key with the shifted combinatorial function. I also added a Mod function that I placed as a shift-hold function on my multiplication key, amongst other things...

Regards,

Mark

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #9 Posted by **Mark Harman** on 29 Jan 2011, 4:30 p.m.,*
in response to message #5 by Gerardo Rincon

I can understand the frustration regarding the menu system. However, there is no menu on this machine that is more than two levels deep. I can't say that about other menu-based calcs that HP has made (I mean, heck, the 17bII+ has one menu that is buried seven levels deep!).

That being said, the percentage change function is not that hard to get to. Just shift % and arrow up and you're there. One thing that I think many users might neglect to learn is that the menus roll around, so one can start at the bottom of the menu if they want to save keystrokes.

Still, if you really want to avoid that function altogether, just remember the percentage change formula.

(New - Old)/ Old * 100

For example, if you want to know the change from 90 to 100, do the following: 100 enter 90 - 90 / 100* You should get 11.111

Now, of course, if any changes over multiple periods, that will require a few extra steps that I don't want to explain at this time. In this situation, the %Change menu function is very handy and more efficient than going through the steps.

Regards,

Mark

Edited: 29 Jan 2011, 5:08 p.m.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #10 Posted by **Mark Harman** on 30 Jan 2011, 4:57 p.m.,*
in response to message #5 by Gerardo Rincon

Here is a program I whipped up really quick to add a straight %Change function to the 30b.

I have it assigned as a Shift-hold to the percentage key. Use a high-numbered program space so you can keep the low numbered ones for processor-intensive programs.

When programming it, scroll up to start at line zero so you can assign the key. Press Shift-hold %

SH%
Swap
-
Ans (this is the same as Lastx)
/
1
0
0
*
You can enter a message on line 9 so your function is represented. I entered in [delta symbol] %

It takes 13 bytes and your checksum should be 050

To get it to work. Just enter in your old number first and the number it is changing to second, then hit shift-hold % to execute this function.

For example, what is the percentage change from 80 to 200?

80 Input 200 shift-hold %

Nine lines is all it takes - and now you can bring your 30b with you to work!

Cheers,

Mark

Edited: 30 Jan 2011, 5:09 p.m.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #11 Posted by **Crawl** on 4 Feb 2011, 6:18 p.m.,*
in response to message #5 by Gerardo Rincon

> Quote:
>
> Also, Size does matter, and I don't like menus. One of the things I really like about the HP-15C is the size/portability and access to so many functions direct from the keyboard, without having to use Menus.
>
> Menus is the single reason I don't use my HP-30b at work (so many key strokes are needed just to execute a % change burried somewhere in a menu is an example).
>
> If the HP-35S were smaller, pocket size, it would be a wonderful calculator to use around the office.

Agreed -- sort of.

I love the HP50g, menus and all. But I usually carry two calculators with me, a CAS graphing calculator, and a scientific with few / no menus for more basic number crunching.

I think a 50g / 15c combination would work well with this mindset, but a 50g / 42 not so much.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #12 Posted by **Ed Look** on 5 Feb 2011, 12:51 p.m.,*
in response to message #11 by Crawl

> Quote:
>
> I think a 50g / 15c combination would work well with this mindset, but a 50g / 42 not so much.

Hmmm... you have something here.

I carry and use exactly a combination of a 50g and a 33s (35s when teaching) at work and a 49g+ and 33s (or trusty ol' 32SII) at home. It seems that there is most often the need for quick calculations or simple programs that can be handled with a 33s or 35s (maybe not a 32SII) with minimum fuss. And then not always, but often enough, you need more programming power or maybe the storage and display and program running capability of the (50/49)g(+). The only issue with the graphing models is that it does take more time and trouble to program them as opposed to that taken with the scientifics.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #13 Posted by **Håkan Thörngren** on 29 Jan 2011, 4:58 p.m.,*
in response to message #4 by Mike Morrow

I would not say the Voyager series landscape being pointless. Granted, if you hold it in your hand it is really awkward, but the size is very attractive, and I tend to put the calculator on the table anyway.

I find it easier to get closer to view the LCD on a Voyager when being busy with lots of things on the table. The vertical machines sometimes feel a bit tall, with the LCD getting a bit far away, this from my school memories.

I think the vertical ENTER key was the biggest mistake, it is really pointless.

> Quote:
>
> I can't help but remark once again that the HP-15C's awkward and pointless landscape layout (for which no one cites an advantage other than attributes best summed up by "cuteness") alone is valid reason for HP not preserving that mistake in subsequent products other than endless primitive HP-12C re-treads.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #14 Posted by **BruceH** on 1 Feb 2011, 4:33 p.m.,*
in response to message #13 by Håkan Thörngren

> Quote:
>
> I think the vertical ENTER key was the biggest mistake, it is really pointless.

Turn the calculator 90 degrees. Now look at the key layout. Does it remind you of anything?

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #15 Posted by **reth** on 29 Jan 2011, 10:53 p.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> The HP-15C does, however, get consolation prize as the second best RPN calculator ever made.

And where is, according to you, HP-41? Unless referring to the HP42S you mean both 41 and 42?

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #16 Posted by **Mike Morrow** on 31 Jan 2011, 12:58 p.m.,*
in response to message #15 by reth

> Quote:
>
> And where is, according to you, HP-41? Unless referring to the HP42S you mean both 41 and 42?

The HP-41CX would be third best, if one doesn't need its magnetic card, time, bar-code, and HP-IL capabilities. I suspect that the vast majority of 41C users never had any need for bar-code and HP-IL, and if they need magnetic card features, then they'll have to have repaired the gummy wheel problem by now. The most outstanding feature of the HP-41C series over all *later* models is the excellent "best-in-class" keyboard quality. Otherwise, the HP-41C is more of a slightly faster, alpha-capable HP-15C with tone and printer output, but without the 15C's native solver, integrator, and complex number facilities. Even the Advantage Module doesn't do a good job of giving the 41C those capabilities of the 15C. I have the HP-41CX that I bought new 26 years ago, with most common accessories. It's nice, but I value my HP 42S units more. Much much more.

Thanks for asking.

Edited: 31 Jan 2011, 3:03 p.m.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #17 Posted by **reth** on 1 Feb 2011, 5:37 a.m.,*
in response to message #16 by Mike Morrow

> Quote:
>
> HP-41C is more of a slightly faster, alpha-capable HP-15C with tone and printer output, but without the 15C's native solver, integrator, and complex number facilities

Well to me and I guess to all surveyors of the time "native solver, integrator, and complex number facilities" are things we can't care less, and alpha-capabilities, the BEST EVER MADE keyboard plus reasonable amount of memory and IO made it THE BEST. The HP-42s is crippled in a way of professional use in my area. So I guess it's all a matter of a point of view. I wander how many calculators from each models are sold. Thanks for the answer and best regards, Reth

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #18 Posted by **uhmgawa** on 30 Jan 2011, 8:55 a.m.,*
in response to message #4 by Mike Morrow

> Quote:
>
> I can't help but remark once again that the HP-15C's awkward and pointless landscape layout (for which no one cites an advantage other than attributes best summed up by "cuteness") alone is valid reason for HP not preserving that mistake in subsequent products other than endless primitive HP-12C re-treads.

Wow. I believe I've heard such an assessment before which equally mystified me. Personally the landscape configuration of the voyager series was the initial ergonomic attraction for myself to that model series.

IMO any handheld calculator used as such requires two hands to pilot. With a landscape configuration digits of both hands are readily available for keypad duty where in a profile orientation the non-dominant hand holds the device and the other has at the keypad. In my experience tactile feedback and control is much greater when a key is actuated within the clutch of a hand vs. hand-to-hand in the case of a profile format. While a conventional vertical profile unit may be operated similarly with both hands, the natural coverage of both user "thumbs" falls into a wide horizontal vs. vertical area.

Measured by marketing presence I see my preference is in the minority. However I can't imagine why a landscape configuration isn't the default for *every* handheld calculator.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #19 Posted by **David Hayden** on 31 Jan 2011, 6:58 a.m.,*
in response to message #18 by uhmgawa

Quote:

IMO any handheld calculator used as such requires two hands to pilot.

The woodstocks could be operated entirely with one hand. It's one thing I loved about my long lost 29C. You cradle the calculator in your fingers and operate it with your thumb. I did a lot of high school homework that way with the calculator in one hand and a pencil in the other. It was very efficient.

Landscape format

*Message #20 Posted by **Frank Boehm (Germany)** on 31 Jan 2011, 6:31 a.m.,*
in response to message #4 by Mike Morrow

Personally, I totally like landscape designs - not only for QWERTY layouts.
Olympia CD 200
I find this a great concept - maybe not for left handed persons though <g>

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #21 Posted by **Egan Ford** on 29 Jan 2011, 2:34 p.m.,*
in response to message #1 by Gerardo Rincon

The 12C became an established standard for finance types. It became the de facto standard in classes, text books, real estate classes, etc...

HP didn't discontinue the 12C because the demand after 30 years still exists. The TI-83 in high school enjoys the same success.

The HP scientific line had to evolve to compete. The 15C was dropped for more capable and less expensive models. That evolution gave us the 42S--the peak of RPN scientific calculators. I'll never understand why things went downhill after that.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #22 Posted by **Don Shepherd** on 29 Jan 2011, 4:01 p.m.,*
in response to message #21 by Egan Ford

Quote:

> I'll never understand why things went downhill after that.

For the same reason that the 12c did NOT go away--demand. The same reason the 16c went away.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #23 Posted by **Karl Schneider** on 29 Jan 2011, 2:37 p.m.,*
in response to message #1 by Gerardo Rincon

Gerardo --

HP introduced Pioneer-series replacements for both the Voyager-series HP-11C, HP-15C and the HP-12C -- the HP-32S, HP-42S and HP-17B -- but the HP-17B apparently did not achieve acceptance in the larger financial market as a replacement. Appearance and the lack of familiarity and compatibility may have played a role. The Voyager-series landscape layout that Mike Morrow continually criticizes is actually well-suited for desktop use, as financial people likely prefer.

Thus, the HP-12C was continued, as demand still exists.

I disagree with Michael de Estrada that the programming capabilities of the HP-15C were ostensibly "severely limited". That term might apply to those of the HP-10C and HP-12C, which lacked insert/delete editing as well as most of the programming features, and also offered far less RAM for the user.

The HP-15C offered broad, cohesive functionality, along with ample programming features and sufficient resources to accomplish practically any task appropriate for that particular tool. However, its non-alphanumeric 7-segment display and limited program-management capabilities made the use and maintenance of permanent-residence programs rather inconvenient.

-- Karl

Edited: 29 Jan 2011, 4:49 p.m.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #24 Posted by **Mark Harman** on 29 Jan 2011, 4:58 p.m.,*
in response to message #23 by Karl Schneider

I think also the fact that the 17B started out as an algebraic machine and the 10B series continues to be this way lent heavily to the 12c maintaining its demand.

Mark

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #25 Posted by **Karl Schneider** on 29 Jan 2011, 5:29 p.m.,*
in response to message #24 by Mark Harman

> Quote:
>
> I think also the fact that the 17B started out as an algebraic machine ... lent heavily to the 12c maintaining its demand.

Yes, that's a major part of the "lack of ... compatibility" I had mentioned, although I'm not convinced that financial types would be tied to RPN. Even though the HP-17BII provided RPN and a dressier

appearance to equal that of the HP-12C, the application programs written and published for the HP-12C remained incompatible with the HP-17B/BII, which did offer the fine algebraic solver.

The HP-10B and HP-14B were not programmable in any fashion, although I'd prefer to use them over the HP-12C for standard finanacial calculations.

-- Karl

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #26 Posted by **Eric Smith** on 29 Jan 2011, 6:17 p.m.,*
in response to message #25 by Karl Schneider

although I'm not convinced that financial types would be tied to RPN.

A fairly large number of them ARE tied to RPN. They learned how to solve problems on the 12C don't want to relearn it differently, if they can avoid it. They'd rather just buy another 12C.

It doesn't matter if a 17BII, 20B, or 30B might in some sense be easier to use than a 12C. It's easier yet to stick with what you already know.

Having more features on a newer financial calculator will get some users to switch, but many are perfectly happy with the 12C and don't need the additional features.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #27 Posted by **db (martinez, ca.)** on 29 Jan 2011, 6:49 p.m.,*
in response to message #26 by Eric Smith

A lot of bean counter types enter that one-strange-function as a program on their 12c too, along with the fine trig routines that have been posted here.

This is my favorite though.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #28 Posted by **Don Shepherd** on 29 Jan 2011, 8:20 p.m.,*
in response to message #27 by db (martinez, ca.)

db, what is the "one strange function" you are referring to? I'm curious.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #29 Posted by **Mark Harman** on 29 Jan 2011, 8:32 p.m.,*
in response to message #28 by Don Shepherd

I'll take a stab at guessing. I think he is referring to the Black-Scholes function.

Mark

that one missing function

*Message #30 Posted by **db (martinez, ca.)** on 31 Jan 2011, 12:54 a.m.,*
in response to message #29 by Mark Harman

Mark & Don;

I should have said that one *missing function*. I've noticed that there's usually at least one thing that everyones favorite calculator (whichever) doesn't do and it's of course always something different. That's why we program, or set up the solver. That was especially true in the calcs with smaller memories and the 41 where more programs meant less data storage.

I bet everyone here could name *that one thing* that should have been in ROM instead of xxxx. To which everyone else would reply "that's minor - the real omission is...."

Re: that one missing function

*Message #31 Posted by **Mark Harman** on 31 Jan 2011, 1:30 a.m.,*
in response to message #30 by db (martinez, ca.)

db,

I get what you are saying now.

Honestly, before I got my 30b, I used a TI BA II Plus Professional. It is a very nice device and served me well for a long time with its fairly robust function set and fair speed. However, there were functions that I always wanted to have that I could not add. It isn't a programmable device, so I got the functions it came with.

When I did get my 30b, I was thrilled because, first, it had RPN and, second, it could be programmed. I have since added a number of functions to the calculator that I really enjoy having. I am at the point right now where I am considering starting a blog based on this device by posting some of my "programs" that I have thus far written...

I also agree with your last sentence. It always seems like one user's specific request is less important than the one that another feels is important. Unfortunately, we can't get everything we want and, like I mentioned in another post, designers are always going to make a decision or compromise that will make one group of users happy while alienating another.

Regards,

Mark

Re: that one missing function

*Message #32 Posted by **Don Shepherd** on 31 Jan 2011, 2:21 a.m.,*
in response to message #30 by db (martinez, ca.)

Thanks, db, I see what you mean and I would agree. I once had a discussion with Katie, who consults for the financial types, about whether they typically use any programs on their 12c's. She said a lot of them actually do, but typically not programs they wrote themselves, rather programs written by someone else (frequently her) for the "one function they often need but isn't there". Given the 12c's program execution method and 99 line capacity, I would imagine they would be limited to a single function since otherwise they would have to GOTO a certain line number first for additional functions. They wouldn't have that restriction on the 30b since any key can activate whatever programmable function they want, but there is still the 290 byte limit on that machine.

And you're certainly right about what that missing function would actually be. Like Mark said, it might be Black Scholes for the bean counters, but for me it would be something related to number theory.

Thanks for clarifying.

Don

Re: that one missing function

*Message #33 Posted by **Thomas Klemm** on 31 Jan 2011, 3:44 a.m.,*
in response to message #32 by Don Shepherd

My guess is you're missing a N-queens solver in the HP-17BII.

Cheers
Thomas

Re: that one missing function

*Message #34 Posted by **Don Shepherd** on 31 Jan 2011, 7:29 a.m.,*
in response to message #33 by Thomas Klemm

:)

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #35 Posted by **Art Litka** on 2 Feb 2011, 10:08 a.m.,*
in response to message #27 by db (martinez, ca.)

db,

Thanks for this article! It looks like it will be useful and I will pass it on to my daughter as well as program it into one of my 12C's!

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #36 Posted by **db (martinez, ca.)** on 4 Feb 2011, 8:10 p.m.,*
in response to message #35 by Art Litka

Art;
But what if she gets accustomed to RPN and wants daddy to loan her his favorites? Sure you gave her your heart long ago, but would you let her borrow your 55? -db

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #37 Posted by **Art Litka** on 6 Feb 2011, 5:48 p.m.,*
in response to message #36 by db (martinez, ca.)

db,

The 55 is strictly "Mayan", not hers!

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #38 Posted by **Martin Pinckney** on 30 Jan 2011, 1:02 a.m.,*
in response to message #24 by Mark Harman

I wonder what the sales percentages are today for the Platinum vs. the regular 12c.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #39 Posted by **Mike Morrow** on 29 Jan 2011, 11:33 p.m.,*
in response to message #23 by Karl Schneider

> Quote:
>
> The Voyager-series landscape layout that Mike Morrow continually criticizes is actually well-suited for desktop use...

Karl, that is not much of a distinction. The exact same thing can be said for every HP calculator ever made (well...maybe not the HP 6S, et al), even that HP 9820 in my storage shed.

But just as the 9820 is not a good handheld device, unfortunately neither is a Voyager. The HP 50g is easier to use as a *hand held* machine than the much smaller Voyager. That surprising disadvantage stems *solely* from the Voyager's landscape layout. I have large hands, still I find it impractical to hold a Voyager for use in one hand. The Voyager can not accurately be termed a "handheld" calculator if such use is impractical. Perhaps a Voyager should be called a "two-hands-held" or "mini-tabletop" calculator.

Landscape works well only when the total width of the calculator is easily cupped in a typical-size palm. If the HP-15C could be scaled down until its width is about the same as a Pioneer's, I'd readily and enthusiastically buy several such machines. Such an item would be exciting on a number of levels! An HP 15CM (Mini) anyone? (I'm not holding my breath.)

Edited: 30 Jan 2011, 12:09 a.m.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #40 Posted by **Michael de Estrada** on 30 Jan 2011, 12:09 a.m.,*
in response to message #39 by Mike Morrow

When it comes down to it, the best handheld HP calcs were the Woodstocks. They were by far the narrowest of HP's pocket RPN calcs and weighed only 1.6 oz more than a Pioneer. Despite having very small hands, I can both hold and operate my Woodstocks with one hand, something I cannot do with any other of my HP calcs. When placed in a shirt pocket, they were no taller than a Voyager, and least likely to fall out if you bent over. And their battery pack design made it a snap to swap batteries.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #41 Posted by **Mike Morrow** on 30 Jan 2011, 12:22 a.m.,*
in response to message #40 by Michael de Estrada

I agree about the Woodstock's great characteristic as a handheld device. The mechanically sturdy arrangement of the Woodstock is re-assuring. I'd love to have an HP-34C (very flimsy mechanically) in a Woodstock body (same number of keys...30). But I could also fall for an HP-15C (or an HP 42S) in a Woodstock body as well. But the HP-15C has 39 keys, and the HP 42S has 37, which are significant increases above the Woodstock's 30 keys.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #42 Posted by **Martin Pinckney** on 30 Jan 2011, 1:12 a.m.,*
in response to message #39 by Mike Morrow

Mike, I think the first point is that most people do not use their calculator hand-held most of the time, so the LS format of the Voyagers becomes moot. That being the case, the other things about Voyagers that are appealing (compactness and style) come to the forefront.

Yes, you are correct about the 42s being so great, but the second point is many have stated they do not like a menu-driven interface. This accounts for the continuing popularity of both the 15c and the 32sii, which you also don't like.

Different strokes...

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #43 Posted by **robert rozee** on 30 Jan 2011, 8:38 a.m.,*
in response to message #42 by Martin Pinckney

the whole battle over landscape versus portrait format is starting to wear a little thin methinks. i have a 20s and an 11c, and like both.

as far as i am aware they are all called POCKET calculators, which makes no reference as to how one should use said calculator once you have removed it from your pocket at the "location of calculation". the term 'handheld' only really came into use much later with the advent of small handheld computers like the sharp PC-1211, most of which happened to be portrait format!

Edited: 30 Jan 2011, 8:40 a.m.

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #44 Posted by **Mike Morrow** on 30 Jan 2011, 1:43 p.m.,*
in response to message #43 by robert rozee

> Quote:
>
> the whole battle over landscape versus portrait format is starting to wear a little thin

Your threshold for perceiving a "battle" is too low.

> Quote:
>
> as far as i am aware they are all called POCKET calculators

As far as I an aware they are all not. Quod gratis asseritur gratis negatur.

In any event, that completely misses the point of the discussions. The Voyagers could have been designed with portrait layout and been otherwise exactly the same size, shape, weight, style, and function...plus sit just as well on a table top. What rationale justified choosing the layout that makes the unit inarguably impractical to use in hand, yet provides no advantages to justify that choice? History shows that HP did not repeat the mistake again in a new design during the 30 years following Voyager introduction. It appears that HP came to the obvious conclusion.

There are a *lot* of good reasons to like the Voyagers, especially the HP-15C. I like them...I've got two, and a couple of HP-12C units as well. I believe that most Voyager fans have

recognized the many great characteristics and unconsciously or uncritically included the unique layout as an integral part of what makes the machine great. But no one has ever been able to coherently explain any *advantage* that stems from the landscape layout. "Cute" and "different" and "I just like it" are subjective artistic-type considerations that do not provide a real answer to the question. But maybe it *is* just like the tail fins on some 1959 Buick automobiles! :-)

None of us can change the Voyager design, so it could be termed of little value to discuss. But...this is a forum. Perhaps some day someone who helped make such decisions will contribute. Or maybe not. Perhaps someone will present information that will reshape a concept for myself or others. Or maybe not. Such discussions take place on all forums for all subjects. That's why forums exist!

The rationale of "landscape" layout, in detail

*Message #45 Posted by **Karl Schneider** on 30 Jan 2011, 3:31 p.m.,*
in response to message #44 by Mike Morrow

> Quote:
>
> But no one has ever been able to coherently explain any *advantage* that stems from the landscape layout. "Cute" and "different" and "I just like it" are subjective artistic-type considerations that do not provide a real answer to the question.

Mike --

Those insinuations are far from the truth. Many people here have plainly and coherently explained the advantages, appeal, and rationale for this and other things you seem to despise, yet you continually ignore it and then re-hash your predictable "talking points" a few months later, or even subsequently in the same thread (for example, after Håkan Thörngren posted in this one).

Certainly for actual handheld use, the portrait layout is ideal. I suspect that many users of the HP-35 and successors took them to construction sites and other "field" locations. However, many or most users in the early 1980's -- such as office workers and students -- would place the calculator near the front of a tabletop or desktop, using it to calculate numbers to write on their papers. In that era, few people had a PC or computer terminal on their desks. Thus, no pull-out keyboard trays to move the user away from the desk or table. 90% of people are also right-handed, and would press the keys with that hand.

With all of that in mind, the Voyager-series portrait layout made perfect sense. These calc's also have the display window offset to the left, shift keys in the lower-left corner, and data-entry keys on the right side, but just to the left of the arithmetic keys. With the calc placed to the user's right near the edge of the desk, the following ergonomic advantages were achieved:

- The display window is moved a few inches closer to the user than with portrait layout.
- The user's right hand is moved in a natural side-to-side motion to reach keys, instead of a back-and-forth ("to and fro") motion that involves the user's upper arm.
- The shift keys can be pressed with the right thumb, if desired.
- Most "operation" and transcedental-function keys (other than arithmetic) are not obstructed by the user's hand while entering data.

Yes, HP thought this through quite well. Portable computers of the era, such as the HP-71B and the models by Sharp also used this layout for similar reasons. Please note that "cuteness", "different", and "artisan" had nothing to do with them. (The HP-71B and HP-75 were too large to reasonably use as handhelds, anyway.)

Also remember that HP was selling the HP-41 as a calculator well-suited for handheld field use, with its expandability, advanced programmability, and limited data-storage capability. The HP-34C was also available as a handheld alternative, up until 1983. The Voyager-series models, however, were not really intended for field use.

By the latter 1980's, the *modus operandi* of office work was evolving. Most white-collar workers began to get PC's for their desks, along with pull-out keyboard trays for entering numbers into documents, e-mails, or even spreadsheets in some cases. The user was no longer sitting next to the calculator placed on the edge of the desk surface, and would no longer write the calculated result onto paper placed nearby on the desktop. Hand-held use was becoming the norm, dictating a portrait layout for the Pioneer series.

Students, meanwhile, continued to use desks without PC's, as Håkan and others could attest. The landscape layout worked great for that.

One final point: HP's landscape layout isn't optimal for those who want to operate the calculator with their *left* hand, but is still workable. It should be noted that telephones have long been optimally configured for right-handed operation and left-handed listening -- even more so with rotary dialing. Predominant right-handedness of people is why the dials were turned clockwise, and why the handset is plugged into the left side of the phone. The objective was to optimize ergonomics for the most-typical method of usage -- something that, unfortunately, is often not achieved in modern consumer produtcts.

Alles klar? Coherent enough?

-- Karl

Edited: 31 Jan 2011, 2:06 a.m. after one or more responses were posted

Re: The rationale of "landscape" layout, in detail

*Message #46 Posted by **Martin Pinckney** on 30 Jan 2011, 6:38 p.m.,*
in response to message #45 by Karl Schneider

Karl,

Coherent and well thought-out explanation of the evolution of the calculator form factor. It brought to mind scenes I had not thought of for a few years. When I started working in Florida in 1986, the company supplied calculators to anyone who needed one. The model they supplied - because the company President thought it was the best - was the 11c. I remember him remarking that the 15c was overkill. I remember people using them just the way you said, on the corner of a desk or drawing board, where the LS format worked perfectly.

Mike,

You are right about this being a forum for the free exchange of ideas and opinions. What's annoying sometimes is when you present your opinions as incontrovertible fact, even in the face of others giving reasons why they prefer something different. For example **uhmgawa**'s explanation of how, for him, the LS format actually works better as

a handheld.

Re: The rationale of "landscape" layout, in detail

*Message #47 Posted by **Mike Morrow** on 1 Feb 2011, 2:54 p.m.,*
in response to message #46 by Martin Pinckney

> Quote:
>
> What's annoying sometimes is when you present your opinions as incontrovertible fact...

Hi Martin,

It's a common forum technique, designed to provoke a counter response and discussion. All assertions (including...even especially...mine own) expressed on a forum are, without necessity of labeling, made with an implied "in my opinion" caveat. Concrete facts and details obviously represent an exception.

My outlooks come from 39 years of calculator use, 35 years of HP ownership in particular, during which time I have owned every model about which I've expressed opinion and developed not just a few comments on each. If I were not interested in other viewpoints, I'd refrain from bringing any of my views to the fore on the forum.

I've had my run on this issue. I thank every one who voiced contrary positions and stated the basis.

Re: The rationale of "landscape" layout, in detail

*Message #48 Posted by **Martin Pinckney** on 1 Feb 2011, 4:28 p.m.,*
in response to message #47 by Mike Morrow

> Quote:
>
> It's a common forum technique, designed to provoke a counter response and discussion.

It works!

> Quote:
>
> All assertions ... are, without necessity of labeling, made with an implied "in my opinion" caveat.

Good point. That's what I keep trying to tell my wife!

Re: The rationale of "landscape" layout, in detail

*Message #49 Posted by **Garth Wilson** on 30 Jan 2011, 7:28 p.m.,*
in response to message #45 by Karl Schneider

> Quote:
>
> Portable computers of the era, such as the HP-71B [...] (The HP-71B and

> HP-75 were too large to reasonably use as handhelds, anyway.)

I was able to type at 30wpm on the 71B when in my full-featured text editor, so I was glad they did the landscape layout there.

Edited: 30 Jan 2011, 7:28 p.m.

Re: The rationale of "landscape" layout, in detail

*Message #50 Posted by **John B. Smitherman** on 31 Jan 2011, 3:04 p.m.,*
in response to message #49 by Garth Wilson

My sliderule used the landscape layout as well.

John

Re: The rationale of "landscape" layout, in detail

*Message #51 Posted by **Martin Pinckney** on 31 Jan 2011, 3:21 p.m.,*
in response to message #50 by John B. Smitherman

I have a circular one. Sure to please everyone. Or no one.

Re: The rationale of "landscape" layout, in detail

*Message #52 Posted by **Mike Morrow** on 1 Feb 2011, 1:29 p.m.,*
in response to message #45 by Karl Schneider

Karl,

Thanks for taking the time to produce the canonical list of the advantages of the Voyager being made in landscape rather than portrait layout:

> Quote:
>
> ...the Voyager-series portrait layout made perfect sense...the following ergonomic advantages were achieved:
>
> - The display window is moved a few inches closer to the user than with portrait layout.
> - The user's right hand is moved in a natural side-to-side motion to reach keys, instead of a back-and-forth ("to and fro") motion that involves the user's upper arm.
> - The shift keys can be pressed with the right thumb, if desired.
> - Most "operation" and transcedental-function keys (other than arithmetic) are not obstructed by the user's hand while entering data.

I have some remarks/questions on that list:

- I agree that this advantage exists. Is it likely that a significant number of users found the advantage to having a calculator's display at most two inches (46 mm) closer was worth a keyboard layout that precluded effective use as a handheld calculator?

I agree that this advantage exists. Is it likely that a significant number of users found enough advantage to having a calculator keyboard layout that encouraged right-left rather than down-up hand motion, three inches (72 mm) maximum, was worth a keyboard layout that precluded effective use as a handheld calculator?

- I disagree with your premise. The shift-key-on-left quality has NOTHING to do with landscape vs. portrait advantages. The Pioneers *also* have the shift key on the left side allowing right thumb use just as effectively as you suggest the Voyager allows. IIRC, all HP calculators since the HP-41C have placed the shift key(s) on the left side. Further, were this in fact to be considered an advantage for either layout, it would be one for RIGHT hand users only.
- I disagree with your premise. The quality that you cite of the Voyager layout placing the various function keys on the left where the keys are not obscured illustrates a problem or advantage that occurs BECAUSE of the landscape layout. You describe the arrangement as an advantage, but it is only that for RIGHT handed users. It's a problem for LEFT handed users. In contrast, the portrait layout is a decided advantage in this area because these function keys are not obscured regardless of the user being LEFT or RIGHT handed. Frankly, I had never considered that, and I thank you for noting yet another advantage to the portrait layout.

> Quote:
>
> The Voyager-series models, however, were not really intended for field use.

I doubt that limiting the theater of use was in HP's design objectives ("intent") for the Voyager. Any citation of such a concession at HP would be of interest.

> Quote:
>
> HP's landscape layout isn't optimal for those who want to operate the calculator with their *left* hand, but is still workable.

Still, you're talking about two-handed use. However, it is use in-hand, with that hand, which is the acid test. Most portrait layout models may be used with varying degrees of ease completely one-handed while hand held. Even the HP 50G. The small Voyagers do not possess that characteristic.

I don't have any objection to landscape layout that doesn't stem simply from the fact that, as implemented in the Voyagers, it makes hand held operation inefficient. Any perceived advantages, as have been recently presented, do not compensate for that. However, a mini-Voyager that was scaled down to be about the same width of HP portrait models would completely overcome the objections that I have to the design.

> Quote:
>
> *Alles klar?* Coherent enough?

Meine Frage auch.

Edited: 1 Feb 2011, 2:33 p.m.

Re: The rationale of "landscape" layout, in detail

*Message #53 Posted by **Karl Schneider** on 2 Feb 2011, 1:25 a.m.,*
in response to message #52 by Mike Morrow

Mike --

A few comments:

1. Thank you for using ALL CAPS to emphasize the words, "NOTHING", "BECAUSE", "LEFT" (twice), and "RIGHT" (thrice). Else, I (we?) might not have grasped their full significance...

> Quote:
>
> "The shift-key-on-left quality has NOTHING to do with landscape vs. portrait advantages...

2. Thank you for the revelation. Indeed -- that, along with arithmetic keys to the right of data-entry (number) keys -- had more to do with optimization for right-handed use, as with the Pioneer series. While quoting me, you omitted a sentence that mentioned certain attributes distinct from landscape layout: *"These calc's also have the display window offset to the left, shift keys in the lower-left corner, and data-entry keys on the right side, but just to the left of the arithmetic keys.*

3. Notwithstanding your statement that included all the capitalized LEFT's and RIGHT's, an HP-15C placed on a desktop/tabletop to the left of the user can be operated adroitly with the left hand. It's not absolutely optimal in all aspects, but it's certainly not a "problem", either.

> Quote:
>
> Still, you're talking about two-handed use. Most portrait layout models may be used with varying degrees of ease completely one-handed while hand held. Even the HP 50G.

4. No I wasn't; I was talking about *desktop* use. As for one-handed hand-held use, those "degrees of ease" might range from 'effortless' for those with hands like baseball gloves to 'unworkable' for the rest of us when using a larger model.

> Quote:
>
> However, a mini-Voyager that was scaled down to be about the same width of HP portrait models...

... would be a credit-card-sized uCalc. I wouldn't want to try cramming an HP-15C's functionality onto it.

> Quote:
>
> My outlooks come from 39 years of calculator use, 35 years of HP ownership in particular, during which time I have owned every model about which I've expressed opinion...

5. Is this intended to convince us that you have special insight? Most of us have used

HP's for 20+ years, not that it takes that long to form assessments. Many of us have fairly-complete collections, too.

My basic point: HP did not, shall we say, 'blunder' with the landscape layout of the Voyager series, as you have repeatedly opined. The engineers knew what they were doing, and likely had solid reasons for the decisions they made at the time. My own well-documented observations suggest that every detail of the HP-15C was carefully considered. The apparent objective of the Voyager-series design was to optimize ergonomics for routine *desktop-placed* use by students and office workers who dominated the market, with a modest bias in favor of the 90% of people who are right-handed. The HP-15C is the only calc I owned through most of the 1980's and 1990's, and that's how I used it then -- placed on the desktop.

This is no longer the case for myself and countless others, who use PC keyboards on pull-out trays that all but necessitate hand-held use of calculators. The portrait layout is much better for that purpose, and HP probably recognized that as well in the latter half of the 1980's.

-- Karl

Edited: 2 Feb 2011, 11:11 p.m. after one or more responses were posted

Habitat of pull out trays?

*Message #54 Posted by **Walter B** on 2 Feb 2011, 2:22 a.m.,*
in response to message #53 by Karl Schneider

> Quote:
>
> ... countless others, who use PC keyboards on pull-out trays that all but necessitate hand-held use of calculators. The portrait layout is much better for that ...

I remember having seen such trays decades ago, but no more in modern offices on this side of the Atlantic. I wonder they are still popular in the USA, or are these just old desks?

Re: The rationale of "landscape" layout, in detail

*Message #55 Posted by **Mike Morrow** on 2 Feb 2011, 12:43 p.m.,*
in response to message #53 by Karl Schneider

Karl,

Thanks (seriously!) for the time and effort you've taken to explain your position. It's all been well worth reading.

BTW, I am guilty of using a capitalized individual word at times for emphasis on that word. It seems to me to lend a voice-type conversational characteristic. IMO, a phrase in caps is shouting, not a single word, though there's no internet forum standard that supports my position. I had no other purpose beyond that with my use of a capitalized word. I apologize for causing offense.

Re: The rationale of "landscape" layout, in detail

*Message #56 Posted by **Walter B** on 2 Feb 2011, 3:27 p.m.,*
in response to message #55 by Mike Morrow

FYI, there's an opportunity to underline, what shall be emphasized. Capitalizing takes less effort though.

Re: The rationale of "landscape" layout, in detail

*Message #57 Posted by **Egan Ford** on 2 Feb 2011, 4:53 p.m.,*
in response to message #56 by Walter B

Or, *italic*--my *preference*. Of course **bold** is an option too. Old-school net-etiquette for emphasis is still used, e.g. *emphasized*. Some online forums (not this one :-), actually interpret *statement* and will display italic.

Re: The rationale of "landscape" layout, in detail

*Message #58 Posted by **BruceH** on 1 Feb 2011, 4:30 p.m.,*
in response to message #45 by Karl Schneider

Quote:

> - The display window is moved a few inches closer to the user than with portrait layout.

A practical consequence of this is that when you are a stock exchange trader on a narrow cramped desk with several screens and keyboards and precious little spare space, it is easy to slide your computer keyboard back a couple of inches in order to put the 12C on the edge of the desk, in front of it. A landscape calculator means you have to move your keyboard much further back which might not be possible.

Edited: 1 Feb 2011, 4:30 p.m.

Re: The rationale of "landscape" layout, in detail

*Message #59 Posted by **Walter B** on 1 Feb 2011, 4:36 p.m.,*
in response to message #58 by BruceH

Quote:

> ... when you are a stock exchange trader ..., it is easy to slide your computer keyboard back a couple of inches in order to put the 12C on the edge of the desk, in front of it. A landscape calculator means you have to move your keyboard much further back which might not be possible.

One more proof of financial people losing contact to the real world: How shall they know what landscape means? d;-)

Edited correcting an error in a foreign language.

Edited: 2 Feb 2011, 7:52 a.m.

Re: The rationale of "landscape" layout, in detail

*Message #60 Posted by **BruceH** on 2 Feb 2011, 6:15 p.m.,*
in response to message #59 by Walter B

Doh! I'm so keen on landscape calcs that my fingers can barely bring themselves to type 'portrait'. ;-)

Re: The rationale of "landscape" layout, in detail

*Message #61 Posted by **Jim Yohe** on 2 Feb 2011, 8:41 p.m.,*
in response to message #58 by BruceH

I think you mean in portrait layout you'd have to push your keyboard further back. Landscape layout would give you a little more room to pull your keyboard closer to you.

Re: The rationale of "landscape" layout, in detail

*Message #62 Posted by **David Hayden** on 2 Feb 2011, 7:34 a.m.,*
in response to message #45 by Karl Schneider

To me, the important thing for HP to recognize is that different people have different preferences. I think it's important for them to produce calculators in a variety of form factors.

I also think it's crucial on the high end machines to allow assignable keys and way for the user to know which functions are assigned to which keys. The 50g has thousands of functions but I suspect that each user has a small number that they use frequently. Ideally, they would assign these functions to less used keys. I really liked the 41C series with its removable keyboard overlay and the fact that holding down the key showed the name of the function it would invoke.

Again, my point here isn't that form factor X is "better" than factor Y, or that A should be on the keyboard rather than function B. My point is that these factors vary from person to person and the manufacturer should design with this in mind. Thus a scientific calculator in the landscape format would be a nice addition, as would a physical change to allow keyboard overlays on all models that support assignable keys.

Dave

Re: Why was the HP-15C discontinued and not the HP-12C

*Message #63 Posted by **bill platt** on 31 Jan 2011, 2:25 p.m.,*
in response to message #39 by Mike Morrow

Hi Mike,

You dislike the voyagers because you never learned to read sideways;-)

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #64 Posted by **Paul Gaster** on 31 Jan 2011, 1:28 a.m.,*
in response to message #1 by Gerardo Rincon

Don't forget that the 12C is approved for several professional financial exams and has been for a long time.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #65 Posted by **Anthony (USA)** on 1 Feb 2011, 4:48 p.m.,*
in response to message #1 by Gerardo Rincon

There's a petition to bring back HP 15c. <http://hp15c.org/petition.php>

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #66 Posted by **Michael de Estrada** on 1 Feb 2011, 5:10 p.m.,*
in response to message #65 by Anthony (USA)

That petition has been around forever. I submitted my vote many years ago. It has about the same chance of success as getting a Democratic governor in Texas.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #67 Posted by **Martin Pinckney** on 1 Feb 2011, 5:21 p.m.,*
in response to message #66 by Michael de Estrada

Score: Democrat - 39
Republican - 6

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #68 Posted by **Mark Harman** on 1 Feb 2011, 5:23 p.m.,*
in response to message #66 by Michael de Estrada

Tell that to the late Ann Richards...

Regards,

Mark

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #69 Posted by **Michael de Estrada** on 1 Feb 2011, 5:53 p.m.,*
in response to message #68 by Mark Harman

She was an outlier and ran against a complete moron. How much do you care to bet we'll see another Democratic governor in Texas any time soon?

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #70 Posted by **Martin Pinckney** on 1 Feb 2011, 8:45 p.m.,*
in response to message #69 by Michael de Estrada

> Quote:
>
> She was an outlier ...

See my post above.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #71 Posted by **Michael de Estrada** on 1 Feb 2011, 8:57 p.m.,*
in response to message #70 by Martin Pinckney

I know, but times have changed. Looking to the realistic future, there's just as much chance of the resurrection of the HP-15c as there is of getting a future Democratic governor in Texas. ;)

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #72 Posted by **Martin Pinckney** on 1 Feb 2011, 9:10 p.m.,*
in response to message #71 by Michael de Estrada

I'll take your word on Texas politics, but I still think we will see a 15c+. 2012 is 30 years.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #73 Posted by **Gerardo Rincon** on 1 Feb 2011, 9:21 p.m.,*
in response to message #72 by Martin Pinckney

What a great thought! I would buy many of them and even give them as gifts!

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #74 Posted by **Etienne Victoria** on 3 Feb 2011, 6:00 a.m.,*
in response to message #1 by Gerardo Rincon

Because the Hp-12C sold and still sells.

Etienne

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #75 Posted by **Patrick Rendulic** on 4 Feb 2011, 3:56 a.m.,*
in response to message #74 by Etienne Victoria

If they stopped making the 15c because of the 42s then why did they stop making the 42s? There is no replacement, they simply stopped making it.

People always say that there is a market for the 12c but not for a 15c or a 42s. In my view that's bullshit. Students, engineers and scientists need calculators with "scientific" capabilities. It is just normal that nowadays they use Casios and TIs because there no longer is an alternative from HP, readily available.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #76 Posted by **Eric Smith** on 4 Feb 2011, 4:24 a.m.,*
in response to message #75 by Patrick Rendulic

HP makes the 35s for those people. We could debate the merits of the 35s vs. the 15C and 42S, but the reality is that most students, engineers, and scientists that need a scientific calculator don't want or need more than a fairly basic one. The 35s is actually overkill for them.

I don't think they stopped making the 15C because of the 42S. I think they stopped making the 15C because sales of the 15C tapered off. Richard Nelson has related the story of the 42S discontinuation,

which was that Educalc was selling a moderate number of them, but that NO OTHER HP DEALER was selling any significant number. In other words, the sales of the 42S had tapered off also.

Some people seem to think there are big conspiracies or extreme stupidity going on in product discontinuation, but the reality is that HP, like almost any other company, discontinues products when they stop bringing in revenue. There are only rare exceptions to that.

[I don't work for HP; these are just my personal opinions.]

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #77 Posted by **Ron Ross** on 4 Feb 2011, 1:20 p.m.,*
in response to message #75 by Patrick Rendulic

Also, if I remember correctly, the Hp48S and then the Hp48G were made available for only a few dollars more. In fact the Hp48g was selling for $100 on the street when the Hp42s was still selling for $120. While a professional would still buy an Hp42s, that likely professional ALREADY had an Hp42s. A student who wanted a graphing calculator, more memory, ability to share programs would buy the Hp48G (or better).

And Hp realized that for every Hp42s sold, they probably lost the sale of an Hp48G (which was a two tiered sale, ie a student who buys an Hp48G, might then upgrade to an HP48GX!!! KA Ching!! Two sales).

Under such market conditions, it is no wonder the Hp42s was discontinued. Had Hp sold the Hp42s for $70-80, it would have sold much better, but then it would have definitely robbed sales from the Hp48G line and still would have been dropped.

Re: Why was the HP-15C dicontinued and not the HP-12C

*Message #78 Posted by **Mike Morrow** on 4 Feb 2011, 5:40 p.m.,*
in response to message #77 by Ron Ross

Ron, I believe you have identified all the key aspects for why the HP 42S was discontinued.

I had used an HP-15C almost daily in my job as a nuclear plant control room engineer and supervisor. In 1997, after eleven years of 15C use, I decided to retire the beloved 15C and get the current equivalent model in HP's line. That happened to be the HP 32SII, because the HP 42S had been discontinued in 1995. I very quickly found the 32SII to be woefully inadequate as replacement for the 15C. And...two years after the 42S had been discontinued, typical prices on the used market were at least double the pre-1995 price. (IIRC, Edu-Calc sold the 42S for $95 before discontinuance.)

(Momentary tangent follows: The college bookstore at U. of Alabama at Huntsville did not believe in discounting old stock to encourage sales. There I found (still in 1997) two **new** HP 42S units that had been on the shelf for more than **four** years...so long that the batteries were dead! I bought both for $114 each. The last 42S that I bought I found in the box, open but unused, at a ham radio flea market last year. The last 15C I bought was also at a ham radio flea market (used, with manual...$10!). Places like that can gold mines for old calculators.)

The thing that aggravates me is that the HP scientific calculators (33S, 35S) that followed copied the inadequacies and limitations of the 32SII. How much would it have cost to put most 42S capabilities in the 33S and 35S during the development phase? I suspect the answer is that HP still thought that they'd be creating competition with their top-end HP 49G+/50G model. I suspect that the same fear exists today, which makes it unlikely that we'll ever again see a small HP calculator

with 42S capability.

Edited: 4 Feb 2011, 6:02 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Decimal Key is Loose

*Message #1 Posted by **Anthony (USA)** on 28 Jan 2011, 1:28 a.m.*

During a math competition back in high school I let a friend of mine borrow my HP 33s. Well, I don't really know what happened because I didn't pursue it, but the decimal key is loose. It's not falling off the calculator, it's still in there. But you know when you touch any key in an HP calculator it doesn't move around, well the decimal key is somehow loose inside, it moves around freely. I don't know the architecture of the keys of HP calculators, so I don't know how (and if) this could be fixed. This is the main reason why I stopped using my HP 33s several years ago, because it just got unpredictable when working with the key. This is the only HP scientific (of high standard) still being manufactured today that allows the entering of a fraction by simply pressing the decimal key twice in a row (I really dislike how they took that away from the HP 35s, now we have to type ". 2 . 3" instead of "2 . . 3" to enter the fraction 2/3). I really wish I have an HP 32sII for this regard (HP 32sII is the calculator that my school let us borrow when we go to math competitions, it's my first encounter with the wonders of RPN).

I unscrewed my HP 33s open but I couldn't get to the keys because the circuit/electronic board is in there really good because of several plastic columns melted to prevent the board from being taken out. I'm just wondering what I should do to fix my decimal key, that is, if it's salvageable.

Re: Decimal Key is Loose

*Message #2 Posted by **designnut** on 29 Jan 2011, 9:51 a.m.,*
in response to message #1 by Anthony (USA)

The decimal is the lowest key on the keyboard. I suspect physical abuse out of the case. Dropped? Stepped on?
Sam

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP30B/20B Repurposing Project - Status?

*Message #1 Posted by **svisvanatha** on 27 Jan 2011, 10:23 p.m.*

Hello,

I am fairly new to MoHPC, but have been using HP calculators for over 2 decades.

I came across the HP30B/20B repurposing project, and was wondering if it was close to being made available to testers. I see that it now has an entry as of Jan 2011 on sourceforge (http://sourceforge.net/projects/wp34s/).

Thanks!

Re: HP30B/20B Repurposing Project - Status?

*Message #2 Posted by **Walter B** on 28 Jan 2011, 5:30 a.m.,*
in response to message #1 by svisvanatha

Hi Svisvanatha,

things are about ready to be ported on the real 30b, as you may have seen in previous threads at the turn of the year. This porting is a task Thomas Chrapkiewicz wanted to attack since Pauli doesn't have access to the necessary equipment anymore. I didn't hear or read anything about Thomas' progress recently, however - intercontinental projects have their intrinsic challenges.

Preliminary documentation is found at the sourgeforge address you mentioned. It is (and will be) changing without notice for the time being until we've got the feedback our modifications are up and running smoothly on the 30b.

In any case, we appreciate whoever wants to join us in our quest to get this job done properly. The site at sourceforge was installed and is maintained for sharing information and data.

Best regards,
Walter

Re: HP30B/20B Repurposing Project - Status?

*Message #3 Posted by **hugh steers** on 28 Jan 2011, 8:51 a.m.,*
in response to message #2 by Walter B

Hi,

is there any code out there. over at SF, i can only find the documentation - which looks pretty good btw.

thanks, -- hugh.

Re: HP30B/20B Repurposing Project - Status?

*Message #4 Posted by **svisvanatha** on 28 Jan 2011, 2:16 p.m.,*
in response to message #2 by Walter B

Thank you for the reply Walter. I am very interested in the progress of this project, and the documentation on SF is very promising as to the potential impact this could have for enthusiasts.

Once a flashable image is available, will that show up on SF as well? Instructions, pre-requisites, and the like?

Thanks!

Re: HP30B/20B Repurposing Project - Status?

*Message #5 Posted by **Paul Dale** on 28 Jan 2011, 6:24 p.m.,*
in response to message #4 by svisvanatha

I set up a source forge repository for the code:

http://sourceforge.net/projects/wp34s/

The only download currently is Walter's very comprehensive documentation. The source code is available via subversion but only works on Linux and Mac via a command line terminal.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #6 Posted by **svisvanatha** on 28 Jan 2011, 8:08 p.m.,*
in response to message #5 by Paul Dale

Hello Pauli,

Thanks! I downloaded the code via svn. My machine is running Ubuntu, and when I try to 'make', I get the following output. It looks as though the file curses.h is missing from the svn, and then there are errors within keys.c that are really warning, but being treated as errors. Any thought on what I could do to make the project? Many thanks!

```
user@computer:~/hp/wp34s/trunk$ make
make[1]: Entering directory `/home/user/hp/wp34s/trunk/decNumber'
make[1]: Nothing to be done for `all'.
make[1]: Leaving directory `/home/user/hp/wp34s/trunk/decNumber'
gcc -Wall -Werror -g -fno-common -fno-inline-functions -fno-defer-pop -
DINCLUDE_AGM -DINCLUDE_ZETA -DINCLUDE_DIGAMMA -DINCLUDE_ELLIPTIC -DINCLUDE_BESSEL
-DINCLUDE_DIGAMMA -DINCLUDE_DBLFACT -DINCLUDE_SUBFACT -O0 -g -DUSECURSES -DDEBUG
-c -o keys.o keys.c
In file included from keys.c:20:
lcd.h:57:20: error: curses.h: No such file or directory
cc1: warnings being treated as errors
keys.c: In function ‘main’:
keys.c:1983: error: implicit declaration of function ‘getch’
keys.c:1983: error: ‘ERR’ undeclared (first use in this function)
keys.c:1983: error: (Each undeclared identifier is reported only once
keys.c:1983: error: for each function it appears in.)
keys.c:1992: error: implicit declaration of function ‘clear’
make: *** [keys.o] Error 1
```

Edited: 28 Jan 2011, 8:09 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #7 Posted by **Paul Dale** on 28 Jan 2011, 8:16 p.m.,*
in response to message #6 by svisvanatha

You need to install the ncurses development library.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #8 Posted by **svisvanatha** on 28 Jan 2011, 8:28 p.m.,*
in response to message #7 by Paul Dale

OK, I installed the ncurses library, and now face the following:

```
user@computer:~/hp/wp34s/trunk$ make
make[1]: Entering directory `/home/user/hp/wp34s/trunk/decNumber'
make[1]: Nothing to be done for `all'.
make[1]: Leaving directory `/home/user/hp/wp34s/trunk/decNumber'
gcc -Wall -Werror -g -fno-common -fno-inline-functions -fno-defer-pop -
DINCLUDE_AGM -DINCLUDE_ZETA -DINCLUDE_DIGAMMA -DINCLUDE_ELLIPTIC -
DINCLUDE_BESSEL -DINCLUDE_DIGAMMA -DINCLUDE_DBLFACT -DINCLUDE_SUBFACT -O0 -g
-DUSECURSES -DDEBUG   -c -o keys.o keys.c


...snip...


gcc -Wall -Werror -g -fno-common -fno-inline-functions -fno-defer-pop -
DINCLUDE_AGM -DINCLUDE_ZETA -DINCLUDE_DIGAMMA -DINCLUDE_ELLIPTIC -
DINCLUDE_BESSEL -DINCLUDE_DIGAMMA -DINCLUDE_DBLFACT -DINCLUDE_SUBFACT -O0 -g
-DUSECURSES -DDEBUG -g -o calc keys.o display.o xeq.o prt.o decn.o
complex.o stats.o lcd.o int.o date.o xrom.o consts.o alpha.o charmap.o
commands.o string.o -LdecNumber -ldecNumber -L. -lconsts -lcurses
/usr/bin/ld: cannot find -lconsts
collect2: ld returned 1 exit status
make: *** [calc] Error 1
```

Re: HP30B/20B Repurposing Project - Status?

*Message #9 Posted by **Paul Dale** on 28 Jan 2011, 8:36 p.m.,*
in response to message #8 by svisvanatha

The build process should have created a libconsts.a in the truck directory. That is what isn't being found. Try a "make clean" and then "make" to rebuild everything. If that doesn't work, there is something screwy going on. "make consts.h" should build the library alone. It does require "ar" and "ranlib" but you should have those two commands already but still worth checking that they are there.

- Pauli

Edited: 28 Jan 2011, 8:37 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #10 Posted by **svisvanatha** on 28 Jan 2011, 8:48 p.m.,*
in response to message #9 by Paul Dale

OK, thank you! Fantastic work, and very exciting.

./calc now brings up an emulator for the wp34s. I can do some basic functions using the keymap in /doc. Some questions:

```
1. Is there a more complete keymap, for instance, for shifted keys,
```

```
etc?
2. What is the best way to help test?  Using the sourceforge bug
tracker and forum, or posting here?
3. What is the remaining process to get this onto the 30B?  (sorry
for the naive question, but my forte does not lie in electrical or
computer engineering)
```

Edited: 28 Jan 2011, 8:50 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #11 Posted by **Paul Dale** on 28 Jan 2011, 8:59 p.m.,*
in response to message #10 by svisvanatha

1/ The complete keyboard map is in the documentation PDF file either in the doc directory or available as a download.

2/ Just send me and/or Walter a message on this forum. We're not really advanced enough to justify proper bug tracking yet. Plus, I'm not checking the source forge site often.

3/ To get this on the hardware required merging HP's development sources with what we've done. The basic methodologies of the two are the same & I did start doing it but decided I was going about it incorrectly and would need to start that bit again. Then life got in the way.

There isn't a huge amount to do to finish the port but it will take some programming ability/knowledge and some hardware.

- Pauli

Edited: 28 Jan 2011, 9:02 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #12 Posted by **svisvanatha** on 28 Jan 2011, 11:05 p.m.,*
in response to message #11 by Paul Dale

Thanks again. Is the hardware required expensive? From the 20B repurposing project, the list of hardware is detailed here . I assume similar is required for the 30B?

Re: HP30B/20B Repurposing Project - Status?

*Message #13 Posted by **Tim Wessman** on 29 Jan 2011, 12:10 a.m.,*
in response to message #12 by svisvanatha

The cable costs an email to me with your shipping address (including phone number). Unless you want hardware debugging, the rest is not used.

TW

Re: HP30B/20B Repurposing Project - Status?

*Message #14 Posted by **svisvanatha** on 29 Jan 2011, 8:26 a.m.,*
in response to message #13 by Tim Wessman

Done, and thanks!

Re: HP30B/20B Repurposing Project - Status?

*Message #15 Posted by **Paul Dale** on 28 Jan 2011, 8:18 p.m.,*
in response to message #6 by svisvanatha

The keyboard to layout mapping isn't obvious either. It is roughly presented in doc/layout.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #16 Posted by **hugh steers** on 28 Jan 2011, 8:49 p.m.,*
in response to message #5 by Paul Dale

ok, i had a go at making a windows build. after a bit of a struggle i've got all the consts, cats and other libs going.

right now, im shooting a lot of gcc specific syntax. if im keen i might finish the job.

are you interested in windows changes?

Re: HP30B/20B Repurposing Project - Status?

*Message #17 Posted by **Paul Dale** on 28 Jan 2011, 9:00 p.m.,*
in response to message #16 by hugh steers

Most definitely interested.

You've got mail coming soon.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #18 Posted by **Dieter** on 29 Jan 2011, 7:17 a.m.,*
in response to message #4 by svisvanatha

svisvanatha wrote:

> Quote:
>
> ...the documentation on SF is very promising as to the potential impact this could have for enthusiasts.

Promising? If this calculator comes true it's nothing short of sensational! It has all the nice things and functions I would like to have added to my beloved HP-41. Simply great!

And, finally, there's a decent function set for statistical distributions and their inverses. I simply don't know why these absolutely basic functions are missing in most calculators that claim to be "scientific" - they are basics in mathematics as well as in most social sciences! Walter, can you say something about the implementation of, say, the inverse Normal and Student distribution? Did you use a set of rational approximations? An iterative approach? Or something else?

There are just two things:
First, it's a shame that such a great calculator (*if* it eventually comes true) doesn't provide any external storage. No memory card, no PC-transfer, no anything. Or did I miss something?
And finally - what about the keyboard and new key labels? In the HP41-days there was a way - the 82200A. ;-)

Dieter

Re: HP30B/20B Repurposing Project - Status?

*Message #19 Posted by **svisvanatha** on 29 Jan 2011, 8:50 a.m.,*
in response to message #18 by Dieter

> Quote:
>
> Promising? If this calculator comes true it's nothing short of sensational! ...
>
> And finally - what about the keyboard and new key labels? In the HP41-days there was a way - the 82200A. ;-)

I am pretty reserved usually :) As for the keyboard, I would prefer an adhesive mat and key labels. I am sure that can be custom made for a reasonable price if there is enough quantity.

Re: HP30B/20B Repurposing Project - Status?

*Message #20 Posted by **Walter B** on 29 Jan 2011, 9:56 a.m.,*
in response to message #18 by Dieter

Hallo Dieter,

thank you for your kind words. With respect to the two points you raised:

> Quote:
>
> ... it's a shame that such a great calculator (*if* it eventually comes true) doesn't provide any external storage. No memory card, no PC-transfer, no anything. Or did I miss something?

You only missed we cannot perform magic. We have to take the 30b hardware as is.

> Quote:
>
> ... what about the keyboard and new key labels? In the HP41-days there was a way - the 82200A. ;-)

We tried finding a way getting the keys relabeled. Pauli did some experiments, and they looked promising. An adhesive keyboard overlay (it has to be adhesive due to the design of the 30b, no other ways for attaching like e.g. in HP-41) may be an alternative, but so far we didn't investigate - it's way down on our agenda and looks viable so far. I assume the prototypes will get some sticky paper labels.

Re: HP30B/20B Repurposing Project - Status?

*Message #21 Posted by **Paul Dale** on 29 Jan 2011, 8:05 p.m.,*
in response to message #18 by Dieter

> Quote:
>
> And, finally, there's a decent function set for statistical distributions and their inverses. I simply don't know why these absolutely basic functions are missing in most calculators that claim to be "scientific" - they are basics in mathematics as well as in most social sciences! Walter, can you say something about the implementation of, say, the inverse Normal and Student distribution? Did you use a set of rational approximations? An iterative approach? Or something else?

The Normal uses the error function which in turn uses gamma. The inverse normal uses the built in solver so it will be slow but should be reasonably accurate. I couldn't find a series approximation I liked & using the solver (which has to be there anyway) is much more space efficient.

Student's T is a special case of the incomplete beta function which comes down to a series approximation. The inverse is the solver again.

> Quote:
>
> And finally - what about the keyboard and new key labels?

I experimented with a 20b and clearing the labels off the keys is quite easy with a Dremel and a fine sanding & a polishing disc. Engraving and painting new labels would be straightforward but I never got to that stage since Walter keeps improving the keyboard.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #22 Posted by **Paul Dale** on 30 Jan 2011, 5:00 a.m.,*
in response to message #18 by Dieter

> Quote:
>
> can you say something about the implementation of, say, the inverse Normal and Student distribution? Did you use a set of rational approximations? An iterative approach? Or something else?

Now I'm back home I'll give a more detailed response.

For those distributions where there are explicit formulas for the cumulative distribution (CDF) or its inverse (the quantile function or QF), I've used that. This is the case for the Weibull distribution, the exponential distribution and the geometric distribution's CDF. I don't take a possibly huge summation as an explicit formula so the binomial and Poisson distributions aren't calculated that way.

For the others, I've used generalised functions (the incomplete gamma and beta functions) calculated by convergent series. Functions using the incomplete gamma function as their basis are both Normal distributions, the Chi squared and the Poisson distribution. Functions using the incomplete beta are: Student's T, Snedecor's F and the binomial distribution. In all these cases and

the geometric's QF, the solver is used to evaluate the QF.

Even though the solver is used to calculate these inverses, these functions can be used inside user code solver routines (although user routines cannot nest SOLVE).

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #23 Posted by **Dieter** on 30 Jan 2011, 12:20 p.m.,*
in response to message #22 by Paul Dale

Pauli, thank you very much for this information. Let me add a few more thoughts.

Using the solver for the quantile functions is an option if (and only if) the whole calculation is done with the internal 15-digit precision. Otherwise this method is not accurate since the quantile may change by several ULPs and still provide the same probability returned by the solver.

Example:

```
Probability      p  =  0,18
Normal quantile  z  =  0,9153 6508 7842 8140 4978 ...


12-digit result  z  =  0,9153 6508 7843


  Value for z       Normal CDF (12 digits)
-----------------------------------------
0,9153 6808 7840       0,1800 0000 0001
0,9153 6508 7841       0,1800 0000 0000
0,9153 6508 7842       0,1800 0000 0000
0,9153 6508 7843       0,1800 0000 0000
0,9153 6508 7844       0,1800 0000 0000
0,9153 6508 7845       0,1799 9999 9999
-----------------------------------------
```

But I think you will have access to the full internal 15-digit precision, so the solver should be okay.

Both for the Normal CDF as well as its inverse there are rational approximations, leading to fast execution and very accurate results (full double precision, i.e. 15-16 sign. digits). For instance, take a look at the well-known AS241 algorithm. It uses three (7;7) rational approximations with 45 numeric constants. As long as these constants are given with 20 significant digits the relative error is less than 10^{-16} over the whole double-precision range, i.e. down to $p = 10^{-308}$. At the working limit of our HPs (10^{-499}) the error still is less than 0,2 ULP.

Of course you can also find your own rational approximation optimized for your specific working range and with exactly the precision you need. In many cases usual spreadsheet software like Excel is all you need. ;-)

Another possible way is a much simpler approximation, giving 7 significant digits, followed by one single Newton-Halley iteration, which should provide the desired 12-digit result.

If you're interested in series approximations, in any case take a look at the papers by Shaw and Steinbrecher where several possible solutions can be found. For instance, the Normal Quantile can be evaluated to full 12 significant digits (+/- 1 ULP) for values below approx. 10^{-90} with a simple series evaluated to just three terms.

Yes, it's an interesting topic, this quantile thing... :-)

Dieter

Re: HP30B/20B Repurposing Project - Status?

*Message #24 Posted by **Paul Dale** on 31 Jan 2011, 2:45 a.m.,*
in response to message #23 by Dieter

> Quote:
>
> Using the solver for the quantile functions is an option if (and only if) the whole calculation is done with the internal 15-digit precision. Otherwise this method is not accurate since the quantile may change by several ULPs and still provide the same probability returned by the solver.

Actually, we don't have 15 digit precision. Our basic reals are 16 digits and internal computations are carried out with 39 digits. To the best of my knowledge, most of the internal functions are correct to all 16 digits (although achieving this over their entire range & proving such is pretty much impossible). The statistical distributions aren't fully accurate unfortunately, however they are good enough for most applied statistical work.

In your example Q^-1(1 - 0.18) displays 9.15365087843E-1 and the actual value in X is 0.9153650878432420. So reasonably accurate but not perfect.

I'm aware of several rational approximations. My problem here is a trade off of accuracy vs time vs space. I'm not terribly concerned about the time at the moment but accuracy and space are important. Unfortunately, we've pretty much completely filled flash memory so space efficient algorithms are important. Using the solver is very space efficient. Storing 40 constants and having extra code to calculate the approximation isn't :-(I'm getting better value for the space by having the incomplete beta and gamma functions and the solver.

I do agree that this is an interesting topic.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #25 Posted by **Marcus von Cube, Germany** on 8 Feb 2011, 2:13 a.m.,*
in response to message #2 by Walter B

Tim has sent me the cable, so the first step is done. :)

In fact, I've got a spare cable which I can share with someone here in Germany who wants to join in.

I've asked for a price quote from IAR for the full compiler version but I fear that might end up too high for me. We'll see.

Marcus

Re: HP30B/20B Repurposing Project - Status?

*Message #26 Posted by **Eric Smith** on 8 Feb 2011, 3:51 a.m.,*
in response to message #25 by Marcus von Cube, Germany

I've used the free GNU tools (GCC etc.) for lots of ARM development, though not specifically on the 20b/30b. To get the HP SDK sample code working with GCC would require a little bit of work. Regrettably I do not presently have any spare time to assist in such an effort.

The easiest way to get the GNU tools working, on Windows or Linux, is to use the CodeSourcery G++ Lite for ARM EABI distribution: http://www.codesourcery.com/sgpp/lite/arm/portal/release1592.

I'm not sure how the code size optimization with GCC compares with IAR, but they don't have the size limit of the IAR Kickstart edition.

Edited: 8 Feb 2011, 3:51 a.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #27 Posted by **Marcus von Cube, Germany** on 8 Feb 2011, 7:25 a.m.,*
in response to message #26 by Eric Smith

IAR has answered. For the price of the full compiler I could by a stack of iPads. :(

I've downloaded the gcc version Eric has proposed. But it will take time to adapt the SDK.

Re: HP30B/20B Repurposing Project - Status?

*Message #28 Posted by **Paul Dale** on 8 Feb 2011, 7:29 a.m.,*
in response to message #26 by Eric Smith

I was using HP-GCC for testing code size & was intending on using that for later development. Still, most any gcc version ought to be okay.

- Pauli

Re: HP30B/20B Repurposing Project - Status?

*Message #29 Posted by **Jake Schwartz** on 8 Feb 2011, 5:13 p.m.,*
in response to message #28 by Paul Dale

Gosh, it would be wonderful to report at HHC2011 this coming September 24-25 (in San Diego, by the way, with HP hosting again) that we have at least a handful of active, exciting user projects ongoing - in the 34S, Monte Dalrymple's NEWT/41CL project and Meindert Kuipers' latest MLDL2000 iteration. Keep saving your pennies....

Jake Schwartz

Re: HP30B/20B Repurposing Project - Status?

*Message #30 Posted by **Eric Smith** on 8 Feb 2011, 7:29 p.m.,*
in response to message #29 by Jake Schwartz

Richard Ottosen and I will probably be presenting some new stuff as well, but as always, we're secretive about it until the actual conference. We don't want to promise something and then fail to deliver. That happened to us for HHC 2010, so we were glad we hadn't promised anything. Under promise and over deliver!

Re: HP30B/20B Repurposing Project - Status?

*Message #31 Posted by **Karl Schneider** on 8 Feb 2011, 9:43 p.m.,*

in response to message #30 by Eric Smith

> Quote:
>
> Under-promise and over-deliver!

This is a simple recipe for cheerfulness all around, because...

'Happiness = Reality/Expectations', which admittedly assumes that the expectations were positive.

Another form is 'Happiness = Reality - Expectations', but this allows for no glee if high expectations are actually achieved.

Suggestions for a more mathematically-robust formula?

-- Karl

Edited: 8 Feb 2011, 11:17 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #32 Posted by **ClausB** on 9 Feb 2011, 12:36 p.m.,*
in response to message #31 by Karl Schneider

I've always thought Happiness = d(Reality)/dt because we adjust over time. Never thought about an Expectations term. Hmm...

Re: HP30B/20B Repurposing Project - Status?

*Message #33 Posted by **svisvanatha** on 31 Jan 2011, 10:42 p.m.,*
in response to message #1 by svisvanatha

Well, I have a HP 30B on order now, and Tim was kind enough to offer to ship me a flashing cable.... so that is a start. I will try to spend some time to test out the wp34s on my Ubuntu machine and provide feedback.

Re: HP30B/20B Repurposing Project - Status?

*Message #34 Posted by **Walter B** on 1 Feb 2011, 2:35 a.m.,*
in response to message #33 by svisvanatha

Thanks in advance - we are looking forward to your findings.

Re: HP30B/20B Repurposing Project - Status?

*Message #35 Posted by **Erturk Kocalar** on 4 Feb 2011, 2:56 a.m.,*
in response to message #34 by Walter B

Hi all,

I'm a recent convert to HP RPN (thanks to a good engineer at work).

I received my 30b today. It looks and feels great. I'm excited about the 34s project. Let me know how I can test. (I am checking out the source now.).

Does the original 30b image exist somewhere? So I can go back if needed.

Last, I also have the 12CP with the arm processor. It looks like the serial connector pads are covered with black tape. Can it be removed easily? (I just got it from Fry's so dont' want to mess it up if I wanted to return it.)

Ok, one more thing. I also received my 49g. I like it.

Ok, this is seriously last. my 48gx also works great :)

thanks, erturk

Re: HP30B/20B Repurposing Project - Status?

*Message #36 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 8:45 a.m.,*
in response to message #35 by Erturk Kocalar

I'm awaiting a cable for my 20b & 30b, too. It would be interesting to know how to backup the actual flash contents as a way to fall back to the original functionality. I'm planning to use my 20b for the experiments. Can it be "upgraded" to a 30b?

Re: HP30B/20B Repurposing Project - Status?

*Message #37 Posted by **Walter B** on 4 Feb 2011, 9:04 a.m.,*
in response to message #36 by Marcus von Cube, Germany

> Quote:
>
> I'm planning to use my 20b for the experiments. Can it be "upgraded" to a 30b?

From the user's point of view, the main advantage of the 30b hardware is a significantly improved keyboard (see "rotate and click"). You won't get this with any 20b so far.

Re: HP30B/20B Repurposing Project - Status?

*Message #38 Posted by **Tim Wessman** on 4 Feb 2011, 10:28 a.m.,*
in response to message #37 by Walter B

Nope. We built the 30b software to make sure it won't run on a 20b.

Well, I guess it will run, but before it moves into any 30b functionality it validates you are running on the 30b. I guess you could probably hack it to force it to work. . . but isn't a good keyboard and a better screen worth the bit extra? :-)

TW

Re: HP30B/20B Repurposing Project - Status?

*Message #39 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 11:46 a.m.,*
in response to message #38 by Tim Wessman

Hi Tim,

I don't want to take my 30b out of service by using it as a development platform. Just for software testing, a 20b should suffice. Running the 30b firmware on the 20b hardware would be one of these tests. You convinced me that I can skip this step.

Looking forward to the cable.

Re: HP30B/20B Repurposing Project - Status?

*Message #40 Posted by **Erturk Kocalar** on 4 Feb 2011, 12:55 p.m.,*
in response to message #39 by Marcus von Cube, Germany

I bought my 30b from amazon for $22. 20b was $18. Definitely worth the extra bucks.

Re: HP30B/20B Repurposing Project - Status?

*Message #41 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 3:15 p.m.,*
in response to message #40 by Erturk Kocalar

On my side of the pond, prices were definitely not in the range mentioned when I got my two machines.

Re: HP30B/20B Repurposing Project - Status?

*Message #42 Posted by **Walter B** on 4 Feb 2011, 3:24 p.m.,*
in response to message #40 by Erturk Kocalar

Looks like free trade again. One country gets the bargain, the others pay for it :(

Re: HP30B/20B Repurposing Project - Status?

*Message #43 Posted by **Marcus von Cube, Germany** on 4 Feb 2011, 4:03 p.m.,*
in response to message #42 by Walter B

Current prices at dynatech.de:

20b: 43,50 €
30b: 49,95 €

The price difference isn't to high. I wonder who will buy the 20b given he knows about the differences in hardware and functionality.

Re: HP30B/20B Repurposing Project - Status?

*Message #44 Posted by **Walter B** on 8 Feb 2011, 5:42 a.m.,*
in response to message #38 by Tim Wessman

Hi Tim,

> Quote:
>
> isn't a good keyboard and a better screen worth the bit extra?

Seems I missed something: What do you mean by "better screen"? AFAIK the displays in both 20b and 30b are identical. TIA for enlightenment d:-)

Re: HP30B/20B Repurposing Project - Status?

*Message #45 Posted by **Mark Harman** on 8 Feb 2011, 2:02 p.m.,*
in response to message #44 by Walter B

The displays are similar. I think the one in the 30b has a higher resolution. The biggest difference though, is the fact that the 30b's screen is below the surface plastic, which is flush with the body of the calculator. Therefore, there is no gap between the body and the display for dust to get into. On the other hand, the 20b's screen has the plastic set right against it and there is a lip where the body meets it, similar to other calculators.

I think there are other differences that people should acknowledge that aren't physical. For example, the 30b has a many more functions than the 20b - or any other financial calculator, for that matter.

Mark

Re: HP30B/20B Repurposing Project - Status?

*Message #46 Posted by **Walter B** on 8 Feb 2011, 3:41 p.m.,*
in response to message #45 by Mark Harman

> Quote:
>
> The displays are similar. I think the one in the 30b has a higher resolution.

?!?

Re: HP30B/20B Repurposing Project - Status?

*Message #47 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Feb 2011, 4:08 p.m.,*
in response to message #46 by Walter B

I have a 30B, but no 20B near to compare. I would say, from available information, that both displays have the same size, number of segments (the restrictions were commented by Cyrille some time ago), and hence resolution. Possibly the 30B has better looks, mounting method or contrast; but all information suggests they are functionally the same.

Re: HP30B/20B Repurposing Project - Status?

*Message #48 Posted by **Marcus von Cube, Germany** on 8 Feb 2011, 4:24 p.m.,*
in response to message #47 by Andrés C. Rodríguez (Argentina)

The ATMEL CPU supports exactly 400 LCD segments. The display is a 100% implementation of this constraint. On both machines.

Re: HP30B/20B Repurposing Project - Status?

*Message #49 Posted by **Mark Harman** on 8 Feb 2011, 5:05 p.m.,*
in response to message #46 by Walter B

Okay, I can see how what I said was confusing...

Resolution isn't the best word. The 20b and 30b have visually similar displays. Meaning, that the way their screens are arranged are identical. One line is dot matrix. One line is segmented. The annunciators are in the upper right side of the screen. This is how they are similar. However, I think the plastic above the display affects the way the 30b displays information in a positive way. It has the effect of making the lcd segments appear darker with better contrast than the 20b. Also, it completely protects the display from dust contamination.

Here are some images that you can look at to see the differences (keep in mind that these aren't the best images around) The darkness of the characters on the 30b compared to the 20b doesn't show well in these pictures. However, I have seen both head on and the difference is quite real.

20b from angle:

30b from angle:

Regards,

Mark

Edited: 8 Feb 2011, 5:07 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #50 Posted by **Martin Pinckney** on 8 Feb 2011, 9:16 p.m.,*
in response to message #49 by Mark Harman

I have not seen either in real life. But in your pictures, the 20b screen looks more contrasty to me!

I also don't understand your dust comment. With the Pioneers, it's the screen cover that causes the dust problem. No cover, no space between to collect dust.

Similarly, with the Pioneers, the screens w/o the dust cover have higher contrast.

I am not trying to be argumentative, just trying to understand.

Re: HP30B/20B Repurposing Project - Status?

*Message #51 Posted by **Mark Harman** on 9 Feb 2011, 1:30 a.m.,*
in response to message #50 by Martin Pinckney

These pics are not mine. They were two of the best angled shots I could find from the web. Also the 30b shot was at a different angle than the 20b, so it isn't exactly comparable. I did mention that the shots do not show the difference well. However, I have seen them both head-on and the 30b has a much darker look to the screen. To

me, the 30b is more pleasing on my eyes.

Regarding the dust issue, there is a crack in between the upper casing and the screen on the 20b. This is illustrated in the pics where you can see the ledge. On the 30b, the upper casing and the plastic over the screen are one and the same. It is seamless with no crack. Therefore, there is no place for dust to get in.

Speaking of pioneers, I have my 20S in front of me and it also has the upper cover and a recess where the display meets the cover. This has a crack where the screen and the cover meet. The 20b is similar.

Mark

Edited: 9 Feb 2011, 1:31 a.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #52 Posted by **Tim Wessman** on 10 Feb 2011, 1:25 a.m.,*
in response to message #51 by Mark Harman

The screen on the 30b is a much higher quality LCD display. It isn't just the fact that it is recessed.

I think what you are trying to convey is that the pixel coloartion is consistent across the entire screen. On the 20b some pixel areas sometimes seem slightly lighter than others. The 30b doesn't have that issue and so is much easier to read.

TW

Edited: 10 Feb 2011, 1:28 a.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #53 Posted by **Mark Harman** on 10 Feb 2011, 2:11 a.m.,*
in response to message #52 by Tim Wessman

Tim,

That is exactly what I was trying to convey. It is weird. Sometimes, I have absolutely no problem conveying my thoughts and other times, I have great difficulty. I suppose it doesn't help that I've been sick for the last week. If I responded to this today, I would have probably been able to give a much better response.

Thanks for jumping in,

Mark

Re: HP30B/20B Repurposing Project - Status?

*Message #54 Posted by **svisvanatha** on 9 Feb 2011, 10:05 p.m.,*
in response to message #36 by Marcus von Cube, Germany

Quote:

I'm awaiting a cable for my 20b & 30b, too. It would be interesting to know how to backup the actual flash contents as a way to fall back to the original functionality. I'm planning to use my 20b for the experiments. Can it be "upgraded" to a 30b?

From another post of yours, it seemed you had saved the original flash contents and restored it after flashing a demo rom. What procedure did you use to save the existing flash contents from the calculator? (I am on a 30B)

Re: HP30B/20B Repurposing Project - Status?

*Message #55 Posted by **Eric Smith** on 9 Feb 2011, 11:49 p.m.,*
in response to message #54 by svisvanatha

I'm not sure that there's any way to save the original ROM contents without a JTAG cable (entirely different than the serial cable). Flash programming is done using "SAMBA" in the masked ROM of the AT91SAM7L128, but I don't think there's any way to force it into SAMBA that doesn't erase the Flash memory.

Re: HP30B/20B Repurposing Project - Status?

*Message #56 Posted by **Tim Wessman** on 10 Feb 2011, 1:26 a.m.,*
in response to message #54 by svisvanatha

Or you can just ask and get the zip file. . . ;-)

TW

Re: HP30B/20B Repurposing Project - Status?

*Message #57 Posted by **Marcus von Cube, Germany** on 10 Feb 2011, 12:56 p.m.,*
in response to message #54 by svisvanatha

The 20b image came with Cyrille's SDK. Since you can only start the SAM-BA serial boot loader by clearing the flash, there is no way to use this tool for a backup of your current setup. I guess it will be possible through the optional JTAG connector.

Re: HP30B/20B Repurposing Project - Status?

*Message #58 Posted by **svisvanatha** on 10 Feb 2011, 1:23 p.m.,*
in response to message #54 by svisvanatha

Thank you for the responses! The 20B documentation clearly indicates that a serial-usb adapter will not work for this purpose, and that a hardware serial port is required. Is this indeed the case? My machine does not appear to have a plain jane serial port.

Re: HP30B/20B Repurposing Project - Status?

*Message #59 Posted by **Mark Harman** on 10 Feb 2011, 3:47 p.m.,*
in response to message #58 by svisvanatha

There are two ways to interface the calculator:

1. Serial pogo connection below the batteries.

2. Optional JTAG connection, which you will have to go through the trouble of installing. Personally I don't like this option as it will result in defacing the device.

If you want to back up the software or want to debug, you will need the JTAG. However, Tim is offering you the backup of the 30b software on a zip file, so it really is unnecessary to install the JTAG (unless you want to do more technical stuff).

The cable that works with the pogo connection will plug into a USB port with a serial adapter. You should then be able to flash the device and push the new software to it or push a backup of the old software. Since you can get a backup from Tim, you won't need to back it up yourself.

Regards,

Mark

Edited: 10 Feb 2011, 3:49 p.m.

Re: HP30B/20B Repurposing Project - Status?

*Message #60 Posted by **svisvanatha** on 10 Feb 2011, 6:09 p.m.,*
in response to message #59 by Mark Harman

Thank you. I will buy a serial-usb adapter and be off. Tim has sent me the zip file. I am sure I will have questions when I start to play around with this more!

Re: HP30B/20B Repurposing Project - Status?

*Message #61 Posted by **Erturk Kocalar** on 4 Feb 2011, 7:03 p.m.,*
in response to message #35 by Erturk Kocalar

What's the best way to build the guessing game in the sdk for the hp20b/arm?

I downloaded the free IAR kickstart version. I'm able to open the project file but get linker errors during build.

Are these due to the IAR free version (missing libraries?) or is there something else that needs to be setup?

Thanks, erturk

Linking Error[Li005]: no definition for "__aeabi_uidiv" [referenced from c:\Documents and Settings\Administrator\Desktop\hp30b\Developers\firmware\AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "__aeabi_uidivmod" [referenced from c:\Documents and Settings\Administrator\Desktop\hp30b\Developers\firmware\AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "__aeabi_lmul" [referenced from c:\Documents and Settings\Administrator\Desktop\hp30b\Developers\firmware\AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "strlen" [referenced from c:\Documents and

Settings\Administrator\Desktop\hp30b\Developers\firmware\
AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "__aeabi_memclr4" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\
firmware\AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "__aeabi_memcpy" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\
firmware\AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "sprintf" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\firmware\
AT91SAM7L\ewp\HP_20b\Obj\application.o]

Error[Li005]: no definition for "__aeabi_llsl" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\firmware\
AT91SAM7L\ewp\HP_20b\Obj\graphics.o]

Error[Li005]: no definition for "__aeabi_idiv" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\firmware\
AT91SAM7L\ewp\HP_20b\Obj\main.o]

Error[Li005]: no definition for "__aeabi_llsr" [referenced from c:\Documents and
Settings\Administrator\Desktop\hp30b\Developers\firmware\
AT91SAM7L\ewp\HP_20b\Obj\graphics.o]

Error while running Linker

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How about a pen that calculates...

*Message #1 Posted by **Egan Ford** on 27 Jan 2011, 4:47 p.m.*

With all this talk about pocket calcs, new sci calcs, etc..., why not something completely different?

Watch the video below.

http://www.youtube.com/watch?feature=player_embedded&v=Bf0XAf8_mLI

If this pen can play Tic-Tac-Toe and Zork, I have to believe that some here could make it a very compelling and very capable calculator.

Re: How about a pen that calculates...

*Message #2 Posted by **Ren** on 27 Jan 2011, 8:42 p.m.,*
in response to message #1 by Egan Ford

I thought about a smart pen decades ago. Only I thought it needed a 2 axis rotary encoder to follow the movement of the ball point. The Livescribe uses a built in camera and special paper. Do others use accellerometers?

Of course, decades ago neither the technology nor my level of knowledge were sufficiently advanced. Nowadays the technology is there...

Ren

dona nobis pacem

Re: How about a pen that calculates...

*Message #3 Posted by **Bill (Smithville, NJ)** on 28 Jan 2011, 9:52 a.m.,*
in response to message #1 by Egan Ford

Egan,

I had one of the Live Scribe pens and it was pretty amazing - just a lttle bit too fat. It comes with a couple of cards that have a calculator printed on it (4 banger calculator & a scientific calculator) which you could tap out the keys with the pen and get the calculated results. Worked okay - but a real calculator is easier/quicker to use.

Bill

Re: How about a pen that calculates...

*Message #4 Posted by **Egan Ford** on 28 Jan 2011, 12:18 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

I was thinking along the lines of a more natural calculator, e.g. draw matrices, equations, etc... If TTT can be done, so can a matrix.

Re: How about a pen that calculates...

*Message #5 Posted by **Bill (Smithville, NJ)** on 28 Jan 2011, 12:45 p.m.,*
in response to message #4 by Egan Ford

I seem to remember that I could write a simple equation out such as

4 + 5 =

and it would give the answer.

I know you can draw the piano keys out and then play the piano. They do have some sort of applaction development kit that will let you create what they call PenApps. So it should be possible to do something similar for a calculator.

Bill

Re: How about a pen that calculates...

*Message #6 Posted by **Steve S** on 28 Jan 2011, 7:27 p.m.,*
in response to message #4 by Egan Ford

MathJournal is an application that runs on a tablet and will solve many classes of handwritten math. It will also generate plots.

www.xThink.com

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

How about a pocket / hand held RPL calc?

*Message #1 Posted by **Michael de Estrada** on 27 Jan 2011, 1:28 p.m.*

Lately we've been lamenting the lack of innovation at HP and the demise of some great calcs like the HP-42s. I've been mulling this over and thought that the one thing that would would really get my interest would be an RPL programmable calculator like my HP-48SX and HP-50g with its full alpha variables and unlimited stack, but with the hand held / pocketeable size and convenience of an HP-42s. It would have an SD card slot to provide portability as well as added memory, but could dispense with the IRD and USB ports. It would have a color dot matrix 4 line display and customizable hot keys / menu line. Oh, and it would be strictly RPN to simplify key assignments and menus. It would spare no expense to provide the best possible key button action, which is one of the traditional hallmarks of this brand. Finally, it would provide comprehensive documentation in spiral bound printed manuals, written by literate technical writers.

Yes, I know, I shouldn't drink so much.

Michael

Re: How about a pocket / hand held RPL calc?

*Message #2 Posted by **Walter B** on 27 Jan 2011, 2:31 p.m.,*
in response to message #1 by Michael de Estrada

You confuse me a bit. Do you want it featuring RP**L** or RP**N**? I.e. repe**ll**ing or co**n**ve**n**ie**n**t? Reading your text, I can't decide. But now you're sober - so please clarify d;-)

Edited: 27 Jan 2011, 2:33 p.m.

Re: How about a pocket / hand held RPL calc?

*Message #3 Posted by **Michael de Estrada** on 27 Jan 2011, 3:54 p.m.,*
in response to message #2 by Walter B

I want my cake and eat it too, which is easy because one can have both RPN and RPL, such as in the case of the HP 48SX. RPL just extends the capabilities of RPN.

RPL

RPN

Re: How about a pocket / hand held RPL calc?

*Message #4 Posted by **Geir Isene** on 27 Jan 2011, 5:19 p.m.,*
in response to message #3 by Michael de Estrada

I did an honest, real attempt at RPL for more than 6 month flat out. Eagerly programming lots in RPL. I found it RePuLsive. It's clunky, cumbersome and counter-intuitive - whereas RPN is simple, elegant and nice. Me awaits the 41CL.

Re: How about a pocket / hand held RPL calc?

*Message #5 Posted by **Reth** on 31 Jan 2011, 10:52 p.m.,*
in response to message #2 by Walter B

RPL is not that hard to learn at all. Many years ago I lost my beloved HP41CV and had to replace it with the then available HP-28S with manuals in German language of which I have no clue whatsoever. Only by reading the examples in the book in less than a week time I rewrote all my surveying programs in RPL. I find programing in RPL is heaps a lot easier and quicker than in RPN. I still do RPN for fun (I got a few HP-41's latter), but it's not for more serious tasks. BTW the brilliant 42S emulator on iPhone gives me more pleasure to do RPN programming. Cheers

Re: How about a pocket / hand held RPL calc?

*Message #6 Posted by **Raymund Heuvel** on 27 Jan 2011, 3:11 p.m.,*
in response to message #1 by Michael de Estrada

I would consider as minimum a BlueTooth interface for voice commands and result output.
Would be nice having a chat with a RPN calculator.
As a collateral feature, amongst others, files can be exchanged also with it.
A mesh network of RPL/RPN calculators is also on my wish list.

:) Raymund

Re: How about a pocket / hand held RPL calc?

*Message #7 Posted by **Ren** on 27 Jan 2011, 9:05 p.m.,*
in response to message #6 by Raymund Heuvel

> Quote:
>
> I would consider as minimum a BlueTooth interface for voice commands and result output.
> Would be nice having a chat with a RPN calculator.
>
> :) Raymund

Talking to an RPN calculator (I suspect) would be a bit like talking to Yoda.

"Want you, I do, number ENTER into stack, number another likewise you must, number first, number second, divide by, wence thou knowest quotient, displayeth said quotient to thine eyes."

B^)

Ren

dona nobis pacem

LOL!!

*Message #8 Posted by **Martin Pinckney** on 27 Jan 2011, 11:16 p.m.,*
in response to message #7 by Ren

~

Re: How about a pocket / hand held RPL calc?

*Message #9 Posted by **Norman Dziedzic** on 28 Jan 2011, 7:26 a.m.,*
in response to message #7 by Ren

ENTER or not ENTER, there is no =

Re: How about a pocket / hand held RPL calc?

*Message #10 Posted by **Mark Harman** on 28 Jan 2011, 1:17 p.m.,*
in response to message #9 by Norman Dziedzic

LOL!!!

Re: How about a pocket / hand held RPL calc?

*Message #11 Posted by **David Hayden** on 27 Jan 2011, 4:09 p.m.,*
in response to message #1 by Michael de Estrada

I think it would be fun to do an RPL calculator on the 30b hardware. This would be a 32-bit native ARM RPL interpretter.

Re: How about a pocket / hand held RPL calc?

*Message #12 Posted by **Katie Wasserman** on 27 Jan 2011, 4:16 p.m.,*
in response to message #11 by David Hayden

It's straightforward to re-purpose a 30b, you just need the special cable and the free IAR software. The problem is that it will end up like a fast 28C because there's only 2K on non-volatile RAM to use. The 28C was such a huge disappointment becasue the tiny amount of memory made it almost useless for anything but simple calculations and a few programs.

Re: How about a pocket / hand held RPL calc?

*Message #13 Posted by **Raymond Del Tondo** on 27 Jan 2011, 5:20 p.m.,*
in response to message #12 by Katie Wasserman

It would be nicer if someone would find a way to reprogram the silver 17bII+ on the firmware side,
as this machine has a much better hardware than the 30b in nearly every respect.

However, for my daily tasks, even the 17bII+ is overfeatured.
I have no need for Sine or Cosine since more than eight years,
and the logs, inverses and PI are there.

Ray

Re: How about a pocket / hand held RPL calc?

*Message #14 Posted by **Eric Smith** on 27 Jan 2011, 6:12 p.m.,*
in response to message #13 by Raymond Del Tondo

The 17bII+ has much *worse* hardware, in that is uses a masked-ROM microprocessor and there is no possibility of changing the firmware short of building an entire replacement board to go in it.

Re: How about a pocket / hand held RPL calc?

*Message #15 Posted by **Mark Harman** on 27 Jan 2011, 7:08 p.m.,*
in response to message #13 by Raymond Del Tondo

Raymond,

I'm with Eric. Just because you found the 30b uncomfortable (I've read your previous posts), doesn't mean that it is worse from a hardware side. Comfort and aesthetics are a highly subjective area of evaluation whereas hardware and features can be a highly objective area of evaluation. Personally, I think the 30b is more comfortable and more attractive than the 17bII+. Again, this is highly subjective. However, I think the keyboard and build quality are on par.

The only thing that the 17bII+ has in terms of a distinct advantage over the 30b from a features standpoint is its menu-driven Solve and the built-in clock features. Some people might also like its menu-driven interface; however, this is a subjective area.

The 30b is by leaps and bounds a much faster and more powerful machine than the 17bII+. I don't know of any other pocket calculator that is as fast on executing certain programs and benchmarks. The processor in the 17bII+ is decent, but compared to the 30b it is a slow, old, three-legged dog that can't be repurposed, updated, etc...

I will hand that the built-in menu-driven Solve can extend the 17bII+'s feature set tremendously. However, it doesn't have anywhere near the built-in functionality that the 30b has.

Plain and simple, the 30b is a much better calculator for half the price.

Let's run over things that the 30b can do that the 17bII+ can't do, shall we?

Programming Functions:
The 17bII+ is not programmable!
Programs can be assigned to keys, even as Shift-hold functions!

Mathematical Functions:
Negative and non-integer factorials
Gamma function
Trigonometric functions
Integer Part
Fractional Part
Absolute Value
Random Number Generator

Financial functions:
Instantaneous calculation of complex IRR. On the 17bII+, it can take a while to solve for complex IRRs.
MIRR
FMRR
Solve for C/YR on interest conversion
Black-Scholes
DBXover depreciation
French Straight Line depreciation
French DB depreciation
Built-in partial year depreciation
Settable C/YR
Payback
Discounted Payback
Modified Duration
Macaulay Duration
Breakeven Analysis

Statistics and Probability:

7 regression models
5 probability distributions and 4 of their inverses
Standard Error
Covariance
Population Standard Deviation
Frequency Statistics
Quartiles
Permutations
Combinations

Really, the 17bII+ is better than the 30b in "nearly every respect?" I'm pretty sure this isn't the case, especially based on what I have shown above. That doesn't mean that I don't think the 17bII+ is a nice calculator. I like it very much, but compared to the 30b, it is quite short on functionality. Also, because my background is in accounting and finance, I find all the 30b's additional features to be quite useful. It is, after all, a financial calculator, right? Plus, I am heavy into statistics and probability, so the 30b's features in this regard make it much more attractive than the 17bII+.

Now, I am aware that there are features that the 17bII+ has that the 30b doesn't, but I consider most of them to be rather antiquated.

Regards,

Mark

Edited: 27 Jan 2011, 7:34 p.m.

Re: How about a pocket / hand held RPL calc?

*Message #16 Posted by **Don Shepherd** on 27 Jan 2011, 8:23 p.m.,*
in response to message #15 by Mark Harman

> Quote:
>
> The 17bII+ is not programmable!

Mark, I agree with everything you said about comparing the HP-17bii+ with the HP-30b except this. While technically the 17b has never been advertised as a programmable calculator, its solver does provide some degree of limited "programming." When I taught introduction to computer programming at the community college a few years ago, the text said that any programming system had to support three structures: sequence, decision, and iteration. The 17bii solver does that with the IF command and the sigma command. And variables are possible using the get() and let() functions. Now, I admit that this is tedious work, but a few years ago I wrote a dozen or so "programs" on the 17bii and 17bii+, so they are programmable at some level.

Here is a 17bii+ solver equation that determines whether a given starting configuration of tiles in the famous 15 puzzle is, in fact, a solvable configuration (meaning you can start with this arrangement and eventually get to 1-2-3-4 etc.).

Speed-wise, of course, the 17bii+ cannot compete with the 30b.

And as a proud owner of the 128k Macintosh, I concur with your comments.

Don

Re: How about a pocket / hand held RPL calc?

*Message #17 Posted by **Mark Harman** on 27 Jan 2011, 9:32 p.m.,*
in response to message #16 by Don Shepherd

Don,

Fair enough. I was aware of this, too. However, I don't consider the 17bII+ anywhere as programmable as the 30b. Still, so I don't sound too ignorant, can it be programmed to do any of the benchmark programs that other programmable calculators can execute? It would be interesting if it could do an N-queens benchmark or a Prime Factor finder. If so, I would love to know the speed of execution. My guess is that it would have nothing on the 30b.

I actually do like the paradigm of the 17bII+ Solver function, in that one could add some really cool menu-based features to the calculator this way. However, I have added really cool features to my 30b with its built in programming and Solve. So, to me, my needs for function-set expandability is more than met. A little more memory on the 30b, of course, would be nice - but my needs with this device are very well-met.

Also, thanks for acknowledging my remarks about the 128k Mac. I have always thought it was a fantastic machine, even when it came out when I was 9 and a half years old. :) I am a very happy Mac user, even though I am very comfortable using all flavors of Windows, as well as Linux and other operating systems. I just prefer the Mac.

Regards,

Mark

Re: How about a pocket / hand held RPL calc?

*Message #18 Posted by **Don Shepherd** on 27 Jan 2011, 10:00 p.m.,*
in response to message #17 by Mark Harman

> Quote:
>
> can it be programmed to do any of the benchmark programs that other programmable calculators can execute? It would be interesting if it could do an N-queens benchmark or a Prime Factor finder. If so, I would love to know the speed of execution. My guess is that it would have nothing on the 30b.

I don't know about the N-queens benchmark, but here is a prime factor finder that works on the 17bii+ with the two mods I annotated. Without the mods, that solver equation works fine on the 17b and 17bii, but it won't work on the + because the solver on the + works differently than the original solver. It took me a long time to figure out how to get it to work, but I perservered. As you can imagine, it is slow, about a billion times slower than the 30b (I'm exaggerating a bit). But, yeah, the 17bii+ can actually do a lot of things with its solver.

Don

Edited: 31 Jan 2011, 10:08 p.m. after one or more responses were posted

Re: How about a pocket / hand held RPL calc?

*Message #19 Posted by **Mark Harman** on 27 Jan 2011, 10:54 p.m.,*
in response to message #18 by Don Shepherd

That is cool that it can be done. However, I would love to have a basis of comparison.

The 30b can determine the primality of 9,999,999,967 in 40 seconds, which is REALLY fast for such a large number. What length of time would it take the 17bII+ to achieve the same result? I am really curious.

Regards,

Mark

Re: How about a pocket / hand held RPL calc?

*Message #20 Posted by **Don Shepherd** on 28 Jan 2011, 5:19 a.m.,*
in response to message #19 by Mark Harman

> Quote:
>
> What length of time would it take the 17bII+ to achieve the same result?

Perhaps 40 years!

There really is no similarity regarding the speed of the two machines. The program listing in my link above is from the Technical Applications Manual for the 27s and 19b, and the page after the page I show says "you should expect long execution times for very large integers" and it's true. Now, 40 years is an exaggeration, but certainly a number that large would require several sets of batteries on the 17bii or bii+, I would imagine.

It's been a few years since I wrote solver equations for the 17bii, and looking through some of them now I don't see that I recorded their execution times, although I do see my comment on one routine that "this version takes a long time to execute".

Don

Re: How about a pocket / hand held RPL calc?

*Message #21 Posted by **Mike Morrow** on 27 Jan 2011, 10:46 p.m.,*
in response to message #17 by Mark Harman

> Quote:
>
> Also, thanks for acknowledging my remarks about the 128k Mac. I have always thought it was a fantastic machine, even when it came out when I was 9 and a half years old.

Mark,

Great write up on the feature differential between the 17BII+ and the 30b! Also, I like my HP 42S units, but I'd love it if they were in as nice a body as that of the HP 30b. The 30b is just a fabulous all-round outstanding package.

With respect to the era of the 128K Macs, during that time I was working to produce System Description Manuals at a nuclear power plant. No one had access to computers if they didn't provide their own. Otherwise, a secretarial pool turned handwritten notes into typed hard copy.

One of my computer geek co-workers bought the new 128K Mac. It was so limited that it was all but unusable. I had a 48K-byte Radio Shack TRS-80 Model III (4 MHz Z-80 uP!) running primitive Scripsit word processor software that ran circles around what that advanced GUI-Mac could do in terms of text document size. Later during the contract, we needed to do crude simulations of reactor and containment response to drill scenario situations. The Mac didn't even have a mathematical programming language bundled with it, for all its high cost! My Model III's Basic interpreter once again came to the rescue. As a demostration of GUI principles, I guess that Mac had some points. But as a practical machine to be used in "for pay" goal-oriented projects, it had the value of an expensive toy.

I learned to think of the Mac as being programmable by the normal user the same way that an electric typewriter was programmable. If the typewriter user was happy with what the maker thought the user should be able to do with that typewriter, so the Mac user would be happy if what Apple-hype condescended to permit was all the user wanted to do. It was absolutely inconceivable that Apple-hype would supply to the unwashed and unblessed users something as simple and powerful as, say, MS-DOS's DEBUG utility, much less a bundled Basic interpreter! All machine and OS features were to be well-hidden behind the Apple-hype iconostasis, and this attitude by both Apple-hype and its users still survives very strongly today.

I always thought a better name for the MacIntosh would have been the "GUI-Duck."

Edited: 27 Jan 2011, 10:55 p.m.

Re: How about a pocket / hand held RPL calc?

*Message #22 Posted by **Mark Harman** on 27 Jan 2011, 11:37 p.m.,*
in response to message #21 by Mike Morrow

Mike,

Well, I did acknowledge that the original Mac had its limitations... LOL

It seems like your original experiences with Macintoshes have certainly forever tainted your view of Apple products. It's a real shame since they make great stuff and the Mac has come a REALLY long way since the original 128k.

Still, and not to be mean, the truth of the matter is that your coworker was kind of foolish and really did not do his homework before buying. He bought a computer that was intentionally designed for and marketed to "the rest of us." The whole point of the Mac was to make it as useable and friendly as possible for **non-techie types**. It was for people who wanted to get work done with applications specifically catered to their required task with as little hassle as possible and not for people who wanted to write custom apps, tweak their OS, and so forth. If he, or you, thought that the latter was ever Apple's original intent, then you both completely missed the entire point of the original machine. Not everyone is able to be a programmer or engineer. Surely it isn't a sin to provide that segment of the market something that they can use with ease.

Granted, the original memory size was abysmal for creating sizeable WP documents (due to the memory requirements of the OS). However, Apple addressed these memory issues in a relatively short period of time with integrating the most taxing OS features into the ROM, introducing HFS, and adding memory to machines shortly thereafter. By the time the Mac Plus came out, the machine was very worthy for the non-tinkers and serious developers who were given developer kits from Apple.

In the present time, Mac OS X is certainly much easier to develop for than the original Mac operating system and Apple supplies a lot of great resources for developers and potential developers with every machine. Now, I am not much of a programmer, but I know a few people who develop for OS X and find it to have a great development environment with Xcode and so forth. They can make custom programs in very short periods of time. There are other features that techie types would absolutely love, but I won't bore you with that. :)

Regards,

Mark

Edited: 27 Jan 2011, 11:44 p.m.

Re: How about a pocket / hand held RPL calc?

*Message #23 Posted by **Martin Pinckney** on 27 Jan 2011, 11:37 p.m.,*
in response to message #16 by Don Shepherd

> Quote:
>
> And variables are possible using the get() and let() functions.

Don, I don't quite understand this statement. As I see it, you can have any number of variables (with very descriptive names) w/o using get() and let() at all. That's one of the beauties of the Solver.

> Quote:
>
> Now, I admit that this is tedious work, but a few years ago I wrote a dozen or so "programs" on the 17bii and 17bii+, so they are programmable at some level.

Again, I don't understand what is "tedious" about it. Writing Solver routines is extremely easy, to me. And if the 17b series is not programmable, then in IMO we have too narrow a definition of "programmable." I'm not wanting to get in the 17b vs. 30b debate, but as a matter of fact, some have cautioned the 30b isn't really "programmable", but merely records macros. Again, too narrow a definition.

Re: How about a pocket / hand held RPL calc?

*Message #24 Posted by **Mark Harman** on 28 Jan 2011, 12:38 a.m.,*
in response to message #23 by Martin Pinckney

I agree with you on the fact that too narrow a definition has applied to the 30b's programmability and so many people dismiss it as "macro recording."

You probably know many of the things I am about to say, but I am going to say them anyway.

I think the fact that the 30b can perform the N-queens benchmark and do it faster than any other pocket handheld attests to its speed and programmability. I mean, they do everything that programmable calculators should do, including conditional testing, looping, branching, and subroutines.

To me, all the other "keystroke programmable" calculators are nothing more than the same

thing. The only difference is that the the others I've seen like the 12c, 20s, and so forth have a set of numbers on the display representing the keystrokes and the 30b has the actual name of the key or function being pressed or utilized on the display (Also, it has some little things borrowed from RPL). Really, though, it is all semantics. So, maybe we should just use the definition being attached to the 30b, and attach that same "it just records macros" or "macro recording" moniker to the other "keystroke programmable" units going back to the 65 since that is **exactly** what they do!

I remain unconvinced of the extent of programmability of the 17b series. They're great calculators and the menu-based Solve is awesome, but I think by its nature it is more limited than other programmable machines. Perhaps this is where creativity comes in and a good programmer can really shine in this regard.

Still, if you want to really impress me and, at the same time, make me a true believer of the 17's programming capability, write a version of the N-queens benchmark program for the 17bII+, execute it, and submit the time. ;^) As of yet, nobody has done this. Personally, I think this is a golden opportunity to prove all the naysayers wrong - if possible.

Regards,

Mark

Edited: 28 Jan 2011, 12:44 a.m.

Re: How about a pocket / hand held RPL calc?

*Message #25 Posted by **Martin Pinckney** on 28 Jan 2011, 8:37 a.m.,*
in response to message #24 by Mark Harman

> Quote:
>
> So, maybe we should just use the definition being attached to the 30b, and attach that same "it just records macros" or "macro recording" moniker to the other "keystroke programmable" units going back to the 65 since that is **exactly** what they do!

Agreed.

> Quote:
>
> Still, if you want to really impress me and, at the same time, make me a true believer of the 17's programming capability, write a version of the N-queens benchmark program for the 17bII+, execute it, and submit the time. ;^)

To me this is beside the point. My calculators are tools to help me in my work. I can pick up a 27s of 17b and write a Solver routine in a few minutes, a lot quicker than writing a program on anything else. It may be a routine I keep, or just an ad hoc quickie.

I have also written one fairly complex Solver program with conditionals.

Re: How about a pocket / hand held RPL calc?

*Message #26 Posted by **Mark Harman** on 28 Jan 2011, 12:33 p.m.,*
in response to message #25 by Martin Pinckney

> Quote:
>
> To me this is beside the point. My calculators are tools to help me in my work. I can pick up a 27s of 17b and write a Solver routine in a few minutes, a lot quicker than writing a program on anything else. It may be a routine I keep, or just an ad hoc quickie.
>
> I have also written one fairly complex Solver program with conditionals.

I understand that these things are tools. I use mine as a tool also. Nevertheless, the 17b series (or and other calculators with the sole menu-based Solve, for that matter) are not represented in the N-queens benchmarks. I understand the value you place on utility. However, since you seem to represent yourself as fairly adept at Solve programming, I felt that such a challenge would be within your ability. Additionally, I think this should be done for three reasons. First, to show that it can be done. Second, to give a calculator with such a paradigm representation on the N-queens benchmarks page. Third, to test the speed, effectiveness, and efficiency of execution of such a program by the calculator running it.

Also, I don't see this as being "beside the point." If it can be done, it can be done. If it can't, it can't. I sincerely want it to be doable, but I also sincerely believe it can't be done. If it could be done, it would have by now. I remain waiting to be impressed. :)

As for the 30b, I can rattle off programs for it in a few minutes, myself (not much different than you writing programs in a few minutes for the menu-based Solve). It is a pretty easy platform to program for. I haven't gotten into any advanced stuff yet. However, I have added a few functions to my 30b that have made it much more useful to me - even with its myriad already-useful functions that are built-in. Also, I am working on something fairly complex right now that will use the 30b's built-in Solve function. It is challenging my fairly limited programming ability (I'm an accountant, not a programmer, Jim!). Other programs using Solve on the 30b that I have written have taken only a few minutes or so to write. However, I am trying to figure out the best algorithm to solve the actual problem in the first place. Once that is done, it will be easy to write the program according to that algorithm.

Regards,

Mark

Re: How about a pocket / hand held RPL calc?

*Message #27 Posted by **Martin Pinckney** on 28 Jan 2011, 1:42 p.m.,*
in response to message #26 by Mark Harman

Mark,

I have no idea what "N-queens benchmark" is. I have no particular interest in the hairsplitting comparisons of which calculator is faster on this or that algorithm. I own several Pioneers and a couple 48sx. They are all plenty fast enough for me, except the 48sx is excruciatingly slow with anything using

graphics.

I haven't claimed to be adept at anything, but I do find Solver routines fairly easy to write and use, which makes the 17b and 27s extremely useful to me. I use the 27s for the straightforward problems I encounter in practicing cimple engineering, and the 17b for similar problems running my engineering business.

I really enjoy reading the posts on this site, and posting as well. It's an interesting intellectual exercise for me, much like I suppose trying to show that something can or cannot be done is for you.

Re: How about a pocket / hand held RPL calc?

*Message #28 Posted by **Mark Harman** on 31 Jan 2011, 1:17 a.m.,*
in response to message #27 by Martin Pinckney

N-queens benchmark info, for your edification:

http://groups.csail.mit.edu/cag/raw/benchmark/suites/nqueens/README.html

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=700
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=119357

That is fine if you have no interest in pursuing it. I just thought it would be neat if you could take a stab at it. Many people who visit and comment on this site have an interest in this benchmark. It is a good one for testing the limits and capabilities of the devices they use. More than anything else, I think it is just for fun. I find it rather fascinating.

I know you haven't claimed to be adept. I only surmised this based on the level of comfort you expressed with being able to write for Solver. I haven't ever written a Solver routine, so you are way ahead of the curve on this aspect compared to me.

I only have one Pioneer - a 20S that my Statistics instructor in college recommended that we had for the class. I still have it and it is a very nice calculator. It still is using its original batteries (even though it came packaged with a spare set!). The only drawback, in my opinion, is its lack of RPN. Otherwise, it is a fantastic device.

I have a lot of interests and things I pursue to challenge and exercise my intellect (not just trying to show that something can or cannot be done). I also enjoy reading this site. I have learned many interesting things and it is nice to see so many people that are passionate about calculators and the things they use them for.

Regards,

Mark

Edited: 31 Jan 2011, 1:19 a.m.

Re: How about a pocket / hand held RPL calc?

*Message #29 Posted by **Martin Pinckney** on 31 Jan 2011, 9:15 a.m.,*

in response to message #28 by Mark Harman

Mark, thanks for the info. I think maybe Thomas Klemm or Don Shepherd will take care of the N Queens problem for us. |:-)

> Quote:
>
> I only have one Pioneer - a 20S that my Statistics instructor in college recommended that we had for the class.

The 20s was my first HP, purchased in early 90's after my second TI failed. It was lot of calculator for the money at the time. I still have mine too, but eclipsed by the 27s now.

But for statistics your instructor should have recommended the 21s!

Re: How about a pocket / hand held RPL calc?

*Message #30 Posted by **Don Shepherd** on 31 Jan 2011, 12:33 p.m.,*
in response to message #29 by Martin Pinckney

Thomas did it! He has my utmost respect.

Don

Re: How about a pocket / hand held RPL calc?

*Message #31 Posted by **Mark Harman** on 31 Jan 2011, 1:38 p.m.,*
in response to message #29 by Martin Pinckney

Yeah, I see that Thomas Klemm has made a lot of progress on this. I am impressed with what he has shown thus far.

> Quote:
>
> But for statistics your instructor should have recommended the 21s!

She would have, but by the point I was in her class it was no longer being manufactured or available. She had one herself and bragged about all the things it could do. Honestly, I was quite impressed and myself and a few others in the class kind of drooled over its awesomeness. Because the 21s wasn't available, she wanted us to have something that was as close as possible within a reasonable price range - mostly due to the fact that she liked the fast entry of statistical data. I got an A in the class, so it seemed to work out well for me.

With the exception of hypothesis testing, the 30b has all of the statistical functions of the 21s and then some. I am pretty sure that I could eventually write a program for it that will do a hypothesis test. Maybe that will be my next challenge.

Mark

Re: How about a pocket / hand held RPL calc?

*Message #32 Posted by **Don Shepherd** on 28 Jan 2011, 1:44 p.m.,*
in response to message #24 by Mark Harman

> Quote:
>
> I remain unconvinced of the extent of programmability of the 17b series. They're great calculators and the menu-based Solve is awesome, but I think by its nature it is more limited than other programmable machines. Perhaps this is where creativity comes in and a good programmer can really shine in this regard.
>
> Still, if you want to really impress me and, at the same time, make me a true believer of the 17's programming capability, write a version of the N-queens benchmark program for the 17bII+, execute it, and submit the time. ;^) As of yet, nobody has done this. Personally, I think this is a golden opportunity to prove all the naysayers wrong - if possible.

Mark, there are many programming-type things that the 17bii+ cannot do, such as subroutines, goto, loops other than the simple "do as i goes from 1 to 1000 by 2". The lack of an indefinite loop capability, or do while, means you can't really implement something like the N-queens problem (as I understand it, in any event) because it seems to require an indefinite loop or two.

So, yes, there are pretty substantial limitations on what the 17bii+ can do, programming-wise. Now, an expert programmer MAY be able to overcome some of these limitations, but expert programmers typically don't flock to the 17bii+ as a programming platform.

The bottom line is this. Since the 17bii solver provides IF, Sigma (definite loop), and variables, it can do some programming-type things that would not be possible in solvers without such features. There are many things you can do with it, programming-wise, and many you can't, N-queens among them I believe.

Very few 17bii+ users consider it a "programmable" machine, or even have a need for it to be a programmable machine. That's fine. But some of us who know what it can (and can't) do find it interesting. Who would have thought that you could write a prime factor finder for it?

Don

Re: How about a pocket / hand held RPL calc?

*Message #33 Posted by **Don Shepherd** on 28 Jan 2011, 5:44 a.m.,*
in response to message #23 by Martin Pinckney

> Quote:
>
> you can have any number of variables (with very descriptive names) w/o using get() and let() at all

That's true, but if you don't want them to appear as a menu item when the user runs the program in the solver, you must use the g() and l() functions. That prime factor finder, for example, uses several "intermediate" variables that are necessary for the program to run,

but you don't want them to appear on the menu to confuse the user. If you reference a variable without the g() and l() commands, the variable appears in the menu for the user to see.

> Quote:
>
> I don't understand what is "tedious" about it. Writing Solver routines is extremely easy

I agree, implementing simple equations like the Pythagorean Theorem or the quadratic formula (which is how most people use the solver) is straightforward. But implementing "programs" usually requires lots of parentheses and text, and the 17bii method for text entry is cumbersome (as is the 30b's method also, BTW) and matching all your opening parens with closing parens takes a lot of work when your program gets a bit complex. And dealing with the solver on the 17bii+ always requires more work due to the way it differs from the original 17bii solver. So those kinds of things make writing program on the 17b rather tedious.

> Quote:
>
> the 30b isn't really "programmable"

It is programmable. I know Gene sometime says it was originally designed as a "macro" system to capture and playback keystrokes, but the final product is as programmable as any programmable HP calculator. It does have some maddening differences from pure RPN, but once you start working with it and get used to those it's a fine platform for programming. And, yes, more program memory would be great, but what's there is usable.

Re: How about a pocket / hand held RPL calc?

*Message #34 Posted by **Raymond Del Tondo** on 28 Jan 2011, 4:13 a.m.,*
in response to message #15 by Mark Harman

Hi,

ok, maybe I used the wrong word. With firmware I did _not_ mean the CPU firmware, but the surrounding OS of the machine (if there is one at all).

From that point the 17bII+ may be a dead end, since it doesn't have an option to replace or extend the OS. However I also consider the 30b as a dead-end, since it has very limited display capabilities, and very little RAM for these days. 2K was ok in 1980, but even in 1987 (28C) it was not enough anymore, and nowadays I wouldn't spend too much effort on a recently developed calc with that small amount of RAM.

It's still fun to squeeze as much as possible into HP-41 ROM blocks, but the 30b is from 2010...

Apart from that, how many people will actually dive into modifying it?

And with hardware I mainly meant the parts which the normal user has access to, namely the housing. The 17bII+ has a non-glare high-contrast dot matrix display with menus, 32K of RAM, and is well designed and comfortable to hold.

The 30b is the first HP-branded calc which I returned to the dealer because of the housing, and it's the first calc of which I heard from other users that they modified the upper edges due to the "sharply shape". The latter should be enough reason for the designers to take a look at it.

<OT> From that perspective, the clamshell calcs (28C/S) are badly designed, too, since they are very uncomfortable to hold in a hand. If the left side is flipped back, you have the sharply shaped edges (front and back), if not, you have still have the edges (front), but also a calc which swings around the ankle. In my experience a clamshell calc could only be used seriously when it was sitting on a table. </OT>

It's all subjective, of course, but it should also be a reason for the designers to think it over.

Maybe a successor of the 30b will have a more defensively shaped housing, a non-glare display, much more RAM, an easier way for data exchange, and maybe some easier way to update the OS.

Regards

Raymond

Re: How about a pocket / hand held RPL calc?

*Message #35 Posted by **Mark Harman** on 28 Jan 2011, 1:12 p.m.,*
in response to message #34 by Raymond Del Tondo

Raymond,

First of all, I agree with you regarding the amount of memory for the 30b. However, if you even try to extend the function set on the 17bII+ using the Solve function so that it is in parity with the 30b, I think you will find that you will that either 32k will be insufficient or that it will use up most of the memory since Solve programs are memory intensive. I believe It takes 2.5k just to input the 17bII+ function for Black-Scholes into Solve.

I think the fact that the 290 bytes remaining for programming on the 30b can make for extremely useful programs that are in addition to the already huge function set says much of the economy of the 30b.

One of the things that I want you to understand though, is that the memory of the 30b is based on the properties of the Atmel Arm 7 processor, which is a full system on a chip. The memory, ROM, RAM, processor, and display controller are all in one place. I believe HP made a conscious decision to use this chip to reduce the number of parts thereby reducing the chances for something to go wrong. I think it was a good design decision, albeit short on RAM.

Also, of course the 30b has an OS. How else would it operate?

Housing and display are subjective. Glare hasn't been too much of a problem for me with the 30b. Maybe it will bother someone else. The same debate rages on in notebook computer land. I happen to like the level of contrast on the 30b. Plus, I like the way the menus within the 30b function. I've used the 17bII+ and the 42s. The paradigm is nice, but the 30b works well and is easy to use, also. The case has never bothered me. I find it to be rather comfortable. Everyone I know who has handled my 30b has really liked the design and feel of it.

Notice how all these points are highly subjective? You make changes to any of these things and there will be a group of consumers that will disapprove. In designing something, one can't satisfy 100% of the market in every way possible 100% of the time. Not everyone can be pleased. Hard decisions have to be made and the designers have to live with the consequences of their design choices, for better or worse. In my case, it was for better and in your case it was for worse.

Regarding your "redesign" idea at the end:

"Defensively Shaped" housing: Okay, I suppose rounded edges wouldn't be a bad thing. But I don't mind the current design. In fact, I really, really, like the current design. I find it rather comfortable and I made no modifications to it make it such, either.

Non-glare display: The current display doesn't bother me - but, sure, a non-glare one wouldn't be too bad. The display window on the current model, however, prevents the display from being easily damaged and with no gap between the window and the body, there is less chance of dust getting into the display. The window is too far from the display itself to make it matte. It would look too fuzzy since it is above the display. It has to be right against the display itself for any clarity. Therefore, for your idea to be implemented, the display would have to be similar to the 20b. I think HP was trying to move away from that design intentionally.

More RAM: Agree completely. However, that would require off-die ram and additional programming to access the RAM - this adds complexities, possible complications, more need for bug testing, et cetera ...

An easier way for data exchange: Maybe. I really can't see the need. If I need transmittable output, I certainly am more apt to use Excel than a financial calculator. Still, perhaps you can elaborate on the different uses for such a feature.

Easier way to update the OS: Really, it isn't that hard. There is a 6-pin serial Pogo jack in the back right below the 2 CR2032 batteries. You just need a special serial cable with a reset button and an erase button and the software to send the updates to the calculator. For anyone who wants this stuff, it can be had.

Regards,

Mark

Re: How about a pocket / hand held RPL calc?

*Message #36 Posted by **Don Shepherd** on 28 Jan 2011, 2:30 p.m.,*
in response to message #15 by Mark Harman

> Quote:
>
> The 30b is by leaps and bounds a much faster and more powerful machine than the 17bII+.

Agreed. Programming-wise, the 17bii+ takes 29 seconds to figure out that 12,841 is prime. The 30b would figure that out before your finger left the execute key.

Don

Re: How about a pocket / hand held RPL calc?

*Message #37 Posted by **Thomas Klemm** on 28 Jan 2011, 6:13 p.m.,*
in response to message #36 by Don Shepherd

Did you ever consider using the Miller–Rabin primality test? According to Wikipedia all we have to do is verify that:

- $2^{12,840}_{12,840} = 1 \ (12,841)$

- 3 = 1 (12,841)

I just entered this simple program into my HP-42S to calculate MOD 12,841:

```
12,841 [STO] 00

00 { 2-Byte Prgm }
01 RCL 00
02 MOD
03 .END.
```

We need the binary representation of 12,841 - 1 = 12,840 which is 11001000101000.

Write the binary digits downwards. The 1s indicate when to push additionally the [x] key:

```
3
[ENTER]
[ENTER]
[ENTER]


1:                      3
1:  [x²]  [x]  [R/S]    27
0:  [x²]       [R/S]    729
0:  [x²]       [R/S]    4,960
1:  [x²]  [x]  [R/S]    7,573
0:  [x²]       [R/S]    2,423
0:  [x²]       [R/S]    2,592
0:  [x²]       [R/S]    2,621
1:  [x²]  [x]  [R/S]    11,959
0:  [x²]       [R/S]    7,464
1:  [x²]  [x]  [R/S]    8,273
0:  [x²]       [R/S]    12,840
0:  [x²]       [R/S]    1
0:
```

Of course we can stop as soon as we get 1. Using 2 as a witness gives a similar result.
I'm pretty sure that this algorithm could be implemented in the solver of the 17bii+ and that it will use less than 29 seconds to complete.

Kind regards
Thomas

Re: How about a pocket / hand held RPL calc?

*Message #38 Posted by **Don Shepherd** on 31 Jan 2011, 1:59 p.m.,*
in response to message #37 by Thomas Klemm

Hey Thomas, I didn't notice this post earlier. I didn't know about that primality test you mention, I'll have to read that article. The 29 seconds was based upon running the modified prime factor algorithm shown in the Applications Manual for the 27s/19b on my 17bii+.

Don

Re: How about a pocket / hand held RPL calc?

*Message #39 Posted by **Thomas Klemm** on 31 Jan 2011, 3:48 p.m.,*
in response to message #38 by Don Shepherd

As always with these kind of problems Jean-Marc Baillard provides a program for the HP-41: Primes & Number Theoretic Functions for the HP-41 .

Just as a sidenote: the important thing in the example I've given is that the value before it gets 1 is -1 (or 12,840 in this example). This is not the case for a=2 and n=561 and will detect this number as composite though $2^{560}=1 \pmod{561}$. I must admit I didn't understand that completely when I wrote that previous post.

Cheers
Thomas

Re: How about a pocket / hand held RPL calc?

*Message #40 Posted by **Mike Morrow** on 27 Jan 2011, 6:27 p.m.,*
in response to message #12 by Katie Wasserman

> Quote:
>
> The 28C was such a huge disappointment becasue the tiny amount of memory made it almost useless for anything but simple calculations and a few programs.

I was one of those who bought the first HP 28C that I could find in 1987. Just as you state, it turned out to be good only as a "concept" machine. It definitely was not ready for prime time.

It reminded me of those first GUI-wonderful MacIntosh computers from Apple-hype. With all of 128K RAM, one could process documents *almost* two pages long before memory ran out. Of course, Apple-hype didn't point that out in its sales propaganda.

Re: How about a pocket / hand held RPL calc?

*Message #41 Posted by **Michael de Estrada** on 27 Jan 2011, 6:38 p.m.,*
in response to message #40 by Mike Morrow

This was remedied with the HP-28s, which has 32 Kb of ram. I sold my HP-28c, but still have my HP-28s. I always found the clamshell design very awkward and it's use of 3 N cell batteries annoying.

Re: How about a pocket / hand held RPL calc?

*Message #42 Posted by **Mark Harman** on 27 Jan 2011, 7:59 p.m.,*
in response to message #40 by Mike Morrow

While I agree that 128k was severely limited, I think that the Mac was no less a revolutionary machine and paved the way for the future of computing. Plus, Apple learned really quickly from this with the 512k "Fat" Mac less than a year later and the 1MB Macintosh Plus a year after that. Also the 512k and the Plus coded the HFS and other aspects of the OS into the ROM, to save room for applications. To Apple's credit, they did provide a reasonably-priced upgrade kit to bring the 128k and 512k Macs up-to-par with the Mac Plus.

Seriously, memory prices in 1984 were quite prohibitive and Apple wanted to be at a much lower price point than they were with the Lisa, which was a great machine (released one year prior) but could not compete in the marketplace on price - so it failed. The Lisa had 1MB of RAM, which drove the price up to $9,995. The 128k Mac was only $2,495. RAM prices sharply declined over the next two years so much that they could offer the greatly-improved Plus for less than $100 more than the original 128k Mac.

Regards,

Mark

Edited: 27 Jan 2011, 8:01 p.m.

HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #43 Posted by **Eric Smith** on 28 Jan 2011, 2:10 a.m.,*
in response to message #40 by Mike Morrow

I'm not sure what you all expected out of the HP-28C that has led to so much disappointment. It wasn't intended to replace the HP-41, for example.

In 1976 I used an HP-25 and thought it was awesome. It had a whopping 112 bytes of RAM and 1280 bytes of ROM. It was incredibly useful for math and engineering. The price was $195, which is $768 in modern dollars.

In 1987 I bought an HP-28C for $235. Yes, it only had 2048 bytes of RAM, but it had 128K of ROM, was vastly superior in capabilities to the HP-25, and far more useful for math and engineering. Adjusted for inflation, it cost $437.

Everyone praises the HP-25, and bitches and moans about the HP-28C, yet the HP-28C had 60% more RAM, 100 times as much ROM packed with useful features, and cost 43% less!

Sure, the later HP-28S was better, but I don't think that the HP-28C was "almost useless" or "good only as a 'concept' machine". I feel like I fully got my money's worth when I purchased the HP-28C.

For those that think the HP-28C was such a bad deal in 1987, I'd challenge you to find another handheld calculator available at that time that had anywhere near the capabilities. (I'm not talking about handheld BASIC machines and such, though they generally didn't have math capabilities to match the HP-28C.)

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #44 Posted by **Maximilian Hohmann** on 28 Jan 2011, 3:46 a.m.,*
in response to message #43 by Eric Smith

Hello!

> Quote:
>
> Everyone praises the HP-25, and bitches and moans about the HP-28C, yet the HP-28C had 60% more RAM, 100 times as much ROM packed with useful features, and cost 43% less!

Which shows you, that comparing naked figures can be meaningless. And the price of a calculator is not connected to it's usefulness in any way. The 28C/S (and later the 48 series) were advertised and sold as **programmable** calculators. But nobody told you, that several degrees in engineering and ten years programming experience on a variety of machines, ranging von calculators to mainframes (as in my case), would not be a sufficient pre-requisite to actually write even the simplest program for this thing. You had to to work your way through 1000 (or was it only 800?) pages of manual first. A '25 or '41 could be programmed by anybody in less than ten minutes on the other hand. And that's what makes the difference between a useless and a useful tool.

Regards, max

Edited: 28 Jan 2011, 3:57 a.m.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #45 Posted by **Eric Smith** on 28 Jan 2011, 4:29 a.m.,*
in response to message #44 by Maximilian Hohmann

I have NO degrees in engineering, but I did have eight years of programming experience on a few machines, and I managed to do useful things with the 28C after skimming the first couple of chapters of the manual. Programming it was certainly different than a traditional RPN calc, but it's hard to believe that it was an insurmountable challenge.

In any case, HP didn't intend the 28C to replace all their traditional calculators. They offered a range of calculators from simple to very sophisticated. It is almost inevitable that a sophisticated calculator is going to take more effort to learn to use.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #46 Posted by **Walter B** on 28 Jan 2011, 5:01 a.m.,*
in response to message #45 by Eric Smith

At the bottom line, RP**L** is observed being a very polarizing programming paradigm - some love it, many have given up on said steep and high learning curve, even very capable math gurus (think of e.g. Valentin). OTOH, almost all people here agree on RP**N** being far easier to gain first benefits from. Seems that's it, and we won't gain anything by discussing this ad nauseam.

Just my 20 m€, of course. Ceterum censeo: HP, launch a 43S (or 42SX, whatever you prefer).

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #47 Posted by **Martin Pinckney** on 28 Jan 2011, 8:44 a.m.,*
in response to message #46 by Walter B

> Quote:
>
> ... we won't gain anything by discussing this ad nauseam.

Walter, we discuss almost *everything* here ad nauseam. That's just what we do best.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #48 Posted by **Mark Harman** on 28 Jan 2011, 1:34 p.m.,*
in response to message #47 by Martin Pinckney

That is just too funny. LOL...

Mark

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #49 Posted by **Michael de Estrada** on 28 Jan 2011, 12:54 p.m.,*

in response to message #46 by Walter B

I think what we tend to forget is that regardless of whether you like or hate RPL, RPL calcs have an open stack with it's level limited only by memory, whereas all the other RPN calcs are limited to a 4 level stack. So, even if you are not programming, and simply manually evaluating a very long expression with many levels of pending operations (parentheses), you can simply work through it left to right without having to worry about losing a portion of the calculation out the top of the stack. Often with a 4 level stack you have to store partial results in registers and then recall them later to complete the calculation. If you use several registers you have to keep track of which portion of the calculation is stored where. Not only is this more complicated, but also more likely to result in mistakes. A modern algebraic scientific calculator typically has about 10 levels of parentheses, but a 4 level RPN stack effectively only has 3. The fixed 4 level stack IMO is the biggest shortcoming of a conventional RPN calculator.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #50 Posted by **Walter B** on 28 Jan 2011, 4:10 p.m.,*
in response to message #49 by Michael de Estrada

That's one of the reasons why we have an optional 8-level stack in the 34S d:-)

The lack of memory really hurt the 28c, which is why the 28s came so quickly thereafter, ISTM

*Message #51 Posted by **gene wright** on 28 Jan 2011, 9:45 a.m.,*
in response to message #45 by Eric Smith

As I recall, the 28c would choke if given the problem:

derivative of sin(x)/x

with an out of memory error or such.

Even Bill Wickes' review of the 28c in CHHU lamented the lack of memory which he said made the machine more of a scratchpad than a real workhorse.

But...of course, without the 28c and those who purchased one, the 28s would never have appeared, the 48SX would not have appeared, etc.

Sadly, the 49g appeared, so my logic is somewhat faulty here. :-)

Re: The lack of memory really hurt the 28c, which is why the 28s came so quickly thereafter, ISTM

*Message #52 Posted by **Katie Wasserman** on 28 Jan 2011, 1:59 p.m.,*
in response to message #51 by gene wright

Quote:

As I recall, the 28c would choke if given the problem:

derivative of sin(x)/x

Indeed, that was my point in saying that other than simple programming much of its advanced functionality was useless. The TAYLOR expansion for example, didn't have enough memory to work at all. There were other functions like that.

I had given a talk at an HP financial conference and was given one of the first production 28C's as compensation. I was really excited about this at the time and loved learning RPL. But I ran out of memory just for my playing around functions in no time, so even for this it was a disappointment. Of course I bought myself a 28S when that came out too and was very pleased with all I could do on it and the new hierarchical memory structure.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #53 Posted by **Mike Morrow** on 28 Jan 2011, 12:07 p.m.,*
in response to message #43 by Eric Smith

I bought the HP 28C in early 1987 and found it not particularly useful due to RAM limitations. But it was promising. When the HP 28S cam out a year later, I bought one of those too. I remember thinking at that time it would have been far better for HP to have held off putting the 28C on the market until the memory capacity of the 28C was practical.

I never cared much for any of the HP clamshells. Today, what really gripes me is the poorly designed battery compartment door of the series. My 28S is has suffered the very common clamshell door damage. The 28C is still OK, oddly.

The 28 series doesn't cause much excitement in the used calculator market today, for these good reasons.

Re: HP-28C was not "useless" or "good only as a 'concept' machine"

*Message #54 Posted by **Keith Midson** on 29 Jan 2011, 4:03 a.m.,*
in response to message #53 by Mike Morrow

My very first HP was the 28s. I LOVED this calculator. At the time it was the 28C or 28S - there was a big difference in price, but a friend talked me into buying the 28s. It was an amazing machine! I spent far too much time programming it at uni (I did Engineering). I had a Sharp pocket computer as well, but I found RPL MUCH better than Basic once I'd learned it well enough. Now I have a big collection of HP's and I have a special place for the 28C because it was released for a short time - the introduction of the 28s is HP's acknowledgment that this amazing machine (the 28C) needed more memory. It was a first in so many ways for HP (graphing, symbolic, etc). A piece of history really. There was nothing like it out there by any other manufacturer. My 2c. Keith

Re: How about a pocket / hand held RPL calc?

*Message #55 Posted by **Bart (UK)** on 28 Jan 2011, 7:15 a.m.,*
in response to message #1 by Michael de Estrada

I was thinking of the 28S in the shape of the 300s.

[Return to Index | Top of Index]

Go back to the main exhibit hall

How about a pocket / hand held RPL calc?

HP Forum Archive 20

[Return to Index | Top of Index]

HP42s sticking key

*Message #1 Posted by **William Maidment** on 27 Jan 2011, 12:35 p.m.*

How can I access the inside of my 42s to try and unstick a key. thanks Bill

Re: HP42s sticking key

*Message #2 Posted by **geoff quickfall** on 27 Jan 2011, 2:12 p.m.,*
in response to message #1 by William Maidment

HP 42S

Take a look a the HP SOLVE June issue by clicking the above link. Then scroll down to Calculator Restorations. The second article explains one method of entry into the Pioneers. Not as difficult as it appears.

Cheers, Geoff

Emails on there way to those that have lent me calculators for restorations (with explanations on the delays), bear with me!

Cheers, again, Geoff

An email would be good

*Message #3 Posted by **db (martinez, ca.)** on 31 Jan 2011, 10:53 p.m.,*
in response to message #2 by geoff quickfall

You can use the address from one of the emails i have sent you, my home address, or you can use Dave's contact system through the forum.

10 months have passed since i loaned you my hp10 to disassemble and photograph for your book, and since i last got a reply. An email would be nice.

Re: HP42s sticking key

*Message #4 Posted by **Randy** on 27 Jan 2011, 4:56 p.m.,*
in response to message #1 by William Maidment

Does the key have the normal travel and click or is it flat with no tactile feedback? If it clicks okay and doesn't register correctly, it is most likely bad contact between the keyboard and logic board.

I find this to be a perfectly acceptable method to open Pioneers: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=5

Personally, I have never seen a faceplate that has been peeled off without some form of distortion or damage. Peeling faceplates to open Pioneers isn't necessary, it puts the keys at risk and is in my opinion, a really bad idea. I've opened *many* Pioneers using the Brogger method and find it the best solution by far.

Re: HP42s sticking key

*Message #5 Posted by **Diego Diaz** on 2 Feb 2011, 12:16 p.m.,*
in response to message #4 by Randy

Hi,

Just to make sure: Sticky key? or Non-responsive key?

The first symptom is more likely related to the key contacts themselves than to the Keyboard/PCB connection.

Some of the carbon-made contacts turns into dust, creating a weak "contact" between the two conductive foils of the keyboard layers, this weak contact is recognized by the CPU as a permanently pressed key.

Regrettably the only way to fix it is by removing the dozens of plastic rivets which hold the steel frame in place (this is the easy part), then taking the key layers apart, cleaning them and (the *very* difficult part) re-assembly the whole thing keeping a high grade of tightness between the steel frame and the top half.

Sorry for the bad news... I sincerely hope you *only* have a non-responsive key, which in most cases just need the replacement of the sponge beneath the KB contact strip; far more simpler as described by Geoff's article.

Diego.

PS: I agree: removing the faceplate is not required in most cases.

Edited: 2 Feb 2011, 12:22 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Is there any need for just another HP calculator (JAHPC)?

*Message #1 Posted by **Frido Bohn** on 27 Jan 2011, 9:18 a.m.*

This contribution was inspired by the thread 'No new scientific calculators from HP?' As I felt that my insights were

somewhat OT, I simply started a new thread - I am sorry for this ;-)

Looking back to the history of handheld calcs, it was HP that made the big step
- to scientific calculators (HP-35A).
- to programmable calculators (HP-65).
- to alphanumeric, expandable (aka computer-like) calculators (HP-41).
Also some of the minor steps in the development of pocket calculators were pivotal and should have the merit to be termed as
big steps too (e.g. solver and numeric integration first in the HP-34C).

The HP-35s is a decent scientific calculator. Well, I dislike those flabby arrow keys and the delicate display (don't press to hard while cleaning). Not to tell about all those bugs which provoke a mild horror in the light of the experience HP should be able to draw from. However, I like its ergonomic form factor, the well engineered keys (with
exception of arrow keys / I never experienced the 'missing keystroke problem' in my sample), the color design and its
overall delightful functionality. But to be honest, what surplus does the HP-35s add to the overall performance of recent
scientific calcs? The HP-35s is just what it was advertised for: a reminiscence of his ancestor, the great HP35A which
now has its firm place in the hall of fame of electrical engineering devices.

What should be the scope of another device, maybe a successor of the HP-35s or even HP-50g? If we observe the current
development, it would be nothing more than a recapitulation of an endless loop of quite similar devices with minimal
changes from generation to generation. Sometimes with questionable advances which barely compensate for their bugs.

What should a new calculator be like, at least with a breeze of revolution in it? Nowadays we have superb mathematical
software, we have this neat 'whole-display' devices with virtual keys, and we have a lot of connectivity or networking.
Let us simply merge this all! Of course, there are those *iDevices* with those 'apps' that can emulate our beloved gadgets. Why suggesting HP to build something like an *iCalc*? The answer is: why not!

HP was not first in the production of graphing calculators, but they were not shy of to adopt the concept, and they were
leading in the production of decent graphing calculators (HP-48 and successors). So let them shamelessly copy the concepts of other manufacturers and build two hardware devices, one in the form factor of a handheld scientific, and the

other one with the form factor of a graphing calc. (Don't tell me it's the iPod - iPad duality, it is!) Let the devices have all the known features: GPS, multiple sensors (accelerator, temperature etc.), cameras, sound, telephony etc. Let
the CPU and memory count in GHz and GB. Let the calculator software be something scalable starting with fine scientific
or business options up to heavy duty functionality (comparable to Mathematica or Maple). And finally, let it have all the
connectivity we would like to have to use those devices for calculations as well as for interchange. Imagine the use of
the input of the sensors, GPS, camera, microphone etc. for mathematical transformations, the use of publicly available or
community generated data for similar purposes. Yes, imagine threads of this forum (e.g. 'Five-minute challenge') being
calculated, presented and discussed on these devices!

HP shall sell these devices as basic equipment (scientific or graphing calc). If you want more you would pay more (app/cloud concept). The appearance may be changed to the user's delight: redefinable keys would be the simplest you were
suposed to do! Bugs would be easily exterminable due to upgradable versions. If such devices were available with the
upcoming of the HP-41 you would still be able to run it and all its expansions, otherwise you would be able to load a
HP-32sii or HP-50g or the like. And finally, HP would approach to that they already dreamed of in 1979.

Regards
Frido

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #2 Posted by **Martin Pinckney** on 27 Jan 2011, 10:46 a.m.,*
in response to message #1 by Frido Bohn

Well, Frido, many will argue that the iWhatevers take the place of calculators because they can run calculator apps, and they begin to approach the dream of the HP-XX2050. (Incredibly prescient, BTW).

But I still want a new scientific *calculator* exhibiting the old HP excellence. Or not. I think I will just stick with my legacy HPs.

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #3 Posted by **Michael Meyer** on 27 Jan 2011, 11:01 a.m.,*
in response to message #1 by Frido Bohn

I wrote a parody of this late one night...

Beep Parody

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #4 Posted by **Martin Pinckney** on 27 Jan 2011, 12:01 p.m.,*
in response to message #3 by Michael Meyer

Hilarious!

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #5 Posted by **designnut** on 27 Jan 2011, 12:22 p.m.,*
in response to message #4 by Martin Pinckney

Responding to thee original post, I am disturbed by the present trend away from the neat rectangular calculators of the past to the "stylish" calculators on Hp store site. It seems the direction of calculator futures is in the hands of salesmen who have their own vision of what is needed. I am appalled at the loss of integrity for want of a better word. Is HP to be in the business of making trinkets and curios? Yes I pity the poor corporate climber that has to lug a notebook computer, a cell phone, a watch, a calculator, camera around. Clearly what is needed is a calculator worn like a watch? I cherish my 32SII with its thin slip case when I look at the clunky case of the 33S "handheld", but I notice they put feet on it, a hybrid? HP calculators have forfeited their heritage to their detriment. Sam

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #6 Posted by **Mike Morrow** on 27 Jan 2011, 1:07 p.m.,*
in response to message #5 by designnut

I'm having a little trouble following the stream-of-consciousness with this one.

But with respect to scientific calculator watches, the Casio CFX-200 and -400 watches were available from about 1983 to 1988. I've still got mine. But they must not have sold well because that's the last time such devices were marketed. The small number made, with the small survival rate after 25 years, result in these watches in good condition commanding prices that rival or exceed any old esteemed rare HP machine.

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #7 Posted by **David Hayden** on 27 Jan 2011, 1:54 p.m.,*
in response to message #1 by Frido Bohn

Here's my take on the subject.

First, you have to think about the market for hand-held calculators. I believe there are three, in order of size:

1. Education for 12-22 year-old students (middle school through college in the USA.
2. Special-purpose applications like construction trades, oil/gas rigs, and a million other places where you already see hand-held computers. Note that I'd put the financial calculators in this class.
3. The general purpose quick calculating device that is its historical use.

All three of these are susceptible to the more general purpose hand-held devices that we're seeing now (Droid/iPhone, iPad/Nook/Kindle, notebook/netbook). The advantage of a calculator is its instant-on ability, long battery life and reduced expense.

Market #1 is a tough nut to crack, at least in the US where TI has it sewn up, especially because the textbooks are geared towards their machines. A cost effective way to break into this market is to produce companion booklets for the popular textbooks that describe how to work the calculator problems with HP models. The user community could be tapped for this.

Market #2 is a little easier. Notice that a lot of effort went here recently with the 20b, 30b and 12C+. In particular, the 20b and 30b are running modern software on a modern CPU and the speed really shows it. There's an SDK for the these machines which I believe is an attempt to support 3rd party re-purposing projects. I don't think this has been very successful so far, mostly due to a lack of available resources on HP's side. Still, I give them credit for trying.

That leaves market #3. It's small and neglected unfortunately. I would love to see something like the 35s, with I/O and the speed of the 30b, but I'm not holding my breath.

On the other hand, I like to imagine that HP is being VERY smart about the path that their taking. Imagine that you're a tiny group within HP with a severely limited budget and big plans for the future. The only way to achieve your plans is to build a revenue stream. How do you do that?

I'd start with the low-hanging fruit. A hardware refresh of the best-selling product I have (and indeed the best selling one in the class) the 12C. Just emulate the old code on a new processor and poof, it runs 100x faster. I'd get this machine out and advertise it. This is exactly what HP did (minus the advertising, which is so conspicuously missing that I feel certain there's some good reason why they couldn't say they had a new product, even though it basically is new).

Once some money comes in from the 12C, I'd make a clear break with the past - dump the Saturn, dump RPL, build a modern machine, write the software in a modern language. Again, the financial calculators are a good candidate for this and poof! Now we have the 20b and 30b - blazing fast.

As the revenue stream grows, it funds longer-term projects. At this point, I'd go for a 50g replacement. Here the software base is so big that I don't think you could rewrite it from scratch. Instead, I'd do a 32-bit RPL engine on the ARM processor and go back to the 48 series code (because I believe it's mostly in RPL, not assembly). The goal would be to drop a calculator on the market that has the same functionality as the TI 89, but is so much faster that people can't ignore it.

The 39gs/40gs are, I suspect, basically the 50g with different user interface glued on. So once I had the RPL engine for the 50g replacement, I'd port the 39gs and 40gs.

Finally, I'd refresh the lower end models, maybe a 35s replacement as I mentioned earlier, probably with crippled versions that would be acceptable to in the standard tests. Call me a heartless capitalist, but my goal would be to make people buy two - the one that the test organizations will allow and the compatible one with the "must have" features like I/O that you can't live without.

Anyway, if I was King of HP, that's what I'd do. If anyone from HP is listening, I'm available for coronation next weekend.... :).

Dave

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #8 Posted by **designnut** on 27 Jan 2011, 2:32 p.m.,*
in response to message #7 by David Hayden

I do believe there is an untapped market for small customized calculators for field use by estimators and sales force. There was one machine shop owner that was collecting 41S so he could supply his staff with estimating software. RPL may be very powerful but the learning is too much for the small user. This leaves room for 3rd party programmers like the surveying solutions available. But not useful for the small shop owner with special needs. sam

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #9 Posted by **Ren** on 27 Jan 2011, 8:50 p.m.,*
in response to message #8 by designnut

(Theoretical HP tablet described)

Games!

If it has games it will increase its saleability!

Open Source

If the operating system was open source, many people would be willing to write new software for it.

But there is the rub. I believe HP, like $ony, wants total intellectual property control over their products and they can't stand the thought that someone else could make a buck or deprive them a buck using one of their products.

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #10 Posted by **Martin Pinckney** on 27 Jan 2011, 11:54 p.m.,*
in response to message #9 by Ren

> Quote:
>
> I believe HP, like $ony, wants total intellectual property control over their products and they can't stand the thought that someone else could make a buck or deprive them a buck using one of their products.

Then why release info on how to re-purpose the 30b, or how to access System RPL, for that matter. And what about all the third-party providers for the 48s?

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #11 Posted by **Frido Bohn** on 28 Jan 2011, 5:04 a.m.,*
in response to message #7 by David Hayden

Hello David,

instead of cultivating a plethora of different hardware devices which address different sectors of the market, the main message of my contribution was to offer only few hardware devices - may be an HP-12C, an HP-35s and an HP-50g form factor.

Let these devices run different types of calculator software and you can address every customer you want. HP is offering the HP-12C, HP-20b, HP-35s and HP-15C as software variants. Why not offer a hardware platform to run this software?

The hardware platform should offer something special that customers would expect from HP. As a minimum requirement, it should include those features we know from currently available smart phones and tablet PCs.

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #12 Posted by **Walter B** on 28 Jan 2011, 5:34 a.m.,*
in response to message #11 by Frido Bohn

Hallo Frido,

> Quote:
>
> HP is offering the HP-12C, HP-20b, HP-35s and **HP-15C** as software variants.

Am I missing something?

Re: Is there any need for just another HP calculator (JAHPC)?

*Message #13 Posted by **Frido Bohn** on 28 Jan 2011, 9:31 a.m.,*
in response to message #12 by Walter B

> Quote:
>
> Hallo Frido, Am I missing something?

Hi Walter,

well, look here.

Regards Frido

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP65 in Nonpareil

*Message #1 Posted by **Harald** on 27 Jan 2011, 9:00 a.m.*

On Eric Smiths website http://nonpareil.brouhaha.com/ it looks like Nonpareil includes the HP65. I have now installed v0.79, but that doesn't include the HP65. Is that in a seperate package? And if so, where can I find that?

Thanks, Harald

Re: HP65 in Nonpareil

*Message #2 Posted by **Eric Smith** on 27 Jan 2011, 7:27 p.m.,*
in response to message #1 by Harald

The HP-65 is not supported. As the text immediately above the table states, only the models shown with a bullet are supported.

I've been working on support for additional models, and various other improvements, for a long time. Unfortunately I have relatively little time to spend on it.

Re: HP65 in Nonpareil

*Message #3 Posted by **Harald** on 28 Jan 2011, 11:53 a.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> The HP-65 is not supported. As the text immediately above the table states, only the models shown with a bullet are supported.

Oops, my mistake. I saw the picture of the HP-65 just above that and therefore assumed it would be supported. Perhaps I should have read the text, too :)

> Quote:
>
> I've been working on support for additional models, and various other improvements, for a long time. Unfortunately I have relatively little time to spend on it.

Well, can't have been that little time, considering what you have achieved already. Thanks for making this available to everyone!

Re: HP65 in Nonpareil

*Message #4 Posted by **gene wright** on 28 Jan 2011, 12:12 p.m.,*
in response to message #3 by Harald

What picture of the HP 65? I don't see one on the site... ?

Re: HP65 in Nonpareil

*Message #5 Posted by **Harald** on 28 Jan 2011, 2:05 p.m.,*
in response to message #4 by gene wright

Hmm, good question, I am sure I saw that somewhere. But you are right, it isn't there.... So probably I am blind as well as dyslexic ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Preprogrammed EPROMs for HHE PE unit for the HP41CX

*Message #1 Posted by **Prabhu Bhooplapur** on 27 Jan 2011, 7:24 a.m.*

Hi,

I would like to get preprogrammed EPROMs with some specific application ROMs like PPC ROM, CCD and ADVANTAGE for use on HHE PE units. Your suggestions and/or offers will be most appreciated. Thanks. Prabhu

Re: Preprogrammed EPROMs for HHE PE unit for the HP41CX

*Message #2 Posted by **Geir Isene** on 27 Jan 2011, 11:09 a.m.,*
in response to message #1 by Prabhu Bhooplapur

Why not get a Clonix or NoV module from Diego? Then you can pre- and re-program to your heart's content.

Re: Preprogrammed EPROMs for HHE PE unit for the HP41CX

*Message #3 Posted by **Prabhu Bhooplapur** on 27 Jan 2011, 6:52 p.m.,*
in response to message #2 by Geir Isene

Hi Geir, I already have the Clonix and the NOVs. I would like to explore the usage of HHE PE. Hence this exercise. Hope the Guru's in the HP41C cloud can show the way. Prabhu

Re: Preprogrammed EPROMs for HHE PE unit for the HP41CX

*Message #4 Posted by **Geir Isene** on 28 Jan 2011, 2:08 a.m.,*
in response to message #3 by Prabhu Bhooplapur

Ah, okay then :)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

About HP calc serial numbers

*Message #1 Posted by **Ernst Fueloep** on 27 Jan 2011, 4:29 a.m.*

Hi,

This page: http://www.finseth.com/hpdata/serial.php explains that the week number in HP calculator serial numbers starts from Nov 1st (HP's fiscal year start).

So, then if I have a calculator with the serial number of 2205Axxxx this would mean it was manufactured in 1981 December, right?

Or have I misunderstood something?

Thanks.

Regards, Ernst

Can only be partly right.

*Message #2 Posted by **Frank Boehm (Germany)** on 27 Jan 2011, 6:48 a.m.,*
in response to message #1 by Ernst Fueloep

I'm not sure if this is an "urban legend" or correct at all. Maybe someone can prove or disprove this quoting a reliable source.
But: The earlier machines had something that I would rather call a "batch date" or maybe "revision" date. The 35 started with a "1143" datecode, next in line was, AFAIR, "7230".
So the given explanation of serial# is, at least, partly wrong.

Re: Can only be partly right.

*Message #3 Posted by **Eric Smith** on 27 Jan 2011, 6:17 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Traditionally HP used the first four digits for the year and date of the start of production of a specific revision level of a product. They might make products with a particular code for a long time, not even just one "batch", if there were no design changes. Those first four digits were what you looked up in the service manual for "back-dating".

Calculators started out that way, but quickly became the highest-volume HP product, such that the standard HP serial numbering scheme was not practical. For calculators, they decided to change the code every week, even if no design change had been made.

There were occasional errors or anomalies in the serial numbering. The serial number of the calculator was not particularly intended to be interpreted by anyone other than HP.

Re: About HP calc serial numbers

*Message #4 Posted by **Mike Morrow** on 27 Jan 2011, 10:34 a.m.,*
in response to message #1 by Ernst Fueloep

I purchased a new HP-15C in December 1985 from a large-volume dealer. The serial number on it is 2605A02499.

I've owned HPs since the mid-1970s, so I was familiar with the significance of the first five characters of HP serial numbers of that era. I was surprised at that time to see an early 1986 serial number on a device purchased in late 1985.

This one example supports the statement that the serial number year began late in the previous calendar year.

Edited: 27 Jan 2011, 10:40 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP 48GX Interface Cable Dilemma

*Message #1 Posted by **Anthony (USA)** on 26 Jan 2011, 7:50 p.m.*

Hi, I'm just beginning to expand my calculator collection. I recently purchased an HP 48GX Expandable Graphing Calculator and I need advice. I want to be able to connect my HP 48GX to my computer (so I can download games and applications), and I found the appropriate Serial Interface Cable online. After looking at pictures of the cable, I noticed that the end of the cable that connects to the computer is that 9-hole end thing (I don't really know the correct terminologies so forgive me). The port-thing in my computer that comes close to resembling it has 15 holes. What should I do? Is there an intermediary adapter thing that would connect the 9-hole end of the Serial Interface Cable to the 15-hole port-thing in my computer? Any help would be appreciated. Thank you.

Re: HP 48GX Interface Cable Dilemma

*Message #2 Posted by **Martin Pinckney** on 26 Jan 2011, 9:32 p.m.,*
in response to message #1 by Anthony (USA)

Anthony,

The 15-pin connector on your computer is analog video, no relation to serial port. Latest computers do not have a legacy type serial port.

What you need is a USB-to serial adapter. You can find one anywhere computer peripherals are sold. May take some tweaking to get the 48gx and the computer to "talk" to each other, but it can be done.

The name for the "9-hole end thing" is a 9-pin D-sub connector. They are of course male and female. You want a male 9-pin D-sub to USB adapter. Take your cable with you to avoid confusion on the gender.

Edited: 26 Jan 2011, 9:36 p.m.

Re: HP 48GX Interface Cable Dilemma

*Message #3 Posted by **Anthony (USA)** on 26 Jan 2011, 11:39 p.m.,*
in response to message #2 by Martin Pinckney

Oh, thank you, thank you, sir. Your response is beyond helpful! I'll order the Serial Interface Cable right now online and when it arrives I'll immediately buy the male 9-pin D-sub to USB adapter. Thank you, again, Mr. Pinckney, I really appreciate it.

Re: HP 48GX Interface Cable Dilemma

*Message #4 Posted by **Martin Pinckney** on 27 Jan 2011, 12:12 a.m.,*
in response to message #3 by Anthony (USA)

You're welcome.

You probably know that you will need Windows software to transfer files back and forth between the computer and calculator. Some vendors for the cables include the software with it, but if not a couple

of different programs are available for free download.

You will probably want to come back here for help once you get all the components for the connection.

Re: HP 48GX Interface Cable Dilemma

*Message #5 Posted by **Anthony (USA)** on 27 Jan 2011, 8:40 p.m.,*
in response to message #4 by Martin Pinckney

Would a Windows 7 platform work?

Yes, I definitely would be back here in the future when I get all the connection components...

Re: HP 48GX Interface Cable Dilemma

*Message #6 Posted by **Martin Pinckney** on 27 Jan 2011, 11:46 p.m.,*
in response to message #5 by Anthony (USA)

> Quote:
>
> Would a Windows 7 platform work?

Well, I can't say for sure. I successfully used HP48 Explorer with XP. I have since upgraded to 7, but I don't have my 48 or my USB-Serial adapter with me right now, so I will have to check later. Unless somebody else chimes in.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

30b Dead 5 Key

*Message #1 Posted by **Norman Dziedzic** on 26 Jan 2011, 7:37 p.m.*

My 30b Christmas Present (S/N: 4CY02405153) has a dead 5 key. All the other keys are as expected with crisp feel but the 5 is like a wet fish. If I press it hard it will register but something is definitely not right in there.

Anyone know the best channel at HP to go through for getting this fixed?

Thanks

Re: 30b Dead 5 Key

*Message #2 Posted by **Don Shepherd** on 26 Jan 2011, 7:43 p.m.,*
in response to message #1 by Norman Dziedzic

I'd look in the quick reference guide and see what it says.

Re: 30b Dead 5 Key

*Message #3 Posted by **Tim Wessman** on 26 Jan 2011, 8:59 p.m.,*
in response to message #2 by Don Shepherd

Or you could download the full manual which has been uploaded for a month or two now.

Anyway, that sounds like a collapsed metal dome. Contact support and ask them about it. If you have any trouble, send me an email.

TW

Re: 30b Dead 5 Key

*Message #4 Posted by **Jim Yohe** on 27 Jan 2011, 2:37 a.m.,*
in response to message #3 by Tim Wessman

There's a full manual for this thing someplace?

Re: 30b Dead 5 Key

*Message #5 Posted by **Mark Harman** on 27 Jan 2011, 3:05 a.m.,*
in response to message #4 by Jim Yohe

Yes, and learning modules too. I thought that I shared links for these a while back.

Here you go:

30b User Guide

30b Learning Modules

Regards,

Mark

Edited: 27 Jan 2011, 3:07 a.m.

Re: 30b Dead 5 Key

*Message #6 Posted by **Tim Wessman** on 27 Jan 2011, 9:36 a.m.,*
in response to message #4 by Jim Yohe

http://h10025.www1.hp.com/ewfrf/wc/manualCategory?lc=en&dlc=en&cc=us&product=4031712&lang=en&

TW

Re: 30b Dead 5 Key

*Message #7 Posted by **Mike Morrow** on 27 Jan 2011, 11:00 a.m.,*
in response to message #6 by Tim Wessman

I wish there was a source for replacement programming keyboard overlays. Mine looks terrible, since the overlay characters are printed on the the upper surface of the overlay and wear off extremely easily and readily. The characters begin to wear off even in the process of initially applying the overlay! I know others have experienced the same problem.

Better would be overlays that had the ink protected from exposure. I'm not an industrial design expert, but I'd suggest that having the ink UNDER the overlay plastic would be helpful.

Best would be to have the overlay actually a permanent part of the HP 30b keyboard at time of manufacture. The overlay info is very valuable for programming, but the overlay as made is very unsatisfactory.

Regardless of this gripe, I have been very happy with the HP 30b. An excellent and exciting design, I think. I love the calculator body design. (I've experienced no keyboard problems on mine as yet.)

Re: 30b Dead 5 Key

*Message #8 Posted by **Mark Harman** on 27 Jan 2011, 2:46 p.m.,*
in response to message #7 by Mike Morrow

I'm with you, Mike. The overlays are terrible in terms of ink quality. There are some printing processes that won't wear off that HP could use. It seems like these were printed on a laser printer or something. I think they need to use dye sublimation.

I have, at the time being, given up on using the overlay (after going through a replacement one) and have memorized the layout of the programming function set. I actually like the clean look without the overlay even though I agree with you that the programming nomenclature should be printed on the base of the keyboard, as the Black Scholes function is. However, HP wanted to keep things clean and non-confusing as possible for the majority of users who won't program. I was told this decision was based on input from marketing studies and financial educators.

I also agree with you regarding the overall design of the 30b. It really is a great calculator and I haven't had any problems with my keyboard, either. My opinion is that it the finest financial calculator on the market today. I think it is even better than a 12c or 17bII+ and it is certainly far beyond anything competitors offer.

Regards,

Mark

Edited: 27 Jan 2011, 3:12 p.m.

Re: 30b Dead 5 Key

*Message #9 Posted by **Walter B** on 27 Jan 2011, 3:52 p.m.,*
in response to message #8 by Mark Harman

> Quote:
>
> I actually like the clean look without the overlay even though I agree with you that the programming nomenclature should be printed on the base of the keyboard, as the Black Scholes function is. However, HP wanted to keep things clean and non-confusing as possible for the majority of users who won't program. I was told this decision was based on input from marketing studies and financial educators.

That's one major difference between financial and technical calculators known for years: financial people prefer such "non-confusing" designs while sci/tech people even accept and like a 32sii. Financial calcs are advertized being problem solvers while sci/tech calcs are tools. I won't speculate about root-causes here ...

Edited: 27 Jan 2011, 3:53 p.m.

Re: 30b Dead 5 Key

*Message #10 Posted by **Norman Dziedzic** on 31 Jan 2011, 3:04 p.m.,*
in response to message #3 by Tim Wessman

So far so good. Support said they will send out a replacement.

Re: 30b Dead 5 Key

*Message #11 Posted by **Norman Dziedzic** on 3 Feb 2011, 3:36 p.m.,*
in response to message #10 by Norman Dziedzic

Replacement arrived today. Kudos to HP Customer Care.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: HP 17BII Dropped!

*Message #1 Posted by **Csaba Tizedes (Hungary)** on 26 Jan 2011, 3:13 p.m.*

Hi Mike!

My 17BII was similar (without dropping). Ask "Számológép" Google Group member 'Dexter' at this topic: Calculator Hardware Malfunctions. He is a great hungarian calc-guru, he repaired my 17BII for free of charge. Maybe he will help to you via email or something similar way!

("Számológép" in English means "Calculator" - This is a very busy Google Group about calcs with 6-8-10 active members. (Számológép == Számoló gép == "A machine which is can calculate" ("Szám" == "Number", "gép" == "machine"))

Greets from Hungary!

Csaba (ZilogR)

Re: HP 17BII Dropped!

*Message #2 Posted by **Mike D** on 26 Jan 2011, 4:18 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

I defintely will.

Thanks so much,

Mike D

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: HP 17BII Dropped!

*Message #1 Posted by **Mike D** on 26 Jan 2011, 1:44 p.m.*

The main reason I wanted to know if someone had completed this repair was that it personally irritates me and I want to fix it. So if anyone reads this who has done it, please respond.

It is sound advice to find a cheap one on ebay, which I will look for.

I have tried pressing on the bezel and that does help but isn't a long term solution.

Thanks,

Mike D

Re: HP 17BII Dropped!

*Message #2 Posted by **Martin Pinckney** on 28 Jan 2011, 12:03 a.m.,*
in response to message #1 by Mike D

Mike,

I think pressing on the bezel was suggested as a diagnostic method to help isolate the cause of the problem, not as a solution.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: HP 17BII Dropped!

*Message #1 Posted by **Mike D** on 26 Jan 2011, 1:41 p.m.*

Thanks for the links. I will look into them. If anyone else has actually performed the repair, please advise.

Thanks,

Mike D

Edited: 26 Jan 2011, 1:44 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

No new scientific calculators from HP?

*Message #1 Posted by **Ivan Latorre** on 25 Jan 2011, 5:23 p.m.*

Is the 35s the latest RPN scientific calculator from HP? I bought it in summer 2007! No new scientific calculators from HP since then?

Re: No new scientific calculators from HP?

*Message #2 Posted by **Martin Pinckney** on 25 Jan 2011, 5:37 p.m.,*
in response to message #1 by Ivan Latorre

Correct. Two new business models with some scientific features (20b and 30b), and an upgraded 12c, but no scientifics. Unless you count the SmartCalc 300s, which is not HP-developed, but just a re-badged something-or-other.

People on here have been clamoring for a new HP scientific ever since 35s, the main reason being the real or perceived deficiencies of said model.

It's a popular topic.

Edited: 25 Jan 2011, 5:39 p.m.

Re: No new scientific calculators from HP?

*Message #3 Posted by **Michael de Estrada** on 25 Jan 2011, 7:42 p.m.,*
in response to message #2 by Martin Pinckney

I was in a Home Depot today to buy some tax software and compressed air dusters, and checked out the calculator rack. There were several HP business calculators, but not a single HP scientific calc. Meanwhile, there were 6 or so TI high end graphing calcs, and dozens of other lesser scientific calcs from other brands. It used to be that you'd find at least one or two HP scientific calcs there, but I guess the market has been lost to TI and others.

Correction: I meant Office Depot

Edited: 25 Jan 2011, 9:37 p.m. after one or more responses were posted

Re: No new scientific calculators from HP?

*Message #4 Posted by **Don Shepherd** on 25 Jan 2011, 7:54 p.m.,*
in response to message #3 by Michael de Estrada

I hope you mean Office Depot. I don't think Home Depot carries calculators. :)

Re: No new scientific calculators from HP?

*Message #5 Posted by **Eric Smith** on 25 Jan 2011, 8:07 p.m.,*

in response to message #4 by Don Shepherd

The Home Depot web site lists four calculators, but none are HP.

Re: No new scientific calculators from HP?

*Message #6 Posted by **Martin Pinckney** on 25 Jan 2011, 8:32 p.m.,*
in response to message #4 by Don Shepherd

> Quote:
>
> I don't think Home Depot carries calculators. :)

Actually, the stores here do carry the Calculated Industries dimensional calculators.

Re: No new scientific calculators from HP?

*Message #7 Posted by **Michael de Estrada** on 25 Jan 2011, 9:35 p.m.,*
in response to message #4 by Don Shepherd

Yes, I meant Office Depot. Home Depot went out of business here. Now we just have Lowes.

Re: No new scientific calculators from HP?

*Message #8 Posted by **Walter B** on 25 Jan 2011, 5:38 p.m.,*
in response to message #1 by Ivan Latorre

Sorry - no new scientific since then. HP focusses on financial calcs - must see a bigger market there or greater need since 2008 :-(

Re: No new scientific calculators from HP?

*Message #9 Posted by **John B. Smitherman** on 25 Jan 2011, 5:45 p.m.,*
in response to message #8 by Walter B

> Quote:
>
> HP focusses on financial calcs - must see a bigger market there or greater need since 2008 :-(

LOL. I guess that with the "Great Recession" HP felt the need to help the financial community with better high quality tools. ;-)

Regarding a new scientific... I would be satisfied with a better 35s.

Regards,

John

Re: No new scientific calculators from HP?

*Message #10 Posted by **Martin Pinckney** on 25 Jan 2011, 5:53 p.m.,*
in response to message #9 by John B. Smitherman

> Quote:

> Regarding a new scientific... I would be satisfied with a better 35s.

For me, that depends. I could live with ergonomic problems like the glare on the display, the odd (to me) display font, combined parenthesis key, and shifted STO function.

The bugs would presumably be fixed in any "better" 35s.

But the antiquated Solver I could not abide, even if everything else was improved.

Re: No new scientific calculators from HP?

*Message #11 Posted by **Paul Dale** on 25 Jan 2011, 5:55 p.m.,*
in response to message #9 by John B. Smitherman

> Quote:
>
> Regarding a new scientific... I would be satisfied with a better 35s.

I'd be very happy with a 35s that addressed the known bugs.

- Pauli

Re: No new scientific calculators from HP?

*Message #12 Posted by **Jim Yohe** on 25 Jan 2011, 8:52 p.m.,*
in response to message #11 by Paul Dale

Is there a bug list for the 42s?

Re: No new scientific calculators from HP?

*Message #13 Posted by **Martin Pinckney** on 25 Jan 2011, 10:04 p.m.,*
in response to message #12 by Jim Yohe

Excellent question! Apparently not very many. Searching this site brought up a few questions, but not many answers.

There is this thread for instance, but the URL given to Finseth does not work for me.

Re: No new scientific calculators from HP?

*Message #14 Posted by **Jim Yohe** on 25 Jan 2011, 11:10 p.m.,*
in response to message #13 by Martin Pinckney

Too bad that URL (http://www.finseth.com/~fin/hpdata/hp42s.html) at the end of that thread no longer works.

Re: No new scientific calculators from HP?

*Message #15 Posted by **Howard Owen** on 26 Jan 2011, 6:06 p.m.,*
in response to message #13 by Martin Pinckney

The page moved to here: http://www.finseth.com/hpdata/hp42s.php

Re: No new scientific calculators from HP?

*Message #16 Posted by **John B. Smitherman** on 25 Jan 2011, 10:33 p.m.,*
in response to message #12 by Jim Yohe

Jim, this is all that I'm aware of:

42s

Regards,

John

Re: No new scientific calculators from HP?

*Message #17 Posted by **Jim Yohe** on 25 Jan 2011, 11:11 p.m.,*
in response to message #16 by John B. Smitherman

Thanks John. Interesting long and detailed list. -Jim

Re: No new scientific calculators from HP?

*Message #18 Posted by **Martin Pinckney** on 25 Jan 2011, 11:29 p.m.,*
in response to message #16 by John B. Smitherman

Only two bugs? Incredible.

Re: No new scientific calculators from HP?

*Message #19 Posted by **Fred Lusk** on 26 Jan 2011, 12:18 a.m.,*
in response to message #18 by Martin Pinckney

Actually there are a couple more. When I bought my HP-42S in 1989, it came with a "Manual Update" page that described two stat bugs (I am using # in place of the Greek letter sigma):

[1] "If you have selected LIN# mode and execute LASTX after #+ or #-, you will get an incorrect result....This update describes a method to correct mistakes in statistical-data entry. This problem applies to executing LASTX after #+ or #- only in LIN# mode. The default is ALL# mode (see page 234)."

[2] "If you try to use the HP-42S power curve-fitting model to forcast a x-value as described on page 240, you will get an incorrect solution. This manual update provides a method you can use to get a correct solution. This problem applies only to the method for focasting an x-value within the power curve-fitting model. All other methodes for the curve-fitting and forcasting models (including forcasting y-values within the power model) are correct as described in the manual."

BTW, the solution for problem #2 was a little 7-step program.

The Update Identification for this page is as follows: Update Number: 1; Part Number: 00042=90042; Date: December 1988

If anyone needs a copy, drop me a line and I will email it to you. I vaguely recall sending a copy to Dave Hicks to post on the site, but haven't checked to see if it's there.

Fred

Edited: 26 Jan 2011, 12:19 a.m.

Re: No new scientific calculators from HP?

*Message #20 Posted by **Martin Pinckney** on 26 Jan 2011, 10:42 a.m.,*
in response to message #19 by Fred Lusk

Hi, Fred.

Good to hear from you again. Like hoping for a new scientific from HP, I am still hoping for a 42s revision to your Feet-Inches-Fractions program. {:-)

Re: No new scientific calculators from HP?

*Message #21 Posted by **Fred Lusk** on 28 Jan 2011, 8:47 p.m.,*
in response to message #20 by Martin Pinckney

Martin…

It's STILL on my To Do List. I have had very little time for programming the last several years. I actually have the update for the 41CX version of the program about 95% done--just need to resolve one issue where the physical machine and my emulators differ (IIRC one or the other, but not both, doesn't like the depth of my subroutine calls). After that, the 42S version requires only buiding the menus. I should have it done sometime before get men back on the moon, but hopefully sooner.

Fred

Re: No new scientific calculators from HP?

*Message #22 Posted by **Martin Pinckney** on 28 Jan 2011, 10:52 p.m.,*
in response to message #21 by Fred Lusk

Thanks!

Re: No new scientific calculators from HP?

*Message #23 Posted by **Mike Morrow** on 26 Jan 2011, 1:58 p.m.,*
in response to message #19 by Fred Lusk

My HP 42S with Rev. A firmware (2934Sxxxxx) has this Update 1 sheet with the manual.

Apparently the problems were corrected by Rev. C firmware on my two later HP 42S units (3328Sxxxxxx). The Edition 7 manual (January 1992) contains no caveats about these two issues.

I've never personally come across an HP 42S with the Rev. B firmware, but I'd bet that it was corrected also.

It is amazing that such capable and complex firmware as is found in the HP 42S has so few imperfections. What a great job by the HP team that was responsible for HP 42S issues two decades ago!

Edited: 26 Jan 2011, 2:00 p.m.

Re: No new scientific calculators from HP?

*Message #24 Posted by **Rav Walia** on 25 Jan 2011, 9:54 p.m.,*
in response to message #1 by Ivan Latorre

There hasn't been any new scientific calculators from HP and I'm fast beginning to think that we wont see any.

It's unfortunate, but I'm going to go and start looking at non HP scientific calculators and start to learn how to use a non RPN calculator.

My feeling is that if you want a scientific calculator it might be better to start looking at other companies, at least they 'appear' to be more active in producing new scientific calculators.

Edited: 25 Jan 2011, 10:26 p.m.

Re: No new scientific calculators from HP?

*Message #25 Posted by **Martin Pinckney** on 25 Jan 2011, 10:30 p.m.,*
in response to message #24 by Rav Walia

> Quote:
>
> ... I'm fast beginning to think that we wont see any... other companies, at least they 'appear' to be more active in producing new scientific calculators.

Hold on, there. Let's see, the 35s came out in 2007, right? The 33s in 2004? So after the demise of the Pioneers, we've had two about fours years apart. Meanwhile the progression of the larger 48/49/50 series has continued.

In the same time period HP has updated the 10b once, 17bii twice, the 12c, what, three times? But these are largely cosmetic changes, except increasing speed of 12c. But no real change in functionality, unless you allow for adding ALG to Platinum.

Granted, this is arguably more activity than for scientific, but the only *new* business calcs are 20b and 30b.

So I, for one, believe HP *is* working on a new scientific, and we are about due for one, perhaps as early as this summer.

Edited: 25 Jan 2011, 10:32 p.m.

Re: No new scientific calculators from HP?

*Message #26 Posted by **Jim Yohe** on 25 Jan 2011, 11:55 p.m.,*
in response to message #25 by Martin Pinckney

Hope your crystal ball is right! :-P

Re: No new scientific calculators from HP?

*Message #27 Posted by **Paul Gaster** on 26 Jan 2011, 11:33 a.m.,*
in response to message #26 by Jim Yohe

I hope for some new things too, but I'm not going to hold my breath. The 35s made sense for

multiple reasons. People complained loudly about the 33s, and with the 35th anniversary of the HP-35 the timing was right for the 35S.

I could see HP making a revision to the 35S to fix bugs, but to invest time and money for a new model...well, I just don't see it right now. Everyone wants a new 42s, but there is no anniversary coming up for that as far as I know. On the graphing side of things the 48GII was changed once already to add a USB port and equation library. I don't know how anyone could add more to the 50G, so that will probably be left alone too.

The 12C really needed the speed upgrade to make it competitive with the TI offerings, so that makes sense to me. Everyone seems to like the 30b so it should be stable, and the newest 10bII seems decent for a lower end financial calculator, so I don't see any changes there either.

TI calculators own the high school and college math class market, so maybe HP will focus on that for a while. Most of us here wouldn't want an algebraic calculator, we like our RPN, but that is a huge market. If HP could just get a better foothold it could mean a lot of extra cash for them.

Re: No new scientific calculators from HP?

*Message #28 Posted by **Don Shepherd** on 26 Jan 2011, 11:53 a.m.,*
in response to message #27 by Paul Gaster

Paul, don't look for HP to attempt to enter the education market. TI has a lock on that. TI calculators are the standard in the US education market, from elementary school through college. The textbook manufacturers write lessons specifically for TI graphing calculators. TI has a nationwide network of support and training people who offer training classes to teachers and special deals to school systems. The TI Nspire will eventually become the standard calculator in high schools and colleges (Casio Prizm notwithstanding). It would be economically foolish for TI to try to insert itself in that market at this point.

Not to mention, the TI-8x series of graphing calculators are fundamentally good products.

Re: No new scientific calculators from HP?

*Message #29 Posted by **Eric Smith** on 26 Jan 2011, 12:53 p.m.,*
in response to message #27 by Paul Gaster

Everyone wants a new 42s, but there is no anniversary coming up for that as far as I know.

HP usually does not time calculator introductions based on anniversaries. Although there have been "anniversary editions" before the 35s, they simply consisted of putting a special label on an existing calculator.

Whether a new 42s is introduced has nothing to do with anniversaries, and everything to do with how much engineering it would take and how well it would be projected to sell.

Not being an HP employee, this is of course only my opinion. As with most discussion of future products, those that speak don't know, and those that know don't speak.

Edited: 27 Jan 2011, 6:22 a.m.

Re: No new scientific calculators from HP?

*Message #30 Posted by **Martin Pinckney** on 26 Jan 2011, 1:26 p.m.,*
in response to message #27 by Paul Gaster

> Quote:
>
> Everyone wants a new 42s...

I want the functionality of the 42s and 27s all wrapped up into one neat package with the traditional HP look and feel, and only a few bugs.

Re: No new scientific calculators from HP?

*Message #31 Posted by **Ren** on 26 Jan 2011, 12:56 p.m.,*
in response to message #1 by Ivan Latorre

Gee, why should they make new ones?

Science has reached its zenith, no new discoveries are to be made.

As The Sun and Earth are now middle-aged, everything is downhill from here!

Except for personal/national/global debt, which will continue to increase until the end. Therefore mankind has a need for financial calculators that have more significant digits.

B^)

Ren

dona nobis pacem

Re: No new scientific calculators from HP?

*Message #32 Posted by **Martin Pinckney** on 26 Jan 2011, 1:21 p.m.,*
in response to message #31 by Ren

> Quote:
>
> Therefore mankind has a need for financial calculators that have more significant digits.

Can't we teach the financial types to use the EEX key?

Re: No new scientific calculators from HP?

*Message #33 Posted by **Walter B** on 26 Jan 2011, 1:33 p.m.,*
in response to message #32 by Martin Pinckney

> Quote:
>
> Can't we teach the financial types to use the EEX key?

Except Katie: No!

Re: No new scientific calculators from HP?

*Message #34 Posted by **gene wright** on 26 Jan 2011, 1:56 p.m.,*
in response to message #33 by Walter B

Hey, I know how to use the EEX key too!

Re: No new scientific calculators from HP?

*Message #35 Posted by **Mark Harman** on 26 Jan 2011, 2:48 p.m.,*
in response to message #33 by Walter B

I likewise know how to use the EEX key...

Re: No new scientific calculators from HP?

*Message #36 Posted by **Katie Wasserman** on 26 Jan 2011, 3:08 p.m.,*
in response to message #35 by Mark Harman

I'm only a financial person by accident I was suppose to be a scientific person then later a computer person, but fell off the wagon, twice! :(

I think that financial calculations should be done in logarithmic space. It used to be that a million <insert your preferred currency here> was a lot of money, not that long ago it was a billion, now it's trillion.

Re: No new scientific calculators from HP?

*Message #37 Posted by **Michael de Estrada** on 26 Jan 2011, 3:40 p.m.,*
in response to message #36 by Katie Wasserman

Being an engineer, I have little need for a financial calculator. However, I really love my old HP-12c, because in so many ways it works like a scientific calculator and has so many of the basic features and capabilities. Not only is it RPN and does it have EEX, but it also has all the power and log functions as well. It even has linear regression, which is universally used by engineers, scientists and financiers. That's all that is needed for many engineering calculations.

Re: No new scientific calculators from HP?

*Message #38 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Jan 2011, 3:30 p.m.,*
in response to message #36 by Katie Wasserman

For my country economy, logarithmic is not enough, but complex currency may do. Our brazilian neighbors name REAL their currency, sometimes argentinian currency works like an imaginary number; so our incipient common market (Mercosur) need a currency with REAL and IM parts for sure.

Re: No new scientific calculators from HP?

*Message #39 Posted by **db (martinez, ca.)** on 27 Jan 2011, 10:25 p.m.,*
in response to message #38 by Andrés C. Rodríguez (Argentina)

Andres; So since it's not REAL, and not not an imaginary number, what is the Chilean Unidad de Fomento? Maybe a complex number? Carrying this on we could define the Boliviano as a random number and the Sucre as "funny money". BTW: I understand the concept of the UF. It's very Chilean: let's vote our way to equality, act our way to decency, and now calculate our way to fairness. It might work there. It's never been tried on a national scale in North America. - db

Re: No new scientific calculators from HP?

*Message #40 Posted by **Marcus von Cube, Germany** on 26 Jan 2011, 5:59 p.m.,*
in response to message #32 by Martin Pinckney

That would not help because the trillion $$ debts must be computed to the cent. ;)

We need big integers for that, not floating point.

Re: No new scientific calculators from HP?

*Message #41 Posted by **Andrés C. Rodríguez (Argentina)** on 27 Jan 2011, 3:32 p.m.,*
in response to message #40 by Marcus von Cube, Germany

There are public budgets with more than 10 significant digits... I wonder who may care about the cents when spending 1.000.000.000 dollars!

Re: No new scientific calculators from HP?

*Message #42 Posted by **rav walia** on 26 Jan 2011, 1:25 p.m.,*
in response to message #1 by Ivan Latorre

Reading all that's been posted in the past asking for a new 42s or new 15c's and multiple threads like this that have been posted here and on other forums, I'm going to have to look elsewhere for my next scientific calculator.

I had to use an algebraic calculator last week and after too many years using rpn, it was painful. However, the sooner I start the sooner I'll become used to it.

The way the situation is now, I couldn't in good faith recommend to any students/colleagues that learning RPN would be a good way to go.

Even if four years is the time between scientific calculators, which I don't think it is, I don't think that's a good strategy in the modern market.

Edited: 26 Jan 2011, 1:37 p.m.

Re: No new scientific calculators from HP?

*Message #43 Posted by **Walter B** on 26 Jan 2011, 1:42 p.m.,*
in response to message #42 by rav walia

Is anyone of HP reading/listening? Here it goes, a significant part of your market ... :(Don't you complain later! >:-(

Re: No new scientific calculators from HP?

*Message #44 Posted by **Martin Pinckney** on 26 Jan 2011, 2:17 p.m.,*
in response to message #43 by Walter B

Well, Tim is, but refer to Eric's post above:

> Quote:
>
> As with most discussion of future products, those that speak don't know, and those that know don't speak.

Re: No new scientific calculators from HP?

*Message #45 Posted by **Egan Ford** on 26 Jan 2011, 5:15 p.m.,*
in response to message #1 by Ivan Latorre

> Quote:
>
> Is the 35s the latest RPN scientific calculator from HP? I bought it in summer 2007! No new scientific calculators from HP since then?

Didn't you hear? Money is the new science (and religion). Get a 30b, it has a good balance of finance, classical scientific functions, and stats. Everything you need in this age of consumerism. :-)

Re: No new scientific calculators from HP?

*Message #46 Posted by **Patrick Rendulic** on 27 Jan 2011, 6:17 a.m.,*
in response to message #45 by Egan Ford

The biggest bug of the HP-35s is the problem with the missed keystrokes. That's why the calculator is USELESS for my professional use.

Re: No new scientific calculators from HP?

*Message #47 Posted by **Jim Yohe** on 27 Jan 2011, 2:58 p.m.,*
in response to message #46 by Patrick Rendulic

Wait ... a missed keystroke is a human error. ;-)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New HP12C that uses 2 batteries, and is blazing fast.

*Message #1 Posted by **jwhowa** on 24 Jan 2011, 9:54 p.m.*

I was in my local Staples tonight, and ran across an HP12C that had a rather large battery door, so I was curious. I opened it, and found that it took TWO CR2032 batteries, not one, so I then did a standard 30year mortgage TI calculation and to my great surprise, there was no Running, Running, Running... Just an instant answer.

This thing is WAY faster than my 1990 era 12c, and even faster than my Platinum edition from a few years ago.

Staples was out of stock on the calculator or I would have bought one on the spot.

I called HP to see if I buy one from their store will I get this one, and the guy on the support call basically told me I was an idiot, that no such thing existed. BUT I HAVE PICTURES! :)

So here is my question...

Has anyone else seen one of these, and do you know where I can get one?

Other than the batteries and the blazing speed, this thing looks exactly like my 1990's era 12c. It doesn't have the paren keys on the sto/rcl buttons that the Platinum calc does.

Any ideas?

Thanks! -Jim

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #2 Posted by **Don Shepherd** on 24 Jan 2011, 9:57 p.m.,*
in response to message #1 by jwhowa

You saw what is informally known as the 12c+, based on the ARM processor. It's been around for the last two years and is identified by its large battery door, as you noted. Search the forum for "12c+" and you will find a bunch of info about it.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #3 Posted by **Eric Smith** on 24 Jan 2011, 9:59 p.m.,*
in response to message #2 by Don Shepherd

And note that if you find a 12C Platinum with two coin cells, it is apparently not based on the ARM platform, and does not run faster than the single-cell 12C Platinum.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #4 Posted by **jwhowa** on 24 Jan 2011, 10:11 p.m.,*
in response to message #2 by Don Shepherd

Any idea where to get ahold of one? Buying online, of course, tons of people sell the 12C but I can't find any seller marketing a 12C+. And of course, I can't see the battery door when I buy online. :)

To Tim, who said it might be a fake, I will be happy to post pictures I took of it if you like, I have the serial number and battery compartment of the demo unit on the shelf at Staples.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #5 Posted by **Tim Wessman** on 24 Jan 2011, 10:59 p.m.,*
in response to message #4 by jwhowa

Nah, I was just pulling your leg. I actually work for HP and make calculators. :-)

It was more a comment on the usual reaction people on the internet tend to have on anything, regardless of how well documented it is.

OT - is there any way to have a signature in this forum added after each post?

TW

Edited: 24 Jan 2011, 11:02 p.m.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #6 Posted by **John B. Smitherman** on 24 Jan 2011, 11:16 p.m.,*
in response to message #5 by Tim Wessman

Tim, I'm curious. Other than the user's postings at hpmuseum where is the new 12c documented?

John

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #7 Posted by **Tim Wessman** on 25 Jan 2011, 1:12 a.m.,*
in response to message #6 by John B. Smitherman

Nowhere really. The are identical part numbers as the old one (same product - transparent to the end user. . .) so according to HP it is still the same 12C.

The new manual has the testing information about the old test system removed from it since the old test system menu isn't there, but according to the marketing/ordering system, it is still the same 12c.

The 12c+ is an emulated version of the original 12c code. Provided nobody finds any more emulation issues, there is no difference between them except battery life being shorter. I think most people are ok with that since your calculations are 100-150 times faster.

TW

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #8 Posted by **Katie Wasserman** on 25 Jan 2011, 12:04 p.m.,*
in response to message #7 by Tim Wessman

Quote:

> old test system menu isn't there
>
> Tim,
>
> This is curious. Does that mean that the firmware that fixes the 4 power-on tests isn't in the distribution channel? It was fixed about 18 months ago and its history is all documented on this forum.
>
> -Katie

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #9 Posted by **Tim Wessman** on 24 Jan 2011, 10:06 p.m.,*
in response to message #1 by jwhowa

I think it was probably a fake. . .

Shopped?

TW

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #10 Posted by **John B. Smitherman** on 24 Jan 2011, 10:11 p.m.,*
in response to message #1 by jwhowa

I believe that Eric from hpcalc.org can hook you up.

Regards,

John

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #11 Posted by **jwhowa** on 24 Jan 2011, 10:23 p.m.,*
in response to message #10 by John B. Smitherman

Thank you John, I just bought one from there! :)

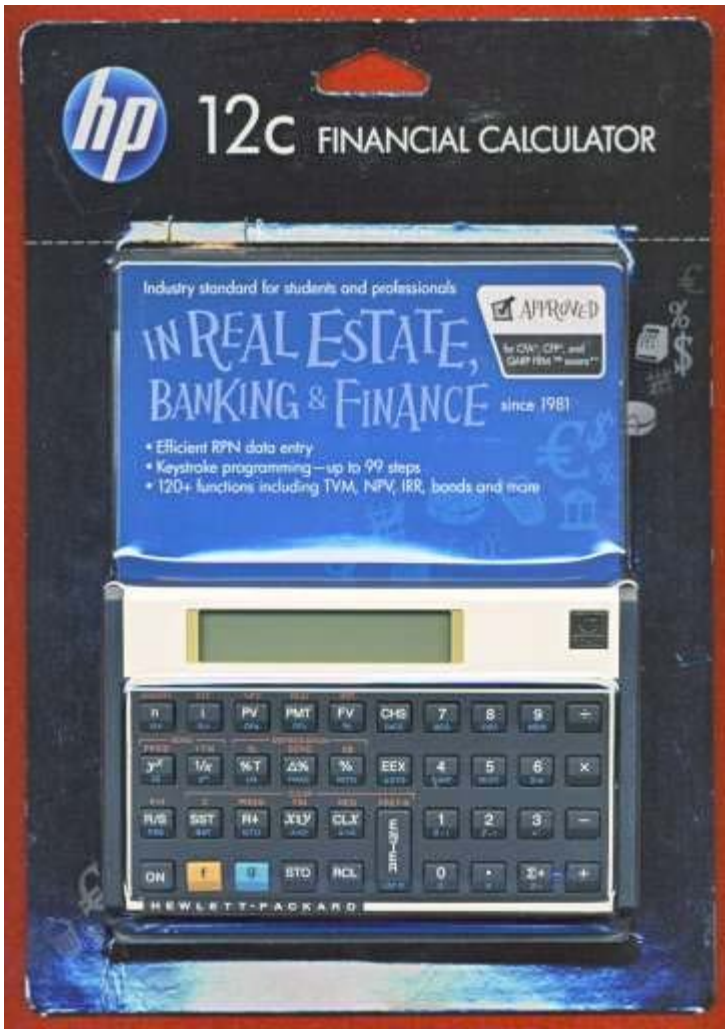
Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #12 Posted by **Allen** on 24 Jan 2011, 10:12 p.m.,*
in response to message #1 by jwhowa

I agree.. I LOVE the new 12c.. It's quality and speed match any other Financial Calc HP has ever made- IMHO.

If you're looking for a dual battery model, avoid the big-box online stores like Amazon, Tiger Direct, etc, unless you can buy one you can actually put your hands on. Auction sites might be an option. Regretably, few of the sellers know the difference- especially if HP does not, and HP has the nasty habit lately of issuing several completely different calculators under the same ABA part number.

Watch for one packaged thusly with the blue book behind the calculator in a black package:



Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #13 Posted by **Mike Morrow** on 25 Jan 2011, 12:29 a.m.,*
in response to message #12 by Allen

> Quote:
>
> I LOVE the new 12c.. It's quality and speed match any other Financial Calc HP has ever made- IMHO.

I doubt that.

The recent HP 30b is the speed king of *all* handhelds...ever. It is a financial machine, but with far better scientific support than any of these never-ending re-issues of the tired old HP-12C. In that respect, the HP 30b performs the Savage Benchmark ten times faster than even the HP 50G. It also does NOT have the pointlessly awkward landscape layout of the HP-12C series, a great plus in and of itself alone. It's also a lot less expensive for a lot more features.

(Yes...I own several HP-12C varieties, my first I purchased back when it was still being made in the USA, more than 25 years ago.)

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #14 Posted by **Katie Wasserman** on 25 Jan 2011, 12:14 p.m.,*

in response to message #13 by Mike Morrow

> Quote:
>
> > Quote:
> >
> > I LOVE the new 12c.. It's quality and speed match any other Financial Calc HP has ever made- IMHO.
>
> I doubt that.

I agree with Allen completely.

The 12C+ is in fact faster than the 30b at some things, using the cash-flow memory in particular is about twice as fast. For simple loops the 30b is the faster machine by about the same margin. (Look around this forum for more comments and testing on this.)

-Katie

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #15 Posted by **Mike Morrow** on 27 Jan 2011, 12:32 p.m.,*
in response to message #14 by Katie Wasserman

But how fast does the HP 12C+ do the old 2500-loop Savage Benchmark?

Whoops...that's right...the HP-12 series isn't very good at things requiring trignonometric calculations. :-)

My serious question is really one that, due to my not being especially oriented to financial calculations, I'm not skilled well enough to know the answer even though I have some HP-12Cs and one HP 30b:

What number-processing advantage does the HP 12C have over the HP 30b, even when the discussion is limited to areas that are strictly financial? In other words, what things financial can the HP 12C handle that the HP 30b can't? It appears to me that the features of the HP 30b exceed those of the HP-12C, include much better scientific function support, added to the HP 30b being much less expensive ($50 vs. $95 at Office Depot stores). In short, why would one choose any HP 12C now that the HP 30b is available?

Edited: 27 Jan 2011, 12:33 p.m.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #16 Posted by **Tim Wessman** on 27 Jan 2011, 12:45 p.m.,*
in response to message #15 by Mike Morrow

>In short, why would one choose any HP 12C now that the HP 30b is available?

Because it is a 12c?

TW

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #17 Posted by **Paul Gaster** on 27 Jan 2011, 2:21 p.m.,*
in response to message #16 by Tim Wessman

Yes, there are still some CFA, actuary, etc tests that only allow certain calculators.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #18 Posted by **Martin Pinckney** on 27 Jan 2011, 2:47 p.m.,*
in response to message #15 by Mike Morrow

This is indeed a good question. Tim's answer implies that the reason is either reputation, recognition, tradition, or a combination thereof. The HP website has changed, but if I remember correctly, the 12c used to be touted as more "advanced" than the 30b. At least they do charge more for the 12c.

Interestingly, the 20b seems to have been dropped.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #19 Posted by **Katie Wasserman** on 27 Jan 2011, 4:28 p.m.,*
in response to message #15 by Mike Morrow

> Quote:
>
> What number-processing advantage does the HP 12C have over the HP 30b, even when the discussion is limited to areas that are strictly financial?

Some of the TVM function are faster on the 12C+ but they are unlikely to be used in a program loop. More to the point, you'll find almost any program that needs arrays is faster on the 12C+ than on the 30b. In both machines arrays are only possible using the cash flow registers (or data registers on the 30b which are just another name for the shared memory structure).

Try writing some programs and you'll discover why this is so.

-Katie

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #20 Posted by **Ernst Fueloep** on 27 Jan 2011, 4:18 a.m.,*
in response to message #13 by Mike Morrow

Are there two (or more?) versions of the HP-30B too? Like the HP-12C?

Or is every HP-30B a very fast one with two batteries?

Regards, Ernst

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #21 Posted by **Katie Wasserman** on 27 Jan 2011, 10:46 a.m.,*
in response to message #20 by Ernst Fueloep

There's only one version of the HP-30b, at least from a hardware perspective. I don't know if different firmware versions are out there or not. Even so, they are all likely to run at the same, very

fast speed (unless some optimizations are added to a later firmware version).

Edited: 27 Jan 2011, 4:29 p.m.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #22 Posted by **Don Shepherd** on 24 Jan 2011, 10:12 p.m.,*
in response to message #1 by jwhowa

You can turn this model into a hex calculator.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #23 Posted by **Keith Midson** on 25 Jan 2011, 1:15 a.m.,*
in response to message #1 by jwhowa

Whoohooo! I just checked all my 12C's and i've got one too! I didn't even know. I have a collection of pretty much every 12C version (9 total: oldest 1982, newest 2011) and recently purchased a 12C Platinum from TAS without even noticing the dual batteries. I had assumed it was just a newer version of the 12C-platinum anniversary edition that I already had (which only has one battery).
I checked the speed against the older (and also the much older) 12C's and yes it's quick.
Cheers, Keith

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #24 Posted by **Jeff O.** on 25 Jan 2011, 7:53 a.m.,*
in response to message #23 by Keith Midson

Keith,
Do you have a 12C with two 2032 batteries, or a 12C Platinum with two 2032 batteries? As Eric mentioned in this thread, the 12C Platinum with dual batteries does not have the arm processor and is no faster than the earlier 12C Platinum Anniversary Edition. It is faster than the old 12C.

Jeff

edited to reflect Walter's post below

Edited: 25 Jan 2011, 12:57 p.m. after one or more responses were posted

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #25 Posted by **Walter B** on 25 Jan 2011, 12:31 p.m.,*
in response to message #24 by Jeff O.

FYI, you find said post here d8-)

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #26 Posted by **Keith Midson** on 25 Jan 2011, 5:08 p.m.,*
in response to message #24 by Jeff O.

Oh ... it's a Platinum. So we live in a world where a 12C can be faster than a 12C-Platinum.
It does beg the question "where is the 15C+"? ...

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #27 Posted by **Martin Pinckney** on 25 Jan 2011, 5:23 p.m.,*
in response to message #26 by Keith Midson

> Quote:
>
> It does beg the question "where is the 15C+"? ...

Don't start *that* again!

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #28 Posted by **Katie Wasserman** on 25 Jan 2011, 5:56 p.m.,*
in response to message #27 by Martin Pinckney

Virtual sales rate of the 15C+ is about 150 units per month!

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #29 Posted by **Walter B** on 26 Jan 2011, 2:39 a.m.,*
in response to message #28 by Katie Wasserman

> Quote:
>
> Virtual sales rate of the 15C+ is about 150 units per month!

That's selling virtual calcs for virtual dollars only :-/
As mentioned in another thread, AFAIK HP (whoever in particular) doesn't think the tech/scientific community will pay the effort. Throughput in business/finance is obviously higher - though it may contain lots of virtual dollars, but they seem to materialize in HP's pockets at least. Real tech/sci dollars can't do that trick :-(

Edited: 26 Jan 2011, 2:43 a.m.

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #30 Posted by **Alex Mark (Greece)** on 26 Jan 2011, 3:25 a.m.,*
in response to message #26 by Keith Midson

> Quote:
>
> Oh ... it's a Platinum. So we live in a world where a 12C can be faster than a 12C-Platinum.

And it is 10USD cheaper?!?

Re: New HP12C that uses 2 batteries, and is blazing fast.

*Message #31 Posted by **Keith Midson** on 26 Jan 2011, 4:19 a.m.,*
in response to message #30 by Alex Mark (Greece)

Yes I know I just bought one of Eric at hpcalc.org! He said "here I go months without selling them, and now a bunch of people want them all of a sudden"! Must be this thread ...

New HP12C that uses 2 batteries, and is blazing fast.

[Return to Index | Top of Index]

Go back to the main exhibit hall

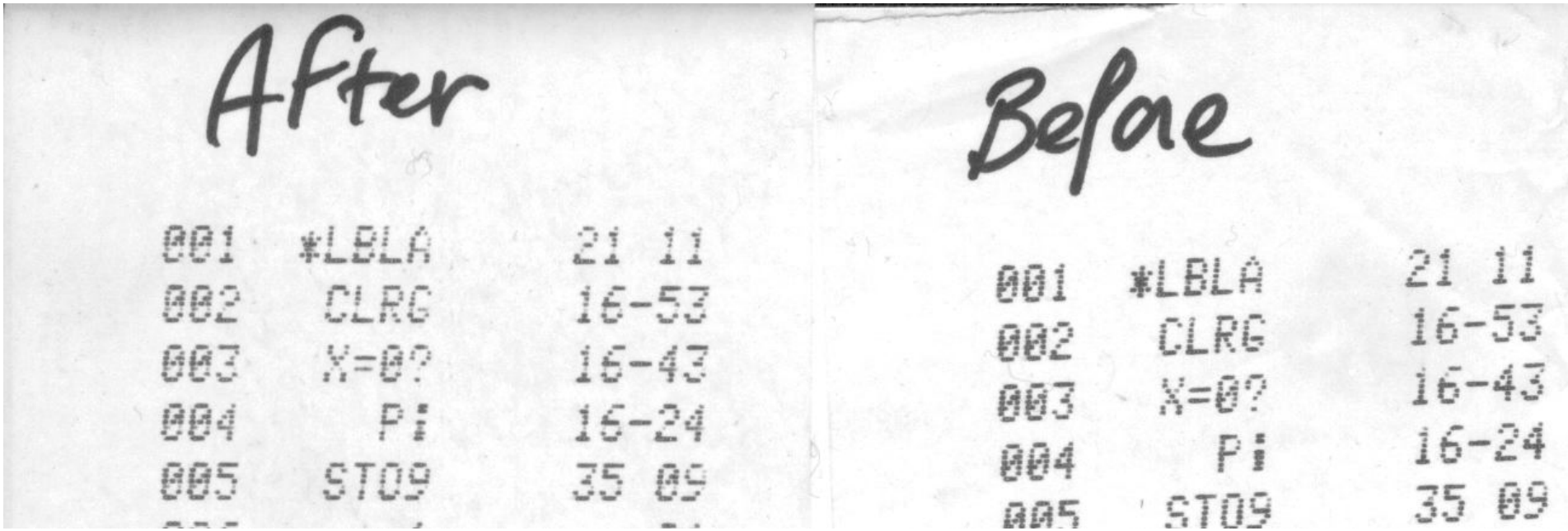
HP Forum Archive 20

[Return to Index | Top of Index]

Re: Printing quality on HP-97

*Message #1 Posted by **Christophe Dubreuil** on 24 Jan 2011, 5:43 p.m.*

Here is the scan , but in reality the difference is more importnat than on the scan : The printing before i opened the HP-97 is a lot darker than after.



Hope somebody can help me.

Thanks

Christophe Dubreuil

Re: Printing quality on HP-97

*Message #2 Posted by **Ignazio Cara (Italy)** on 25 Jan 2011, 3:35 a.m.,*
in response to message #1 by Christophe Dubreuil

Hi Christophe, if the paper is the same and you haven't take apart the printer or swap the printer PCB with another one, it's very strange. If my eyes are still good, you are loosing one resistor of the thermal printer head, the third from the bottom. You should measure each resistor from the edge of the flat cable that is connected to the printer's PCB. The value of each resistor should be about 11 ohms. If you have one spare printer PCB, try to swap it on the printer. Let me know after you have done this series of checks.

Regards

Ignazio

Re: Printing quality on HP-97

*Message #3 Posted by **Christophe Dubreuil** on 25 Jan 2011, 3:48 a.m.,*
in response to message #2 by Ignazio Cara (Italy)

It is the same paper ... I havent touched the printer part of th HP-97 (or unwillingly). I agree that one line is missing (but not entirely , there are very small dots where there shoul be normal ones) , i'll check the resistor , but as i said all the printing is lighter also.

Regards

Christophe

Re: Printing quality on HP-97

*Message #4 Posted by **Katie Wasserman** on 25 Jan 2011, 12:30 p.m.,*
in response to message #3 by Christophe Dubreuil

> Quote:
>
> but as i said all the printing is lighter also.

I don't know why this changed but there's and easy and documented fix for this in the service manual.

> Quote:
>
> 2-31. The remaining comparators in U4, along with the resistor network in U5, produce the variable duty-cycle signal STB, which is nominally 10 kHz. The STD signal will change its duty-cycle to keep its rms value constant and thus print intensity constant. By changing the value of R8, the nominal duty-cycle of STD can be changed to adjust print intensity.

There's no way to tell what the current value of R8 is without looking. Each HP-97 was shipped from the factory with a selected value, they list values from 34.8K to 196K in the service manual, but they've all 1% resistors.

-Katie

Re: Printing quality on HP-97

*Message #5 Posted by **Christophe Dubreuil** on 31 Jan 2011, 3:14 a.m.,*
in response to message #4 by Katie Wasserman

I finally went thru the service manual ... i checked the various things i could (resistances and voltages) and all seems OK , i guess it may be one of the transistors that is weak (explaining meybe the light line).

I should get an oscilloscope ro further investigate.

But as i pointed out ... it happened after i opened it for fixing the magnetic card reader ... it was perfectly working before ...i should have inadvertably modified something.

I am a bit reluctant to change R8 and modify it. I guess i will use it as it is, and if it get worst i then will proceed further.

Thanks to the community.

Christophe Dubreuil

Re: Printing quality on HP-97

*Message #6 Posted by **Ignazio Cara (Italy)** on 31 Jan 2011, 10:25 a.m.,*
in response to message #5 by Christophe Dubreuil

Hello Christophe, I live in Italy, and I can send you a quad transistor 1858-0044, for free. Let me know your address if you are interested.

Regards

Ignazio

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Green LED HP 45?

*Message #1 Posted by **Les Bell** on 23 Jan 2011, 9:26 p.m.*

> Quote:
>
> This may end up being the "$9000 Red - err - Green Dot(s).

Only - "only"! - $1,275.00. Definitely a collector's piece, though.

Best,

--- Les
[http://www.lesbell.com.au]

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Green LED HP 45 revisited

*Message #1 Posted by **Martin Pinckney** on 23 Jan 2011, 8:04 p.m.*

Ended much less than I would have guessed, at $1275.

Re: Green LED HP 45 revisited

*Message #2 Posted by **Mark Hardman** on 23 Jan 2011, 8:54 p.m.,*
in response to message #1 by Martin Pinckney

I hope someone captures the Seller's story and images and posts them to the Memories or Artcles forums. It would be a shame to lose this small gem of history.

Re: Green LED HP 45 revisited

*Message #3 Posted by **Martin Pinckney** on 23 Jan 2011, 10:03 p.m.,*
in response to message #2 by Mark Hardman

I did email Dave Hicks about the auction, and would not be surprised if other forum members did the same.

I also publicly (via the forum) asked the seller to send pictures to the museum.

No reply in either case, though.

Re: Green LED HP 45 revisited

*Message #4 Posted by **Matthias Wehrli** on 24 Jan 2011, 12:54 a.m.,*
in response to message #3 by Martin Pinckney

Sorry, didn't get a mail ;) Please let's wait untill the unit has reached it's new owner.

Re: Green LED HP 45 revisited

*Message #5 Posted by **Martin Pinckney** on 24 Jan 2011, 12:11 p.m.,*
in response to message #4 by Matthias Wehrli

> Quote:
>
> ...it's new owner.

You, I assume?

Re: Green LED HP 45 revisited

*Message #6 Posted by **Namir** on 24 Jan 2011, 9:41 p.m.,*
in response to message #5 by Martin Pinckney

Congratulation Matthias. Gives me a reason to visit you next time I am in your country!

:-)

Namir

Re: Green LED HP 45 revisited

*Message #7 Posted by **Matthias Wehrli** on 25 Jan 2011, 12:31 a.m.,*
in response to message #6 by Namir

You're welcome

Re: Green LED HP 45 revisited

*Message #8 Posted by **Matthias Wehrli** on 25 Jan 2011, 12:32 a.m.,*
in response to message #5 by Martin Pinckney

Surprised?

Re: Green LED HP 45 revisited

*Message #9 Posted by **Michael de Estrada** on 23 Jan 2011, 8:56 p.m.,*
in response to message #1 by Martin Pinckney

There was only one serious bidder. It takes at least two to get the price up. For all we know, the winning bidder offered much more. Last year there was a very clean an complete HP 81 up for auction on TAS. They are very rare and it's one of the very few vintage calcs missing in my collection. Still, I am not willing to pay a lot for a business model and already own an HP 46, so my bid was modest, as were all the competing bids. Late in the auction with only seconds to go a bid came in from Europe, and it sold for a little over $300. No doubt the actual bid was much higher, but we'll never know. OTOH, the next time a complete non-fake HP 35 Red Dot shows up on TAS, I think we'll see a lot higher price, becasue there are more people willing to pay for such an item.

Re: Green LED HP 45 revisited

*Message #10 Posted by **Ignazio Cara (Italy)** on 24 Jan 2011, 2:32 a.m.,*
in response to message #1 by Martin Pinckney

I know the name of the winning bidder! He's an european collector, perhaps the bigger. Stop.

Ignazio

Re: Green LED HP 45 revisited

*Message #11 Posted by **Matthias Wehrli** on 25 Jan 2011, 12:34 a.m.,*
in response to message #10 by Ignazio Cara (Italy)

I call it like Homer Simpson: "I'm not BIG, I'm just a bit to small for my weight"

Re: Green LED HP 45 revisited

*Message #12 Posted by **Marcus von Cube, Germany** on 25 Jan 2011, 4:11 a.m.,*
in response to message #11 by Matthias Wehrli

Herzlichen Glückwunsch, Matthias!

You'll tell us more about your new gem as soon as it has arrived, wont you?

Marcus

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

transistor equivalence

*Message #1 Posted by **Alberto Fenini** on 23 Jan 2011, 5:45 p.m.*

Dear All,
I have recently opened two topics, one was for the classic power supply and the other was for the restoration of an HP67.
In both cases, I need to replace some of the transistors present on the boards.
Jaques, but I guess is not the only one, was able to find a cross reference from the classic power supply's transitors, into some ECG-XXX models.
For example : the 0393-338 can be replaced with a ECG-189
which has several equivalents that can be found for example here :
Semiconductor Cross Reference Search
or even better here :
Semiconductor Cross Reference
Does anyone know how it can be done for the rest of the transistors ?
On the HP67 I'm working on, there are :
0413-393 which is the one between the cathode and anode driver
0414-668 (qty two) on the back side of the same pcb
0124-094 on the same side, right corner.

Thank you very much for any help provided, take care Alberto

Re: transistor equivalence

*Message #2 Posted by **Katie Wasserman** on 23 Jan 2011, 6:13 p.m.,*
in response to message #1 by Alberto Fenini

Take a look here.

I have the vague recollection of reading how HP codes some of their transistors: add a leading zero on the last 3 digits and ignore the leading 4 digits.

So a 0413-393 would translate to: XXXX-0393 and you'd find that this is is equivalent to a 2N3330

However it's more than possible that I'm totally wrong about this, so perhaps someone else can jump in here.

Re: transistor equivalence

*Message #3 Posted by **Alberto Fenini** on 23 Jan 2011, 7:18 p.m.,*
in response to message #2 by Katie Wasserman

ciao Katie,
thank you very much for the pdf document, it is very very nice,
if the original HP part number is known it works like a charm.
But I did some tries adding the leading zero to the second part of the item read from the transistor and it doens't always work.

For instance, if you take 0414-668, and search for 0668 you will find :
1853-0668 01698 TIPP115
1855-0668 02883 BS170
1820-0668 * TTL IC
the third is obviuosly wrong, since it's an IC and we are looking for a transistor.
So that the question could also be, does anyone has a complete list of the HP part numbers including the used transitors for a given model ??

thanks again, Alberto

Re: transistor equivalence

*Message #4 Posted by **Tony Duell** on 24 Jan 2011, 4:16 a.m.,*
in response to message #3 by Alberto Fenini

Some general information on HP part numbers :

HP assembly part numbers (like PCBs, etc) have part numbers consisting of 2 5-digit groups, the first groups seems to be the model number of the instrument that first used that assembly, with leading zeros added. So the CPU Control PCB in an HP98x0 is a 09810-66513 (it was first used in the HP9810 calculator).

HP component part numbers consist of 2 4-digit groups. The first group gives the type of component. There are tables in a few HP instrument manuals, but not all.... Anyway, for transistors :

1850-xxxx = Germanium PNP

1851-xxxx = Germanium NPN

1853-xxxx = Silicon PNP

1854-xxxx = Silicon NPN

1855-xxxx = FET

1858-xxxx = Transistor array

To save space on small transistor packages, sometimes only the last digit of the first group and the 'significant digits' of the second group are printed on the package. So if you find one marked 4-471, that's an 1854-0471 silicon NPN transistor.

I wonder if one of the groups of digits on the OP's transsitors is actually a date code.

Re: transistor equivalence

*Message #5 Posted by **Joel Setton (France)** on 24 Jan 2011, 12:39 p.m.,*
in response to message #1 by Alberto Fenini

Folks,

Here's my best shot at it:

0413-393 would be an 1853-0393, and 041 is the date code

0414-668 would be 1854-0668, date code 041

0124-094 would be 1854-0094, date code 012.

I haven't found any of them in the various cross-reference listings I have, maybe someone else has some information on these part-numbers?

I hope this helps!

Joel Setton

Re: transistor equivalence

*Message #6 Posted by **Ignazio Cara (Italy)** on 24 Jan 2011, 2:09 p.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto, I can give you only this little help. From the very good pages of Jack Laporte I can report:

1854-0094 NPN Silicon ---> PN3646

1854-0550 NPN Silicon ---> 2N3904

1853-0020 PNP Silicon ---> 2N3702

Nothing to do for the other (HP 67/97):

1854-0668 switcher

1854-0071 regulation

1853-0395 ??

Take a look at this link

Good evening.

Ignazio

Edited: 24 Jan 2011, 2:12 p.m.

Re: transistor equivalence

*Message #7 Posted by **Alberto Fenini** on 24 Jan 2011, 4:42 p.m.,*
in response to message #6 by Ignazio Cara (Italy)

Thanks everybody !!!
Now I only need the time to go buying this stuff
and see if I can make any serious progress on my two open projects
Thanks again, Alberto

[Return to Index | Top of Index]

transistor equivalence

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Happy National Pie Day

*Message #1 Posted by **Mark Hardman** on 23 Jan 2011, 1:31 p.m.*

Flipping through radio stations this morning I caught a brief sound bite on NPR about today being National Pi Day. After a few minutes of background processing, my brain raised an exception that Pi <> 1.23.

A quick Google search cleared up my confusion. Today is actually National Pie Day.

http://wftv.zipscene.com/events/view/2835597-american-pie-council-national-pie-day-2011-orlando

Lest Walter acuse me of being jingoistic, I must point out that this is National Pie Day in the United States. I'm sure other principalities celebrate pie on their own appropriate schedules.

Let the Pie Are Squared jokes begin.

Re: Happy National Pie Day

*Message #2 Posted by **Walter B** on 23 Jan 2011, 3:22 p.m.,*
in response to message #1 by Mark Hardman

Enjoy your pies! AFAIK there's no similar day here - we just enjoy our varying *Kuchen* and *Torten* all year round whenever we can get a slice or more d:-)

Re: Happy National Pie Day

*Message #3 Posted by **Martin Pinckney** on 23 Jan 2011, 7:11 p.m.,*
in response to message #1 by Mark Hardman

> Quote:
>
> Let the Pie Are Squared jokes begin.

Would Walter know what cornbread is? {;-)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Font for HP-25 "Continuous Memory" logo

*Message #1 Posted by **Steve Lidie** on 23 Jan 2011, 10:02 a.m.*

I'm putting the finishing touches on my iPhone HP-25 simulator. The App preserves state so it's really a "continuous memory" variant. On the face of the real device the words Continuos Memory are written in some script font, which I cannot determine / duplicate .. the closest I have come up with is Snell Roundhand. Does anyone know of the actual font HP used, or maybe a better approximation?

Many thanks, Steve

Re: Font for HP-25 "Continuous Memory" logo

*Message #2 Posted by **Dave Shaffer (Arizona)** on 23 Jan 2011, 12:17 p.m.,*
in response to message #1 by Steve Lidie

There are web sites that purport to identify fonts. (I say "purport" because on one or two tries, they haven't been very succesful for me.)

That said, do a google/yahoo search on font identification. Some, like this one work from an image example. If you can get an image to submit, you might try it.

Re: Font for HP-25 "Continuous Memory" logo

*Message #3 Posted by **steve lidie** on 23 Jan 2011, 1:30 p.m.,*
in response to message #2 by Dave Shaffer (Arizona)

What will they think of next? It never occurred to me that a web site might identify the font, thank you for the idea and link. So far no luck with machine identification, mostly because - I assume - it's a script font and not separate characters. I'll keep trying, though, thanks.

Re: Font for HP-25 "Continuous Memory" logo

*Message #4 Posted by **Andrés C. Rodríguez (Argentina)** on 23 Jan 2011, 4:23 p.m.,*
in response to message #1 by Steve Lidie

This may sound weird and unrespectful for the venerable HP-25C but, just as a humble opinion, I suggest to avoid that fancy calligraphic "Continuous Memory" badge; or at least make an option to display it or not. It is reasonable that, at those old times, HP needed to stress this new feature that much, and to so devise that exaggerated statement. I would had preferred that they just put the 25C mark in the traditional, sober label, and let the knowing people tell the difference.

By the way, I would also prefer that HP doesn't use faceplate space on the current calculators with labels as "Scientific Calculator", "Business Calculator", and so. I understand the need to put such legends on the box or blister; but I cannot think of a valid reason to have it all the time on the device face.

Just an opinion, and I know it goes against historic accuracy. See you soon at the App Store, my iPod Touch 4G already has a lot of HP calc simulators, but there is always room for one more; and the HP-25 was my

first, unforgettable, HP calculator.

Best regards

Edited: 23 Jan 2011, 4:24 p.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP-25 displays "Error" when trying to input numbers

*Message #1 Posted by **Harald** on 22 Jan 2011, 5:44 p.m.*

After several years of continuous use my HP 25 seems to have died today. I've used it on a daily basis and since it was connected to the power cord I very rarely turned it off in the last couple of years. But today it had a surprise in store for me. Everything seems to work fine. The stack works fine, I can add, multiply, divide,subtract and probably lots more. The only problem is, entering numbers is quite tricky :) As soon as I press any of the number keys it displays "Error". The shifted functions on those keys do the same. But I can input numbers by pressing "Sigma +" for example. And after entering them most calculations appear to work fine to. When I switch to programing mode, it looks like there is something in the program memory that doesn't belong there.

I have tried swapping the keyboard, but that didn't change anything. Any ideas on what happened here?

Regards, Harald

Re: HP-25 displays "Error" when trying to input numbers

*Message #2 Posted by **Michael de Estrada** on 22 Jan 2011, 9:14 p.m.,*
in response to message #1 by Harald

The Woodstock series calculators have very fragile charging systems, and can be seriously damaged if operated with the AC charger without a good battery installed. If the batteries were worn out or not making good electrical contact with the calculator terminals, ICs can be damaged or ruined. In any event, the AC charger should only be used to charge batteries, preferably with the calculator turned off. Frankly, I'm surprised your calc has lasted this long turned on continuously with the AC adapter connected to it.

Re: HP-25 displays "Error" when trying to input numbers

*Message #3 Posted by **Harald** on 23 Jan 2011, 6:30 a.m.,*
in response to message #2 by Michael de Estrada

Well, I never connected it to the charger without a battery installed. Also I disconnected the calculator from the cord and carried it around when I needed to, and therefore replaced the battery every now and then when it was getting weak. I have tested the battery in my 29C now and it lasted for two hours. I am well aware of the woodstocks not being able to operate without a battery and I don't think in my case this is the problem. Nevertheless it most likely is on of the ICs that has been damaged, but the question is which one and why? Thanks for your answer!

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

OT - Adding Roll & pitch to sat dish pointing

*Message #1 Posted by **Giuseppe Marullo** on 22 Jan 2011, 6:34 p.m.*

Hi all, I don't know where to look so I am asking for some assistance here.

A friend of mine asked help to develop a automagic satellite dish tracker (stationary).

Basically, we put togheter compass and GPS data to move a dish automatically to receive HotBird.

We have tested the basic formulas and they seems okay against the tables provided for latitude and longitude.

Now I would like to add pitch and roll of the truck in the equations to account for small angles that could lead to errors.

I have roll&pitch from 2 accelerometers in degrees resolution -+1 degrees increment (or I could access raw accelerometer data).

These are the formulas we are using:

PosLat = (2*M_PI*PosLat) / 360.0; // truck latitude to radians PosLong = (2*M_PI*PosLong) / 360.0; // truck longitude to radians SatLong = (2*M_PI*SatLong) / 360.0; // sat longitude to radians

v1 = 6.612 * cos(PosLat)*cos(PosLong-SatLong)-1;

v2 = 6.612 * sqrt(1-(pow(cos(PosLat),2)) * pow((cos(PosLong- SatLong)),2));

SatElevation = atan(v1/v2); SatAzimuth = M_PI + atan(tan(PosLong-SatLong) / sin(PosLat)); SatPolarization = -atan(sin(PosLong-SatLong) /tan(PosLat));

clear();

SatElevation = (SatElevation * 360.0) / (2*M_PI); // sat elevation in deg SatAzimuth = (SatAzimuth * 360.0) / (2*M_PI); // sat azimuth in deg

How could I modify the formulas to account for pitch & roll of the truck? Could you eventually point me to any site that could explain to me easily how to achieve this?

TIA.

Giuseppe Marullo

giuseppe.marullonospam@iname.com PS: remove nospam to reply

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

41 MCODE: PANAME ROM Bugs

*Message #1 Posted by **Ángel Martin** on 22 Jan 2011, 6:49 a.m.*

While looking at the PANAME source code (in search of exportable functions, I confess it) I noticed a few weird-looking code lines that may well be plain bugs.

They're on Port_Dependent calls within the same quad, which in theory should read like:

379
03C
addr

but they read like:

375
03C
addr

Did they have something else in mind or it's just an error? (if so, it's quite repetitive!)

This occurs in the following addresses:

Lower ROM: E16, E20
Upper ROM: 0A6, 0AF, 768, 783, 980, B53, B5E.

Edited: 22 Jan 2011, 6:49 a.m.

Re: 41 MCODE: PANAME ROM Bugs

*Message #2 Posted by **J-F Garnier** on 22 Jan 2011, 12:37 p.m.,*
in response to message #1 by Ángel Martin

My Emu41 shows the code as :

```
8E16  375 03C       GSUBNC =GOSUBH
```

GOSUBH is a variant of the GOSUB entry point:

```
=GOSUBH
0FDD  260           SETHEX
=GOSUB
0FDE  1B0           C=STK
0FDF  330           CXISA
etc...
```

J-F

Re: 41 MCODE: PANAME ROM Bugs

*Message #3 Posted by **Ángel Martin** on 22 Jan 2011, 2:51 p.m.,*

in response to message #2 by J-F Garnier

Thanks J-F. Pointing to the SETHEX line may not be of any help, as the address won't be properly calculated with the CPU in DEC mode!

So perhaps a superfluous step, or at worst an error (if SETHEX is not done prior to the call).

Re: 41 MCODE: PANAME ROM Bugs

*Message #4 Posted by **Håkan Thörngren** on 22 Jan 2011, 3:43 p.m.,*
in response to message #3 by Ángel Martin

The two word GOSUB instruction (not label) does not care if the mode is in hex or dec, it works fine. The GOSUB routine (which picks up the third word) needs to be in hex mode so the alternative entry point ensures hex mode in case it was in dec.

> Quote:
>
> Thanks J-F. Pointing to the SETHEX line may not be of any help, as the address won't be properly calculated with the CPU in DEC mode!
>
> So perhaps a superfluous step, or at worst an error (if SETHEX is not done prior to the call).

Re: 41 MCODE: PANAME ROM Bugs

*Message #5 Posted by **Ángel Martin** on 22 Jan 2011, 4:19 p.m.,*
in response to message #4 by Håkan Thörngren

So effectively calling GOSUBH saves one code line, as there's no need to call SETHEX before it (as it happens with GOSUB). Nice trick...

Re: 41 MCODE: PANAME ROM Bugs

*Message #6 Posted by **Geir Isene** on 22 Jan 2011, 5:06 p.m.,*
in response to message #5 by Ángel Martin

Go document :)

Re: 41 MCODE: PANAME ROM Bugs

*Message #7 Posted by **J-F Garnier** on 22 Jan 2011, 5:28 p.m.,*
in response to message #1 by Ángel Martin

Just wondering, do you have the *original* Paname source files, possibly with symbols and comments? It could be very interesting.

And BTW, there are bugs in the Paname module, related to the RGXTR and RGORD functions...

J-F

Re: 41 MCODE: PANAME ROM Bugs

*Message #8 Posted by **Ángel Martin** on 23 Jan 2011, 7:50 a.m.,*

in response to message #7 by J-F Garnier

No, I don't have any original source code for any module, or the OS either - I wish! Imagine, all the dark corners documented and explained in plain light... mmm.

What I have is "blueprints", result of disassembling plus uncountable hours of code-smithing going over the listing. Some are posted at TOS (basically my own modules), and others are still being worked on. I did the CCD and the AECROM, the PANAME is next.

These are EXCEL documents, with hyperlinks to navigate between calls and subroutines. It's quite friendly in my opinion, albeit not everybody's cup of tea.

If you're interested I'll send you a copy once it's "done".

Cheers, 'AM

Re: 41 MCODE: PANAME ROM Bugs

*Message #9 Posted by **Geir Isene** on 23 Jan 2011, 12:32 p.m.,*
in response to message #8 by Ángel Martin

Me too. It will go up on the MCODE wiki :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Green LED HP 45?

*Message #1 Posted by **Michael de Estrada** on 22 Jan 2011, 12:49 a.m.*

I just saw this on TAS. This is something for a true aficionado of HP memorabilia more than technology, and I can see its value in that context. Myself, I'm pretty much done collecting, and only occasionally check on TAS for old calcs. Hope the rest of you are doing well.

Michael

Re: Green LED HP 45?

*Message #2 Posted by **Martin Pinckney** on 22 Jan 2011, 3:47 p.m.,*
in response to message #1 by Michael de Estrada

Michael!

It's been a few weeks since we heard from you. No?

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP's best scientific calculator?

*Message #1 Posted by **Jim Yohe** on 21 Jan 2011, 10:54 p.m.*

What would have been HP's best scientific calculator that can easily be carried around in ones shirt pocket? I'm kind of liking what I see in the 42s.

Re: HP's best scientific calculator?

*Message #2 Posted by **Eric Smith** on 21 Jan 2011, 11:49 p.m.,*
in response to message #1 by Jim Yohe

The 48/49/50 series (and the 38/39/40 series) are too big for a shirt pocket, so the contenders are arguably the 41C series, 15C, 32S/32SII/33s/35s, the 42S, and the 28C/28S.

If you need a way to save and load programs, the 41C series is your only choice, though it verges on being too big for a shirt pocket. The 42S is compatible with the 41C series, and better in some ways, but does not have any means of external input other then the keyboard.

The 28C/28S are the only compact RPL scientifics. They also lack external input, but have more powerful symbolic capabilities than any of the other listed models. They may be too wide for some shirt pockets.

For compact size, the 15C, 42S, and 32S/32SII/33s/35s are the best choices. I personally prefer the 15C, as it mostly avoids menus and such. You do have to remember the codes for matrix operations and conditionals, or look at the reference printed on the back of the calculator. However, the 15C also has the least available memory.

Re: HP's best scientific calculator?

*Message #3 Posted by **Michael de Estrada** on 22 Jan 2011, 2:57 p.m.,*
in response to message #2 by Eric Smith

My HP-15c is my all-time favorite. I used it steadily for 25 years as my carry-around calc, leaving other bigger calcs like my HP-48SX sitting stationary on my desk. A modern version with a faster processor and more storage memory would be awesome, but I think that's a pipe dream and is hard to justify given iPhone apps.

Re: HP's best scientific calculator?

*Message #4 Posted by **bill platt** on 22 Jan 2011, 5:38 p.m.,*
in response to message #2 by Eric Smith

I never thought about it that way but wow! To think that the last machine HP made, which is pocket sized and I/O, dates to 78 and out of production in 90. Crazy!

I think the sharps were way better from a pocketable I/O standpoint. I wish I had realized that they existed, back in the 80s. Then I might never have been so HP though...

Re: HP's best scientific calculator?

*Message #5 Posted by **Daniel Oliva** on 22 Jan 2011, 12:44 a.m.,*
in response to message #1 by Jim Yohe

Buy a large pocket shirt, put a 50g inside. I know many distingish between graphic and scientific, but in the end graphic calculators are also scientific. Hence the best HP scientific is the 50g in a large pocket shirt.

Re: HP's best scientific calculator?

*Message #6 Posted by **bill platt** on 22 Jan 2011, 5:39 p.m.,*
in response to message #5 by Daniel Oliva

That's like carrying a boat anchor around. That's a much stronger statement than a pocket protector for sure;-)

Re: HP's best scientific calculator?

*Message #7 Posted by **db (martinez, ca.)** on 22 Jan 2011, 12:45 a.m.,*
in response to message #1 by Jim Yohe

i agree with eric, and would add that if you're going to use several programs , and/or use them infrequently; get a 41 or 42. those have the ability to prompt and label output. otherwise, the 15 is the smallest, the 33 is usually the cheapest and the 35s is the best combination of easy to get into and cheap.
on the other hand; eric has *made* some pretty good RPN calcs.

Re: HP's best scientific calculator?

*Message #8 Posted by **Eric Smith** on 22 Jan 2011, 2:59 a.m.,*
in response to message #7 by db (martinez, ca.)

The best is yet to come! :-)

Re: HP's best scientific calculator?

*Message #9 Posted by **Ángel Martin** on 22 Jan 2011, 5:26 a.m.,*
in response to message #8 by Eric Smith

> Quote:
>
> The best is yet to come! :-)

Do you know something we don't??

To me only one thing would tip a 41CX, and that'd be... a faster one - Now this may be just around the corner :)

Edited: 22 Jan 2011, 5:28 a.m.

Re: HP's best scientific calculator?

*Message #10 Posted by **Eric Smith** on 22 Jan 2011, 4:07 p.m.,*
in response to message #9 by Ángel Martin

> Quote:

> Do you know something we don't?

Yes I do!

I was commenting on db's statement that I have "*made* some pretty good RPN calcs" (in partnership with Richard Ottosen).

Re: HP's best scientific calculator?

*Message #11 Posted by **Jim Yohe** on 22 Jan 2011, 12:57 p.m.,*
in response to message #8 by Eric Smith

Give us a hint ... if you can. ;-) All that statement does is make us curious.

Re: HP's best scientific calculator?

*Message #12 Posted by **db (martinez, ca.)** on 22 Jan 2011, 2:03 p.m.,*
in response to message #8 by Eric Smith

Don't tease me now.

Re: HP's best scientific calculator?

*Message #13 Posted by **Walter B** on 22 Jan 2011, 1:58 a.m.,*
in response to message #1 by Jim Yohe

I share your feelings for the 42S. In addition to the points the previous posters made: If you want to get the 42's function set plus data & program I/O plus real speed, load Free42 on your PDA or iPhone. It may even be worthwhile getting a cheap PDA for this. The only drawback is the lack of real keys.

BTW, carrying a 50g in your shirt pocket may turn you asymmetric d;-)

And FYI: Pauli & me are working on a 30b repurposing project to convert that speedy banker's gadget into a real scientific. Thomas C. joined us for porting the code on the 30b.

Edited: 22 Jan 2011, 2:07 a.m.

Re: HP's best scientific calculator?

*Message #14 Posted by **Jim Yohe** on 22 Jan 2011, 1:10 p.m.,*
in response to message #13 by Walter B

Looking forward to seeing what you come up with ever since we saw a great mockup of what you showed the keyboard "should" look like earlier in "Thanks to our numerous supporters ...".

Re: HP's best scientific calculator?

*Message #15 Posted by **Geir Isene** on 22 Jan 2011, 5:04 a.m.,*
in response to message #1 by Jim Yohe

HP-41CX

Because of what is already mentioned. And because of new developments like the Clonix/NoV modules and the MLDL and the PIL-Box. And because more is coming.

Re: HP's best scientific calculator?

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 22 Jan 2011, 6:31 a.m.,*
in response to message #1 by Jim Yohe

HP-41CL

Re: HP's best scientific calculator?

*Message #17 Posted by **Geir Isene** on 22 Jan 2011, 3:32 p.m.,*
in response to message #16 by Massimo Gnerucci (Italy)

Oh yes.

Re: HP's best scientific calculator?

*Message #18 Posted by **Thomas Okken** on 24 Jan 2011, 12:26 a.m.,*
in response to message #16 by Massimo Gnerucci (Italy)

> Quote:
>
> HP-41CL

I'm not familiar with that -- is it an actual product? I tried googling it but that didn't turn up anything useful.

Re: HP's best scientific calculator?

*Message #19 Posted by **Walter B** on 24 Jan 2011, 1:16 a.m.,*
in response to message #18 by Thomas Okken

I assume the family will continue then with 41CC, 41CD, 41CM d8-)

Re: HP's best scientific calculator?

*Message #20 Posted by **Monte Dalrymple** on 24 Jan 2011, 1:33 p.m.,*
in response to message #18 by Thomas Okken

Strictly speaking it isn't the "HP"-41CL:

41CL Calculator page

Re: HP's best scientific calculator?

*Message #21 Posted by **Massimo Gnerucci (Italy)** on 24 Jan 2011, 4:59 p.m.,*
in response to message #20 by Monte Dalrymple

> Quote:
>
> Strictly speaking it isn't the "HP"-41CL

It's just the **L** that's not from HP... ;-)

Greetings,
Massimo

Re: HP's best scientific calculator?

*Message #22 Posted by **Thomas Okken** on 24 Jan 2011, 9:39 p.m.,*
in response to message #20 by Monte Dalrymple

So, it's vaporware, then? Not to belittle anything as cool as a project to resurrect the HP-41, but since we were talking about "the best scientific HP calculator", I figured we'd at least be talking about calculators that, well, exist. :-)

Re: HP's best scientific calculator?

*Message #23 Posted by **Monte Dalrymple** on 24 Jan 2011, 10:01 p.m.,*
in response to message #22 by Thomas Okken

Well, _one_ exists. It's on the desk in front of me. Then there's the testbed one in the other room.

Re: HP's best scientific calculator?

*Message #24 Posted by **Thomas Okken** on 24 Jan 2011, 10:51 p.m.,*
in response to message #23 by Monte Dalrymple

So, it's like the Mercedes-Benz C111 then. It's cool, one or two of them exist, but you can't buy one. Still sounds like a prototype, i.e. something that has no place in a discussion of "best X product". In a discussion of "coolest X prototype", sure.

Mind you, I don't mean to complain. Just wanted to make sure what's what.

Re: HP's best scientific calculator?

*Message #25 Posted by **Mike Morrow** on 24 Jan 2011, 11:03 p.m.,*
in response to message #23 by Monte Dalrymple

I want my vintage calculators to be 100 percent vintage and with the original guts inside the box. What's the point otherwie?

The only thing unique about the several HP-41 units I've owned since 1980 (including the perfect condition HP-41CX a few feet away from me now) is that they all had the best keyboard "feel" of any calculator that I've ever used. But the display is, compared to anything available for the past quarter century, very terribly limited.

I wouldn't change a thing on the originals.

Re: HP's best scientific calculator?

*Message #26 Posted by **db (martinez, ca.)** on 25 Jan 2011, 1:22 a.m.,*
in response to message #25 by Mike Morrow

Hi Mike;
I know very little about the NEWT, but i did sit next to Monte a few years ago at an HHC conference in San Jose where i got some early info. He also gave a presentation about it. One of it's minor positive points (major to me) is that this will resuscitate a lot of "brain dead" 41s that have no problems other than a zapped or otherwise damaged processor. Add that to giving buyers access to 100 4k ROMs who's manuals are available on the Museum DVD (as Diego's work has done) and you have a real users tool. Of

course, i don't have one yet but i believe that we will be able to re-write the ROMs, which will be a major win in the surveyors rom for instance. A couple of missing global labels there (local labels only) made it impossible to access key points in the programs to store data by point number and to enter horizontal curve data as it is usually found. We'll see about that. I don't care one way or the other about the speed enhancement.

The NEWT may give us capabilities we needed 30 years ago, and do that on calcs that are dead anyway. I know you program, for real uses. Keep an open mind on this, You may like it. - db

BTW: I do see the limitations in the 14/17 segment screen in that one can't display most lower case characters, but they are just sooooo pretty.

Re: HP-41CL manual

*Message #27 Posted by **Marcus von Cube, Germany** on 25 Jan 2011, 3:42 a.m.,*
in response to message #23 by Monte Dalrymple

I opt for one of the first production units if the price is right.

BTW, I checked the manual and found a few typos:

> Quote:
>
> This project never could have succeeded **with** Warren Furlow’s excellent Web site

The setup of Hepax RAM pointers seems to be buggy (too much copy&paste):

> Quote:
>
> ```
> ALPHA 808FE8-000D ALPHA
> XEQ ALPHA YPOKE ALPHA
> ALPHA 809FE7-000C ALPHA
> XEQ ALPHA YPOKE ALPHA
> ALPHA 809FE8-000E ALPHA
> XEQ ALPHA YPOKE ALPHA
> ALPHA 80AFE8-000D ALPHA
> XEQ ALPHA YPOKE ALPHA
> ALPHA 80AFE8-000F ALPHA
> XEQ ALPHA YPOKE ALPHA
> ALPHA 80BFE8-000E ALPHA
> XEQ ALPHA YPOKE ALPHA
> ```

The **8** should read **7** in both cases.

I'm missing a chapter about or even some ready to use code for "standard configurations" like Hepax development or HP-IL setup with all the necessary modules in place. A feature to save and restore named configurations would be very handy, too. I guess, most users will create focal code to accomplish this but a standardized method seems to be more appropriate.

Greetings from Germany
Marcus

Re: HP-41CL manual

*Message #28 Posted by **Monte Dalrymple** on 25 Jan 2011, 1:35 p.m.,*
in response to message #27 by Marcus von Cube, Germany

Marcus, thank you for pointing these out.

As far as named configurations, that is way beyond my programming skills, sorry.

Re: HP's best scientific calculator?

*Message #29 Posted by **Gerson W. Barbosa** on 24 Jan 2011, 10:14 p.m.,*
in response to message #22 by Thomas Okken

A working prototype was presented here last year:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=168952

Re: HP's best scientific calculator?

*Message #30 Posted by **John Robinson** on 25 Jan 2011, 1:10 a.m.,*
in response to message #20 by Monte Dalrymple

Hey Monte,

I had heard of the CL before, and this does interest me. Any idea of when they might be ready to sell ?, and the sell price ??

Thanks John

Re: HP's best scientific calculator?

*Message #31 Posted by **Monte Dalrymple** on 25 Jan 2011, 1:37 p.m.,*
in response to message #30 by John Robinson

Beta units end of February. $225-$250.

Re: HP's best scientific calculator?

*Message #32 Posted by **John B. Smitherman** on 22 Jan 2011, 10:24 a.m.,*
in response to message #1 by Jim Yohe

The 50g is the most comprehensive and complex scientific/graphing calculator on the market. With it comes a very steep learning curve and so because of this I'm not sure it's the best.

Of the current HP scientific offerings the 33s/35s have a fairly complete set of function for most users. Both are easier to learn to use than the 50g.

Using an old analogy of the longbow and crossbow - both have their uses and skills required for mastery but when used properly both are very effective.

Regards,

John

Re: HP's best scientific calculator?

*Message #33 Posted by **Xavier A. (Brazil)** on 22 Jan 2011, 2:01 p.m.,*

in response to message #32 by John B. Smitherman

Never put a HP calculator into a shirt pocket, or 'the HP's best scientific calculator' will be a dead one.

Re: HP's best scientific calculator?

*Message #34 Posted by **Jim Yohe** on 22 Jan 2011, 3:30 p.m.,*
in response to message #33 by Xavier A. (Brazil)

Why is that? Might fall out?

Re: HP's best scientific calculator?

*Message #35 Posted by **Xavier A. (Brazil)** on 22 Jan 2011, 5:19 p.m.,*
in response to message #34 by Jim Yohe

Strange, I'm not able to find this thread.

I read it here in MoHP (as rules for keeping safe old calcs) and since that time, I don't keep any calc in any pocket anymore.

Edited: 23 Jan 2011, 5:03 a.m.

Re: HP's best scientific calculator?

*Message #36 Posted by **Jim Yohe** on 23 Jan 2011, 2:08 p.m.,*
in response to message #35 by Xavier A. (Brazil)

Actually I never keep my calcs in my shirt pocket either but if I needed to temporarily it's nice to be able to slip it in there until I can find a safe place to carefully put it down. Better in my shirt pocket than my pants pocket and forget about then sit down and break something.

Re: HP's best scientific calculator?

*Message #37 Posted by **Eric Smith** on 22 Jan 2011, 4:09 p.m.,*
in response to message #32 by John B. Smitherman

A steep learning curve is a **good** thing. If the learning curve was shallow, it would take a very long time to learn to use it.

Re: HP's best scientific calculator?

*Message #38 Posted by **Walter B** on 22 Jan 2011, 4:39 p.m.,*
in response to message #37 by Eric Smith

A steep learning curve is a good thing to get to an achievable next level fast. If said level is too high, however, without any intermediate steps before, you may fail reaching it on said steep curve at all. Compare to mountaineering, mountain biking, etc. It all depends on the level gap in relation to the learner's energy. IIRC we had this topic recently already.

Edited: 22 Jan 2011, 4:41 p.m.

Re: HP's best scientific calculator?

*Message #39 Posted by **John B. Smitherman** on 22 Jan 2011, 6:30 p.m.,*
in response to message #38 by Walter B

Here's a visual of trying to climb the 50g mountain...

The view from the summit is spectacular but there are dead bodies littering the trail.

John

Edited: 22 Jan 2011, 6:32 p.m.

Re: HP's best scientific calculator?

*Message #40 Posted by **Jim Yohe** on 22 Jan 2011, 8:20 p.m.,*
in response to message #39 by John B. Smitherman

LOL

Re: HP's best scientific calculator?

*Message #41 Posted by **Walter B** on 23 Jan 2011, 6:11 a.m.,*
in response to message #39 by John B. Smitherman

I guess the c|:-o guy on the left is shouting: "Yes you can!" or "Steep curves are good for you!" d;-)

Re: HP's best scientific calculator?

*Message #42 Posted by **Thomas Okken** on 24 Jan 2011, 9:50 p.m.,*
in response to message #37 by Eric Smith

> Quote:
>
> A steep learning curve is a **good** thing. If the learning curve was shallow, it would take a very long time to learn to use it.

That's only true if you assume you have guaranteed forward motion. :-)

In the real world as I know it, steep learning curves are a **bad** thing, where people just get stuck and end up suffering a lot of needless frustration, usually caused by poor documentation. My favorite example is **vi**, which is an excellent text editor, but which also causes untold frustration... not because it is badly designed, but because most tutorials don't bother to **explain** its design. I suspect that the HP-50g suffers from the same problem. Apple's products also have a bad history in this regard (speaking from a programmer's perspective, not a user's...)

Re: HP's best scientific calculator?

*Message #43 Posted by **Eric Smith** on 24 Jan 2011, 10:01 p.m.,*
in response to message #42 by Thomas Okken

Are you using something other than time as the X axis of the learning curve, then?

Re: HP's best scientific calculator?

*Message #44 Posted by **Thomas Okken** on 24 Jan 2011, 10:33 p.m.,*
in response to message #43 by Eric Smith

I am thinking of the "learning curve" as a mountain you have to climb. As long as the grade is shallow enough, everyone can scale it, and some will do so more quickly than others. As you make it steeper, getting up becomes harder, and some people will not be able to make any progress at all once the grade gets too steep.

As long as it is possible to keep the grade shallow, we should do so. Civilization is not about bragging rights about who makes it up to the top, it is about making it possible for as many people to make it up there as we can.

What's *your* idea of the X axis of the learning curve?

EDIT: Referring to my previous post, "documentation" is "making the grade shallower". Note that I'm not advocating "dumbing down"; the mountain of knowledge will be as tall as it is regardless of what anyone will do, but that doesn't mean we can't do anything to make it easier to get up there. It is possible to understand the wheel without being forced to reinvent it.

Edited: 24 Jan 2011, 11:03 p.m.

Re: HP's best scientific calculator?

*Message #45 Posted by **Garth Wilson** on 25 Jan 2011, 12:08 a.m.,*
in response to message #44 by Thomas Okken

I guess the learning curve was not steep at all on my 41cx and 71. When they arrived (the 41cx a year or two ahead of the 71), I just started at the beginning of each manual and read through to the end, and when I was done, I felt like I knew the machine quite well, and yet I never got to the "hard part." OTOH, the manual that came with my 50g was just about worthless, so the 50g sits in a drawer, unused.

Re: HP's best scientific calculator?

*Message #46 Posted by **Eric Smith** on 25 Jan 2011, 1:09 a.m.,*
in response to message #44 by Thomas Okken

Knowledge on the Y axis, and time on the X axis. At some point the curve will approach a horizontal asymptote, which hopefully will be at a Y coordinate corresponding to the level of knowledge you want.

Re: HP's best scientific calculator?

*Message #47 Posted by **Thomas Okken** on 27 Jan 2011, 1:51 a.m.,*
in response to message #46 by Eric Smith

Hmmm, well... that's what I was afraid you meant, but with that interpretation, the learning curve might as well be vertical, that way we'd all learn everything instantly. Which, in the real world, would translate to not having any form of education, instruction, manuals, textbooks, etc., at all -- either you spontaneously "get it", or you lose.

Re: HP's best scientific calculator?

*Message #48 Posted by **Eric Smith** on 27 Jan 2011, 3:05 a.m.,*
in response to message #47 by Thomas Okken

No, that would be a nearly flat learning curve, because no matter how long you flail away at it, you never learn enough to be productive. As t approaches infinity, y stays near zero.

Re: HP's best scientific calculator?

*Message #49 Posted by **Martin Pinckney** on 27 Jan 2011, 9:06 a.m.,*
in response to message #48 by Eric Smith

I'm tired of this constant bickering over learning curves. Apparently understanding the meaning of learning curves has a [steep] [flat] learning curve.

[;-)

Re: HP's best scientific calculator?

*Message #50 Posted by **Eric Smith** on 27 Jan 2011, 7:29 p.m.,*
in response to message #49 by Martin Pinckney

I think all righthtinking people in this country are sick and tired of being told that ordinary, decent people are fed up in this country with being sick and tired. I'm certainly not! And I'm sick and tired of being told that I am.

-- Monty Python

Re: HP's best scientific calculator?

*Message #51 Posted by **Ken Shaw** on 25 Jan 2011, 12:29 p.m.,*
in response to message #44 by Thomas Okken

Excellently put.

Re: HP's best scientific calculator?

*Message #52 Posted by **Egan Ford** on 22 Jan 2011, 3:38 p.m.,*
in response to message #1 by Jim Yohe

A virtual one. Consider a fine emulator for your phone. I use Free42 mostly. But have just about every other virtual HP as well, including the very capable 49g.

If you really need to crunch a lot of numbers periodically throughout the day and a virtual HP just doesn't cut it then I'd have to throw in my vote for the 15C (followed by the 42S). The 15C is the only HP I've actually put in my shirt pocket (on the very rare occasions I actually have a shirt pocket).

I see some votes for the 50g. You are going to need a holster for that. One of the HHCers is always sporting one. Along with a backup 50g, camera, phone, PDA, tool-set, soldering iron, slide-rule (just in case), a pocket ref, a fork, etc... in other holsters. Kinda looks like Nerd Vader's utility belt. :-)

Edited: 22 Jan 2011, 3:39 p.m.

Re: HP's best scientific calculator?

*Message #53 Posted by **Jim Yohe** on 23 Jan 2011, 2:55 p.m.,*

in response to message #52 by Egan Ford

I have and been using Free42. Most definitely an amazing simulator and very customizable though I, without a doubt, prefer the "realistic" skin over any other.

No doubt the 50g would be a wonderful scientific if it weren't for the (HUGE) learning curve and also the inconvenience of so many functions embedded in layers of menus. Of course, how else could they include so many functions (quote: "over 2300") without using nested menus? A holster is the only way one could realistically carry one around unless you wore farmer's overalls. ;-)

Re: HP's best scientific calculator?

*Message #54 Posted by **Martin Pinckney** on 22 Jan 2011, 4:10 p.m.,*
in response to message #1 by Jim Yohe

"Best" is too subjective. You'll never get agreement on one (or even two or three). Eric Smith gave the best synopsis of the contenders and why.

IMO, since (besides scientific) pocketabilty was the only stated criterium, the choice is limited to a Voyager, Pioneer, or 33s/35s, and the last two are "stretching it" a little (pun intended).

And since the responses are (not surprisingly) all about RPN, I will throw in my choice from The Dark Side, the 27s. Two-line alpha-numeric display, amount of memory, included "business" functions, and that wonderful Solver are the reasons.

Edited: 22 Jan 2011, 4:17 p.m.

Re: HP's best scientific calculator?

*Message #55 Posted by **Jim Yohe** on 23 Jan 2011, 2:34 p.m.,*
in response to message #54 by Martin Pinckney

Well, notice that I "qualified" my question about what the "best" one as one that could be carried in a shirt pocket. I know it doesn't narrow it down too much but pretty much does disqualify the larger ones with large displays (ie, 39gs, 40gs, 48gii, 50g).

I prefer the pioneer series form factor. Have always loved the size, look, and layout of my 32sii, for instance.

Re: HP's best scientific calculator?

*Message #56 Posted by **Gerardo Rincon** on 22 Jan 2011, 5:34 p.m.,*
in response to message #1 by Jim Yohe

The HP-15C is my all-time favorite. It took me through engineering and master degrees. And I used it at work for a long time after that. It's has s great size and has a wide range of functions directly from the keyboard without having to access menus (which I really don't like).

I also have a sentimental attachment to one of my all-time favorites which took me through high school --> HP-21

Re: HP's best scientific calculator?

*Message #57 Posted by **bill platt** on 22 Jan 2011, 5:37 p.m.,*
in response to message #1 by Jim Yohe

The 10c/11c/15c/16c/12c family is the smallest. None have digital I/O. 15c was top dog of that group.

The 20s/22s/273/32s/42s are a bit longer but just as thin. They are just a bit too tall to hide in a shirt pocket.

I hate putting calculators in shirt pockets. They fall out when you lean over to pick up the blackwing 602 you happened to have dropped.

Re: HP's best scientific calculator?

*Message #58 Posted by **Katie Wasserman** on 22 Jan 2011, 6:35 p.m.,*
in response to message #57 by bill platt

> Quote:
>
> They fall out when you lean over to pick up the Blackwing 602 you happened to have dropped.

Bill,

$20 for a pencil, do you work for The Pentagon? If not, remind me to not get into a bidding war with you.

-Katie

Edited: 22 Jan 2011, 6:36 p.m.

Re: HP's best scientific calculator?

*Message #59 Posted by **bill platt** on 23 Jan 2011, 3:24 p.m.,*
in response to message #58 by Katie Wasserman

Haha!

I just happen to have a small stash of them left :-)

Re: HP's best scientific calculator?

*Message #60 Posted by **Mark Henderson** on 22 Jan 2011, 10:09 p.m.,*
in response to message #57 by bill platt

I don't really consider any of my HP collection "pocektable" (mostly LED models) so for that duty I have several quite good emulators loaded on my iPhone 4, which defintiely IS pocketable. i41CX+ is just an incredible 41C emulator, highly recommended. And there are 15C, 42S, etc. etc. emulators on the App Store, too. Also VintageRPN which has HP-35/45/55/80 (quite good, not perfect), and GO-21 which is a really nice HP21.

Enjoy

Re: HP's best scientific calculator?

*Message #61 Posted by **Mike Morrow** on 22 Jan 2011, 11:00 p.m.,*
in response to message #1 by Jim Yohe

Without any question or ambiguity, it's the HP 42S. It leaves its closest pocket-sized competitor, the HP-15C, in the dirt in every respect except color scheme and display clarity. It makes up for those two items by not having the abominally stupid landscape layout, an error that HP never repeated outside all those recurring HP-12C re-issues.

Most knowledgeable people evaluate the HP 42S, even today, as the best RPN calculator that has ever been made. This is astonishing for a calculator introduced in 1988. It actually says that HP hasn't given a crap about maintaining more recent similar-sized releases (32SII, 33S, 35S) with capabilities that can equal what was available 23 years ago.

If you simply wanted to know the best calculator made by anyone, without regard to size, there's nothing to compete with the HP 50G. But it's about three times the size and weight of the HP 42S, and programs in RPL, not RPN. HP can be proud of their HP 50G. But...you can get several of them new for the price you're likely to pay for a used HP 42S.

The proof is in ebay prices. These are prices being paid by users, not collectors.

Edited: 22 Jan 2011, 11:18 p.m.

Re: HP's best scientific calculator?

*Message #62 Posted by **Martin Pinckney** on 23 Jan 2011, 12:18 a.m.,*
in response to message #61 by Mike Morrow

Mike, I agree the portrait format makes more sense. But apparently a lot of folks either like or tolerate well the landscape format of the Voyagers. I'm not a 15c advocate; I don't even own a 12c, but since you mention eB** prices, remember the 15c also does very well in this regard.

Re: HP's best scientific calculator?

*Message #63 Posted by **Mike Morrow** on 23 Jan 2011, 12:47 p.m.,*
in response to message #62 by Martin Pinckney

Hi Martin. If I sound like I'm down on the HP-15C, that's not what I intend. I own two, one of which I used every day for eleven years even though I also owned a HP-41CX, HP 28S, HP 48SX, HP 48GX, and HP 32SII during that interval. Were it not for the stunning capabilities of the HP 42S, the 1982 HP-15C even with its adverse and pointless landscape layout would still be the finest RPN calculator ever made. But since the HP 42S appeared 23 years ago, the HP-15C has been the second best. A distant second best for sure, but still very very good.

Landscape-arranged pocket-sized calculators have a "cute and different" appeal, but are much more awkward to *actually use* as a handheld calculator. That is a very bad quality for a handheld calculator to have. Landscape scientific calculators have good purpose only when the width is small, like those "credit-card" size scientific calculators from 27 to 33 years ago. Like the Casio fx-48 (1978) and fx-98 (1984), and (best of the bunch) the Radio Shack EC-4009 (1984, made by Casio...an improved fx-98 with permutation and combination functions). BTW, now these usually bring prices approaching or exceeding those of the HP-15C or HP 42S. They are far far more difficult to find on the used market than nearly any HP calculator.

I have great hopes for the possibilities in the future if HP developes more machines along the same lines as the recent and excellent HP 30b. A calculator that had the best features of the HP 42S and the HP 30b would be the greatest scientific pocket size calculator ever. Include all HP 30b financial capabilities and HP 17BII clock/calendar functions and one would have absolute Nirvana...a calculator that literally was "one with everything"!

Edited: 23 Jan 2011, 2:00 p.m.

Re: HP's best scientific calculator?

*Message #64 Posted by **Keith Midson** on 24 Jan 2011, 5:39 a.m.,*

in response to message #1 by Jim Yohe

Hmmm ... best shirt pocket HP = 15C. Best jacket pocket = 28S. Well actually if there really were a 'best' HP then I wouldn't have so many in my collection (and use them on a regular basis)! Cheers, Keith

Re: HP's best scientific calculator?

*Message #65 Posted by **Mike Morrow** on 24 Jan 2011, 12:24 p.m.,*
in response to message #64 by Keith Midson

What's wrong with the HP 42S in your collection?

Re: HP's best scientific calculator?

*Message #66 Posted by **Keith Midson** on 24 Jan 2011, 4:29 p.m.,*
in response to message #65 by Mike Morrow

I've got more 42S's in my collection than 15c's, so you have a point Mike. I think I was really just responding to the 'shirt pocket' question - I will take my 42S with me more often to a meeting or on site, but if I had to put something in my shirt pocket then i'd go for something smaller - hence the 15C. I do love both calculators though.
Interesting too - I just got the book "A Guide to HP Handheld Calculators and Computers" by Mier-Jedrzejowicz - it says that HP considered having the 15C (and all the 10 series) in portrait format before moving it to landscape. Cheers, Keith

Re: HP's best scientific calculator?

*Message #67 Posted by **Jim Yohe** on 25 Jan 2011, 3:45 p.m.,*
in response to message #1 by Jim Yohe

Thank you all for your thoughtful recommendations and opinions. I'll just keep my eyes open for a reasonably priced 42s. In the meantime I'll continue to use my 32sii and 30b.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Power management and deep sleep

*Message #1 Posted by **uhmgawa** on 21 Jan 2011, 7:55 a.m.*

> Quote:
>
> Yeah, I'm familiar with what can and can't be done with the current ARMs. I am just feeling more interested from a historical/technical/personal interest.

Aside from the CMOS implementation the effective cpu cycle time is quite slow which contributes to the reduced power consumption.

In normal running mode the cpu LC oscillator is enabled, ISA bus clocks, control, and data are active, and the cpu is continuously executing instructions. The LC tank oscillates at ~880KHz for a voyager with an internal 4x divide to produce the base ~220KHz clock and the resulting 56bit 3.9KHz ISA bus cycle time. Pretty sluggish but given the application specific architecture the actual processing throughput is equivalent to what a contemporary general purpose processor can perform at 1-2MIPS in emulation.

The voyager firmware as an example doesn't spend too much time polling for user input before it times out and powers off the CPU, halts the LC oscillator, an idles all bus signals. In this mode the LCD controller is still driving the display clocked by an internal RC oscillator. Seemed a bit unconventional to find this timeout pushed into the display controller but it is quite sensible as it allows the cpu to be fully quiesced. And the 10m sleep timeout can then be clocked by the display RC oscillator at a far more power conserving ~500Hz.

Contemporary SoCs have sophisticated power management schemes and support power down of functional subsystems independently. But I find the NUT cpu design quite interesting, particular considering the relative infancy of VLSI design in 1978.

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

HP Solve Newsletter Jan 2011: Article about LOGs

*Message #1 Posted by **Frido Bohn** on 21 Jan 2011, 4:52 a.m.*

The article about logarithms was very inspiring (HP Solve #22, 42-50). It summarized some basic truths in a very concise
manner and gave a historic overview starting with logarithmic tables, over slide rules up to calculators - especially HP-calculators of course!
The concept of logarithms appears not easy to be approached in our linear cognition of quantities. Thus, it is not trivial
to estimate the log10 of, let's say 600 without any aids. We know, that it must be something with a "2" as the integer part,
as the number can be expressed as 6*10^2. But what about the fraction? Will it be closer to "1" or to "9"?
If we look at a linear representation of a graph of log(x) we see that the curve starts with a steep slope which decreases
as x progresses. The consequence of this is that the fractional part of log10 is higher at the beginning of the first decade
such that log10(2)= 0.30xx, whereas log10(5) = 0.69xx and log10(9) = 0.95xx.
The result is that the first fraction of log10(x) is always higher than the integer part of the respective number. So, the
estimation of log10(600) would result in a fraction somewhat higher than "6", maybe "2.7" or "2.8". As a matter of the
nature of log10, the fractional part will be identical in each order of magnitude such that log10(6 000 000)=6.7782 and
log10(600)=2.7782. In order to manage log10 one would have to learn by heart the logarithms within one order of magnitude, and that's all. But how about log2 or ln (on the basis of e)? I believe that the approach to the logarithm of
other bases than 10 is very hard in our decimal world.

Related to the concept and perception of logarithms, I found it very interesting to read an article about the Mundurucu,
an indigene culture in the Western Amazonas. A French-American group of researchers investigated the mapping of numbers
onto space in this culture and compared it to the American. The Mundurucu have no nouns for numbers beyond five.
Thereafter, they use relative quantities as "few", "more" or "many". The mapping of quantities on a line (without labels) followed a logarithmic pattern whereas the Americans made it the "linear way". The researchers concluded that our intuitive approach to quantities is rather logarithmic than linear but that we learn that the space between, for example "4" and "5" must be the same as for "8" and "9", and thus we get implanted to think in linear patterns as school kids. Indeed, experiments with children between 4 and 6 years of age show that the logarithmic mapping of quantities is also common in this period of human development.

From an evolutionary point of view, the logarithmic approach of quantities appears to be more intuitive. For our ancestors, it was important to distinguish between 2, 3 or 4 lions but it was less important to keep apart 84 from 85 or 86
gnus. In higher quantities, the distinction between 100, 200 or 300 have been of more relevance. Our perception of sound and shades, for example, follows also a logarithmic mapping and is described in Webers's law - "larger

numbers [or a
more intense sensation of sound or light] require a proportional larger difference in order to remain equally discriminable".

In conclusion, logarithms always existed. They were not just invented by John Napier. He discovered them and made them
accessible to logical reasoning. Just as Newton did not invent gravity, but he was the one who put its concept into physical laws.

Regards
Frido

Re: HP Solve Newsletter Jan 2011: Article about LOGs

*Message #2 Posted by **Dieter** on 21 Jan 2011, 8:39 a.m.,*
in response to message #1 by Frido Bohn

Very interesting post. Let me add this:

> Quote:
>
> The result is that the first fraction of log10(x) is always higher than the integer part of the respective number.

This is true for x > 1,371. Below that point 10 lg(x) is less than x.

> Quote:
>
> ...estimation of log10(600) would result in a fraction somewhat higher than "6", maybe "2.7" or "2.8".

I'd like to add another method for estimating common logarithms - a very simple method if you're familiar with the world of photography. Due to the logarithmic property of light (our eyes see the same brightness difference if the light intensity changes by the same factor (!)) the usual aperture scale is a geometric sequence where each value is sqrt(2) times its predecessor. In other words: the common logs of the aperture values change in 0,15-steps. Which means that logs can be determined easily by simple couting:

aperture value	1	1,4	2	2,8	4	5,6	8	11
common log	0,00	0,15	0,30	0,45	0,60	0,75	0,90	1,05

In this case lg 600 is easily estimated to be a bit more than 2,75.

It gets even more precise if you're familiar with intermediate values, for instance 1/3-steps, leading to nice 0,05 logarithmic steps. So, knowing that the next 1/3 aperture step after f/5,6 is f/6,3 the unknown lg 600 has to be quite exactly in the center between 2,75 and 2,80 - and in fact it is (2,778).

Okay, this is a method specially designed for photo nerds. But I'm sure there're some of us around here... :-)

> Quote:
>
> In order to manage log10 one would have to learn by heart the logarithms within one order of magnitude

That's what most photographers have learned from the start - maybe without realizing it. They use geometric

sequences like apertures, shutter speeds and ISO-settings and at the same time they think in logarithmic exposure stops (EV).

Dieter

Edited: 21 Jan 2011, 8:57 a.m.

Re: HP Solve Newsletter Jan 2011: Article about LOGs

*Message #3 Posted by **Martin Pinckney** on 21 Jan 2011, 11:49 a.m.,*
in response to message #2 by Dieter

> Quote:
>
> I'd like to add another method for estimating common logarithms - a very simple method if you're familiar with the world of photography...
>
> Okay, this is a method specially designed for photo nerds. But I'm sure there're some of us around here...
>
> That's what most photographers have learned from the start - maybe without realizing it. They use geometric sequences like apertures, shutter speeds and ISO-settings and at the same time they think in logarithmic exposure stops (EV).

Dieter,

Indeed, I am one of those photo nerds. As I read Frido's post, I was thinking about this same subject, so thank you for spelling it out so well.

Logs and Photo nerds

*Message #4 Posted by **Dave Shaffer (Arizona)** on 21 Jan 2011, 5:18 p.m.,*
in response to message #2 by Dieter

Thanks for the tip on relating f-stops to logs.

I suppose that photo nerds (love the term!) have as many cameras and/or lenses as they do calculators!

The digital age has caused an explosion in my number of cameras, at least. For almost 40 years, I got by with my Pentax ME film camera and 3 lenses (28, 50, and 135 mm). (Reminds me of the durability of my HP 35 from the same era!)

In the last 5 years or so, my digital cameras included HP210, HP318, Canon XT, Canon XTi, Kodak 915, Kodak 981, Pentax K100D, Pentax K10D, and Pentax K20D. Since old Pentax lenses work on the new Pentax DSLRs, I have also acquired some 15-20 lenses (on the shopping site which must not be named).

I imagine there are a lot of other photo nerds here. Tell us what you have.

Related question: what (perhaps high-priced) item do you own whose operating lifetime is measured at a few hundred seconds?

Re: Logs and Photo nerds

*Message #5 Posted by **Chris Randle (UK)** on 21 Jan 2011, 8:22 p.m.,*
in response to message #4 by Dave Shaffer (Arizona)

Quote:

> Related question: what (perhaps high-priced) item do you own whose operating lifetime is measured at a few hundred seconds?

Chateau d'Yquem 1959?

Re: Logs and Photo nerds

*Message #6 Posted by **Martin Pinckney** on 21 Jan 2011, 8:59 p.m.,*
in response to message #4 by Dave Shaffer (Arizona)

Quote:

> Related question: what (perhaps high-priced) item do you own whose operating lifetime is measured at a few hundred seconds?

The CCD on your digital camera?

Re: Logs and Photo nerds

*Message #7 Posted by **Dave Shaffer (Arizona)** on 21 Jan 2011, 9:35 p.m.,*
in response to message #6 by Martin Pinckney

I am thinking of Martin's answer (include the entire camera, though), although I also like Chris's answer - but he must drink his Chateau D'Yqeum fairly rapidly!! (I am looking forward to savoring my Chateau Lafitte-Rothschild 1996, that my wife bought for me back when it was affordable, for my 65th birthday in a few weeks! I think I will spend more than a few hundred seconds at that.)

Consider your camera: average exposure is perhaps 1/100 second; multiply by 20000 or 30000 pictures, and the operating life is several hundred seconds (although shutters on high-end DSLRs are typically rated for 100K or more exposures - so you gain a few more hundred seconds). If you are into time exposures, you gain a lot of "lifetime."

Re: Logs and Photo nerds

*Message #8 Posted by **Eric Smith** on 21 Jan 2011, 11:56 p.m.,*
in response to message #6 by Martin Pinckney

CCD sensors on almost all DSLRs now potentially have a much longer operating life, given that they now are used for "live preview" mode as well as for video capture.

Even on DSLRs that don't have those features, the short operating life you describe is only due to the way the device is conventionally used, and not due to any limitation of the sensor. The MTBF of the sensor is in the hundreds of thousands of hours. Some photographers use cameras for very long timed exposures.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

Re: a challenge related to the 15 puzzle

*Message #1 Posted by **Don Shepherd** on 20 Jan 2011, 11:06 p.m.*

I figured out that, rather than have two loops to calculate the inversion count (which takes about 40 seoonds on the 32sii), you can actually do it while you are entering the numbers if you keep track of the numbers you have previously entered. Then, when you enter the last number, you can see the inversion count immediately. This 32sii program implements that algorithm.

```
This version of the 15 puzzle solvability program is for the 32sii and not the 32s
because it uses the exchange x with a register command which is not on the 32s.
Since I got the 32sii I've been looking for a reason to use this command
and this is it!


This version calculates the cumulative inversion count as the 16 numbers are entered, so
once you enter the last number it tells you the inversions instantly, with no waiting.


Usage:


XEQ A
enter first number
R/S
enter second number
R/S
.
.
.
enter 16th number
R/S


it then displays the inversion count; even number means the puzzle can be solved.


Registers:


A-O - set to 1 when the corresponding number is entered
P   - inversion count (even means solvable)
Q   - main loop index
i   - indirect addressing and second loop index


Code:


lbl a      entry point
clrvars
1.016      initialize loop to enter 16 numbers
sto q      main loop index
lbl b      begin main loop
r/s        enter the next number (0 for empty space)
x=/=0      if empty space, calc row number and update P
goto c     for 1-15
3
rcl+q
4
/
ip
sto+p      update inversion count with row # of empty cell
goto x     iterate main loop
lbl c      handle 1-15
```

```
x<->i       move # to i
1
sto (i)     put a 1 in A-O when number is found
x<->i       get number back in x
1           add x-1 to p, max possible inversions
-
sto+p
x=0         if 0 this is number 1, so nothing can be to it's left
goto x      so iterate main loop
1000        otherwise loop from 1 to (x-1) and subtract what
/           you find there from p
1
+
sto i       so input number 7 would cause loop from 1 to 6
lbl d       begin loop
rcl(i)      will be 0 or 1
sto-p       subtract from inversion count
isg i       iterate loop
goto d
lbl x       iterate main loop now
isg q
goto b      continue main loop to enter next number
rcl p       display inversion count
rtn         all done
```

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Printing quality on HP-97

Message #1 Posted by ***Christophe Dubreuil*** *on 20 Jan 2011, 9:04 p.m.*

... I found it .... I just requested the guest area 400ko for a 300Ko scan !

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Printing quality on HP-97

Message #1 Posted by ***Christophe Dubreuil*** *on 20 Jan 2011, 8:52 p.m.*

I can't see this "Guest File Management" !!!!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Five-minute challenge

*Message #1 Posted by **David Hayden** on 20 Jan 2011, 2:00 p.m.*

A friend at work posed this math problem to me the other day. It isn't realistic, but it's still interesting - particularly because answer is surprising.

A steel company has developed an experimental railroad rail. They can make very long rails without joints so they fabricate one that is 1 mile long (5280 feet). They lay it out straight and fix the endpoints to the ground. A few hours later, the rail had expanded in the midday heat. This expansion has added 1 foot of length to the rail, so now it is 5281 feet long. The end points are still attached to the ground, so the rail has warped and is no longer straight.

Assume that the rail bends in a circular arc. The question is "how much has the rail warped at the mid point?" In other words, after adding 1 ft of length, the whole rail has bent. How far is the mid point of bent rail from it's original position?

Without doing any calculations, guess the answer.
Can you come up with a rough approximation that can be computed on a 4-banger?
Can you find the exact (within 2 decimal places) answer?

Re: Five-minute challenge

*Message #2 Posted by **Don Shepherd** on 20 Jan 2011, 3:31 p.m.,*
in response to message #1 by David Hayden

Very interesting problem. Before doing any math, I guessed maybe .1 inch. So I played with the math, circles, circumference, diameter, radius, and calculated the answer of 3.84 inches, but I have no idea if my assumptions are correct so I wouldn't bet any money on that answer.

I'm looking forward to some answers from those engineers who know much more than I.

Thanks for the challenge on a snowy day in Louisville.

Don

Re: Five-minute challenge

*Message #3 Posted by **Katie Wasserman** on 20 Jan 2011, 4:43 p.m.,*
in response to message #2 by Don Shepherd

Off the top of my head, I think that this is like the "string around the earth" problem. My guess is that it's going to be really high in the middle.....

While not at all accurate: figure this is approximately a right triangle with the hypotenuse being 1/2 of the new length (2640.5) and the long side being 1/2 of the original length (2640). That makes the height 51+ feet.

Re: Five-minute challenge

*Message #4 Posted by **Walter B** on 20 Jan 2011, 5:15 p.m.,*
in response to message #3 by Katie Wasserman

I did guess less than a foot. Calculating with good ol' Pythagoras I get 51.4 feet. Surprise!

Re: Five-minute challenge

*Message #5 Posted by **Walter B** on 20 Jan 2011, 5:26 p.m.,*
in response to message #4 by Walter B

First order approximation according to good ol' Taylor results in SQRT(2640) = 51.4 as well.

Re: Five-minute challenge

*Message #6 Posted by **Martin Pinckney** on 20 Jan 2011, 4:46 p.m.,*
in response to message #1 by David Hayden

> Quote:
>
> Can you find the exact (within 2 decimal places) answer?

44.52 feet.

Yes, I was surprised at how much.

Katie's estimate wasn't too bad.

Re: Five-minute challenge

*Message #7 Posted by **David Hayden** on 20 Jan 2011, 10:09 p.m.,*
in response to message #6 by Martin Pinckney

Martin, I get 44.4985 on my 50g. I get 78,335.0805ft for the radius of the circle. One of us is probably having a rounding error.

I'll wait a day or two before posting details of the solution. I too was surprised at how big the deflection is. I was also surprised at how far off the "assume a right triangle" approximation is.

Dave

Re: Five-minute challenge

*Message #8 Posted by **Gerson W. Barbosa** on 20 Jan 2011, 10:44 p.m.,*
in response to message #7 by David Hayden

I've found similar results using the HP-33s Solver:

```
R*SIN(2640.5/R)=2640                    ->     R=
                                                78,335.0803155

ENTER ENTER 2640 x<>y / ASIN COS * -      ->   44.4984551
```

Gerson.

Re: Five-minute challenge

*Message #9 Posted by **Werner** on 25 Jan 2011, 5:49 a.m.,*
in response to message #8 by Gerson W. Barbosa

```
For those with a 42S, a general inverter:


00 { 42-Byte Prgm }
01*LBL "INV"
02 FC? 45
03 GTO 00
04 RCL "X"
05 XEQ IND "A"
06 RCL- "Y"
07 RTN
08*LBL 00
09 ASTO "A"
10 PGMSLV "INV"
11 STO "Y"
12 CLX
13 STO "X"
14 1
15 SOLVE "X"
16 END


The fact that it's 42 bytes is a coincidence ;-)


usage:
ALPHA: name of function to invert (F)
X: value Y for which F(X) = Y
XEQ "INV" -> X


eg. to find the value of X for which SINC(X) = 5280/5281, do:


1. define the function SINC(x) = SIN(x)/x for x#0, = 1 for x=0


01*LBL "SINC"
02 X=0?
03 GTO 00
04 SIN
05 LASTX
06 /
07 RTN
08*LBL 00
09 SIGN
10 END


2.A: "SINC"
  X: 5280 5281 /
  XEQ "INV" -> 3.37077587945e-2
```

Re: Five-minute challenge

*Message #10 Posted by **Dave Shaffer (Arizona)** on 20 Jan 2011, 10:10 p.m.,*
in response to message #6 by Martin Pinckney

I get 44.50 feet (pretty close to Martin's answer).

This is why you need expansion joints in concrete sidewalks and roads. Otherwise, a bit of thermal expansion will cause considerable heaving.

Re: Five-minute challenge

*Message #11 Posted by **Thomas Okken** on 20 Jan 2011, 11:56 p.m.,*
in response to message #10 by Dave Shaffer (Arizona)

> Quote:
>
> This is why you need expansion joints in concrete sidewalks and roads. Otherwise, a bit of thermal expansion will cause considerable heaving.

It is my understanding that those extremely long railway rails basically aren't allowed to expand, i.e. they are anchored firmly enough to prevent them from buckling, and when they heat up or cool down, away from their "nominal" temperature, they just become compressed or stretched, respectively, but they don't move. Anyone who actually knows modern railway engineering firsthand, please correct me. :-)

Edited: 21 Jan 2011, 12:01 a.m.

Re: Five-minute challenge

*Message #12 Posted by **Paul Gaster** on 21 Jan 2011, 12:35 a.m.,*
in response to message #11 by Thomas Okken

Sounds like some rails designs have gaps and others are just restrained from moving like you said. See here:

http://en.wikipedia.org/wiki/Track_(rail_transport)

Re: Five-minute challenge

*Message #13 Posted by **Karl Schneider** on 20 Jan 2011, 11:13 p.m.,*
in response to message #6 by Martin Pinckney

(While I was busily writing, David Hayden, Gerson, and Dave Shaffer were posting identical results using what appears to be the same approach...)

I'd say that Martin's answer is correct, or very nearly so. I got 44.4984551 feet on my HP-32SII.

At a family gathering in the 1970's, I remember my *(non-railroad)* engineer grandfather reading this problem and giving the answer for a straight expanded track. He, too, found the height of about 50 feet to be greater than expected. It really illustrates the importance of expansion joints in bridges, lest severe buckling occur during heat waves.

The trigonometric solution for the straight expanded track is simple:

$0.5 * \mathrm{sqrt}(5281^2 - 5280^2) = 51.3833630665$

Solving for the circular-arc expanded track proved to be more complicated. I got the answer from iterative solution of the well-known sinc function *[sin(x) / x]*.

(For a graphical illustration, please refer to Thomas Klemm's post deeper in this thread. Notational conversion: A/2 = x; h = e; d = L-1)

```
Define the following:


L is the total length of the arc of expanded track
d is the original length of straight track
r is the radius of the circular arc of track
A is the angle of the full arc [radians]
y is the vertical distance from the center of the arc circle to the track surface
```

Then,

1. L/2 = r * A/2
2. d/2 = r * sin (A/2)
3. d/2 = y * tan (A/2)

Some algebra using equations 1 and 2 yields

$$\frac{\sin (A/2)}{(A/2)} = \frac{d}{L}$$

With d = 5280 ft and L = 5281 ft,

SOLVE on the HP-32SII and HP-42S yields

A/2 = 0.0337077587945 rad

The rise of the track (h) = r - y

From equations 1 and 3,

$$h = \frac{L/2}{A/2} - \frac{d/2}{\tan (A/2)}$$

h = 44.4984551

Alternatively from equations 2 and 3,

$$h = d/2 * \left[\frac{1}{\sin (A/2)} - \frac{1}{\tan (A/2)} \right]$$

h = 44.49845532

The HP-15C, HP-34C, and HP-41/Advantage produce the following results:

A/2 = 0.03370777144 rad

h = 44.49846

Gerson stated below that the answer correct to 12 digits is

h = 44.4984550191

which is a bit lower than either of my results.
The differences are explained by last-digit roundoff error.

Addendum

WolframAlpha can be utilized to solve many digits of an equation.

Formula:

```
sinc(x) = 5280/5281

==>  x  = 0.033707758809879429348218 4983
```

This value can be used in Windows calculator to calculate the rise (h) to 24 digits or so:

```
    2640.5    2640
h = ------ - -------
      x      tan(x)

h =  44.4984550191007992545541 6...
```

Edited: 30 Jan 2011, 5:51 p.m. after one or more responses were posted

Re: Five-minute challenge

*Message #14 Posted by **Bill (Smithville, NJ)** on 21 Jan 2011, 6:06 a.m.,*
in response to message #13 by Karl Schneider

> Quote:
>
> It really illustrates the importance of expansion joints in bridges, lest severe buckling occur during heat waves.

Another place where expansion has to be taken into account is piping systems. We do hot/chilled water piping design and are very careful to allow for the expasion/contraction that can take place in the system. In underground piping systems, concrete thrust blocks are added at bends to ensure that the expansion takes place in the expansion joints and not have the pipe move at the direction change. It's not uncommon to have miles of underground piping on a large campus environment.

But I have to admit, I was somewhat supprised at the 50 feet expansion over one mile.

Bill

Re: Five-minute challenge

*Message #15 Posted by **Martin Pinckney** on 21 Jan 2011, 11:31 a.m.,*
in response to message #14 by Bill (Smithville, NJ)

> Quote:
>
> But I have to admit, I was somewhat surprised at the 50 feet expansion over one mile.

To be technically precise, the *lateral displacement* was (roughly) 50 ft. The expansion was 1 ft. Incidentally, this corresponds to about 23 degrees F temperature rise.

Re: Five-minute challenge

*Message #16 Posted by **Gerson W. Barbosa** on 21 Jan 2011, 12:31 p.m.,*
in response to message #15 by Martin Pinckney

> Quote:

> The expansion was 1 ft. Incidentally, this corresponds to about 23 degrees F temperature rise.

Thanks, Martin, I was just going to check this out. Here in my area (southern Brazil), 40 °F temperature rise or greater is not uncommon.

Re: Five-minute challenge

*Message #17 Posted by **Bill (Smithville, NJ)** on 21 Jan 2011, 1:03 p.m.,*
in response to message #15 by Martin Pinckney

> Quote:
>
> lateral displacement was (roughly) 50 ft.

You're right - Expansion is only 1 foot.

Thanks,

Bill

Re: Five-minute challenge

*Message #18 Posted by **Gerson W. Barbosa** on 21 Jan 2011, 12:25 p.m.,*
in response to message #13 by Karl Schneider

Karl,

> Quote:
>
> *(While I was busily writing, David Hayden, Gerson, Dave Shaffer were posting identical results using what appears to be the same approach...)*

I don't remember the word you used in your first version of this text in place of busily. It was not diligently, but it had a close meaning and expressed better what you did. Congratulations for the nice work and your detailed and didactic explanations, as always. It takes time to provide a complete solution as you have done. Most here just don't have time to, anyway it is a good thing they occasionally take the time to solve problems and post the results so we can compare them to our own. As of me, I am just kind of lazy.

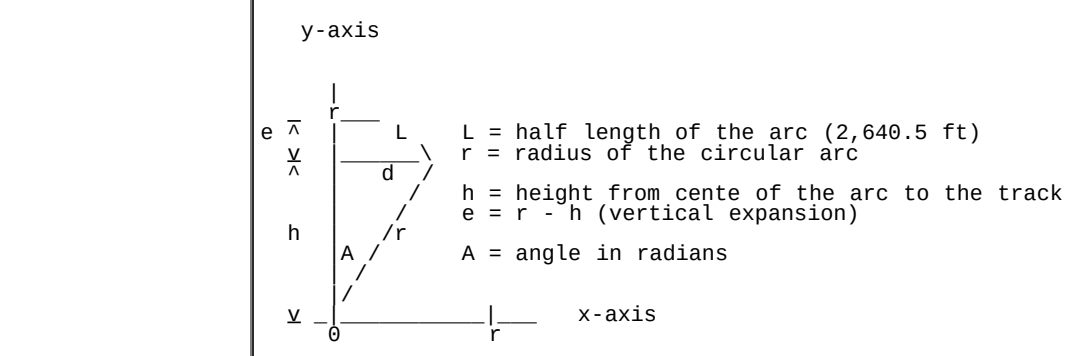
> Quote:
>
> I'd say that Martin's answer is correct, or very nearly so. I got 44.4984551 feet on my HP-32SII.

I do agree. Martin is a Civil Engineer, if I am not wrong, so his two-digit answer is good enough for practical purposes. I remember myself solving transmission lines problems (involving grossbeak aluminum cables and other birds names) and the answers to six decimal places during examinations, when two would have sufficed. My professor found that strange but would never say anything :-)

> Quote:
>
> Solving for the circular-arc expanded track proved to be more complicated.

I am glad you have said this. So, I am not the only one :-)

Here is my solution, using a similar approach. Yesterday, at first I had used an expression involving the ASIN function at first, then switched to SIN. I have decided to use ASIN again, only because it's similar to the answer I got through Calculus. Anyway, both are equivalent:



Using

$$2L = r*2A \text{ (length of arc subtended by central arc)}$$

and

$$\sin(A) = \frac{d}{r}$$

We get $$A = \frac{L}{r}$$

and $$A = \arcsin\left|\frac{d}{r}\right|$$

which implies

$$L = r*\arcsin\left|\frac{d}{r}\right|$$

Replacing L and d with their known values, 2640.5 and 2640, respectively, we get

$$r*\arcsin(2640/r) = 2640.5$$

when solved for r (initial estimate r = 50,000) on the HP-32SII in radians mode yieds

$$r = 78{,}335.0808851 \text{ ft}$$

We are now able to compute the vertical expansion e:

From the drawing (well, sort of),

$$h = \sqrt{r^2 - d^2}$$

```
           h = sqrt(78,335.0808851^2 - 2640^2)

           h = 78,290.5824303 ft

           e = r - h

           e = 78,335.0808851 ft  - 78,290.5824303 ft
```

e = 44.4984548 ft

This morning, hoping to avoid the solver, I tried Calculus. It turns out I got the same equation:

From the Length of an Arc Formula:

```
    L = Integrate(x=a, b, sqrt(1+[f'(x)]^2)dx)
    (SCHWARTZ Abraham, Calculus and Analytic Geometry. Holt, Rinehart and Winston, 3rd edition)

    f(x) = sqrt(r^2 - x^2)

    f'(x) = x*sqrt(r^2 - x^2)/(x^2 - r^2)

    [f'(x)]^2 = -x^2/(x^2-r^2)

    L = Integrate(x=O, 2640, sqrt(1 - x^2/(x^2 - r^2)))

    L = r*arcsin(2640/r)
```

or r*arcsin(2640/r) = 2640.5

On the HP-50g:

```
    'sqrt(R^2-X^2' DERVX x^2 1 + sqrt   -->  'ABS(R)/ABS(R^2-X^2)*SQRT(R^2-X^2)'

                                INTVX   -->  'ASIN(X/R)*(R*SIGN(R)/SIGN(R^2-X^2))'
```

Since R > 0 and X=2640 > 0, this simplifies to

```
    'R*ASIN(X/R)')
```

Regards,

Gerson.

Edited: 21 Jan 2011, 1:26 p.m.

Re: Five-minute challenge

*Message #19 Posted by **David Hayden** on 21 Jan 2011, 3:38 p.m.,*
in response to message #18 by Gerson W. Barbosa

Gerson's first solution is exactly the way that I solved it. Thanks for the great explanation and the clever ASCII diagram.

Dave

Re: Five-minute challenge

*Message #20 Posted by **Karl Schneider** on 22 Jan 2011, 5:41 p.m.,*
in response to message #18 by Gerson W. Barbosa

Gerson --

Thank you for the compliments. My only objective was to solve the problem with minimal effort in a straightforward fashion using the 'favored' tools we have at our disposal, and to show the procedure clearly. I believe that I'd examined a problem like this one before, but could not readlity deduce any apparent trigonometric formula to solve it.

The mathematical work done by you and Thomas Klemm in particular was more impressive, and Thomas also prepared a nice diagram to accompany his symbolic algebra.

Of course, the algebraic methods of estimation worked only because the angle was very small. In the days before calculators and computers, I suppose that an engineer or architect would refer to pre-calculated tables of the 'sinc' function to solve it. The function is used in signal processing.

-- Karl

Edited: 23 Jan 2011, 1:45 p.m. after one or more responses were posted

Re: Five-minute challenge

*Message #21 Posted by **Gerson W. Barbosa** on 22 Jan 2011, 9:04 p.m.,*
in response to message #20 by Karl Schneider

Thanks, Karl, for your comments. As of the sinc function, I thought of finding an approximation for it to make the solution not dependant of the solver. Sinc(x) ~ cos(x*sqrt(3)/3) might be an option and would have yielded 3 correct decimal places in your method (44.49827). The constant has no mathematical meaning, but works for small angles. That's cheating, however...

Gerson.

Re: Five-minute challenge

*Message #22 Posted by **Paul Dale** on 22 Jan 2011, 9:28 p.m.,*
in response to message #21 by Gerson W. Barbosa

Gerson,

Very nice approximation.

- Pauli

Re: Five-minute challenge

*Message #23 Posted by **Gerson W. Barbosa** on 22 Jan 2011, 10:49 p.m.,*
in response to message #22 by Paul Dale

That was found when solving SIN(A)/A-COS(A*X)=0 for X, A=3.37077587945e-2 (that's A/2 in Karl's post above). I got X=5.7734397696e-1 which is very close to sqrt(3)/3 (off by 7.29e-6). For X=0.5 up to X=1 the difference ranges from 1.e-5 to 6.6e-3. I tried a correction term but I discarded it because it was not suitable for the problem (y ~ cos(x*sqrt(3)/3)+(2+sqrt(3))/1000*x^4).

Re: Five-minute challenge

*Message #24 Posted by **Gerson W. Barbosa** on 24 Jan 2011, 4:41 p.m.,*
in response to message #22 by Paul Dale

> Quote:
>
> Very nice approximation.

Paul,

What about this one? Of course, this is not related to the orignal problem anymore.

Gerson.

Edited: 24 Jan 2011, 5:34 p.m.

Re: Five-minute challenge

*Message #25 Posted by **Gerson W. Barbosa** on 23 Jan 2011, 5:34 p.m.,*
in response to message #21 by Gerson W. Barbosa

> Quote:
>
> The constant has no mathematical meaning,

I should have said "the constant has no mathematical meaning I am aware of". Sqrt(3)/3 appears to be the exact value for k in y = sinc(x) - cos(k*x) that yields maximum accuracy. A little more or a little less will degenerate the approximation and make the function either change sign or oscillate around zero. The Wolfram Alpha's graph can show y(x) is always positive until the range is narrowed down to [-1e-3, 1e-3], when the machine precision limit is reached.

By the way, an exact equivalence is

```
sinc(x) = 1/(Gamma(1 + x/pi)*Gamma(1 - x/pi))
```

(See MathWorld Sinc Function page, formula #10)

Re: Five-minute challenge

*Message #26 Posted by **Thomas Chrapkiewicz** on 20 Jan 2011, 5:09 p.m.,*
in response to message #1 by David Hayden

Although a first order approximation, about 50 feet.

Re: Five-minute challenge

*Message #27 Posted by **Crawl** on 21 Jan 2011, 12:42 p.m.,*
in response to message #1 by David Hayden

Yeah, as someone mentioned, this problem is similar to the "rope around the world" problem, which was mentioned here.

There, an extra meter in the length of the rope caused it to be raised up ~120 meters over the surface of the earth.

Re: Five-minute challenge

*Message #28 Posted by **Crawl** on 21 Jan 2011, 6:38 p.m.,*
in response to message #27 by Crawl

This problem has been solved a lot, but not a lot has been said about why the answer is so huge for a such a small input, so I want to talk about that.

The reason is that the answer function does not have a Taylor series -- at least not at x=0 (if x is the slack in the rope around the world, or the expansion of the railroad).

For the "rope around the world" problem, the first step (in my solution) was to solve

-y + 2 tan(y/2) = x/r

taking the taylor series of the left side, that's

y^3/12=x/r

or

y = cuberoot(12*x/r)

Then you plug y into

r*(cos(y/2)+sin(y/2)*tan(y/2)-1)

The lowest taylor series there is

r*y^2/8.

So finally, the height is

2^(1/3)*r/4*(3*x/r)^(2/3)

So, the height goes as x^(2/3) power. This has infinite slope at x=0, explaining why the answer grows so rapidly even for very small x.

I also should point out that that first order approximation is accurate enough to agree to all 5 digits of my originally quoted answer.

For the railroad problem, not showing my work (there was way more work, at least for me, than the rope problem), but the final answer to first approximation is

sqrt(6*m*x)/4

with m=5280, and x=1, this gives 44.497

Note: In form, this is very similar to the trigonometric solution, but is much more accurate! The trigonometric solution to first approximation is sqrt(2*m*x)/2 ~ 51.38 for the given values.

Before going through the work myself, I might have thought the first approximation formulas (trigonometric versus circular) would be the same, but they're not.

But again, the answer goes as squareroot of x, which has infinite slope at x=0.

Sort of interesting that the basic idea of the problems is so similar, as well as the large increase in the answer for small values of x, but the power dependency on x for the two problems is different.

Edited: 21 Jan 2011, 6:40 p.m.

Re: Five-minute challenge

*Message #29 Posted by **Crawl** on 21 Jan 2011, 7:08 p.m.,*
in response to message #28 by Crawl

But doesn't it seem like there should be a simple explanation for the factor of sqr(3)/2 difference between the two methods?

If so, that with the trigonometric approach would seem to be the simplest method to solve the problem.

Re: Five-minute challenge

*Message #30 Posted by **Crawl** on 24 Jan 2011, 1:53 p.m.,*
in response to message #29 by Crawl

I think I figured that out, and in the process came up with a slightly different way to solve the problem.

Imagine that we have the normal "small angle" slice of a circle.

Let's just set r=1. The green line is sin(t), the blue line (after a bit of geometry) is sqrt(2(1-cos(t))), and the black arc is of course t.

What we want to find out is how the blue line and the black arc compare to the green line when t is small.

The taylor series of sqrt(2(1-cos(t)))/sin(t) = 1+t^2/8

The taylor series of t/sin(t)= 1 + t^2/6

So, if the green line is normalized to 1, the blue line (trigonometric solution) is normalized to 1+t^2/8, and the circle is a little bit larger (naturally), 1+t^2/6.

t^2/6 IS the added length (or half of it, but it doesn't really matter since we're normalizing everything)

Since the green line is normalized to 1, that basically means we're dividing by m. The extra length is then x/m.

This means t = sqrt(6x/m)

plugging that into t^2/8 (the extra for the trigonometric case), we get 3x/(4m).

In other words, if we replace the extra length x/m with the "adjusted" extra length 3x/(4m), we can use the trigonometric solution and get the same answer.

The trigonometric solution was m*sqrt(2(x/m))/2.

So the real correct solution is m*sqrt(2 (3x/4m))/2 = sqrt(6xm)/4.

By the way, I see some people elsewhere in the thread concerned about accuracy for the sinc function. It's probably not worth worrying about. Even this first order solution agrees with the actual solution to within 1% for as much as a 350 foot expansion!!

Re: Five-minute challenge

*Message #31 Posted by **Thomas Klemm** on 24 Jan 2011, 10:05 p.m.,*
in response to message #30 by Crawl

Very nice!

But I think we can do without the indirection of the "trigonometric solution", once we realize that the small angle in the green-red-blue triangle is in fact *t/2*.

$$\frac{t}{\sin t} = \frac{m+x}{m}$$

$$1 + \frac{t^2}{6} + \cdots = 1 + \frac{x}{m}$$

$$t \doteq \sqrt{\frac{6x}{m}}$$

Now we can use *t* to calculate the lateral displacement *e*:

$$e = \frac{m}{2} \cdot \tan \frac{t}{2}$$

$$\tan \frac{t}{2} = \frac{t}{2} + \cdots$$

$$e \doteq \frac{m}{2} \cdot \frac{t}{2} = \frac{\sqrt{6xm}}{4}$$

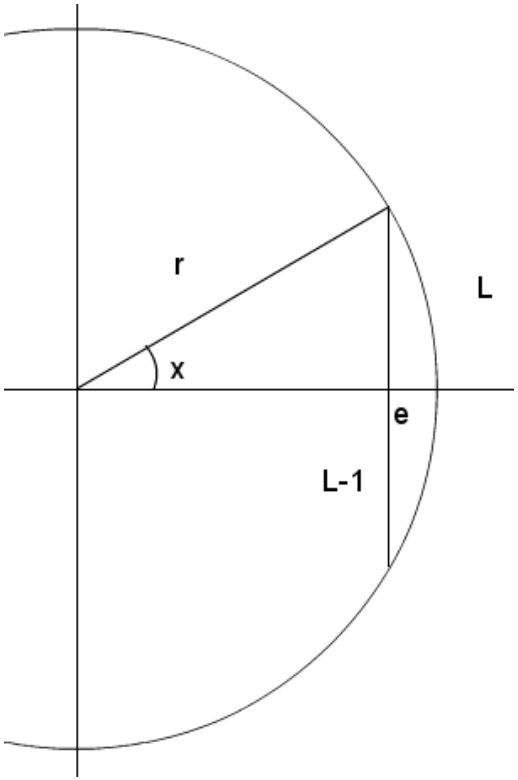
Cheers
Thomas

Re: Five-minute challenge

*Message #32 Posted by **Thomas Klemm** on 22 Jan 2011, 1:12 a.m.,*
in response to message #1 by David Hayden

Quote:

Can you come up with a rough approximation that can be computed on a 4-banger?



Just using the Taylor expansion of the trigonometric functions I got:

$$\frac{\sin x}{x} \doteq 1 - \frac{x^2}{6} = \frac{L-1}{L} = 1 - \frac{1}{L}$$

$$\frac{x^2}{6} = \frac{1}{L} \Rightarrow x = \sqrt{\frac{6}{L}}$$

$$L = 2x \cdot r \Rightarrow r = \frac{L}{2x} = L \cdot \sqrt{\frac{L}{24}}$$

$$\cos x \doteq 1 - \frac{x^2}{2}$$

$$1 - \cos x \doteq \frac{x^2}{2} = \frac{3}{L}$$

$$e = r \cdot (1 - \cos x) = L \cdot \sqrt{\frac{L}{24}} \cdot \frac{3}{L} = \sqrt{\frac{3L}{8}}$$

$$L = 5281 \Rightarrow e = \sqrt{1980.375} \doteq 44.5014$$

> Quote:
>
> I was also surprised at how far off the "assume a right triangle" approximation is.

This shows you can do better even without a fancy solver.

Cheers
Thomas

Edited: 22 Jan 2011, 2:35 a.m.

Re: Five-minute challenge

*Message #33 Posted by **Crawl** on 22 Jan 2011, 8:09 a.m.,*
in response to message #32 by Thomas Klemm

Okay, so your formula looked like my formula. So why did mine give a slightly better result?

They're not actually the same. Mine was

sqr(3*m*x/8)

while yours was (effectively, since you substituted in x=1)

sqr(3*(m+x)*x)/8)

That's actually not a first order formula, since it has an x^2 term. If m is large compared to x, you drop x in m+x.

You might think going to second order would improve the accuracy, not decrease it, but that might not be the correct second order approx., if second order terms were dropped earlier.

Re: Five-minute challenge

*Message #34 Posted by **Thomas Klemm** on 22 Jan 2011, 9:38 a.m.,*
in response to message #33 by Crawl

> Quote:
>
> For the railroad problem, not showing my work (there was way more work, at least for me, than the rope problem), but the final answer to first approximation is
>
> sqrt(6*m*x)/4
>
> with m=5280, and x=1, this gives 44.497

Honestly I must admit that I didn't realize that you provided a solution to this problem but was thinking you were only dealing with the rope problem. I'd be interested to see your approach and might not be the only one.

Best regards
Thomas

Re: Five-minute challenge
*Message #35 Posted by **Crawl** on 22 Jan 2011, 11:16 a.m.,*
in response to message #34 by Thomas Klemm

The approach is exactly the same in terms of setting up the problem. You just have to be careful when selecting the number of terms to retain.

I went ahead and got the second order solution. It is

y = sqrt(6mx + 9/5 x^2)/4

That gives an answer that agrees with the "exact" answer to at least 8 places.

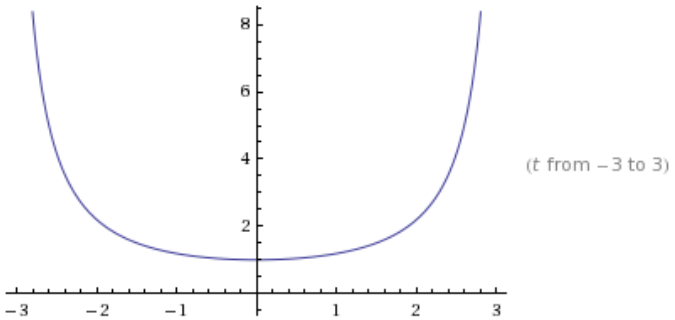
Re: Five-minute challenge
*Message #36 Posted by **Thomas Klemm** on 26 Jan 2011, 10:30 a.m.,*
in response to message #35 by Crawl

Power Series of Equation

Instead of solving the following equation for *t* I tried to calculate the inverse of the Taylor expansion using WolframAlpha.

$$\frac{t}{\sin t} = \frac{m+d}{m} = 1 + \frac{d}{m} = 1 + y$$

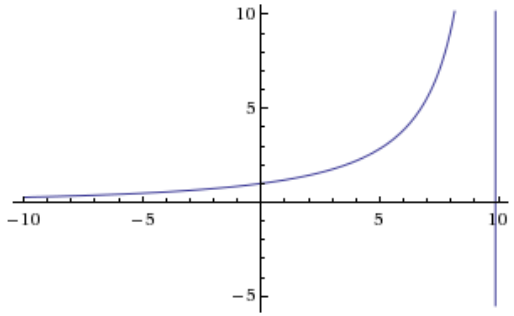
As can be seen by the graph there's a minimum at the point *(0, 1)*.



This makes the inversion difficult since the first derivative of the inverse function is infinite. Thus I use the following substitution:

$$x = t^2 => t = \sqrt{x}$$

Now the graph has a positive derivative:



(*x* from −10 to 10)

This leads to the following equation:

$$\frac{\sqrt{x}}{\sin\sqrt{x}} = 1 + y$$

Let's try to find the Taylor series expansion:

```
Series[Sqrt[x]/Sin[Sqrt[x]], {x, 0, 4}]
```

$$1 + \frac{x}{6} + \frac{7\,x^2}{360} + \frac{31\,x^3}{15\,120} + \frac{127\,x^4}{604\,800} + O\left(x^5\right)$$

Thus we end up with:

$$y(x) = \frac{x}{6} + \frac{7x^2}{360} + \frac{31x^3}{15120} + \frac{127x^4}{604800} + \cdots$$

Inversion of Power Series

Starting with the equation *f(y(x)) = x* I calculated little by little the derivations:

```
D[x=f[y[x]],{x,1}]
```

$$\frac{d}{dx}(x = f(y(x))) = (y'(x)\,f'(y(x)) = 1)$$

```
D[x=f[y[x]],{x,2}]
```

$$\frac{d^2}{dx^2}(x = f(y(x))) = \left(y'(x)^2\,f''(y(x)) + y''(x)\,f'(y(x)) = 0\right)$$

```
D[x=f[y[x]],{x,3}]
```

$$\frac{d^3}{dx^3}(x = f(y(x))) =$$
$$\left(f^{(3)}(y(x))\,y'(x)^3 + 3\,y'(x)\,y''(x)\,f''(y(x)) + y^{(3)}(x)\,f'(y(x)) = 0\right)$$

```
D[x=f[y[x]],{x,4}]
```

$$\frac{d^4}{dx^4}(x = f(y(x))) = \left(f^{(4)}(y(x))\, y'(x)^4 + 6\, f^{(3)}(y(x))\, y'(x)^2\, y''(x) + f''(y(x))\left(3\, y''(x)^2 + 4\, y^{(3)}(x)\, y'(x)\right) + y^{(4)}(x)\, f'(y(x)) = 0\right)$$

From the coefficients of the power series we can easily calculate the derivation at x = 0:

```
y'[x] = 1/6
y''[x] = 7/180
y'''[x] = 31/2520
y''''[x] = 127/25200
```

If we put these values into the equations below we get a system of linear equations:

```
f'[y[x]] y'[x] == 1
y'[x]^2 f''[y[x]] + f'[y[x]] y''[x] == 0
3 y'[x] f''[y[x]] y''[x] + y'[x]^3 f'''[y[x]] + f'[y[x]] y'''[x] == 0
6 y'[x]^2 y''[x] f'''[y[x]] + f''[y[x]] (3 y''[x]^2 + 4 y'[x] y'''[x]) + y'[x]^4 f''''[y[x]] + f'[y[x]] y''''[x] == 0
```

solve	$\begin{pmatrix} \frac{1}{6} & 0 & 0 & 0 \\ \frac{7}{180} & \frac{1}{36} & 0 & 0 \\ \frac{31}{2520} & 3\times\frac{1}{6}\times\frac{7}{180} & \frac{1}{216} & 0 \\ \frac{127}{25200} & \frac{49}{10800}+4\times\frac{1}{6}\times\frac{31}{2520} & 6\left(\frac{1}{6}\right)^2\times\frac{7}{180} & \frac{1}{1296} \end{pmatrix}$.{f1, f2, f3, f4} = {1, 0, 0, 0}	for	f1, f2, f3, f4

```
Solve[{
{1/6, 0, 0, 0},
{7/180, (1/6)^2, 0, 0},
{31/2520, 3*1/6*7/180, (1/6)^3, 0},
{127/25200, 3*(7/180)^2+4*1/6*31/2520, 6*(1/6)^2*7/180, (1/6)^4}
}.{f1,f2,f3,f4}=={1,0,0,0},{f1,f2,f3,f4}]
```

Here's the solution:

$$f1 = 6 \text{ and } f2 = -\frac{42}{5} \text{ and } f3 = \frac{3384}{175} \approx 19.3371 \text{ and } f4 = -\frac{11016}{175} \approx -62.9486$$

From these values we can finally calculate the coefficients of the inverse power series:

$$x(y) = 6y - \frac{21y^2}{5} + \frac{564y^3}{175} - \frac{459y^4}{175} + \cdots$$

Calculation of the lateral displacement

We use the same formula as before:

$$e = \frac{m}{2} \cdot \tan\frac{t}{2}$$

Now we plug the expression for *t* into $4\ tan^2(t/2)$ and calculate the power series of that:

```
Series[4 Tan[Sqrt[6y-21y^2/5+564y^3/175-459y^4/175]/2]^2,{y,0,4}]
```

$$6\,y + \frac{9\,y^2}{5} - \frac{27\,y^3}{350} + \frac{27\,y^4}{700} + O(y^5)$$

After a last substitution *y=d/m* we finally get:

$$e \doteq \frac{\sqrt{6md + \frac{9d^2}{5} - \frac{27d^3}{350m} + \frac{27d^4}{700m^2}}}{4}$$

Using only the first three terms I get the same value to 12 places as Gerson stated in message #36:

> Quote:
>
> e = 44.4984550191

Cheers
Thomas

PS: *InverseSeries* and *ComposeSeries* don't seem to work with WolframAlpha. That would have made this much easier.

Re: Five-minute challenge

*Message #37 Posted by **Gerson W. Barbosa** on 26 Jan 2011, 8:44 p.m.,*
in response to message #36 by Thomas Klemm

And this was supposed to be a 5-minute challenge...

> Quote:
>
> $$e \doteq \frac{\sqrt{6md + \frac{9d^2}{5} - \frac{27d^3}{350m} + \frac{27d^4}{700m^2}}}{4}$$

Impressive work! You and Crawl have derived an elegant and compact formula for a non-trivial problem.

Here are the numeric results the formula gives gives out, from 1st through 4th order:

```
1st: 44.497190922573977692
2nd: 44.498455029360289016
3rd: 44.498455019099827724
4rd: 44.49845501910079 9359

actual: 44.498455019100799255
```

The latter agrees with the actual result to 17 significant digits!

In order to get all those digits, I had to ask WolframAlpha for a numeric solution (the limit of my skills). First "solve r*arcsin(5280/(2*r))=5281/2 for r", then using the numeric value for r thus obtained: "78335.08050455416533561551559 - sqrt(78335.080504554165335615515592 - 5280^2/4)".

Regards,

Gerson.

Re: Five-minute challenge

*Message #38 Posted by **Thomas Klemm** on 27 Jan 2011, 9:16 a.m.,*
in response to message #37 by Gerson W. Barbosa

Meanwhile I had access to Mathematica where the whole thing is **much** easier:

```
4 Tan[Sqrt[InverseSeries[Series[Sqrt[x]/Sin[Sqrt[x]] - 1, {x, 0, 6}]]]/2]^2
```

$$6x+\frac{9x^2}{5}-\frac{27x^3}{350}+\frac{27x^4}{700}-\frac{58887x^5}{2695000}+4\left(\sqrt{6}\left(\frac{9590497281\sqrt{\frac{3}{2}}}{44844800000}+\frac{1}{6}\left(-\frac{991213011\sqrt{\frac{3}{2}}}{1379840000}-\frac{93447\sqrt{6}}{336875}\right)\right)-\frac{3147579}{1971200000}\right)x^6+O\left(x^{13/2}\right)$$

Funny to see how the coefficients start to become very complicated.

Just out of curiosity: Is it possible to do something like this with the CAS of the HP-50g?

Cheers
Thomas

Re: Five-minute challenge

*Message #39 Posted by **Gerson W. Barbosa** on 31 Jan 2011, 11:50 a.m.,*
in response to message #38 by Thomas Klemm

> Quote:
>
> Just out of curiosity: Is it possible to do something like this with the CAS of the HP-50g?

I fear the HP-50g lacks InverseSeries, otherwise I think it would handle that.

By the way, I've just found someone else's attempt:

http://www.moderatenerd.com/2009/12/15/the-expanding-rail-problem/

Cheers,

Gerson.

Re: Five-minute challenge

*Message #40 Posted by **Thomas Klemm** on 1 Feb 2011, 4:05 p.m.,*
in response to message #39 by Gerson W. Barbosa

Thanks for both the answer and the link. Looks promising. It seems there's nothing new under the sun and Google has an answer to every question.

Cheers

Thomas

Re: Five-minute challenge

*Message #41 Posted by **Gerson W. Barbosa** on 31 Jan 2011, 1:53 p.m.,*
in response to message #38 by Thomas Klemm

> Quote:
>
> Funny to see how the coefficients start to become very complicated.

Thomas,

The sixth term simplifies to 683073/50050000*x^6:

http://www.wolframalpha.com/input/?i=4*%28sqrt%286%29*%289590497281*sqrt%283%2F2%29%2F44844800000%2B1%2F6*%28-991213011*sqrt%283%2F2%29%2F1379840000-93447*sqrt%286%29%2F336875%29%29-3147579%2F1971200000%29

It would be interesting if there was a way to force the first terms to be left unsimplified, to see how they generalize (if they do at all).

Cheers,

Gerson.

Re: Five-minute challenge

*Message #42 Posted by **Gerson W. Barbosa** on 22 Jan 2011, 10:32 a.m.,*
in response to message #32 by Thomas Klemm

> Quote:
>
> > Quote:
> >
> > Can you come up with a rough approximation that can be computed on a 4-banger?

Actually, your solution meets David Hayden's second question (*"Can you find the exact (within 2 decimal places) answer?"*) while being able to do it on a 4-banger. Well done!

> Quote:
>
> > Quote:
> >
> > I was also surprised at how far off the "assume a right triangle" approximation is.
>
> This shows you can do better even without a fancy solver.

By resorting to Pythagoras instead to the Taylor's series for cosine, the approximation is improved:

$e = r$ - sqrt(r^2 - ((L-1)/2)^2)

$e = L*sqrt(L/24)$ - sqrt(L^3/24 - (L-1)^2/4)

e = 44.4971906

That's very close to Crawl's approximation but, unlike his or yours, far from concise.

Adding another term to the first series would require solving a quartic equation in order to find the radius. Fortunately, it is reducible to a quadratic equation and can be done by hand. Eventually I got, following your steps:

$r = L$/(2*sqrt(10*(1-sqrt(1-6/(5*L)))))

which, when plugged into the first equation above, yields

e = 44.498455 (44.49845 on the HP-12C and probably even less accurate on an ordinary 4-banger)

As a comparison, the actual result to 12 significant digits is

e = 44.4984550191

Regards,

Gerson.

Re: Five-minute challenge

*Message #43 Posted by **Stuart Sprott** on 24 Jan 2011, 7:34 a.m.,*
in response to message #32 by Thomas Klemm

Your method is more accurate than you realise. If you solve for the radius as you suggest, the radius is 78315.056. Next solve directly for the angle 2x, by arc/radius. ie 5280/78315.056. This is .067420 radians and equivalent to 3.862881 degrees. Therefore x = 1.931441 degrees. And (1- Cosx) = .000568

And finally defelection = .000568*78315.056 = 44.492977

This answer is only 0.005 different to the correct result. If you work backwards from the above the chord length is 5279.00051. So for all practical purposes the above is correct.

Re: Five-minute challenge

*Message #44 Posted by **David Hayden** on 29 Jan 2011, 12:16 a.m.,*
in response to message #1 by David Hayden

Through a coincidence worthy of a Hollywood movie, I actually had a somewhat practical application of this very problem today.

We have some chairs on our porch. The seats are supported by an elastic webbing similar to this. The original webbing stretched out over the years so I cut it, but it just stretched out more and I decided to replace it.

A little hunting on the internet led me to elastbelt webbing which stretches about 7%-10%.

When you install the webbing, you pull it tight, so say it can only stretch an additional 5% once installed. If the seat is 20" wide and the webbing stretches 5%, how much will it sag when I sit in it? Will I be able to get out of the chair to say hello to the neighbors when they walk by? Will it sag enough to be comfortable?

I may have done the calculations wrong, but I figured it should sag about 2.7590" - Perfect! :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

HP Solve article on thousands separators

*Message #1 Posted by **Martin Pinckney** on 20 Jan 2011, 9:21 a.m.*

Reading the "Commas in the HP Calculator Display" article by Richard Nelson, I was surprised to learn that "The HP48/49/50 series of machines will ... display the thousands separators in the FIX mode."

Surprised, because this has been a topic of discussion here, and I came away from said discussions with the belief that RPL machines *could not* display the thousands separators at all, because said RPL machines have to be able to process multiple kinds of objects, not just numerical ones. Now, I suppose that only applies to the command line.

Anyway, I have been a fan of the delimited display, but previously had resigned myself to not having it on my 48sx. My curiosity was piqued, however, because I almost always use FIX mode, but could not remember seeing the separators! So I turned on my main 48sx, and, I was right, no separators. I also have a beat-up 48gx that I never use, so I tried that, and saw the separators. Was this feature absent from the SX? No, I have Java installed on my main SX, so I tried a plain vanilla SX, and viola! Separators! So either this feature is not implemented in Java, or there is a setting to turn it on that I don't know about.

To further extend this rambling, while playing with the GX, I noticed that the display for mode setting looks just like the 38g not at all like the 48sx. Again curious, I dug out a 38g and tried it in FIX mode, and NO separators. Interesting.

Re: HP Solve article on thousands separators

*Message #2 Posted by **Walter B** on 20 Jan 2011, 11:12 a.m.,*
in response to message #1 by Martin Pinckney

Thanks for pointing to this article, though commas in the display are very common here (shall I claim that's the reason why commas are called commas? No, I won't, though it would have been fun to watch the resulting discussion ;). What caused me laughing out loud, however, was Table 1. The case must be pretty desperate if it's necessary to list Interlingua and Esperanto to make that row looking bigger than the following one. Very ... ummh ... interesting selection of countries, too. Reminds me of the famous poster published by The New Yorker decades ago, but still available AFAIK.

Nice article nevertheless, Richard. Keep going!

Re: HP Solve article on thousands separators

*Message #3 Posted by **Martin Pinckney** on 20 Jan 2011, 11:43 a.m.,*
in response to message #2 by Walter B

One thing was curious to me about the way the article was presented. That is, the row of tiny Voyager photos near the bottom of the 1st page. We are encouraged to "look closely." One wonders how.

Re: HP Solve article on thousands separators

*Message #4 Posted by **Jake Schwartz** on 20 Jan 2011, 4:43 p.m.,*
in response to message #3 by Martin Pinckney

> Quote:
>
> We are encouraged to "look closely." One wonders how.

In Acrobat Reader, when I magnify the images on that page up to 300%, the LCDs become somewhat readable and the separators are visible, albeit a bit pixellated.

Jake

Re: HP Solve article on thousands separators

*Message #5 Posted by **Martin Pinckney** on 20 Jan 2011, 5:06 p.m.,*
in response to message #4 by Jake Schwartz

> Quote:
>
> ...a bit pixellated.

No kidding.

Re: HP Solve article on thousands separators

*Message #6 Posted by **Martin Pinckney** on 20 Jan 2011, 11:45 a.m.,*
in response to message #2 by Walter B

> Quote:
>
> Very ... ummh ... interesting selection of countries, too.

Never fear, Walter, Germany has to be included in "(most of mainland Europe)." [:-)

Re: HP Solve article on thousands separators

*Message #7 Posted by **Walter B** on 20 Jan 2011, 4:50 p.m.,*
in response to message #6 by Martin Pinckney

Martin, FYI I'd have made the same remark if Richard had written "Denmark, Germany, (most of mainland Europe), ..." instead - you didn't get the point. A similar case were e.g. "Peru, Ecuador, (most of South America), ...".

Re: HP Solve article on thousands separators

*Message #8 Posted by **Kiyoshi Akima** on 20 Jan 2011, 1:10 p.m.,*
in response to message #1 by Martin Pinckney

There are also times when the presence of the digit separator every three digits actually hinders entering/reading numbers. Some languages and cultures split in groups of four digits, not three. There have been times when I've wished my HP had an option to put the separator every four digits.

Of course, I can just imagine the tech support nightmare that would ensue. On one tech support forum I frequent (tech support for everything, not just calculators), THE most common question I see about HP calculators is some variant of "My HP-12C is showing a comma instead of a period. How do I fix it?"

Re: HP Solve article on thousands separators

*Message #9 Posted by **Walter B** on 20 Jan 2011, 5:00 p.m.,*
in response to message #8 by Kiyoshi Akima

> Quote:
>
> THE most common question I see about HP calculators is some variant of "My HP-12C is showing a comma instead of a period. How do I fix it?"

If it couldn't be misunderstood, I'd ask why the reverse is asked far less. But since it can, I won't ... ([;-)

Re: HP Solve article on thousands separators

*Message #10 Posted by **Martin Pinckney** on 20 Jan 2011, 5:16 p.m.,*
in response to message #9 by Walter B

Can you not change the radix on the 12c? (Unless I'm not getting the point). The online manual states:

> Quote:
>
> **Digit Separators**
>
> As a number is keyed in, each group of three digits to the left of the decimal point is automatically separated in the display. When the calculator is first turned on after coming from the factory — or after Continuous Memory is reset — the decimal point in displayed numbers is a dot, and the separator between each group of three digits is a comma. If you wish, you can set the calculator to display a comma for the decimal point and a dot for the three-digit separator. To do so, turn the calculator off, then press and hold down the . key while you press ;. Doing so again sets the calculator to use the original digit separators in the display.

Re: HP Solve article on thousands separators

*Message #11 Posted by **Walter B** on 20 Jan 2011, 5:30 p.m.,*
in response to message #10 by Martin Pinckney

([... :-D Honestly, I did expect a lot, but not that response!

Re: HP Solve article on thousands separators

*Message #12 Posted by **Kiyoshi Akima** on 21 Jan 2011, 12:55 p.m.,*
in response to message #10 by Martin Pinckney

Yes, it's in the manual. And, as anyone who's ever manned a tech support desk can tell you, users don't RTFM. They find it easier to just ask the question.

Perhaps I should have said something like "The most-answered question about HP calculators is some variant of..."

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

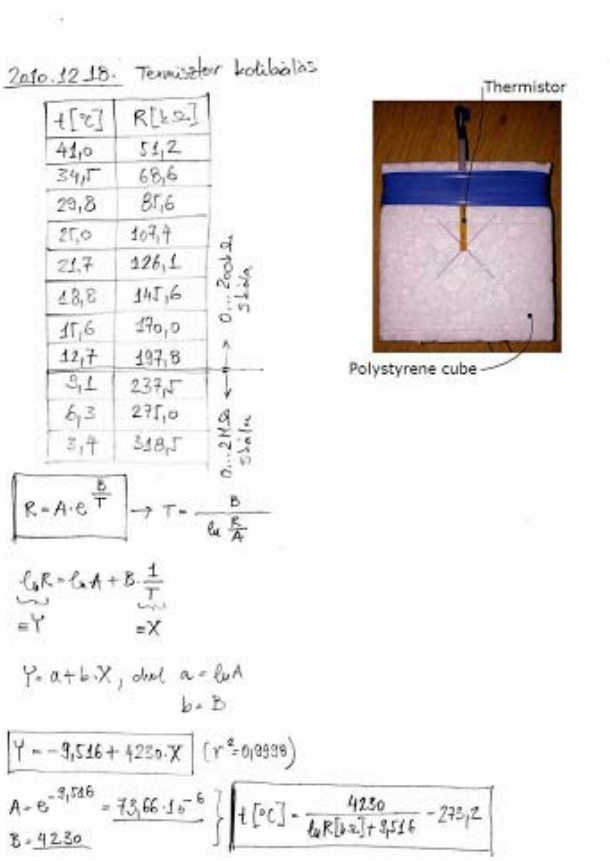
[Return to Index | Top of Index]

Re: The lost formula

*Message #1 Posted by **Csaba Tizedes (Hungary)** on 20 Jan 2011, 4:40 a.m.*

In last December I used an equation and works very well. I want to made a house-wall-temperature-meter to calculate heat loss of my house. This was a very simple polystirene cube (bad thermal conductivity for more precise measure) and a little PSION Revo thermistor. This "device" works very simple: Push the thermistor to the wall, wait for 15-20 seconds, measure the resistance then calculate temperature.

A pic about it and a calibration calculation:



Re: The lost formula

*Message #2 Posted by **designnut** on 20 Jan 2011, 10:41 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

That seems precise. What method of regression analysis did you use? What calculator?,Sam

Re: The lost formula

*Message #3 Posted by **John B. Smitherman** on 22 Jan 2011, 6:15 p.m.,*
in response to message #2 by designnut

Hi Sam. I used a 35s to work through Csaba's example and of course it only does linear regression. I had to remember to

take the ln of resistance and 1/Temp in degrees K before entering them as y and x.

Regards,

John

Re: The lost formula

*Message #4 Posted by **Csaba Tizedes (Hungary)** on 26 Jan 2011, 5:25 a.m.,*
in response to message #2 by designnut

Hi Sam,

I usually use Excel to fit functions, because it's simple and compatible with everything. Sometimes I grab my old 48SX and feed them with data.

This regression a simple least-squares method. The temperature need to calculate from Celsius to Kelvins!

Re: The lost formula

*Message #5 Posted by **John B. Smitherman** on 20 Jan 2011, 10:55 p.m.,*
in response to message #1 by Csaba Tizedes (Hungary)

Good work Csaba and thanks for sharing. Where did you get the temperature data used to develop the correlation?

By the way, what did you learn about your house's heat loss?

Regards,

John

Re: The lost formula

*Message #6 Posted by **Csaba Tizedes (Hungary)** on 26 Jan 2011, 5:59 a.m.,*
in response to message #5 by John B. Smitherman

I have a good mercury-filled thermometer (scale divided into 0.5C from 0C-100C, and approximate the temperature +-0.1C). I used a simple plasticware, filled with ~half liter water then I was cooled slowly with snow. If temperature not changed I was read a measuring point data.

Some approximately data about my house wall's heat loss:

1.) I assume that the wall have four layer (see the table: 2nd is the brick layer, 3rd is the heat-isolation layer and 1st and 4th the inner and outer mortar/grout (I dont know how to say it in English)).

2.) I want to know the inner heat transfer coefficient (alpha_i [W/(m2*K)]), so I wrote a heat flux from dining-room wall "inner" side to "outer" (ambient) , then I wrote some equation from "inner" side to inner wall surface. In this points the temperatures measurable (Ti, Tiw, To), and then I solved this equation (1) to alpha_i.

3.) With this coefficient the heat flux calculated: q'A [W/m2]=alpha_i*(Ti-Tiw)

4.) Then I plot this heat flux as function of temperature difference.

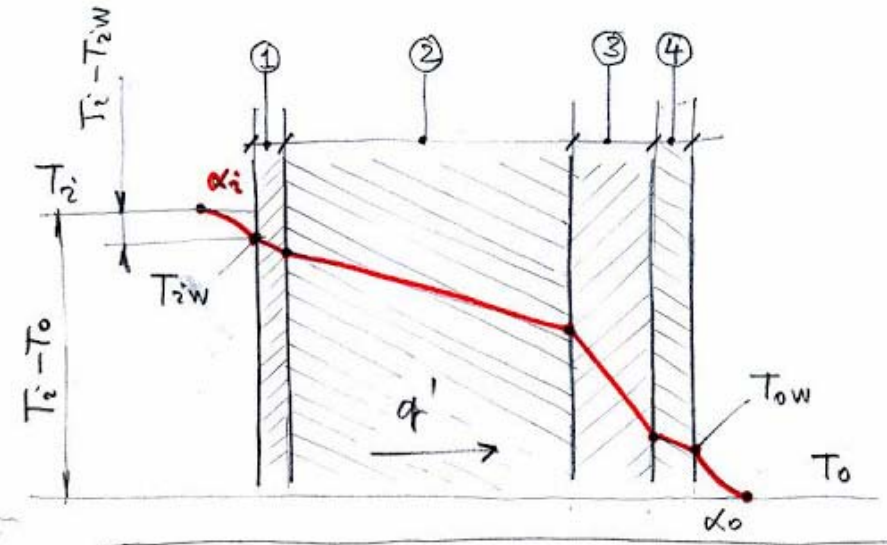
Unfortunately I have not measuring points yet at dT=22...24C.

Scans about it:

α_i – belső hőátadási tényező becslése

Házfal rétegei:

Sz. i	Vastagság e_i [mm]	Hővezetési tény. λ_i [W/(m·K)]	Anyag
①	15	0,35	Habarcs/Vakolat
②	240	0,32	Tégla
③	50	0,04	Hőszigetelés
④	20	0,87	Külső habarcs



$$\left.\begin{aligned} q' &= k \cdot (T_i - T_0) \\ q' &= \alpha_i \cdot (T_i - T_{iw}) \end{aligned}\right\} \quad (1)$$

$$k = \frac{1}{\frac{1}{\alpha_i} + \sum_{j=1}^{4} \frac{s_j}{\lambda_j} + \frac{1}{\alpha_0}}$$

$$(1): \quad \frac{1}{\frac{1}{\alpha_i} + \frac{s_1}{\lambda_1} + \frac{s_2}{\lambda_2} + \frac{s_3}{\lambda_3} + \frac{s_4}{\lambda_4} + \frac{1}{\alpha_0}} \cdot (T_i - T_0) = \alpha_i \cdot (T_i - T_{iw}) \rightarrow \alpha_i = \dots$$

Sor.	T_i [°C]	T_{iW} [°C]	T_o [°C]	α_{iA} [W/m²K]	α_{iB} [W/m²K]	ΔT_{io} [°C]	q'_A [W/m²]
1	19,7	18,2	-0,5	5,50	5,85	20,2	8,25
2	19,9	18,4	-0,5	5,56	5,91	20,4	8,34
3	20,5	19,3	-0,5	7,28	7,74	21,0	8,74
4	20,4	19,4	-0,5	8,78	9,33	20,9	8,78
5	20,1	19,5	-0,5	14,7	15,6	20,6	8,83
6	16,2	15,7	-2,5	16,1	17,1	18,7	8,03
7	20,7	18,9	-4,5	5,74	6,10	25,2	10,3
8	21,0	18,7	-4,7	4,49	4,77	25,7	10,3
9	19,2	18,9	-0,1	28,0	29,7	19,3	8,39

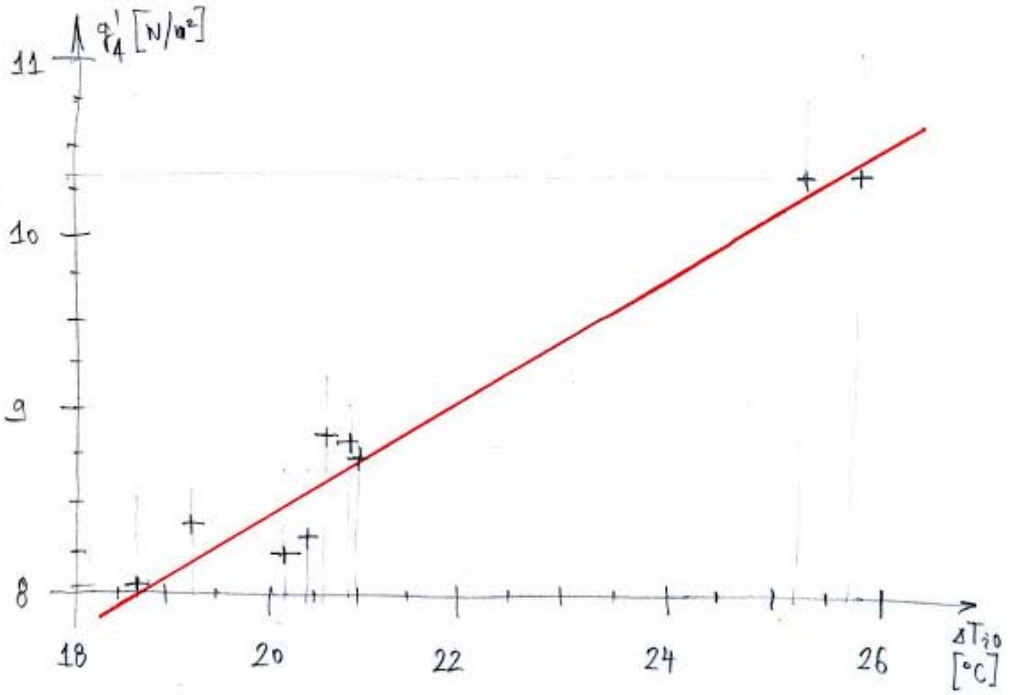
α_{iA} @ $\alpha_o = 5 \frac{W}{m^2K}$ (nyugodt külső levegő, felhős ég)

α_{iB} @ $\alpha_o = 15 \frac{W}{m^2K}$ (szeles idő, felhős ég)

q'_A @ $\alpha_o = 5 \frac{W}{m^2K}$

$q'_A = 0,338 \cdot \Delta T_{io} + 1,67$

$q'_A \simeq \frac{\Delta T_{io}}{3} + 1,8$



The coloumn alpha_i_A calculated at alpha_o=5 W/(m2*K) (no wind, cloudy weather) and alpha_i_B calculated at alpha_o=15 W/(m2*K) (windy, cloudy weather)

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

New HP Solve issue now posted at HP site

*Message #1 Posted by **gene wright** on 19 Jan 2011, 5:19 p.m.*

New HP Solve issue is out

Re: New HP Solve issue now posted at HP site

*Message #2 Posted by **Mark Harman** on 19 Jan 2011, 7:30 p.m.,*
in response to message #1 by gene wright

Thanks for the link, Gene.

I read Palmer Hanson's interesting article on algebraic, with its comparison and contrast to RPN. He made the point at the end of the article:

> Quote:
>
> Here's a possible solution for calculators which offer both RPN and algebraic: RPNers frequently use RollDown and x<>y. Algebraic users rarely, if ever, do. Why not share the RollDown function with the left parenthesis function and the x<>y function with the right parenthesis function with the software deciding which option to use depending on which mode the calculator is in.

I actually think HP has gone in the right direction with having already done this on both the 20b and 30b.

Mark

Re: New HP Solve issue now posted at HP site

*Message #3 Posted by **Katie Wasserman** on 19 Jan 2011, 10:44 p.m.,*
in response to message #2 by Mark Harman

Isn't this exactly what HP did in 1990 on the 17bii?

Re: New HP Solve issue now posted at HP site

*Message #4 Posted by **Mark Harman** on 19 Jan 2011, 10:54 p.m.,*
in response to message #3 by Katie Wasserman

Actually, on the 17bII and 17bII+, the roll down and x<>y functions are shifted. Even with the most recent versions, this is the case. On the 20b and 30b, the roll down and x<>y functions share the keys with the parentheses and are engaged based upon the mode that is selected. This functionality is what Palmer is suggesting as a solution.

Mark

Edited: 19 Jan 2011, 10:56 p.m.

Re: New HP Solve issue now posted at HP site

*Message #5 Posted by **Bruce Bergman** on 19 Jan 2011, 11:03 p.m.,*
in response to message #4 by Mark Harman

Um, no I don't think that's right. I don't have my 17bii+ around right now, but when it is in RPN mode, the parenthesis function as the swap and drop keys. I distinctly remember that being the case.

Can anyone confirm or deny?

thanks,

Bruce

Re: New HP Solve issue now posted at HP site

*Message #6 Posted by **Mark Harman** on 19 Jan 2011, 11:20 p.m.,*
in response to message #5 by Bruce Bergman

I guess I could be wrong as I have never used the 17bII+ in RPN - just algebraic when it was on a store display a number of years ago. What I have seen in pics, and in person, have suggested to me that they are shifted functions. However, I can concede to the idea that the key cap labeling is idiosyncratic.

Regards,

Mark

Re: New HP Solve issue now posted at HP site

*Message #7 Posted by **Bruce Bergman** on 20 Jan 2011, 12:31 a.m.,*
in response to message #6 by Mark Harman

Ah, it's definitely a shifted function in algebraic, yes.

(I've been searching through piles for the last hour trying to find my 17bii+ now... lol)

Thanks,

Bruce

Re: New HP Solve issue now posted at HP site

*Message #8 Posted by **Katie Wasserman** on 20 Jan 2011, 2:14 a.m.,*
in response to message #7 by Bruce Bergman

I've got a 17bii (not a 17bii+) in front of me:

In ALG mode parens are available without shifting, while in RPN mode the unshifted-paren keys are roll-down and swap. You can shift for these if you'd like to but the shift is not needed.

Additionally, in ALG mode you can use the roll-down and swap functions if you shift first.

Edited: 20 Jan 2011, 2:15 a.m.

Re: New HP Solve issue now posted at HP site

*Message #9 Posted by **Walter B** on 20 Jan 2011, 7:19 a.m.,*
in response to message #8 by Katie Wasserman

Same for 17bii+ Silver.

Re: New HP Solve issue now posted at HP site

*Message #10 Posted by **Martin Pinckney** on 20 Jan 2011, 10:04 a.m.,*
in response to message #2 by Mark Harman

> Quote:
>
> I read Palmer Hanson's interesting article on algebraic...

I, too enjoyed this article, and I like Palmer's categorization of the three main types of "algebraic" calculators.

Nitpicking, Palmer, I wish you had included reference to the "almost algebraic" HP's that operate similar to the TI's you mentioned, such as 20s, 21s, 22s and 27s.

Except I would further break them down into those that do or don't actually display the parentheses. I.E., some are more "almost" than others!

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #1 Posted by **Egan Ford** on 19 Jan 2011, 9:37 a.m.*

iDOS is back up on the App store and it's free. The catch is that you cannot use iTunes to place your files in iDOS, so no EMU*.*.

However, there is a work around. Install iPhone Explorer for Windows or Mac. Then you can browse the file system of your i* device and then drag and drop files to your iDOS Doc folder.

BTW iPhone Explorer is easier to use than iTunes for file xfers, so its really no loss. iPhone Explorer is free.

Hurry, before its gone again.

More info, screen shots: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv019.cgi?read=173849#173849

Edited: 19 Jan 2011, 9:46 a.m.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #2 Posted by **Katie Wasserman** on 19 Jan 2011, 11:54 a.m.,*
in response to message #1 by Egan Ford

Egan,

Thank you for this!

I've now got the HP100LX connectivity pack running on my ipod. It's really tiny but everything (calculator w/solver, phone book, database etc.) works and on an ipad I think it would be just great.

-Katie

HP100CP on iPhone -- cool!!

*Message #3 Posted by **Mike (Stgt)** on 20 Jan 2011, 7:06 a.m.,*
in response to message #2 by Katie Wasserman

... and how aboutMiniVMac? OS7 on handheld. Is this iDOS for iPod too?

Ciao.....Mike

Mini vMac

*Message #4 Posted by **gene wright** on 20 Jan 2011, 9:30 a.m.,*
in response to message #3 by Mike (Stgt)

Requirements seem to suggest a jailbroken iPhone to put Mini vMac on one.

Mini vMac on iPhone

However, I wonder if you can achieve the same results by using something like iPhone Explorer to make all the changes required to get Mini vMac running?

Re: HP100CP on iPhone -- cool!!

*Message #5 Posted by **Katie Wasserman** on 20 Jan 2011, 10:36 a.m.,*
in response to message #3 by Mike (Stgt)

> Quote:
>
> Is this iDOS for iPod too?

I should have been clearer on this, I have an iPod Touch 3rd gen. You have to have an iPhone, iPad or iPod Tocuh for iDOS. It will work on any generation device as long a iOS 4.0 or later is running.

Re: HP100CP on iPhone -- cool!!

*Message #6 Posted by **Egan Ford** on 20 Jan 2011, 10:55 a.m.,*
in response to message #3 by Mike (Stgt)

> Quote:
>
> ... and how aboutMiniVMac? OS7 on handheld.

Like Gene said, you have to Jailbreak to run it. It is out of date and has no direct support for iPad or Retina Display (iPhone 4).

If you have a $99/year Apple dev lic you could build it yourself, however the tool chain used is not Apples, so it may be a bit more cumbersome.

> Quote:
>
> Is this iDOS for iPod too?

Yes, it should work on all 4.0 iOS or later devices.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #7 Posted by **gene wright** on 19 Jan 2011, 2:50 p.m.,*
in response to message #1 by Egan Ford

Yep, got it this morning. Thanks for the tip on iPhone Explorer. I played Wolfenstein on the iPhone at lunch. Now I can get the HP 71 running on it.

Hmm... iPhone Explorer does not see my iPhone

*Message #8 Posted by **gene wright** on 19 Jan 2011, 3:11 p.m.,*
in response to message #7 by gene wright

Gotta hate it when that happens.

Update: Doh! It's there now.

Edited: 19 Jan 2011, 3:33 p.m.

Egan... when running Emu71 on the iphone...

*Message #9 Posted by **gene wright** on 19 Jan 2011, 9:56 p.m.,*
in response to message #8 by gene wright

How do you QUIT a DOS app in iDOS?

I got the 71b running and could do a CAT ALL, etc. But how do I exit the EMU71 app in the iPhone environment?

Re: Egan... when running Emu71 on the iphone...

*Message #10 Posted by **Raymond Del Tondo** on 20 Jan 2011, 12:22 a.m.,*
in response to message #9 by gene wright

Many DOS Programs could be exited via either Q , ESC, F10, or alike. What does the Emu71 doc tell about this?

In any case, keying in OFF should exit the emulator...

Edited: 20 Jan 2011, 12:24 a.m.

Re: Egan... when running Emu71 on the iphone...

*Message #11 Posted by **Egan Ford** on 20 Jan 2011, 1:15 a.m.,*
in response to message #10 by Raymond Del Tondo

OFF does work.

Re: Egan... when running Emu71 on the iphone...

*Message #12 Posted by **gene wright** on 20 Jan 2011, 7:37 a.m.,*
in response to message #11 by Egan Ford

Ok, I'll give that a try.

Edited: 20 Jan 2011, 7:38 a.m.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #13 Posted by **Jerry Raia** on 20 Jan 2011, 12:19 p.m.,*
in response to message #7 by gene wright

This is great. I wish my iphone was bigger now :)

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #14 Posted by **Bruce Bergman** on 20 Jan 2011, 2:40 p.m.,*
in response to message #1 by Egan Ford

Very cool. Okay, so I have a couple of questions.

First, how do you get those different views? When I run iDos, I don't see the computer-looking screen and so on. I just get a window with a see-thru keyboard. Am I missing some way to change settings or configuration

options?

Second, when I go to the generic dos prompt, how do I get back? If I try the traditional "exit", the app locks up until I soft rest my iPad. That can't be the way to get back out...

Next, I have emu71 running, along with a couple of games, and they're great. iPhone Explorer works fine, if a bit clunky. ;-) Where are some good references on how to use EMU71 to actually do things?

Finally, I would love to get cpack200 or any of the 200LX Connectivity Pack stuff running, however I realized last night that although I have the 3.5" floppies, I no longer have a computer with floppy disk drives! Ugh! Any idea of where to get a copy of the connectivity pack online? Or am I going to have to resurrect one of my old desktops just to transfer it.

Thanks !!

Bruce

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #15 Posted by **Raymond Del Tondo** on 20 Jan 2011, 4:01 p.m.,*
in response to message #14 by Bruce Bergman

> Quote:
>
> First, how do you get those different views? When I run iDos, I don't see the computer-looking screen and so on. I just get a window with a see-thru keyboard. Am I missing some way to change settings or configuration options?

Just turn the iPad into portrait mode;-)

> Quote:
>
> Where are some good references on how to use EMU71 to actually do things?

What does the author say?

> Quote:
>
> Finally, I would love to get cpack200 or any of the 200LX Connectivity Pack stuff running, however I realized last night that although I have the 3.5" floppies, I no longer have a computer with floppy disk drives!

USB floppy drives are very cheap;-)

HTH

Ray

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #16 Posted by **Egan Ford** on 20 Jan 2011, 6:26 p.m.,*
in response to message #14 by Bruce Bergman

> Quote:

> First, how do you get those different views? When I run iDos, I don't see the computer-looking screen and so on. I just get a window with a see-thru keyboard. Am I missing some way to change settings or configuration options?

Try rotating the screen. On the iPhone/landscape view press the top of the screen. iPhone/portrait view press the keyboard icon on the bottom of the screen. Config options are under the sprocket icon.

> Quote:
>
> Second, when I go to the generic dos prompt, how do I get back? If I try the traditional "exit", the app locks up until I soft rest my iPad. That can't be the way to get back out...

Don't type exit. Press the top-left corner of the screen to get back to the GUI. If you type exit again, press the sleep button until you get the "slide to power off", then release the sleep button and press the home button. That will kill any iPhone hung app without a restart.

> Quote:
>
> Next, I have emu71 running, along with a couple of games, and they're great. iPhone Explorer works fine, if a bit clunky. ;-) Where are some good references on how to use EMU71 to actually do things?

EMU71 is the same as 71B, I'd read the 71B docs and the EMU71 docs on the extra features (e.g. HP-IL emulation, configuration, etc...)

> Quote:
>
> Finally, I would love to get cpack200 or any of the 200LX Connectivity Pack stuff running, however I realized last night that although I have the 3.5" floppies, I no longer have a computer with floppy disk drives! Ugh! Any idea of where to get a copy of the connectivity pack online? Or am I going to have to resurrect one of my old desktops just to transfer it.

USB floppy drives work (even on Macs).

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #17 Posted by **Frido Bohn** on 21 Jan 2011, 2:56 a.m.,*
in response to message #16 by Egan Ford

Hi there!

Where do I have to upload those .exe files into my iPhone?
If I get into the iExplorer I don't see a directory which appears appropriate to put DOS-files into.[n]
Any suggestions?

Thanks
Frido

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #18 Posted by **gene wright** on 21 Jan 2011, 8:37 a.m.,*
in response to message #17 by Frido Bohn

First post at the top of this thread give the answer to that question:

"Then you can browse the file system of your i* device and then drag and drop files to your iDOS Doc folder."

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #19 Posted by **Frido Bohn** on 21 Jan 2011, 9:21 a.m.,*
in response to message #18 by gene wright

> Quote:
>
> "Then you can browse the file system of your i* device and then drag and drop files to your iDOS Doc folder."

The point is: I can't find that "iDos" folder in the folder tree.
I tried hard but I didn't find it in the folder system as offered by the iExplorer.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #20 Posted by **Katie Wasserman** on 21 Jan 2011, 11:22 a.m.,*
in response to message #19 by Frido Bohn

On my iPod Touch the correct folder is:

/Apps/8HLDK844H7.net.litchie.idos/Documents

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #21 Posted by **Gerry Schultz** on 21 Jan 2011, 6:57 p.m.,*
in response to message #20 by Katie Wasserman

I too am having issues with the iDOS/iPhone Explorer combonation. In the left column of the iPhone Explorer, it sees the 8HLDK844H7.net.litchie.idos subdirectory within the Apps subdirectory of the iPad but when I click on it, iPhone Explorer says 'file not found.' As a matter of fact, trying to open any of the subdirectories listed report 'file not found.'

But in the white bar just below the pull down menus, that shows the iPad ID name and path and at the bottom, iPhone Explorer accurately reports how much RAM is in use. I am trying to use the iPhone Explorer as a standard app (in Windows XP) to browse through the file structure in the iPad but perhaps that's a misconception on my part.

What am I doing wrong?

Thanks for the help, Gerry

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on

iPad/iPhone)!

*Message #22 Posted by **Donald Williams** on 21 Jan 2011, 7:09 p.m.,*
in response to message #21 by Gerry Schultz

IIRC I had a very similar experience after the initial installation of explorer. After a reboot all worked well. Try the reboot.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #23 Posted by **Gerry Schultz** on 21 Jan 2011, 8:37 p.m.,*
in response to message #22 by Donald Williams

Thanks for the suggestion, Donald. You are right. A reboot fixed the problem.

Gerry

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #24 Posted by **Bill (Smithville, NJ)** on 22 Jan 2011, 9:13 a.m.,*
in response to message #22 by Donald Williams

Thanks. Reboot fixed mine also.

To make things more interesting, I loaded a CPM emulator and now have cpm programs running on a iTouch. Can't hardly read the screen, but still fun. Next to try a TRS-80 emulator.

Too bad iDOS has been pulled again. It could be a lot of fun to play with on a iPad (if I ever get one).

Bill

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #25 Posted by **Vladan Dugaric** on 22 Jan 2011, 11:44 a.m.,*
in response to message #24 by Bill (Smithville, NJ)

Well, if you get an iPad, all apps that you have in your iTunes account can be installed on it too. There is no limit to the number of iDevices that you can use on an iTunes account, and all apps can be installed on all devices (no need to repurchase and Apple won't remove it from your iTunes library).

So, when you get your iPad (presumably iPad 2, it's just around the corner and it is rumoured to have a much better spec), just sync it to your computer and all the apps from your iTunes library will be loaded onto it. Even if an app has been withdrawn in the meantime (though if the authors remove the root file system access, I am guessing that Apple will approve of the app again).

Vladan

Edited: 22 Jan 2011, 11:45 a.m.

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #26 Posted by **Bill (Smithville, NJ)** on 22 Jan 2011, 12:14 p.m.,*
in response to message #25 by Vladan Dugaric

> Quote:
>
> Well, if you get an iPad, all apps that you have in your iTunes account can be installed on it too

That's good to know.

Now I just have to wait for the iPad2.

Bill

Re: iDOS Lives! Get it while you can (IOW, EMU71/EMU41 on iPad/iPhone)!

*Message #27 Posted by **Bruce Bergman** on 21 Jan 2011, 12:09 p.m.,*
in response to message #1 by Egan Ford

It has apparently been removed AGAIN. At least I got it this time before they took it down.

Jus' sayin!

Thanks,

Bruce

iDos removed... perhaps because ...?

*Message #28 Posted by **gene wright** on 21 Jan 2011, 1:27 p.m.,*
in response to message #27 by Bruce Bergman

Someone on engadget posted a way to get to the iPhone / iPad / iPod touch root/ file system from within iDOS!

Probably considered a BAD Thing by Apple. Just guessing.

Do a google search and you'll find out how to do it. Why? Not sure.

Re: iDos removed... perhaps because ...?

*Message #29 Posted by **Eric Smith** on 21 Jan 2011, 11:59 p.m.,*
in response to message #28 by gene wright

Knew that wouldn't last. They're facing an uphill battle as every time Apple removes it, and the developer modifies it to make Apple happy, people will discovering more things it can do that Apple doesn't like.

The problem with the iPhone is that it is a computer, but (despite your purchase) it is not **your** computer, it is **Apple's** computer.

If you want a smart phone you actually own, without having to depend on clever people to jailbreak it and fight an arms race with the vendor, buy an Android based phone instead.

Edited: 22 Jan 2011, 12:00 a.m.

Re: iDos removed... perhaps because ...?

*Message #30 Posted by **Howard Owen** on 22 Jan 2011, 1:19 a.m.,*
in response to message #29 by Eric Smith

The only DOS emulator I can find on the Android Market (by searching for "DOS") is a DosBox port called "PLAY PC GAMES ON YOUR DROID." (No kidding, that's the app name.) They don't provide source, and mention a whole lot of bugs in the implementation. They also say it's pointless to use it without a hard keyboard. I was wondering if anyone had tried this? Alternatively, are there other DOS emulators on the Market that I am missing?

Missed iDOS for my iPod this time around too. I should read this forum more frequently.

Re: iDos removed... perhaps because ...?

*Message #31 Posted by **Eric Smith** on 22 Jan 2011, 8:35 p.m.,*
in response to message #30 by Howard Owen

I'm certainly not claiming that there's a Android equivalent for every iPhone app. However, since Android is an open platform, over time it becomes more likely that you will find an app that does what you want for Android, especially since Apple wants to limit what you can do with the iPhone and iPad, while Google wants you to be able to do whatever you want.

Many people have pointed out the irony of Apple advertising in 1984 that their products would help you seize control from Big Brother, but that now Apple is trying to BE Big Brother.

Edited: 23 Jan 2011, 8:27 p.m. after one or more responses were posted

Re: iDos removed... perhaps because ...?

*Message #32 Posted by **Paul Berger (Canada)** on 22 Jan 2011, 10:44 p.m.,*
in response to message #31 by Eric Smith

Android vs iPad

and

The real Steve Jobs

Re: iDos removed... perhaps because ...?

*Message #33 Posted by **Howard Owen** on 22 Jan 2011, 11:30 p.m.,*
in response to message #31 by Eric Smith

I'm an Android user for that very reason, Eric. You still have to deal with the carrier's shenanigans, but at least the phone OS isn't an opaque padlock. Even without "rooting" an Android phone, you have the capability of installing your own software on the device, for example. You can also get around most of the carrier silliness without blowing up the phone.

> So I'm not slamming Android when I ask about a DOS emulator. I'm just wondering if anyone knows of one. :)

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archive 20

[Return to Index | Top of Index]

Re: a challenge related to the 15 puzzle

*Message #1 Posted by **Don Shepherd** on 19 Jan 2011, 4:53 a.m.*

Well, the HP-32sii version takes a while to run because it has to decode registers A-D in which 4 numbers are stored in each register. I did that to avoid using so many registers. This version stores a single cell value in each register A-P. While it uses many more registers than the other version, it runs much quicker (about 7 seconds versus 40 seconds).

Life (and programming) is all about trade-offs!

```
Program to determine solvability of 15 puzzle for 32s.
This one is faster than the one that stores 4 numbers in each register A-D.


Register usage:


A-P - 16 cell values, entered after XEQ A
Q   - number of inversions, including row number of empty cell
R   - current outer loop cell value
i   - indirect addressing and inner loop index
T   - outer loop index


Usage:
XEQ A
enter 16 cell values (0 for empty cell) R/S after each
program displays number of inversions; if even, puzzle is solvable


Code:


lbl a    entry point
1.016    loop to get cell values
sto i
lbl b
r/s      enter each of 16 values
sto (i)  stores in A-P
x<>0     if 0 calc row#
goto c
3
rcl+i
4
/
ip
sto q    inversion count starts with row# of empty cell
lbl c
isg i
goto b
1.015    outer loop goes from 1 to 15
sto t    outer loop index
lbl d
rcl t    get current outer loop cell value
sto i    and store in R
rcl (i)
sto r
rcl t
ip
1.016
+        inner loop goes from t+1 to 16
sto i    inner loop index
lbl e
```

```
rcl (i)
x=0       if inner loop cell value is 0, ignore
goto f
rcl r     current outer loop cell value
x<y
goto f
1
sto + q   increment inversion counter
lbl f
isg i
goto e    iterate inner loop
isg t
goto d    iterate outer loop
rcl q     display inversion counter, even means puzzle is solvable
rtn
```

Edited: 19 Jan 2011, 10:23 a.m.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: a challenge related to the 15 puzzle

*Message #1 Posted by **Don Shepherd** on 18 Jan 2011, 10:20 p.m.*

Here is a BASIC version for the HP-71b, one of my favorite calculators. It is much faster than the 32sii version, probably because it doesn't have to decode multiple numbers stored in a register.

```
HP 71b program to determine 15 puzzle solvability


10 destroy all
20 integer a(16)
30 data 11,5,14,7,15,2,9,4,6,0,1,13,10,3,12,8
40 for i=1 to 16
50 read a(i)
60 if a(i)=0 then let b=ip((i+3)/4)
70 next i
80 for i=1 to 15
90 for j=i+1 to 16
100 if a(j)<>0 and a(j)<a(i) then let b=b+1
110 next j
120 next i
130 if mod(b,2)=0 then disp "solvable" else disp "unsolvable"
140 disp "inversions = ";b
```

Re: a challenge related to the 15 puzzle

*Message #2 Posted by **Allen** on 18 Jan 2011, 11:01 p.m.,*
in response to message #1 by Don Shepherd

Nice-- and easy on the eyes.. I started a 50g program that uses PUT,PUTI,GET, LOC and REPL. It's compact, but incomplete as yet.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

41 MCODE: Alice in Bufferland

*Message #1 Posted by **Ángel Martin** on 18 Jan 2011, 5:51 p.m.*

We have not Lewis Carroll but other few people to thank for this new 41 MCODE collection (to mention a few names: David Yerka, Håkan Thörngren, David van Leeuwen, and the wonderful anonymous CCD Module programmers - BTW does anyone know their names?)

So building upon their work, here's to let you know about the release of the BUFFERLAND module, absolutely free of charge (don't look for it on TAS = at least the price is right :) compiling a collection of your favorite Buffer-related functions, plus adding a few new ones from my own harvest, like:

- creation, deletion, and clearing of buffers
- buffer header, size and other vital signs
- exchange (STO/RCL) with "normal" data registers
- transfering to/from XMEM
- re-issuing the buffer id# - a hacker delight
- BFCAT, a buffer catalog featuring SST and BST- interactive operation (and certainly not an easy one to crack!)
- and the proverbial "much more"... did I say Key Assignments are also part of the pack?

All in all, the right toolset to make this seemingly obscure part of the 41 OS/Memory as transparent as main data registers or program memory can be.

And the better news is: just in time to be included in Monte's 41CL image file! and of course the usual submission to TOS will follow for those of you curious enough and/or interested in the subject...

Hope you enjoy it as much as I did programming it (never mind the sleepless hours trying to get it all work!_

Cheers, 'AM

Edited: 18 Jan 2011, 5:54 p.m.

Re: 41 MCODE: Alice in Bufferland

*Message #2 Posted by **Frido Bohn** on 19 Jan 2011, 3:35 a.m.,*
in response to message #1 by Ángel Martin

Hello Ángel,

sorry for being slow on the uptake but what is a "buffer" in terms of the HP41?

Is there any straightforward literature about this?

Regards
Frido

Re: 41 MCODE: Alice in Bufferland

*Message #3 Posted by **Ángel Martin** on 19 Jan 2011, 4:24 a.m.,*
in response to message #2 by Frido Bohn

> Quote:
>
> what is a "buffer" in terms of the HP41?

Buffers are reserved memory areas used by diverse application packs for internal housekeeping or calculations. Notorious buffers are the Advantage's for SOLVE/INTEG, the HP-Devel for MONITOR/SCOPE, and (of course) the 41Z for the complex stack.

Probably best to look at the comprehensive section in the book "Extend your HP-41", by Wlodeck - or just google for "41C buffers" :-)

Buffer table taken from the ICEBOX manual.-

```
Buffer id# Module/Eprom Reason
1          David Assembler MCODE Labels already existing
2          David Assembler MCODE Labels referred to
3          Eramco RSU-1B ASCII file pointers
4          Eramco RSU-1A Data File Pointers
5          CCD Module, Seed, Word Size, Matrix Name
6          Extended IL (Skwid) Accessory ID of current device
7          Extended IL (Skwid) Print Cols, number & width
8          41Z, Complex Stack, POLAR/REC settings
10         Time Module Alarms information
11         Plotter Module Data and barcode parameters
12         IL Development, CMT-200 IL buffer and monitoring
13         CMT-300 Status Info
14         Advantage INTEG & SOLVE scratch
15*        Mainframe Key Assignments
*) KA area isn't really a buffer.
>
```

Edited: 19 Jan 2011, 4:31 a.m.

Re: 41 MCODE: Alice in Bufferland

*Message #4 Posted by **Paul Dale** on 19 Jan 2011, 3:40 a.m.,*
in response to message #1 by Ángel Martin

> Quote:
>
> And the better news is: just in time to be included in Monte's 41CL image file! and of course the usual submission to TOS will follow for those of you curious enough and/or interested in the subject...

But no management of the extra CL memory :-(

- Pauli

Re: 41 MCODE: Alice in Bufferland

*Message #5 Posted by **Ángel Martin** on 19 Jan 2011, 4:25 a.m.,*
in response to message #4 by Paul Dale

> Quote:
>
> But no management of the extra CL memory :-(

Sorry but I don't understand your remark: buffers are in main RAM and have nothing to do with the 41CL MMU or its design?

Re: 41 MCODE: Alice in Bufferland

*Message #6 Posted by **Paul Dale** on 19 Jan 2011, 4:58 a.m.,*
in response to message #5 by Ángel Martin

All the aforementioned transfer functions but to the CL's extra RAM.

Fairly rhetorical actually.

- Pauli

Re: 41 MCODE: Alice in Bufferland

*Message #7 Posted by **Geir Isene** on 19 Jan 2011, 10:52 a.m.,*
in response to message #1 by Ángel Martin

I am eagerly awaiting this one.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Green LED HP 45?

*Message #1 Posted by **Ron G.** on 18 Jan 2011, 10:57 a.m.*

That's just weird.

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Microsoft Mathematics is now free.

*Message #1 Posted by **Egan Ford** on 18 Jan 2011, 9:16 a.m.*

I've never used it (I'm a Mac :-), but the screen shots look nice.

Product Info: http://www.microsoft.com/education/products/student/math/default.aspx#overview

Download link: http://www.microsoft.com/downloads/en/details.aspx?FamilyID=9caca722-5235-401c-8d3f-9e242b794c3a

Re: Microsoft Mathematics is now free.

*Message #2 Posted by **Walter B** on 18 Jan 2011, 10:00 a.m.,*
in response to message #1 by Egan Ford

Hmmmh, it says "From basic math to precalculus" ... so those of us having kids in that age may be interested.

Re: Microsoft Mathematics is now free.

*Message #3 Posted by **Martin Pinckney** on 18 Jan 2011, 10:54 a.m.,*
in response to message #1 by Egan Ford

Egan, the download site states:

> Quote:
>
> The links in this section correspond to separate files available in this download. Download the files most appropriate for you.

Nowhere could I find any instruction as to which file is "appropriate" for me. But I am sure most anyone else on here would know immediately.

I use Windows 7 32 bit. Does that mean I use the x86 and not x64 version?

Edited: 18 Jan 2011, 10:57 a.m.

Re: Microsoft Mathematics is now free.

*Message #4 Posted by **Paul Gaster** on 18 Jan 2011, 12:06 p.m.,*
in response to message #3 by Martin Pinckney

Yes, x86.

Re: Microsoft Mathematics is now free.

*Message #5 Posted by **ClausB** on 19 Jan 2011, 4:47 p.m.,*
in response to message #1 by Egan Ford

Free is too high a price for anything from that company, IMHO.

Re: Microsoft Mathematics is now free.

*Message #6 Posted by **John B. Smitherman** on 19 Jan 2011, 10:53 p.m.,*
in response to message #5 by ClausB

I agree, free is about right. After first downloading the .net sp1 upgrade I downloaded the math app and was finally able to run it. It's ok. Does M$ still develop software or did they buy this from someone?

John

Re: Microsoft Mathematics is...

*Message #7 Posted by **Mike (Stgt)** on 20 Jan 2011, 7:26 a.m.,*
in response to message #5 by ClausB

Well, I am not convinced as Lotus 123 survived in Excel. But where is a successor of Lotus Agenda?

Microsoft Mathematics is not what I will reach for when I need a sophisticated graphing calculator. That is, I know so many quick emulators of real calculators whit all math I can imagine and almost sufficient graphics. So my point of view is somewhat personal.

Ciao.....Mike

Re: Microsoft Mathematics is now free.

*Message #8 Posted by **Manolo Sobrino** on 20 Jan 2011, 6:20 a.m.,*
in response to message #1 by Egan Ford

Actually, it is pretty capable. You can use complex matrices, input complex numbers for the functions (hyperbolics too, lacks inverses of these though who needs that). Some symbolics, integrals and derivatives, and the graphs look nice. For free it's a corker and makes unnecessary to purchase a graphic calculator. I wouldn't overlook it, I think it's great for school, and maybe a little more too. I wish it had some programmability... Good for you Microsoft! (never thought I would say that).

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Kip Hopkins?

*Message #1 Posted by **db (martinez, ca.)** on 17 Jan 2011, 9:57 p.m.*

Are you the Kip Hopkins that used to ski up & down all the peaks around Carson, Luther, Monitor and Echo Passes?

Re: Kip Hopkins?

*Message #2 Posted by **Kip Hopkins** on 21 Jan 2011, 9:33 a.m.,*
in response to message #1 by db (martinez, ca.)

Yes, that was before the ankle issue. Heidi's brother. Always brought the steel square book along and now am more modern with calculator developments and some difficulties. I'm sure the batteries would've frozen in the tent, anyway. Thanks, Kip

Re: Kip Hopkins?

*Message #3 Posted by **db (martinez, ca.)** on 22 Jan 2011, 12:17 a.m.,*
in response to message #2 by Kip Hopkins

KIP! Ain't seen you for pushin 25 years. We did a ski out above where your sister lived last i seen you. Last time i saw Heidi she & i did the little 4th class summit pinnacle on Jeff Davis. Ran into Dave at a Dead show about 20 years ago in Berkeley and last time i saw Bill we skied the elephant bowl about 10 years ago. I fell off the world.
We'll have to get together some time. I'll use this forum's system to send you my email. One thing i remember about you is that you do everything you do 100% - so we have to get you using RPN on that 35s.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: Power management and deep sleep

*Message #1 Posted by **Monte Dalrymple** on 17 Jan 2011, 6:57 p.m.*

Tim,

For the 41CL I had to mimic the power-down modes of the original 41C series as best I could. I think I ended up with something quite similar to what was used. Basically there are three states: Deep Sleep, Light Sleep, and Running.

In Deep Sleep power (Vdd) is shut off to the majority of the logic, which in the 41CL is a Flash-based FPGA. The program storage, also being FLash, is powered down, and the main voltage regulator is shut off (it still passes the unregulated battery voltage), along with the master oscillator. So the only things drawing power are: the static RAM (data storage), the CPLD (which has the wake-up logic), the RS232 chip (just in case in the future I add serial wake-up functionality), the micro-power regulators for the RAM and CPLD, and two resistive dividers in the main power supply (one for the low-level detect, and one for the voltage-level feedback).

Light Sleep is the state where the calulator is "on" but not actually doing anything. Everything is powered, but static. The oscillator is still running, but the clocks are stopped inside the FPGA. Because of the way the keyboard scanner works, all of the column drivers have to be Low in this state (to detect any keypress), but that is a slight problem, because the column signals are really open-drain drivers with resistive pull-ups. So the pull-ups have to be as large as possible. But this conflicts with the timing for the keyboard scanner. What I ended up doing was during the actual keyboard scan, precharging all of the column lines before actually driving one of them. This allowed me to use megohm pullups instead of the 75K that would have been required to meet timing. That saved 370uA during light sleep.

I guess the bottom line is that when going for low-power, try everything possible, because it all adds up in the end. The 41CL current drain isn't as low as it could be because the programmable logic vendors haven't really cared about power. I mean, the wake-up logic required to remain powered is perhaps a dozen gates, but the CPLD draws alomst 100uA. If I were doing this in a custom chip that number would be less than 5uA. Even the resistive dividers in the power supply is a trade-off. I live with 3-4% accuracy on the voltages, because that lets me use higher-value resistors, saving another 10uA or more per divider.

Monte

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: a challenge related to the 15 puzzle

*Message #1 Posted by **Allen** on 17 Jan 2011, 6:03 p.m.*

Here's a quick RPL program based on the article you posted above. It uses a flag for parity tracking, and indrect addressing from the stack to scroll through the loops. Here are the program 41c barcodes (including 2 programs to input 2 test matrices.)

Credit Note: Program was written using Free42, output to RAW and converted to barcodes using HP41UC program.

```
Inputs:
  Register 00 - 1  (a pointer to first cell)
  Register 01 - First number of grid
  ...
  Register 15 - Last number of grid
  Register 16 - 00 (assumes the space is in location 16)
Outputs:
  Clear stack except for 1 in ST X if solution exists, 0 otherwise



00 { 53-Byte Prgm }
01>LBL "AQ"
02 CF 01              ' clears the parity flag
03 CLST               ' clear stack
04 RCL 00             '
05>LBL 01             ' Loop for checking results
06 RCL IND ST X
07 X<0?               ' Check the pointer to see if it's neg
08 GTO 02             ' if so, go to next loop
09 -1
10 STO× IND ST Z      ' Otherwise negate and recall next value
11 RCL IND ST Z
12 +/-
13 GTO 01             ' repeat loop
14>LBL 02             ' Flip the parity flag- (starts even)
15 FS? 01
16 FC?C 01
17 SF 01
18>LBL 03             ' begin counting through the values
19 RCL IND 00
20 X=0?               ' until you find a positive one to loop on
21 GTO 04             ' 00 value indicates end of matrix
22 X>0?
23 GTO 01             ' new loop found, go to main loop
24 ISG 00             ' increment reg 00 counter
25 CLX                ' NOP
26 GTO 03             ' counter to check for the first pos. number
27>LBL 04             ' end program
28 CLST               ' cleanup the stack
29 FS? 01
30 1                  ' return parity based on Flag 1
31 END
```

Note: edited to add inputs/outputs section

Edited: 18 Jan 2011, 9:16 a.m.

Re: a challenge related to the 15 puzzle

*Message #2 Posted by **Don Shepherd** on 18 Jan 2011, 5:42 p.m.,*
in response to message #1 by Allen

Great program Allen, thanks. Can you implement this unique algorithm in RPL on the 50g?

Don

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Dead HP-31E, where do I start?

*Message #1 Posted by **Paul Gaster** on 17 Jan 2011, 4:00 p.m.*

I have a HP-31E that is dead and I am not sure where to start. It is in the box with original case, manuals, and AC adapter. Serial number is 1920A92944, Made in USA. It does not turn on when plugged in, and when I checked the battery pack I noticed that one contact is broken. The extra piece was under the batteries. Where do I start with this? I know this was a lower end model, but I would like to be careful and want to avoid any further damage.

Re: Dead HP-31E, where do I start?

*Message #2 Posted by **db (martinez, ca.)** on 17 Jan 2011, 5:15 p.m.,*
in response to message #1 by Paul Gaster

first, do not plug it into that charger. never. if it is dead; that is probably what killed it.

second, you might clean the contacts with vinegar and rinse with alcohol or distilled water if they have blue stuff on them. then note from the battery (it will only go in one way) which is the + and which is the - contact and mark them both as a reference. you probably have some AA rechargables (they are the correct 1.25v). turn the switch to the off position. with some aluminum foil to temporarily make up for the broken contact and to bridge the batteries, you might find that when you switch it on, or after wiggling the batteries, you have a calculator.
if not, and if there was blue corrosion, then you might have to take it apart to clean off or paint on new traces. popping off the back is difficult the first time if you only have three hands but there is a very good set of instructions with photos in the articles section of this site.

there are lots of other things to try, but the're down the list.

Edited: 17 Jan 2011, 5:19 p.m.

Re: Dead HP-31E, where do I start?

*Message #3 Posted by **Paul Gaster** on 17 Jan 2011, 7:47 p.m.,*
in response to message #2 by db (martinez, ca.)

Thank you, that did the trick and I now have a calculator that comes on and seems to work in general, but it has a new problem. The lowest row on the display doesn't come on. Is there any way it can be fixed?

Re: Dead HP-31E, where do I start?

*Message #4 Posted by **Norman Dziedzic** on 17 Jan 2011, 9:20 p.m.,*
in response to message #3 by Paul Gaster

I second that request :-)

I have a 31E with some missing segments. The lower left segments are out for all digits on my 31E.

Re: Dead HP-31E, where do I start?

*Message #5 Posted by **db (martinez, ca.)** on 17 Jan 2011, 9:46 p.m.,*
in response to message #4 by Norman Dziedzic

it might be the pressed-on chip problem. maybe.

if you post the serial numbers, someone here will know if yours are from before hp started soldering stuff onto the pcb, without having to pop it apart. like i said; taking the back off is not difficult. however; each time you spring it open you run the chance of cracking something. but putting them together is like falling off a log.

Re: Dead HP-31E, where do I start?

*Message #6 Posted by **Norman Dziedzic** on 18 Jan 2011, 12:18 a.m.,*
in response to message #5 by db (martinez, ca.)

Thanks db. My S/N is 1849A24700 Made in USA

Re: Dead HP-31E, where do I start?

*Message #7 Posted by **Walter B** on 18 Jan 2011, 4:05 a.m.,*
in response to message #6 by Norman Dziedzic

We had this topic recently: IIRC, you can't differentiate soldered/solderless by s/n but you can easily by weight. Please search the forum. HTH

Re: Dead HP-31E, where do I start?

*Message #8 Posted by **Norman Dziedzic** on 18 Jan 2011, 7:18 a.m.,*
in response to message #6 by Norman Dziedzic

I don't have a battery door and I'm at 171g weight. I think this means solderless and not good for me :-(

Karl's method for opening the Spice series

*Message #9 Posted by **db (martinez, ca.)** on 18 Jan 2011, 11:08 a.m.,*
in response to message #8 by Norman Dziedzic

Click here

Re: Karl's method for opening the Spice series

*Message #10 Posted by **Paul Gaster** on 18 Jan 2011, 4:16 p.m.,*
in response to message #9 by db (martinez, ca.)

That looks good. I also found a link with some pictures and a different method for separating the case. Not sure who made this page, but it may be helpful.
http://www.voidware.com/calcs/spicerepair.htm

Re: Karl's method for opening the Spice series

*Message #11 Posted by **db (martinez, ca.)** on 18 Jan 2011, 9:29 p.m.,*
in response to message #10 by Paul Gaster

I've used that method. It works fine too. I just wished i had longer fingernails and more fingers. I don't know who made that page either. Nicely done though.

Re: Dead HP-31E, where do I start?

*Message #12 Posted by **Mike T.** on 18 Jan 2011, 7:11 a.m.,*
in response to message #3 by Paul Gaster

You lucky man - I swapped my HP31E for an HP32E (and quite a lot of cash) way back in 198x. Don't regret it but the HP31E is now definatly a collector's item...

Mike T.

Re: Dead HP-31E, where do I start?

*Message #13 Posted by **robert rozee** on 18 Jan 2011, 9:16 a.m.,*
in response to message #12 by Mike T.

i have two 31E's here, which i had planned to 'retro fit' with larger modern LED displays. should i be holding off on this plan?

both seem to have small bubbles in the plastic lenses over the LEDs, along with some frosting. and both are well-worn, though at least one functions ok.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: a challenge related to the 15 puzzle

*Message #1 Posted by **Allen** on 17 Jan 2011, 10:10 a.m.*

Don, That's an interesting article. It reminds me very much of a Turing state machine, whereby the numbers in each grid become a GOTO instruction. It basically counts the number of closed GOTO loops in the grid- really interesting approach!

With one register in each variable, this would be interesting to do using indirect registers. Pseudo code for 41cv/42s:

```
0. Enter matrix in registers 1-15
1. Format Stack, clear parity flag
2. recall register 1
3. use  -1 STO* IND ST Y to mark the register "visited"
4. indirectly recall next memory location
5. If greater than 0 goto 3,
6. starting from beginning of matrix find first number > 0
   if == 00 (register 16) goto 9
7. Toggle parity flag
8. goto 3
9. recall parity flag (done)
```

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Classic Chargers

*Message #1 Posted by **Alberto Fenini** on 17 Jan 2011, 9:15 a.m.*

ciao a tutti,
I have few chargers that need the transformator replaced,
I digged a while on the forum and on some more sites, like Jacque's one but I'm a little confused
what the specs exactly are ? primary 220 V, secondary 16 V and VA ???
thanks for help, Alberto

Re: Classic Chargers

*Message #2 Posted by **Kees van der Sanden** on 18 Jan 2011, 3:13 p.m.,*
in response to message #1 by Alberto Fenini

Hi Alberto,

The secondary voltage of the transformer must be between 6V and 9 V. The 16 V given on the site of Jacque is too high. I expect this is a typo. A secondary voltage of 16 Volt will destroy the 400uF/15V capacitor. A 6 or 8 VA transformer will do the job.

Regards,

Kees

Re: Classic Chargers

*Message #3 Posted by **Alberto Fenini** on 18 Jan 2011, 4:42 p.m.,*
in response to message #2 by Kees van der Sanden

ciao Kees
thanks for the information, I'll give it a tr.
I have purchased two transformers that will perfectly fit into the case but the specs are 6V 2.4VA
In a way the 16 V made sense, it would be slightly dropped by the four diodes and will properly charge the condenser,
I'm afraid that a lower secondary will not work, but since I have two of them I'll try soon.
Thanks again, I'll let everybody know if it will work
take care Alberto

Re: Classic Chargers

*Message #4 Posted by **sylvandb** on 18 Jan 2011, 10:04 p.m.,*
in response to message #3 by Alberto Fenini

> Quote:
>
> In a way the 16 V made sense, it would be slightly dropped by the four diodes and will properly charge the condenser,

The condenser will charge to the peak voltage (RMS * sqrt(2)). Yes, the diodes will drop the voltage about 0.7v each. (If using a full-wave bridge rectifier, about 1.4v.)

Your 220v:6v transformer might be close enough. 6v would be about 8.4v before the diode drop. So a full-wave bridge would provide about 7vdc. If you supply it with 240v on the primary you would get about 0.5v more on the secondary. Or if you use a half-wave rectifier you could get another 0.7vdc but might need more capacitance.

Re: Classic Chargers

*Message #5 Posted by **Alberto Fenini** on 19 Jan 2011, 3:52 a.m.,*
in response to message #4 by sylvandb

I think I will desolder a transformer from a good working classic power supply and see how much is the secondary value
thanks again Alberto

Re: Classic Chargers

*Message #6 Posted by **Jacques Laporte** on 21 Jan 2011, 4:40 a.m.,*
in response to message #1 by Alberto Fenini

Ciao Alberto,

Yes, in the past (2007 i think) I have done measures on the Classics transformer 82002A. I wrote on my site that the output voltage of the constant current circuit is @ 15V DC (unloaded).

You can easily confirm that with a multimeter. See photo below. With the calc attached (the load) the voltage drops.

That's it !

I will open a working adapter this WE **for you** and measure the voltage at the Xformer's secondary.

That said, my HP calc site has become too huge (too much data) : errors are certain.

Thank you all to help me correct them!

Edited: 21 Jan 2011, 9:21 a.m. after one or more responses were posted

Re: Classic Chargers

*Message #7 Posted by **Jacques Laporte** on 21 Jan 2011, 9:17 a.m.,*
in response to message #6 by Jacques Laporte

Alberto, I have done (at the risk of my life ....) a video of the measure.

Took a 82011A which is safer : I have only 2 hands (with the 82002A, it's not easy to keep the 110-220 slider in place !!)

Result is : 12,5 V AC at the secondary (unloaded).

See : checking a 82011 battery charger

Edited: 21 Jan 2011, 9:27 a.m.

Re: Classic Chargers

*Message #8 Posted by **Alberto Fenini** on 21 Jan 2011, 11:26 a.m.,*
in response to message #7 by Jacques Laporte

Thank you very much !!!!
Boy this was cool, even my name on the video,
I'll stop by the shop tomorrow morning and see what they have
Take care and thanks again, Alberto

Re: Classic Chargers

*Message #9 Posted by **Bart (UK)** on 21 Jan 2011, 9:02 a.m.,*
in response to message #1 by Alberto Fenini

In Tony Duell's article on classic chargers he shows the *rectified* output to be 16V (I think this is open circuit voltage, as the cap is rated 15V). Therefore I would guess a transformer with a secondary voltage of ~10V AC would suffice. HOWEVER, in another thread Tony warns *"The output voltage of this transformer is designed to fall under load, in a specified way"* (I would hazard a guess that this is to reduce the stress on the power transistors as the load increases). So a standard transformer may not be the best solution.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: HP-67 advice needed

*Message #1 Posted by **Alberto Fenini** on 17 Jan 2011, 9:13 a.m.*

Thanks Randy,
I have printed out everything, and I'll do some more tests
I'll keep posted the results here
again, thank you very much, Alberto

Re: HP-67 advice needed

*Message #2 Posted by **Alejandro Paz (Germany)** on 18 Jan 2011, 1:47 a.m.,*
in response to message #1 by Alberto Fenini

You may consider re-drawing the board and getting it made. You went to the trouble of removing all the components. You can even get it gold-plated like in the old days :)

Re: HP-67 advice needed

*Message #3 Posted by **Alberto Fenini** on 18 Jan 2011, 4:53 p.m.,*
in response to message #2 by Alejandro Paz (Germany)

It's not a bad idea, actually I'm in touch with someone for making
a replica of an HP65 card reader pcb, but it's more complicated that we can imagine.
Not because of the complexity of the layout, but because of the thickness
which is a not a common format nowadays.
The price is about 45 € for the master, and 10/15 € each unit produced.
Price could slightly increase for the master since the shape is not a regular rectangle.
Should this work (the guy is based in Sicily and I live in Milano, so logistic is slow and complex) it could be worth doing this for an HP67 logic PCB.
Thanks for suggestion, take care Alberto

Re: HP-67 advice needed

*Message #4 Posted by **Alejandro Paz (Germany)** on 26 Jan 2011, 3:23 p.m.,*
in response to message #3 by Alberto Fenini

Alberto:

The people at bilex-lp.com (I'm not affiliated with them) make also 0.5 mm pcbs and 0.8 mm too. The prices are very similar.

[Return to Index | Top of Index]

GTO Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: The lost formula

*Message #1 Posted by **John B. Smitherman** on 17 Jan 2011, 8:19 a.m.*

We don't know what we don't know.

Regards,

John

Re: The lost formula

*Message #2 Posted by **Martin Pinckney** on 17 Jan 2011, 8:57 a.m.,*
in response to message #1 by John B. Smitherman

If anyone understands the meaning of this thread, I would like to know.

Re: The lost formula

*Message #3 Posted by **Norman Dziedzic** on 17 Jan 2011, 11:17 a.m.,*
in response to message #2 by Martin Pinckney

Seems to me like just a question of curve fitting.

A thermistor is an electronic device whose resistance changes with temperature in a predictable, albeit nonlinear, way.

See:http://www.vishay.com/doc?29053

I'm guessing the OP used to have a simple equation to approximate a particular thermistor response at one time and lost it.

Re: The lost formula

*Message #4 Posted by **Martin Pinckney** on 17 Jan 2011, 1:21 p.m.,*
in response to message #3 by Norman Dziedzic

Thanks for responding, Norman.

> Quote:
>
> A thermistor is an electronic device whose resistance changes with temperature in a predictable, albeit nonlinear, way.
>
> I'm guessing the OP used to have a simple equation to approximate a particular thermistor response at one time and lost it.

That much I got.

> Quote:
>
> On reading something everyone impress it on the matrix of "what they know". There can be nothing new under the sun, everything that can be learned has always been learned. You miss a lot of information that way. The impact of what I wrote is that there is a simple accurate method not disclosed by usual methods. Read the message with an open mind, your brains won't fall out.
>
> Sam
>
> ---
>
> things which have been (very) tedious in the past may be far easier nowadays and become even easier in the future, caused by new insight or just compilations of older insights. This process goes on and on...
>
> Walter
>
> ---
>
> We don't know what we don't know.
>
> John

The rest not so much.

Re: The lost formula - lost in translation

*Message #5 Posted by **Norman Dziedzic** on 17 Jan 2011, 3:05 p.m.,*
in response to message #4 by Martin Pinckney

I think I had my high pass filter on and didn't absorb that part of the thread ;-/

Re: The lost formula

*Message #6 Posted by **Walter B** on 17 Jan 2011, 4:49 p.m.,*
in response to message #4 by Martin Pinckney

Martin,

let me explain. As far as I understood the OP, he

- had found a simple method decades ago describing the electrical behaviour of a thermistor
- had used something like experimental math (or call it trial and error) for his finding since he had known no other way then
- can't find it again but doesn't want this knowledge getting lost
- keeps pointing us to this therefore.

I admit I don't know for sure what the OP wants us doing. So my answer could have been like John's, but I didn't want to leave an old man out in the rain. Thus I thought a bit and guess:

If that behaviour is of practical relevance, it was solved in the time between - or it can be modeled easily by some brute force fitting algorithm using the tools available today, which where beyond imagination decades ago. So the OP's problem is most probably solved now either way by the

advancement of science ... dona eo pacem!

HTH. I'm most willing, however, to delete my two postings in this thread if they will cause any trouble whatsoever ...

Re: The lost formula

*Message #7 Posted by **Martin Pinckney** on 17 Jan 2011, 6:04 p.m.,*
in response to message #6 by Walter B

Walter, I think I've got it now. Thanks for your help.

No need to delete anything.

Re: The lost formula

*Message #8 Posted by **designnut** on 18 Jan 2011, 1:27 a.m.,*
in response to message #7 by Martin Pinckney

I think I probably started adding 273 to the C temperature and found that was not quite the right slope and adjusted from there. I'll give it a try through programming and see what happens. I know it was dirt simple, probably a temp add-on and a normalizing factor to suit the particular resistance thermistor. Sam

Re: The lost formula

*Message #9 Posted by **Pal G.** on 18 Jan 2011, 2:16 a.m.,*
in response to message #2 by Martin Pinckney

> Quote:
>
> If anyone understands the meaning of this thread, I would like to know.

42.

Re: The lost formula

*Message #10 Posted by **Martin Pinckney** on 18 Jan 2011, 8:33 a.m.,*
in response to message #9 by Pal G.

Now *that* explains it!

Re: The lost formula

*Message #11 Posted by **Walter B** on 18 Jan 2011, 9:54 a.m.,*
in response to message #10 by Martin Pinckney

Don't lose your towel, ask Douglas Adams instead ;)

Re: The lost formula

*Message #12 Posted by **Dan W** on 18 Jan 2011, 8:47 p.m.,*
in response to message #11 by Walter B

When I first discovered WolframAlpha, I had to ask it the question of life, the universe, and

everything.

It came up with the correct answer. ;)

[Return to Index | Top of Index]

Go back to the main exhibit hall

HP Forum Archive 20

[Return to Index | Top of Index]

Re: F1011A AC/DCAdapter

*Message #1 Posted by **Thomas Chrapkiewicz** on 17 Jan 2011, 8:03 a.m.*

I believe it is also suitable for the 100lx/200lx devices.

TomC

[Return to Index | Top of Index]

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

OLD HP Forum

Welcome back!
Your last visit began on 30 Oct 2014, 2:36 a.m.
Since then, no new messages have been posted.

This is the OLD HP forum. For newer discussions, please visit the New HP Forums.

How to register at the new forum:
Even if you had an account on the old forum, you'll need to create one for the new forum. In the upper left near "Hello There, Guest" you should see a register link.

Using the same name (or close) as as you used on the old forum is preferred. The new forum does not allow commas in names. If you had a comma before, please omit it from your new account name.

Message Index

Messages Posted or Modified Within the Last Archive

506 of 506 Messages Displayed
(Reversed Threaded Listing)

Photo of my new Prime, Eric Smith - *15 Dec 2013, 2:10 a.m.*
Re: Photo of my new Prime, 'Angel Martin - *15 Dec 2013, 3:29 a.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 3:42 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 10:49 a.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 11:52 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 12:33 p.m.*
Re: Photo of my new Prime, Thomas Radtke - *15 Dec 2013, 1:13 p.m.*
Re: Photo of my new Prime, John B. Smitherman - *15 Dec 2013, 9:44 a.m.*
Re: Photo of my new Prime, Raymond Del Tondo - *15 Dec 2013, 11:04 a.m.*
Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 11:09 a.m.*
Re: Photo of my new Prime, Chris Smith - *15 Dec 2013, 11:15 a.m.*
Re: Photo of my new Prime, Egan Ford - *15 Dec 2013, 12:10 p.m.*

Re: Photo of my new Prime, bhtooefr - *15 Dec 2013, 12:48 p.m.*
Re: Photo of my new Prime, Mike (Stgt) - *16 Dec 2013, 5:24 a.m.*
Re: Photo of my new Prime, Eric Smith - *16 Dec 2013, 10:43 a.m.*
And the collection grows..., Les Koller - *14 Dec 2013, 11:29 p.m.*
Re: And the collection grows..., Xavier A. (Brazil) - *5 Feb 2014, 5:55 p.m.*
Prime Emulator Connection Problem , John Colvin - *14 Dec 2013, 7:18 p.m.*
Re: Prime Emulator Connection Problem , Tim Wessman - *14 Dec 2013, 7:20 p.m.*
Re: Prime Emulator Connection Problem , John Colvin - *15 Dec 2013, 7:13 p.m.*
Re: Prime Emulator Connection Problem , Han - *14 Dec 2013, 11:00 p.m.*
HP Prime Emulator download, John Colvin - *13 Dec 2013, 11:25 p.m.*
Re: HP Prime Emulator download, Damien - *14 Dec 2013, 1:19 a.m.*
Re: HP Prime Emulator download, John Colvin - *14 Dec 2013, 5:54 p.m.*
HP Prime: SVD, JeffG - *13 Dec 2013, 1:47 p.m.*
Re: HP Prime: SVD, Helge Gabert - *14 Dec 2013, 12:15 p.m.*
Re: HP Prime: SVD, Helge Gabert - *14 Dec 2013, 12:37 p.m.*
HP35s Program Four Slings Lift Calculation, Jean-Marc Biram (Australia) - *13 Dec 2013, 2:49 a.m.*
Re: HP35s Program Four Slings Lift Calculation, David Hayden - *16 Dec 2013, 8:17 a.m.*
Re: HP35s Program Four Slings Lift Calculation, Jean-Marc Biram (Australia) - *16 Dec 2013, 7:21 p.m.*
Does the HP Prime really compiles the user programs?, CompSystems - *13 Dec 2013, 7:22 a.m.*
Re: Does the HP Prime really compiles the user programs?, Tim Wessman - *13 Dec 2013, 10:20 a.m.*
Re: Does the HP Prime really compiles the user programs?, Kévin Ouellet (Canada) - *13 Dec 2013, 5:15 p.m.*
Re: Does the HP Prime really compiles the user programs?, Mike Morrow - *13 Dec 2013, 1:55 p.m.*
[HP-PIRME] BUG Pretty Print, Solution: abs => |...|, ABS => ||...||, CompSystems - *12 Dec 2013, 10:40 p.m.*
Re: [HP-PIRME] BUG Pretty print abs => ||...||, ABS => |...|, Han - *12 Dec 2013, 11:17 p.m.*
Re: [HP-PIRME] BUG Pretty Print, Solution: abs => |...|, ABS => ||...||, CompSystems - *13 Dec 2013, 9:36 a.m.*
An amazing day: Giving a talk at HP about their calculators, Geir Isene - *12 Dec 2013, 5:01 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Mike Morrow - *12 Dec 2013, 7:58 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Geir Isene - *12 Dec 2013, 8:03 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Mike Morrow - *12 Dec 2013, 10:01 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Geir Isene - *13 Dec 2013, 4:18 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Arne Helme - *14 Dec 2013, 4:08 a.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Mike Morrow - *14 Dec 2013, 7:22 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, aurelio - *15 Dec 2013, 9:31 a.m.*
Re: An amazing day: Giving a talk at HP about their calculators, Geir Isene - *15 Dec 2013, 6:53 p.m.*
Re: An amazing day: Giving a talk at HP about their calculators, aurelio - *16 Dec 2013, 6:14 p.m.*
Four-Level RPN and the Real World, Matt Agajanian - *12 Dec 2013, 4:46 p.m.*
Re: Four-Level RPN and the Real World, Walter B - *12 Dec 2013, 4:52 p.m.*
Re: Four-Level RPN and the Real World, Matt Agajanian - *12 Dec 2013, 4:57 p.m.*
Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 4:55 p.m.*
Re: Four-Level RPN and the Real World, Raymond Del Tondo - *12 Dec 2013, 5:46 p.m.*
Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 6:05 p.m.*
Re: Four-Level RPN and the Real World, Raymond Del Tondo - *12 Dec 2013, 7:33*

p.m.
Re: Four-Level RPN and the Real World, Geir Isene - *12 Dec 2013, 7:51 p.m.*
Re: Four-Level RPN and the Real World, Walter B - *13 Dec 2013, 1:23 a.m.*
Re: Four-Level RPN and the Real World, Gerson W. Barbosa - *13 Dec 2013, 5:55 a.m.*
Re: Four-Level RPN and the Real World, Walter B - *13 Dec 2013, 6:22 a.m.*
Re: Four-Level RPN and the Real World, gene wright - *13 Dec 2013, 8:43 a.m.*
Re: Four-Level RPN and the Real World, Nick_S - *13 Dec 2013, 6:09 a.m.*
Re: Four-Level RPN and the Real World, Marcel Samek - *13 Dec 2013, 2:29 p.m.*
Re: Four-Level RPN and the Real World, Manolo Sobrino - *13 Dec 2013, 3:57 p.m.*
Last call for 41Z/SandMath Overlays... plus new ones, Ángel Martin - *12 Dec 2013, 10:27 a.m.*
OT: National Semiconductors NSB-3881, Ignazio Cara (Italy) - *12 Dec 2013, 8:31 a.m.*
Re: OT: National Semiconductors NSB-3881, Thomas Chrapkiewicz - *12 Dec 2013, 10:09 a.m.*
Re: OT: National Semiconductors NSB-3881, Thomas Chrapkiewicz - *12 Dec 2013, 10:25 a.m.*
HP Prime: Baker's Game, Mark Power - *11 Dec 2013, 6:25 p.m.*
Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 3:15 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, aurelio - *11 Dec 2013, 3:33 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 3:38 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Massimo Gnerucci (Italy) - *11 Dec 2013, 4:20 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *11 Dec 2013, 4:23 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Les Bell - *11 Dec 2013, 4:35 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Sylvain Cote - *11 Dec 2013, 4:40 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Garth Wilson - *11 Dec 2013, 6:05 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Les Bell - *11 Dec 2013, 4:36 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Mike Morrow - *11 Dec 2013, 7:18 p.m.*
Re: Reasonable price for a 41C, Quad Mem, Time, Navigation and Card reader module?, Eelco Rouw - *12 Dec 2013, 1:52 a.m.*
How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *11 Dec 2013, 12:37 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, J-F Garnier - *11 Dec 2013, 1:00 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *11 Dec 2013, 7:29 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, J-F Garnier - *12 Dec 2013, 3:11 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *12 Dec 2013, 12:42 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *13 Dec 2013, 2:27 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *13 Dec 2013, 7:56 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *14 Dec 2013, 7:39 p.m.*

Re: How to copy files from 9114B to hard drive via PIL-box?, Michael Fehlhammer - *13 Dec 2013, 3:45 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *13 Dec 2013, 7:44 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *13 Dec 2013, 8:47 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *14 Dec 2013, 4:55 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Christoph Giesselink - *15 Dec 2013, 5:20 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, bhtooefr - *15 Dec 2013, 6:05 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *18 Dec 2013, 8:35 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *19 Dec 2013, 12:14 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Michael Fehlhammer - *13 Dec 2013, 10:06 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *14 Dec 2013, 5:02 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *14 Dec 2013, 2:14 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Michael Fehlhammer - *16 Dec 2013, 7:12 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Dave Frederickson - *17 Dec 2013, 11:27 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, J-F Garnier - *14 Dec 2013, 5:24 a.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Joe Horn - *14 Dec 2013, 8:03 p.m.*
Re: How to copy files from 9114B to hard drive via PIL-box?, Geoff Quickfall - *14 Dec 2013, 11:57 p.m.*
[HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *11 Dec 2013, 12:23 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *11 Dec 2013, 12:31 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *11 Dec 2013, 12:54 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *11 Dec 2013, 1:39 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, parisse - *12 Dec 2013, 3:55 a.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *12 Dec 2013, 9:46 a.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *12 Dec 2013, 8:09 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, Han - *12 Dec 2013, 8:45 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *12 Dec 2013, 9:00 p.m.*
Re: [HP-PIRME] ^ OPERTOR // => SUPER BUG, CompSystems - *12 Dec 2013, 9:26 p.m.*
The new HP forums, Dave Hicks - *11 Dec 2013, 12:12 p.m.*
Bug in New Forum Sign-Up Page!!!!, Namir - *11 Dec 2013, 12:26 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Dave Hicks - *11 Dec 2013, 1:10 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Mike Morrow - *11 Dec 2013, 1:17 p.m.*

Re: Bug in New Forum Sign-Up Page!!!!, db (martinez, ca.) - *11 Dec 2013, 3:58 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Namir - *11 Dec 2013, 8:29 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Thomas Radtke - *11 Dec 2013, 1:55 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Steve Simpkin - *11 Dec 2013, 2:25 p.m.*
Re: Bug in New Forum Sign-Up Page!!!!, Thomas Radtke - *11 Dec 2013, 2:43 p.m.*
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Re: The new HP forums, Jonathan Cameron - *11 Dec 2013, 12:48 p.m.*
Re: The new HP forums, Paul Berger (Canada) - *11 Dec 2013, 12:52 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 1:07 p.m.*
Re: The new HP forums, Paul Berger (Canada) - *11 Dec 2013, 2:03 p.m.*
Re: The new HP forums, Mark Storkamp - *11 Dec 2013, 12:54 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 1:03 p.m.*
Re: The new HP forums, Michael de Estrada - *11 Dec 2013, 1:05 p.m.*
Re: The new HP forums, Tim Wessman - *11 Dec 2013, 1:14 p.m.*
Re: The new HP forums, Gerson W. Barbosa - *11 Dec 2013, 1:28 p.m.*
Re: The new HP forums, Steve Simpkin - *11 Dec 2013, 2:22 p.m.*
Re: The new HP forums, Walter B - *11 Dec 2013, 2:38 p.m.*
Re: The new HP forums, Steve Simpkin - *11 Dec 2013, 3:17 p.m.*
Re: The new HP forums, Chris Pem10 - *11 Dec 2013, 1:16 p.m.*
Re: The new HP forums, Ed Wright - *11 Dec 2013, 1:46 p.m.*
Re: The new HP forums, Alberto Candel - *11 Dec 2013, 2:13 p.m.*
Re: The new HP forums, Walter B - *11 Dec 2013, 2:51 p.m.*
Re: The new HP forums, Marcus von Cube, Germany - *11 Dec 2013, 3:41 p.m.*
Re: The new HP forums, BruceH - *11 Dec 2013, 3:51 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 4:13 p.m.*
Re: The new HP forums, aurelio - *11 Dec 2013, 4:13 p.m.*
Re: The new HP forums, Jean-Michel - *11 Dec 2013, 4:14 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 4:28 p.m.*
Re: The new HP forums, Les Bell - *11 Dec 2013, 5:14 p.m.*
Re: The new HP forums, Steve Simpkin - *11 Dec 2013, 6:24 p.m.*
Re: The new HP forums, Les Bell - *11 Dec 2013, 6:25 p.m.*
Re: The new HP forums, Jonathan Cameron - *11 Dec 2013, 5:39 p.m.*
Re: The new HP forums, Bill (Smithville, NJ) - *11 Dec 2013, 6:58 p.m.*
Re: The new HP forums, Namir - *11 Dec 2013, 8:36 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 9:12 p.m.*
Re: The new HP forums, svisvanatha - *11 Dec 2013, 10:27 p.m.*
Re: The new HP forums, Dave Hicks - *11 Dec 2013, 10:37 p.m.*
Re: The new HP forums, Patrice - *12 Dec 2013, 12:36 a.m.*
Re: The new HP forums, Adrien Bertrand - *12 Dec 2013, 12:53 p.m.*
Re: The new HP forums, Geoff Quickfall - *12 Dec 2013, 12:59 p.m.*
Re: The new HP forums, HrastProgrammer - *14 Dec 2013, 4:10 a.m.*
Re: The new HP forums, db (martinez, ca.) - *14 Dec 2013, 12:02 p.m.*
Re: The new HP forums, HrastProgrammer - *16 Dec 2013, 1:08 a.m.*
Re: The new HP forums, Walter B - *16 Dec 2013, 3:42 a.m.*
Re: The new HP forums, db (martinez, ca.) - *16 Dec 2013, 2:06 p.m.*
Re: The new HP forums, Mike (Stgt) - *14 Dec 2013, 11:40 a.m.*
Goodbye HP Museum forum, DeboT - *15 Jan 2014, 8:24 a.m.*
Re: Goodbye HP Museum forum, Thomas Radtke - *15 Jan 2014, 9:14 a.m.*
Re: Goodbye HP Museum forum, DeboT - *22 Jan 2014, 6:52 a.m.*
Re: Goodbye HP Museum forum, marais - *22 Jan 2014, 2:42 p.m.*
HP Prime: CAS taylor, Alberto Candel - *10 Dec 2013, 7:16 p.m.*
Re: HP Prime: CAS taylor, parisse - *11 Dec 2013, 4:42 a.m.*

Re: HP Prime: CAS taylor, Alberto Candel - *11 Dec 2013, 8:20 a.m.*
Re: HP Prime: CAS taylor, parisse - *12 Dec 2013, 4:02 a.m.*
Re: HP Prime: CAS taylor, Alberto Candel - *13 Dec 2013, 9:41 p.m.*
Re: HP Prime: CAS taylor, Alberto Candel - *13 Dec 2013, 9:45 p.m.*
HP50g: Writing a function that returns a function, Chris de Castro - *10 Dec 2013, 6:18 p.m.*
Re: HP50g: Writing a function that returns a function, Han - *10 Dec 2013, 6:48 p.m.*
Re: HP50g: Writing a function that returns a function, Han - *10 Dec 2013, 6:49 p.m.*
Broken keys on HP Prime?, Tarcisi C - *10 Dec 2013, 5:59 p.m.*
HP Prime - usbtool.exe, bluesun08 - *10 Dec 2013, 10:47 a.m.*
Re: HP Prime - usbtool.exe, Tim Wessman - *10 Dec 2013, 11:04 a.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *10 Dec 2013, 11:15 a.m.*
Re: HP Prime - usbtool.exe, Erwin Ried - *10 Dec 2013, 11:23 a.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *10 Dec 2013, 11:50 a.m.*
Re: HP Prime - usbtool.exe, Tim Wessman - *10 Dec 2013, 1:56 p.m.*
Re: HP Prime - usbtool.exe, fabrice48 - *10 Dec 2013, 2:35 p.m.*
Re: HP Prime - usbtool.exe, Mic - *10 Dec 2013, 3:04 p.m.*
Re: HP Prime - usbtool.exe, Les Koller - *10 Dec 2013, 6:59 p.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *11 Dec 2013, 7:06 a.m.*
Re: HP Prime - usbtool.exe, Les Koller - *10 Dec 2013, 10:53 p.m.*
Re: HP Prime - usbtool.exe, Erwin Ried - *10 Dec 2013, 10:59 p.m.*
Re: HP Prime - usbtool.exe, Namir - *10 Dec 2013, 4:35 p.m.*
Re: HP Prime - usbtool.exe, Erwin Ried - *10 Dec 2013, 5:15 p.m.*
Re: HP Prime - usbtool.exe, Namir - *10 Dec 2013, 10:39 p.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *11 Dec 2013, 7:10 a.m.*
Re: HP Prime - usbtool.exe, Joe Horn - *11 Dec 2013, 12:06 p.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *11 Dec 2013, 1:54 p.m.*
Re: HP Prime - usbtool.exe, Tim Wessman - *11 Dec 2013, 2:40 p.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *11 Dec 2013, 3:23 p.m.*
Re: HP Prime - usbtool.exe, bluesun08 - *11 Dec 2013, 7:16 a.m.*
Re: HP Prime - usbtool.exe, Namir - *11 Dec 2013, 12:33 p.m.*
42S with nonvolatile RAM, Lyuka - *10 Dec 2013, 9:56 a.m.*
Re: 42S with nonvolatile RAM, Massimo Gnerucci (Italy) - *10 Dec 2013, 12:59 p.m.*
Re: 42S with nonvolatile RAM, aurelio - *10 Dec 2013, 2:13 p.m.*
Re: 42S with nonvolatile RAM, Geir Isene - *10 Dec 2013, 3:51 p.m.*
Re: 42S with nonvolatile RAM, Nacho - *12 Dec 2013, 8:31 a.m.*
Re: 42S with nonvolatile RAM, Lyuka - *13 Dec 2013, 8:52 a.m.*
Re: HP Prime: Quite Happy, Eddie W. Shore - *10 Dec 2013, 8:19 a.m.*
Re: F1227A as HP48 case: yes!, Paul Dale - *10 Dec 2013, 1:01 a.m.*
WP 34S and 43S cases (was: Re: F1227A as HP48 case: yes!), Walter B - *10 Dec 2013, 1:06 a.m.*
Re: WP 34S and 43S cases (was: Re: F1227A as HP48 case: yes!), Paul Dale - *10 Dec 2013, 1:27 a.m.*
Re: WP 34S and 43S cases (was: Re: F1227A as HP48 case: yes!), Walter B - *25 Dec 2013, 6:25 a.m.*
MINESWEEPER for the HP PRIME, Tony Gallo - *10 Dec 2013, 12:26 a.m.*
Re: MINESWEEPER for the HP PRIME, Walter B - *10 Dec 2013, 12:29 a.m.*
Re: MINESWEEPER for the HP PRIME, Cristian Arezzini - *10 Dec 2013, 1:59 a.m.*
Re: MINESWEEPER for the HP PRIME, Walter B - *10 Dec 2013, 5:00 a.m.*
Re: MINESWEEPER for the HP PRIME, Paul Dale - *10 Dec 2013, 5:07 a.m.*
Re: MINESWEEPER for the HP PRIME, Tim Wessman - *10 Dec 2013, 11:12 a.m.*
Re: MINESWEEPER for the HP PRIME, Kévin Ouellet (Canada) - *10 Dec 2013, 2:39 p.m.*

Re: MINESWEEPER for the HP PRIME, Chris Pem10 - *10 Dec 2013, 3:49 p.m.*
Re: MINESWEEPER for the HP PRIME, Michael de Estrada - *10 Dec 2013, 9:02 a.m.*
Re: MINESWEEPER for the HP PRIME, Mic - *10 Dec 2013, 2:52 a.m.*
Re: MINESWEEPER for the HP PRIME, cyrille de Brébisson - *10 Dec 2013, 8:33 a.m.*
Re: MINESWEEPER for the HP PRIME, toml_12953 - *10 Dec 2013, 9:19 a.m.*
Re: MINESWEEPER for the HP PRIME, Patrice - *10 Dec 2013, 9:35 a.m.*
Re: MINESWEEPER for the HP PRIME, Tony Gallo - *10 Dec 2013, 4:18 p.m.*
Re: MINESWEEPER for the HP PRIME, Eddie W. Shore - *10 Dec 2013, 8:54 a.m.*
Re: MINESWEEPER for the HP PRIME, Tony Gallo - *11 Dec 2013, 2:56 a.m.*
HP Prime Manual Revisions?, Craig Thomas - *9 Dec 2013, 11:08 p.m.*
Anyone here tinker with Arduino/Printbots/etc ?, Chris Pem10 - *9 Dec 2013, 8:59 p.m.*
Re: Anyone here tinker with Arduino/Printbots/etc ?, Mark Scheuern - *10 Dec 2013, 12:45 a.m.*
Re: Anyone here tinker with Arduino/Printbots/etc ?, Erwin Ried - *10 Dec 2013, 11:33 a.m.*
Re: Anyone here tinker with Arduino/Printbots/etc ?, Maximilian Hohmann - *10 Dec 2013, 4:44 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Garth Wilson - *9 Dec 2013, 8:53 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Massimo Gnerucci (Italy) - *10 Dec 2013, 3:06 a.m.*
HP Prime finally updated!, Les Koller - *9 Dec 2013, 8:08 p.m.*
Re: HP Prime finally updated!, aurelio - *10 Dec 2013, 12:41 a.m.*
Re: HP Prime finally updated!, Les Koller - *10 Dec 2013, 1:58 a.m.*
Re: HP Prime finally updated!, cyrille de Brébisson - *10 Dec 2013, 8:35 a.m.*
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Re: HP Prime finally updated!, Michael de Estrada - *10 Dec 2013, 9:09 a.m.*
Re: HP Prime finally updated!, Les Koller - *10 Dec 2013, 9:25 p.m.*
makemat on HP Prime, Jeff Nye - *9 Dec 2013, 7:04 p.m.*
Re: makemat on HP Prime, Michael de Estrada - *9 Dec 2013, 7:58 p.m.*
Re: makemat on HP Prime, Jeff Nye - *9 Dec 2013, 8:07 p.m.*
Re: makemat on HP Prime, Michael de Estrada - *9 Dec 2013, 8:09 p.m.*
Re: makemat on HP Prime, Jeff Nye - *9 Dec 2013, 8:34 p.m.*
Re: makemat on HP Prime, Michael de Estrada - *9 Dec 2013, 8:45 p.m.*
Re: makemat on HP Prime, Edwin - *9 Dec 2013, 8:02 p.m.*
Re: makemat on HP Prime, Jeff Nye - *9 Dec 2013, 8:08 p.m.*
Re: makemat on HP Prime, Han - *9 Dec 2013, 9:35 p.m.*
Re: makemat on HP Prime, Jeff Nye - *10 Dec 2013, 1:25 p.m.*
OT--Nat'l Semiconductor NS-7100 pics anywhere?, Matt Agajanian - *9 Dec 2013, 6:44 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, db (martinez, ca.) - *9 Dec 2013, 9:08 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Katie Wasserman - *9 Dec 2013, 11:30 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Matt Agajanian - *12 Dec 2013, 1:28 a.m.*
Speaking of that Olympic Sales Catalog..., gene wright - *12 Dec 2013, 10:16 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Jim Horn - *9 Dec 2013, 9:16 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, db (martinez, ca.) - *9 Dec 2013, 10:12 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Jim Horn - *10 Dec 2013, 12:35 a.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Jan - *9 Dec 2013, 10:42 p.m.*
Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Kimberly Thompson - *9 Dec 2013, 10:57 p.m.*
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Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Matt Agajanian - *12 Dec*

2013, 2:02 a.m.
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Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, Matt Agajanian - *12 Dec 2013, 2:03 a.m.*
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Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, db (martinez, ca.) - *14 Dec 2013, 8:43 p.m.*
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Re: OT--Nat'l Semiconductor NS-7100 pics anywhere?, gene wright - *15 Dec 2013, 8:39 a.m.*
HP Prime Matrices curiosity, bluesun08 - *9 Dec 2013, 6:44 p.m.*
HP Prime CAS curiosity, bluesun08 - *9 Dec 2013, 5:48 p.m.*
Re: HP Prime CAS curiosity, Thomas Windisch - *9 Dec 2013, 5:52 p.m.*
Re: HP Prime CAS curiosity, Michael de Estrada - *9 Dec 2013, 5:59 p.m.*
Re: HP Prime CAS curiosity, Tim Wessman - *9 Dec 2013, 6:03 p.m.*
Re: HP Prime CAS curiosity, Michael de Estrada - *9 Dec 2013, 6:07 p.m.*
Re: HP Prime CAS curiosity, Han - *10 Dec 2013, 1:07 p.m.*
Re: HP Prime CAS curiosity, Michael de Estrada - *10 Dec 2013, 1:20 p.m.*
Re: HP Prime CAS curiosity, bluesun08 - *9 Dec 2013, 6:28 p.m.*
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Re: HP Prime CAS curiosity, bluesun08 - *10 Dec 2013, 5:36 a.m.*
Re: HP Prime CAS curiosity, Han - *10 Dec 2013, 1:03 p.m.*
Silly me... I also bought a 12C and 15C, Eelco Rouw - *9 Dec 2013, 2:53 p.m.*
Re: Silly me... I also bought a 12C and 15C, Thomas Radtke - *9 Dec 2013, 3:23 p.m.*
Re: Silly me... I also bought a 12C and 15C, Eelco Rouw - *9 Dec 2013, 3:28 p.m.*
Re: Silly me... I also bought a 12C and 15C, Stephan Matthys - *10 Dec 2013, 4:42 p.m.*
Need help understanding math...., cyrille de Brébisson - *9 Dec 2013, 1:40 p.m.*
Re: Need help understanding math...., Han - *9 Dec 2013, 2:04 p.m.*
Re: Need help understanding math...., cyrille de Brébisson - *9 Dec 2013, 3:17 p.m.*
Re: Need help understanding math...., Walter B - *9 Dec 2013, 3:29 p.m.*
Re: Need help understanding math...., Jeff O. - *9 Dec 2013, 3:42 p.m.*
Re: Need help understanding math...., David Hayden - *12 Dec 2013, 5:28 p.m.*
Re: Need help understanding math...., Thomas Klemm - *16 Dec 2013, 6:59 p.m.*
Re: Need help understanding math...., Paul Dale - *9 Dec 2013, 11:44 p.m.*
Re: Need help understanding math...., Raymond Del Tondo - *12 Dec 2013, 5:42 p.m.*
Re: Need help understanding math...., Didier Lachieze - *13 Dec 2013, 2:23 a.m.*
Re: The Lucky WP34S Cable, eri - *9 Dec 2013, 1:40 p.m.*
Re: The Lucky WP34S Cable, madjack - *20 Dec 2013, 6:43 a.m.*

Re: The Lucky WP34S Cable, Walter B - *21 Dec 2013, 4:06 a.m.*
Re: The Lucky WP34S Cable, madjack - *21 Dec 2013, 8:09 p.m.*
Re: The Lucky WP34S Cable, Walter B - *22 Dec 2013, 5:18 a.m.*
Is Linux common among us RPN types?, db (martinez, ca.) - *9 Dec 2013, 1:26 p.m.*
Re: Is Linux common among us RPN types?, Barry Mead - *9 Dec 2013, 1:32 p.m.*
Re: Is Linux common among us RPN types?, Bill (Smithville, NJ) - *9 Dec 2013, 1:49 p.m.*
Re: Is Linux common among us RPN types?, Les Bell - *9 Dec 2013, 6:16 p.m.*
Re: Is Linux common among us RPN types?, Ken Shaw - *10 Dec 2013, 10:40 a.m.*
Re: Is Linux common among us RPN types?, Massimo Gnerucci (Italy) - *9 Dec 2013, 2:34 p.m.*
Re: Is Linux common among us RPN types?, db (martinez, ca.) - *9 Dec 2013, 2:54 p.m.*
Re: Is Linux common among us RPN types?, Bill (Smithville, NJ) - *9 Dec 2013, 3:35 p.m.*
Re: Is Linux common among us RPN types?, Barry Mead - *10 Dec 2013, 2:01 p.m.*
Re: Is Linux common among us RPN types?, Egan Ford - *10 Dec 2013, 2:18 p.m.*
Re: Is Linux common among us RPN types?, Barry Mead - *10 Dec 2013, 2:29 p.m.*
Re: Is Linux common among us RPN types?, Ken Shaw - *11 Dec 2013, 1:22 p.m.*
Re: Is Linux common among us RPN types?, Chris Pem10 - *10 Dec 2013, 3:06 p.m.*
Re: Is Linux common among us RPN types?, Massimo Gnerucci (Italy) - *9 Dec 2013, 3:38 p.m.*
Re: Is Linux common among us RPN types?, Cristian Arezzini - *9 Dec 2013, 11:34 p.m.*
Re: Is Linux common among us RPN types?, HrastProgrammer - *10 Dec 2013, 2:05 a.m.*
Re: Is Linux common among us RPN types?, rgray - *9 Dec 2013, 1:32 p.m.*
Re: Is Linux common among us RPN types?, Garth Wilson - *9 Dec 2013, 2:50 p.m.*
Re: Is Linux common among us RPN types?, Cristian Arezzini - *9 Dec 2013, 3:23 p.m.*
Re: Is Linux common among us RPN types?, Bunuel66 - *9 Dec 2013, 3:34 p.m.*
Re: Is Linux common among us RPN types?, plivesey - *9 Dec 2013, 3:31 p.m.*
Re: Is Linux common among us RPN types?, Egan Ford - *9 Dec 2013, 4:05 p.m.*
Re: Is Linux common among us RPN types?, Maximilian Hohmann - *9 Dec 2013, 5:36 p.m.*
Re: Is Linux common among us RPN types?, debrouxl - *9 Dec 2013, 4:16 p.m.*
Re: Is Linux common among us RPN types?, Les Bell - *9 Dec 2013, 6:12 p.m.*
Re: Is Linux common among us RPN types?, Bill (Smithville, NJ) - *9 Dec 2013, 6:58 p.m.*
Re: Is Linux common among us RPN types?, R. Pienne - *9 Dec 2013, 7:22 p.m.*
Re: Is Linux common among us RPN types?, Jan - *9 Dec 2013, 7:32 p.m.*
Re: Is Linux common among us RPN types?, Barry Mead - *11 Dec 2013, 1:38 p.m.*
Re: Is Linux common among us RPN types?, Garth Wilson - *11 Dec 2013, 6:14 p.m.*
Re: Is Linux common among us RPN types?, Barry Mead - *12 Dec 2013, 4:27 p.m.*
Re: Is Linux common among us RPN types?, Craig Ruff - *9 Dec 2013, 8:07 p.m.*
Re: Is Linux common among us RPN types?, Les Koller - *9 Dec 2013, 8:19 p.m.*
Re: Is Linux common among us RPN types?, Chris Pem10 - *9 Dec 2013, 8:50 p.m.*
Re: Is Linux common among us RPN types?, Bill (Smithville, NJ) - *9 Dec 2013, 9:32 p.m.*
Re: Is Linux common among us RPN types?, Les Bell - *9 Dec 2013, 10:22 p.m.*
Re: Is Linux common among us RPN types?, htom trites jr - *9 Dec 2013, 10:03 p.m.*
Re: Is Linux common among us RPN types?, Thomas Radtke - *10 Dec 2013, 2:21 a.m.*
Re: Is Linux common among us RPN types?, Garth Wilson - *10 Dec 2013, 2:54 a.m.*
Re: Is Linux common among us RPN types?, db (martinez, ca.) - *10 Dec 2013, 3:11 a.m.*
Re: Is Linux common among us RPN types?, Thomas Radtke - *10 Dec 2013, 3:53 a.m.*
Re: Is Linux common among us RPN types?, Calum Tait - *10 Dec 2013, 8:52 a.m.*
Re: Is Linux common among us RPN types?, Mark Scheuern - *10 Dec 2013, 9:27 a.m.*
Re: Is Linux common among us RPN types?, Cristian Arezzini - *10 Dec 2013, 9:28 a.m.*

Re: Is Linux common among us RPN types?, debrouxl - *10 Dec 2013, 1:10 p.m.*
Re: Is Linux common among us RPN types?, Cristian Arezzini - *10 Dec 2013, 3:17 p.m.*
Re: Is Linux common among us RPN types?, Paul Guertin - *11 Dec 2013, 8:25 p.m.*
WP-34S (Emulator Program Load/Save), Barry Mead - *9 Dec 2013, 12:50 p.m.*
Re: WP-34S (Emulator Program Load/Save), Marcus von Cube, Germany - *9 Dec 2013, 5:29 p.m.*
HP 50g : More on best rechargeable batteries , Miguel Toro - *9 Dec 2013, 12:38 p.m.*
Re: HP 50g : More on best rechargeable batteries , David Hayden - *12 Dec 2013, 5:31 p.m.*
Google honors Grace Hopper today, Don Shepherd - *9 Dec 2013, 10:28 a.m.*
Re: Google honors Grace Hopper today, Bill (Smithville, NJ) - *9 Dec 2013, 1:28 p.m.*
Re: Google honors Grace Hopper today, Pal G. - *9 Dec 2013, 9:15 p.m.*
Re: Google honors Grace Hopper today, htom trites jr - *9 Dec 2013, 10:17 p.m.*
Re: Google honors Grace Hopper today, Walter B - *10 Dec 2013, 12:27 a.m.*
Re: Google honors Grace Hopper today, Harold A Climer - *10 Dec 2013, 9:14 a.m.*
Re: Google honors Grace Hopper today, Bill (Smithville, NJ) - *10 Dec 2013, 10:03 a.m.*
Re: Google honors Grace Hopper today, Walter B - *10 Dec 2013, 12:04 p.m.*
Re: Google honors Grace Hopper today, Bill (Smithville, NJ) - *10 Dec 2013, 12:29 p.m.*
Re: Google honors Grace Hopper today, Walter B - *10 Dec 2013, 1:05 p.m.*
Re: Google honors Grace Hopper today, Gerson W. Barbosa - *10 Dec 2013, 2:59 p.m.*
Re: Google honors Grace Hopper today, Walter B - *10 Dec 2013, 5:01 p.m.*
Re: Google honors Grace Hopper today, Don Shepherd - *10 Dec 2013, 6:08 p.m.*
Re: Google honors Grace Hopper today, Gerson W. Barbosa - *10 Dec 2013, 7:01 p.m.*
Re: Google honors Grace Hopper today, Ken Shaw - *11 Dec 2013, 1:30 p.m.*
Re: Google honors Grace Hopper today, CR Haeger - *10 Dec 2013, 7:46 p.m.*
Re: Google honors Grace Hopper today, Gerson W. Barbosa - *10 Dec 2013, 8:32 p.m.*
Re: Google honors Grace Hopper today, John B. Smitherman - *10 Dec 2013, 8:49 p.m.*
Re: Google honors Grace Hopper today, Harold A Climer - *13 Dec 2013, 12:24 p.m.*
Re: Google honors Grace Hopper today, Bill (Smithville, NJ) - *10 Dec 2013, 7:06 p.m.*
hp-prime solver and variable name, fabrice48 - *9 Dec 2013, 4:47 a.m.*
Re: hp-prime solver and variable name, Terje Vallestad - *9 Dec 2013, 5:49 a.m.*
Re: hp-prime solver and variable name, fabrice48 - *9 Dec 2013, 7:13 a.m.*
Re: hp-prime solver and variable name, Nigel J Dowrick - *9 Dec 2013, 7:54 a.m.*
Re: hp-prime solver and variable name, Michael de Estrada - *9 Dec 2013, 9:41 a.m.*
Re: hp-prime solver and variable name, bluesun08 - *9 Dec 2013, 10:38 a.m.*
Re: hp-prime solver and variable name, Terje Vallestad - *9 Dec 2013, 8:12 a.m.*
Re: hp-prime solver and variable name, fabrice48 - *9 Dec 2013, 8:58 a.m.*
Re: hp-prime solver and variable name, bluesun08 - *9 Dec 2013, 9:13 a.m.*
Re: hp-prime solver and variable name, Terje Vallestad - *9 Dec 2013, 9:24 a.m.*
Re: hp-prime solver and variable name, Michael de Estrada - *9 Dec 2013, 10:11 a.m.*
Re: hp-prime solver and variable name, Don Shepherd - *9 Dec 2013, 10:21 a.m.*
Re: hp-prime solver and variable name, Michael de Estrada -

9 Dec 2013, 10:36 a.m.
Re: hp-prime solver and variable name, Nigel J Dowrick - *9 Dec 2013, 10:36 a.m.*
Re: hp-prime solver and variable name, Michael de Estrada - *9 Dec 2013, 10:45 a.m.*
Re: hp-prime solver and variable name, Peter Murphy (Livermore) - *9 Dec 2013, 11:25 a.m.*
Re: hp-prime solver and variable name, Han - *9 Dec 2013, 1:06 p.m.*
Re: hp-prime solver and variable name, Joe Horn - *10 Dec 2013, 8:53 p.m.*
Re: hp-prime solver and variable name, Steve Simpkin - *10 Dec 2013, 10:43 p.m.*
Re: hp-prime solver and variable name, Terje Vallestad - *9 Dec 2013, 4:29 p.m.*
Re: hp-prime solver and variable name, Thomas Chrapkiewicz - *9 Dec 2013, 11:51 a.m.*
Re: hp-prime solver and variable name, fabrice48 - *9 Dec 2013, 1:22 p.m.*
Re: hp-prime solver and variable name, fabrice48 - *10 Dec 2013, 3:25 a.m.*
Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 3:06 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), toml_12953 - *9 Dec 2013, 4:48 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 9:02 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), CompSystems - *9 Dec 2013, 10:06 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), CompSystems - *9 Dec 2013, 11:06 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 12:48 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Kévin Ouellet (Canada) - *9 Dec 2013, 2:21 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 2:45 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), deachp - *15 Dec 2013, 4:08 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), cyrille de Brébisson - *9 Dec 2013, 3:16 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Stefan Dröge (Germany) - *9 Dec 2013, 4:41 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Stefan Dröge (Germany) - *10 Dec 2013, 11:33 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), Marcus von Cube, Germany - *9 Dec 2013, 5:38 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), toml_12953 - *9 Dec 2013, 11:12 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Mic - *9 Dec 2013, 3:00 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Erwin Ried - *9 Dec 2013, 5:55 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Kévin Ouellet (Canada) - *10 Dec 2013, 12:30 a.m.*
Re: Sending little images to the Prime (...and Program name bug?), Tim Wessman - *10 Dec 2013, 5:48 p.m.*
Re: Sending little images to the Prime (...and Program name bug?), Terje Vallestad - *10 Dec 2013, 4:40 p.m.*

Re: Sending little images to the Prime (...and Program name bug?), Erwin Ried - *10 Dec 2013, 5:35 p.m.*
hp-67 card reader problem., Marcel Samek - *9 Dec 2013, 2:36 a.m.*
Re: hp-67 card reader problem., Paul Berger (Canada) - *9 Dec 2013, 10:18 a.m.*
Re: hp-67 card reader problem., Marcel Samek - *9 Dec 2013, 2:49 p.m.*
Re: hp-67 card reader problem., Paul Berger (Canada) - *9 Dec 2013, 5:00 p.m.*
Re: hp-67 card reader problem., Marcel Samek - *9 Dec 2013, 6:43 p.m.*
Re: hp-67 card reader problem., Paul Berger (Canada) - *9 Dec 2013, 9:09 p.m.*
rolinychupetin hp50, lbintz4 - *9 Dec 2013, 12:48 a.m.*
Re: rolinychupetin hp50, Chris Pem10 - *9 Dec 2013, 10:29 a.m.*
Re: rolinychupetin hp50, lbintz4 - *9 Dec 2013, 3:03 p.m.*
Re: rolinychupetin hp50, Peter Murphy (Livermore) - *9 Dec 2013, 1:10 p.m.*
HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *8 Dec 2013, 9:40 p.m.*
Re: HP35s Calculator Max Rope Tension Program , Les Koller - *8 Dec 2013, 11:42 p.m.*
Re: HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *12 Dec 2013, 12:11 a.m.*
Re: HP35s Calculator Max Rope Tension Program , Jeff O. - *9 Dec 2013, 10:29 a.m.*
Re: HP35s Calculator Max Rope Tension Program , Thomas Klemm - *9 Dec 2013, 12:31 p.m.*
Re: HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *12 Dec 2013, 12:13 a.m.*
Re: HP35s Calculator Max Rope Tension Program , Willy R. Kunz - *9 Dec 2013, 10:33 a.m.*
Re: HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *12 Dec 2013, 12:10 a.m.*
Re: HP35s Calculator Max Rope Tension Program , Thomas Klemm - *9 Dec 2013, 12:17 p.m.*
Re: HP35s Calculator Max Rope Tension Program , Gerson W. Barbosa - *9 Dec 2013, 8:17 p.m.*
Re: HP35s Calculator Max Rope Tension Program , Jean-Marc Biram (Australia) - *12 Dec 2013, 12:03 a.m.*
[WP-34S] Unfortunate key damage with update to V3 :(, svisvanatha - *8 Dec 2013, 8:35 p.m.*
Re: [WP-34S] Unfortunate key damage with update to V3 :(, Les Bell - *8 Dec 2013, 9:43 p.m.*
Re: [WP-34S] Unfortunate key damage with update to V3 :(, svisvanatha - *8 Dec 2013, 9:55 p.m.*
Re: [WP-34S] Unfortunate key damage with update to V3 :(, Les Bell - *8 Dec 2013, 10:21 p.m.*
Re: [WP-34S] Unfortunate key damage with update to V3 :(, JimP - *9 Dec 2013, 6:23 a.m.*
Re: [WP-34S] Unfortunate key damage with update to V3 :(, Les Bell - *10 Dec 2013, 11:37 p.m.*
HP-48GX & 50G Question, Matt Agajanian - *8 Dec 2013, 7:59 p.m.*
Re: HP-48GX & 50G Question, David Hayden - *8 Dec 2013, 9:49 p.m.*
Re: HP-48GX & 50G Question, Matt Agajanian - *8 Dec 2013, 10:17 p.m.*
Usefulness of Woodstock Cs without their C, Matt Agajanian - *8 Dec 2013, 6:39 p.m.*
Re: Usefulness of Woodstock Cs without their C, db (martinez, ca.) - *8 Dec 2013, 7:03 p.m.*
Re: Usefulness of Woodstock Cs without their C, Matt Agajanian - *8 Dec 2013, 7:34 p.m.*
Re: Usefulness of Woodstock Cs without their C, Jim Johnson - *8 Dec 2013, 10:07 p.m.*
Re: Usefulness of Woodstock Cs without their C, Andrés C. Rodríguez (Argentina) - *9 Dec 2013, 9:33 a.m.*
Re: Usefulness of Woodstock Cs without their C, Geoff Quickfall - *10 Dec 2013, 2:05 p.m.*
Re: Use 82240B as computer printer, R. Pienne - *8 Dec 2013, 6:31 p.m.*
Re: Use 82240B as computer printer, Marcus von Cube, Germany - *9 Dec 2013, 12:19 p.m.*
Re: A prime failure, Jan - *8 Dec 2013, 5:16 p.m.*
HP67 eBay auction, Cristian Arezzini - *8 Dec 2013, 3:24 p.m.*
Re: HP67 eBay auction, Raymond Del Tondo - *8 Dec 2013, 3:38 p.m.*
Re: HP67 eBay auction, Massimo Gnerucci (Italy) - *8 Dec 2013, 3:38 p.m.*
Re: HP67 eBay auction, Raymond Del Tondo - *8 Dec 2013, 3:47 p.m.*

Re: Updating Prime, aurelio - *8 Dec 2013, 2:44 p.m.*
Re: HP Prime Tutorial #6 and #7: Drawing , Giancarlo - *8 Dec 2013, 1:42 p.m.*
Re: HP Prime Tutorial #6 and #7: Drawing , Eddie W. Shore - *10 Dec 2013, 8:16 a.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, DeboT - *8 Dec 2013, 1:10 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Massimo Gnerucci (Italy) - *8 Dec 2013, 2:24 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Maximilian Hohmann - *8 Dec 2013, 2:42 p.m.*
Re: Updating Prime, JavierLopez - *8 Dec 2013, 12:10 p.m.*
Re: F1227A as HP48 case: yes!, Harold A Climer - *8 Dec 2013, 11:08 a.m.*
Re: F1227A as HP48 case: yes!, megarat - *8 Dec 2013, 7:49 a.m.*
Re: F1227A as HP48 case: yes!, Walter B - *10 Dec 2013, 12:39 a.m.*
Re: F1227A as HP48 case: yes!, Mike Morrow - *10 Dec 2013, 2:09 a.m.*
Re: HP Prime: Quite Happy, Joe Horn - *8 Dec 2013, 7:26 a.m.*
Re: HP Prime: Quite Happy, Michael de Estrada - *8 Dec 2013, 9:10 a.m.*
Re: Bought a 16C to compensate a little, Nick_S - *8 Dec 2013, 6:02 a.m.*
Re: Bought a 16C to compensate a little, Walter B - *8 Dec 2013, 6:50 a.m.*
Re: Bought a 16C to compensate a little, Les Bell - *8 Dec 2013, 6:31 p.m.*
Re: Improvements for productivity for the Prime, Stefan Dröge (Germany) - *8 Dec 2013, 5:11 a.m.*
Prime still frozen, Les Koller - *8 Dec 2013, 4:01 a.m.*
Re: Prime still frozen, Joe Horn - *8 Dec 2013, 7:10 a.m.*
Re: Prime still frozen, Michael de Estrada - *8 Dec 2013, 10:17 a.m.*
Re: Prime still frozen, DeboT - *8 Dec 2013, 12:34 p.m.*
Re: Prime still frozen, Les Koller - *8 Dec 2013, 5:16 p.m.*
Re: Bought a 16C to compensate a little, Didier Lachieze - *8 Dec 2013, 2:20 a.m.*
Re: Bought a 16C to compensate a little, Les Bell - *8 Dec 2013, 3:52 a.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Walter B - *8 Dec 2013, 1:47 a.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Michael de Estrada - *8 Dec 2013, 9:15 a.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Dave Hicks - *8 Dec 2013, 12:25 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Walter B - *8 Dec 2013, 1:02 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Giancarlo - *8 Dec 2013, 3:11 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Massimo Gnerucci (Italy) - *8 Dec 2013, 3:36 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Dave Hicks - *8 Dec 2013, 8:45 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Marcus von Cube, Germany - *9 Dec 2013, 5:23 p.m.*
Re: WTF? W-here T-o F-ind the original hpmuseum forum?, Dave Hicks - *9 Dec 2013, 10:10 p.m.*
OT: 3D Calculator Remakes, hugh steers - *28 Jan 2013, 8:54 a.m.*
Re: Sourceforge, Namir - *2 Feb 2012, 12:51 a.m.*
Odd looking 41cx, Chris Woodhouse - *10 Jan 2012, 12:31 p.m.*
Re: HP-15C - useless today?, Dave Mabry - *11 Dec 2011, 7:45 p.m.*
HP-15c LE Bad Keys, Gerry Schultz - *23 Sept 2011, 12:54 p.m.*
Re: 97 printer paper not advancing, Keith Beyer - *5 July 2010, 5:54 p.m.*

[Top of Index | Daily view]

Go to the HP Forum archives selection page

Go back to the main exhibit hall

MoHPC *The Museum of HP Calculators*

HP Forum Archives

- Forum Archive 21: March 2012 -
- Forum Archive 20: January 2011 - March 2012
- Forum Archive 19: February 2009 - January 2011
- Forum Archive 18: November 2007 - February 2009
- Forum Archive 17: March 2007 - November 2007
- Forum Archive 16: March 2006 - March 2007
- Forum Archive 15: April 2005 - March 2006
- Forum Archive 14: Dec 2003 - April 2005
- Forum Archive 13: May 2003 - Dec 2003
- Forum Archive 12: April 2003 - May 2003
- Forum Archive 11: February 2003 - April 2003
- Forum Archive 10: January 2003 - February 2003
- Forum Archive 9: September 2002 - January 2003
- Forum Archive 8: April 2002 - September 2002
- Forum Archive 7: December 2001 - April 2002
- Forum Archive 6: May - December 2001
- Forum Archive 5: February 2001 - May 2001
- Forum Archive 4: October 2000 - February 2001
- Forum Archive 3: July 2000 - October 2000
- Forum Archive 2: December 1999 - July 2000
- Forum Archive 1: March 1999 - December 1999

GTO Go to the current HP forum

GTO Go back to the main exhibit hall